Notitie

Datum:	26 maart 2019	Project:	Windpark Goyerbrug; vergunningsprocedures en onderzoeken
Uw kenmerk:	E-mail dhr. P. Lemmers d.d. 21 maart 2019	Locatie:	Houten
Ons kenmerk:	V068362ab.194ADAY.dv	Betreft:	Reactie vragen gemeente Houten aanvraag omgevingsvergunning
Versie:	02_001		

In onderstaande tabel zijn de vragen opgenomen die op 21 maart door de heer Lemmers van de gemeente Houten aan de heer Berendts gestuurd zijn. In deze notitie zijn deze vragen beantwoord.

Tabel 1

Vragen gemeente Houten – 21 maart 2019

No.	Onderwerp	Omschrijving	Vraag:
1.	Geluid/slagschaduw	De aanvraag is flexibel (één vergunning op hoofdlijnen); dat impliceert per onderwerp de windturbinevariant met de maximale effecten (zoals beschreven in de brochure van RVO). Onduidelijk is of de beschouwde windturbines voor geluid de worst-case situatie in beeld brengen (de maximale effecten)	Graag een nadere onderbouwing leveren of de turbines een worst-case situatie in beeld brengen.
2.	Geluid	Bronverwijzing naar spectrale verdelingen is aanwezig, maar niet bijgevoegd (noise curves bijv. wél). De gehanteerde verdelingen zijn wel in lijn der verwachtingen	Graag de bronnen toevoegen
3.	Slagschaduw	Bepaling waar normoverschrijding is, is niet transparant. De kalenders zijn echter wel opvraagbaar bij LBP. Conclusie dat er stilstandvoorziening in ieder geval nodig is zal overigens niet veranderen.	Graag de kalenders toevoegen en een omschrijving van de gehanteerde reken-methode.
5	Formulier Melding Activiteitenbesluit	Op basis van de aanvraag worden de percelen van molenaarswoningen onderdeel van de inrichting van het windpark (de kadastrale gegevens worden aangevraagd als onderdeel van de inrichting). De mogelijkheden daartoe en de relatie tussen de woningen en het windpark moet juridisch goed worden onderbouwd (zie ook uitspraken RvS). Geadviseerd wordt hiervoor een jurist om advies te vragen.	Juridische onderbouwing
11	Geluid	Voor scheepvaartlawaai is geen omrekenformule voor cumulatief geluid. In de aangehaalde bron wordt geschetst dat het tussen railverkeer en wegverkeer ligt. Door een omrekenformule te hanteren die gelijk is aan wegverkeerslawaai zou een conservatievere insteek zijn.	Graag ook de resultaten aanleveren wanneer wordt uitgegaan van scheepvaartgeluid vergelijkbaar is met het geluid van wegverkeer

1. Brengen de beschouwde turbines een worst-case situatie in beeld?

In het onderzoek zijn zes turbinetypes van totaal drie fabrikanten in beeld gebracht. Dit betreffen turbinetypes die ook in potentie gerealiseerd kunnen worden op deze locatie. Zoals aangegeven in het akoestisch onderzoek is deze lijst niet limitatief en bestaan er meer turbines die in potentie geschikt zijn voor deze locatie. In ieder geval gelden de grenswaarden voor geluid uit het Activiteitenbesluit. Een ander type windturbine dan nu onderzocht in het akoestisch onderzoek, wordt, indien nodig, ook terug geregeld.

Voor de beschouwde turbines laten we de worst-case situaties zien. Hierbij zijn de grenswaarden uit het Activiteitenbesluit leidend.

2. Bronnen en spectrale gegevens van de beschouwde turbines

De screenshots uit de productbladen zijn opgenomen in bijlage I van dit document.

3. Kalenders en beschrijving van de gehanteerde rekenmethode

De kalenders zijn per turbinetype opgenomen in bijlage II. Onderstaand is een korte beschrijving gegeven van de gehanteerde rekenmethode.

Voor de woningen is, aan de hand van de kalender[1], per maand bepaald hoeveel dagen in potentie meer dan 20 minuten slagschaduw optreedt. Dit getal is vervolgens vermenigvuldigd met de betreffende reductiefactor voor die specifieke maand.

In tabel 2 is een voorbeeld gegeven van de methodiek.

Tabel 2

Nordex N131 op woning A: 3998JD94 – verwacht 10 dagen conform tabel 5.1 rapport

Maand	Aantal dagen met potentieel >20 minuten slagschaduw	Reductiefactor (totaal van zonneschijn, operationeel, windrichting)	Verwachte dagen met meer dan 20 minuten slagschaduw
Mei	0	0,27	0
Juni	29	0,25	7,25
Juli	9	0,26	2,34
Totaal verwacht	--	--	9,59 (afgerond 10)

1 output windpro time seires details

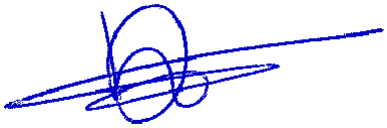
5. Juridische onderbouwing molenaarswoningen

De juridische onderbouwing inzake molenaarswoningen wordt separaat bijgevoegd (memo Timmermans Juridisch Advies d.d. 25 maart 2019).

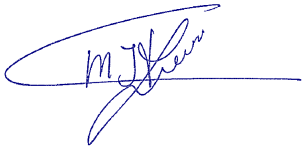
11. Cumulatie geluid andere bronnen, scheepvaart zelfde als wegverkeerslawaai

In bijlage III is een resultatentabel opgenomen waarbij voor scheepvaartlawaai, met betrekking tot cumulatie met andere geluidbronnen, dezelfde formule is aangehouden als voor wegverkeerslawaai.

LBP|SIGHT BV



ing. D. (David) Vrolijk



M.I. (Meriël) Huizer MSc

Bijlage I Screenshots geluidspectrum uit productbladen turbines

Nordex N131

Spectrum: F008_258_A14_EN_R02_N131_3600_IEC_S_Serrated_Trailing_Edge_Operational-Modes_Octave

2.5 Hub height 134 m

The octave sound power levels of the Nordex N131/3600 STE (Standard Mode) are determined on basis of measurements, aerodynamical calculations and expected sound power levels according to Nordex Document F008_258_A03_EN_R01. These values are valid for the hub height 134 m.

	Octave sound power levels at standardized wind speeds v_s in dB(A)									
Frequency	3 m/s	4 m/s	5 m/s	6 m/s	7 m/s	8 m/s	9 m/s	10 m/s	11 m/s	12 m/s
31.5 Hz	67.8	69.0	72.6	75.9	75.9	75.9	78.3	78.3	78.3	78.3
63 Hz	77.0	78.2	83.3	86.6	86.6	86.6	87.8	87.8	87.8	87.8
125 Hz	83.8	85.0	90.3	93.6	93.6	93.6	93.5	93.5	93.5	93.5
250 Hz	87.5	88.7	94.1	97.4	97.4	97.4	95.8	95.8	95.8	95.8
500 Hz	87.3	88.5	95.0	98.3	98.3	98.3	96.6	96.6	96.6	96.6
1000 Hz	86.8	88.0	95.5	98.8	98.8	98.8	98.4	98.4	98.4	98.4
2000 Hz	85.6	86.8	94.2	97.5	97.5	97.5	98.9	98.9	98.9	98.9
4000 Hz	83.5	84.7	89.9	93.2	93.2	93.2	96.6	96.6	96.6	96.6
8000 Hz	75.2	76.4	80.7	84.0	84.0	84.0	86.0	86.0	86.0	86.0
Total sound power level	**94.0**	**95.2**	**101.6**	**104.9**	**104.9**	**104.9**	**104.9**	**104.9**	**104.9**	**104.9**

5-10 m/s gemiddeld.

Nordex N149

E0004269930_DD04_F008_271_A14_EN_R00_N149_40_45_STE_Octave_170828

E0004269930 Rev. 0 / 2017-08-29	Octave sound power levels - Nordex N149/4.0-4.5 STE - Operational Modes	NORDEX

2.1.3 Hub Height 164 m

	Octave sound power levels at standardized wind speeds v_s in dB(A)									
Frequency	3 m/s	4 m/s	5 m/s	6 m/s	7 m/s	8 m/s	9 m/s	10 m/s	11 m/s	12 m/s
31.5 Hz	67.2	69.3	72.9	76.9	77.5	77.8	77.8	77.8	77.8	77.8
63 Hz	77.1	79.2	82.8	86.8	87.4	87.8	87.8	87.8	87.8	87.8
125 Hz	83.8	85.9	89.4	93.4	94.0	93.9	93.9	93.9	93.9	93.9
250 Hz	86.6	88.7	93.1	97.1	97.7	97.7	97.7	97.7	97.7	97.7
500 Hz	87.7	89.8	95.2	99.2	99.8	100.3	100.3	100.3	100.3	100.3
1000 Hz	88.1	90.2	96.5	100.5	101.1	101.0	101.0	101.0	101.0	101.0
2000 Hz	86.2	88.3	94.7	98.7	99.3	98.5	98.5	98.5	98.5	98.5
4000 Hz	80.6	82.7	85.1	89.1	89.7	91.0	91.0	91.0	91.0	91.0
8000 Hz	71.4	73.5	77.1	81.1	81.7	82.9	82.9	82.9	82.9	82.9
Total sound power level	**94.0**	**96.1**	**101.5**	**105.5**	**106.1**	**106.1**	**106.1**	**106.1**	**106.1**	**106.1**

5-10 m/s gemiddeld.

Senvion 3.7M140

GI-3.20-WT.PO.00-C-EN-A Octave & Third Octave Band Data [3.7M140]

Octave Bands from 31.5 Hz to 8,000 Hz

SENVION wind energy solutions

3 Octave Bands from 31.5 Hz to 8,000 Hz

Octave sound power spectrum for wind speeds referenced to hub height

Frequency	Octave Band Data in dB(A) for wind speed at hub height							
	6 m/s	6.5 m/s	7 m/s	7.5 m/s	8 m/s	8.5 m/s	9 m/s	9.5 m/s
31.5 Hz	73.57	75.62	77.15	78.30	78.30	78.40	78.20	77.90
63 Hz	82.37	84.62	86.25	87.70	87.60	87.80	87.20	87.00
125 Hz	87.77	90.62	92.65	93.70	93.80	94.00	93.30	92.70
250 Hz	91.67	93.72	94.95	96.10	95.90	96.20	95.70	95.40
500 Hz	92.77	94.72	95.95	97.20	97.10	97.10	96.90	96.70
1000 Hz	94.77	95.92	97.35	98.70	98.60	98.30	98.20	97.90
2000 Hz	92.87	94.62	96.35	97.80	97.90	97.90	98.00	98.10
4000 Hz	89.07	89.52	91.65	93.40	93.90	94.00	95.50	96.60
8000 Hz	74.67	78.52	80.45	82.60	83.60	83.60	85.40	86.00
L_{WA} [dB(A)]	100.0	101.6	103.2	104.5	104.5	104.5	104.5	104.5

Frequency	Octave Band Data in dB(A) for wind speed at hub height						
	10 m/s	10.5 m/s	11 m/s	11.5 m/s	12 m/s	12.5 m/s	13 m/s
31.5 Hz	78.50	77.40	77.40	77.40	77.40	77.40	77.40
63 Hz	86.90	86.00	86.00	86.00	86.00	86.00	86.00
125 Hz	92.70	92.30	92.30	92.30	92.30	92.30	92.30
250 Hz	95.30	95.00	95.00	95.00	95.00	95.00	95.00
500 Hz	96.80	96.70	96.70	96.70	96.70	96.70	96.70
1000 Hz	98.00	98.20	98.20	98.20	98.20	98.20	98.20
2000 Hz	98.10	98.00	98.00	98.00	98.00	98.00	98.00
4000 Hz	96.60	96.90	96.90	96.90	96.90	96.90	96.90
8000 Hz	86.00	84.80	84.80	84.80	84.80	84.80	84.80
L_{WA} [dB(A)]	104.5	104.5	104.5	104.5	104.5	104.5	104.5

6-11 m/s gemiddeld

Senvion 4.2M148

Idem aan Senvion 3.7M140 aangehouden ivm ontbreken spectrum.

Vestas V136

Ivm ontbreken specifiek spectrum: 0067-4732_V00 - V136-4_0MW Third Octaves aangehouden.

3. Results

Frequency	Hub height wind speeds [m/s]																	
	3 m/s	4 m/s	5 m/s	6 m/s	7 m/s	8 m/s	9 m/s	10 m/s	11 m/s	12 m/s	13 m/s	14 m/s	15 m/s	16 m/s	17 m/s	18 m/s	19 m/s	20 m/s
6.3 Hz	18.4	16.4	17.8	20.4	23.6	26.4	27.1	27.3	28.1	29.4	30.4	31.0	31.7	32.2	32.7	33.1	33.5	33.8
8 Hz	19.4	18.7	21.7	25.7	30.0	33.7	34.7	34.8	35.3	36.1	36.7	37.1	37.4	37.7	38.0	38.2	38.4	38.6
10 Hz	25.7	24.9	27.9	31.9	36.2	39.9	40.9	41.0	41.5	42.3	42.9	43.3	43.7	44.0	44.2	44.5	44.7	44.9
12.5 Hz	34.0	33.1	35.9	39.7	43.8	47.3	48.3	48.5	49.0	49.9	50.5	50.9	51.4	51.7	52.0	52.3	52.5	52.7
16 Hz	41.0	40.3	42.8	46.3	50.1	53.5	54.4	54.6	55.0	55.7	56.3	56.6	57.0	57.3	57.5	57.7	57.9	58.1
20 Hz	45.5	44.9	47.7	51.5	55.5	59.1	60.1	60.2	60.7	61.3	61.9	62.2	62.5	62.8	63.0	63.2	63.4	63.6
25 Hz	52.6	52.0	54.4	57.9	61.7	65.1	66.0	66.2	66.6	67.2	67.7	68.1	68.4	68.6	68.9	69.0	69.2	69.4
31.5 Hz	55.5	54.1	56.6	60.2	64.1	67.6	68.5	68.7	69.4	70.5	71.3	71.9	72.4	72.9	73.3	73.7	74.0	74.3
40 Hz	58.9	59.3	61.9	65.5	69.4	72.9	73.8	73.9	74.0	74.2	74.3	74.4	74.4	74.5	74.5	74.5	74.5	74.5
50 Hz	64.3	64.2	66.6	70.0	73.7	77.0	77.9	78.0	78.2	78.6	78.9	79.0	79.2	79.3	79.4	79.5	79.5	79.6
63 Hz	73.1	72.2	72.8	74.9	77.4	79.8	80.5	80.6	81.0	81.7	82.2	82.5	82.8	83.1	83.3	83.5	83.7	83.8
80 Hz	76.2	77.0	77.5	79.4	81.8	84.1	84.7	84.7	84.6	84.4	84.3	84.1	84.0	83.9	83.7	83.6	83.5	83.3
100 Hz	73.7	73.3	75.1	78.0	81.3	84.3	85.1	85.2	85.6	86.1	86.4	86.6	86.9	87.0	87.2	87.3	87.4	87.5
125 Hz	79.3	77.5	78.0	79.9	82.5	84.8	85.4	85.6	86.3	87.3	88.1	88.7	89.2	89.7	90.1	90.4	90.7	91.0
160 Hz	77.4	79.1	80.5	83.1	86.1	88.8	89.6	89.5	89.2	88.6	88.1	87.8	87.4	87.1	86.8	86.5	86.2	86.0
200 Hz	76.5	77.3	79.4	82.6	86.1	89.3	90.1	90.1	90.1	90.0	89.9	89.9	89.8	89.7	89.6	89.5	89.4	89.3
250 Hz	79.3	78.3	80.2	83.4	86.9	90.0	90.8	91.0	91.5	92.3	93.0	93.4	93.8	94.1	94.4	94.7	94.9	95.1
315 Hz	82.4	81.4	82.3	84.6	87.4	89.9	90.6	90.7	91.2	91.9	92.4	92.8	93.1	93.4	93.7	93.9	94.1	94.2
400 Hz	74.8	76.4	79.4	83.2	87.3	90.9	91.9	91.8	91.6	91.3	90.9	90.7	90.4	90.2	89.9	89.7	89.5	89.3
500 Hz	74.4	76.1	79.5	83.7	88.1	92.0	93.0	93.0	92.8	92.4	92.1	91.9	91.6	91.4	91.2	91.0	90.8	90.6
630 Hz	77.0	77.4	80.2	83.9	87.9	91.4	92.4	92.4	92.5	92.7	92.9	92.9	93.0	93.0	93.1	93.1	93.1	93.1
800 Hz	77.1	78.6	81.2	84.7	88.5	91.9	92.9	92.8	92.6	92.3	91.9	91.7	91.5	91.2	91.0	90.8	90.6	90.4
1 kHz	83.1	82.9	84.3	86.9	89.9	92.6	93.4	93.5	93.7	94.0	94.3	94.4	94.6	94.7	94.8	94.8	94.9	94.9
1.25 kHz	78.9	80.6	83.2	86.7	90.5	94.0	94.9	94.9	94.6	94.2	93.8	93.5	93.2	92.9	92.6	92.4	92.1	91.9
1.6 kHz	77.9	79.3	82.0	85.7	89.6	93.1	94.1	94.0	93.9	93.6	93.3	93.1	92.9	92.7	92.5	92.4	92.2	92.0
2 kHz	76.6	77.7	80.4	84.1	88.1	91.6	92.6	92.6	92.6	92.5	92.3	92.2	92.1	92.0	91.9	91.8	91.7	91.6
2.5 kHz	74.7	75.8	78.7	82.6	86.6	90.3	91.2	91.2	91.2	91.0	90.9	90.8	90.6	90.5	90.4	90.3	90.1	90.0
3.15 kHz	72.6	73.3	75.9	79.6	83.5	87.0	87.9	87.9	88.0	88.1	88.1	88.1	88.1	88.0	88.0	88.0	87.9	87.9
4 kHz	70.9	70.5	72.5	75.6	79.0	82.1	83.0	83.1	83.4	83.9	84.3	84.6	84.8	85.0	85.2	85.3	85.4	85.5
5 kHz	62.3	62.2	64.9	68.5	72.5	76.0	76.9	77.0	77.3	77.8	78.1	78.3	78.5	78.6	78.8	78.9	78.9	79.0
6.3 kHz	60.2	57.9	59.1	61.6	64.7	67.4	68.1	68.3	69.2	70.6	71.6	72.4	73.1	73.7	74.2	74.7	75.1	75.5
8 kHz	60.9	59.3	57.8	58.0	59.1	60.3	60.6	60.7	61.2	62.0	62.6	62.9	63.3	63.6	63.9	64.1	64.3	64.5
10 kHz	59.3	59.6	57.2	56.5	56.8	57.4	57.5	57.5	57.4	57.1	56.9	56.7	56.5	56.3	56.2	56.0	55.8	55.7
A-wgt	90.6	90.9	92.9	96.1	99.7	103.0	103.9	103.9	103.9	103.9	103.9	103.9	103.9	103.9	103.9	103.9	103.9	103.9

Table 1: V136-4.0MW Mode 0, expected 1/3 octave band performance, (Blades with serrated trailing edge)

7-11 m/s gemiddelde

Vestas V150

0077-0337_V00 - V150-4_0&4_2MW Third Octaves Lden

3. Results

3.1 Mode 0

Frequency	Hub height wind speeds [m/s]																	
	3 m/s	4 m/s	5 m/s	6 m/s	7 m/s	8 m/s	9 m/s	10 m/s	11 m/s	12 m/s	13 m/s	14 m/s	15 m/s	16 m/s	17 m/s	18 m/s	19 m/s	20 m/s
6.3 Hz	17.4	15.8	17.7	21.3	25.7	29.4	31.6	32.1	32.7	33.2	33.7	34.0	34.3	34.5	34.8	35.0	35.1	35.4
8 Hz	24.0	22.7	24.6	28.1	32.4	36.1	38.3	38.7	39.2	39.6	40.0	40.2	40.5	40.6	40.9	41.1	41.2	41.4
10 Hz	29.9	28.7	30.7	34.2	38.4	42.1	44.2	44.5	44.9	45.3	45.6	45.8	46.0	46.1	46.3	46.5	46.5	46.7
12.5 Hz	35.5	34.5	36.4	39.9	44.0	47.7	49.7	50.1	50.4	50.6	50.9	51.0	51.2	51.2	51.4	51.5	51.6	51.7
16 Hz	41.3	40.5	42.4	45.9	49.9	53.5	55.5	55.8	56.0	56.2	56.3	56.4	56.6	56.6	56.8	56.8	56.9	57.0
20 Hz	46.3	45.5	47.5	50.9	54.9	58.5	60.4	60.6	60.7	60.8	61.0	61.0	61.1	61.1	61.3	61.3	61.3	61.4
25 Hz	50.8	50.3	52.2	55.6	59.5	63.1	65.0	65.1	65.2	65.2	65.3	65.3	65.4	65.4	65.5	65.5	65.5	65.5
31.5 Hz	55.3	54.8	56.8	60.1	64.0	67.5	69.4	69.5	69.5	69.4	69.5	69.5	69.5	69.4	69.5	69.5	69.5	69.5
40 Hz	59.5	59.2	61.1	64.4	68.2	71.8	73.6	73.6	73.5	73.5	73.5	73.4	73.4	73.3	73.4	73.3	73.3	73.3
50 Hz	63.1	62.9	64.8	68.1	71.9	75.4	77.1	77.2	77.0	76.9	76.9	76.8	76.8	76.6	76.7	76.6	76.6	76.6
63 Hz	66.5	66.3	68.3	71.6	75.3	78.8	80.5	80.5	80.3	80.1	80.0	79.9	79.9	79.8	79.8	79.7	79.6	79.6
80 Hz	69.6	69.6	71.5	74.8	78.5	81.9	83.6	83.6	83.3	83.1	83.0	82.9	82.8	82.7	82.6	82.6	82.5	82.4
100 Hz	72.2	72.3	74.2	77.5	81.1	84.5	86.2	86.2	85.8	85.6	85.5	85.3	85.2	85.1	85.0	84.9	84.9	84.8
125 Hz	74.5	74.6	76.5	79.8	83.4	86.8	88.5	88.4	88.0	87.8	87.6	87.5	87.4	87.2	87.1	87.0	86.9	86.9
160 Hz	76.7	76.8	78.8	82.0	85.5	89.0	90.6	90.5	90.1	89.8	89.7	89.5	89.4	89.2	89.1	89.0	88.9	88.8
200 Hz	78.3	78.5	80.4	83.6	87.2	90.6	92.2	92.1	91.7	91.4	91.2	91.0	90.9	90.7	90.6	90.5	90.4	90.3
250 Hz	79.6	79.8	81.7	84.9	88.5	91.9	93.5	93.3	92.9	92.6	92.4	92.2	92.1	91.9	91.7	91.6	91.5	91.4
315 Hz	80.6	80.8	82.8	86.0	89.4	92.8	94.4	94.3	93.9	93.6	93.3	93.1	93.0	92.8	92.7	92.6	92.4	92.3
400 Hz	81.3	81.5	83.4	86.6	90.1	93.5	95.1	95.0	94.5	94.2	94.0	93.7	93.6	93.4	93.3	93.2	93.1	92.9
500 Hz	81.6	81.8	83.7	86.9	90.4	93.8	95.4	95.2	94.8	94.5	94.2	94.0	93.9	93.7	93.6	93.4	93.3	93.2
630 Hz	81.5	81.8	83.7	86.9	90.3	93.7	95.3	95.2	94.8	94.4	94.2	94.0	93.9	93.7	93.5	93.4	93.3	93.2
800 Hz	81.1	81.4	83.3	86.5	89.9	93.3	94.9	94.8	94.4	94.0	93.8	93.6	93.5	93.3	93.2	93.1	93.0	92.9
1 kHz	80.4	80.7	82.5	85.7	89.2	92.6	94.2	94.1	93.7	93.4	93.2	93.0	92.9	92.7	92.6	92.4	92.3	92.2
1.25 kHz	79.4	79.6	81.5	84.7	88.2	91.5	93.1	93.1	92.7	92.4	92.2	92.0	91.9	91.7	91.6	91.5	91.4	91.3
1.6 kHz	77.9	78.0	79.9	83.1	86.6	90.0	91.6	91.6	91.2	90.9	90.8	90.6	90.5	90.3	90.3	90.2	90.1	90.0
2 kHz	76.3	76.3	78.1	81.3	84.9	88.3	89.9	89.9	89.6	89.3	89.2	89.0	88.9	88.8	88.7	88.6	88.6	88.5
2.5 kHz	74.2	74.2	76.1	79.3	82.8	86.2	87.9	87.9	87.6	87.4	87.3	87.1	87.1	86.9	86.9	86.8	86.7	86.7
3.15 kHz	71.8	71.7	73.5	76.7	80.3	83.8	85.4	85.5	85.2	85.1	85.0	84.9	84.8	84.7	84.7	84.6	84.6	84.5
4 kHz	69.0	68.8	70.6	73.8	77.4	80.9	82.6	82.6	82.4	82.3	82.3	82.2	82.2	82.1	82.1	82.0	82.0	82.0
5 kHz	66.0	65.6	67.5	70.7	74.4	77.8	79.5	79.6	79.5	79.4	79.4	79.4	79.4	79.3	79.3	79.3	79.3	79.3
6.3 kHz	62.5	62.1	63.9	67.1	70.8	74.3	76.1	76.2	76.1	76.1	76.2	76.1	76.2	76.1	76.2	76.2	76.1	76.2
8 kHz	58.6	58.0	59.8	63.1	66.8	70.3	72.1	72.3	72.3	72.4	72.4	72.5	72.5	72.5	72.6	72.6	72.6	72.6
10 kHz	54.6	53.9	55.7	58.9	62.8	66.2	68.1	68.3	68.4	68.5	68.7	68.7	68.8	68.8	68.9	69.0	69.0	69.1
A-wgt	91.1	91.3	93.2	96.4	99.9	103.3	104.9	104.8	104.4	104.1	103.9	103.7	103.6	103.4	103.3	103.2	103.1	103.0

Table 1: V150-4.0MW Mode 0, expected 1/3 octave band performance, (Blades with serrated trailing edge)

7-12 m/s gemiddeld

Bijlage II Slagschaduwkalenders

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:36/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN131@145Shadow receptor: A - 3998JD94

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May		June		July		August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12		05:26		05:23		06:00 (1)	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03		21:49	19	06:15 (1)	23	06:23 (1)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10		05:26		05:55 (1)		06:00 (1)	06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05		21:50	21	06:16 (1)	24	06:24 (1)	21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08		05:25		05:56 (1)		06:01 (1)	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06		21:51	21	06:17 (1)	23	06:24 (1)	21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06		05:24		05:55 (1)		06:00 (1)	06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08		21:52	22	06:17 (1)	24	06:24 (1)	21:26	20:22	19:12	17:07	16:31
5	08:47	08:14	07:19	07:08	06:04		05:23		05:56 (1)		06:01 (1)	06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10		21:53	22	06:18 (1)	23	06:24 (1)	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02		05:23		05:55 (1)		06:01 (1)	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11		21:54	23	06:18 (1)	23	06:24 (1)	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01		05:22		05:56 (1)		06:02 (1)	06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13		21:55	23	06:19 (1)	22	06:24 (1)	21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59		05:22		05:55 (1)		06:02 (1)	06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15		21:56	23	06:18 (1)	22	06:24 (1)	21:19	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57		05:21		05:56 (1)		06:03 (1)	06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16		21:57	23	06:19 (1)	21	06:24 (1)	21:17	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55		05:21		05:55 (1)		06:03 (1)	06:14	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18		21:58	24	06:19 (1)	20	06:23 (1)	21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54		05:20		05:55 (1)		06:03 (1)	06:16	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19		21:58	24	06:19 (1)	20	06:23 (1)	21:13	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52		05:20		05:56 (1)		06:04 (1)	06:17	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21		21:59	24	06:20 (1)	19	06:23 (1)	21:11	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50		05:20		05:56 (1)		06:05 (1)	06:19	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23		22:00	24	06:20 (1)	18	06:23 (1)	21:09	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49		05:19		05:56 (1)		06:06 (1)	06:21	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24		22:00	25	06:21 (1)	17	06:23 (1)	21:07	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47		05:19		05:56 (1)		06:07 (1)	06:22	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26		22:01	24	06:20 (1)	15	06:22 (1)	21:05	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46		05:19		05:56 (1)		06:08 (1)	06:24	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27		22:01	24	06:20 (1)	13	06:21 (1)	21:03	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44		05:19		05:56 (1)		06:09 (1)	06:25	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29		22:02	24	06:20 (1)	11	06:20 (1)	21:01	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43		05:19		05:56 (1)		06:11 (1)	06:27	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30		22:02	25	06:21 (1)	7	06:18 (1)	20:59	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41		05:19		05:57 (1)			06:29	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32		22:03	25	06:22 (1)			20:57	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40		05:19		05:57 (1)			06:30	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33		22:03	25	06:22 (1)			20:55	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	05:39		05:19		05:58 (1)			06:32	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:35		22:03	24	06:22 (1)			20:53	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	05:37		05:19		05:57 (1)			06:34	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36		22:03	25	06:22 (1)			20:51	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	05:36		05:20		05:57 (1)			06:35	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	21:37		22:04	25	06:22 (1)			20:49	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35		05:20		05:58 (1)			06:37	07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	21:39		22:04	25	06:23 (1)			20:46	19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	05:34	06:02 (1)	05:20		05:58 (1)			06:38	07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	21:40 6	06:08 (1)	22:04	25	06:23 (1)			20:44	19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	05:32	06:00 (1)	05:21		05:58 (1)			06:40	07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	21:42 10	06:10 (1)	22:04	24	06:22 (1)			20:42	19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	05:31	05:59 (1)	05:21		05:59 (1)			06:42	07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21:43 12	06:11 (1)	22:04	24	06:23 (1)			20:40	19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	05:30	05:58 (1)	05:22		05:59 (1)			06:43	07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	21:44 14	06:12 (1)	22:04	24	06:23 (1)			20:38	19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	05:29	05:57 (1)	05:22		05:59 (1)			06:45	07:36	07:27	08:21	08:48
	17:21		20:07	21:00	21:45 16	06:13 (1)	22:03	24	06:23 (1)			20:35	19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	05:28	05:57 (1)	05:23		06:00 (1)			06:47	07:37	07:29	08:22	08:48
	17:22		20:08	21:01	21:47 18	06:15 (1)	22:03	24	06:24 (1)			20:33	19:22	17:17	16:33	16:36
31	08:22		07:19		05:27	05:57 (1)						06:48		07:31		08:48
	17:24		20:10		21:48 18	06:15 (1)						20:31		17:15		16:37
Potential sun hours	259	277	367	416	485		499		502		454	381	331	266	243	
Total, worst case					94		709		345							
Sun reduction					0,43		0,39		0,41							
Oper. time red.					0,95		0,95		0,95							
Wind dir. red.					0,67		0,67		0,67							
Total reduction					0,27		0,25		0,26							
Total, real					26		177		90							

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:36/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN131@145Shadow receptor: B - 3998JD87

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May		June		July		August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12		05:26	06:06 (1)	05:23	06:14 (1)	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03		21:49	23 06:29 (1)	22:03	18 06:32 (1)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10		05:26	06:06 (1)	05:24	06:15 (1)	06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05		21:50	22 06:28 (1)	22:03	18 06:33 (1)	21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08		05:25	06:07 (1)	05:25	06:15 (1)	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06		21:51	22 06:29 (1)	22:02	19 06:34 (1)	21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06		05:24	06:07 (1)	05:26	06:14 (1)	06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08		21:52	22 06:29 (1)	22:02	19 06:33 (1)	21:26	20:22	19:12	17:07	16:31
5	08:47	08:15	07:19	07:08	06:04		05:23	06:08 (1)	05:26	06:14 (1)	06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10		21:53	21 06:29 (1)	22:01	20 06:34 (1)	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02		05:23	06:08 (1)	05:27	06:14 (1)	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11		21:54	21 06:29 (1)	22:01	21 06:35 (1)	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01		05:22	06:09 (1)	05:28	06:14 (1)	06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13		21:55	20 06:29 (1)	22:00	21 06:35 (1)	21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59		05:22	06:09 (1)	05:29	06:15 (1)	06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15		21:56	19 06:28 (1)	22:00	21 06:36 (1)	21:19	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57		05:21	06:10 (1)	05:30	06:15 (1)	06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16		21:57	19 06:29 (1)	21:59	21 06:36 (1)	21:17	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55		05:21	06:09 (1)	05:31	06:14 (1)	06:14	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18		21:58	19 06:28 (1)	21:58	22 06:36 (1)	21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54		05:20	06:10 (1)	05:32	06:14 (1)	06:16	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19		21:58	18 06:28 (1)	21:57	22 06:36 (1)	21:13	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52		05:20	06:11 (1)	05:33	06:14 (1)	06:17	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21		21:59	17 06:28 (1)	21:57	22 06:36 (1)	21:11	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50		05:20	06:11 (1)	05:34	06:15 (1)	06:19	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23		22:00	17 06:28 (1)	21:56	23 06:38 (1)	21:09	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49		05:19	06:12 (1)	05:35	06:15 (1)	06:21	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24		22:00	17 06:29 (1)	21:55	23 06:38 (1)	21:07	19:59	18:50	16:51	16:28
15	08:42	07:56	06:56	06:45	05:47	06:13 (1)	05:19	06:11 (1)	05:36	06:15 (1)	06:22	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26	6 06:19 (1)	22:01	17 06:28 (1)	21:54	23 06:38 (1)	21:05	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46	06:12 (1)	05:19	06:12 (1)	05:38	06:15 (1)	06:24	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27	10 06:22 (1)	22:01	16 06:28 (1)	21:53	23 06:38 (1)	21:03	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44	06:11 (1)	05:19	06:12 (1)	05:39	06:15 (1)	06:25	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29	13 06:24 (1)	22:02	16 06:28 (1)	21:52	23 06:38 (1)	21:01	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43	06:09 (1)	05:19	06:12 (1)	05:40	06:15 (1)	06:27	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30	15 06:24 (1)	22:02	16 06:28 (1)	21:51	23 06:38 (1)	20:59	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41	06:08 (1)	05:19	06:14 (1)	05:41	06:15 (1)	06:29	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32	17 06:25 (1)	22:03	15 06:29 (1)	21:49	22 06:37 (1)	20:57	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40	06:07 (1)	05:19	06:14 (1)	05:43	06:16 (1)	06:30	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33	19 06:26 (1)	22:03	15 06:29 (1)	21:48	22 06:38 (1)	20:55	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	05:39	06:07 (1)	05:19	06:14 (1)	05:44	06:16 (1)	06:32	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:35	20 06:27 (1)	22:03	15 06:29 (1)	21:47	21 06:37 (1)	20:53	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	05:37	06:06 (1)	05:19	06:14 (1)	05:45	06:16 (1)	06:34	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36	21 06:27 (1)	22:03	15 06:29 (1)	21:46	21 06:37 (1)	20:51	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	05:36	06:05 (1)	05:20	06:14 (1)	05:47	06:16 (1)	06:35	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	21:37	22 06:27 (1)	22:04	15 06:29 (1)	21:44	20 06:36 (1)	20:49	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35	06:05 (1)	05:20	06:14 (1)	05:48	06:18 (1)	06:37	07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	21:39	23 06:28 (1)	22:04	16 06:30 (1)	21:43	18 06:36 (1)	20:46	19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	05:34	06:05 (1)	05:20	06:14 (1)	05:50	06:19 (1)	06:38	07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	21:40	23 06:28 (1)	22:04	16 06:30 (1)	21:42	16 06:35 (1)	20:44	19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	05:32	06:05 (1)	05:21	06:14 (1)	05:51	06:20 (1)	06:40	07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	21:42	23 06:28 (1)	22:04	16 06:30 (1)	21:40	14 06:34 (1)	20:42	19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	05:31	06:05 (1)	05:21	06:14 (1)	05:52	06:22 (1)	06:42	07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21:43	23 06:28 (1)	22:04	17 06:31 (1)	21:39	12 06:34 (1)	20:40	19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	05:30	06:05 (1)	05:22	06:14 (1)	05:54	06:23 (1)	06:43	07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	21:44	23 06:28 (1)	22:04	17 06:31 (1)	21:37	8 06:31 (1)	20:38	19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	05:29	06:05 (1)	05:22	06:15 (1)	05:55		06:45	07:36	07:27	08:21	08:48
	17:21		20:07	21:00	21:45	23 06:28 (1)	22:03	16 06:31 (1)	21:36		20:36	19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	05:28	06:06 (1)	05:23	06:15 (1)	05:57		06:47	07:37	07:29	08:22	08:48
	17:22		20:09	21:01	21:47	23 06:29 (1)	22:03	17 06:32 (1)	21:34		20:33	19:22	17:17	16:33	16:36
31	08:22		07:19		05:27	06:06 (1)			05:58		06:48		07:31		08:48
	17:24		20:10		21:48	23 06:29 (1)			21:33		20:31		17:15		16:37
Potential sun hours	259	277	367	416	485		499		502		454	381	331	266	243
Total, worst case						327		532		556					
Sun reduction						0,43		0,39		0,41					
Oper. time red.						0,95		0,95		0,95					
Wind dir. red.						0,67		0,67		0,67					
Total reduction						0,27		0,25		0,26					
Total, real						89		132		144					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:36/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN131@145Shadow receptor: C - 3997MR25

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December	
1	08:48		09:53 (2)		08:21		08:50 (4)	07:27		12:47 (1)	07:17	06:12	05:26	05:23	06:00	06:50		07:39		13:42 (1)	07:33		08:42 (3)	08:24		09:30 (2)
	16:38	24	13:24 (1)	17:26	183	14:18 (1)	18:18	95	14:22 (1)	20:12	21:03	21:49	22:03	21:31	20:29		19:19	64	14:46 (1)	17:13	156	13:54 (1)	16:32	82	13:33 (1)
2	08:48		09:53 (2)	08:19		08:49 (4)	07:25		12:47 (1)	07:14	06:10	05:25	05:24	06:01	06:51		07:41		13:39 (1)	07:35		08:25 (4)	08:25		09:32 (2)
	16:39	32	13:28 (1)	17:28	185	14:19 (1)	18:20	95	14:22 (1)	20:14	21:05	21:50	22:03	21:29	20:26		19:17	69	14:48 (1)	17:11	172	13:54 (1)	16:32	78	13:33 (1)
3	08:48		09:53 (2)	08:18		08:50 (4)	07:23		12:47 (1)	07:12	06:08	05:25	05:25	06:03	06:53		07:42		13:35 (1)	07:36		08:24 (4)	08:27		09:33 (2)
	16:40	40	13:32 (1)	17:30	185	14:20 (1)	18:21	93	14:20 (1)	20:15	21:06	21:51	22:02	21:28	20:24		19:15	74	14:49 (1)	17:09	175	13:53 (1)	16:31	73	13:31 (1)
4	08:47		09:52 (2)	08:16		08:51 (4)	07:21		12:48 (1)	07:10	06:06	05:24	05:25	06:04	06:55		07:44		13:33 (1)	07:38		08:22 (4)	08:28		09:35 (2)
	16:41	47	13:35 (1)	17:32	185	14:21 (1)	18:23	92	14:20 (1)	20:17	21:08	21:52	22:02	21:26	20:22		19:12	77	14:50 (1)	17:07	181	13:52 (1)	16:31	69	13:30 (1)
5	08:47		09:52 (2)	08:14		08:51 (4)	07:19		12:50 (1)	07:07	06:04	05:23	05:26	06:06	06:56		07:46		13:31 (1)	07:40		08:21 (4)	08:29		09:36 (2)
	16:43	52	13:38 (1)	17:33	184	14:21 (1)	18:25	89	14:19 (1)	20:19	21:10	21:53	22:01	21:24	20:20		19:10	80	14:51 (1)	17:06	182	13:51 (1)	16:30	64	13:29 (1)
6	08:47		09:51 (2)	08:13		08:51 (4)	07:16		12:51 (1)	07:05	06:02	05:23	05:27	06:08	06:58		07:47		13:29 (1)	07:42		08:21 (4)	08:31		09:37 (2)
	16:44	58	13:40 (1)	17:35	183	14:22 (1)	18:27	87	14:18 (1)	20:20	21:11	21:54	22:01	21:22	20:17		19:08	84	14:53 (1)	17:04	184	13:51 (1)	16:30	59	13:27 (1)
7	08:46		09:51 (2)	08:11		08:52 (4)	07:14		12:51 (1)	07:03	06:00	05:22	05:28	06:09	07:00		07:49		13:27 (1)	07:44		08:20 (4)	08:32		09:39 (2)
	16:45	63	13:43 (1)	17:37	181	14:22 (1)	18:28	85	14:16 (1)	20:22	21:13	21:55	22:00	21:21	20:15		19:05	86	14:53 (1)	17:02	185	13:51 (1)	16:29	53	13:26 (1)
8	08:46		09:50 (2)	08:09		08:54 (4)	07:12		12:53 (1)	07:01	05:59	05:21	05:29	06:11	07:01		07:51		13:25 (1)	07:45		08:20 (4)	08:33		09:40 (2)
	16:46	68	13:45 (1)	17:39	176	14:24 (1)	18:30	82	14:15 (1)	20:24	21:15	21:56	22:00	21:19	20:13		19:03	88	14:53 (1)	17:00	184	13:50 (1)	16:29	47	13:23 (1)
9	08:46		09:50 (2)	08:08		08:56 (4)	07:10		12:55 (1)	06:58	05:57	05:21	05:30	06:12	07:03		07:52		13:24 (1)	07:47		08:20 (4)	08:34		09:41 (2)
	16:48	73	13:48 (1)	17:41	169	14:24 (1)	18:32	79	14:14 (1)	20:26	21:16	21:57	21:59	21:17	20:10		19:01	90	14:54 (1)	16:59	185	13:50 (1)	16:29	40	13:20 (1)
10	08:45		09:49 (2)	08:06		09:13 (3)	07:07		12:56 (1)	06:56	05:55	05:21	05:31	06:14	07:04		07:54		13:23 (1)	07:49		08:21 (4)	08:35		09:42 (2)
	16:49	77	13:49 (1)	17:43	154	14:24 (1)	18:34	75	14:11 (1)	20:27	21:18	21:58	21:58	21:15	20:08		18:59	92	14:55 (1)	16:57	183	13:49 (1)	16:28	33	13:18 (1)
11	08:44		09:48 (2)	08:04		09:15 (3)	07:05		12:59 (1)	06:54	05:54	05:20	05:32	06:16	07:06		07:56		13:21 (1)	07:51		08:21 (4)	08:37		09:43 (2)
	16:51	82	13:51 (1)	17:45	149	14:25 (1)	18:36	71	14:10 (1)	20:29	21:19	21:58	21:57	21:13	20:06		18:56	94	14:55 (1)	16:56	182	13:49 (1)	16:28	26	13:15 (1)
12	08:44		09:48 (2)	08:02		09:53 (2)	07:03		13:01 (1)	06:52	05:52	05:20	05:33	06:17	07:08		07:57		13:20 (1)	07:53		08:22 (4)	08:38		09:46 (2)
	16:52	86	13:53 (1)	17:46	137	14:25 (1)	18:37	67	14:08 (1)	20:31	21:21	21:59	21:56	21:11	20:03		18:54	95	14:55 (1)	16:54	180	13:48 (1)	16:28	15	10:01 (2)
13	08:43		09:47 (2)	08:00		09:55 (2)	07:01		13:04 (1)	06:49	05:50	05:20	05:34	06:19	07:09		07:59		13:19 (1)	07:54		08:24 (4)	08:39		09:47 (2)
	16:53	90	13:54 (1)	17:48	134	14:25 (1)	18:39	60	14:04 (1)	20:32	21:23	22:00	21:56	21:09	20:01		18:52	97	14:56 (1)	16:53	176	13:48 (1)	16:28	14	10:01 (2)
14	08:42		09:47 (2)	07:58		09:56 (2)	06:58		13:08 (1)	06:47	05:49	05:19	05:35	06:20	07:11		08:01		13:19 (1)	07:56		08:26 (4)	08:40		09:48 (2)
	16:55	94	13:56 (1)	17:50	132	14:26 (1)	18:41	54	14:02 (1)	20:34	21:24	22:00	21:55	21:07	19:59		18:50	97	14:56 (1)	16:51	172	13:47 (1)	16:28	12	10:00 (2)
15	08:41		09:48 (2)	07:56		09:58 (2)	06:56		13:13 (1)	06:45	05:47	05:19	05:36	06:22	07:13		08:03		13:18 (1)	07:58		08:28 (4)	08:40		09:49 (2)
	16:57	97	13:58 (1)	17:52	127	14:26 (1)	18:43	45	13:58 (1)	20:36	21:26	22:01	21:54	21:05	19:56		18:48	98	14:56 (1)	16:50	168	13:46 (1)	16:28	10	09:59 (2)
16	08:41		09:46 (2)	07:54		10:01 (2)	06:54		13:20 (1)	06:43	05:46	05:19	05:38	06:24	07:14		08:04		13:17 (1)	08:00		08:30 (4)	08:41		09:51 (2)
	16:58	102	13:59 (1)	17:54	121	14:26 (1)	18:44	32	13:52 (1)	20:37	21:27	22:01	21:53	21:03	19:54		18:45	99	14:56 (1)	16:48	162	13:46 (1)	16:28	7	09:58 (2)
17	08:40		09:46 (2)	07:52		10:04 (2)	06:51		13:34 (1)	06:41	05:44	05:19	05:39	06:25	07:16		08:06		13:16 (1)	08:01		08:32 (4)	08:42		09:53 (2)
	17:00	106	14:01 (1)	17:56	114	14:26 (1)	18:46	7	13:41 (1)	20:39	21:29	22:02	21:52	21:01	19:52		18:43	100	14:56 (1)	16:47	155	13:45 (1)	16:28	5	09:58 (2)
18	08:39		09:46 (2)	07:50		12:45 (1)	06:49			06:38	05:43	05:19	05:40	06:27	07:17		08:08		13:16 (1)	08:03		08:41 (3)	08:43		
	17:01	107	14:02 (1)	17:58	101	14:26 (1)	18:48			20:41	21:30	22:02	21:51	20:59	19:49		18:41	100	14:56 (1)	16:46	148	13:45 (1)	16:29		
19	08:38		09:12 (3)	07:48		12:45 (1)	06:47			06:36	05:41	05:19	05:41	06:29	07:19		08:10		13:16 (1)	08:05		08:41 (3)	08:44		
	17:03	121	14:04 (1)	17:59	101	14:26 (1)	18:50			20:43	21:32	22:03	21:49	20:57	19:47		18:39	100	14:56 (1)	16:44	142	13:43 (1)	16:29		
20	08:37		09:11 (3)	07:46		12:45 (1)	06:44			06:34	05:40	05:19	05:43	06:30	07:21		08:11		13:16 (1)	08:06		08:43 (3)	08:44		
	17:05	126	14:05 (1)	18:01	101	14:26 (1)	18:51			20:44	21:33	22:03	21:48	20:55	19:45		18:37	100	14:56 (1)	16:43	139	13:43 (1)	16:29		
21	08:36		09:10 (3)	07:44		12:44 (1)	06:42			06:32	05:38	05:19	05:44	06:32	07:22		08:13		13:15 (1)	08:08		08:45 (3)	08:45		
	17:06	133	14:07 (1)	18:03	101	14:25 (1)	18:53			20:46	21:35	22:03	21:47	20:53	19:42		18:35	102	14:57 (1)	16:42	133	13:42 (1)	16:30		
22	08:34		09:08 (3)	07:42		12:44 (1)	06:40			06:30	05:37	05:19	05:45	06:33	07:24		08:15		13:14 (1)	08:10		08:47 (3)	08:45		
	17:08	139	14:08 (1)	18:05	101	14:25 (1)	18:55			20:48	21:36	22:03	21:46	20:51	19:40		18:33	102	14:56 (1)	16:41	126	13:41 (1)	16:30		
23	08:33		09:07 (3)	07:40		12:45 (1)	06:37			06:28	05:36	05:20	05:47	06:35	07:26		08:17		13:14 (1)	08:11		08:49 (3)	08:46		
	17:10	142	14:09 (1)	18:07	100	14:25 (1)	18:56			20:49	21:37	22:04	21:44	20:49	19:38		18:31	102	14:56 (1)	16:40	121	13:41 (1)	16:31		
24	08:32		09:07 (3)	07:38		12:45 (1)	06:35			06:26	05:35	05:20	05:48	06:37	07:27		08:18		13:14 (1)	08:13		08:52 (3)	08:46		
	17:12	148	14:11 (1)	18:09	100	14:25 (1)	18:58			20:51	21:39	22:04	21:43	20:46	19:35		18:28	102	14:56 (1)	16:38	110	13:39 (1)	16:31		
25	08:31		08:58 (4)	07:36		12:45 (1)	06:33			06:24	05:33	05:20	05:49	06:38	07:29		07:20		09:33 (2)	08:15		09:24 (2)	08:47		
	17:13	155	14:11 (1)	18:10	100	14:25 (1)	19:00			20:53	21:40	22:04	21:42	20:44	19:33		17:26	116	13:55 (1)	16:37	106	13:39 (1)	16:32		
26	08:30		08:57 (4)	07:34		12:46 (1)	06:30			06:22	05:32	05:21	05:51	06:40	07:31		07:22		09:29 (2)	08:16		09:25 (2)	08:47		09:57 (2)
	17:15	162	14:13 (1)	18:12	98	14:24 (1)	19:02			20:54	21:41	22:04	21:40	20:42	19:31		17:24	123	13:55 (1)	16:36	102	13:38 (1)	16:33	4	10:01 (2)
27	08:28		08:55 (4)	07:32		12:45 (1)	06:28			06:20	05:31	05:21	05:52	06:42	07:32	14:06 (1)	07:24		09:27 (2)	08:18		09:27 (2)	08:47		09:57 (2)
	17:17	169	14:14 (1)	18:14	98	14:23 (1)	19:03			20:56	21:43	22:04	21:39	20:40	19:28	25 14:31 (1)	17:22	128	13:55 (1)	16:36	97	13:37 (1)	16:33	7	10:04 (2)
28	08:27		08:54 (4)	07:30		12:46 (1)	06:26			06:18	05:30	05:21	05:54	06:43	07:34	13:56 (1)	07:26		09:25 (2)	08:19		09:27 (2)	08:48		09:56 (2)
	17:19	172	14:15 (1)	18:16	97	14:23 (1)	19:05			20:58	21:44	22:03	21:37	20:38	19:26	41 14:37 (1)	17:20	132	13:55 (1)	16:35	94	13:36 (1)	16:34	9	10:05 (2)
29	08:25		08:52 (4)				07:24			06:16	05:29	05:22	05:55	06:45	07:36	13:50 (1)	07:27		09:24 (2)	08:21		09:28 (2)	08:48		09:56 (2)
	17:20	176	14:16 (1)				20:07			21:00	21:45	22:03	21:36	20:35	19:24	51 14:41 (1)	17:19	135	13:55 (1)	16:34	90	13:35 (1)	16:35	11	10:07 (2)
30	08:24		08:50 (4)				07:21			06:14	05:28	05:23	05:57	06:46	07:37	13:45 (1)	07:29		09:23 (2)	08:22		09:30 (2)	08:48		09:55 (2)
	17:22	180	14:16 (1)				20:08			21:01	21:47	22:03	21:34	20:33	19:21	58 14:43 (1)	17:17	137	13:55 (1)	16:33	86	13:35 (1)	16:36	13	10:08 (2)
31	08:22		08:50 (4)				07:19				05:27		05:58	06:48			07:31		08:44 (3)				08:48		09:54 (2)
	17:24	183	14:18 (1)				20:10				21:48		21:33	20:31			17:15	149	13:54 (1)				16:37	15	10:09 (2)
Potential sun hours	259			277			367		416	485	499	502	454	381			331			266			243		
Total, worst case		3304			3797			1208							175			3112			4476			746	
Sun reduction		0,24			0,30			0,33							0,36			0,34			0,24			0,20	
Oper. time red.		0,95			0,95			0,95							0,95			0,95			0,95			0,95	
Wind dir. red.		0,64			0,65			0,68							0,68			0,67			0,64			0,63	
Total reduction		0,14			0,19			0,21							0,23			0,21			0,14			0,12	
Total, real		476			710			256							41			667			636			90	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:36/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN131@145Shadow receptor: D - 3945LA3

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December		
1	08:48		08:21		15:54 (3)		07:27	17:24 (2)	07:17	06:12	05:26	05:23	06:00	06:50		07:39			07:33		15:30 (3)	08:24		
	16:38		17:26	35	16:29 (3)		18:18	23	17:47 (2)	20:12	21:03	21:49	22:03	21:31		20:29		19:19			17:13	25	15:55 (3)	16:32		
2	08:48		08:19		15:54 (3)		07:25		17:23 (2)	07:14	06:10	05:25	05:24	06:01		06:51		07:40		18:07 (2)	07:34		15:28 (3)	08:25		
	16:39		17:28	34	16:28 (3)		18:19	25	17:48 (2)	20:13	21:05	21:50	22:02	21:29		20:26		19:17	11	18:18 (2)	17:11	27	15:55 (3)	16:32		
3	08:47		08:18		15:55 (3)		07:23		17:22 (2)	07:12	06:08	05:25	05:25	06:03		06:53		07:42		18:04 (2)	07:36		15:27 (3)	08:27		
	16:40		17:30	34	16:29 (3)		18:21	25	17:47 (2)	20:15	21:06	21:51	22:02	21:27		20:24		19:14	15	18:19 (2)	17:09	29	15:56 (3)	16:31		
4	08:47		08:16		15:55 (3)		07:21		17:22 (2)	07:10	06:06	05:24	05:25	06:04		06:55		07:44		18:02 (2)	07:38		15:26 (3)	08:28		
	16:41		17:31	34	16:29 (3)		18:23	25	17:47 (2)	20:17	21:08	21:52	22:02	21:26		20:22		19:12	19	18:21 (2)	17:07	31	15:57 (3)	16:30		
5	08:47		08:14		15:56 (3)		07:18		17:22 (2)	07:07	06:04	05:23	05:26	06:06		06:56		07:45		18:01 (2)	07:40		15:26 (3)	08:29		
	16:42		17:33	32	16:28 (3)		18:25	25	17:47 (2)	20:19	21:09	21:53	22:01	21:24		20:20		19:10	21	18:22 (2)	17:06	32	15:58 (3)	16:30		
6	08:47		08:13		15:56 (3)		07:16		17:22 (2)	07:05	06:02	05:22	05:27	06:08		06:58		07:47		17:59 (2)	07:42		15:25 (3)	08:31		
	16:44		17:35	32	16:28 (3)		18:27	24	17:46 (2)	20:20	21:11	21:54	22:01	21:22		20:17		19:08	23	18:22 (2)	17:04	33	15:58 (3)	16:29		
7	08:46		08:11		15:57 (3)		07:14		17:22 (2)	07:03	06:00	05:22	05:28	06:09		06:59		07:49		17:58 (2)	07:43		15:25 (3)	08:32		
	16:45		17:37	30	16:27 (3)		18:28	24	17:46 (2)	20:22	21:13	21:55	22:00	21:20		20:15		19:05	24	18:22 (2)	17:02	34	15:59 (3)	16:29		
8	08:46		08:09		15:59 (3)		07:12		17:23 (2)	07:01	05:59	05:21	05:29	06:11		07:01		07:51		17:58 (2)	07:45		15:25 (3)	08:33		
	16:46		17:39	28	16:27 (3)		18:30	22	17:45 (2)	20:24	21:14	21:56	21:59	21:19		20:13		19:03	24	18:22 (2)	17:00	34	15:59 (3)	16:29		
9	08:45		08:07		16:00 (3)		07:10		17:24 (2)	06:58	05:57	05:21	05:30	06:12		07:03		07:52		17:57 (2)	07:47		15:25 (3)	08:34		
	16:48		17:41	26	16:26 (3)		18:32	20	17:44 (2)	20:25	21:16	21:57	21:59	21:17		20:10		19:01	26	18:23 (2)	16:59	34	15:59 (3)	16:28		
10	08:45		08:06		16:01 (3)		07:07		17:25 (2)	06:56	05:55	05:20	05:31	06:14		07:04		07:54		17:56 (2)	07:49		15:25 (3)	08:35		
	16:49		17:43	24	16:25 (3)		18:34	17	17:42 (2)	20:27	21:18	21:57	21:58	21:15		20:08		18:59	25	18:21 (2)	16:57	35	16:00 (3)	16:28		
11	08:44		08:04		16:03 (3)		07:05		17:27 (2)	06:54	05:53	05:20	05:32	06:15		07:06		07:56		17:56 (2)	07:51		15:25 (3)	08:36		
	16:50		17:44	21	16:24 (3)		18:35	13	17:40 (2)	20:29	21:19	21:58	21:57	21:13		20:06		18:56	25	18:21 (2)	16:56	35	16:00 (3)	16:28		
12	08:44		08:02		16:05 (3)		07:03		17:31 (2)	06:52	05:52	05:20	05:33	06:17		07:08		07:57		17:57 (2)	07:52		15:25 (3)	08:38		
	16:52		17:46	17	16:22 (3)		18:37	5	17:36 (2)	20:31	21:21	21:59	21:56	21:11		20:03		18:54	24	18:21 (2)	16:54	35	16:00 (3)	16:28		
13	08:43		08:00		16:08 (3)		07:00			06:49	05:50	05:19	05:34	06:19		07:09		07:59		17:57 (2)	07:54		15:26 (3)	08:39		
	16:53		17:48	11	16:19 (3)		18:39			20:32	21:22	22:00	21:56	21:09		20:01		18:52	23	18:20 (2)	16:52	34	16:00 (3)	16:28		
14	08:42		07:58				06:58			06:47	05:49	05:19	05:35	06:20		07:11		08:01		17:58 (2)	07:56		15:26 (3)	08:39		
	16:55		17:50				18:41			20:34	21:24	22:00	21:55	21:07		19:59		18:50	21	18:19 (2)	16:51	34	16:00 (3)	16:28		
15	08:41		07:56				06:56		18:11 (1)	06:45	05:47	05:19	05:36	06:22		07:12		08:03		17:58 (2)	07:58		15:27 (3)	08:40		
	16:56	7	17:52				18:42	6	18:17 (1)	20:36	21:26	22:01	21:54	21:05		19:56		18:47	19	18:17 (2)	16:50	33	16:00 (3)	16:28		
16	08:41		07:54				06:54		18:08 (1)	06:43	05:45	05:19	05:37	06:24		07:14		08:04		18:00 (2)	07:59		15:28 (3)	08:41		
	16:58	12	17:54				18:44	10	18:18 (1)	20:37	21:27	22:01	21:53	21:03		19:54		18:45	15	18:15 (2)	16:48	31	15:59 (3)	16:28		
17	08:40		07:52				06:51		18:07 (1)	06:41	05:44	05:19	05:39	06:25		07:16		08:06		18:02 (2)	08:01		15:28 (3)	08:42		13:46 (4)
	17:00	15	17:56				18:46	14	18:21 (1)	20:39	21:29	22:02	21:52	21:01		19:52		18:43	10	18:12 (2)	16:47	31	15:59 (3)	16:28	3	13:49 (4)
18	08:39		07:50				06:49		18:07 (1)	06:38	05:43	05:19	05:40	06:27		07:17	18:56 (1)	08:08			08:03		15:28 (3)	08:43		13:45 (4)
	17:01	18	17:58				18:48	16	18:23 (1)	20:41	21:30	22:02	21:50	20:59		19:49	19:06 (1)	18:41			16:45	30	15:58 (3)	16:28	6	13:51 (4)
19	08:38		07:48				06:47		18:05 (1)	06:36	05:41	05:19	05:41	06:28		07:19	18:53 (1)	08:10			08:05		15:29 (3)	08:44		13:45 (4)
	17:03	21	17:59				18:49	19	18:24 (1)	20:43	21:32	22:02	21:49	20:57		19:47	19:07 (1)	18:39			16:44	29	15:58 (3)	16:29	7	13:52 (4)
20	08:37		07:46				06:44		18:05 (1)	06:34	05:40	05:19	05:43	06:30		07:21	18:52 (1)	08:11			08:06		15:30 (3)	08:44		13:45 (4)
	17:05	23	18:01				18:51	19	18:24 (1)	20:44	21:33	22:03	21:48	20:55		19:45	19:08 (1)	18:37			16:43	27	15:57 (3)	16:29	8	13:53 (4)
21	08:36		07:44				06:42		18:05 (1)	06:32	05:38	05:19	05:44	06:32		07:22	18:50 (1)	08:13			08:08		15:31 (3)	08:45		13:46 (4)
	17:06	26	18:03				18:53	19	18:24 (1)	20:46	21:35	22:03	21:47	20:53		19:42	19:08 (1)	18:35			16:42	26	15:57 (3)	16:30	8	13:54 (4)
22	08:34		07:42				06:40		18:05 (1)	06:30	05:37	05:19	05:45	06:33		07:24	18:50 (1)	08:15			08:10		15:33 (3)	08:45		13:46 (4)
	17:08	27	18:05				18:55	18	18:23 (1)	20:48	21:36	22:03	21:46	20:51		19:40	19:08 (1)	18:33			16:41	23	15:56 (3)	16:30	8	13:54 (4)
23	08:33		07:40				06:37		18:05 (1)	06:28	05:36	05:19	05:47	06:35		07:26	18:50 (1)	08:17			08:11		15:34 (3)	08:46		13:46 (4)
	17:10	29	18:07				18:56	17	18:22 (1)	20:49	21:37	22:03	21:44	20:48		19:38	19:09 (1)	18:30			16:39	22	15:56 (3)	16:31	8	13:54 (4)
24	08:32		07:38		17:34 (2)		06:35		18:07 (1)	06:26	05:35	05:20	05:48	06:37		07:27	18:49 (1)	08:18			08:13		15:35 (3)	08:46		13:47 (4)
	17:11	30	18:09	4	17:38 (2)		18:58	14	18:21 (1)	20:51	21:39	22:04	21:43	20:46		19:35	19:07 (1)	18:28			16:38	19	15:54 (3)	16:31	8	13:55 (4)
25	08:31		07:36		17:30 (2)		06:33		18:08 (1)	06:24	05:33	05:20	05:49	06:38		07:29	18:49 (1)	07:20			08:15		15:37 (3)	08:47		13:48 (4)
	17:13	31	18:10	12	17:42 (2)		19:00	10	18:18 (1)	20:53	21:40	22:04	21:42	20:44		19:33	19:06 (1)	17:26			16:37	16	15:53 (3)	16:32	6	13:54 (4)
26	08:29		07:34		17:27 (2)		06:30		18:11 (1)	06:22	05:32	05:20	05:51	06:40		07:30	18:50 (1)	07:22			08:16		15:39 (3)	08:47		13:49 (4)
	17:15	32	18:12	16	17:43 (2)		19:01	4	18:15 (1)	20:54	21:41	22:04	21:40	20:42		19:31	19:04 (1)	17:24			16:36	12	15:51 (3)	16:32	5	13:54 (4)
27	08:28		07:32		17:26 (2)		06:28			06:19	05:31	05:21	05:52	06:41		07:32	18:50 (1)	07:24			08:18		15:42 (3)	08:47		
	17:17	33	18:14	19	17:45 (2)		19:03			20:56	21:43	22:04	21:39	20:40		19:28	19:01 (1)	17:22			16:35	8	15:50 (3)	16:33		
28	08:27		07:29		17:25 (2)		06:26			06:17	05:30	05:21	05:54	06:43		07:34	18:51 (1)	07:25			08:19			08:47		
	17:19	34	18:16	21	17:46 (2)		19:05			20:58	21:44	22:03	21:37	20:38		19:26	18:59 (1)	17:20			16:35			16:34		
29	08:25						07:23			06:15	05:29	05:22	05:55	06:45		07:35	18:54 (1)	07:27		15:37 (3)	08:21			08:48		
	17:20	34					20:07			20:59	21:45	22:03	21:36	20:35		19:24	18:57 (1)	17:18	13	15:50 (3)	16:34			16:35		
30	08:24						07:21			06:14	05:28	05:23	05:57	06:46		07:37		07:29		15:34 (3)	08:22			08:48		
	17:22	34					20:08			21:01	21:46	22:03	21:34	20:33		19:21		17:17	18	15:52 (3)	16:33			16:36		
31	08:22						07:19				05:27		05:58	06:48				07:31		15:32 (3)				08:48		
	17:24	35					20:10				21:48		21:32	20:31				17:15	22	15:54 (3)				16:37		
Potential sun hours	259		277		367			416	485	499	502	454	381			331			266			243			
Total, worst case		441		430		414									166		378			759			67		
Sun reduction		0,24		0,30		0,33									0,36		0,34			0,24			0,20		
Oper. time red.		0,95		0,95		0,95									0,95		0,95			0,95			0,95		
Wind dir. red.		0,67		0,66		0,64									0,63		0,65			0,67			0,68		
Total reduction		0,15		0,19		0,20									0,22		0,21			0,15			0,13		
Total, real		67		82		83									36		79			114			9		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:36/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN131@145Shadow receptor: E - 3945LA5

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December		
1	08:48	15:00 (3)	08:21	15:21 (3)	07:27	17:02 (2)	07:17	06:12	05:26	05:23	06:00	06:50		07:39	18:40 (1)	07:33		08:24	14:45 (3)		
	16:38	36	15:36 (3)	17:26	18	15:39 (3)	18:18	27	17:29 (2)	20:12	21:03	21:49	22:03	21:31	20:29	19:19	12	18:52 (1)	17:13	16:32	39	15:24 (3)	
2	08:48		15:01 (3)	08:19	15:24 (3)	07:25	17:03 (2)	07:14	06:10	05:25	05:24	06:01	06:51	07:40	18:42 (1)	07:34		08:25	14:46 (3)		
	16:39	36	15:37 (3)	17:28	12	15:36 (3)	18:19	26	17:29 (2)	20:13	21:05	21:50	22:02	21:29	20:26	19:17	8	18:50 (1)	17:11	16:32	39	15:25 (3)	
3	08:48		15:02 (3)	08:18		07:23	17:03 (2)	07:12	06:08	05:25	05:25	06:03	06:53	07:42		07:36		08:27	14:46 (3)		
	16:40	36	15:38 (3)	17:30		18:21	24	17:27 (2)	20:15	21:06	21:51	22:02	21:27	20:24	19:14		17:09		16:31	39	15:25 (3)	
4	08:47		15:01 (3)	08:16		07:21	17:04 (2)	07:10	06:06	05:24	05:25	06:04	06:55	07:44		07:38		08:28	14:47 (3)		
	16:41	37	15:38 (3)	17:31		18:23	22	17:26 (2)	20:17	21:08	21:52	22:02	21:26	20:22	19:12		17:07		16:30	38	15:25 (3)	
5	08:47		15:02 (3)	08:14		07:18	17:06 (2)	07:07	06:04	05:23	05:26	06:06	06:56	07:45		07:40		08:29	14:47 (3)		
	16:42	37	15:39 (3)	17:33		18:25	19	17:25 (2)	20:19	21:10	21:53	22:01	21:24	20:20	19:10		17:06		16:30	38	15:25 (3)	
6	08:47		15:02 (3)	08:13		07:16	17:07 (2)	07:05	06:02	05:22	05:27	06:08	06:58	07:47		07:42		08:31	14:48 (3)		
	16:44	37	15:39 (3)	17:35		18:27	15	17:22 (2)	20:20	21:11	21:54	22:01	21:22	20:17	19:08		17:04		16:29	37	15:25 (3)	
7	08:46		15:02 (3)	08:11		07:14	17:11 (2)	07:03	06:00	05:22	05:28	06:09	06:59	07:49	17:45 (2)	07:44		08:32	14:49 (3)		
	16:45	38	15:40 (3)	17:37		18:29	7	17:18 (2)	20:22	21:13	21:55	22:00	21:20	20:15	19:05	11	17:56 (2)	17:02	16:29	37	15:26 (3)	
8	08:46		15:02 (3)	08:09		07:12		07:01	05:59	05:21	05:29	06:11	07:01	07:51		17:42 (2)	07:45		08:33		14:49 (3)	
	16:46	38	15:40 (3)	17:39		18:30		20:24	21:14	21:56	21:59	21:19	20:13	19:03	17	17:59 (2)	17:00		16:29	37	15:26 (3)	
9	08:45		15:03 (3)	08:07		07:10		06:58	05:57	05:21	05:30	06:12	07:03	07:52		17:40 (2)	07:47	14:54 (3)	08:34		14:50 (3)	
	16:48	38	15:41 (3)	17:41		18:32		20:25	21:16	21:57	21:59	21:17	20:10	19:01	20	18:00 (2)	16:59	13	15:07 (3)	16:28	36	15:26 (3)	
10	08:45		15:03 (3)	08:06		07:07		06:56	05:55	05:20	05:31	06:14	07:04	07:54		17:37 (2)	07:49		14:51 (3)	08:35		14:50 (3)	
	16:49	39	15:42 (3)	17:43		18:34		20:27	21:18	21:57	21:58	21:15	20:08	18:59	24	18:01 (2)	16:57	19	15:10 (3)	16:28	36	15:26 (3)	
11	08:44		15:03 (3)	08:04		07:05	18:05 (1)	06:54	05:53	05:20	05:32	06:15	07:06	07:56		17:36 (2)	07:51		14:49 (3)	08:37		14:51 (3)	
	16:50	39	15:42 (3)	17:44		18:35	5	18:10 (1)	20:29	21:19	21:58	21:57	21:13	20:06	26	18:02 (2)	16:56	23	15:12 (3)	16:28	35	15:26 (3)	
12	08:44		15:03 (3)	08:02		07:03	18:01 (1)	06:52	05:52	05:20	05:33	06:17	07:08	07:57		17:35 (2)	07:52		14:48 (3)	08:38		14:51 (3)	
	16:52	39	15:42 (3)	17:46		18:37	11	18:12 (1)	20:31	21:21	21:59	21:56	21:11	20:03	27	18:02 (2)	16:54	25	15:13 (3)	16:28	35	15:26 (3)	
13	08:43		15:03 (3)	08:00		07:00	17:59 (1)	06:49	05:50	05:19	05:34	06:19	07:09	07:59		17:35 (2)	07:54		14:46 (3)	08:39		14:52 (3)	
	16:53	40	15:43 (3)	17:48		18:39	14	18:13 (1)	20:32	21:22	22:00	21:56	21:09	20:01	28	18:03 (2)	16:52	29	15:15 (3)	16:28	34	15:26 (3)	
14	08:42		15:04 (3)	07:58		06:58	17:58 (1)	06:47	05:49	05:19	05:35	06:20	07:11	08:01		17:34 (2)	07:56		14:46 (3)	08:40		14:52 (3)	
	16:55	39	15:43 (3)	17:50		18:41	17	18:15 (1)	20:34	21:24	22:00	21:55	21:07	19:59	29	18:03 (2)	16:51	30	15:16 (3)	16:28	35	15:27 (3)	
15	08:41		15:04 (3)	07:56		06:56	17:57 (1)	06:45	05:47	05:19	05:36	06:22	07:12	08:03		17:33 (2)	07:58		14:45 (3)	08:40		14:53 (3)	
	16:56	39	15:43 (3)	17:52		18:42	20	18:17 (1)	20:36	21:26	22:01	21:54	21:05	19:56	29	18:02 (2)	16:50	32	15:17 (3)	16:28	34	15:27 (3)	
16	08:41		15:04 (3)	07:54		06:54	17:55 (1)	06:43	05:45	05:19	05:37	06:24	07:14	08:04		17:33 (2)	07:59		14:44 (3)	08:41		14:54 (3)	
	16:58	40	15:44 (3)	17:54		18:44	21	18:16 (1)	20:37	21:27	22:01	21:53	21:03	19:54	29	18:02 (2)	16:48	34	15:18 (3)	16:28	34	15:28 (3)	
17	08:40		15:05 (3)	07:52	17:11 (2)	06:51	17:55 (1)	06:41	05:44	05:19	05:39	06:25	07:16	08:06		17:33 (2)	08:01		14:44 (3)	08:42		14:54 (3)	
	17:00	39	15:44 (3)	17:56	11	17:22 (2)	18:46	22	18:17 (1)	20:39	21:29	22:02	21:52	21:01	19:52		18:43	29	18:02 (2)	16:47	35	15:19 (3)	16:28	34	15:28 (3)	
18	08:39		15:05 (3)	07:50		17:08 (2)	06:49		17:55 (1)	06:38	05:43	05:19	05:40	06:27	07:17		18:08		17:33 (2)	08:03		14:43 (3)	08:43		14:55 (3)	
	17:01	39	15:44 (3)	17:58	17	17:25 (2)	18:48	22	18:17 (1)	20:41	21:30	22:02	21:50	20:59	19:49		18:41	29	18:02 (2)	16:45	35	15:18 (3)	16:28	34	15:29 (3)	
19	08:38		15:06 (3)	07:48		17:07 (2)	06:47		17:55 (1)	06:36	05:41	05:19	05:41	06:28	07:19		18:10		17:34 (2)	08:05		14:43 (3)	08:44		14:55 (3)	
	17:03	39	15:45 (3)	17:59	20	17:27 (2)	18:49	21	18:16 (1)	20:43	21:32	22:02	21:49	20:57	19:47		18:39	27	18:01 (2)	16:44	36	15:19 (3)	16:29	34	15:29 (3)	
20	08:37		15:07 (3)	07:46		17:04 (2)	06:44		17:55 (1)	06:34	05:40	05:19	05:43	06:30	07:21	18:46 (1)	08:11		17:34 (2)	08:06		14:43 (3)	08:44		14:56 (3)	
	17:05	38	15:45 (3)	18:01	23	17:27 (2)	18:51	20	18:15 (1)	20:44	21:33	22:03	21:48	20:55	19:45	10	18:56 (1)	18:37	26	18:00 (2)	16:43	37	15:20 (3)	16:29	33	15:29 (3)	
21	08:36		15:08 (3)	07:44		17:04 (2)	06:42		17:56 (1)	06:32	05:38	05:19	05:44	06:32	07:22	18:43 (1)	08:13		17:34 (2)	08:08		14:43 (3)	08:45		14:57 (3)	
	17:06	38	15:46 (3)	18:03	24	17:28 (2)	18:53	18	18:14 (1)	20:46	21:35	22:03	21:47	20:53	19:42	14	18:57 (1)	18:35	24	17:58 (2)	16:42	38	15:21 (3)	16:30	33	15:30 (3)	
22	08:34		15:08 (3)	07:42		17:03 (2)	06:40		17:57 (1)	06:30	05:37	05:19	05:45	06:33	07:24	18:41 (1)	08:15		17:35 (2)	08:10		14:43 (3)	08:45		14:57 (3)	
	17:08	37	15:45 (3)	18:05	26	17:29 (2)	18:55	15	18:12 (1)	20:48	21:36	22:03	21:46	20:51	19:40	18	18:59 (1)	18:33	22	17:57 (2)	16:41	38	15:21 (3)	16:30	33	15:30 (3)	
23	08:33		15:09 (3)	07:40		17:02 (2)	06:37		17:59 (1)	06:28	05:36	05:19	05:47	06:35	07:26	18:40 (1)	08:17		17:36 (2)	08:11		14:43 (3)	08:46		14:57 (3)	
	17:10	36	15:45 (3)	18:07	28	17:30 (2)	18:56	11	18:10 (1)	20:49	21:37	22:03	21:44	20:48	19:38	19	18:59 (1)	18:30	20	17:56 (2)	16:39	39	15:22 (3)	16:31	33	15:30 (3)	
24	08:32		15:09 (3)	07:38		17:02 (2)	06:35		18:02 (1)	06:26	05:35	05:20	05:48	06:37	07:27	18:38 (1)	08:18		17:38 (2)	08:13		14:43 (3)	08:46		14:58 (3)	
	17:11	35	15:44 (3)	18:09	28	17:30 (2)	18:58	5	18:07 (1)	20:51	21:39	22:04	21:43	20:46	19:35	21	18:59 (1)	18:28	16	17:54 (2)	16:38	39	15:22 (3)	16:31	33	15:31 (3)	
25	08:31		15:10 (3)	07:36		17:02 (2)	06:33			06:24	05:33	05:20	05:49	06:38	07:29	18:38 (1)	07:20		16:41 (2)	08:15		14:43 (3)	08:47		14:58 (3)	
	17:13	35	15:45 (3)	18:10	29	17:31 (2)	19:00			20:53	21:40	22:04	21:42	20:44	19:33	21	18:59 (1)	17:26	10	16:51 (2)	16:37	39	15:22 (3)	16:32	34	15:32 (3)	
26	08:29		15:11 (3)	07:34		17:01 (2)	06:30			06:22	05:32	05:20	05:51	06:40	07:30	18:38 (1)	07:22			08:16		14:44 (3)	08:47		14:58 (3)	
	17:15	34	15:45 (3)	18:12	29	17:30 (2)	19:01			20:54	21:41	22:04	21:40	20:42	19:31	21	18:59 (1)	17:24			16:36	39	15:23 (3)	16:32	34	15:32 (3)	
27	08:28		15:12 (3)	07:32		17:01 (2)	06:28			06:20	05:31	05:21	05:52	06:41	07:32	18:37 (1)	07:24			08:18		14:44 (3)	08:47		14:59 (3)	
	17:17	32	15:44 (3)	18:14	29	17:30 (2)	19:03			20:56	21:43	22:04	21:39	20:40	19:28	21	18:58 (1)	17:22			16:35	39	15:23 (3)	16:33	33	15:32 (3)	
28	08:27		15:14 (3)	07:29		17:01 (2)	06:26			06:17	05:30	05:21	05:54	06:43	07:34	18:37 (1)	07:25			08:19		14:44 (3)	08:47		15:00 (3)	
	17:19	30	15:44 (3)	18:16	29	17:30 (2)	19:05			20:58	21:44	22:03	21:37	20:38	19:26	21	18:58 (1)	17:20			16:35	39	15:23 (3)	16:34	34	15:34 (3)	
29	08:25		15:15 (3)			07:23				06:16	05:29	05:22	05:55	06:45	07:35	18:38 (1)	07:27			08:21		14:45 (3)	08:48		15:00 (3)	
	17:20	28	15:43 (3)			20:07				20:59	21:45	22:03	21:36	20:35	19:24	19	18:57 (1)	17:18			16:34	39	15:24 (3)	16:35	35	15:35 (3)	
30	08:24		15:16 (3)			07:21				06:14	05:28	05:23	05:57	06:46	07:37	18:38 (1)	07:29			08:22		14:44 (3)	08:48		15:00 (3)	
	17:22	25	15:41 (3)			20:08				21:01	21:46	22:03	21:34	20:33	19:21	16	18:54 (1)	17:17			16:33	39	15:23 (3)	16:36	35	15:35 (3)	
31	08:22		15:19 (3)			07:19					05:27		05:58	06:48				07:31						08:48		15:00 (3)	
	17:24	22	15:41 (3)			20:10					21:48		21:32	20:31				17:15						16:37	35	15:35 (3)	
Potential sun hours	259		277		367		416	485	499	502	454	381		331		266		243			
Total, worst case		1115		323		362							201		463		736		1090		
Sun reduction		0,24		0,30		0,33							0,36		0,34		0,24		0,20		
Oper. time red.		0,95		0,95		0,95							0,95		0,95		0,95		0,95		
Wind dir. red.		0,69		0,67		0,64							0,63		0,66		0,69		0,69		
Total reduction		0,16		0,19		0,20							0,22		0,21		0,16		0,13		
Total, real		176		62		73							44		98		115		146		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:36/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN131@145Shadow receptor: F - 3998NH4

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 - 16:38	08:21 - 17:26	07:27 - 18:18	07:17 - 20:12 (29)	07:51 (3) - 08:20 (3)	06:12 - 21:03	05:26 - 21:49 (53)	06:40 (2) - 07:33 (2)	05:23 - 22:03 (52)	06:46 (2) - 07:38 (2)	06:00 - 21:31 (41)	06:56 (2) - 07:37 (2)	06:50 - 20:29 (13)	07:55 (3) - 08:08 (3)	07:39 - 19:19 (13)	08:04 (4) - 08:17 (4)	07:33 - 17:13	08:24 - 16:32
2	08:48 - 16:39	08:19 - 17:28	07:25 - 18:20	07:14 - 20:14 (29)	07:51 (3) - 08:20 (3)	06:10 - 21:05	05:25 - 21:50 (53)	06:40 (2) - 07:33 (2)	05:24 - 22:03 (51)	06:47 (2) - 07:38 (2)	06:01 - 21:29 (38)	06:57 (2) - 07:35 (2)	06:51 - 20:26 (17)	07:52 (3) - 08:09 (3)	07:41 - 19:17 (10)	08:06 (4) - 08:16 (4)	07:35 - 17:11	08:25 - 16:32
3	08:48 - 16:40	08:18 - 17:30	07:23 - 18:21	07:12 - 20:15 (29)	07:51 (3) - 08:20 (3)	06:08 - 21:06	05:25 - 21:51 (52)	06:41 (2) - 07:33 (2)	05:25 - 22:02 (52)	06:46 (2) - 07:38 (2)	06:03 - 21:28 (37)	06:58 (2) - 07:35 (2)	06:53 - 20:24 (20)	07:51 (3) - 08:11 (3)	07:42 - 19:15 (5)	08:07 (4) - 08:12 (4)	07:36 - 17:09	08:27 - 16:31
4	08:47 - 16:41	08:16 - 17:32	07:21 - 18:23	07:10 - 20:17 (29)	07:50 (3) - 08:19 (3)	06:06 - 21:08	07:00 (2) - 07:14 (2)	05:24 - 21:52 (53)	06:40 (2) - 07:33 (2)	05:25 - 22:02 (53)	06:46 (2) - 06:05 - 21:26 (34)	06:59 (2) - 07:33 (2)	06:55 - 20:22 (23)	07:50 (3) - 08:13 (3)	07:44 - 19:12		07:38 - 17:07	08:28 - 16:31
5	08:47 - 16:43	08:14 - 17:33	07:19 - 18:25	07:07 - 20:19 (28)	07:50 (3) - 08:18 (3)	06:04 - 21:10 (21)	06:56 (2) - 07:17 (2)	05:23 - 21:53 (53)	06:40 (2) - 07:33 (2)	05:26 - 22:01 (52)	06:47 (2) - 07:39 (2)	06:06 - 21:24 (31)	07:01 (2) - 07:32 (2)	06:56 - 20:20 (25)	07:48 (3) - 08:13 (3)	07:46 - 19:10	07:40 - 17:06	08:29 - 16:30
6	08:47 - 16:44	08:13 - 17:35	07:16 - 18:27	07:05 - 20:20 (27)	07:51 (3) - 08:18 (3)	06:02 - 21:11 (26)	06:53 (2) - 07:19 (2)	05:23 - 21:54 (52)	06:41 (2) - 07:33 (2)	05:27 - 22:01 (52)	06:47 (2) - 06:08 - 21:22 (28)	07:02 (2) - 07:30 (2)	06:58 - 20:17 (27)	07:47 (3) - 08:14 (3)	07:47 - 19:08		07:42 - 17:04	08:31 - 16:30
7	08:46 - 16:45	08:11 - 17:37	07:14 - 18:28	07:03 - 20:22 (25)	07:52 (3) - 08:17 (3)	06:01 - 21:13 (29)	06:52 (2) - 07:21 (2)	05:22 - 21:55 (52)	06:41 (2) - 07:33 (2)	05:28 - 22:00 (53)	06:47 (2) - 06:09 - 21:20 (25)	07:03 (2) - 07:28 (2)	07:00 - 20:15 (29)	07:45 (3) - 08:14 (3)	07:49 - 19:05		07:44 - 17:02	08:32 - 16:29
8	08:46 - 16:46	08:09 - 17:39	07:12 - 18:30	07:01 - 20:24 (24)	07:51 (3) - 08:15 (3)	05:59 - 21:15 (32)	06:50 (2) - 07:22 (2)	05:21 - 21:56 (52)	06:41 (2) - 07:33 (2)	05:29 - 21:59 (52)	06:48 (2) - 06:11 - 21:19 (19)	07:06 (2) - 07:25 (2)	07:01 - 20:13 (29)	07:45 (3) - 08:14 (3)	07:51 - 19:03		07:45 - 17:01	08:33 - 16:29
9	08:45 - 16:48	08:08 - 17:41	07:10 - 18:32	06:58 - 20:26 (20)	07:53 (3) - 08:13 (3)	05:57 - 21:16 (35)	06:48 (2) - 07:23 (2)	05:21 - 21:57 (52)	06:42 (2) - 07:34 (2)	05:30 - 21:59 (53)	06:47 (2) - 06:12 - 21:17 (12)	07:09 (2) - 07:21 (2)	07:03 - 20:10 (29)	07:44 (3) - 08:13 (3)	07:52 - 19:01		07:47 - 16:59	08:34 - 16:29
10	08:45 - 16:49	08:06 - 17:43	07:07 - 18:34	06:56 - 20:27 (17)	07:54 (3) - 08:11 (3)	05:55 - 21:18 (38)	06:47 (2) - 07:25 (2)	05:21 - 21:57 (52)	06:41 (2) - 07:33 (2)	05:31 - 21:58 (53)	06:47 (2) - 06:14 - 21:15		07:04 - 20:08 (30)	07:44 (3) - 08:14 (3)	07:54 - 18:59		07:49 - 16:57	08:35 - 16:28
11	08:44 - 16:51	08:04 - 17:45	07:05 - 18:36 (8)	07:28 (4) - 07:36 (4) (13)	07:56 (3) - 08:09 (3)	05:54 - 21:19 (39)	06:46 (2) - 07:25 (2)	05:20 - 21:58 (52)	06:42 (2) - 07:34 (2)	05:32 - 21:57 (53)	06:47 (2) - 06:16 - 21:13		07:06 - 20:06 (30)	07:44 (3) - 08:14 (3)	07:56 - 18:56		07:51 - 16:56	08:37 - 16:28
12	08:44 - 16:52	08:02 - 17:46	07:03 - 18:37 (12)	07:26 (4) - 07:38 (4) (20:31)	06:52 - 21:21 (41)	06:45 (2) - 07:26 (2)	05:20 - 21:59 (52)	06:42 (2) - 07:34 (2)	05:33 - 21:56 (53)	06:47 (2) - 06:17 - 21:11			07:08 - 20:03 (28)	07:44 (3) - 08:12 (3)	07:57 - 18:54		07:53 - 16:54	08:38 - 16:28
13	08:43 - 16:54	08:00 - 17:48	07:01 - 18:39 (15)	07:23 (4) - 07:38 (4) (20:32)	06:49 - 21:23 (43)	05:50 - 21:23 (51)	06:44 (2) - 07:27 (2)	05:20 - 22:00 (51)	06:43 (2) - 07:34 (2)	05:34 - 21:56 (53)	06:47 (2) - 06:19 - 21:09		07:09 - 20:01 (28)	07:44 (3) - 08:12 (3)	07:59 - 18:52		07:54 - 16:53	08:39 - 16:28
14	08:42 - 16:55	07:58 - 17:50	06:58 - 18:41 (18)	07:21 (4) - 07:39 (4) (20:34)	06:47 - 21:24 (45)	05:49 - 21:24 (52)	06:43 (2) - 07:28 (2)	05:19 - 22:00 (52)	06:42 (2) - 07:34 (2)	05:35 - 21:55 (52)	06:49 (2) - 06:20 - 21:07		07:11 - 19:59 (26)	07:44 (3) - 08:10 (3)	08:01 - 18:50		07:56 - 16:51	08:40 - 16:28
15	08:41 - 16:57	07:56 - 17:52	06:56 - 18:43 (20)	07:20 (4) - 07:40 (4) (20:36)	06:45 - 21:26 (46)	05:47 - 21:26 (52)	06:42 (2) - 07:28 (2)	05:19 - 22:01 (51)	06:43 (2) - 07:34 (2)	05:36 - 21:54 (52)	06:49 (2) - 06:22 - 21:05		07:13 - 19:56 (24)	07:45 (3) - 08:09 (3)	08:03 - 18:48		07:58 - 16:50	08:40 - 16:28
16	08:41 - 16:58	07:54 - 17:54	06:54 - 18:44 (20)	07:19 (4) - 07:39 (4) (20:37)	06:43 - 21:27 (47)	05:46 - 21:27 (52)	06:42 (2) - 07:29 (2)	05:19 - 22:01 (51)	06:43 (2) - 07:34 (2)	05:38 - 21:53 (52)	06:49 (2) - 06:24 - 21:03		07:14 - 19:54 (22)	07:45 (3) - 08:07 (3)	08:04 - 18:45		08:00 - 16:48	08:41 - 16:28
17	08:40 - 17:00	07:52 - 17:56	06:51 - 18:46 (20)	07:19 (4) - 07:39 (4) (20:39)	06:41 - 21:29 (48)	05:44 - 21:29 (52)	06:42 (2) - 07:30 (2)	05:19 - 22:02 (51)	06:43 (2) - 07:34 (2)	05:39 - 21:52 (52)	06:49 (2) - 06:25 - 21:01		07:16 - 19:52 (19)	07:47 (3) - 08:06 (3)	08:06 - 18:43		08:01 - 16:47	08:42 - 16:28
18	08:39 - 17:01	07:50 - 17:58	06:49 - 18:48 (20)	07:19 (4) - 07:39 (4) (20:41)	06:38 - 21:30 (48)	05:43 - 21:30 (52)	06:41 (2) - 07:29 (2)	05:19 - 22:02 (51)	06:43 (2) - 07:34 (2)	05:40 - 21:51 (52)	06:49 (2) - 06:27 - 20:59		07:17 - 19:49 (15)	07:49 (3) - 08:04 (3)	08:08 - 18:41		08:03 - 16:46	08:43 - 16:29
19	08:38 - 17:03	07:48 - 17:59	06:47 - 18:50 (19)	07:19 (4) - 07:38 (4) (20:43)	06:36 - 21:32 (49)	05:41 - 21:32 (52)	06:41 (2) - 07:30 (2)	05:19 - 22:03 (51)	06:43 (2) - 07:34 (2)	05:41 - 21:49 (52)	06:49 (2) - 06:29 - 20:57		07:19 - 19:47 (7)	07:52 (3) - 07:59 (3)	08:10 - 18:39		08:05 - 16:44	08:44 - 16:29
20	08:37 - 17:05	07:46 - 18:01	06:44 - 18:51 (18)	07:19 (4) - 07:37 (4) (20:44)	06:34 - 21:33 (50)	05:40 - 21:33 (52)	06:41 (2) - 07:31 (2)	05:19 - 22:03 (50)	06:45 (2) - 07:35 (2)	05:43 - 21:48 (52)	06:50 (2) - 06:30 - 20:55		07:21 - 19:45		08:11 - 18:37		08:06 - 16:43	08:44 - 16:29
21	08:36 - 17:06	07:44 - 18:03	06:42 - 18:53 (14)	07:21 (4) - 07:35 (4) (20:46)	06:32 - 21:35 (51)	05:38 - 21:35 (52)	06:40 (2) - 07:31 (2)	05:19 - 22:03 (51)	06:45 (2) - 07:36 (2)	05:44 - 21:47 (51)	06:50 (2) - 06:32 - 20:53		07:22 - 19:42 (9)	08:08 (4) - 08:17 (4)	08:13 - 18:35		08:08 - 16:42	08:45 - 16:30
22	08:34 - 17:08	07:42 - 18:05	06:40 - 18:55 (11)	07:21 (4) - 07:32 (4) (20:48)	06:30 - 21:36 (52)	05:37 - 21:36 (52)	06:39 (2) - 07:31 (2)	05:19 - 22:03 (50)	06:45 (2) - 07:35 (2)	05:45 - 21:46 (51)	06:50 (2) - 06:33 - 20:51		07:24 - 19:40 (13)	08:06 (4) - 08:19 (4)	08:15 - 18:33		08:10 - 16:41	08:45 - 16:30
23	08:33 - 17:10	07:40 - 18:07	06:37 - 18:56 (4)	07:25 (4) - 07:29 (4) (20:49)	06:28 - 21:37 (52)	05:36 - 21:37 (52)	06:39 (2) - 07:31 (2)	05:20 - 22:03 (50)	06:45 (2) - 07:35 (2)	05:47 - 21:44 (51)	06:50 (2) - 06:35 - 20:49		07:26 - 19:38 (17)	08:04 (4) - 08:21 (4)	08:17 - 18:31		08:11 - 16:40	08:46 - 16:31
24	08:32 - 17:12	07:38 - 18:09	06:35 - 18:58 (4)	07:07 (3) - 07:11 (3) (20:51)	06:26 - 21:39 (52)	05:35 - 21:39 (52)	06:39 (2) - 07:31 (2)	05:20 - 22:04 (51)	06:45 (2) - 07:36 (2)	05:48 - 21:43 (50)	06:51 (2) - 06:37 - 20:46		07:27 - 19:35 (19)	08:02 (4) - 08:21 (4)	08:18 - 18:29		08:13 - 16:39	08:46 - 16:31
25	08:31 - 17:13	07:36 - 18:10	06:33 - 19:00 (14)	07:01 (3) - 07:15 (3) (20:53)	06:24 - 21:40 (53)	05:33 - 21:40 (53)	06:39 (2) - 07:32 (2)	05:20 - 22:04 (51)	06:45 (2) - 07:36 (2)	05:50 - 21:42 (49)	06:51 (2) - 06:38 - 20:44		07:29 - 19:33 (20)	08:02 (4) - 08:22 (4)	08:20 - 17:26		08:15 - 16:38	08:47 - 16:32
26	08:29 - 17:15	07:34 - 18:12	06:30 - 19:02 (18)	06:59 (3) - 07:17 (3) (20:54)	06:22 - 21:41 (53)	05:32 - 21:41 (53)	06:39 (2) - 07:32 (2)	05:21 - 22:04 (51)	06:45 (2) - 07:36 (2)	05:51 - 21:40 (49)	06:51 (2) - 06:40 - 20:42		07:31 - 19:31 (20)	08:02 (4) - 08:22 (4)	07:22 - 17:24		08:16 - 16:37	08:47 - 16:33
27	08:28 - 17:17	07:32 - 18:14	06:28 - 19:03 (22)	06:57 (3) - 07:19 (3) (20:56)	06:20 - 21:43 (53)	05:31 - 21:43 (53)	06:39 (2) - 07:32 (2)	05:21 - 22:04 (51)	06:46 (2) - 07:37 (2)	05:52 - 21:39 (48)	06:52 (2) - 06:42 - 20:40		07:32 - 19:28 (20)	08:01 (4) - 08:21 (4)	07:24 - 17:22		08:18 - 16:36	08:47 - 16:33
28	08:27 - 17:19	07:30 - 18:16	06:26 - 19:05 (24)	06:55 (3) - 07:19 (3) (20:58)	06:18 - 21:44 (53)	05:30 - 21:44 (53)	06:39 (2) - 07:32 (2)	05:22 - 22:03 (52)	06:45 (2) - 07:37 (2)	05:54 - 21:37 (46)	06:53 (2) - 06:43 - 20:38		07:34 - 19:26 (20)	08:01 (4) - 08:21 (4)	07:26 - 17:21		08:19 - 16:35	08:48 - 16:34
29	08:25 - 17:21		07:24 - 20:07 (26)	07:54 (3) - 08:20 (3) (21:00)	06:16 - 21:45 (53)	05:29 - 21:45 (53)	06:39 (2) - 07:32 (2)	05:22 - 22:03 (51)	06:46 (2) - 07:37 (2)	05:55 - 21:36 (45)	06:53 (2) - 06:45 - 20:35		07:36 - 19:24 (19)	08:01 (4) - 08:20 (4)	07:27 - 17:19		08:21 - 16:34	08:48 - 16:35
30	08:24 - 17:22		07:21 - 20:08 (28)	07:53 (3) - 08:21 (3) (21:01)	06:14 - 21:47 (53)	05:28 - 21:47 (53)	06:40 (2) - 07:33 (2)	05:23 - 22:03 (51)	06:46 (2) - 07:37 (2)	05:57 - 21:34 (44)	06:54 (2) - 06:46 - 20:33		07:37 - 19:21 (17)	08:02 (4) - 08:19 (4)	07:29 - 17:17		08:22 - 16:33	08:48 - 16:36
31	08:22 - 17:24		07:19 - 20:10 (29)	07:52 (3) - 08:21 (3)		05:27 - 21:48 (53)	06:40 (2) - 07:33 (2)			05:58 - 21:33 (42)	06:55 (2) - 06:48 - 20:31				07:31 - 17:15			08:48 - 16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case			364	270	1229	1545	1572	265	615	28		
Sun reduction			0,33	0,42	0,43	0,39	0,41	0,42	0,36	0,34		
Oper. time red.			0,95	0,95	0,95	0,95	0,95	0,95	0,95	0,95		
Wind dir. red.			0,61	0,62	0,65	0,65	0,65	0,65	0,61	0,60		
Total reduction			0,19	0,24	0,26	0,24	0,25	0,26	0,21	0,19		
Total, real			69	66	323	371	394	68	129	5		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:36/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN131@145Shadow receptor: G - 3945LA2a

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December		
1	08:48		14:32 (3)	08:21			07:27		07:17	06:12	05:26	05:23	06:00	06:50		07:39		18:20 (1)	07:33		16:09 (2)	08:24		14:22 (3)
	16:38	35	15:07 (3)	17:26			18:18		20:12	21:03	21:49	22:03	21:31	20:29		19:19	20	18:40 (1)	17:13	26	16:35 (2)	16:32	28	14:50 (3)
2	08:48		14:33 (3)	08:19			07:25		07:14	06:10	05:25	05:24	06:01	06:51		07:40		18:19 (1)	07:34		16:09 (2)	08:25		14:22 (3)
	16:39	34	15:07 (3)	17:28			18:19		20:13	21:05	21:50	22:02	21:29	20:26		19:17	21	18:40 (1)	17:11	24	16:33 (2)	16:32	30	14:52 (3)
3	08:48		14:34 (3)	08:18			07:23	17:49 (1)	07:12	06:08	05:25	05:25	06:03	06:53		07:42		18:18 (1)	07:36		16:10 (2)	08:27		14:21 (3)
	16:40	34	15:08 (3)	17:30			18:21	6 17:55 (1)	20:15	21:06	21:51	22:02	21:27	20:24		19:14	21	18:39 (1)	17:09	22	16:32 (2)	16:31	31	14:52 (3)
4	08:47		14:34 (3)	08:16	16:49 (2)		07:21	17:46 (1)	07:10	06:06	05:24	05:25	06:04	06:55		07:44		18:18 (1)	07:38		16:12 (2)	08:28		14:22 (3)
	16:41	34	15:08 (3)	17:31	5 16:54 (2)	18:23	11	17:57 (1)	20:17	21:08	21:52	22:02	21:26	20:22		19:12	21	18:39 (1)	17:07	19	16:31 (2)	16:30	31	14:53 (3)
5	08:47		14:35 (3)	08:14	16:45 (2)		07:18	17:44 (1)	07:07	06:04	05:23	05:26	06:06	06:56		07:45		18:18 (1)	07:40		16:13 (2)	08:29		14:22 (3)
	16:42	33	15:08 (3)	17:33	13 16:58 (2)	18:25	15	17:59 (1)	20:19	21:10	21:53	22:01	21:24	20:20		19:10	21	18:39 (1)	17:06	16	16:29 (2)	16:30	32	14:54 (3)
6	08:47		14:35 (3)	08:13	16:43 (2)		07:16	17:42 (1)	07:05	06:02	05:22	05:27	06:08	06:58		07:47		18:17 (1)	07:42		16:15 (2)	08:31		14:21 (3)
	16:44	33	15:08 (3)	17:35	17 17:00 (2)	18:27	18	18:00 (1)	20:20	21:11	21:54	22:01	21:22	20:17		19:08	21	18:38 (1)	17:04	12	16:27 (2)	16:29	33	14:54 (3)
7	08:46		14:36 (3)	08:11	16:42 (2)		07:14	17:41 (1)	07:03	06:00	05:22	05:28	06:09	06:59		07:49		18:18 (1)	07:44		16:21 (2)	08:32		14:22 (3)
	16:45	33	15:09 (3)	17:37	19 17:01 (2)	18:28	20	18:01 (1)	20:22	21:13	21:55	22:00	21:20	20:15		19:05	19	18:37 (1)	17:02	1	16:22 (2)	16:29	33	14:55 (3)
8	08:46		14:37 (3)	08:09	16:41 (2)		07:12	17:41 (1)	07:01	05:59	05:21	05:29	06:11	07:01		07:51		18:19 (1)	07:45			08:33		14:22 (3)
	16:46	31	15:08 (3)	17:39	23 17:04 (2)	18:30	21	18:02 (1)	20:24	21:14	21:56	21:59	21:19	20:13		19:03	16	18:35 (1)	17:00			16:29	34	14:56 (3)
9	08:45		14:38 (3)	08:07	16:40 (2)		07:10	17:41 (1)	06:58	05:57	05:21	05:30	06:12	07:03		07:52		18:20 (1)	07:47			08:34		14:22 (3)
	16:48	31	15:09 (3)	17:41	25 17:05 (2)	18:32	21	18:02 (1)	20:25	21:16	21:57	21:59	21:17	20:10		19:01	13	18:33 (1)	16:59			16:28	34	14:56 (3)
10	08:45		14:39 (3)	08:06	16:40 (2)		07:07	17:40 (1)	06:56	05:55	05:20	05:31	06:14	07:04		07:54		18:21 (1)	07:49			08:35		14:22 (3)
	16:49	30	15:09 (3)	17:43	26 17:06 (2)	18:34	22	18:02 (1)	20:27	21:18	21:57	21:58	21:15	20:08		18:59	9	18:30 (1)	16:57			16:28	34	14:56 (3)
11	08:44		14:40 (3)	08:04	16:39 (2)		07:05	17:40 (1)	06:54	05:53	05:20	05:32	06:15	07:06		07:56			07:51			08:37		14:22 (3)
	16:50	28	15:08 (3)	17:44	27 17:06 (2)	18:35	21	18:01 (1)	20:29	21:19	21:58	21:57	21:13	20:06		18:56			16:56			16:28	35	14:57 (3)
12	08:44		14:41 (3)	08:02	16:39 (2)		07:03	17:40 (1)	06:52	05:52	05:20	05:33	06:17	07:08		07:57			07:52			08:38		14:22 (3)
	16:52	27	15:08 (3)	17:46	28 17:07 (2)	18:37	21	18:01 (1)	20:31	21:21	21:59	21:56	21:11	20:03		18:54			16:54			16:28	35	14:57 (3)
13	08:43		14:42 (3)	08:00	16:38 (2)		07:00	17:40 (1)	06:49	05:50	05:19	05:34	06:19	07:09		07:59			07:54			08:39		14:23 (3)
	16:53	26	15:08 (3)	17:48	29 17:07 (2)	18:39	19	17:59 (1)	20:32	21:22	22:00	21:56	21:09	20:01		18:52			16:52			16:28	35	14:58 (3)
14	08:42		14:43 (3)	07:58	16:38 (2)		06:58	17:42 (1)	06:47	05:49	05:19	05:35	06:20	07:11		08:01			07:56			08:40		14:23 (3)
	16:55	24	15:07 (3)	17:50	29 17:07 (2)	18:41	16	17:58 (1)	20:34	21:24	22:00	21:55	21:07	19:59		18:50			16:51			16:28	36	14:59 (3)
15	08:41		14:44 (3)	07:56	16:38 (2)		06:56	17:43 (1)	06:45	05:47	05:19	05:36	06:22	07:12		08:03			07:58			08:40		14:24 (3)
	16:56	23	15:07 (3)	17:52	29 17:07 (2)	18:42	14	17:57 (1)	20:36	21:26	22:01	21:54	21:05	19:56		18:47			16:50			16:28	35	14:59 (3)
16	08:41		14:46 (3)	07:54	16:38 (2)		06:54	17:45 (1)	06:43	05:45	05:19	05:37	06:24	07:14		08:04			07:59			08:41		14:24 (3)
	16:58	20	15:06 (3)	17:54	29 17:07 (2)	18:44	9	17:54 (1)	20:37	21:27	22:01	21:53	21:03	19:54		18:45			16:48			16:28	36	15:00 (3)
17	08:40		14:48 (3)	07:52	16:39 (2)		06:51		06:41	05:44	05:19	05:39	06:25	07:16		08:06		17:22 (2)	08:01			08:42		14:25 (3)
	17:00	17	15:05 (3)	17:56	28 17:07 (2)	18:46			20:39	21:29	22:02	21:52	21:01	19:52		18:43	4	17:26 (2)	16:47			16:28	36	15:01 (3)
18	08:39		14:51 (3)	07:50	16:39 (2)		06:49		06:38	05:43	05:19	05:40	06:27	07:17		08:08		17:18 (2)	08:03			08:43		14:25 (3)
	17:01	12	15:03 (3)	17:58	28 17:07 (2)	18:48			20:41	21:30	22:02	21:50	20:59	19:49		18:41	13	17:31 (2)	16:45			16:28	36	15:01 (3)
19	08:38		14:55 (3)	07:48	16:40 (2)		06:47		06:36	05:41	05:19	05:41	06:28	07:19		08:10		17:15 (2)	08:05			08:44		14:25 (3)
	17:03	5	15:00 (3)	17:59	26 17:06 (2)	18:49			20:43	21:32	22:02	21:49	20:57	19:47		18:39	18	17:33 (2)	16:44			16:29	36	15:01 (3)
20	08:37			07:46	16:40 (2)		06:44		06:34	05:40	05:19	05:43	06:30	07:21		08:11		17:13 (2)	08:06			08:44		14:26 (3)
	17:05			18:01	25 17:05 (2)	18:51			20:44	21:33	22:03	21:48	20:55	19:45		18:37	21	17:34 (2)	16:43			16:29	36	15:02 (3)
21	08:36			07:44	16:41 (2)	06:42			06:32	05:38	05:19	05:44	06:32	07:22		08:13		17:11 (2)	08:08			08:45		14:27 (3)
	17:06			18:03	23 17:04 (2)	18:53			20:46	21:35	22:03	21:47	20:53	19:42		18:35	23	17:34 (2)	16:42			16:30	36	15:03 (3)
22	08:34			07:42	16:42 (2)	06:40			06:30	05:37	05:19	05:45	06:33	07:24		08:15		17:10 (2)	08:10			08:45		14:27 (3)
	17:08			18:05	20 17:02 (2)	18:55			20:48	21:36	22:03	21:46	20:51	19:40		18:33	25	17:35 (2)	16:41			16:30	36	15:03 (3)
23	08:33			07:40	16:45 (2)	06:37			06:28	05:36	05:19	05:47	06:35	07:26		08:17		17:09 (2)	08:11		14:33 (3)	08:46		14:27 (3)
	17:10			18:07	16 17:01 (2)	18:56			20:49	21:37	22:03	21:44	20:48	19:38		18:30	27	17:36 (2)	16:39	4	14:37 (3)	16:31	36	15:03 (3)
24	08:32			07:38	16:47 (2)	06:35			06:26	05:35	05:20	05:48	06:37	07:27		08:18		17:08 (2)	08:13		14:28 (3)	08:46		14:28 (3)
	17:11			18:09	11 16:58 (2)	18:58			20:51	21:39	22:04	21:43	20:46	19:35		18:28	28	17:36 (2)	16:38	12	14:40 (3)	16:31	36	15:04 (3)
25	08:31			07:36		06:33			06:24	05:33	05:20	05:49	06:38	07:29		07:20		16:08 (2)	08:15		14:26 (3)	08:47		14:28 (3)
	17:13			18:10		19:00			20:53	21:40	22:04	21:42	20:44	19:33		17:26	29	16:37 (2)	16:37	17	14:43 (3)	16:32	36	15:04 (3)
26	08:29			07:34		06:30			06:22	05:32	05:20	05:51	06:40	07:30		07:22		16:08 (2)	08:16		14:25 (3)	08:47		14:29 (3)
	17:15			18:12		19:01			20:54	21:41	22:04	21:40	20:42	19:31		17:24	29	16:37 (2)	16:36	20	14:45 (3)	16:32	35	15:04 (3)
27	08:28			07:32		06:28			06:20	05:31	05:21	05:52	06:41	07:32	18:28 (1)	07:24		16:08 (2)	08:18		14:24 (3)	08:47		14:29 (3)
	17:17			18:14		19:03			20:56	21:43	22:04	21:39	20:40	19:28	6 18:34 (1)	17:22	29	16:37 (2)	16:35	23	14:47 (3)	16:33	36	15:05 (3)
28	08:27			07:29		06:26			06:17	05:30	05:21	05:54	06:43	07:34	18:25 (1)	07:25		16:08 (2)	08:19		14:23 (3)	08:47		14:30 (3)
	17:19			18:16		19:05			20:58	21:44	22:03	21:37	20:38	19:26	12 18:37 (1)	17:20	29	16:37 (2)	16:35	24	14:47 (3)	16:34	36	15:06 (3)
29	08:25					07:23			06:16	05:29	05:22	05:55	06:45	07:35	18:23 (1)	07:27		16:08 (2)	08:21		14:23 (3)	08:48		14:31 (3)
	17:20					20:07			20:59	21:45	22:03	21:36	20:35	19:24	16 18:39 (1)	17:18	29	16:37 (2)	16:34	26	14:49 (3)	16:35	35	15:06 (3)
30	08:24					07:21			06:14	05:28	05:23	05:57	06:46	07:37	18:21 (1)	07:29		16:08 (2)	08:22		14:22 (3)	08:48		14:31 (3)
	17:22					20:08			21:01	21:46	22:03	21:34	20:33	19:21	18 18:39 (1)	17:17	28	16:36 (2)	16:33	27	14:49 (3)	16:36	36	15:07 (3)
31	08:22					07:19				05:27		05:58	06:48			07:31		16:09 (2)				08:48		14:31 (3)
	17:24					20:10				21:48		21:32	20:31			17:15	27	16:36 (2)				16:37	35	15:06 (3)
Potential sun hours	259			277		367		416	485	499	502	454	381			331			266			243		
Total, worst case		510			476		234							52			541			273			1069	
Sun reduction		0,24			0,30		0,33							0,36			0,34			0,24			0,20	
Oper. time red.		0,95			0,95		0,95							0,95			0,95			0,95			0,95	
Wind dir. red.		0,70			0,67		0,63							0,63			0,66			0,69			0,70	
Total reduction		0,16			0,19		0,20							0,22			0,21			0,15			0,13	
Total, real		81			92		46							11			114			42			144	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:36/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN131@145Shadow receptor: H - 3998NL146

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March		April		May	June	July	August		September		October	November	December
1	08:48	08:21	07:27		07:17		08:05 (4)	06:12	05:26	05:23	06:00		06:50	07:54 (4)	07:39	07:33	08:24
	16:38	17:26	18:18		20:12	37	08:42 (4)	21:03	21:49	22:03	21:31		20:29	51 08:45 (4)	19:19	17:13	16:32
2	08:48	08:19	07:25		07:14		08:03 (4)	06:10	05:25	05:24	06:01		06:51	07:53 (4)	07:40	07:35	08:25
	16:39	17:28	18:19		20:14	41	08:44 (4)	21:05	21:50	22:02	21:29		20:26	51 08:44 (4)	19:17	17:11	16:32
3	08:48	08:18	07:23		07:12		08:02 (4)	06:08	05:25	05:25	06:03		06:53	07:54 (4)	07:42	07:36	08:27
	16:40	17:30	18:21		20:15	43	08:45 (4)	21:06	21:51	22:02	21:27		20:24	50 08:44 (4)	19:14	17:09	16:31
4	08:47	08:16	07:21		07:10		08:00 (4)	06:06	05:24	05:25	06:04		06:55	07:53 (4)	07:44	07:38	08:28
	16:41	17:31	18:23		20:17	45	08:45 (4)	21:08	21:52	22:02	21:26		20:22	50 08:43 (4)	19:12	17:07	16:31
5	08:47	08:14	07:19		07:07		07:59 (4)	06:04	05:23	05:26	06:06		06:56	07:54 (4)	07:46	07:40	08:29
	16:43	17:33	18:25		20:19	46	08:45 (4)	21:10	21:53	22:01	21:24		20:20	48 08:42 (4)	19:10	17:06	16:30
6	08:47	08:13	07:16		07:05		07:58 (4)	06:02	05:23	05:27	06:08		06:58	07:54 (4)	07:47	07:42	08:31
	16:44	17:35	18:27		20:20	48	08:46 (4)	21:11	21:54	22:01	21:22		20:17	48 08:42 (4)	19:08	17:04	16:30
7	08:46	08:11	07:14		07:03		07:58 (4)	06:00	05:22	05:28	06:09		06:59	07:54 (4)	07:49	07:44	08:32
	16:45	17:37	18:28		20:22	48	08:46 (4)	21:13	21:55	22:00	21:20		20:15	46 08:40 (4)	19:05	17:02	16:29
8	08:46	08:09	07:12		07:01		07:56 (4)	05:59	05:21	05:29	06:11		07:01	07:55 (4)	07:51	07:45	08:33
	16:46	17:39	18:30		20:24	50	08:46 (4)	21:14	21:56	21:59	21:19		20:13	45 08:40 (4)	19:03	17:00	16:29
9	08:45	08:07	07:10		06:58		07:56 (4)	05:57	05:21	05:30	06:12		07:03	07:55 (4)	07:52	07:47	08:34
	16:48	17:41	18:32		20:25	50	08:46 (4)	21:16	21:57	21:59	21:17		20:10	43 08:38 (4)	19:01	16:59	16:29
10	08:45	08:06	07:07		06:56		07:55 (4)	05:55	05:21	05:31	06:14		07:04	07:56 (4)	07:54	07:49	08:35
	16:49	17:43	18:34		20:27	51	08:46 (4)	21:18	21:57	21:58	21:15		20:08	41 08:37 (4)	18:59	16:57	16:28
11	08:44	08:04	07:05		06:54		07:55 (4)	05:54	05:20	05:32	06:16		07:06	07:57 (4)	07:56	07:51	08:37
	16:51	17:45	18:36		20:29	51	08:46 (4)	21:19	21:58	21:57	21:13		20:06	38 08:35 (4)	18:56	16:56	16:28
12	08:44	08:02	07:03		06:52		07:54 (4)	05:52	05:20	05:33	06:17		07:08	07:58 (4)	07:57	07:52	08:38
	16:52	17:46	18:37		20:31	51	08:45 (4)	21:21	21:59	21:56	21:11		20:03	36 08:34 (4)	18:54	16:54	16:28
13	08:43	08:00	07:00		06:49		07:54 (4)	05:50	05:20	05:34	06:19	08:16 (4)	07:09	08:00 (4)	07:59	07:54	08:39
	16:53	17:48	18:39		20:32	51	08:45 (4)	21:22	22:00	21:56	21:09	11 08:27 (4)	20:01	32 08:32 (4)	18:52	16:53	16:28
14	08:42	07:58	06:58		06:47		07:54 (4)	05:49	05:19	05:35	06:20	08:13 (4)	07:11	08:02 (4)	08:01	07:56	08:40
	16:55	17:50	18:41		20:34	50	08:44 (4)	21:24	22:00	21:55	21:07	18 08:31 (4)	19:59	27 08:29 (4)	18:50	16:51	16:28
15	08:41	07:56	06:56		06:45		07:54 (4)	05:47	05:19	05:36	06:22	08:11 (4)	07:12	08:04 (4)	08:03	07:58	08:40
	16:57	17:52	18:43		20:36	50	08:44 (4)	21:26	22:01	21:54	21:05	23 08:34 (4)	19:56	22 08:26 (4)	18:47	16:50	16:28
16	08:41	07:54	06:54		06:43		07:54 (4)	05:46	05:19	05:38	06:24	08:08 (4)	07:14	08:07 (4)	08:04	07:59	08:41
	16:58	17:54	18:44		20:37	49	08:43 (4)	21:27	22:01	21:53	21:03	27 08:35 (4)	19:54	15 08:22 (4)	18:45	16:48	16:28
17	08:40	07:52	06:51		06:41		07:54 (4)	05:44	05:19	05:39	06:25	08:07 (4)	07:16		08:06	08:01	08:42
	17:00	17:56	18:46		20:39	48	08:42 (4)	21:29	22:02	21:52	21:01	30 08:37 (4)	19:52		18:43	16:47	16:28
18	08:39	07:50	06:49		06:38		07:54 (4)	05:43	05:19	05:40	06:27	08:05 (4)	07:17		08:08	08:03	08:43
	17:01	17:58	18:48		20:41	48	08:42 (4)	21:30	22:02	21:50	20:59	33 08:38 (4)	19:49		18:41	16:46	16:29
19	08:38	07:48	06:47		06:36		07:55 (4)	05:41	05:19	05:41	06:28	08:04 (4)	07:19		08:10	08:05	08:44
	17:03	17:59	18:49		20:43	46	08:41 (4)	21:32	22:02	21:49	20:57	36 08:40 (4)	19:47		18:39	16:44	16:29
20	08:37	07:46	06:44		06:34		07:54 (4)	05:40	05:19	05:43	06:30	08:02 (4)	07:21		08:11	08:06	08:44
	17:05	18:01	18:51		20:44	45	08:39 (4)	21:33	22:03	21:48	20:55	39 08:41 (4)	19:45		18:37	16:43	16:29
21	08:36	07:44	06:42		06:32		07:55 (4)	05:38	05:19	05:44	06:32	08:01 (4)	07:22		08:13	08:08	08:45
	17:06	18:03	18:53		20:46	43	08:38 (4)	21:35	22:03	21:47	20:53	41 08:42 (4)	19:42		18:35	16:42	16:30
22	08:34	07:42	06:40		06:30		07:56 (4)	05:37	05:19	05:45	06:33	07:59 (4)	07:24		08:15	08:10	08:45
	17:08	18:05	18:55		20:48	40	08:36 (4)	21:36	22:03	21:46	20:51	44 08:43 (4)	19:40		18:33	16:41	16:30
23	08:33	07:40	06:37		06:28		07:56 (4)	05:36	05:20	05:47	06:35	07:59 (4)	07:26		08:17	08:11	08:46
	17:10	18:07	18:56		20:49	39	08:35 (4)	21:37	22:03	21:44	20:48	45 08:44 (4)	19:38		18:31	16:40	16:31
24	08:32	07:38	06:35		06:26		07:57 (4)	05:35	05:20	05:48	06:37	07:57 (4)	07:27		08:18	08:13	08:46
	17:12	18:09	18:58		20:51	36	08:33 (4)	21:39	22:04	21:43	20:46	47 08:44 (4)	19:35		18:28	16:38	16:31
25	08:31	07:36	06:33		06:24		07:58 (4)	05:33	05:20	05:49	06:38	07:57 (4)	07:29		07:20	08:15	08:47
	17:13	18:10	19:00		20:53	33	08:31 (4)	21:40	22:04	21:42	20:44	48 08:45 (4)	19:33		17:26	16:37	16:32
26	08:29	07:34	06:30		06:22		07:59 (4)	05:32	05:21	05:51	06:40	07:56 (4)	07:30		07:22	08:16	08:47
	17:15	18:12	19:02		20:54	31	08:30 (4)	21:41	22:04	21:40	20:42	48 08:44 (4)	19:31		17:24	16:36	16:33
27	08:28	07:32	06:28	07:19 (4)	06:20		08:02 (4)	05:31	05:21	05:52	06:42	07:56 (4)	07:32		07:24	08:18	08:47
	17:17	18:14	19:03	13 07:32 (4)	20:56	26	08:28 (4)	21:43	22:04	21:39	20:40	49 08:45 (4)	19:28		17:22	16:36	16:33
28	08:27	07:29	06:26	07:14 (4)	06:18		08:04 (4)	05:30	05:22	05:54	06:43	07:56 (4)	07:34		07:26	08:19	08:47
	17:19	18:16	19:05	22 07:36 (4)	20:58	22	08:26 (4)	21:44	22:03	21:37	20:38	50 08:46 (4)	19:26		17:20	16:35	16:34
29	08:25		07:23	08:12 (4)	06:16		08:06 (4)	05:29	05:22	05:55	06:45	07:55 (4)	07:35		07:27	08:21	08:48
	17:20		20:07	26 08:38 (4)	20:59	17	08:23 (4)	21:45	22:03	21:36	20:35	50 08:45 (4)	19:24		17:19	16:34	16:35
30	08:24		07:21	08:09 (4)	06:14		08:10 (4)	05:28	05:23	05:57	06:46	07:55 (4)	07:37		07:29	08:22	08:48
	17:22		20:08	31 08:40 (4)	21:01	8	08:18 (4)	21:46	22:03	21:34	20:33	50 08:45 (4)	19:21		17:17	16:33	16:36
31	08:22		07:19	08:06 (4)				05:27		05:58	06:48	07:54 (4)			07:31		08:48
	17:24		20:10	35 08:41 (4)				21:48		21:32	20:31	51 08:45 (4)			17:15		16:37
Potential sun hours	259	277	367		416		485	499	502	454		381		331	266	243
Total, worst case			127			1243					740		643			
Sun reduction			0,33			0,42					0,42		0,36			
Oper. time red.			0,95			0,95					0,95		0,95			
Wind dir. red.			0,62			0,62					0,62		0,62			
Total reduction			0,19			0,24					0,24		0,21			
Total, real			24			303					180		136			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:36/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN131@145Shadow receptor: I - 3998JD88

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May		June		July		August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12		05:26	06:04 (1)	05:23	06:12 (1)	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03		21:49	24 06:28 (1)	22:03	20 06:32 (1)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10		05:26	06:04 (1)	05:24	06:12 (1)	06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05		21:50	23 06:27 (1)	22:03	21 06:33 (1)	21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08		05:25	06:05 (1)	05:25	06:12 (1)	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06		21:51	23 06:28 (1)	22:02	21 06:33 (1)	21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06		05:24	06:05 (1)	05:26	06:12 (1)	06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08		21:52	23 06:28 (1)	22:02	21 06:33 (1)	21:26	20:22	19:12	17:07	16:31
5	08:47	08:14	07:19	07:08	06:04		05:23	06:06 (1)	05:26	06:12 (1)	06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10		21:53	22 06:28 (1)	22:01	21 06:33 (1)	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02		05:23	06:06 (1)	05:27	06:12 (1)	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11		21:54	22 06:28 (1)	22:01	22 06:34 (1)	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01		05:22	06:06 (1)	05:28	06:12 (1)	06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13		21:55	22 06:28 (1)	22:00	22 06:34 (1)	21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59		05:22	06:06 (1)	05:29	06:12 (1)	06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15		21:56	22 06:28 (1)	22:00	23 06:35 (1)	21:19	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57		05:21	06:07 (1)	05:30	06:12 (1)	06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16		21:57	21 06:28 (1)	21:59	23 06:35 (1)	21:17	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55		05:21	06:07 (1)	05:31	06:12 (1)	06:14	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18		21:58	20 06:27 (1)	21:58	23 06:35 (1)	21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54		05:20	06:07 (1)	05:32	06:12 (1)	06:16	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19		21:58	21 06:28 (1)	21:57	23 06:35 (1)	21:13	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52		05:20	06:08 (1)	05:33	06:12 (1)	06:17	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21		21:59	20 06:28 (1)	21:57	23 06:35 (1)	21:11	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50		05:20	06:08 (1)	05:34	06:13 (1)	06:19	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23		22:00	20 06:28 (1)	21:56	23 06:36 (1)	21:09	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49		05:19	06:09 (1)	05:35	06:13 (1)	06:21	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24		22:00	19 06:28 (1)	21:55	23 06:36 (1)	21:07	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47		05:19	06:08 (1)	05:36	06:13 (1)	06:22	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26		22:01	20 06:28 (1)	21:54	23 06:36 (1)	21:05	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46	06:14 (1)	05:19	06:09 (1)	05:38	06:13 (1)	06:24	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27	2 06:16 (1)	22:01	19 06:28 (1)	21:53	23 06:36 (1)	21:03	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44	06:11 (1)	05:19	06:09 (1)	05:39	06:13 (1)	06:25	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29	9 06:20 (1)	22:02	19 06:28 (1)	21:52	23 06:36 (1)	21:01	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43	06:09 (1)	05:19	06:09 (1)	05:40	06:13 (1)	06:27	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30	12 06:21 (1)	22:02	19 06:28 (1)	21:51	23 06:36 (1)	20:59	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41	06:08 (1)	05:19	06:11 (1)	05:41	06:13 (1)	06:29	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32	14 06:22 (1)	22:03	18 06:29 (1)	21:49	22 06:35 (1)	20:57	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40	06:07 (1)	05:19	06:11 (1)	05:43	06:15 (1)	06:30	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33	17 06:24 (1)	22:03	18 06:29 (1)	21:48	21 06:36 (1)	20:55	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	05:39	06:06 (1)	05:19	06:11 (1)	05:44	06:15 (1)	06:32	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:35	19 06:25 (1)	22:03	18 06:29 (1)	21:47	20 06:35 (1)	20:53	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	05:37	06:05 (1)	05:19	06:11 (1)	05:45	06:15 (1)	06:34	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36	19 06:24 (1)	22:03	18 06:29 (1)	21:46	20 06:35 (1)	20:51	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	05:36	06:04 (1)	05:20	06:11 (1)	05:47	06:16 (1)	06:35	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	21:37	21 06:25 (1)	22:04	18 06:29 (1)	21:44	18 06:34 (1)	20:49	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35	06:04 (1)	05:20	06:11 (1)	05:48	06:18 (1)	06:37	07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	21:39	22 06:26 (1)	22:04	19 06:30 (1)	21:43	16 06:34 (1)	20:46	19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	05:34	06:04 (1)	05:20	06:11 (1)	05:50	06:19 (1)	06:38	07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	21:40	22 06:26 (1)	22:04	19 06:30 (1)	21:42	13 06:32 (1)	20:44	19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	05:32	06:04 (1)	05:21	06:11 (1)	05:51	06:20 (1)	06:40	07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	21:42	22 06:26 (1)	22:04	19 06:30 (1)	21:40	11 06:31 (1)	20:42	19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	05:31	06:04 (1)	05:21	06:12 (1)	05:52	06:22 (1)	06:42	07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21:43	23 06:27 (1)	22:04	19 06:31 (1)	21:39	7 06:29 (1)	20:40	19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	05:30	06:03 (1)	05:22	06:11 (1)	05:54		06:43	07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	21:44	24 06:27 (1)	22:04	19 06:30 (1)	21:37		20:38	19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	05:29	06:03 (1)	05:22	06:12 (1)	05:55		06:45	07:36	07:27	08:21	08:48
	17:21		20:07	21:00	21:45	24 06:27 (1)	22:03	19 06:31 (1)	21:36		20:36	19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	05:28	06:04 (1)	05:23	06:12 (1)	05:57		06:47	07:37	07:29	08:22	08:48
	17:22		20:09	21:01	21:47	24 06:28 (1)	22:03	20 06:32 (1)	21:34		20:33	19:22	17:17	16:33	16:36
31	08:22		07:19		05:27	06:04 (1)			05:58		06:48		07:31		08:48
	17:24		20:10		21:48	24 06:28 (1)			21:33		20:31		17:15		16:37
Potential sun hours	259	277	367	416	485		499		502		454	381	331	266	243
Total, worst case						298		603		549					
Sun reduction						0,43		0,39		0,41					
Oper. time red.						0,95		0,95		0,95					
Wind dir. red.						0,67		0,67		0,67					
Total reduction						0,27		0,25		0,26					
Total, real						81		150		142					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:36/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN131@145Shadow receptor: J - 3998NL71

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March		April			May	June	July	August			September			October	November	December
1	08:48	08:21	07:27		07:17		08:05 (4)	06:12	05:26	05:23	06:00			06:50		08:06 (4)	07:39	07:33	08:24
	16:38	17:26	18:18		20:12	42	08:47 (4)	21:03	21:49	22:03	21:31			20:29	31	08:37 (4)	19:19	17:13	16:32
2	08:48	08:19	07:25		07:14		08:05 (4)	06:10	05:25	05:24	06:01			06:51		08:04 (4)	07:40	07:35	08:25
	16:39	17:28	18:20		20:14	42	08:47 (4)	21:05	21:50	22:02	21:29			20:26	34	08:38 (4)	19:17	17:11	16:32
3	08:48	08:18	07:23		07:12		08:05 (4)	06:08	05:25	05:25	06:03			06:53		08:03 (4)	07:42	07:36	08:27
	16:40	17:30	18:21		20:15	41	08:46 (4)	21:06	21:51	22:02	21:27			20:24	36	08:39 (4)	19:14	17:09	16:31
4	08:47	08:16	07:21		07:10		08:04 (4)	06:06	05:24	05:25	06:04			06:55		08:01 (4)	07:44	07:38	08:28
	16:41	17:32	18:23		20:17	41	08:45 (4)	21:08	21:52	22:02	21:26			20:22	38	08:39 (4)	19:12	17:07	16:31
5	08:47	08:14	07:19		07:07		08:04 (4)	06:04	05:23	05:26	06:06			06:56		08:01 (4)	07:46	07:40	08:29
	16:43	17:33	18:25		20:19	41	08:45 (4)	21:10	21:53	22:01	21:24			20:20	39	08:40 (4)	19:10	17:06	16:30
6	08:47	08:13	07:16		07:05		08:04 (4)	06:02	05:23	05:27	06:08			06:58		08:01 (4)	07:47	07:42	08:31
	16:44	17:35	18:27		20:20	40	08:44 (4)	21:11	21:54	22:01	21:22			20:17	39	08:40 (4)	19:08	17:04	16:30
7	08:46	08:11	07:14		07:03		08:05 (4)	06:00	05:22	05:28	06:09			06:59		07:59 (4)	07:49	07:44	08:32
	16:45	17:37	18:28		20:22	39	08:44 (4)	21:13	21:55	22:00	21:20			20:15	41	08:40 (4)	19:05	17:02	16:29
8	08:46	08:09	07:12		07:01		08:04 (4)	05:59	05:21	05:29	06:11			07:01		07:59 (4)	07:51	07:45	08:33
	16:46	17:39	18:30		20:24	38	08:42 (4)	21:14	21:56	21:59	21:19			20:13	41	08:40 (4)	19:03	17:00	16:29
9	08:45	08:07	07:10		06:58		08:05 (4)	05:57	05:21	05:30	06:12			07:03		07:58 (4)	07:52	07:47	08:34
	16:48	17:41	18:32		20:25	36	08:41 (4)	21:16	21:57	21:59	21:17			20:10	42	08:40 (4)	19:01	16:59	16:29
10	08:45	08:06	07:07		06:56		08:06 (4)	05:55	05:21	05:31	06:14			07:04		07:58 (4)	07:54	07:49	08:35
	16:49	17:43	18:34		20:27	34	08:40 (4)	21:18	21:57	21:58	21:15			20:08	42	08:40 (4)	18:59	16:57	16:28
11	08:44	08:04	07:05		06:54		08:07 (4)	05:54	05:20	05:32	06:16			07:06		07:57 (4)	07:56	07:51	08:37
	16:51	17:45	18:36		20:29	31	08:38 (4)	21:19	21:58	21:57	21:13			20:06	42	08:39 (4)	18:56	16:56	16:28
12	08:44	08:02	07:03		06:52		08:07 (4)	05:52	05:20	05:33	06:17			07:08		07:58 (4)	07:57	07:52	08:38
	16:52	17:46	18:37		20:31	28	08:35 (4)	21:21	21:59	21:56	21:11			20:03	41	08:39 (4)	18:54	16:54	16:28
13	08:43	08:00	07:00		06:49		08:09 (4)	05:50	05:20	05:34	06:19			07:09		07:58 (4)	07:59	07:54	08:39
	16:53	17:48	18:39		20:32	24	08:33 (4)	21:22	22:00	21:56	21:09			20:01	40	08:38 (4)	18:52	16:53	16:28
14	08:42	07:58	06:58		06:47		08:10 (4)	05:49	05:19	05:35	06:20			07:11		07:58 (4)	08:01	07:56	08:40
	16:55	17:50	18:41		20:34	21	08:31 (4)	21:24	22:00	21:55	21:07			19:59	39	08:37 (4)	18:50	16:51	16:28
15	08:41	07:56	06:56		06:45		08:13 (4)	05:47	05:19	05:36	06:22			07:12		07:58 (4)	08:03	07:58	08:40
	16:57	17:52	18:43		20:36	15	08:28 (4)	21:26	22:01	21:54	21:05			19:56	38	08:36 (4)	18:47	16:50	16:28
16	08:41	07:54	06:54		06:43		08:18 (4)	05:46	05:19	05:38	06:24			07:14		07:58 (4)	08:04	08:00	08:41
	16:58	17:54	18:44		20:37	5	08:23 (4)	21:27	22:01	21:53	21:03			19:54	37	08:35 (4)	18:45	16:48	16:28
17	08:40	07:52	06:51		06:41			05:44	05:19	05:39	06:25			07:16		07:59 (4)	08:06	08:01	08:42
	17:00	17:56	18:46		20:39			21:29	22:02	21:52	21:01			19:52	35	08:34 (4)	18:43	16:47	16:28
18	08:39	07:50	06:49		06:38			05:43	05:19	05:40	06:27			07:17		08:01 (4)	08:08	08:03	08:43
	17:01	17:58	18:48		20:41			21:30	22:02	21:50	20:59			19:49	32	08:33 (4)	18:41	16:46	16:29
19	08:38	07:48	06:47		06:36			05:41	05:19	05:41	06:29			07:19		08:01 (4)	08:10	08:05	08:44
	17:03	17:59	18:49		20:43			21:32	22:02	21:49	20:57			19:47	29	08:30 (4)	18:39	16:44	16:29
20	08:37	07:46	06:44		06:34			05:40	05:19	05:43	06:30			07:21		08:03 (4)	08:11	08:06	08:44
	17:05	18:01	18:51		20:44			21:33	22:03	21:48	20:55			19:45	26	08:29 (4)	18:37	16:43	16:29
21	08:36	07:44	06:42		07:24 (4)			06:32	05:38	05:19	05:44	06:32		07:22		08:04 (4)	08:13	08:08	08:45
	17:06	18:03	18:53	13	07:37 (4)			20:46	21:35	22:03	21:47	20:53		19:42	22	08:26 (4)	18:35	16:42	16:30
22	08:34	07:42	06:40		07:19 (4)			06:30	05:37	05:19	05:45	06:33		07:24		08:07 (4)	08:15	08:10	08:45
	17:08	18:05	18:55	21	07:40 (4)			20:48	21:36	22:03	21:46	20:51		19:40	16	08:23 (4)	18:33	16:41	16:30
23	08:33	07:40	06:37		07:17 (4)			06:28	05:36	05:20	05:47	06:35		07:26		08:13 (4)	08:17	08:11	08:46
	17:10	18:07	18:56	25	07:42 (4)			20:49	21:37	22:03	21:44	20:48		19:38	5	08:18 (4)	18:31	16:40	16:31
24	08:32	07:38	06:35		07:15 (4)			06:26	05:35	05:20	05:48	06:37		07:27			08:18	08:13	08:46
	17:12	18:09	18:58	29	07:44 (4)			20:51	21:39	22:04	21:43	20:46		19:35			18:28	16:38	16:31
25	08:31	07:36	06:33		07:12 (4)			06:24	05:33	05:20	05:49	06:38		07:29			07:20	08:15	08:47
	17:13	18:10	19:00	32	07:44 (4)			20:53	21:40	22:04	21:42	20:44		19:33			17:26	16:37	16:32
26	08:29	07:34	06:30		07:11 (4)			06:22	05:32	05:21	05:51	06:40		07:31			07:22	08:16	08:47
	17:15	18:12	19:02	34	07:45 (4)			20:54	21:41	22:04	21:40	20:42		19:31			17:24	16:36	16:33
27	08:28	07:32	06:28		07:10 (4)			06:20	05:31	05:21	05:52	06:42	08:19 (4)	07:32			07:24	08:18	08:47
	17:17	18:14	19:03	36	07:46 (4)			20:56	21:43	22:04	21:39	20:40	7 08:26 (4)	19:28			17:22	16:36	16:33
28	08:27	07:29	06:26		07:08 (4)			06:18	05:30	05:22	05:54	06:43	08:15 (4)	07:34			07:26	08:19	08:47
	17:19	18:16	19:05	38	07:46 (4)			20:58	21:44	22:03	21:37	20:38	15 08:30 (4)	19:26			17:20	16:35	16:34
29	08:25		07:24		08:07 (4)			06:16	05:29	05:22	05:55	06:45	08:11 (4)	07:35			07:27	08:21	08:48
	17:20		20:07	40	08:47 (4)			20:59	21:45	22:03	21:36	20:35	21 08:32 (4)	19:24			17:19	16:34	16:35
30	08:24		07:21		08:07 (4)			06:14	05:28	05:23	05:57	06:46	08:09 (4)	07:37			07:29	08:22	08:48
	17:22		20:08	40	08:47 (4)			21:01	21:46	22:03	21:34	20:33	25 08:34 (4)	19:21			17:17	16:33	16:36
31	08:22		07:19		08:05 (4)				05:27		05:58	06:48	08:07 (4)				07:31		08:48
	17:24		20:10	41	08:46 (4)				21:48		21:32	20:31	28 08:35 (4)				17:15		16:37
Potential sun hours	259	277	367			416		485	499	502	454			381			331	266	243
Total, worst case				349			518					96			785				
Sun reduction				0,33			0,42					0,42			0,36				
Oper. time red.				0,95			0,95					0,95			0,95				
Wind dir. red.				0,61			0,61					0,61			0,61				
Total reduction				0,19			0,24					0,24			0,21				
Total, real				66			125					23			164				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:36/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN131@145Shadow receptor: K - 3998JD91

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May		June		July		August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12		05:26	06:00 (1)	05:23	06:06 (1)	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03		21:49 23	06:23 (1)	22:03 23	06:29 (1)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10		05:26	06:00 (1)	05:24	06:07 (1)	06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05		21:50 23	06:23 (1)	22:03 23	06:30 (1)	21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08		05:25	06:01 (1)	05:25	06:07 (1)	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06		21:51 23	06:24 (1)	22:02 23	06:30 (1)	21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06		05:24	06:00 (1)	05:26	06:07 (1)	06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08		21:52 24	06:24 (1)	22:02 23	06:30 (1)	21:26	20:22	19:12	17:07	16:31
5	08:47	08:14	07:19	07:08	06:04		05:23	06:01 (1)	05:26	06:07 (1)	06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10		21:53 24	06:25 (1)	22:01 23	06:30 (1)	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02		05:23	06:01 (1)	05:27	06:07 (1)	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11		21:54 23	06:24 (1)	22:01 24	06:31 (1)	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01		05:22	06:02 (1)	05:28	06:08 (1)	06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13		21:55 23	06:25 (1)	22:00 23	06:31 (1)	21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59		05:22	06:01 (1)	05:29	06:08 (1)	06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15		21:56 24	06:25 (1)	22:00 23	06:31 (1)	21:19	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57		05:21	06:02 (1)	05:30	06:08 (1)	06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16		21:57 23	06:25 (1)	21:59 24	06:32 (1)	21:17	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55		05:21	06:01 (1)	05:31	06:07 (1)	06:14	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18		21:58 23	06:24 (1)	21:58 24	06:31 (1)	21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54		05:20	06:02 (1)	05:32	06:08 (1)	06:16	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19		21:58 23	06:25 (1)	21:57 23	06:31 (1)	21:13	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52		05:20	06:03 (1)	05:33	06:08 (1)	06:17	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21		21:59 22	06:25 (1)	21:57 23	06:31 (1)	21:11	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50		05:20	06:03 (1)	05:34	06:09 (1)	06:19	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23		22:00 23	06:26 (1)	21:56 23	06:32 (1)	21:09	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49		05:19	06:03 (1)	05:35	06:09 (1)	06:21	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24		22:00 23	06:26 (1)	21:55 23	06:32 (1)	21:07	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47		05:19	06:03 (1)	05:36	06:10 (1)	06:22	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26		22:01 22	06:25 (1)	21:54 22	06:32 (1)	21:05	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46		05:19	06:03 (1)	05:38	06:10 (1)	06:24	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27		22:01 22	06:25 (1)	21:53 21	06:31 (1)	21:03	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44		05:19	06:03 (1)	05:39	06:10 (1)	06:25	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29		22:02 22	06:25 (1)	21:52 21	06:31 (1)	21:01	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43		05:19	06:04 (1)	05:40	06:11 (1)	06:27	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30		22:02 22	06:26 (1)	21:51 19	06:30 (1)	20:59	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41	06:10 (1)	05:19	06:05 (1)	05:41	06:11 (1)	06:29	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32 2	06:12 (1)	22:03 22	06:27 (1)	21:49 19	06:30 (1)	20:57	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40	06:07 (1)	05:19	06:05 (1)	05:43	06:13 (1)	06:30	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33 9	06:16 (1)	22:03 22	06:27 (1)	21:48 17	06:30 (1)	20:55	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	05:39	06:06 (1)	05:19	06:05 (1)	05:44	06:14 (1)	06:32	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:35 11	06:17 (1)	22:03 22	06:27 (1)	21:47 15	06:29 (1)	20:53	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	05:37	06:04 (1)	05:19	06:05 (1)	05:45	06:15 (1)	06:34	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36 14	06:18 (1)	22:03 22	06:27 (1)	21:46 13	06:28 (1)	20:51	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	05:36	06:03 (1)	05:20	06:05 (1)	05:47	06:16 (1)	06:35	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	21:37 16	06:19 (1)	22:04 22	06:27 (1)	21:44 10	06:26 (1)	20:49	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35	06:02 (1)	05:20	06:06 (1)	05:48	06:18 (1)	06:37	07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	21:39 18	06:20 (1)	22:04 22	06:28 (1)	21:43 7	06:25 (1)	20:46	19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	05:34	06:01 (1)	05:20	06:05 (1)	05:50		06:38	07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	21:40 19	06:20 (1)	22:04 22	06:27 (1)	21:42		20:44	19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	05:32	06:01 (1)	05:21	06:05 (1)	05:51		06:40	07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	21:42 20	06:21 (1)	22:04 22	06:27 (1)	21:40		20:42	19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	05:31	06:00 (1)	05:21	06:06 (1)	05:52		06:42	07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21:43 22	06:22 (1)	22:04 22	06:28 (1)	21:39		20:40	19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	05:30	06:00 (1)	05:22	06:06 (1)	05:54		06:43	07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	21:44 22	06:22 (1)	22:04 22	06:28 (1)	21:37		20:38	19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	05:29	06:00 (1)	05:22	06:06 (1)	05:55		06:45	07:36	07:27	08:21	08:48
	17:21		20:07	21:00	21:45 22	06:22 (1)	22:03 23	06:29 (1)	21:36		20:36	19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	05:28	06:01 (1)	05:23	06:07 (1)	05:57		06:47	07:37	07:29	08:22	08:48
	17:22		20:09	21:01	21:47 22	06:23 (1)	22:03 22	06:29 (1)	21:34		20:33	19:22	17:17	16:33	16:36
31	08:22		07:19		05:27	06:00 (1)			05:58		06:48		07:31		08:48
	17:24		20:10		21:48 23	06:23 (1)			21:33		20:31		17:15		16:37
Potential sun hours	259	277	367	416	485		499		502		454	381	331	266	243
Total, worst case					220		677		489						
Sun reduction					0,43		0,39		0,41						
Oper. time red.					0,95		0,95		0,95						
Wind dir. red.					0,67		0,67		0,67						
Total reduction					0,27		0,25		0,26						
Total, real					60		168		127						

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:36/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN131@145Shadow receptor: L - 3997MP25a

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April		May	June	July	August	September		October		November		December		
1	08:48		09:50 (3)		08:21		09:25 (4)		07:27	16:33 (1)	07:17	17:44 (1)	06:12	05:26	05:23	06:00	06:50		07:39		17:02 (1)	07:33		11:57 (2)	08:24		08:59 (4)
	16:38	108	13:15 (2)	97	13:24 (2)		18:18	43	17:16 (1)	20:12	10 17:54 (1)		21:03	21:49	22:03	21:31	20:29		19:19	59	18:01 (1)	17:13	49	12:46 (2)	16:32	132	13:03 (2)
2	08:48		09:51 (3)		08:19		09:27 (4)		07:25	16:31 (1)	07:14		06:10	05:25	05:24	06:01	06:51		07:40		17:02 (1)	07:35		11:55 (2)	08:25		09:01 (4)
	16:39	109	13:16 (2)	85	13:23 (2)		18:20	46	17:17 (1)	20:14			21:05	21:50	22:03	21:29	20:26		19:17	59	18:01 (1)	17:11	52	12:47 (2)	16:32	128	13:03 (2)
3	08:48		09:51 (3)		08:18		12:19 (2)		07:23	16:29 (1)	07:12		06:08	05:25	05:25	06:03	06:53		07:42		17:01 (1)	07:36		11:54 (2)	08:27		09:01 (4)
	16:40	109	13:17 (2)	64	13:23 (2)		18:21	49	17:18 (1)	20:15			21:06	21:51	22:02	21:28	20:24		19:14	58	17:59 (1)	17:09	55	12:49 (2)	16:31	128	13:03 (2)
4	08:47		09:51 (3)		08:16		12:19 (2)		07:21	16:28 (1)	07:10		06:06	05:24	05:25	06:04	06:55		07:44		17:01 (1)	07:38		11:52 (2)	08:28		09:03 (4)
	16:41	109	13:17 (2)	64	13:23 (2)		18:23	51	17:19 (1)	20:17			21:08	21:52	22:02	21:26	20:22		19:12	58	17:59 (1)	17:07	57	12:49 (2)	16:30	126	13:04 (2)
5	08:47		09:21 (4)		08:14		12:20 (2)		07:19	16:28 (1)	07:07		06:04	05:23	05:26	06:06	06:56		07:46		17:02 (1)	07:40		11:51 (2)	08:29		09:04 (4)
	16:43	116	13:18 (2)	62	13:22 (2)		18:25	52	17:20 (1)	20:19			21:10	21:53	22:01	21:24	20:20		19:10	57	17:59 (1)	17:06	59	12:50 (2)	16:30	124	13:04 (2)
6	08:47		09:20 (4)		08:13		12:21 (2)		07:16	16:27 (1)	07:05		06:02	05:23	05:27	06:08	06:58		07:47		17:02 (1)	07:42		11:50 (2)	08:31		09:06 (4)
	16:44	119	13:18 (2)	60	13:21 (2)		18:27	54	17:21 (1)	20:20			21:11	21:54	22:01	21:22	20:17		19:08	56	17:58 (1)	17:04	61	12:51 (2)	16:30	120	13:04 (2)
7	08:46		09:19 (4)		08:11		12:22 (2)		07:14	16:25 (1)	07:03		06:00	05:22	05:28	06:09	06:59		07:49		17:02 (1)	07:44		11:49 (2)	08:32		09:08 (4)
	16:45	124	13:19 (2)	57	13:19 (2)		18:28	56	17:21 (1)	20:22			21:13	21:55	22:00	21:20	20:15		19:05	54	17:56 (1)	17:02	63	12:52 (2)	16:29	116	13:05 (2)
8	08:46		09:18 (4)		08:09		12:24 (2)		07:12	16:25 (1)	07:01		05:59	05:21	05:29	06:11	07:01		07:51		17:02 (1)	07:45		11:48 (2)	08:33		09:39 (3)
	16:46	126	13:19 (2)	55	13:19 (2)		18:30	56	17:21 (1)	20:24			21:14	21:56	21:59	21:19	20:13		19:03	53	17:55 (1)	17:00	65	12:53 (2)	16:29	110	13:05 (2)
9	08:45		09:18 (4)		08:07		12:26 (2)		07:10	16:24 (1)	06:58		05:57	05:21	05:30	06:12	07:03		07:52		17:03 (1)	07:47		08:58 (4)	08:34		09:39 (3)
	16:48	127	13:20 (2)	52	13:18 (2)		18:32	58	17:22 (1)	20:26			21:16	21:57	21:59	21:17	20:10		19:01	51	17:54 (1)	16:59	86	12:54 (2)	16:29	110	13:05 (2)
10	08:45		09:18 (4)		08:06		12:27 (2)		07:07	16:23 (1)	06:56		05:55	05:20	05:31	06:14	07:04		07:54		17:04 (1)	07:49		08:56 (4)	08:35		09:40 (3)
	16:49	128	13:20 (2)	49	13:16 (2)		18:34	58	17:21 (1)	20:27			21:18	21:57	21:58	21:15	20:08		18:59	49	17:53 (1)	16:57	99	12:55 (2)	16:28	108	13:05 (2)
11	08:44		09:17 (4)		08:04		12:29 (2)		07:05	16:23 (1)	06:54		05:54	05:20	05:32	06:16	07:06		17:38 (1)		07:56	17:04 (1)		07:51	08:54 (4)	08:37		09:40 (3)
	16:51	132	13:21 (2)	45	13:14 (2)		18:36	59	17:22 (1)	20:29			21:19	21:58	21:57	21:13	20:06	7	17:45 (1)		18:56	47	17:51 (1)	16:56	108	12:56 (2)	16:28	108	13:05 (2)
12	08:44		09:16 (4)		08:02		12:32 (2)		07:03	16:23 (1)	06:52		05:52	05:20	05:33	06:17	07:08		17:32 (1)		07:57	17:05 (1)		07:53	08:53 (4)	08:38		09:42 (3)
	16:52	134	13:21 (2)	39	13:11 (2)		18:37	59	17:22 (1)	20:31			21:21	21:59	21:56	21:11	20:03	19	17:51 (1)		18:54	45	17:50 (1)	16:54	114	12:56 (2)	16:28	107	13:06 (2)
13	08:43		09:16 (4)		08:00		12:35 (2)		07:00	16:22 (1)	06:49		05:50	05:19	05:34	06:19	07:09		17:28 (1)		07:59	17:06 (1)		07:54	08:53 (4)	08:39		09:42 (3)
	16:53	134	13:21 (2)	33	13:08 (2)		18:39	59	17:21 (1)	20:32			21:23	22:00	21:56	21:09	20:01	26	17:54 (1)		18:52	42	17:48 (1)	16:53	119	12:57 (2)	16:28	107	13:07 (2)
14	08:42		09:16 (4)		07:58		12:39 (2)		06:58	16:22 (1)	06:47		05:49	05:19	05:35	06:20	07:11		17:24 (1)		08:01	17:08 (1)		07:56	08:52 (4)	08:40		09:43 (3)
	16:55	135	13:22 (2)	25	13:04 (2)		18:41	59	17:21 (1)	20:34			21:24	22:00	21:55	21:07	19:59	31	17:55 (1)		18:50	38	17:46 (1)	16:51	124	12:57 (2)	16:28	106	13:07 (2)
15	08:41		09:16 (4)		07:56		06:56		16:22 (1)	06:45			05:47	05:19	05:36	06:22	07:13		17:22 (1)		08:03	17:09 (1)		07:58	08:52 (4)	08:40		09:43 (3)
	16:57	136	13:22 (2)		17:52		18:43	59	17:21 (1)	20:36			21:26	22:01	21:54	21:05	19:56	35	17:57 (1)		18:47	34	17:43 (1)	16:50	126	12:58 (2)	16:28	106	13:07 (2)
16	08:41		09:16 (4)		07:54		06:54		16:22 (1)	06:43			05:46	05:19	05:38	06:24	07:14		17:19 (1)		08:04	17:11 (1)		08:00	08:52 (4)	08:41		09:43 (3)
	16:58	136	13:22 (2)		17:54		18:44	58	17:20 (1)	20:37			21:27	22:01	21:53	21:03	19:54	39	17:58 (1)		18:45	29	17:40 (1)	16:48	129	12:58 (2)	16:28	106	13:07 (2)
17	08:40		09:16 (4)		07:52		06:51		16:22 (1)	06:41			05:44	05:19	05:39	06:25	07:16		17:17 (1)		08:06	17:14 (1)		08:01	08:52 (4)	08:42		09:44 (3)
	17:00	137	13:23 (2)		17:56		18:46	58	17:20 (1)	20:39			21:29	22:02	21:52	21:01	19:52	42	17:59 (1)		18:43	24	17:38 (1)	16:47	132	12:59 (2)	16:28	105	13:08 (2)
18	08:39		09:16 (4)		07:50		06:49		16:22 (1)	06:38			05:43	05:19	05:40	06:27	07:17		17:15 (1)		08:08	17:17 (1)		08:03	08:52 (4)	08:43		09:45 (3)
	17:01	138	13:23 (2)		17:58		18:48	58	17:20 (1)	20:41			21:30	22:02	21:51	20:59	19:49	45	18:00 (1)		18:41	17	17:34 (1)	16:46	133	12:59 (2)	16:29	105	13:08 (2)
19	08:38		09:16 (4)		07:48		06:47		16:22 (1)	06:36			05:41	05:19	05:41	06:28	07:19		17:13 (1)		08:10			08:05	08:51 (4)	08:44		09:45 (3)
	17:03	138	13:24 (2)		17:59		18:49	57	17:19 (1)	20:43			21:32	22:03	21:49	20:57	19:47	48	18:01 (1)		18:39			16:44	136	12:59 (2)	16:29	105	13:08 (2)
20	08:37		09:16 (4)		07:46		06:44		16:23 (1)	06:34			05:40	05:19	05:43	06:30	07:21		17:12 (1)		08:11			08:06	08:51 (4)	08:44		09:46 (3)
	17:05	138	13:24 (2)		18:01		18:51	55	17:18 (1)	20:44			21:33	22:03	21:48	20:55	19:45	50	18:02 (1)		18:37			16:43	137	12:59 (2)	16:29	105	13:09 (2)
21	08:36		09:17 (4)		07:44		06:42		16:24 (1)	06:32			05:38	05:19	05:44	06:32	07:22		17:09 (1)		08:13			08:08	08:52 (4)	08:45		09:47 (3)
	17:06	138	13:25 (2)		18:03		18:53	54	17:18 (1)	20:46			21:35	22:03	21:47	20:53	19:42	52	18:01 (1)		18:35			16:42	138	13:00 (2)	16:30	104	13:10 (2)
22	08:34		09:16 (4)		07:42		06:40		16:24 (1)	06:30			05:37	05:19	05:45	06:33	07:24		17:08 (1)		08:15			08:10	08:52 (4)	08:45		09:47 (3)
	17:08	137	13:24 (2)		18:05		18:55	52	17:16 (1)	20:48			21:36	22:03	21:46	20:51	19:40	54	18:02 (1)		18:33			16:41	138	13:00 (2)	16:30	104	13:10 (2)
23	08:33		09:17 (4)		07:40	16:50 (1)	06:37		16:25 (1)	06:28			05:36	05:20	05:47	06:35	07:26		17:08 (1)		08:17			08:11	08:53 (4)	08:46		09:47 (3)
	17:10	136	13:25 (2)		18:07	8 16:58 (1)	18:56	50	17:15 (1)	20:49			21:37	22:03	21:44	20:49	19:38	55	18:03 (1)		18:31			16:40	138	13:01 (2)	16:31	104	13:10 (2)
24	08:32		09:18 (4)		07:38	16:45 (1)	06:35		16:26 (1)	06:26			05:35	05:20	05:48	06:37	07:27		17:06 (1)		08:18			08:13	08:53 (4)	08:46		09:48 (3)
	17:12	133	13:25 (2)		18:09	19 17:04 (1)	18:58	48	17:14 (1)	20:51			21:39	22:04	21:43	20:46	19:35	56	18:02 (1)		18:28			16:38	138	13:00 (2)	16:31	105	13:11 (2)
25	08:31		09:18 (4)		07:36	16:41 (1)	06:33		16:27 (1)	06:24			05:33	05:20	05:49	06:38	07:29		17:05 (1)		07:20			08:15	08:54 (4)	08:47		09:48 (3)
	17:13	132	13:25 (2)		18:10	27 17:08 (1)	19:00	45	17:12 (1)	20:53			21:40	22:04	21:42	20:44	19:33	58	18:03 (1)		17:26			16:37	137	13:01 (2)	16:32	105	13:11 (2)
26	08:29		09:19 (4)		07:34	16:39 (1)	06:30		16:28 (1)	06:22			05:32	05:21	05:51	06:40	07:31		17:05 (1)		07:22			08:16	08:55 (4)	08:47		09:48 (3)
	17:15	128	13:25 (2)		18:12	31 17:10 (1)	19:02	43	17:11 (1)	20:54			21:41	22:04	21:40	20:42	19:31	58	18:03 (1)		17:24			16:36	137	13:02 (2)	16:32	106	13:12 (2)
27	08:28		09:19 (4)		07:32	16:36 (1)	06:28		16:30 (1)	06:20			05:31	05:21	05:52	06:42	07:32		17:03 (1)		07:24	12:15 (2)		08:18	08:56 (4)	08:47		09:48 (3)
	17:17	127	13:25 (2)		18:14	35 17:11 (1)	19:03	40	17:10 (1)	20:56			21:43	22:04	21:39	20:40	19:28	59	18:02 (1)		17:22	12 12:27 (2)		16:36	136	13:02 (2)	16:33	106	13:12 (2)
28	08:27		09:20 (4)		07:30	16:34 (1)	06:26		16:31 (1)	06:18			05:30	05:21	05:54	06:43	07:34		17:03 (1)		07:26	12:08 (2)		08:19	08:56 (4)	08:48		09:50 (3)
	17:19	123	13:25 (2)		18:16	40 17:14 (1)	19:05	36	17:07 (1)	20:58			21:44	22:03	21:37	20:38	19:26	59	18:02 (1)		17:20	27 12:35 (2)		16:35	136	13:02 (2)	16:34	105	13:13 (2)
29	08:25		09:21 (4)				07:24		17:34 (1)	06:16			05:29	05:22	05:55	06:45	07:35		17:03 (1)		07:27	12:04 (2)		08:21	08:57 (4)	08:48		09:50 (3)
	17:20	119	13:25 (2)				20:07	31	18:05 (1)	21:00			21:45	22:03	21:36	20:35	19:24	59	18:02 (1)		17:19	34 12:38 (2)		16:34	134	13:02 (2)	16:35	107	13:14 (2)
30	08:24		09:22 (4)				07:21		17:36 (1)	06:14			05:28	05:23	05:57	06:46	07:37		17:02 (1)		07:29	12:01 (2)		08:22	08:58 (4)	08:48		09:50 (3)
	17:22	113	13:24 (2)				20:08	27	18:03 (1)	21:01			21:47	22:03	21:34	20:33	19:21	59	18:01 (1)		17:17	40 12:41 (2)		16:33	134	13:03 (2)	16:36	106	13:14 (2)
31	08:22		09:24 (4)				07:19		17:40 (1)				05:27		05:58	06:48					07:31	11:59 (2)				08:48		09:50 (3)
	17:24	107	13:25 (2)				20:10	20	18:00 (1)				21:48		21:33	20:31					17:15	45 12:44 (2)				16:37	107	13:14 (2)
Potential sun hours	259			277		367		416			485	499	502	454	381		331		266		243						
Total, worst case		3926			947		1550		10							911		988		3270			3421			
Sun reduction		0,24			0,30		0,33		0,42							0,36		0,34		0,24			0,20			
Oper. time red.		0,95			0,95		0,95		0,95							0,95		0,95		0,95			0,95			
Wind dir. red.		0,64			0,67		0,66		0,66							0,66		0,67		0,64			0,64			
Total reduction		0,14			0,19		0,21		0,26							0,23		0,21		0,14			0,12			
Total, real		567			180		320		3							207		209		469			425			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:36/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN131@145Shadow receptor: M - 3998JK67a

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May		June		July		August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12		05:26		06:08 (1)	05:23	06:16 (1)	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03		21:49	24	06:32 (1)	22:03	06:35 (1)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10		05:26		06:08 (1)	05:24	06:17 (1)	06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05		21:50	23	06:31 (1)	22:03	06:36 (1)	21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08		05:25		06:09 (1)	05:25	06:17 (1)	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06		21:51	23	06:32 (1)	22:02	06:37 (1)	21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06		05:24		06:09 (1)	05:26	06:16 (1)	06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08		21:52	22	06:31 (1)	22:02	06:36 (1)	21:26	20:22	19:12	17:07	16:31
5	08:47	08:14	07:19	07:08	06:04		05:23		06:10 (1)	05:26	06:16 (1)	06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10		21:53	22	06:32 (1)	22:01	06:37 (1)	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02		05:23		06:10 (1)	05:27	06:16 (1)	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11		21:54	21	06:31 (1)	22:01	06:38 (1)	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01		05:22		06:11 (1)	05:28	06:16 (1)	06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13		21:55	21	06:32 (1)	22:00	06:38 (1)	21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59		05:22		06:11 (1)	05:29	06:16 (1)	06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15		21:56	20	06:31 (1)	22:00	06:39 (1)	21:19	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57		05:21		06:11 (1)	05:30	06:16 (1)	06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16		21:57	20	06:31 (1)	21:59	06:39 (1)	21:17	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55		05:21		06:11 (1)	05:31	06:16 (1)	06:14	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18		21:58	20	06:31 (1)	21:58	06:39 (1)	21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54		05:20		06:12 (1)	05:32	06:16 (1)	06:16	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19		21:58	19	06:31 (1)	21:57	06:39 (1)	21:13	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52		05:20		06:13 (1)	05:33	06:16 (1)	06:17	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21		21:59	18	06:31 (1)	21:57	06:39 (1)	21:11	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50		05:20		06:13 (1)	05:34	06:16 (1)	06:19	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23		22:00	18	06:31 (1)	21:56	06:40 (1)	21:09	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49	06:17 (1)	05:19		06:14 (1)	05:35	06:16 (1)	06:21	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24	4 06:21 (1)	22:00	17	06:31 (1)	21:55	06:41 (1)	21:07	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47	06:13 (1)	05:19		06:13 (1)	05:36	06:16 (1)	06:22	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26	11 06:24 (1)	22:01	17	06:30 (1)	21:54	06:41 (1)	21:05	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46	06:12 (1)	05:19		06:14 (1)	05:38	06:16 (1)	06:24	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27	14 06:26 (1)	22:01	17	06:31 (1)	21:53	06:41 (1)	21:03	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44	06:11 (1)	05:19		06:14 (1)	05:39	06:16 (1)	06:25	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29	16 06:27 (1)	22:02	17	06:31 (1)	21:52	06:41 (1)	21:01	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43	06:10 (1)	05:19		06:14 (1)	05:40	06:16 (1)	06:27	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30	17 06:27 (1)	22:02	17	06:31 (1)	21:51	06:40 (1)	20:59	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41	06:09 (1)	05:19		06:15 (1)	05:41	06:16 (1)	06:29	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32	19 06:28 (1)	22:03	17	06:32 (1)	21:49	06:40 (1)	20:57	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40	06:09 (1)	05:19		06:16 (1)	05:43	06:18 (1)	06:30	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33	20 06:29 (1)	22:03	16	06:32 (1)	21:48	06:41 (1)	20:55	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	05:39	06:08 (1)	05:19		06:16 (1)	05:44	06:18 (1)	06:32	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:35	22 06:30 (1)	22:03	16	06:32 (1)	21:47	06:41 (1)	20:53	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	05:37	06:07 (1)	05:19		06:16 (1)	05:45	06:18 (1)	06:34	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36	23 06:30 (1)	22:03	16	06:32 (1)	21:46	06:40 (1)	20:51	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	05:36	06:07 (1)	05:20		06:15 (1)	05:47	06:18 (1)	06:35	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	21:37	23 06:30 (1)	22:04	17	06:32 (1)	21:44	06:39 (1)	20:49	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35	06:07 (1)	05:20		06:16 (1)	05:48	06:19 (1)	06:37	07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	21:39	24 06:31 (1)	22:04	17	06:33 (1)	21:43	06:40 (1)	20:46	19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	05:34	06:07 (1)	05:20		06:16 (1)	05:50	06:20 (1)	06:38	07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	21:40	24 06:31 (1)	22:04	17	06:33 (1)	21:42	06:39 (1)	20:44	19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	05:32	06:07 (1)	05:21		06:16 (1)	05:51	06:20 (1)	06:40	07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	21:42	24 06:31 (1)	22:04	17	06:33 (1)	21:40	06:37 (1)	20:42	19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	05:31	06:07 (1)	05:21		06:16 (1)	05:52	06:22 (1)	06:42	07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21:43	24 06:31 (1)	22:04	17	06:33 (1)	21:39	06:37 (1)	20:40	19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	05:30	06:07 (1)	05:22		06:16 (1)	05:54	06:23 (1)	06:43	07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	21:44	24 06:31 (1)	22:04	17	06:33 (1)	21:37	06:35 (1)	20:38	19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	05:29	06:07 (1)	05:22		06:16 (1)	05:55	06:26 (1)	06:45	07:36	07:27	08:21	08:48
	17:21		20:07	21:00	21:45	24 06:31 (1)	22:03	18	06:34 (1)	21:36	06:34 (1)	20:36	19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	05:28	06:08 (1)	05:23		06:17 (1)	05:57		06:47	07:37	07:29	08:22	08:48
	17:22		20:08	21:01	21:47	24 06:32 (1)	22:03	18	06:35 (1)	21:34		20:33	19:22	17:17	16:33	16:36
31	08:22		07:19		05:27	06:08 (1)				05:58		06:48		07:31		08:48
	17:24		20:10		21:48	24 06:32 (1)				21:33		20:31		17:15		16:37
Potential sun hours	259	277	367	416	485		499			502	454	381	331	266	243	
Total, worst case						361		559		611						
Sun reduction						0,43		0,39		0,41						
Oper. time red.						0,95		0,95		0,95						
Wind dir. red.						0,67		0,67		0,67						
Total reduction						0,27		0,25		0,26						
Total, real						98		138		158						

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:36/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN131@145Shadow receptor: N - 3945LA11

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December		
1	08:48		10:38 (4)	08:21		15:40 (2)	07:27		07:17	06:12	05:26	05:23	06:00	06:50		07:39		18:08 (1)	07:33		15:09 (2)	08:24		12:23 (3)
	16:38	54	13:05 (3)	17:26	43	16:23 (2)	18:18		20:12	21:03	21:49	22:03	21:31	20:29		19:19	31	18:39 (1)	17:13	47	15:56 (2)	16:32	20	12:43 (3)
2	08:48		10:39 (4)	08:19		15:40 (2)	07:25		07:14	06:10	05:25	05:24	06:01	06:51		07:40		18:08 (1)	07:35		15:09 (2)	08:25		12:22 (3)
	16:39	52	13:05 (3)	17:28	43	16:23 (2)	18:19		20:14	21:05	21:50	22:02	21:29	20:26		19:17	30	18:38 (1)	17:11	47	15:56 (2)	16:32	23	12:45 (3)
3	08:48		10:40 (4)	08:18		15:40 (2)	07:23		07:12	06:08	05:25	05:25	06:03	06:53		07:42		18:08 (1)	07:36		15:08 (2)	08:27		12:21 (3)
	16:40	49	13:05 (3)	17:30	45	16:25 (2)	18:21		20:15	21:06	21:51	22:02	21:28	20:24		19:14	28	18:36 (1)	17:09	47	15:55 (2)	16:31	26	12:47 (3)
4	08:47		10:41 (4)	08:16		15:40 (2)	07:21		07:10	06:06	05:24	05:25	06:04	06:55		07:44		18:09 (1)	07:38		15:08 (2)	08:28		12:21 (3)
	16:41	46	13:05 (3)	17:31	45	16:25 (2)	18:23		20:17	21:08	21:52	22:02	21:26	20:22		19:12	26	18:35 (1)	17:07	47	15:55 (2)	16:30	28	12:49 (3)
5	08:47		10:44 (4)	08:14		15:39 (2)	07:19	17:42 (1)	07:07	06:04	05:23	05:26	06:06	06:56		07:46		18:10 (1)	07:40		15:09 (2)	08:29		12:20 (3)
	16:43	41	13:05 (3)	17:33	46	16:25 (2)	18:25	7 17:49 (1)	20:19	21:10	21:53	22:01	21:24	20:20		19:10	24	18:34 (1)	17:06	46	15:55 (2)	16:30	29	12:49 (3)
6	08:47		10:46 (4)	08:13		15:39 (2)	07:16	17:37 (1)	07:05	06:02	05:23	05:27	06:08	06:58		07:47		18:11 (1)	07:42		15:09 (2)	08:31		10:33 (4)
	16:44	34	13:04 (3)	17:35	47	16:26 (2)	18:27	15 17:52 (1)	20:20	21:11	21:54	22:01	21:22	20:17		19:08	21	18:32 (1)	17:04	46	15:55 (2)	16:30	32	12:50 (3)
7	08:46		12:34 (3)	08:11		15:39 (2)	07:14	17:35 (1)	07:03	06:00	05:22	05:28	06:09	06:59		07:49		18:12 (1)	07:44		15:09 (2)	08:32		10:31 (4)
	16:45	30	13:04 (3)	17:37	47	16:26 (2)	18:28	19 17:54 (1)	20:22	21:13	21:55	22:00	21:20	20:15		19:05	17	18:29 (1)	17:02	46	15:55 (2)	16:29	41	12:52 (3)
8	08:46		12:35 (3)	08:09		15:40 (2)	07:12	17:34 (1)	07:01	05:59	05:21	05:29	06:11	07:01		07:51		18:15 (1)	07:45		15:10 (2)	08:33		10:30 (4)
	16:46	29	13:04 (3)	17:39	47	16:27 (2)	18:30	22 17:56 (1)	20:24	21:14	21:56	21:59	21:19	20:13		19:03	12	18:27 (1)	17:00	45	15:55 (2)	16:29	45	12:53 (3)
9	08:45		12:37 (3)	08:07		15:39 (2)	07:10	17:33 (1)	06:58	05:57	05:21	05:30	06:12	07:03		07:52			07:47		15:11 (2)	08:34		10:29 (4)
	16:48	27	13:04 (3)	17:41	48	16:27 (2)	18:32	25 17:58 (1)	20:25	21:16	21:57	21:59	21:17	20:10		19:01			16:59	43	15:54 (2)	16:28	48	12:53 (3)
10	08:45		12:39 (3)	08:06		15:40 (2)	07:07	17:31 (1)	06:56	05:55	05:20	05:31	06:14	07:04		07:54			07:49		15:11 (2)	08:35		10:28 (4)
	16:49	23	13:02 (3)	17:43	47	16:27 (2)	18:34	27 17:58 (1)	20:27	21:18	21:57	21:58	21:15	20:08		18:59			16:57	43	15:54 (2)	16:28	52	12:54 (3)
11	08:44		12:41 (3)	08:04		15:40 (2)	07:05	17:30 (1)	06:54	05:54	05:20	05:32	06:16	07:06		07:56			07:51		15:12 (2)	08:37		10:28 (4)
	16:50	20	13:01 (3)	17:45	47	16:27 (2)	18:36	29 17:59 (1)	20:29	21:19	21:58	21:57	21:13	20:06		18:56			16:56	41	15:53 (2)	16:28	54	12:55 (3)
12	08:44		12:43 (3)	08:02		15:40 (2)	07:03	17:29 (1)	06:52	05:52	05:20	05:33	06:17	07:08		07:57			07:52		15:13 (2)	08:38		10:28 (4)
	16:52	16	12:59 (3)	17:46	46	16:26 (2)	18:37	31 18:00 (1)	20:31	21:21	21:59	21:56	21:11	20:03		18:54			16:54	40	15:53 (2)	16:28	56	12:56 (3)
13	08:43		12:47 (3)	08:00		15:40 (2)	07:00	17:28 (1)	06:49	05:50	05:19	05:34	06:19	07:09		07:59			07:54		15:14 (2)	08:39		10:28 (4)
	16:53	9	12:56 (3)	17:48	46	16:26 (2)	18:39	31 17:59 (1)	20:32	21:22	22:00	21:56	21:09	20:01		18:52			16:53	38	15:52 (2)	16:28	58	12:57 (3)
14	08:42			07:58		15:41 (2)	06:58	17:28 (1)	06:47	05:49	05:19	05:35	06:20	07:11		08:01			07:56		15:15 (2)	08:40		10:28 (4)
	16:55			17:50	45	16:26 (2)	18:41	32 18:00 (1)	20:34	21:24	22:00	21:55	21:07	19:59		18:50			16:51	36	15:51 (2)	16:28	58	12:57 (3)
15	08:41			07:56		15:41 (2)	06:56	17:28 (1)	06:45	05:47	05:19	05:36	06:22	07:12		08:03			07:58		15:16 (2)	08:40		10:28 (4)
	16:57			17:52	44	16:25 (2)	18:43	32 18:00 (1)	20:36	21:26	22:01	21:54	21:05	19:56		18:47			16:50	35	15:51 (2)	16:28	60	12:58 (3)
16	08:41			07:54		15:42 (2)	06:54	17:27 (1)	06:43	05:46	05:19	05:38	06:24	07:14		08:04			08:00		15:17 (2)	08:41		10:28 (4)
	16:58			17:54	43	16:25 (2)	18:44	32 17:59 (1)	20:37	21:27	22:01	21:53	21:03	19:54		18:45			16:48	33	15:50 (2)	16:28	61	12:58 (3)
17	08:40			07:52		15:43 (2)	06:51	17:28 (1)	06:41	05:44	05:19	05:39	06:25	07:16		08:06		16:31 (2)	08:01		15:19 (2)	08:42		10:29 (4)
	17:00			17:56	41	16:24 (2)	18:46	30 17:58 (1)	20:39	21:29	22:02	21:52	21:01	19:52		18:43	9	16:40 (2)	16:47	30	15:49 (2)	16:28	61	12:59 (3)
18	08:39			07:50		15:44 (2)	06:49	17:28 (1)	06:38	05:43	05:19	05:40	06:27	07:17		08:08		16:27 (2)	08:03		15:19 (2)	08:43		10:29 (4)
	17:01			17:58	39	16:23 (2)	18:48	30 17:58 (1)	20:41	21:30	22:02	21:50	20:59	19:49		18:41	17	16:44 (2)	16:46	28	15:47 (2)	16:28	63	13:00 (3)
19	08:38			07:48		15:45 (2)	06:47	17:28 (1)	06:36	05:41	05:19	05:41	06:28	07:19	18:24 (1)	08:10		16:23 (2)	08:05		15:21 (2)	08:44		10:29 (4)
	17:03			17:59	37	16:22 (2)	18:49	28 17:56 (1)	20:43	21:32	22:03	21:49	20:57	19:47	9 18:33 (1)	18:39	24	16:47 (2)	16:44	24	15:45 (2)	16:29	63	13:00 (3)
20	08:37		15:53 (2)	07:46		15:46 (2)	06:44	17:29 (1)	06:34	05:40	05:19	05:43	06:30	07:21	18:20 (1)	08:11		16:21 (2)	08:06		15:23 (2)	08:44		10:30 (4)
	17:05	11	16:04 (2)	18:01	34	16:20 (2)	18:51	27 17:56 (1)	20:44	21:33	22:03	21:48	20:55	19:45	16 18:36 (1)	18:37	28	16:49 (2)	16:43	21	15:44 (2)	16:29	62	13:01 (3)
21	08:36		15:51 (2)	07:44		15:48 (2)	06:42	17:30 (1)	06:32	05:38	05:19	05:44	06:32	07:22	18:17 (1)	08:13		16:19 (2)	08:08		15:26 (2)	08:45		10:30 (4)
	17:06	16	16:07 (2)	18:03	31	16:19 (2)	18:53	24 17:54 (1)	20:46	21:35	22:03	21:47	20:53	19:42	20 18:37 (1)	18:35	32	16:51 (2)	16:42	16	15:42 (2)	16:30	63	13:02 (3)
22	08:34		15:48 (2)	07:42		15:50 (2)	06:40	17:31 (1)	06:30	05:37	05:19	05:45	06:33	07:24	18:15 (1)	08:15		16:16 (2)	08:10		15:29 (2)	08:45		10:30 (4)
	17:08	21	16:09 (2)	18:05	27	16:17 (2)	18:55	21 17:52 (1)	20:48	21:36	22:03	21:46	20:51	19:40	24 18:39 (1)	18:33	35	16:51 (2)	16:41	11	15:40 (2)	16:30	63	13:02 (3)
23	08:33		15:47 (2)	07:40		15:53 (2)	06:37	17:33 (1)	06:28	05:36	05:19	05:47	06:35	07:26	18:14 (1)	08:17		16:15 (2)	08:11			08:46		10:31 (4)
	17:10	24	16:11 (2)	18:07	22	16:15 (2)	18:56	17 17:50 (1)	20:49	21:37	22:03	21:44	20:48	19:38	26 18:40 (1)	18:30	37	16:52 (2)	16:40			16:31	62	13:02 (3)
24	08:32		15:46 (2)	07:38		15:57 (2)	06:35	17:36 (1)	06:26	05:35	05:20	05:48	06:37	07:27	18:12 (1)	08:18		16:13 (2)	08:13			08:46		10:32 (4)
	17:11	28	16:14 (2)	18:09	15	16:12 (2)	18:58	12 17:48 (1)	20:51	21:39	22:04	21:43	20:46	19:35	28 18:40 (1)	18:28	40	16:53 (2)	16:38			16:31	62	13:03 (3)
25	08:31		15:45 (2)	07:36			06:33		06:24	05:33	05:20	05:49	06:38	07:29	18:11 (1)	07:20		15:12 (2)	08:15			08:47		10:32 (4)
	17:13	30	16:15 (2)	18:10			19:00		20:53	21:40	22:04	21:42	20:44	19:33	29 18:40 (1)	17:26	42	15:54 (2)	16:37			16:32	63	13:03 (3)
26	08:29		15:44 (2)	07:34			06:30		06:22	05:32	05:21	05:51	06:40	07:30	18:10 (1)	07:22		15:12 (2)	08:16			08:47		10:32 (4)
	17:15	33	16:17 (2)	18:12			19:02		20:54	21:41	22:04	21:40	20:42	19:31	31 18:41 (1)	17:24	42	15:54 (2)	16:36			16:32	62	13:03 (3)
27	08:28		15:43 (2)	07:32			06:28		06:20	05:31	05:21	05:52	06:42	07:32	18:09 (1)	07:24		15:11 (2)	08:18			08:47		10:33 (4)
	17:17	35	16:18 (2)	18:14			19:03		20:56	21:43	22:04	21:39	20:40	19:28	31 18:40 (1)	17:22	44	15:55 (2)	16:36			16:33	61	13:03 (3)
28	08:27		15:43 (2)	07:29			06:26		06:18	05:30	05:21	05:54	06:43	07:34	18:09 (1)	07:26		15:10 (2)	08:19			08:47		10:35 (4)
	17:19	37	16:20 (2)	18:16			19:05		20:58	21:44	22:03	21:37	20:38	19:26	31 18:40 (1)	17:20	45	15:55 (2)	16:35			16:34	60	13:05 (3)
29	08:25		15:42 (2)				07:23		06:16	05:29	05:22	05:55	06:45	07:35	18:09 (1)	07:27		15:10 (2)	08:21		12:28 (3)	08:48		10:35 (4)
	17:20	38	16:20 (2)				20:07		21:00	21:45	22:03	21:36	20:35	19:24	31 18:40 (1)	17:18	46	15:56 (2)	16:34	9	12:37 (3)	16:35	60	13:05 (3)
30	08:24		15:41 (2)				07:21		06:14	05:28	05:23	05:57	06:46	07:37	18:08 (1)	07:29		15:10 (2)	08:22		12:24 (3)	08:48		10:36 (4)
	17:22	40	16:21 (2)				20:08		21:01	21:46	22:03	21:34	20:33	19:21	31 18:39 (1)	17:17	46	15:56 (2)	16:33	16	12:40 (3)	16:36	58	13:05 (3)
31	08:22		15:41 (2)				07:19			05:27		05:58	06:48			07:31		15:09 (2)				08:48		10:36 (4)
	17:24	41	16:22 (2)				20:10			21:48		21:32	20:31			17:15	47	15:56 (2)				16:37	56	13:04 (3)
Potential sun hours	259			277			367		416	485	499	502	454	381		331			266			243		
Total, worst case		784			975			491							307		723			835			1610	
Sun reduction		0,24			0,30			0,33							0,36		0,34			0,24			0,20	
Oper. time red.		0,95			0,95			0,95							0,95		0,95			0,95			0,95	
Wind dir. red.		0,67			0,67			0,63							0,63		0,66			0,67			0,66	
Total reduction		0,15			0,19			0,20							0,22		0,21			0,15			0,13	
Total, real		119			187			97							67		152			125			205	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:36/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN131@145Shadow receptor: O - 3998NA2

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	07:30 (2)	05:26	05:23	06:00	06:50	07:31 (2)	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03	21 07:51 (2)	21:49	22:03	21:31	20:29	30 08:01 (2)	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	07:32 (2)	05:25	05:24	06:01	06:51	07:31 (2)	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05	17 07:49 (2)	21:50	22:03	21:29	20:26	28 07:59 (2)	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08	07:35 (2)	05:25	05:25	06:03	06:53	07:33 (2)	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06	12 07:47 (2)	21:51	22:02	21:28	20:24	24 07:57 (2)	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06		05:24	05:25	06:05	06:55	07:35 (2)	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08		21:52	22:02	21:26	20:22	20 07:55 (2)	19:12	17:07	16:31
5	08:47	08:14	07:19	07:07	06:04		05:23	05:26	06:06	06:56	07:37 (2)	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10		21:53	22:01	21:24	20:20	15 07:52 (2)	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02		05:23	05:27	06:08	06:58	07:43 (2)	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11		21:54	22:01	21:22	20:17	3 07:46 (2)	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03 07:41 (2)	06:01		05:22	05:28	06:09	07:00		07:49	07:44	08:32
	16:45	17:37	18:29	20:22 15 07:56 (2)	21:13		21:55	22:00	21:21	20:15		19:05	17:02	16:29
8	08:46	08:09	07:12	07:01 07:37 (2)	05:59		05:21	05:29	06:11	07:01		07:51	07:45	08:33
	16:46	17:39	18:30	20:24 20 07:57 (2)	21:15		21:56	22:00	21:19	20:13		19:03	17:01	16:29
9	08:45	08:08	07:10	06:58 07:35 (2)	05:57		05:21	05:30	06:12 07:47 (2)	07:03		07:52	07:47	08:34
	16:48	17:41	18:32	20:26 24 07:59 (2)	21:16		21:57	21:59	21:17 4 07:51 (2)	20:10		19:01	16:59	16:29
10	08:45	08:06	07:07	06:56 07:33 (2)	05:55		05:21	05:31	06:14 07:43 (2)	07:04		07:54	07:49	08:35
	16:49	17:43	18:34	20:27 28 08:01 (2)	21:18		21:58	21:58	21:15 13 07:56 (2)	20:08		18:59	16:57	16:28
11	08:44	08:04	07:05	06:54 07:32 (2)	05:54		05:20	05:32	06:16 07:41 (2)	07:06		07:56	07:51	08:37
	16:51	17:45	18:36	20:29 30 08:02 (2)	21:19		21:58	21:57	21:13 18 07:59 (2)	20:06		18:56	16:56	16:28
12	08:44	08:02	07:03	06:52 07:30 (2)	05:52		05:20	05:33	06:17 07:38 (2)	07:08		07:57	07:53	08:38
	16:52	17:46	18:37	20:31 33 08:03 (2)	21:21		21:59	21:56	21:11 22 08:00 (2)	20:03		18:54	16:54	16:28
13	08:43	08:00	07:01	06:49 07:28 (2)	05:50		05:20	05:34	06:19 07:37 (2)	07:09		07:59	07:54	08:39
	16:54	17:48	18:39	20:32 35 08:03 (2)	21:23		22:00	21:56	21:09 25 08:02 (2)	20:01		18:52	16:53	16:28
14	08:42	07:58	06:58	06:47 07:27 (2)	05:49		05:19	05:35	06:20 07:35 (2)	07:11	08:05 (3)	08:01	07:56	08:40
	16:55	17:50	18:41	20:34 36 08:03 (2)	21:24		22:00	21:55	21:07 28 08:03 (2)	19:59	10 08:15 (3)	18:50	16:51	16:28
15	08:41	07:56	06:56 07:22 (3)	06:45 07:27 (2)	05:47		05:19	05:36	06:22 07:35 (2)	07:13	08:02 (3)	08:03	07:58	08:40
	16:57	17:52	18:43 6 07:28 (3)	20:36 37 08:04 (2)	21:26		22:01	21:54	21:05 30 08:05 (2)	19:56	15 08:17 (3)	18:48	16:50	16:28
16	08:41	07:54	06:54 07:18 (3)	06:43 07:26 (2)	05:46		05:19	05:38	06:24 07:33 (2)	07:14	08:00 (3)	08:04	08:00	08:41
	16:58	17:54	18:44 13 07:31 (3)	20:37 38 08:04 (2)	21:27		22:01	21:53	21:03 32 08:05 (2)	19:54	18 08:18 (3)	18:45	16:48	16:28
17	08:40	07:52	06:51 07:16 (3)	06:41 07:26 (2)	05:44		05:19	05:39	06:25 07:32 (2)	07:16	07:59 (3)	08:06	08:01	08:42
	17:00	17:56	18:46 16 07:32 (3)	20:39 38 08:04 (2)	21:29		22:02	21:52	21:01 34 08:06 (2)	19:52	21 08:20 (3)	18:43	16:47	16:28
18	08:39	07:50	06:49 07:14 (3)	06:38 07:25 (2)	05:43		05:19	05:40	06:27 07:31 (2)	07:17	07:58 (3)	08:08	08:03	08:43
	17:01	17:58	18:48 20 07:34 (3)	20:41 39 08:04 (2)	21:30		22:02	21:51	20:59 35 08:06 (2)	19:49	22 08:20 (3)	18:41	16:46	16:29
19	08:38	07:48	06:47 07:12 (3)	06:36 07:25 (2)	05:41		05:19	05:41	06:29 07:31 (2)	07:19	07:57 (3)	08:10	08:05	08:44
	17:03	17:59	18:50 22 07:34 (3)	20:43 39 08:04 (2)	21:32		22:03	21:49	20:57 36 08:07 (2)	19:47	23 08:20 (3)	18:39	16:44	16:29
20	08:37	07:46	06:44 07:11 (3)	06:34 07:25 (2)	05:40		05:19	05:43	06:30 07:30 (2)	07:21	07:56 (3)	08:11	08:06	08:44
	17:05	18:01	18:51 23 07:34 (3)	20:44 39 08:04 (2)	21:33		22:03	21:48	20:55 37 08:07 (2)	19:45	24 08:20 (3)	18:37	16:43	16:29
21	08:36	07:44	06:42 07:11 (3)	06:32 07:24 (2)	05:38		05:19	05:44	06:32 07:30 (2)	07:22	07:56 (3)	08:13	08:08	08:45
	17:06	18:03	18:53 24 07:35 (3)	20:46 38 08:02 (2)	21:35		22:03	21:47	20:53 38 08:08 (2)	19:42	25 08:21 (3)	18:35	16:42	16:30
22	08:34	07:42	06:40 07:10 (3)	06:30 07:24 (2)	05:37		05:19	05:45	06:33 07:29 (2)	07:24	07:56 (3)	08:15	08:10	08:45
	17:08	18:05	18:55 24 07:34 (3)	20:48 38 08:02 (2)	21:36		22:03	21:46	20:51 38 08:07 (2)	19:40	23 08:19 (3)	18:33	16:41	16:30
23	08:33	07:40	06:37 07:10 (3)	06:28 07:24 (2)	05:36		05:20	05:47	06:35 07:29 (2)	07:26	07:56 (3)	08:17	08:11	08:46
	17:10	18:07	18:56 24 07:34 (3)	20:49 37 08:01 (2)	21:37		22:03	21:44	20:49 38 08:07 (2)	19:38	23 08:19 (3)	18:31	16:40	16:31
24	08:32	07:38	06:35 07:10 (3)	06:26 07:24 (2)	05:35		05:20	05:48	06:37 07:28 (2)	07:27	07:56 (3)	08:18	08:13	08:46
	17:12	18:09	18:58 24 07:34 (3)	20:51 36 08:00 (2)	21:39		22:04	21:43	20:46 39 08:07 (2)	19:35	22 08:18 (3)	18:29	16:39	16:31
25	08:31	07:36	06:33 07:10 (3)	06:24 07:25 (2)	05:33		05:20	05:50	06:38 07:28 (2)	07:29	07:56 (3)	07:20	08:15	08:47
	17:13	18:10	19:00 22 07:32 (3)	20:53 34 07:59 (2)	21:40		22:04	21:42	20:44 39 08:07 (2)	19:33	21 08:17 (3)	17:26	16:38	16:32
26	08:30	07:34	06:31 07:10 (3)	06:22 07:26 (2)	05:32		05:21	05:51	06:40 07:29 (2)	07:31	07:58 (3)	07:22	08:16	08:47
	17:15	18:12	19:02 21 07:31 (3)	20:54 33 07:59 (2)	21:41		22:04	21:40	20:42 38 08:07 (2)	19:31	18 08:16 (3)	17:24	16:37	16:33
27	08:28	07:32	06:28 07:11 (3)	06:20 07:27 (2)	05:31		05:21	05:52	06:42 07:28 (2)	07:32	07:59 (3)	07:24	08:18	08:47
	17:17	18:14	19:03 19 07:30 (3)	20:56 31 07:58 (2)	21:43		22:04	21:39	20:40 38 08:06 (2)	19:28	14 08:13 (3)	17:22	16:36	16:33
28	08:27	07:30	06:26 07:12 (3)	06:18 07:27 (2)	05:30		05:22	05:54	06:43 07:29 (2)	07:34	08:01 (3)	07:26	08:19	08:48
	17:19	18:16	19:05 15 07:27 (3)	20:58 30 07:57 (2)	21:44		22:03	21:37	20:38 36 08:05 (2)	19:26	9 08:10 (3)	17:21	16:35	16:34
29	08:25		07:24 08:14 (3)	06:16 07:28 (2)	05:29		05:22	05:55	06:45 07:28 (2)	07:36		07:27	08:21	08:48
	17:21		20:07 11 08:25 (3)	21:00 27 07:55 (2)	21:45		22:03	21:36	20:35 36 08:04 (2)	19:24		17:19	16:34	16:35
30	08:24		07:21 08:19 (3)	06:14 07:29 (2)	05:28		05:23	05:57	06:46 07:29 (2)	07:37		07:29	08:22	08:48
	17:22		20:08 1 08:20 (3)	21:01 24 07:53 (2)	21:47		22:03	21:34	20:33 35 08:04 (2)	19:21		17:17	16:33	16:36
31	08:22		07:19		05:27			05:58	06:48 07:29 (2)			07:31		08:48
	17:24		20:10		21:48			21:33	20:31 33 08:02 (2)			17:15		16:37
Potential sun hours	259	277	367	416	485		499	502	454	381		331	266	243
Total, worst case			285	779	50				722	408				
Sun reduction			0,33	0,42	0,43				0,42	0,36				
Oper. time red.			0,95	0,95	0,95				0,95	0,95				
Wind dir. red.			0,60	0,63	0,63				0,63	0,61				
Total reduction			0,19	0,25	0,25				0,25	0,21				
Total, real			54	193	13				179	85				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:36/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN131@145Shadow receptor: P - 3998JD89

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May		June		July		August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12		05:26	06:03 (1)	05:23	06:11 (1)	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03		21:49 24	06:27 (1)	22:03 21	06:32 (1)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10		05:26	06:03 (1)	05:24	06:11 (1)	06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05		21:50 24	06:27 (1)	22:03 21	06:32 (1)	21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08		05:25	06:04 (1)	05:25	06:11 (1)	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06		21:51 24	06:28 (1)	22:02 22	06:33 (1)	21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06		05:24	06:04 (1)	05:26	06:11 (1)	06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08		21:52 23	06:27 (1)	22:02 22	06:33 (1)	21:26	20:22	19:12	17:07	16:31
5	08:47	08:14	07:19	07:08	06:04		05:23	06:05 (1)	05:26	06:11 (1)	06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10		21:53 23	06:28 (1)	22:01 22	06:33 (1)	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02		05:23	06:05 (1)	05:27	06:11 (1)	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11		21:54 22	06:27 (1)	22:01 23	06:34 (1)	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01		05:22	06:06 (1)	05:28	06:11 (1)	06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13		21:55 22	06:28 (1)	22:00 23	06:34 (1)	21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59		05:22	06:05 (1)	05:29	06:11 (1)	06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15		21:56 22	06:27 (1)	22:00 23	06:34 (1)	21:19	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57		05:21	06:06 (1)	05:30	06:12 (1)	06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16		21:57 22	06:28 (1)	21:59 23	06:35 (1)	21:17	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55		05:21	06:06 (1)	05:31	06:11 (1)	06:14	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18		21:58 21	06:27 (1)	21:58 23	06:34 (1)	21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54		05:20	06:06 (1)	05:32	06:11 (1)	06:16	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19		21:58 21	06:27 (1)	21:57 23	06:34 (1)	21:13	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52		05:20	06:07 (1)	05:33	06:11 (1)	06:17	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21		21:59 21	06:28 (1)	21:57 24	06:35 (1)	21:11	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50		05:20	06:07 (1)	05:34	06:12 (1)	06:19	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23		22:00 21	06:28 (1)	21:56 24	06:36 (1)	21:09	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49		05:19	06:08 (1)	05:35	06:12 (1)	06:21	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24		22:00 20	06:28 (1)	21:55 24	06:36 (1)	21:07	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47		05:19	06:07 (1)	05:36	06:12 (1)	06:22	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26		22:01 20	06:27 (1)	21:54 24	06:36 (1)	21:05	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46		05:19	06:08 (1)	05:38	06:12 (1)	06:24	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27		22:01 19	06:27 (1)	21:53 23	06:35 (1)	21:03	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44	06:11 (1)	05:19	06:08 (1)	05:39	06:13 (1)	06:25	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29 7	06:18 (1)	22:02 20	06:28 (1)	21:52 22	06:35 (1)	21:01	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43	06:09 (1)	05:19	06:08 (1)	05:40	06:13 (1)	06:27	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30 10	06:19 (1)	22:02 20	06:28 (1)	21:51 22	06:35 (1)	20:59	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41	06:08 (1)	05:19	06:09 (1)	05:41	06:13 (1)	06:29	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32 13	06:21 (1)	22:03 20	06:29 (1)	21:49 22	06:35 (1)	20:57	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40	06:07 (1)	05:19	06:10 (1)	05:43	06:14 (1)	06:30	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33 15	06:22 (1)	22:03 19	06:29 (1)	21:48 21	06:35 (1)	20:55	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	05:39	06:06 (1)	05:19	06:10 (1)	05:44	06:15 (1)	06:32	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:35 17	06:23 (1)	22:03 19	06:29 (1)	21:47 19	06:34 (1)	20:53	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	05:37	06:04 (1)	05:19	06:10 (1)	05:45	06:15 (1)	06:34	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36 19	06:23 (1)	22:03 19	06:29 (1)	21:46 18	06:33 (1)	20:51	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	05:36	06:04 (1)	05:20	06:09 (1)	05:47	06:16 (1)	06:35	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	21:37 20	06:24 (1)	22:04 20	06:29 (1)	21:44 17	06:33 (1)	20:49	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35	06:04 (1)	05:20	06:10 (1)	05:48	06:18 (1)	06:37	07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	21:39 21	06:25 (1)	22:04 20	06:30 (1)	21:43 14	06:32 (1)	20:46	19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	05:34	06:03 (1)	05:20	06:10 (1)	05:50	06:19 (1)	06:38	07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	21:40 22	06:25 (1)	22:04 20	06:30 (1)	21:42 12	06:31 (1)	20:44	19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	05:32	06:03 (1)	05:21	06:10 (1)	05:51	06:20 (1)	06:40	07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	21:42 23	06:26 (1)	22:04 20	06:30 (1)	21:40 9	06:29 (1)	20:42	19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	05:31	06:03 (1)	05:21	06:10 (1)	05:52	06:24 (1)	06:42	07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21:43 23	06:26 (1)	22:04 20	06:30 (1)	21:39 2	06:26 (1)	20:40	19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	05:30	06:03 (1)	05:22	06:10 (1)	05:54		06:43	07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	21:44 23	06:26 (1)	22:04 20	06:30 (1)	21:37		20:38	19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	05:29	06:03 (1)	05:22	06:11 (1)	05:55		06:45	07:36	07:27	08:21	08:48
	17:21		20:07	21:00	21:45 23	06:26 (1)	22:03 20	06:31 (1)	21:36		20:36	19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	05:28	06:04 (1)	05:23	06:11 (1)	05:57		06:47	07:37	07:29	08:22	08:48
	17:22		20:09	21:01	21:47 23	06:27 (1)	22:03 21	06:32 (1)	21:34		20:33	19:22	17:17	16:33	16:36
31	08:22		07:19		05:27	06:04 (1)			05:58		06:48		07:31		08:48
	17:24		20:10		21:48 23	06:27 (1)			21:33		20:31		17:15		16:37
Potential sun hours	259	277	367	416	485		499		502		454	381	331	266	243
Total, worst case					282		627		543						
Sun reduction					0,43		0,39		0,41						
Oper. time red.					0,95		0,95		0,95						
Wind dir. red.					0,67		0,67		0,67						
Total reduction					0,27		0,25		0,26						
Total, real					77		156		140						

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:36/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN131@145Shadow receptor: Q - 3998JD85

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May		June		July		August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12		05:26		05:23		06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03		21:49	21	06:31 (1)	12	06:32 (1)	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10		05:26		06:10 (1)		06:20 (1)	21:31	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05		21:50	20	06:30 (1)	13	06:33 (1)	06:01	06:51	07:41	16:32
3	08:48	08:18	07:23	07:12	06:08		05:25		06:11 (1)		06:20 (1)	21:29	20:27	19:17	08:27
	16:40	17:30	18:21	20:15	21:06		21:51	20	06:31 (1)	14	06:34 (1)	06:03	06:53	07:42	16:31
4	08:47	08:16	07:21	07:10	06:06		05:24		06:11 (1)		06:19 (1)	21:28	20:24	19:15	08:28
	16:41	17:32	18:23	20:17	21:08		21:52	19	06:30 (1)	15	06:34 (1)	06:05	06:55	07:44	16:31
5	08:47	08:15	07:19	07:08	06:04		05:23		06:12 (1)		06:19 (1)	21:26	20:22	19:12	08:29
	16:43	17:33	18:25	20:19	21:10		21:53	18	06:30 (1)	16	06:35 (1)	06:06	06:56	07:46	16:30
6	08:47	08:13	07:16	07:05	06:02		05:23		06:12 (1)		06:19 (1)	21:24	20:20	19:10	08:31
	16:44	17:35	18:27	20:20	21:11		21:54	18	06:30 (1)	17	06:36 (1)	06:08	06:58	07:47	16:30
7	08:46	08:11	07:14	07:03	06:01		05:22		06:13 (1)		06:19 (1)	21:22	20:17	19:08	08:32
	16:45	17:37	18:29	20:22	21:13		21:55	17	06:30 (1)	18	06:37 (1)	06:09	07:00	07:49	16:29
8	08:46	08:09	07:12	07:01	05:59		05:22		06:13 (1)		06:19 (1)	21:21	20:15	19:05	08:33
	16:46	17:39	18:30	20:24	21:15		21:56	16	06:29 (1)	18	06:37 (1)	06:11	07:01	07:51	16:29
9	08:46	08:08	07:10	06:58	05:57		05:21		06:14 (1)		06:19 (1)	21:19	20:13	19:03	08:34
	16:48	17:41	18:32	20:26	21:16		21:57	15	06:29 (1)	19	06:38 (1)	06:12	07:03	07:52	16:29
10	08:45	08:06	07:07	06:56	05:55		05:21		06:14 (1)		06:18 (1)	21:17	20:11	19:01	16:59
	16:49	17:43	18:34	20:27	21:18		21:58	14	06:28 (1)	20	06:38 (1)	06:14	07:04	07:54	07:49
11	08:44	08:04	07:05	06:54	05:54		05:20		06:15 (1)		06:17 (1)	21:15	20:08	18:59	16:57
	16:51	17:45	18:36	20:29	21:19		21:58	13	06:28 (1)	21	06:38 (1)	06:16	07:06	07:56	07:51
12	08:44	08:02	07:03	06:52	05:52		05:20		06:16 (1)		06:17 (1)	21:13	20:06	18:56	16:56
	16:52	17:47	18:37	20:31	21:21		21:59	12	06:28 (1)	21	06:38 (1)	06:17	07:08	07:58	07:53
13	08:43	08:00	07:01	06:49	05:50	06:16 (1)	05:20		06:17 (1)		06:18 (1)	21:11	20:04	18:54	16:54
	16:54	17:48	18:39	20:32	21:23	6 06:22 (1)	22:00	11	06:28 (1)	22	06:40 (1)	06:19	07:09	07:59	07:54
14	08:42	07:58	06:58	06:47	05:49	06:15 (1)	05:19		06:18 (1)		06:18 (1)	21:09	20:01	18:52	16:53
	16:55	17:50	18:41	20:34	21:24	10 06:25 (1)	22:00	10	06:28 (1)	22	06:40 (1)	06:21	07:11	08:01	07:56
15	08:42	07:56	06:56	06:45	05:47	06:13 (1)	05:19		06:17 (1)		06:18 (1)	21:07	19:59	18:50	16:51
	16:57	17:52	18:43	20:36	21:26	13 06:26 (1)	22:01	10	06:27 (1)	22	06:40 (1)	06:22	07:13	08:03	07:58
16	08:41	07:54	06:54	06:43	05:46	06:12 (1)	05:19		06:18 (1)		06:18 (1)	21:05	19:57	18:48	16:50
	16:58	17:54	18:44	20:38	21:27	15 06:27 (1)	22:01	9	06:27 (1)	22	06:40 (1)	06:24	07:14	08:04	08:00
17	08:40	07:52	06:51	06:41	05:44	06:11 (1)	05:19		06:18 (1)		06:18 (1)	21:03	19:54	18:45	16:48
	17:00	17:56	18:46	20:39	21:29	18 06:29 (1)	22:02	9	06:27 (1)	22	06:40 (1)	06:25	07:16	08:06	08:01
18	08:39	07:50	06:49	06:39	05:43	06:09 (1)	05:19		06:19 (1)		06:17 (1)	21:01	19:52	18:43	16:47
	17:01	17:58	18:48	20:41	21:30	20 06:29 (1)	22:02	8	06:27 (1)	23	06:40 (1)	06:27	07:17	08:08	08:03
19	08:38	07:48	06:47	06:36	05:41	06:09 (1)	05:19		06:20 (1)		06:17 (1)	20:59	19:50	18:41	16:46
	17:03	18:00	18:50	20:43	21:32	20 06:29 (1)	22:03	8	06:28 (1)	23	06:40 (1)	06:29	07:19	08:10	08:05
20	08:37	07:46	06:44	06:34	05:40	06:09 (1)	05:19		06:20 (1)		06:18 (1)	20:57	19:47	18:39	16:44
	17:05	18:01	18:51	20:44	21:33	21 06:30 (1)	22:03	8	06:28 (1)	23	06:41 (1)	06:30	07:21	08:11	08:06
21	08:36	07:44	06:42	06:32	05:39	06:09 (1)	05:19		06:20 (1)		06:18 (1)	20:55	19:45	18:37	16:43
	17:06	18:03	18:53	20:46	21:35	22 06:31 (1)	22:03	8	06:28 (1)	23	06:41 (1)	06:32	07:22	08:13	08:08
22	08:35	07:42	06:40	06:30	05:37	06:08 (1)	05:19		06:20 (1)		06:18 (1)	20:53	19:43	18:35	16:42
	17:08	18:05	18:55	20:48	21:36	22 06:30 (1)	22:03	8	06:28 (1)	23	06:41 (1)	06:34	07:24	08:15	08:10
23	08:33	07:40	06:38	06:28	05:36	06:08 (1)	05:20		06:20 (1)		06:18 (1)	20:51	19:40	18:33	16:41
	17:10	18:07	18:56	20:49	21:37	23 06:31 (1)	22:04	8	06:28 (1)	22	06:40 (1)	06:35	07:26	08:17	08:11
24	08:32	07:38	06:35	06:26	05:35	06:08 (1)	05:20		06:21 (1)		06:19 (1)	20:49	19:38	18:31	16:40
	17:12	18:09	18:58	20:51	21:39	23 06:31 (1)	22:04	8	06:29 (1)	21	06:40 (1)	06:37	07:27	08:18	08:13
25	08:31	07:36	06:33	06:24	05:34	06:08 (1)	05:20		06:20 (1)		06:20 (1)	20:46	19:35	18:29	16:39
	17:13	18:11	19:00	20:53	21:40	23 06:31 (1)	22:04	9	06:29 (1)	20	06:40 (1)	06:38	07:29	07:20	08:15
26	08:30	07:34	06:31	06:22	05:32	06:08 (1)	05:21		06:20 (1)		06:20 (1)	20:44	19:33	17:27	16:38
	17:15	18:12	19:02	20:55	21:42	23 06:31 (1)	22:04	9	06:29 (1)	19	06:39 (1)	06:40	07:31	07:22	08:16
27	08:28	07:32	06:28	06:20	05:31	06:08 (1)	05:21		06:20 (1)		06:22 (1)	20:42	19:31	17:25	16:37
	17:17	18:14	19:03	20:56	21:43	23 06:31 (1)	22:04	10	06:30 (1)	17	06:39 (1)	06:42	07:32	07:24	08:18
28	08:27	07:30	06:26	06:18	05:30	06:08 (1)	05:22		06:20 (1)		06:23 (1)	20:40	19:28	17:23	16:36
	17:19	18:16	19:05	20:58	21:44	23 06:31 (1)	22:04	10	06:30 (1)	14	06:37 (1)	06:43	07:34	07:26	08:19
29	08:25		07:24	06:16	05:29	06:08 (1)	05:22		06:20 (1)		06:25 (1)	20:38	19:26	17:21	16:35
	17:21		20:07	21:00	21:45	23 06:31 (1)	22:03	11	06:31 (1)	12	06:37 (1)	06:45	07:36	07:27	08:21
30	08:24		07:21	06:14	05:28	06:10 (1)	05:23		06:20 (1)		06:26 (1)	20:36	19:24	17:19	16:34
	17:22		20:09	21:01	21:47	21 06:31 (1)	22:03	12	06:32 (1)	9	06:35 (1)	06:47	07:37	07:29	08:22
31	08:22		07:19		05:27	06:10 (1)					06:29 (1)	20:33	19:22	17:17	16:33
	17:24		20:10		21:48	21 06:31 (1)			05:58		06:31 (1)	06:48		07:31	
Potential sun hours	259	277	367	416	485		499		21:33	2		20:31		17:15	
Total, worst case						370		369	502		454	381	331	266	243
Sun reduction						0,43		0,39		565					
Oper. time red.						0,95		0,95		0,41					
Wind dir. red.						0,67		0,67		0,95					
Total reduction						0,27		0,25		0,67					
Total, real						100		91		0,26					
										146					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:36/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN131@145Shadow receptor: R - 3998JD92

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	05:26	05:58 (1)	05:23	06:03 (1)	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03	21:49 23	06:21 (1)	22:03 24	06:27 (1)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	05:26	05:58 (1)	05:24	06:04 (1)	06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05	21:50 23	06:21 (1)	22:03 24	06:28 (1)	21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08	05:25	05:59 (1)	05:25	06:04 (1)	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06	21:51 23	06:22 (1)	22:02 24	06:28 (1)	21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06	05:24	05:58 (1)	05:26	06:04 (1)	06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08	21:52 24	06:22 (1)	22:02 24	06:28 (1)	21:26	20:22	19:12	17:07	16:31
5	08:47	08:14	07:19	07:08	06:04	05:23	05:59 (1)	05:26	06:04 (1)	06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10	21:53 23	06:22 (1)	22:01 24	06:28 (1)	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02	05:23	05:58 (1)	05:27	06:05 (1)	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11	21:54 24	06:22 (1)	22:01 24	06:29 (1)	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01	05:22	05:59 (1)	05:28	06:05 (1)	06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13	21:55 24	06:23 (1)	22:00 24	06:29 (1)	21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59	05:22	05:59 (1)	05:29	06:05 (1)	06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15	21:56 24	06:23 (1)	22:00 24	06:29 (1)	21:19	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57	05:21	05:59 (1)	05:30	06:06 (1)	06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16	21:57 24	06:23 (1)	21:59 23	06:29 (1)	21:17	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55	05:21	05:59 (1)	05:31	06:05 (1)	06:14	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18	21:58 24	06:23 (1)	21:58 23	06:28 (1)	21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54	05:20	05:59 (1)	05:32	06:06 (1)	06:16	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19	21:58 24	06:23 (1)	21:57 22	06:28 (1)	21:13	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52	05:20	06:00 (1)	05:33	06:06 (1)	06:17	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21	21:59 23	06:23 (1)	21:57 22	06:28 (1)	21:11	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50	05:20	06:00 (1)	05:34	06:07 (1)	06:19	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23	22:00 24	06:24 (1)	21:56 22	06:29 (1)	21:09	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49	05:19	06:00 (1)	05:35	06:08 (1)	06:21	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24	22:00 24	06:24 (1)	21:55 21	06:29 (1)	21:07	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47	05:19	06:00 (1)	05:36	06:08 (1)	06:22	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26	22:01 23	06:23 (1)	21:54 20	06:28 (1)	21:05	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46	05:19	06:00 (1)	05:38	06:09 (1)	06:24	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27	22:01 24	06:24 (1)	21:53 19	06:28 (1)	21:03	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44	05:19	06:00 (1)	05:39	06:09 (1)	06:25	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29	22:02 24	06:24 (1)	21:52 18	06:27 (1)	21:01	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43	05:19	06:01 (1)	05:40	06:10 (1)	06:27	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30	22:02 23	06:24 (1)	21:51 17	06:27 (1)	20:59	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41	05:19	06:02 (1)	05:41	06:11 (1)	06:29	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32	22:03 23	06:25 (1)	21:49 15	06:26 (1)	20:57	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40	05:19	06:02 (1)	05:43	06:13 (1)	06:30	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33	22:03 23	06:25 (1)	21:48 13	06:26 (1)	20:55	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	05:39	05:19	06:02 (1)	05:44	06:14 (1)	06:32	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:35	22:03 23	06:25 (1)	21:47 10	06:24 (1)	20:53	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	05:37 06:04 (1)	05:19	06:02 (1)	05:45	06:16 (1)	06:34	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36 9 06:13 (1)	22:03 23	06:25 (1)	21:46 6	06:22 (1)	20:51	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	05:36 06:03 (1)	05:20	06:02 (1)	05:47		06:35	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	21:37 11 06:14 (1)	22:04 23	06:25 (1)	21:44		20:49	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35 06:02 (1)	05:20	06:03 (1)	05:48		06:37	07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	21:39 14 06:16 (1)	22:04 23	06:26 (1)	21:43		20:46	19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	05:34 06:01 (1)	05:20	06:02 (1)	05:50		06:38	07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	21:40 16 06:17 (1)	22:04 24	06:26 (1)	21:42		20:44	19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	05:32 06:00 (1)	05:21	06:02 (1)	05:51		06:40	07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	21:42 17 06:17 (1)	22:04 24	06:26 (1)	21:40		20:42	19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	05:31 05:59 (1)	05:21	06:03 (1)	05:52		06:42	07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21:43 19 06:18 (1)	22:04 24	06:27 (1)	21:39		20:40	19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	05:30 05:59 (1)	05:22	06:03 (1)	05:54		06:43	07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	21:44 20 06:19 (1)	22:04 23	06:26 (1)	21:37		20:38	19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	05:29 05:58 (1)	05:22	06:03 (1)	05:55		06:45	07:36	07:27	08:21	08:48
	17:21		20:07	21:00	21:45 21 06:19 (1)	22:03 24	06:27 (1)	21:36		20:36	19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	05:28 05:59 (1)	05:23	06:04 (1)	05:57		06:47	07:37	07:29	08:22	08:48
	17:22		20:08	21:01	21:47 21 06:20 (1)	22:03 24	06:28 (1)	21:34		20:33	19:22	17:17	16:33	16:36
31	08:22		07:19		05:27 05:59 (1)			05:58		06:48		07:31		08:48
	17:24		20:10		21:48 22 06:21 (1)			21:33		20:31		17:15		16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case					170	706	443					
Sun reduction					0,43	0,39	0,41					
Oper. time red.					0,95	0,95	0,95					
Wind dir. red.					0,67	0,67	0,67					
Total reduction					0,27	0,25	0,26					
Total, real					46	176	115					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:36/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN131@145Shadow receptor: S - 3998NA1

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	06:48 (2)	05:26	05:58 (1)	05:23	06:01 (1)	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03	17 07:05 (2)	21:49	20 06:18 (1)	22:03	26 06:27 (1)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	06:48 (2)	05:26	05:57 (1)	05:24	06:02 (1)	06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05	15 07:03 (2)	21:50	22 06:19 (1)	22:03	25 06:27 (1)	21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08	06:50 (2)	05:25	05:58 (1)	05:25	06:02 (1)	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06	12 07:02 (2)	21:51	22 06:20 (1)	22:02	25 06:27 (1)	21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06	06:52 (2)	05:24	05:57 (1)	05:26	06:02 (1)	06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08	8 07:00 (2)	21:52	23 06:20 (1)	22:02	25 06:27 (1)	21:26	20:22	19:12	17:07	16:31
5	08:47	08:14	07:19	07:08	06:04		05:23	05:56 (1)	05:26	06:02 (1)	06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10		21:53	24 06:20 (1)	22:01	25 06:27 (1)	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02		05:23	05:57 (1)	05:27	06:03 (1)	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11		21:54	24 06:21 (1)	22:01	24 06:27 (1)	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01		05:22	05:56 (1)	05:28	06:04 (1)	06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13		21:55	25 06:21 (1)	22:00	23 06:27 (1)	21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59		05:22	05:57 (1)	05:29	06:04 (1)	06:11	07:03 (2)	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15		21:56	24 06:21 (1)	22:00	23 06:27 (1)	21:19	4 07:07 (2)	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57		05:21	05:57 (1)	05:30	06:05 (1)	06:12	07:00 (2)	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16		21:57	25 06:22 (1)	21:59	22 06:27 (1)	21:17	10 07:10 (2)	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55		05:21	05:56 (1)	05:31	06:04 (1)	06:14	06:58 (2)	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18		21:58	26 06:22 (1)	21:58	22 06:26 (1)	21:15	13 07:11 (2)	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54		05:20	05:57 (1)	05:32	06:05 (1)	06:16	06:58 (2)	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19		21:58	25 06:22 (1)	21:57	21 06:26 (1)	21:13	15 07:13 (2)	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52		05:20	05:57 (1)	05:33	06:06 (1)	06:17	06:56 (2)	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21		21:59	26 06:23 (1)	21:57	20 06:26 (1)	21:11	17 07:13 (2)	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50		05:20	05:58 (1)	05:34	06:07 (1)	06:19	06:56 (2)	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23		22:00	25 06:23 (1)	21:56	19 06:26 (1)	21:09	18 07:14 (2)	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49		05:19	05:57 (1)	05:35	06:08 (1)	06:21	06:55 (2)	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24		22:00	26 06:23 (1)	21:55	18 06:26 (1)	21:07	19 07:14 (2)	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47		05:19	05:57 (1)	05:36	06:09 (1)	06:22	06:55 (2)	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26		22:01	26 06:23 (1)	21:54	16 06:25 (1)	21:05	20 07:15 (2)	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46		05:19	05:57 (1)	05:38	06:10 (1)	06:24	06:54 (2)	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27		22:01	26 06:23 (1)	21:53	14 06:24 (1)	21:03	20 07:14 (2)	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44		05:19	05:57 (1)	05:39	06:11 (1)	06:25	06:54 (2)	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29		22:02	27 06:24 (1)	21:52	12 06:23 (1)	21:01	20 07:14 (2)	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43		05:19	05:58 (1)	05:40	06:13 (1)	06:27	06:54 (2)	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30		22:02	26 06:24 (1)	21:51	8 06:21 (1)	20:59	19 07:13 (2)	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41		05:19	05:58 (1)	05:41		06:29	06:56 (2)	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32		22:03	26 06:24 (1)	21:49		20:57	17 07:13 (2)	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	06:58 (2)	05:40	05:19	05:59 (1)	05:43		06:30	06:57 (2)	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	4 07:02 (2)	21:33	22:03	26 06:25 (1)	21:48		20:55	14 07:11 (2)	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	06:56 (2)	05:39	05:19	05:59 (1)	05:44		06:32	06:59 (2)	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	9 07:05 (2)	21:35	22:03	26 06:25 (1)	21:47		20:53	11 07:10 (2)	19:42	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	06:54 (2)	05:37	05:19	05:59 (1)	05:45		06:33	07:00 (2)	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	12 07:06 (2)	21:36	22:03	26 06:25 (1)	21:46		20:51	8 07:08 (2)	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	06:52 (2)	05:36	05:20	05:59 (1)	05:47		06:35	07:02 (2)	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	15 07:07 (2)	21:37	22:04	26 06:25 (1)	21:44		20:49	3 07:05 (2)	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	06:50 (2)	05:35	05:20	06:00 (1)	05:48		06:37		07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	17 07:07 (2)	21:39	22:04	26 06:26 (1)	21:43		20:46		19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	06:48 (2)	05:34	06:05 (1)	05:20	06:00 (1)	05:50		06:38		07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	20 07:08 (2)	21:40	4 06:09 (1)	22:04	26 06:26 (1)	21:42		20:44		19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	06:48 (2)	05:32	06:03 (1)	05:21	06:59 (1)	05:51		06:40		07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	20 07:08 (2)	21:42	9 06:12 (1)	22:04	27 06:26 (1)	21:40		20:42		19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	06:47 (2)	05:31	06:01 (1)	05:21	06:00 (1)	05:52		06:42		07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	20 07:07 (2)	21:43	13 06:14 (1)	22:04	26 06:26 (1)	21:39		20:40		19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	06:47 (2)	05:30	06:00 (1)	05:22	06:00 (1)	05:54		06:43		07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	20 07:07 (2)	21:44	15 06:15 (1)	22:04	26 06:26 (1)	21:37		20:38		19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	06:47 (2)	05:29	05:59 (1)	05:22	06:01 (1)	05:55		06:45		07:36	07:27	08:21	08:48
	17:21		20:07	21:00	19 07:06 (2)	21:45	17 06:16 (1)	22:03	26 06:27 (1)	21:36		20:35		19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	06:47 (2)	05:28	05:59 (1)	05:23	06:01 (1)	05:57		06:47		07:37	07:29	08:22	08:48
	17:22		20:08	21:01	19 07:06 (2)	21:47	18 06:17 (1)	22:03	26 06:27 (1)	21:34		20:33		19:22	17:17	16:33	16:36
31	08:22		07:19			05:27	05:58 (1)			05:58		06:48			07:31		08:48
	17:24		20:10			21:48	20 06:18 (1)			21:33		20:31			17:15		16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case				175	148	755	368	228				
Sun reduction				0,42	0,43	0,39	0,41	0,42				
Oper. time red.				0,95	0,95	0,95	0,95	0,95				
Wind dir. red.				0,64	0,66	0,67	0,67	0,64				
Total reduction				0,25	0,27	0,25	0,26	0,25				
Total, real				44	40	188	96	58				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:36/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN131@145Shadow receptor: T - 3997MR17

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January			February			March	April	May	June	July	August	September	October	November			December		
1	08:48		09:40 (4)	08:21		14:52 (1)	07:27	07:17	06:12	05:26	05:23	06:00	06:50	07:39	07:33			08:24		14:16 (1)
	16:38	63	15:16 (1)	17:26	25	15:17 (1)	18:18	20:12	21:03	21:49	22:03	21:31	20:29	19:19	17:13			16:32	47	15:03 (1)
2	08:48		09:41 (4)	08:19		14:55 (1)	07:25	07:14	06:10	05:25	05:24	06:01	06:51	07:41	07:35			08:25		14:17 (1)
	16:39	62	15:16 (1)	17:28	20	15:15 (1)	18:20	20:14	21:05	21:50	22:03	21:29	20:26	19:17	17:11			16:32	47	15:04 (1)
3	08:48		09:43 (4)	08:18		15:00 (1)	07:23	07:12	06:08	05:25	05:25	06:03	06:53	07:42	07:36			08:27		09:33 (4)
	16:40	60	15:17 (1)	17:30	13	15:13 (1)	18:21	20:15	21:06	21:51	22:02	21:28	20:24	19:14	17:09			16:31	52	15:04 (1)
4	08:47		09:43 (4)	08:16			07:21	07:10	06:06	05:24	05:25	06:04	06:55	07:44	07:38			08:28		09:32 (4)
	16:41	60	15:17 (1)	17:31			18:23	20:17	21:08	21:52	22:02	21:26	20:22	19:12	17:07			16:30	55	15:04 (1)
5	08:47		09:44 (4)	08:14			07:19	07:07	06:04	05:23	05:26	06:06	06:56	07:46	07:40			08:29		09:31 (4)
	16:43	59	15:18 (1)	17:33			18:25	20:19	21:10	21:53	22:01	21:24	20:20	19:10	17:06			16:30	57	15:04 (1)
6	08:47		09:45 (4)	08:13			07:16	07:05	06:02	05:23	05:27	06:08	06:58	07:47	07:42			08:31		09:31 (4)
	16:44	58	15:18 (1)	17:35			18:27	20:20	21:11	21:54	22:01	21:22	20:17	19:08	17:04			16:30	58	15:04 (1)
7	08:46		09:46 (4)	08:11			07:14	07:03	06:00	05:22	05:28	06:09	06:59	07:49	07:44			08:32		09:31 (4)
	16:45	57	15:19 (1)	17:37			18:28	20:22	21:13	21:55	22:00	21:20	20:15	19:05	17:02			16:29	59	15:05 (1)
8	08:46		09:47 (4)	08:09			07:12	07:01	05:59	05:21	05:29	06:11	07:01	07:51	07:45		14:29 (1)	08:33		09:31 (4)
	16:46	55	15:19 (1)	17:39			18:30	20:24	21:15	21:56	22:00	21:19	20:13	19:03	17:00	14	14:43 (1)	16:29	60	15:05 (1)
9	08:45		09:50 (4)	08:08			07:10	06:58	05:57	05:21	05:30	06:12	07:03	07:52	07:47		14:26 (1)	08:34		09:31 (4)
	16:48	51	15:20 (1)	17:41			18:32	20:26	21:16	21:57	21:59	21:17	20:10	19:01	16:59	20	14:46 (1)	16:28	60	15:05 (1)
10	08:45		14:34 (1)	08:06			07:07	06:56	05:55	05:20	05:31	06:14	07:04	07:54	07:49		14:23 (1)	08:35		09:31 (4)
	16:49	47	15:21 (1)	17:43			18:34	20:27	21:18	21:58	21:58	21:15	20:08	18:59	16:57	25	14:48 (1)	16:28	61	15:06 (1)
11	08:44		14:34 (1)	08:04			07:05	06:54	05:54	05:20	05:32	06:16	07:06	07:56	07:51		14:21 (1)	08:37		09:31 (4)
	16:51	47	15:21 (1)	17:45			18:36	20:29	21:19	21:58	21:57	21:13	20:06	18:56	16:56	29	14:50 (1)	16:28	62	15:06 (1)
12	08:44		14:35 (1)	08:02			07:03	06:52	05:52	05:20	05:33	06:17	07:08	07:57	07:53		14:20 (1)	08:38		09:32 (4)
	16:52	46	15:21 (1)	17:46			18:37	20:31	21:21	21:59	21:56	21:11	20:03	18:54	16:54	31	14:51 (1)	16:28	62	15:07 (1)
13	08:43		14:35 (1)	08:00			07:00	06:49	05:50	05:19	05:34	06:19	07:09	07:59	07:54		14:19 (1)	08:39		09:32 (4)
	16:53	46	15:21 (1)	17:48			18:39	20:32	21:23	22:00	21:56	21:09	20:01	18:52	16:53	34	14:53 (1)	16:28	62	15:07 (1)
14	08:42		14:35 (1)	07:58			06:58	06:47	05:49	05:19	05:35	06:20	07:11	08:01	07:56		14:18 (1)	08:40		09:32 (4)
	16:55	47	15:22 (1)	17:50			18:41	20:34	21:24	22:00	21:55	21:07	19:59	18:50	16:51	36	14:54 (1)	16:28	62	15:08 (1)
15	08:41		14:37 (1)	07:56			06:56	06:45	05:47	05:19	05:36	06:22	07:13	08:03	07:58		14:17 (1)	08:40		09:32 (4)
	16:57	46	15:23 (1)	17:52			18:43	20:36	21:26	22:01	21:54	21:05	19:56	18:47	16:50	38	14:55 (1)	16:28	62	15:07 (1)
16	08:41		14:36 (1)	07:54			06:54	06:43	05:46	05:19	05:38	06:24	07:14	08:04	08:00		14:17 (1)	08:41		09:32 (4)
	16:58	46	15:22 (1)	17:54			18:44	20:37	21:27	22:01	21:53	21:03	19:54	18:45	16:48	39	14:56 (1)	16:28	63	15:08 (1)
17	08:40		14:37 (1)	07:52			06:51	06:41	05:44	05:19	05:39	06:25	07:16	08:06	08:01		14:16 (1)	08:42		09:33 (4)
	17:00	46	15:23 (1)	17:56			18:46	20:39	21:29	22:02	21:52	21:01	19:52	18:43	16:47	41	14:57 (1)	16:28	62	15:08 (1)
18	08:39		14:37 (1)	07:50			06:49	06:38	05:43	05:19	05:40	06:27	07:17	08:08	08:03		14:16 (1)	08:43		09:33 (4)
	17:01	46	15:23 (1)	17:58			18:48	20:41	21:30	22:02	21:51	20:59	19:49	18:41	16:46	41	14:57 (1)	16:29	63	15:09 (1)
19	08:38		14:38 (1)	07:48			06:47	06:36	05:41	05:19	05:41	06:28	07:19	08:10	08:05		14:15 (1)	08:44		09:33 (4)
	17:03	45	15:23 (1)	17:59			18:50	20:43	21:32	22:03	21:49	20:57	19:47	18:39	16:44	42	14:57 (1)	16:29	63	15:09 (1)
20	08:37		14:39 (1)	07:46			06:44	06:34	05:40	05:19	05:43	06:30	07:21	08:11	08:06		14:15 (1)	08:44		09:34 (4)
	17:05	44	15:23 (1)	18:01			18:51	20:44	21:33	22:03	21:48	20:55	19:45	18:37	16:43	43	14:58 (1)	16:29	63	15:10 (1)
21	08:36		14:40 (1)	07:44			06:42	06:32	05:38	05:19	05:44	06:32	07:22	08:13	08:08		14:15 (1)	08:45		09:35 (4)
	17:06	44	15:24 (1)	18:03			18:53	20:46	21:35	22:03	21:47	20:53	19:42	18:35	16:42	44	14:59 (1)	16:30	62	15:10 (1)
22	08:34		14:40 (1)	07:42			06:40	06:30	05:37	05:19	05:45	06:33	07:24	08:15	08:10		14:15 (1)	08:45		09:35 (4)
	17:08	43	15:23 (1)	18:05			18:55	20:48	21:36	22:03	21:46	20:51	19:40	18:33	16:41	44	14:59 (1)	16:30	62	15:10 (1)
23	08:33		14:41 (1)	07:40			06:37	06:28	05:36	05:20	05:47	06:35	07:26	08:17	08:11		14:15 (1)	08:46		09:35 (4)
	17:10	42	15:23 (1)	18:07			18:56	20:49	21:37	22:04	21:44	20:49	19:38	18:31	16:40	45	15:00 (1)	16:31	63	15:11 (1)
24	08:32		14:42 (1)	07:38			06:35	06:26	05:35	05:20	05:48	06:37	07:27	08:18	08:13		14:14 (1)	08:46		09:36 (4)
	17:12	41	15:23 (1)	18:09			18:58	20:51	21:39	22:04	21:43	20:46	19:35	18:28	16:38	46	15:00 (1)	16:31	63	15:12 (1)
25	08:31		14:42 (1)	07:36			06:33	06:24	05:33	05:20	05:49	06:38	07:29	07:20	08:15		14:15 (1)	08:47		09:36 (4)
	17:13	41	15:23 (1)	18:10			19:00	20:53	21:40	22:04	21:42	20:44	19:33	17:26	16:37	46	15:01 (1)	16:32	63	15:12 (1)
26	08:30		14:44 (1)	07:34			06:30	06:22	05:32	05:21	05:51	06:40	07:31	07:22	08:16		14:15 (1)	08:47		09:37 (4)
	17:15	39	15:23 (1)	18:12			19:02	20:54	21:41	22:04	21:40	20:42	19:31	17:24	16:36	46	15:01 (1)	16:32	63	15:12 (1)
27	08:28		14:44 (1)	07:32			06:28	06:20	05:31	05:21	05:52	06:42	07:32	07:24	08:18		14:16 (1)	08:47		09:38 (4)
	17:17	38	15:22 (1)	18:14			19:03	20:56	21:43	22:04	21:39	20:40	19:28	17:22	16:36	46	15:02 (1)	16:33	63	15:14 (1)
28	08:27		14:46 (1)	07:30			06:26	06:18	05:30	05:21	05:54	06:43	07:34	07:26	08:19		14:15 (1)	08:48		09:39 (4)
	17:19	36	15:22 (1)	18:16			19:05	20:58	21:44	22:03	21:37	20:38	19:26	17:20	16:35	47	15:02 (1)	16:34	62	15:14 (1)
29	08:25		14:47 (1)				07:24	06:16	05:29	05:22	05:55	06:45	07:35	07:27	08:21		14:16 (1)	08:48		09:39 (4)
	17:20	34	15:21 (1)				20:07	21:00	21:45	22:03	21:36	20:35	19:24	17:19	16:34	46	15:02 (1)	16:35	62	15:14 (1)
30	08:24		14:48 (1)				07:21	06:14	05:28	05:23	05:57	06:46	07:37	07:29	08:22		14:17 (1)	08:48		09:40 (4)
	17:22	31	15:19 (1)				20:08	21:01	21:47	22:03	21:34	20:33	19:21	17:17	16:33	46	15:03 (1)	16:36	62	15:15 (1)
31	08:22		14:51 (1)				07:19		05:27		05:58	06:48		07:31				08:48		09:39 (4)
	17:24	28	15:19 (1)				20:10		21:48		21:33	20:31		17:15				16:37	63	15:15 (1)
Potential sun hours	259			277			367	416	485	499	502	454	381	331	266			243		
Total, worst case		1448			58											889			1868	
Sun reduction		0,24			0,30											0,24			0,20	
Oper. time red.		0,95			0,95											0,95			0,95	
Wind dir. red.		0,69			0,70											0,70			0,67	
Total reduction		0,16			0,20											0,16			0,13	
Total, real		225			12											138			240	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:36/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN131@145Shadow receptor: U - 3945LA4

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December	
1	08:48	13:57 (3)	08:21	16:15 (2)	07:27	17:36 (1)	07:17	06:12	05:26	05:23	06:00	06:50		07:39	18:11 (1)	07:33	15:44 (2)	08:24	
	16:38 22	14:19 (3)	17:26 28	16:43 (2)	18:18 14	17:50 (1)	20:12	21:03	21:49	22:03	21:31	20:29		19:19 18	18:29 (1)	17:13 33	16:17 (2)	16:32	
2	08:48	13:58 (3)	08:19	16:14 (2)	07:25	17:35 (1)	07:14	06:10	05:25	05:24	06:01	06:51		07:40	18:10 (1)	07:35	15:43 (2)	08:25	
	16:39 21	14:19 (3)	17:28 30	16:44 (2)	18:19 17	17:52 (1)	20:13	21:05	21:50	22:02	21:29	20:26		19:17 21	18:31 (1)	17:11 34	16:17 (2)	16:32	
3	08:48	14:00 (3)	08:18	16:14 (2)	07:23	17:33 (1)	07:12	06:08	05:25	05:25	06:03	06:53		07:42	18:08 (1)	07:36	15:42 (2)	08:27	
	16:40 19	14:19 (3)	17:30 31	16:45 (2)	18:21 20	17:53 (1)	20:15	21:06	21:51	22:02	21:27	20:24		19:14 22	18:30 (1)	17:09 34	16:16 (2)	16:31	
4	08:47	14:01 (3)	08:16	16:14 (2)	07:21	17:32 (1)	07:10	06:06	05:24	05:25	06:04	06:55		07:44	18:07 (1)	07:38	15:43 (2)	08:28	
	16:41 17	14:18 (3)	17:31 32	16:46 (2)	18:23 22	17:54 (1)	20:17	21:08	21:52	22:02	21:26	20:22		19:12 24	18:31 (1)	17:07 33	16:16 (2)	16:30	
5	08:47	14:03 (3)	08:14	16:13 (2)	07:18	17:31 (1)	07:07	06:04	05:23	05:26	06:06	06:56		07:45	18:07 (1)	07:40	15:43 (2)	08:29	13:55 (3)
	16:42 15	14:18 (3)	17:33 33	16:46 (2)	18:25 24	17:55 (1)	20:19	21:10	21:53	22:01	21:24	20:20		19:10 24	18:31 (1)	17:06 33	16:16 (2)	16:30 4	13:59 (3)
6	08:47	14:05 (3)	08:13	16:13 (2)	07:16	17:30 (1)	07:05	06:02	05:23	05:27	06:08	06:58		07:47	18:06 (1)	07:42	15:43 (2)	08:31	13:52 (3)
	16:44 11	14:16 (3)	17:35 33	16:46 (2)	18:27 24	17:54 (1)	20:20	21:11	21:54	22:01	21:22	20:17		19:08 24	18:30 (1)	17:04 33	16:16 (2)	16:29 10	14:02 (3)
7	08:46	14:09 (3)	08:11	16:13 (2)	07:14	17:30 (1)	07:03	06:00	05:22	05:28	06:09	06:59		07:49	18:06 (1)	07:44	15:44 (2)	08:32	13:51 (3)
	16:45 5	14:14 (3)	17:37 33	16:46 (2)	18:28 24	17:54 (1)	20:22	21:13	21:55	22:00	21:20	20:15		19:05 24	18:30 (1)	17:02 31	16:15 (2)	16:29 13	14:04 (3)
8	08:46		08:09	16:14 (2)	07:12	17:30 (1)	07:01	05:59	05:21	05:29	06:11	07:01		07:51	18:06 (1)	07:45	15:44 (2)	08:33	13:49 (3)
	16:46		17:39 33	16:47 (2)	18:30 24	17:54 (1)	20:24	21:14	21:56	21:59	21:19	20:13		19:03 24	18:30 (1)	17:00 31	16:15 (2)	16:29 17	14:06 (3)
9	08:45		08:07	16:14 (2)	07:10	17:30 (1)	06:58	05:57	05:21	05:30	06:12	07:03		07:52	18:06 (1)	07:47	15:45 (2)	08:34	13:48 (3)
	16:48		17:41 33	16:47 (2)	18:32 24	17:54 (1)	20:25	21:16	21:57	21:59	21:17	20:10		19:01 23	18:29 (1)	16:59 29	16:14 (2)	16:28 19	14:07 (3)
10	08:45		08:06	16:14 (2)	07:07	17:30 (1)	06:56	05:55	05:20	05:31	06:14	07:04		07:54	18:06 (1)	07:49	15:46 (2)	08:35	13:48 (3)
	16:49		17:43 33	16:47 (2)	18:34 23	17:53 (1)	20:27	21:18	21:57	21:58	21:15	20:08		18:59 21	18:27 (1)	16:57 28	16:14 (2)	16:28 20	14:08 (3)
11	08:44		08:04	16:14 (2)	07:05	17:31 (1)	06:54	05:53	05:20	05:32	06:16	07:06		07:56	18:07 (1)	07:51	15:47 (2)	08:37	13:47 (3)
	16:50		17:45 33	16:47 (2)	18:35 21	17:52 (1)	20:29	21:19	21:58	21:57	21:13	20:06		18:56 19	18:26 (1)	16:56 26	16:13 (2)	16:28 22	14:09 (3)
12	08:44		08:02	16:15 (2)	07:03	17:32 (1)	06:52	05:52	05:20	05:33	06:17	07:08		07:57	18:08 (1)	07:52	15:48 (2)	08:38	13:47 (3)
	16:52		17:46 31	16:46 (2)	18:37 19	17:51 (1)	20:31	21:21	21:59	21:56	21:11	20:03		18:54 17	18:25 (1)	16:54 24	16:12 (2)	16:28 23	14:10 (3)
13	08:43		08:00	16:15 (2)	07:00	17:33 (1)	06:49	05:50	05:19	05:34	06:19	07:09		07:59	18:10 (1)	07:54	15:49 (2)	08:39	13:48 (3)
	16:53		17:48 31	16:46 (2)	18:39 16	17:49 (1)	20:32	21:22	22:00	21:56	21:09	20:01		18:52 12	18:22 (1)	16:52 22	16:11 (2)	16:28 24	14:12 (3)
14	08:42		07:58	16:16 (2)	06:58	17:35 (1)	06:47	05:49	05:19	05:35	06:20	07:11		08:01	18:14 (1)	07:56	15:51 (2)	08:40	13:47 (3)
	16:55		17:50 29	16:45 (2)	18:41 12	17:47 (1)	20:34	21:24	22:00	21:55	21:07	19:59		18:50 5	18:19 (1)	16:51 19	16:10 (2)	16:28 24	14:11 (3)
15	08:41		07:56	16:17 (2)	06:56	17:39 (1)	06:45	05:47	05:19	05:36	06:22	07:12		08:03		07:58	15:53 (2)	08:40	13:47 (3)
	16:56		17:52 27	16:44 (2)	18:43 4	17:43 (1)	20:36	21:26	22:01	21:54	21:05	19:56		18:47		16:50 15	16:08 (2)	16:28 25	14:12 (3)
16	08:41		07:54	16:19 (2)	06:54		06:43	05:46	05:19	05:37	06:24	07:14		08:04		08:00	15:56 (2)	08:41	13:47 (3)
	16:58		17:54 24	16:43 (2)	18:44		20:37	21:27	22:01	21:53	21:03	19:54		18:45		16:48 10	16:06 (2)	16:28 26	14:13 (3)
17	08:40		07:52	16:20 (2)	06:51		06:41	05:44	05:19	05:39	06:25	07:16		08:06		08:01		08:42	13:48 (3)
	17:00		17:56 22	16:42 (2)	18:46		20:39	21:29	22:02	21:52	21:01	19:52		18:43		16:47		16:28 26	14:14 (3)
18	08:39		07:50	16:23 (2)	06:49		06:38	05:43	05:19	05:40	06:27	07:17		08:08		08:03		08:43	13:48 (3)
	17:01		17:58 17	16:40 (2)	18:48		20:41	21:30	22:02	21:50	20:59	19:49		18:41		16:45		16:28 27	14:15 (3)
19	08:38		07:48	16:25 (2)	06:47		06:36	05:41	05:19	05:41	06:28	07:19		08:10		08:05		08:44	13:48 (3)
	17:03		17:59 13	16:38 (2)	18:49		20:43	21:32	22:02	21:49	20:57	19:47		18:39		16:44		16:29 27	14:15 (3)
20	08:37		07:46		06:44		06:34	05:40	05:19	05:43	06:30	07:21		08:11		08:06		08:44	13:49 (3)
	17:05		18:01		18:51		20:44	21:33	22:03	21:48	20:55	19:45		18:37		16:43		16:29 27	14:16 (3)
21	08:36		07:44		06:42		06:32	05:38	05:19	05:44	06:32	07:22		08:13		08:08		08:45	13:50 (3)
	17:06		18:03		18:53		20:46	21:35	22:03	21:47	20:53	19:42		18:35		16:42		16:30 27	14:17 (3)
22	08:34		07:42		06:40		06:30	05:37	05:19	05:45	06:33	07:24		08:15	16:58 (2)	08:10		08:45	13:50 (3)
	17:08		18:05		18:55		20:48	21:36	22:03	21:46	20:51	19:40		18:33 6	17:04 (2)	16:41		16:30 27	14:17 (3)
23	08:33		07:40		06:37		06:28	05:36	05:19	05:47	06:35	07:26		08:17	16:54 (2)	08:11		08:46	13:50 (3)
	17:10		18:07		18:56		20:49	21:37	22:03	21:44	20:48	19:38		18:30 14	17:08 (2)	16:39		16:31 27	14:17 (3)
24	08:32		07:38		06:35		06:26	05:35	05:20	05:48	06:37	07:27		08:18	16:51 (2)	08:13		08:46	13:51 (3)
	17:11		18:09		18:58		20:51	21:39	22:04	21:43	20:46	19:35		18:28 19	17:10 (2)	16:38		16:31 27	14:18 (3)
25	08:31		07:36		06:33		06:24	05:33	05:20	05:49	06:38	07:29		07:20	15:49 (2)	08:15		08:47	13:51 (3)
	17:13		18:10		19:00		20:53	21:40	22:04	21:42	20:44	19:33		17:26 23	16:12 (2)	16:37		16:32 27	14:18 (3)
26	08:29	16:23 (2)	07:34		06:30		06:22	05:32	05:20	05:51	06:40	07:30		07:22	15:48 (2)	08:16		08:47	13:52 (3)
	17:15 10	16:33 (2)	18:12		19:02		20:54	21:41	22:04	21:40	20:42	19:31		17:24 25	16:13 (2)	16:36		16:32 26	14:18 (3)
27	08:28	16:20 (2)	07:32		06:28		06:20	05:31	05:21	05:52	06:41	07:32		07:24	15:46 (2)	08:18		08:47	13:52 (3)
	17:17 15	16:35 (2)	18:14		19:03		20:56	21:43	22:04	21:39	20:40	19:28		17:22 28	16:14 (2)	16:35		16:33 26	14:18 (3)
28	08:27	16:19 (2)	07:29	17:39 (1)	06:26		06:18	05:30	05:21	05:54	06:43	07:34		07:26	15:46 (2)	08:19		08:47	13:54 (3)
	17:19 19	16:38 (2)	18:16 9	17:48 (1)	19:05		20:58	21:44	22:03	21:37	20:38	19:26		17:20 29	16:15 (2)	16:35		16:34 25	14:19 (3)
29	08:25	16:17 (2)			07:23		06:16	05:29	05:22	05:55	06:45	07:35	18:17 (1)	07:27	15:45 (2)	08:21		08:48	13:55 (3)
	17:20 22	16:39 (2)			20:07		20:59	21:45	22:03	21:36	20:35	19:24 10	18:27 (1)	17:18 30	16:15 (2)	16:34		16:35 24	14:19 (3)
30	08:24	16:16 (2)			07:21		06:14	05:28	05:23	05:57	06:46	07:37	18:13 (1)	07:29	15:44 (2)	08:22		08:48	13:56 (3)
	17:22 24	16:40 (2)			20:08		21:01	21:46	22:03	21:34	20:33	19:21 15	18:28 (1)	17:17 32	16:16 (2)	16:33		16:36 24	14:20 (3)
31	08:22	16:16 (2)			07:19			05:27		05:58	06:48			07:31	15:44 (2)			08:48	13:56 (3)
	17:24 26	16:42 (2)			20:10			21:48		21:32	20:31			17:15 32	16:16 (2)			16:37 23	14:19 (3)
Potential sun hours	259		277		367		416	485	499	502	454	381		331		266		243	
Total, worst case	226		555		288							25		516		435		617	
Sun reduction	0,24		0,30		0,33							0,36		0,34		0,24		0,20	
Oper. time red.	0,95		0,95		0,95							0,95		0,95		0,95		0,95	
Wind dir. red.	0,68		0,67		0,64							0,64		0,66		0,67		0,68	
Total reduction	0,15		0,19		0,20							0,22		0,21		0,15		0,13	
Total, real	35		107		58							6		108		66		82	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:36/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN131@145Shadow receptor: V - 3998JD90

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May		June		July		August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12		05:26		05:23		06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03		21:49	24	06:26 (1)	22	06:09 (1)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10		05:26		06:02 (1)		05:24	06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05		21:50	24	06:26 (1)	22	06:03 (1)	21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08		05:25		06:03 (1)		05:25	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06		21:51	23	06:26 (1)	22	06:02 (1)	21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06		05:24		06:03 (1)		05:26	06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08		21:52	23	06:26 (1)	23	06:02 (1)	21:26	20:22	19:12	17:07	16:31
5	08:47	08:14	07:19	07:08	06:04		05:23		06:03 (1)		05:26	06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10		21:53	24	06:27 (1)	23	06:01 (1)	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02		05:23		06:03 (1)		05:27	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11		21:54	23	06:26 (1)	24	06:01 (1)	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01		05:22		06:04 (1)		05:28	06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13		21:55	23	06:27 (1)	23	06:00 (1)	21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59		05:22		06:04 (1)		05:29	06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15		21:56	22	06:26 (1)	23	06:00 (1)	21:19	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57		05:21		06:04 (1)		05:30	06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16		21:57	23	06:27 (1)	24	05:59 (1)	21:17	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55		05:21		06:04 (1)		05:31	06:14	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18		21:58	22	06:26 (1)	24	05:58 (1)	21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54		05:20		06:04 (1)		05:32	06:16	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19		21:58	23	06:27 (1)	24	05:57 (1)	21:13	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52		05:20		06:05 (1)		05:33	06:17	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21		21:59	22	06:27 (1)	23	05:57 (1)	21:11	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50		05:20		06:06 (1)		05:34	06:19	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23		22:00	21	06:27 (1)	23	05:56 (1)	21:09	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49		05:19		06:06 (1)		05:35	06:21	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24		22:00	21	06:27 (1)	23	05:55 (1)	21:07	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47		05:19		06:05 (1)		05:36	06:22	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26		22:01	22	06:27 (1)	23	05:54 (1)	21:05	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46		05:19		06:06 (1)		05:38	06:24	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27		22:01	21	06:27 (1)	23	05:53 (1)	21:03	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44		05:19		06:06 (1)		05:39	06:25	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29		22:02	21	06:27 (1)	22	05:52 (1)	21:01	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43		05:19		06:06 (1)		05:40	06:27	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30	7	06:16 (1)	21	06:27 (1)	21	05:51 (1)	20:59	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41		06:08 (1)		06:07 (1)		05:41	06:29	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32	10	06:18 (1)	21	06:28 (1)	21	05:49 (1)	20:57	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40		06:07 (1)		06:07 (1)		05:43	06:30	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33	13	06:20 (1)	21	06:28 (1)	19	05:48 (1)	20:55	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	05:39		06:06 (1)		06:08 (1)		05:44	06:32	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:35	15	06:21 (1)	20	06:28 (1)	18	05:47 (1)	20:53	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	05:37		06:04 (1)		06:08 (1)		05:45	06:34	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36	17	06:21 (1)	20	06:28 (1)	16	05:46 (1)	20:51	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	05:36		06:03 (1)		06:07 (1)		05:47	06:35	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	21:37	19	06:22 (1)	21	06:28 (1)	14	05:48 (1)	20:49	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35		06:03 (1)		06:08 (1)		05:48	06:37	07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	21:39	20	06:23 (1)	21	06:29 (1)	12	05:49 (1)	20:46	19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	05:34		06:02 (1)		06:08 (1)		05:50	06:38	07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	21:40	21	06:23 (1)	21	06:29 (1)	9	05:50 (1)	20:44	19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	05:32		06:02 (1)		06:08 (1)		05:51	06:40	07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	21:42	22	06:24 (1)	21	06:29 (1)	2	05:51 (1)	20:42	19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	05:31		06:02 (1)		06:09 (1)		05:52	06:42	07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21:43	22	06:24 (1)	21	06:30 (1)		21:39	20:40	19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	05:30		06:02 (1)		06:08 (1)		05:54	06:43	07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	21:44	23	06:25 (1)	22	06:30 (1)		21:37	20:38	19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	05:29		06:02 (1)		06:09 (1)		05:55	06:45	07:36	07:27	08:21	08:48
	17:21		20:07	21:00	21:45	23	06:25 (1)	21	06:30 (1)		21:36	20:36	19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	05:28		06:02 (1)		06:09 (1)		05:57	06:47	07:37	07:29	08:22	08:48
	17:22		20:09	21:01	21:47	24	06:26 (1)	22	06:31 (1)		21:34	20:33	19:22	17:17	16:33	16:36
31	08:22		07:19		05:27		06:02 (1)				05:58	06:48		07:31		08:48
	17:24		20:10		21:48	24	06:26 (1)				21:33	20:31		17:15		16:37
Potential sun hours	259	277	367	416	485		499		502		454	381	331	266	243	
Total, worst case						260		655		523						
Sun reduction						0,43		0,39		0,41						
Oper. time red.						0,95		0,95		0,95						
Wind dir. red.						0,67		0,67		0,67						
Total reduction						0,27		0,25		0,26						
Total, real						71		163		135						

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:36/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN131@145Shadow receptor: W - 3998JD93

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	05:26	05:23	06:03 (1)	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03	21:49 23	06:21 (1) 24	06:27 (1)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	05:26	05:24	06:04 (1)	06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05	21:50 23	06:21 (1) 24	06:28 (1)	21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08	05:25	05:25	06:04 (1)	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06	21:51 23	06:22 (1) 24	06:28 (1)	21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06	05:24	05:26	06:04 (1)	06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08	21:52 24	06:22 (1) 24	06:28 (1)	21:26	20:22	19:12	17:07	16:31
5	08:47	08:14	07:19	07:08	06:04	05:23	05:26	06:04 (1)	06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10	21:53 23	06:22 (1) 24	06:28 (1)	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02	05:23	05:27	06:05 (1)	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11	21:54 24	06:22 (1) 24	06:29 (1)	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01	05:22	05:28	06:05 (1)	06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13	21:55 24	06:23 (1) 24	06:29 (1)	21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59	05:22	05:29	06:05 (1)	06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15	21:56 24	06:23 (1) 24	06:29 (1)	21:19	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57	05:21	05:30	06:06 (1)	06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16	21:57 24	06:23 (1) 23	06:29 (1)	21:17	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55	05:21	05:31	06:05 (1)	06:14	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18	21:58 24	06:23 (1) 23	06:28 (1)	21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54	05:20	05:32	06:06 (1)	06:16	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19	21:58 24	06:23 (1) 22	06:28 (1)	21:13	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52	05:20	06:00 (1)	06:06 (1)	06:17	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21	21:59 23	06:23 (1) 22	06:28 (1)	21:11	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50	05:20	06:00 (1)	06:07 (1)	06:19	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23	22:00 24	06:24 (1) 22	06:29 (1)	21:09	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49	05:19	06:00 (1)	06:08 (1)	06:21	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24	22:00 24	06:24 (1) 21	06:29 (1)	21:07	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47	05:19	06:00 (1)	06:08 (1)	06:22	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26	22:01 23	06:23 (1) 20	06:28 (1)	21:05	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46	05:19	06:00 (1)	06:09 (1)	06:24	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27	22:01 24	06:24 (1) 19	06:28 (1)	21:03	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44	05:19	06:00 (1)	06:09 (1)	06:25	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29	22:02 24	06:24 (1) 18	06:27 (1)	21:01	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43	05:19	06:01 (1)	06:10 (1)	06:27	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30	22:02 23	06:24 (1) 17	06:27 (1)	20:59	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41	05:19	06:02 (1)	06:11 (1)	06:29	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32	22:03 23	06:25 (1) 15	06:26 (1)	20:57	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40	05:19	06:02 (1)	06:13 (1)	06:30	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33	22:03 23	06:25 (1) 13	06:26 (1)	20:55	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	05:39	05:19	06:02 (1)	06:14 (1)	06:32	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:35	22:03 23	06:25 (1) 10	06:24 (1)	20:53	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	05:37 06:04 (1)	05:19	06:02 (1)	06:16 (1)	06:34	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36 9 06:13 (1)	22:03 23	06:25 (1) 6	06:22 (1)	20:51	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	05:36 06:03 (1)	05:20	06:02 (1)		06:35	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	21:37 11 06:14 (1)	22:04 23	06:25 (1)		20:49	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35 06:02 (1)	05:20	06:03 (1)		06:37	07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	21:39 14 06:16 (1)	22:04 23	06:26 (1)		20:46	19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	05:34 06:01 (1)	05:20	06:02 (1)		06:38	07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	21:40 16 06:17 (1)	22:04 24	06:26 (1)		20:44	19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	05:32 06:00 (1)	05:21	06:02 (1)		06:40	07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	21:42 17 06:17 (1)	22:04 24	06:26 (1)		20:42	19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	05:31 05:59 (1)	05:21	06:03 (1)		06:42	07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21:43 19 06:18 (1)	22:04 24	06:27 (1)		20:40	19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	05:30 05:59 (1)	05:22	06:03 (1)		06:43	07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	21:44 20 06:19 (1)	22:04 23	06:26 (1)		20:38	19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	05:29 05:58 (1)	05:22	06:03 (1)		06:45	07:36	07:27	08:21	08:48
	17:21		20:07	21:00	21:45 21 06:19 (1)	22:03 24	06:27 (1)		20:36	19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	05:28 05:59 (1)	05:23	06:04 (1)		06:47	07:37	07:29	08:22	08:48
	17:22		20:08	21:01	21:47 21 06:20 (1)	22:03 24	06:28 (1)		20:33	19:22	17:17	16:33	16:36
31	08:22		07:19		05:27 05:59 (1)		05:58		06:48		07:31		08:48
	17:24		20:10		21:48 22 06:21 (1)		21:33		20:31		17:15		16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case					170	706	443					
Sun reduction					0,43	0,39	0,41					
Oper. time red.					0,95	0,95	0,95					
Wind dir. red.					0,67	0,67	0,67					
Total reduction					0,27	0,25	0,26					
Total, real					46	176	115					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:36/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN131@145Shadow receptor: X - 3961ME2

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May		June		July		August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12		05:26		05:23		06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03		21:49	33	20:30 (3) / 21:03 (2)	37	20:34 (3) / 21:11 (3)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10		05:25		20:30 (3)		05:24	20:35 (3)	06:01	06:51	07:40	07:34	08:25
	16:39	17:28	18:19	20:13	21:04		21:50	33	21:03 (2)	36	22:02	21:11 (3)	21:29	20:26	19:17	17:11	16:32
3	08:47	08:18	07:23	07:12	06:08		05:25		20:30 (3)		05:25	20:34 (3)	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06		21:51	33	21:03 (3)	36	22:02	21:10 (3)	21:27	20:24	19:14	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06		05:24		20:30 (3)		05:25	20:35 (3)	06:04	06:55	07:44	07:38	08:28
	16:41	17:31	18:23	20:17	21:08		21:52	34	21:04 (3)	36	22:02	21:11 (3)	21:26	20:22	19:12	17:07	16:30
5	08:47	08:14	07:18	07:07	06:04		05:23		20:29 (3)		05:26	20:35 (3)	06:06	06:56	07:45	07:40	08:29
	16:43	17:33	18:25	20:19	21:09		21:53	35	21:04 (3)	36	22:01	21:11 (3)	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02		05:23		20:30 (3)		05:27	20:36 (3)	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11		21:54	35	21:05 (3)	35	22:01	21:11 (3)	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:00		05:22		20:29 (3)		05:28	20:36 (3)	06:09	06:59	07:49	07:43	08:32
	16:45	17:37	18:28	20:22	21:13		21:55	35	21:04 (3)	35	22:00	21:11 (3)	21:20	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59		05:21		20:30 (3)		05:29	20:36 (3)	06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:14		21:56	35	21:05 (3)	34	21:59	21:10 (3)	21:19	20:13	19:03	17:00	16:29
9	08:45	08:07	07:09	06:58	05:57		05:21		20:30 (3)		05:30	20:37 (3)	06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:25	21:16		21:57	36	21:06 (3)	33	21:59	21:10 (3)	21:17	20:10	19:01	16:59	16:28
10	08:45	08:06	07:07	06:56	05:55		05:20		20:29 (3)		05:31	20:37 (3)	06:14	07:04	07:54	07:49	08:35
	16:49	17:43	18:34	20:27	21:18		21:57	37	21:06 (3)	33	21:58	21:10 (3)	21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54		05:20		20:30 (3)		05:32	20:38 (3)	06:16	07:06	07:56	07:51	08:36
	16:50	17:45	18:35	20:29	21:19		21:58	36	21:06 (3)	32	21:57	21:10 (3)	21:13	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52		05:20		20:30 (3)		05:33	20:38 (3)	06:17	07:08	07:57	07:52	08:37
	16:52	17:46	18:37	20:31	21:21		21:59	37	21:07 (3)	33	21:56	21:11 (2)	21:11	20:03	18:54	16:54	16:28
13	08:43	08:00	07:00	06:49	05:50		05:19		20:29 (3)		05:34	20:39 (3)	06:19	07:09	07:59	07:54	08:38
	16:53	17:48	18:39	20:32	21:22		21:59	37	21:06 (3)	32	21:55	21:11 (2)	21:09	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49		05:19		20:30 (3)		05:35	20:39 (3)	06:20	07:11	08:01	07:56	08:39
	16:55	17:50	18:41	20:34	21:24	8	20:54 (2)		22:00	37	21:07 (3)	21:11 (2)	21:07	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47		20:43 (2)		05:19		20:30 (3)	20:41 (3)	06:22	07:12	08:03	07:58	08:40
	16:57	17:52	18:42	20:36	21:26	12	20:55 (2)		22:01	37	21:07 (3)	21:12 (2)	21:05	19:56	18:47	16:50	16:28
16	08:40	07:54	06:54	06:43	05:46		20:43 (2)		05:19		20:30 (3)	20:42 (3)	06:24	07:14	08:04	07:59	08:41
	16:58	17:54	18:44	20:37	21:27	14	20:57 (2)		22:01	37	21:07 (3)	21:12 (2)	21:03	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44		20:42 (2)		05:19		20:30 (3)	20:42 (3)	06:25	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29	17	20:59 (2)		22:02	38	21:08 (3)	21:12 (2)	21:01	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:38	05:43		20:41 (2)		05:19		20:30 (3)	20:43 (3)	06:27	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30	18	20:59 (2)		22:02	38	21:08 (3)	21:12 (2)	20:59	19:49	18:41	16:45	16:29
19	08:38	07:48	06:47	06:36	05:41		20:40 (2)		05:19		20:31 (3)	20:44 (3)	06:28	07:19	08:09	08:05	08:43
	17:03	17:59	18:49	20:42	21:32	20	21:00 (2)		22:02	37	21:08 (3)	21:12 (2)	20:57	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40		20:40 (2)		05:19		20:31 (3)	20:45 (3)	06:30	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33	21	21:01 (2)		22:03	37	21:08 (3)	21:12 (2)	20:55	19:45	18:37	16:43	16:29
21	08:35	07:44	06:42	06:32	05:38		20:39 (2)		05:19		20:32 (3)	20:48 (3)	06:32	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:34	22	21:01 (2)		22:03	37	21:09 (3)	21:12 (2)	20:53	19:42	18:35	16:42	16:30
22	08:34	07:42	06:40	06:30	05:37		20:38 (3)		05:19		20:32 (3)	20:49 (2)	06:33	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36	23	21:01 (2)		22:03	37	21:09 (3)	21:12 (2)	20:51	19:40	18:33	16:41	16:30
23	08:33	07:40	06:37	06:28	05:36		20:36 (3)		05:20		20:32 (3)	20:49 (2)	06:35	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	21:37	26	21:02 (2)		22:03	37	21:09 (3)	21:11 (2)	20:48	19:38	18:30	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35		20:35 (3)		05:20		20:32 (3)	20:51 (2)	06:37	07:27	08:18	08:13	08:46
	17:11	18:09	18:58	20:51	21:39	27	21:02 (2)		22:03	38	21:10 (3)	21:11 (2)	20:46	19:35	18:28	16:38	16:31
25	08:31	07:36	06:33	06:24	05:33		20:34 (3)		05:20		20:32 (3)	20:51 (2)	06:38	07:29	07:20	08:15	08:47
	17:13	18:10	19:00	20:53	21:40	28	21:02 (2)		22:03	38	21:10 (3)	21:10 (2)	20:44	19:33	17:26	16:37	16:32
26	08:29	07:34	06:30	06:22	05:32		20:33 (3)		05:21		20:32 (3)	20:51 (2)	06:40	07:30	07:22	08:16	08:47
	17:15	18:12	19:01	20:54	21:41	30	21:03 (2)		22:03	38	21:10 (3)	21:09 (2)	20:42	19:31	17:24	16:36	16:32
27	08:28	07:32	06:28	06:20	05:31		20:32 (3)		05:21		20:33 (3)	20:53 (2)	06:41	07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21:43	31	21:03 (2)		22:03	37	21:10 (3)	21:39	15	21:08 (2)	20:40	19:28	17:22	16:36	16:33
28	08:27	07:29	06:26	06:18	05:30		20:32 (3)		05:21		20:33 (3)	20:53 (2)	06:43	07:34	07:25	08:19	08:47
	17:19	18:16	19:05	20:58	21:44	31	21:03 (2)		22:03	37	21:10 (3)	21:37	14	21:07 (2)	20:38	19:26	17:20	16:35	16:34
29	08:25		07:23	06:16	05:29		20:31 (3)		05:22		20:33 (3)	20:55 (2)	06:45	07:35	07:27	08:21	08:48
	17:20		20:07	20:59	21:45	32	21:03 (2)		22:03	38	21:11 (3)	21:36	10	21:05 (2)	20:35	19:24	17:18	16:34	16:35
30	08:24		07:21	06:14	05:28		20:31 (3)		05:23		20:33 (3)	20:57		20:58 (2)	06:46	07:37	07:29	08:22	08:48
	17:22		20:08	21:01	21:46	32	21:03 (2)		22:03	37	21:10 (3)	21:34	5	21:03 (2)	20:33	19:21	17:17	16:33	16:36
31	08:22		07:19		05:27		20:31 (3)					05:58			06:48		07:31		08:48
	17:24		20:10		21:48	32	21:03 (2)					21:32			20:31		17:15		16:37
Potential sun hours	259	277	367	416	485		499		502		454	381	331	266	243
Total, worst case						424		1091		825					
Sun reduction						0,43		0,39		0,41					
Oper. time red.						0,95		0,95		0,95					
Wind dir. red.						0,59		0,59		0,59					
Total reduction						0,24		0,22		0,23					
Total, real						101		236		186					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:36/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN131@145Shadow receptor: Y - 3998JD86

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May		June		July		August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12		05:26	06:08 (1)	05:23	06:17 (1)	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03		21:49	22 06:30 (1)	22:03	16 06:33 (1)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10		05:26	06:08 (1)	05:24	06:17 (1)	06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05		21:50	21 06:29 (1)	22:03	16 06:33 (1)	21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08		05:25	06:09 (1)	05:25	06:17 (1)	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06		21:51	21 06:30 (1)	22:02	17 06:34 (1)	21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06		05:24	06:09 (1)	05:26	06:16 (1)	06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08		21:52	21 06:30 (1)	22:02	18 06:34 (1)	21:26	20:22	19:12	17:07	16:31
5	08:47	08:15	07:19	07:08	06:04		05:23	06:10 (1)	05:26	06:16 (1)	06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10		21:53	20 06:30 (1)	22:01	19 06:35 (1)	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02		05:23	06:10 (1)	05:27	06:16 (1)	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11		21:54	19 06:29 (1)	22:01	19 06:35 (1)	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01		05:22	06:11 (1)	05:28	06:16 (1)	06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13		21:55	19 06:30 (1)	22:00	20 06:36 (1)	21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59		05:22	06:11 (1)	05:29	06:16 (1)	06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15		21:56	18 06:29 (1)	22:00	21 06:37 (1)	21:19	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57		05:21	06:12 (1)	05:30	06:16 (1)	06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16		21:57	17 06:29 (1)	21:59	21 06:37 (1)	21:17	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55		05:21	06:11 (1)	05:31	06:15 (1)	06:14	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18		21:58	17 06:28 (1)	21:58	22 06:37 (1)	21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54		05:20	06:12 (1)	05:32	06:15 (1)	06:16	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19		21:58	16 06:28 (1)	21:57	22 06:37 (1)	21:13	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52		05:20	06:13 (1)	05:33	06:15 (1)	06:17	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21		21:59	16 06:29 (1)	21:57	22 06:37 (1)	21:11	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50		05:20	06:14 (1)	05:34	06:16 (1)	06:19	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23		22:00	15 06:29 (1)	21:56	23 06:39 (1)	21:09	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49	06:15 (1)	05:19	06:14 (1)	05:35	06:16 (1)	06:21	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24	6 06:21 (1)	22:00	15 06:29 (1)	21:55	23 06:39 (1)	21:07	19:59	18:50	16:51	16:28
15	08:42	07:56	06:56	06:45	05:47	06:13 (1)	05:19	06:14 (1)	05:36	06:16 (1)	06:22	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26	10 06:23 (1)	22:01	14 06:28 (1)	21:54	23 06:39 (1)	21:05	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46	06:12 (1)	05:19	06:14 (1)	05:38	06:16 (1)	06:24	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27	13 06:25 (1)	22:01	14 06:28 (1)	21:53	23 06:39 (1)	21:03	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44	06:11 (1)	05:19	06:15 (1)	05:39	06:16 (1)	06:25	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29	15 06:26 (1)	22:02	13 06:28 (1)	21:52	23 06:39 (1)	21:01	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43	06:09 (1)	05:19	06:15 (1)	05:40	06:16 (1)	06:27	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30	17 06:26 (1)	22:02	13 06:28 (1)	21:51	23 06:39 (1)	20:59	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41	06:08 (1)	05:19	06:16 (1)	05:41	06:16 (1)	06:29	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32	19 06:27 (1)	22:03	13 06:29 (1)	21:49	23 06:39 (1)	20:57	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40	06:08 (1)	05:19	06:16 (1)	05:43	06:17 (1)	06:30	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33	20 06:28 (1)	22:03	13 06:29 (1)	21:48	23 06:40 (1)	20:55	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	05:39	06:08 (1)	05:19	06:16 (1)	05:44	06:17 (1)	06:32	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:35	21 06:29 (1)	22:03	13 06:29 (1)	21:47	22 06:39 (1)	20:53	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	05:37	06:07 (1)	05:19	06:16 (1)	05:45	06:17 (1)	06:34	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36	21 06:28 (1)	22:03	13 06:29 (1)	21:46	22 06:39 (1)	20:51	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	05:36	06:06 (1)	05:20	06:16 (1)	05:47	06:17 (1)	06:35	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	21:37	23 06:29 (1)	22:04	13 06:29 (1)	21:44	21 06:38 (1)	20:49	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35	06:06 (1)	05:20	06:17 (1)	05:48	06:19 (1)	06:37	07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	21:39	23 06:29 (1)	22:04	13 06:30 (1)	21:43	19 06:38 (1)	20:46	19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	05:34	06:06 (1)	05:20	06:17 (1)	05:50	06:19 (1)	06:38	07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	21:40	23 06:29 (1)	22:04	13 06:30 (1)	21:42	18 06:37 (1)	20:44	19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	05:32	06:06 (1)	05:21	06:16 (1)	05:51	06:20 (1)	06:40	07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	21:42	24 06:30 (1)	22:04	14 06:30 (1)	21:40	16 06:36 (1)	20:42	19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	05:31	06:07 (1)	05:21	06:17 (1)	05:52	06:22 (1)	06:42	07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21:43	23 06:30 (1)	22:04	14 06:31 (1)	21:39	14 06:36 (1)	20:40	19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	05:30	06:07 (1)	05:22	06:16 (1)	05:54	06:23 (1)	06:43	07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	21:44	23 06:30 (1)	22:04	15 06:31 (1)	21:37	12 06:35 (1)	20:38	19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	05:29	06:07 (1)	05:22	06:17 (1)	05:55	06:25 (1)	06:45	07:36	07:27	08:21	08:48
	17:21		20:07	21:00	21:45	23 06:30 (1)	22:03	15 06:32 (1)	21:36	8 06:33 (1)	20:36	19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	05:28	06:08 (1)	05:23	06:17 (1)	05:57		06:47	07:37	07:29	08:22	08:48
	17:22		20:09	21:01	21:47	22 06:30 (1)	22:03	16 06:33 (1)	21:34		20:33	19:22	17:17	16:33	16:36
31	08:22		07:19		05:27	06:08 (1)			05:58		06:48		07:31		08:48
	17:24		20:10		21:48	22 06:30 (1)			21:33		20:31		17:15		16:37
Potential sun hours	259	277	367	416	485		499		502		454	381	331	266	243
Total, worst case					348		476		569						
Sun reduction					0,43		0,39		0,41						
Oper. time red.					0,95		0,95		0,95						
Wind dir. red.					0,67		0,67		0,67						
Total reduction					0,27		0,25		0,26						
Total, real					94		118		147						

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
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NL-3430BL Nieuwegein
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David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:36/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN131@145Shadow receptor: Z - 3998JK68

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	06:45 (2)	05:26	05:57 (1)	05:23	06:00 (1)	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03	17 07:02 (2)	21:49	20 06:17 (1)	22:03	25 06:25 (1)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	06:45 (2)	05:26	05:56 (1)	05:24	06:01 (1)	06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05	16 07:01 (2)	21:50	21 06:17 (1)	22:03	24 06:25 (1)	21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08	06:47 (2)	05:25	05:57 (1)	05:25	06:01 (1)	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06	13 07:00 (2)	21:51	21 06:18 (1)	22:02	25 06:26 (1)	21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06	06:48 (2)	05:24	05:56 (1)	05:26	06:01 (1)	06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08	11 06:59 (2)	21:52	22 06:18 (1)	22:02	24 06:25 (1)	21:26	20:22	19:12	17:07	16:31
5	08:47	08:14	07:19	07:08	06:04	06:50 (2)	05:23	05:56 (1)	05:26	06:02 (1)	06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10	6 06:56 (2)	21:53	22 06:18 (1)	22:01	23 06:25 (1)	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02		05:23	05:56 (1)	05:27	06:02 (1)	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11		21:54	23 06:19 (1)	22:01	24 06:26 (1)	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01		05:22	05:56 (1)	05:28	06:03 (1)	06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13		21:55	24 06:20 (1)	22:00	23 06:26 (1)	21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59		05:22	05:56 (1)	05:29	06:03 (1)	06:11	06:58 (2)	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15		21:56	24 06:20 (1)	22:00	23 06:26 (1)	21:19	8 07:06 (2)	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57		05:21	05:56 (1)	05:30	06:04 (1)	06:12	06:57 (2)	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16		21:57	25 06:21 (1)	21:59	22 06:26 (1)	21:17	12 07:09 (2)	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55		05:21	05:56 (1)	05:31	06:03 (1)	06:14	06:55 (2)	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18		21:58	24 06:20 (1)	21:58	22 06:25 (1)	21:15	14 07:09 (2)	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54		05:20	05:56 (1)	05:32	06:04 (1)	06:16	06:54 (2)	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19		21:58	25 06:21 (1)	21:57	20 06:24 (1)	21:13	17 07:11 (2)	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52		05:20	05:56 (1)	05:33	06:05 (1)	06:17	06:53 (2)	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21		21:59	25 06:21 (1)	21:57	19 06:24 (1)	21:11	18 07:11 (2)	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50		05:20	05:57 (1)	05:34	06:06 (1)	06:19	06:53 (2)	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23		22:00	25 06:22 (1)	21:56	19 06:25 (1)	21:09	19 07:12 (2)	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49		05:19	05:57 (1)	05:35	06:07 (1)	06:21	06:52 (2)	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24		22:00	25 06:22 (1)	21:55	17 06:24 (1)	21:07	19 07:11 (2)	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47		05:19	05:56 (1)	05:36	06:08 (1)	06:22	06:52 (2)	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26		22:01	25 06:21 (1)	21:54	16 06:24 (1)	21:05	20 07:12 (2)	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46		05:19	05:57 (1)	05:38	06:09 (1)	06:24	06:52 (2)	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27		22:01	25 06:22 (1)	21:53	14 06:23 (1)	21:03	19 07:11 (2)	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44		05:19	05:57 (1)	05:39	06:10 (1)	06:25	06:53 (2)	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29		22:02	25 06:22 (1)	21:52	11 06:21 (1)	21:01	18 07:11 (2)	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43		05:19	05:57 (1)	05:40	06:12 (1)	06:27	06:54 (2)	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30		22:02	25 06:22 (1)	21:51	8 06:20 (1)	20:59	16 07:10 (2)	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41		05:19	05:58 (1)	05:41		06:29	06:56 (2)	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32		22:03	25 06:23 (1)	21:49		20:57	13 07:09 (2)	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40		05:19	05:58 (1)	05:43		06:30	06:57 (2)	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33		22:03	25 06:23 (1)	21:48		20:55	10 07:07 (2)	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	06:56 (2)	05:39	05:19	05:58 (1)	05:44		06:32	06:59 (2)	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	3 06:59 (2)	21:35	22:03	25 06:23 (1)	21:47		20:53	7 07:06 (2)	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	06:54 (2)	05:37	05:19	05:58 (1)	05:45		06:33	07:00 (2)	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	7 07:01 (2)	21:36	22:03	25 06:23 (1)	21:46		20:51	2 07:02 (2)	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	06:52 (2)	05:36	05:20	05:58 (1)	05:47		06:35		07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	11 07:03 (2)	21:37	22:04	25 06:23 (1)	21:44		20:49		19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	06:50 (2)	05:35	05:20	05:59 (1)	05:48		06:37		07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	14 07:04 (2)	21:39	22:04	25 06:24 (1)	21:43		20:46		19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	06:48 (2)	05:34	06:03 (1)	05:20	05:59 (1)	05:50	06:38		07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	16 07:04 (2)	21:40	6 06:09 (1)	22:04	25 06:24 (1)	21:42	20:44		19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	06:46 (2)	05:32	06:01 (1)	05:21	05:59 (1)	05:51	06:40		07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	18 07:04 (2)	21:42	10 06:11 (1)	22:04	25 06:24 (1)	21:40	20:42		19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	06:45 (2)	05:31	06:00 (1)	05:21	05:59 (1)	05:52	06:42		07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	19 07:04 (2)	21:43	13 06:13 (1)	22:04	26 06:25 (1)	21:39	20:40		19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	06:45 (2)	05:30	05:59 (1)	05:22	05:59 (1)	05:54	06:43		07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	19 07:04 (2)	21:44	15 06:14 (1)	22:04	25 06:24 (1)	21:37	20:38		19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	06:45 (2)	05:29	05:58 (1)	05:22	06:00 (1)	05:55	06:45		07:36	07:27	08:21	08:48
	17:21		20:07	21:00	19 07:04 (2)	21:45	16 06:14 (1)	22:03	25 06:25 (1)	21:36	20:35		19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	06:45 (2)	05:28	05:58 (1)	05:23	06:01 (1)	05:57	06:47		07:37	07:29	08:22	08:48
	17:22		20:08	21:01	18 07:03 (2)	21:47	18 06:16 (1)	22:03	24 06:25 (1)	21:34	20:33		19:22	17:17	16:33	16:36
31	08:22		07:19			05:27	05:57 (1)			05:58	06:48			07:31		08:48
	17:24		20:10			21:48	20 06:17 (1)			21:33	20:31			17:15		16:37
Potential sun hours	259	277	367	416	485		499		502		454		381	331	266	243
Total, worst case				144		161		726		359		212				
Sun reduction				0,42		0,43		0,39		0,41		0,42				
Oper. time red.				0,95		0,95		0,95		0,95		0,95				
Wind dir. red.				0,64		0,66		0,67		0,67		0,64				
Total reduction				0,25		0,27		0,25		0,26		0,25				
Total, real				37		43		181		93		54				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:36/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN131@145Shadow receptor: AA - 3997MP20

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December		
1	08:48		09:29 (4)		08:21		13:26 (2)	07:27		16:53 (1)	07:17	06:12	05:26	05:23	06:00	06:50		07:39		17:23 (1)	07:33		13:10 (2)	08:24		09:15 (4)
	16:38	133	14:17 (2)	59	14:25 (2)	34	18:18	17:27 (1)	20:12	21:03	21:49	22:03	21:31	20:29				19:19	48	18:11 (1)	17:13	35	13:45 (2)	16:32	133	14:05 (2)
2	08:48		09:30 (4)		08:19		13:27 (2)	07:25		16:51 (1)	07:14	06:10	05:25	05:24	06:01	06:51		07:40		17:23 (1)	07:35		13:08 (2)	08:25		09:15 (4)
	16:39	133	14:18 (2)	57	14:24 (2)	38	18:19	17:29 (1)	20:14	21:05	21:50	22:03	21:29	20:26				19:17	48	18:11 (1)	17:11	39	13:47 (2)	16:32	134	14:05 (2)
3	08:48		09:30 (4)		08:18		13:29 (2)	07:23		16:49 (1)	07:12	06:08	05:25	05:25	06:03	06:53		07:42		17:22 (1)	07:36		13:04 (2)	08:27		09:15 (4)
	16:40	134	14:19 (2)	55	14:24 (2)	40	18:21	17:29 (1)	20:15	21:06	21:51	22:02	21:28	20:24				19:14	48	18:10 (1)	17:09	44	13:48 (2)	16:31	135	14:05 (2)
4	08:47		09:30 (4)		08:16		13:29 (2)	07:21		16:49 (1)	07:10	06:06	05:24	05:25	06:04	06:55		07:44		17:22 (1)	07:38		13:03 (2)	08:28		09:16 (4)
	16:41	134	14:19 (2)	55	14:24 (2)	41	18:23	17:30 (1)	20:17	21:08	21:52	22:02	21:26	20:22				19:12	48	18:10 (1)	17:07	47	13:50 (2)	16:30	135	14:06 (2)
5	08:47		09:31 (4)		08:14		13:31 (2)	07:19		16:48 (1)	07:07	06:04	05:23	05:26	06:06	06:56		07:46		17:22 (1)	07:40		13:01 (2)	08:29		09:16 (4)
	16:43	133	14:19 (2)	51	14:22 (2)	43	18:25	17:31 (1)	20:19	21:10	21:53	22:01	21:24	20:20				19:10	47	18:09 (1)	17:06	50	13:51 (2)	16:30	135	14:06 (2)
6	08:47		09:31 (4)		08:13		13:32 (2)	07:16		16:47 (1)	07:05	06:02	05:23	05:27	06:08	06:58		07:47		17:23 (1)	07:42		13:00 (2)	08:31		09:17 (4)
	16:44	135	14:20 (2)	49	14:21 (2)	45	18:27	17:32 (1)	20:20	21:11	21:54	22:01	21:22	20:17				19:08	46	18:09 (1)	17:04	52	13:52 (2)	16:30	135	14:06 (2)
7	08:46		09:31 (4)		08:11		13:33 (2)	07:14		16:46 (1)	07:03	06:00	05:22	05:28	06:09	06:59		07:49		17:22 (1)	07:44		12:59 (2)	08:32		09:18 (4)
	16:45	136	14:21 (2)	47	14:20 (2)	46	18:29	17:32 (1)	20:22	21:13	21:55	22:00	21:20	20:15				19:05	45	18:07 (1)	17:02	54	13:53 (2)	16:29	135	14:07 (2)
8	08:46		09:31 (4)		08:09		13:36 (2)	07:12		16:45 (1)	07:01	05:59	05:21	05:29	06:11	07:01		07:51		17:23 (1)	07:45		12:58 (2)	08:33		09:18 (4)
	16:46	135	14:21 (2)	43	14:19 (2)	47	18:30	17:32 (1)	20:24	21:14	21:56	21:59	21:19	20:13				19:03	44	18:07 (1)	17:00	56	13:54 (2)	16:29	135	14:07 (2)
9	08:45		09:32 (4)		08:07		13:38 (2)	07:10		16:45 (1)	06:58	05:57	05:21	05:30	06:12	07:03		07:52		17:23 (1)	07:47		12:57 (2)	08:34		09:18 (4)
	16:48	135	14:22 (2)	39	14:17 (2)	48	18:32	17:33 (1)	20:26	21:16	21:57	21:59	21:17	20:10				19:01	43	18:06 (1)	16:59	58	13:55 (2)	16:28	135	14:07 (2)
10	08:45		09:32 (4)		08:06		13:41 (2)	07:07		16:44 (1)	06:56	05:55	05:20	05:31	06:14	07:04		07:54		17:24 (1)	07:49		12:57 (2)	08:35		09:19 (4)
	16:49	134	14:22 (2)	34	14:15 (2)	48	18:34	17:32 (1)	20:27	21:18	21:57	21:58	21:15	20:08				18:59	41	18:05 (1)	16:57	59	13:56 (2)	16:28	133	14:07 (2)
11	08:44		09:32 (4)		08:04		13:44 (2)	07:05		16:44 (1)	06:54	05:54	05:20	05:32	06:16	07:06		07:56		17:24 (1)	07:51		12:56 (2)	08:37		09:19 (4)
	16:51	133	14:22 (2)	28	14:12 (2)	48	18:36	17:32 (1)	20:29	21:19	21:58	21:57	21:13	20:06				18:56	39	18:03 (1)	16:56	61	13:57 (2)	16:28	133	14:07 (2)
12	08:44		09:33 (4)		08:02		13:50 (2)	07:03		16:44 (1)	06:52	05:52	05:20	05:33	06:17	07:08		07:57		17:25 (1)	07:52		12:56 (2)	08:38		09:21 (4)
	16:52	133	14:23 (2)	19	14:09 (2)	48	18:37	17:32 (1)	20:31	21:21	21:59	21:56	21:11	20:03				18:54	36	18:01 (1)	16:54	61	13:57 (2)	16:28	132	14:08 (2)
13	08:43		09:33 (4)		08:00			07:00		16:44 (1)	06:49	05:50	05:19	05:34	06:19	07:09		07:59		17:26 (1)	07:54		12:56 (2)	08:39		09:21 (4)
	16:53	133	14:23 (2)	47	14:48		18:39	17:31 (1)	20:32	21:23	22:00	21:56	21:09	20:01				18:52	34	18:00 (1)	16:53	62	13:58 (2)	16:28	132	14:09 (2)
14	08:42		09:33 (4)		07:58			06:58		16:44 (1)	06:47	05:49	05:19	05:35	06:20	07:11		08:01		17:28 (1)	07:56		12:55 (2)	08:40		09:21 (4)
	16:55	132	14:24 (2)	47	17:50		18:41	17:31 (1)	20:34	21:24	22:00	21:55	21:07	19:59				18:50	30	17:58 (1)	16:51	64	13:59 (2)	16:28	132	14:08 (2)
15	08:41		09:34 (4)		07:56			06:56		16:45 (1)	06:45	05:47	05:19	05:36	06:22	07:12		08:03		17:29 (1)	07:58		12:55 (2)	08:40		09:22 (4)
	16:57	131	14:24 (2)	47	17:52		18:43	17:31 (1)	20:36	21:26	22:01	21:54	21:05	19:56				18:47	26	17:55 (1)	16:50	64	13:59 (2)	16:28	130	14:08 (2)
16	08:41		09:34 (4)		07:54			06:54		16:44 (1)	06:43	05:46	05:19	05:38	06:24	07:14		08:04		17:31 (1)	08:00		09:20 (4)	08:41		09:22 (4)
	16:58	129	14:24 (2)	47	17:54		18:44	17:29 (1)	20:37	21:27	22:01	21:53	21:03	19:54				18:45	21	17:52 (1)	16:48	73	14:00 (2)	16:28	131	14:09 (2)
17	08:40		09:35 (4)		07:52			06:51		16:45 (1)	06:41	05:44	05:19	05:39	06:25	07:16		17:52 (1)	08:06		17:35 (1)	08:01		09:18 (4)	08:42		09:23 (4)
	17:00	127	14:25 (2)	47	17:56		18:46	17:29 (1)	20:39	21:29	22:02	21:52	21:01	19:52	4	17:56 (1)	18:43	14	17:49 (1)	16:47	78	14:00 (2)	16:28	131	14:10 (2)
18	08:39		09:36 (4)		07:50			06:49		16:46 (1)	06:38	05:43	05:19	05:40	06:27	07:17		17:46 (1)	08:08				08:03		09:17 (4)	08:43		09:24 (4)
	17:01	124	14:25 (2)	47	17:58		18:48	17:28 (1)	20:41	21:30	22:02	21:50	20:59	19:49	16	18:02 (1)	18:41			16:46	94	14:01 (2)	16:29	131	14:10 (2)
19	08:38		09:37 (4)		07:48			06:47		16:46 (1)	06:36	05:41	05:19	05:41	06:28	07:19		17:41 (1)	08:10				08:05		09:15 (4)	08:44		09:24 (4)
	17:03	122	14:26 (2)	47	17:59		18:49	17:26 (1)	20:43	21:32	22:03	21:49	20:57	19:47	23	18:04 (1)	18:39			16:44	104	14:01 (2)	16:29	131	14:10 (2)
20	08:37		09:38 (4)		07:46			06:44		16:47 (1)	06:34	05:40	05:19	05:43	06:30	07:21		17:39 (1)	08:11				08:06		09:14 (4)	08:44		09:25 (4)
	17:05	119	14:26 (2)	47	18:01		18:51	17:25 (1)	20:44	21:33	22:03	21:48	20:55	19:45	27	18:06 (1)	18:37			16:43	109	14:01 (2)	16:29	129	14:11 (2)
21	08:36		09:39 (4)		07:44			06:42		16:49 (1)	06:32	05:38	05:19	05:44	06:32	07:22		17:36 (1)	08:13				08:08		09:14 (4)	08:45		09:26 (4)
	17:06	115	14:27 (2)	47	18:03		18:53	17:24 (1)	20:46	21:35	22:03	21:47	20:53	19:42	31	18:07 (1)	18:35			16:42	115	14:02 (2)	16:30	129	14:12 (2)
22	08:34		09:39 (4)		07:42			06:40		16:50 (1)	06:30	05:37	05:19	05:45	06:33	07:24		17:34 (1)	08:15				08:10		09:14 (4)	08:45		09:26 (4)
	17:08	109	14:26 (2)	47	18:05		18:55	17:22 (1)	20:48	21:36	22:03	21:46	20:51	19:40	35	18:09 (1)	18:33			16:41	119	14:02 (2)	16:30	129	14:12 (2)
23	08:33		09:41 (4)		07:40			06:37		16:52 (1)	06:28	05:36	05:20	05:47	06:35	07:26		17:32 (1)	08:17				08:11		09:14 (4)	08:46		09:26 (4)
	17:10	104	14:27 (2)	47	18:07		18:56	17:20 (1)	20:49	21:37	22:03	21:44	20:49	19:38	38	18:10 (1)	18:30			16:40	122	14:03 (2)	16:31	129	14:12 (2)
24	08:32		09:43 (4)		07:38		17:08 (1)	06:35		16:54 (1)	06:26	05:35	05:20	05:48	06:37	07:27		17:30 (1)	08:18				08:13		09:13 (4)	08:46		09:27 (4)
	17:12	94	14:27 (2)	5	18:09		17:13 (1)	18:58	24	17:18 (1)	20:51	21:39	22:04	21:43	20:46	19:35	40	18:10 (1)	18:28				16:38	125	14:02 (2)	16:31	130	14:13 (2)
25	08:31		09:44 (4)		07:36		17:02 (1)	06:33		16:56 (1)	06:24	05:33	05:20	05:49	06:38	07:29		17:29 (1)	07:20				08:15		09:13 (4)	08:47		09:27 (4)
	17:13	78	14:26 (2)	17	18:10		17:19 (1)	19:00	19	17:15 (1)	20:53	21:40	22:04	21:42	20:44	19:33	42	18:11 (1)	17:26				16:37	127	14:03 (2)	16:32	131	14:13 (2)
26	08:29		09:47 (4)		07:34		16:58 (1)	06:30		17:01 (1)	06:22	05:32	05:21	05:51	06:40	07:31		17:28 (1)	07:22				08:16		09:14 (4)	08:47		09:27 (4)
	17:15	73	14:27 (2)	23	18:12		17:21 (1)	19:02	9	17:10 (1)	20:54	21:41	22:04	21:40	20:42	19:31	43	18:11 (1)	17:24				16:36	128	14:03 (2)	16:32	130	14:13 (2)
27	08:28		13:22 (2)		07:32		16:56 (1)	06:28			06:20	05:31	05:21	05:52	06:42	07:32		17:26 (1)	07:24				08:18		09:14 (4)	08:47		09:27 (4)
	17:17	64	14:26 (2)	27	18:14		17:23 (1)	19:03			20:56	21:43	22:04	21:39	20:40	19:28	45	18:11 (1)	17:22				16:36	130	14:04 (2)	16:33	130	14:14 (2)
28	08:27		13:23 (2)		07:30		16:54 (1)	06:26			06:18	05:30	05:21	05:54	06:43	07:34		17:25 (1)	07:26				08:19		09:13 (4)	08:48		09:29 (4)
	17:19	64	14:27 (2)	32	18:16		17:26 (1)	19:05			20:58	21:44	22:03	21:37	20:38	19:26	46	18:11 (1)	17:20				16:35	132	14:04 (2)	16:34	131	14:15 (2)
29	08:25		13:24 (2)					07:24			06:16	05:29	05:22	05:55	06:45	07:35		17:25 (1)	07:27		13:27 (2)		08:21		09:14 (4)	08:48		09:29 (4)
	17:20	62	14:26 (2)					20:07			21:00	21:45	22:03	21:36	20:35	19:24	47	18:12 (1)	17:19	4	13:31 (2)	16:34	133	14:04 (2)	16:35	131	14:16 (2)
30	08:24		13:24 (2)					07:21			06:14	05:28	05:23	05:57	06:46	07:37		17:24 (1)	07:29		13:18 (2)	08:22		09:15 (4)	08:48		09:29 (4)
	17:22	62	14:26 (2)					20:08			21:01	21:46	22:03	21:34	20:33	19:21	47	18:11 (1)	17:17	21	13:39 (2)	16:33	134	14:05 (2)	16:36	131	14:16 (2)
31	08:22		13:25 (2)					07:19				05:27		05:58	06:48				07:31		13:13 (2)				08:48		09:29 (4)
	17:24	61	14:26 (2)					20:10				21:48		21:33	20:31				17:15	30	13:43 (2)				16:37	132	14:16 (2)
Potential sun hours	259		277		367			416	485	499	502	454	381					331				266			243		
Total, worst case		3511		640		1022									484				713				2529			4090	
Sun reduction		0,24		0,30		0,33									0,36				0,34				0,24			0,20	
Oper. time red.		0,95		0,95		0,95									0,95				0,95				0,95			0,95	
Wind dir. red.		0,65		0,67		0,66									0,66				0,66				0,66			0,64	
Total reduction		0,15		0,19		0,21									0,23				0,21				0,15			0,12	
Total, real		515		124		210									109				150				372			505	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:36/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN131@145Shadow receptor: AB - 3945LA1b

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September	October		November		December		
1	08:48	14:15 (4)	08:21	16:09 (3)	07:27	17:28 (2)	07:17	06:12	05:26	05:23	06:00	06:50	07:39		07:33	15:42 (3)	08:24		
	16:38 12	14:27 (4)	17:26 30	16:39 (3)	18:18 21	17:49 (2)	20:12	21:03	21:49	22:03	21:31	20:29	19:19		17:13 26	16:08 (3)	16:32		
2	08:48	14:17 (4)	08:19	16:09 (3)	07:25	17:27 (2)	07:14	06:10	05:25	05:24	06:01	06:51	07:40		07:34	15:41 (3)	08:25		
	16:39 10	14:27 (4)	17:28 30	16:39 (3)	18:19 23	17:50 (2)	20:13	21:04	21:50	22:02	21:29	20:26	19:17		17:11 27	16:08 (3)	16:32		
3	08:47	14:20 (4)	08:18	16:09 (3)	07:23	17:26 (2)	07:12	06:08	05:25	05:25	06:03	06:53	07:42	18:10 (2)	07:36	15:40 (3)	08:27		
	16:40 6	14:26 (4)	17:30 31	16:40 (3)	18:21 23	17:49 (2)	20:15	21:06	21:51	22:02	21:27	20:24	19:14 9	18:19 (2)	17:09 29	16:09 (3)	16:31		
4	08:47		08:16	16:09 (3)	07:21	17:26 (2)	07:10	06:06	05:24	05:25	06:04	06:55	07:44	18:07 (2)	07:38	15:40 (3)	08:28		
	16:41		17:31 31	16:40 (3)	18:23 23	17:49 (2)	20:17	21:08	21:52	22:02	21:26	20:22	19:12 14	18:21 (2)	17:07 29	16:09 (3)	16:30		
5	08:47		08:14	16:09 (3)	07:18	17:26 (2)	07:07	06:04	05:23	05:26	06:06	06:56	07:45	18:05 (2)	07:40	15:39 (3)	08:29		
	16:42		17:33 31	16:40 (3)	18:25 23	17:49 (2)	20:19	21:09	21:53	22:01	21:24	20:20	19:10 18	18:23 (2)	17:06 31	16:10 (3)	16:30		
6	08:47		08:13	16:10 (3)	07:16	17:26 (2)	07:05	06:02	05:22	05:27	06:08	06:58	07:47	18:03 (2)	07:42	15:39 (3)	08:31		
	16:44		17:35 30	16:40 (3)	18:27 22	17:48 (2)	20:20	21:11	21:54	22:01	21:22	20:17	19:08 20	18:23 (2)	17:04 31	16:10 (3)	16:29		
7	08:46		08:11	16:10 (3)	07:14	17:27 (2)	07:03	06:00	05:22	05:28	06:09	06:59	07:49	18:02 (2)	07:43	15:39 (3)	08:32		
	16:45		17:37 29	16:39 (3)	18:28 20	17:47 (2)	20:22	21:13	21:55	22:00	21:20	20:15	19:05 22	18:24 (2)	17:02 31	16:10 (3)	16:29		
8	08:46		08:09	16:11 (3)	07:12	17:28 (2)	07:01	05:59	05:21	05:29	06:11	07:01	07:51	18:02 (2)	07:45	15:39 (3)	08:33		
	16:46		17:39 29	16:40 (3)	18:30 18	17:46 (2)	20:24	21:14	21:56	21:59	21:19	20:13	19:03 22	18:24 (2)	17:00 31	16:10 (3)	16:29		
9	08:45		08:07	16:12 (3)	07:10	17:29 (2)	06:58	05:57	05:21	05:30	06:12	07:03	07:52	18:01 (2)	07:47	15:39 (3)	08:34		14:08 (4)
	16:48		17:41 27	16:39 (3)	18:32 16	17:45 (2)	20:25	21:16	21:57	21:59	21:17	20:10	19:01 23	18:24 (2)	16:59 31	16:10 (3)	16:28 6		14:14 (4)
10	08:45		08:06	16:13 (3)	07:07	17:31 (2)	06:56	05:55	05:20	05:31	06:14	07:04	07:54	18:00 (2)	07:49	15:40 (3)	08:35		14:06 (4)
	16:49		17:43 25	16:38 (3)	18:34 11	17:42 (2)	20:27	21:18	21:57	21:58	21:15	20:08	18:58 23	18:23 (2)	16:57 30	16:10 (3)	16:28 10		14:16 (4)
11	08:44		08:04	16:14 (3)	07:05	17:35 (2)	06:54	05:53	05:20	05:32	06:15	07:06	07:56	18:00 (2)	07:51	15:40 (3)	08:36		14:05 (4)
	16:50		17:44 23	16:37 (3)	18:35 4	17:39 (2)	20:29	21:19	21:58	21:57	21:13	20:06	18:56 23	18:23 (2)	16:56 30	16:10 (3)	16:28 12		14:17 (4)
12	08:44		08:02	16:16 (3)	07:03		06:52	05:52	05:20	05:33	06:17	07:08	07:57	18:01 (2)	07:52	15:41 (3)	08:38		14:04 (4)
	16:52		17:46 20	16:36 (3)	18:37		20:31	21:21	21:59	21:56	21:11	20:03	18:54 22	18:23 (2)	16:54 29	16:10 (3)	16:28 15		14:19 (4)
13	08:43		08:00	16:18 (3)	07:00		06:49	05:50	05:19	05:34	06:19	07:09	07:59	18:01 (2)	07:54	15:42 (3)	08:39		14:04 (4)
	16:53		17:48 17	16:35 (3)	18:39		20:32	21:22	22:00	21:56	21:09	20:01	18:52 21	18:22 (2)	16:52 28	16:10 (3)	16:28 16		14:20 (4)
14	08:42		07:58	16:20 (3)	06:58		06:47	05:49	05:19	05:35	06:20	07:11	08:01	18:02 (2)	07:56	15:42 (3)	08:39		14:04 (4)
	16:55		17:50 12	16:32 (3)	18:41		20:34	21:24	22:00	21:55	21:07	19:59	18:50 19	18:21 (2)	16:51 27	16:09 (3)	16:28 17		14:21 (4)
15	08:41		07:56		06:56		06:45	05:47	05:19	05:36	06:22	07:12	08:03	18:02 (2)	07:58	15:43 (3)	08:40		14:04 (4)
	16:56		17:52		18:42		20:36	21:26	22:01	21:54	21:05	19:56	18:47 17	18:19 (2)	16:50 26	16:09 (3)	16:28 18		14:22 (4)
16	08:41		07:54		06:54		06:43	05:45	05:19	05:37	06:24	07:14	08:04	18:04 (2)	07:59	15:44 (3)	08:41		14:04 (4)
	16:58		17:54		18:44		20:37	21:27	22:01	21:53	21:03	19:54	18:45 13	18:17 (2)	16:48 24	16:08 (3)	16:28 19		14:23 (4)
17	08:40		07:52		06:51		06:40	05:44	05:19	05:39	06:25	07:16	08:06	18:06 (2)	08:01	15:45 (3)	08:42		14:04 (4)
	17:00		17:56		18:46		20:39	21:29	22:02	21:52	21:01	19:52	18:43 8	18:14 (2)	16:47 22	16:07 (3)	16:28 20		14:24 (4)
18	08:39		07:50		06:49		06:38	05:43	05:19	05:40	06:27	07:17	08:08		08:03	15:46 (3)	08:43		14:05 (4)
	17:01		17:58		18:48		20:41	21:30	22:02	21:50	20:59	19:49	18:41		16:45 19	16:05 (3)	16:28 20		14:25 (4)
19	08:38		07:48		06:47		06:36	05:41	05:19	05:41	06:28	07:19	08:09		08:05	15:48 (3)	08:44		14:04 (4)
	17:03		17:59		18:49		20:42	21:32	22:02	21:49	20:57	19:47	18:39		16:44 16	16:04 (3)	16:29 21		14:25 (4)
20	08:37		07:46		06:44		06:34	05:40	05:19	05:43	06:30	07:21	08:11		08:06	15:50 (3)	08:44		14:05 (4)
	17:05		18:01		18:51		20:44	21:33	22:03	21:48	20:55	19:45	18:37		16:43 13	16:03 (3)	16:29 20		14:25 (4)
21	08:36	16:17 (3)	07:44		06:42		06:32	05:38	05:19	05:44	06:32	07:22	08:13		08:08	15:52 (3)	08:45		14:05 (4)
	17:06 9	16:26 (3)	18:03		18:53		20:46	21:35	22:03	21:47	20:53	19:42	18:35		16:42 9	16:01 (3)	16:30 20		14:25 (4)
22	08:34	16:15 (3)	07:42		06:40		06:30	05:37	05:19	05:45	06:33	07:24	08:15		08:10		08:45		14:06 (4)
	17:08 13	16:28 (3)	18:05		18:55		20:48	21:36	22:03	21:46	20:51	19:40	18:32		16:41		16:30 20		14:26 (4)
23	08:33	16:14 (3)	07:40		06:37		06:28	05:36	05:19	05:47	06:35	07:25	08:17		08:11		08:46		14:06 (4)
	17:10 16	16:30 (3)	18:07		18:56		20:49	21:37	22:03	21:44	20:48	19:38	18:30		16:39		16:31 20		14:26 (4)
24	08:32	16:12 (3)	07:38		06:35		06:26	05:35	05:20	05:48	06:37	07:27	08:18		08:13		08:46		14:07 (4)
	17:11 19	16:31 (3)	18:09		18:58		20:51	21:39	22:04	21:43	20:46	19:35	18:28		16:38		16:31 21		14:28 (4)
25	08:31	16:11 (3)	07:36	17:34 (2)	06:33		06:24	05:33	05:20	05:49	06:38	07:29	07:20		08:15		08:47		14:08 (4)
	17:13 22	16:33 (3)	18:10 10	17:44 (2)	19:00		20:53	21:40	22:04	21:42	20:44	19:33	17:26		16:37		16:32 20		14:28 (4)
26	08:29	16:11 (3)	07:34	17:31 (2)	06:30		06:22	05:32	05:20	05:51	06:40	07:30	07:22		08:16		08:47		14:08 (4)
	17:15 24	16:35 (3)	18:12 14	17:45 (2)	19:01		20:54	21:41	22:04	21:40	20:42	19:31	17:24		16:36		16:32 20		14:28 (4)
27	08:28	16:10 (3)	07:32	17:29 (2)	06:28		06:19	05:31	05:21	05:52	06:41	07:32	07:24	15:54 (3)	08:18		08:47		14:09 (4)
	17:17 26	16:36 (3)	18:14 18	17:47 (2)	19:03		20:56	21:43	22:03	21:39	20:40	19:28	17:22 4	15:58 (3)	16:35		16:33 19		14:28 (4)
28	08:27	16:10 (3)	07:29	17:28 (2)	06:26		06:17	05:30	05:21	05:54	06:43	07:34	07:25	15:49 (3)	08:19		08:47		14:09 (4)
	17:19 27	16:37 (3)	18:16 20	17:48 (2)	19:05		20:58	21:44	22:03	21:37	20:38	19:26	17:20 13	16:02 (3)	16:35		16:34 19		14:28 (4)
29	08:25	16:10 (3)			07:23		06:15	05:29	05:22	05:55	06:45	07:35	07:27	15:47 (3)	08:21		08:48		14:11 (4)
	17:20 28	16:38 (3)			20:07		20:59	21:45	22:03	21:36	20:35	19:24	17:18 18	16:05 (3)	16:34		16:35 18		14:29 (4)
30	08:24	16:09 (3)			07:21		06:14	05:28	05:23	05:57	06:46	07:37	07:29	15:45 (3)	08:22		08:48		14:12 (4)
	17:22 29	16:38 (3)			20:08		21:01	21:46	22:03	21:34	20:33	19:21	17:17 21	16:06 (3)	16:33		16:36 16		14:28 (4)
31	08:22	16:09 (3)			07:19			05:27		05:58	06:48		07:31	15:43 (3)			08:48		14:13 (4)
	17:24 30	16:39 (3)			20:10			21:48		21:32	20:31		17:15 24	16:07 (3)			16:37 15		14:28 (4)
Potential sun hours	259		277		367		416	485	499	502	454	381	331		266		243		
Total, worst case	271		427		204								354		539		402		
Sun reduction	0,24		0,30		0,33								0,34		0,24		0,20		
Oper. time red.	0,95		0,95		0,95								0,95		0,95		0,95		
Wind dir. red.	0,67		0,67		0,65								0,65		0,67		0,69		
Total reduction	0,15		0,19		0,20								0,21		0,15		0,13		
Total, real	42		82		41								74		81		54		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:36/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN131@145Shadow receptor: AC - 3997MP25

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April		May	June	July	August	September		October		November		December	
1	08:48		09:49 (3)		08:21		09:24 (4)		07:27		16:29 (1)		07:17		17:43 (1)		06:12	05:26	05:23	06:00	06:50		07:39		16:59 (1)		07:33		11:52 (2)		08:24		08:59 (4)
	16:38	106	13:10 (2)	99	13:19 (2)	45	17:14 (1)		20:12	8	17:51 (1)		21:03	21:49	22:03	21:31	20:29		19:19	60	17:59 (1)	48	17:13	48	12:40 (2)	129	16:32	129	12:58 (2)
2	08:48		09:49 (3)		08:19		09:26 (4)		07:25		16:28 (1)		07:14				06:10	05:25	05:24	06:01	06:51		07:40		16:59 (1)		07:35		11:51 (2)		08:25		09:00 (4)
	16:39	107	13:11 (2)	88	13:18 (2)	48	17:16 (1)		20:14				21:05	21:50	22:03	21:29	20:26		19:17	60	17:59 (1)	51	17:11	51	12:42 (2)	127	16:32	127	12:58 (2)
3	08:48		09:50 (3)		08:18		12:14 (2)		07:23		16:26 (1)		07:12				06:08	05:25	05:25	06:03	06:53		07:42		16:58 (1)		07:36		11:49 (2)		08:27		09:01 (4)
	16:40	108	13:12 (2)	64	13:18 (2)	50	17:16 (1)		20:15				21:06	21:51	22:02	21:28	20:24		19:14	60	17:58 (1)	55	17:09	55	12:44 (2)	125	16:31	125	12:58 (2)
4	08:47		09:49 (3)		08:16		12:15 (2)		07:21		16:25 (1)		07:10				06:06	05:24	05:25	06:04	06:55		07:44		16:58 (1)		07:38		11:47 (2)		08:28		09:03 (4)
	16:41	109	13:12 (2)	62	13:17 (2)	52	17:17 (1)		20:17				21:08	21:52	22:02	21:26	20:22		19:12	59	17:57 (1)	57	17:07	57	12:44 (2)	123	16:31	123	12:59 (2)
5	08:47		09:50 (3)		08:14		12:15 (2)		07:19		16:25 (1)		07:07				06:04	05:23	05:26	06:06	06:56		07:46		16:59 (1)		07:40		11:46 (2)		08:29		09:04 (4)
	16:43	109	13:13 (2)	62	13:17 (2)	53	17:18 (1)		20:19				21:10	21:53	22:01	21:24	20:20		19:10	58	17:57 (1)	59	17:06	59	12:45 (2)	120	16:30	120	12:59 (2)
6	08:47		09:20 (4)		08:13		12:16 (2)		07:16		16:24 (1)		07:05				06:02	05:23	05:27	06:08	06:58		07:47		16:59 (1)		07:42		11:45 (2)		08:31		09:06 (4)
	16:44	116	13:13 (2)	59	13:15 (2)	55	17:19 (1)		20:20				21:11	21:54	22:01	21:22	20:17		19:08	57	17:56 (1)	61	17:04	61	12:46 (2)	115	16:30	115	12:59 (2)
7	08:46		09:19 (4)		08:11		12:17 (2)		07:14		16:22 (1)		07:03				06:00	05:22	05:28	06:09	06:59		07:49		16:59 (1)		07:44		11:44 (2)		08:32		09:37 (3)
	16:45	120	13:14 (2)	57	13:14 (2)	57	17:19 (1)		20:22				21:13	21:55	22:00	21:20	20:15		19:05	56	17:55 (1)	63	17:02	63	12:47 (2)	109	16:29	109	13:00 (2)
8	08:46		09:18 (4)		08:09		12:20 (2)		07:12		16:22 (1)		07:01				05:59	05:21	05:29	06:11	07:01		07:51		16:59 (1)		07:45		09:45 (3)		08:33		09:38 (3)
	16:46	123	13:14 (2)	54	13:14 (2)	58	17:20 (1)		20:24				21:14	21:56	21:59	21:19	20:13		19:03	55	17:54 (1)	67	17:00	67	12:48 (2)	108	16:29	108	13:00 (2)
9	08:45		09:18 (4)		08:07		12:21 (2)		07:10		16:22 (1)		06:58				05:57	05:21	05:30	06:12	07:03		07:52		17:00 (1)		07:47		08:56 (4)		08:34		09:38 (3)
	16:48	126	13:15 (2)	51	13:12 (2)	58	17:20 (1)		20:26				21:16	21:57	21:59	21:17	20:10		19:01	53	17:53 (1)	90	16:59	90	12:49 (2)	108	16:29	108	13:00 (2)
10	08:45		09:17 (4)		08:06		12:23 (2)		07:07		16:20 (1)		06:56				05:55	05:20	05:31	06:14	07:04		07:54		17:01 (1)		07:49		08:54 (4)		08:35		09:38 (3)
	16:49	128	13:15 (2)	47	13:10 (2)	60	17:20 (1)		20:27				21:18	21:57	21:58	21:15	20:08		18:59	51	17:52 (1)	100	16:57	100	12:50 (2)	107	16:28	107	13:00 (2)
11	08:44		09:17 (4)		08:04		12:25 (2)		07:05		16:20 (1)		06:54				05:54	05:20	05:32	06:16	07:06		07:56		17:01 (1)		07:51		08:53 (4)		08:37		09:39 (3)
	16:51	129	13:16 (2)	43	13:08 (2)	60	17:20 (1)		20:29				21:19	21:58	21:57	21:13	20:06	6	17:42 (1)	49	17:50 (1)	109	16:56	109	12:51 (2)	107	16:28	107	13:00 (2)
12	08:44		09:16 (4)		08:02		12:27 (2)		07:03		16:20 (1)		06:52				05:52	05:20	05:33	06:17	07:08		17:30 (1)		07:57		17:02 (1)		07:53		08:52 (4)		08:38		09:40 (3)
	16:52	132	13:16 (2)	39	13:06 (2)	60	17:20 (1)		20:31				21:21	21:59	21:56	21:11	20:03	18	17:48 (1)	46	17:48 (1)	115	16:54	115	12:51 (2)	106	16:28	106	13:01 (2)
13	08:43		09:16 (4)		08:00		12:31 (2)		07:00		16:19 (1)		06:49				05:50	05:19	05:34	06:19	07:09		17:26 (1)		07:59		17:03 (1)		07:54		08:52 (4)		08:39		09:41 (3)
	16:53	132	13:16 (2)	32	13:03 (2)	60	17:19 (1)		20:32				21:23	22:00	21:56	21:09	20:01	26	17:52 (1)	44	17:47 (1)	120	16:53	120	12:52 (2)	106	16:28	106	13:02 (2)
14	08:42		09:15 (4)		07:58		12:35 (2)		06:58		16:19 (1)		06:47				05:49	05:19	05:35	06:20	07:11		17:22 (1)		08:01		17:04 (1)		07:56		08:51 (4)		08:40		09:42 (3)
	16:55	134	13:17 (2)	23	12:58 (2)	61	17:20 (1)		20:34				21:24	22:00	21:55	21:07	19:59	31	17:53 (1)	41	17:45 (1)	124	16:51	124	12:52 (2)	104	16:28	104	13:02 (2)
15	08:41		09:15 (4)		07:56		06:56		16:20 (1)		06:45						05:47	05:19	05:36	06:22	07:13		17:20 (1)		08:03		17:05 (1)		07:58		08:51 (4)		08:40		09:41 (3)
	16:57	136	13:17 (2)		17:52		18:43	60	17:20 (1)		20:36						21:26	22:01	21:54	21:05	19:56	35	17:55 (1)	37	18:47	37	17:42 (1)	127	16:50	127	12:53 (2)	106	16:28	106	13:02 (2)
16	08:41		09:15 (4)		07:54		06:54		16:19 (1)		06:43						05:46	05:19	05:38	06:24	07:14		17:17 (1)		08:04		17:07 (1)		08:00		08:51 (4)		08:41		09:42 (3)
	16:58	137	13:18 (2)		17:54		18:44	60	17:19 (1)		20:37						21:27	22:01	21:53	21:03	19:54	39	17:56 (1)	33	18:45	33	17:40 (1)	129	16:48	129	12:53 (2)	104	16:28	104	13:02 (2)
17	08:40		09:15 (4)		07:52		06:51		16:19 (1)		06:41						05:44	05:19	05:39	06:25	07:16		17:15 (1)		08:06		17:09 (1)		08:01		08:51 (4)		08:42		09:43 (3)
	17:00	137	13:18 (2)		17:56		18:46	59	17:18 (1)		20:39						21:29	22:02	21:52	21:01	19:52	42	17:57 (1)	28	18:43	28	17:37 (1)	132	16:47	132	12:54 (2)	104	16:28	104	13:03 (2)
18	08:39		09:15 (4)		07:50		06:49		16:20 (1)		06:38						05:43	05:19	05:40	06:27	07:17		17:13 (1)		08:08		17:13 (1)		08:03		08:51 (4)		08:43		09:44 (3)
	17:01	137	13:18 (2)		17:58		18:48	58	17:18 (1)		20:41						21:30	22:02	21:51	20:59	19:49	45	17:58 (1)	21	18:41	21	17:34 (1)	133	16:46	133	12:54 (2)	103	16:29	103	13:03 (2)
19	08:38		09:15 (4)		07:48		06:47		16:20 (1)		06:36						05:41	05:19	05:41	06:28	07:19		17:10 (1)		08:10		17:17 (1)		08:05		08:50 (4)		08:44		09:43 (3)
	17:03	138	13:19 (2)		17:59		18:49	57	17:17 (1)		20:43						21:32	22:03	21:49	20:57	19:47	49	17:59 (1)	12	18:39	12	17:29 (1)	136	16:44	136	12:54 (2)	104	16:29	104	13:03 (2)
20	08:37		09:16 (4)		07:46		06:44		16:20 (1)		06:34						05:40	05:19	05:43	06:30	07:21		17:09 (1)		08:11				08:06		08:51 (4)		08:44		09:44 (3)
	17:05	137	13:19 (2)		18:01		18:51	56	17:16 (1)		20:44						21:33	22:03	21:48	20:55	19:45	51	18:00 (1)		18:37				16:43	135	12:54 (2)	104	16:29	104	13:04 (2)
21	08:36		09:16 (4)		07:44		06:42		16:21 (1)		06:32						05:38	05:19	05:44	06:32	07:22		17:07 (1)		08:13				08:08		08:51 (4)		08:45		09:45 (3)
	17:06	138	13:20 (2)		18:03		18:53	55	17:16 (1)		20:46						21:35	22:03	21:47	20:53	19:42	52	17:59 (1)		18:35				16:42	138	12:55 (2)	104	16:30	104	13:05 (2)
22	08:34		09:16 (4)		07:42		06:40		16:21 (1)		06:30						05:37	05:19	05:45	06:33	07:24		17:06 (1)		08:15				08:10		08:52 (4)		08:45		09:45 (3)
	17:08	135	13:19 (2)		18:05		18:55	53	17:14 (1)		20:48						21:36	22:03	21:46	20:51	19:40	54	18:00 (1)		18:33				16:41	137	12:55 (2)	104	16:30	104	13:05 (2)
23	08:33		09:16 (4)		07:40		16:44 (1)		06:37		16:22 (1)		06:28				05:36	05:20	05:47	06:35	07:26		17:05 (1)		08:17				08:11		08:52 (4)		08:46		09:45 (3)
	17:10	136	13:20 (2)		18:07	16	17:00 (1)		18:56	51	17:13 (1)		20:49				21:37	22:03	21:44	20:49	19:38	56	18:01 (1)		18:31				16:40	137	12:56 (2)	104	16:31	104	13:05 (2)
24	08:32		09:17 (4)		07:38		16:40 (1)		06:35		16:24 (1)		06:26				05:35	05:20	05:48	06:37	07:27		17:03 (1)		08:18				08:13		08:52 (4)		08:46		09:46 (3)
	17:12	133	13:20 (2)		18:09	24	17:04 (1)		18:58	48	17:12 (1)		20:51				21:39	22:04	21:43	20:46	19:35	57	18:00 (1)		18:28				16:38	138	12:55 (2)	104	16:31	104	13:06 (2)
25	08:31		09:17 (4)		07:36		16:37 (1)		06:33		16:24 (1)		06:24				05:33	05:20	05:49	06:38	07:29		17:03 (1)		07:20				08:15		08:53 (4)		08:47		09:46 (3)
	17:13	132	13:20 (2)		18:10	30	17:07 (1)		19:00	46	17:10 (1)		20:53				21:40	22:04	21:42	20:44	19:33	58	18:01 (1)		17:26				16:37	137	12:56 (2)	104	16:32	104	13:06 (2)
26	08:29		09:18 (4)		07:34		16:35 (1)		06:30		16:26 (1)		06:22				05:32	05:21	05:51	06:40	07:31		17:02 (1)		07:22				08:16		08:54 (4)		08:47		09:47 (3)
	17:15	129	13:20 (2)		18:12	34	17:09 (1)		19:02	43	17:09 (1)		20:54				21:41	22:04	21:40	20:42	19:31	59	18:01 (1)		17:24				16:36	137	12:57 (2)	104	16:32	104	13:07 (2)
27	08:28		09:18 (4)		07:32		16:32 (1)		06:28		16:28 (1)		06:20				05:31	05:21	05:52	06:42	07:32		17:01 (1)		07:24		12:13 (2)		08:18		08:55 (4)		08:47		09:47 (3)
	17:17	127	13:20 (2)		18:14	39	17:11 (1)		19:03	40	17:08 (1)		20:56				21:43	22:04	21:39	20:40	19:28	59	18:00 (1)		17:22	2	12:15 (2)		16:36	136	12:57 (2)	104	16:33	104	13:07 (2)
28	08:27		09:19 (4)		07:30		16:31 (1)		06:26		16:29 (1)		06:18				05:30	05:21	05:54	06:43	07:34		17:00 (1)		07:26		12:03 (2)		08:19		08:55 (4)		08:48		09:48 (3)
	17:19	124	13:20 (2)		18:16	42	17:13 (1)		19:05	36	17:05 (1)		20:58				21:44	22:03	21:37	20:38	19:26	60	18:00 (1)		17:20	26	12:29 (2)		16:35	134	12:57 (2)	105	16:34	105	13:08 (2)
29	08:25		09:20 (4)				07:24		17:31 (1)		06:16						05:29	05:22	05:55	06:45	07:35		17:00 (1)		07:27		11:59 (2)		08:21		08:57 (4)		08:48		09:48 (3)
	17:20	120	13:20 (2)				20:07	32	18:03 (1)		21:00						21:45	22:03	21:36	20:35	19:24	60	18:00 (1)		17:19	34	12:33 (2)		16:34	132	12:57 (2)	105	16:35	105	13:09 (2)
30	08:24		09:20 (4)				07:21		17:34 (1)		06:14						05:28	05:23	05:57	06:46	07:37		16:59 (1)		07:29		11:56 (2)		08:22		08:58 (4)		08:48		09:49 (3)
	17:22	115	13:19 (2)				20:08	27	18:01 (1)		21:01						21:47	22:03	21:34	20:33	19:21	60	17:59 (1)		17:17	40	12:36 (2)		16:33	132	12:58 (2)	106	16:36	106	13:10 (2)
31	08:22		09:22 (4)				07:19		17:38 (1)								05:27		05:58	06:48					07:31		11:54 (2)						08:48		09:48 (3)
	17:24	108	13:20 (2)				20:10	20	17:58 (1)								21:48		21:33	20:31					17:15	44	12:38 (2)						16:37	106	13:09 (2)
Potential sun hours	259				277		367				416						485	499	502	454	381				331				266				243		
Total, worst case		3898				965		1578				8										917				1026			3269				3369	
Sun reduction		0,24				0,30		0,33				0,42										0,36				0,34			0,24				0,20	
Oper. time red.		0,95				0,95		0,95				0,95										0,95				0,95			0,95				0,95	
Wind dir. red.		0,64				0,66		0,67				0,67										0,67				0,67			0,64				0,64	
Total reduction		0,14				0,19		0,21				0,26										0,23				0,21			0,14				0,12	
Total, real		561				183		327				2										209				217			467				417	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:36/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN131@145Shadow receptor: AD - 3945LA9

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December		
1	08:48		12:57 (3)	08:21		15:56 (2)	07:27		07:17	06:12	05:26	05:23	06:00	06:50		07:39		18:10 (1)	07:33		15:24 (2)	08:24		12:55 (3)
	16:38	33	13:30 (3)	17:26	36	16:32 (2)	18:18		20:12	21:03	21:49	22:03	21:31	20:29		19:19	29	18:39 (1)	17:13	43	16:07 (2)	16:32	12	13:07 (3)
2	08:48		12:58 (3)	08:19		15:56 (2)	07:25		07:14	06:10	05:25	05:24	06:01	06:51		07:40		18:10 (1)	07:35		15:24 (2)	08:25		12:53 (3)
	16:39	33	13:31 (3)	17:28	37	16:33 (2)	18:19		20:14	21:05	21:50	22:02	21:29	20:26		19:17	29	18:39 (1)	17:11	43	16:07 (2)	16:32	17	13:10 (3)
3	08:48		12:59 (3)	08:18		15:56 (2)	07:23		07:12	06:08	05:25	05:25	06:03	06:53		07:42		18:10 (1)	07:36		15:23 (2)	08:27		12:51 (3)
	16:40	32	13:31 (3)	17:30	38	16:34 (2)	18:21		20:15	21:06	21:51	22:02	21:28	20:24		19:14	27	18:37 (1)	17:09	43	16:06 (2)	16:31	20	13:11 (3)
4	08:47		13:00 (3)	08:16		15:55 (2)	07:21		07:10	06:06	05:24	05:25	06:04	06:55		07:44		18:10 (1)	07:38		15:23 (2)	08:28		12:50 (3)
	16:41	30	13:30 (3)	17:31	40	16:35 (2)	18:23		20:17	21:08	21:52	22:02	21:26	20:22		19:12	27	18:37 (1)	17:07	42	16:05 (2)	16:30	24	13:14 (3)
5	08:47		13:01 (3)	08:14		15:55 (2)	07:19	17:41 (1)	07:07	06:04	05:23	05:26	06:06	06:56		07:46		18:11 (1)	07:40		15:24 (2)	08:29		12:49 (3)
	16:42	29	13:30 (3)	17:33	40	16:35 (2)	18:25	12 17:53 (1)	20:19	21:10	21:53	22:01	21:24	20:20		19:10	25	18:36 (1)	17:06	41	16:05 (2)	16:30	26	13:15 (3)
6	08:47		13:02 (3)	08:13		15:54 (2)	07:16	17:38 (1)	07:05	06:02	05:23	05:27	06:08	06:58		07:47		18:11 (1)	07:42		15:24 (2)	08:31		12:48 (3)
	16:44	28	13:30 (3)	17:35	41	16:35 (2)	18:27	16 17:54 (1)	20:20	21:11	21:54	22:01	21:22	20:17		19:08	22	18:33 (1)	17:04	41	16:05 (2)	16:29	28	13:16 (3)
7	08:46		13:04 (3)	08:11		15:54 (2)	07:14	17:36 (1)	07:03	06:00	05:22	05:28	06:09	06:59		07:49		18:13 (1)	07:44		15:25 (2)	08:32		12:49 (3)
	16:45	26	13:30 (3)	17:37	42	16:36 (2)	18:28	21 17:57 (1)	20:22	21:13	21:55	22:00	21:20	20:15		19:05	19	18:32 (1)	17:02	39	16:04 (2)	16:29	28	13:17 (3)
8	08:46		13:05 (3)	08:09		15:54 (2)	07:12	17:35 (1)	07:01	05:59	05:21	05:29	06:11	07:01		07:51		18:15 (1)	07:45		15:26 (2)	08:33		12:48 (3)
	16:46	24	13:29 (3)	17:39	43	16:37 (2)	18:30	23 17:58 (1)	20:24	21:14	21:56	21:59	21:19	20:13		19:03	14	18:29 (1)	17:00	38	16:04 (2)	16:29	30	13:18 (3)
9	08:45		13:08 (3)	08:07		15:54 (2)	07:10	17:34 (1)	06:58	05:57	05:21	05:30	06:12	07:03		07:52		18:18 (1)	07:47		15:26 (2)	08:34		12:48 (3)
	16:48	20	13:28 (3)	17:41	43	16:37 (2)	18:32	25 17:59 (1)	20:25	21:16	21:57	21:59	21:17	20:10		19:01	8	18:26 (1)	16:59	37	16:03 (2)	16:28	31	13:19 (3)
10	08:45		13:10 (3)	08:06		15:54 (2)	07:07	17:32 (1)	06:56	05:55	05:20	05:31	06:14	07:04		07:54			07:49		15:27 (2)	08:35		12:47 (3)
	16:49	17	13:27 (3)	17:43	43	16:37 (2)	18:34	27 17:59 (1)	20:27	21:18	21:57	21:58	21:15	20:08		18:59			16:57	36	16:03 (2)	16:28	33	13:20 (3)
11	08:44		13:13 (3)	08:04		15:54 (2)	07:05	17:32 (1)	06:54	05:54	05:20	05:32	06:16	07:06		07:56			07:51		15:28 (2)	08:37		12:47 (3)
	16:50	12	13:25 (3)	17:45	43	16:37 (2)	18:36	28 18:00 (1)	20:29	21:19	21:58	21:57	21:13	20:06		18:56			16:56	34	16:02 (2)	16:28	33	13:20 (3)
12	08:44			08:02		15:54 (2)	07:03	17:31 (1)	06:52	05:52	05:20	05:33	06:17	07:08		07:57			07:52		15:29 (2)	08:38		12:47 (3)
	16:52			17:46	43	16:37 (2)	18:37	29 18:00 (1)	20:31	21:21	21:59	21:56	21:11	20:03		18:54			16:54	32	16:01 (2)	16:28	34	13:21 (3)
13	08:43			08:00		15:55 (2)	07:00	17:30 (1)	06:49	05:50	05:19	05:34	06:19	07:09		07:59			07:54		15:31 (2)	08:39		12:48 (3)
	16:53			17:48	42	16:37 (2)	18:39	30 18:00 (1)	20:32	21:22	22:00	21:56	21:09	20:01		18:52			16:53	29	16:00 (2)	16:28	35	13:23 (3)
14	08:42			07:58		15:55 (2)	06:58	17:30 (1)	06:47	05:49	05:19	05:35	06:20	07:11		08:01			07:56		15:32 (2)	08:40		12:47 (3)
	16:55			17:50	41	16:36 (2)	18:41	30 18:00 (1)	20:34	21:24	22:00	21:55	21:07	19:59		18:50			16:51	27	15:59 (2)	16:28	36	13:23 (3)
15	08:41			07:56		15:56 (2)	06:56	17:31 (1)	06:45	05:47	05:19	05:36	06:22	07:12		08:03			07:58		15:34 (2)	08:40		12:48 (3)
	16:56			17:52	40	16:36 (2)	18:43	29 18:00 (1)	20:36	21:26	22:01	21:54	21:05	19:56		18:47			16:50	23	15:57 (2)	16:28	35	13:23 (3)
16	08:41			07:54		15:56 (2)	06:54	17:30 (1)	06:43	05:46	05:19	05:38	06:24	07:14		08:04			08:00		15:36 (2)	08:41		12:48 (3)
	16:58			17:54	40	16:36 (2)	18:44	28 17:58 (1)	20:37	21:27	22:01	21:53	21:03	19:54		18:45			16:48	20	15:56 (2)	16:28	36	13:24 (3)
17	08:40			07:52		15:57 (2)	06:51	17:31 (1)	06:41	05:44	05:19	05:39	06:25	07:16		08:06		16:46 (2)	08:01		15:38 (2)	08:42		12:49 (3)
	17:00			17:56	38	16:35 (2)	18:46	27 17:58 (1)	20:39	21:29	22:02	21:52	21:01	19:52		18:43	3	16:49 (2)	16:47	16	15:54 (2)	16:28	36	13:25 (3)
18	08:39			07:50		15:58 (2)	06:49	17:32 (1)	06:38	05:43	05:19	05:40	06:27	07:17		08:08		16:40 (2)	08:03		15:40 (2)	08:43		12:49 (3)
	17:01			17:58	36	16:34 (2)	18:48	25 17:57 (1)	20:41	21:30	22:02	21:50	20:59	19:49		18:41	15	16:55 (2)	16:45	10	15:50 (2)	16:28	37	13:26 (3)
19	08:38			07:48		15:59 (2)	06:47	17:32 (1)	06:36	05:41	05:19	05:41	06:28	07:19		08:10		16:37 (2)	08:05			08:44		12:49 (3)
	17:03			17:59	34	16:33 (2)	18:49	23 17:55 (1)	20:43	21:32	22:03	21:49	20:57	19:47		18:39	21	16:58 (2)	16:44			16:29	37	13:26 (3)
20	08:37			07:46		16:00 (2)	06:44	17:34 (1)	06:34	05:40	05:19	05:43	06:30	07:21		08:11		16:34 (2)	08:06			08:44		12:50 (3)
	17:05			18:01	31	16:31 (2)	18:51	20 17:54 (1)	20:44	21:33	22:03	21:48	20:55	19:45		18:37	26	17:00 (2)	16:43			16:29	37	13:27 (3)
21	08:36			07:44		16:02 (2)	06:42	17:36 (1)	06:32	05:38	05:19	05:44	06:32	07:22	18:24 (1)	08:13		16:32 (2)	08:08			08:45		12:51 (3)
	17:06			18:03	28	16:30 (2)	18:53	16 17:52 (1)	20:46	21:35	22:03	21:47	20:53	19:42	9 18:33 (1)	18:35	30	17:02 (2)	16:42			16:30	37	13:28 (3)
22	08:34			07:42		16:04 (2)	06:40	17:38 (1)	06:30	05:37	05:19	05:45	06:33	07:24	18:21 (1)	08:15		16:30 (2)	08:10			08:45		12:51 (3)
	17:08			18:05	24	16:28 (2)	18:55	10 17:48 (1)	20:48	21:36	22:03	21:46	20:51	19:40	15 18:36 (1)	18:33	32	17:02 (2)	16:41			16:30	37	13:28 (3)
23	08:33			07:40		16:07 (2)	06:37		06:28	05:36	05:19	05:47	06:35	07:26	18:19 (1)	08:17		16:28 (2)	08:11			08:46		12:51 (3)
	17:10			18:07	19	16:26 (2)	18:56		20:49	21:37	22:03	21:44	20:48	19:38	19 18:38 (1)	18:30	35	17:03 (2)	16:39			16:31	37	13:28 (3)
24	08:32		16:07 (2)	07:38		16:10 (2)	06:35		06:26	05:35	05:20	05:48	06:37	07:27	18:16 (1)	08:18		16:27 (2)	08:13			08:46		12:52 (3)
	17:11	11	16:18 (2)	18:09	13	16:23 (2)	18:58		20:51	21:39	22:04	21:43	20:46	19:35	22 18:38 (1)	18:28	37	17:04 (2)	16:38			16:31	37	13:29 (3)
25	08:31		16:04 (2)	07:36			06:33		06:24	05:33	05:20	05:49	06:38	07:29	18:15 (1)	07:20		15:26 (2)	08:15			08:47		12:52 (3)
	17:13	16	16:20 (2)	18:10			19:00		20:53	21:40	22:04	21:42	20:44	19:33	24 18:39 (1)	17:26	39	16:05 (2)	16:37			16:32	37	13:29 (3)
26	08:29		16:03 (2)	07:34			06:30		06:22	05:32	05:21	05:51	06:40	07:30	18:14 (1)	07:22		15:26 (2)	08:16			08:47		12:52 (3)
	17:15	20	16:23 (2)	18:12			19:02		20:54	21:41	22:04	21:40	20:42	19:31	26 18:40 (1)	17:24	39	16:05 (2)	16:36			16:32	37	13:29 (3)
27	08:28		16:01 (2)	07:32			06:28		06:20	05:31	05:21	05:52	06:42	07:32	18:12 (1)	07:24		15:25 (2)	08:18			08:47		12:53 (3)
	17:17	24	16:25 (2)	18:14			19:03		20:56	21:43	22:04	21:39	20:40	19:28	28 18:40 (1)	17:22	41	16:06 (2)	16:36			16:33	36	13:29 (3)
28	08:27		16:00 (2)	07:29			06:26		06:18	05:30	05:21	05:54	06:43	07:34	18:12 (1)	07:26		15:25 (2)	08:19			08:47		12:54 (3)
	17:19	27	16:27 (2)	18:16			19:05		20:58	21:44	22:03	21:37	20:38	19:26	28 18:40 (1)	17:20	41	16:06 (2)	16:35			16:34	36	13:30 (3)
29	08:25		15:59 (2)				07:23		06:16	05:29	05:22	05:55	06:45	07:35	18:11 (1)	07:27		15:24 (2)	08:21			08:48		12:55 (3)
	17:20	29	16:28 (2)				20:07		21:00	21:45	22:03	21:36	20:35	19:24	29 18:40 (1)	17:18	42	16:06 (2)	16:34			16:35	36	13:31 (3)
30	08:24		15:57 (2)				07:21		06:14	05:28	05:23	05:57	06:46	07:37	18:10 (1)	07:29		15:24 (2)	08:22			08:48		12:56 (3)
	17:22	32	16:29 (2)				20:08		21:01	21:46	22:03	21:34	20:33	19:21	29 18:39 (1)	17:17	43	16:07 (2)	16:33			16:36	35	13:31 (3)
31	08:22		15:57 (2)				07:19			05:27		05:58	06:48			07:31		15:24 (2)				08:48		12:56 (3)
	17:24	34	16:31 (2)				20:10			21:48		21:32	20:31			17:15	43	16:07 (2)				16:37	34	13:30 (3)
Potential sun hours	259			277			367		416	485	499	502	454	381		331			266			243		
Total, worst case		477			875			419							229		687			594			1004	
Sun reduction		0,24			0,30			0,33							0,36		0,34			0,24			0,20	
Oper. time red.		0,95			0,95			0,95							0,95		0,95			0,95			0,95	
Wind dir. red.		0,68			0,67			0,63							0,63		0,66			0,67			0,68	
Total reduction		0,15			0,19			0,20							0,22		0,21			0,15			0,13	
Total, real		74			169			83							50		145			90			132	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:36/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN131@145Shadow receptor: AE - 3945LA1a

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March	April	May	June	July	August	September	October		November		December		
1	08:48	15:43 (4)	08:21		07:27	07:16	06:12	05:26	05:23	06:00	06:50	07:39		07:33		08:24		15:26 (4)
	16:38	16 15:59 (4)	17:26		18:18	20:12	21:03	21:49	22:03	21:31	20:29	19:19		17:13		16:32	24	15:50 (4)
2	08:48	15:44 (4)	08:19		07:25	07:14	06:10	05:25	05:24	06:01	06:51	07:40		07:34		08:25		15:27 (4)
	16:39	17 16:01 (4)	17:28		18:19	20:13	21:04	21:50	22:02	21:29	20:26	19:17		17:11		16:32	24	15:51 (4)
3	08:47	15:44 (4)	08:18		07:23	07:12	06:08	05:25	05:25	06:03	06:53	07:42		07:36		08:27		15:27 (4)
	16:40	18 16:02 (4)	17:30		18:21	20:15	21:06	21:51	22:02	21:27	20:24	19:14		17:09		16:31	23	15:50 (4)
4	08:47	15:43 (4)	08:16		07:21	07:10	06:06	05:24	05:25	06:04	06:54	07:44		07:38		08:28		15:27 (4)
	16:41	19 16:02 (4)	17:31		18:23	20:17	21:08	21:52	22:02	21:26	20:22	19:12		17:07		16:30	23	15:50 (4)
5	08:47	15:44 (4)	08:14		07:18	07:07	06:04	05:23	05:26	06:06	06:56	07:45		07:40		08:29		15:29 (4)
	16:42	20 16:04 (4)	17:33		18:25	20:19	21:09	21:53	22:01	21:24	20:20	19:10		17:05		16:30	22	15:51 (4)
6	08:47	15:43 (4)	08:13		07:16	07:05	06:02	05:22	05:27	06:07	06:58	07:47		07:42		08:31		15:29 (4)
	16:44	21 16:04 (4)	17:35		18:27	20:20	21:11	21:54	22:01	21:22	20:17	19:08		17:04		16:29	21	15:50 (4)
7	08:46	15:44 (4)	08:11		07:14	07:03	06:00	05:22	05:28	06:09	06:59	07:49		07:43		08:32		15:31 (4)
	16:45	21 16:05 (4)	17:37		18:28	20:22	21:13	21:55	22:00	21:20	20:15	19:05		17:02		16:29	20	15:51 (4)
8	08:46	15:43 (4)	08:09		07:12	07:00	05:59	05:21	05:29	06:11	07:01	07:51		07:45		08:33		15:31 (4)
	16:46	23 16:06 (4)	17:39		18:30	20:24	21:14	21:56	21:59	21:19	20:13	19:03		17:00		16:29	19	15:50 (4)
9	08:45	15:43 (4)	08:07		07:09	06:58	05:57	05:21	05:30	06:12	07:03	07:52		07:47		08:34		15:32 (4)
	16:48	23 16:06 (4)	17:41		18:32	20:25	21:16	21:57	21:59	21:17	20:10	19:01		16:59		16:28	18	15:50 (4)
10	08:45	15:44 (4)	08:06		07:07	06:56	05:55	05:20	05:31	06:14	07:04	07:54		07:49		08:35		15:33 (4)
	16:49	24 16:08 (4)	17:43		18:34	20:27	21:18	21:57	21:58	21:15	20:08	18:58		16:57		16:28	17	15:50 (4)
11	08:44	15:44 (4)	08:04	17:08 (3)	07:05	06:54	05:53	05:20	05:32	06:15	07:06	07:56		07:51	15:31 (4)	08:36		15:33 (4)
	16:50	24 16:08 (4)	17:44	8 17:16 (3)	18:35	20:29	21:19	21:58	21:57	21:13	20:06	18:56		16:56	6 15:37 (4)	16:28	16	15:49 (4)
12	08:44	15:44 (4)	08:02	17:06 (3)	07:03	06:51	05:52	05:20	05:33	06:17	07:08	07:57		07:52	15:28 (4)	08:38		15:34 (4)
	16:52	25 16:09 (4)	17:46	12 17:18 (3)	18:37	20:31	21:21	21:59	21:56	21:11	20:03	18:54		16:54	12 15:40 (4)	16:28	15	15:49 (4)
13	08:43	15:44 (4)	08:00	17:05 (3)	07:00	06:49	05:50	05:19	05:34	06:19	07:09	07:59		07:54	15:26 (4)	08:39		15:35 (4)
	16:53	25 16:09 (4)	17:48	15 17:20 (3)	18:39	20:32	21:22	21:59	21:55	21:09	20:01	18:52		16:52	16 15:42 (4)	16:28	14	15:49 (4)
14	08:42	15:44 (4)	07:58	17:04 (3)	06:58	06:47	05:49	05:19	05:35	06:20	07:11	08:01		07:56	15:25 (4)	08:39		15:36 (4)
	16:55	26 16:10 (4)	17:50	18 17:22 (3)	18:41	20:34	21:24	22:00	21:55	21:07	19:59	18:50		16:51	18 15:43 (4)	16:28	13	15:49 (4)
15	08:41	15:44 (4)	07:56	17:03 (3)	06:56	06:45	05:47	05:19	05:36	06:22	07:12	08:03		07:58	15:24 (4)	08:40		15:37 (4)
	16:56	27 16:11 (4)	17:52	20 17:23 (3)	18:42	20:36	21:26	22:01	21:54	21:05	19:56	18:47		16:50	21 15:45 (4)	16:28	12	15:49 (4)
16	08:40	15:44 (4)	07:54	17:03 (3)	06:54	06:43	05:45	05:19	05:37	06:24	07:14	08:04		07:59	15:23 (4)	08:41		15:38 (4)
	16:58	27 16:11 (4)	17:54	21 17:24 (3)	18:44	20:37	21:27	22:01	21:53	21:03	19:54	18:45		16:48	23 15:46 (4)	16:28	11	15:49 (4)
17	08:40	15:44 (4)	07:52	17:02 (3)	06:51	06:40	05:44	05:19	05:39	06:25	07:16	08:06	17:40 (3)	08:01	15:23 (4)	08:42		15:39 (4)
	17:00	28 16:12 (4)	17:56	22 17:24 (3)	18:46	20:39	21:29	22:02	21:52	21:01	19:52	18:43	9 17:49 (3)	16:47	24 15:47 (4)	16:28	11	15:50 (4)
18	08:39	15:45 (4)	07:50	17:02 (3)	06:49	06:38	05:42	05:19	05:40	06:27	07:17	08:08	17:37 (3)	08:03	15:22 (4)	08:43		15:40 (4)
	17:01	27 16:12 (4)	17:57	22 17:24 (3)	18:48	20:41	21:30	22:02	21:50	20:59	19:49	18:41	14 17:51 (3)	16:45	24 15:46 (4)	16:28	10	15:50 (4)
19	08:38	15:45 (4)	07:48	17:02 (3)	06:47	06:36	05:41	05:19	05:41	06:28	07:19	08:09	17:36 (3)	08:05	15:21 (4)	08:43		15:40 (4)
	17:03	28 16:13 (4)	17:59	21 17:23 (3)	18:49	20:42	21:32	22:02	21:49	20:57	19:47	18:39	16 17:52 (3)	16:44	26 15:47 (4)	16:29	9	15:49 (4)
20	08:37	15:46 (4)	07:46	17:02 (3)	06:44	06:34	05:40	05:19	05:42	06:30	07:21	08:11	17:35 (3)	08:06	15:21 (4)	08:44		15:41 (4)
	17:05	27 16:13 (4)	18:01	21 17:23 (3)	18:51	20:44	21:33	22:03	21:48	20:55	19:45	18:37	18 17:53 (3)	16:43	27 15:48 (4)	16:29	9	15:50 (4)
21	08:35	15:46 (4)	07:44	17:03 (3)	06:42	06:32	05:38	05:19	05:44	06:32	07:22	08:13	17:33 (3)	08:08	15:22 (4)	08:45		15:41 (4)
	17:06	26 16:12 (4)	18:03	19 17:22 (3)	18:53	20:46	21:34	22:03	21:47	20:53	19:42	18:35	20 17:53 (3)	16:42	27 15:49 (4)	16:29	9	15:50 (4)
22	08:34	15:46 (4)	07:42	17:04 (3)	06:40	06:30	05:37	05:19	05:45	06:33	07:24	08:15	17:32 (3)	08:10	15:22 (4)	08:45		15:42 (4)
	17:08	27 16:13 (4)	18:05	18 17:22 (3)	18:55	20:48	21:36	22:03	21:46	20:51	19:40	18:32	21 17:53 (3)	16:41	27 15:49 (4)	16:30	9	15:51 (4)
23	08:33	15:47 (4)	07:40	17:05 (3)	06:37	06:28	05:36	05:19	05:47	06:35	07:25	08:17	17:32 (3)	08:11	15:22 (4)	08:46		15:42 (4)
	17:10	26 16:13 (4)	18:07	16 17:21 (3)	18:56	20:49	21:37	22:03	21:44	20:48	19:38	18:30	22 17:54 (3)	16:39	28 15:50 (4)	16:30	9	15:51 (4)
24	08:32	15:48 (4)	07:38	17:07 (3)	06:35	06:26	05:34	05:20	05:48	06:37	07:27	08:18	17:32 (3)	08:13	15:22 (4)	08:46		15:43 (4)
	17:11	24 16:12 (4)	18:09	12 17:19 (3)	18:58	20:51	21:39	22:03	21:43	20:46	19:35	18:28	22 17:54 (3)	16:38	27 15:49 (4)	16:31	9	15:52 (4)
25	08:31	15:49 (4)	07:36	17:10 (3)	06:33	06:24	05:33	05:20	05:49	06:38	07:29	07:20	16:32 (3)	08:15	15:22 (4)	08:47		15:43 (4)
	17:13	24 16:13 (4)	18:10	6 17:16 (3)	19:00	20:53	21:40	22:04	21:41	20:44	19:33	17:26	22 16:54 (3)	16:37	28 15:50 (4)	16:32	10	15:53 (4)
26	08:29	15:50 (4)	07:34		06:30	06:21	05:32	05:20	05:51	06:40	07:30	07:22	16:32 (3)	08:16	15:23 (4)	08:47		15:43 (4)
	17:15	23 16:13 (4)	18:12		19:01	20:54	21:41	22:04	21:40	20:42	19:31	17:24	21 16:53 (3)	16:36	27 15:50 (4)	16:32	10	15:53 (4)
27	08:28	15:51 (4)	07:32		06:28	06:19	05:31	05:21	05:52	06:41	07:32	07:24	16:33 (3)	08:18	15:24 (4)	08:47		15:43 (4)
	17:17	21 16:12 (4)	18:14		19:03	20:56	21:43	22:03	21:39	20:40	19:28	17:22	20 16:53 (3)	16:35	27 15:51 (4)	16:33	11	15:54 (4)
28	08:27	15:53 (4)	07:29		06:26	06:17	05:30	05:21	05:54	06:43	07:34	07:25	16:34 (3)	08:19	15:24 (4)	08:47		15:43 (4)
	17:19	18 16:11 (4)	18:16		19:05	20:58	21:44	22:03	21:37	20:38	19:26	17:20	17 16:51 (3)	16:35	26 15:50 (4)	16:34	12	15:55 (4)
29	08:25	15:54 (4)			07:23	06:15	05:29	05:22	05:55	06:45	07:35	07:27	16:35 (3)	08:21	15:25 (4)	08:48		15:43 (4)
	17:20	16 16:10 (4)			20:07	20:59	21:45	22:03	21:36	20:35	19:24	17:18	14 16:49 (3)	16:34	26 15:51 (4)	16:35	13	15:56 (4)
30	08:24	15:56 (4)			07:21	06:13	05:28	05:22	05:57	06:46	07:37	07:29	16:36 (3)	08:22	15:25 (4)	08:48		15:43 (4)
	17:22	12 16:08 (4)			20:08	21:01	21:46	22:03	21:34	20:33	19:21	17:16	11 16:47 (3)	16:33	25 15:50 (4)	16:36	14	15:57 (4)
31	08:22	16:00 (4)			07:19		05:27		05:58	06:48		07:31	16:38 (3)			08:48		15:43 (4)
	17:24	6 16:06 (4)			20:10		21:48		21:32	20:31		17:15	7 16:45 (3)			16:37	15	15:58 (4)
Potential sun hours	259		277		367	416	485	499	502	454	381	331		266		243		
Total, worst case		689		251									254		465		452	
Sun reduction		0,24		0,30									0,34		0,24		0,20	
Oper. time red.		0,95		0,95									0,95		0,95		0,95	
Wind dir. red.		0,67		0,67									0,67		0,67		0,67	
Total reduction		0,15		0,19									0,21		0,15		0,13	
Total, real		106		48									54		70		59	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:36/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN131@145Shadow receptor: AF - 3945LA7

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December		
1	08:48		13:55 (3)	08:21		16:39 (2)	07:17	06:12	05:26	05:23	06:00	06:50		07:39		18:29 (1)	07:33		16:13 (2)	08:24		13:44 (3)
	16:38	45	14:40 (3)	17:26		17:05 (2)	20:12	21:03	21:49	22:03	21:31	20:29		19:19	20	18:49 (1)	17:13	18	16:31 (2)	16:32	40	14:24 (3)
2	08:48		13:56 (3)	08:19		16:41 (2)	07:14	06:10	05:25	05:24	06:01	06:51		07:40		18:31 (1)	07:35		16:16 (2)	08:25		13:44 (3)
	16:39	44	14:40 (3)	17:28		17:03 (2)	20:13	21:05	21:50	22:02	21:29	20:26		19:17	17	18:48 (1)	17:11	12	16:28 (2)	16:32	41	14:25 (3)
3	08:48		13:57 (3)	08:18		16:43 (2)	07:12	06:08	05:25	05:25	06:03	06:53		07:42		18:32 (1)	07:36			08:27		13:44 (3)
	16:40	44	14:41 (3)	17:30		17:00 (2)	20:15	21:06	21:51	22:02	21:27	20:24		19:14	12	18:44 (1)	17:09			16:31	41	14:25 (3)
4	08:47		13:57 (3)	08:16		16:46 (2)	07:10	06:06	05:24	05:25	06:04	06:55		07:44		18:35 (1)	07:38			08:28		13:44 (3)
	16:41	44	14:41 (3)	17:31		16:57 (2)	20:17	21:08	21:52	22:02	21:26	20:22		19:12	6	18:41 (1)	17:07			16:30	43	14:27 (3)
5	08:47		13:58 (3)	08:14			07:07	06:04	05:23	05:26	06:06	06:56		07:45			07:40			08:29		13:44 (3)
	16:42	43	14:41 (3)	17:33			20:19	21:10	21:53	22:01	21:24	20:20		19:10			17:06			16:30	43	14:27 (3)
6	08:47		13:58 (3)	08:13			07:05	06:02	05:23	05:27	06:08	06:58		07:47			07:42			08:31		13:44 (3)
	16:44	43	14:41 (3)	17:35			20:20	21:11	21:54	22:01	21:22	20:17		19:08			17:04			16:29	43	14:27 (3)
7	08:46		13:59 (3)	08:11			07:03	06:00	05:22	05:28	06:09	06:59		07:49			07:44			08:32		13:45 (3)
	16:45	43	14:42 (3)	17:37			20:22	21:13	21:55	22:00	21:20	20:15		19:05			17:02			16:29	43	14:28 (3)
8	08:46		13:59 (3)	08:09	16:51 (2)	07:12	07:01	05:59	05:21	05:29	06:11	07:01		07:51			07:45			08:33		13:45 (3)
	16:46	43	14:42 (3)	17:39	3 16:54 (2)	18:30	20:24	21:14	21:56	21:59	21:19	20:13		19:03			17:00			16:29	44	14:29 (3)
9	08:45		14:01 (3)	08:07	16:45 (2)	07:10	06:58	05:57	05:21	05:30	06:12	07:03		07:52			07:47			08:34		13:45 (3)
	16:48	41	14:42 (3)	17:41	14 16:59 (2)	18:32	20:25	21:16	21:57	21:59	21:17	20:10		19:01			16:59			16:28	44	14:29 (3)
10	08:45		14:01 (3)	08:06	16:43 (2)	07:07	17:55 (1)	06:56	05:20	05:31	06:14	07:04		07:54		17:19 (2)	07:49			08:35		13:45 (3)
	16:49	41	14:42 (3)	17:43	18 17:01 (2)	18:34	10 18:05 (1)	20:27	21:18	21:57	21:58	21:15		20:08		18:59	14 17:33 (2)	16:57		16:28	44	14:29 (3)
11	08:44		14:02 (3)	08:04	16:41 (2)	07:05	17:53 (1)	06:54	05:20	05:32	06:16	07:06		07:56		17:16 (2)	07:51			08:37		13:45 (3)
	16:50	40	14:42 (3)	17:45	22 17:03 (2)	18:35	15 18:08 (1)	20:29	21:19	21:58	21:57	21:13		20:06		18:56	19 17:35 (2)	16:56		16:28	45	14:30 (3)
12	08:44		14:02 (3)	08:02	16:40 (2)	07:03	17:51 (1)	06:52	05:20	05:33	06:17	07:08		07:57		17:14 (2)	07:52			08:38		13:45 (3)
	16:52	40	14:42 (3)	17:46	25 17:05 (2)	18:37	19 18:10 (1)	20:31	21:21	21:59	21:56	21:11		20:03		18:54	23 17:37 (2)	16:54		16:28	45	14:30 (3)
13	08:43		14:03 (3)	08:00	16:38 (2)	07:00	17:49 (1)	06:49	05:50	05:19	05:34	06:19		07:09		17:12 (2)	07:54			08:39		13:46 (3)
	16:53	39	14:42 (3)	17:48	28 17:06 (2)	18:39	21 18:10 (1)	20:32	21:22	22:00	21:56	21:09		20:01		18:52	26 17:38 (2)	16:53		16:28	45	14:31 (3)
14	08:42		14:04 (3)	07:58	16:37 (2)	06:58	17:48 (1)	06:47	05:49	05:19	05:35	06:20		07:11		18:01	17:10 (2)	07:56		08:40		13:46 (3)
	16:55	37	14:41 (3)	17:50	31 17:08 (2)	18:41	23 18:11 (1)	20:34	21:24	22:00	21:55	21:07		19:59		18:50	29 17:39 (2)	16:51		16:28	45	14:31 (3)
15	08:41		14:05 (3)	07:56	16:37 (2)	06:56	17:48 (1)	06:45	05:47	05:19	05:36	06:22		07:12		18:03	17:08 (2)	07:58		08:40		13:46 (3)
	16:56	36	14:41 (3)	17:52	32 17:09 (2)	18:43	24 18:12 (1)	20:36	21:26	22:01	21:54	21:05		19:56		18:47	31 17:39 (2)	16:50		16:28	46	14:32 (3)
16	08:41		14:06 (3)	07:54	16:36 (2)	06:54	17:46 (1)	06:43	05:46	05:19	05:37	06:24		07:14		18:04	17:07 (2)	07:59		08:41		13:47 (3)
	16:58	35	14:41 (3)	17:54	33 17:09 (2)	18:44	25 18:11 (1)	20:37	21:27	22:01	21:53	21:03		19:54		18:45	33 17:40 (2)	16:48		16:28	46	14:33 (3)
17	08:40		14:08 (3)	07:52	16:35 (2)	06:51	17:46 (1)	06:41	05:44	05:19	05:39	06:25		07:16		18:06	17:07 (2)	08:01		08:42		13:48 (3)
	17:00	33	14:41 (3)	17:56	35 17:10 (2)	18:46	26 18:12 (1)	20:39	21:29	22:02	21:52	21:01		19:52		18:43	34 17:41 (2)	16:47		16:28	45	14:33 (3)
18	08:39		14:09 (3)	07:50	16:35 (2)	06:49	17:46 (1)	06:38	05:43	05:19	05:40	06:27		07:17	18:44 (1)	08:08	17:06 (2)	08:03		08:43		13:48 (3)
	17:01	31	14:40 (3)	17:58	35 17:10 (2)	18:48	26 18:12 (1)	20:41	21:30	22:02	21:50	20:59		19:49	2 18:46 (1)	18:41	35 17:41 (2)	16:45		16:28	46	14:34 (3)
19	08:38		14:11 (3)	07:48	16:35 (2)	06:47	17:46 (1)	06:36	05:41	05:19	05:41	06:28		07:19	18:38 (1)	08:10	17:06 (2)	08:05	13:56 (3)	08:44		13:48 (3)
	17:03	29	14:40 (3)	17:59	36 17:11 (2)	18:49	24 18:10 (1)	20:43	21:32	22:02	21:49	20:57		19:47	12 18:50 (1)	18:39	35 17:41 (2)	16:44	11 14:07 (3)	16:29	46	14:34 (3)
20	08:37		14:13 (3)	07:46	16:34 (2)	06:44	17:46 (1)	06:34	05:40	05:19	05:43	06:30		07:21	18:36 (1)	08:11	17:05 (2)	08:06	13:52 (3)	08:44		13:49 (3)
	17:05	26	14:39 (3)	18:01	36 17:10 (2)	18:51	24 18:10 (1)	20:44	21:33	22:03	21:48	20:55		19:45	16 18:52 (1)	18:37	36 17:41 (2)	16:43	19 14:11 (3)	16:29	46	14:35 (3)
21	08:36		14:15 (3)	07:44	16:34 (2)	06:42	17:47 (1)	06:32	05:38	05:19	05:44	06:32		07:22	18:33 (1)	08:13	17:05 (2)	08:08	13:50 (3)	08:45		13:50 (3)
	17:06	23	14:38 (3)	18:03	36 17:10 (2)	18:53	22 18:09 (1)	20:46	21:35	22:03	21:47	20:53		19:42	19 18:52 (1)	18:35	36 17:41 (2)	16:42	23 14:13 (3)	16:30	46	14:36 (3)
22	08:34		14:17 (3)	07:42	16:34 (2)	06:40	17:47 (1)	06:30	05:37	05:19	05:45	06:33		07:24	18:32 (1)	08:15	17:04 (2)	08:10	13:49 (3)	08:45		13:50 (3)
	17:08	19	14:36 (3)	18:05	36 17:10 (2)	18:55	20 18:07 (1)	20:48	21:36	22:03	21:46	20:51		19:40	22 18:54 (1)	18:33	36 17:40 (2)	16:41	26 14:15 (3)	16:30	46	14:36 (3)
23	08:33		14:22 (3)	07:40	16:34 (2)	06:37	17:49 (1)	06:28	05:36	05:19	05:47	06:35		07:26	18:31 (1)	08:17	17:04 (2)	08:11	13:48 (3)	08:46		13:50 (3)
	17:10	11	14:33 (3)	18:07	36 17:10 (2)	18:56	17 18:06 (1)	20:49	21:37	22:03	21:44	20:48		19:38	23 18:54 (1)	18:30	36 17:40 (2)	16:39	29 14:17 (3)	16:31	46	14:36 (3)
24	08:32			07:38	16:35 (2)	06:35	17:51 (1)	06:26	05:35	05:20	05:48	06:37		07:27	18:29 (1)	08:18	17:05 (2)	08:13	13:46 (3)	08:46		13:51 (3)
	17:11			18:09	35 17:10 (2)	18:58	13 18:04 (1)	20:51	21:39	22:04	21:43	20:46		19:35	25 18:54 (1)	18:28	35 17:40 (2)	16:38	31 14:17 (3)	16:31	46	14:37 (3)
25	08:31			07:36	16:35 (2)	06:33	17:54 (1)	06:24	05:33	05:20	05:49	06:38		07:29	18:29 (1)	07:20	16:05 (2)	08:15	13:46 (3)	08:47		13:51 (3)
	17:13			18:10	34 17:09 (2)	19:00	6 18:00 (1)	20:53	21:40	22:04	21:42	20:44		19:33	25 18:54 (1)	17:26	34 16:39 (2)	16:37	33 14:19 (3)	16:32	46	14:37 (3)
26	08:29			07:34	16:35 (2)	06:30		06:22	05:32	05:21	05:51	06:40		07:30	18:29 (1)	07:22	16:06 (2)	08:16	13:45 (3)	08:47		13:52 (3)
	17:15			18:12	33 17:08 (2)	19:02		20:54	21:41	22:04	21:40	20:42		19:31	25 18:54 (1)	17:24	33 16:39 (2)	16:36	35 14:20 (3)	16:32	45	14:37 (3)
27	08:28			07:32	16:36 (2)	06:28		06:20	05:31	05:21	05:52	06:41		07:32	18:28 (1)	07:24	16:06 (2)	08:18	13:45 (3)	08:47		13:52 (3)
	17:17			18:14	31 17:07 (2)	19:03		20:56	21:43	22:04	21:39	20:40		19:28	25 18:53 (1)	17:22	32 16:38 (2)	16:36	36 14:21 (3)	16:33	45	14:37 (3)
28	08:27			07:29	16:38 (2)	06:26		06:18	05:30	05:21	05:54	06:43		07:34	18:28 (1)	07:26	16:07 (2)	08:19	13:44 (3)	08:47		13:53 (3)
	17:19			18:16	28 17:06 (2)	19:05		20:58	21:44	22:03	21:37	20:38		19:26	25 18:53 (1)	17:20	30 16:37 (2)	16:35	37 14:21 (3)	16:34	46	14:39 (3)
29	08:25					07:23		06:16	05:29	05:22	05:55	06:45		07:35	18:29 (1)	07:27	16:08 (2)	08:21	13:44 (3)	08:48		13:54 (3)
	17:20					20:07		20:59	21:45	22:03	21:36	20:35		19:24	23 18:52 (1)	17:18	28 16:36 (2)	16:34	39 14:23 (3)	16:35	45	14:39 (3)
30	08:24					07:21		06:14	05:28	05:23	05:57	06:46		07:37	18:28 (1)	07:29	16:09 (2)	08:22	13:43 (3)	08:48		13:54 (3)
	17:22					20:08		21:01	21:46	22:03	21:34	20:33		19:21	22 18:50 (1)	17:17	25 16:34 (2)	16:33	40 14:23 (3)	16:36	46	14:40 (3)
31	08:22					07:19			05:27		05:58	06:48				07:31	16:11 (2)			08:48		13:54 (3)
	17:24					20:10			21:48		21:32	20:31				17:15	22 16:33 (2)			16:37	45	14:39 (3)
Potential sun hours	259			277		367		416	485	499	502	454		381		331		266		243		
Total, worst case		830			617		391						264		717		389		1383		
Sun reduction		0,24			0,30		0,33						0,36		0,34		0,24		0,20		
Oper. time red.		0,95			0,95		0,95						0,95		0,95		0,95		0,95		
Wind dir. red.		0,69			0,67		0,64						0,63		0,67		0,69		0,69		
Total reduction		0,16			0,19		0,20						0,22		0,21		0,15		0,13		
Total, real		130			119		78						57		154		60		185		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:36/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN131@145Shadow receptor: AG - 3998NA6

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:55 (4)	07:17	08:13 (2)	06:12	08:16 (2)	05:26	05:23	06:00	06:50	08:04 (2)	07:39	08:22 (3)	07:33	08:24
	16:38	17:26	18:18	20	08:15 (4)	20:12	49	09:02 (2)	21:03	22	08:38 (2)	21:49	22:03	21:31	20:29	59	09:03 (2)	19:19	30	08:52 (3)	17:13	16:32
2	08:48	08:19	07:25	07:55 (4)	07:14	08:12 (2)	06:10	08:19 (2)	05:25	05:24	06:01	06:51	08:03 (2)	07:41	08:22 (3)	07:35	08:25
	16:39	17:28	18:20	20	08:15 (4)	20:14	51	09:03 (2)	21:05	15	08:34 (2)	21:50	22:03	21:29	20:26	59	09:02 (2)	19:17	30	08:52 (3)	17:11	16:32
3	08:48	08:18	07:23	07:54 (4)	07:12	08:11 (2)	06:08	05:25	05:25	06:03	06:53	08:03 (2)	07:42	08:21 (3)	07:36	08:27
	16:40	17:30	18:21	20	08:14 (4)	20:15	52	09:03 (2)	21:06	21:51	22:02	21:28	20:24	59	09:02 (2)	19:15	30	08:51 (3)	17:09	16:31
4	08:47	08:16	07:21	07:51 (3)	07:10	08:09 (2)	06:06	05:24	05:25	06:05	06:55	08:04 (2)	07:44	08:21 (3)	07:38	08:28
	16:41	17:32	18:23	23	08:14 (4)	20:17	54	09:03 (2)	21:08	21:52	22:02	21:26	20:22	58	09:02 (2)	19:12	30	08:51 (3)	17:07	16:31
5	08:47	08:14	07:19	07:49 (3)	07:07	08:08 (2)	06:04	05:23	05:26	06:06	06:56	08:03 (2)	07:46	08:22 (3)	07:40	08:29
	16:43	17:33	18:25	24	08:13 (4)	20:19	56	09:04 (2)	21:10	21:53	22:01	21:24	20:20	57	09:00 (2)	19:10	28	08:50 (3)	17:06	16:30
6	08:47	08:13	07:16	07:48 (3)	07:05	08:08 (2)	06:02	05:23	05:27	06:08	06:58	08:04 (2)	07:47	08:22 (3)	07:42	08:31
	16:44	17:35	18:27	24	08:12 (4)	20:20	56	09:04 (2)	21:11	21:54	22:01	21:22	20:17	56	09:00 (2)	19:08	27	08:49 (3)	17:04	16:30
7	08:46	08:11	07:14	07:46 (3)	07:03	08:07 (2)	06:01	05:22	05:28	06:09	07:00	08:04 (2)	07:49	08:22 (3)	07:44	08:32
	16:45	17:37	18:28	26	08:12 (3)	20:22	57	09:04 (2)	21:13	21:55	22:00	21:20	20:15	55	08:59 (2)	19:05	25	08:47 (3)	17:02	16:29
8	08:46	08:09	07:12	07:45 (3)	07:01	08:06 (2)	05:59	05:21	05:29	06:11	07:01	08:04 (2)	07:51	08:23 (3)	07:45	08:33
	16:46	17:39	18:30	28	08:13 (3)	20:24	58	09:04 (2)	21:15	21:56	22:00	21:19	20:13	54	08:58 (2)	19:03	24	08:47 (4)	17:01	16:29
9	08:45	08:08	07:10	07:44 (3)	06:58	08:05 (2)	05:57	05:21	05:30	06:12	07:03	08:04 (2)	07:52	08:25 (3)	07:47	08:34
	16:48	17:41	18:32	29	08:13 (3)	20:26	59	09:04 (2)	21:16	21:57	21:59	21:17	20:10	53	08:57 (2)	19:01	23	08:48 (4)	16:59	16:29
10	08:45	08:06	07:07	07:43 (3)	06:56	08:05 (2)	05:55	05:21	05:31	06:14	08:32 (2)	07:04	08:05 (2)	07:54	08:27 (3)	07:49	08:35
	16:49	17:43	18:34	30	08:13 (3)	20:27	59	09:04 (2)	21:18	21:57	21:58	21:15	7	08:39 (2)	20:08	51	08:56 (2)	18:59	22	08:49 (4)	16:57	16:28
11	08:44	08:04	07:05	07:43 (3)	06:54	08:05 (2)	05:54	05:20	05:32	06:16	08:26 (2)	07:06	08:06 (2)	07:56	08:28 (4)	07:51	08:37
	16:51	17:45	18:36	30	08:13 (3)	20:29	59	09:04 (2)	21:19	21:58	21:57	21:13	18	08:44 (2)	20:06	49	08:55 (2)	18:56	20	08:48 (4)	16:56	16:28
12	08:44	08:02	07:03	07:43 (3)	06:52	08:05 (2)	05:52	05:20	05:33	06:17	08:24 (2)	07:08	08:07 (2)	07:57	08:28 (4)	07:53	08:38
	16:52	17:46	18:37	30	08:13 (3)	20:31	58	09:03 (2)	21:21	21:59	21:56	21:11	23	08:47 (2)	20:03	46	08:53 (2)	18:54	20	08:48 (4)	16:54	16:28
13	08:43	08:00	07:01	07:42 (3)	06:49	08:04 (2)	05:50	05:20	05:34	06:19	08:22 (2)	07:09	08:08 (2)	07:59	08:28 (4)	07:54	08:39
	16:54	17:48	18:39	30	08:12 (3)	20:32	58	09:02 (2)	21:23	22:00	21:56	21:09	28	08:50 (2)	20:01	44	08:52 (2)	18:52	20	08:48 (4)	16:53	16:28
14	08:42	07:58	06:58	07:42 (3)	06:47	08:04 (2)	05:49	05:19	05:35	06:20	08:19 (2)	07:11	08:09 (2)	08:01	08:28 (4)	07:56	08:40
	16:55	17:50	18:41	30	08:12 (3)	20:34	58	09:02 (2)	21:24	22:00	21:55	21:07	32	08:51 (2)	19:59	40	08:49 (2)	18:50	20	08:48 (4)	16:51	16:28
15	08:41	07:56	06:56	07:43 (3)	06:45	08:04 (2)	05:47	05:19	05:36	06:22	08:18 (2)	07:13	08:11 (2)	08:03	08:29 (4)	07:58	08:40
	16:57	17:52	18:43	28	08:11 (3)	20:36	57	09:01 (2)	21:26	22:01	21:54	21:05	35	08:53 (2)	19:56	37	08:48 (2)	18:48	18	08:47 (4)	16:50	16:28
16	08:41	07:54	06:54	07:43 (3)	06:43	08:04 (2)	05:46	05:19	05:38	06:24	08:16 (2)	07:14	08:12 (2)	08:04	08:30 (4)	08:00	08:41
	16:58	17:54	18:44	26	08:09 (3)	20:37	57	09:01 (2)	21:27	22:01	21:53	21:03	38	08:54 (2)	19:54	33	08:45 (2)	18:45	15	08:45 (4)	16:48	16:28
17	08:40	07:52	06:51	07:44 (3)	06:41	08:04 (2)	05:44	05:19	05:39	06:25	08:15 (2)	07:16	08:14 (2)	08:06	08:32 (4)	08:01	08:42
	17:00	17:56	18:46	24	08:08 (3)	20:39	56	09:00 (2)	21:29	22:02	21:52	21:01	41	08:56 (2)	19:52	29	08:43 (2)	18:43	12	08:44 (4)	16:47	16:28
18	08:39	07:50	06:49	07:45 (3)	06:38	08:04 (2)	05:43	05:19	05:40	06:27	08:14 (2)	07:17	08:17 (2)	08:08	08:34 (4)	08:03	08:43
	17:01	17:58	18:48	22	08:07 (3)	20:41	55	08:59 (2)	21:30	22:02	21:51	20:59	43	08:57 (2)	19:49	23	08:40 (2)	18:41	8	08:42 (4)	16:46	16:29
19	08:38	07:48	06:47	07:46 (3)	06:36	08:05 (2)	05:41	05:19	05:41	06:29	08:13 (2)	07:19	08:21 (2)	08:10	08:05	08:44
	17:03	17:59	18:50	18	08:04 (3)	20:43	53	08:58 (2)	21:32	22:03	21:49	20:57	45	08:58 (2)	19:47	13	08:34 (2)	18:39	16:44	16:29
20	08:37	07:46	06:44	07:48 (3)	06:34	08:05 (2)	05:40	05:19	05:43	06:30	08:11 (2)	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	14	08:02 (3)	20:44	52	08:57 (2)	21:33	22:03	21:48	20:55	48	08:59 (2)	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	07:52 (3)	06:32	08:04 (2)	05:38	05:19	05:44	06:32	08:10 (2)	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	5	07:57 (3)	20:46	51	08:55 (2)	21:35	22:03	21:47	20:53	50	09:00 (2)	19:42	18:35	16:42	16:30
22	08:34	07:42	06:40	06:30	08:05 (2)	05:37	05:19	05:45	06:33	08:09 (2)	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	49	08:54 (2)	21:36	22:03	21:46	20:51	51	09:00 (2)	19:40	18:33	16:41	16:30
23	08:33	07:40	08:04 (4)	06:37	06:28	08:06 (2)	05:36	05:20	05:47	06:35	08:09 (2)	07:26	08:33 (3)	08:17	08:11	08:46
	17:10	18:07	4	08:08 (4)	18:56	20:49	47	08:53 (2)	21:37	22:03	21:44	20:49	52	09:01 (2)	19:38	12	08:45 (3)	18:31	16:40	16:31
24	08:32	07:38	08:02 (4)	06:35	07:36 (2)	06:26	08:06 (2)	05:35	05:20	05:48	06:37	08:07 (2)	07:27	08:30 (3)	08:18	08:13	08:46
	17:12	18:09	9	08:11 (4)	18:58	9	07:45 (2)	20:51	45	08:51 (2)	21:39	22:04	21:43	20:46	54	09:01 (2)	19:35	17	08:47 (3)	18:28	16:39	16:31
25	08:31	07:36	08:00 (4)	06:33	07:30 (2)	06:24	08:07 (2)	05:33	05:20	05:50	06:38	08:07 (2)	07:29	08:28 (3)	07:20	08:15	08:47
	17:13	18:10	13	08:13 (4)	19:00	20	07:50 (2)	20:53	43	08:50 (2)	21:40	22:04	21:42	20:44	55	09:02 (2)	19:33	21	08:49 (3)	17:26	16:37	16:32
26	08:30	07:34	07:58 (4)	06:30	07:26 (2)	06:22	08:09 (2)	05:32	05:21	05:51	06:40	08:07 (2)	07:31	08:27 (3)	07:22	08:16	08:47
	17:15	18:12	16	08:14 (4)	19:02	28	07:54 (2)	20:54	40	08:49 (2)	21:41	22:04	21:40	20:42	56	09:03 (2)	19:31	24	08:51 (3)	17:24	16:37	16:33
27	08:28	07:32	07:55 (4)	06:28	07:24 (2)	06:20	08:10 (2)	05:31	05:21	05:52	06:42	08:06 (2)	07:32	08:25 (3)	07:24	08:18	08:47
	17:17	18:14	19	08:14 (4)	19:03	32	07:56 (2)	20:56	37	08:47 (2)	21:43	22:04	21:39	20:40	57	09:03 (2)	19:28	26	08:51 (3)	17:22	16:36	16:33
28	08:27	07:30	07:55 (4)	06:26	07:21 (2)	06:18	08:11 (2)	05:30	05:22	05:54	06:43	08:06 (2)	07:34	08:24 (3)	07:26	08:19	08:48
	17:19	18:16	20	08:15 (4)	19:05	36	07:57 (2)	20:58	34	08:45 (2)	21:44	22:03	21:37	20:38	57	09:03 (2)	19:26	28	08:52 (3)	17:21	16:35	16:34
29	08:25	07:24	06:16	08:12 (2)	05:29	05:22	05:55	06:45	08:05 (2)	07:36	08:23 (3)	07:27	08:21	08:48
	17:20	20:07	40	08:59 (2)	21:00	31	08:43 (2)	21:45	22:03	21:36	20:35	58	09:03 (2)	19:24	29	08:52 (3)	17:19	16:34	16:35
30	08:24	07:21	08:17 (2)	06:14	08:14 (2)	05:28	05:23	05:57	06:46	08:05 (2)	07:37	08:22 (3)	07:29	08:22	08:48
	17:22	20:08	43	09:00 (2)	21:01	27	08:41 (2)	21:47	22:03	21:34	20:33	58	09:03 (2)	19:21	30	08:52 (3)	17:17	16:33	16:36
31	08:22	07:19	08:16 (2)	05:27	05:58	06:48	08:04 (2)	07:31	08:48
	17:24	20:10	45	09:01 (2)	21:48	21:33	20:31	58	09:02 (2)	17:15	16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case		81		754		1518		37			964		1062		402		
Sun reduction		0,30		0,33		0,42		0,43			0,42		0,36		0,34		
Oper. time red.		0,95		0,95		0,95		0,95			0,95		0,95		0,95		
Wind dir. red.		0,57		0,58		0,61		0,61			0,61		0,60		0,57		
Total reduction		0,16		0,18		0,24		0,25			0,24		0,21		0,18		
Total, real		13		137		365		9			231		219		73		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:36/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN131@145Shadow receptor: AH - 3998JK68

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	06:51 (2)	05:26	06:00 (1)	05:23	06:05 (1)	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03 13	07:04 (2)	21:49 24	06:24 (1)	22:03 25	06:30 (1)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	06:52 (2)	05:26	05:59 (1)	05:24	06:05 (1)	06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05 10	07:02 (2)	21:50 25	06:24 (1)	22:03 26	06:31 (1)	21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08	06:55 (2)	05:25	06:00 (1)	05:25	06:06 (1)	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06 4	06:59 (2)	21:51 25	06:25 (1)	22:02 25	06:31 (1)	21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06		05:24	06:00 (1)	05:26	06:05 (1)	06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08		21:52 24	06:24 (1)	22:02 26	06:31 (1)	21:26	20:22	19:12	17:07	16:31
5	08:47	08:14	07:19	07:08	06:04		05:23	05:59 (1)	05:26	06:06 (1)	06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10		21:53 25	06:24 (1)	22:01 25	06:31 (1)	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02		05:23	06:00 (1)	05:27	06:06 (1)	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11		21:54 25	06:25 (1)	22:01 25	06:31 (1)	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01		05:22	06:00 (1)	05:28	06:06 (1)	06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13		21:55 26	06:26 (1)	22:00 26	06:32 (1)	21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59		05:22	06:00 (1)	05:29	06:07 (1)	06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15		21:56 25	06:25 (1)	22:00 25	06:32 (1)	21:19	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57		05:21	06:00 (1)	05:30	06:07 (1)	06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16		21:57 26	06:26 (1)	21:59 25	06:32 (1)	21:17	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55		05:21	06:00 (1)	05:31	06:07 (1)	06:14	07:03 (2)	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18		21:58 26	06:26 (1)	21:58 24	06:31 (1)	21:15 6	07:09 (2)	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54		05:20	06:00 (1)	05:32	06:07 (1)	06:16	07:01 (2)	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19		21:58 26	06:26 (1)	21:57 24	06:31 (1)	21:13 11	07:12 (2)	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52		05:20	06:01 (1)	05:33	06:07 (1)	06:17	06:59 (2)	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21		21:59 25	06:26 (1)	21:57 24	06:31 (1)	21:11 14	07:13 (2)	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50		05:20	06:01 (1)	05:34	06:09 (1)	06:19	06:58 (2)	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23		22:00 26	06:27 (1)	21:56 23	06:32 (1)	21:09 16	07:14 (2)	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49		05:19	06:02 (1)	05:35	06:09 (1)	06:21	06:57 (2)	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24		22:00 25	06:27 (1)	21:55 22	06:31 (1)	21:07 17	07:14 (2)	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47		05:19	06:01 (1)	05:36	06:10 (1)	06:22	06:57 (2)	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26		22:01 25	06:26 (1)	21:54 21	06:31 (1)	21:05 18	07:15 (2)	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46		05:19	06:01 (1)	05:38	06:10 (1)	06:24	06:56 (2)	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27		22:01 26	06:27 (1)	21:53 21	06:31 (1)	21:03 19	07:15 (2)	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44		05:19	06:01 (1)	05:39	06:11 (1)	06:25	06:56 (2)	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29		22:02 26	06:27 (1)	21:52 19	06:30 (1)	21:01 19	07:15 (2)	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43		05:19	06:02 (1)	05:40	06:11 (1)	06:27	06:55 (2)	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30		22:02 25	06:27 (1)	21:51 18	06:29 (1)	20:59 19	07:14 (2)	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	07:00 (2) 05:41		05:19	06:03 (1)	05:41	06:12 (1)	06:29	06:56 (2)	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43 3	07:03 (2) 21:32		22:03 25	06:28 (1)	21:49 16	06:28 (1)	20:57 18	07:14 (2)	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	06:58 (2) 05:40		05:19	06:03 (1)	05:43	06:14 (1)	06:30	06:57 (2)	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44 8	07:06 (2) 21:33		22:03 25	06:28 (1)	21:48 14	06:28 (1)	20:55 16	07:13 (2)	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	06:56 (2) 05:39	06:09 (1)	05:19	06:03 (1)	05:44	06:15 (1)	06:32	06:59 (2)	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46 11	07:07 (2) 21:35	4 06:13 (1)	22:03 25	06:28 (1)	21:47 12	06:27 (1)	20:53 13	07:12 (2)	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	06:54 (2) 05:37	06:06 (1)	05:19	06:03 (1)	05:45	06:17 (1)	06:33	07:00 (2)	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48 14	07:08 (2) 21:36	9 06:15 (1)	22:03 25	06:28 (1)	21:46 8	06:25 (1)	20:51 11	07:11 (2)	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	06:52 (2) 05:36	06:04 (1)	05:20	06:03 (1)	05:47	06:35	07:02 (2)	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49 16	07:08 (2) 21:37	13 06:17 (1)	22:04 25	06:28 (1)	21:44	20:49 7	07:09 (2)	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	06:50 (2) 05:35	06:03 (1)	05:20	06:04 (1)	05:48	06:37	07:03 (2)	07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51 19	07:09 (2) 21:39	15 06:18 (1)	22:04 25	06:29 (1)	21:43	20:46 2	07:05 (2)	19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	06:49 (2) 05:34	06:02 (1)	05:20	06:04 (1)	05:50	06:38		07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53 20	07:09 (2) 21:40	17 06:19 (1)	22:04 25	06:29 (1)	21:42	20:44		19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	06:49 (2) 05:32	06:01 (1)	05:21	06:03 (1)	05:51	06:40		07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55 19	07:08 (2) 21:42	19 06:20 (1)	22:04 26	06:29 (1)	21:40	20:42		19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	06:49 (2) 05:31	06:01 (1)	05:21	06:04 (1)	05:52	06:42		07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56 19	07:08 (2) 21:43	20 06:21 (1)	22:04 26	06:30 (1)	21:39	20:40		19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	06:49 (2) 05:30	06:00 (1)	05:22	06:04 (1)	05:54	06:43		07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58 18	07:07 (2) 21:44	21 06:21 (1)	22:04 25	06:29 (1)	21:37	20:38		19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	06:49 (2) 05:29	06:00 (1)	05:22	06:04 (1)	05:55	06:45		07:36	07:27	08:21	08:48
	17:21		20:07	21:00 17	07:06 (2) 21:45	22 06:22 (1)	22:03 26	06:30 (1)	21:36	20:35		19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	06:50 (2) 05:28	06:00 (1)	05:23	06:05 (1)	05:57	06:47		07:37	07:29	08:22	08:48
	17:22		20:08	21:01 15	07:05 (2) 21:47	23 06:23 (1)	22:03 26	06:31 (1)	21:34	20:33		19:22	17:17	16:33	16:36
31	08:22		07:19		05:27	06:00 (1)			05:58	06:48			07:31		08:48
	17:24		20:10		21:48	23 06:23 (1)			21:33	20:31			17:15		16:37
Potential sun hours	259	277	367	416	485		499		502	454		381	331	266	243
Total, worst case				179	213		759		474	206					
Sun reduction				0,42	0,43		0,39		0,41	0,42					
Oper. time red.				0,95	0,95		0,95		0,95	0,95					
Wind dir. red.				0,64	0,67		0,67		0,67	0,64					
Total reduction				0,25	0,27		0,25		0,26	0,25					
Total, real				45	58		189		123	52					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:36/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN131@145Shadow receptor: AI - 3945LA2

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December		
1	08:48		14:37 (3)	08:21			07:27		07:17	06:12	05:26	05:23	06:00	06:50		07:39		18:20 (1)	07:33		16:12 (2)	08:24		14:26 (3)
	16:38	34	15:11 (3)	17:26			18:18		20:12	21:03	21:49	22:03	21:31	20:29		19:19	20	18:40 (1)	17:13	24	16:36 (2)	16:32	29	14:55 (3)
2	08:48		14:37 (3)	08:19			07:25		07:14	06:10	05:25	05:24	06:01	06:51		07:40		18:20 (1)	07:34		16:12 (2)	08:25		14:26 (3)
	16:39	35	15:12 (3)	17:28			18:19		20:13	21:05	21:50	22:02	21:29	20:26		19:17	20	18:40 (1)	17:11	22	16:34 (2)	16:32	31	14:57 (3)
3	08:48		14:38 (3)	08:18			07:23	17:49 (1)	07:12	06:08	05:25	05:25	06:03	06:53		07:42		18:18 (1)	07:36		16:13 (2)	08:27		14:26 (3)
	16:40	35	15:13 (3)	17:30			18:21	17:55 (1)	20:15	21:06	21:51	22:02	21:27	20:24		19:14	22	18:40 (1)	17:09	20	16:33 (2)	16:31	31	14:57 (3)
4	08:47		14:38 (3)	08:16			07:21	17:46 (1)	07:10	06:06	05:24	05:25	06:04	06:55		07:44		18:18 (1)	07:38		16:14 (2)	08:28		14:26 (3)
	16:41	34	15:12 (3)	17:31			18:23	17:57 (1)	20:17	21:08	21:52	22:02	21:26	20:22		19:12	22	18:40 (1)	17:07	18	16:32 (2)	16:30	32	14:58 (3)
5	08:47		14:39 (3)	08:14	16:49 (2)		07:18	17:45 (1)	07:07	06:04	05:23	05:26	06:06	06:56		07:45		18:18 (1)	07:40		16:16 (2)	08:29		14:26 (3)
	16:42	34	15:13 (3)	17:33	16:58 (2)	9	18:25	17:59 (1)	20:19	21:10	21:53	22:01	21:24	20:20		19:10	21	18:39 (1)	17:06	14	16:30 (2)	16:30	32	14:58 (3)
6	08:47		14:40 (3)	08:13	16:46 (2)		07:16	17:42 (1)	07:05	06:02	05:22	05:27	06:08	06:58		07:47		18:17 (1)	07:42		16:19 (2)	08:31		14:26 (3)
	16:44	33	15:13 (3)	17:35	17:00 (2)	14	18:27	18:00 (1)	20:20	21:11	21:54	22:01	21:22	20:17		19:08	21	18:38 (1)	17:04	8	16:27 (2)	16:29	33	14:59 (3)
7	08:46		14:41 (3)	08:11	16:44 (2)		07:14	17:42 (1)	07:03	06:00	05:22	05:28	06:09	06:59		07:49		18:18 (1)	07:44			08:32		14:26 (3)
	16:45	32	15:13 (3)	17:37	17:02 (2)	18	18:28	18:02 (1)	20:22	21:13	21:55	22:00	21:20	20:15		19:05	19	18:37 (1)	17:02			16:29	34	15:00 (3)
8	08:46		14:41 (3)	08:09	16:44 (2)		07:12	17:41 (1)	07:01	05:59	05:21	05:29	06:11	07:01		07:51		18:19 (1)	07:45			08:33		14:26 (3)
	16:46	32	15:13 (3)	17:39	17:05 (2)	21	18:30	18:02 (1)	20:24	21:14	21:56	21:59	21:19	20:13		19:03	16	18:35 (1)	17:00			16:29	34	15:00 (3)
9	08:45		14:43 (3)	08:07	16:43 (2)		07:10	17:41 (1)	06:58	05:57	05:21	05:30	06:12	07:03		07:52		18:20 (1)	07:47			08:34		14:26 (3)
	16:48	31	15:14 (3)	17:41	17:06 (2)	23	18:32	18:03 (1)	20:25	21:16	21:57	21:59	21:17	20:10		19:01	13	18:33 (1)	16:59			16:28	35	15:01 (3)
10	08:45		14:43 (3)	08:06	16:42 (2)		07:07	17:40 (1)	06:56	05:55	05:20	05:31	06:14	07:04		07:54		18:21 (1)	07:49			08:35		14:27 (3)
	16:49	31	15:14 (3)	17:43	17:07 (2)	25	18:34	18:02 (1)	20:27	21:18	21:57	21:58	21:15	20:08		18:59	9	18:30 (1)	16:57			16:28	34	15:01 (3)
11	08:44		14:44 (3)	08:04	16:41 (2)		07:05	17:40 (1)	06:54	05:53	05:20	05:32	06:15	07:06		07:56			07:51			08:37		14:27 (3)
	16:50	29	15:13 (3)	17:44	17:07 (2)	26	18:35	18:02 (1)	20:29	21:19	21:58	21:57	21:13	20:06		18:56			16:56			16:28	34	15:01 (3)
12	08:44		14:45 (3)	08:02	16:41 (2)		07:03	17:41 (1)	06:52	05:52	05:20	05:33	06:17	07:08		07:57			07:52			08:38		14:27 (3)
	16:52	28	15:13 (3)	17:46	17:08 (2)	27	18:37	18:01 (1)	20:31	21:21	21:59	21:56	21:11	20:03		18:54			16:54			16:28	35	15:02 (3)
13	08:43		14:46 (3)	08:00	16:40 (2)		07:00	17:41 (1)	06:49	05:50	05:19	05:34	06:19	07:09		07:59			07:54			08:39		14:27 (3)
	16:53	27	15:13 (3)	17:48	17:08 (2)	28	18:39	17:59 (1)	20:32	21:22	22:00	21:56	21:09	20:01		18:52			16:52			16:28	35	15:02 (3)
14	08:42		14:47 (3)	07:58	16:40 (2)		06:58	17:42 (1)	06:47	05:49	05:19	05:35	06:20	07:11		08:01			07:56			08:40		14:28 (3)
	16:55	25	15:12 (3)	17:50	17:09 (2)	29	18:41	17:58 (1)	20:34	21:24	22:00	21:55	21:07	19:59		18:50			16:51			16:28	35	15:03 (3)
15	08:41		14:48 (3)	07:56	16:40 (2)		06:56	17:44 (1)	06:45	05:47	05:19	05:36	06:22	07:12		08:03			07:58			08:40		14:28 (3)
	16:56	24	15:12 (3)	17:52	17:09 (2)	29	18:42	17:57 (1)	20:36	21:26	22:01	21:54	21:05	19:56		18:47			16:50			16:28	36	15:04 (3)
16	08:41		14:50 (3)	07:54	16:40 (2)		06:54	17:46 (1)	06:43	05:45	05:19	05:37	06:24	07:14		08:04			07:59			08:41		14:29 (3)
	16:58	21	15:11 (3)	17:54	17:09 (2)	29	18:44	17:53 (1)	20:37	21:27	22:01	21:53	21:03	19:54		18:45			16:48			16:28	35	15:04 (3)
17	08:40		14:51 (3)	07:52	16:40 (2)		06:51		06:41	05:44	05:19	05:39	06:25	07:16		08:06		17:23 (2)	08:01			08:42		14:29 (3)
	17:00	19	15:10 (3)	17:56	17:09 (2)	29	18:46		20:39	21:29	22:02	21:52	21:01	19:52		18:43	6	17:29 (2)	16:47			16:28	36	15:05 (3)
18	08:39		14:54 (3)	07:50	16:41 (2)		06:49		06:38	05:43	05:19	05:40	06:27	07:17		08:08		17:19 (2)	08:03			08:43		14:30 (3)
	17:01	15	15:09 (3)	17:58	17:08 (2)	27	18:48		20:41	21:30	22:02	21:50	20:59	19:49		18:41	13	17:32 (2)	16:45			16:28	36	15:06 (3)
19	08:38		14:57 (3)	07:48	16:41 (2)		06:47		06:36	05:41	05:19	05:41	06:28	07:19		08:10		17:17 (2)	08:05			08:44		14:30 (3)
	17:03	11	15:08 (3)	17:59	17:08 (2)	27	18:49		20:43	21:32	22:02	21:49	20:57	19:47		18:39	17	17:34 (2)	16:44			16:29	36	15:06 (3)
20	08:37			07:46	16:41 (2)		06:44		06:34	05:40	05:19	05:43	06:30	07:21		08:11		17:15 (2)	08:06			08:44		14:31 (3)
	17:05			18:01	17:06 (2)	25	18:51		20:44	21:33	22:03	21:48	20:55	19:45		18:37	21	17:36 (2)	16:43			16:29	35	15:06 (3)
21	08:36			07:44	16:42 (2)		06:42		06:32	05:38	05:19	05:44	06:32	07:22		08:13		17:12 (2)	08:08			08:45		14:32 (3)
	17:06			18:03	17:05 (2)	23	18:53		20:46	21:35	22:03	21:47	20:53	19:42		18:35	24	17:36 (2)	16:42			16:30	35	15:07 (3)
22	08:34			07:42	16:44 (2)		06:40		06:30	05:37	05:19	05:45	06:33	07:24		08:15		17:11 (2)	08:10			08:45		14:32 (3)
	17:08			18:05	17:04 (2)	20	18:55		20:48	21:36	22:03	21:46	20:51	19:40		18:33	26	17:37 (2)	16:41			16:30	35	15:07 (3)
23	08:33			07:40	16:46 (2)		06:37		06:28	05:36	05:19	05:47	06:35	07:26		08:17		17:11 (2)	08:11		14:34 (3)	08:46		14:32 (3)
	17:10			18:07	17:03 (2)	17	18:56		20:49	21:37	22:03	21:44	20:48	19:38		18:30	26	17:37 (2)	16:39	11	14:45 (3)	16:31	35	15:07 (3)
24	08:32			07:38	16:49 (2)		06:35		06:26	05:35	05:20	05:48	06:37	07:27		08:18		17:10 (2)	08:13		14:31 (3)	08:46		14:33 (3)
	17:11			18:09	17:00 (2)	11	18:58		20:51	21:39	22:04	21:43	20:46	19:35		18:28	28	17:38 (2)	16:38	15	14:46 (3)	16:31	36	15:09 (3)
25	08:31			07:36			06:33		06:24	05:33	05:20	05:49	06:38	07:29		07:20		16:10 (2)	08:15		14:30 (3)	08:47		14:33 (3)
	17:13			18:10			19:00		20:53	21:40	22:04	21:42	20:44	19:33		17:26	28	16:38 (2)	16:37	18	14:48 (3)	16:32	36	15:09 (3)
26	08:29			07:34			06:30		06:22	05:32	05:20	05:51	06:40	07:30		07:22		16:10 (2)	08:16		14:29 (3)	08:47		14:33 (3)
	17:15			18:12			19:01		20:54	21:41	22:04	21:40	20:42	19:31		17:24	28	16:38 (2)	16:36	21	14:50 (3)	16:32	36	15:09 (3)
27	08:28			07:32			06:28		06:20	05:31	05:21	05:52	06:41	07:32	18:31 (1)	07:24		16:10 (2)	08:18		14:28 (3)	08:47		14:34 (3)
	17:17			18:14			19:03		20:56	21:43	22:04	21:39	20:40	19:28	18:32 (1)	17:22	28	16:38 (2)	16:35	24	14:52 (3)	16:33	35	15:09 (3)
28	08:27			07:29			06:26		06:17	05:30	05:21	05:54	06:43	07:34	18:26 (1)	07:25		16:10 (2)	08:19		14:27 (3)	08:47		14:35 (3)
	17:19			18:16			19:05		20:58	21:44	22:03	21:37	20:38	19:26	18:37 (1)	17:20	28	16:38 (2)	16:35	25	14:52 (3)	16:34	35	15:10 (3)
29	08:25						07:23		06:16	05:29	05:22	05:55	06:45	07:35	18:24 (1)	07:27		16:10 (2)	08:21		14:27 (3)	08:48		14:35 (3)
	17:20						20:07		20:59	21:45	22:03	21:36	20:35	19:24	18:39 (1)	17:18	28	16:38 (2)	16:34	27	14:54 (3)	16:35	36	15:11 (3)
30	08:24						07:21		06:14	05:28	05:23	05:57	06:46	07:37	18:21 (1)	07:29		16:10 (2)	08:22		14:26 (3)	08:48		14:36 (3)
	17:22						20:08		21:01	21:46	22:03	21:34	20:33	19:21	18:39 (1)	17:17	28	16:38 (2)	16:33	28	14:54 (3)	16:36	35	15:11 (3)
31	08:22						07:19			05:27		05:58	06:48			07:31		16:11 (2)				08:48		14:36 (3)
	17:24						20:10			21:48		21:32	20:31			17:15	26	16:37 (2)				16:37	35	15:11 (3)
Potential sun hours	259			277			367		416	485	499	502	454	381		331			266			243		
Total, worst case		530			457			230							45		538			275			1067
Sun reduction		0,24			0,30			0,33							0,36		0,34			0,24			0,20
Oper. time red.		0,95			0,95			0,95							0,95		0,95			0,95			0,95
Wind dir. red.		0,70			0,67			0,63							0,63		0,66			0,69			0,70
Total reduction		0,16			0,19			0,20							0,22		0,21			0,15			0,13
Total, real		84			89			46							10		114			43			144

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:36/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN131@145Shadow receptor: AJ - 3997MR15

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January			February	March	April	May	June	July	August	September	October	November			December		
1	08:48		14:14 (1)	08:21	07:27	07:17	06:12	05:26	05:23	06:00	06:50	07:39	07:33			08:24		14:02 (1)
	16:38	44	14:58 (1)	17:26	18:18	20:12	21:03	21:49	22:03	21:31	20:29	19:19	17:13			16:32	41	14:43 (1)
2	08:48		14:15 (1)	08:19	07:25	07:14	06:10	05:25	05:24	06:01	06:51	07:41	07:35			08:25		14:03 (1)
	16:39	44	14:59 (1)	17:28	18:20	20:14	21:05	21:50	22:03	21:29	20:26	19:17	17:11			16:32	41	14:44 (1)
3	08:48		14:16 (1)	08:18	07:23	07:12	06:08	05:25	05:25	06:03	06:53	07:42	07:36			08:27		14:02 (1)
	16:40	43	14:59 (1)	17:30	18:21	20:15	21:06	21:51	22:02	21:28	20:24	19:14	17:09			16:31	42	14:44 (1)
4	08:47		14:16 (1)	08:16	07:21	07:10	06:06	05:24	05:25	06:04	06:55	07:44	07:38			08:28		14:03 (1)
	16:41	43	14:59 (1)	17:31	18:23	20:17	21:08	21:52	22:02	21:26	20:22	19:12	17:07			16:30	42	14:45 (1)
5	08:47		14:16 (1)	08:14	07:19	07:07	06:04	05:23	05:26	06:06	06:56	07:46	07:40			08:29		14:03 (1)
	16:43	44	15:00 (1)	17:33	18:25	20:19	21:10	21:53	22:01	21:24	20:20	19:10	17:06			16:30	42	14:45 (1)
6	08:47		14:17 (1)	08:13	07:16	07:05	06:02	05:23	05:27	06:08	06:58	07:47	07:42			08:31		14:03 (1)
	16:44	42	14:59 (1)	17:35	18:27	20:20	21:11	21:54	22:01	21:22	20:17	19:08	17:04			16:30	43	14:46 (1)
7	08:46		14:18 (1)	08:11	07:14	07:03	06:00	05:22	05:28	06:09	06:59	07:49	07:44			08:32		14:04 (1)
	16:45	42	15:00 (1)	17:37	18:28	20:22	21:13	21:55	22:00	21:20	20:15	19:05	17:02			16:29	43	14:47 (1)
8	08:46		14:18 (1)	08:09	07:12	07:01	05:59	05:21	05:29	06:11	07:01	07:51	07:45			08:33		14:04 (1)
	16:46	42	15:00 (1)	17:39	18:30	20:24	21:15	21:56	22:00	21:19	20:13	19:03	17:00			16:29	43	14:47 (1)
9	08:46		14:19 (1)	08:08	07:10	06:58	05:57	05:21	05:30	06:12	07:03	07:52	07:47			08:34		14:04 (1)
	16:48	42	15:01 (1)	17:41	18:32	20:26	21:16	21:57	21:59	21:17	20:10	19:01	16:59			16:28	43	14:47 (1)
10	08:45		14:19 (1)	08:06	07:07	06:56	05:55	05:20	05:31	06:14	07:04	07:54	07:49			08:35		14:04 (1)
	16:49	42	15:01 (1)	17:43	18:34	20:27	21:18	21:58	21:58	21:15	20:08	18:59	16:57			16:28	44	14:48 (1)
11	08:44		14:20 (1)	08:04	07:05	06:54	05:54	05:20	05:32	06:16	07:06	07:56	07:51			08:37		14:04 (1)
	16:51	41	15:01 (1)	17:45	18:36	20:29	21:19	21:58	21:57	21:13	20:06	18:56	16:56			16:28	44	14:48 (1)
12	08:44		14:20 (1)	08:02	07:03	06:52	05:52	05:20	05:33	06:17	07:08	07:57	07:53			08:38		14:05 (1)
	16:52	41	15:01 (1)	17:46	18:37	20:31	21:21	21:59	21:56	21:11	20:03	18:54	16:54			16:28	44	14:49 (1)
13	08:43		14:21 (1)	08:00	07:00	06:49	05:50	05:19	05:34	06:19	07:09	07:59	07:54			08:39		14:06 (1)
	16:53	40	15:01 (1)	17:48	18:39	20:32	21:23	22:00	21:56	21:09	20:01	18:52	16:53			16:28	44	14:50 (1)
14	08:42		14:23 (1)	07:58	06:58	06:47	05:49	05:19	05:35	06:20	07:11	08:01	07:56			08:40		14:06 (1)
	16:55	39	15:02 (1)	17:50	18:41	20:34	21:24	22:00	21:55	21:07	19:59	18:50	16:51			16:28	44	14:50 (1)
15	08:41		14:24 (1)	07:56	06:56	06:45	05:47	05:19	05:36	06:22	07:13	08:03	07:58			08:41		14:06 (1)
	16:57	38	15:02 (1)	17:52	18:43	20:36	21:26	22:01	21:54	21:05	19:56	18:47	16:50			16:28	44	14:50 (1)
16	08:41		14:24 (1)	07:54	06:54	06:43	05:46	05:19	05:38	06:24	07:14	08:04	08:00			08:41		14:06 (1)
	16:58	37	15:01 (1)	17:54	18:44	20:37	21:27	22:01	21:53	21:03	19:54	18:45	16:48			16:28	45	14:51 (1)
17	08:40		14:25 (1)	07:52	06:51	06:41	05:44	05:19	05:39	06:25	07:16	08:06	08:01		14:14 (1)	08:42		14:07 (1)
	17:00	35	15:00 (1)	17:56	18:46	20:39	21:29	22:02	21:52	21:01	19:52	18:43	16:47	13	14:27 (1)	16:28	44	14:51 (1)
18	08:39		14:26 (1)	07:50	06:49	06:38	05:43	05:19	05:40	06:27	07:17	08:08	08:03		14:11 (1)	08:43		14:08 (1)
	17:01	34	15:00 (1)	17:58	18:48	20:41	21:30	22:02	21:51	20:59	19:49	18:41	16:46	19	14:30 (1)	16:29	44	14:52 (1)
19	08:38		14:27 (1)	07:48	06:47	06:36	05:41	05:19	05:41	06:28	07:19	08:10	08:05		14:08 (1)	08:44		14:08 (1)
	17:03	33	15:00 (1)	17:59	18:50	20:43	21:32	22:03	21:49	20:57	19:47	18:39	16:44	23	14:31 (1)	16:29	44	14:52 (1)
20	08:37		14:29 (1)	07:46	06:44	06:34	05:40	05:19	05:43	06:30	07:21	08:11	08:06		14:07 (1)	08:44		14:08 (1)
	17:05	31	15:00 (1)	18:01	18:51	20:44	21:33	22:03	21:48	20:55	19:45	18:37	16:43	26	14:33 (1)	16:29	45	14:53 (1)
21	08:36		14:31 (1)	07:44	06:42	06:32	05:38	05:19	05:44	06:32	07:22	08:13	08:08		14:06 (1)	08:45		14:09 (1)
	17:06	28	14:59 (1)	18:03	18:53	20:46	21:35	22:03	21:47	20:53	19:42	18:35	16:42	28	14:34 (1)	16:30	45	14:54 (1)
22	08:34		14:32 (1)	07:42	06:40	06:30	05:37	05:19	05:45	06:33	07:24	08:15	08:10		14:05 (1)	08:45		14:09 (1)
	17:08	26	14:58 (1)	18:05	18:55	20:48	21:36	22:03	21:46	20:51	19:40	18:33	16:41	31	14:36 (1)	16:30	45	14:54 (1)
23	08:33		14:34 (1)	07:40	06:37	06:28	05:36	05:20	05:47	06:35	07:26	08:17	08:11		14:04 (1)	08:46		14:10 (1)
	17:10	23	14:57 (1)	18:07	18:56	20:49	21:37	22:04	21:44	20:49	19:38	18:31	16:40	33	14:37 (1)	16:31	45	14:55 (1)
24	08:32		14:37 (1)	07:38	06:35	06:26	05:35	05:20	05:48	06:37	07:27	08:18	08:13		14:03 (1)	08:46		14:10 (1)
	17:12	19	14:56 (1)	18:09	18:58	20:51	21:39	22:04	21:43	20:46	19:35	18:28	16:38	34	14:37 (1)	16:31	45	14:55 (1)
25	08:31		14:40 (1)	07:36	06:33	06:24	05:33	05:20	05:49	06:38	07:29	07:20	08:15		14:03 (1)	08:47		14:11 (1)
	17:13	13	14:53 (1)	18:10	19:00	20:53	21:40	22:04	21:42	20:44	19:33	17:26	16:37	35	14:38 (1)	16:32	44	14:55 (1)
26	08:30			07:34	06:30	06:22	05:32	05:21	05:51	06:40	07:31	07:22	08:16		14:03 (1)	08:47		14:11 (1)
	17:15			18:12	19:02	20:54	21:41	22:04	21:40	20:42	19:31	17:24	16:36	37	14:40 (1)	16:32	44	14:55 (1)
27	08:28			07:32	06:28	06:20	05:31	05:21	05:52	06:42	07:32	07:24	08:18		14:03 (1)	08:47		14:12 (1)
	17:17			18:14	19:03	20:56	21:43	22:04	21:39	20:40	19:28	17:22	16:36	38	14:41 (1)	16:33	44	14:56 (1)
28	08:27			07:30	06:26	06:18	05:30	05:21	05:54	06:43	07:34	07:26	08:19		14:02 (1)	08:48		14:13 (1)
	17:19			18:16	19:05	20:58	21:44	22:03	21:37	20:38	19:26	17:20	16:35	39	14:41 (1)	16:34	44	14:57 (1)
29	08:25				07:24	06:16	05:29	05:22	05:55	06:45	07:36	07:27	08:21		14:02 (1)	08:48		14:13 (1)
	17:20				20:07	21:00	21:45	22:03	21:36	20:35	19:24	17:19	16:34	40	14:42 (1)	16:35	44	14:57 (1)
30	08:24				07:21	06:14	05:28	05:23	05:57	06:46	07:37	07:29	08:22		14:03 (1)	08:48		14:14 (1)
	17:22				20:08	21:01	21:47	22:03	21:34	20:33	19:21	17:17	16:33	40	14:43 (1)	16:36	44	14:58 (1)
31	08:22				07:19		05:27		05:58	06:48		07:31				08:48		14:13 (1)
	17:24				20:10		21:48		21:33	20:31		17:15				16:37	44	14:57 (1)
Potential sun hours	259			277	367	416	485	499	502	454	381	331	266			243		
Total, worst case		906												436			1354	
Sun reduction		0,24												0,24			0,20	
Oper. time red.		0,95												0,95			0,95	
Wind dir. red.		0,69												0,69			0,69	
Total reduction		0,16												0,16			0,13	
Total, real		143												68			181	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:36/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN131@145Shadow receptor: AK - 3998JD84

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	05:26	05:23	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03	21:49 12 06:31 (1)	22:03	21:31 14 06:43 (1)	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	05:26 06:20 (1)	05:24	06:01 06:30 (1)	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05	21:50 10 06:30 (1)	22:03	21:29 11 06:41 (1)	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08	05:25 06:22 (1)	05:25	06:03 06:32 (1)	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06	21:51 8 06:30 (1)	22:02	21:28 8 06:40 (1)	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06	05:24 06:23 (1)	05:26	06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08	21:52 5 06:28 (1)	22:02	21:26	20:22	19:12	17:07	16:31
5	08:47	08:15	07:19	07:08	06:04	05:23	05:26	06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10	21:53	22:01	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02	05:23	05:27	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11	21:54	22:01	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01	05:22	05:28	06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13	21:55	22:00	21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59	05:22	05:29 06:32 (1)	06:11	07:01	07:51	07:45	08:33
	16:47	17:39	18:30	20:24	21:15	21:56	22:00 1 06:33 (1)	21:19	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57 06:22 (1)	05:21	05:30 06:30 (1)	06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16 4 06:26 (1)	21:57	21:59 6 06:36 (1)	21:17	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55 06:21 (1)	05:21	05:31 06:28 (1)	06:14	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18 9 06:30 (1)	21:58	21:58 9 06:37 (1)	21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54 06:19 (1)	05:20	05:32 06:27 (1)	06:16	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19 12 06:31 (1)	21:58	21:57 11 06:38 (1)	21:13	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52 06:18 (1)	05:20	05:33 06:26 (1)	06:17	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21 15 06:33 (1)	21:59	21:57 13 06:39 (1)	21:11	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50 06:16 (1)	05:20	05:34 06:27 (1)	06:19	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23 17 06:33 (1)	22:00	21:56 14 06:41 (1)	21:09	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49 06:15 (1)	05:19	05:35 06:26 (1)	06:21	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24 19 06:34 (1)	22:00	21:55 16 06:42 (1)	21:07	19:59	18:50	16:51	16:28
15	08:42	07:56	06:56	06:45	05:47 06:14 (1)	05:19	05:36 06:26 (1)	06:22	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26 20 06:34 (1)	22:01	21:54 17 06:43 (1)	21:05	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46 06:14 (1)	05:19	05:38 06:25 (1)	06:24	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27 21 06:35 (1)	22:01	21:53 18 06:43 (1)	21:03	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44 06:14 (1)	05:19	05:39 06:25 (1)	06:25	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29 21 06:35 (1)	22:02	21:52 19 06:44 (1)	21:01	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43 06:13 (1)	05:19	05:40 06:24 (1)	06:27	07:18	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30 22 06:35 (1)	22:02	21:51 20 06:44 (1)	20:59	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41 06:13 (1)	05:19	05:41 06:24 (1)	06:29	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32 22 06:35 (1)	22:03	21:49 20 06:44 (1)	20:57	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40 06:13 (1)	05:19	05:43 06:24 (1)	06:30	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33 23 06:36 (1)	22:03	21:48 21 06:45 (1)	20:55	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	05:39 06:14 (1)	05:19	05:44 06:24 (1)	06:32	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:35 22 06:36 (1)	22:03	21:47 21 06:45 (1)	20:53	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	05:37 06:13 (1)	05:19	05:45 06:23 (1)	06:34	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36 22 06:35 (1)	22:03	21:46 22 06:45 (1)	20:51	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	05:36 06:13 (1)	05:20	05:47 06:23 (1)	06:35	07:26	08:17	08:12	08:46
	17:10	18:07	18:57	20:49	21:37 22 06:35 (1)	22:04	21:44 22 06:45 (1)	20:49	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35 06:14 (1)	05:20	05:48 06:24 (1)	06:37	07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	21:39 21 06:35 (1)	22:04	21:43 22 06:46 (1)	20:46	19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	05:34 06:14 (1)	05:20	05:50 06:24 (1)	06:38	07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	21:40 21 06:35 (1)	22:04	21:42 22 06:46 (1)	20:44	19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	05:32 06:15 (1)	05:21	05:51 06:23 (1)	06:40	07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	21:42 19 06:34 (1)	22:04	21:40 22 06:45 (1)	20:42	19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	05:31 06:15 (1)	05:21	05:52 06:24 (1)	06:42	07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21:43 19 06:34 (1)	22:04	21:39 22 06:46 (1)	20:40	19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	05:30 06:16 (1)	05:22	05:54 06:24 (1)	06:43	07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	21:44 17 06:33 (1)	22:04	21:37 21 06:45 (1)	20:38	19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	05:29 06:16 (1)	05:22	05:55 06:25 (1)	06:45	07:36	07:27	08:21	08:48
	17:21		20:07	21:00	21:45 17 06:33 (1)	22:03	21:36 20 06:45 (1)	20:36	19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	05:28 06:18 (1)	05:23	05:57 06:26 (1)	06:47	07:37	07:29	08:22	08:48
	17:22		20:09	21:01	21:47 15 06:33 (1)	22:03	21:34 18 06:44 (1)	20:33	19:22	17:17	16:33	16:36
31	08:22		07:19		05:27 06:18 (1)		05:58 06:27 (1)	06:48		07:31		08:48
	17:24		20:10		21:48 14 06:32 (1)		21:33 16 06:43 (1)	20:31		17:15		16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case					414	35	413	33				
Sun reduction					0,43	0,39	0,41	0,42				
Oper. time red.					0,95	0,95	0,95	0,95				
Wind dir. red.					0,67	0,67	0,67	0,67				
Total reduction					0,27	0,25	0,26	0,26				
Total, real					112	9	106	9				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:36/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN131@145Shadow receptor: AL - 3997MR19

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March	April	May	June	July	August	September	October	November		December		
1	08:48	09:32 (4)	08:21	14:52 (1)	07:27	07:17	06:12	05:26	05:23	06:00	06:50	07:39	07:33	14:35 (1)	08:24		09:21 (4)
	16:38 99	15:24 (1)	17:26 46	15:38 (1)	18:18	20:12	21:03	21:49	22:03	21:31	20:29	19:19	17:13 25	15:00 (1)	16:32	62	15:14 (1)
2	08:48	09:33 (4)	08:19	14:53 (1)	07:25	07:14	06:10	05:25	05:24	06:01	06:51	07:41	07:35	14:33 (1)	08:25		09:21 (4)
	16:39 98	15:25 (1)	17:28 45	15:38 (1)	18:20	20:14	21:05	21:50	22:03	21:29	20:26	19:17	17:11 29	15:02 (1)	16:32	62	15:14 (1)
3	08:48	09:33 (4)	08:18	14:54 (1)	07:23	07:12	06:08	05:25	05:25	06:03	06:53	07:42	07:36	14:31 (1)	08:27		09:21 (4)
	16:40 95	15:26 (1)	17:30 44	15:38 (1)	18:21	20:15	21:06	21:51	22:02	21:28	20:24	19:14	17:09 33	15:04 (1)	16:31	61	15:14 (1)
4	08:47	09:33 (4)	08:16	14:55 (1)	07:21	07:10	06:06	05:24	05:25	06:04	06:55	07:44	07:38	14:28 (1)	08:28		09:21 (4)
	16:41 91	15:26 (1)	17:31 42	15:37 (1)	18:23	20:17	21:08	21:52	22:02	21:26	20:22	19:12	17:07 36	15:04 (1)	16:30	63	15:15 (1)
5	08:47	09:34 (4)	08:14	14:56 (1)	07:19	07:07	06:04	05:23	05:26	06:06	06:56	07:46	07:40	14:27 (1)	08:29		09:21 (4)
	16:43 84	15:28 (1)	17:33 40	15:36 (1)	18:25	20:19	21:10	21:53	22:01	21:24	20:20	19:10	17:06 38	15:05 (1)	16:30	67	15:14 (1)
6	08:47	09:34 (4)	08:13	14:57 (1)	07:16	07:05	06:02	05:23	05:27	06:08	06:58	07:47	07:42	14:26 (1)	08:31		09:21 (4)
	16:44 72	15:28 (1)	17:35 38	15:35 (1)	18:27	20:20	21:11	21:54	22:01	21:22	20:17	19:08	17:04 40	15:06 (1)	16:30	71	15:14 (1)
7	08:46	09:36 (4)	08:11	14:59 (1)	07:14	07:03	06:00	05:22	05:28	06:09	06:59	07:49	07:44	14:25 (1)	08:32		09:21 (4)
	16:45 67	15:29 (1)	17:37 35	15:34 (1)	18:28	20:22	21:13	21:55	22:00	21:20	20:15	19:05	17:02 42	15:07 (1)	16:29	84	15:15 (1)
8	08:46	09:36 (4)	08:09	15:01 (1)	07:12	07:01	05:59	05:21	05:29	06:11	07:01	07:51	07:45	14:24 (1)	08:33		09:21 (4)
	16:46 62	15:29 (1)	17:39 33	15:34 (1)	18:30	20:24	21:15	21:56	22:00	21:19	20:13	19:03	17:00 44	15:08 (1)	16:29	91	15:14 (1)
9	08:45	09:37 (4)	08:08	15:03 (1)	07:10	06:58	05:57	05:21	05:30	06:12	07:03	07:52	07:47	14:24 (1)	08:34		09:21 (4)
	16:48 62	15:31 (1)	17:41 29	15:32 (1)	18:32	20:26	21:16	21:57	21:59	21:17	20:10	19:01	16:59 45	15:09 (1)	16:28	94	15:14 (1)
10	08:45	09:38 (4)	08:06	15:06 (1)	07:07	06:56	05:55	05:20	05:31	06:14	07:04	07:54	07:49	14:23 (1)	08:35		09:22 (4)
	16:49 62	15:31 (1)	17:43 24	15:30 (1)	18:34	20:27	21:18	21:58	21:58	21:15	20:08	18:59	16:57 46	15:09 (1)	16:28	98	15:14 (1)
11	08:44	09:39 (4)	08:04	15:10 (1)	07:05	06:54	05:54	05:20	05:32	06:16	07:06	07:56	07:51	14:23 (1)	08:37		09:22 (4)
	16:51 62	15:32 (1)	17:45 17	15:27 (1)	18:36	20:29	21:19	21:58	21:57	21:13	20:06	18:56	16:56 47	15:10 (1)	16:28	99	15:14 (1)
12	08:44	09:40 (4)	08:02	15:15 (1)	07:03	06:52	05:52	05:20	05:33	06:17	07:08	07:57	07:53	14:23 (1)	08:38		09:23 (4)
	16:52 60	15:32 (1)	17:46 7	15:22 (1)	18:37	20:31	21:21	21:59	21:56	21:11	20:03	18:54	16:54 48	15:11 (1)	16:28	102	15:15 (1)
13	08:43	09:41 (4)	08:00		07:00	06:49	05:50	05:19	05:34	06:19	07:09	07:59	07:54	14:22 (1)	08:39		09:23 (4)
	16:53 59	15:33 (1)	17:48		18:39	20:32	21:23	22:00	21:56	21:09	20:01	18:52	16:53 49	15:11 (1)	16:28	104	15:15 (1)
14	08:42	09:42 (4)	07:58		06:58	06:47	05:49	05:19	05:35	06:20	07:11	08:01	07:56	14:22 (1)	08:40		09:24 (4)
	16:55 58	15:34 (1)	17:50		18:41	20:34	21:24	22:00	21:55	21:07	19:59	18:50	16:51 50	15:12 (1)	16:28	106	15:16 (1)
15	08:41	09:45 (4)	07:56		06:56	06:45	05:47	05:19	05:36	06:22	07:13	08:03	07:58	14:22 (1)	08:40		09:23 (4)
	16:57 55	15:35 (1)	17:52		18:43	20:36	21:26	22:01	21:54	21:05	19:56	18:47	16:50 50	15:12 (1)	16:28	106	15:15 (1)
16	08:41	14:46 (1)	07:54		06:54	06:43	05:46	05:19	05:38	06:24	07:14	08:04	08:00	14:22 (1)	08:41		09:24 (4)
	16:58 49	15:35 (1)	17:54		18:44	20:37	21:27	22:01	21:53	21:03	19:54	18:45	16:48 50	15:12 (1)	16:28	105	15:15 (1)
17	08:40	14:47 (1)	07:52		06:51	06:41	05:44	05:19	05:39	06:25	07:16	08:06	08:01	14:23 (1)	08:42		09:25 (4)
	17:00 49	15:36 (1)	17:56		18:46	20:39	21:29	22:02	21:52	21:01	19:52	18:43	16:47 50	15:13 (1)	16:28	107	15:16 (1)
18	08:39	14:47 (1)	07:50		06:49	06:38	05:43	05:19	05:40	06:27	07:17	08:08	08:03	14:23 (1)	08:43		09:25 (4)
	17:01 49	15:36 (1)	17:58		18:48	20:41	21:30	22:02	21:51	20:59	19:49	18:41	16:46 50	15:13 (1)	16:29	107	15:16 (1)
19	08:38	14:47 (1)	07:48		06:47	06:36	05:41	05:19	05:41	06:28	07:19	08:10	08:05	14:22 (1)	08:44		09:25 (4)
	17:03 50	15:37 (1)	17:59		18:50	20:43	21:32	22:03	21:49	20:57	19:47	18:39	16:44 51	15:13 (1)	16:29	109	15:16 (1)
20	08:37	14:48 (1)	07:46		06:44	06:34	05:40	05:19	05:43	06:30	07:21	08:11	08:06	14:23 (1)	08:44		09:26 (4)
	17:05 50	15:38 (1)	18:01		18:51	20:44	21:33	22:03	21:48	20:55	19:45	18:37	16:43 50	15:13 (1)	16:29	109	15:17 (1)
21	08:36	14:48 (1)	07:44		06:42	06:32	05:38	05:19	05:44	06:32	07:22	08:13	08:08	14:23 (1)	08:45		09:27 (4)
	17:06 50	15:38 (1)	18:03		18:53	20:46	21:35	22:03	21:47	20:53	19:42	18:35	16:42 50	15:13 (1)	16:30	109	15:18 (1)
22	08:34	14:48 (1)	07:42		06:40	06:30	05:37	05:19	05:45	06:33	07:24	08:15	08:10	14:24 (1)	08:45		09:27 (4)
	17:08 50	15:38 (1)	18:05		18:55	20:48	21:36	22:03	21:46	20:51	19:40	18:33	16:41 50	15:14 (1)	16:30	109	15:18 (1)
23	08:33	14:48 (1)	07:40		06:37	06:28	05:36	05:20	05:47	06:35	07:26	08:17	08:11	14:24 (1)	08:46		09:27 (4)
	17:10 51	15:39 (1)	18:07		18:56	20:49	21:37	22:03	21:44	20:49	19:38	18:31	16:40 50	15:14 (1)	16:31	109	15:18 (1)
24	08:32	14:49 (1)	07:38		06:35	06:26	05:35	05:20	05:48	06:37	07:27	08:18	08:13	14:24 (1)	08:46		09:28 (4)
	17:12 50	15:39 (1)	18:09		18:58	20:51	21:39	22:04	21:43	20:46	19:35	18:28	16:38 49	15:13 (1)	16:31	109	15:19 (1)
25	08:31	14:49 (1)	07:36		06:33	06:24	05:33	05:20	05:49	06:38	07:29	07:20	08:15	14:25 (1)	08:47		09:28 (4)
	17:13 50	15:39 (1)	18:10		19:00	20:53	21:40	22:04	21:42	20:44	19:33	17:26	16:37 49	15:14 (1)	16:32	108	15:19 (1)
26	08:30	14:49 (1)	07:34		06:30	06:22	05:32	05:21	05:51	06:40	07:31	07:22	08:16	14:25 (1)	08:47		09:29 (4)
	17:15 50	15:39 (1)	18:12		19:02	20:54	21:41	22:04	21:40	20:42	19:31	17:24	16:36 49	15:14 (1)	16:32	107	15:20 (1)
27	08:28	14:49 (1)	07:32		06:28	06:20	05:31	05:21	05:52	06:42	07:32	07:24	08:18	09:24 (4)	08:47		09:30 (4)
	17:17 50	15:39 (1)	18:14		19:03	20:56	21:43	22:04	21:39	20:40	19:28	17:22	16:36 55	15:14 (1)	16:33	108	15:21 (1)
28	08:27	14:50 (1)	07:30		06:26	06:18	05:30	05:21	05:54	06:43	07:34	07:26	08:19	09:22 (4)	08:48		09:30 (4)
	17:19 50	15:40 (1)	18:16		19:05	20:58	21:44	22:03	21:37	20:38	19:26	17:20	16:35 58	15:14 (1)	16:34	106	15:22 (1)
29	08:25	14:50 (1)			07:24	06:16	05:29	05:22	05:55	06:45	07:35	07:27	08:21	09:22 (4)	08:48		09:31 (4)
	17:20 49	15:39 (1)			20:07	21:00	21:45	22:03	21:36	20:35	19:24	17:19	16:34 59	15:14 (1)	16:35	103	15:22 (1)
30	08:24	14:51 (1)			07:21	06:14	05:28	05:23	05:57	06:46	07:37	07:29	14:43 (1)	08:22	09:22 (4)		08:48	09:31 (4)
	17:22 48	15:39 (1)			20:08	21:01	21:47	22:03	21:34	20:33	19:21	17:17 10	14:53 (1)	16:33 61	15:15 (1)		16:36 105	15:23 (1)
31	08:22	14:52 (1)			07:19		05:27		05:58	06:48		07:31	14:39 (1)				08:48	09:31 (4)
	17:24 47	15:39 (1)			20:10		21:48		21:33	20:31		17:15 18	14:57 (1)				16:37 103	15:23 (1)
Potential sun hours	259		277		367	416	485	499	502	454	381	331		266		243		
Total, worst case	1878		400									28		1403		2983		
Sun reduction	0,24		0,30									0,34		0,24		0,20		
Oper. time red.	0,95		0,95									0,95		0,95		0,95		
Wind dir. red.	0,67		0,69									0,69		0,69		0,65		
Total reduction	0,15		0,20									0,22		0,15		0,12		
Total, real	286		79									6		216		372		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:36/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN131@145Shadow receptor: AM - 3945LA6

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December		
1	08:48		09:37 (4)		08:21		13:56 (2)	07:27		17:08 (1)	07:17	06:12	05:26	05:23	06:00	06:50		07:39		17:35 (1)	07:33		13:36 (2)	08:24		09:24 (4)
	16:38	129	14:44 (2)		17:26	60	14:56 (2)	18:18	24	17:32 (1)	20:12	21:03	21:49	22:03	21:31	20:29		19:19	44	18:19 (1)	17:13	44	14:20 (2)	16:32	127	14:33 (2)
2	08:48		09:38 (4)		08:19		13:56 (2)	07:25		17:07 (1)	07:14	06:10	05:25	05:24	06:01	06:51		07:40		17:35 (1)	07:35		13:34 (2)	08:25		09:24 (4)
	16:39	130	14:45 (2)		17:28	60	14:56 (2)	18:19	27	17:34 (1)	20:14	21:05	21:50	22:02	21:29	20:26		19:17	44	18:19 (1)	17:11	48	14:22 (2)	16:32	129	14:33 (2)
3	08:48		09:38 (4)		08:18		13:58 (2)	07:23		17:04 (1)	07:12	06:08	05:25	05:25	06:03	06:53		07:42		17:35 (1)	07:36		13:32 (2)	08:27		09:24 (4)
	16:40	130	14:46 (2)		17:30	58	14:56 (2)	18:21	31	17:35 (1)	20:15	21:06	21:51	22:02	21:28	20:24		19:14	43	18:18 (1)	17:09	50	14:22 (2)	16:31	130	14:33 (2)
4	08:47		09:38 (4)		08:16		13:59 (2)	07:21		17:03 (1)	07:10	06:06	05:24	05:25	06:04	06:55		07:44		17:35 (1)	07:38		13:31 (2)	08:28		09:25 (4)
	16:41	130	14:46 (2)		17:31	56	14:55 (2)	18:23	34	17:37 (1)	20:17	21:08	21:52	22:02	21:26	20:22		19:12	43	18:18 (1)	17:07	52	14:23 (2)	16:30	130	14:34 (2)
5	08:47		09:39 (4)		08:14		13:59 (2)	07:19		17:02 (1)	07:07	06:04	05:23	05:26	06:06	06:56		07:46		17:35 (1)	07:40		13:30 (2)	08:29		09:25 (4)
	16:43	130	14:47 (2)		17:33	56	14:55 (2)	18:25	36	17:38 (1)	20:19	21:10	21:53	22:01	21:24	20:20		19:10	42	18:17 (1)	17:06	54	14:24 (2)	16:30	129	14:34 (2)
6	08:47		09:39 (4)		08:13		14:00 (2)	07:16		17:01 (1)	07:05	06:02	05:23	05:27	06:08	06:58		07:47		17:36 (1)	07:42		13:29 (2)	08:31		09:25 (4)
	16:44	130	14:47 (2)		17:35	54	14:54 (2)	18:27	38	17:39 (1)	20:20	21:11	21:54	22:01	21:22	20:17		19:08	40	18:16 (1)	17:04	56	14:25 (2)	16:30	129	14:33 (2)
7	08:46		09:40 (4)		08:11		14:01 (2)	07:14		16:59 (1)	07:03	06:00	05:22	05:28	06:09	06:59		07:49		17:35 (1)	07:44		13:28 (2)	08:32		09:26 (4)
	16:45	128	14:48 (2)		17:37	52	14:53 (2)	18:29	40	17:38 (1)	20:22	21:13	21:55	22:00	21:20	20:15		19:05	40	18:15 (1)	17:02	57	14:25 (2)	16:29	130	14:34 (2)
8	08:46		09:40 (4)		08:09		14:04 (2)	07:12		16:58 (1)	07:01	05:59	05:21	05:29	06:11	07:01		07:51		17:36 (1)	07:45		13:28 (2)	08:33		09:26 (4)
	16:46	130	14:49 (2)		17:39	49	14:53 (2)	18:30	42	17:40 (1)	20:24	21:14	21:56	21:59	21:19	20:13		19:03	38	18:14 (1)	17:00	58	14:26 (2)	16:29	130	14:34 (2)
9	08:45		09:41 (4)		08:07		14:05 (2)	07:10		16:58 (1)	06:58	05:57	05:21	05:30	06:12	07:03		07:52		17:37 (1)	07:47		13:27 (2)	08:34		09:27 (4)
	16:48	130	14:50 (2)		17:41	47	14:52 (2)	18:32	42	17:40 (1)	20:25	21:16	21:57	21:59	21:17	20:10		19:01	35	18:12 (1)	16:59	60	14:27 (2)	16:28	129	14:34 (2)
10	08:45		09:41 (4)		08:06		14:07 (2)	07:07		16:57 (1)	06:56	05:55	05:20	05:31	06:14	07:04		07:54		17:38 (1)	07:49		13:27 (2)	08:35		09:27 (4)
	16:49	128	14:50 (2)		17:43	43	14:50 (2)	18:34	43	17:40 (1)	20:27	21:18	21:57	21:58	21:15	20:08		18:59	33	18:11 (1)	16:57	60	14:27 (2)	16:28	129	14:34 (2)
11	08:44		09:42 (4)		08:04		14:09 (2)	07:05		16:57 (1)	06:54	05:54	05:20	05:32	06:16	07:06		07:56		17:39 (1)	07:51		13:27 (2)	08:37		09:27 (4)
	16:51	128	14:51 (2)		17:45	40	14:49 (2)	18:36	43	17:40 (1)	20:29	21:19	21:58	21:57	21:13	20:06		18:56	29	18:08 (1)	16:56	61	14:28 (2)	16:28	129	14:34 (2)
12	08:44		09:42 (4)		08:02		14:11 (2)	07:03		16:57 (1)	06:52	05:52	05:20	05:33	06:17	07:08		07:57		17:40 (1)	07:52		13:26 (2)	08:38		09:29 (4)
	16:52	127	14:51 (2)		17:46	36	14:47 (2)	18:37	44	17:41 (1)	20:31	21:21	21:59	21:56	21:11	20:03		18:54	26	18:06 (1)	16:54	62	14:28 (2)	16:28	128	14:35 (2)
13	08:43		09:43 (4)		08:00		14:14 (2)	07:00		16:56 (1)	06:49	05:50	05:19	05:34	06:19	07:09		07:59		17:43 (1)	07:54		13:26 (2)	08:39		09:29 (4)
	16:53	125	14:52 (2)		17:48	31	14:45 (2)	18:39	44	17:40 (1)	20:32	21:23	22:00	21:56	21:09	20:01		18:52	21	18:04 (1)	16:53	63	14:29 (2)	16:28	130	14:36 (2)
14	08:42		09:43 (4)		07:58		14:18 (2)	06:58		16:56 (1)	06:47	05:49	05:19	05:35	06:20	07:11		08:01		17:46 (1)	07:56		13:26 (2)	08:40		09:29 (4)
	16:55	124	14:52 (2)		17:50	24	14:42 (2)	18:41	44	17:40 (1)	20:34	21:24	22:00	21:55	21:07	19:59		18:50	15	18:01 (1)	16:51	63	14:29 (2)	16:28	127	14:35 (2)
15	08:41		09:44 (4)		07:56		14:24 (2)	06:56		16:56 (1)	06:45	05:47	05:19	05:36	06:22	07:12		08:03			07:58		13:26 (2)	08:40		09:29 (4)
	16:57	122	14:53 (2)		17:52	13	14:37 (2)	18:43	44	17:40 (1)	20:36	21:26	22:01	21:54	21:05	19:56		18:47			16:50	64	14:30 (2)	16:28	128	14:35 (2)
16	08:41		09:45 (4)		07:54			06:54		16:56 (1)	06:43	05:46	05:19	05:38	06:24	07:14		08:04			08:00		13:26 (2)	08:41		09:30 (4)
	16:58	119	14:53 (2)		17:54			18:44	42	17:38 (1)	20:37	21:27	22:01	21:53	21:03	19:54		18:45			16:48	64	14:30 (2)	16:28	128	14:36 (2)
17	08:40		09:45 (4)		07:52			06:51		16:56 (1)	06:41	05:44	05:19	05:39	06:25	07:16		18:00 (1)		08:06			08:01		13:26 (2)	08:42		09:31 (4)
	17:00	118	14:54 (2)		17:56			18:46	42	17:38 (1)	20:39	21:29	22:02	21:52	21:01	19:52	8	18:08 (1)		18:43			16:47	65	14:31 (2)	16:28	127	14:36 (2)
18	08:39		09:46 (4)		07:50			06:49		16:57 (1)	06:38	05:43	05:19	05:40	06:27	07:17		17:55 (1)		08:08			08:03		09:33 (4)	08:43		09:31 (4)
	17:01	114	14:54 (2)		17:58			18:48	40	17:37 (1)	20:41	21:30	22:02	21:50	20:59	19:49	18	18:13 (1)		18:41			16:46	66	14:31 (2)	16:29	127	14:37 (2)
19	08:38		09:48 (4)		07:48			06:47		16:57 (1)	06:36	05:41	05:19	05:41	06:28	07:19		17:51 (1)		08:10			08:05		09:28 (4)	08:44		09:31 (4)
	17:03	108	14:55 (2)		17:59			18:49	39	17:36 (1)	20:43	21:32	22:03	21:49	20:57	19:47	23	18:14 (1)		18:39			16:44	75	14:30 (2)	16:29	128	14:37 (2)
20	08:37		09:49 (4)		07:46			06:44		16:58 (1)	06:34	05:40	05:19	05:43	06:30	07:21		17:49 (1)		08:11			08:06		09:27 (4)	08:44		09:32 (4)
	17:05	105	14:56 (2)		18:01			18:51	37	17:35 (1)	20:44	21:33	22:03	21:48	20:55	19:45	27	18:16 (1)		18:37			16:43	84	14:31 (2)	16:29	128	14:38 (2)
21	08:36		09:51 (4)		07:44			06:42		16:59 (1)	06:32	05:38	05:19	05:44	06:32	07:22		17:46 (1)		08:13			08:08		09:26 (4)	08:45		09:33 (4)
	17:06	95	14:56 (2)		18:03			18:53	35	17:34 (1)	20:46	21:35	22:03	21:47	20:53	19:42	31	18:17 (1)		18:35			16:42	95	14:31 (2)	16:30	128	14:39 (2)
22	08:34		09:51 (4)		07:42			06:40		17:00 (1)	06:30	05:37	05:19	05:45	06:33	07:24		17:44 (1)		08:15			08:10		09:25 (4)	08:45		09:33 (4)
	17:08	85	14:56 (2)		18:05			18:55	32	17:32 (1)	20:48	21:36	22:03	21:46	20:51	19:40	34	18:18 (1)		18:33			16:41	105	14:32 (2)	16:30	129	14:39 (2)
23	08:33		09:54 (4)		07:40			06:37		17:02 (1)	06:28	05:36	05:20	05:47	06:35	07:26		17:43 (1)		08:17			08:11		09:25 (4)	08:46		09:33 (4)
	17:10	75	14:56 (2)		18:07			18:56	28	17:30 (1)	20:49	21:37	22:03	21:44	20:49	19:38	36	18:19 (1)		18:30			16:40	108	14:32 (2)	16:31	128	14:39 (2)
24	08:32		09:59 (4)		07:38			06:35		17:04 (1)	06:26	05:35	05:20	05:48	06:37	07:27		17:41 (1)		08:18			08:13		09:24 (4)	08:46		09:34 (4)
	17:12	66	14:57 (2)		18:09			18:58	24	17:28 (1)	20:51	21:39	22:04	21:43	20:46	19:35	38	18:19 (1)		18:28			16:38	113	14:31 (2)	16:31	128	14:40 (2)
25	08:31		13:52 (2)		07:36			06:33		17:06 (1)	06:24	05:33	05:20	05:49	06:38	07:29		17:40 (1)		07:20			08:15		09:24 (4)	08:47		09:34 (4)
	17:13	65	14:57 (2)		18:10			19:00	19	17:25 (1)	20:53	21:40	22:04	21:42	20:44	19:33	40	18:20 (1)		17:26			16:37	116	14:32 (2)	16:32	128	14:40 (2)
26	08:29		13:53 (2)		07:34			06:30		17:10 (1)	06:22	05:32	05:21	05:51	06:40	07:31		17:39 (1)		07:22			08:16		09:24 (4)	08:47		09:35 (4)
	17:15	64	14:57 (2)		18:12			19:02	11	17:21 (1)	20:54	21:41	22:04	21:40	20:42	19:31	41	18:20 (1)		17:24			16:36	119	14:32 (2)	16:32	127	14:40 (2)
27	08:28		13:53 (2)		07:32		17:15 (1)	06:28			06:20	05:31	05:21	05:52	06:42	07:32		17:38 (1)		07:24			13:52 (2)	08:18		09:24 (4)	08:47		09:35 (4)
	17:17	64	14:57 (2)		18:14	9	17:24 (1)	19:03			20:56	21:43	22:04	21:39	20:40	19:28	42	18:20 (1)		17:22	16		14:08 (2)	16:36	122	14:33 (2)	16:33	128	14:41 (2)
28	08:27		13:54 (2)		07:30		17:11 (1)	06:26			06:18	05:30	05:21	05:54	06:43	07:34		17:37 (1)		07:26			13:46 (2)	08:19		09:23 (4)	08:48		09:36 (4)
	17:19	63	14:57 (2)		18:16	18	17:29 (1)	19:05			20:58	21:44	22:03	21:37	20:38	19:26	43	18:20 (1)		17:20	26		14:12 (2)	16:35	124	14:32 (2)	16:34	128	14:42 (2)
29	08:25		13:54 (2)					07:23			06:16	05:29	05:22	05:55	06:45	07:35		17:37 (1)		07:27			13:43 (2)	08:21		09:24 (4)	08:48		09:36 (4)
	17:20	63	14:57 (2)					20:07			21:00	21:45	22:03	21:36	20:35	19:24	43	18:20 (1)		17:19	32		14:15 (2)	16:34	126	14:33 (2)	16:35	130	14:43 (2)
30	08:24		13:54 (2)					07:21			06:14	05:28	05:23	05:57	06:46	07:37		17:35 (1)		07:29			13:40 (2)	08:22		09:24 (4)	08:48		09:37 (4)
	17:22	62	14:56 (2)					20:08			21:01	21:46	22:03	21:34	20:33	19:21	44	18:19 (1)		17:17	37		14:17 (2)	16:33	127	14:33 (2)	16:36	128	14:43 (2)
31	08:22		13:56 (2)					07:19				05:27		05:58	06:48					07:31			13:38 (2)				08:48		09:36 (4)
	17:24	61	14:57 (2)					20:10				21:48		21:33	20:31					17:15	41		14:19 (2)				16:37	129	14:43 (2)
Potential sun hours	259			277		367			416	485	499	502	454	381				331			266				243		
Total, worst case		3248			706		925								468		645			2361				3983		
Sun reduction		0,24			0,30		0,33								0,36		0,34			0,24				0,20		
Oper. time red.		0,95			0,95		0,95								0,95		0,95			0,95				0,95		
Wind dir. red.		0,66			0,69		0,65								0,65		0,66			0,67				0,65		
Total reduction		0,15			0,20		0,20								0,22		0,21			0,15				0,12		
Total, real		485			139		188								105		136			355				497		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:36/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN131@145Shadow receptor: AN - 3997ML142

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March	April	May	June	July	August	September	October	November		December	
1	08:48	09:56 (1)	08:21	09:22 (2)	07:27	07:17	06:12	05:26	05:23	06:00	06:50	07:39	07:33		08:24	09:00 (2)
	16:38 40	10:36 (1)	17:26 51	10:41 (1)	18:18	20:12	21:03	21:49	22:03	21:31	20:29	19:19	17:13		16:32 61	10:24 (1)
2	08:48	09:56 (1)	08:19	09:23 (2)	07:25	07:14	06:10	05:25	05:24	06:01	06:51	07:41	07:35		08:25	09:02 (2)
	16:39 41	10:37 (1)	17:28 46	10:40 (1)	18:20	20:14	21:05	21:50	22:03	21:29	20:27	19:17	17:11		16:32 59	10:25 (1)
3	08:48	09:57 (1)	08:18	09:26 (2)	07:23	07:12	06:08	05:25	05:25	06:03	06:53	07:42	07:36		08:27	09:03 (2)
	16:40 41	10:38 (1)	17:30 38	10:39 (1)	18:21	20:15	21:06	21:51	22:02	21:28	20:24	19:15	17:09		16:31 57	10:25 (1)
4	08:47	09:57 (1)	08:16	09:28 (2)	07:21	07:10	06:06	05:24	05:25	06:05	06:55	07:44	07:38		08:28	09:05 (2)
	16:41 41	10:38 (1)	17:32 28	10:36 (1)	18:23	20:17	21:08	21:52	22:02	21:26	20:22	19:12	17:07		16:31 53	10:26 (1)
5	08:47	09:57 (1)	08:14	10:18 (1)	07:19	07:07	06:04	05:23	05:26	06:06	06:56	07:46	07:40	09:53 (1)	08:29	09:07 (2)
	16:43 42	10:39 (1)	17:33 14	10:32 (1)	18:25	20:19	21:10	21:53	22:01	21:24	20:20	19:10	17:06 4	09:57 (1)	16:30 49	10:25 (1)
6	08:47	09:57 (1)	08:13		07:16	07:05	06:02	05:23	05:27	06:08	06:58	07:47	07:42	09:48 (1)	08:31	09:43 (1)
	16:44 42	10:39 (1)	17:35		18:27	20:20	21:11	21:54	22:01	21:22	20:17	19:08	17:04 15	10:03 (1)	16:30 42	10:25 (1)
7	08:46	09:22 (2)	08:11		07:14	07:03	06:01	05:22	05:28	06:09	07:00	07:49	07:44	08:57 (2)	08:32	09:44 (1)
	16:45 48	10:40 (1)	17:37		18:29	20:22	21:13	21:55	22:00	21:21	20:15	19:05	17:02 30	10:06 (1)	16:29 42	10:26 (1)
8	08:46	09:20 (2)	08:09		07:12	07:01	05:59	05:21	05:29	06:11	07:01	07:51	07:45	08:55 (2)	08:33	09:45 (1)
	16:46 52	10:40 (1)	17:39		18:30	20:24	21:15	21:56	22:00	21:19	20:13	19:03	17:01 40	10:09 (1)	16:29 41	10:26 (1)
9	08:46	09:20 (2)	08:08		07:10	06:58	05:57	05:21	05:30	06:12	07:03	07:52	07:47	08:54 (2)	08:34	09:45 (1)
	16:48 56	10:42 (1)	17:41		18:32	20:26	21:16	21:57	21:59	21:17	20:10	19:01	16:59 46	10:11 (1)	16:29 41	10:26 (1)
10	08:45	09:19 (2)	08:06		07:07	06:56	05:55	05:21	05:31	06:14	07:04	07:54	07:49	08:53 (2)	08:36	09:45 (1)
	16:49 59	10:42 (1)	17:43		18:34	20:27	21:18	21:58	21:58	21:15	20:08	18:59	16:57 51	10:12 (1)	16:28 41	10:26 (1)
11	08:44	09:18 (2)	08:04		07:05	06:54	05:54	05:20	05:32	06:16	07:06	07:56	07:51	08:52 (2)	08:37	09:47 (1)
	16:51 61	10:42 (1)	17:45		18:36	20:29	21:19	21:58	21:57	21:13	20:06	18:56	16:56 56	10:14 (1)	16:28 40	10:27 (1)
12	08:44	09:18 (2)	08:02		07:03	06:52	05:52	05:20	05:33	06:17	07:08	07:57	07:53	08:51 (2)	08:38	09:47 (1)
	16:52 63	10:43 (1)	17:46		18:37	20:31	21:21	21:59	21:57	21:11	20:04	18:54	16:54 60	10:15 (1)	16:28 41	10:28 (1)
13	08:43	09:17 (2)	08:00		07:01	06:49	05:50	05:20	05:34	06:19	07:09	07:59	07:54	08:51 (2)	08:39	09:48 (1)
	16:54 64	10:43 (1)	17:48		18:39	20:32	21:23	22:00	21:56	21:09	20:01	18:52	16:53 62	10:16 (1)	16:28 40	10:28 (1)
14	08:42	09:17 (2)	07:58		06:58	06:47	05:49	05:19	05:35	06:20	07:11	08:01	07:56	08:51 (2)	08:40	09:49 (1)
	16:55 66	10:44 (1)	17:50		18:41	20:34	21:24	22:00	21:55	21:07	19:59	18:50	16:51 65	10:17 (1)	16:28 39	10:28 (1)
15	08:42	09:17 (2)	07:56		06:56	06:45	05:47	05:19	05:36	06:22	07:13	08:03	07:58	08:51 (2)	08:41	09:48 (1)
	16:57 67	10:45 (1)	17:52		18:43	20:36	21:26	22:01	21:54	21:05	19:57	18:48	16:50 66	10:18 (1)	16:28 40	10:28 (1)
16	08:41	09:17 (2)	07:54		06:54	06:43	05:46	05:19	05:38	06:24	07:14	08:04	08:00	08:51 (2)	08:41	09:49 (1)
	16:58 68	10:45 (1)	17:54		18:44	20:38	21:27	22:01	21:53	21:03	19:54	18:45	16:48 68	10:19 (1)	16:28 39	10:28 (1)
17	08:40	09:16 (2)	07:52		06:51	06:41	05:44	05:19	05:39	06:25	07:16	08:06	08:01	08:51 (2)	08:42	09:50 (1)
	17:00 69	10:45 (1)	17:56		18:46	20:39	21:29	22:02	21:52	21:01	19:52	18:43	16:47 69	10:20 (1)	16:28 39	10:29 (1)
18	08:39	09:16 (2)	07:50		06:49	06:38	05:43	05:19	05:40	06:27	07:17	08:08	08:03	08:51 (2)	08:43	09:51 (1)
	17:01 70	10:45 (1)	17:58		18:48	20:41	21:30	22:02	21:51	20:59	19:49	18:41	16:46 70	10:20 (1)	16:29 38	10:29 (1)
19	08:38	09:16 (2)	07:48		06:47	06:36	05:41	05:19	05:41	06:29	07:19	08:10	08:05	08:51 (2)	08:44	09:52 (1)
	17:03 71	10:46 (1)	17:59		18:50	20:43	21:32	22:03	21:49	20:57	19:47	18:39	16:44 70	10:20 (1)	16:29 38	10:30 (1)
20	08:37	09:16 (2)	07:46		06:44	06:34	05:40	05:19	05:43	06:30	07:21	08:11	08:06	08:51 (2)	08:44	09:52 (1)
	17:05 72	10:46 (1)	18:01		18:51	20:44	21:33	22:03	21:48	20:55	19:45	18:37	16:43 71	10:21 (1)	16:29 38	10:30 (1)
21	08:36	09:17 (2)	07:44		06:42	06:32	05:38	05:19	05:44	06:32	07:22	08:13	08:08	08:52 (2)	08:45	09:52 (1)
	17:06 71	10:46 (1)	18:03		18:53	20:46	21:35	22:03	21:47	20:53	19:42	18:35	16:42 71	10:21 (1)	16:30 39	10:31 (1)
22	08:35	09:16 (2)	07:42		06:40	06:30	05:37	05:19	05:45	06:33	07:24	08:15	08:10	08:52 (2)	08:45	09:52 (1)
	17:08 71	10:46 (1)	18:05		18:55	20:48	21:36	22:03	21:46	20:51	19:40	18:33	16:41 71	10:22 (1)	16:30 39	10:31 (1)
23	08:33	09:17 (2)	07:40		06:37	06:28	05:36	05:20	05:47	06:35	07:26	08:17	08:11	08:53 (2)	08:46	09:53 (1)
	17:10 70	10:46 (1)	18:07		18:56	20:49	21:37	22:04	21:44	20:49	19:38	18:31	16:40 71	10:23 (1)	16:31 39	10:32 (1)
24	08:32	09:17 (2)	07:38		06:35	06:26	05:35	05:20	05:48	06:37	07:27	08:18	08:13	08:54 (2)	08:46	09:54 (1)
	17:12 70	10:46 (1)	18:09		18:58	20:51	21:39	22:04	21:43	20:46	19:35	18:29	16:39 70	10:23 (1)	16:31 38	10:32 (1)
25	08:31	09:17 (2)	07:36		06:33	06:24	05:33	05:20	05:49	06:38	07:29	07:20	08:15	08:54 (2)	08:47	09:54 (1)
	17:13 69	10:46 (1)	18:10		19:00	20:53	21:40	22:04	21:42	20:44	19:33	17:26	16:37 69	10:23 (1)	16:32 38	10:32 (1)
26	08:30	09:18 (2)	07:34		06:31	06:22	05:32	05:21	05:51	06:40	07:31	07:22	08:16	08:55 (2)	08:47	09:54 (1)
	17:15 68	10:46 (1)	18:12		19:02	20:55	21:42	22:04	21:40	20:42	19:31	17:24	16:37 68	10:23 (1)	16:33 38	10:32 (1)
27	08:28	09:18 (2)	07:32		06:28	06:20	05:31	05:21	05:52	06:42	07:32	07:24	08:18	08:56 (2)	08:47	09:55 (1)
	17:17 66	10:45 (1)	18:14		19:03	20:56	21:43	22:04	21:39	20:40	19:28	17:22	16:36 68	10:24 (1)	16:33 39	10:34 (1)
28	08:27	09:19 (2)	07:30		06:26	06:18	05:30	05:22	05:54	06:43	07:34	07:26	08:19	08:57 (2)	08:48	09:55 (1)
	17:19 64	10:45 (1)	18:16		19:05	20:58	21:44	22:04	21:37	20:38	19:26	17:21	16:35 66	10:24 (1)	16:34 39	10:34 (1)
29	08:25	09:19 (2)			07:24	06:16	05:29	05:22	05:55	06:45	07:36	07:27	08:21	08:58 (2)	08:48	09:56 (1)
	17:20 62	10:44 (1)			20:07	21:00	21:45	22:03	21:36	20:35	19:24	17:19	16:34 64	10:24 (1)	16:35 39	10:35 (1)
30	08:24	09:20 (2)			07:21	06:14	05:28	05:23	05:57	06:46	07:37	07:29	08:22	09:00 (2)	08:48	09:56 (1)
	17:22 58	10:43 (1)			20:08	21:01	21:47	22:03	21:34	20:33	19:21	17:17	16:33 62	10:25 (1)	16:36 40	10:36 (1)
31	08:22	09:21 (2)			07:19		05:27		05:58	06:48		07:31			08:48	09:56 (1)
	17:24 56	10:43 (1)			20:10		21:48		21:33	20:31		17:15			16:37 40	10:36 (1)
Potential sun hours	259		277		367	416	485	499	502	454	381	331	266		243	
Total, worst case	1858		177										1523		1306	
Sun reduction	0,24		0,30										0,24		0,20	
Oper. time red.	0,95		0,95										0,95		0,95	
Wind dir. red.	0,60		0,60										0,59		0,60	
Total reduction	0,14		0,17										0,13		0,12	
Total, real	252		30										203		152	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:36/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN131@145Shadow receptor: AO - 3997ML144

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March	April	May	June	July	August	September	October	November		December	
1	08:48	10:00 (1)	08:21	09:26 (2)	07:27	07:17	06:12	05:26	05:23	06:00	06:50	07:39	07:33		08:24	09:01 (2)
	16:38 43	10:43 (1)	17:26 47	10:46 (1)	18:18	20:12	21:03	21:49	22:03	21:31	20:29	19:19	17:13		16:32 66	10:31 (1)
2	08:48	10:01 (1)	08:19	09:27 (2)	07:25	07:14	06:10	05:25	05:24	06:01	06:51	07:41	07:35		08:25	09:03 (2)
	16:39 43	10:44 (1)	17:28 39	10:43 (1)	18:20	20:14	21:05	21:50	22:03	21:29	20:27	19:17	17:11		16:32 63	10:31 (1)
3	08:48	10:02 (1)	08:18	09:30 (2)	07:23	07:12	06:08	05:25	05:25	06:03	06:53	07:42	07:36		08:27	09:04 (2)
	16:40 43	10:45 (1)	17:30 31	10:42 (1)	18:21	20:15	21:06	21:51	22:02	21:28	20:24	19:15	17:09		16:31 61	10:31 (1)
4	08:47	09:24 (2)	08:16	10:24 (1)	07:21	07:10	06:06	05:24	05:25	06:04	06:55	07:44	07:38		08:28	09:06 (2)
	16:41 48	10:45 (1)	17:32 14	10:38 (1)	18:23	20:17	21:08	21:52	22:02	21:26	20:22	19:12	17:07		16:31 60	10:32 (1)
5	08:47	09:23 (2)	08:14		07:19	07:07	06:04	05:23	05:26	06:06	06:56	07:46	07:40		08:29	09:07 (2)
	16:43 52	10:46 (1)	17:33		18:25	20:19	21:10	21:53	22:01	21:24	20:20	19:10	17:06		16:30 57	10:32 (1)
6	08:47	09:22 (2)	08:13		07:16	07:05	06:02	05:23	05:27	06:08	06:58	07:47	07:42	09:59 (1)	08:31	09:08 (2)
	16:44 54	10:46 (1)	17:35		18:27	20:20	21:11	21:54	22:01	21:22	20:17	19:08	17:04 4	10:03 (1)	16:30 55	10:32 (1)
7	08:46	09:22 (2)	08:11		07:14	07:03	06:01	05:22	05:28	06:09	07:00	07:49	07:44	09:53 (1)	08:32	09:10 (2)
	16:45 56	10:47 (1)	17:37		18:29	20:22	21:13	21:55	22:00	21:21	20:15	19:05	17:02 15	10:08 (1)	16:29 52	10:33 (1)
8	08:46	09:21 (2)	08:09		07:12	07:01	05:59	05:21	05:29	06:11	07:01	07:51	07:45	09:00 (2)	08:33	09:12 (2)
	16:46 59	10:47 (1)	17:39		18:30	20:24	21:15	21:56	22:00	21:19	20:13	19:03	17:01 31	10:12 (1)	16:29 49	10:33 (1)
9	08:46	09:21 (2)	08:08		07:10	06:58	05:57	05:21	05:30	06:12	07:03	07:52	07:47	08:58 (2)	08:34	09:50 (1)
	16:48 61	10:48 (1)	17:41		18:32	20:26	21:16	21:57	21:59	21:17	20:10	19:01	16:59 40	10:14 (1)	16:29 43	10:33 (1)
10	08:45	09:20 (2)	08:06		07:07	06:56	05:55	05:21	05:31	06:14	07:04	07:54	07:49	08:56 (2)	08:36	09:50 (1)
	16:49 63	10:48 (1)	17:43		18:34	20:27	21:18	21:58	21:58	21:15	20:08	18:59	16:57 48	10:17 (1)	16:28 43	10:33 (1)
11	08:44	09:19 (2)	08:04		07:05	06:54	05:54	05:20	05:32	06:16	07:06	07:56	07:51	08:55 (2)	08:37	09:52 (1)
	16:51 66	10:49 (1)	17:45		18:36	20:29	21:19	21:58	21:57	21:13	20:06	18:56	16:56 52	10:18 (1)	16:28 42	10:34 (1)
12	08:44	09:19 (2)	08:02		07:03	06:52	05:52	05:20	05:33	06:17	07:08	07:57	07:53	08:55 (2)	08:38	09:52 (1)
	16:52 66	10:49 (1)	17:46		18:37	20:31	21:21	21:59	21:57	21:11	20:04	18:54	16:54 56	10:20 (1)	16:28 42	10:34 (1)
13	08:43	09:18 (2)	08:00		07:01	06:49	05:50	05:20	05:34	06:19	07:09	07:59	07:54	08:54 (2)	08:39	09:53 (1)
	16:53 68	10:49 (1)	17:48		18:39	20:32	21:23	22:00	21:56	21:09	20:01	18:52	16:53 60	10:21 (1)	16:28 42	10:35 (1)
14	08:42	09:19 (2)	07:58		06:58	06:47	05:49	05:19	05:35	06:20	07:11	08:01	07:56	08:54 (2)	08:40	09:53 (1)
	16:55 69	10:51 (1)	17:50		18:41	20:34	21:24	22:00	21:55	21:07	19:59	18:50	16:51 62	10:22 (1)	16:28 42	10:35 (1)
15	08:42	09:19 (2)	07:56		06:56	06:45	05:47	05:19	05:36	06:22	07:13	08:03	07:58	08:54 (2)	08:41	09:53 (1)
	16:57 70	10:51 (1)	17:52		18:43	20:36	21:26	22:01	21:54	21:05	19:57	18:48	16:50 65	10:23 (1)	16:28 41	10:34 (1)
16	08:41	09:19 (2)	07:54		06:54	06:43	05:46	05:19	05:38	06:24	07:14	08:04	08:00	08:54 (2)	08:41	09:54 (1)
	16:58 70	10:51 (1)	17:54		18:44	20:38	21:27	22:01	21:53	21:03	19:54	18:45	16:48 67	10:24 (1)	16:28 41	10:35 (1)
17	08:40	09:18 (2)	07:52		06:51	06:41	05:44	05:19	05:39	06:25	07:16	08:06	08:01	08:54 (2)	08:42	09:54 (1)
	17:00 72	10:51 (1)	17:56		18:46	20:39	21:29	22:02	21:52	21:01	19:52	18:43	16:47 68	10:25 (1)	16:28 42	10:36 (1)
18	08:39	09:18 (2)	07:50		06:49	06:38	05:43	05:19	05:40	06:27	07:17	08:08	08:03	08:54 (2)	08:43	09:55 (1)
	17:01 72	10:51 (1)	17:58		18:48	20:41	21:30	22:02	21:51	20:59	19:49	18:41	16:46 70	10:26 (1)	16:29 41	10:36 (1)
19	08:38	09:18 (2)	07:48		06:47	06:36	05:41	05:19	05:41	06:29	07:19	08:10	08:05	08:53 (2)	08:44	09:56 (1)
	17:03 72	10:51 (1)	17:59		18:50	20:43	21:32	22:03	21:49	20:57	19:47	18:39	16:44 71	10:26 (1)	16:29 41	10:37 (1)
20	08:37	09:19 (2)	07:46		06:44	06:34	05:40	05:19	05:43	06:30	07:21	08:11	08:06	08:54 (2)	08:44	09:56 (1)
	17:05 72	10:52 (1)	18:01		18:51	20:44	21:33	22:03	21:48	20:55	19:45	18:37	16:43 70	10:26 (1)	16:29 41	10:37 (1)
21	08:36	09:19 (2)	07:44		06:42	06:32	05:38	05:19	05:44	06:32	07:22	08:13	08:08	08:54 (2)	08:45	09:57 (1)
	17:06 72	10:52 (1)	18:03		18:53	20:46	21:35	22:03	21:47	20:53	19:42	18:35	16:42 72	10:27 (1)	16:30 41	10:38 (1)
22	08:35	09:19 (2)	07:42		06:40	06:30	05:37	05:19	05:45	06:33	07:24	08:15	08:10	08:55 (2)	08:45	09:57 (1)
	17:08 70	10:51 (1)	18:05		18:55	20:48	21:36	22:03	21:46	20:51	19:40	18:33	16:41 72	10:28 (1)	16:30 41	10:38 (1)
23	08:33	09:19 (2)	07:40		06:37	06:28	05:36	05:20	05:47	06:35	07:26	08:17	08:11	08:55 (2)	08:46	09:58 (1)
	17:10 71	10:52 (1)	18:07		18:56	20:49	21:37	22:04	21:44	20:49	19:38	18:31	16:40 72	10:28 (1)	16:31 41	10:39 (1)
24	08:32	09:20 (2)	07:38		06:35	06:26	05:35	05:20	05:48	06:37	07:27	08:18	08:13	08:56 (2)	08:46	09:58 (1)
	17:12 70	10:52 (1)	18:09		18:58	20:51	21:39	22:04	21:43	20:46	19:35	18:29	16:39 72	10:29 (1)	16:31 41	10:39 (1)
25	08:31	09:20 (2)	07:36		06:33	06:24	05:33	05:20	05:49	06:38	07:29	07:20	08:15	08:56 (2)	08:47	09:58 (1)
	17:13 68	10:51 (1)	18:10		19:00	20:53	21:40	22:04	21:42	20:44	19:33	17:26	16:37 72	10:29 (1)	16:32 41	10:39 (1)
26	08:30	09:21 (2)	07:34		06:31	06:22	05:32	05:21	05:51	06:40	07:31	07:22	08:16	08:57 (2)	08:47	09:58 (1)
	17:15 67	10:51 (1)	18:12		19:02	20:55	21:42	22:04	21:40	20:42	19:31	17:24	16:37 70	10:29 (1)	16:33 41	10:39 (1)
27	08:28	09:21 (2)	07:32		06:28	06:20	05:31	05:21	05:52	06:42	07:32	07:24	08:18	08:58 (2)	08:47	09:59 (1)
	17:17 65	10:50 (1)	18:14		19:03	20:56	21:43	22:04	21:39	20:40	19:28	17:22	16:36 70	10:30 (1)	16:33 42	10:41 (1)
28	08:27	09:22 (2)	07:30		06:26	06:18	05:30	05:22	05:54	06:43	07:34	07:26	08:19	08:58 (2)	08:48	10:00 (1)
	17:19 62	10:50 (1)	18:16		19:05	20:58	21:44	22:04	21:37	20:38	19:26	17:21	16:35 70	10:30 (1)	16:34 41	10:41 (1)
29	08:25	09:22 (2)			07:24	06:16	05:29	05:22	05:55	06:45	07:36	07:27	08:21	08:59 (2)	08:48	10:00 (1)
	17:20 60	10:49 (1)			20:07	21:00	21:45	22:03	21:36	20:35	19:24	17:19	16:34 68	10:30 (1)	16:35 42	10:42 (1)
30	08:24	09:23 (2)			07:21	06:14	05:28	05:23	05:57	06:46	07:37	07:29	08:22	09:01 (2)	08:48	10:00 (1)
	17:22 56	10:48 (1)			20:08	21:01	21:47	22:03	21:34	20:33	19:21	17:17	16:33 66	10:31 (1)	16:36 42	10:42 (1)
31	08:22	09:25 (2)			07:19		05:27		05:58	06:48		07:31			08:48	10:01 (1)
	17:24 51	10:47 (1)			20:10		21:48		21:33	20:31		17:15			16:37 42	10:43 (1)
Potential sun hours	259		277		367	416	485	499	502	454	381	331	266		243	
Total, worst case	1931		131										1483		1419	
Sun reduction	0,24		0,30										0,24		0,20	
Oper. time red.	0,95		0,95										0,95		0,95	
Wind dir. red.	0,60		0,60										0,60		0,61	
Total reduction	0,14		0,17										0,13		0,12	
Total, real	263		22										199		166	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:36/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN131@145Shadow receptor: AP - 3998NL69

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 16:38	08:21 17:26	07:27 18:18	07:17 20:12 27	08:13 (4) 08:40 (4)	06:12 21:03 51	07:15 (3) 08:06 (3)	05:26 21:49 63	07:08 (3) 08:11 (3)	05:23 22:03 60	07:15 (3) 08:15 (3)	06:00 21:31 64	07:18 (3) 08:22 (3)	06:50 20:29	07:39 19:19	07:33 17:13	08:24 16:32
2	08:48 16:39	08:19 17:28	07:25 18:20	07:14 20:14 25	08:14 (4) 08:39 (4)	06:10 21:05 53	07:14 (3) 08:07 (3)	05:25 21:50 63	07:08 (3) 08:11 (3)	05:24 22:02 59	07:16 (3) 08:15 (3)	06:01 21:29 63	07:18 (3) 08:21 (3)	06:51 20:26	07:40 19:17	07:35 17:11	08:25 16:32
3	08:48 16:40	08:18 17:30	07:23 18:21	07:12 20:15 21	08:16 (4) 08:37 (4)	06:08 21:06 54	07:13 (3) 08:07 (3)	05:25 21:51 62	07:09 (3) 08:11 (3)	05:25 22:02 60	07:15 (3) 08:15 (3)	06:03 21:28 63	07:19 (3) 08:22 (3)	06:53 20:24	07:42 19:14	07:36 17:09	08:27 16:31
4	08:47 16:41	08:16 17:32	07:21 18:23	07:10 20:17 17	08:17 (4) 08:34 (4)	06:06 21:08 57	07:12 (3) 08:09 (3)	05:24 21:52 62	07:09 (3) 08:11 (3)	05:25 22:02 61	07:15 (3) 08:16 (3)	06:04 21:26 62	07:19 (3) 08:21 (3)	06:55 20:22	07:44 19:12	07:38 17:07	08:28 16:31
5	08:47 16:43	08:14 17:33	07:19 18:25	07:07 20:19 12	08:19 (4) 08:31 (4)	06:04 21:10 58	07:11 (3) 08:09 (3)	05:23 21:53 61	07:09 (3) 08:10 (3)	05:26 22:01 60	07:16 (3) 08:16 (3)	06:06 21:24 61	07:19 (3) 08:20 (3)	06:56 20:20	07:46 19:10	07:40 17:06	08:29 16:30
6	08:47 16:44	08:13 17:35	07:16 18:27	07:05 20:20	06:02 21:11 59	07:10 (3) 08:09 (3)	05:23 21:54 62	07:09 (3) 08:11 (3)	05:27 22:01 61	07:16 (3) 08:17 (3)	06:08 21:22 60	07:20 (3) 08:20 (3)	06:58 20:17	07:47 19:08	07:42 17:04	08:31 16:30
7	08:46 16:45	08:11 17:37	07:14 18:28	07:03 20:22	06:01 21:13 60	07:10 (3) 08:10 (3)	05:22 21:55 61	07:09 (3) 08:10 (3)	05:28 22:00 61	07:16 (3) 08:17 (3)	06:09 21:20 58	07:20 (3) 08:18 (3)	06:59 20:15 11	08:15 (4) 08:26 (4)	07:49 19:05	07:44 17:02	08:32 16:29
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9	08:45 16:48	08:07 17:41	07:10 18:32	06:58 20:25	05:57 21:16 62	07:08 (3) 08:10 (3)	05:21 21:57 60	07:11 (3) 08:11 (3)	05:30 21:59 62	07:15 (3) 08:17 (3)	06:12 21:17 56	07:21 (3) 08:17 (3)	07:03 20:10 21	08:09 (4) 08:30 (4)	07:52 19:01	07:47 16:59	08:34 16:29
10	08:45 16:49	08:06 17:43	07:07 18:34	06:56 20:27	05:55 21:18 63	07:08 (3) 08:11 (3)	05:21 21:57 60	07:10 (3) 08:10 (3)	05:31 21:58 63	07:15 (3) 08:18 (3)	06:14 21:15 54	07:22 (3) 08:16 (3)	07:04 20:08 24	08:08 (4) 08:32 (4)	07:54 18:59	07:49 16:57	08:35 16:28
11	08:44 16:51	08:04 17:45	07:05 18:36	06:54 20:29	05:54 21:19 64	07:07 (3) 08:11 (3)	05:20 21:58 60	07:11 (3) 08:11 (3)	05:32 21:57 63	07:15 (3) 08:18 (3)	06:16 21:13 52	07:23 (3) 08:15 (3)	07:06 20:06 27	08:05 (4) 08:32 (4)	07:56 18:56	07:51 16:56	08:37 16:28
12	08:44 16:52	08:02 17:46	07:03 18:37	06:52 20:31	05:52 21:21 65	07:07 (3) 08:12 (3)	05:20 21:59 59	07:12 (3) 08:11 (3)	05:33 21:56 64	07:15 (3) 08:19 (3)	06:17 21:11 50	07:24 (3) 08:14 (3)	07:08 20:03 29	08:05 (4) 08:34 (4)	07:57 18:54	07:52 16:54	08:38 16:28
13	08:43 16:53	08:00 17:48	07:00 18:39	06:49 20:32	05:50 21:22 64	07:07 (3) 08:11 (3)	05:20 22:00 59	07:12 (3) 08:11 (3)	05:34 21:56 64	07:15 (3) 08:19 (3)	06:19 21:09 47	07:25 (3) 08:12 (3)	07:09 20:01 30	08:04 (4) 08:34 (4)	07:59 18:52	07:54 16:53	08:39 16:28
14	08:42 16:55	07:58 17:50	06:58 18:41	06:47 20:34	05:49 21:24 65	07:07 (3) 08:12 (3)	05:19 22:00 58	07:12 (3) 08:10 (3)	05:35 21:55 64	07:15 (3) 08:19 (3)	06:20 21:07 45	07:27 (3) 08:12 (3)	07:11 19:59 32	08:02 (4) 08:34 (4)	08:01 18:50	07:56 16:51	08:40 16:28
15	08:41 16:57	07:56 17:52	06:56 18:43	06:45 20:36	05:47 21:26 66	07:06 (3) 08:12 (3)	05:19 22:01 58	07:12 (3) 08:10 (3)	05:36 21:54 65	07:16 (3) 08:21 (3)	06:22 21:05 42	07:29 (3) 08:11 (3)	07:13 19:56 33	08:02 (4) 08:35 (4)	08:03 18:48	07:58 16:50	08:40 16:28
16	08:41 16:58	07:54 17:54	06:54 18:44 10	07:27 (4) 07:37 (4)	06:43 20:37	05:46 21:27 66	07:06 (3) 08:12 (3)	05:19 22:01 59	07:12 (3) 08:11 (3)	05:38 21:53 65	07:16 (3) 08:21 (3)	06:24 21:03 39	07:29 (3) 08:08 (3)	07:14 19:54 33	08:01 (4) 08:34 (4)	08:04 18:45	08:00 16:48	08:41 16:28
17	08:40 17:00	07:52 17:56	06:51 18:46 17	07:24 (4) 07:41 (4)	06:41 20:39	05:44 21:29 66	07:06 (3) 08:12 (3)	05:19 22:02 58	07:13 (3) 08:11 (3)	05:39 21:52 65	07:16 (3) 08:21 (3)	06:25 21:01 35	07:32 (3) 08:07 (3)	07:16 19:52 33	08:01 (4) 08:34 (4)	08:06 18:43	08:01 16:47	08:42 16:28
18	08:39 17:01	07:50 17:58	06:49 18:48 21	07:22 (4) 07:43 (4)	06:38 20:41	05:43 21:30 66	07:06 (3) 08:12 (3)	05:19 22:02 58	07:13 (3) 08:11 (3)	05:40 21:50 65	07:16 (3) 08:21 (3)	06:27 20:59 31	07:33 (3) 08:04 (3)	07:17 19:49 33	08:01 (4) 08:34 (4)	08:08 18:41	08:03 16:46	08:43 16:29
19	08:38 17:03	07:48 17:59	06:47 18:49 25	07:19 (4) 07:44 (4)	06:36 20:43	05:41 21:32 66	07:06 (3) 08:12 (3)	05:19 22:02 58	07:13 (3) 08:11 (3)	05:41 21:49 65	07:16 (3) 08:21 (3)	06:29 20:57 25	07:36 (3) 08:01 (3)	07:19 19:47 33	08:00 (4) 08:33 (4)	08:10 18:39	08:05 16:44	08:44 16:29
20	08:37 17:05	07:46 18:01	06:44 18:51 27	07:18 (4) 07:45 (4)	06:34 20:44	05:40 21:33 66	07:06 (3) 08:12 (3)	05:19 22:03 58	07:14 (3) 08:12 (3)	05:43 21:48 66	07:16 (3) 08:22 (3)	06:30 20:55 18	07:39 (3) 07:57 (3)	07:21 19:45 32	08:01 (4) 08:33 (4)	08:11 18:37	08:06 16:43	08:44 16:29
21	08:36 17:06	07:44 18:03	06:42 18:53 29	07:17 (4) 07:46 (4)	06:32 20:46	05:38 21:35 66	07:06 (3) 08:12 (3)	05:19 22:03 58	07:14 (3) 08:12 (3)	05:44 21:47 66	07:16 (3) 08:22 (3)	06:32 20:53		07:22 19:42 31	08:00 (4) 08:31 (4)	08:13 18:35	08:08 16:42	08:45 16:30
22	08:34 17:08	07:42 18:05	06:40 18:55 31	07:15 (4) 07:46 (4)	06:30 20:48 7	07:39 (3) 07:46 (3)	05:37 21:36 66	07:06 (3) 08:12 (3)	05:19 22:03 58	07:14 (3) 08:12 (3)	05:45 21:46 66	07:16 (3) 08:22 (3)	06:33 20:51	07:24 19:40 30	08:01 (4) 08:31 (4)	08:15 18:33	08:10 16:41	08:45 16:30
23	08:33 17:10	07:40 18:07	06:37 18:56 32	07:14 (4) 07:46 (4)	06:28 20:49 20	07:32 (3) 07:52 (3)	05:36 21:37 66	07:06 (3) 08:12 (3)	05:20 22:03 58	07:14 (3) 08:12 (3)	05:47 21:44 66	07:16 (3) 08:22 (3)	06:35 20:49	07:26 19:38 28	08:02 (4) 08:30 (4)	08:17 18:31	08:11 16:40	08:46 16:31
24	08:32 17:12	07:38 18:09	06:35 18:58 33	07:14 (4) 07:47 (4)	06:26 20:51 26	07:29 (3) 07:55 (3)	05:35 21:39 66	07:06 (3) 08:12 (3)	05:20 22:04 58	07:15 (3) 08:13 (3)	05:48 21:43 66	07:17 (3) 08:23 (3)	06:37 20:46	07:27 19:35 26	08:02 (4) 08:28 (4)	08:18 18:28	08:13 16:38	08:46 16:31
25	08:31 17:13	07:36 18:10	06:33 19:00 34	07:12 (4) 07:46 (4)	06:24 20:53 32	07:26 (3) 07:58 (3)	05:33 21:40 66	07:06 (3) 08:12 (3)	05:20 22:04 58	07:15 (3) 08:13 (3)	05:49 21:42 66	07:16 (3) 08:22 (3)	06:38 20:44	07:29 19:33 22	08:04 (4) 08:26 (4)	07:20 17:26	08:15 16:37	08:47 16:32
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27	08:28 17:17	07:32 18:14	06:28 19:03 34	07:12 (4) 07:46 (4)	06:20 20:56 40	07:22 (3) 08:02 (3)	05:31 21:43 65	07:06 (3) 08:11 (3)	05:21 22:04 58	07:15 (3) 08:13 (3)	05:52 21:39 66	07:17 (3) 08:23 (3)	06:42 20:40	07:32 19:28 13	08:08 (4) 08:21 (4)	07:24 17:22	08:18 16:36	08:47 16:33
28	08:27 17:19	07:30 18:16	06:26 19:05 32	07:12 (4) 07:44 (4)	06:18 20:58 42	07:21 (3) 08:03 (3)	05:30 21:44 64	07:07 (3) 08:11 (3)	05:22 22:03 58	07:15 (3) 08:13 (3)	05:54 21:37 65	07:17 (3) 08:22 (3)	06:43 20:38	07:34 19:26		07:26 17:20	08:19 16:35	08:47 16:34
29	08:25 17:20		07:24 20:07 32	08:12 (4) 08:44 (4)	06:16 21:00 45	07:19 (3) 08:04 (3)	05:29 21:45 64	07:07 (3) 08:11 (3)	05:22 22:03 59	07:15 (3) 08:14 (3)	05:55 21:36 66	07:16 (3) 08:22 (3)	06:45 20:35	07:35 19:24		07:27 17:19	08:21 16:34	08:48 16:35
30	08:24 17:22		07:21 20:08 31	08:12 (4) 08:43 (4)	06:14 21:01 48	07:17 (3) 08:05 (3)	05:28 21:46 64	07:07 (3) 08:11 (3)	05:23 22:03 59	07:15 (3) 08:14 (3)	05:57 21:34 65	07:17 (3) 08:22 (3)	06:46 20:33	07:37 19:21		07:29 17:17	08:22 16:33	08:48 16:36
31	08:22 17:24		07:19 20:10 29	08:13 (4) 08:42 (4)			05:27 21:48 63	07:08 (3) 08:11 (3)			05:58 21:32 65	07:17 (3) 08:22 (3)	06:48 20:31			07:31 17:15		08:48 16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case			451	399	1947	1783	1978	982	556			
Sun reduction			0,33	0,42	0,43	0,39	0,41	0,42	0,36			
Oper. time red.			0,95	0,95	0,95	0,95	0,95	0,95	0,95			
Wind dir. red.			0,60	0,62	0,63	0,63	0,63	0,63	0,60			
Total reduction			0,19	0,25	0,25	0,23	0,24	0,25	0,21			
Total, real			85	98	496	414	479	243	115			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:36/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN131@145Shadow receptor: AQ - 3998JK67

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	05:26	06:08 (1) 05:23	06:16 (1) 06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03	21:49 24	06:32 (1) 22:03 19	06:35 (1) 21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	05:26	06:08 (1) 05:24	06:17 (1) 06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05	21:50 23	06:31 (1) 22:03 19	06:36 (1) 21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08	05:25	06:09 (1) 05:25	06:17 (1) 06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06	21:51 23	06:32 (1) 22:02 20	06:37 (1) 21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06	05:24	06:09 (1) 05:26	06:16 (1) 06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08	21:52 22	06:31 (1) 22:02 20	06:36 (1) 21:26	20:22	19:12	17:07	16:31
5	08:47	08:14	07:19	07:08	06:04	05:23	06:10 (1) 05:26	06:16 (1) 06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10	21:53 22	06:32 (1) 22:01 21	06:37 (1) 21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02	05:23	06:10 (1) 05:27	06:16 (1) 06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11	21:54 21	06:31 (1) 22:01 22	06:38 (1) 21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01	05:22	06:11 (1) 05:28	06:16 (1) 06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13	21:55 21	06:32 (1) 22:00 22	06:38 (1) 21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59	05:22	06:11 (1) 05:29	06:16 (1) 06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15	21:56 20	06:31 (1) 22:00 23	06:39 (1) 21:19	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57	05:21	06:11 (1) 05:30	06:16 (1) 06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16	21:57 20	06:31 (1) 21:59 23	06:39 (1) 21:17	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55	05:21	06:11 (1) 05:31	06:16 (1) 06:14	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18	21:58 20	06:31 (1) 21:58 23	06:39 (1) 21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54	05:20	06:12 (1) 05:32	06:16 (1) 06:16	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19	21:58 19	06:31 (1) 21:57 23	06:39 (1) 21:13	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52	05:20	06:13 (1) 05:33	06:16 (1) 06:17	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21	21:59 18	06:31 (1) 21:57 23	06:39 (1) 21:11	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50	05:20	06:13 (1) 05:34	06:16 (1) 06:19	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23	22:00 18	06:31 (1) 21:56 24	06:40 (1) 21:09	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49	06:17 (1) 05:19	06:14 (1) 05:35	06:16 (1) 06:21	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24 4	06:21 (1) 22:00 17	06:31 (1) 21:55 25	06:41 (1) 21:07	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47	06:13 (1) 05:19	06:13 (1) 05:36	06:16 (1) 06:22	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26 11	06:24 (1) 22:01 17	06:30 (1) 21:54 25	06:41 (1) 21:05	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46	06:12 (1) 05:19	06:14 (1) 05:38	06:16 (1) 06:24	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27 14	06:26 (1) 22:01 17	06:31 (1) 21:53 25	06:41 (1) 21:03	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44	06:11 (1) 05:19	06:14 (1) 05:39	06:16 (1) 06:25	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29 16	06:27 (1) 22:02 17	06:31 (1) 21:52 25	06:41 (1) 21:01	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43	06:10 (1) 05:19	06:14 (1) 05:40	06:16 (1) 06:27	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30 17	06:27 (1) 22:02 17	06:31 (1) 21:51 24	06:40 (1) 20:59	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41	06:09 (1) 05:19	06:15 (1) 05:41	06:16 (1) 06:29	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32 19	06:28 (1) 22:03 17	06:32 (1) 21:49 24	06:40 (1) 20:57	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40	06:09 (1) 05:19	06:16 (1) 05:43	06:18 (1) 06:30	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33 20	06:29 (1) 22:03 16	06:32 (1) 21:48 23	06:41 (1) 20:55	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	05:39	06:08 (1) 05:19	06:16 (1) 05:44	06:18 (1) 06:32	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:35 22	06:30 (1) 22:03 16	06:32 (1) 21:47 23	06:41 (1) 20:53	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	05:37	06:07 (1) 05:19	06:16 (1) 05:45	06:18 (1) 06:34	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36 23	06:30 (1) 22:03 16	06:32 (1) 21:46 22	06:40 (1) 20:51	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	05:36	06:07 (1) 05:20	06:15 (1) 05:47	06:18 (1) 06:35	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	21:37 23	06:30 (1) 22:04 17	06:32 (1) 21:44 21	06:39 (1) 20:49	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35	06:07 (1) 05:20	06:16 (1) 05:48	06:19 (1) 06:37	07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	21:39 24	06:31 (1) 22:04 17	06:33 (1) 21:43 21	06:40 (1) 20:46	19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	05:34	06:07 (1) 05:20	06:16 (1) 05:50	06:20 (1) 06:38	07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	21:40 24	06:31 (1) 22:04 17	06:33 (1) 21:42 19	06:39 (1) 20:44	19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	05:32	06:07 (1) 05:21	06:16 (1) 05:51	06:20 (1) 06:40	07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	21:42 24	06:31 (1) 22:04 17	06:33 (1) 21:40 17	06:37 (1) 20:42	19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	05:31	06:07 (1) 05:21	06:16 (1) 05:52	06:22 (1) 06:42	07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21:43 24	06:31 (1) 22:04 17	06:33 (1) 21:39 15	06:37 (1) 20:40	19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	05:30	06:07 (1) 05:22	06:16 (1) 05:54	06:23 (1) 06:43	07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	21:44 24	06:31 (1) 22:04 17	06:33 (1) 21:37 12	06:35 (1) 20:38	19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	05:29	06:07 (1) 05:22	06:16 (1) 05:55	06:26 (1) 06:45	07:36	07:27	08:21	08:48
	17:21		20:07	21:00	21:45 24	06:31 (1) 22:03 18	06:34 (1) 21:36 8	06:34 (1) 20:36	19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	05:28	06:08 (1) 05:23	06:17 (1) 05:57	06:47	07:37	07:29	08:22	08:48
	17:22		20:08	21:01	21:47 24	06:32 (1) 22:03 18	06:35 (1) 21:34	20:33	19:22	17:17	16:33	16:36
31	08:22		07:19		05:27	06:08 (1)	05:58	06:48		07:31		08:48
	17:24		20:10		21:48 24	06:32 (1)	21:33	20:31		17:15		16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case					361	559	611					
Sun reduction					0,43	0,39	0,41					
Oper. time red.					0,95	0,95	0,95					
Wind dir. red.					0,67	0,67	0,67					
Total reduction					0,27	0,25	0,26					
Total, real					98	138	158					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:36/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN131@145Shadow receptor: AR - 3945LA1

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January			February			March	April	May	June	July	August	September	October			November			December		
1	08:48		15:54 (4)	08:21		16:03 (4)	07:27	07:16	06:12	05:26	05:23	06:00	06:50	07:39			07:33			08:24		15:33 (4)
	16:38	5	15:59 (4)	17:26	10	16:13 (4)	18:18	20:12	21:03	21:49	22:03	21:31	20:29	19:19			17:13			16:32	21	15:54 (4)
2	08:48		15:54 (4)	08:19			07:25	07:14	06:10	05:25	05:24	06:01	06:51	07:40			07:34			08:25		15:34 (4)
	16:39	7	16:01 (4)	17:28			18:19	20:13	21:04	21:50	22:02	21:29	20:26	19:17			17:11			16:32	20	15:54 (4)
3	08:47		15:53 (4)	08:18			07:23	07:12	06:08	05:25	05:25	06:03	06:53	07:42			07:36			08:27		15:34 (4)
	16:40	10	16:03 (4)	17:30			18:21	20:15	21:06	21:51	22:02	21:27	20:24	19:14			17:09			16:31	20	15:54 (4)
4	08:47		15:52 (4)	08:16			07:21	07:10	06:06	05:24	05:25	06:04	06:54	07:44			07:38			08:28		15:35 (4)
	16:41	12	16:04 (4)	17:31			18:23	20:17	21:08	21:52	22:02	21:26	20:22	19:12			17:07			16:30	18	15:53 (4)
5	08:47		15:52 (4)	08:14			07:18	07:07	06:04	05:23	05:26	06:06	06:56	07:45			07:40			08:29		15:37 (4)
	16:42	13	16:05 (4)	17:33			18:25	20:19	21:09	21:53	22:01	21:24	20:20	19:10			17:05			16:30	16	15:53 (4)
6	08:47		15:51 (4)	08:13			07:16	07:05	06:02	05:22	05:27	06:07	06:58	07:47			07:42			08:31		15:37 (4)
	16:44	15	16:06 (4)	17:35			18:27	20:20	21:11	21:54	22:01	21:22	20:17	19:08			17:04			16:29	15	15:52 (4)
7	08:46		15:52 (4)	08:11			07:14	07:03	06:00	05:22	05:28	06:09	06:59	07:49			07:43			08:32		15:39 (4)
	16:45	16	16:08 (4)	17:37			18:28	20:22	21:13	21:55	22:00	21:20	20:15	19:05			17:02			16:29	13	15:52 (4)
8	08:46		15:51 (4)	08:09			07:12	07:00	05:59	05:21	05:29	06:11	07:01	07:51			07:45			08:33		15:40 (4)
	16:46	18	16:09 (4)	17:39			18:30	20:24	21:14	21:56	21:59	21:19	20:13	19:03			17:00			16:29	12	15:52 (4)
9	08:45		15:50 (4)	08:07			07:09	06:58	05:57	05:21	05:30	06:12	07:03	07:52			07:47			08:34		15:41 (4)
	16:48	19	16:09 (4)	17:41			18:32	20:25	21:16	21:57	21:59	21:17	20:10	19:01			16:59			16:28	10	15:51 (4)
10	08:45		15:51 (4)	08:06			07:07	06:56	05:55	05:20	05:31	06:14	07:04	07:54			07:49		15:34 (4)	08:35		15:42 (4)
	16:49	20	16:11 (4)	17:43			18:34	20:27	21:18	21:57	21:58	21:15	20:08	18:58			16:57	10	15:44 (4)	16:28	8	15:50 (4)
11	08:44		15:51 (4)	08:04			07:05	06:54	05:53	05:20	05:32	06:15	07:06	07:56			07:51		15:32 (4)	08:36		15:44 (4)
	16:50	21	16:12 (4)	17:44			18:35	20:29	21:19	21:58	21:57	21:13	20:06	18:56			16:56	14	15:46 (4)	16:28	5	15:49 (4)
12	08:44		15:50 (4)	08:02		17:11 (3)	07:03	06:51	05:52	05:20	05:33	06:17	07:08	07:57			07:52		15:30 (4)	08:38		
	16:52	23	16:13 (4)	17:46	7	17:18 (3)	18:37	20:31	21:21	21:59	21:56	21:11	20:03	18:54			16:54	18	15:48 (4)	16:28		
13	08:43		15:50 (4)	08:00		17:09 (3)	07:00	06:49	05:50	05:19	05:34	06:19	07:09	07:59			07:54		15:29 (4)	08:39		
	16:53	23	16:13 (4)	17:48	11	17:20 (3)	18:39	20:32	21:22	21:59	21:55	21:09	20:01	18:52			16:52	20	15:49 (4)	16:28		
14	08:42		15:50 (4)	07:58		17:08 (3)	06:58	06:47	05:49	05:19	05:35	06:20	07:11	08:01			07:56		15:28 (4)	08:39		
	16:55	24	16:14 (4)	17:50	14	17:22 (3)	18:41	20:34	21:24	22:00	21:55	21:07	19:59	18:50			16:51	22	15:50 (4)	16:28		
15	08:41		15:50 (4)	07:56		17:07 (3)	06:56	06:45	05:47	05:19	05:36	06:22	07:12	08:02			07:58		15:28 (4)	08:40		
	16:56	25	16:15 (4)	17:52	17	17:24 (3)	18:42	20:36	21:26	22:01	21:54	21:05	19:56	18:47			16:50	23	15:51 (4)	16:28		
16	08:40		15:50 (4)	07:54		17:06 (3)	06:53	06:43	05:45	05:19	05:37	06:24	07:14	08:04		17:44 (3)	07:59		15:28 (4)	08:41		
	16:58	26	16:16 (4)	17:54	20	17:26 (3)	18:44	20:37	21:27	22:01	21:53	21:03	19:54	18:45	6	17:50 (3)	16:48	24	15:52 (4)	16:28		
17	08:40		15:50 (4)	07:52		17:06 (3)	06:51	06:40	05:44	05:19	05:39	06:25	07:16	08:06		17:41 (3)	08:01		15:27 (4)	08:42		
	17:00	26	16:16 (4)	17:56	20	17:26 (3)	18:46	20:39	21:29	22:02	21:51	21:01	19:52	18:43	12	17:53 (3)	16:47	26	15:53 (4)	16:28		
18	08:39		15:51 (4)	07:50		17:05 (3)	06:49	06:38	05:42	05:19	05:40	06:27	07:17	08:08		17:39 (3)	08:03		15:26 (4)	08:43		
	17:01	26	16:17 (4)	17:57	22	17:27 (3)	18:48	20:41	21:30	22:02	21:50	20:59	19:49	18:41	16	17:55 (3)	16:45	26	15:52 (4)	16:28		
19	08:38		15:51 (4)	07:48		17:04 (3)	06:47	06:36	05:41	05:19	05:41	06:28	07:19	08:09		17:38 (3)	08:05		15:27 (4)	08:43		
	17:03	27	16:18 (4)	17:59	22	17:26 (3)	18:49	20:42	21:32	22:02	21:49	20:57	19:47	18:39	18	17:56 (3)	16:44	26	15:53 (4)	16:29		
20	08:37		15:52 (4)	07:46		17:05 (3)	06:44	06:34	05:40	05:19	05:42	06:30	07:21	08:11		17:37 (3)	08:06		15:27 (4)	08:44		
	17:05	26	16:18 (4)	18:01	21	17:26 (3)	18:51	20:44	21:33	22:03	21:48	20:55	19:45	18:37	19	17:56 (3)	16:43	26	15:53 (4)	16:29		
21	08:35		15:51 (4)	07:44		17:05 (3)	06:42	06:32	05:38	05:19	05:44	06:32	07:22	08:13		17:35 (3)	08:08		15:27 (4)	08:45		
	17:06	27	16:18 (4)	18:03	20	17:25 (3)	18:53	20:46	21:34	22:03	21:47	20:53	19:42	18:35	21	17:56 (3)	16:42	27	15:54 (4)	16:29		
22	08:34		15:52 (4)	07:42		17:06 (3)	06:40	06:30	05:37	05:19	05:45	06:33	07:24	08:15		17:35 (3)	08:10		15:28 (4)	08:45		
	17:08	26	16:18 (4)	18:05	19	17:25 (3)	18:55	20:48	21:36	22:03	21:46	20:51	19:40	18:32	21	17:56 (3)	16:41	26	15:54 (4)	16:30		
23	08:33		15:53 (4)	07:40		17:07 (3)	06:37	06:28	05:36	05:19	05:47	06:35	07:25	08:17		17:35 (3)	08:11		15:28 (4)	08:46		
	17:10	26	16:19 (4)	18:07	17	17:24 (3)	18:56	20:49	21:37	22:03	21:44	20:48	19:38	18:30	21	17:56 (3)	16:39	27	15:55 (4)	16:30		
24	08:32		15:52 (4)	07:38		17:08 (3)	06:35	06:26	05:34	05:20	05:48	06:37	07:27	08:18		17:35 (3)	08:13		15:28 (4)	08:46		
	17:11	26	16:18 (4)	18:09	15	17:23 (3)	18:58	20:51	21:39	22:03	21:43	20:46	19:35	18:28	21	17:56 (3)	16:38	26	15:54 (4)	16:31		
25	08:31		15:53 (4)	07:36		17:11 (3)	06:33	06:24	05:33	05:20	05:49	06:38	07:29	07:20		16:35 (3)	08:15		15:28 (4)	08:47		
	17:13	26	16:19 (4)	18:10	10	17:21 (3)	19:00	20:53	21:40	22:04	21:41	20:44	19:33	17:26	21	16:56 (3)	16:37	26	15:54 (4)	16:32		
26	08:29		15:55 (4)	07:34			06:30	06:21	05:32	05:20	05:51	06:40	07:30	07:22		16:36 (3)	08:16		15:29 (4)	08:47		
	17:15	24	16:19 (4)	18:12			19:01	20:54	21:41	22:04	21:40	20:42	19:31	17:24	19	16:55 (3)	16:36	26	15:55 (4)	16:32		
27	08:28		15:55 (4)	07:32			06:28	06:19	05:31	05:21	05:52	06:41	07:32	07:24		16:37 (3)	08:18		15:30 (4)	08:47		
	17:17	23	16:18 (4)	18:14			19:03	20:56	21:43	22:03	21:39	20:40	19:28	17:22	16	16:53 (3)	16:35	25	15:55 (4)	16:33		
28	08:27		15:57 (4)	07:29			06:26	06:17	05:30	05:21	05:54	06:43	07:34	07:25		16:38 (3)	08:19		15:30 (4)	08:47		
	17:19	21	16:18 (4)	18:16			19:05	20:58	21:44	22:03	21:37	20:38	19:26	17:20	13	16:51 (3)	16:35	24	15:54 (4)	16:34		
29	08:25		15:57 (4)				07:23	06:15	05:29	05:22	05:55	06:45	07:35	07:27		16:39 (3)	08:21		15:31 (4)	08:48		
	17:20	20	16:17 (4)				20:07	20:59	21:45	22:03	21:36	20:35	19:24	17:18	10	16:49 (3)	16:34	24	15:55 (4)	16:35		
30	08:24		15:58 (4)				07:21	06:13	05:28	05:22	05:57	06:46	07:37	07:29		16:42 (3)	08:22		15:31 (4)	08:48		
	17:22	18	16:16 (4)				20:08	21:01	21:46	22:03	21:34	20:33	19:21	17:16	5	16:47 (3)	16:33	23	15:54 (4)	16:36		
31	08:22		16:01 (4)				07:19		05:27		05:58	06:48		07:31						08:48		
	17:24	14	16:15 (4)				20:10		21:48		21:32	20:31		17:15						16:37		
Potential sun hours	259			277			367	416	485	499	502	454	381	331			266			243		
Total, worst case		633			245										239			489			158	
Sun reduction		0,24			0,30										0,34			0,24			0,20	
Oper. time red.		0,95			0,95										0,95			0,95			0,95	
Wind dir. red.		0,67			0,67										0,67			0,67			0,67	
Total reduction		0,15			0,19										0,21			0,15			0,13	
Total, real		96			47										51			74			20	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:36/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN131@145Shadow receptor: AS - 3998NM3

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June		July		August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	05:26		05:23	21:17 (2)	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03	21:49		22:03	12 21:29 (2)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	05:25		05:24	21:18 (2)	06:01	06:51	07:40	07:34	08:25
	16:39	17:28	18:19	20:13	21:04	21:50		22:02	11 21:29 (2)	21:29	20:26	19:17	17:11	16:32
3	08:47	08:18	07:23	07:12	06:08	05:25		05:25	21:19 (2)	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06	21:51		22:02	8 21:27 (2)	21:27	20:24	19:14	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06	05:24		05:25	21:20 (2)	06:04	06:55	07:44	07:38	08:28
	16:41	17:31	18:23	20:17	21:08	21:52		22:02	7 21:27 (2)	21:26	20:22	19:12	17:07	16:30
5	08:47	08:14	07:18	07:07	06:04	05:23		05:26	21:23 (2)	06:06	06:56	07:45	07:40	08:29
	16:43	17:33	18:25	20:19	21:09	21:53		22:01	2 21:25 (2)	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02	05:23		05:27		06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11	21:54		22:01		21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:00	05:22		05:28		06:09	06:59	07:49	07:43	08:32
	16:45	17:37	18:28	20:22	21:13	21:55		22:00		21:20	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59	05:21	21:16 (2)	05:29		06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:14	21:56	5 21:21 (2)	21:59		21:19	20:13	19:03	17:00	16:29
9	08:45	08:07	07:10	06:58	05:57	05:21	21:15 (2)	05:30		06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:25	21:16	21:57	8 21:23 (2)	21:59		21:17	20:10	19:01	16:59	16:28
10	08:45	08:06	07:07	06:56	05:55	05:20	21:13 (2)	05:31		06:14	07:04	07:54	07:49	08:35
	16:49	17:43	18:34	20:27	21:18	21:57	10 21:23 (2)	21:58		21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54	05:20	21:13 (2)	05:32		06:16	07:06	07:56	07:51	08:36
	16:51	17:45	18:35	20:29	21:19	21:58	11 21:24 (2)	21:57		21:13	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52	05:20	21:13 (2)	05:33		06:17	07:08	07:57	07:52	08:37
	16:52	17:46	18:37	20:31	21:21	21:59	12 21:25 (2)	21:56		21:11	20:03	18:54	16:54	16:28
13	08:43	08:00	07:00	06:49	05:50	05:19	21:12 (2)	05:34		06:19	07:09	07:59	07:54	08:38
	16:53	17:48	18:39	20:32	21:22	21:59	13 21:25 (2)	21:55		21:09	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49	05:19	21:12 (2)	05:35		06:20	07:11	08:01	07:56	08:39
	16:55	17:50	18:41	20:34	21:24	22:00	14 21:26 (2)	21:55		21:07	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47	05:19	21:12 (2)	05:36		06:22	07:12	08:03	07:58	08:40
	16:57	17:52	18:42	20:36	21:26	22:01	14 21:26 (2)	21:54		21:05	19:56	18:47	16:50	16:28
16	08:40	07:54	06:54	06:43	05:46	05:19	21:12 (2)	05:38		06:24	07:14	08:04	07:59	08:41
	16:58	17:54	18:44	20:37	21:27	22:01	15 21:27 (2)	21:53		21:03	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44	05:19	21:12 (2)	05:39		06:25	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29	22:02	15 21:27 (2)	21:51		21:01	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:38	05:43	05:19	21:12 (2)	05:40		06:27	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30	22:02	16 21:28 (2)	21:50		20:59	19:49	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41	05:19	21:12 (2)	05:41		06:28	07:19	08:09	08:05	08:43
	17:03	17:59	18:49	20:42	21:32	22:02	16 21:28 (2)	21:49		20:57	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40	05:19	21:12 (2)	05:43		06:30	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33	22:03	16 21:28 (2)	21:48		20:55	19:45	18:37	16:43	16:29
21	08:35	07:44	06:42	06:32	05:38	05:19	21:13 (2)	05:44		06:32	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:34	22:03	16 21:29 (2)	21:47		20:53	19:42	18:35	16:42	16:30
22	08:34	07:42	06:40	06:30	05:37	05:19	21:13 (2)	05:45		06:33	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36	22:03	16 21:29 (2)	21:46		20:51	19:40	18:33	16:41	16:30
23	08:33	07:40	06:37	06:28	05:36	05:20	21:13 (2)	05:47		06:35	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	21:37	22:03	16 21:29 (2)	21:44		20:48	19:38	18:30	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35	05:20	21:14 (2)	05:48		06:37	07:27	08:18	08:13	08:46
	17:11	18:09	18:58	20:51	21:39	22:03	16 21:30 (2)	21:43		20:46	19:35	18:28	16:38	16:31
25	08:31	07:36	06:33	06:24	05:33	05:20	21:14 (2)	05:49		06:38	07:29	07:20	08:15	08:47
	17:13	18:10	19:00	20:53	21:40	22:04	15 21:29 (2)	21:41		20:44	19:33	17:26	16:37	16:32
26	08:29	07:34	06:30	06:22	05:32	05:21	21:14 (2)	05:51		06:40	07:30	07:22	08:16	08:47
	17:15	18:12	19:01	20:54	21:41	22:04	15 21:29 (2)	21:40		20:42	19:31	17:24	16:36	16:32
27	08:28	07:32	06:28	06:20	05:31	05:21	21:15 (2)	05:52		06:42	07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21:43	22:03	15 21:30 (2)	21:39		20:40	19:28	17:22	16:36	16:33
28	08:27	07:29	06:26	06:18	05:30	05:21	21:15 (2)	05:54		06:43	07:34	07:25	08:19	08:47
	17:19	18:16	19:05	20:58	21:44	22:03	14 21:29 (2)	21:37		20:38	19:26	17:20	16:35	16:34
29	08:25		07:23	06:16	05:29	05:22	21:16 (2)	05:55		06:45	07:35	07:27	08:21	08:48
	17:20		20:07	20:59	21:45	22:03	13 21:29 (2)	21:36		20:35	19:24	17:18	16:34	16:35
30	08:24		07:21	06:14	05:28	05:23	21:16 (2)	05:57		06:46	07:37	07:29	08:22	08:48
	17:22		20:08	21:01	21:46	22:03	13 21:29 (2)	21:34		20:33	19:21	17:17	16:33	16:36
31	08:22		07:19		05:27			05:58		06:48		07:31		08:48
	17:24		20:10		21:48			21:32		20:31		17:15		16:37
Potential sun hours	259	277	367	416	485	499		502		454	381	331	266	243
Total, worst case						314		40						
Sun reduction						0,39		0,41						
Oper. time red.						0,95		0,95						
Wind dir. red.						0,59		0,59						
Total reduction						0,22		0,23						
Total, real						68		9						

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:36/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN131@145Shadow receptor: AT - 3998NM1

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	05:26	05:23	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03	21:49	22:03	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	05:25	05:24	06:01	06:51	07:40	07:34	08:25
	16:39	17:28	18:19	20:13	21:04	21:50	22:02	21:29	20:26	19:17	17:11	16:32
3	08:47	08:18	07:23	07:12	06:08	05:25	05:25	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06	21:51	22:02	21:27	20:24	19:14	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06	05:24	05:25	06:04	06:55	07:44	07:38	08:28
	16:41	17:31	18:23	20:17	21:08	21:52	22:02	21:26	20:22	19:12	17:07	16:31
5	08:47	08:14	07:18	07:07	06:04	05:23	05:26	06:06	06:56	07:45	07:40	08:29
	16:43	17:33	18:25	20:19	21:09	21:53	22:01	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02	05:23	05:27	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11	21:54	22:01	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:00	05:22	05:28	06:09	06:59	07:49	07:43	08:32
	16:45	17:37	18:28	20:22	21:13	21:55	22:00	21:20	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59	05:21	05:29	06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:14	21:56	21:59	21:19	20:13	19:03	17:00	16:29
9	08:45	08:07	07:10	06:58	05:57	05:21	05:30	06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:25	21:16	21:57	21:59	21:17	20:10	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55	05:21	05:31	06:14	07:04	07:54	07:49	08:35
	16:49	17:43	18:34	20:27	21:18	21:57	21:58	21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54	05:20	05:32	06:16	07:06	07:56	07:51	08:36
	16:51	17:45	18:35	20:29	21:19	21:58	21:57	21:13	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52	05:20	05:33	06:17	07:08	07:57	07:52	08:37
	16:52	17:46	18:37	20:31	21:21	21:59	21:56	21:11	20:03	18:54	16:54	16:28
13	08:43	08:00	07:00	06:49	05:50	05:19	05:34	06:19	07:09	07:59	07:54	08:38
	16:53	17:48	18:39	20:32	21:22	21:59	21:55	21:09	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49	05:19	05:35	06:20	07:11	08:01	07:56	08:39
	16:55	17:50	18:41	20:34	21:24	22:00	21:55	21:07	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47	05:19	05:36	06:22	07:12	08:03	07:58	08:40
	16:57	17:52	18:42	20:36	21:26	22:01	21:54	21:05	19:56	18:47	16:50	16:28
16	08:40	07:54	06:54	06:43	05:46	05:19	05:38	06:24	07:14	08:04	07:59	08:41
	16:58	17:54	18:44	20:37	21:27	22:01	21:53	21:03	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44	05:19	05:39	06:25	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29	22:02	21:51	21:01	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:38	05:43	05:19	05:40	06:27	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30	22:02	21:50	20:59	19:49	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41	05:19	05:41	06:28	07:19	08:09	08:05	08:43
	17:03	17:59	18:49	20:42	21:32	22:02	21:49	20:57	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40	05:19	05:43	06:30	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33	22:03	21:48	20:55	19:45	18:37	16:43	16:29
21	08:35	07:44	06:42	06:32	05:38	05:19	05:44	06:32	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:34	22:03	21:47	20:53	19:42	18:35	16:42	16:30
22	08:34	07:42	06:40	06:30	05:37	05:19	05:45	06:33	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36	22:03	21:46	20:51	19:40	18:33	16:41	16:30
23	08:33	07:40	06:37	06:28	05:36	05:20	05:47	06:35	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	21:37	22:03	21:44	20:48	19:38	18:30	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35	05:20	05:48	06:37	07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	21:39	22:03	21:43	20:46	19:35	18:28	16:38	16:31
25	08:31	07:36	06:33	06:24	05:33	05:20	05:49	06:38	07:29	07:20	08:15	08:47
	17:13	18:10	19:00	20:53	21:40	22:03	21:41	20:44	19:33	17:26	16:37	16:32
26	08:29	07:34	06:30	06:22	05:32	05:21	05:51	06:40	07:30	07:22	08:16	08:47
	17:15	18:12	19:01	20:54	21:41	22:03	21:40	20:42	19:31	17:24	16:36	16:32
27	08:28	07:32	06:28	06:20	05:31	05:21	05:52	06:42	07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21:43	22:03	21:39	20:40	19:28	17:22	16:36	16:33
28	08:27	07:29	06:26	06:18	05:30	05:21	05:54	06:43	07:34	07:25	08:19	08:47
	17:19	18:16	19:05	20:58	21:44	22:03	21:37	20:38	19:26	17:20	16:35	16:34
29	08:25		07:23	06:16	05:29	05:22	05:55	06:45	07:35	07:27	08:21	08:48
	17:20		20:07	20:59	21:45	22:03	21:36	20:35	19:24	17:18	16:34	16:35
30	08:24		07:21	06:14	05:28	05:23	05:57	06:46	07:37	07:29	08:22	08:48
	17:22		20:08	21:01	21:46	22:03	21:34	20:33	19:21	17:17	16:33	16:36
31	08:22		07:19		05:27		05:58	06:48		07:31		08:48
	17:24		20:10		21:48		21:32	20:31		17:15		16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:36/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN131@145Shadow receptor: AU - 3961MN33

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:16	19:16 (3)	06:12	05:26	05:23	06:00	06:50	07:39	18:08 (4)	07:33	08:24
	16:38	17:26	18:18	20:12	10 19:26 (3)	21:03	21:49	22:03	21:31	20:29	19:19	28 18:36 (4)	17:13	16:32
2	08:48	08:19	07:25	07:14	19:21 (3)	06:10	05:25	05:24	06:01	06:51	07:40	18:08 (4)	07:34	08:25
	16:39	17:28	18:19	20:13	1 19:22 (3)	21:04	21:50	22:02	21:29	20:26	19:17	28 18:36 (4)	17:11	16:32
3	08:47	08:18	07:23	17:39 (4)	07:12	06:08	05:25	05:25	06:03	06:53	07:42	18:07 (4)	07:36	08:27
	16:40	17:30	18:21	11 17:50 (4)	20:15	21:06	21:51	22:02	21:27	20:24	19:14	28 18:35 (4)	17:09	16:31
4	08:47	08:16	07:21	17:36 (4)	07:10	06:06	05:24	05:25	06:04	06:54	07:44	18:07 (4)	07:38	08:28
	16:41	17:31	18:23	16 17:52 (4)	20:17	21:08	21:52	22:02	21:26	20:22	19:12	28 18:35 (4)	17:07	16:30
5	08:47	08:14	07:18	17:35 (4)	07:07	06:04	05:23	05:26	06:06	06:56	07:45	18:07 (4)	07:40	08:29
	16:42	17:33	18:25	19 17:54 (4)	20:19	21:09	21:53	22:01	21:24	20:19	19:10	27 18:34 (4)	17:05	16:30
6	08:47	08:13	07:16	17:32 (4)	07:05	06:02	05:22	05:27	06:08	06:58	07:47	18:07 (4)	07:42	08:31
	16:44	17:35	18:27	23 17:55 (4)	20:20	21:11	21:54	22:01	21:22	20:17	19:08	26 18:33 (4)	17:04	16:29
7	08:46	08:11	07:14	17:31 (4)	07:03	06:00	05:22	05:28	06:09	06:59	07:49	18:08 (4)	07:43	08:32
	16:45	17:37	18:28	25 17:56 (4)	20:22	21:13	21:55	22:00	21:20	20:15	19:05	24 18:32 (4)	17:02	16:29
8	08:46	08:09	07:12	17:31 (4)	07:00	05:59	05:21	05:29	06:11	07:01	07:50	18:09 (4)	07:45	08:33
	16:46	17:39	18:30	26 17:57 (4)	20:24	21:14	21:56	21:59	21:19	20:13	19:03	21 18:30 (4)	17:00	16:29
9	08:45	08:07	07:09	17:30 (4)	06:58	05:57	05:21	05:30	06:12	07:03	07:52	18:10 (4)	07:47	08:34
	16:48	17:41	18:32	28 17:58 (4)	20:25	21:16	21:57	21:59	21:17	20:10	19:01	18 18:28 (4)	16:59	16:28
10	08:45	08:06	07:07	17:29 (4)	06:56	05:55	05:20	05:31	06:14	07:04	07:54	18:11 (4)	07:49	08:35
	16:49	17:43	18:34	28 17:57 (4)	20:27	21:18	21:57	21:58	21:15	20:08	18:58	14 18:25 (4)	16:57	16:28
11	08:44	08:04	07:05	17:29 (4)	06:54	05:53	05:20	05:32	06:15	07:06	19:08 (3)	07:56	18:15 (4)	07:51	08:36
	16:50	17:44	18:35	28 17:57 (4)	20:29	21:19	21:58	21:57	21:13	20:06	10 19:18 (3)	18:56	7 18:22 (4)	16:56	16:28
12	08:44	08:02	07:03	17:29 (4)	06:51	05:52	05:20	05:33	06:17	07:08	19:06 (3)	07:57		07:52	08:37
	16:52	17:46	18:37	28 17:57 (4)	20:31	21:21	21:59	21:56	21:11	20:03	14 19:20 (3)	18:54		16:54	16:28
13	08:43	08:00	07:00	17:29 (4)	06:49	05:50	05:19	05:34	06:19	07:09	19:05 (3)	07:59		07:54	08:38
	16:53	17:48	18:39	27 17:56 (4)	20:32	21:22	21:59	21:55	21:09	20:01	17 19:22 (3)	18:52		16:52	16:28
14	08:42	07:58	06:58	17:29 (4)	06:47	05:49	05:19	05:35	06:20	07:11	19:03 (3)	08:01		07:56	08:39
	16:55	17:50	18:41	27 17:56 (4)	20:34	21:24	22:00	21:55	21:07	19:59	19 19:22 (3)	18:50		16:51	16:28
15	08:41	07:56	06:56	17:30 (4)	06:45	05:47	05:19	05:36	06:22	07:12	19:02 (3)	08:02		07:58	08:40
	16:56	17:52	18:42	25 17:55 (4)	20:36	21:25	22:01	21:54	21:05	19:56	20 19:22 (3)	18:47		16:50	16:28
16	08:40	07:54	06:53	17:30 (4)	06:43	05:45	05:19	05:37	06:24	07:14	19:01 (3)	08:04		07:59	08:41
	16:58	17:54	18:44	23 17:53 (4)	20:37	21:27	22:01	21:53	21:03	19:54	20 19:21 (3)	18:45		16:48	16:28
17	08:40	07:52	06:51	17:31 (4)	06:40	05:44	05:19	05:39	06:25	07:16	19:01 (3)	08:06		08:01	08:42
	17:00	17:56	18:46	21 17:52 (4)	20:39	21:29	22:02	21:51	21:01	19:52	21 19:22 (3)	18:43		16:47	16:28
18	08:39	07:50	06:49	17:33 (4)	06:38	05:42	05:19	05:40	06:27	07:17	19:01 (3)	08:08		08:03	08:43
	17:01	17:57	18:48	18 17:51 (4)	20:41	21:30	22:02	21:50	20:59	19:49	20 19:21 (3)	18:41		16:45	16:28
19	08:38	07:48	06:47	17:35 (4)	06:36	05:41	05:19	05:41	06:28	07:19	19:01 (3)	08:09		08:05	08:43
	17:03	17:59	18:49	12 17:47 (4)	20:42	21:32	22:02	21:49	20:57	19:47	19 19:20 (3)	18:39		16:44	16:29
20	08:37	07:46	06:44	17:40 (4)	06:34	05:40	05:19	05:43	06:30	07:21	19:01 (3)	08:11		08:06	08:44
	17:05	18:01	18:51	6 18:26 (3)	20:44	21:33	22:03	21:48	20:55	19:45	17 19:18 (3)	18:37		16:43	16:29
21	08:35	07:44	06:42	18:19 (3)	06:32	05:38	05:19	05:44	06:32	07:22	19:01 (3)	08:13		08:08	08:45
	17:06	18:03	18:53	9 18:28 (3)	20:46	21:34	22:03	21:47	20:53	19:42	14 19:15 (3)	18:35		16:42	16:29
22	08:34	07:42	06:40	18:16 (3)	06:30	05:37	05:19	05:45	06:33	07:24	19:03 (3)	08:15		08:10	08:45
	17:08	18:05	18:55	13 18:29 (3)	20:48	21:36	22:03	21:46	20:51	19:40	10 19:13 (3)	18:32		16:41	16:30
23	08:33	07:40	06:37	18:15 (3)	06:28	05:36	05:19	05:47	06:35	07:25	19:06 (3)	08:16		08:11	08:46
	17:10	18:07	18:56	16 18:31 (3)	20:49	21:37	22:03	21:44	20:48	19:38	5 19:11 (3)	18:30		16:39	16:30
24	08:32	07:38	06:35	18:14 (3)	06:26	05:34	05:20	05:48	06:37	07:27	18:19 (4)	08:18		08:13	08:46
	17:11	18:09	18:58	19 18:33 (3)	20:51	21:39	22:03	21:43	20:46	19:35	11 18:30 (4)	18:28		16:38	16:31
25	08:31	07:36	06:33	18:13 (3)	06:24	05:33	05:20	05:49	06:38	07:29	18:17 (4)	07:20		08:15	08:47
	17:13	18:10	19:00	20 18:33 (3)	20:53	21:40	22:03	21:41	20:44	19:33	16 18:33 (4)	17:26		16:37	16:32
26	08:29	07:34	06:30	18:13 (3)	06:21	05:32	05:20	05:51	06:40	07:30	18:15 (4)	07:22		08:16	08:47
	17:15	18:12	19:01	20 18:33 (3)	20:54	21:41	22:03	21:40	20:42	19:31	19 18:34 (4)	17:24		16:36	16:32
27	08:28	07:32	06:28	18:13 (3)	06:19	05:31	05:21	05:52	06:41	07:32	18:12 (4)	07:24		08:18	08:47
	17:17	18:14	19:03	20 18:33 (3)	20:56	21:43	22:03	21:39	20:40	19:28	23 18:35 (4)	17:22		16:35	16:33
28	08:27	07:29	06:26	18:12 (3)	06:17	05:30	05:21	05:54	06:43	07:34	18:11 (4)	07:25		08:19	08:47
	17:19	18:16	19:05	20 18:32 (3)	20:58	21:44	22:03	21:37	20:38	19:26	25 18:36 (4)	17:20		16:35	16:34
29	08:25		07:23	19:12 (3)	06:15	05:29	05:22	05:55	06:45	07:35	18:09 (4)	07:27		08:21	08:48
	17:20		20:07	19 19:31 (3)	20:59	21:45	22:03	21:36	20:35	19:24	26 18:35 (4)	17:18		16:34	16:35
30	08:24		07:21	19:13 (3)	06:13	05:28	05:23	05:57	06:46	07:37	18:09 (4)	07:29		08:22	08:48
	17:22		20:08	17 19:30 (3)	21:01	21:46	22:03	21:34	20:33	19:21	27 18:36 (4)	17:16		16:33	16:36
31	08:22		07:19	19:14 (3)		05:27		05:58	06:48			07:31			08:48
	17:24		20:10	14 19:28 (3)		21:48		21:32	20:31			17:15			16:37
Potential sun hours	259	277	367	416		485	499	502	454	381		331		266	243
Total, worst case			578	11						353		249			
Sun reduction			0,33	0,42						0,36		0,34			
Oper. time red.			0,95	0,95						0,95		0,95			
Wind dir. red.			0,63	0,62						0,63		0,64			
Total reduction			0,20	0,25						0,22		0,20			
Total, real			114	3						76		51			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:35/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN149@164Shadow receptor: A - 3998JD94

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 16:38	08:21 17:26	07:27 18:18	07:17 20:12	06:12 21:03	06:42 (2) 07:03 (2) 21	05:26 21:49	05:58 (1) 06:17 (1) 19	05:23 22:03	06:01 (1) 06:26 (1) 25	06:00 21:31	06:50 20:29	07:39 19:19	07:33 17:13	08:24 16:32
2	08:48 16:39	08:19 17:28	07:25 18:20	07:14 20:14	06:10 21:05	06:42 (2) 07:03 (2) 21	05:26 21:50	05:57 (1) 06:18 (1) 21	05:24 22:03	06:01 (1) 06:27 (1) 26	06:01 21:29	06:51 20:27	07:41 19:17	07:35 17:11	08:25 16:32
3	08:48 16:40	08:18 17:30	07:23 18:21	07:12 20:15	06:08 21:06	06:43 (2) 07:03 (2) 20	05:25 21:51	05:58 (1) 06:19 (1) 21	05:25 22:02	06:02 (1) 06:27 (1) 25	06:03 21:28	06:53 20:24	07:42 19:15	07:36 17:09	08:27 16:31
4	08:47 16:41	08:16 17:32	07:21 18:23	07:10 20:17	06:06 21:08	06:43 (2) 07:02 (2) 19	05:24 21:52	05:57 (1) 06:19 (1) 22	05:26 22:02	06:02 (1) 06:26 (1) 24	06:05 21:26	06:59 (2) 5 07:04 (2)	06:55 20:22	07:44 19:12	08:28 16:31
5	08:47 16:43	08:14 17:33	07:19 18:25	07:08 20:19	06:04 21:10	06:44 (2) 07:01 (2) 17	05:23 21:53	05:57 (1) 06:20 (1) 23	05:26 22:01	06:02 (1) 06:26 (1) 24	06:06 21:24	06:57 (2) 07:08 (2) 11	06:56 20:20	07:46 19:10	08:29 16:30
6	08:47 16:44	08:13 17:35	07:16 18:27	07:05 20:20	06:02 21:11	06:44 (2) 06:59 (2) 15	05:23 21:54	05:57 (1) 06:20 (1) 23	05:27 22:01	06:03 (1) 06:27 (1) 24	06:08 21:22	06:55 (2) 07:09 (2) 14	06:58 20:17	07:47 19:08	08:31 17:04	08:30
7	08:46 16:45	08:11 17:37	07:14 18:29	07:03 20:22	06:01 21:13	06:46 (2) 06:59 (2) 13	05:22 21:55	05:57 (1) 06:21 (1) 24	05:28 22:00	06:04 (1) 06:27 (1) 23	06:09 21:21	06:54 (2) 07:10 (2) 16	07:00 20:15	07:49 19:05	07:44 17:02	08:32 16:29
8	08:46 16:46	08:09 17:39	07:12 18:30	07:01 20:24	05:59 21:15	06:47 (2) 06:56 (2) 9	05:22 21:56	05:57 (1) 06:21 (1) 24	05:29 22:00	06:04 (1) 06:27 (1) 23	06:11 21:19	06:53 (2) 07:11 (2) 18	07:01 20:13	07:51 19:03	07:45 17:01	08:33 16:29
9	08:46 16:48	08:08 17:41	07:10 18:32	06:58 20:26	05:57 21:16	05:21 21:57	05:57 (1) 06:22 (1) 25	05:30 21:59	06:05 (1) 06:26 (1) 21	06:12 21:17	06:53 (2) 07:12 (2) 19	07:03 20:11	07:52 19:01	07:47 16:59	08:34 16:29
10	08:45 16:49	08:06 17:43	07:07 18:34	06:56 20:27	05:55 21:18	05:21 21:58	05:56 (1) 06:21 (1) 25	05:31 21:58	06:05 (1) 06:25 (1) 20	06:14 21:15	06:52 (2) 07:12 (2) 20	07:04 20:08	07:54 18:59	07:49 16:57	08:36 16:28
11	08:44 16:51	08:04 17:45	07:05 18:36	06:54 20:29	05:54 21:19	05:20 21:58	05:57 (1) 06:22 (1) 25	05:32 21:57	06:05 (1) 06:25 (1) 20	06:16 21:13	06:52 (2) 07:12 (2) 20	07:06 20:06	07:56 18:56	07:51 16:56	08:37 16:28
12	08:44 16:52	08:02 17:47	07:03 18:37	06:52 20:31	05:52 21:21	05:20 21:59	05:57 (1) 06:23 (1) 26	05:33 21:57	06:06 (1) 06:24 (1) 18	06:17 21:11	06:51 (2) 07:12 (2) 21	07:08 20:04	07:58 18:54	07:53 16:54	08:38 16:28
13	08:43 16:54	08:00 17:48	07:01 18:39	06:49 20:32	05:50 21:23	05:20 22:00	05:57 (1) 06:23 (1) 26	05:34 21:56	06:08 (1) 06:25 (1) 17	06:19 21:09	06:51 (2) 07:12 (2) 21	07:09 20:01	07:59 18:52	07:54 16:53	08:39 16:28
14	08:42 16:55	07:58 17:50	06:58 18:41	06:47 20:34	05:49 21:24	05:19 22:00	05:57 (1) 06:23 (1) 26	05:35 21:55	06:09 (1) 06:24 (1) 15	06:21 21:07	06:51 (2) 07:11 (2) 20	07:11 19:59	08:01 18:50	07:56 16:51	08:40 16:28
15	08:41 16:57	07:56 17:52	06:56 18:43	06:45 20:36	05:47 21:26	05:19 22:01	05:57 (1) 06:23 (1) 26	05:36 21:54	06:10 (1) 06:23 (1) 13	06:22 21:05	06:51 (2) 07:11 (2) 20	07:13 19:57	08:03 18:48	07:58 16:50	08:41 16:28
16	08:41 16:58	07:54 17:54	06:54 18:44	06:43 20:38	05:46 21:27	05:19 22:01	05:57 (1) 06:23 (1) 26	05:38 21:53	06:12 (1) 06:22 (1) 10	06:24 21:03	06:51 (2) 07:10 (2) 19	07:14 19:54	08:04 18:45	08:00 16:48	08:41 16:28
17	08:40 17:00	07:52 17:56	06:51 18:46	06:41 20:39	05:44 21:29	05:19 22:02	05:57 (1) 06:23 (1) 26	05:39 21:52	06:14 (1) 06:19 (1) 5	06:25 21:01	06:53 (2) 07:10 (2) 17	07:16 19:52	08:06 18:43	08:01 16:47	08:42 16:28
18	08:39 17:01	07:50 17:58	06:49 18:48	06:39 20:41	05:43 21:30	05:19 22:02	05:57 (1) 06:24 (1) 27	05:40 21:51		06:27 20:59	06:54 (2) 07:08 (2) 14	07:17 19:50	08:08 18:41	08:03 16:46	08:43 16:29
19	08:38 17:03	07:48 18:00	06:47 18:50	06:36 20:43	05:41 21:32	05:19 22:03	05:58 (1) 06:25 (1) 27	05:41 21:49		06:29 20:57	06:56 (2) 07:07 (2) 11	07:19 19:47	08:10 18:39	08:05 16:44	08:44 16:29
20	08:37 17:05	07:46 18:01	06:44 18:51	06:34 20:44	05:40 21:33	05:19 22:03	05:58 (1) 06:25 (1) 27	05:43 21:48		06:30 20:55	06:57 (2) 7 07:04 (2)	07:21 19:45	08:11 18:37	08:06 16:43	08:44 16:29
21	08:36 17:06	07:44 18:03	06:42 18:53	06:32 20:46	05:39 21:35	05:19 22:03	05:58 (1) 06:25 (1) 27	05:44 21:47		06:32 20:53		07:22 19:43	08:13 18:35	08:08 16:42	08:45 16:30
22	08:35 17:08	07:42 18:05	06:40 18:55	06:30 20:48	05:37 21:36	05:19 22:03	05:58 (1) 06:25 (1) 27	05:45 21:46		06:34 20:51		07:24 19:40	08:15 18:33	08:10 16:41	08:45 16:30
23	08:33 17:10	07:40 18:07	06:38 18:56	06:28 20:49 8	06:52 (2) 07:00 (2)	05:36 05:20 21:37 22:04	05:58 (1) 06:25 (1) 27	05:47 21:44		06:35 20:49		07:26 19:38	08:17 18:31	08:11 16:40	08:46 16:31
24	08:32 17:12	07:38 18:09	06:35 18:58	06:26 20:51 12	06:50 (2) 07:02 (2)	05:35 05:20 21:39 22:04	05:59 (1) 06:26 (1) 27	05:48 21:43		06:37 20:46		07:27 19:35	08:18 18:29	08:13 16:39	08:46 16:31
25	08:31 17:13	07:36 18:11	06:33 19:00	06:24 20:53 15	06:48 (2) 07:03 (2)	05:34 05:20 21:40 22:04	05:59 (1) 06:26 (1) 27	05:50 21:42		06:38 20:44		07:29 19:33	07:20 17:27	08:15 16:38	08:47 16:32
26	08:30 17:15	07:34 18:12	06:31 19:02	06:22 20:55 17	06:46 (2) 07:03 (2)	05:32 05:21 21:42 22:04	05:59 (1) 06:25 (1) 26	05:51 21:40		06:40 20:42		07:31 19:31	07:22 17:25	08:16 16:37	08:47 16:33
27	08:28 17:17	07:32 18:14	06:28 19:03	06:20 20:56 20	06:44 (2) 07:04 (2)	05:31 06:03 (1) 21:43 8	05:21 06:11 (1) 22:04 26	06:00 (1) 06:26 (1)	05:52 21:39	06:42 20:40		07:32 19:28	07:24 17:23	08:18 16:36	08:47 16:33
28	08:27 17:19	07:30 18:16	06:26 19:05	06:18 20:58 20	06:44 (2) 07:04 (2)	05:30 06:01 (1) 21:44 12	05:22 06:13 (1) 22:04 26	06:00 (1) 06:26 (1)	05:54 21:37	06:43 20:38		07:34 19:26	07:26 17:21	08:19 16:35	08:48 16:34
29	08:25 17:21		07:24 20:07	06:16 21:00 21	06:43 (2) 07:04 (2)	05:29 06:00 (1) 21:45 14	05:22 06:14 (1) 22:03 26	06:00 (1) 06:26 (1)	05:55 21:36	06:45 20:35		07:36 19:24	07:27 17:19	08:21 16:34	08:48 16:35
30	08:24 17:22		07:21 20:08	06:14 21:01 21	06:43 (2) 07:04 (2)	05:28 06:00 (1) 21:47 16	05:23 06:16 (1) 22:03 26	06:01 (1) 06:27 (1)	05:57 21:34	06:47 20:33		07:37 19:22	07:29 17:17	08:22 16:33	08:48 16:36
31	08:22 17:24		07:19 20:10		05:27 21:48 18	05:59 (1) 06:17 (1)			05:58 21:33	06:48 20:31			07:31 17:15		08:48 16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case				134	203	754	333	273				
Sun reduction				0,42	0,43	0,39	0,41	0,42				
Oper. time red.				0,95	0,95	0,95	0,95	0,95				
Wind dir. red.				0,64	0,65	0,67	0,67	0,64				
Total reduction				0,26	0,27	0,25	0,26	0,25				
Total, real				34	54	188	86	69				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:35/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN149@164Shadow receptor: B - 3998JD87

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	05:26	05:23	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03	21:49 26	06:32 (1) 22:03 24	06:13 (1) 06:37 (1) 21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	05:26	06:06 (1) 05:24	06:13 (1) 06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05	21:50 26	06:32 (1) 22:03 25	06:38 (1) 21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08	05:25	06:07 (1) 05:25	06:14 (1) 06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06	21:51 26	06:33 (1) 22:02 25	06:39 (1) 21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06	05:24	06:07 (1) 05:26	06:13 (1) 06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08	21:52 26	06:33 (1) 22:02 25	06:38 (1) 21:26	20:22	19:12	17:07	16:31
5	08:47	08:15	07:19	07:08	06:04	05:23	06:08 (1) 05:26	06:13 (1) 06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10	21:53 25	06:33 (1) 22:01 26	06:39 (1) 21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02	05:23	06:07 (1) 05:27	06:14 (1) 06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11	21:54 26	06:33 (1) 22:01 25	06:39 (1) 21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01	05:22	06:08 (1) 05:28	06:14 (1) 06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13	21:55 26	06:34 (1) 22:00 26	06:40 (1) 21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59	05:22	06:08 (1) 05:29	06:14 (1) 06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15	21:56 25	06:33 (1) 22:00 26	06:40 (1) 21:19	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57	05:21	06:08 (1) 05:30	06:14 (1) 06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16	21:57 26	06:34 (1) 21:59 26	06:40 (1) 21:17	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55	05:21	06:08 (1) 05:31	06:13 (1) 06:14	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18	21:58 25	06:33 (1) 21:58 27	06:40 (1) 21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54	05:20	06:09 (1) 05:32	06:14 (1) 06:16	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19	21:58 24	06:33 (1) 21:57 26	06:40 (1) 21:13	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52	05:20	06:09 (1) 05:33	06:14 (1) 06:17	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21	21:59 25	06:34 (1) 21:57 26	06:40 (1) 21:11	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50	05:20	06:10 (1) 05:34	06:15 (1) 06:19	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23	22:00 24	06:34 (1) 21:56 26	06:41 (1) 21:09	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49	05:19	06:10 (1) 05:35	06:15 (1) 06:21	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24	22:00 24	06:34 (1) 21:55 26	06:41 (1) 21:07	19:59	18:50	16:51	16:28
15	08:42	07:56	06:56	06:45	05:47	05:19	06:10 (1) 05:36	06:15 (1) 06:22	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26	22:01 23	06:33 (1) 21:54 26	06:41 (1) 21:05	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46 06:16 (1)	05:19	06:10 (1) 05:38	06:15 (1) 06:24	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27 5	06:21 (1) 22:01 23	06:33 (1) 21:53 26	06:41 (1) 21:03	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44 06:13 (1)	05:19	06:10 (1) 05:39	06:15 (1) 06:25	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29 11	06:24 (1) 22:02 24	06:34 (1) 21:52 26	06:41 (1) 21:01	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43 06:11 (1)	05:19	06:10 (1) 05:40	06:16 (1) 06:27	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30 14	06:25 (1) 22:02 24	06:34 (1) 21:51 24	06:40 (1) 20:59	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41 06:10 (1)	05:19	06:12 (1) 05:41	06:16 (1) 06:29	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32 17	06:27 (1) 22:03 23	06:35 (1) 21:49 24	06:40 (1) 20:57	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40 06:09 (1)	05:19	06:12 (1) 05:43	06:17 (1) 06:30	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33 19	06:28 (1) 22:03 23	06:35 (1) 21:48 23	06:40 (1) 20:55	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	05:39 06:09 (1)	05:19	06:12 (1) 05:44	06:17 (1) 06:32	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:35 20	06:29 (1) 22:03 23	06:35 (1) 21:47 23	06:40 (1) 20:53	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	05:37 06:07 (1)	05:19	06:12 (1) 05:45	06:18 (1) 06:34	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36 22	06:29 (1) 22:03 23	06:35 (1) 21:46 21	06:39 (1) 20:51	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	05:36 06:07 (1)	05:20	06:12 (1) 05:47	06:18 (1) 06:35	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	21:37 22	06:29 (1) 22:04 23	06:35 (1) 21:44 20	06:38 (1) 20:49	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35 06:07 (1)	05:20	06:13 (1) 05:48	06:20 (1) 06:37	07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	21:39 23	06:30 (1) 22:04 23	06:36 (1) 21:43 18	06:38 (1) 20:46	19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	05:34 06:06 (1)	05:20	06:12 (1) 05:50	06:21 (1) 06:38	07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	21:40 25	06:31 (1) 22:04 24	06:36 (1) 21:42 16	06:37 (1) 20:44	19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	05:32 06:06 (1)	05:21	06:12 (1) 05:51	06:22 (1) 06:40	07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	21:42 25	06:31 (1) 22:04 24	06:36 (1) 21:40 13	06:35 (1) 20:42	19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	05:31 06:06 (1)	05:21	06:13 (1) 05:52	06:25 (1) 06:42	07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21:43 25	06:31 (1) 22:04 23	06:36 (1) 21:39 9	06:34 (1) 20:40	19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	05:30 06:06 (1)	05:22	06:12 (1) 05:54	06:43	07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	21:44 25	06:31 (1) 22:04 24	06:36 (1) 21:37	20:38	19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	05:29 06:06 (1)	05:22	06:13 (1) 05:55	06:45	07:36	07:27	08:21	08:48
	17:21		20:07	21:00	21:45 26	06:32 (1) 22:03 24	06:37 (1) 21:36	20:36	19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	05:28 06:06 (1)	05:23	06:13 (1) 05:57	06:47	07:37	07:29	08:22	08:48
	17:22		20:09	21:01	21:47 27	06:33 (1) 22:03 25	06:38 (1) 21:34	20:33	19:22	17:17	16:33	16:36
31	08:22		07:19		05:27 06:06 (1)		05:58	06:48		07:31		08:48
	17:24		20:10		21:48 27	06:33 (1)	21:33	20:31		17:15		16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case					333	730	628					
Sun reduction					0,43	0,39	0,41					
Oper. time red.					0,95	0,95	0,95					
Wind dir. red.					0,67	0,67	0,67					
Total reduction					0,27	0,25	0,26					
Total, real					90	181	162					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:35/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN149@164Shadow receptor: C - 3997MR25

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December		
1	08:48		08:21		08:50 (4)		07:27	12:37 (1)	07:17	06:12	05:26	05:23	06:00	06:50		07:39		13:20 (1)	07:33		08:24 (4)	08:24		09:37 (2)
	16:38		17:26	185	14:13 (1)		18:18	111	14:28 (1)	20:12	21:03	21:49	22:03	21:31	20:29		19:19	100	15:00 (1)	17:13	194	13:52 (1)	16:32	28	10:05 (2)
2	08:48		08:19		08:50 (4)		07:25		12:38 (1)	07:14	06:10	05:25	05:24	06:01	06:51		07:41		13:19 (1)	07:35		08:23 (4)	08:25		09:40 (2)
	16:39		17:28	187	14:14 (1)		18:20	110	14:28 (1)	20:14	21:05	21:50	22:03	21:29	20:26		19:17	102	15:01 (1)	17:11	193	13:51 (1)	16:32	24	10:04 (2)
3	08:48		08:18		08:51 (4)		07:23		12:37 (1)	07:12	06:08	05:25	05:25	06:03	06:53		07:42		13:17 (1)	07:36		08:22 (4)	08:27		09:41 (2)
	16:40		17:30	189	14:16 (1)		18:21	110	14:27 (1)	20:15	21:06	21:51	22:02	21:28	20:24		19:15	103	15:00 (1)	17:09	195	13:51 (1)	16:31	22	10:03 (2)
4	08:47		08:16		08:50 (4)		07:21		12:37 (1)	07:10	06:06	05:24	05:25	06:04	06:55		07:44		13:16 (1)	07:38		08:21 (4)	08:28		09:43 (2)
	16:41		17:32	192	14:17 (1)		18:23	109	14:26 (1)	20:17	21:08	21:52	22:02	21:26	20:22		19:12	105	15:01 (1)	17:07	195	13:49 (1)	16:31	19	10:02 (2)
5	08:47		10:04 (2)	08:14			08:50 (4)		07:19	12:38 (1)	07:07	06:04	05:23	05:26	06:06	06:56		07:46		13:16 (1)	07:40		08:20 (4)	08:29		09:45 (2)
	16:43	6	10:10 (2)	17:33	193	14:18 (1)		18:25	108	14:26 (1)	20:19	21:10	21:53	22:01	21:24	20:20		19:10	105	15:01 (1)	17:06	194	13:48 (1)	16:30	16	10:01 (2)
6	08:47		10:01 (2)	08:13			08:51 (4)		07:16	12:38 (1)	07:05	06:02	05:23	05:27	06:08	06:58		07:47		13:15 (1)	07:42		08:20 (4)	08:31		09:47 (2)
	16:44	12	10:13 (2)	17:35	193	14:19 (1)		18:27	108	14:26 (1)	20:20	21:11	21:54	22:01	21:22	20:17		19:08	106	15:01 (1)	17:04	192	13:47 (1)	16:30	12	09:59 (2)
7	08:46		10:00 (2)	08:11			08:51 (4)		07:14	12:38 (1)	07:03	06:00	05:22	05:28	06:09	07:00		07:49		13:13 (1)	07:44		08:20 (4)	08:32		09:50 (2)
	16:45	16	10:16 (2)	17:37	194	14:19 (1)		18:28	107	14:25 (1)	20:22	21:13	21:55	22:00	21:21	20:15		19:05	108	15:01 (1)	17:02	192	13:47 (1)	16:29	7	09:57 (2)
8	08:46		09:58 (2)	08:09			08:52 (4)		07:12	12:38 (1)	07:01	05:59	05:21	05:29	06:11	07:01		07:51		13:13 (1)	07:45		08:20 (4)	08:33		
	16:46	19	10:17 (2)	17:39	195	14:21 (1)		18:30	106	14:24 (1)	20:24	21:15	21:56	22:00	21:19	20:13		19:03	108	15:01 (1)	17:00	189	13:46 (1)	16:29		
9	08:46		09:58 (2)	08:08			08:53 (4)		07:10	12:39 (1)	06:58	05:57	05:21	05:30	06:12	07:03		07:52		13:12 (1)	07:47		08:21 (4)	08:34		
	16:48	22	10:20 (2)	17:41	195	14:22 (1)		18:32	105	14:24 (1)	20:26	21:16	21:57	21:59	21:17	20:10		19:01	109	15:01 (1)	16:59	186	13:45 (1)	16:29		
10	08:45		09:57 (2)	08:06			08:54 (4)		07:07	12:39 (1)	06:56	05:55	05:21	05:31	06:14	07:04		07:54		13:12 (1)	07:49		08:21 (4)	08:35		
	16:49	24	10:21 (2)	17:43	195	14:23 (1)		18:34	103	14:22 (1)	20:27	21:18	21:58	21:58	21:15	20:08		18:59	110	15:02 (1)	16:57	184	13:44 (1)	16:28		
11	08:44		09:55 (2)	08:04			08:56 (4)		07:05	12:40 (1)	06:54	05:54	05:20	05:32	06:16	07:06		07:56		13:11 (1)	07:51		08:22 (4)	08:37		
	16:51	27	10:22 (2)	17:45	188	14:23 (1)		18:36	102	14:22 (1)	20:29	21:19	21:58	21:57	21:13	20:06		18:56	110	15:01 (1)	16:56	180	13:43 (1)	16:28		
12	08:44		09:54 (2)	08:02			08:58 (4)		07:03	12:41 (1)	06:52	05:52	05:20	05:33	06:17	07:08		07:57		13:11 (1)	07:53		08:23 (4)	08:38		
	16:52	30	10:24 (2)	17:46	182	14:24 (1)		18:37	100	14:21 (1)	20:31	21:21	21:59	21:56	21:11	20:03		18:54	110	15:01 (1)	16:54	176	13:42 (1)	16:28		
13	08:43		09:53 (2)	08:00			09:13 (3)		07:01	12:41 (1)	06:49	05:50	05:20	05:34	06:19	07:09		07:59		13:11 (1)	07:54		08:24 (4)	08:39		
	16:53	32	10:25 (2)	17:48	171	14:25 (1)		18:39	99	14:20 (1)	20:32	21:23	22:00	21:56	21:09	20:01		18:52	110	15:01 (1)	16:53	171	13:41 (1)	16:28		
14	08:42		09:52 (2)	07:58			09:15 (3)		06:58	12:42 (1)	06:47	05:49	05:19	05:35	06:20	07:11		08:01		13:10 (1)	07:56		08:26 (4)	08:40		
	16:55	34	10:26 (2)	17:50	165	14:25 (1)		18:41	97	14:19 (1)	20:34	21:24	22:00	21:55	21:07	19:59		18:50	111	15:01 (1)	16:51	166	13:40 (1)	16:28		
15	08:41		09:53 (2)	07:56			09:19 (3)		06:56	12:44 (1)	06:45	05:47	05:19	05:36	06:22	07:13		08:03		13:10 (1)	07:58		08:28 (4)	08:40		
	16:57	48	13:32 (1)	17:52	158	14:26 (1)		18:43	94	14:18 (1)	20:36	21:26	22:01	21:54	21:05	19:56		18:48	111	15:01 (1)	16:50	160	13:39 (1)	16:28		
16	08:41		09:51 (2)	07:54			09:52 (2)		06:54	12:44 (1)	06:43	05:46	05:19	05:38	06:24	07:14		08:04		13:09 (1)	08:00		08:30 (4)	08:41		
	16:58	60	13:37 (1)	17:54	150	14:26 (1)		18:44	92	14:16 (1)	20:37	21:27	22:01	21:53	21:03	19:54		18:45	111	15:00 (1)	16:48	151	13:38 (1)	16:28		
17	08:40		09:50 (2)	07:52			09:53 (2)		06:51	12:46 (1)	06:41	05:44	05:19	05:39	06:25	07:16		08:06		13:09 (1)	08:01		08:42 (3)	08:42		
	17:00	71	13:43 (1)	17:56	149	14:27 (1)		18:46	89	14:15 (1)	20:39	21:29	22:02	21:52	21:01	19:52		18:43	111	15:00 (1)	16:47	138	13:36 (1)	16:28		
18	08:39		09:50 (2)	07:50			09:55 (2)		06:49	12:48 (1)	06:38	05:43	05:19	05:40	06:27	07:17	14:10 (1)	08:08		13:09 (1)	08:03		08:44 (3)	08:43		
	17:01	78	13:46 (1)	17:58	146	14:27 (1)		18:48	86	14:14 (1)	20:41	21:30	22:02	21:51	20:59	19:49	27	14:37 (1)	18:41	110	14:59 (1)	16:46	132	13:35 (1)	16:29		
19	08:38		09:50 (2)	07:48			09:56 (2)		06:47	12:50 (1)	06:36	05:41	05:19	05:41	06:29	07:19	13:58 (1)	08:10		10:36 (2)	08:05		08:45 (3)	08:44		
	17:03	84	13:49 (1)	17:59	144	14:28 (1)		18:50	81	14:11 (1)	20:43	21:32	22:03	21:49	20:57	19:47	44	14:42 (1)	18:39	125	14:59 (1)	16:44	125	13:33 (1)	16:29		
20	08:37		09:17 (3)	07:46			09:58 (2)		06:44	12:53 (1)	06:34	05:40	05:19	05:43	06:30	07:21	13:52 (1)	08:11		10:32 (2)	08:06		08:47 (3)	08:44		
	17:05	96	13:52 (1)	18:01	140	14:28 (1)		18:51	76	14:09 (1)	20:44	21:33	22:03	21:48	20:55	19:45	54	14:46 (1)	18:37	132	14:59 (1)	16:43	117	13:32 (1)	16:29		
21	08:36		09:14 (3)	07:44			09:59 (2)		06:42	12:56 (1)	06:32	05:38	05:19	05:44	06:32	07:22	13:46 (1)	08:13		10:30 (2)	08:08		08:49 (3)	08:45		
	17:06	108	13:55 (1)	18:03	136	14:27 (1)		18:53	71	14:07 (1)	20:46	21:35	22:03	21:47	20:53	19:42	62	14:48 (1)	18:35	137	14:59 (1)	16:42	108	13:30 (1)	16:30		
22	08:34		09:12 (3)	07:42			10:02 (2)		06:40	12:59 (1)	06:30	05:37	05:19	05:45	06:33	07:24	13:42 (1)	08:15		10:27 (2)	08:10		08:53 (3)	08:45		
	17:08	117	13:57 (1)	18:05	131	14:28 (1)		18:55	65	14:04 (1)	20:48	21:36	22:03	21:46	20:51	19:40	69	14:51 (1)	18:33	141	14:57 (1)	16:41	96	13:28 (1)	16:30		
23	08:33		09:11 (3)	07:40			10:07 (2)		06:37	13:04 (1)	06:28	05:36	05:20	05:47	06:35	07:26	13:38 (1)	08:17		10:25 (2)	08:11		09:27 (2)	08:46		
	17:10	125	13:59 (1)	18:07	121	14:28 (1)		18:56	57	14:01 (1)	20:49	21:37	22:04	21:44	20:49	19:38	75	14:53 (1)	18:31	145	14:57 (1)	16:40	85	13:27 (1)	16:31		
24	08:32		09:10 (3)	07:38			12:38 (1)		06:35	13:10 (1)	06:26	05:35	05:20	05:48	06:37	07:27	13:34 (1)	08:18		10:24 (2)	08:13		09:27 (2)	08:46		
	17:12	132	14:01 (1)	18:09	110	14:28 (1)		18:58	47	13:57 (1)	20:51	21:39	22:04	21:43	20:46	19:35	80	14:54 (1)	18:28	146	14:56 (1)	16:38	78	13:23 (1)	16:31		
25	08:31		09:08 (3)	07:36			12:38 (1)		06:33	13:19 (1)	06:24	05:33	05:20	05:49	06:38	07:29	13:32 (1)	07:20		09:22 (2)	08:15		09:28 (2)	08:47		
	17:13	139	14:03 (1)	18:10	110	14:28 (1)		19:00	31	13:50 (1)	20:53	21:40	22:04	21:42	20:44	19:33	84	14:56 (1)	17:26	149	13:56 (1)	16:37	71	13:21 (1)	16:32		
26	08:30		08:57 (4)	07:34			12:38 (1)		06:30		06:22	05:32	05:21	05:51	06:40	07:31	13:30 (1)	07:22		09:21 (2)	08:16		09:30 (2)	08:47		
	17:15	151	14:05 (1)	18:12	111	14:29 (1)		19:02			20:54	21:41	22:04	21:40	20:42	19:31	87	14:57 (1)	17:24	151	13:56 (1)	16:36	62	13:17 (1)	16:33		
27	08:28		08:55 (4)	07:32			12:37 (1)		06:28		06:20	05:31	05:21	05:52	06:42	07:32	13:27 (1)	07:24		08:47 (3)	08:18		09:32 (2)	08:47		
	17:17	160	14:06 (1)	18:14	111	14:28 (1)		19:03			20:56	21:43	22:04	21:39	20:40	19:28	90	14:57 (1)	17:22	160	13:55 (1)	16:36	48	13:11 (1)	16:33		
28	08:27		08:54 (4)	07:30			12:37 (1)		06:26		06:18	05:30	05:21	05:54	06:43	07:34	13:25 (1)	07:26		08:44 (3)	08:19		09:32 (2)	08:48		
	17:19	166	14:08 (1)	18:16	111	14:28 (1)		19:05			20:58	21:44	22:03	21:37	20:38	19:26	93	14:58 (1)	17:20	167	13:55 (1)	16:35	35	10:07 (2)	16:34		
29	08:25		08:52 (4)					07:24			06:16	05:29	05:22	05:55	06:45	07:36		13:24 (1)	07:27		08:42 (3)	08:21		09:34 (2)	08:48		
	17:20	171	14:09 (1)					20:07			21:00	21:45	22:03	21:36	20:35	19:24	95	14:59 (1)	17:19	172	13:54 (1)	16:34	32	10:06 (2)	16:35		
30	08:24		08:51 (4)					07:21			06:14	05:28	05:23	05:57	06:46	07:37		13:21 (1)	07:29		08:27 (4)	08:22		09:36 (2)	08:48		
	17:22	177	14:10 (1)					20:08			21:01	21:47	22:03	21:34	20:33	19:21	98	14:59 (1)	17:17	183	13:53 (1)	16:33	30	10:06 (2)	16:36		
31	08:22		08:51 (4)					07:19				05:27		05:58	06:48				07:31		08:25 (4)				08:48		
	17:24	181	14:12 (1)					20:10				21:48		21:33	20:31				17:15	192	13:53 (1)				16:37		
Potential sun hours	259			277			367			416	485	499	502	454	381				331			266			243		
Total, worst case		2286			4452			2264								958				3940			4075			128
Sun reduction		0,24			0,30			0,33								0,36				0,34			0,24			0,20
Oper. time red.		0,95			0,95			0,95								0,95				0,95			0,95			0,95
Wind dir. red.		0,62			0,65			0,68								0,68				0,67			0,63			0,59
Total reduction		0,14			0,18			0,21								0,23				0,21			0,14			0,11
Total, real		323			822			479								223				834			572			14

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:35/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN149@164Shadow receptor: D - 3945LA3

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December	
1	08:48		13:37 (4)	08:21		15:50 (3)	07:27		17:22 (2)	07:17	06:12	05:26	05:23	06:00	06:50		07:39		18:01 (2)	07:33		15:23 (3)	08:24		13:35 (4)
	16:38	31	14:08 (4)	17:26	38	16:28 (3)	18:18	23	17:45 (2)	20:12	21:03	21:49	22:03	21:31	20:29		19:19	19	18:20 (2)	17:13	35	15:58 (3)	16:32	10	13:45 (4)
2	08:48		13:38 (4)	08:19		15:50 (3)	07:25		17:21 (2)	07:14	06:10	05:25	05:24	06:01	06:51		07:40		17:59 (2)	07:34		15:21 (3)	08:25		13:33 (4)
	16:39	30	14:08 (4)	17:28	38	16:28 (3)	18:19	25	17:46 (2)	20:13	21:05	21:50	22:02	21:29	20:26		19:17	22	18:21 (2)	17:11	37	15:58 (3)	16:32	15	13:48 (4)
3	08:47		13:39 (4)	08:18		15:51 (3)	07:23		17:19 (2)	07:12	06:08	05:25	05:25	06:03	06:53		07:42		17:57 (2)	07:36		15:21 (3)	08:27		13:31 (4)
	16:40	30	14:09 (4)	17:30	38	16:29 (3)	18:21	27	17:46 (2)	20:15	21:06	21:51	22:02	21:27	20:24		19:14	24	18:21 (2)	17:09	37	15:58 (3)	16:31	18	13:49 (4)
4	08:47		13:40 (4)	08:16		15:51 (3)	07:21		17:19 (2)	07:10	06:06	05:24	05:25	06:04	06:55		07:44		17:56 (2)	07:38		15:20 (3)	08:28		13:29 (4)
	16:41	28	14:08 (4)	17:31	38	16:29 (3)	18:23	28	17:47 (2)	20:17	21:08	21:52	22:02	21:26	20:22		19:12	26	18:22 (2)	17:07	38	15:58 (3)	16:30	21	13:50 (4)
5	08:47		13:41 (4)	08:14		15:51 (3)	07:18		17:19 (2)	07:07	06:04	05:23	05:26	06:06	06:56		07:45		17:56 (2)	07:40		15:20 (3)	08:29		13:29 (4)
	16:42	27	14:08 (4)	17:33	38	16:29 (3)	18:25	28	17:47 (2)	20:19	21:09	21:53	22:01	21:24	20:20		19:10	27	18:23 (2)	17:06	39	15:59 (3)	16:30	23	13:52 (4)
6	08:47		13:42 (4)	08:13		15:51 (3)	07:16		17:18 (2)	07:05	06:02	05:22	05:27	06:08	06:58		07:47		17:54 (2)	07:42		15:20 (3)	08:31		13:28 (4)
	16:44	25	14:07 (4)	17:35	38	16:29 (3)	18:27	28	17:46 (2)	20:20	21:11	21:54	22:01	21:22	20:17		19:08	28	18:22 (2)	17:04	39	15:59 (3)	16:29	25	13:53 (4)
7	08:46		13:44 (4)	08:11		15:51 (3)	07:14		17:18 (2)	07:03	06:00	05:22	05:28	06:09	06:59		07:49		17:54 (2)	07:43		15:20 (3)	08:32		13:29 (4)
	16:45	23	14:07 (4)	17:37	38	16:29 (3)	18:28	28	17:46 (2)	20:22	21:13	21:55	22:00	21:20	20:15		19:05	28	18:22 (2)	17:02	39	15:59 (3)	16:29	26	13:55 (4)
8	08:46		13:45 (4)	08:09		15:52 (3)	07:12		17:18 (2)	07:01	05:59	05:21	05:29	06:11	07:01		07:51		17:54 (2)	07:45		15:20 (3)	08:33		13:28 (4)
	16:46	21	14:06 (4)	17:39	37	16:29 (3)	18:30	28	17:46 (2)	20:24	21:14	21:56	21:59	21:19	20:13		19:03	28	18:22 (2)	17:00	39	15:59 (3)	16:29	28	13:56 (4)
9	08:45		13:48 (4)	08:07		15:53 (3)	07:10		17:19 (2)	06:58	05:57	05:21	05:30	06:12	07:03		07:52		17:54 (2)	07:47		15:21 (3)	08:34		13:28 (4)
	16:48	18	14:06 (4)	17:41	36	16:29 (3)	18:32	27	17:46 (2)	20:25	21:16	21:57	21:59	21:17	20:10		19:01	28	18:22 (2)	16:59	38	15:59 (3)	16:28	29	13:57 (4)
10	08:45		13:50 (4)	08:06		15:53 (3)	07:07		17:19 (2)	06:56	05:55	05:20	05:31	06:14	07:04		07:54		17:53 (2)	07:49		15:21 (3)	08:35		13:27 (4)
	16:49	15	14:05 (4)	17:43	35	16:28 (3)	18:34	25	17:44 (2)	20:27	21:18	21:57	21:58	21:15	20:08		18:59	28	18:21 (2)	16:57	38	15:59 (3)	16:28	30	13:57 (4)
11	08:44		13:53 (4)	08:04		15:54 (3)	07:05		17:20 (2)	06:54	05:53	05:20	05:32	06:15	07:06		07:56		17:54 (2)	07:51		15:22 (3)	08:36		13:27 (4)
	16:50	10	14:03 (4)	17:44	33	16:27 (3)	18:35	23	17:43 (2)	20:29	21:19	21:58	21:57	21:13	20:06		18:56	26	18:20 (2)	16:56	37	15:59 (3)	16:28	31	13:58 (4)
12	08:44			08:02		15:55 (3)	07:03		17:21 (2)	06:52	05:52	05:20	05:33	06:17	07:08		07:57		17:54 (2)	07:52		15:22 (3)	08:38		13:27 (4)
	16:52			17:46	32	16:27 (3)	18:37	21	17:42 (2)	20:31	21:21	21:59	21:56	21:11	20:03		18:54	25	18:19 (2)	16:54	37	15:59 (3)	16:28	32	13:59 (4)
13	08:43			08:00		15:56 (3)	07:00		17:22 (2)	06:49	05:50	05:19	05:34	06:19	07:09		07:59		17:55 (2)	07:54		15:23 (3)	08:39		13:27 (4)
	16:53			17:48	30	16:26 (3)	18:39	17	17:39 (2)	20:32	21:22	22:00	21:56	21:09	20:01		18:52	23	18:18 (2)	16:52	35	15:58 (3)	16:28	32	13:59 (4)
14	08:42			07:58		15:57 (3)	06:58		17:25 (2)	06:47	05:49	05:19	05:35	06:20	07:11		08:01		17:56 (2)	07:56		15:23 (3)	08:39		13:27 (4)
	16:55			17:50	28	16:25 (3)	18:41	12	17:37 (2)	20:34	21:24	22:00	21:55	21:07	19:59		18:50	21	18:17 (2)	16:51	35	15:58 (3)	16:28	33	14:00 (4)
15	08:41			07:56		15:59 (3)	06:56		18:11 (1)	06:45	05:47	05:19	05:36	06:22	07:12	18:59 (1)	08:03		17:57 (2)	07:58		15:24 (3)	08:40		13:28 (4)
	16:56			17:52	24	16:23 (3)	18:42	6	18:17 (1)	20:36	21:26	22:01	21:54	21:05	19:56	3	19:02 (1)	18:47	17	18:14 (2)	16:50	34	15:58 (3)	16:28	33	14:01 (4)
16	08:41			07:54		16:02 (3)	06:54		18:07 (1)	06:43	05:45	05:19	05:37	06:24	07:14	18:54 (1)	08:04		17:59 (2)	07:59		15:25 (3)	08:41		13:28 (4)
	16:58			17:54	19	16:21 (3)	18:44	11	18:18 (1)	20:37	21:27	22:01	21:53	21:03	19:54	11	19:05 (1)	18:45	12	18:11 (2)	16:48	32	15:57 (3)	16:28	34	14:02 (4)
17	08:40		16:03 (3)	07:52		16:05 (3)	06:51		18:06 (1)	06:41	05:44	05:19	05:39	06:25	07:16	18:52 (1)	08:06			08:01		15:26 (3)	08:42		13:29 (4)
	17:00	3	16:06 (3)	17:56	14	16:19 (3)	18:46	15	18:21 (1)	20:39	21:29	22:02	21:52	21:01	19:52	15	19:07 (1)	18:43			16:47	31	15:57 (3)	16:28	34	14:03 (4)
18	08:39		15:59 (3)	07:50			06:49		18:05 (1)	06:38	05:43	05:19	05:40	06:27	07:17		18:51 (1)	08:08			08:03		15:26 (3)	08:43		13:29 (4)
	17:01	12	16:11 (3)	17:58			18:48	18	18:23 (1)	20:41	21:30	22:02	21:50	20:59	19:49	17	19:08 (1)	18:41			16:45	29	15:55 (3)	16:28	34	14:03 (4)
19	08:38		15:57 (3)	07:48			06:47		18:03 (1)	06:36	05:41	05:19	05:41	06:28	07:19		18:49 (1)	08:10			08:05		15:28 (3)	08:44		13:29 (4)
	17:03	16	16:13 (3)	17:59			18:49	20	18:23 (1)	20:43	21:32	22:02	21:49	20:57	19:47	19	19:08 (1)	18:39			16:44	27	15:55 (3)	16:29	34	14:03 (4)
20	08:37		15:56 (3)	07:46			06:44		18:02 (1)	06:34	05:40	05:19	05:43	06:30	07:21		18:48 (1)	08:11			08:06		15:29 (3)	08:44		13:30 (4)
	17:05	20	16:16 (3)	18:01			18:51	21	18:23 (1)	20:44	21:33	22:03	21:48	20:55	19:45	21	19:09 (1)	18:37			16:43	25	15:54 (3)	16:29	34	14:04 (4)
21	08:36		15:56 (3)	07:44			06:42		18:02 (1)	06:32	05:38	05:19	05:44	06:32	07:22		18:47 (1)	08:13			08:08		15:31 (3)	08:45		13:31 (4)
	17:06	22	16:18 (3)	18:03			18:53	22	18:24 (1)	20:46	21:35	22:03	21:47	20:53	19:42	21	19:08 (1)	18:35			16:42	22	15:53 (3)	16:30	34	14:05 (4)
22	08:34		15:54 (3)	07:42			06:40		18:01 (1)	06:30	05:37	05:19	05:45	06:33	07:24		18:47 (1)	08:15			08:10		15:32 (3)	08:45		13:31 (4)
	17:08	25	16:19 (3)	18:05			18:55	22	18:23 (1)	20:48	21:36	22:03	21:46	20:51	19:40	21	19:08 (1)	18:33			16:41	20	15:52 (3)	16:30	34	14:05 (4)
23	08:33		15:54 (3)	07:40			06:37		18:02 (1)	06:28	05:36	05:19	05:47	06:35	07:26		18:47 (1)	08:17			08:11		15:34 (3)	08:46		13:31 (4)
	17:10	27	16:21 (3)	18:07			18:56	20	18:22 (1)	20:49	21:37	22:03	21:44	20:48	19:38	21	19:08 (1)	18:30			16:39	16	15:50 (3)	16:31	34	14:05 (4)
24	08:32		15:52 (3)	07:38			06:35		18:02 (1)	06:26	05:35	05:20	05:48	06:37	07:27		18:46 (1)	08:18		16:38 (3)	08:13		15:36 (3)	08:46		13:32 (4)
	17:11	29	16:21 (3)	18:09			18:58	20	18:22 (1)	20:51	21:39	22:04	21:43	20:46	19:35	21	19:07 (1)	18:28	7	16:45 (3)	16:38	12	15:48 (3)	16:31	34	14:06 (4)
25	08:31		15:52 (3)	07:36		17:31 (2)	06:33		18:02 (1)	06:24	05:33	05:20	05:49	06:38	07:29		18:47 (1)	07:20		15:33 (3)	08:15		15:41 (3)	08:47		13:32 (4)
	17:13	31	16:23 (3)	18:10	6	17:37 (2)	19:00	18	18:20 (1)	20:53	21:40	22:04	21:42	20:44	19:33	19	19:06 (1)	17:26	16	15:49 (3)	16:37	3	15:44 (3)	16:32	34	14:06 (4)
26	08:29		15:52 (3)	07:34		17:26 (2)	06:30		18:03 (1)	06:22	05:32	05:20	05:51	06:40	07:30		18:48 (1)	07:22		15:31 (3)	08:16			08:47		13:32 (4)
	17:15	32	16:24 (3)	18:12	14	17:40 (2)	19:01	16	18:19 (1)	20:54	21:41	22:04	21:40	20:42	19:31	16	19:04 (1)	17:24	20	15:51 (3)	16:36			16:32	34	14:06 (4)
27	08:28		15:51 (3)	07:32		17:24 (2)	06:28		18:05 (1)	06:19	05:31	05:21	05:52	06:41	07:32		18:48 (1)	07:24		15:28 (3)	08:18			08:47		13:33 (4)
	17:17	34	16:25 (3)	18:14	18	17:42 (2)	19:03	12	18:17 (1)	20:56	21:43	22:04	21:39	20:40	19:28	13	19:01 (1)	17:22	25	15:53 (3)	16:35			16:33	34	14:07 (4)
28	08:27		15:52 (3)	07:29		17:23 (2)	06:26		18:08 (1)	06:17	05:30	05:21	05:54	06:43	07:34		18:51 (1)	07:25		15:27 (3)	08:19			08:47		13:34 (4)
	17:19	34	16:26 (3)	18:16	21	17:44 (2)	19:05	5	18:13 (1)	20:58	21:44	22:03	21:37	20:38	19:26	8	18:59 (1)	17:20	27	15:54 (3)	16:35			16:34	34	14:08 (4)
29	08:25		15:51 (3)				07:23			06:15	05:29	05:22	05:55	06:45	07:35		18:07 (2)	07:27		15:25 (3)	08:21			08:48		13:35 (4)
	17:20	36	16:27 (3)				20:07			20:59	21:45	22:03	21:36	20:35	19:24	9	18:16 (2)	17:18	31	15:56 (3)	16:34			16:35	33	14:08 (4)
30	08:24		15:50 (3)				07:21			06:14	05:28	05:23	05:57	06:46	07:37		18:03 (2)	07:29		15:24 (3)	08:22			08:48		13:35 (4)
	17:22	37	16:27 (3)				20:08			21:01	21:46	22:03	21:34	20:33	19:21	15	18:18 (2)	17:17	32	15:56 (3)	16:33			16:36	32	14:07 (4)
31	08:22		15:51 (3)				07:19				05:27		05:58	06:48				07:31		15:23 (3)				08:48		13:36 (4)
	17:24	37	16:28 (3)				20:10				21:48		21:32	20:31				17:15	34	15:57 (3)				16:37	32	14:08 (4)
Potential sun hours	259			277			367		416	485	499	502	454	381				331			266			243		
Total, worst case		653			613			566							250				574			774			925	
Sun reduction		0,24			0,30			0,33							0,36				0,34			0,24			0,20	
Oper. time red.		0,95			0,95			0,95							0,95				0,95			0,95			0,95	
Wind dir. red.		0,67			0,67			0,64							0,63				0,66			0,67			0,68	
Total reduction		0,15			0,19			0,20							0,22				0,21			0,15			0,13	
Total, real		100			117			114							54				120			116			121	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:35/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN149@164Shadow receptor: E - 3945LA5

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December	
1	08:48		14:58 (3)	08:21		15:09 (3)	07:27		16:57 (2)	07:17	06:12	05:26	05:23	06:00	06:50		07:39		18:39 (1)	07:33			08:24		14:42 (3)
	16:38	35	15:33 (3)	17:26	36	15:45 (3)	18:18	33	17:30 (2)	20:12	21:03	21:49	22:03	21:31	20:29		19:19	11	18:50 (1)	17:13			16:32	41	15:23 (3)
2	08:48		14:59 (3)	08:19		15:10 (3)	07:25		16:57 (2)	07:14	06:10	05:25	05:24	06:01	06:51		07:40		18:43 (1)	07:34			08:25		14:43 (3)
	16:39	35	15:34 (3)	17:28	34	15:44 (3)	18:19	33	17:30 (2)	20:13	21:05	21:50	22:02	21:29	20:26		19:17	3	18:46 (1)	17:11			16:32	41	15:24 (3)
3	08:48		14:59 (3)	08:18		15:12 (3)	07:23		16:57 (2)	07:12	06:08	05:25	05:25	06:03	06:53		07:42		17:48 (2)	07:36		14:53 (3)	08:27		14:43 (3)
	16:40	36	15:35 (3)	17:30	32	15:44 (3)	18:21	31	17:28 (2)	20:15	21:06	21:51	22:02	21:27	20:24		19:14	3	17:51 (2)	17:09	10	15:03 (3)	16:31	40	15:23 (3)
4	08:47		14:59 (3)	08:16		15:13 (3)	07:21		16:58 (2)	07:10	06:06	05:24	05:25	06:04	06:55		07:44		17:43 (2)	07:38		14:50 (3)	08:28		14:45 (3)
	16:41	37	15:36 (3)	17:31	29	15:42 (3)	18:23	30	17:28 (2)	20:17	21:08	21:52	22:02	21:26	20:22		19:12	13	17:56 (2)	17:07	17	15:07 (3)	16:30	39	15:24 (3)
5	08:47		14:59 (3)	08:14		15:15 (3)	07:18		16:58 (2)	07:07	06:04	05:23	05:26	06:06	06:56		07:45		17:40 (2)	07:40		14:47 (3)	08:29		14:45 (3)
	16:42	38	15:37 (3)	17:33	26	15:41 (3)	18:25	29	17:27 (2)	20:19	21:10	21:53	22:01	21:24	20:20		19:10	19	17:59 (2)	17:06	22	15:09 (3)	16:30	38	15:23 (3)
6	08:47		14:59 (3)	08:13		15:17 (3)	07:16		16:59 (2)	07:05	06:02	05:22	05:27	06:08	06:58		07:47		17:37 (2)	07:42		14:45 (3)	08:31		14:45 (3)
	16:44	38	15:37 (3)	17:35	22	15:39 (3)	18:27	26	17:25 (2)	20:20	21:11	21:54	22:01	21:22	20:17		19:08	23	18:00 (2)	17:04	26	15:11 (3)	16:29	38	15:23 (3)
7	08:46		15:00 (3)	08:11		15:20 (3)	07:14		17:00 (2)	07:03	06:00	05:22	05:28	06:09	06:59		07:49		17:35 (2)	07:44		14:43 (3)	08:32		14:47 (3)
	16:45	38	15:38 (3)	17:37	16	15:36 (3)	18:29	24	17:24 (2)	20:22	21:13	21:55	22:00	21:20	20:15		19:05	26	18:01 (2)	17:02	29	15:12 (3)	16:29	37	15:24 (3)
8	08:46		15:00 (3)	08:09		15:26 (3)	07:12		17:02 (2)	07:01	05:59	05:21	05:29	06:11	07:01		07:51		17:34 (2)	07:45		14:42 (3)	08:33		14:47 (3)
	16:46	39	15:39 (3)	17:39	7	15:33 (3)	18:30	21	17:23 (2)	20:24	21:14	21:56	21:59	21:19	20:13		19:03	28	18:02 (2)	17:00	32	15:14 (3)	16:29	37	15:24 (3)
9	08:45		15:00 (3)	08:07			07:10		17:04 (2)	06:58	05:57	05:21	05:30	06:12	07:03		07:52		17:33 (2)	07:47		14:41 (3)	08:34		14:47 (3)
	16:48	40	15:40 (3)	17:41			18:32	17	17:21 (2)	20:25	21:16	21:57	21:59	21:17	20:10		19:01	30	18:03 (2)	16:59	34	15:15 (3)	16:28	37	15:24 (3)
10	08:45		15:00 (3)	08:06			07:07		17:07 (2)	06:56	05:55	05:20	05:31	06:14	07:04		07:54		17:31 (2)	07:49		14:40 (3)	08:35		14:48 (3)
	16:49	40	15:40 (3)	17:43			18:34	10	17:17 (2)	20:27	21:18	21:57	21:58	21:15	20:08		18:59	31	18:02 (2)	16:57	36	15:16 (3)	16:28	36	15:24 (3)
11	08:44		15:00 (3)	08:04			07:05			06:54	05:53	05:20	05:32	06:15	07:06		07:56		17:31 (2)	07:51		14:39 (3)	08:37		14:49 (3)
	16:50	41	15:41 (3)	17:44			18:35			20:29	21:19	21:58	21:57	21:13	20:06		18:56	32	18:03 (2)	16:56	38	15:17 (3)	16:28	35	15:24 (3)
12	08:44		15:00 (3)	08:02			07:03		18:01 (1)	06:52	05:52	05:20	05:33	06:17	07:08		07:57		17:30 (2)	07:52		14:39 (3)	08:38		14:49 (3)
	16:52	41	15:41 (3)	17:46			18:37	9	18:10 (1)	20:31	21:21	21:59	21:56	21:11	20:03		18:54	33	18:03 (2)	16:54	38	15:17 (3)	16:28	35	15:24 (3)
13	08:43		15:00 (3)	08:00			07:00		17:57 (1)	06:49	05:50	05:19	05:34	06:19	07:09		07:59		17:30 (2)	07:54		14:38 (3)	08:39		14:50 (3)
	16:53	42	15:42 (3)	17:48			18:39	15	18:12 (1)	20:32	21:22	22:00	21:56	21:09	20:01		18:52	33	18:03 (2)	16:52	40	15:18 (3)	16:28	34	15:24 (3)
14	08:42		15:00 (3)	07:58			06:58		17:56 (1)	06:47	05:49	05:19	05:35	06:20	07:11		08:01		17:30 (2)	07:56		14:38 (3)	08:40		14:51 (3)
	16:55	42	15:42 (3)	17:50			18:41	18	18:14 (1)	20:34	21:24	22:00	21:55	21:07	19:59		18:50	33	18:03 (2)	16:51	41	15:19 (3)	16:28	33	15:24 (3)
15	08:41		15:00 (3)	07:56			06:56		17:55 (1)	06:45	05:47	05:19	05:36	06:22	07:12		08:03		17:29 (2)	07:58		14:38 (3)	08:40		14:51 (3)
	16:56	43	15:43 (3)	17:52			18:42	20	18:15 (1)	20:36	21:26	22:01	21:54	21:05	19:56		18:47	33	18:02 (2)	16:50	41	15:19 (3)	16:28	33	15:24 (3)
16	08:41		15:00 (3)	07:54			06:54		17:53 (1)	06:43	05:45	05:19	05:37	06:24	07:14		08:04		17:29 (2)	07:59		14:38 (3)	08:41		14:52 (3)
	16:58	44	15:44 (3)	17:54			18:44	22	18:15 (1)	20:37	21:27	22:01	21:53	21:03	19:54		18:45	32	18:01 (2)	16:48	42	15:20 (3)	16:28	33	15:25 (3)
17	08:40		15:01 (3)	07:52			06:51		17:53 (1)	06:41	05:44	05:19	05:39	06:25	07:16	18:47 (1)	08:06		17:30 (2)	08:01		14:38 (3)	08:42		12:49 (4)
	17:00	43	15:44 (3)	17:56			18:46	23	18:16 (1)	20:39	21:29	22:02	21:52	21:01	19:52	7 18:54 (1)	18:43	31	18:01 (2)	16:47	43	15:21 (3)	16:28	36	15:25 (3)
18	08:39		15:01 (3)	07:50		17:08 (2)	06:49		17:52 (1)	06:38	05:43	05:19	05:40	06:27	07:17	18:44 (1)	08:08		17:30 (2)	08:03		14:37 (3)	08:43		12:47 (4)
	17:01	44	15:45 (3)	17:58	12	17:20 (2)	18:48	24	18:16 (1)	20:41	21:30	22:02	21:50	20:59	19:49	13 18:57 (1)	18:41	30	18:00 (2)	16:45	43	15:20 (3)	16:28	40	15:26 (3)
19	08:38		15:02 (3)	07:48		17:05 (2)	06:47		17:51 (1)	06:36	05:41	05:19	05:41	06:28	07:19	18:41 (1)	08:10		17:31 (2)	08:05		14:37 (3)	08:44		12:46 (4)
	17:03	43	15:45 (3)	17:59	18	17:23 (2)	18:49	24	18:15 (1)	20:43	21:32	22:02	21:49	20:57	19:47	17 18:58 (1)	18:39	28	17:59 (2)	16:44	44	15:21 (3)	16:29	41	15:25 (3)
20	08:37		15:02 (3)	07:46		17:03 (2)	06:44		17:51 (1)	06:34	05:40	05:19	05:43	06:30	07:21	18:39 (1)	08:11		17:32 (2)	08:06		14:37 (3)	08:44		12:47 (4)
	17:05	44	15:46 (3)	18:01	21	17:24 (2)	18:51	24	18:15 (1)	20:44	21:33	22:03	21:48	20:55	19:45	20 18:59 (1)	18:37	26	17:58 (2)	16:43	44	15:21 (3)	16:29	41	15:26 (3)
21	08:36		15:03 (3)	07:44		17:01 (2)	06:42		17:52 (1)	06:32	05:38	05:19	05:44	06:32	07:22	18:37 (1)	08:13		17:32 (2)	08:08		14:38 (3)	08:45		12:47 (4)
	17:06	43	15:46 (3)	18:03	25	17:26 (2)	18:53	23	18:15 (1)	20:46	21:35	22:03	21:47	20:53	19:42	22 18:59 (1)	18:35	24	17:56 (2)	16:42	43	15:21 (3)	16:30	42	15:27 (3)
22	08:34		15:02 (3)	07:42		17:00 (2)	06:40		17:52 (1)	06:30	05:37	05:19	05:45	06:33	07:24	18:37 (1)	08:15		17:34 (2)	08:10		14:38 (3)	08:45		12:47 (4)
	17:08	44	15:46 (3)	18:05	27	17:27 (2)	18:55	21	18:13 (1)	20:48	21:36	22:03	21:46	20:51	19:40	22 18:59 (1)	18:33	20	17:54 (2)	16:41	44	15:22 (3)	16:30	42	15:27 (3)
23	08:33		15:03 (3)	07:40		16:59 (2)	06:37		17:52 (1)	06:28	05:36	05:19	05:47	06:35	07:26	18:36 (1)	08:17		17:35 (2)	08:11		14:39 (3)	08:46		12:48 (4)
	17:10	44	15:47 (3)	18:07	29	17:28 (2)	18:56	21	18:13 (1)	20:49	21:37	22:03	21:44	20:48	19:38	24 19:00 (1)	18:30	17	17:52 (2)	16:39	43	15:22 (3)	16:31	41	15:27 (3)
24	08:32		15:03 (3)	07:38		16:59 (2)	06:35		17:54 (1)	06:26	05:35	05:20	05:48	06:37	07:27	18:35 (1)	08:18		17:38 (2)	08:13		14:38 (3)	08:46		12:49 (4)
	17:11	43	15:46 (3)	18:09	30	17:29 (2)	18:58	17	18:11 (1)	20:51	21:39	22:04	21:43	20:46	19:35	24 18:59 (1)	18:28	11	17:49 (2)	16:38	44	15:22 (3)	16:31	41	15:28 (3)
25	08:31		15:04 (3)	07:36		16:58 (2)	06:33		17:55 (1)	06:24	05:33	05:20	05:49	06:38	07:29	18:35 (1)	07:20			08:15		14:39 (3)	08:47		12:50 (4)
	17:13	43	15:47 (3)	18:10	32	17:30 (2)	19:00	14	18:09 (1)	20:53	21:40	22:04	21:42	20:44	19:33	24 18:59 (1)	17:26			16:37	43	15:22 (3)	16:32	40	15:29 (3)
26	08:29		15:05 (3)	07:34		16:57 (2)	06:30		17:58 (1)	06:22	05:32	05:20	05:51	06:40	07:30	18:35 (1)	07:22			08:16		14:40 (3)	08:47		12:51 (4)
	17:15	42	15:47 (3)	18:12	32	17:29 (2)	19:01	8	18:06 (1)	20:54	21:41	22:04	21:40	20:42	19:31	24 18:59 (1)	17:24			16:36	43	15:23 (3)	16:32	39	15:29 (3)
27	08:28		15:05 (3)	07:32		16:57 (2)	06:28			06:20	05:31	05:21	05:52	06:41	07:32	18:35 (1)	07:24			08:18		14:40 (3)	08:47		14:57 (3)
	17:17	42	15:47 (3)	18:14	33	17:30 (2)	19:03			20:56	21:43	22:04	21:39	20:40	19:28	22 18:57 (1)	17:22			16:35	43	15:23 (3)	16:33	33	15:30 (3)
28	08:27		15:06 (3)	07:29		16:57 (2)	06:26			06:17	05:30	05:21	05:54	06:43	07:34	18:35 (1)	07:25			08:19		14:40 (3)	08:47		14:58 (3)
	17:19	41	15:47 (3)	18:16	33	17:30 (2)	19:05			20:58	21:44	22:03	21:37	20:38	19:26	21 18:56 (1)	17:20			16:35	42	15:22 (3)	16:34	33	15:31 (3)
29	08:25		15:06 (3)				07:23			06:16	05:29	05:22	05:55	06:45	07:35	18:36 (1)	07:27			08:21		14:41 (3)	08:48		14:58 (3)
	17:20	40	15:46 (3)				20:07			20:59	21:45	22:03	21:36	20:35	19:24	19 18:55 (1)	17:18			16:34	42	15:23 (3)	16:35	34	15:32 (3)
30	08:24		15:07 (3)				07:21			06:14	05:28	05:23	05:57	06:46	07:37	18:37 (1)	07:29			08:22		14:41 (3)	08:48		14:59 (3)
	17:22	38	15:45 (3)				20:08			21:01	21:46	22:03	21:34	20:33	19:21	16 18:53 (1)	17:17			16:33	41	15:22 (3)	16:36	33	15:32 (3)
31	08:22		15:08 (3)				07:19				05:27		05:58	06:48			07:31						08:48		14:58 (3)
	17:24	38	15:46 (3)				20:10				21:48		21:32	20:31			17:15						16:37	34	15:32 (3)
Potential sun hours	259		277				367		416	485	499	502	454	381			331			266			243		
Total, worst case		1261		494			537								275			570			1048			1157	
Sun reduction		0,24		0,30			0,33								0,36			0,34			0,24			0,20	
Oper. time red.		0,95		0,95			0,95								0,95			0,95			0,95			0,95	
Wind dir. red.		0,69		0,67			0,65								0,63			0,66			0,69			0,69	
Total reduction		0,16		0,19			0,20								0,22			0,21			0,16			0,13	
Total, real		199		96			109								60			121			163			155	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:35/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN149@164Shadow receptor: F - 3998NH4

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	07:52 (3) 06:12	05:26	06:41 (2) 05:23	06:47 (2) 06:00	07:02 (2) 06:50	07:51 (3) 07:39	08:05 (4) 07:33	08:24
	16:38	17:26	18:18	20:12 32	08:24 (3) 21:03	21:49 59	07:40 (2) 22:03 59	07:46 (2) 21:31 39	07:41 (2) 20:29 26	08:17 (3) 19:19 14	08:19 (4) 17:13	16:32
2	08:48	08:19	07:25	07:14	07:52 (3) 06:10	05:25	06:41 (2) 05:24	06:47 (2) 06:01	07:03 (2) 06:51	07:49 (3) 07:41	08:07 (4) 07:35	08:25
	16:39	17:28	18:20	20:14 32	08:24 (3) 21:05	21:50 59	07:40 (2) 22:03 60	07:47 (2) 21:29 36	07:39 (2) 20:26 28	08:17 (3) 19:17 9	08:16 (4) 17:11	16:32
3	08:48	08:18	07:23	07:12	07:52 (3) 06:08	05:25	06:42 (2) 05:25	06:47 (2) 06:03	07:04 (2) 06:53	07:49 (3) 07:42		08:27
	16:40	17:30	18:21	20:15 33	08:25 (3) 21:06	21:51 59	07:41 (2) 22:02 60	07:47 (2) 21:28 34	07:38 (2) 20:24 29	08:18 (3) 19:15		16:31
4	08:47	08:16	07:21	07:10	07:50 (3) 06:06	05:24	06:42 (2) 05:25	06:47 (2) 06:05	07:06 (2) 06:55	07:48 (3) 07:44		08:28
	16:41	17:32	18:23	20:17 34	08:24 (3) 21:08	21:52 59	07:41 (2) 22:02 60	07:47 (2) 21:26 30	07:36 (2) 20:22 31	08:19 (3) 19:12		16:31
5	08:47	08:14	07:19	07:07	07:50 (3) 06:04 07:09 (2)	05:23	06:41 (2) 05:26	06:48 (2) 06:06	07:08 (2) 06:56	07:47 (3) 07:46		08:29
	16:43	17:33	18:25	20:19 33	08:23 (3) 21:10 4	07:13 (2) 21:53 60	07:41 (2) 22:01 59	07:47 (2) 21:24 26	07:34 (2) 20:20 32	08:19 (3) 19:10		16:30
6	08:47	08:13	07:16	07:05	07:50 (3) 06:02	07:02 (2) 05:23	06:42 (2) 05:27	06:48 (2) 06:08	07:10 (2) 06:58	07:47 (3) 07:47		08:31
	16:44	17:35	18:27	20:20 33	08:23 (3) 21:11 17	07:19 (2) 21:54 59	07:41 (2) 22:01 60	07:48 (2) 21:22 21	07:31 (2) 20:17 32	08:19 (3) 19:08		16:30
7	08:46	08:11	07:14	07:03	07:51 (3) 06:01	07:00 (2) 05:22	06:41 (2) 05:28	06:49 (2) 06:09	07:13 (2) 07:00	07:45 (3) 07:49		08:32
	16:45	17:37	18:28	20:22 32	08:23 (3) 21:13 23	07:23 (2) 21:55 60	07:41 (2) 22:00 59	07:48 (2) 21:20 14	07:27 (2) 20:15 34	08:19 (3) 19:05		16:29
8	08:46	08:09	07:12	07:01	07:50 (3) 05:59	06:57 (2) 05:21	06:42 (2) 05:29	06:49 (2) 06:11	07:01	07:46 (3) 07:51		08:33
	16:46	17:39	18:30	20:24 31	08:21 (3) 21:15 28	07:25 (2) 21:56 60	07:42 (2) 21:59 59	07:48 (2) 21:19	20:13 33	08:19 (3) 19:03		16:29
9	08:45	08:08	07:10	06:58	07:51 (3) 05:57	06:55 (2) 05:21	06:43 (2) 05:30	06:48 (2) 06:12	07:03	07:45 (3) 07:52		08:34
	16:48	17:41	18:32	20:26 29	08:20 (3) 21:16 31	07:26 (2) 21:57 59	07:42 (2) 21:59 60	07:48 (2) 21:17	20:10 33	08:18 (3) 19:01		16:29
10	08:45	08:06	07:07	06:56	07:51 (3) 05:55	06:54 (2) 05:21	06:42 (2) 05:31	06:48 (2) 06:14	07:04	07:45 (3) 07:54		08:35
	16:49	17:43	18:34	20:27 28	08:19 (3) 21:18 34	07:28 (2) 21:57 60	07:42 (2) 21:58 60	07:48 (2) 21:15	20:08 33	08:18 (3) 18:59		16:28
11	08:44	08:04	07:05 07:30 (4)	06:54	07:52 (3) 05:54	06:52 (2) 05:20	06:43 (2) 05:32	06:49 (2) 06:16	07:06	07:46 (3) 07:56		08:37
	16:51	17:45	18:36 5 07:35 (4)	20:29 26	08:18 (3) 21:19 37	07:29 (2) 21:58 59	07:42 (2) 21:57 59	07:48 (2) 21:13	20:06 31	08:17 (3) 18:56		16:28
12	08:44	08:02	07:03 07:27 (4)	06:52	07:53 (3) 05:52	06:51 (2) 05:20	06:43 (2) 05:33	06:49 (2) 06:17	07:08	07:45 (3) 07:57		08:38
	16:52	17:46	18:37 12 07:39 (4)	20:31 23	08:16 (3) 21:21 40	07:31 (2) 21:59 60	07:43 (2) 21:56 59	07:48 (2) 21:11	20:03 31	08:16 (3) 18:54		16:28
13	08:43	08:00	07:01 07:24 (4)	06:49	07:54 (3) 05:50	06:49 (2) 05:20	06:43 (2) 05:34	06:49 (2) 06:19	07:09	07:46 (3) 07:59		08:39
	16:54	17:48	18:39 16 07:40 (4)	20:32 19	08:13 (3) 21:23 42	07:31 (2) 22:00 60	07:43 (2) 21:56 59	07:48 (2) 21:09	20:01 29	08:15 (3) 18:52		16:28
14	08:42	07:58	06:58 07:22 (4)	06:47	07:56 (3) 05:49	06:48 (2) 05:19	06:43 (2) 05:35	06:50 (2) 06:20	07:11	07:46 (3) 08:01		08:40
	16:55	17:50	18:41 19 07:41 (4)	20:34 15	08:11 (3) 21:24 44	07:32 (2) 22:00 59	07:42 (2) 21:55 59	07:49 (2) 21:07	19:59 27	08:13 (3) 18:50		16:28
15	08:41	07:56	06:56 07:21 (4)	06:45	07:59 (3) 05:47	06:47 (2) 05:19	06:43 (2) 05:36	06:51 (2) 06:22	07:13	07:48 (3) 08:03		08:40
	16:57	17:52	18:43 21 07:42 (4)	20:36 8	08:07 (3) 21:26 46	07:33 (2) 22:01 60	07:43 (2) 21:54 58	07:49 (2) 21:05	19:56 24	08:12 (3) 18:48		16:28
16	08:41	07:54	06:54 07:20 (4)	06:43	05:46	06:46 (2) 05:19	06:43 (2) 05:38	06:51 (2) 06:24	07:14	07:49 (3) 08:04		08:41
	16:58	17:54	18:44 22 07:42 (4)	20:37	21:27 48	07:34 (2) 22:01 60	07:43 (2) 21:53 58	07:49 (2) 21:03	19:54 20	08:09 (3) 18:45		16:28
17	08:40	07:52	06:51 07:19 (4)	06:41	05:44	06:46 (2) 05:19	06:43 (2) 05:39	06:51 (2) 06:25	07:16	07:51 (3) 08:06		08:42
	17:00	17:56	18:46 23 07:42 (4)	20:39	21:29 49	07:35 (2) 22:02 60	07:43 (2) 21:52 57	07:48 (2) 21:01	19:52 16	08:07 (3) 18:43		16:28
18	08:39	07:50	06:49 07:19 (4)	06:38	05:43	06:44 (2) 05:19	06:44 (2) 05:40	06:51 (2) 06:27	07:17	07:54 (3) 08:08		08:43
	17:01	17:58	18:48 23 07:42 (4)	20:41	21:30 51	07:35 (2) 22:02 59	07:43 (2) 21:51 57	07:48 (2) 20:59	19:49 14	08:18 (4) 18:41		16:29
19	08:38	07:48	06:47 07:18 (4)	06:36	05:41	06:44 (2) 05:19	06:44 (2) 05:41	06:51 (2) 06:29	07:19	08:09 (4) 08:10		08:44
	17:03	17:59	18:50 23 07:41 (4)	20:43	21:32 52	07:36 (2) 22:03 59	07:43 (2) 21:49 57	07:48 (2) 20:57	19:47 12	08:21 (4) 18:39		16:29
20	08:37	07:46	06:44 07:19 (4)	06:34	05:40	06:44 (2) 05:19	06:45 (2) 05:43	06:53 (2) 06:30	07:21	08:07 (4) 08:11		08:44
	17:05	18:01	18:51 22 07:41 (4)	20:44	21:33 53	07:37 (2) 22:03 59	07:44 (2) 21:48 55	07:48 (2) 20:55	19:45 16	08:23 (4) 18:37		16:29
21	08:36	07:44	06:42 07:19 (4)	06:32	05:38	06:44 (2) 05:19	06:45 (2) 05:44	06:53 (2) 06:32	07:22	08:05 (4) 08:13		08:45
	17:06	18:03	18:53 21 07:40 (4)	20:46	21:35 53	07:37 (2) 22:03 60	07:45 (2) 21:47 55	07:48 (2) 20:53	19:42 19	08:24 (4) 18:35		16:30
22	08:34	07:42	06:40 07:19 (4)	06:30	05:37	06:42 (2) 05:19	06:45 (2) 05:45	06:53 (2) 06:33	07:24	08:04 (4) 08:15		08:45
	17:08	18:05	18:55 19 07:38 (4)	20:48	21:36 55	07:37 (2) 22:03 59	07:44 (2) 21:46 54	07:47 (2) 20:51	19:40 21	08:25 (4) 18:33		16:30
23	08:33	07:40	06:37 07:21 (4)	06:28	05:36	06:42 (2) 05:20	06:45 (2) 05:47	06:53 (2) 06:35	07:26	08:04 (4) 08:17		08:46
	17:10	18:07	18:56 16 07:37 (4)	20:49	21:37 55	07:37 (2) 22:03 59	07:44 (2) 21:44 54	07:47 (2) 20:49	19:38 21	08:25 (4) 18:31		16:31
24	08:32	07:38	06:35 07:22 (4)	06:26	05:35	06:42 (2) 05:20	06:46 (2) 05:48	06:55 (2) 06:37	07:27	08:02 (4) 08:18		08:46
	17:12	18:09	18:58 13 07:35 (4)	20:51	21:39 56	07:38 (2) 22:04 59	07:45 (2) 21:43 52	07:47 (2) 20:46	19:35 23	08:25 (4) 18:29		16:31
25	08:31	07:36	06:33 07:07 (3)	06:24	05:33	06:42 (2) 05:20	06:46 (2) 05:50	06:55 (2) 06:38	07:29	08:02 (4) 07:20		08:47
	17:13	18:10	19:00 14 07:31 (4)	20:53	21:40 56	07:38 (2) 22:04 59	07:45 (2) 21:42 51	07:46 (2) 20:44	19:33 23	08:25 (4) 17:26		16:32
26	08:29	07:34	06:30 07:03 (3)	06:22	05:32	06:42 (2) 05:21	06:45 (2) 05:51	06:55 (2) 06:40	07:31	08:02 (4) 07:22		08:47
	17:15	18:12	19:02 15 07:18 (3)	20:54	21:41 57	07:39 (2) 22:04 60	07:45 (2) 21:40 50	07:45 (2) 20:42	19:31 23	08:25 (4) 17:24		16:33
27	08:28	07:32	06:28 07:01 (3)	06:20	05:31	06:41 (2) 05:21	06:46 (2) 05:52	06:57 (2) 06:42	07:32	08:01 (4) 07:24		08:47
	17:17	18:14	19:03 20 07:21 (3)	20:56	21:43 58	07:39 (2) 22:04 60	07:46 (2) 21:39 48	07:45 (2) 20:40	19:28 23	08:24 (4) 17:22		16:33
28	08:27	07:30	06:26 06:58 (3)	06:18	05:30	06:41 (2) 05:22	06:46 (2) 05:54	06:57 (2) 06:43	08:01 (3) 07:34	08:02 (4) 07:26		08:48
	17:19	18:16	19:05 23 07:21 (3)	20:58	21:44 58	07:39 (2) 22:03 60	07:46 (2) 21:37 47	07:44 (2) 20:38 9	08:10 (3) 19:26 21	08:23 (4) 17:21		16:34
29	08:25		07:24 07:56 (3)	06:16	05:29	06:41 (2) 05:22	06:47 (2) 05:55	06:58 (2) 06:45	07:57 (3) 07:36	08:03 (4) 07:27		08:48
	17:21		20:07 27 08:23 (3)	21:00	21:45 58	07:39 (2) 22:03 59	07:46 (2) 21:36 45	07:43 (2) 20:35 15	08:12 (3) 19:24 19	08:22 (4) 17:19		16:35
30	08:24		07:21 07:55 (3)	06:14	05:28	06:42 (2) 05:23	06:46 (2) 05:57	06:59 (2) 06:46	07:55 (3) 07:37	08:03 (4) 07:29		08:48
	17:22		20:08 29 08:24 (3)	21:01	21:47 58	07:40 (2) 22:03 60	07:46 (2) 21:34 43	07:42 (2) 20:33 19	08:14 (3) 19:21 17	08:20 (4) 17:17		16:36
31	08:22		07:19 07:54 (3)		05:27 06:42 (2)		05:58 07:00 (2) 06:48	07:52 (3)		07:31		08:48
	17:24		20:10 30 08:24 (3)		21:48 58 07:40 (2)		21:33 41 07:41 (2) 20:31 23	08:15 (3)		17:15		16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case			413	408	1221	1784	1714	266	741	23		
Sun reduction			0,33	0,42	0,43	0,39	0,41	0,42	0,36	0,34		
Oper. time red.			0,95	0,95	0,95	0,95	0,95	0,95	0,95	0,95		
Wind dir. red.			0,60	0,62	0,65	0,65	0,65	0,64	0,61	0,60		
Total reduction			0,19	0,24	0,26	0,24	0,25	0,25	0,21	0,19		
Total, real			78	100	321	429	429	67	155	4		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:35/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN149@164Shadow receptor: G - 3945LA2a

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December		
1	08:48		14:27 (3)	08:21			07:27		07:17	06:12	05:26	05:23	06:00	06:50		07:39		18:16 (1)	07:33		16:07 (2)	08:24		14:15 (3)
	16:38	41	15:08 (3)	17:26			18:18		20:12	21:03	21:49	22:03	21:31	20:29		19:19	24	18:40 (1)	17:13	26	16:33 (2)	16:32	39	14:54 (3)
2	08:48		14:28 (3)	08:19			07:25		07:14	06:10	05:25	05:24	06:01	06:51		07:40		18:15 (1)	07:34		16:07 (2)	08:25		14:15 (3)
	16:39	41	15:09 (3)	17:28			18:19		20:13	21:05	21:50	22:02	21:29	20:26		19:17	25	18:40 (1)	17:11	24	16:31 (2)	16:32	40	14:55 (3)
3	08:48		14:29 (3)	08:18			07:23		07:12	06:08	05:25	05:25	06:03	06:53		07:42		18:14 (1)	07:36		16:09 (2)	08:27		14:15 (3)
	16:40	41	15:10 (3)	17:30			18:21		20:15	21:06	21:51	22:02	21:27	20:24		19:14	25	18:39 (1)	17:09	20	16:29 (2)	16:31	40	14:55 (3)
4	08:47		14:29 (3)	08:16			07:21	17:45 (1)	07:10	06:06	05:24	05:25	06:04	06:55		07:44		18:15 (1)	07:38		16:11 (2)	08:28		14:16 (3)
	16:41	41	15:10 (3)	17:31			18:23	17:55 (1)	20:17	21:08	21:52	22:02	21:26	20:22		19:12	24	18:39 (1)	17:07	16	16:27 (2)	16:30	40	14:56 (3)
5	08:47		14:29 (3)	08:14			07:18	17:43 (1)	07:07	06:04	05:23	05:26	06:06	06:56		07:45		18:15 (1)	07:40		16:14 (2)	08:29		14:16 (3)
	16:42	41	15:10 (3)	17:33			18:25	17:58 (1)	20:19	21:10	21:53	22:01	21:24	20:20		19:10	23	18:38 (1)	17:06	10	16:24 (2)	16:30	40	14:56 (3)
6	08:47		14:29 (3)	08:13	16:43 (2)		07:16	17:40 (1)	07:05	06:02	05:22	05:27	06:08	06:58		07:47		18:15 (1)	07:42			08:31		14:16 (3)
	16:44	41	15:10 (3)	17:35	16:55 (2)	18:27	17:58 (1)	20:20	21:11	21:54	22:01	21:22	20:17	06:59		19:08	21	18:36 (1)	17:04			16:29	40	14:56 (3)
7	08:46		14:31 (3)	08:11	16:41 (2)	07:14	17:39 (1)	07:03	06:00	05:22	05:28	06:09	06:59			07:49		18:16 (1)	07:44			08:32		14:17 (3)
	16:45	40	15:11 (3)	17:37	16:58 (2)	18:28	18:00 (1)	20:22	21:13	21:55	22:00	21:20	20:15			19:05	19	18:35 (1)	17:02			16:29	40	14:57 (3)
8	08:46		14:31 (3)	08:09	16:40 (2)	07:12	17:38 (1)	07:01	05:59	05:21	05:29	06:11	07:01			07:51		18:17 (1)	07:45			08:33		14:17 (3)
	16:46	40	15:11 (3)	17:39	17:01 (2)	18:30	18:01 (1)	20:24	21:14	21:56	21:59	21:19	20:13			19:03	17	18:34 (1)	17:00			16:29	41	14:58 (3)
9	08:45		14:32 (3)	08:07	16:39 (2)	07:10	17:38 (1)	06:58	05:57	05:21	05:30	06:12	07:03			07:52		18:19 (1)	07:47			08:34		14:17 (3)
	16:48	40	15:12 (3)	17:41	17:02 (2)	18:32	18:02 (1)	20:25	21:16	21:57	21:59	21:17	20:10			19:01	12	18:31 (1)	16:59			16:28	41	14:58 (3)
10	08:45		14:32 (3)	08:06	16:37 (2)	07:07	17:37 (1)	06:56	05:55	05:20	05:31	06:14	07:04			07:54		18:22 (1)	07:49			08:35		14:17 (3)
	16:49	40	15:12 (3)	17:43	17:03 (2)	18:34	18:01 (1)	20:27	21:18	21:57	21:58	21:15	20:08			18:59	5	18:27 (1)	16:57			16:28	41	14:58 (3)
11	08:44		14:33 (3)	08:04	16:37 (2)	07:05	17:37 (1)	06:54	05:53	05:20	05:32	06:15	07:06			07:56			07:51			08:37		14:17 (3)
	16:50	39	15:12 (3)	17:44	17:04 (2)	18:35	18:01 (1)	20:29	21:19	21:58	21:57	21:13	20:06			18:56			16:56			16:28	42	14:59 (3)
12	08:44		14:33 (3)	08:02	16:36 (2)	07:03	17:37 (1)	06:52	05:52	05:20	05:33	06:17	07:08			07:57			07:52			08:38		14:18 (3)
	16:52	39	15:12 (3)	17:46	17:05 (2)	18:37	18:01 (1)	20:31	21:21	21:59	21:56	21:11	20:03			18:54			16:54			16:28	41	14:59 (3)
13	08:43		14:34 (3)	08:00	16:35 (2)	07:00	17:36 (1)	06:49	05:50	05:19	05:34	06:19	07:09			07:59			07:54			08:39		14:18 (3)
	16:53	38	15:12 (3)	17:48	17:06 (2)	18:39	18:00 (1)	20:32	21:22	22:00	21:56	21:09	20:01			18:52			16:52			16:28	41	14:59 (3)
14	08:42		14:35 (3)	07:58	16:35 (2)	06:58	17:37 (1)	06:47	05:49	05:19	05:35	06:20	07:11			08:01		17:18 (2)	07:56			08:40		14:18 (3)
	16:55	37	15:12 (3)	17:50	17:06 (2)	18:41	18:00 (1)	20:34	21:24	22:00	21:55	21:07	19:59			18:50	10	17:28 (2)	16:51			16:28	42	15:00 (3)
15	08:41		14:35 (3)	07:56	16:34 (2)	06:56	17:38 (1)	06:45	05:47	05:19	05:36	06:22	07:12			08:03		17:14 (2)	07:58			08:40		14:19 (3)
	16:56	37	15:12 (3)	17:52	17:07 (2)	18:42	17:59 (1)	20:36	21:26	22:01	21:54	21:05	19:56			18:47	16	17:30 (2)	16:50			16:28	41	15:00 (3)
16	08:41		14:36 (3)	07:54	16:34 (2)	06:54	17:38 (1)	06:43	05:45	05:19	05:37	06:24	07:14			08:04		17:12 (2)	07:59			08:41		14:20 (3)
	16:58	35	15:11 (3)	17:54	17:07 (2)	18:44	17:57 (1)	20:37	21:27	22:01	21:53	21:03	19:54			18:45	20	17:32 (2)	16:48			16:28	41	15:01 (3)
17	08:40		14:37 (3)	07:52	16:34 (2)	06:51	17:40 (1)	06:41	05:44	05:19	05:39	06:25	07:16			08:06		17:10 (2)	08:01		14:26 (3)	08:42		14:20 (3)
	17:00	34	15:11 (3)	17:56	17:07 (2)	18:46	17:56 (1)	20:39	21:29	22:02	21:52	21:01	19:52			18:43	24	17:34 (2)	16:47	12	14:38 (3)	16:28	42	15:02 (3)
18	08:39		14:38 (3)	07:50	16:34 (2)	06:49	17:42 (1)	06:38	05:43	05:19	05:40	06:27	07:17			08:08		17:08 (2)	08:03		14:22 (3)	08:43		14:21 (3)
	17:01	33	15:11 (3)	17:58	17:07 (2)	18:48	17:53 (1)	20:41	21:30	22:02	21:50	20:59	19:49			18:41	27	17:35 (2)	16:45	18	14:40 (3)	16:28	41	15:02 (3)
19	08:38		14:40 (3)	07:48	16:35 (2)	06:47		06:36	05:41	05:19	05:41	06:28	07:19			08:10		17:07 (2)	08:05		14:20 (3)	08:44		14:21 (3)
	17:03	31	15:11 (3)	17:59	17:07 (2)	18:49		20:43	21:32	22:02	21:49	20:57	19:47			18:39	29	17:36 (2)	16:44	22	14:42 (3)	16:29	41	15:02 (3)
20	08:37		14:41 (3)	07:46	16:34 (2)	06:44		06:34	05:40	05:19	05:43	06:30	07:21			08:11		17:06 (2)	08:06		14:19 (3)	08:44		14:22 (3)
	17:05	30	15:11 (3)	18:01	17:06 (2)	18:51		20:44	21:33	22:03	21:48	20:55	19:45			18:37	30	17:36 (2)	16:43	25	14:44 (3)	16:29	41	15:03 (3)
21	08:36		14:43 (3)	07:44	16:35 (2)	06:42		06:32	05:38	05:19	05:44	06:32	07:22			08:13		17:05 (2)	08:08		14:18 (3)	08:45		14:23 (3)
	17:06	27	15:10 (3)	18:03	17:05 (2)	18:53		20:46	21:35	22:03	21:47	20:53	19:42			18:35	31	17:36 (2)	16:42	27	14:45 (3)	16:30	41	15:04 (3)
22	08:34		14:44 (3)	07:42	16:35 (2)	06:40		06:30	05:37	05:19	05:45	06:33	07:24			08:15		17:04 (2)	08:10		14:17 (3)	08:45		14:23 (3)
	17:08	25	15:09 (3)	18:05	17:05 (2)	18:55		20:48	21:36	22:03	21:46	20:51	19:40			18:33	32	17:36 (2)	16:41	30	14:47 (3)	16:30	41	15:04 (3)
23	08:33		14:46 (3)	07:40	16:36 (2)	06:37		06:28	05:36	05:19	05:47	06:35	07:26			08:17		17:04 (2)	08:11		14:17 (3)	08:46		14:23 (3)
	17:10	22	15:08 (3)	18:07	17:04 (2)	18:56		20:49	21:37	22:03	21:44	20:48	19:38			18:30	33	17:37 (2)	16:39	31	14:48 (3)	16:31	41	15:04 (3)
24	08:32		14:48 (3)	07:38	16:38 (2)	06:35		06:26	05:35	05:20	05:48	06:37	07:27			08:18		17:04 (2)	08:13		14:16 (3)	08:46		14:24 (3)
	17:11	18	15:06 (3)	18:09	17:03 (2)	18:58		20:51	21:39	22:04	21:43	20:46	19:35			18:28	33	17:37 (2)	16:38	32	14:48 (3)	16:31	41	15:05 (3)
25	08:31		14:52 (3)	07:36	16:39 (2)	06:33		06:24	05:33	05:20	05:49	06:38	07:29	18:26 (1)		07:20		16:04 (2)	08:15		14:15 (3)	08:47		14:24 (3)
	17:13	12	15:04 (3)	18:10	17:02 (2)	19:00		20:53	21:40	22:04	21:42	20:44	19:33	9	18:35 (1)	17:26	33	16:37 (2)	16:37	34	14:49 (3)	16:32	41	15:05 (3)
26	08:29			07:34	16:40 (2)	06:30		06:22	05:32	05:20	05:51	06:40	07:30		18:23 (1)	07:22		16:04 (2)	08:16		14:15 (3)	08:47		14:24 (3)
	17:15			18:12	16:59 (2)	19:01		20:54	21:41	22:04	21:40	20:42	19:31	15	18:38 (1)	17:24	32	16:36 (2)	16:36	36	14:51 (3)	16:32	42	15:06 (3)
27	08:28			07:32	16:43 (2)	06:28		06:20	05:31	05:21	05:52	06:41	07:32		18:20 (1)	07:24		16:04 (2)	08:18		14:15 (3)	08:47		14:24 (3)
	17:17			18:14	16:57 (2)	19:03		20:56	21:43	22:04	21:39	20:40	19:28	18	18:38 (1)	17:22	32	16:36 (2)	16:35	37	14:52 (3)	16:33	42	15:06 (3)
28	08:27			07:29	16:48 (2)	06:26		06:17	05:30	05:21	05:54	06:43	07:34		18:19 (1)	07:25		16:04 (2)	08:19		14:15 (3)	08:47		14:26 (3)
	17:19			18:16	4 16:52 (2)	19:05		20:58	21:44	22:03	21:37	20:38	19:26	20	18:39 (1)	17:20	32	16:36 (2)	16:35	37	14:52 (3)	16:34	41	15:07 (3)
29	08:25					07:23		06:16	05:29	05:22	05:55	06:45	07:35		18:18 (1)	07:27		16:05 (2)	08:21		14:15 (3)	08:48		14:26 (3)
	17:20					20:07		20:59	21:45	22:03	21:36	20:35	19:24	22	18:40 (1)	17:18	30	16:35 (2)	16:34	38	14:53 (3)	16:35	42	15:08 (3)
30	08:24					07:21		06:14	05:28	05:23	05:57	06:46	07:37		18:16 (1)	07:29		16:06 (2)	08:22		14:14 (3)	08:48		14:27 (3)
	17:22					20:08		21:01	21:46	22:03	21:34	20:33	19:21	24	18:40 (1)	17:17	29	16:35 (2)	16:33	39	14:53 (3)	16:36	41	15:08 (3)
31	08:22					07:19			05:27		05:58	06:48				07:31		16:06 (2)				08:48		14:26 (3)
	17:24					20:10			21:48		21:32	20:31				17:15	28	16:34 (2)				16:37	42	15:08 (3)
Potential sun hours	259			277		367		416	485	499	502	454	381			331			266			243		
Total, worst case		863			586		297							108			696			514			1270	
Sun reduction		0,24			0,30		0,33							0,36			0,34			0,24			0,20	
Oper. time red.		0,95			0,95		0,95							0,95			0,95			0,95			0,95	
Wind dir. red.		0,70			0,67		0,63							0,63			0,66			0,69			0,70	
Total reduction		0,16			0,19		0,20							0,22			0,21			0,16			0,13	
Total, real		137			114		59							24			148			80			171	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:35/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN149@164Shadow receptor: H - 3998NL146

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	08:10 (4)	06:12	08:00 (4)	05:26	05:23	06:00	06:50	07:56 (4)	07:39	07:33	08:24
	16:38	17:26	18:18	20:12 36	08:46 (4)	21:03 36	08:36 (4)	21:49	22:03	21:31	20:29 56	08:52 (4)	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	08:08 (4)	06:10	08:01 (4)	05:25	05:24	06:01	06:51	07:56 (4)	07:40	07:35	08:25
	16:39	17:28	18:19	20:14 40	08:48 (4)	21:05 33	08:34 (4)	21:50	22:02	21:29	20:26 54	08:50 (4)	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	08:07 (4)	06:08	08:02 (4)	05:25	05:25	06:03	06:53	07:56 (4)	07:42	07:36	08:27
	16:40	17:30	18:21	20:15 42	08:49 (4)	21:06 30	08:32 (4)	21:51	22:02	21:27	20:24 54	08:50 (4)	19:14	17:09	16:31
4	08:47	08:16	07:21	07:10	08:04 (4)	06:06	08:04 (4)	05:24	05:25	06:04	06:55	07:56 (4)	07:44	07:38	08:28
	16:41	17:31	18:23	20:17 45	08:49 (4)	21:08 27	08:31 (4)	21:52	22:02	21:26	20:22 53	08:49 (4)	19:12	17:07	16:31
5	08:47	08:14	07:19	07:07	08:03 (4)	06:04	08:06 (4)	05:23	05:26	06:06	06:56	07:57 (4)	07:46	07:40	08:29
	16:43	17:33	18:25	20:19 47	08:50 (4)	21:10 22	08:28 (4)	21:53	22:01	21:24	20:20 51	08:48 (4)	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	08:02 (4)	06:02	08:08 (4)	05:23	05:27	06:08	08:21 (4)	06:58	07:58 (4)	07:47	07:42	08:31
	16:44	17:35	18:27	20:20 49	08:51 (4)	21:11 17	08:25 (4)	21:54	22:01	21:22 11	08:32 (4)	20:17 49	08:47 (4)	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	08:01 (4)	06:00	08:14 (4)	05:22	05:28	06:09	08:17 (4)	06:59	07:58 (4)	07:49	07:44	08:32
	16:45	17:37	18:28	20:22 51	08:52 (4)	21:13 6	08:20 (4)	21:55	22:00	21:20 18	08:35 (4)	20:15 47	08:45 (4)	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	07:59 (4)	05:59		05:21	05:29	06:11	08:15 (4)	07:01	07:59 (4)	07:51	07:45	08:33
	16:46	17:39	18:30	20:24 52	08:51 (4)	21:14		21:56	21:59	21:19 24	08:39 (4)	20:13 45	08:44 (4)	19:03	17:00	16:29
9	08:45	08:07	07:10	06:58	07:58 (4)	05:57		05:21	05:30	06:12	08:12 (4)	07:03	08:00 (4)	07:52	07:47	08:34
	16:48	17:41	18:32	20:25 54	08:52 (4)	21:16		21:57	21:59	21:17 28	08:40 (4)	20:10 42	08:42 (4)	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	07:58 (4)	05:55		05:21	05:31	06:14	08:11 (4)	07:04	08:01 (4)	07:54	07:49	08:35
	16:49	17:43	18:34	20:27 54	08:52 (4)	21:18		21:57	21:58	21:15 31	08:42 (4)	20:08 40	08:41 (4)	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	07:57 (4)	05:54		05:20	05:32	06:16	08:09 (4)	07:06	08:02 (4)	07:56	07:51	08:37
	16:51	17:45	18:36	20:29 56	08:53 (4)	21:19		21:58	21:57	21:13 34	08:43 (4)	20:06 36	08:38 (4)	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	07:56 (4)	05:52		05:20	05:33	06:17	08:08 (4)	07:08	08:04 (4)	07:57	07:52	08:38
	16:52	17:46	18:37	20:31 56	08:52 (4)	21:21		21:59	21:56	21:11 37	08:45 (4)	20:03 32	08:36 (4)	18:54	16:54	16:28
13	08:43	08:00	07:00	06:49	07:55 (4)	05:50		05:20	05:34	06:19	08:06 (4)	07:09	08:07 (4)	07:59	07:54	08:39
	16:53	17:48	18:39	20:32 57	08:52 (4)	21:22		22:00	21:56	21:09 40	08:46 (4)	20:01 27	08:34 (4)	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	07:55 (4)	05:49		05:19	05:35	06:20	08:05 (4)	07:11	08:09 (4)	08:01	07:56	08:40
	16:55	17:50	18:41	20:34 57	08:52 (4)	21:24		22:00	21:55	21:07 43	08:48 (4)	19:59 21	08:30 (4)	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	07:55 (4)	05:47		05:19	05:36	06:22	08:05 (4)	07:12	08:14 (4)	08:03	07:58	08:40
	16:57	17:52	18:43	20:36 57	08:52 (4)	21:26		22:01	21:54	21:05 44	08:49 (4)	19:56 11	08:25 (4)	18:47	16:50	16:28
16	08:41	07:54	06:54	06:43	07:54 (4)	05:46		05:19	05:38	06:24	08:03 (4)	07:14		08:04	07:59	08:41
	16:58	17:54	18:44	20:37 58	08:52 (4)	21:27		22:01	21:53	21:03 47	08:50 (4)	19:54		18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	07:54 (4)	05:44		05:19	05:39	06:25	08:03 (4)	07:16		08:06	08:01	08:42
	17:00	17:56	18:46	20:39 57	08:51 (4)	21:29		22:02	21:52	21:01 48	08:51 (4)	19:52		18:43	16:47	16:28
18	08:39	07:50	06:49	06:38	07:54 (4)	05:43		05:19	05:40	06:27	08:01 (4)	07:17		08:08	08:03	08:43
	17:01	17:58	18:48	20:41 57	08:51 (4)	21:30		22:02	21:50	20:59 50	08:51 (4)	19:49		18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	07:54 (4)	05:41		05:19	05:41	06:28	08:01 (4)	07:19		08:10	08:05	08:44
	17:03	17:59	18:49	20:43 56	08:50 (4)	21:32		22:02	21:49	20:57 51	08:52 (4)	19:47		18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	07:53 (4)	05:40		05:19	05:43	06:30	07:59 (4)	07:21		08:11	08:06	08:44
	17:05	18:01	18:51	20:44 56	08:49 (4)	21:33		22:03	21:48	20:55 53	08:52 (4)	19:45		18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	07:53 (4)	05:38		05:19	05:44	06:32	07:59 (4)	07:22		08:13	08:08	08:45
	17:06	18:03	18:53	20:46 55	08:48 (4)	21:35		22:03	21:47	20:53 54	08:53 (4)	19:42		18:35	16:42	16:30
22	08:34	07:42	06:40	06:30	07:54 (4)	05:37		05:19	05:45	06:33	07:58 (4)	07:24		08:15	08:10	08:45
	17:08	18:05	18:55	20:48 53	08:47 (4)	21:36		22:03	21:46	20:51 55	08:53 (4)	19:40		18:33	16:41	16:30
23	08:33	07:40	06:37	06:28	07:54 (4)	05:36		05:20	05:47	06:35	07:58 (4)	07:26		08:17	08:11	08:46
	17:10	18:07	18:56	20:49 52	08:46 (4)	21:37		22:03	21:44	20:48 56	08:54 (4)	19:38		18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	07:54 (4)	05:35		05:20	05:48	06:37	07:57 (4)	07:27		08:18	08:13	08:46
	17:12	18:09	18:58	20:51 51	08:45 (4)	21:39		22:04	21:43	20:46 56	08:53 (4)	19:35		18:28	16:38	16:31
25	08:31	07:36	06:33	06:24	07:55 (4)	05:33		05:20	05:49	06:38	07:57 (4)	07:29		07:20	08:15	08:47
	17:13	18:10	19:00	20:53 49	08:44 (4)	21:40		22:04	21:42	20:44 57	08:54 (4)	19:33		17:26	16:37	16:32
26	08:29	07:34	06:30	06:22	07:55 (4)	05:32		05:21	05:51	06:40	07:56 (4)	07:30		07:22	08:16	08:47
	17:15	18:12	19:02	20:54 48	08:43 (4)	21:41		22:04	21:40	20:42 57	08:53 (4)	19:31		17:24	16:36	16:33
27	08:28	07:32	06:28	06:20	07:57 (4)	05:31		05:21	05:52	06:42	07:56 (4)	07:32		07:24	08:18	08:47
	17:17	18:14	19:03	20:56 46	08:43 (4)	21:43		22:04	21:39	20:40 57	08:53 (4)	19:28		17:22	16:36	16:33
28	08:27	07:29	06:26 07:26 (4)	06:18	07:57 (4)	05:30		05:22	05:54	06:43	07:56 (4)	07:34		07:26	08:19	08:47
	17:19	18:16	19:05 7 07:33 (4)	20:58 44	08:41 (4)	21:44		22:03	21:37	20:38 58	08:54 (4)	19:26		17:20	16:35	16:34
29	08:25		07:23 08:19 (4)	06:16	07:58 (4)	05:29		05:22	05:55	06:45	07:56 (4)	07:35		07:27	08:21	08:48
	17:20		20:07 20 08:39 (4)	20:59 42	08:40 (4)	21:45		22:03	21:36	20:35 57	08:53 (4)	19:24		17:19	16:34	16:35
30	08:24		07:21 08:16 (4)	06:14	07:59 (4)	05:28		05:23	05:57	06:46	07:56 (4)	07:37		07:29	08:22	08:48
	17:22		20:08 26 08:42 (4)	21:01 39	08:38 (4)	21:46		22:03	21:34	20:33 57	08:53 (4)	19:21		17:17	16:33	16:36
31	08:22		07:19 08:13 (4)			05:27			05:58	06:48	07:55 (4)			07:31		08:48
	17:24		20:10 31 08:44 (4)			21:48			21:32	20:31 57	08:52 (4)			17:15		16:37
Potential sun hours	259	277	367	416	485		499	502	454		381		331	266	243
Total, worst case			84	1516	171				1180		618				
Sun reduction			0,33	0,42	0,43				0,42		0,36				
Oper. time red.			0,95	0,95	0,95				0,95		0,95				
Wind dir. red.			0,62	0,62	0,62				0,62		0,62				
Total reduction			0,19	0,24	0,25				0,24		0,21				
Total, real			16	369	43				286		130				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:35/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN149@164Shadow receptor: I - 3998JD88

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May		June		July		August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12		05:26		05:23		06:11 (1)	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03		21:49	26	06:31 (1)	22:03	25	06:36 (1)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10		05:26		06:04 (1)	05:24		06:11 (1)	06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05		21:50	27	06:31 (1)	22:03	26	06:37 (1)	21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08		05:25		06:05 (1)	05:25		06:12 (1)	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06		21:51	27	06:32 (1)	22:02	26	06:38 (1)	21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06		05:24		06:05 (1)	05:26		06:11 (1)	06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08		21:52	26	06:31 (1)	22:02	26	06:37 (1)	21:26	20:22	19:12	17:07	16:31
5	08:47	08:14	07:19	07:08	06:04		05:23		06:06 (1)	05:26		06:11 (1)	06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10		21:53	26	06:32 (1)	22:01	27	06:38 (1)	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02		05:23		06:05 (1)	05:27		06:12 (1)	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11		21:54	27	06:32 (1)	22:01	26	06:38 (1)	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01		05:22		06:06 (1)	05:28		06:12 (1)	06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13		21:55	26	06:32 (1)	22:00	26	06:38 (1)	21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59		05:22		06:06 (1)	05:29		06:12 (1)	06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15		21:56	26	06:32 (1)	22:00	27	06:39 (1)	21:19	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57		05:21		06:06 (1)	05:30		06:12 (1)	06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16		21:57	26	06:32 (1)	21:59	27	06:39 (1)	21:17	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55		05:21		06:06 (1)	05:31		06:12 (1)	06:14	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18		21:58	26	06:32 (1)	21:58	26	06:38 (1)	21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54		05:20		06:07 (1)	05:32		06:12 (1)	06:16	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19		21:58	25	06:32 (1)	21:57	26	06:38 (1)	21:13	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52		05:20		06:07 (1)	05:33		06:12 (1)	06:17	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21		21:59	26	06:33 (1)	21:57	26	06:38 (1)	21:11	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50		05:20		06:07 (1)	05:34		06:13 (1)	06:19	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23		22:00	26	06:33 (1)	21:56	26	06:39 (1)	21:09	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49		05:19		06:08 (1)	05:35		06:14 (1)	06:21	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24		22:00	25	06:33 (1)	21:55	25	06:39 (1)	21:07	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47		05:19		06:07 (1)	05:36		06:14 (1)	06:22	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26		22:01	26	06:33 (1)	21:54	25	06:39 (1)	21:05	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46		05:19		06:08 (1)	05:38		06:14 (1)	06:24	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27		22:01	25	06:33 (1)	21:53	25	06:39 (1)	21:03	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44		05:19		06:08 (1)	05:39		06:14 (1)	06:25	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29		22:02	25	06:33 (1)	21:52	25	06:39 (1)	21:01	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43	06:12 (1)	05:19		06:08 (1)	05:40		06:15 (1)	06:27	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30	9 06:21 (1)	22:02	25	06:33 (1)	21:51	23	06:38 (1)	20:59	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41	06:10 (1)	05:19		06:09 (1)	05:41		06:15 (1)	06:29	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32	13 06:23 (1)	22:03	25	06:34 (1)	21:49	23	06:38 (1)	20:57	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40	06:09 (1)	05:19		06:09 (1)	05:43		06:16 (1)	06:30	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33	16 06:25 (1)	22:03	25	06:34 (1)	21:48	22	06:38 (1)	20:55	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	05:39	06:08 (1)	05:19		06:09 (1)	05:44		06:17 (1)	06:32	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:35	18 06:26 (1)	22:03	25	06:34 (1)	21:47	20	06:37 (1)	20:53	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	05:37	06:07 (1)	05:19		06:09 (1)	05:45		06:17 (1)	06:34	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36	19 06:26 (1)	22:03	25	06:34 (1)	21:46	19	06:36 (1)	20:51	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	05:36	06:06 (1)	05:20		06:09 (1)	05:47		06:18 (1)	06:35	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	21:37	21 06:27 (1)	22:04	25	06:34 (1)	21:44	17	06:35 (1)	20:49	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35	06:06 (1)	05:20		06:10 (1)	05:48		06:20 (1)	06:37	07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	21:39	22 06:28 (1)	22:04	25	06:35 (1)	21:43	15	06:35 (1)	20:46	19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	05:34	06:05 (1)	05:20		06:10 (1)	05:50		06:21 (1)	06:38	07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	21:40	23 06:28 (1)	22:04	25	06:35 (1)	21:42	12	06:33 (1)	20:44	19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	05:32	06:05 (1)	05:21		06:10 (1)	05:51		06:23 (1)	06:40	07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	21:42	24 06:29 (1)	22:04	25	06:35 (1)	21:40	7	06:30 (1)	20:42	19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	05:31	06:05 (1)	05:21		06:10 (1)	05:52			06:42	07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21:43	24 06:29 (1)	22:04	26	06:36 (1)	21:39			20:40	19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	05:30	06:04 (1)	05:22		06:10 (1)	05:54			06:43	07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	21:44	26 06:30 (1)	22:04	25	06:35 (1)	21:37			20:38	19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	05:29	06:04 (1)	05:22		06:11 (1)	05:55			06:45	07:36	07:27	08:21	08:48
	17:21		20:07	21:00	21:45	26 06:30 (1)	22:03	25	06:36 (1)	21:36			20:36	19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	05:28	06:05 (1)	05:23		06:11 (1)	05:57			06:47	07:37	07:29	08:22	08:48
	17:22		20:09	21:01	21:47	26 06:31 (1)	22:03	26	06:37 (1)	21:34			20:33	19:22	17:17	16:33	16:36
31	08:22		07:19		05:27	06:05 (1)				05:58			06:48		07:31		08:48
	17:24		20:10		21:48	26 06:31 (1)				21:33			20:31		17:15		16:37
Potential sun hours	259	277	367	416	485		499		502		454	381	331	266	243
Total, worst case						293		768		598					
Sun reduction						0,43		0,39		0,41					
Oper. time red.						0,95		0,95		0,95					
Wind dir. red.						0,67		0,67		0,67					
Total reduction						0,27		0,25		0,26					
Total, real						80		190		155					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:35/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN149@164Shadow receptor: J - 3998NL71

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	08:07 (4)	06:12	05:26	05:23	06:00	06:50	08:04 (4)	07:39	07:33	08:24
	16:38	17:26	18:18	20:12 45	08:52 (4)	21:03	21:49	22:03	21:31	20:29 43	08:47 (4)	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	08:06 (4)	06:10	05:25	05:24	06:01	06:51	08:02 (4)	07:40	07:35	08:25
	16:39	17:28	18:20	20:14 46	08:52 (4)	21:05	21:50	22:02	21:29	20:26 44	08:46 (4)	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	08:06 (4)	06:08	05:25	05:25	06:03	06:53	08:02 (4)	07:42	07:36	08:27
	16:40	17:30	18:21	20:15 46	08:52 (4)	21:06	21:51	22:02	21:27	20:24 45	08:47 (4)	19:14	17:09	16:31
4	08:47	08:16	07:21	07:10	08:05 (4)	06:06	05:24	05:25	06:04	06:55	08:01 (4)	07:44	07:38	08:28
	16:41	17:32	18:23	20:17 46	08:51 (4)	21:08	21:52	22:02	21:26	20:22 46	08:47 (4)	19:12	17:07	16:31
5	08:47	08:14	07:19	07:07	08:05 (4)	06:04	05:23	05:26	06:06	06:56	08:01 (4)	07:46	07:40	08:29
	16:43	17:33	18:25	20:19 46	08:51 (4)	21:10	21:53	22:01	21:24	20:20 46	08:47 (4)	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	08:05 (4)	06:02	05:23	05:27	06:08	06:58	08:01 (4)	07:47	07:42	08:31
	16:44	17:35	18:27	20:20 46	08:51 (4)	21:11	21:54	22:01	21:22	20:17 46	08:47 (4)	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	08:05 (4)	06:00	05:22	05:28	06:09	06:59	08:00 (4)	07:49	07:44	08:32
	16:45	17:37	18:28	20:22 46	08:51 (4)	21:13	21:55	22:00	21:20	20:15 46	08:46 (4)	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	08:04 (4)	05:59	05:21	05:29	06:11	07:01	08:00 (4)	07:51	07:45	08:33
	16:46	17:39	18:30	20:24 46	08:50 (4)	21:14	21:56	21:59	21:19	20:13 47	08:47 (4)	19:03	17:00	16:29
9	08:45	08:07	07:10	06:58	08:04 (4)	05:57	05:21	05:30	06:12	07:03	07:59 (4)	07:52	07:47	08:34
	16:48	17:41	18:32	20:25 45	08:49 (4)	21:16	21:57	21:59	21:17	20:10 47	08:46 (4)	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	08:04 (4)	05:55	05:21	05:31	06:14	07:04	08:00 (4)	07:54	07:49	08:35
	16:49	17:43	18:34	20:27 44	08:48 (4)	21:18	21:57	21:58	21:15	20:08 45	08:45 (4)	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	08:05 (4)	05:54	05:20	05:32	06:16	07:06	07:59 (4)	07:56	07:51	08:37
	16:51	17:45	18:36	20:29 43	08:48 (4)	21:19	21:58	21:57	21:13	20:06 45	08:44 (4)	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	08:04 (4)	05:52	05:20	05:33	06:17	07:08	08:00 (4)	07:57	07:52	08:38
	16:52	17:46	18:37	20:31 42	08:46 (4)	21:21	21:59	21:56	21:11	20:03 44	08:44 (4)	18:54	16:54	16:28
13	08:43	08:00	07:00	06:49	08:05 (4)	05:50	05:20	05:34	06:19	07:09	08:00 (4)	07:59	07:54	08:39
	16:53	17:48	18:39	20:32 40	08:45 (4)	21:22	22:00	21:56	21:09	20:01 43	08:43 (4)	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	08:06 (4)	05:49	05:19	05:35	06:20	07:11	08:00 (4)	08:01	07:56	08:40
	16:55	17:50	18:41	20:34 37	08:43 (4)	21:24	22:00	21:55	21:07	19:59 41	08:41 (4)	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	08:07 (4)	05:47	05:19	05:36	06:22	07:12	08:01 (4)	08:03	07:58	08:40
	16:57	17:52	18:43	20:36 35	08:42 (4)	21:26	22:01	21:54	21:05	19:56 39	08:40 (4)	18:47	16:50	16:28
16	08:41	07:54	06:54	06:43	08:08 (4)	05:46	05:19	05:38	06:24	07:14	08:02 (4)	08:04	08:00	08:41
	16:58	17:54	18:44	20:37 32	08:40 (4)	21:27	22:01	21:53	21:03	19:54 36	08:38 (4)	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	08:09 (4)	05:44	05:19	05:39	06:25	07:16	08:03 (4)	08:06	08:01	08:42
	17:00	17:56	18:46	20:39 29	08:38 (4)	21:29	22:02	21:52	21:01	19:52 34	08:37 (4)	18:43	16:47	16:28
18	08:39	07:50	06:49	06:38	08:11 (4)	05:43	05:19	05:40	06:27	07:17	08:05 (4)	08:08	08:03	08:43
	17:01	17:58	18:48	20:41 25	08:36 (4)	21:30	22:02	21:50	20:59	19:49 31	08:36 (4)	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	08:13 (4)	05:41	05:19	05:41	06:29	07:19	08:06 (4)	08:10	08:05	08:44
	17:03	17:59	18:49	20:43 21	08:34 (4)	21:32	22:02	21:49	20:57	19:47 27	08:33 (4)	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	08:14 (4)	05:40	05:19	05:43	06:30	07:21	08:08 (4)	08:11	08:06	08:44
	17:05	18:01	18:51	20:44 16	08:30 (4)	21:33	22:03	21:48	20:55	19:45 23	08:31 (4)	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32		05:38	05:19	05:44	06:32	07:22	08:11 (4)	08:13	08:08	08:45
	17:06	18:03	18:53	20:46		21:35	22:03	21:47	20:53	19:42 15	08:26 (4)	18:35	16:42	16:30
22	08:34	07:42	06:40	07:26 (4)	06:30	05:37	05:19	05:45	06:33	08:24 (4)	07:24	08:15	08:10	08:45
	17:08	18:05	18:55 14	07:40 (4)	20:48	21:36	22:03	21:46	20:51 5	08:29 (4)	19:40	18:33	16:41	16:30
23	08:33	07:40	06:37	07:22 (4)	06:28	05:36	05:20	05:47	06:35	08:19 (4)	07:26	08:17	08:11	08:46
	17:10	18:07	18:56 21	07:43 (4)	20:49	21:37	22:03	21:44	20:48 16	08:35 (4)	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	07:20 (4)	06:26	05:35	05:20	05:48	06:37	08:15 (4)	07:27	08:18	08:13	08:46
	17:12	18:09	18:58 26	07:46 (4)	20:51	21:39	22:04	21:43	20:46 22	08:37 (4)	19:35	18:28	16:38	16:31
25	08:31	07:36	06:33	07:17 (4)	06:24	05:33	05:20	05:49	06:38	08:13 (4)	07:29	07:20	08:15	08:47
	17:13	18:10	19:00 30	07:47 (4)	20:53	21:40	22:04	21:42	20:44 26	08:39 (4)	19:33	17:26	16:37	16:32
26	08:29	07:34	06:30	07:15 (4)	06:22	05:32	05:21	05:51	06:40	08:11 (4)	07:31	07:22	08:16	08:47
	17:15	18:12	19:02 34	07:49 (4)	20:54	21:41	22:04	21:40	20:42 29	08:40 (4)	19:31	17:24	16:36	16:33
27	08:28	07:32	06:28	07:14 (4)	06:20	05:31	05:21	05:52	06:42	08:10 (4)	07:32	07:24	08:18	08:47
	17:17	18:14	19:03 36	07:50 (4)	20:56	21:43	22:04	21:39	20:40 32	08:42 (4)	19:28	17:22	16:36	16:33
28	08:27	07:29	06:26	07:11 (4)	06:18	05:30	05:22	05:54	06:43	08:09 (4)	07:34	07:26	08:19	08:47
	17:19	18:16	19:05 39	07:50 (4)	20:58	21:44	22:03	21:37	20:38 35	08:44 (4)	19:26	17:20	16:35	16:34
29	08:25		07:24	08:10 (4)	06:16	05:29	05:22	05:55	06:45	08:07 (4)	07:35	07:27	08:21	08:48
	17:20		20:07 41	08:51 (4)	20:59	21:45	22:03	21:36	20:35 37	08:44 (4)	19:24	17:19	16:34	16:35
30	08:24		07:21	08:09 (4)	06:14	05:28	05:23	05:57	06:46	08:06 (4)	07:37	07:29	08:22	08:48
	17:22		20:08 43	08:52 (4)	21:01	21:46	22:03	21:34	20:33 40	08:46 (4)	19:21	17:17	16:33	16:36
31	08:22		07:19	08:08 (4)		05:27		05:58	06:48	08:04 (4)		07:31		08:48
	17:24		20:10 43	08:51 (4)		21:48		21:32	20:31 42	08:46 (4)		17:15		16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case			327	776				284	833			
Sun reduction			0,33	0,42				0,42	0,36			
Oper. time red.			0,95	0,95				0,95	0,95			
Wind dir. red.			0,61	0,61				0,61	0,61			
Total reduction			0,19	0,24				0,24	0,21			
Total, real			62	187				68	174			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:35/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN149@164Shadow receptor: K - 3998JD91

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	05:26	06:01 (1) | 05:23	06:06 (1) | 06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03	21:49 25	06:26 (1) | 22:03 27	06:33 (1) | 21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	05:26	06:01 (1) | 05:24	06:07 (1) | 06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05	21:50 25	06:26 (1) | 22:03 26	06:33 (1) | 21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08	05:25	06:01 (1) | 05:25	06:07 (1) | 06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06	21:51 26	06:27 (1) | 22:02 27	06:34 (1) | 21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06	05:24	06:01 (1) | 05:26	06:07 (1) | 06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08	21:52 26	06:27 (1) | 22:02 26	06:33 (1) | 21:26	20:22	19:12	17:07	16:31
5	08:47	08:14	07:19	07:08	06:04	05:23	06:02 (1) | 05:26	06:07 (1) | 06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10	21:53 26	06:28 (1) | 22:01 27	06:34 (1) | 21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02	05:23	06:01 (1) | 05:27	06:08 (1) | 06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11	21:54 27	06:28 (1) | 22:01 26	06:34 (1) | 21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01	05:22	06:02 (1) | 05:28	06:08 (1) | 06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13	21:55 26	06:28 (1) | 22:00 26	06:34 (1) | 21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59	05:22	06:01 (1) | 05:29	06:08 (1) | 06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15	21:56 27	06:28 (1) | 22:00 26	06:34 (1) | 21:19	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57	05:21	06:02 (1) | 05:30	06:09 (1) | 06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16	21:57 27	06:29 (1) | 21:59 26	06:35 (1) | 21:17	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55	05:21	06:02 (1) | 05:31	06:08 (1) | 06:14	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18	21:58 26	06:28 (1) | 21:58 26	06:34 (1) | 21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54	05:20	06:02 (1) | 05:32	06:08 (1) | 06:16	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19	21:58 27	06:29 (1) | 21:57 26	06:34 (1) | 21:13	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52	05:20	06:02 (1) | 05:33	06:09 (1) | 06:17	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21	21:59 27	06:29 (1) | 21:57 25	06:34 (1) | 21:11	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50	05:20	06:03 (1) | 05:34	06:10 (1) | 06:19	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23	22:00 26	06:29 (1) | 21:56 24	06:34 (1) | 21:09	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49	05:19	06:03 (1) | 05:35	06:11 (1) | 06:21	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24	22:00 27	06:30 (1) | 21:55 23	06:34 (1) | 21:07	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47	05:19	06:03 (1) | 05:36	06:11 (1) | 06:22	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26	22:01 26	06:29 (1) | 21:54 23	06:34 (1) | 21:05	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46	05:19	06:03 (1) | 05:38	06:11 (1) | 06:24	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27	22:01 26	06:29 (1) | 21:53 22	06:33 (1) | 21:03	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44	05:19	06:03 (1) | 05:39	06:12 (1) | 06:25	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29	22:02 27	06:30 (1) | 21:52 21	06:33 (1) | 21:01	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43	05:19	06:03 (1) | 05:40	06:13 (1) | 06:27	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30	22:02 27	06:30 (1) | 21:51 19	06:32 (1) | 20:59	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41	05:19	06:04 (1) | 05:41	06:13 (1) | 06:29	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32	22:03 27	06:31 (1) | 21:49 18	06:31 (1) | 20:57	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40	05:19	06:04 (1) | 05:43	06:15 (1) | 06:30	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33	22:03 27	06:31 (1) | 21:48 16	06:31 (1) | 20:55	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	05:39 06:09 (1)	05:19	06:04 (1) | 05:44	06:16 (1) | 06:32	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:35 8 06:17 (1)	22:03 27	06:31 (1) | 21:47 14	06:30 (1) | 20:53	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	05:37 06:06 (1)	05:19	06:04 (1) | 05:45	06:18 (1) | 06:34	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36 13 06:19 (1)	22:03 27	06:31 (1) | 21:46 10	06:28 (1) | 20:51	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	05:36 06:05 (1)	05:20	06:04 (1) | 05:47	06:20 (1) | 06:35	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	21:37 15 06:20 (1)	22:04 27	06:31 (1) | 21:44 6	06:26 (1) | 20:49	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35 06:04 (1)	05:20	06:05 (1) | 05:48	06:37	07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	21:39 17 06:21 (1)	22:04 27	06:32 (1) | 21:43	20:46	19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	05:34 06:03 (1)	05:20	06:05 (1) | 05:50	06:38	07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	21:40 19 06:22 (1)	22:04 27	06:32 (1) | 21:42	20:44	19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	05:32 06:03 (1)	05:21	06:05 (1) | 05:51	06:40	07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	21:42 20 06:23 (1)	22:04 26	06:31 (1) | 21:40	20:42	19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	05:31 06:02 (1)	05:21	06:06 (1) | 05:52	06:42	07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21:43 22 06:24 (1)	22:04 26	06:32 (1) | 21:39	20:40	19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	05:30 06:02 (1)	05:22	06:05 (1) | 05:54	06:43	07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	21:44 22 06:24 (1)	22:04 27	06:32 (1) | 21:37	20:38	19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	05:29 06:01 (1)	05:22	06:06 (1) | 05:55	06:45	07:36	07:27	08:21	08:48
	17:21		20:07	21:00	21:45 24 06:25 (1)	22:03 27	06:33 (1) | 21:36	20:36	19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	05:28 06:02 (1)	05:23	06:07 (1) | 05:57	06:47	07:37	07:29	08:22	08:48
	17:22		20:09	21:01	21:47 24 06:26 (1)	22:03 26	06:33 (1) | 21:34	20:33	19:22	17:17	16:33	16:36
31	08:22		07:19		05:27 06:02 (1)		05:58	06:48		07:31		08:48
	17:24		20:10		21:48 24 06:26 (1)		21:33	20:31		17:15		16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case					208	795	510					
Sun reduction					0,43	0,39	0,41					
Oper. time red.					0,95	0,95	0,95					
Wind dir. red.					0,67	0,67	0,67					
Total reduction					0,27	0,25	0,26					
Total, real					57	198	132					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:35/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN149@164Shadow receptor: L - 3997MP25a

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April		May	June	July	August	September		October		November		December	
1	08:48		09:53 (3)		08:21		09:21 (4)		07:27		16:30 (1)		07:17		17:21 (1)		06:12	05:26	05:23	06:00	06:50		07:39		16:55 (1)		07:33		11:45 (2)		08:24		09:02 (4)
	16:38	107	13:15 (2)	140	13:30 (2)		18:18	38	17:08 (1)	46	20:12		18:07 (1)		21:03		21:49	22:03	21:31		20:29		19:19	64	17:59 (1)		17:13	73	12:58 (2)		16:32	134	13:04 (2)
2	08:48		09:53 (3)		08:19		09:22 (4)		07:25		16:28 (1)		07:14		17:23 (1)		06:10	05:25	05:24	06:01	06:51		07:40		16:55 (1)		07:35		11:44 (2)		08:25		09:04 (4)
	16:39	108	13:16 (2)	137	13:30 (2)		18:20	43	17:11 (1)	43	20:14		18:06 (1)		21:05		21:50	22:03	21:29		20:26		19:17	63	17:58 (1)		17:11	75	12:59 (2)		16:32	130	13:04 (2)
3	08:48		09:53 (3)		08:18		09:24 (4)		07:23		16:26 (1)		07:12		17:25 (1)		06:08	05:25	05:25	06:03	06:53		07:42		16:55 (1)		07:36		09:46 (3)		08:27		09:05 (4)
	16:40	110	13:17 (2)	133	13:31 (2)		18:21	46	17:12 (1)	39	20:15		18:04 (1)		21:06		21:51	22:02	21:28		20:24		19:14	62	17:57 (1)		17:09	85	12:59 (2)		16:31	127	13:04 (2)
4	08:47		09:53 (3)		08:16		09:25 (4)		07:21		16:24 (1)		07:10		17:27 (1)		06:06	05:24	05:25	06:04	06:55		07:44		16:55 (1)		07:38		09:41 (3)		08:28		09:08 (4)
	16:41	110	13:17 (2)	131	13:30 (2)		18:23	49	17:13 (1)	34	20:17		18:01 (1)		21:08		21:52	22:02	21:26		20:22		19:12	61	17:56 (1)		17:07	95	12:59 (2)		16:30	122	13:05 (2)
5	08:47		09:54 (3)		08:14		09:27 (4)		07:19		16:23 (1)		07:07		17:29 (1)		06:04	05:23	05:26	06:06	06:56		17:34 (1)		07:46		16:56 (1)		07:40		09:00 (4)		08:29		09:39 (3)
	16:43	111	13:18 (2)	117	13:30 (2)		18:25	52	17:15 (1)	30	20:19		17:59 (1)		21:10		21:53	22:01	21:24		20:20	13	17:47 (1)		19:10	59	17:55 (1)		17:06	106	12:59 (2)		16:30	113	13:04 (2)
6	08:47		09:53 (3)		08:13		09:31 (4)		07:16		16:22 (1)		07:05		17:33 (1)		06:02	05:23	05:27	06:08	06:58		17:29 (1)		07:47		16:57 (1)		07:42		08:57 (4)		08:31		09:39 (3)
	16:44	112	13:18 (2)	105	13:30 (2)		18:27	54	17:16 (1)	23	20:20		17:56 (1)		21:11		21:54	22:01	21:22		20:17	23	17:52 (1)		19:08	57	17:54 (1)		17:04	118	13:00 (2)		16:30	112	13:04 (2)
7	08:46		09:54 (3)		08:11		10:12 (3)		07:14		16:20 (1)		07:03		17:38 (1)		06:00	05:22	05:28	06:09	06:59		17:25 (1)		07:49		16:57 (1)		07:44		08:55 (4)		08:32		09:41 (3)
	16:45	112	13:19 (2)	94	13:29 (2)		18:28	56	17:16 (1)	13	20:22		17:51 (1)		21:13		21:55	22:00	21:20		20:15	29	17:54 (1)		19:05	55	17:52 (1)		17:02	126	13:00 (2)		16:29	111	13:05 (2)
8	08:46		09:23 (4)		08:09		10:18 (3)		07:12		16:19 (1)		07:01				05:59	05:21	05:29	06:11	07:01		17:22 (1)		07:51		16:58 (1)		07:45		08:54 (4)		08:33		09:41 (3)
	16:46	122	13:20 (2)	83	13:30 (2)		18:30	59	17:18 (1)		20:24						21:14	21:56	21:59	21:19	20:13	34	17:56 (1)		19:03	53	17:51 (1)		17:00	133	13:01 (2)		16:29	110	13:05 (2)
9	08:45		09:22 (4)		08:07		12:14 (2)		07:10		16:19 (1)		06:58				05:57	05:21	05:30	06:12	07:03		17:19 (1)		07:52		16:59 (1)		07:47		08:53 (4)		08:34		09:41 (3)
	16:48	127	13:21 (2)	75	13:29 (2)		18:32	60	17:19 (1)		20:26						21:16	21:57	21:59	21:17	20:10	38	17:57 (1)		19:01	50	17:49 (1)		16:59	137	13:01 (2)		16:29	110	13:05 (2)
10	08:45		09:21 (4)		08:06		12:15 (2)		07:07		16:17 (1)		06:56				05:55	05:20	05:31	06:14	07:04		17:17 (1)		07:54		17:00 (1)		07:49		08:52 (4)		08:35		09:42 (3)
	16:49	129	13:21 (2)	73	13:28 (2)		18:34	61	17:18 (1)		20:27						21:18	21:57	21:58	21:15	20:08	42	17:59 (1)		18:59	48	17:48 (1)		16:57	140	13:01 (2)		16:28	108	13:05 (2)
11	08:44		09:20 (4)		08:04		12:16 (2)		07:05		16:17 (1)		06:54				05:54	05:20	05:32	06:16	07:06		17:13 (1)		07:56		17:01 (1)		07:51		08:52 (4)		08:37		09:43 (3)
	16:51	134	13:22 (2)	72	13:28 (2)		18:36	62	17:19 (1)		20:29						21:19	21:58	21:57	21:13	20:06	46	17:59 (1)		18:56	44	17:45 (1)		16:56	143	13:01 (2)		16:28	107	13:05 (2)
12	08:44		09:19 (4)		08:02		12:17 (2)		07:03		16:16 (1)		06:52				05:52	05:20	05:33	06:17	07:08		17:12 (1)		07:57		17:02 (1)		07:53		08:51 (4)		08:38		09:44 (3)
	16:52	136	13:22 (2)	70	13:27 (2)		18:37	64	17:20 (1)		20:31						21:21	21:59	21:56	21:11	20:03	48	18:00 (1)		18:54	41	17:43 (1)		16:54	147	13:02 (2)		16:28	106	13:06 (2)
13	08:43		09:19 (4)		08:00		12:18 (2)		07:00		16:15 (1)		06:49				05:50	05:19	05:34	06:19	07:09		17:10 (1)		07:59		17:04 (1)		07:54		08:51 (4)		08:39		09:45 (3)
	16:53	139	13:23 (2)	68	13:26 (2)		18:39	64	17:19 (1)		20:32						21:23	22:00	21:56	21:09	20:01	51	18:01 (1)		18:52	36	17:40 (1)		16:53	150	13:02 (2)		16:28	105	13:06 (2)
14	08:42		09:18 (4)		07:58		12:19 (2)		06:58		16:15 (1)		06:47				05:49	05:19	05:35	06:20	07:11		17:08 (1)		08:01		17:07 (1)		07:56		08:51 (4)		08:40		09:46 (3)
	16:55	141	13:23 (2)	66	13:25 (2)		18:41	65	17:20 (1)		20:34						21:24	22:00	21:55	21:07	19:59	54	18:02 (1)		18:50	31	17:38 (1)		16:51	150	13:02 (2)		16:28	105	13:07 (2)
15	08:41		09:18 (4)		07:56		12:20 (2)		06:56		16:14 (1)		06:45				05:47	05:19	05:36	06:22	07:13		17:07 (1)		08:03		17:09 (1)		07:58		08:51 (4)		08:40		09:45 (3)
	16:57	144	13:24 (2)	63	13:23 (2)		18:43	66	17:20 (1)		20:36						21:26	22:01	21:54	21:05	19:56	55	18:02 (1)		18:47	25	17:34 (1)		16:50	153	13:03 (2)		16:28	104	13:06 (2)
16	08:41		09:17 (4)		07:54		12:21 (2)		06:54		16:13 (1)		06:43				05:46	05:19	05:38	06:24	07:14		17:04 (1)		08:04		17:13 (1)		08:00		08:51 (4)		08:41		09:46 (3)
	16:58	146	13:25 (2)	61	13:22 (2)		18:44	66	17:19 (1)		20:37						21:27	22:01	21:53	21:03	19:54	58	18:02 (1)		18:45	17	17:30 (1)		16:48	153	13:03 (2)		16:28	103	13:06 (2)
17	08:40		09:17 (4)		07:52		12:23 (2)		06:51		16:13 (1)		06:41				05:44	05:19	05:39	06:25	07:16		17:03 (1)		08:06				08:01		08:51 (4)		08:42		09:47 (3)
	17:00	148	13:25 (2)	57	13:20 (2)		18:46	67	17:20 (1)		20:39						21:29	22:02	21:52	21:01	19:52	60	18:03 (1)		18:43				16:47	154	13:03 (2)		16:28	103	13:07 (2)
18	08:39		09:17 (4)		07:50		12:25 (2)		06:49		16:13 (1)		06:38				05:43	05:19	05:40	06:27	07:17		17:03 (1)		08:08				08:03		08:52 (4)		08:43		09:48 (3)
	17:01	150	13:26 (2)	54	13:19 (2)		18:48	67	17:20 (1)		20:41						21:30	22:02	21:51	20:59	19:49	61	18:04 (1)		18:41				16:46	154	13:03 (2)		16:29	103	13:08 (2)
19	08:38		09:17 (4)		07:48		12:27 (2)		06:47		16:13 (1)		06:36				05:41	05:19	05:41	06:28	07:19		17:01 (1)		08:10		13:13 (2)		08:05		08:51 (4)		08:44		09:48 (3)
	17:03	151	13:27 (2)	49	13:16 (2)		18:49	66	17:19 (1)		20:43						21:32	22:03	21:49	20:57	19:47	62	18:03 (1)		18:39	18	13:31 (2)		16:44	155	13:03 (2)		16:29	101	13:07 (2)
20	08:37		09:17 (4)		07:46		12:29 (2)		06:44		16:13 (1)		06:34				05:40	05:19	05:43	06:30	07:21		17:00 (1)		08:11		13:07 (2)		08:06		08:52 (4)		08:44		09:49 (3)
	17:05	152	13:27 (2)	44	13:13 (2)		18:51	66	17:19 (1)		20:44						21:33	22:03	21:48	20:55	19:45	64	18:04 (1)		18:37	31	13:38 (2)		16:43	154	13:03 (2)		16:29	101	13:08 (2)
21	08:36		09:18 (4)		07:44		12:32 (2)		06:42		16:13 (1)		06:32				05:38	05:19	05:44	06:32	07:22		16:59 (1)		08:13		13:02 (2)		08:08		08:53 (4)		08:45		09:50 (3)
	17:06	151	13:28 (2)	38	13:10 (2)		18:53	66	17:19 (1)		20:46						21:35	22:03	21:47	20:53	19:42	64	18:03 (1)		18:35	40	13:42 (2)		16:42	151	13:03 (2)		16:30	101	13:09 (2)
22	08:34		09:17 (4)		07:42		12:37 (2)		06:40		16:13 (1)		06:30				05:37	05:19	05:45	06:33	07:24		16:58 (1)		08:15		12:58 (2)		08:10		08:53 (4)		08:45		09:50 (3)
	17:08	154	13:28 (2)	28	13:05 (2)		18:55	64	17:17 (1)		20:48						21:36	22:03	21:46	20:51	19:40	65	18:03 (1)		18:33	46	13:44 (2)		16:41	153	13:03 (2)		16:30	101	13:09 (2)
23	08:33		09:17 (4)		07:40		12:48 (2)		06:37		16:13 (1)		06:28				05:36	05:20	05:47	06:35	07:26		16:58 (1)		08:17		12:56 (2)		08:11		08:54 (4)		08:46		09:50 (3)
	17:10	155	13:29 (2)	2	12:50 (2)		18:56	64	17:17 (1)		20:49						21:37	22:03	21:44	20:49	19:38	65	18:03 (1)		18:31	51	13:47 (2)		16:40	151	13:04 (2)		16:31	101	13:09 (2)
24	08:32		09:18 (4)		07:38		06:35		16:14 (1)		06:26						05:35	05:20	05:48	06:37	07:27		16:56 (1)		08:18		12:54 (2)		08:13		08:54 (4)		08:46		09:51 (3)
	17:12	154	13:29 (2)		18:09		18:58	63	17:17 (1)		20:51						21:39	22:04	21:43	20:46	19:35	66	18:02 (1)		18:28	55	13:49 (2)		16:38	149	13:03 (2)		16:31	101	13:10 (2)
25	08:31		09:18 (4)		07:36		16:47 (1)		06:33		16:14 (1)		06:24				05:33	05:20	05:49	06:38	07:29		16:56 (1)		07:20		11:52 (2)		08:15		08:55 (4)		08:47		09:51 (3)
	17:13	153	13:29 (2)	7	16:54 (1)		19:00	61	17:15 (1)		20:53						21:40	22:04	21:42	20:44	19:33	66	18:02 (1)		17:26	58	12:50 (2)		16:37	148	13:03 (2)		16:32	102	13:10 (2)
26	08:29		09:18 (4)		07:34		16:40 (1)		06:30		16:15 (1)		06:22				05:32	05:21	05:51	06:40	07:31		16:56 (1)		07:22		11:50 (2)		08:16		08:56 (4)		08:47		09:51 (3)
	17:15	153	13:30 (2)	20	17:00 (1)		19:02	60	17:15 (1)		20:54						21:41	22:04	21:40	20:42	19:31	66	18:02 (1)		17:24	62	12:52 (2)		16:36	146	13:04 (2)		16:32	103	13:11 (2)
27	08:28		09:18 (4)		07:32		16:35 (1)		06:28		16:16 (1)		06:20				05:31	05:21	05:52	06:42	07:32		16:55 (1)		07:24		11:49 (2)		08:18		08:58 (4)		08:47		09:51 (3)
	17:17	153	13:30 (2)	28	17:03 (1)		19:03	58	17:14 (1)		20:56						21:43	22:04	21:39	20:40	19:28	66	18:01 (1)		17:22	64	12:53 (2)		16:36	144	13:04 (2)		16:33	103	13:11 (2)
28	08:27		09:19 (4)		07:30		16:32 (1)		06:26		16:16 (1)		06:18				05:30	05:21	05:54	06:43	07:34		16:55 (1)		07:26		11:48 (2)		08:19		08:58 (4)		08:48		09:52 (3)
	17:19	150	13:30 (2)	34	17:06 (1)		19:05	56	17:12 (1)		20:58						21:44	22:03	21:37	20:38	19:26	66	18:01 (1)		17:20	66	12:54 (2)		16:35	141	13:03 (2)		16:34	104	13:13 (2)
29	08:25		09:19 (4)				07:24		17:17 (1)		06:16						05:29	05:22	05:55	06:45	07:35		16:55 (1)		07:27		11:47 (2)		08:21		09:00 (4)		08:48		09:52 (3)
	17:20	149	13:30 (2)				20:07	54	18:11 (1)		21:00						21:45	22:03	21:36	20:35	19:24	66	18:01 (1)		17:19	68	12:55 (2)		16:34	139	13:04 (2)		16:35	104	13:13 (2)
30	08:24		09:19 (4)				07:21		17:19 (1)		06:14						05:28	05:23	05:57	06:46	07:37		16:54 (1)		07:29		11:46 (2)		08:22		09:01 (4)		08:48		09:53 (3)
	17:22	147	13:30 (2)				20:08	51	18:10 (1)		21:01						21:47	22:03	21:34	20:33	19:21	65	17:59 (1)		17:17	70	12:56 (2)		16:33	136	13:04 (2)		16:36	105	13:14 (2)
31	08:22		09:21 (4)				07:19		17:20 (1)								05:27		05:58	06:48					07:31		11:45 (2)						08:48		09:52 (3)
	17:24	144	13:31 (2)				20:10	49	18:09 (1)								21:48		21:33	20:31					17:15	72	12:57 (2)						16:37	106	13:14 (2)
Potential sun hours	259				277				367				416				485	499	502	454	381				331				266				243		
Total, worst case		4252				1842				1817				228								1393				1467				4059				3346
Sun reduction		0,24				0,30				0,33				0,42								0,36				0,34				0,24				0,20
Oper. time red.		0,95				0,95				0,95				0,95								0,95				0,95				0,95				0,95
Wind dir. red.		0,64				0,66				0,66				0,66								0,66				0,67				0,64				0,65
Total reduction		0,14				0,19				0,21				0,26								0,23				0,21				0,14				0,12
Total, real		613				346				375				60								317				312				579				416

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:35/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN149@164Shadow receptor: M - 3998JK67a

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	06:59 (2)	05:26	06:08 (1)	05:23	06:15 (1)	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03	8 07:07 (2)	21:49	28 06:36 (1)	22:03	25 06:40 (1)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10		05:26	06:08 (1)	05:24	06:15 (1)	06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05		21:50	27 06:35 (1)	22:03	26 06:41 (1)	21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08		05:25	06:09 (1)	05:25	06:16 (1)	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06		21:51	27 06:36 (1)	22:02	26 06:42 (1)	21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06		05:24	06:09 (1)	05:26	06:15 (1)	06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08		21:52	27 06:36 (1)	22:02	26 06:41 (1)	21:26	20:22	19:12	17:07	16:31
5	08:47	08:14	07:19	07:08	06:04		05:23	06:09 (1)	05:26	06:15 (1)	06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10		21:53	27 06:36 (1)	22:01	27 06:42 (1)	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02		05:23	06:09 (1)	05:27	06:16 (1)	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11		21:54	27 06:36 (1)	22:01	26 06:42 (1)	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01		05:22	06:10 (1)	05:28	06:16 (1)	06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13		21:55	27 06:37 (1)	22:00	27 06:43 (1)	21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59		05:22	06:10 (1)	05:29	06:16 (1)	06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15		21:56	26 06:36 (1)	22:00	27 06:43 (1)	21:19	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57		05:21	06:10 (1)	05:30	06:16 (1)	06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16		21:57	27 06:37 (1)	21:59	27 06:43 (1)	21:17	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55		05:21	06:10 (1)	05:31	06:15 (1)	06:14	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18		21:58	26 06:36 (1)	21:58	28 06:43 (1)	21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54		05:20	06:11 (1)	05:32	06:15 (1)	06:16	07:10 (2)	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19		21:58	25 06:36 (1)	21:57	28 06:43 (1)	21:13	4 07:14 (2)	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52		05:20	06:11 (1)	05:33	06:16 (1)	06:17	07:07 (2)	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21		21:59	26 06:37 (1)	21:57	27 06:43 (1)	21:11	10 07:17 (2)	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50		05:20	06:12 (1)	05:34	06:17 (1)	06:19	07:05 (2)	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23		22:00	25 06:37 (1)	21:56	27 06:44 (1)	21:09	14 07:19 (2)	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49		05:19	06:12 (1)	05:35	06:17 (1)	06:21	07:03 (2)	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24		22:00	25 06:37 (1)	21:55	27 06:44 (1)	21:07	16 07:19 (2)	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47	06:19 (1)	05:19	06:11 (1)	05:36	06:17 (1)	06:22	07:03 (2)	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26	3 06:22 (1)	22:01	25 06:36 (1)	21:54	27 06:44 (1)	21:05	18 07:21 (2)	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46	06:16 (1)	05:19	06:12 (1)	05:38	06:17 (1)	06:24	07:01 (2)	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27	10 06:26 (1)	22:01	25 06:37 (1)	21:53	27 06:44 (1)	21:03	20 07:21 (2)	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	07:04 (2) 05:44	06:14 (1)	05:19	06:12 (1)	05:39	06:17 (1)	06:25	07:01 (2)	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	7 07:11 (2) 21:29	14 06:28 (1)	22:02	25 06:37 (1)	21:52	27 06:44 (1)	21:01	20 07:21 (2)	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	07:02 (2) 05:43	06:12 (1)	05:19	06:12 (1)	05:40	06:17 (1)	06:27	07:00 (2)	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	11 07:13 (2) 21:30	17 06:29 (1)	22:02	25 06:37 (1)	21:51	26 06:43 (1)	20:59	21 07:21 (2)	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	07:00 (2) 05:41	06:11 (1)	05:19	06:13 (1)	05:41	06:18 (1)	06:29	07:00 (2)	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	14 07:14 (2) 21:32	19 06:30 (1)	22:03	25 06:38 (1)	21:49	25 06:43 (1)	20:57	21 07:21 (2)	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	06:58 (2) 05:40	06:11 (1)	05:19	06:14 (1)	05:43	06:19 (1)	06:30	07:00 (2)	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	17 07:15 (2) 21:33	20 06:31 (1)	22:03	24 06:38 (1)	21:48	25 06:44 (1)	20:55	20 07:20 (2)	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	06:56 (2) 05:39	06:10 (1)	05:19	06:14 (1)	05:44	06:19 (1)	06:32	07:00 (2)	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	19 07:15 (2) 21:35	22 06:32 (1)	22:03	24 06:38 (1)	21:47	24 06:43 (1)	20:53	20 07:20 (2)	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	06:56 (2) 05:37	06:09 (1)	05:19	06:14 (1)	05:45	06:19 (1)	06:34	07:00 (2)	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	20 07:16 (2) 21:36	23 06:32 (1)	22:03	24 06:38 (1)	21:46	23 06:42 (1)	20:51	19 07:19 (2)	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	06:55 (2) 05:36	06:08 (1)	05:20	06:14 (1)	05:47	06:20 (1)	06:35	07:02 (2)	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	21 07:16 (2) 21:37	25 06:33 (1)	22:04	24 06:38 (1)	21:44	21 06:41 (1)	20:49	17 07:19 (2)	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	06:55 (2) 05:35	06:08 (1)	05:20	06:14 (1)	05:48	06:21 (1)	06:37	07:03 (2)	07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	21 07:16 (2) 21:39	25 06:33 (1)	22:04	25 06:39 (1)	21:43	20 06:41 (1)	20:46	14 07:17 (2)	19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	06:55 (2) 05:34	06:08 (1)	05:20	06:14 (1)	05:50	06:22 (1)	06:38	07:05 (2)	07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	20 07:15 (2) 21:40	26 06:34 (1)	22:04	25 06:39 (1)	21:42	18 06:40 (1)	20:44	10 07:15 (2)	19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	06:55 (2) 05:32	06:08 (1)	05:21	06:14 (1)	05:51	06:23 (1)	06:40	07:07 (2)	07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	20 07:15 (2) 21:42	26 06:34 (1)	22:04	25 06:39 (1)	21:40	16 06:39 (1)	20:42	6 07:13 (2)	19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	06:55 (2) 05:31	06:08 (1)	05:21	06:15 (1)	05:52	06:25 (1)	06:42		07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	19 07:14 (2) 21:43	26 06:34 (1)	22:04	24 06:39 (1)	21:39	13 06:38 (1)	20:40		19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	06:55 (2) 05:30	06:08 (1)	05:22	06:14 (1)	05:54	06:27 (1)	06:43		07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	18 07:13 (2) 21:44	27 06:35 (1)	22:04	25 06:39 (1)	21:37	8 06:35 (1)	20:38		19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	06:56 (2) 05:29	06:07 (1)	05:22	06:15 (1)	05:55		06:45		07:36	07:27	08:21	08:48
	17:21		20:07	21:00	15 07:11 (2) 21:45	28 06:35 (1)	22:03	25 06:40 (1)	21:36		20:36		19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	06:57 (2) 05:28	06:08 (1)	05:23	06:15 (1)	05:57		06:47		07:37	07:29	08:22	08:48
	17:22		20:08	21:01	13 07:10 (2) 21:47	28 06:36 (1)	22:03	26 06:41 (1)	21:34		20:33		19:22	17:17	16:33	16:36
31	08:22		07:19		05:27	06:08 (1)			05:58		06:48			07:31		08:48
	17:24		20:10		21:48	28 06:36 (1)			21:33		20:31			17:15		16:37
Potential sun hours	259	277	367	416	485		499		502		454		381	331	266	243
Total, worst case				235	375		766		674		250					
Sun reduction				0,42	0,43		0,39		0,41		0,42					
Oper. time red.				0,95	0,95		0,95		0,95		0,95					
Wind dir. red.				0,63	0,67		0,67		0,67		0,63					
Total reduction				0,25	0,27		0,25		0,26		0,25					
Total, real				59	102		190		174		62					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:35/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN149@164Shadow receptor: N - 3945LA11

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December		
1	08:48		10:32 (4)		08:21		15:37 (2)	07:27		15:52 (2)	07:17	06:12	05:26	05:23	06:00	06:50		07:39		18:05 (1)	07:33		15:04 (2)	08:24		10:23 (4)
	16:38	83	13:12 (3)	43	16:20 (2)	18	18:18	16:10 (2)	20:12	21:03	21:49	22:03	21:31	20:29		19:19	32	18:37 (1)	17:13	52	15:56 (2)	16:32	68	12:56 (3)
2	08:48		10:33 (4)		08:19		15:36 (2)	07:25		15:58 (2)	07:14	06:10	05:25	05:24	06:01	06:51		07:40		18:05 (1)	07:35		15:04 (2)	08:25		10:23 (4)
	16:39	84	13:13 (3)	44	16:20 (2)	6	18:19	16:04 (2)	20:14	21:05	21:50	22:02	21:29	20:26		19:17	31	18:36 (1)	17:11	52	15:56 (2)	16:32	71	12:57 (3)
3	08:48		10:34 (4)		08:18		15:37 (2)	07:23			07:12	06:08	05:25	05:25	06:03	06:53		07:42		18:05 (1)	07:36		15:03 (2)	08:27		10:22 (4)
	16:40	82	13:13 (3)	45	16:22 (2)	18:21			20:15	21:06	21:51	22:02	21:28	20:24		19:14	29	18:34 (1)	17:09	51	15:54 (2)	16:31	73	12:57 (3)
4	08:47		10:34 (4)		08:16		15:36 (2)	07:21			07:10	06:06	05:24	05:25	06:04	06:55		07:44		18:07 (1)	07:38		15:04 (2)	08:28		10:23 (4)
	16:41	82	13:13 (3)	47	16:23 (2)	18:23			20:17	21:08	21:52	22:02	21:26	20:22		19:12	26	18:33 (1)	17:07	50	15:54 (2)	16:30	75	12:59 (3)
5	08:47		10:35 (4)		08:14		15:35 (2)	07:19			07:07	06:04	05:23	05:26	06:06	06:56		07:46		18:08 (1)	07:40		15:04 (2)	08:29		10:22 (4)
	16:43	80	13:13 (3)	48	16:23 (2)	18:25			20:19	21:10	21:53	22:01	21:24	20:20		19:10	23	18:31 (1)	17:06	49	15:53 (2)	16:30	77	12:59 (3)
6	08:47		10:35 (4)		08:13		15:35 (2)	07:16		17:38 (1)	07:05	06:02	05:23	05:27	06:08	06:58		07:47		18:10 (1)	07:42		15:05 (2)	08:31		10:22 (4)
	16:44	78	13:13 (3)	49	16:24 (2)	18:27	8	17:46 (1)	20:20	21:11	21:54	22:01	21:22	20:17		19:08	19	18:29 (1)	17:04	48	15:53 (2)	16:30	78	12:59 (3)
7	08:46		10:37 (4)		08:11		15:34 (2)	07:14		17:34 (1)	07:03	06:00	05:22	05:28	06:09	06:59		07:49		18:12 (1)	07:44		15:06 (2)	08:32		10:22 (4)
	16:45	77	13:14 (3)	50	16:24 (2)	18:28	16	17:50 (1)	20:22	21:13	21:55	22:00	21:20	20:15		19:05	13	18:25 (1)	17:02	46	15:52 (2)	16:29	79	13:00 (3)
8	08:46		10:37 (4)		08:09		15:35 (2)	07:12		17:32 (1)	07:01	05:59	05:21	05:29	06:11	07:01		07:51			07:45		15:07 (2)	08:33		10:22 (4)
	16:46	75	13:13 (3)	51	16:26 (2)	18:30	21	17:53 (1)	20:24	21:14	21:56	21:59	21:19	20:13		19:03			17:00	45	15:52 (2)	16:29	82	13:01 (3)
9	08:45		10:39 (4)		08:07		15:34 (2)	07:10		17:30 (1)	06:58	05:57	05:21	05:30	06:12	07:03		07:52			07:47		15:07 (2)	08:34		10:22 (4)
	16:48	73	13:14 (3)	52	16:26 (2)	18:32	25	17:55 (1)	20:25	21:16	21:57	21:59	21:17	20:10		19:01			16:59	44	15:51 (2)	16:28	82	13:01 (3)
10	08:45		10:40 (4)		08:06		15:34 (2)	07:07		17:28 (1)	06:56	05:55	05:20	05:31	06:14	07:04		07:54			07:49		15:08 (2)	08:35		10:22 (4)
	16:49	71	13:14 (3)	52	16:26 (2)	18:34	28	17:56 (1)	20:27	21:18	21:57	21:58	21:15	20:08		18:59			16:57	42	15:50 (2)	16:28	84	13:02 (3)
11	08:44		10:41 (4)		08:04		15:34 (2)	07:05		17:27 (1)	06:54	05:54	05:20	05:32	06:16	07:06		07:56			07:51		15:09 (2)	08:37		10:22 (4)
	16:50	68	13:14 (3)	52	16:26 (2)	18:36	30	17:57 (1)	20:29	21:19	21:58	21:57	21:13	20:06		18:56			16:56	41	15:50 (2)	16:28	83	13:02 (3)
12	08:44		10:42 (4)		08:02		15:34 (2)	07:03		17:26 (1)	06:52	05:52	05:20	05:33	06:17	07:08		07:57		16:28 (2)	07:52		15:11 (2)	08:38		10:23 (4)
	16:52	64	13:13 (3)	52	16:26 (2)	18:37	32	17:58 (1)	20:31	21:21	21:59	21:56	21:11	20:03		18:54	13	16:41 (2)	16:54	38	15:49 (2)	16:28	85	13:04 (3)
13	08:43		10:44 (4)		08:00		15:34 (2)	07:00		17:24 (1)	06:49	05:50	05:19	05:34	06:19	07:09		07:59		16:23 (2)	07:54		15:12 (2)	08:39		10:23 (4)
	16:53	61	13:13 (3)	53	16:27 (2)	18:39	34	17:58 (1)	20:32	21:22	22:00	21:56	21:09	20:01		18:52	22	16:45 (2)	16:53	36	15:48 (2)	16:28	86	13:04 (3)
14	08:42		10:46 (4)		07:58		15:34 (2)	06:58		17:24 (1)	06:47	05:49	05:19	05:35	06:20	07:11		08:01		16:20 (2)	07:56		15:13 (2)	08:40		10:23 (4)
	16:55	56	13:13 (3)	53	16:27 (2)	18:41	34	17:58 (1)	20:34	21:24	22:00	21:55	21:07	19:59		18:50	27	16:47 (2)	16:51	33	15:46 (2)	16:28	85	13:04 (3)
15	08:41		10:49 (4)		07:56		15:34 (2)	06:56		17:24 (1)	06:45	05:47	05:19	05:36	06:22	07:12		08:03		16:17 (2)	07:58		15:15 (2)	08:40		10:23 (4)
	16:57	48	13:12 (3)	52	16:26 (2)	18:43	35	17:59 (1)	20:36	21:26	22:01	21:54	21:05	19:56		18:47	31	16:48 (2)	16:50	30	15:45 (2)	16:28	86	13:04 (3)
16	08:41		12:33 (3)		07:54		15:34 (2)	06:54		17:23 (1)	06:43	05:46	05:19	05:38	06:24	07:14		18:20 (1)	08:04		16:14 (2)	08:00		15:17 (2)	08:41		10:24 (4)
	16:58	39	13:12 (3)	52	16:26 (2)	18:44	35	17:58 (1)	20:37	21:27	22:01	21:53	21:03	19:54	14	18:34 (1)	36	16:50 (2)	16:48	26	15:43 (2)	16:28	86	13:05 (3)
17	08:40		12:34 (3)		07:52		15:35 (2)	06:51		17:23 (1)	06:41	05:44	05:19	05:39	06:25	07:16		18:17 (1)	08:06		16:13 (2)	08:01		15:19 (2)	08:42		10:24 (4)
	17:00	37	13:11 (3)	51	16:26 (2)	18:46	35	17:58 (1)	20:39	21:29	22:02	21:52	21:01	19:52	19	18:36 (1)	38	16:51 (2)	16:47	23	15:42 (2)	16:28	87	13:06 (3)
18	08:39		12:36 (3)		07:50		15:35 (2)	06:49		17:23 (1)	06:38	05:43	05:19	05:40	06:27	07:17		18:15 (1)	08:08		16:11 (2)	08:03		15:21 (2)	08:43		10:25 (4)
	17:01	35	13:11 (3)	51	16:26 (2)	18:48	35	17:58 (1)	20:41	21:30	22:02	21:50	20:59	19:49	23	18:38 (1)	41	16:52 (2)	16:46	18	15:39 (2)	16:28	87	13:07 (3)
19	08:38		12:37 (3)		07:48		15:36 (2)	06:47		17:22 (1)	06:36	05:41	05:19	05:41	06:28	07:19		18:12 (1)	08:10		16:10 (2)	08:05		12:23 (3)	08:44		10:25 (4)
	17:03	33	13:10 (3)	49	16:25 (2)	18:49	35	17:57 (1)	20:43	21:32	22:03	21:49	20:57	19:47	27	18:39 (1)	43	18:39	16:53 (2)	16:44	24	15:36 (2)	16:29	86	13:06 (3)
20	08:37		12:40 (3)		07:46		15:36 (2)	06:44		17:23 (1)	06:34	05:40	05:19	05:43	06:30	07:21		18:11 (1)	08:11		16:09 (2)	08:06		12:19 (3)	08:44		10:25 (4)
	17:05	29	13:09 (3)	48	16:24 (2)	18:51	34	17:57 (1)	20:44	21:33	22:03	21:48	20:55	19:45	29	18:40 (1)	45	18:37	16:54 (2)	16:43	20	12:39 (3)	16:29	88	13:07 (3)
21	08:36		12:42 (3)		07:44		15:37 (2)	06:42		17:23 (1)	06:32	05:38	05:19	05:44	06:32	07:22		18:09 (1)	08:13		16:08 (2)	08:08		12:17 (3)	08:45		10:26 (4)
	17:06	25	13:07 (3)	46	16:23 (2)	18:53	33	17:56 (1)	20:46	21:35	22:03	21:47	20:53	19:42	31	18:40 (1)	47	18:35	16:55 (2)	16:42	25	12:42 (3)	16:30	88	13:08 (3)
22	08:34		12:44 (3)		07:42		15:38 (2)	06:40		17:23 (1)	06:30	05:37	05:19	05:45	06:33	07:24		18:08 (1)	08:15		16:06 (2)	08:10		12:16 (3)	08:45		10:26 (4)
	17:08	20	13:04 (3)	44	16:22 (2)	18:55	32	17:55 (1)	20:48	21:36	22:03	21:46	20:51	19:40	33	18:41 (1)	48	18:33	16:54 (2)	16:41	29	12:45 (3)	16:30	88	13:08 (3)
23	08:33		12:49 (3)		07:40		15:39 (2)	06:37		17:24 (1)	06:28	05:36	05:19	05:47	06:35	07:26		18:07 (1)	08:17		16:05 (2)	08:11		12:15 (3)	08:46		10:26 (4)
	17:10	24	16:02 (2)	18:07	43	16:22 (2)	18:56	30	17:54 (1)	20:49	21:37	22:03	21:44	20:48	34	19:38	34	18:41 (1)	18:30	50	16:55 (2)	16:40	32	12:47 (3)	16:31	88	13:08 (3)
24	08:32		15:48 (2)	07:38		15:40 (2)	06:35		17:25 (1)	06:26	05:35	05:20	05:48	06:37	07:27		18:06 (1)	08:18		16:05 (2)	08:13		12:13 (3)	08:46		10:27 (4)
	17:11	18	16:06 (2)	18:09	41	16:21 (2)	18:58	28	17:53 (1)	20:51	21:39	22:04	21:43	20:46	35	19:35	35	18:41 (1)	18:28	50	16:55 (2)	16:38	35	12:48 (3)	16:31	87	13:09 (3)
25	08:31		15:45 (2)	07:36		15:42 (2)	06:33		17:26 (1)	06:24	05:33	05:20	05:49	06:38	07:29		18:05 (1)	07:20		15:04 (2)	08:15		12:12 (3)	08:47		10:28 (4)
	17:13	23	16:08 (2)	18:10	37	16:19 (2)	19:00	24	17:50 (1)	20:53	21:40	22:04	21:42	20:44	36	19:33	36	18:41 (1)	17:26	52	15:56 (2)	16:37	37	12:49 (3)	16:32	86	13:09 (3)
26	08:29		15:44 (2)	07:34		15:43 (2)	06:30		17:28 (1)	06:22	05:32	05:21	05:51	06:40	07:30		18:05 (1)	07:22		15:04 (2)	08:16		12:12 (3)	08:47		10:28 (4)
	17:15	27	16:11 (2)	18:12	34	16:17 (2)	19:02	20	17:48 (1)	20:54	21:41	22:04	21:40	20:42	36	19:31	36	18:41 (1)	17:24	52	15:56 (2)	16:36	39	12:51 (3)	16:32	87	13:10 (3)
27	08:28		15:42 (2)	07:32		15:45 (2)	06:28		17:31 (1)	06:20	05:31	05:21	05:52	06:42	07:32		18:04 (1)	07:24		15:04 (2)	08:18		10:29 (4)	08:47		10:28 (4)
	17:17	30	16:12 (2)	18:14	30	16:15 (2)	19:03	15	17:46 (1)	20:56	21:43	22:04	21:39	20:40	36	19:28	36	18:40 (1)	17:22	52	15:56 (2)	16:36	47	12:52 (3)	16:33	88	13:10 (3)
28	08:27		15:41 (2)	07:29		15:48 (2)	06:26		17:35 (1)	06:18	05:30	05:21	05:54	06:43	07:34		18:04 (1)	07:26		15:03 (2)	08:19		10:26 (4)	08:47		10:30 (4)
	17:19	34	16:15 (2)	18:16	25	16:13 (2)	19:05	5	17:40 (1)	20:58	21:44	22:03	21:37	20:38	36	19:26	36	18:40 (1)	17:20	53	15:56 (2)	16:35	56	12:53 (3)	16:34	86	13:11 (3)
29	08:25		15:40 (2)				07:23			06:16	05:29	05:22	05:55	06:45	07:35		18:05 (1)	07:27		15:03 (2)	08:21		10:25 (4)	08:48		10:30 (4)
	17:20	36	16:16 (2)				20:07			21:00	21:45	22:03	21:36	20:35	19:24	34	18:39 (1)	17:18	53	15:56 (2)	16:34	60	12:54 (3)	16:35	87	13:12 (3)
30	08:24		15:39 (2)				07:21			06:14	05:28	05:23	05:57	06:46	07:37		18:04 (1)	07:29		15:03 (2)	08:22		10:23 (4)	08:48		10:31 (4)
	17:22	38	16:17 (2)				20:08			21:01	21:46	22:03	21:34	20:33	19:21	34	18:38 (1)	17:17	53	15:56 (2)	16:33	64	12:54 (3)	16:36	85	13:12 (3)
31	08:22		15:38 (2)				07:19				05:27		05:58	06:48				07:31		15:04 (2)				08:48		10:31 (4)
	17:24	41	16:19 (2)				20:10				21:48		21:32	20:31				17:15	52	15:56 (2)				16:37	84	13:11 (3)
Potential sun hours	259			277		367			416	485	499	502	454	381				331			266			243		
Total, worst case		1571		1294		648									457		1031		1192			2582		
Sun reduction		0,24		0,30		0,33									0,36		0,34		0,24			0,20		
Oper. time red.		0,95		0,95		0,95									0,95		0,95		0,95			0,95		
Wind dir. red.		0,66		0,67		0,63									0,63		0,66		0,67			0,65		
Total reduction		0,15		0,19		0,20									0,22		0,21		0,15			0,13		
Total, real		236		247		128									99		217		178			327		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:35/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN149@164Shadow receptor: O - 3998NA2

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	08:15 (3)	06:12	07:26 (2)	05:26	05:23	06:00	06:50	07:35 (2)	07:39	08:08 (4)	07:33	08:24
	16:38	17:26	18:18	20:12	10 08:25 (3)	21:03	36 08:02 (2)	21:49	22:03	21:31	20:29	29 08:04 (2)	19:19	20 08:28 (4)	17:13	16:32
2	08:48	08:19	07:25	07:14		06:10	07:27 (2)	05:25	05:24	06:01	06:51	07:36 (2)	07:41	08:09 (4)	07:35	08:25
	16:39	17:28	18:20	20:14		21:05	34 08:01 (2)	21:50	22:03	21:29	20:26	25 08:01 (2)	19:17	19 08:28 (4)	17:11	16:32
3	08:48	08:18	07:23	07:12		06:08	07:29 (2)	05:25	05:25	06:03	06:53	07:38 (2)	07:42	08:08 (4)	07:36	08:27
	16:40	17:30	18:21	20:15		21:06	32 08:01 (2)	21:51	22:02	21:28	20:24	21 07:59 (2)	19:15	19 08:27 (4)	17:09	16:31
4	08:47	08:16	07:21	07:10		06:06	07:29 (2)	05:24	05:25	06:05	07:47 (2)	06:55	07:41 (2)	07:44	08:09 (4)	07:38	08:28
	16:41	17:32	18:23	20:17		21:08	30 07:59 (2)	21:52	22:02	21:26	12 07:59 (2)	20:22	15 07:56 (2)	19:12	17 08:26 (4)	17:07	16:31
5	08:47	08:14	07:19	07:07		06:04	07:30 (2)	05:23	05:26	06:06	07:45 (2)	06:56		07:46	08:11 (4)	07:40	08:29
	16:43	17:33	18:25	20:19		21:10	27 07:57 (2)	21:53	22:01	21:24	17 08:02 (2)	20:20		19:10	14 08:25 (4)	17:06	16:30
6	08:47	08:13	07:16	07:05		06:02	07:31 (2)	05:23	05:27	06:08	07:42 (2)	06:58		07:47	08:13 (4)	07:42	08:31
	16:44	17:35	18:27	4 07:44 (4)	20:20	21:11	24 07:55 (2)	21:54	22:01	21:22	22 08:04 (2)	20:17		19:08	11 08:24 (4)	17:04	16:30
7	08:46	08:11	07:14	07:37 (4)	07:03	06:01	07:33 (2)	05:22	05:28	06:09	07:40 (2)	07:00		07:49	08:14 (4)	07:44	08:32
	16:45	17:37	18:29	9 07:46 (4)	20:22	21:13	21 07:54 (2)	21:55	22:00	21:21	25 08:05 (2)	20:15		19:05	7 08:21 (4)	17:02	16:29
8	08:46	08:09	07:12	07:35 (4)	07:01	07:43 (2)	05:59	07:35 (2)	05:21	05:29	06:11	07:39 (2)	07:01			07:51		07:45	08:33
	16:46	17:39	18:30	13 07:48 (4)	20:24	15 07:58 (2)	21:15	16 07:51 (2)	21:56	22:00	21:19	28 08:07 (2)	20:13			19:03		17:01	16:29
9	08:45	08:08	07:10	07:33 (4)	06:58	07:40 (2)	05:57	07:38 (2)	05:21	05:30	06:12	07:37 (2)	07:03			07:52		07:47	08:34
	16:48	17:41	18:32	16 07:49 (4)	20:26	21 08:01 (2)	21:16	9 07:47 (2)	21:57	21:59	21:17	31 08:08 (2)	20:10			19:01		16:59	16:29
10	08:45	08:06	07:07	07:30 (4)	06:56	07:38 (2)	05:55		05:21	05:31	06:14	07:37 (2)	07:04			07:54		07:49	08:35
	16:49	17:43	18:34	19 07:49 (4)	20:27	25 08:03 (2)	21:18		21:58	21:58	21:15	32 08:09 (2)	20:08			18:59		16:57	16:28
11	08:44	08:04	07:05	07:30 (4)	06:54	07:36 (2)	05:54		05:20	05:32	06:16	07:36 (2)	07:06	08:09 (3)		07:56		07:51	08:37
	16:51	17:45	18:36	19 07:49 (4)	20:29	29 08:05 (2)	21:19		21:58	21:57	21:13	35 08:11 (2)	20:06	9 08:18 (3)		18:56		16:56	16:28
12	08:44	08:02	07:03	07:30 (4)	06:52	07:34 (2)	05:52		05:20	05:33	06:17	07:35 (2)	07:08	08:05 (3)		07:57		07:53	08:38
	16:52	17:46	18:37	20 07:50 (4)	20:31	32 08:06 (2)	21:21		21:59	21:56	21:11	36 08:11 (2)	20:03	15 08:20 (3)		18:54		16:54	16:28
13	08:43	08:00	07:01	07:29 (4)	06:49	07:31 (2)	05:50		05:20	05:34	06:19	07:34 (2)	07:09	08:04 (3)		07:59		07:54	08:39
	16:54	17:48	18:39	20 07:49 (4)	20:32	35 08:06 (2)	21:23		22:00	21:56	21:09	38 08:12 (2)	20:01	18 08:22 (3)		18:52		16:53	16:28
14	08:42	07:58	06:58	07:29 (4)	06:47	07:30 (2)	05:49		05:19	05:35	06:20	07:33 (2)	07:11	08:01 (3)		08:01		07:56	08:40
	16:55	17:50	18:41	19 07:48 (4)	20:34	37 08:07 (2)	21:24		22:00	21:55	21:07	39 08:12 (2)	19:59	22 08:23 (3)		18:50		16:51	16:28
15	08:41	07:56	06:56	07:30 (4)	06:45	07:29 (2)	05:47		05:19	05:36	06:22	07:33 (2)	07:13	08:00 (3)		08:03		07:58	08:40
	16:57	17:52	18:43	17 07:47 (4)	20:36	39 08:08 (2)	21:26		22:01	21:54	21:05	40 08:13 (2)	19:56	24 08:24 (3)		18:48		16:50	16:28
16	08:41	07:54	06:54	07:21 (3)	06:43	07:28 (2)	05:46		05:19	05:38	06:24	07:32 (2)	07:14	07:59 (3)		08:04		08:00	08:41
	16:58	17:54	18:44	24 07:45 (4)	20:37	40 08:08 (2)	21:27		22:01	21:53	21:03	41 08:13 (2)	19:54	25 08:24 (3)		18:45		16:48	16:28
17	08:40	07:52	06:51	07:18 (3)	06:41	07:28 (2)	05:44		05:19	05:39	06:25	07:32 (2)	07:16	07:58 (3)		08:06		08:01	08:42
	17:00	17:56	18:46	26 07:44 (4)	20:39	41 08:09 (2)	21:29		22:02	21:52	21:01	42 08:14 (2)	19:52	26 08:24 (3)		18:43		16:47	16:28
18	08:39	07:50	06:49	07:16 (3)	06:38	07:27 (2)	05:43		05:19	05:40	06:27	07:31 (2)	07:17	07:58 (3)		08:08		08:03	08:43
	17:01	17:58	18:48	25 07:41 (4)	20:41	42 08:09 (2)	21:30		22:02	21:51	20:59	43 08:14 (2)	19:49	27 08:25 (3)		18:41		16:46	16:29
19	08:38	07:48	06:47	07:14 (3)	06:36	07:26 (2)	05:41		05:19	05:41	06:29	07:31 (2)	07:19	07:57 (3)		08:10		08:05	08:44
	17:03	17:59	18:50	22 07:36 (3)	20:43	43 08:09 (2)	21:32		22:03	21:49	20:57	43 08:14 (2)	19:47	27 08:24 (3)		18:39		16:44	16:29
20	08:37	07:46	06:44	07:13 (3)	06:34	07:26 (2)	05:40		05:19	05:43	06:30	07:30 (2)	07:21	07:57 (3)		08:11		08:06	08:44
	17:05	18:01	18:51	24 07:37 (3)	20:44	43 08:09 (2)	21:33		22:03	21:48	20:55	43 08:13 (2)	19:45	27 08:24 (3)		18:37		16:43	16:29
21	08:36	07:44	06:42	07:12 (3)	06:32	07:25 (2)	05:38		05:19	05:44	06:32	07:30 (2)	07:22	07:57 (3)		08:13		08:08	08:45
	17:06	18:03	18:53	26 07:38 (3)	20:46	43 08:08 (2)	21:35		22:03	21:47	20:53	44 08:14 (2)	19:42	27 08:24 (3)		18:35		16:42	16:30
22	08:34	07:42	06:40	07:11 (3)	06:30	07:24 (2)	05:37		05:19	05:45	06:33	07:29 (2)	07:24	07:57 (3)		08:15		08:10	08:45
	17:08	18:05	18:55	26 07:37 (3)	20:48	44 08:08 (2)	21:36		22:03	21:46	20:51	44 08:13 (2)	19:40	25 08:22 (3)		18:33		16:41	16:30
23	08:33	07:40	06:37	07:10 (3)	06:28	07:24 (2)	05:36		05:20	05:47	06:35	07:30 (2)	07:26	07:57 (3)		08:17		08:11	08:46
	17:10	18:07	18:56	28 07:38 (3)	20:49	44 08:08 (2)	21:37		22:03	21:44	20:49	43 08:13 (2)	19:38	25 08:22 (3)		18:31		16:40	16:31
24	08:32	07:38	06:35	07:10 (3)	06:26	07:24 (2)	05:35		05:20	05:48	06:37	07:29 (2)	07:27	07:57 (3)		08:18		08:13	08:46
	17:12	18:09	18:58	28 07:38 (3)	20:51	43 08:07 (2)	21:39		22:04	21:43	20:46	43 08:12 (2)	19:35	23 08:20 (3)		18:29		16:39	16:31
25	08:31	07:36	06:33	07:09 (3)	06:24	07:24 (2)	05:33		05:20	05:50	06:38	07:30 (2)	07:29	07:59 (3)		07:20		08:15	08:47
	17:13	18:10	19:00	27 07:36 (3)	20:53	43 08:07 (2)	21:40		22:04	21:42	20:44	42 08:12 (2)	19:33	23 08:22 (4)		17:26		16:38	16:32
26	08:30	07:34	06:31	07:10 (3)	06:22	07:25 (2)	05:32		05:21	05:51	06:40	07:30 (2)	07:31	08:00 (3)		07:22		08:16	08:47
	17:15	18:12	19:02	26 07:36 (3)	20:54	42 08:07 (2)	21:41		22:04	21:40	20:42	42 08:12 (2)	19:31	26 08:26 (4)		17:24		16:37	16:33
27	08:28	07:32	06:28	07:10 (3)	06:20	07:25 (2)	05:31		05:21	05:52	06:42	07:30 (2)	07:32	08:02 (3)		07:24		08:18	08:47
	17:17	18:14	19:03	26 07:36 (3)	20:56	41 08:06 (2)	21:43		22:04	21:39	20:40	40 08:10 (2)	19:28	25 08:27 (4)		17:22		16:36	16:33
28	08:27	07:30	06:26	07:10 (3)	06:18	07:25 (2)	05:30		05:22	05:54	06:43	07:31 (2)	07:34	08:11 (4)		07:26		08:19	08:48
	17:19	18:16	19:05	24 07:34 (3)	20:58	41 08:06 (2)	21:44		22:03	21:37	20:38	39 08:10 (2)	19:26	17 08:28 (4)		17:21		16:35	16:34
29	08:25		07:24	08:11 (3)	06:16	07:26 (2)	05:29		05:22	05:55	06:45	07:31 (2)	07:36	08:10 (4)		07:27		08:21	08:48
	17:21		20:07	22 08:33 (3)	21:00	39 08:05 (2)	21:45		22:03	21:36	20:35	37 08:08 (2)	19:24	19 08:29 (4)		17:19		16:34	16:35
30	08:24		07:21	08:12 (3)	06:14	07:26 (2)	05:28		05:23	05:57	06:46	07:32 (2)	07:37	08:09 (4)		07:29		08:22	08:48
	17:22		20:08	19 08:31 (3)	21:01	38 08:04 (2)	21:47		22:03	21:34	20:33	35 08:07 (2)	19:21	19 08:28 (4)		17:17		16:33	16:36
31	08:22		07:19	08:14 (3)			05:27			05:58	06:48	07:33 (2)				07:31			08:48
	17:24		20:10	15 08:29 (3)			21:48			21:33	20:31	32 08:05 (2)				17:15			16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case			544	870	229			1008	539	107		
Sun reduction			0,33	0,42	0,43			0,42	0,36	0,34		
Oper. time red.			0,95	0,95	0,95			0,95	0,95	0,95		
Wind dir. red.			0,60	0,63	0,63			0,63	0,61	0,59		
Total reduction			0,19	0,25	0,25			0,25	0,21	0,19		
Total, real			101	216	58			249	112	20		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:35/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN149@164Shadow receptor: P - 3998JD89

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May		June		July		August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12		05:26		05:23		06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03		21:49	26	06:30 (1)	22:03	26	06:36 (1)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10		05:26		06:04 (1)	05:24		06:10 (1)	06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05		21:50	26	06:30 (1)	22:03	27	06:37 (1)	21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08		05:25		06:04 (1)	05:25		06:11 (1)	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06		21:51	27	06:31 (1)	22:02	26	06:37 (1)	21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06		05:24		06:04 (1)	05:26		06:10 (1)	06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08		21:52	27	06:31 (1)	22:02	27	06:37 (1)	21:26	20:22	19:12	17:07	16:31
5	08:47	08:14	07:19	07:08	06:04		05:23		06:05 (1)	05:26		06:11 (1)	06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10		21:53	27	06:32 (1)	22:01	26	06:37 (1)	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02		05:23		06:05 (1)	05:27		06:11 (1)	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11		21:54	26	06:31 (1)	22:01	27	06:38 (1)	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01		05:22		06:05 (1)	05:28		06:11 (1)	06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13		21:55	27	06:32 (1)	22:00	27	06:38 (1)	21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59		05:22		06:05 (1)	05:29		06:12 (1)	06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15		21:56	26	06:31 (1)	22:00	26	06:38 (1)	21:19	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57		05:21		06:06 (1)	05:30		06:12 (1)	06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16		21:57	26	06:32 (1)	21:59	26	06:38 (1)	21:17	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55		05:21		06:05 (1)	05:31		06:11 (1)	06:14	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18		21:58	26	06:31 (1)	21:58	27	06:38 (1)	21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54		05:20		06:06 (1)	05:32		06:11 (1)	06:16	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19		21:58	26	06:32 (1)	21:57	27	06:38 (1)	21:13	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52		05:20		06:06 (1)	05:33		06:12 (1)	06:17	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21		21:59	26	06:32 (1)	21:57	26	06:38 (1)	21:11	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50		05:20		06:07 (1)	05:34		06:13 (1)	06:19	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23		22:00	26	06:33 (1)	21:56	26	06:39 (1)	21:09	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49		05:19		06:07 (1)	05:35		06:13 (1)	06:21	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24		22:00	26	06:33 (1)	21:55	26	06:39 (1)	21:07	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47		05:19		06:06 (1)	05:36		06:13 (1)	06:22	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26		22:01	26	06:32 (1)	21:54	25	06:38 (1)	21:05	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46		05:19		06:07 (1)	05:38		06:14 (1)	06:24	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27		22:01	25	06:32 (1)	21:53	24	06:38 (1)	21:03	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44		05:19		06:07 (1)	05:39		06:14 (1)	06:25	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29		22:02	25	06:32 (1)	21:52	24	06:38 (1)	21:01	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43	06:13 (1)	05:19		06:07 (1)	05:40		06:14 (1)	06:27	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30	6 06:19 (1)	22:02	26	06:33 (1)	21:51	23	06:37 (1)	20:59	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41	06:11 (1)	05:19		06:08 (1)	05:41		06:15 (1)	06:29	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32	11 06:22 (1)	22:03	26	06:34 (1)	21:49	22	06:37 (1)	20:57	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40	06:09 (1)	05:19		06:08 (1)	05:43		06:16 (1)	06:30	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33	15 06:24 (1)	22:03	26	06:34 (1)	21:48	21	06:37 (1)	20:55	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	05:39	06:08 (1)	05:19		06:08 (1)	05:44		06:17 (1)	06:32	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:35	17 06:25 (1)	22:03	26	06:34 (1)	21:47	19	06:36 (1)	20:53	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	05:37	06:07 (1)	05:19		06:08 (1)	05:45		06:17 (1)	06:34	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36	18 06:25 (1)	22:03	26	06:34 (1)	21:46	18	06:35 (1)	20:51	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	05:36	06:06 (1)	05:20		06:08 (1)	05:47		06:18 (1)	06:35	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	21:37	20 06:26 (1)	22:04	26	06:34 (1)	21:44	16	06:34 (1)	20:49	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35	06:05 (1)	05:20		06:09 (1)	05:48		06:20 (1)	06:37	07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	21:39	22 06:27 (1)	22:04	26	06:35 (1)	21:43	13	06:33 (1)	20:46	19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	05:34	06:05 (1)	05:20		06:09 (1)	05:50		06:22 (1)	06:38	07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	21:40	22 06:27 (1)	22:04	26	06:35 (1)	21:42	9	06:31 (1)	20:44	19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	05:32	06:05 (1)	05:21		06:09 (1)	05:51			06:40	07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	21:42	23 06:28 (1)	22:04	25	06:34 (1)	21:40			20:42	19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	05:31	06:04 (1)	05:21		06:10 (1)	05:52			06:42	07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21:43	24 06:28 (1)	22:04	25	06:35 (1)	21:39			20:40	19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	05:30	06:04 (1)	05:22		06:09 (1)	05:54			06:43	07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	21:44	25 06:29 (1)	22:04	26	06:35 (1)	21:37			20:38	19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	05:29	06:04 (1)	05:22		06:10 (1)	05:55			06:45	07:36	07:27	08:21	08:48
	17:21		20:07	21:00	21:45	25 06:29 (1)	22:03	26	06:36 (1)	21:36			20:36	19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	05:28	06:04 (1)	05:23		06:10 (1)	05:57			06:47	07:37	07:29	08:22	08:48
	17:22		20:09	21:01	21:47	26 06:30 (1)	22:03	26	06:36 (1)	21:34			20:33	19:22	17:17	16:33	16:36
31	08:22		07:19		05:27	06:04 (1)				05:58			06:48		07:31		08:48
	17:24		20:10		21:48	26 06:30 (1)				21:33			20:31		17:15		16:37
Potential sun hours	259	277	367	416	485		499		502		454	381	331	266	243
Total, worst case						280		780		584					
Sun reduction						0,43		0,39		0,41					
Oper. time red.						0,95		0,95		0,95					
Wind dir. red.						0,67		0,67		0,67					
Total reduction						0,27		0,25		0,26					
Total, real						76		194		151					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:35/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN149@164Shadow receptor: Q - 3998JD85

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May		June		July		August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12		05:26		06:09 (1)	05:23	06:17 (1)	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03		21:49	26	06:35 (1)	22:03	06:39 (1)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10		05:26		06:09 (1)	05:24	06:17 (1)	06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05		21:50	26	06:35 (1)	22:03	06:40 (1)	21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08		05:25		06:10 (1)	05:25	06:18 (1)	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06		21:51	25	06:35 (1)	22:02	06:40 (1)	21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06		05:24		06:10 (1)	05:26	06:17 (1)	06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08		21:52	25	06:35 (1)	22:02	06:40 (1)	21:26	20:22	19:12	17:07	16:31
5	08:47	08:15	07:19	07:08	06:04		05:23		06:11 (1)	05:26	06:17 (1)	06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10		21:53	25	06:36 (1)	22:01	06:41 (1)	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02		05:23		06:11 (1)	05:27	06:17 (1)	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11		21:54	24	06:35 (1)	22:01	06:41 (1)	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01		05:22		06:12 (1)	05:28	06:18 (1)	06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13		21:55	24	06:36 (1)	22:00	06:42 (1)	21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59		05:22		06:12 (1)	05:29	06:18 (1)	06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15		21:56	23	06:35 (1)	22:00	06:42 (1)	21:19	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57		05:21		06:12 (1)	05:30	06:18 (1)	06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16		21:57	23	06:35 (1)	21:59	06:43 (1)	21:17	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55		05:21		06:12 (1)	05:31	06:17 (1)	06:14	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18		21:58	23	06:35 (1)	21:58	06:42 (1)	21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54		05:20		06:13 (1)	05:32	06:17 (1)	06:16	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19		21:58	22	06:35 (1)	21:57	06:42 (1)	21:13	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52		05:20		06:13 (1)	05:33	06:17 (1)	06:17	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21		21:59	22	06:35 (1)	21:57	06:43 (1)	21:11	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50		05:20		06:14 (1)	05:34	06:18 (1)	06:19	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23		22:00	21	06:35 (1)	21:56	06:44 (1)	21:09	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49	06:18 (1)	05:19		06:14 (1)	05:35	06:18 (1)	06:21	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24	7 06:25 (1)	22:00	21	06:35 (1)	21:55	06:44 (1)	21:07	19:59	18:50	16:51	16:28
15	08:42	07:56	06:56	06:45	05:47	06:15 (1)	05:19		06:14 (1)	05:36	06:18 (1)	06:22	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26	12 06:27 (1)	22:01	21	06:35 (1)	21:54	06:44 (1)	21:05	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46	06:14 (1)	05:19		06:14 (1)	05:38	06:18 (1)	06:24	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27	15 06:29 (1)	22:01	21	06:35 (1)	21:53	06:44 (1)	21:03	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44	06:13 (1)	05:19		06:15 (1)	05:39	06:18 (1)	06:25	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29	17 06:30 (1)	22:02	20	06:35 (1)	21:52	06:44 (1)	21:01	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43	06:11 (1)	05:19		06:15 (1)	05:40	06:18 (1)	06:27	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30	19 06:30 (1)	22:02	20	06:35 (1)	21:51	06:44 (1)	20:59	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41	06:11 (1)	05:19		06:16 (1)	05:41	06:18 (1)	06:29	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32	20 06:31 (1)	22:03	20	06:36 (1)	21:49	06:43 (1)	20:57	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40	06:10 (1)	05:19		06:16 (1)	05:43	06:19 (1)	06:30	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33	22 06:32 (1)	22:03	20	06:36 (1)	21:48	06:44 (1)	20:55	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	05:39	06:10 (1)	05:19		06:16 (1)	05:44	06:19 (1)	06:32	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:35	23 06:33 (1)	22:03	20	06:36 (1)	21:47	06:44 (1)	20:53	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	05:37	06:09 (1)	05:19		06:16 (1)	05:45	06:19 (1)	06:34	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36	24 06:33 (1)	22:03	20	06:36 (1)	21:46	06:43 (1)	20:51	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	05:36	06:09 (1)	05:20		06:16 (1)	05:47	06:20 (1)	06:35	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	21:37	24 06:33 (1)	22:04	20	06:36 (1)	21:44	06:42 (1)	20:49	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35	06:09 (1)	05:20		06:17 (1)	05:48	06:21 (1)	06:37	07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	21:39	25 06:34 (1)	22:04	20	06:37 (1)	21:43	06:43 (1)	20:46	19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	05:34	06:09 (1)	05:20		06:17 (1)	05:50	06:21 (1)	06:38	07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	21:40	25 06:34 (1)	22:04	20	06:37 (1)	21:42	06:42 (1)	20:44	19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	05:32	06:08 (1)	05:21		06:16 (1)	05:51	06:22 (1)	06:40	07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	21:42	26 06:34 (1)	22:04	21	06:37 (1)	21:40	06:40 (1)	20:42	19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	05:31	06:08 (1)	05:21		06:17 (1)	05:52	06:24 (1)	06:42	07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21:43	26 06:34 (1)	22:04	21	06:38 (1)	21:39	06:40 (1)	20:40	19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	05:30	06:08 (1)	05:22		06:17 (1)	05:54	06:25 (1)	06:43	07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	21:44	26 06:34 (1)	22:04	21	06:38 (1)	21:37	06:38 (1)	20:38	19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	05:29	06:08 (1)	05:22		06:17 (1)	05:55	06:27 (1)	06:45	07:36	07:27	08:21	08:48
	17:21		20:07	21:00	21:45	26 06:34 (1)	22:03	21	06:38 (1)	21:36	06:37 (1)	20:36	19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	05:28	06:09 (1)	05:23		06:18 (1)	05:57	06:31 (1)	06:47	07:37	07:29	08:22	08:48
	17:22		20:09	21:01	21:47	26 06:35 (1)	22:03	21	06:39 (1)	21:34	06:33 (1)	20:33	19:22	17:17	16:33	16:36
31	08:22		07:19		05:27	06:09 (1)				05:58		06:48		07:31		08:48
	17:24		20:10		21:48	26 06:35 (1)				21:33		20:31		17:15		16:37
Potential sun hours	259	277	367	416	485		499			502		454	381	331	266	243
Total, worst case						389		657		666						
Sun reduction						0,43		0,39		0,41						
Oper. time red.						0,95		0,95		0,95						
Wind dir. red.						0,67		0,67		0,67						
Total reduction						0,27		0,25		0,26						
Total, real						105		163		172						

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:35/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN149@164Shadow receptor: R - 3998JD92

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	06:45 (2)	05:26	06:00 (1)	05:23	06:04 (1)	06:00		06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03	20 07:05 (2)	21:49	23 06:23 (1)	22:03	27 06:31 (1)	21:31		20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	06:45 (2)	05:26	05:59 (1)	05:24	06:04 (1)	06:01		06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05	19 07:04 (2)	21:50	24 06:23 (1)	22:03	27 06:31 (1)	21:29		20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08	06:47 (2)	05:25	06:00 (1)	05:25	06:05 (1)	06:03		06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06	17 07:04 (2)	21:51	24 06:24 (1)	22:02	27 06:32 (1)	21:28		20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06	06:47 (2)	05:24	05:59 (1)	05:26	06:05 (1)	06:05		06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08	15 07:02 (2)	21:52	25 06:24 (1)	22:02	26 06:31 (1)	21:26		20:22	19:12	17:07	16:31
5	08:47	08:14	07:19	07:08	06:04	06:48 (2)	05:23	06:00 (1)	05:26	06:05 (1)	06:06		06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10	12 07:00 (2)	21:53	25 06:25 (1)	22:01	26 06:31 (1)	21:24		20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02	06:49 (2)	05:23	05:59 (1)	05:27	06:06 (1)	06:08	07:01 (2)	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11	9 06:58 (2)	21:54	26 06:25 (1)	22:01	25 06:31 (1)	21:22	5 07:06 (2)	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01		05:22	06:00 (1)	05:28	06:06 (1)	06:09	06:59 (2)	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13		21:55	26 06:26 (1)	22:00	26 06:32 (1)	21:21	10 07:09 (2)	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59		05:22	05:59 (1)	05:29	06:06 (1)	06:11	06:57 (2)	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15		21:56	27 06:26 (1)	22:00	26 06:32 (1)	21:19	13 07:10 (2)	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57		05:21	06:00 (1)	05:30	06:07 (1)	06:12	06:56 (2)	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16		21:57	26 06:26 (1)	21:59	25 06:32 (1)	21:17	16 07:12 (2)	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55		05:21	05:59 (1)	05:31	06:06 (1)	06:14	06:55 (2)	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18		21:58	27 06:26 (1)	21:58	25 06:31 (1)	21:15	17 07:12 (2)	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54		05:20	06:00 (1)	05:32	06:07 (1)	06:16	06:55 (2)	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19		21:58	26 06:26 (1)	21:57	24 06:31 (1)	21:13	19 07:14 (2)	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52		05:20	06:00 (1)	05:33	06:07 (1)	06:17	06:53 (2)	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21		21:59	27 06:27 (1)	21:57	23 06:30 (1)	21:11	20 07:13 (2)	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50		05:20	06:00 (1)	05:34	06:09 (1)	06:19	06:53 (2)	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23		22:00	27 06:27 (1)	21:56	22 06:31 (1)	21:09	21 07:14 (2)	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49		05:19	06:01 (1)	05:35	06:09 (1)	06:21	06:53 (2)	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24		22:00	27 06:28 (1)	21:55	22 06:31 (1)	21:07	20 07:13 (2)	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47		05:19	06:00 (1)	05:36	06:10 (1)	06:22	06:53 (2)	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26		22:01	27 06:27 (1)	21:54	20 06:30 (1)	21:05	21 07:14 (2)	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46		05:19	06:00 (1)	05:38	06:11 (1)	06:24	06:53 (2)	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27		22:01	27 06:27 (1)	21:53	19 06:30 (1)	21:03	20 07:13 (2)	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44		05:19	06:00 (1)	05:39	06:12 (1)	06:25	06:53 (2)	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29		22:02	27 06:27 (1)	21:52	17 06:29 (1)	21:01	20 07:13 (2)	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43		05:19	06:01 (1)	05:40	06:13 (1)	06:27	06:54 (2)	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30		22:02	27 06:28 (1)	21:51	15 06:28 (1)	20:59	17 07:11 (2)	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41		05:19	06:02 (1)	05:41	06:14 (1)	06:29	06:56 (2)	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32		22:03	27 06:29 (1)	21:49	13 06:27 (1)	20:57	15 07:11 (2)	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40		05:19	06:02 (1)	05:43	06:16 (1)	06:30	06:57 (2)	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33		22:03	27 06:29 (1)	21:48	10 06:26 (1)	20:55	12 07:09 (2)	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	06:56 (2) 05:39		05:19	06:02 (1)	05:44	06:19 (1)	06:32	06:59 (2)	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	4 07:00 (2) 21:35		22:03	27 06:29 (1)	21:47	4 06:23 (1)	20:53	8 07:07 (2)	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	06:54 (2) 05:37		05:19	06:02 (1)	05:45		06:34	07:01 (2)	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	9 07:03 (2) 21:36		22:03	27 06:29 (1)	21:46		20:51	1 07:02 (2)	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	06:52 (2) 05:36	06:07 (1)	05:20	06:02 (1)	05:47		06:35		07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	12 07:04 (2) 21:37	7 06:14 (1)	22:04	27 06:29 (1)	21:44		20:49		19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	06:50 (2) 05:35	06:05 (1)	05:20	06:03 (1)	05:48		06:37		07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	15 07:05 (2) 21:39	11 06:16 (1)	22:04	27 06:30 (1)	21:43		20:46		19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	06:48 (2) 05:34	06:04 (1)	05:20	06:03 (1)	05:50		06:38		07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	18 07:06 (2) 21:40	14 06:18 (1)	22:04	27 06:30 (1)	21:42		20:44		19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	06:47 (2) 05:32	06:03 (1)	05:21	06:02 (1)	05:51		06:40		07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	19 07:06 (2) 21:42	16 06:19 (1)	22:04	27 06:29 (1)	21:40		20:42		19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	06:46 (2) 05:31	06:02 (1)	05:21	06:03 (1)	05:52		06:42		07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	20 07:06 (2) 21:43	18 06:20 (1)	22:04	27 06:30 (1)	21:39		20:40		19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	06:45 (2) 05:30	06:01 (1)	05:22	06:03 (1)	05:54		06:43		07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	21 07:06 (2) 21:44	19 06:20 (1)	22:04	27 06:30 (1)	21:37		20:38		19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	06:45 (2) 05:29	06:00 (1)	05:22	06:04 (1)	05:55		06:45		07:36	07:27	08:21	08:48
	17:21		20:07	21:00	21 07:06 (2) 21:45	21 06:21 (1)	22:03	26 06:30 (1)	21:36		20:36		19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	06:45 (2) 05:28	06:01 (1)	05:23	06:04 (1)	05:57		06:47		07:37	07:29	08:22	08:48
	17:22		20:08	21:01	20 07:05 (2) 21:47	21 06:22 (1)	22:03	27 06:31 (1)	21:34		20:33		19:22	17:17	16:33	16:36
31	08:22		07:19		05:27	06:00 (1)			05:58		06:48			07:31		08:48
	17:24		20:10		21:48	23 06:23 (1)			21:33		20:31			17:15		16:37
Potential sun hours	259	277	367	416	485		499		502		454		381	331	266	243
Total, worst case				159	242		791		449		255					
Sun reduction				0,42	0,43		0,39		0,41		0,42					
Oper. time red.				0,95	0,95		0,95		0,95		0,95					
Wind dir. red.				0,64	0,66		0,67		0,67		0,64					
Total reduction				0,25	0,27		0,25		0,26		0,25					
Total, real				40	65		197		116		65					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:35/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN149@164Shadow receptor: S - 3998NA1

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	06:47 (2)	05:26	06:01 (1)	05:23	06:02 (1)	06:00		06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03	22 07:09 (2)	21:49	19 06:20 (1)	22:03	27 06:29 (1)	21:31		20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	06:47 (2)	05:26	06:00 (1)	05:24	06:03 (1)	06:01		06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05	21 07:08 (2)	21:50	20 06:20 (1)	22:03	27 06:30 (1)	21:29		20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08	06:48 (2)	05:25	06:00 (1)	05:25	06:04 (1)	06:03		06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06	20 07:08 (2)	21:51	22 06:22 (1)	22:02	26 06:30 (1)	21:28		20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06	06:49 (2)	05:24	05:59 (1)	05:26	06:04 (1)	06:05		06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08	18 07:07 (2)	21:52	23 06:22 (1)	22:02	25 06:29 (1)	21:26		20:22	19:12	17:07	16:31
5	08:47	08:14	07:19	07:08	06:04	06:50 (2)	05:23	05:58 (1)	05:26	06:04 (1)	06:06	07:05 (2)	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10	15 07:05 (2)	21:53	24 06:22 (1)	22:01	26 06:30 (1)	21:24	4 07:09 (2)	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02	06:50 (2)	05:23	05:59 (1)	05:27	06:05 (1)	06:08	07:02 (2)	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11	13 07:03 (2)	21:54	24 06:23 (1)	22:01	25 06:30 (1)	21:22	10 07:12 (2)	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01	06:53 (2)	05:22	05:58 (1)	05:28	06:06 (1)	06:09	07:00 (2)	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13	9 07:02 (2)	21:55	25 06:23 (1)	22:00	24 06:30 (1)	21:21	14 07:14 (2)	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59		05:22	05:58 (1)	05:29	06:06 (1)	06:11	06:59 (2)	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15		21:56	26 06:24 (1)	22:00	24 06:30 (1)	21:19	16 07:15 (2)	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57		05:21	05:59 (1)	05:30	06:07 (1)	06:12	06:58 (2)	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16		21:57	26 06:25 (1)	21:59	22 06:29 (1)	21:17	18 07:16 (2)	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55		05:21	05:58 (1)	05:31	06:07 (1)	06:14	06:57 (2)	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18		21:58	27 06:25 (1)	21:58	21 06:28 (1)	21:15	20 07:17 (2)	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54		05:20	05:58 (1)	05:32	06:08 (1)	06:16	06:57 (2)	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19		21:58	27 06:25 (1)	21:57	20 06:28 (1)	21:13	21 07:18 (2)	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52		05:20	05:59 (1)	05:33	06:09 (1)	06:17	06:55 (2)	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21		21:59	27 06:26 (1)	21:57	18 06:27 (1)	21:11	22 07:17 (2)	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50		05:20	05:59 (1)	05:34	06:11 (1)	06:19	06:56 (2)	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23		22:00	27 06:26 (1)	21:56	17 06:28 (1)	21:09	22 07:18 (2)	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49		05:19	05:58 (1)	05:35	06:12 (1)	06:21	06:55 (2)	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24		22:00	28 06:26 (1)	21:55	15 06:27 (1)	21:07	22 07:17 (2)	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47		05:19	05:58 (1)	05:36	06:13 (1)	06:22	06:55 (2)	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26		22:01	28 06:26 (1)	21:54	12 06:25 (1)	21:05	23 07:18 (2)	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46		05:19	05:59 (1)	05:38	06:14 (1)	06:24	06:55 (2)	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27		22:01	28 06:27 (1)	21:53	10 06:24 (1)	21:03	22 07:17 (2)	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44		05:19	05:59 (1)	05:39	06:18 (1)	06:25	06:55 (2)	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29		22:02	28 06:27 (1)	21:52	2 06:20 (1)	21:01	22 07:17 (2)	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43		05:19	05:59 (1)	05:40		06:27	06:55 (2)	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30		22:02	28 06:27 (1)	21:51		20:59	20 07:15 (2)	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41		05:19	05:59 (1)	05:41		06:29	06:56 (2)	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32		22:03	28 06:27 (1)	21:49		20:57	19 07:15 (2)	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40		05:19	06:00 (1)	05:43		06:30	06:57 (2)	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33		22:03	28 06:28 (1)	21:48		20:55	16 07:13 (2)	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	06:56 (2) 05:39		05:19	06:00 (1)	05:44		06:32	06:59 (2)	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	9 07:05 (2) 21:35		22:03	28 06:28 (1)	21:47		20:53	13 07:12 (2)	19:42	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	06:54 (2) 05:37		05:19	06:00 (1)	05:45		06:33	07:00 (2)	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	13 07:07 (2) 21:36		22:03	28 06:28 (1)	21:46		20:51	9 07:09 (2)	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	06:52 (2) 05:36		05:20	06:00 (1)	05:47		06:35		07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	16 07:08 (2) 21:37		22:04	28 06:28 (1)	21:44		20:49		19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	06:50 (2) 05:35		05:20	06:01 (1)	05:48		06:37		07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	19 07:09 (2) 21:39		22:04	28 06:29 (1)	21:43		20:46		19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	06:49 (2) 05:34		05:20	06:01 (1)	05:50		06:38		07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	21 07:10 (2) 21:40		22:04	28 06:29 (1)	21:42		20:44		19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	06:49 (2) 05:32		05:21	06:01 (1)	05:51		06:40		07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	21 07:10 (2) 21:42		22:04	28 06:29 (1)	21:40		20:42		19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	06:48 (2) 05:31	06:06 (1)	05:21	06:01 (1)	05:52		06:42		07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	22 07:10 (2) 21:43	7 06:13 (1)	22:04	28 06:29 (1)	21:39		20:40		19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	06:48 (2) 05:30	06:04 (1)	05:22	06:01 (1)	05:54		06:43		07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	22 07:10 (2) 21:44	11 06:15 (1)	22:04	28 06:29 (1)	21:37		20:38		19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	06:47 (2) 05:29	06:03 (1)	05:22	06:02 (1)	05:55		06:45		07:36	07:27	08:21	08:48
	17:21		20:07	21:00	23 07:10 (2) 21:45	14 06:17 (1)	22:03	28 06:30 (1)	21:36		20:35		19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	06:47 (2) 05:28	06:03 (1)	05:23	06:03 (1)	05:57		06:47		07:37	07:29	08:22	08:48
	17:22		20:08	21:01	22 07:09 (2) 21:47	16 06:19 (1)	22:03	27 06:30 (1)	21:34		20:33		19:22	17:17	16:33	16:36
31	08:22		07:19		05:27	06:02 (1)			05:58		06:48			07:31		08:48
	17:24		20:10		21:48	17 06:19 (1)			21:33		20:31			17:15		16:37
Potential sun hours	259	277	367	416	485		499		502		454		381	331	266	243
Total, worst case				188	183		792		341		313					
Sun reduction				0,42	0,43		0,39		0,41		0,42					
Oper. time red.				0,95	0,95		0,95		0,95		0,95					
Wind dir. red.				0,64	0,65		0,67		0,67		0,64					
Total reduction				0,25	0,26		0,25		0,26		0,25					
Total, real				48	48		197		89		79					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:35/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN149@164Shadow receptor: T - 3997MR17

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March	April	May	June	July	August	September	October	November		December		
1	08:48		09:39 (4)	08:21		14:40 (1)	07:27	07:17	06:12	05:26	05:23	06:00	06:50	07:39	07:33		14:31 (1)	08:24		09:29 (4)
	16:38	116	15:14 (1)	17:26	44	15:24 (1)	18:18	20:12	21:03	21:49	22:03	21:31	20:29	19:19	17:13	7	14:38 (1)	16:32	65	15:03 (1)
2	08:48		09:40 (4)	08:19		14:41 (1)	07:25	07:14	06:10	05:25	05:24	06:01	06:51	07:41	07:35		14:26 (1)	08:25		09:29 (4)
	16:39	113	15:15 (1)	17:28	42	15:23 (1)	18:20	20:14	21:05	21:50	22:03	21:29	20:26	19:17	17:11	17	14:43 (1)	16:32	66	15:03 (1)
3	08:48		09:41 (4)	08:18		14:43 (1)	07:23	07:12	06:08	05:25	05:25	06:03	06:53	07:42	07:36		14:22 (1)	08:27		09:28 (4)
	16:40	111	15:16 (1)	17:30	40	15:23 (1)	18:21	20:15	21:06	21:51	22:02	21:28	20:24	19:14	17:09	24	14:46 (1)	16:31	67	15:03 (1)
4	08:47		09:41 (4)	08:16		14:44 (1)	07:21	07:10	06:06	05:24	05:25	06:04	06:55	07:44	07:38		14:18 (1)	08:28		09:29 (4)
	16:41	107	15:16 (1)	17:31	38	15:22 (1)	18:23	20:17	21:08	21:52	22:02	21:26	20:22	19:12	17:07	29	14:47 (1)	16:30	79	15:04 (1)
5	08:47		09:42 (4)	08:14		14:45 (1)	07:19	07:07	06:04	05:23	05:26	06:06	06:56	07:46	07:40		14:16 (1)	08:29		09:28 (4)
	16:43	105	15:17 (1)	17:33	36	15:21 (1)	18:25	20:19	21:10	21:53	22:01	21:24	20:20	19:10	17:06	33	14:49 (1)	16:30	91	15:03 (1)
6	08:47		09:42 (4)	08:13		14:47 (1)	07:16	07:05	06:02	05:23	05:27	06:08	06:58	07:47	07:42		14:15 (1)	08:31		09:28 (4)
	16:44	99	15:17 (1)	17:35	32	15:19 (1)	18:27	20:20	21:11	21:54	22:01	21:22	20:17	19:08	17:04	36	14:51 (1)	16:30	97	15:03 (1)
7	08:46		09:43 (4)	08:11		14:49 (1)	07:14	07:03	06:00	05:22	05:28	06:09	06:59	07:49	07:44		14:14 (1)	08:32		09:29 (4)
	16:45	92	15:18 (1)	17:37	28	15:17 (1)	18:28	20:22	21:13	21:55	22:00	21:20	20:15	19:05	17:02	38	14:52 (1)	16:29	102	15:04 (1)
8	08:46		09:44 (4)	08:09		14:53 (1)	07:12	07:01	05:59	05:21	05:29	06:11	07:01	07:51	07:45		14:12 (1)	08:33		09:29 (4)
	16:46	78	15:18 (1)	17:39	23	15:16 (1)	18:30	20:24	21:15	21:56	22:00	21:19	20:13	19:03	17:00	41	14:53 (1)	16:29	106	15:04 (1)
9	08:45		09:45 (4)	08:08		14:57 (1)	07:10	06:58	05:57	05:21	05:30	06:12	07:03	07:52	07:47		14:12 (1)	08:34		09:29 (4)
	16:48	67	15:20 (1)	17:41	16	15:13 (1)	18:32	20:26	21:16	21:57	21:59	21:17	20:10	19:01	16:59	42	14:54 (1)	16:28	111	15:04 (1)
10	08:45		09:46 (4)	08:06		15:04 (1)	07:07	06:56	05:55	05:20	05:31	06:14	07:04	07:54	07:49		14:11 (1)	08:35		09:29 (4)
	16:49	66	15:20 (1)	17:43	2	15:06 (1)	18:34	20:27	21:18	21:58	21:58	21:15	20:08	18:59	16:57	44	14:55 (1)	16:28	112	15:04 (1)
11	08:44		09:47 (4)	08:04			07:05	06:54	05:54	05:20	05:32	06:16	07:06	07:56	07:51		14:10 (1)	08:37		09:29 (4)
	16:51	64	15:20 (1)	17:45			18:36	20:29	21:19	21:58	21:57	21:13	20:06	18:56	16:56	46	14:56 (1)	16:28	116	15:04 (1)
12	08:44		09:48 (4)	08:02			07:03	06:52	05:52	05:20	05:33	06:17	07:08	07:57	07:53		14:10 (1)	08:38		09:30 (4)
	16:52	63	15:21 (1)	17:46			18:37	20:31	21:21	21:59	21:56	21:11	20:03	18:54	16:54	46	14:56 (1)	16:28	117	15:05 (1)
13	08:43		09:49 (4)	08:00			07:00	06:49	05:50	05:19	05:34	06:19	07:09	07:59	07:54		14:09 (1)	08:39		09:31 (4)
	16:53	61	15:21 (1)	17:48			18:39	20:32	21:23	22:00	21:56	21:09	20:01	18:52	16:53	48	14:57 (1)	16:28	119	15:05 (1)
14	08:42		09:51 (4)	07:58			06:58	06:47	05:49	05:19	05:35	06:20	07:11	08:01	07:56		14:09 (1)	08:40		09:31 (4)
	16:55	59	15:22 (1)	17:50			18:41	20:34	21:24	22:00	21:55	21:07	19:59	18:50	16:51	49	14:58 (1)	16:28	120	15:06 (1)
15	08:41		09:56 (4)	07:56			06:56	06:45	05:47	05:19	05:36	06:22	07:13	08:03	07:58		14:09 (1)	08:40		09:31 (4)
	16:57	52	15:23 (1)	17:52			18:43	20:36	21:26	22:01	21:54	21:05	19:56	18:47	16:50	49	14:58 (1)	16:28	120	15:05 (1)
16	08:41		14:31 (1)	07:54			06:54	06:43	05:46	05:19	05:38	06:24	07:14	08:04	08:00		14:09 (1)	08:41		09:31 (4)
	16:58	52	15:23 (1)	17:54			18:44	20:37	21:27	22:01	21:53	21:03	19:54	18:45	16:48	50	14:59 (1)	16:28	122	15:06 (1)
17	08:40		14:32 (1)	07:52			06:51	06:41	05:44	05:19	05:39	06:25	07:16	08:06	08:01		14:09 (1)	08:42		09:32 (4)
	17:00	51	15:23 (1)	17:56			18:46	20:39	21:29	22:02	21:52	21:01	19:52	18:43	16:47	50	14:59 (1)	16:28	122	15:06 (1)
18	08:39		14:32 (1)	07:50			06:49	06:38	05:43	05:19	05:40	06:27	07:17	08:08	08:03		14:09 (1)	08:43		09:33 (4)
	17:01	52	15:24 (1)	17:58			18:48	20:41	21:30	22:02	21:51	20:59	19:49	18:41	16:46	51	15:00 (1)	16:29	122	15:07 (1)
19	08:38		14:32 (1)	07:48			06:47	06:36	05:41	05:19	05:41	06:28	07:19	08:10	08:05		14:08 (1)	08:44		09:32 (4)
	17:03	52	15:24 (1)	17:59			18:50	20:43	21:32	22:03	21:49	20:57	19:47	18:39	16:44	51	14:59 (1)	16:29	124	15:07 (1)
20	08:37		14:33 (1)	07:46			06:44	06:34	05:40	05:19	05:43	06:30	07:21	08:11	08:06		14:08 (1)	08:44		09:33 (4)
	17:05	52	15:25 (1)	18:01			18:51	20:44	21:33	22:03	21:48	20:55	19:45	18:37	16:43	52	15:00 (1)	16:29	124	15:07 (1)
21	08:36		14:34 (1)	07:44			06:42	06:32	05:38	05:19	05:44	06:32	07:22	08:13	08:08		14:09 (1)	08:45		09:34 (4)
	17:06	51	15:25 (1)	18:03			18:53	20:46	21:35	22:03	21:47	20:53	19:42	18:35	16:42	51	15:00 (1)	16:30	123	15:08 (1)
22	08:34		14:33 (1)	07:42			06:40	06:30	05:37	05:19	05:45	06:33	07:24	08:15	08:10		14:09 (1)	08:45		09:34 (4)
	17:08	52	15:25 (1)	18:05			18:55	20:48	21:36	22:03	21:46	20:51	19:40	18:33	16:41	52	15:01 (1)	16:30	123	15:08 (1)
23	08:33		14:34 (1)	07:40			06:37	06:28	05:36	05:20	05:47	06:35	07:26	08:17	08:11		14:10 (1)	08:46		09:34 (4)
	17:10	51	15:25 (1)	18:07			18:56	20:49	21:37	22:04	21:44	20:49	19:38	18:31	16:40	51	15:01 (1)	16:31	124	15:08 (1)
24	08:32		14:35 (1)	07:38			06:35	06:26	05:35	05:20	05:48	06:37	07:27	08:18	08:13		14:09 (1)	08:46		09:35 (4)
	17:12	51	15:26 (1)	18:09			18:58	20:51	21:39	22:04	21:43	20:46	19:35	18:28	16:38	52	15:01 (1)	16:31	123	15:09 (1)
25	08:31		14:35 (1)	07:36			06:33	06:24	05:33	05:20	05:49	06:38	07:29	07:20	08:15		14:10 (1)	08:47		09:35 (4)
	17:13	50	15:25 (1)	18:10			19:00	20:53	21:40	22:04	21:42	20:44	19:33	17:26	16:37	51	15:01 (1)	16:32	123	15:10 (1)
26	08:30		14:36 (1)	07:34			06:30	06:22	05:32	05:21	05:51	06:40	07:31	07:22	08:16		14:10 (1)	08:47		09:36 (4)
	17:15	50	15:26 (1)	18:12			19:02	20:54	21:41	22:04	21:40	20:42	19:31	17:24	16:36	52	15:02 (1)	16:32	122	15:10 (1)
27	08:28		14:36 (1)	07:32			06:28	06:20	05:31	05:21	05:52	06:42	07:32	07:24	08:18		14:11 (1)	08:47		09:37 (4)
	17:17	49	15:25 (1)	18:14			19:03	20:56	21:43	22:04	21:39	20:40	19:28	17:22	16:36	51	15:02 (1)	16:33	121	15:11 (1)
28	08:27		14:37 (1)	07:30			06:26	06:18	05:30	05:21	05:54	06:43	07:34	07:26	08:19		09:31 (4)	08:48		09:37 (4)
	17:19	49	15:26 (1)	18:16			19:05	20:58	21:44	22:03	21:37	20:38	19:26	17:20	16:35	59	15:02 (1)	16:34	122	15:12 (1)
29	08:25		14:37 (1)				07:24	06:16	05:29	05:22	05:55	06:45	07:35	07:27	08:21		09:30 (4)	08:48		09:38 (4)
	17:20	48	15:25 (1)				20:07	21:00	21:45	22:03	21:36	20:35	19:24	17:19	16:34	61	15:02 (1)	16:35	120	15:13 (1)
30	08:24		14:38 (1)				07:21	06:14	05:28	05:23	05:57	06:46	07:37	07:29	08:22		09:30 (4)	08:48		09:38 (4)
	17:22	46	15:24 (1)				20:08	21:01	21:47	22:03	21:34	20:33	19:21	17:17	16:33	63	15:03 (1)	16:36	119	15:13 (1)
31	08:22		14:39 (1)				07:19		05:27		05:58	06:48		07:31				08:48		09:38 (4)
	17:24	46	15:25 (1)				20:10		21:48		21:33	20:31		17:15				16:37	118	15:13 (1)
Potential sun hours	259			277		367	416	485	499	502	454	381	331		266			243		
Total, worst case		2055			301											1346			3440	
Sun reduction		0,24			0,30											0,24			0,20	
Oper. time red.		0,95			0,95											0,95			0,95	
Wind dir. red.		0,68			0,70											0,69			0,65	
Total reduction		0,15			0,20											0,15			0,13	
Total, real		314			60											209			433	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:35/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN149@164Shadow receptor: U - 3945LA4

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December		
1	08:48		13:47 (3)	08:21		16:13 (2)	07:27		17:36 (1)	07:17	06:12	05:26	05:23	06:00	06:50			07:39		18:06 (1)	07:33		15:39 (2)	08:24		13:39 (3)
	16:38	39	14:26 (3)	17:26	27	16:40 (2)	18:18	11	17:47 (1)	20:12	21:03	21:49	22:03	21:31	20:29			19:19	25	18:31 (1)	17:13	37	16:16 (2)	16:32	29	14:08 (3)
2	08:48		13:48 (3)	08:19		16:12 (2)	07:25		17:33 (1)	07:14	06:10	05:25	05:24	06:01	06:51			07:40		18:05 (1)	07:35		15:39 (2)	08:25		13:39 (3)
	16:39	38	14:26 (3)	17:28	29	16:41 (2)	18:19	16	17:49 (1)	20:13	21:05	21:50	22:02	21:29	20:26			19:17	27	18:32 (1)	17:11	37	16:16 (2)	16:32	30	14:09 (3)
3	08:48		13:49 (3)	08:18		16:12 (2)	07:23		17:31 (1)	07:12	06:08	05:25	05:25	06:03	06:53			07:42		18:04 (1)	07:36		15:39 (2)	08:27		13:38 (3)
	16:40	37	14:26 (3)	17:30	31	16:43 (2)	18:21	19	17:50 (1)	20:15	21:06	21:51	22:02	21:27	20:24			19:14	27	18:31 (1)	17:09	36	16:15 (2)	16:31	32	14:10 (3)
4	08:47		13:49 (3)	08:16		16:11 (2)	07:21		17:30 (1)	07:10	06:06	05:24	05:25	06:04	06:55			07:44		18:03 (1)	07:38		15:39 (2)	08:28		13:38 (3)
	16:41	37	14:26 (3)	17:31	33	16:44 (2)	18:23	22	17:52 (1)	20:17	21:08	21:52	22:02	21:26	20:22			19:12	28	18:31 (1)	17:07	36	16:15 (2)	16:30	33	14:11 (3)
5	08:47		13:51 (3)	08:14		16:10 (2)	07:18		17:29 (1)	07:07	06:04	05:23	05:26	06:06	06:56			07:45		18:03 (1)	07:40		15:40 (2)	08:29		13:37 (3)
	16:42	36	14:27 (3)	17:33	34	16:44 (2)	18:25	24	17:53 (1)	20:19	21:10	21:53	22:01	21:24	20:20			19:10	28	18:31 (1)	17:06	34	16:14 (2)	16:30	35	14:12 (3)
6	08:47		13:51 (3)	08:13		16:10 (2)	07:16		17:27 (1)	07:05	06:02	05:23	05:27	06:08	06:58			07:47		18:02 (1)	07:42		15:40 (2)	08:31		13:37 (3)
	16:44	35	14:26 (3)	17:35	35	16:45 (2)	18:27	26	17:53 (1)	20:20	21:11	21:54	22:01	21:22	20:17			19:08	28	18:30 (1)	17:04	34	16:14 (2)	16:29	35	14:12 (3)
7	08:46		13:52 (3)	08:11		16:09 (2)	07:14		17:27 (1)	07:03	06:00	05:22	05:28	06:09	06:59			07:49		18:03 (1)	07:44		15:41 (2)	08:32		13:38 (3)
	16:45	35	14:27 (3)	17:37	36	16:45 (2)	18:28	26	17:53 (1)	20:22	21:13	21:55	22:00	21:20	20:15			19:05	26	18:29 (1)	17:02	32	16:13 (2)	16:29	36	14:14 (3)
8	08:46		13:53 (3)	08:09		16:10 (2)	07:12		17:26 (1)	07:01	05:59	05:21	05:29	06:11	07:01			07:51		18:03 (1)	07:45		15:42 (2)	08:33		13:37 (3)
	16:46	33	14:26 (3)	17:39	37	16:47 (2)	18:30	28	17:54 (1)	20:24	21:14	21:56	21:59	21:19	20:13			19:03	26	18:29 (1)	17:00	31	16:13 (2)	16:29	37	14:14 (3)
9	08:45		13:55 (3)	08:07		16:10 (2)	07:10		17:26 (1)	06:58	05:57	05:21	05:30	06:12	07:03			07:52		18:04 (1)	07:47		15:43 (2)	08:34		13:37 (3)
	16:48	32	14:27 (3)	17:41	37	16:47 (2)	18:32	28	17:54 (1)	20:25	21:16	21:57	21:59	21:17	20:10			19:01	24	18:28 (1)	16:59	29	16:12 (2)	16:28	38	14:15 (3)
10	08:45		13:55 (3)	08:06		16:09 (2)	07:07		17:26 (1)	06:56	05:55	05:20	05:31	06:14	07:04			07:54		18:04 (1)	07:49		15:44 (2)	08:35		13:37 (3)
	16:49	31	14:26 (3)	17:43	38	16:47 (2)	18:34	27	17:53 (1)	20:27	21:18	21:57	21:58	21:15	20:08			18:59	21	18:25 (1)	16:57	27	16:11 (2)	16:28	38	14:15 (3)
11	08:44		13:56 (3)	08:04		16:09 (2)	07:05		17:26 (1)	06:54	05:53	05:20	05:32	06:16	07:06			07:56		18:05 (1)	07:51		15:45 (2)	08:37		13:37 (3)
	16:50	30	14:26 (3)	17:45	38	16:47 (2)	18:35	27	17:53 (1)	20:29	21:19	21:58	21:57	21:13	20:06			18:56	19	18:24 (1)	16:56	25	16:10 (2)	16:28	39	14:16 (3)
12	08:44		13:58 (3)	08:02		16:10 (2)	07:03		17:27 (1)	06:52	05:52	05:20	05:33	06:17	07:08			07:57		18:07 (1)	07:52		15:47 (2)	08:38		13:37 (3)
	16:52	27	14:25 (3)	17:46	37	16:47 (2)	18:37	25	17:52 (1)	20:31	21:21	21:59	21:56	21:11	20:03			18:54	15	18:22 (1)	16:54	21	16:08 (2)	16:28	39	14:16 (3)
13	08:43		13:59 (3)	08:00		16:10 (2)	07:00		17:26 (1)	06:49	05:50	05:19	05:34	06:19	07:09			07:59		18:10 (1)	07:54		15:49 (2)	08:39		13:39 (3)
	16:53	25	14:24 (3)	17:48	37	16:47 (2)	18:39	25	17:51 (1)	20:32	21:22	22:00	21:56	21:09	20:01			18:52	8	18:18 (1)	16:52	17	16:06 (2)	16:28	39	14:18 (3)
14	08:42		14:01 (3)	07:58		16:10 (2)	06:58		17:28 (1)	06:47	05:49	05:19	05:35	06:20	07:11			08:01			07:56		15:52 (2)	08:40		13:38 (3)
	16:55	22	14:23 (3)	17:50	36	16:46 (2)	18:41	22	17:50 (1)	20:34	21:24	22:00	21:55	21:07	19:59			18:50			16:51	12	16:04 (2)	16:28	39	14:17 (3)
15	08:41		14:03 (3)	07:56		16:11 (2)	06:56		17:29 (1)	06:45	05:47	05:19	05:36	06:22	07:12			08:03			07:58		15:56 (2)	08:40		13:38 (3)
	16:56	19	14:22 (3)	17:52	35	16:46 (2)	18:43	20	17:49 (1)	20:36	21:26	22:01	21:54	21:05	19:56			18:47			16:50	4	16:00 (2)	16:28	40	14:18 (3)
16	08:41		14:06 (3)	07:54		16:11 (2)	06:54		17:30 (1)	06:43	05:46	05:19	05:37	06:24	07:14			08:04			08:00			08:41		13:39 (3)
	16:58	15	14:21 (3)	17:54	35	16:46 (2)	18:44	16	17:46 (1)	20:37	21:27	22:01	21:53	21:03	19:54			18:45			16:48			16:28	40	14:19 (3)
17	08:40		14:10 (3)	07:52		16:12 (2)	06:51		17:33 (1)	06:41	05:44	05:19	05:39	06:25	07:16			08:06			08:01			08:42		13:39 (3)
	17:00	8	14:18 (3)	17:56	33	16:45 (2)	18:46	10	17:43 (1)	20:39	21:29	22:02	21:52	21:01	19:52			18:43			16:47			16:28	40	14:19 (3)
18	08:39			07:50		16:13 (2)	06:49			06:38	05:43	05:19	05:40	06:27	07:17			08:08		16:58 (2)	08:03			08:43		13:40 (3)
	17:01			17:58	31	16:44 (2)	18:48			20:41	21:30	22:02	21:50	20:59	19:49			18:41	4	17:02 (2)	16:45			16:28	40	14:20 (3)
19	08:38			07:48		16:14 (2)	06:47			06:36	05:41	05:19	05:41	06:28	07:19			08:10		16:52 (2)	08:05			08:44		13:40 (3)
	17:03			17:59	29	16:43 (2)	18:49			20:43	21:32	22:02	21:49	20:57	19:47			18:39	15	17:07 (2)	16:44			16:29	40	14:20 (3)
20	08:37			07:46		16:15 (2)	06:44			06:34	05:40	05:19	05:43	06:30	07:21			08:11		16:50 (2)	08:06			08:44		13:41 (3)
	17:05			18:01	26	16:41 (2)	18:51			20:44	21:33	22:03	21:48	20:55	19:45			18:37	20	17:10 (2)	16:43			16:29	40	14:21 (3)
21	08:36			07:44		16:17 (2)	06:42			06:32	05:38	05:19	05:44	06:32	07:22			08:13		16:47 (2)	08:08			08:45		13:42 (3)
	17:06			18:03	23	16:40 (2)	18:53			20:46	21:35	22:03	21:47	20:53	19:42			18:35	25	17:12 (2)	16:42			16:30	40	14:22 (3)
22	08:34			07:42		16:19 (2)	06:40			06:30	05:37	05:19	05:45	06:33	07:24			08:15		16:45 (2)	08:10			08:45		13:42 (3)
	17:08			18:05	19	16:38 (2)	18:55			20:48	21:36	22:03	21:46	20:51	19:40			18:33	27	17:12 (2)	16:41			16:30	40	14:22 (3)
23	08:33			07:40		16:22 (2)	06:37			06:28	05:36	05:19	05:47	06:35	07:26			08:17		16:43 (2)	08:11			08:46		13:42 (3)
	17:10			18:07	13	16:35 (2)	18:56			20:49	21:37	22:03	21:44	20:48	19:38			18:30	30	17:13 (2)	16:39			16:31	40	14:22 (3)
24	08:32			07:38			06:35			06:26	05:35	05:20	05:48	06:37	07:27			08:18		16:42 (2)	08:13			08:46		13:43 (3)
	17:11			18:09			18:58			20:51	21:39	22:04	21:43	20:46	19:35			18:28	32	17:14 (2)	16:38			16:31	40	14:23 (3)
25	08:31			07:36			06:33			06:24	05:33	05:20	05:49	06:38	07:29			07:20		15:41 (2)	08:15		13:48 (3)	08:47		13:43 (3)
	17:13			18:10			19:00			20:53	21:40	22:04	21:42	20:44	19:33			17:26	34	16:15 (2)	16:37	8	13:56 (3)	16:32	40	14:23 (3)
26	08:29			07:34			06:30			06:22	05:32	05:20	05:51	06:40	07:30		18:17 (1)	07:22		15:41 (2)	08:16		13:45 (3)	08:47		13:43 (3)
	17:15			18:12			19:02			20:54	21:41	22:04	21:40	20:42	19:31	8	18:25 (1)	17:24	34	16:15 (2)	16:36	15	14:00 (3)	16:32	40	14:23 (3)
27	08:28		16:23 (2)	07:32			06:28			06:20	05:31	05:21	05:52	06:41	07:32		18:13 (1)	07:24		15:40 (2)	08:18		13:43 (3)	08:47		13:44 (3)
	17:17	4	16:27 (2)	18:14			19:03			20:56	21:43	22:04	21:39	20:40	19:28	14	18:27 (1)	17:22	36	16:16 (2)	16:35	19	14:02 (3)	16:33	40	14:24 (3)
28	08:27		16:19 (2)	07:29			06:26			06:18	05:30	05:21	05:54	06:43	07:34		18:10 (1)	07:26		15:40 (2)	08:19		13:41 (3)	08:47		13:45 (3)
	17:19	14	16:33 (2)	18:16			19:05			20:58	21:44	22:03	21:37	20:38	19:26	19	18:29 (1)	17:20	36	16:16 (2)	16:35	22	14:03 (3)	16:34	40	14:25 (3)
29	08:25		16:17 (2)				07:23			06:16	05:29	05:22	05:55	06:45	07:35		18:09 (1)	07:27		15:39 (2)	08:21		13:40 (3)	08:48		13:46 (3)
	17:20	18	16:35 (2)				20:07			20:59	21:45	22:03	21:36	20:35	19:24	21	18:30 (1)	17:18	37	16:16 (2)	16:34	25	14:05 (3)	16:35	39	14:25 (3)
30	08:24		16:15 (2)				07:21			06:14	05:28	05:23	05:57	06:46	07:37		18:07 (1)	07:29		15:39 (2)	08:22		13:39 (3)	08:48		13:46 (3)
	17:22	21	16:36 (2)				20:08			21:01	21:46	22:03	21:34	20:33	19:21	23	18:30 (1)	17:17	37	16:16 (2)	16:33	27	14:06 (3)	16:36	40	14:26 (3)
31	08:22		16:14 (2)				07:19				05:27		05:58	06:48				07:31		15:39 (2)				08:48		13:46 (3)
	17:24	25	16:39 (2)				20:10				21:48		21:32	20:31				17:15	38	16:17 (2)				16:37	39	14:25 (3)
Potential sun hours	259			277			367		416	485	499	502	454	381				331			266			243		
Total, worst case		581			729			372							85				707			528			1177	
Sun reduction		0,24			0,30			0,33							0,36				0,34			0,24			0,20	
Oper. time red.		0,95			0,95			0,95							0,95				0,95			0,95			0,95	
Wind dir. red.		0,68			0,67			0,64							0,64				0,66			0,68			0,68	
Total reduction		0,16			0,19			0,20							0,22				0,21			0,15			0,13	
Total, real		90			141			75							19				149			80			156	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:35/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN149@164Shadow receptor: V - 3998JD90

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	06:49 (2)	05:26	06:03 (1)	05:23	06:08 (1)	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03	17 07:06 (2)	21:49	26 06:29 (1)	22:03	27 06:35 (1)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	06:50 (2)	05:26	06:03 (1)	05:24	06:09 (1)	06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05	15 07:05 (2)	21:50	26 06:29 (1)	22:03	27 06:36 (1)	21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08	06:52 (2)	05:25	06:03 (1)	05:25	06:09 (1)	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06	12 07:04 (2)	21:51	27 06:30 (1)	22:02	27 06:36 (1)	21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06	06:54 (2)	05:24	06:03 (1)	05:26	06:09 (1)	06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08	8 07:02 (2)	21:52	27 06:30 (1)	22:02	27 06:36 (1)	21:26	20:22	19:12	17:07	16:31
5	08:47	08:14	07:19	07:08	06:04		05:23	06:04 (1)	05:26	06:09 (1)	06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10		21:53	26 06:30 (1)	22:01	27 06:36 (1)	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02		05:23	06:03 (1)	05:27	06:10 (1)	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11		21:54	27 06:30 (1)	22:01	26 06:36 (1)	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01		05:22	06:04 (1)	05:28	06:10 (1)	06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13		21:55	27 06:31 (1)	22:00	27 06:37 (1)	21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59		05:22	06:04 (1)	05:29	06:10 (1)	06:11	07:06 (2)	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15		21:56	26 06:30 (1)	22:00	27 06:37 (1)	21:19	1 07:07 (2)	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57		05:21	06:04 (1)	05:30	06:11 (1)	06:12	07:02 (2)	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16		21:57	27 06:31 (1)	21:59	26 06:37 (1)	21:17	10 07:12 (2)	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55		05:21	06:04 (1)	05:31	06:10 (1)	06:14	07:00 (2)	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18		21:58	26 06:30 (1)	21:58	26 06:36 (1)	21:15	13 07:13 (2)	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54		05:20	06:04 (1)	05:32	06:10 (1)	06:16	06:59 (2)	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19		21:58	27 06:31 (1)	21:57	26 06:36 (1)	21:13	16 07:15 (2)	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52		05:20	06:05 (1)	05:33	06:10 (1)	06:17	06:58 (2)	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21		21:59	26 06:31 (1)	21:57	26 06:36 (1)	21:11	17 07:15 (2)	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50		05:20	06:05 (1)	05:34	06:12 (1)	06:19	06:57 (2)	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23		22:00	27 06:32 (1)	21:56	25 06:37 (1)	21:09	19 07:16 (2)	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49		05:19	06:05 (1)	05:35	06:12 (1)	06:21	06:56 (2)	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24		22:00	27 06:32 (1)	21:55	25 06:37 (1)	21:07	20 07:16 (2)	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47		05:19	06:05 (1)	05:36	06:12 (1)	06:22	06:56 (2)	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26		22:01	26 06:31 (1)	21:54	25 06:37 (1)	21:05	20 07:16 (2)	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46		05:19	06:05 (1)	05:38	06:13 (1)	06:24	06:55 (2)	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27		22:01	26 06:31 (1)	21:53	23 06:36 (1)	21:03	21 07:16 (2)	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44		05:19	06:05 (1)	05:39	06:13 (1)	06:25	06:56 (2)	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29		22:02	26 06:31 (1)	21:52	23 06:36 (1)	21:01	20 07:16 (2)	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43		05:19	06:05 (1)	05:40	06:14 (1)	06:27	06:55 (2)	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30		22:02	27 06:32 (1)	21:51	21 06:35 (1)	20:59	20 07:15 (2)	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41	06:12 (1)	05:19	06:07 (1)	05:41	06:14 (1)	06:29	06:56 (2)	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32	6 06:18 (1)	22:03	26 06:33 (1)	21:49	21 06:35 (1)	20:57	19 07:15 (2)	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	06:58 (2) 05:40	06:10 (1)	05:19	06:07 (1)	05:43	06:16 (1)	06:30	06:57 (2)	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	8 07:06 (2) 21:33	11 06:21 (1)	22:03	26 06:33 (1)	21:48	19 06:35 (1)	20:55	17 07:14 (2)	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	06:56 (2) 05:39	06:08 (1)	05:19	06:07 (1)	05:44	06:16 (1)	06:32	06:59 (2)	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	11 07:07 (2) 21:35	14 06:22 (1)	22:03	26 06:33 (1)	21:47	18 06:34 (1)	20:53	14 07:13 (2)	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	06:54 (2) 05:37	06:06 (1)	05:19	06:07 (1)	05:45	06:17 (1)	06:34	07:00 (2)	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	14 07:08 (2) 21:36	17 06:23 (1)	22:03	26 06:33 (1)	21:46	16 06:33 (1)	20:51	11 07:11 (2)	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	06:52 (2) 05:36	06:06 (1)	05:20	06:07 (1)	05:47	06:19 (1)	06:35	07:02 (2)	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	17 07:09 (2) 21:37	18 06:24 (1)	22:04	26 06:33 (1)	21:44	12 06:31 (1)	20:49	7 07:09 (2)	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	06:50 (2) 05:35	06:05 (1)	05:20	06:08 (1)	05:48	06:21 (1)	06:37		07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	19 07:09 (2) 21:39	20 06:25 (1)	22:04	26 06:34 (1)	21:43	9 06:30 (1)	20:46		19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	06:50 (2) 05:34	06:04 (1)	05:20	06:07 (1)	05:50		06:38		07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	20 07:10 (2) 21:40	21 06:25 (1)	22:04	27 06:34 (1)	21:42		20:44		19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	06:49 (2) 05:32	06:04 (1)	05:21	06:07 (1)	05:51		06:40		07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	21 07:10 (2) 21:42	22 06:26 (1)	22:04	26 06:33 (1)	21:40		20:42		19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	06:49 (2) 05:31	06:03 (1)	05:21	06:08 (1)	05:52		06:42		07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	20 07:09 (2) 21:43	24 06:27 (1)	22:04	26 06:34 (1)	21:39		20:40		19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	06:49 (2) 05:30	06:03 (1)	05:22	06:08 (1)	05:54		06:43		07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	20 07:09 (2) 21:44	24 06:27 (1)	22:04	26 06:34 (1)	21:37		20:38		19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	06:49 (2) 05:29	06:03 (1)	05:22	06:08 (1)	05:55		06:45		07:36	07:27	08:21	08:48
	17:21		20:07	21:00	19 07:08 (2) 21:45	24 06:27 (1)	22:03	27 06:35 (1)	21:36		20:36		19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	06:49 (2) 05:28	06:03 (1)	05:23	06:09 (1)	05:57		06:47		07:37	07:29	08:22	08:48
	17:22		20:09	21:01	18 07:07 (2) 21:47	26 06:29 (1)	22:03	26 06:35 (1)	21:34		20:33		19:22	17:17	16:33	16:36
31	08:22		07:19		05:27	06:03 (1)			05:58		06:48			07:31		08:48
	17:24		20:10		21:48	26 06:29 (1)			21:33		20:31			17:15		16:37
Potential sun hours	259	277	367	416	485		499		502		454		381	331	266	243
Total, worst case				187	305		791		556		245					
Sun reduction				0,42	0,43		0,39		0,41		0,42					
Oper. time red.				0,95	0,95		0,95		0,95		0,95					
Wind dir. red.				0,64	0,67		0,67		0,67		0,64					
Total reduction				0,25	0,27		0,25		0,26		0,25					
Total, real				47	82		196		144		62					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:35/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN149@164Shadow receptor: W - 3998JD93

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 16:38	08:21 17:26	07:27 18:18	07:17 20:12	06:12 21:03	06:45 (2) 07:05 (2)	05:26 21:49	06:00 (1) 06:23 (1)	05:23 22:03	06:04 (1) 06:31 (1)	06:00 21:31	06:50 20:29	07:39 19:19	07:33 17:13	08:24 16:32
2	08:48 16:39	08:19 17:28	07:25 18:20	07:14 20:14	06:10 21:05	06:45 (2) 07:04 (2)	05:26 21:50	05:59 (1) 06:23 (1)	05:24 22:03	06:04 (1) 06:31 (1)	06:01 21:29	06:51 20:27	07:41 19:17	07:35 17:11	08:25 16:32
3	08:48 16:40	08:18 17:30	07:23 18:21	07:12 20:15	06:08 21:06	06:47 (2) 07:04 (2)	05:25 21:51	06:00 (1) 06:24 (1)	05:25 22:02	06:05 (1) 06:32 (1)	06:03 21:28	06:53 20:24	07:42 19:15	07:36 17:09	08:27 16:31
4	08:47 16:41	08:16 17:32	07:21 18:23	07:10 20:17	06:06 21:08	06:47 (2) 07:02 (2)	05:24 21:52	05:59 (1) 06:24 (1)	05:26 22:02	06:05 (1) 06:31 (1)	06:05 21:26	06:55 20:22	07:44 19:12	07:38 17:07	08:28 16:31
5	08:47 16:43	08:14 17:33	07:19 18:25	07:08 20:19	06:04 21:10	06:48 (2) 07:00 (2)	05:23 21:53	06:00 (1) 06:25 (1)	05:26 22:01	06:05 (1) 06:31 (1)	06:06 21:24	06:56 20:20	07:46 19:10	07:40 17:06	08:29 16:30
6	08:47 16:44	08:13 17:35	07:16 18:27	07:05 20:20	06:02 21:11	06:49 (2) 06:58 (2)	05:23 21:54	05:59 (1) 06:25 (1)	05:27 22:01	06:06 (1) 06:31 (1)	06:08 21:22	07:01 (2) 07:06 (2)	06:58 20:17	07:47 19:08	07:42 17:04	08:31 16:30
7	08:46 16:45	08:11 17:37	07:14 18:29	07:03 20:22	06:01 21:13		05:22 21:55	06:00 (1) 06:26 (1)	05:28 22:00	06:06 (1) 06:32 (1)	06:09 21:21	06:59 (2) 07:09 (2)	07:00 20:15	07:49 19:05	07:44 17:02	08:32 16:29
8	08:46 16:46	08:09 17:39	07:12 18:30	07:01 20:24	05:59 21:15		05:22 21:56	05:59 (1) 06:26 (1)	05:29 22:00	06:06 (1) 06:32 (1)	06:11 21:19	06:57 (2) 07:10 (2)	07:01 20:13	07:51 19:03	07:45 17:01	08:33 16:29
9	08:46 16:48	08:08 17:41	07:10 18:32	06:58 20:26	05:57 21:16		05:21 21:57	06:00 (1) 06:26 (1)	05:30 21:59	06:07 (1) 06:32 (1)	06:12 21:17	06:56 (2) 07:12 (2)	07:03 20:11	07:52 19:01	07:47 16:59	08:34 16:29
10	08:45 16:49	08:06 17:43	07:07 18:34	06:56 20:27	05:55 21:18		05:21 21:58	05:59 (1) 06:26 (1)	05:31 21:58	06:06 (1) 06:31 (1)	06:14 21:15	06:55 (2) 07:12 (2)	07:04 20:08	07:54 18:59	07:49 16:57	08:36 16:28
11	08:44 16:51	08:04 17:45	07:05 18:36	06:54 20:29	05:54 21:19		05:20 21:58	06:00 (1) 06:26 (1)	05:32 21:57	06:07 (1) 06:31 (1)	06:16 21:13	06:55 (2) 07:14 (2)	07:06 20:06	07:56 18:56	07:51 16:56	08:37 16:28
12	08:44 16:52	08:02 17:47	07:03 18:37	06:52 20:31	05:52 21:21		05:20 21:59	06:00 (1) 06:27 (1)	05:33 21:57	06:07 (1) 06:30 (1)	06:17 21:11	06:53 (2) 07:13 (2)	07:08 20:04	07:58 18:54	07:53 16:54	08:38 16:28
13	08:43 16:54	08:00 17:48	07:01 18:39	06:49 20:32	05:50 21:23		05:20 22:00	06:00 (1) 06:27 (1)	05:34 21:56	06:09 (1) 06:31 (1)	06:19 21:09	06:53 (2) 07:14 (2)	07:09 20:01	07:59 18:52	07:54 16:53	08:39 16:28
14	08:42 16:55	07:58 17:50	06:58 18:41	06:47 20:34	05:49 21:24		05:19 22:00	06:01 (1) 06:28 (1)	05:35 21:55	06:09 (1) 06:31 (1)	06:21 21:07	06:53 (2) 07:13 (2)	07:11 19:59	08:01 18:50	07:56 16:51	08:40 16:28
15	08:41 16:57	07:56 17:52	06:56 18:43	06:45 20:36	05:47 21:26		05:19 22:01	06:00 (1) 06:27 (1)	05:36 21:54	06:10 (1) 06:30 (1)	06:22 21:05	06:53 (2) 07:14 (2)	07:13 19:57	08:03 18:48	07:58 16:50	08:41 16:28
16	08:41 16:58	07:54 17:54	06:54 18:44	06:43 20:38	05:46 21:27		05:19 22:01	06:00 (1) 06:27 (1)	05:38 21:53	06:11 (1) 06:30 (1)	06:24 21:03	06:53 (2) 07:13 (2)	07:14 19:54	08:04 18:45	08:00 16:48	08:41 16:28
17	08:40 17:00	07:52 17:56	06:51 18:46	06:41 20:39	05:44 21:29		05:19 22:02	06:00 (1) 06:27 (1)	05:39 21:52	06:12 (1) 06:29 (1)	06:25 21:01	06:53 (2) 07:13 (2)	07:16 19:52	08:06 18:43	08:01 16:47	08:42 16:28
18	08:39 17:01	07:50 17:58	06:49 18:48	06:39 20:41	05:43 21:30		05:19 22:02	06:01 (1) 06:28 (1)	05:40 21:51	06:13 (1) 06:28 (1)	06:27 20:59	06:54 (2) 07:11 (2)	07:17 19:50	08:08 18:41	08:03 16:46	08:43 16:29
19	08:38 17:03	07:48 18:00	06:47 18:50	06:36 20:43	05:41 21:32		05:19 22:03	06:02 (1) 06:29 (1)	05:41 21:49	06:14 (1) 06:27 (1)	06:29 20:57	06:56 (2) 07:11 (2)	07:19 19:47	08:10 18:39	08:05 16:44	08:44 16:29
20	08:37 17:05	07:46 18:01	06:44 18:51	06:34 20:44	05:40 21:33		05:19 22:03	06:02 (1) 06:29 (1)	05:43 21:48	06:16 (1) 06:26 (1)	06:30 20:55	06:57 (2) 07:09 (2)	07:21 19:45	08:11 18:37	08:06 16:43	08:44 16:29
21	08:36 17:06	07:44 18:03	06:42 18:53	06:32 20:46 4	06:56 (2) 07:00 (2)	05:39 21:35	05:19 22:03	06:02 (1) 06:29 (1)	05:44 21:47	06:19 (1) 06:23 (1)	06:32 20:53	06:59 (2) 07:07 (2)	07:22 19:43	08:13 18:35	08:08 16:42	08:45 16:30
22	08:35 17:08	07:42 18:05	06:40 18:55	06:30 20:48 9	06:54 (2) 07:03 (2)	05:37 21:36	05:19 22:03	06:02 (1) 06:29 (1)	05:45 21:46		06:34 20:51	07:01 (2) 07:02 (2)	07:24 19:40	08:15 18:33	08:10 16:41	08:45 16:30
23	08:33 17:10	07:40 18:07	06:38 18:56	06:28 20:49 12	06:52 (2) 07:04 (2)	05:36 21:37 7	06:07 (1) 06:14 (1)	05:20 22:04	06:02 (1) 06:29 (1)	05:47 21:44	06:35 20:49		07:26 19:38	08:17 18:31	08:11 16:40	08:46 16:31
24	08:32 17:12	07:38 18:09	06:35 18:58	06:26 20:51 15	06:50 (2) 07:05 (2)	05:35 21:39 11	06:05 (1) 06:16 (1)	05:20 22:04	06:03 (1) 06:30 (1)	05:48 21:43	06:37 20:46		07:27 19:35	08:18 18:29	08:13 16:39	08:46 16:31
25	08:31 17:13	07:36 18:11	06:33 19:00	06:24 20:53 18	06:48 (2) 07:06 (2)	05:34 21:40 14	06:04 (1) 06:18 (1)	05:20 22:04	06:03 (1) 06:30 (1)	05:50 21:42	06:38 20:44		07:29 19:33	07:20 17:27	08:15 16:38	08:47 16:32
26	08:30 17:15	07:34 18:12	06:31 19:02	06:22 20:55 19	06:47 (2) 07:06 (2)	05:32 21:42 16	06:03 (1) 06:19 (1)	05:21 22:04	06:02 (1) 06:29 (1)	05:51 21:40	06:40 20:42		07:31 19:31	07:22 17:25	08:16 16:37	08:47 16:33
27	08:28 17:17	07:32 18:14	06:28 19:03	06:20 20:56 20	06:46 (2) 07:06 (2)	05:31 21:43 18	06:02 (1) 06:20 (1)	05:21 22:04	06:03 (1) 06:30 (1)	05:52 21:39	06:42 20:40		07:32 19:28	07:24 17:23	08:18 16:36	08:47 16:33
28	08:27 17:19	07:30 18:16	06:26 19:05	06:18 20:58 21	06:45 (2) 07:06 (2)	05:30 21:44 19	06:01 (1) 06:20 (1)	05:22 22:04	06:03 (1) 06:30 (1)	05:54 21:37	06:43 20:38		07:34 19:26	07:26 17:21	08:19 16:35	08:48 16:34
29	08:25 17:21		07:24 20:07	06:16 21:00 21	06:45 (2) 07:06 (2)	05:29 21:45 21	06:00 (1) 06:21 (1)	05:22 22:03 26	06:04 (1) 06:30 (1)	05:55 21:36	06:45 20:36		07:36 19:24	07:27 17:19	08:21 16:34	08:48 16:35
30	08:24 17:22		07:21 20:08	06:14 21:01 20	06:45 (2) 07:05 (2)	05:28 21:47 21	06:01 (1) 06:22 (1)	05:23 22:03 27	06:04 (1) 06:31 (1)	05:57 21:34	06:47 20:33		07:37 19:22	07:29 17:17	08:22 16:33	08:48 16:36
31	08:22 17:24		07:19 20:10			05:27 21:48 23	06:00 (1) 06:23 (1)			05:58 21:33	06:48 20:31			07:31 17:15		08:48 16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case				159	242	791	449	255				
Sun reduction				0,42	0,43	0,39	0,41	0,42				
Oper. time red.				0,95	0,95	0,95	0,95	0,95				
Wind dir. red.				0,64	0,66	0,67	0,67	0,64				
Total reduction				0,25	0,27	0,25	0,26	0,25				
Total, real				40	65	197	116	65				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:35/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN149@164Shadow receptor: X - 3961ME2

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May		June		July		August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12		05:26	20:27 (3)	05:23	20:30 (3)	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03		21:49 36	21:03 (2)	22:03 38	21:08 (3)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10		05:25	20:27 (3)	05:24	20:31 (3)	06:01	06:51	07:40	07:34	08:25
	16:39	17:28	18:19	20:13	21:04		21:50 36	21:03 (2)	22:02 38	21:09 (2)	21:29	20:26	19:17	17:11	16:32
3	08:47	08:18	07:23	07:12	06:08		05:25	20:27 (3)	05:25	20:30 (3)	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06		21:51 37	21:04 (2)	22:02 38	21:08 (3)	21:27	20:24	19:14	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06		05:24	20:26 (3)	05:25	20:31 (3)	06:04	06:55	07:44	07:38	08:28
	16:41	17:31	18:23	20:17	21:08		21:52 37	21:03 (2)	22:02 38	21:09 (2)	21:26	20:22	19:12	17:07	16:30
5	08:47	08:14	07:18	07:07	06:04		05:23	20:26 (3)	05:26	20:32 (3)	06:06	06:56	07:45	07:40	08:29
	16:43	17:33	18:25	20:19	21:09		21:53 37	21:03 (2)	22:01 37	21:09 (2)	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02		05:23	20:26 (3)	05:27	20:32 (3)	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11		21:54 38	21:04 (2)	22:01 38	21:10 (2)	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:00		05:22	20:26 (3)	05:28	20:33 (3)	06:09	06:59	07:49	07:43	08:32
	16:45	17:37	18:28	20:22	21:13		21:55 37	21:03 (2)	22:00 37	21:10 (2)	21:20	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59		05:21	20:26 (3)	05:29	20:33 (3)	06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:14		21:56 38	21:04 (2)	21:59 37	21:10 (2)	21:19	20:13	19:03	17:00	16:29
9	08:45	08:07	07:09	06:58	05:57		05:21	20:26 (3)	05:30	20:33 (3)	06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:25	21:16		21:57 38	21:04 (2)	21:59 37	21:10 (2)	21:17	20:10	19:01	16:59	16:28
10	08:45	08:06	07:07	06:56	05:55		05:20	20:25 (3)	05:31	20:34 (3)	06:14	07:04	07:54	07:49	08:35
	16:49	17:43	18:34	20:27	21:18		21:57 39	21:04 (2)	21:58 36	21:10 (2)	21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54		05:20	20:26 (3)	05:32	20:35 (3)	06:16	07:06	07:56	07:51	08:36
	16:50	17:45	18:35	20:29	21:19		21:58 38	21:04 (3)	21:57 36	21:11 (2)	21:13	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52		05:20	20:26 (3)	05:33	20:35 (3)	06:17	07:08	07:57	07:52	08:37
	16:52	17:46	18:37	20:31	21:21		21:59 38	21:04 (3)	21:56 36	21:11 (2)	21:11	20:03	18:54	16:54	16:28
13	08:43	08:00	07:00	06:49	05:50		05:19	20:25 (3)	05:34	20:36 (3)	06:19	07:09	07:59	07:54	08:38
	16:53	17:48	18:39	20:32	21:22		21:59 39	21:04 (3)	21:55 35	21:11 (2)	21:09	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49		05:19	20:26 (3)	05:35	20:37 (3)	06:20	07:11	08:01	07:56	08:39
	16:55	17:50	18:41	20:34	21:24		22:00 38	21:04 (3)	21:55 34	21:11 (2)	21:07	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47	20:44 (2)	05:19	20:26 (3)	05:36	20:39 (3)	06:22	07:12	08:03	07:58	08:40
	16:57	17:52	18:42	20:36	21:26 8	20:52 (2)	22:01 39	21:05 (3)	21:54 33	21:12 (2)	21:05	19:56	18:47	16:50	16:28
16	08:40	07:54	06:54	06:43	05:46	20:42 (2)	05:19	20:26 (3)	05:38	20:40 (3)	06:24	07:14	08:04	07:59	08:41
	16:58	17:54	18:44	20:37	21:27 12	20:54 (2)	22:01 39	21:05 (3)	21:53 32	21:12 (2)	21:03	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44	20:41 (2)	05:19	20:26 (3)	05:39	20:41 (3)	06:25	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29 15	20:56 (2)	22:02 40	21:06 (3)	21:51 31	21:12 (2)	21:01	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:38	05:43	20:39 (2)	05:19	20:26 (3)	05:40	20:42 (3)	06:27	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30 18	20:57 (2)	22:02 40	21:06 (3)	21:50 29	21:11 (2)	20:59	19:49	18:41	16:45	16:29
19	08:38	07:48	06:47	06:36	05:41	20:38 (2)	05:19	20:26 (3)	05:41	20:44 (3)	06:28	07:19	08:09	08:05	08:43
	17:03	17:59	18:49	20:42	21:32 20	20:58 (2)	22:02 40	21:06 (3)	21:49 27	21:11 (2)	20:57	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40	20:38 (2)	05:19	20:26 (3)	05:43	20:45 (2)	06:30	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33 21	20:59 (2)	22:03 40	21:06 (3)	21:48 25	21:10 (2)	20:55	19:45	18:37	16:43	16:29
21	08:35	07:44	06:42	06:32	05:38	20:36 (2)	05:19	20:27 (3)	05:44	20:47 (2)	06:32	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:34 23	20:59 (2)	22:03 40	21:07 (3)	21:47 24	21:11 (2)	20:53	19:42	18:35	16:42	16:30
22	08:34	07:42	06:40	06:30	05:37	20:36 (2)	05:19	20:27 (3)	05:45	20:47 (2)	06:33	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36 24	21:00 (2)	22:03 40	21:07 (3)	21:46 23	21:10 (2)	20:51	19:40	18:33	16:41	16:30
23	08:33	07:40	06:37	06:28	05:36	20:36 (2)	05:20	20:27 (3)	05:47	20:47 (2)	06:35	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	21:37 25	21:01 (2)	22:03 40	21:07 (3)	21:44 22	21:09 (2)	20:48	19:38	18:30	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35	20:35 (3)	05:20	20:28 (3)	05:48	20:49 (2)	06:37	07:27	08:18	08:13	08:46
	17:11	18:09	18:58	20:51	21:39 26	21:01 (2)	22:03 40	21:08 (3)	21:43 20	21:09 (2)	20:46	19:35	18:28	16:38	16:31
25	08:31	07:36	06:33	06:24	05:33	20:33 (3)	05:20	20:28 (3)	05:49	20:49 (2)	06:38	07:29	07:20	08:15	08:47
	17:13	18:10	19:00	20:53	21:40 29	21:02 (2)	22:03 40	21:08 (3)	21:41 19	21:08 (2)	20:44	19:33	17:26	16:37	16:32
26	08:29	07:34	06:30	06:22	05:32	20:32 (3)	05:21	20:28 (3)	05:51	20:50 (2)	06:40	07:30	07:22	08:16	08:47
	17:15	18:12	19:01	20:54	21:41 30	21:02 (2)	22:03 39	21:07 (3)	21:40 17	21:07 (2)	20:42	19:31	17:24	16:36	16:32
27	08:28	07:32	06:28	06:20	05:31	20:31 (3)	05:21	20:29 (3)	05:52	20:52 (2)	06:41	07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21:43 31	21:02 (2)	22:03 39	21:08 (3)	21:39 14	21:06 (2)	20:40	19:28	17:22	16:36	16:33
28	08:27	07:29	06:26	06:18	05:30	20:30 (3)	05:21	20:29 (3)	05:54	20:53 (2)	06:43	07:34	07:25	08:19	08:47
	17:19	18:16	19:05	20:58	21:44 32	21:02 (2)	22:03 39	21:08 (3)	21:37 11	21:04 (2)	20:38	19:26	17:20	16:35	16:34
29	08:25		07:23	06:16	05:29	20:29 (3)	05:22	20:29 (3)	05:55	20:56 (2)	06:45	07:35	07:27	08:21	08:48
	17:20		20:07	20:59	21:45 33	21:02 (2)	22:03 39	21:08 (3)	21:36 4	21:00 (2)	20:35	19:24	17:18	16:34	16:35
30	08:24		07:21	06:14	05:28	20:28 (3)	05:23	20:29 (3)	05:57		06:46	07:37	07:29	08:22	08:48
	17:22		20:08	21:01	21:46 34	21:02 (2)	22:03 39	21:08 (3)	21:34		20:33	19:21	17:17	16:33	16:36
31	08:22		07:19		05:27	20:28 (3)			05:58		06:48		07:31		08:48
	17:24		20:10		21:48 35	21:03 (2)			21:32		20:31		17:15		16:37
Potential sun hours	259	277	367	416	485		499		502		454	381	331	266	243
Total, worst case						416		1159		846					
Sun reduction						0,43		0,39		0,41					
Oper. time red.						0,95		0,95		0,95					
Wind dir. red.						0,58		0,59		0,59					
Total reduction						0,24		0,22		0,23					
Total, real						99		251		191					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:35/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN149@164Shadow receptor: Y - 3998JD86

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May		June		July		August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12		05:26	06:08 (1)	05:23	06:15 (1)	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03		21:49 26	06:34 (1)	22:03 23	06:38 (1)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10		05:26	06:08 (1)	05:24	06:15 (1)	06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05		21:50 26	06:34 (1)	22:03 24	06:39 (1)	21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08		05:25	06:08 (1)	05:25	06:16 (1)	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06		21:51 26	06:34 (1)	22:02 24	06:40 (1)	21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06		05:24	06:08 (1)	05:26	06:15 (1)	06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08		21:52 26	06:34 (1)	22:02 24	06:39 (1)	21:26	20:22	19:12	17:07	16:31
5	08:47	08:15	07:19	07:08	06:04		05:23	06:09 (1)	05:26	06:15 (1)	06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10		21:53 26	06:35 (1)	22:01 25	06:40 (1)	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02		05:23	06:09 (1)	05:27	06:15 (1)	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11		21:54 25	06:34 (1)	22:01 25	06:40 (1)	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01		05:22	06:10 (1)	05:28	06:16 (1)	06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13		21:55 25	06:35 (1)	22:00 25	06:41 (1)	21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59		05:22	06:10 (1)	05:29	06:16 (1)	06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15		21:56 24	06:34 (1)	22:00 25	06:41 (1)	21:19	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57		05:21	06:10 (1)	05:30	06:16 (1)	06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16		21:57 24	06:34 (1)	21:59 26	06:42 (1)	21:17	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55		05:21	06:10 (1)	05:31	06:15 (1)	06:14	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18		21:58 24	06:34 (1)	21:58 26	06:41 (1)	21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54		05:20	06:11 (1)	05:32	06:15 (1)	06:16	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19		21:58 23	06:34 (1)	21:57 26	06:41 (1)	21:13	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52		05:20	06:11 (1)	05:33	06:15 (1)	06:17	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21		21:59 23	06:34 (1)	21:57 26	06:41 (1)	21:11	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50		05:20	06:12 (1)	05:34	06:16 (1)	06:19	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23		22:00 23	06:35 (1)	21:56 26	06:42 (1)	21:09	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49		05:19	06:12 (1)	05:35	06:16 (1)	06:21	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24		22:00 23	06:35 (1)	21:55 26	06:42 (1)	21:07	19:59	18:50	16:51	16:28
15	08:42	07:56	06:56	06:45	05:47	06:17 (1)	05:19	06:12 (1)	05:36	06:16 (1)	06:22	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26 5	06:22 (1)	22:01 22	06:34 (1)	21:54 26	06:42 (1)	21:05	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46	06:14 (1)	05:19	06:12 (1)	05:38	06:17 (1)	06:24	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27 11	06:25 (1)	22:01 22	06:34 (1)	21:53 25	06:42 (1)	21:03	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44	06:13 (1)	05:19	06:12 (1)	05:39	06:17 (1)	06:25	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29 14	06:27 (1)	22:02 22	06:34 (1)	21:52 25	06:42 (1)	21:01	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43	06:11 (1)	05:19	06:12 (1)	05:40	06:17 (1)	06:27	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30 17	06:28 (1)	22:02 22	06:34 (1)	21:51 25	06:42 (1)	20:59	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41	06:10 (1)	05:19	06:14 (1)	05:41	06:17 (1)	06:29	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32 19	06:29 (1)	22:03 22	06:36 (1)	21:49 25	06:42 (1)	20:57	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40	06:10 (1)	05:19	06:14 (1)	05:43	06:18 (1)	06:30	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33 20	06:30 (1)	22:03 22	06:36 (1)	21:48 24	06:42 (1)	20:55	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	05:39	06:09 (1)	05:19	06:14 (1)	05:44	06:18 (1)	06:32	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:35 22	06:31 (1)	22:03 22	06:36 (1)	21:47 24	06:42 (1)	20:53	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	05:37	06:08 (1)	05:19	06:14 (1)	05:45	06:19 (1)	06:34	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36 23	06:31 (1)	22:03 22	06:36 (1)	21:46 22	06:41 (1)	20:51	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	05:36	06:08 (1)	05:20	06:14 (1)	05:47	06:19 (1)	06:35	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	21:37 23	06:31 (1)	22:04 22	06:36 (1)	21:44 21	06:40 (1)	20:49	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35	06:07 (1)	05:20	06:15 (1)	05:48	06:20 (1)	06:37	07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	21:39 25	06:32 (1)	22:04 21	06:36 (1)	21:43 20	06:40 (1)	20:46	19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	05:34	06:07 (1)	05:20	06:14 (1)	05:50	06:21 (1)	06:38	07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	21:40 25	06:32 (1)	22:04 22	06:36 (1)	21:42 18	06:39 (1)	20:44	19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	05:32	06:07 (1)	05:21	06:14 (1)	05:51	06:22 (1)	06:40	07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	21:42 26	06:33 (1)	22:04 22	06:36 (1)	21:40 16	06:38 (1)	20:42	19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	05:31	06:07 (1)	05:21	06:15 (1)	05:52	06:24 (1)	06:42	07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21:43 26	06:33 (1)	22:04 22	06:37 (1)	21:39 13	06:37 (1)	20:40	19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	05:30	06:07 (1)	05:22	06:14 (1)	05:54	06:26 (1)	06:43	07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	21:44 26	06:33 (1)	22:04 23	06:37 (1)	21:37 9	06:35 (1)	20:38	19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	05:29	06:07 (1)	05:22	06:15 (1)	05:55		06:45	07:36	07:27	08:21	08:48
	17:21		20:07	21:00	21:45 26	06:33 (1)	22:03 23	06:38 (1)	21:36		20:36	19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	05:28	06:08 (1)	05:23	06:15 (1)	05:57		06:47	07:37	07:29	08:22	08:48
	17:22		20:09	21:01	21:47 26	06:34 (1)	22:03 24	06:39 (1)	21:34		20:33	19:22	17:17	16:33	16:36
31	08:22		07:19		05:27	06:08 (1)			05:58		06:48		07:31		08:48
	17:24		20:10		21:48 26	06:34 (1)			21:33		20:31		17:15		16:37
Potential sun hours	259	277	367	416	485		499		502		454	381	331	266	243
Total, worst case						360		699		644					
Sun reduction						0,43		0,39		0,41					
Oper. time red.						0,95		0,95		0,95					
Wind dir. red.						0,67		0,67		0,67					
Total reduction						0,27		0,25		0,26					
Total, real						98		173		166					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:35/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN149@164Shadow receptor: Z - 3998JK68

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 16:38	08:21 17:26	07:27 18:18	07:17 20:12	06:12 21:03	06:44 (2) 07:06 (2) 22	05:26 21:49	05:59 (1) 06:19 (1) 20	05:23 22:03	06:02 (1) 06:28 (1) 26	06:00 21:31	06:50 20:29	07:39 19:19	07:33 17:13	08:24 16:32
2	08:48 16:39	08:19 17:28	07:25 18:20	07:14 20:14	06:10 21:05	06:44 (2) 07:05 (2) 21	05:26 21:50	05:58 (1) 06:19 (1) 21	05:24 22:03	06:02 (1) 06:28 (1) 26	06:01 21:29	06:51 20:27	07:41 19:17	07:35 17:11	08:25 16:32
3	08:48 16:40	08:18 17:30	07:23 18:21	07:12 20:15	06:08 21:06	06:46 (2) 07:05 (2) 19	05:25 21:51	05:59 (1) 06:20 (1) 21	05:25 22:02	06:03 (1) 06:29 (1) 26	06:03 21:28	06:53 20:24	07:42 19:15	07:36 17:09	08:27 16:31
4	08:47 16:41	08:16 17:32	07:21 18:23	07:10 20:17	06:06 21:08	06:46 (2) 07:04 (2) 18	05:24 21:52	05:58 (1) 06:20 (1) 22	05:26 22:02	06:03 (1) 06:28 (1) 25	06:05 21:26	06:55 20:22	07:44 19:12	07:38 17:07	08:28 16:31
5	08:47 16:43	08:14 17:33	07:19 18:25	07:08 20:19	06:04 21:10	06:46 (2) 07:03 (2) 17	05:23 21:53	05:57 (1) 06:21 (1) 24	05:26 22:01	06:03 (1) 06:28 (1) 25	06:06 21:24	07:01 (2) 07:09 (2) 8	06:56 20:20	07:46 19:10	07:40 17:06	08:29 16:30
6	08:47 16:44	08:13 17:35	07:16 18:27	07:05 20:20	06:02 21:11	06:47 (2) 07:01 (2) 14	05:23 21:54	05:58 (1) 06:22 (1) 24	05:27 22:01	06:04 (1) 06:28 (1) 24	06:08 21:22	06:58 (2) 07:10 (2) 12	06:58 20:17	07:47 19:08	07:42 17:04	08:31 16:30
7	08:46 16:45	08:11 17:37	07:14 18:29	07:03 20:22	06:01 21:13	06:49 (2) 07:00 (2) 11	05:22 21:55	05:58 (1) 06:23 (1) 25	05:28 22:00	06:04 (1) 06:28 (1) 24	06:09 21:21	06:57 (2) 07:12 (2) 15	07:00 20:15	07:49 19:05	07:44 17:02	08:32 16:29
8	08:46 16:46	08:09 17:39	07:12 18:30	07:01 20:24	05:59 21:15	06:51 (2) 06:57 (2) 6	05:22 21:56	05:57 (1) 06:22 (1) 25	05:29 22:00	06:05 (1) 06:28 (1) 23	06:11 21:19	06:56 (2) 07:13 (2) 17	07:01 20:13	07:51 19:03	07:45 17:01	08:33 16:29
9	08:46 16:48	08:08 17:41	07:10 18:32	06:58 20:26	05:57 21:16	05:21 21:57 25	05:58 (1) 06:23 (1)	05:30 21:59 22	06:06 (1) 06:28 (1)	06:12 21:17 19	06:55 (2) 07:14 (2)	07:03 20:11	07:52 19:01	07:47 16:59	08:34 16:29
10	08:45 16:49	08:06 17:43	07:07 18:34	06:56 20:27	05:55 21:18	05:21 21:58 26	05:57 (1) 06:23 (1)	05:31 21:58 21	06:06 (1) 06:27 (1)	06:14 21:15 20	06:54 (2) 07:14 (2)	07:04 20:08	07:54 18:59	07:49 16:57	08:36 16:28
11	08:44 16:51	08:04 17:45	07:05 18:36	06:54 20:29	05:54 21:19	05:20 21:58 27	05:57 (1) 06:24 (1)	05:32 21:57 20	06:06 (1) 06:26 (1)	06:16 21:13 21	06:54 (2) 07:15 (2)	07:06 20:06	07:56 18:56	07:51 16:56	08:37 16:28
12	08:44 16:52	08:02 17:47	07:03 18:37	06:52 20:31	05:52 21:21	05:20 21:59 26	05:58 (1) 06:24 (1)	05:33 21:57 19	06:07 (1) 06:26 (1)	06:17 21:11 21	06:53 (2) 07:14 (2)	07:08 20:04	07:58 18:54	07:53 16:54	08:38 16:28
13	08:43 16:54	08:00 17:48	07:01 18:39	06:49 20:32	05:50 21:23	05:20 22:00 27	05:58 (1) 06:25 (1)	05:34 21:56 17	06:09 (1) 06:26 (1)	06:19 21:09 22	06:53 (2) 07:15 (2)	07:09 20:01	07:59 18:52	07:54 16:53	08:39 16:28
14	08:42 16:55	07:58 17:50	06:58 18:41	06:47 20:34	05:49 21:24	05:19 22:00 27	05:58 (1) 06:25 (1)	05:35 21:55 15	06:10 (1) 06:25 (1)	06:21 21:07 22	06:52 (2) 07:14 (2)	07:11 19:59	08:01 18:50	07:56 16:51	08:40 16:28
15	08:41 16:57	07:56 17:52	06:56 18:43	06:45 20:36	05:47 21:26	05:19 22:01 27	05:57 (1) 06:24 (1)	05:36 21:54 13	06:11 (1) 06:24 (1)	06:22 21:05 21	06:53 (2) 07:14 (2)	07:13 19:57	08:03 18:48	07:58 16:50	08:41 16:28
16	08:41 16:58	07:54 17:54	06:54 18:44	06:43 20:38	05:46 21:27	05:19 22:01 27	05:58 (1) 06:25 (1)	05:38 21:53 10	06:13 (1) 06:23 (1)	06:24 21:03 20	06:53 (2) 07:13 (2)	07:14 19:54	08:04 18:45	08:00 16:48	08:41 16:28
17	08:40 17:00	07:52 17:56	06:51 18:46	06:41 20:39	05:44 21:29	05:19 22:02 27	05:58 (1) 06:25 (1)	05:39 21:52 6	06:15 (1) 06:21 (1)	06:25 21:01 20	06:53 (2) 07:13 (2)	07:16 19:52	08:06 18:43	08:01 16:47	08:42 16:28
18	08:39 17:01	07:50 17:58	06:49 18:48	06:39 20:41	05:43 21:30	05:19 22:02 27	05:58 (1) 06:25 (1)	05:40 21:51		06:27 20:59 17	06:54 (2) 07:11 (2)	07:17 19:50	08:08 18:41	08:03 16:46	08:43 16:29
19	08:38 17:03	07:48 18:00	06:47 18:50	06:36 20:43	05:41 21:32	05:19 22:03 27	05:59 (1) 06:26 (1)	05:41 21:49		06:29 20:57 15	06:56 (2) 07:11 (2)	07:19 19:47	08:10 18:39	08:05 16:44	08:44 16:29
20	08:37 17:05	07:46 18:01	06:44 18:51	06:34 20:44	05:40 21:33	05:19 22:03 27	05:59 (1) 06:26 (1)	05:43 21:48		06:30 20:55 11	06:57 (2) 07:08 (2)	07:21 19:45	08:11 18:37	08:06 16:43	08:44 16:29
21	08:36 17:06	07:44 18:03	06:42 18:53	06:32 20:46	05:39 21:35	05:19 22:03 28	05:59 (1) 06:27 (1)	05:44 21:47		06:32 20:53 7	06:59 (2) 07:06 (2)	07:22 19:43	08:13 18:35	08:08 16:42	08:45 16:30
22	08:35 17:08	07:42 18:05	06:40 18:55	06:30 20:48 8	06:54 (2) 07:02 (2)	05:37 21:36	05:19 22:03 27	05:59 (1) 06:26 (1)	05:45 21:46	06:33 20:51		07:24 19:40	08:15 18:33	08:10 16:41	08:45 16:30
23	08:33 17:10	07:40 18:07	06:38 18:56	06:28 20:49 12	06:52 (2) 07:04 (2)	05:36 21:37	05:20 22:04 27	05:59 (1) 06:26 (1)	05:47 21:44	06:35 20:49		07:26 19:38	08:17 18:31	08:11 16:40	08:46 16:31
24	08:32 17:12	07:38 18:09	06:35 18:58	06:26 20:51 15	06:50 (2) 07:05 (2)	05:35 21:39	05:20 22:04 27	06:00 (1) 06:27 (1)	05:48 21:43	06:37 20:46		07:27 19:35	08:18 18:29	08:13 16:39	08:46 16:31
25	08:31 17:13	07:36 18:11	06:33 19:00	06:24 20:53 18	06:48 (2) 07:06 (2)	05:34 21:40	05:20 22:04 27	06:00 (1) 06:27 (1)	05:50 21:42	06:38 20:44		07:29 19:33	07:20 17:27	08:15 16:38	08:47 16:32
26	08:30 17:15	07:34 18:12	06:31 19:02	06:22 20:55 19	06:47 (2) 07:06 (2)	05:32 21:42	05:21 22:04 27	06:00 (1) 06:27 (1)	05:51 21:40	06:40 20:42		07:31 19:31	07:22 17:25	08:16 16:37	08:47 16:33
27	08:28 17:17	07:32 18:14	06:28 19:03	06:20 20:56 21	06:46 (2) 07:07 (2)	05:31 21:43 8	06:04 (1) 06:12 (1)	05:21 22:04 27	06:01 (1) 06:28 (1)	05:52 21:39		06:42 19:28	07:24 17:23	08:18 16:36	08:47 16:33
28	08:27 17:19	07:30 18:16	06:26 19:05	06:18 20:58 22	06:45 (2) 07:07 (2)	05:30 21:44 12	06:02 (1) 06:14 (1)	05:22 22:04 27	06:00 (1) 06:27 (1)	05:54 21:37		06:43 19:26	07:26 17:21	08:19 16:35	08:48 16:34
29	08:25 17:21		07:24 20:07	06:16 21:00 22	06:45 (2) 07:07 (2)	05:29 21:45 14	06:01 (1) 06:15 (1)	05:22 22:03 27	06:01 (1) 06:28 (1)	05:55 21:36		06:45 19:24	07:27 17:19	08:21 16:34	08:48 16:35
30	08:24 17:22		07:21 20:08	06:14 21:01 21	06:45 (2) 07:06 (2)	05:28 21:47 16	06:01 (1) 06:17 (1)	05:23 22:03 26	06:02 (1) 06:28 (1)	05:57 21:34		06:47 19:22	07:29 17:17	08:22 16:33	08:48 16:36
31	08:22 17:24		07:19 20:10			05:27 21:48 18	06:00 (1) 06:18 (1)			05:58 21:33		06:48 20:31		07:31 17:15		08:48 16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case				158	196	772	342	288				
Sun reduction				0,42	0,43	0,39	0,41	0,42				
Oper. time red.				0,95	0,95	0,95	0,95	0,95				
Wind dir. red.				0,64	0,65	0,67	0,67	0,64				
Total reduction				0,25	0,26	0,25	0,26	0,25				
Total, real				40	52	192	89	73				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:35/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN149@164Shadow receptor: AA - 3997MP20

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December		
1	08:48		09:31 (4)	08:21		13:17 (2)	07:27	16:50 (1)	07:17	06:12	05:26	05:23	06:00	06:50		07:39		17:17 (1)	07:33		12:54 (2)	08:24		09:15 (4)
	16:38	137	14:15 (2)	17:26	73	14:30 (2)	18:18	32	17:22 (1)	20:12	21:03	21:49	22:03	21:31	20:29		19:19	53	18:10 (1)	17:13	63	13:57 (2)	16:32	147	14:04 (2)
2	08:48		09:31 (4)	08:19		13:18 (2)	07:25	16:49 (1)	07:14	06:10	05:25	05:24	06:01	06:51		07:40		17:17 (1)	07:35		12:53 (2)	08:25		09:16 (4)
	16:39	139	14:16 (2)	17:28	72	14:30 (2)	18:19	35	17:24 (1)	20:14	21:05	21:50	22:03	21:29	20:26		19:17	53	18:10 (1)	17:11	65	13:58 (2)	16:32	147	14:05 (2)
3	08:48		09:32 (4)	08:18		13:19 (2)	07:23	16:46 (1)	07:12	06:08	05:25	05:25	06:03	06:53		07:42		17:16 (1)	07:36		12:51 (2)	08:27		09:16 (4)
	16:40	140	14:17 (2)	17:30	71	14:30 (2)	18:21	39	17:25 (1)	20:15	21:06	21:51	22:02	21:28	20:24		19:14	52	18:08 (1)	17:09	66	13:57 (2)	16:31	146	14:04 (2)
4	08:47		09:31 (4)	08:16		13:19 (2)	07:21	16:45 (1)	07:10	06:06	05:24	05:25	06:04	06:55		07:44		17:17 (1)	07:38		12:50 (2)	08:28		09:17 (4)
	16:41	140	14:17 (2)	17:31	71	14:30 (2)	18:23	41	17:26 (1)	20:17	21:08	21:52	22:02	21:26	20:22		19:12	51	18:08 (1)	17:07	68	13:58 (2)	16:30	144	14:05 (2)
5	08:47		09:32 (4)	08:14		13:20 (2)	07:19	16:44 (1)	07:07	06:04	05:23	05:26	06:06	06:56		07:46		17:17 (1)	07:40		12:50 (2)	08:29		09:17 (4)
	16:43	142	14:18 (2)	17:33	69	14:29 (2)	18:25	44	17:28 (1)	20:19	21:10	21:53	22:01	21:24	20:20		19:10	50	18:07 (1)	17:06	69	13:59 (2)	16:30	144	14:05 (2)
6	08:47		09:32 (4)	08:13		13:20 (2)	07:16	16:43 (1)	07:05	06:02	05:23	05:27	06:08	06:58		07:47		17:18 (1)	07:42		12:49 (2)	08:31		09:18 (4)
	16:44	142	14:18 (2)	17:35	69	14:29 (2)	18:27	46	17:29 (1)	20:20	21:11	21:54	22:01	21:22	20:17		19:08	48	18:06 (1)	17:04	70	13:59 (2)	16:30	143	14:05 (2)
7	08:46		09:32 (4)	08:11		13:21 (2)	07:14	16:41 (1)	07:03	06:00	05:22	05:28	06:09	06:59		07:49		17:18 (1)	07:44		12:49 (2)	08:32		09:19 (4)
	16:45	144	14:20 (2)	17:37	67	14:28 (2)	18:28	48	17:29 (1)	20:22	21:13	21:55	22:00	21:20	20:15		19:05	46	18:04 (1)	17:02	71	14:00 (2)	16:29	142	14:05 (2)
8	08:46		09:32 (4)	08:09		13:22 (2)	07:12	16:40 (1)	07:01	05:59	05:21	05:29	06:11	07:01		07:51		17:18 (1)	07:45		12:49 (2)	08:33		09:19 (4)
	16:46	145	14:20 (2)	17:39	67	14:29 (2)	18:30	50	17:30 (1)	20:24	21:14	21:56	21:59	21:19	20:13		19:03	45	18:03 (1)	17:00	71	14:00 (2)	16:29	142	14:05 (2)
9	08:45		09:33 (4)	08:07		13:23 (2)	07:10	16:40 (1)	06:58	05:57	05:21	05:30	06:12	07:03		07:52		17:19 (1)	07:47		12:48 (2)	08:34		09:20 (4)
	16:48	145	14:21 (2)	17:41	65	14:28 (2)	18:32	51	17:31 (1)	20:26	21:16	21:57	21:59	21:17	20:10		19:01	43	18:02 (1)	16:59	73	14:01 (2)	16:28	141	14:05 (2)
10	08:45		09:33 (4)	08:06		13:24 (2)	07:07	16:38 (1)	06:56	05:55	05:20	05:31	06:14	07:04		07:54		17:21 (1)	07:49		12:48 (2)	08:35		09:20 (4)
	16:49	147	14:22 (2)	17:43	63	14:27 (2)	18:34	52	17:30 (1)	20:27	21:18	21:57	21:58	21:15	20:08		18:59	40	18:01 (1)	16:57	73	14:01 (2)	16:28	139	14:05 (2)
11	08:44		09:33 (4)	08:04		13:25 (2)	07:05	16:38 (1)	06:54	05:54	05:20	05:32	06:16	07:06		07:56		17:21 (1)	07:51		09:23 (4)	08:37		09:21 (4)
	16:51	147	14:22 (2)	17:45	61	14:26 (2)	18:36	53	17:31 (1)	20:29	21:19	21:58	21:57	21:13	20:06		18:56	37	17:58 (1)	16:56	89	14:01 (2)	16:28	138	14:05 (2)
12	08:44		09:33 (4)	08:02		13:26 (2)	07:03	16:38 (1)	06:52	05:52	05:20	05:33	06:17	07:08	17:49 (1)	07:57		17:22 (1)	07:52		09:19 (4)	08:38		09:23 (4)
	16:52	147	14:23 (2)	17:46	59	14:25 (2)	18:37	53	17:31 (1)	20:31	21:21	21:59	21:56	21:11	20:03	8	17:57 (1)	18:54	34	17:56 (1)	16:54	105	14:02 (2)	16:28	137	14:06 (2)
13	08:43		09:33 (4)	08:00		13:28 (2)	07:00	16:37 (1)	06:49	05:50	05:19	05:34	06:19	07:09		17:43 (1)	07:59		17:24 (1)	07:54		09:17 (4)	08:39		09:23 (4)
	16:53	148	14:23 (2)	17:48	56	14:24 (2)	18:39	53	17:30 (1)	20:32	21:23	22:00	21:56	21:09	20:01	19	18:02 (1)	18:52	30	17:54 (1)	16:53	115	14:02 (2)	16:28	137	14:07 (2)
14	08:42		09:33 (4)	07:58		13:29 (2)	06:58	16:37 (1)	06:47	05:49	05:19	05:35	06:20	07:11		17:39 (1)	08:01		17:27 (1)	07:56		09:15 (4)	08:40		09:23 (4)
	16:55	149	14:24 (2)	17:50	54	14:23 (2)	18:41	54	17:31 (1)	20:34	21:24	22:00	21:55	21:07	19:59	25	18:04 (1)	18:50	24	17:51 (1)	16:51	122	14:02 (2)	16:28	135	14:06 (2)
15	08:41		09:34 (4)	07:56		13:31 (2)	06:56	16:37 (1)	06:45	05:47	05:19	05:36	06:22	07:12		17:36 (1)	08:03		17:29 (1)	07:58		09:15 (4)	08:40		09:24 (4)
	16:57	149	14:24 (2)	17:52	50	14:21 (2)	18:43	54	17:31 (1)	20:36	21:26	22:01	21:54	21:05	19:56	30	18:06 (1)	18:47	18	17:47 (1)	16:50	127	14:03 (2)	16:28	134	14:06 (2)
16	08:41		09:34 (4)	07:54		13:33 (2)	06:54	16:36 (1)	06:43	05:46	05:19	05:38	06:24	07:14		17:33 (1)	08:04		17:35 (1)	08:00		09:14 (4)	08:41		09:25 (4)
	16:58	149	14:25 (2)	17:54	47	14:20 (2)	18:44	54	17:30 (1)	20:37	21:27	22:01	21:53	21:03	19:54	34	18:07 (1)	18:45	6	17:41 (1)	16:48	132	14:03 (2)	16:28	135	14:07 (2)
17	08:40		09:34 (4)	07:52		13:36 (2)	06:51	16:37 (1)	06:41	05:44	05:19	05:39	06:25	07:16		17:31 (1)	08:06			08:01		09:14 (4)	08:42		09:25 (4)
	17:00	149	14:26 (2)	17:56	42	14:18 (2)	18:46	53	17:30 (1)	20:39	21:29	22:02	21:52	21:01	19:52	38	18:09 (1)	18:43			16:47	135	14:03 (2)	16:28	134	14:07 (2)
18	08:39		09:35 (4)	07:50		13:39 (2)	06:49	16:37 (1)	06:38	05:43	05:19	05:40	06:27	07:17		17:30 (1)	08:08			08:03		09:13 (4)	08:43		09:26 (4)
	17:01	148	14:26 (2)	17:58	36	14:15 (2)	18:48	52	17:29 (1)	20:41	21:30	22:02	21:50	20:59	19:49	40	18:10 (1)	18:41			16:46	139	14:04 (2)	16:29	133	14:08 (2)
19	08:38		09:36 (4)	07:48		13:43 (2)	06:47	16:37 (1)	06:36	05:41	05:19	05:41	06:28	07:19		17:27 (1)	08:10			08:05		09:12 (4)	08:44		09:26 (4)
	17:03	147	14:27 (2)	17:59	29	14:12 (2)	18:49	51	17:28 (1)	20:43	21:32	22:03	21:49	20:57	19:47	43	18:10 (1)	18:39			16:44	142	14:03 (2)	16:29	133	14:08 (2)
20	08:37		09:36 (4)	07:46		13:50 (2)	06:44	16:37 (1)	06:34	05:40	05:19	05:43	06:30	07:21		17:26 (1)	08:11			08:06		09:12 (4)	08:44		09:27 (4)
	17:05	146	14:28 (2)	18:01	16	14:06 (2)	18:51	51	17:28 (1)	20:44	21:33	22:03	21:48	20:55	19:45	45	18:11 (1)	18:37			16:43	143	14:03 (2)	16:29	132	14:09 (2)
21	08:36		09:37 (4)	07:44			06:42	16:38 (1)	06:32	05:38	05:19	05:44	06:32	07:22		17:24 (1)	08:13			08:08		09:12 (4)	08:45		09:28 (4)
	17:06	145	14:28 (2)	18:03			18:53	49	17:27 (1)	20:46	21:35	22:03	21:47	20:53	19:42	47	18:11 (1)	18:35			16:42	145	14:03 (2)	16:30	132	14:09 (2)
22	08:34		09:37 (4)	07:42			06:40	16:38 (1)	06:30	05:37	05:19	05:45	06:33	07:24		17:23 (1)	08:15		14:17 (2)	08:10		09:12 (4)	08:45		09:28 (4)
	17:08	143	14:28 (2)	18:05			18:55	48	17:26 (1)	20:48	21:36	22:03	21:46	20:51	19:40	49	18:12 (1)	18:33	21	14:38 (2)	16:41	146	14:04 (2)	16:30	131	14:09 (2)
23	08:33		09:38 (4)	07:40			06:37	16:39 (1)	06:28	05:36	05:20	05:47	06:35	07:26		17:22 (1)	08:17		14:11 (2)	08:11		09:13 (4)	08:46		09:28 (4)
	17:10	142	14:29 (2)	18:07			18:56	46	17:25 (1)	20:49	21:37	22:03	21:44	20:49	19:38	50	18:12 (1)	18:30	31	14:42 (2)	16:40	147	14:04 (2)	16:31	132	14:10 (2)
24	08:32		09:39 (4)	07:38			06:35	16:40 (1)	06:26	05:35	05:20	05:48	06:37	07:27		17:20 (1)	08:18		14:08 (2)	08:13		09:12 (4)	08:46		09:29 (4)
	17:12	139	14:30 (2)	18:09			18:58	44	17:24 (1)	20:51	21:39	22:04	21:43	20:46	19:35	52	18:12 (1)	18:28	37	14:45 (2)	16:38	148	14:03 (2)	16:31	133	14:11 (2)
25	08:31		09:40 (4)	07:36			06:33	16:41 (1)	06:24	05:33	05:20	05:49	06:38	07:29		17:20 (1)	07:20		13:05 (2)	08:15		09:12 (4)	08:47		09:29 (4)
	17:13	135	14:29 (2)	18:10			19:00	41	17:22 (1)	20:53	21:40	22:04	21:42	20:44	19:33	52	18:12 (1)	17:26	43	13:48 (2)	16:37	148	14:04 (2)	16:32	133	14:11 (2)
26	08:29		09:41 (4)	07:34		17:00 (1)	06:30	16:42 (1)	06:22	05:32	05:21	05:51	06:40	07:31		17:19 (1)	07:22		13:02 (2)	08:16		09:13 (4)	08:47		09:29 (4)
	17:15	132	14:30 (2)	18:12	12	17:12 (1)	19:02	38	17:20 (1)	20:54	21:41	22:04	21:40	20:42	19:31	53	18:12 (1)	17:24	48	13:50 (2)	16:36	149	14:04 (2)	16:32	133	14:11 (2)
27	08:28		09:42 (4)	07:32		16:55 (1)	06:28	16:44 (1)	06:20	05:31	05:21	05:52	06:42	07:32		17:18 (1)	07:24		13:00 (2)	08:18		09:14 (4)	08:47		09:29 (4)
	17:17	127	14:30 (2)	18:14	21	17:16 (1)	19:03	35	17:19 (1)	20:56	21:43	22:04	21:39	20:40	19:28	53	18:11 (1)	17:22	51	13:51 (2)	16:36	149	14:04 (2)	16:33	135	14:12 (2)
28	08:27		09:44 (4)	07:30		16:53 (1)	06:26	16:46 (1)	06:18	05:30	05:21	05:54	06:43	07:34		17:18 (1)	07:26		12:59 (2)	08:19		09:13 (4)	08:48		09:31 (4)
	17:19	120	14:30 (2)	18:16	26	17:19 (1)	19:05	30	17:16 (1)	20:58	21:44	22:03	21:37	20:38	19:26	53	18:11 (1)	17:20	54	13:53 (2)	16:35	149	14:04 (2)	16:34	133	14:13 (2)
29	08:25		09:45 (4)				07:24	17:48 (1)	06:16	05:29	05:22	05:55	06:45	07:35		17:18 (1)	07:27		12:57 (2)	08:21		09:14 (4)	08:48		09:31 (4)
	17:20	115	14:30 (2)				20:07	18:14 (1)	21:00	21:45	22:03	21:36	20:35	19:24	53	18:11 (1)	17:19	57	13:54 (2)	16:34	149	14:04 (2)	16:35	135	14:14 (2)
30	08:24		09:47 (4)				07:21	17:51 (1)	06:14	05:28	05:23	05:57	06:46	07:37		17:17 (1)	07:29		12:56 (2)	08:22		09:15 (4)	08:48		09:31 (4)
	17:22	105	14:30 (2)				20:08	18:11 (1)	21:01	21:46	22:03	21:34	20:33	19:21	53	18:10 (1)	17:17	59	13:55 (2)	16:33	148	14:05 (2)	16:36	137	14:14 (2)
31	08:22		10:50 (3)				07:19	17:56 (1)		05:27		05:58	06:48				07:31		12:55 (2)				08:48		09:30 (4)
	17:24	87	14:31 (2)				20:10	18:07 (1)		21:48		21:33	20:31				17:15	61	13:56 (2)				16:37	136	14:14 (2)
Potential sun hours	259			277			367		416	485	499	502	454	381			331			266			243		
Total, worst case		4290			1196			1354							797			1092			3416			4253	
Sun reduction		0,24			0,30			0,33							0,36			0,34			0,24			0,20	
Oper. time red.		0,95			0,95			0,95							0,95			0,95			0,95			0,95	
Wind dir. red.		0,64			0,68			0,66							0,66			0,67			0,65			0,64	
Total reduction		0,15			0,19			0,20							0,23			0,21			0,15			0,12	
Total, real		624			232			277							180			232			497			524	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:35/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN149@164Shadow receptor: AB - 3945LA1b

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December		
1	08:48		14:03 (4)	08:21		16:06 (3)	07:27		17:26 (2)	07:17	06:12	05:26	05:23	06:00	06:50			07:39		18:07 (2)	07:33		15:36 (3)	08:24		13:56 (4)
	16:38	33	14:36 (4)	17:26	32	16:38 (3)	18:18	22	17:48 (2)	20:12	21:03	21:49	22:03	21:31	20:29			19:19	13	18:20 (2)	17:13	34	16:10 (3)	16:32	20	14:16 (4)
2	08:48		14:04 (4)	08:19		16:05 (3)	07:25		17:25 (2)	07:14	06:10	05:25	05:24	06:01	06:51			07:40		18:05 (2)	07:34		15:35 (3)	08:25		13:56 (4)
	16:39	32	14:36 (4)	17:28	33	16:38 (3)	18:19	24	17:49 (2)	20:13	21:04	21:50	22:02	21:29	20:26			19:17	17	18:22 (2)	17:11	34	16:09 (3)	16:32	22	14:18 (4)
3	08:47		14:05 (4)	08:18		16:06 (3)	07:23		17:23 (2)	07:12	06:08	05:25	05:25	06:03	06:53			07:42		18:02 (2)	07:36		15:35 (3)	08:27		13:54 (4)
	16:40	31	14:36 (4)	17:30	34	16:40 (3)	18:21	25	17:48 (2)	20:15	21:06	21:51	22:02	21:27	20:24			19:14	20	18:22 (2)	17:09	34	16:09 (3)	16:31	25	14:19 (4)
4	08:47		14:05 (4)	08:16		16:06 (3)	07:21		17:23 (2)	07:10	06:06	05:24	05:25	06:04	06:55			07:44		18:01 (2)	07:38		15:35 (3)	08:28		13:53 (4)
	16:41	31	14:36 (4)	17:31	34	16:40 (3)	18:23	26	17:49 (2)	20:17	21:08	21:52	22:02	21:26	20:22			19:12	22	18:23 (2)	17:07	35	16:10 (3)	16:30	27	14:20 (4)
5	08:47		14:06 (4)	08:14		16:05 (3)	07:18		17:23 (2)	07:07	06:04	05:23	05:26	06:06	06:56			07:45		18:00 (2)	07:40		15:35 (3)	08:29		13:54 (4)
	16:42	30	14:36 (4)	17:33	35	16:40 (3)	18:25	26	17:49 (2)	20:19	21:09	21:53	22:01	21:24	20:20			19:10	24	18:24 (2)	17:06	35	16:10 (3)	16:30	27	14:21 (4)
6	08:47		14:07 (4)	08:13		16:05 (3)	07:16		17:22 (2)	07:05	06:02	05:22	05:27	06:08	06:58			07:47		17:58 (2)	07:42		15:35 (3)	08:31		13:53 (4)
	16:44	29	14:36 (4)	17:35	35	16:40 (3)	18:27	26	17:48 (2)	20:20	21:11	21:54	22:01	21:22	20:17			19:08	26	18:24 (2)	17:04	35	16:10 (3)	16:29	29	14:22 (4)
7	08:46		14:09 (4)	08:11		16:05 (3)	07:14		17:22 (2)	07:03	06:00	05:22	05:28	06:09	06:59			07:49		17:58 (2)	07:43		15:35 (3)	08:32		13:54 (4)
	16:45	27	14:36 (4)	17:37	35	16:40 (3)	18:28	26	17:48 (2)	20:22	21:13	21:55	22:00	21:20	20:15			19:05	26	18:24 (2)	17:02	35	16:10 (3)	16:29	29	14:23 (4)
8	08:46		14:09 (4)	08:09		16:06 (3)	07:12		17:23 (2)	07:01	05:59	05:21	05:29	06:11	07:01			07:51		17:58 (2)	07:45		15:36 (3)	08:33		13:53 (4)
	16:46	26	14:35 (4)	17:39	35	16:41 (3)	18:30	25	17:48 (2)	20:24	21:14	21:56	21:59	21:19	20:13			19:03	26	18:24 (2)	17:00	34	16:10 (3)	16:29	31	14:24 (4)
9	08:45		14:11 (4)	08:07		16:07 (3)	07:10		17:24 (2)	06:58	05:57	05:21	05:30	06:12	07:03			07:52		17:58 (2)	07:47		15:36 (3)	08:34		13:53 (4)
	16:48	25	14:36 (4)	17:41	34	16:41 (3)	18:32	23	17:47 (2)	20:25	21:16	21:57	21:59	21:17	20:10			19:01	26	18:24 (2)	16:59	33	16:09 (3)	16:28	31	14:24 (4)
10	08:45		14:12 (4)	08:06		16:07 (3)	07:07		17:24 (2)	06:56	05:55	05:20	05:31	06:14	07:04			07:54		17:57 (2)	07:49		15:37 (3)	08:35		13:53 (4)
	16:49	23	14:35 (4)	17:43	33	16:40 (3)	18:34	21	17:45 (2)	20:27	21:18	21:57	21:58	21:15	20:08			18:58	26	18:23 (2)	16:57	32	16:09 (3)	16:28	32	14:25 (4)
11	08:44		14:14 (4)	08:04		16:07 (3)	07:05		17:25 (2)	06:54	05:53	05:20	05:32	06:15	07:06			07:56		17:58 (2)	07:51		15:38 (3)	08:36		13:53 (4)
	16:50	20	14:34 (4)	17:44	33	16:40 (3)	18:35	19	17:44 (2)	20:29	21:19	21:58	21:57	21:13	20:06			18:56	24	18:22 (2)	16:56	31	16:09 (3)	16:28	33	14:26 (4)
12	08:44		14:16 (4)	08:02		16:08 (3)	07:03		17:27 (2)	06:52	05:52	05:20	05:33	06:17	07:08			07:57		17:58 (2)	07:52		15:38 (3)	08:38		13:53 (4)
	16:52	17	14:33 (4)	17:46	31	16:39 (3)	18:37	15	17:42 (2)	20:31	21:21	21:59	21:56	21:11	20:03			18:54	23	18:21 (2)	16:54	30	16:08 (3)	16:28	33	14:26 (4)
13	08:43		14:18 (4)	08:00		16:09 (3)	07:00		17:29 (2)	06:49	05:50	05:19	05:34	06:19	07:09			07:59		17:59 (2)	07:54		15:39 (3)	08:39		13:53 (4)
	16:53	14	14:32 (4)	17:48	29	16:38 (3)	18:39	10	17:39 (2)	20:32	21:22	22:00	21:56	21:09	20:01			18:52	21	18:20 (2)	16:52	28	16:07 (3)	16:28	34	14:27 (4)
14	08:42		14:22 (4)	07:58		16:10 (3)	06:58		18:11 (1)	06:47	05:49	05:19	05:35	06:20	07:11			08:01		18:00 (2)	07:56		15:40 (3)	08:39		13:53 (4)
	16:55	7	14:29 (4)	17:50	27	16:37 (3)	18:41	4	18:15 (1)	20:34	21:24	22:00	21:55	21:07	19:59			18:50	19	18:19 (2)	16:51	27	16:07 (3)	16:28	35	14:28 (4)
15	08:41			07:56		16:12 (3)	06:56		18:08 (1)	06:45	05:47	05:19	05:36	06:22	07:12			08:03		18:01 (2)	07:58		15:42 (3)	08:40		13:54 (4)
	16:56			17:52	24	16:36 (3)	18:42	9	18:17 (1)	20:36	21:26	22:01	21:54	21:05	19:56			18:47	15	18:16 (2)	16:50	24	16:06 (3)	16:28	34	14:28 (4)
16	08:41			07:54		16:13 (3)	06:54		18:05 (1)	06:43	05:45	05:19	05:37	06:24	07:14			08:04		18:03 (2)	07:59		15:43 (3)	08:41		13:54 (4)
	16:58			17:54	22	16:35 (3)	18:44	13	18:18 (1)	20:37	21:27	22:01	21:53	21:03	19:54			18:45	10	18:13 (2)	16:48	22	16:05 (3)	16:28	35	14:29 (4)
17	08:40			07:52		16:16 (3)	06:51		18:04 (1)	06:40	05:44	05:19	05:39	06:25	07:16		18:57 (1)	08:06			08:01		15:45 (3)	08:42		13:55 (4)
	17:00			17:56	17	16:33 (3)	18:46	17	18:21 (1)	20:39	21:29	22:02	21:52	21:01	19:52	4	19:01 (1)	18:43			16:47	18	16:03 (3)	16:28	35	14:30 (4)
18	08:39			07:50		16:19 (3)	06:49		18:04 (1)	06:38	05:43	05:19	05:40	06:27	07:17		18:54 (1)	08:08			08:03		15:46 (3)	08:43		13:55 (4)
	17:01			17:58	11	16:30 (3)	18:48	19	18:23 (1)	20:41	21:30	22:02	21:50	20:59	19:49	11	19:05 (1)	18:41			16:45	15	16:01 (3)	16:28	36	14:31 (4)
19	08:38			07:48			06:47		18:02 (1)	06:36	05:41	05:19	05:41	06:28	07:19		18:51 (1)	08:09			08:05		15:48 (3)	08:44		13:55 (4)
	17:03			17:59			18:49	20	18:22 (1)	20:42	21:32	22:02	21:49	20:57	19:47	14	19:05 (1)	18:39			16:44	11	15:59 (3)	16:29	35	14:30 (4)
20	08:37			07:46			06:44		18:02 (1)	06:34	05:40	05:19	05:43	06:30	07:21		18:50 (1)	08:11			08:06			08:44		13:56 (4)
	17:05			18:01			18:51	20	18:22 (1)	20:44	21:33	22:03	21:48	20:55	19:45	17	19:07 (1)	18:37			16:43			16:29	35	14:31 (4)
21	08:36			07:44			06:42		18:02 (1)	06:32	05:38	05:19	05:44	06:32	07:22		18:48 (1)	08:13			08:08			08:45		13:56 (4)
	17:06			18:03			18:53	20	18:22 (1)	20:46	21:35	22:03	21:47	20:53	19:42	18	19:06 (1)	18:35			16:42			16:30	35	14:31 (4)
22	08:34			07:42			06:40		18:02 (1)	06:30	05:37	05:19	05:45	06:33	07:24		18:47 (1)	08:15			08:10			08:45		13:57 (4)
	17:08			18:05			18:55	19	18:21 (1)	20:48	21:36	22:03	21:46	20:51	19:40	20	19:07 (1)	18:32			16:41			16:30	35	14:32 (4)
23	08:33		16:14 (3)	07:40			06:37		18:03 (1)	06:28	05:36	05:19	05:47	06:35	07:25		18:47 (1)	08:17			08:11			08:46		13:57 (4)
	17:10	11	16:25 (3)	18:07			18:56	17	18:20 (1)	20:49	21:37	22:03	21:44	20:48	19:38	20	19:07 (1)	18:30			16:39			16:31	35	14:32 (4)
24	08:32		16:12 (3)	07:38			06:35		18:04 (1)	06:26	05:35	05:20	05:48	06:37	07:27		18:46 (1)	08:18		16:47 (3)	08:13			08:46		13:58 (4)
	17:11	15	16:27 (3)	18:09			18:58	15	18:19 (1)	20:51	21:39	22:04	21:43	20:46	19:35	20	19:06 (1)	18:28	13	17:00 (3)	16:38			16:31	35	14:33 (4)
25	08:31		16:11 (3)	07:36		17:35 (2)	06:33		18:05 (1)	06:24	05:33	05:20	05:49	06:38	07:29		18:46 (1)	07:20		15:45 (3)	08:15			08:47		13:58 (4)
	17:13	19	16:30 (3)	18:10	4	17:39 (2)	19:00	12	18:17 (1)	20:53	21:40	22:04	21:42	20:44	19:33	20	19:06 (1)	17:26	18	16:03 (3)	16:37			16:32	35	14:33 (4)
26	08:29		16:10 (3)	07:34		17:30 (2)	06:30		18:08 (1)	06:22	05:32	05:20	05:51	06:40	07:30		18:47 (1)	07:22		15:42 (3)	08:16			08:47		13:59 (4)
	17:15	22	16:32 (3)	18:12	12	17:42 (2)	19:01	6	18:14 (1)	20:54	21:41	22:04	21:40	20:42	19:31	17	19:04 (1)	17:24	23	16:05 (3)	16:36			16:32	35	14:34 (4)
27	08:28		16:09 (3)	07:32		17:28 (2)	06:28			06:19	05:31	05:21	05:52	06:41	07:32		18:47 (1)	07:24		15:41 (3)	08:18			08:47		13:59 (4)
	17:17	24	16:33 (3)	18:14	16	17:44 (2)	19:03			20:56	21:43	22:03	21:39	20:40	19:28	14	19:01 (1)	17:22	25	16:06 (3)	16:35			16:33	35	14:34 (4)
28	08:27		16:08 (3)	07:29		17:27 (2)	06:26			06:17	05:30	05:21	05:54	06:43	07:34		18:48 (1)	07:25		15:39 (3)	08:19		14:02 (4)	08:47		14:00 (4)
	17:19	27	16:35 (3)	18:16	19	17:46 (2)	19:05			20:58	21:44	22:03	21:37	20:38	19:26	11	18:59 (1)	17:20	28	16:07 (3)	16:35	7	14:09 (4)	16:34	34	14:34 (4)
29	08:25		16:07 (3)				07:23			06:15	05:29	05:22	05:55	06:45	07:35		18:50 (1)	07:27		15:38 (3)	08:21		13:59 (4)	08:48		14:01 (4)
	17:20	29	16:36 (3)				20:07			20:59	21:45	22:03	21:36	20:35	19:24	7	18:57 (1)	17:18	30	16:08 (3)	16:34	13	14:12 (4)	16:35	34	14:35 (4)
30	08:24		16:07 (3)				07:21			06:14	05:28	05:23	05:57	06:46	07:37		18:11 (2)	07:29		15:38 (3)	08:22		13:57 (4)	08:48		14:01 (4)
	17:22	29	16:36 (3)				20:08			21:01	21:46	22:03	21:34	20:33	19:21	6	18:17 (2)	17:17	31	16:09 (3)	16:33	17	14:14 (4)	16:36	34	14:35 (4)
31	08:22		16:07 (3)				07:19				05:27		05:58	06:48				07:31		15:37 (3)				08:48		14:02 (4)
	17:24	31	16:38 (3)				20:10				21:48		21:32	20:31				17:15	32	16:09 (3)				16:37	33	14:35 (4)
Potential sun hours	259			277			367		416	485	499	502	454	381				331			266			243		
Total, worst case		552			585			479							199				538			584			998	
Sun reduction		0,24			0,30			0,33							0,36				0,34			0,24			0,20	
Oper. time red.		0,95			0,95			0,95							0,95				0,95			0,95			0,95	
Wind dir. red.		0,68			0,67			0,64							0,63				0,66			0,67			0,69	
Total reduction		0,16			0,19			0,20							0,22				0,21			0,15			0,13	
Total, real		86			113			96							43				113			89			133	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:35/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN149@164Shadow receptor: AC - 3997MP25

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April		May	June	July	August	September		October		November		December	
1	08:48		09:51 (3)		08:21		09:20 (4)		07:27		16:27 (1)	07:17		17:19 (1)	06:12	05:26	05:23	06:00	06:50		07:39		16:52 (1)	07:33		11:40 (2)	08:24		09:02 (4)
	16:38	107	13:10 (2)	17:26	142	13:26 (2)	18:18	40	17:07 (1)	20:12	46	18:05 (1)	21:03	21:49	22:03	21:31	20:29		19:19	65	17:57 (1)	17:13	73	12:53 (2)	16:32	131	12:59 (2)
2	08:48		09:52 (3)	08:19		09:21 (4)	07:25		16:25 (1)	07:14		17:21 (1)	06:10	05:25	05:24	06:01	06:51		07:40		16:52 (1)	07:35		11:39 (2)	08:25		09:04 (4)
	16:39	106	13:11 (2)	17:28	136	13:25 (2)	18:20	44	17:09 (1)	20:14	43	18:04 (1)	21:05	21:50	22:03	21:29	20:26		19:17	65	17:57 (1)	17:11	75	12:54 (2)	16:32	128	13:00 (2)
3	08:48		09:52 (3)	08:18		09:23 (4)	07:23		16:22 (1)	07:12		17:23 (1)	06:08	05:25	05:25	06:03	06:53		07:42		16:52 (1)	07:36		09:43 (3)	08:27		09:06 (4)
	16:40	108	13:12 (2)	17:30	132	13:26 (2)	18:21	48	17:10 (1)	20:15	39	18:02 (1)	21:06	21:51	22:02	21:28	20:24		19:14	63	17:55 (1)	17:09	87	12:54 (2)	16:31	122	12:59 (2)
4	08:47		09:51 (3)	08:16		09:24 (4)	07:21		16:21 (1)	07:10		17:24 (1)	06:06	05:24	05:25	06:04	06:55		07:44		16:52 (1)	07:38		09:39 (3)	08:28		09:09 (4)
	16:41	110	13:12 (2)	17:31	127	13:26 (2)	18:23	51	17:12 (1)	20:17	35	17:59 (1)	21:08	21:52	22:02	21:26	20:22		19:12	62	17:54 (1)	17:07	95	12:54 (2)	16:31	116	13:00 (2)
5	08:47		09:52 (3)	08:14		09:26 (4)	07:19		16:20 (1)	07:07		17:27 (1)	06:04	05:23	05:26	06:06	06:56		07:46		16:53 (1)	07:40		08:58 (4)	08:29		09:37 (3)
	16:43	110	13:13 (2)	17:33	118	13:25 (2)	18:25	53	17:13 (1)	20:19	30	17:57 (1)	21:10	21:53	22:01	21:24	20:20	14	17:45 (1)	19:10	60	17:53 (1)	17:06	109	12:54 (2)	16:30	113	13:00 (2)
6	08:47		09:52 (3)	08:13		09:29 (4)	07:16		16:19 (1)	07:05		17:30 (1)	06:02	05:23	05:27	06:08	06:58		17:26 (1)	07:47		16:54 (1)	07:42		08:55 (4)	08:31		09:38 (3)
	16:44	111	13:13 (2)	17:35	107	13:25 (2)	18:27	56	17:15 (1)	20:20	24	17:54 (1)	21:11	21:54	22:01	21:22	20:17	24	17:50 (1)	19:08	58	17:52 (1)	17:04	120	12:55 (2)	16:30	111	12:59 (2)
7	08:46		09:52 (3)	08:11		10:10 (3)	07:14		16:17 (1)	07:03		17:35 (1)	06:00	05:22	05:28	06:09	06:59		17:22 (1)	07:49		16:54 (1)	07:44		08:54 (4)	08:32		09:39 (3)
	16:45	113	13:15 (2)	17:37	93	13:24 (2)	18:28	58	17:15 (1)	20:22	14	17:49 (1)	21:13	21:55	22:00	21:20	20:15	30	17:52 (1)	19:05	56	17:50 (1)	17:02	126	12:55 (2)	16:29	110	13:00 (2)
8	08:46		09:25 (4)	08:09		10:14 (3)	07:12		16:16 (1)	07:01			05:59	05:21	05:29	06:11	07:01		17:20 (1)	07:51		16:55 (1)	07:45		08:53 (4)	08:33		09:40 (3)
	16:46	114	13:15 (2)	17:39	86	13:25 (2)	18:30	60	17:16 (1)	20:24			21:14	21:56	21:59	21:19	20:13	34	17:54 (1)	19:03	54	17:49 (1)	17:00	132	12:56 (2)	16:29	109	13:00 (2)
9	08:45		09:23 (4)	08:07		12:10 (2)	07:10		16:16 (1)	06:58			05:57	05:21	05:30	06:12	07:03		17:16 (1)	07:52		16:56 (1)	07:47		08:52 (4)	08:34		09:40 (3)
	16:48	123	13:16 (2)	17:41	74	13:24 (2)	18:32	61	17:17 (1)	20:26			21:16	21:57	21:59	21:17	20:10	39	17:55 (1)	19:01	52	17:48 (1)	16:59	136	12:56 (2)	16:29	108	13:00 (2)
10	08:45		09:21 (4)	08:06		12:10 (2)	07:07		16:14 (1)	06:56			05:55	05:20	05:31	06:14	07:04		17:14 (1)	07:54		16:57 (1)	07:49		08:51 (4)	08:35		09:41 (3)
	16:49	128	13:17 (2)	17:43	73	13:23 (2)	18:34	63	17:17 (1)	20:27			21:18	21:57	21:58	21:15	20:08	43	17:57 (1)	18:59	49	17:46 (1)	16:57	140	12:56 (2)	16:28	107	13:00 (2)
11	08:44		09:20 (4)	08:04		12:11 (2)	07:05		16:14 (1)	06:54			05:54	05:20	05:32	06:16	07:06		17:11 (1)	07:56		16:57 (1)	07:51		08:51 (4)	08:37		09:41 (3)
	16:51	130	13:17 (2)	17:45	72	13:23 (2)	18:36	63	17:17 (1)	20:29			21:19	21:58	21:57	21:13	20:06	46	17:57 (1)	18:56	47	17:44 (1)	16:56	144	12:57 (2)	16:28	106	13:00 (2)
12	08:44		09:19 (4)	08:02		12:12 (2)	07:03		16:13 (1)	06:52			05:52	05:20	05:33	06:17	07:08		17:09 (1)	07:57		16:59 (1)	07:53		08:50 (4)	08:38		09:43 (3)
	16:52	135	13:18 (2)	17:46	70	13:22 (2)	18:37	65	17:18 (1)	20:31			21:21	21:59	21:56	21:11	20:03	49	17:58 (1)	18:54	43	17:42 (1)	16:54	146	12:57 (2)	16:28	105	13:01 (2)
13	08:43		09:18 (4)	08:00		12:13 (2)	07:00		16:12 (1)	06:49			05:50	05:19	05:34	06:19	07:09		17:08 (1)	07:59		17:01 (1)	07:54		08:50 (4)	08:39		09:43 (3)
	16:53	136	13:18 (2)	17:48	68	13:21 (2)	18:39	66	17:18 (1)	20:32			21:23	22:00	21:56	21:09	20:01	52	18:00 (1)	18:52	38	17:39 (1)	16:53	149	12:57 (2)	16:28	105	13:02 (2)
14	08:42		09:18 (4)	07:58		12:14 (2)	06:58		16:12 (1)	06:47			05:49	05:19	05:35	06:20	07:11		17:05 (1)	08:01		17:03 (1)	07:56		08:50 (4)	08:40		09:44 (3)
	16:55	139	13:19 (2)	17:50	66	13:20 (2)	18:41	66	17:18 (1)	20:34			21:24	22:00	21:55	21:07	19:59	55	18:00 (1)	18:50	34	17:37 (1)	16:51	151	12:58 (2)	16:28	104	13:02 (2)
15	08:41		09:17 (4)	07:56		12:15 (2)	06:56		16:12 (1)	06:45			05:47	05:19	05:36	06:22	07:13		17:04 (1)	08:03		17:04 (1)	07:58		08:50 (4)	08:40		09:44 (3)
	16:57	143	13:19 (2)	17:52	63	13:18 (2)	18:43	66	17:18 (1)	20:36			21:26	22:01	21:54	21:05	19:56	57	18:01 (1)	18:47	29	17:33 (1)	16:50	153	12:58 (2)	16:28	103	13:01 (2)
16	08:41		09:17 (4)	07:54		12:17 (2)	06:54		16:11 (1)	06:43			05:46	05:19	05:38	06:24	07:14		17:02 (1)	08:04		17:08 (1)	08:00		08:50 (4)	08:41		09:45 (3)
	16:58	145	13:20 (2)	17:54	60	13:17 (2)	18:44	67	17:18 (1)	20:37			21:27	22:01	21:53	21:03	19:54	58	18:00 (1)	18:45	22	17:30 (1)	16:48	152	12:58 (2)	16:28	102	13:02 (2)
17	08:40		09:17 (4)	07:52		12:18 (2)	06:51		16:11 (1)	06:41			05:44	05:19	05:39	06:25	07:16		17:01 (1)	08:06		17:14 (1)	08:01		08:51 (4)	08:42		09:46 (3)
	17:00	146	13:20 (2)	17:56	57	13:15 (2)	18:46	67	17:18 (1)	20:39			21:29	22:02	21:52	21:01	19:52	60	18:01 (1)	18:43	10	17:24 (1)	16:47	152	12:58 (2)	16:28	101	13:02 (2)
18	08:39		09:16 (4)	07:50		12:20 (2)	06:49		16:11 (1)	06:38			05:43	05:19	05:40	06:27	07:17		17:00 (1)	08:08			08:03		08:51 (4)	08:43		09:46 (3)
	17:01	147	13:21 (2)	17:58	53	13:13 (2)	18:48	67	17:18 (1)	20:41			21:30	22:02	21:51	20:59	19:49	62	18:02 (1)	18:41			16:46	154	12:59 (2)	16:29	102	13:03 (2)
19	08:38		09:16 (4)	07:48		12:23 (2)	06:47		16:10 (1)	06:36			05:41	05:19	05:41	06:28	07:19		16:58 (1)	08:10		13:10 (2)	08:05		08:50 (4)	08:44		09:46 (3)
	17:03	150	13:22 (2)	17:59	48	13:11 (2)	18:49	67	17:17 (1)	20:43			21:32	22:03	21:49	20:57	19:47	63	18:01 (1)	18:39	14	13:24 (2)	16:44	154	12:58 (2)	16:29	102	13:03 (2)
20	08:37		09:17 (4)	07:46		12:24 (2)	06:44		16:10 (1)	06:34			05:40	05:19	05:43	06:30	07:21		16:58 (1)	08:11		13:02 (2)	08:06		08:51 (4)	08:44		09:47 (3)
	17:05	151	13:23 (2)	18:01	43	13:07 (2)	18:51	67	17:17 (1)	20:44			21:33	22:03	21:48	20:55	19:45	64	18:02 (1)	18:37	30	13:32 (2)	16:43	152	12:58 (2)	16:29	101	13:03 (2)
21	08:36		09:17 (4)	07:44		12:28 (2)	06:42		16:11 (1)	06:32			05:38	05:19	05:44	06:32	07:22		16:56 (1)	08:13		12:58 (2)	08:08		08:52 (4)	08:45		09:48 (3)
	17:06	151	13:23 (2)	18:03	36	13:04 (2)	18:53	66	17:17 (1)	20:46			21:35	22:03	21:47	20:53	19:42	65	18:01 (1)	18:35	39	13:37 (2)	16:42	151	12:58 (2)	16:30	101	13:04 (2)
22	08:34		09:16 (4)	07:42		12:33 (2)	06:40		16:10 (1)	06:30			05:37	05:19	05:45	06:33	07:24		16:55 (1)	08:15		12:54 (2)	08:10		08:53 (4)	08:45		09:48 (3)
	17:08	152	13:23 (2)	18:05	26	12:59 (2)	18:55	66	17:16 (1)	20:48			21:36	22:03	21:46	20:51	19:40	66	18:01 (1)	18:33	45	13:39 (2)	16:41	150	12:59 (2)	16:30	101	13:04 (2)
23	08:33		09:16 (4)	07:40			06:37		16:11 (1)	06:28			05:36	05:20	05:47	06:35	07:26		16:55 (1)	08:17		12:51 (2)	08:11		08:53 (4)	08:46		09:48 (3)
	17:10	154	13:24 (2)	18:07			18:56	64	17:15 (1)	20:49			21:37	22:03	21:44	20:49	19:38	66	18:01 (1)	18:31	50	13:41 (2)	16:40	150	12:59 (2)	16:31	101	13:04 (2)
24	08:32		09:17 (4)	07:38			06:35		16:12 (1)	06:26			05:35	05:20	05:48	06:37	07:27		16:54 (1)	08:18		12:49 (2)	08:13		08:53 (4)	08:46		09:49 (3)
	17:12	154	13:25 (2)	18:09			18:58	63	17:15 (1)	20:51			21:39	22:04	21:43	20:46	19:35	67	18:01 (1)	18:28	54	13:43 (2)	16:38	148	12:58 (2)	16:31	102	13:06 (2)
25	08:31		09:17 (4)	07:36		16:40 (1)	06:33		16:11 (1)	06:24			05:33	05:20	05:49	06:38	07:29		16:53 (1)	07:20		11:47 (2)	08:15		08:55 (4)	08:47		09:49 (3)
	17:13	153	13:24 (2)	18:10	16	16:56 (1)	19:00	62	17:13 (1)	20:53			21:40	22:04	21:42	20:44	19:33	68	18:01 (1)	17:26	58	12:45 (2)	16:37	147	12:59 (2)	16:32	102	13:06 (2)
26	08:29		09:17 (4)	07:34		16:35 (1)	06:30		16:12 (1)	06:22			05:32	05:21	05:51	06:40	07:31		16:53 (1)	07:22		11:46 (2)	08:16		08:56 (4)	08:47		09:50 (3)
	17:15	152	13:25 (2)	18:12	25	17:00 (1)	19:02	61	17:13 (1)	20:54			21:41	22:04	21:40	20:42	19:31	67	18:00 (1)	17:24	61	12:47 (2)	16:36	145	12:59 (2)	16:32	100	13:06 (2)
27	08:28		09:17 (4)	07:32		16:31 (1)	06:28		16:13 (1)	06:20			05:31	05:21	05:52	06:42	07:32		16:52 (1)	07:24		11:45 (2)	08:18		08:57 (4)	08:47		09:50 (3)
	17:17	153	13:25 (2)	18:14	31	17:02 (1)	19:03	59	17:12 (1)	20:56			21:43	22:04	21:39	20:40	19:28	67	17:59 (1)	17:22	63	12:48 (2)	16:36	143	12:59 (2)	16:33	102	13:07 (2)
28	08:27		09:18 (4)	07:30		16:29 (1)	06:26		16:13 (1)	06:18			05:30	05:21	05:54	06:43	07:34		16:52 (1)	07:26		11:43 (2)	08:19		08:58 (4)	08:48		09:51 (3)
	17:19	151	13:26 (2)	18:16	36	17:05 (1)	19:05	57	17:10 (1)	20:58			21:44	22:03	21:37	20:38	19:26	67	17:59 (1)	17:20	66	12:49 (2)	16:35	140	12:59 (2)	16:34	102	13:08 (2)
29	08:25		09:18 (4)				07:24		17:15 (1)	06:16			05:29	05:22	05:55	06:45	07:35		16:52 (1)	07:27		11:42 (2)	08:21		08:59 (4)	08:48		09:51 (3)
	17:20	149	13:25 (2)				20:07	54	18:09 (1)	21:00			21:45	22:03	21:36	20:35	19:24	67	17:59 (1)	17:19	68	12:50 (2)	16:34	138	12:59 (2)	16:35	104	13:09 (2)
30	08:24		09:18 (4)				07:21		17:16 (1)	06:14			05:28	05:23	05:57	06:46	07:37		16:52 (1)	07:29		11:41 (2)	08:22		09:01 (4)	08:48		09:51 (3)
	17:22	147	13:25 (2)				20:08	52	18:08 (1)	21:01			21:47	22:03	21:34	20:33	19:21	66	17:58 (1)	17:17	70	12:51 (2)	16:33	134	13:00 (2)	16:36	104	13:09 (2)
31	08:22		09:20 (4)				07:19		17:18 (1)				05:27		05:58	06:48				07:31		11:41 (2)				08:48		09:51 (3)
	17:24	144	13:26 (2)				20:10	49	18:07 (1)				21:48		21:33	20:31				17:15	71	12:52 (2)				16:37	104	13:09 (2)
Potential sun hours	259			277			367			416			485	499	502	454	381			331			266			243		
Total, worst case		4212			1858			1848			231							1416			1496			4046			3309	
Sun reduction		0,24			0,30			0,33			0,42							0,36			0,34			0,24			0,20	
Oper. time red.		0,95			0,95			0,95			0,95							0,95			0,95			0,95			0,95	
Wind dir. red.		0,64			0,66			0,67			0,67							0,67			0,67			0,64			0,64	
Total reduction		0,14			0,19			0,21			0,26							0,23			0,21			0,14			0,12	
Total, real		606			348			382			61							322			317			575			410	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:35/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN149@164Shadow receptor: AD - 3945LA9

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December		
1	08:48		10:55 (4)		08:21		15:54 (2)	07:27		16:08 (2)	07:17	06:12	05:26	05:23	06:00	06:50		07:39		18:07 (1)	07:33		15:19 (2)	08:24		12:38 (3)
	16:38	72	13:37 (3)	34	16:28 (2)	11	18:18	16:19 (2)	20:12	21:03	21:49	22:03	21:31	20:29		19:19	31	18:38 (1)	47	17:13	16:06 (2)	43	16:32	43	13:21 (3)
2	08:48		10:56 (4)		08:19		15:53 (2)	07:25			07:14	06:10	05:25	05:24	06:01	06:51		07:40		18:07 (1)	07:35		15:20 (2)	08:25		12:39 (3)
	16:39	72	13:38 (3)	36	16:29 (2)		18:19		20:14	21:05	21:50	22:02	21:29	20:26		19:17	30	18:37 (1)	45	17:11	16:05 (2)	43	16:32	43	13:22 (3)
3	08:48		10:58 (4)		08:18		15:53 (2)	07:23			07:12	06:08	05:25	05:25	06:03	06:53		07:42		18:07 (1)	07:36		15:19 (2)	08:27		12:38 (3)
	16:40	70	13:39 (3)	38	16:31 (2)		18:21		20:15	21:06	21:51	22:02	21:28	20:24		19:14	29	18:36 (1)	45	17:09	16:04 (2)	44	16:31	44	13:22 (3)
4	08:47		10:58 (4)		08:16		15:52 (2)	07:21			07:10	06:06	05:24	05:25	06:04	06:55		07:44		18:08 (1)	07:38		15:20 (2)	08:28		10:50 (4)
	16:41	68	13:38 (3)	40	16:32 (2)		18:23		20:17	21:08	21:52	22:02	21:26	20:22		19:12	26	18:34 (1)	44	17:07	16:04 (2)	54	16:30	54	13:24 (3)
5	08:47		11:00 (4)		08:14		15:51 (2)	07:19			07:07	06:04	05:23	05:26	06:06	06:56		07:46		18:09 (1)	07:40		15:20 (2)	08:29		10:48 (4)
	16:42	65	13:39 (3)	42	16:33 (2)		18:25		20:19	21:10	21:53	22:01	21:24	20:20		19:10	24	18:33 (1)	43	17:06	16:03 (2)	59	16:30	59	13:24 (3)
6	08:47		11:01 (4)		08:13		15:51 (2)	07:16		17:37 (1)	07:05	06:02	05:23	05:27	06:08	06:58		07:47		18:10 (1)	07:42		15:21 (2)	08:31		10:47 (4)
	16:44	62	13:38 (3)	42	16:33 (2)		18:27	13 17:50 (1)	20:20	21:11	21:54	22:01	21:22	20:17		19:08	20	18:30 (1)	41	17:04	16:02 (2)	62	16:29	62	13:24 (3)
7	08:46		11:03 (4)		08:11		15:50 (2)	07:14		17:34 (1)	07:03	06:00	05:22	05:28	06:09	06:59		07:49		18:12 (1)	07:44		15:22 (2)	08:32		10:47 (4)
	16:45	59	13:39 (3)	44	16:34 (2)		18:28	19 17:53 (1)	20:22	21:13	21:55	22:00	21:20	20:15		19:05	16	18:28 (1)	40	17:02	16:02 (2)	65	16:29	65	13:26 (3)
8	08:46		11:05 (4)		08:09		15:50 (2)	07:12		17:33 (1)	07:01	05:59	05:21	05:29	06:11	07:01		07:51		18:15 (1)	07:45		15:23 (2)	08:33		10:46 (4)
	16:46	55	13:39 (3)	45	16:35 (2)		18:30	22 17:55 (1)	20:24	21:14	21:56	21:59	21:19	20:13		19:03	9	18:24 (1)		17:00	16:01 (2)	67	16:29	67	13:26 (3)
9	08:45		12:55 (3)		08:07		15:50 (2)	07:10		17:31 (1)	06:58	05:57	05:21	05:30	06:12	07:03		07:52			07:47		15:24 (2)	08:34		10:46 (4)
	16:48	44	13:39 (3)	46	16:36 (2)		18:32	26 17:57 (1)	20:25	21:16	21:57	21:59	21:17	20:10		19:01				16:59	16:00 (2)	70	16:28	70	13:27 (3)
10	08:45		12:56 (3)		08:06		15:50 (2)	07:07		17:29 (1)	06:56	05:55	05:20	05:31	06:14	07:04		07:54			07:49		15:25 (2)	08:35		10:45 (4)
	16:49	43	13:39 (3)	46	16:36 (2)		18:34	28 17:57 (1)	20:27	21:18	21:57	21:58	21:15	20:08		18:59				16:57	15:59 (2)	71	16:28	71	13:27 (3)
11	08:44		12:56 (3)		08:04		15:49 (2)	07:05		17:29 (1)	06:54	05:54	05:20	05:32	06:16	07:06		07:56			07:51		15:27 (2)	08:37		10:45 (4)
	16:50	43	13:39 (3)	47	16:36 (2)		18:36	29 17:58 (1)	20:29	21:19	21:58	21:57	21:13	20:06		18:56				16:56	15:58 (2)	73	16:28	73	13:28 (3)
12	08:44		12:57 (3)		08:02		15:49 (2)	07:03		17:28 (1)	06:52	05:52	05:20	05:33	06:17	07:08		07:57			07:52		15:28 (2)	08:38		10:45 (4)
	16:52	41	13:38 (3)	48	16:37 (2)		18:37	31 17:59 (1)	20:31	21:21	21:59	21:56	21:11	20:03		18:54				16:54	15:56 (2)	74	16:28	74	13:28 (3)
13	08:43		12:58 (3)		08:00		15:49 (2)	07:00		17:27 (1)	06:49	05:50	05:19	05:34	06:19	07:09		07:59		16:39 (2)	07:54		15:30 (2)	08:39		10:46 (4)
	16:53	40	13:38 (3)	48	16:37 (2)		18:39	32 17:59 (1)	20:32	21:22	22:00	21:56	21:09	20:01		18:52	15	16:54 (2)	24	16:53	15:54 (2)	76	16:28	76	13:30 (3)
14	08:42		12:59 (3)		07:58		15:49 (2)	06:58		17:26 (1)	06:47	05:49	05:19	05:35	06:20	07:11		08:01		16:35 (2)	07:56		15:32 (2)	08:40		10:45 (4)
	16:55	39	13:38 (3)	48	16:37 (2)		18:41	33 17:59 (1)	20:34	21:24	22:00	21:55	21:07	19:59		18:50	22	16:57 (2)	21	16:51	15:53 (2)	76	16:28	76	13:29 (3)
15	08:41		13:00 (3)		07:56		15:49 (2)	06:56		17:26 (1)	06:45	05:47	05:19	05:36	06:22	07:12		08:03		16:32 (2)	07:58		15:35 (2)	08:40		10:46 (4)
	16:56	37	13:37 (3)	48	16:37 (2)		18:43	33 17:59 (1)	20:36	21:26	22:01	21:54	21:05	19:56		18:47	27	16:59 (2)	15	16:50	15:50 (2)	77	16:28	77	13:30 (3)
16	08:41		13:02 (3)		07:54		15:49 (2)	06:54		17:25 (1)	06:43	05:46	05:19	05:38	06:24	07:14		08:04		16:29 (2)	08:00		15:39 (2)	08:41		10:46 (4)
	16:58	34	13:36 (3)	48	16:37 (2)		18:44	33 17:58 (1)	20:37	21:27	22:01	21:53	21:03	19:54		18:45	31	17:00 (2)	8	16:48	15:47 (2)	77	16:28	77	13:30 (3)
17	08:40		13:03 (3)		07:52		15:50 (2)	06:51		17:26 (1)	06:41	05:44	05:19	05:39	06:25	07:16		08:06		16:27 (2)	08:01			08:42		10:46 (4)
	17:00	33	13:36 (3)	46	16:36 (2)		18:46	32 17:58 (1)	20:39	21:29	22:02	21:52	21:01	19:52		18:43	35	17:02 (2)		16:47				16:28	78	13:31 (3)
18	08:39		13:05 (3)		07:50		15:50 (2)	06:49		17:26 (1)	06:38	05:43	05:19	05:40	06:27	07:17	18:23 (1)	08:08		16:26 (2)	08:03			08:43		10:47 (4)
	17:01	30	13:35 (3)	46	16:36 (2)		18:48	32 17:58 (1)	20:41	21:30	22:02	21:50	20:59	19:49	11 18:34 (1)	18:41	37	17:03 (2)		16:45				16:28	78	13:32 (3)
19	08:38		13:07 (3)		07:48		15:51 (2)	06:47		17:26 (1)	06:36	05:41	05:19	05:41	06:28	07:19	18:19 (1)	08:10		16:24 (2)	08:05			08:44		10:47 (4)
	17:03	27	13:34 (3)	45	16:36 (2)		18:49	30 17:56 (1)	20:43	21:32	22:03	21:49	20:57	19:47	17 18:36 (1)	18:39	40	17:04 (2)		16:44				16:29	78	13:32 (3)
20	08:37		13:10 (3)		07:46		15:51 (2)	06:44		17:26 (1)	06:34	05:40	05:19	05:43	06:30	07:21		18:17 (1)	08:11		16:23 (2)	08:06		12:56 (3)	08:44		10:48 (4)
	17:05	22	13:32 (3)	43	16:34 (2)		18:51	30 17:56 (1)	20:44	21:33	22:03	21:48	20:55	19:45	21 18:38 (1)	18:37	42	17:05 (2)		16:43	3	12:59 (3)	16:29	79	13:33 (3)
21	08:36		13:14 (3)		07:44		15:51 (2)	06:42		17:27 (1)	06:32	05:38	05:19	05:44	06:32	07:22		18:14 (1)	08:13		16:22 (2)	08:08		12:49 (3)	08:45		10:48 (4)
	17:06	16	13:30 (3)	43	16:34 (2)		18:53	28 17:55 (1)	20:46	21:35	22:03	21:47	20:53	19:42	24 18:38 (1)	18:35	43	17:05 (2)		16:42	16	13:05 (3)	16:30	80	13:34 (3)
22	08:34		13:21 (3)		07:42		15:52 (2)	06:40		17:28 (1)	06:30	05:37	05:19	05:45	06:33	07:24		18:12 (1)	08:15		16:21 (2)	08:10		12:46 (3)	08:45		10:48 (4)
	17:08	3	13:24 (3)	41	16:33 (2)		18:55	25 17:53 (1)	20:48	21:36	22:03	21:46	20:51	19:40	27 18:39 (1)	18:33	44	17:05 (2)		16:41	22	13:08 (3)	16:30	80	13:34 (3)
23	08:33				07:40		15:54 (2)	06:37		17:30 (1)	06:28	05:36	05:19	05:47	06:35	07:26		18:11 (1)	08:17		16:20 (2)	08:11		12:45 (3)	08:46		10:48 (4)
	17:10				18:07	38	16:32 (2)	18:56	22	17:52 (1)	20:49	21:37	22:03	21:44	20:48	19:38	29	18:40 (1)	45	17:05 (2)	16:39	26	13:11 (3)	16:31	80	13:34 (3)
24	08:32				07:38		15:55 (2)	06:35		17:32 (1)	06:26	05:35	05:20	05:48	06:37	07:27		18:09 (1)	08:18		16:20 (2)	08:13		12:42 (3)	08:46		10:50 (4)
	17:11				18:09	36	16:31 (2)	18:58	18	17:50 (1)	20:51	21:39	22:04	21:43	20:46	19:35	31	18:40 (1)	46	17:06 (2)	16:38	30	13:12 (3)	16:31	79	13:35 (3)
25	08:31				07:36		15:57 (2)	06:33		17:33 (1)	06:24	05:33	05:20	05:49	06:38	07:29		18:09 (1)	07:20		15:19 (2)	08:15		12:41 (3)	08:47		10:50 (4)
	17:13				18:10	33	16:30 (2)	19:00	13	17:46 (1)	20:53	21:40	22:04	21:42	20:44	19:33	31	18:40 (1)	47	17:26	16:06 (2)	47	16:37	33	13:14 (3)	16:32	78	13:35 (3)
26	08:29		16:06 (2)		07:34		15:58 (2)	06:30			06:22	05:32	05:21	05:51	06:40	07:30		18:08 (1)	07:22		15:19 (2)	08:16		12:41 (3)	08:47		10:50 (4)
	17:15	8	16:14 (2)	29	18:12		16:27 (2)	19:02			20:54	21:41	22:04	21:40	20:42	19:31	33	18:41 (1)	47	17:24	16:06 (2)	47	16:36	34	13:15 (3)	16:32	78	13:35 (3)
27	08:28		16:02 (2)		07:32		16:00 (2)	06:28			06:20	05:31	05:21	05:52	06:42	07:32		18:07 (1)	07:24		15:19 (2)	08:18		12:40 (3)	08:47		10:51 (4)
	17:17	16	16:18 (2)	26	18:14		16:26 (2)	19:03			20:56	21:43	22:04	21:39	20:40	19:28	33	18:40 (1)	47	17:22	16:06 (2)	47	16:36	37	13:17 (3)	16:33	77	13:35 (3)
28	08:27		16:00 (2)		07:29		16:03 (2)	06:26			06:18	05:30	05:21	05:54	06:43	07:34		18:07 (1)	07:26		15:19 (2)	08:19		12:39 (3)	08:47		10:52 (4)
	17:19	21	16:21 (2)	20	18:16		16:23 (2)	19:05			20:58	21:44	22:03	21:37	20:38	19:26	33	18:40 (1)	47	17:20	16:06 (2)	47	16:35	39	13:18 (3)	16:34	77	13:37 (3)
29	08:25		15:58 (2)					07:23			06:16	05:29	05:22	05:55	06:45	07:35		18:07 (1)	07:27		15:19 (2)	08:21		12:39 (3)	08:48		10:53 (4)
	17:20	25	16:23 (2)					20:07			21:00	21:45	22:03	21:36	20:35	19:24	33	18:40 (1)	47	17:18	16:06 (2)	47	16:34	40	13:19 (3)	16:35	77	13:37 (3)
30	08:24		15:56 (2)					07:21			06:14	05:28	05:23	05:57	06:46	07:37		18:06 (1)	07:29		15:19 (2)	08:22		12:38 (3)	08:48		10:54 (4)
	17:22	28	16:24 (2)					20:08			21:01	21:46	22:03	21:34	20:33	19:21	33	18:39 (1)	47	17:17	16:06 (2)	47	16:33	41	13:19 (3)	16:36	75	13:37 (3)
31	08:22		15:56 (2)					07:19				05:27		05:58	06:48					07:31	15:19 (2)					08:48		10:54 (4)
	17:24	31	16:27 (2)					20:10				21:48		21:32	20:31					17:15	16:06 (2)	47				16:37	74	13:37 (3)
Potential sun hours	259			277			367			416		485	499	502	454	381				331			266			243		
Total, worst case		1104			1146			540									356				941			861			2199	
Sun reduction		0,24			0,30			0,33									0,36				0,34			0,24			0,20	
Oper. time red.		0,95			0,95			0,95									0,95				0,95			0,95			0,95	
Wind dir. red.		0,67			0,67			0,63									0,63				0,66			0,67			0,66	
Total reduction		0,15			0,19			0,20									0,22				0,21			0,15			0,13	
Total, real		169			221			107									77				199			130			283	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:35/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN149@164Shadow receptor: AE - 3945LA1a

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January			February			March	April	May	June	July	August	September	October			November			December		
1	08:48		15:44 (4)	08:21		15:50 (4)	07:27	07:16	06:12	05:26	05:23	06:00	06:50	07:39			07:33			08:24		15:24 (4)
	16:38	11	15:55 (4)	17:26	21	16:11 (4)	18:18	20:12	21:03	21:49	22:03	21:31	20:29	19:19			17:13			16:32	25	15:49 (4)
2	08:48		15:44 (4)	08:19		15:52 (4)	07:25	07:14	06:10	05:25	05:24	06:01	06:51	07:40			07:34			08:25		15:25 (4)
	16:39	12	15:56 (4)	17:28	18	16:10 (4)	18:19	20:13	21:04	21:50	22:02	21:29	20:26	19:17			17:11			16:32	24	15:49 (4)
3	08:47		15:44 (4)	08:18		15:55 (4)	07:23	07:12	06:08	05:25	05:25	06:03	06:53	07:42			07:36			08:27		15:26 (4)
	16:40	14	15:58 (4)	17:30	13	16:08 (4)	18:21	20:15	21:06	21:51	22:02	21:27	20:24	19:14			17:09			16:31	22	15:48 (4)
4	08:47		15:43 (4)	08:16		15:59 (4)	07:21	07:10	06:06	05:24	05:25	06:04	06:54	07:44			07:38			08:28		15:26 (4)
	16:41	16	15:59 (4)	17:31	6	16:05 (4)	18:23	20:17	21:08	21:52	22:02	21:26	20:22	19:12			17:07			16:30	22	15:48 (4)
5	08:47		15:43 (4)	08:14			07:18	07:07	06:04	05:23	05:26	06:06	06:56	07:45			07:40			08:29		15:28 (4)
	16:42	17	16:00 (4)	17:33			18:25	20:19	21:09	21:53	22:01	21:24	20:20	19:10			17:05			16:30	20	15:48 (4)
6	08:47		15:42 (4)	08:13			07:16	07:05	06:02	05:22	05:27	06:07	06:58	07:47			07:42			08:31		15:28 (4)
	16:44	19	16:01 (4)	17:35			18:27	20:20	21:11	21:54	22:01	21:22	20:17	19:08			17:04			16:29	19	15:47 (4)
7	08:46		15:43 (4)	08:11			07:14	07:03	06:00	05:22	05:28	06:09	06:59	07:49			07:43		15:28 (4)	08:32		15:30 (4)
	16:45	20	16:03 (4)	17:37			18:28	20:22	21:13	21:55	22:00	21:20	20:15	19:05			17:02	7	15:35 (4)	16:29	18	15:48 (4)
8	08:46		15:42 (4)	08:09			07:12	07:00	05:59	05:21	05:29	06:11	07:01	07:51			07:45		15:25 (4)	08:33		15:31 (4)
	16:46	21	16:03 (4)	17:39			18:30	20:24	21:14	21:56	21:59	21:19	20:13	19:03			17:00	13	15:38 (4)	16:29	16	15:47 (4)
9	08:45		15:42 (4)	08:07			07:09	06:58	05:57	05:21	05:30	06:12	07:03	07:52			07:47		15:23 (4)	08:34		15:32 (4)
	16:48	22	16:04 (4)	17:41			18:32	20:25	21:16	21:57	21:59	21:17	20:10	19:01			16:59	17	15:40 (4)	16:28	14	15:46 (4)
10	08:45		15:42 (4)	08:06			07:07	06:56	05:55	05:20	05:31	06:14	07:04	07:54			07:49		15:21 (4)	08:35		15:33 (4)
	16:49	24	16:06 (4)	17:43			18:34	20:27	21:18	21:57	21:58	21:15	20:08	18:58			16:57	21	15:42 (4)	16:28	13	15:46 (4)
11	08:44		15:42 (4)	08:04		17:10 (3)	07:05	06:54	05:53	05:20	05:32	06:15	07:06	07:56			07:51		15:20 (4)	08:36		15:34 (4)
	16:50	25	16:07 (4)	17:44	2	17:12 (3)	18:35	20:29	21:19	21:58	21:57	21:13	20:06	18:56			16:56	23	15:43 (4)	16:28	11	15:45 (4)
12	08:44		15:42 (4)	08:02		17:06 (3)	07:03	06:51	05:52	05:20	05:33	06:17	07:08	07:57			07:52		15:19 (4)	08:38		15:35 (4)
	16:52	25	16:07 (4)	17:46	11	17:17 (3)	18:37	20:31	21:21	21:59	21:56	21:11	20:03	18:54			16:54	25	15:44 (4)	16:28	10	15:45 (4)
13	08:43		15:42 (4)	08:00		17:04 (3)	07:00	06:49	05:50	05:19	05:34	06:19	07:09	07:59			07:54		15:19 (4)	08:39		15:37 (4)
	16:53	26	16:08 (4)	17:48	15	17:19 (3)	18:39	20:32	21:22	21:59	21:55	21:09	20:01	18:52			16:52	26	15:45 (4)	16:28	7	15:44 (4)
14	08:42		15:41 (4)	07:58		17:02 (3)	06:58	06:47	05:49	05:19	05:35	06:20	07:11	08:01		17:41 (3)	07:56		15:18 (4)	08:39		15:39 (4)
	16:55	28	16:09 (4)	17:50	19	17:21 (3)	18:41	20:34	21:24	22:00	21:55	21:07	19:59	18:50	6	17:47 (3)	16:51	28	15:46 (4)	16:28	4	15:43 (4)
15	08:41		15:41 (4)	07:56		17:01 (3)	06:56	06:45	05:47	05:19	05:36	06:22	07:12	08:03		17:37 (3)	07:58		15:18 (4)	08:40		
	16:56	28	16:09 (4)	17:52	21	17:22 (3)	18:42	20:36	21:26	22:01	21:54	21:05	19:56	18:47	12	17:49 (3)	16:50	29	15:47 (4)	16:28		
16	08:40		15:41 (4)	07:54		17:00 (3)	06:54	06:43	05:45	05:19	05:37	06:24	07:14	08:04		17:34 (3)	07:59		15:18 (4)	08:41		
	16:58	29	16:10 (4)	17:54	23	17:23 (3)	18:44	20:37	21:27	22:01	21:53	21:03	19:54	18:45	17	17:51 (3)	16:48	29	15:47 (4)	16:28		
17	08:40		15:42 (4)	07:52		17:00 (3)	06:51	06:40	05:44	05:19	05:39	06:25	07:16	08:06		17:33 (3)	08:01		15:18 (4)	08:42		
	17:00	29	16:11 (4)	17:56	23	17:23 (3)	18:46	20:39	21:29	22:02	21:52	21:01	19:52	18:43	19	17:52 (3)	16:47	30	15:48 (4)	16:28		
18	08:39		15:42 (4)	07:50		17:00 (3)	06:49	06:38	05:42	05:19	05:40	06:27	07:17	08:08		17:32 (3)	08:03		15:17 (4)	08:43		
	17:01	30	16:12 (4)	17:57	24	17:24 (3)	18:48	20:41	21:30	22:02	21:50	20:59	19:49	18:41	21	17:53 (3)	16:45	30	15:47 (4)	16:28		
19	08:38		15:42 (4)	07:48		16:58 (3)	06:47	06:36	05:41	05:19	05:41	06:28	07:19	08:09		17:31 (3)	08:05		15:17 (4)	08:43		
	17:03	30	16:12 (4)	17:59	25	17:23 (3)	18:49	20:42	21:32	22:02	21:49	20:57	19:47	18:39	23	17:54 (3)	16:44	31	15:48 (4)	16:29		
20	08:37		15:43 (4)	07:46		16:58 (3)	06:44	06:34	05:40	05:19	05:42	06:30	07:21	08:11		17:30 (3)	08:06		15:18 (4)	08:44		
	17:05	30	16:13 (4)	18:01	25	17:23 (3)	18:51	20:44	21:33	22:03	21:48	20:55	19:45	18:37	24	17:54 (3)	16:43	30	15:48 (4)	16:29		
21	08:35		15:42 (4)	07:44		16:59 (3)	06:42	06:32	05:38	05:19	05:44	06:32	07:22	08:13		17:29 (3)	08:08		15:18 (4)	08:45		
	17:06	31	16:13 (4)	18:03	24	17:23 (3)	18:53	20:46	21:34	22:03	21:47	20:53	19:42	18:35	24	17:53 (3)	16:42	31	15:49 (4)	16:29		
22	08:34		15:43 (4)	07:42		16:59 (3)	06:40	06:30	05:37	05:19	05:45	06:33	07:24	08:15		17:29 (3)	08:10		15:19 (4)	08:45		
	17:08	30	16:13 (4)	18:05	24	17:23 (3)	18:55	20:48	21:36	22:03	21:46	20:51	19:40	18:32	24	17:53 (3)	16:41	30	15:49 (4)	16:30		
23	08:33		15:43 (4)	07:40		17:00 (3)	06:37	06:28	05:36	05:19	05:47	06:35	07:25	08:17		17:29 (3)	08:11		15:19 (4)	08:46		
	17:10	31	16:14 (4)	18:07	22	17:22 (3)	18:56	20:49	21:37	22:03	21:44	20:48	19:38	18:30	24	17:53 (3)	16:39	30	15:49 (4)	16:30		
24	08:32		15:43 (4)	07:38		17:01 (3)	06:35	06:26	05:34	05:20	05:48	06:37	07:27	08:18		17:29 (3)	08:13		15:19 (4)	08:46		
	17:11	30	16:13 (4)	18:09	20	17:21 (3)	18:58	20:51	21:39	22:03	21:43	20:46	19:35	18:28	24	17:53 (3)	16:38	30	15:49 (4)	16:31		
25	08:31		15:44 (4)	07:36		17:02 (3)	06:33	06:24	05:33	05:20	05:49	06:38	07:29	07:20		16:30 (3)	08:15		15:20 (4)	08:47		
	17:13	30	16:14 (4)	18:10	18	17:20 (3)	19:00	20:53	21:40	22:04	21:41	20:44	19:33	17:26	23	16:53 (3)	16:37	29	15:49 (4)	16:32		
26	08:29		15:45 (4)	07:34		17:03 (3)	06:30	06:21	05:32	05:20	05:51	06:40	07:30	07:22		16:30 (3)	08:16		15:21 (4)	08:47		
	17:15	29	16:14 (4)	18:12	15	17:18 (3)	19:01	20:54	21:41	22:04	21:40	20:42	19:31	17:24	22	16:52 (3)	16:36	28	15:49 (4)	16:32		
27	08:28		15:45 (4)	07:32		17:05 (3)	06:28	06:19	05:31	05:21	05:52	06:41	07:32	07:24		16:31 (3)	08:18		15:21 (4)	08:47		
	17:17	29	16:14 (4)	18:14	11	17:16 (3)	19:03	20:56	21:43	22:03	21:39	20:40	19:28	17:22	20	16:51 (3)	16:35	29	15:50 (4)	16:33		
28	08:27		15:46 (4)	07:29			06:26	06:17	05:30	05:21	05:54	06:43	07:34	07:25		16:32 (3)	08:19		15:22 (4)	08:47		
	17:19	28	16:14 (4)	18:16			19:05	20:58	21:44	22:03	21:37	20:38	19:26	17:20	18	16:50 (3)	16:35	27	15:49 (4)	16:34		
29	08:25		15:47 (4)				07:23	06:15	05:29	05:22	05:55	06:45	07:35	07:27		16:34 (3)	08:21		15:23 (4)	08:48		15:46 (4)
	17:20	26	16:13 (4)				20:07	20:59	21:45	22:03	21:36	20:35	19:24	17:18	14	16:48 (3)	16:34	26	15:49 (4)	16:35	3	15:49 (4)
30	08:24		15:47 (4)				07:21	06:13	05:28	05:22	05:57	06:46	07:37	07:29		16:36 (3)	08:22		15:23 (4)	08:48		15:45 (4)
	17:22	25	16:12 (4)				20:08	21:01	21:46	22:03	21:34	20:33	19:21	17:16	10	16:46 (3)	16:33	25	15:48 (4)	16:36	6	15:51 (4)
31	08:22		15:49 (4)				07:19		05:27		05:58	06:48		07:31						08:48		15:44 (4)
	17:24	23	16:12 (4)				20:10		21:48		21:32	20:31		17:15						16:37	9	15:53 (4)
Potential sun hours	259			277			367	416	485	499	502	454	381	331			266			243		
Total, worst case		768			380										325			624			243	
Sun reduction		0,24			0,30										0,34			0,24			0,20	
Oper. time red.		0,95			0,95										0,95			0,95			0,95	
Wind dir. red.		0,67			0,67										0,67			0,67			0,67	
Total reduction		0,15			0,19										0,21			0,15			0,13	
Total, real		118			73										69			94			32	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:35/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN149@164Shadow receptor: AF - 3945LA7

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December		
1	08:48		11:44 (4)	08:21		07:27		16:31 (2)	07:17	06:12	05:26	05:23	06:00	06:50		07:39		18:28 (1)	07:33		16:14 (2)	08:24		13:37 (3)
	16:38	65	14:42 (3)	17:26		18:18	36	17:07 (2)	20:12	21:03	21:49	22:03	21:31	20:29		19:19	19	18:47 (1)	17:13	10	16:24 (2)	16:32	50	14:27 (3)
2	08:48		11:46 (4)	08:19		07:25		16:32 (2)	07:14	06:10	05:25	05:24	06:01	06:51		07:40		18:29 (1)	07:35			08:25		13:38 (3)
	16:39	62	14:42 (3)	17:28		18:19	35	17:07 (2)	20:13	21:05	21:50	22:02	21:29	20:26		19:17	15	18:44 (1)	17:11			16:32	50	14:28 (3)
3	08:48		11:50 (4)	08:18		07:23		16:32 (2)	07:12	06:08	05:25	05:25	06:03	06:53		07:42		18:32 (1)	07:36			08:27		13:37 (3)
	16:40	55	14:43 (3)	17:30		18:21	33	17:05 (2)	20:15	21:06	21:51	22:02	21:27	20:24		19:14	8	18:40 (1)	17:09			16:31	51	14:28 (3)
4	08:47		13:51 (3)	08:16		07:21		16:33 (2)	07:10	06:06	05:24	05:25	06:04	06:55		07:44			07:38			08:28		13:38 (3)
	16:41	52	14:43 (3)	17:31		18:23	31	17:04 (2)	20:17	21:08	21:52	22:02	21:26	20:22		19:12			17:07			16:30	51	14:29 (3)
5	08:47		13:52 (3)	08:14		07:18		16:35 (2)	07:07	06:04	05:23	05:26	06:06	06:56		07:45			07:40			08:29		13:38 (3)
	16:42	52	14:44 (3)	17:33		18:25	27	17:02 (2)	20:19	21:10	21:53	22:01	21:24	20:20		19:10			17:06			16:30	52	14:30 (3)
6	08:47		13:52 (3)	08:13		07:16		16:37 (2)	07:05	06:02	05:23	05:27	06:08	06:58		07:47		17:17 (2)	07:42			08:31		13:38 (3)
	16:44	52	14:44 (3)	17:35		18:27	23	17:00 (2)	20:20	21:11	21:54	22:01	21:22	20:17		19:08	15	17:32 (2)	17:04			16:29	52	14:30 (3)
7	08:46		13:53 (3)	08:11		07:14		16:39 (2)	07:03	06:00	05:22	05:28	06:09	06:59		07:49		17:14 (2)	07:44			08:32		13:39 (3)
	16:45	51	14:44 (3)	17:37		18:28	18	16:57 (2)	20:22	21:13	21:55	22:00	21:20	20:15		19:05	21	17:35 (2)	17:02			16:29	52	14:31 (3)
8	08:46		13:53 (3)	08:09		07:12		16:43 (2)	07:01	05:59	05:21	05:29	06:11	07:01		07:51		17:11 (2)	07:45			08:33		13:39 (3)
	16:46	51	14:44 (3)	17:39		18:30	11	16:54 (2)	20:24	21:14	21:56	21:59	21:19	20:13		19:03	26	17:37 (2)	17:00			16:29	52	14:31 (3)
9	08:45		13:54 (3)	08:07		07:10			06:58	05:57	05:21	05:30	06:12	07:03		07:52		17:09 (2)	07:47			08:34		11:39 (4)
	16:48	51	14:45 (3)	17:41		18:32			20:25	21:16	21:57	21:59	21:17	20:10		19:01	29	17:38 (2)	16:59			16:28	54	14:31 (3)
10	08:45		13:54 (3)	08:06	16:44 (2)	07:07		17:57 (1)	06:56	05:55	05:20	05:31	06:14	07:04		07:54		17:07 (2)	07:49			08:35		11:36 (4)
	16:49	51	14:45 (3)	17:43	11 16:55 (2)	18:34	2	17:59 (1)	20:27	21:18	21:57	21:58	21:15	20:08		18:59	31	17:38 (2)	16:57			16:28	60	14:31 (3)
11	08:44		13:55 (3)	08:04	16:40 (2)	07:05		17:52 (1)	06:54	05:54	05:20	05:32	06:16	07:06		07:56		17:06 (2)	07:51		13:55 (3)	08:37		11:34 (4)
	16:50	50	14:45 (3)	17:45	18 16:58 (2)	18:35	12	18:04 (1)	20:29	21:19	21:58	21:57	21:13	20:06		18:56	33	17:39 (2)	16:56	8	14:03 (3)	16:28	65	14:32 (3)
12	08:44		13:55 (3)	08:02	16:38 (2)	07:03		17:49 (1)	06:52	05:52	05:20	05:33	06:17	07:08		07:57		17:04 (2)	07:52		13:50 (3)	08:38		11:34 (4)
	16:52	50	14:45 (3)	17:46	23 17:01 (2)	18:37	18	18:07 (1)	20:31	21:21	21:59	21:56	21:11	20:03		18:54	36	17:40 (2)	16:54	18	14:08 (3)	16:28	67	14:32 (3)
13	08:43		13:56 (3)	08:00	16:37 (2)	07:00		17:47 (1)	06:49	05:50	05:19	05:34	06:19	07:09		07:59		17:04 (2)	07:54		13:47 (3)	08:39		11:33 (4)
	16:53	49	14:45 (3)	17:48	26 17:03 (2)	18:39	21	18:08 (1)	20:32	21:22	22:00	21:56	21:09	20:01		18:52	37	17:41 (2)	16:53	24	14:11 (3)	16:28	68	14:32 (3)
14	08:42		13:56 (3)	07:58	16:35 (2)	06:58		17:46 (1)	06:47	05:49	05:19	05:35	06:20	07:11		08:01		17:03 (2)	07:56		13:45 (3)	08:40		11:33 (4)
	16:55	50	14:46 (3)	17:50	29 17:04 (2)	18:41	23	18:09 (1)	20:34	21:24	22:00	21:55	21:07	19:59		18:50	38	17:41 (2)	16:51	28	14:13 (3)	16:28	70	14:33 (3)
15	08:41		13:57 (3)	07:56	16:34 (2)	06:56		17:45 (1)	06:45	05:47	05:19	05:36	06:22	07:12		08:03		17:01 (2)	07:58		13:43 (3)	08:40		11:33 (4)
	16:56	49	14:46 (3)	17:52	32 17:06 (2)	18:43	25	18:10 (1)	20:36	21:26	22:01	21:54	21:05	19:56		18:47	40	17:41 (2)	16:50	32	14:15 (3)	16:28	72	14:34 (3)
16	08:41		13:58 (3)	07:54	16:33 (2)	06:54		17:43 (1)	06:43	05:46	05:19	05:37	06:24	07:14	18:37 (1)	08:04		17:01 (2)	07:59		13:42 (3)	08:41		11:33 (4)
	16:58	48	14:46 (3)	17:54	34 17:07 (2)	18:44	27	18:10 (1)	20:37	21:27	22:01	21:53	21:03	19:54	12 18:49 (1)	18:45	40	17:41 (2)	16:48	34	14:16 (3)	16:28	73	14:34 (3)
17	08:40		13:58 (3)	07:52	16:32 (2)	06:51		17:43 (1)	06:41	05:44	05:19	05:39	06:25	07:16	18:35 (1)	08:06		17:01 (2)	08:01		13:41 (3)	08:42		11:34 (4)
	17:00	48	14:46 (3)	17:56	36 17:08 (2)	18:46	28	18:11 (1)	20:39	21:29	22:02	21:52	21:01	19:52	16 18:51 (1)	18:43	40	17:41 (2)	16:47	37	14:18 (3)	16:28	73	14:35 (3)
18	08:39		13:59 (3)	07:50	16:32 (2)	06:49		17:43 (1)	06:38	05:43	05:19	05:40	06:27	07:17	18:33 (1)	08:08		17:01 (2)	08:03		13:39 (3)	08:43		11:34 (4)
	17:01	47	14:46 (3)	17:58	37 17:09 (2)	18:48	28	18:11 (1)	20:41	21:30	22:02	21:50	20:59	19:49	20 18:53 (1)	18:41	40	17:41 (2)	16:45	39	14:18 (3)	16:28	73	14:35 (3)
19	08:38		14:00 (3)	07:48	16:31 (2)	06:47		17:42 (1)	06:36	05:41	05:19	05:41	06:28	07:19	18:30 (1)	08:10		17:00 (2)	08:05		13:38 (3)	08:44		11:34 (4)
	17:03	46	14:46 (3)	17:59	38 17:09 (2)	18:49	28	18:10 (1)	20:43	21:32	22:02	21:49	20:57	19:47	23 18:53 (1)	18:39	41	17:41 (2)	16:44	41	14:19 (3)	16:29	73	14:35 (3)
20	08:37		14:01 (3)	07:46	16:30 (2)	06:44		17:42 (1)	06:34	05:40	05:19	05:43	06:30	07:21	18:29 (1)	08:11		17:01 (2)	08:06		13:38 (3)	08:44		11:34 (4)
	17:05	45	14:46 (3)	18:01	39 17:09 (2)	18:51	28	18:10 (1)	20:44	21:33	22:03	21:48	20:55	19:45	25 18:54 (1)	18:37	40	17:41 (2)	16:43	42	14:20 (3)	16:29	75	14:36 (3)
21	08:36		14:03 (3)	07:44	16:29 (2)	06:42		17:42 (1)	06:32	05:38	05:19	05:44	06:32	07:22	18:27 (1)	08:13		17:01 (2)	08:08		13:38 (3)	08:45		11:35 (4)
	17:06	43	14:46 (3)	18:03	40 17:09 (2)	18:53	28	18:10 (1)	20:46	21:35	22:03	21:47	20:53	19:42	27 18:54 (1)	18:35	39	17:40 (2)	16:42	43	14:21 (3)	16:30	75	14:37 (3)
22	08:34		14:03 (3)	07:42	16:29 (2)	06:40		17:42 (1)	06:30	05:37	05:19	05:45	06:33	07:24	18:27 (1)	08:15		17:00 (2)	08:10		13:37 (3)	08:45		11:35 (4)
	17:08	42	14:45 (3)	18:05	41 17:10 (2)	18:55	26	18:08 (1)	20:48	21:36	22:03	21:46	20:51	19:40	27 18:54 (1)	18:33	39	17:39 (2)	16:41	45	14:22 (3)	16:30	75	14:37 (3)
23	08:33		14:04 (3)	07:40	16:29 (2)	06:37		17:43 (1)	06:28	05:36	05:19	05:47	06:35	07:26	18:26 (1)	08:17		17:01 (2)	08:11		13:37 (3)	08:46		11:35 (4)
	17:10	41	14:45 (3)	18:07	41 17:10 (2)	18:56	25	18:08 (1)	20:49	21:37	22:03	21:44	20:48	19:38	29 18:55 (1)	18:30	37	17:38 (2)	16:39	46	14:23 (3)	16:31	75	14:37 (3)
24	08:32		14:05 (3)	07:38	16:29 (2)	06:35		17:44 (1)	06:26	05:35	05:20	05:48	06:37	07:27	18:25 (1)	08:18		17:01 (2)	08:13		13:36 (3)	08:46		11:36 (4)
	17:11	39	14:44 (3)	18:09	41 17:10 (2)	18:58	23	18:07 (1)	20:51	21:39	22:04	21:43	20:46	19:35	29 18:54 (1)	18:28	37	17:38 (2)	16:38	47	14:23 (3)	16:31	75	14:38 (3)
25	08:31		14:07 (3)	07:36	16:29 (2)	06:33		17:44 (1)	06:24	05:33	05:20	05:49	06:38	07:29	18:25 (1)	07:20		16:02 (2)	08:15		13:36 (3)	08:47		11:37 (4)
	17:13	37	14:44 (3)	18:10	41 17:10 (2)	19:00	21	18:05 (1)	20:53	21:40	22:04	21:42	20:44	19:33	29 18:54 (1)	17:26	35	16:37 (2)	16:37	48	14:24 (3)	16:32	73	14:38 (3)
26	08:29		14:09 (3)	07:34	16:29 (2)	06:30		17:46 (1)	06:22	05:32	05:21	05:51	06:40	07:30	18:25 (1)	07:22		16:03 (2)	08:16		13:37 (3)	08:47		11:37 (4)
	17:15	34	14:43 (3)	18:12	40 17:09 (2)	19:02	17	18:03 (1)	20:54	21:41	22:04	21:40	20:42	19:31	28 18:53 (1)	17:24	33	16:36 (2)	16:36	48	14:25 (3)	16:32	74	14:39 (3)
27	08:28		14:10 (3)	07:32	16:29 (2)	06:28		17:48 (1)	06:20	05:31	05:21	05:52	06:41	07:32	18:25 (1)	07:24		16:04 (2)	08:18		13:37 (3)	08:47		11:38 (4)
	17:17	32	14:42 (3)	18:14	39 17:08 (2)	19:03	13	18:01 (1)	20:56	21:43	22:04	21:39	20:40	19:28	27 18:52 (1)	17:22	31	16:35 (2)	16:36	49	14:26 (3)	16:33	73	14:39 (3)
28	08:27		14:13 (3)	07:29	16:30 (2)	06:26			06:18	05:30	05:21	05:54	06:43	07:34	18:25 (1)	07:26		16:05 (2)	08:19		13:36 (3)	08:47		11:40 (4)
	17:19	28	14:41 (3)	18:16	38 17:08 (2)	19:05			20:58	21:44	22:03	21:37	20:38	19:26	26 18:51 (1)	17:20	29	16:34 (2)	16:35	50	14:26 (3)	16:34	71	14:40 (3)
29	08:25		14:15 (3)			07:23			06:16	05:29	05:22	05:55	06:45	07:35	18:26 (1)	07:27		16:06 (2)	08:21		13:37 (3)	08:48		11:41 (4)
	17:20	24	14:39 (3)			20:07			20:59	21:45	22:03	21:36	20:35	19:24	24 18:50 (1)	17:18	26	16:32 (2)	16:34	50	14:27 (3)	16:35	70	14:41 (3)
30	08:24		14:18 (3)			07:21			06:14	05:28	05:23	05:57	06:46	07:37	18:26 (1)	07:29		16:08 (2)	08:22		13:36 (3)	08:48		11:42 (4)
	17:22	18	14:36 (3)			20:08			21:01	21:46	22:03	21:34	20:33	19:21	22 18:48 (1)	17:17	22	16:30 (2)	16:33	50	14:26 (3)	16:36	69	14:41 (3)
31	08:22		14:24 (3)			07:19				05:27		05:58	06:48			07:31		16:11 (2)				08:48		11:42 (4)
	17:24	8	14:32 (3)			20:10				21:48		21:32	20:31			17:15	16	16:27 (2)				16:37	68	14:41 (3)
Potential sun hours	259			277		367			416	485	499	502	454	381		331			266			243		
Total, worst case		1370			644		607								364		893			789			2031	
Sun reduction		0,24			0,30		0,33								0,36		0,34			0,24			0,20	
Oper. time red.		0,95			0,95		0,95								0,95		0,95			0,95			0,95	
Wind dir. red.		0,69			0,67		0,64								0,63		0,67			0,69			0,68	
Total reduction		0,16			0,19		0,20								0,22		0,21			0,15			0,13	
Total, real		215			125		122								79		192			122			267	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:35/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN149@164Shadow receptor: AG - 3998NA6

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 16:38	08:21 17:26	07:27 18:18 23	07:55 (4) 08:18 (4)	07:17 20:12 47 08:19 (2) 09:06 (2)	06:12 21:03 49 08:08 (2) 08:57 (2)	05:26 21:49	05:23 22:03	06:00 21:31	06:50 20:29 64	08:06 (2) 09:10 (2)	07:39 19:19 34 08:22 (3) 08:56 (3)	07:33 17:13	08:24 16:32
2	08:48 16:39	08:19 17:28	07:25 18:20 23	07:55 (4) 08:18 (4)	07:14 20:14 50 08:17 (2) 09:07 (2)	06:10 21:05 46 08:09 (2) 08:55 (2)	05:25 21:50	05:24 22:03	06:01 21:29 12	06:51 08:34 (2) 08:46 (2)	08:06 (2) 09:09 (2)	07:41 19:17 33 08:23 (3) 08:56 (3)	07:35 17:11	08:25 16:32
3	08:48 16:40	08:18 17:30	07:23 18:21 23	07:54 (4) 08:17 (4)	07:12 20:15 53 08:16 (2) 09:09 (2)	06:08 21:06 44 08:10 (2) 08:54 (2)	05:25 21:51	05:25 22:02	06:03 21:28 20	06:53 08:31 (2) 08:51 (2)	08:06 (2) 09:09 (2)	07:42 19:15 32 08:22 (3) 08:54 (3)	07:36 17:09	08:27 16:31
4	08:47 16:41	08:16 17:32	07:21 18:23 23	07:54 (4) 08:17 (4)	07:10 20:17 55 08:14 (2) 09:09 (2)	06:06 21:08 41 08:11 (2) 08:52 (2)	05:24 21:52	05:25 22:02	06:05 21:26 25	06:55 08:28 (2) 08:53 (2)	08:07 (2) 09:09 (2)	07:44 19:12 31 08:23 (3) 08:54 (3)	07:38 17:07	08:28 16:31
5	08:47 16:43	08:14 17:33	07:19 18:25 24	07:53 (3) 08:17 (4)	07:07 20:19 57 08:13 (2) 09:10 (2)	06:04 21:10 38 08:12 (2) 08:50 (2)	05:23 21:53	05:26 22:01	06:06 21:24 30	06:56 08:26 (2) 08:56 (2)	08:07 (2) 09:07 (2)	07:46 19:10 29 08:24 (3) 08:53 (3)	07:40 17:06	08:29 16:30
6	08:47 16:44	08:13 17:35	07:16 18:27 25	07:51 (3) 08:16 (4)	07:05 20:20 58 08:12 (2) 09:10 (2)	06:02 21:11 35 08:13 (2) 08:48 (2)	05:23 21:54	05:27 22:01	06:08 21:22 33	06:58 08:24 (2) 08:57 (2)	08:08 (2) 09:06 (2)	07:47 19:08 27 08:25 (3) 08:52 (3)	07:42 17:04	08:31 16:30
7	08:46 16:45	08:11 17:37	07:14 18:28 27	07:48 (3) 08:15 (4)	07:03 20:22 60 08:11 (2) 09:11 (2)	06:01 21:13 32 08:15 (2) 08:47 (2)	05:22 21:55	05:28 22:00	06:09 21:20 36	06:58 08:22 (2) 08:58 (2)	08:07 (2) 09:05 (2)	07:49 19:05 26 08:25 (3) 08:51 (4)	07:44 17:02	08:32 16:29
8	08:46 16:46	08:09 17:39	07:12 18:30 29	07:47 (3) 08:16 (3)	07:01 20:24 61 08:09 (2) 09:10 (2)	05:59 21:15 27 08:17 (2) 08:44 (2)	05:21 21:56	05:29 22:00	06:11 21:19 39	08:21 (2) 09:00 (2)	07:01 20:13 55	08:09 (2) 09:04 (2)	07:51 19:03 25	08:33 16:29
9	08:45 16:48	08:08 17:41	07:10 18:32 31	07:46 (3) 08:17 (3)	06:58 20:26 63 08:08 (2) 09:11 (2)	05:57 21:16 24 08:18 (2) 08:42 (2)	05:21 21:57	05:30 21:59	06:12 21:17 42	08:19 (2) 09:01 (2)	07:03 20:10 53	08:09 (2) 09:02 (2)	07:52 19:01 23	08:34 16:29
10	08:45 16:49	08:06 17:43	07:07 18:34 32	07:44 (3) 08:16 (3)	06:56 20:27 63 08:08 (2) 09:11 (2)	05:55 21:18 17 08:22 (2) 08:39 (2)	05:21 21:57	05:31 21:58	06:14 21:15 45	08:18 (2) 09:03 (2)	07:04 20:08 51	08:10 (2) 09:01 (2)	07:54 18:59 23	08:35 16:28
11	08:44 16:51	08:04 17:45	07:05 18:36 33	07:44 (3) 08:17 (3)	06:54 20:29 64 08:07 (2) 09:11 (2)	05:54 21:19 7 08:26 (2) 08:33 (2)	05:20 21:58	05:32 21:57	06:16 21:13 47	08:17 (2) 09:04 (2)	07:06 20:06 48	08:12 (2) 09:00 (2)	07:56 18:56 23	08:37 16:28
12	08:44 16:52	08:02 17:46	07:03 18:37 33	07:44 (3) 08:17 (3)	06:52 20:31 65 08:07 (2) 09:12 (2)	05:52 21:21	05:20 21:59	05:33 21:56	06:17 21:11 49	08:16 (2) 09:05 (2)	07:08 20:03 44	08:13 (2) 08:57 (2)	07:57 18:54 23	08:38 16:28
13	08:43 16:54	08:00 17:48	07:01 18:39 34	07:42 (3) 08:16 (3)	06:49 20:32 66 08:05 (2) 09:11 (2)	05:50 21:23	05:20 22:00	05:34 21:56	06:19 21:09 51	08:16 (2) 09:07 (2)	07:09 20:01 41	08:15 (2) 08:56 (2)	07:59 18:52 22	08:39 16:28
14	08:42 16:55	07:58 17:50	06:58 18:41 34	07:42 (3) 08:16 (3)	06:47 20:34 66 08:05 (2) 09:11 (2)	05:49 21:24	05:19 22:00	05:35 21:55	06:20 21:07 53	08:14 (2) 09:07 (2)	07:11 19:59 37	08:16 (2) 08:53 (2)	08:01 18:50 21	08:40 16:28
15	08:41 16:57	07:56 17:52	06:56 18:43 33	07:43 (3) 08:16 (3)	06:45 20:36 65 08:05 (2) 09:10 (2)	05:47 21:26	05:19 22:01	05:36 21:54	06:22 21:05 55	08:14 (2) 09:09 (2)	07:13 19:56 32	08:18 (2) 08:50 (2)	08:03 18:48 19	08:40 16:28
16	08:41 16:58	07:54 17:54	06:54 18:44 33	07:42 (3) 08:15 (3)	06:43 20:37 65 08:05 (2) 09:10 (2)	05:46 21:27	05:19 22:01	05:38 21:53	06:24 21:03 57	08:12 (2) 09:09 (2)	07:14 19:54 26	08:20 (2) 08:46 (2)	08:04 18:45 16	08:41 16:28
17	08:40 17:00	07:52 17:56	06:51 18:46 33	07:42 (3) 08:15 (3)	06:41 20:39 66 08:04 (2) 09:10 (2)	05:44 21:29	05:19 22:02	05:39 21:52	06:25 21:01 58	08:12 (2) 09:10 (2)	07:16 19:52 18	08:24 (2) 08:42 (2)	08:06 18:43 12	08:42 16:28
18	08:39 17:01	07:50 17:58	06:49 18:48 31	07:43 (3) 08:14 (3)	06:38 20:41 65 08:04 (2) 09:09 (2)	05:43 21:30	05:19 22:02	05:40 21:51	06:27 20:59 59	08:11 (2) 09:10 (2)	07:17 19:49		08:08 18:41 5	08:43 16:46	16:29
19	08:38 17:03	07:48 17:59	06:47 18:50 29	07:43 (3) 08:12 (3)	06:36 20:43 65 08:04 (2) 09:09 (2)	05:41 21:32	05:19 22:03	05:41 21:49	06:29 20:57 61	08:10 (2) 09:11 (2)	07:19 19:47 5	08:40 (3) 08:45 (3)	08:10 18:39	08:05 16:44	08:44 16:29
20	08:37 17:05	07:46 18:01	06:44 18:51 27	07:44 (3) 08:11 (3)	06:34 20:44 64 08:04 (2) 09:08 (2)	05:40 21:33	05:19 22:03	05:43 21:48	06:30 20:55 62	08:09 (2) 09:11 (2)	07:21 19:45 15	08:35 (3) 08:50 (3)	08:11 18:37	08:06 16:43	08:44 16:29
21	08:36 17:06	07:44 18:03	06:42 18:53 24	07:45 (3) 08:09 (3)	06:32 20:46 64 08:03 (2) 09:07 (2)	05:38 21:35	05:19 22:03	05:44 21:47	06:32 20:53 63	08:09 (2) 09:12 (2)	07:22 19:42 19	08:32 (3) 08:51 (3)	08:13 18:35	08:08 16:42	08:45 16:30
22	08:34 17:08	07:42 18:05	06:40 18:55 20	07:46 (3) 08:06 (3)	06:30 20:48 63 08:03 (2) 09:06 (2)	05:37 21:36	05:19 22:03	05:45 21:46	06:33 20:51 64	08:08 (2) 09:12 (2)	07:24 19:40 23	08:30 (3) 08:53 (3)	08:15 18:33	08:10 16:41	08:45 16:30
23	08:33 17:10	07:40 18:07	06:37 18:56 16	07:48 (3) 08:04 (3)	06:28 20:49 61 08:04 (2) 09:05 (2)	05:36 21:37	05:20 22:03	05:47 21:44	06:35 20:49 64	08:08 (2) 09:12 (2)	07:26 19:38 26	08:29 (3) 08:55 (3)	08:17 18:31	08:11 16:40	08:46 16:31
24	08:32 17:12	07:38 18:09 9	08:03 (4) 06:35 08:12 (4) 18:58 8	07:52 (3) 06:26 08:00 (3) 20:51	08:04 (2) 05:35 09:04 (2) 21:39	05:20 22:04	05:48 21:43	06:37 20:46 65	08:07 (2) 09:12 (2)	07:27 19:35 28	08:27 (3) 08:55 (3)	08:18 18:28	08:13 16:39	08:46 16:31	
25	08:31 17:13	07:36 18:10 13	08:01 (4) 06:33 08:14 (4) 19:00	06:24 20:53 59	08:04 (2) 05:33 09:03 (2) 21:40	05:20 22:04	05:50 21:42	06:38 20:44 65	08:07 (2) 09:12 (2)	07:29 19:33 30	08:26 (3) 08:56 (3)	07:20 17:26	08:15 16:37	08:47 16:32	
26	08:30 17:15	07:34 18:12 17	07:59 (4) 06:30 08:16 (4) 19:02 15	07:37 (2) 06:22 07:52 (2) 20:54 58	08:05 (2) 05:32 09:03 (2) 21:41	05:21 22:04	05:51 21:40	06:40 20:42 66	08:07 (2) 09:13 (2)	07:31 19:31 32	08:25 (3) 08:57 (3)	07:22 17:24	08:16 16:37	08:47 16:33	
27	08:28 17:17	07:32 18:14 19	07:57 (4) 06:28 08:16 (4) 19:03 24	07:33 (2) 06:20 07:57 (2) 20:56 56	08:06 (2) 05:31 09:02 (2) 21:43	05:21 22:04	05:52 21:39	06:42 20:40 66	08:06 (2) 09:12 (2)	07:32 19:28 33	08:24 (3) 08:57 (3)	07:24 17:22	08:18 16:36	08:47 16:33	
28	08:27 17:19	07:30 18:16 21	07:56 (4) 06:26 08:17 (4) 19:05 31	07:28 (2) 06:18 07:59 (2) 20:58 55	08:06 (2) 05:30 09:01 (2) 21:44	05:22 22:03	05:54 21:37	06:43 20:38 65	08:07 (2) 09:12 (2)	07:34 19:26 34	08:23 (3) 08:57 (3)	07:26 17:21	08:19 16:35	08:48 16:34	
29	08:25 17:20		07:24 20:07 36	08:26 (2) 06:16 09:02 (2) 21:00 53	08:07 (2) 05:29 09:00 (2) 21:45	05:22 22:03	05:55 21:36	06:45 20:35 65	08:06 (2) 09:11 (2)	07:36 19:24 34	08:23 (3) 08:57 (3)	07:27 17:19	08:21 16:34	08:48 16:35	
30	08:24 17:22		07:21 20:08 40	08:24 (2) 06:14 09:04 (2) 21:01 51	08:07 (2) 05:28 08:58 (2) 21:47	05:23 22:03	05:57 21:34	06:46 20:33 65	08:06 (2) 09:11 (2)	07:37 19:21 34	08:22 (3) 08:56 (3)	07:29 17:17	08:22 16:33	08:48 16:36	
31	08:22 17:24		07:19 20:10 44	08:22 (2) 09:06 (2)	05:27 21:48		05:58 21:33	06:48 20:31 64	08:06 (2) 09:10 (2)			07:31 17:15		08:48 16:37	
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243		
Total, worst case		79	838	1798	360			1546	1145	424				
Sun reduction		0,30	0,33	0,42	0,43			0,42	0,36	0,34				
Oper. time red.		0,95	0,95	0,95	0,95			0,95	0,95	0,95				
Wind dir. red.		0,57	0,58	0,61	0,61			0,61	0,60	0,57				
Total reduction		0,16	0,18	0,24	0,25			0,24	0,20	0,18				
Total, real		13	151	432	89			370	234	77				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:35/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN149@164Shadow receptor: AH - 3998JK68

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	06:49 (2)	05:26	06:01 (1)	05:23	06:05 (1)	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03	20 07:09 (2)	21:49	25 06:26 (1)	22:03	29 06:34 (1)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	06:50 (2)	05:26	06:01 (1)	05:24	06:06 (1)	06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05	17 07:07 (2)	21:50	25 06:26 (1)	22:03	28 06:34 (1)	21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08	06:51 (2)	05:25	06:01 (1)	05:25	06:06 (1)	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06	16 07:07 (2)	21:51	26 06:27 (1)	22:02	29 06:35 (1)	21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06	06:52 (2)	05:24	06:01 (1)	05:26	06:06 (1)	06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08	13 07:05 (2)	21:52	26 06:27 (1)	22:02	28 06:34 (1)	21:26	20:22	19:12	17:07	16:31
5	08:47	08:14	07:19	07:08	06:04	06:54 (2)	05:23	06:00 (1)	05:26	06:07 (1)	06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10	9 07:03 (2)	21:53	27 06:27 (1)	22:01	27 06:34 (1)	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02		05:23	06:01 (1)	05:27	06:07 (1)	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11		21:54	27 06:28 (1)	22:01	27 06:34 (1)	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01		05:22	06:01 (1)	05:28	06:08 (1)	06:09	07:06 (2)	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13		21:55	28 06:29 (1)	22:00	27 06:35 (1)	21:21	5 07:11 (2)	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59		05:22	06:01 (1)	05:29	06:08 (1)	06:11	07:02 (2)	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15		21:56	28 06:29 (1)	22:00	27 06:35 (1)	21:19	11 07:13 (2)	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57		05:21	06:01 (1)	05:30	06:09 (1)	06:12	07:01 (2)	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16		21:57	28 06:29 (1)	21:59	26 06:35 (1)	21:17	14 07:15 (2)	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55		05:21	06:01 (1)	05:31	06:08 (1)	06:14	06:59 (2)	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18		21:58	28 06:29 (1)	21:58	26 06:34 (1)	21:15	17 07:16 (2)	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54		05:20	06:01 (1)	05:32	06:08 (1)	06:16	06:59 (2)	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19		21:58	28 06:29 (1)	21:57	26 06:34 (1)	21:13	18 07:17 (2)	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52		05:20	06:01 (1)	05:33	06:09 (1)	06:17	06:58 (2)	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21		21:59	29 06:30 (1)	21:57	24 06:33 (1)	21:11	19 07:17 (2)	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50		05:20	06:02 (1)	05:34	06:11 (1)	06:19	06:57 (2)	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23		22:00	28 06:30 (1)	21:56	23 06:34 (1)	21:09	21 07:18 (2)	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49		05:19	06:02 (1)	05:35	06:11 (1)	06:21	06:56 (2)	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24		22:00	29 06:31 (1)	21:55	23 06:34 (1)	21:07	22 07:18 (2)	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47		05:19	06:01 (1)	05:36	06:12 (1)	06:22	06:57 (2)	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26		22:01	29 06:30 (1)	21:54	21 06:33 (1)	21:05	21 07:18 (2)	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46		05:19	06:02 (1)	05:38	06:13 (1)	06:24	06:56 (2)	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27		22:01	28 06:30 (1)	21:53	19 06:32 (1)	21:03	22 07:18 (2)	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44		05:19	06:02 (1)	05:39	06:13 (1)	06:25	06:56 (2)	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29		22:02	29 06:31 (1)	21:52	19 06:32 (1)	21:01	22 07:18 (2)	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43		05:19	06:02 (1)	05:40	06:14 (1)	06:27	06:56 (2)	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30		22:02	29 06:31 (1)	21:51	17 06:31 (1)	20:59	21 07:17 (2)	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41		05:19	06:03 (1)	05:41	06:15 (1)	06:29	06:57 (2)	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32		22:03	29 06:32 (1)	21:49	14 06:29 (1)	20:57	19 07:16 (2)	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	06:58 (2)	05:40	05:19	06:03 (1)	05:43	06:18 (1)	06:30	06:57 (2)	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	8 07:06 (2)	21:33	22:03	29 06:32 (1)	21:48	11 06:29 (1)	20:55	18 07:15 (2)	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	06:56 (2)	05:39	05:19	06:03 (1)	05:44	06:20 (1)	06:32	06:59 (2)	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	12 07:08 (2)	21:35	22:03	29 06:32 (1)	21:47	6 06:26 (1)	20:53	15 07:14 (2)	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	06:54 (2)	05:37	05:19	06:03 (1)	05:45		06:33	07:00 (2)	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	16 07:10 (2)	21:36	22:03	29 06:32 (1)	21:46		20:51	12 07:12 (2)	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	06:52 (2)	05:36	06:08 (1)	05:20	06:03 (1)	05:47	06:35	07:02 (2)	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	18 07:10 (2)	21:37	9 06:17 (1)	22:04	29 06:32 (1)	21:44	20:49	8 07:10 (2)	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	06:51 (2)	05:35	06:07 (1)	05:20	06:04 (1)	05:48	06:37		07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	20 07:11 (2)	21:39	12 06:19 (1)	22:04	29 06:33 (1)	21:43	20:46		19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	06:50 (2)	05:34	06:05 (1)	05:20	06:04 (1)	05:50	06:38		07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	21 07:11 (2)	21:40	15 06:20 (1)	22:04	29 06:33 (1)	21:42	20:44		19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	06:50 (2)	05:32	06:04 (1)	05:21	06:04 (1)	05:51	06:40		07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	21 07:11 (2)	21:42	18 06:22 (1)	22:04	29 06:33 (1)	21:40	20:42		19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	06:49 (2)	05:31	06:03 (1)	05:21	06:04 (1)	05:52	06:42		07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	22 07:11 (2)	21:43	20 06:23 (1)	22:04	29 06:33 (1)	21:39	20:40		19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	06:49 (2)	05:30	06:03 (1)	05:22	06:04 (1)	05:54	06:43		07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	22 07:11 (2)	21:44	20 06:23 (1)	22:04	29 06:33 (1)	21:37	20:38		19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	06:49 (2)	05:29	06:02 (1)	05:22	06:05 (1)	05:55	06:45		07:36	07:27	08:21	08:48
	17:21		20:07	21:00	21 07:10 (2)	21:45	22 06:24 (1)	22:03	29 06:34 (1)	21:36	20:35		19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	06:49 (2)	05:28	06:02 (1)	05:23	06:06 (1)	05:57	06:47		07:37	07:29	08:22	08:48
	17:22		20:08	21:01	20 07:09 (2)	21:47	23 06:25 (1)	22:03	28 06:34 (1)	21:34	20:33		19:22	17:17	16:33	16:36
31	08:22		07:19			05:27	06:02 (1)			05:58	06:48			07:31		08:48
	17:24		20:10			21:48	24 06:26 (1)			21:33	20:31			17:15		16:37
Potential sun hours	259	277	367	416	485		499		502		454		381	331	266	243
Total, worst case				201	238		844		477		285					
Sun reduction				0,42	0,43		0,39		0,41		0,42					
Oper. time red.				0,95	0,95		0,95		0,95		0,95					
Wind dir. red.				0,64	0,66		0,67		0,67		0,64					
Total reduction				0,25	0,27		0,25		0,26		0,25					
Total, real				51	64		210		124		72					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:35/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN149@164Shadow receptor: AI - 3945LA2

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December		
1	08:48		14:32 (3)	08:21			07:27		07:17	06:12	05:26	05:23	06:00	06:50		07:39		18:16 (1)	07:33		16:10 (2)	08:24		14:19 (3)
	16:38	41	15:13 (3)	17:26			18:18		20:12	21:03	21:49	22:03	21:31	20:29		19:19	24	18:40 (1)	17:13	24	16:34 (2)	16:32	39	14:58 (3)
2	08:48		14:33 (3)	08:19			07:25		07:14	06:10	05:25	05:24	06:01	06:51		07:40		18:16 (1)	07:34		16:10 (2)	08:25		14:20 (3)
	16:39	40	15:13 (3)	17:28			18:19		20:13	21:05	21:50	22:02	21:29	20:26		19:17	24	18:40 (1)	17:11	21	16:31 (2)	16:32	39	14:59 (3)
3	08:48		14:33 (3)	08:18			07:23		07:12	06:08	05:25	05:25	06:03	06:53		07:42		18:15 (1)	07:36		16:12 (2)	08:27		14:20 (3)
	16:40	41	15:14 (3)	17:30			18:21		20:15	21:06	21:51	22:02	21:27	20:24		19:14	24	18:39 (1)	17:09	18	16:30 (2)	16:31	39	14:59 (3)
4	08:47		14:33 (3)	08:16			07:21	17:46 (1)	07:10	06:06	05:24	05:25	06:04	06:55		07:44		18:15 (1)	07:38		16:14 (2)	08:28		14:21 (3)
	16:41	41	15:14 (3)	17:31			18:23	9 17:55 (1)	20:17	21:08	21:52	22:02	21:26	20:22		19:12	24	18:39 (1)	17:07	14	16:28 (2)	16:30	39	15:00 (3)
5	08:47		14:34 (3)	08:14			07:18	17:43 (1)	07:07	06:04	05:23	05:26	06:06	06:56		07:45		18:16 (1)	07:40		16:17 (2)	08:29		14:20 (3)
	16:42	41	15:15 (3)	17:33			18:25	15 17:58 (1)	20:19	21:10	21:53	22:01	21:24	20:20		19:10	22	18:38 (1)	17:06	7	16:24 (2)	16:30	40	15:00 (3)
6	08:47		14:34 (3)	08:13	16:47 (2)		07:16	17:41 (1)	07:05	06:02	05:22	05:27	06:08	06:58		07:47		18:15 (1)	07:42			08:31		14:20 (3)
	16:44	40	15:14 (3)	17:35	8 16:55 (2)		18:27	18 17:59 (1)	20:20	21:11	21:54	22:01	21:22	20:17		19:08	22	18:37 (1)	17:04			16:29	41	15:01 (3)
7	08:46		14:35 (3)	08:11	16:44 (2)		07:14	17:40 (1)	07:03	06:00	05:22	05:28	06:09	06:59		07:49		18:16 (1)	07:44			08:32		14:21 (3)
	16:45	40	15:15 (3)	17:37	14 16:58 (2)		18:28	20 18:00 (1)	20:22	21:13	21:55	22:00	21:20	20:15		19:05	19	18:35 (1)	17:02			16:29	41	15:02 (3)
8	08:46		14:35 (3)	08:09	16:43 (2)		07:12	17:39 (1)	07:01	05:59	05:21	05:29	06:11	07:01		07:51		18:17 (1)	07:45			08:33		14:21 (3)
	16:46	40	15:15 (3)	17:39	18 17:01 (2)		18:30	22 18:01 (1)	20:24	21:14	21:56	21:59	21:19	20:13		19:03	17	18:34 (1)	17:00			16:29	41	15:02 (3)
9	08:45		14:37 (3)	08:07	16:41 (2)		07:10	17:38 (1)	06:58	05:57	05:21	05:30	06:12	07:03		07:52		18:19 (1)	07:47			08:34		14:22 (3)
	16:48	39	15:16 (3)	17:41	22 17:03 (2)		18:32	24 18:02 (1)	20:25	21:16	21:57	21:59	21:17	20:10		19:01	13	18:32 (1)	16:59			16:28	40	15:02 (3)
10	08:45		14:37 (3)	08:06	16:40 (2)		07:07	17:37 (1)	06:56	05:55	05:20	05:31	06:14	07:04		07:54		18:22 (1)	07:49			08:35		14:22 (3)
	16:49	39	15:16 (3)	17:43	24 17:04 (2)		18:34	24 18:01 (1)	20:27	21:18	21:57	21:58	21:15	20:08		18:59	5	18:27 (1)	16:57			16:28	40	15:02 (3)
11	08:44		14:37 (3)	08:04	16:39 (2)		07:05	17:37 (1)	06:54	05:53	05:20	05:32	06:15	07:06		07:56			07:51			08:37		14:22 (3)
	16:50	39	15:16 (3)	17:44	26 17:05 (2)		18:35	24 18:01 (1)	20:29	21:19	21:58	21:57	21:13	20:06		18:56			16:56			16:28	41	15:03 (3)
12	08:44		14:38 (3)	08:02	16:38 (2)		07:03	17:37 (1)	06:52	05:52	05:20	05:33	06:17	07:08		07:57			07:52			08:38		14:22 (3)
	16:52	38	15:16 (3)	17:46	28 17:06 (2)		18:37	24 18:01 (1)	20:31	21:21	21:59	21:56	21:11	20:03		18:54			16:54			16:28	41	15:03 (3)
13	08:43		14:38 (3)	08:00	16:37 (2)		07:00	17:37 (1)	06:49	05:50	05:19	05:34	06:19	07:09		07:59			07:54			08:39		14:23 (3)
	16:53	38	15:16 (3)	17:48	30 17:07 (2)		18:39	23 18:00 (1)	20:32	21:22	22:00	21:56	21:09	20:01		18:52			16:52			16:28	41	15:04 (3)
14	08:42		14:39 (3)	07:58	16:37 (2)		06:58	17:37 (1)	06:47	05:49	05:19	05:35	06:20	07:11		08:01		17:20 (2)	07:56			08:40		14:23 (3)
	16:55	37	15:16 (3)	17:50	31 17:08 (2)		18:41	23 18:00 (1)	20:34	21:24	22:00	21:55	21:07	19:59		18:50	10	17:30 (2)	16:51			16:28	41	15:04 (3)
15	08:41		14:40 (3)	07:56	16:36 (2)		06:56	17:38 (1)	06:45	05:47	05:19	05:36	06:22	07:12		08:03		17:16 (2)	07:58			08:40		14:24 (3)
	16:56	36	15:16 (3)	17:52	32 17:08 (2)		18:42	21 17:59 (1)	20:36	21:26	22:01	21:54	21:05	19:56		18:47	16	17:32 (2)	16:50			16:28	41	15:05 (3)
16	08:41		14:41 (3)	07:54	16:36 (2)		06:54	17:39 (1)	06:43	05:45	05:19	05:37	06:24	07:14		08:04		17:13 (2)	07:59		14:32 (3)	08:41		14:24 (3)
	16:58	35	15:16 (3)	17:54	32 17:08 (2)		18:44	18 17:57 (1)	20:37	21:27	22:01	21:53	21:03	19:54		18:45	21	17:34 (2)	16:48	9	14:41 (3)	16:28	41	15:05 (3)
17	08:40		14:42 (3)	07:52	16:36 (2)		06:51	17:41 (1)	06:41	05:44	05:19	05:39	06:25	07:16		08:06		17:12 (2)	08:01		14:29 (3)	08:42		14:25 (3)
	17:00	34	15:16 (3)	17:56	33 17:09 (2)		18:46	14 17:55 (1)	20:39	21:29	22:02	21:52	21:01	19:52		18:43	23	17:35 (2)	16:47	15	14:44 (3)	16:28	41	15:06 (3)
18	08:39		14:43 (3)	07:50	16:36 (2)		06:49	17:43 (1)	06:38	05:43	05:19	05:40	06:27	07:17		08:08		17:10 (2)	08:03		14:25 (3)	08:43		14:26 (3)
	17:01	33	15:16 (3)	17:58	33 17:09 (2)		18:48	10 17:53 (1)	20:41	21:30	22:02	21:50	20:59	19:49		18:41	26	17:36 (2)	16:45	20	14:45 (3)	16:28	41	15:07 (3)
19	08:38		14:44 (3)	07:48	16:37 (2)		06:47		06:36	05:41	05:19	05:41	06:28	07:19		08:10		17:09 (2)	08:05		14:24 (3)	08:44		14:26 (3)
	17:03	32	15:16 (3)	17:59	31 17:08 (2)		18:49		20:43	21:32	22:02	21:49	20:57	19:47		18:39	28	17:37 (2)	16:44	23	14:47 (3)	16:29	40	15:06 (3)
20	08:37		14:45 (3)	07:46	16:36 (2)		06:44		06:34	05:40	05:19	05:43	06:30	07:21		08:11		17:08 (2)	08:06		14:23 (3)	08:44		14:27 (3)
	17:05	31	15:16 (3)	18:01	31 17:07 (2)		18:51		20:44	21:33	22:03	21:48	20:55	19:45		18:37	30	17:38 (2)	16:43	26	14:49 (3)	16:29	40	15:07 (3)
21	08:36		14:47 (3)	07:44	16:36 (2)		06:42		06:32	05:38	05:19	05:44	06:32	07:22		08:13		17:07 (2)	08:08		14:22 (3)	08:45		14:27 (3)
	17:06	28	15:15 (3)	18:03	31 17:07 (2)		18:53		20:46	21:35	22:03	21:47	20:53	19:42		18:35	30	17:37 (2)	16:42	28	14:50 (3)	16:30	41	15:08 (3)
22	08:34		14:48 (3)	07:42	16:37 (2)		06:40		06:30	05:37	05:19	05:45	06:33	07:24		08:15		17:06 (2)	08:10		14:21 (3)	08:45		14:27 (3)
	17:08	26	15:14 (3)	18:05	29 17:06 (2)		18:55		20:48	21:36	22:03	21:46	20:51	19:40		18:33	32	17:38 (2)	16:41	31	14:52 (3)	16:30	41	15:08 (3)
23	08:33		14:50 (3)	07:40	16:38 (2)		06:37		06:28	05:36	05:19	05:47	06:35	07:26		08:17		17:06 (2)	08:11		14:21 (3)	08:46		14:27 (3)
	17:10	23	15:13 (3)	18:07	28 17:06 (2)		18:56		20:49	21:37	22:03	21:44	20:48	19:38		18:30	32	17:38 (2)	16:39	32	14:53 (3)	16:31	41	15:08 (3)
24	08:32		14:51 (3)	07:38	16:39 (2)		06:35		06:26	05:35	05:20	05:48	06:37	07:27		08:18		17:06 (2)	08:13		14:20 (3)	08:46		14:29 (3)
	17:11	20	15:11 (3)	18:09	26 17:05 (2)		18:58		20:51	21:39	22:04	21:43	20:46	19:35		18:28	32	17:38 (2)	16:38	33	14:53 (3)	16:31	40	15:09 (3)
25	08:31		14:55 (3)	07:36	16:41 (2)		06:33		06:24	05:33	05:20	05:49	06:38	07:29	18:27 (1)	07:20		16:06 (2)	08:15		14:20 (3)	08:47		14:29 (3)
	17:13	15	15:10 (3)	18:10	22 17:03 (2)		19:00		20:53	21:40	22:04	21:42	20:44	19:33	7 18:34 (1)	17:26	32	16:38 (2)	16:37	34	14:54 (3)	16:32	41	15:10 (3)
26	08:29		14:59 (3)	07:34	16:42 (2)		06:30		06:22	05:32	05:20	05:51	06:40	07:30	18:24 (1)	07:22		16:06 (2)	08:16		14:20 (3)	08:47		14:29 (3)
	17:15	9	15:08 (3)	18:12	19 17:01 (2)		19:01		20:54	21:41	22:04	21:40	20:42	19:31	13 18:37 (1)	17:24	32	16:38 (2)	16:36	35	14:55 (3)	16:32	41	15:10 (3)
27	08:28			07:32	16:45 (2)		06:28		06:20	05:31	05:21	05:52	06:41	07:32	18:21 (1)	07:24		16:06 (2)	08:18		14:20 (3)	08:47		14:29 (3)
	17:17			18:14	14 16:59 (2)		19:03		20:56	21:43	22:04	21:39	20:40	19:28	17 18:38 (1)	17:22	32	16:38 (2)	16:35	36	14:56 (3)	16:33	41	15:10 (3)
28	08:27			07:29	16:50 (2)		06:26		06:17	05:30	05:21	05:54	06:43	07:34	18:19 (1)	07:25		16:06 (2)	08:19		14:19 (3)	08:47		14:31 (3)
	17:19			18:16	4 16:54 (2)		19:05		20:58	21:44	22:03	21:37	20:38	19:26	20 18:39 (1)	17:20	31	16:37 (2)	16:35	37	14:56 (3)	16:34	40	15:11 (3)
29	08:25						07:23		06:16	05:29	05:22	05:55	06:45	07:35	18:18 (1)	07:27		16:07 (2)	08:21		14:19 (3)	08:48		14:31 (3)
	17:20						20:07		20:59	21:45	22:03	21:36	20:35	19:24	22 18:40 (1)	17:18	30	16:37 (2)	16:34	38	14:57 (3)	16:35	41	15:12 (3)
30	08:24						07:21		06:14	05:28	05:23	05:57	06:46	07:37	18:17 (1)	07:29		16:08 (2)	08:22		14:19 (3)	08:48		14:32 (3)
	17:22						20:08		21:01	21:46	22:03	21:34	20:33	19:21	23 18:40 (1)	17:17	28	16:36 (2)	16:33	38	14:57 (3)	16:36	40	15:12 (3)
31	08:22						07:19			05:27		05:58	06:48			07:31		16:09 (2)				08:48		14:31 (3)
	17:24						20:10			21:48		21:32	20:31			17:15	26	16:35 (2)				16:37	41	15:12 (3)
Potential sun hours	259			277			367		416	485	499	502	454	381		331			266			243		
Total, worst case		876			566			289							102		685			519			1255
Sun reduction		0,24			0,30			0,33							0,36		0,34			0,24			0,20
Oper. time red.		0,95			0,95			0,95							0,95		0,95			0,95			0,95
Wind dir. red.		0,70			0,67			0,63							0,63		0,66			0,69			0,70
Total reduction		0,16			0,19			0,20							0,22		0,21			0,16			0,13
Total, real		139			110			57							22		145			81			169

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:35/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN149@164Shadow receptor: AJ - 3997MR15

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March	April	May	June	July	August	September	October	November		December		
1	08:48		09:43 (4)	08:21	14:40 (1)	07:27	07:17	06:12	05:26	05:23	06:00	06:50	07:39	07:33		08:24		09:39 (4)
	16:38	69	14:59 (1)	17:26	13 14:53 (1)	18:18	20:12	21:03	21:49	22:03	21:31	20:29	19:19	17:13		16:32	50	14:45 (1)
2	08:48		09:44 (4)	08:19		07:25	07:14	06:10	05:25	05:24	06:01	06:51	07:41	07:35		08:25		09:36 (4)
	16:39	68	14:59 (1)	17:28		18:20	20:14	21:05	21:50	22:03	21:29	20:26	19:17	17:11		16:32	57	14:46 (1)
3	08:48		09:45 (4)	08:18		07:23	07:12	06:08	05:25	05:25	06:03	06:53	07:42	07:36		08:27		09:35 (4)
	16:40	68	15:00 (1)	17:30		18:21	20:15	21:06	21:51	22:02	21:28	20:24	19:14	17:09		16:31	59	14:46 (1)
4	08:47		09:46 (4)	08:16		07:21	07:10	06:06	05:24	05:25	06:04	06:55	07:44	07:38		08:28		09:35 (4)
	16:41	66	15:00 (1)	17:31		18:23	20:17	21:08	21:52	22:02	21:26	20:22	19:12	17:07		16:30	61	14:47 (1)
5	08:47		09:47 (4)	08:14		07:19	07:07	06:04	05:23	05:26	06:06	06:56	07:46	07:40		08:29		09:34 (4)
	16:43	65	15:01 (1)	17:33		18:25	20:19	21:10	21:53	22:01	21:24	20:20	19:10	17:06		16:30	63	14:47 (1)
6	08:47		09:47 (4)	08:13		07:16	07:05	06:02	05:23	05:27	06:08	06:58	07:47	07:42		08:31		09:33 (4)
	16:44	65	15:01 (1)	17:35		18:27	20:20	21:11	21:54	22:01	21:22	20:17	19:08	17:04		16:30	65	14:47 (1)
7	08:46		09:49 (4)	08:11		07:14	07:03	06:00	05:22	05:28	06:09	06:59	07:49	07:44		08:32		09:34 (4)
	16:45	63	15:02 (1)	17:37		18:28	20:22	21:13	21:55	22:00	21:20	20:15	19:05	17:02		16:29	65	14:48 (1)
8	08:46		09:49 (4)	08:09		07:12	07:01	05:59	05:21	05:29	06:11	07:01	07:51	07:45		08:33		09:34 (4)
	16:46	62	15:02 (1)	17:39		18:30	20:24	21:15	21:56	22:00	21:19	20:13	19:03	17:00		16:29	66	14:48 (1)
9	08:46		09:51 (4)	08:08		07:10	06:58	05:57	05:21	05:30	06:12	07:03	07:52	07:47		08:34		09:33 (4)
	16:48	60	15:03 (1)	17:41		18:32	20:26	21:16	21:57	21:59	21:17	20:10	19:01	16:59		16:28	68	14:48 (1)
10	08:45		09:53 (4)	08:06		07:07	06:56	05:55	05:20	05:31	06:14	07:04	07:54	07:49	14:10 (1)	08:35		09:33 (4)
	16:49	57	15:03 (1)	17:43		18:34	20:27	21:18	21:58	21:58	21:15	20:08	18:59	16:57	14 14:24 (1)	16:28	69	14:49 (1)
11	08:44		09:56 (4)	08:04		07:05	06:54	05:54	05:20	05:32	06:16	07:06	07:56	07:51	14:07 (1)	08:37		09:34 (4)
	16:51	51	15:03 (1)	17:45		18:36	20:29	21:19	21:58	21:57	21:13	20:06	18:56	16:56	20 14:27 (1)	16:28	68	14:49 (1)
12	08:44		14:14 (1)	08:02		07:03	06:52	05:52	05:20	05:33	06:17	07:08	07:57	07:53	14:04 (1)	08:38		09:35 (4)
	16:52	49	15:03 (1)	17:46		18:37	20:31	21:21	21:59	21:56	21:11	20:03	18:54	16:54	26 14:30 (1)	16:28	72	14:50 (1)
13	08:43		14:15 (1)	08:00		07:00	06:49	05:50	05:19	05:34	06:19	07:09	07:59	07:54	14:02 (1)	08:39		09:35 (4)
	16:53	48	15:03 (1)	17:48		18:39	20:32	21:23	22:00	21:56	21:09	20:01	18:52	16:53	29 14:31 (1)	16:28	75	14:50 (1)
14	08:42		14:16 (1)	07:58		06:58	06:47	05:49	05:19	05:35	06:20	07:11	08:01	07:56	14:01 (1)	08:40		09:35 (4)
	16:55	49	15:05 (1)	17:50		18:41	20:34	21:24	22:00	21:55	21:07	19:59	18:50	16:51	32 14:33 (1)	16:28	79	14:51 (1)
15	08:41		14:17 (1)	07:56		06:56	06:45	05:47	05:19	05:36	06:22	07:13	08:03	07:58	14:00 (1)	08:41		09:35 (4)
	16:57	48	15:05 (1)	17:52		18:43	20:36	21:26	22:01	21:54	21:05	19:56	18:47	16:50	34 14:34 (1)	16:28	79	14:50 (1)
16	08:41		14:16 (1)	07:54		06:54	06:43	05:46	05:19	05:38	06:24	07:14	08:04	08:00	13:59 (1)	08:41		09:35 (4)
	16:58	48	15:04 (1)	17:54		18:44	20:37	21:27	22:01	21:53	21:03	19:54	18:45	16:48	37 14:36 (1)	16:28	88	14:51 (1)
17	08:40		14:17 (1)	07:52		06:51	06:41	05:44	05:19	05:39	06:25	07:16	08:06	08:01	13:58 (1)	08:42		09:36 (4)
	17:00	47	15:04 (1)	17:56		18:46	20:39	21:29	22:02	21:52	21:01	19:52	18:43	16:47	39 14:37 (1)	16:28	92	14:52 (1)
18	08:39		14:18 (1)	07:50		06:49	06:38	05:43	05:19	05:40	06:27	07:17	08:08	08:03	13:58 (1)	08:43		09:37 (4)
	17:01	46	15:04 (1)	17:58		18:48	20:41	21:30	22:02	21:51	20:59	19:49	18:41	16:46	40 14:38 (1)	16:29	91	14:52 (1)
19	08:38		14:19 (1)	07:48		06:47	06:36	05:41	05:19	05:41	06:28	07:19	08:10	08:05	13:56 (1)	08:44		09:36 (4)
	17:03	45	15:04 (1)	17:59		18:50	20:43	21:32	22:03	21:49	20:57	19:47	18:39	16:44	42 14:38 (1)	16:29	94	14:52 (1)
20	08:37		14:20 (1)	07:46		06:44	06:34	05:40	05:19	05:43	06:30	07:21	08:11	08:06	13:56 (1)	08:44		09:37 (4)
	17:05	45	15:05 (1)	18:01		18:51	20:44	21:33	22:03	21:48	20:55	19:45	18:37	16:43	43 14:39 (1)	16:29	95	14:53 (1)
21	08:36		14:21 (1)	07:44		06:42	06:32	05:38	05:19	05:44	06:32	07:22	08:13	08:08	13:56 (1)	08:45		09:38 (4)
	17:06	44	15:05 (1)	18:03		18:53	20:46	21:35	22:03	21:47	20:53	19:42	18:35	16:42	44 14:40 (1)	16:30	96	14:54 (1)
22	08:34		14:21 (1)	07:42		06:40	06:30	05:37	05:19	05:45	06:33	07:24	08:15	08:10	13:56 (1)	08:45		09:38 (4)
	17:08	43	15:04 (1)	18:05		18:55	20:48	21:36	22:03	21:46	20:51	19:40	18:33	16:41	45 14:41 (1)	16:30	97	14:54 (1)
23	08:33		14:22 (1)	07:40		06:37	06:28	05:36	05:20	05:47	06:35	07:26	08:17	08:11	13:56 (1)	08:46		09:39 (4)
	17:10	42	15:04 (1)	18:07		18:56	20:49	21:37	22:04	21:44	20:49	19:38	18:31	16:40	45 14:41 (1)	16:31	96	14:55 (1)
24	08:32		14:24 (1)	07:38		06:35	06:26	05:35	05:20	05:48	06:37	07:27	08:18	08:13	13:55 (1)	08:46		09:39 (4)
	17:12	40	15:04 (1)	18:09		18:58	20:51	21:39	22:04	21:43	20:46	19:35	18:28	16:38	46 14:41 (1)	16:31	95	14:55 (1)
25	08:31		14:24 (1)	07:36		06:33	06:24	05:33	05:20	05:49	06:38	07:29	07:20	08:15	13:55 (1)	08:47		09:39 (4)
	17:13	39	15:03 (1)	18:10		19:00	20:53	21:40	22:04	21:42	20:44	19:33	17:26	16:37	47 14:42 (1)	16:32	94	14:55 (1)
26	08:30		14:26 (1)	07:34		06:30	06:22	05:32	05:21	05:51	06:40	07:31	07:22	08:16	13:55 (1)	08:47		09:40 (4)
	17:15	37	15:03 (1)	18:12		19:02	20:54	21:41	22:04	21:40	20:42	19:31	17:24	16:36	48 14:43 (1)	16:32	93	14:56 (1)
27	08:28		14:27 (1)	07:32		06:28	06:20	05:31	05:21	05:52	06:42	07:32	07:24	08:18	13:56 (1)	08:47		09:41 (4)
	17:17	35	15:02 (1)	18:14		19:03	20:56	21:43	22:04	21:39	20:40	19:28	17:22	16:36	48 14:44 (1)	16:33	90	14:57 (1)
28	08:27		14:29 (1)	07:30		06:26	06:18	05:30	05:21	05:54	06:43	07:34	07:26	08:19	13:55 (1)	08:48		09:42 (4)
	17:19	32	15:01 (1)	18:16		19:05	20:58	21:44	22:03	21:37	20:38	19:26	17:20	16:35	49 14:44 (1)	16:34	83	14:57 (1)
29	08:25		14:30 (1)			07:24	06:16	05:29	05:22	05:55	06:45	07:36	07:27	08:21	13:56 (1)	08:48		09:42 (4)
	17:20	30	15:00 (1)			20:07	21:00	21:45	22:03	21:36	20:35	19:24	17:19	16:34	48 14:44 (1)	16:35	78	14:58 (1)
30	08:24		14:32 (1)			07:21	06:14	05:28	05:23	05:57	06:46	07:37	07:29	08:22	13:56 (1)	08:48		09:43 (4)
	17:22	26	14:58 (1)			20:08	21:01	21:47	22:03	21:34	20:33	19:21	17:17	16:33	49 14:45 (1)	16:36	77	14:58 (1)
31	08:22		14:36 (1)			07:19		05:27		05:58	06:48		07:31			08:48		09:42 (4)
	17:24	20	14:56 (1)			20:10		21:48		21:33	20:31		17:15			16:37	74	14:58 (1)
Potential sun hours	259			277		367	416	485	499	502	454	381	331	266		243		
Total, worst case		1507			13										825		2429	
Sun reduction		0,24			0,30										0,24		0,20	
Oper. time red.		0,95			0,95										0,95		0,95	
Wind dir. red.		0,68			0,69										0,69		0,66	
Total reduction		0,15			0,20										0,16		0,13	
Total, real		234			3										128		310	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:35/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN149@164Shadow receptor: AK - 3998JD84

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	05:26	06:17 (1)	05:23	06:28 (1)	06:00	06:30 (1)	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03	21:49 21	06:38 (1)	22:03 10	06:38 (1)	21:31 14	06:44 (1)	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	05:26	06:17 (1)	05:24	06:28 (1)	06:01	06:32 (1)	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05	21:50 20	06:37 (1)	22:03 11	06:39 (1)	21:29 9	06:41 (1)	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08	05:25	06:18 (1)	05:25	06:27 (1)	06:03		06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06	21:51 19	06:37 (1)	22:02 13	06:40 (1)	21:28		20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06	05:24	06:18 (1)	05:26	06:26 (1)	06:05		06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08	21:52 19	06:37 (1)	22:02 14	06:40 (1)	21:26		20:22	19:12	17:07	16:31
5	08:47	08:15	07:19	07:08	06:04	05:23	06:19 (1)	05:26	06:26 (1)	06:06		06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10	21:53 18	06:37 (1)	22:01 15	06:41 (1)	21:24		20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02	05:23	06:20 (1)	05:27	06:26 (1)	06:08		06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11	21:54 16	06:36 (1)	22:01 16	06:42 (1)	21:22		20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01	05:22	06:21 (1)	05:28	06:26 (1)	06:09		07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13	21:55 15	06:36 (1)	22:00 17	06:43 (1)	21:21		20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59	05:22	06:21 (1)	05:29	06:26 (1)	06:11		07:01	07:51	07:45	08:33
	16:47	17:39	18:30	20:24	21:15	21:56 14	06:35 (1)	22:00 18	06:44 (1)	21:19		20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57	05:21	06:22 (1)	05:30	06:26 (1)	06:12		07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16	21:57 13	06:35 (1)	21:59 18	06:44 (1)	21:17		20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55 06:24 (1)	05:21	06:22 (1)	05:31	06:24 (1)	06:14		07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18 5	06:29 (1)	21:58 12	06:34 (1)	21:58 20	06:44 (1)	21:15		20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54	06:20 (1)	05:20	06:23 (1)	05:32	06:24 (1)	06:16		07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19 12	06:32 (1)	21:58 11	06:34 (1)	21:57 21	06:45 (1)	21:13		20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52	06:19 (1)	05:20	06:24 (1)	05:33	06:24 (1)	06:17		07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21 15	06:34 (1)	21:59 10	06:34 (1)	21:57 21	06:45 (1)	21:11		20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50	06:17 (1)	05:20	06:25 (1)	05:34	06:25 (1)	06:19		07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23 18	06:35 (1)	22:00 9	06:34 (1)	21:56 22	06:47 (1)	21:09		20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49	06:17 (1)	05:19	06:26 (1)	05:35	06:24 (1)	06:21		07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24 19	06:36 (1)	22:00 7	06:33 (1)	21:55 23	06:47 (1)	21:07		19:59	18:50	16:51	16:28
15	08:42	07:56	06:56	06:45	05:47	06:15 (1)	05:19	06:26 (1)	05:36	06:24 (1)	06:22		07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26 21	06:36 (1)	22:01 6	06:32 (1)	21:54 24	06:48 (1)	21:05		19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46	06:15 (1)	05:19	06:27 (1)	05:38	06:24 (1)	06:24		07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27 22	06:37 (1)	22:01 4	06:31 (1)	21:53 24	06:48 (1)	21:03		19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44	06:15 (1)	05:19	06:29 (1)	05:39	06:24 (1)	06:25		07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29 23	06:38 (1)	22:02 1	06:30 (1)	21:52 24	06:48 (1)	21:01		19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43	06:14 (1)	05:19		05:40	06:23 (1)	06:27		07:18	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30 24	06:38 (1)	22:02		21:51 25	06:48 (1)	20:59		19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41	06:14 (1)	05:19		05:41	06:23 (1)	06:29		07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32 24	06:38 (1)	22:03		21:49 25	06:48 (1)	20:57		19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40	06:14 (1)	05:19		05:43	06:24 (1)	06:30		07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33 25	06:39 (1)	22:03		21:48 25	06:49 (1)	20:55		19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	05:39	06:14 (1)	05:19		05:44	06:24 (1)	06:32		07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:35 25	06:39 (1)	22:03		21:47 25	06:49 (1)	20:53		19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	05:37	06:13 (1)	05:19		05:45	06:24 (1)	06:34		07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36 25	06:38 (1)	22:03		21:46 25	06:49 (1)	20:51		19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	05:36	06:13 (1)	05:20		05:47	06:24 (1)	06:35		07:26	08:17	08:12	08:46
	17:10	18:07	18:57	20:49	21:37 26	06:39 (1)	22:04		21:44 24	06:48 (1)	20:49		19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35	06:14 (1)	05:20		05:48	06:24 (1)	06:37		07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	21:39 25	06:39 (1)	22:04		21:43 25	06:49 (1)	20:46		19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	05:34	06:14 (1)	05:20		05:50	06:24 (1)	06:38		07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	21:40 25	06:39 (1)	22:04		21:42 25	06:49 (1)	20:44		19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	05:32	06:14 (1)	05:21	06:30 (1)	05:51	06:24 (1)	06:40		07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	21:42 25	06:39 (1)	22:04 3	06:33 (1)	21:40 24	06:48 (1)	20:42		19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	05:31	06:14 (1)	05:21	06:30 (1)	05:52	06:26 (1)	06:42		07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21:43 24	06:38 (1)	22:04 5	06:35 (1)	21:39 22	06:48 (1)	20:40		19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	05:30	06:15 (1)	05:22	06:29 (1)	05:54	06:26 (1)	06:43		07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	21:44 23	06:38 (1)	22:04 6	06:35 (1)	21:37 21	06:47 (1)	20:38		19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	05:29	06:15 (1)	05:22	06:29 (1)	05:55	06:27 (1)	06:45		07:36	07:27	08:21	08:48
	17:21		20:07	21:00	21:45 23	06:38 (1)	22:03 7	06:36 (1)	21:36 20	06:47 (1)	20:36		19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	05:28	06:16 (1)	05:23	06:29 (1)	05:57	06:28 (1)	06:47		07:37	07:29	08:22	08:48
	17:22		20:09	21:01	21:47 23	06:39 (1)	22:03 9	06:38 (1)	21:34 18	06:46 (1)	20:33		19:22	17:17	16:33	16:36
31	08:22		07:19		05:27	06:16 (1)			05:58	06:28 (1)	06:48			07:31		08:48
	17:24		20:10		21:48 22	06:38 (1)			21:33 17	06:45 (1)	20:31			17:15		16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case					474	245	632	23				
Sun reduction					0,43	0,39	0,41	0,42				
Oper. time red.					0,95	0,95	0,95	0,95				
Wind dir. red.					0,67	0,67	0,67	0,67				
Total reduction					0,27	0,25	0,26	0,26				
Total, real					128	60	162	6				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:35/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN149@164Shadow receptor: AL - 3997MR19

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March	April	May	June	July	August	September	October	November	December
1	08:48	09:31 (4)	08:21	14:45 (1)	07:27	07:17	06:12	05:26	05:23	06:00	06:50	07:39	07:33	08:24
	16:38 131	15:19 (1)	17:26 56	15:41 (1)	18:18	20:12	21:03	21:49	22:03	21:31	20:29	19:19	17:13 47	14:21 (1) 16:32 121
2	08:48	09:32 (4)	08:19	14:45 (1)	07:25	07:14	06:10	05:25	05:24	06:01	06:51	07:41	07:35	09:19 (4) 14:20 (1) 08:25
	16:39 131	15:20 (1)	17:28 55	15:40 (1)	18:20	20:14	21:05	21:50	22:03	21:29	20:26	19:17	17:11 48	09:19 (4) 15:08 (1) 16:32 125
3	08:48	09:33 (4)	08:18	14:46 (1)	07:23	07:12	06:08	05:25	05:25	06:03	06:53	07:42	07:36	15:11 (1) 14:19 (1) 08:27
	16:40 131	15:22 (1)	17:30 55	15:41 (1)	18:21	20:15	21:06	21:51	22:02	21:28	20:24	19:14	17:09 50	09:19 (4) 15:09 (1) 16:31 125
4	08:47	09:33 (4)	08:16	14:47 (1)	07:21	07:10	06:06	05:24	05:25	06:04	06:55	07:44	07:38	15:11 (1) 14:18 (1) 08:28
	16:41 131	15:22 (1)	17:31 53	15:40 (1)	18:23	20:17	21:08	21:52	22:02	21:26	20:22	19:12	17:07 51	09:20 (4) 15:09 (1) 16:30 129
5	08:47	09:34 (4)	08:14	14:47 (1)	07:19	07:07	06:04	05:23	05:26	06:06	06:56	07:46	07:40	15:11 (1) 14:17 (1) 08:29
	16:43 129	15:23 (1)	17:33 53	15:40 (1)	18:25	20:19	21:10	21:53	22:01	21:24	20:20	19:10	17:06 52	09:20 (4) 15:09 (1) 16:30 127
6	08:47	09:34 (4)	08:13	14:47 (1)	07:16	07:05	06:02	05:23	05:27	06:08	06:58	07:47	07:42	15:10 (1) 14:17 (1) 08:31
	16:44 131	15:24 (1)	17:35 52	15:39 (1)	18:27	20:20	21:11	21:54	22:01	21:22	20:17	19:08	17:04 53	09:20 (4) 15:10 (1) 16:30 131
7	08:46	09:35 (4)	08:11	14:48 (1)	07:14	07:03	06:00	05:22	05:28	06:09	06:59	07:49	07:44	15:10 (1) 14:16 (1) 08:32
	16:45 128	15:25 (1)	17:37 51	15:39 (1)	18:28	20:22	21:13	21:55	22:00	21:20	20:15	19:05	17:02 54	09:21 (4) 15:10 (1) 16:29 129
8	08:46	09:35 (4)	08:09	14:50 (1)	07:12	07:01	05:59	05:21	05:29	06:11	07:01	07:51	07:45	15:10 (1) 14:16 (1) 08:33
	16:46 128	15:26 (1)	17:39 49	15:39 (1)	18:30	20:24	21:15	21:56	22:00	21:19	20:13	19:03	17:00 55	09:21 (4) 15:11 (1) 16:29 131
9	08:45	09:36 (4)	08:08	14:51 (1)	07:10	06:58	05:57	05:21	05:30	06:12	07:03	07:52	07:47	15:10 (1) 14:16 (1) 08:34
	16:48 124	15:27 (1)	17:41 48	15:39 (1)	18:32	20:26	21:16	21:57	21:59	21:17	20:10	19:01	16:59 55	09:21 (4) 15:11 (1) 16:28 130
10	08:45	09:36 (4)	08:06	14:52 (1)	07:07	06:56	05:55	05:20	05:31	06:14	07:04	07:54	07:49	15:10 (1) 14:16 (1) 08:35
	16:49 125	15:28 (1)	17:43 46	15:38 (1)	18:34	20:27	21:18	21:58	21:58	21:15	20:08	18:59	16:57 55	09:21 (4) 15:11 (1) 16:28 131
11	08:44	09:37 (4)	08:04	14:53 (1)	07:05	06:54	05:54	05:20	05:32	06:16	07:06	07:56	07:51	15:09 (1) 14:16 (1) 08:37
	16:51 121	15:29 (1)	17:45 44	15:37 (1)	18:36	20:29	21:19	21:58	21:57	21:13	20:06	18:56	16:56 56	09:22 (4) 15:12 (1) 16:28 130
12	08:44	09:37 (4)	08:02	14:54 (1)	07:03	06:52	05:52	05:20	05:33	06:17	07:08	07:57	07:53	15:09 (1) 14:16 (1) 08:38
	16:52 118	15:30 (1)	17:46 42	15:36 (1)	18:37	20:31	21:21	21:59	21:56	21:11	20:03	18:54	16:54 56	09:23 (4) 15:12 (1) 16:28 131
13	08:43	09:38 (4)	08:00	14:56 (1)	07:00	06:49	05:50	05:19	05:34	06:19	07:09	07:59	07:54	15:10 (1) 14:16 (1) 08:39
	16:53 113	15:30 (1)	17:48 39	15:35 (1)	18:39	20:32	21:23	22:00	21:56	21:09	20:01	18:52	16:53 56	09:23 (4) 15:12 (1) 16:28 133
14	08:42	09:39 (4)	07:58	14:57 (1)	06:58	06:47	05:49	05:19	05:35	06:20	07:11	08:01	07:56	15:10 (1) 14:16 (1) 08:40
	16:55 106	15:31 (1)	17:50 36	15:33 (1)	18:41	20:34	21:24	22:00	21:55	21:07	19:59	18:50	16:51 56	09:24 (4) 15:12 (1) 16:28 130
15	08:41	09:41 (4)	07:56	15:00 (1)	06:56	06:45	05:47	05:19	05:36	06:22	07:13	08:03	07:58	15:10 (1) 14:17 (1) 08:40
	16:57 97	15:33 (1)	17:52 31	15:31 (1)	18:43	20:36	21:26	22:01	21:54	21:05	19:56	18:47	16:50 56	09:24 (4) 15:13 (1) 16:28 130
16	08:41	09:41 (4)	07:54	15:03 (1)	06:54	06:43	05:46	05:19	05:38	06:24	07:14	08:04	08:00	15:09 (1) 14:17 (1) 08:41
	16:58 86	15:33 (1)	17:54 26	15:29 (1)	18:44	20:37	21:27	22:01	21:53	21:03	19:54	18:45	16:48 56	09:24 (4) 15:13 (1) 16:28 130
17	08:40	09:42 (4)	07:52	15:06 (1)	06:51	06:41	05:44	05:19	05:39	06:25	07:16	08:06	08:01	15:09 (1) 14:18 (1) 08:42
	17:00 79	15:34 (1)	17:56 20	15:26 (1)	18:46	20:39	21:29	22:02	21:52	21:01	19:52	18:43	16:47 55	09:25 (4) 15:13 (1) 16:28 130
18	08:39	09:43 (4)	07:50	15:12 (1)	06:49	06:38	05:43	05:19	05:40	06:27	07:17	08:08	08:03	15:10 (1) 14:18 (1) 08:43
	17:01 66	15:35 (1)	17:58 10	15:22 (1)	18:48	20:41	21:30	22:02	21:51	20:59	19:49	18:41	16:46 55	09:26 (4) 15:13 (1) 16:29 129
19	08:38	09:46 (4)	07:48		06:47	06:36	05:41	05:19	05:41	06:28	07:19	08:10	08:05	15:10 (1) 14:18 (1) 08:44
	17:03 61	15:36 (1)	17:59		18:50	20:43	21:32	22:03	21:49	20:57	19:47	18:39	16:44 54	09:25 (4) 15:12 (1) 16:29 129
20	08:37	09:49 (4)	07:46		06:44	06:34	05:40	05:19	05:43	06:30	07:21	08:11	08:06	15:10 (1) 14:18 (1) 08:44
	17:05 56	15:36 (1)	18:01		18:51	20:44	21:33	22:03	21:48	20:55	19:45	18:37	16:43 54	09:26 (4) 15:12 (1) 16:29 130
21	08:36	14:44 (1)	07:44		06:42	06:32	05:38	05:19	05:44	06:32	07:22	08:13	08:08	15:11 (1) 14:19 (1) 08:45
	17:06 53	15:37 (1)	18:03		18:53	20:46	21:35	22:03	21:47	20:53	19:42	18:35	16:42 53	09:27 (4) 15:12 (1) 16:30 129
22	08:34	14:43 (1)	07:42		06:40	06:30	05:37	05:19	05:45	06:33	07:24	08:15	08:10	15:11 (1) 09:25 (4) 08:45
	17:08 54	15:37 (1)	18:05		18:55	20:48	21:36	22:03	21:46	20:51	19:40	18:33	16:41 56	09:27 (4) 15:12 (1) 16:30 129
23	08:33	14:44 (1)	07:40		06:37	06:28	05:36	05:20	05:47	06:35	07:26	08:17	08:11	15:11 (1) 09:23 (4) 08:46
	17:10 54	15:38 (1)	18:07		18:56	20:49	21:37	22:03	21:44	20:49	19:38	18:31	16:40 61	09:27 (4) 15:13 (1) 16:31 129
24	08:32	14:44 (1)	07:38		06:35	06:26	05:35	05:20	05:48	06:37	07:27	08:18 15:39 (1)	08:13	15:11 (1) 09:21 (4) 08:46
	17:12 55	15:39 (1)	18:09		18:58	20:51	21:39	22:04	21:43	20:46	19:35	18:28 14 15:53 (1)	16:38 65	09:28 (4) 15:12 (1) 16:31 130
25	08:31	14:44 (1)	07:36		06:33	06:24	05:33	05:20	05:49	06:38	07:29	07:20 14:35 (1)	08:15	15:13 (1) 09:20 (4) 08:47
	17:13 55	15:39 (1)	18:10		19:00	20:53	21:40	22:04	21:42	20:44	19:33	17:26 22 14:57 (1)	16:37 79	09:29 (4) 15:12 (1) 16:32 128
26	08:30	14:44 (1)	07:34		06:30	06:22	05:32	05:21	05:51	06:40	07:31	07:22 14:31 (1)	08:16	15:13 (1) 09:20 (4) 08:47
	17:15 56	15:40 (1)	18:12		19:02	20:54	21:41	22:04	21:40	20:42	19:31	17:24 28 14:59 (1)	16:36 86	09:29 (4) 15:12 (1) 16:32 130
27	08:28	14:44 (1)	07:32		06:28	06:20	05:31	05:21	05:52	06:42	07:32	07:24 14:29 (1)	08:18	15:14 (1) 09:20 (4) 08:47
	17:17 56	15:40 (1)	18:14		19:03	20:56	21:43	22:04	21:39	20:40	19:28	17:22 32 15:01 (1)	16:36 97	09:30 (4) 15:12 (1) 16:33 131
28	08:27	14:44 (1)	07:30		06:26	06:18	05:30	05:21	05:54	06:43	07:34	07:26 14:27 (1)	08:19	15:15 (1) 09:19 (4) 08:48
	17:19 56	15:40 (1)	18:16		19:05	20:58	21:44	22:03	21:37	20:38	19:26	17:20 36 15:03 (1)	16:35 106	09:30 (4) 15:11 (1) 16:34 130
29	08:25	14:44 (1)			07:24	06:16	05:29	05:22	05:55	06:45	07:35	07:27 14:25 (1)	08:21	15:16 (1) 09:19 (4) 08:48
	17:20 56	15:40 (1)			20:07	21:00	21:45	22:03	21:36	20:35	19:24	17:19 39 15:04 (1)	16:34 113	09:31 (4) 15:12 (1) 16:35 131
30	08:24	14:44 (1)			07:21	06:14	05:28	05:23	05:57	06:46	07:37	07:29 14:23 (1)	08:22	15:17 (1) 09:19 (4) 08:48
	17:22 56	15:40 (1)			20:08	21:01	21:47	22:03	21:34	20:33	19:21	17:17 43 15:06 (1)	16:33 117	09:31 (4) 15:12 (1) 16:36 131
31	08:22	14:45 (1)			07:19		05:27		05:58	06:48		07:31 14:22 (1)		15:18 (1) 08:48 09:31 (4)
	17:24 56	15:41 (1)			20:10		21:48		21:33	20:31		17:15 45 15:07 (1)		16:37 131 15:18 (1)
Potential sun hours	259		277		367	416	485	499	502	454	381	331	266	243
Total, worst case	2799		766									259	1907	4010
Sun reduction	0,24		0,30									0,34	0,24	0,20
Oper. time red.	0,95		0,95									0,95	0,95	0,95
Wind dir. red.	0,66		0,69									0,69	0,68	0,64
Total reduction	0,15		0,20									0,22	0,15	0,12
Total, real	418		152									57	290	495

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:35/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN149@164Shadow receptor: AM - 3945LA6

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December		
1	08:48		09:38 (4)		08:21		13:48 (2)	07:27	17:09 (1)	07:17	06:12	05:26	05:23	06:00	06:50		07:39		17:30 (1)	07:33		13:23 (2)	08:24		09:23 (4)
	16:38	136	14:41 (2)	71	14:59 (2)	16	17:25 (1)	20:12	21:03	21:49	22:03	21:31	20:29			48	18:18 (1)	65	17:13		14:28 (2)	16:32	143	14:31 (2)
2	08:48		09:38 (4)		08:19		13:48 (2)	07:25	17:05 (1)	07:14	06:10	05:25	05:24	06:01	06:51		07:40		17:30 (1)	07:35		13:22 (2)	08:25		09:24 (4)
	16:39	138	14:42 (2)	71	14:59 (2)	23	17:28 (1)	20:14	21:05	21:50	22:02	21:29	20:26			48	18:18 (1)	66	17:11	144	14:28 (2)	16:32	144	14:31 (2)
3	08:48		09:39 (4)		08:18		13:50 (2)	07:23	17:02 (1)	07:12	06:08	05:25	05:25	06:03	06:53		07:42		17:30 (1)	07:36		13:21 (2)	08:27		09:24 (4)
	16:40	137	14:43 (2)	70	15:00 (2)	28	17:30 (1)	20:15	21:06	21:51	22:02	21:28	20:24			48	18:16 (1)	67	17:09		14:28 (2)	16:31	143	14:31 (2)
4	08:47		09:39 (4)		08:16		13:50 (2)	07:21	17:00 (1)	07:10	06:06	05:24	05:25	06:04	06:55		07:44		17:30 (1)	07:38		13:20 (2)	08:28		09:25 (4)
	16:41	138	14:43 (2)	70	15:00 (2)	32	17:32 (1)	20:17	21:08	21:52	22:02	21:26	20:22			45	18:15 (1)	68	17:07		14:28 (2)	16:30	142	14:31 (2)
5	08:47		09:39 (4)		08:14		13:50 (2)	07:19	16:59 (1)	07:07	06:04	05:23	05:26	06:06	06:56		07:46		17:31 (1)	07:40		13:20 (2)	08:29		09:25 (4)
	16:43	139	14:44 (2)	69	14:59 (2)	35	17:34 (1)	20:19	21:10	21:53	22:01	21:24	20:20			43	18:14 (1)	69	17:06		14:29 (2)	16:30	141	14:31 (2)
6	08:47		09:39 (4)		08:13		13:50 (2)	07:16	16:57 (1)	07:05	06:02	05:23	05:27	06:08	06:58		07:47		17:32 (1)	07:42		13:20 (2)	08:31		09:25 (4)
	16:44	140	14:44 (2)	69	14:59 (2)	38	17:35 (1)	20:20	21:11	21:54	22:01	21:22	20:17			41	18:13 (1)	69	17:04		14:29 (2)	16:30	140	14:30 (2)
7	08:46		09:40 (4)		08:11		13:51 (2)	07:14	16:55 (1)	07:03	06:00	05:22	05:28	06:09	06:59		07:49		17:32 (1)	07:44		13:19 (2)	08:32		09:27 (4)
	16:45	141	14:46 (2)	67	14:58 (2)	41	17:36 (1)	20:22	21:13	21:55	22:00	21:20	20:15			39	19:05	70	18:11 (1)	70	14:29 (2)	16:29	138	14:31 (2)
8	08:46		09:40 (4)		08:09		13:52 (2)	07:12	16:54 (1)	07:01	05:59	05:21	05:29	06:11	07:01		07:51		17:33 (1)	07:45		13:19 (2)	08:33		09:27 (4)
	16:46	142	14:46 (2)	67	14:59 (2)	43	17:37 (1)	20:24	21:14	21:56	21:59	21:19	20:13			37	19:03	71	18:10 (1)	71	14:30 (2)	16:29	138	14:31 (2)
9	08:45		09:41 (4)		08:07		13:53 (2)	07:10	16:54 (1)	06:58	05:57	05:21	05:30	06:12	07:03		07:52		17:34 (1)	07:47		13:19 (2)	08:34		09:27 (4)
	16:48	142	14:48 (2)	65	14:58 (2)	44	17:38 (1)	20:25	21:16	21:57	21:59	21:17	20:10			34	19:01	71	18:08 (1)	71	14:30 (2)	16:28	137	14:31 (2)
10	08:45		09:41 (4)		08:06		13:53 (2)	07:07	16:52 (1)	06:56	05:55	05:20	05:31	06:14	07:04		07:54		17:36 (1)	07:49		13:19 (2)	08:35		09:28 (4)
	16:49	142	14:48 (2)	65	14:58 (2)	46	17:38 (1)	20:27	21:18	21:57	21:58	21:15	20:08			30	18:59	71	18:06 (1)	71	14:30 (2)	16:28	137	14:31 (2)
11	08:44		09:41 (4)		08:04		13:54 (2)	07:05	16:51 (1)	06:54	05:54	05:20	05:32	06:16	07:06		07:56		17:37 (1)	07:51		13:19 (2)	08:37		09:28 (4)
	16:51	143	14:49 (2)	63	14:57 (2)	47	17:38 (1)	20:29	21:19	21:58	21:57	21:13	20:06			26	18:56	72	18:03 (1)	72	14:31 (2)	16:28	136	14:31 (2)
12	08:44		09:41 (4)		08:02		13:55 (2)	07:03	16:51 (1)	06:52	05:52	05:20	05:33	06:17	07:08		07:57		17:40 (1)	07:52		13:20 (2)	08:38		09:29 (4)
	16:52	144	14:49 (2)	62	14:57 (2)	48	17:39 (1)	20:31	21:21	21:59	21:56	21:11	20:03	1	18:03 (1)	20	18:54	71	18:00 (1)	71	14:31 (2)	16:28	136	14:32 (2)
13	08:43		09:42 (4)		08:00		13:56 (2)	07:00	16:50 (1)	06:49	05:50	05:19	05:34	06:19	07:09		17:54 (1)		17:59		17:44 (1)	07:54		10:40 (3)	08:39		09:30 (4)
	16:53	143	14:50 (2)	60	14:56 (2)	48	17:38 (1)	20:32	21:23	22:00	21:56	21:09	20:01	17	18:11 (1)	12	18:52	85	17:56 (1)	85	14:31 (2)	16:28	135	14:32 (2)
14	08:42		09:42 (4)		07:58		13:57 (2)	06:58	16:50 (1)	06:47	05:49	05:19	05:35	06:20	07:11		17:50 (1)		08:01			07:56		09:29 (4)	08:40		09:30 (4)
	16:55	144	14:51 (2)	58	14:55 (2)	49	17:39 (1)	20:34	21:24	22:00	21:55	21:07	19:59	23	18:13 (1)		18:50					16:51	103	14:31 (2)	16:28	132	14:31 (2)
15	08:41		09:42 (4)		07:56		13:59 (2)	06:56	16:50 (1)	06:45	05:47	05:19	05:36	06:22	07:12		17:48 (1)		08:03			07:58		09:27 (4)	08:40		09:30 (4)
	16:57	144	14:51 (2)	55	14:54 (2)	49	17:39 (1)	20:36	21:26	22:01	21:54	21:05	19:56	27	18:15 (1)		18:47					16:50	113	14:31 (2)	16:28	133	14:31 (2)
16	08:41		09:43 (4)		07:54		14:00 (2)	06:54	16:49 (1)	06:43	05:46	05:19	05:38	06:24	07:14		17:45 (1)		08:04			08:00		09:26 (4)	08:41		09:31 (4)
	16:58	144	14:52 (2)	53	14:53 (2)	49	17:38 (1)	20:37	21:27	22:01	21:53	21:03	19:54	31	18:16 (1)		18:45					16:48	118	14:31 (2)	16:28	133	14:32 (2)
17	08:40		09:44 (4)		07:52		14:02 (2)	06:51	16:49 (1)	06:41	05:44	05:19	05:39	06:25	07:16		17:43 (1)		08:06			08:01		09:25 (4)	08:42		09:32 (4)
	17:00	143	14:53 (2)	49	14:51 (2)	49	17:38 (1)	20:39	21:29	22:02	21:52	21:01	19:52	35	18:18 (1)		18:43					16:47	125	14:32 (2)	16:28	132	14:32 (2)
18	08:39		09:44 (4)		07:50		14:04 (2)	06:49	16:49 (1)	06:38	05:43	05:19	05:40	06:27	07:17		17:41 (1)		08:08			08:03		09:24 (4)	08:43		09:33 (4)
	17:01	142	14:54 (2)	46	14:50 (2)	49	17:38 (1)	20:41	21:30	22:02	21:50	20:59	19:49	38	18:19 (1)		18:41					16:46	129	14:32 (2)	16:29	131	14:33 (2)
19	08:38		09:45 (4)		07:48		14:07 (2)	06:47	16:49 (1)	06:36	05:41	05:19	05:41	06:28	07:19		17:39 (1)		08:10		14:56 (2)	08:05		09:23 (4)	08:44		09:32 (4)
	17:03	140	14:54 (2)	41	14:48 (2)	48	17:37 (1)	20:43	21:32	22:03	21:49	20:57	19:47	40	18:19 (1)	8	18:39	8	15:04 (2)	132	14:31 (2)	16:29	132	14:33 (2)
20	08:37		09:46 (4)		07:46		14:09 (2)	06:44	16:49 (1)	06:34	05:40	05:19	05:43	06:30	07:21		17:38 (1)		08:11		14:48 (2)	08:06		09:22 (4)	08:44		09:33 (4)
	17:05	139	14:55 (2)	36	14:45 (2)	47	17:36 (1)	20:44	21:33	22:03	21:48	20:55	19:45	42	18:20 (1)	23	18:37	23	15:11 (2)	135	14:31 (2)	16:29	131	14:33 (2)
21	08:36		09:47 (4)		07:44		14:13 (2)	06:42	16:50 (1)	06:32	05:38	05:19	05:44	06:32	07:22		17:36 (1)		08:13		14:43 (2)	08:08		09:22 (4)	08:45		09:34 (4)
	17:06	138	14:56 (2)	29	14:42 (2)	53	17:36 (1)	20:46	21:35	22:03	21:47	20:53	19:42	44	18:20 (1)	31	18:35	31	15:14 (2)	138	14:31 (2)	16:30	131	14:34 (2)
22	08:34		09:47 (4)		07:42		14:19 (2)	06:40	16:50 (1)	06:30	05:37	05:19	05:45	06:33	07:24		17:35 (1)		08:15		14:38 (2)	08:10		09:22 (4)	08:45		09:34 (4)
	17:08	135	14:56 (2)	19	14:38 (2)	44	17:34 (1)	20:48	21:36	22:03	21:46	20:51	19:40	45	18:20 (1)	38	18:33	38	15:16 (2)	139	14:31 (2)	16:30	131	14:34 (2)
23	08:33		09:49 (4)		07:40			06:37	16:51 (1)	06:28	05:36	05:20	05:47	06:35	07:26		17:34 (1)		08:17		14:36 (2)	08:11		09:22 (4)	08:46		09:34 (4)
	17:10	132	14:57 (2)	18:07				18:56	17:34 (1)	20:49	21:37	22:03	21:44	20:49	19:38	47	18:21 (1)	42	18:30	42	15:18 (2)	16:40	141	14:32 (2)	16:31	131	14:34 (2)
24	08:32		09:50 (4)		07:38			06:35	16:52 (1)	06:26	05:35	05:20	05:48	06:37	07:27		17:33 (1)		08:18		14:33 (2)	08:13		09:21 (4)	08:46		09:35 (4)
	17:12	129	14:58 (2)	18:09				18:58	17:33 (1)	20:51	21:39	22:04	21:43	20:46	19:35	47	18:20 (1)	47	18:28	47	15:20 (2)	16:38	142	14:31 (2)	16:31	131	14:35 (2)
25	08:31		09:51 (4)		07:36			06:33	16:52 (1)	06:24	05:33	05:20	05:49	06:38	07:29		17:32 (1)		07:20		13:31 (2)	08:15		09:22 (4)	08:47		09:36 (4)
	17:13	125	14:58 (2)	18:10				19:00	17:31 (1)	20:53	21:40	22:04	21:42	20:44	19:33	49	18:21 (1)	49	17:26	50	14:21 (2)	16:37	143	14:31 (2)	16:32	131	14:36 (2)
26	08:29		09:53 (4)		07:34			06:30	16:54 (1)	06:22	05:32	05:21	05:51	06:40	07:31		17:32 (1)		07:22		13:29 (2)	08:16		09:22 (4)	08:47		09:36 (4)
	17:15	118	14:58 (2)	18:12				19:02	17:29 (1)	20:54	21:41	22:04	21:40	20:42	19:31	49	18:21 (1)	54	17:24	54	14:23 (2)	16:36	143	14:31 (2)	16:32	132	14:36 (2)
27	08:28		09:54 (4)		07:32			06:28	16:56 (1)	06:20	05:31	05:21	05:52	06:42	07:32		17:31 (1)		07:24		13:28 (2)	08:18		09:23 (4)	08:47		09:36 (4)
	17:17	113	14:58 (2)	18:14				19:03	17:28 (1)	20:56	21:43	22:04	21:39	20:40	19:28	49	18:20 (1)	56	17:22	56	14:24 (2)	16:36	143	14:31 (2)	16:33	132	14:37 (2)
28	08:27		09:57 (4)		07:30			06:26	16:57 (1)	06:18	05:30	05:21	05:54	06:43	07:34		17:30 (1)		07:26		13:27 (2)	08:19		09:22 (4)	08:48		09:37 (4)
	17:19	103	14:59 (2)	18:16				19:05	17:25 (1)	20:58	21:44	22:03	21:37	20:38	19:26	50	18:20 (1)	58	17:20	58	14:25 (2)	16:35	144	14:31 (2)	16:34	132	14:38 (2)
29	08:25		11:08 (3)					07:23	17:59 (1)	06:16	05:29	05:22	05:55	06:45	07:35		17:30 (1)		07:27		13:26 (2)	08:21		09:23 (4)	08:48		09:37 (4)
	17:20	84	14:59 (2)					20:07	18:23 (1)	21:00	21:45	22:03	21:36	20:35	19:24	50	18:20 (1)	60	17:19	60	14:26 (2)	16:34	143	14:31 (2)	16:35	134	14:39 (2)
30	08:24		13:48 (2)					07:21	18:03 (1)	06:14	05:28	05:23	05:57	06:46	07:37		17:30 (1)		07:29		13:25 (2)	08:22		09:23 (4)	08:48		09:38 (4)
	17:22	71	14:59 (2)					20:08	18:20 (1)	21:01	21:46	22:03	21:34	20:33	19:21	48	18:18 (1)	61	17:17	61	14:26 (2)	16:33	144	14:31 (2)	16:36	135	14:40 (2)
31	08:22		13:48 (2)					07:19	18:07 (1)		05:27		05:58	06:48					07:31		13:24 (2)				08:48		09:37 (4)
	17:24	72	15:00 (2)					20:10	18:14 (1)		21:48		21:33	20:31					17:15	63	14:27 (2)				16:37	134	14:39 (2)
Potential sun hours	259			277		367		416	485	499	502	454	381			331				266			243			
Total, worst case		4041		1255		1185								732			1060			3190				4188	
Sun reduction		0,24		0,30		0,33								0,36			0,34			0,24				0,20	
Oper. time red.		0,95		0,95		0,95								0,95			0,95			0,95				0,95	
Wind dir. red.		0,65		0,69		0,65								0,65			0,67			0,66				0,64	
Total reduction		0,15		0,20		0,20								0,22			0,21			0,15				0,12	
Total, real		596		248		241								163			227			473				520	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:35/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN149@164Shadow receptor: AN - 3997ML142

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March	April	May	June	July	August	September	October	November	December
1	08:48	09:59 (1)	08:21	09:00 (3)	07:27	07:17	06:12	05:26	05:23	06:00	06:50	07:39	07:33	08:24
	16:38 39	10:38 (1)	17:26 93	10:51 (1)	18:18	20:12	21:03	21:49	22:03	21:31	20:29	19:19	17:13 22	16:32 58
2	08:48	09:59 (1)	08:19	09:00 (3)	07:25	07:14	06:10	05:25	05:24	06:01	06:51	07:41	07:35	09:45 (1)
	16:39 40	10:39 (1)	17:28 91	10:50 (1)	18:20	20:14	21:05	21:50	22:03	21:29	20:27	19:17	17:11 27	10:12 (1)
3	08:48	09:59 (1)	08:18	09:01 (3)	07:23	07:12	06:08	05:25	05:25	06:03	06:53	07:42	07:36	09:00 (2)
	16:40 41	10:40 (1)	17:30 86	10:50 (1)	18:21	20:15	21:06	21:51	22:02	21:28	20:24	19:15	17:09 39	10:14 (1)
4	08:47	09:59 (1)	08:16	09:02 (3)	07:21	07:10	06:06	05:24	05:25	06:05	06:55	07:44	07:38	08:38 (3)
	16:41 41	10:40 (1)	17:32 82	10:49 (1)	18:23	20:17	21:08	21:52	22:02	21:26	20:22	19:12	17:07 53	10:16 (1)
5	08:47	09:59 (1)	08:14	09:03 (3)	07:19	07:07	06:04	05:23	05:26	06:06	06:56	07:46	07:40	08:34 (3)
	16:43 42	10:41 (1)	17:33 75	10:48 (1)	18:25	20:19	21:10	21:53	22:01	21:24	20:20	19:10	17:06 67	10:17 (1)
6	08:47	09:59 (1)	08:13	09:05 (3)	07:16	07:05	06:02	05:23	05:27	06:08	06:58	07:47	07:42	08:33 (3)
	16:44 43	10:42 (1)	17:35 65	10:47 (1)	18:27	20:20	21:11	21:54	22:01	21:22	20:17	19:08	17:04 75	10:18 (1)
7	08:46	10:00 (1)	08:11	09:09 (3)	07:14	07:03	06:01	05:22	05:28	06:09	07:00	07:49	07:44	08:32 (3)
	16:45 43	10:43 (1)	17:37 51	10:46 (1)	18:29	20:22	21:13	21:55	22:00	21:21	20:15	19:05	17:02 82	10:19 (1)
8	08:46	09:59 (1)	08:09	09:31 (2)	07:12	07:01	05:59	05:21	05:29	06:11	07:01	07:51	07:45	08:31 (3)
	16:46 44	10:43 (1)	17:39 37	10:44 (1)	18:30	20:24	21:15	21:56	22:00	21:19	20:13	19:03	17:01 88	10:20 (1)
9	08:46	10:00 (1)	08:08	10:15 (1)	07:10	06:58	05:57	05:21	05:30	06:12	07:03	07:52	07:47	08:31 (3)
	16:48 45	10:45 (1)	17:41 27	10:42 (1)	18:32	20:26	21:16	21:57	21:59	21:17	20:10	19:01	16:59 90	10:21 (1)
10	08:45	09:24 (2)	08:06	10:18 (1)	07:07	06:56	05:55	05:21	05:31	06:14	07:04	07:54	07:49	08:30 (3)
	16:49 53	10:45 (1)	17:43 21	10:39 (1)	18:34	20:27	21:18	21:58	21:58	21:15	20:08	18:59	16:57 94	10:22 (1)
11	08:44	09:22 (2)	08:04	10:21 (1)	07:05	06:54	05:54	05:20	05:32	06:16	07:06	07:56	07:51	08:30 (3)
	16:51 57	10:45 (1)	17:45 14	10:35 (1)	18:36	20:29	21:19	21:58	21:57	21:13	20:06	18:56	16:56 96	10:23 (1)
12	08:44	09:21 (2)	08:02		07:03	06:52	05:52	05:20	05:33	06:17	07:08	07:57	07:53	08:30 (3)
	16:52 61	10:46 (1)	17:46		18:37	20:31	21:21	21:59	21:57	21:11	20:04	18:54	16:54 97	10:23 (1)
13	08:43	09:20 (2)	08:00		07:01	06:49	05:50	05:20	05:34	06:19	07:09	07:59	07:54	08:31 (3)
	16:54 63	10:46 (1)	17:48		18:39	20:32	21:23	22:00	21:56	21:09	20:01	18:52	16:53 97	10:24 (1)
14	08:42	09:20 (2)	07:58		06:58	06:47	05:49	05:19	05:35	06:20	07:11	08:01	07:56	08:31 (3)
	16:55 67	10:48 (1)	17:50		18:41	20:34	21:24	22:00	21:55	21:07	19:59	18:50	16:51 98	10:24 (1)
15	08:42	09:20 (2)	07:56		06:56	06:45	05:47	05:19	05:36	06:22	07:13	08:03	07:58	08:31 (3)
	16:57 69	10:49 (1)	17:52		18:43	20:36	21:26	22:01	21:54	21:05	19:57	18:48	16:50 99	10:25 (1)
16	08:41	09:19 (2)	07:54		06:54	06:43	05:46	05:19	05:38	06:24	07:14	08:04	08:00	08:32 (3)
	16:58 71	10:49 (1)	17:54		18:44	20:38	21:27	22:01	21:53	21:03	19:54	18:45	16:48 98	10:25 (1)
17	08:40	09:18 (2)	07:52		06:51	06:41	05:44	05:19	05:39	06:25	07:16	08:06	08:01	08:33 (3)
	17:00 73	10:49 (1)	17:56		18:46	20:39	21:29	22:02	21:52	21:01	19:52	18:43	16:47 99	10:26 (1)
18	08:39	09:18 (2)	07:50		06:49	06:38	05:43	05:19	05:40	06:27	07:17	08:08	08:03	08:34 (3)
	17:01 75	10:50 (1)	17:58		18:48	20:41	21:30	22:02	21:51	20:59	19:49	18:41	16:46 98	10:26 (1)
19	08:38	09:06 (3)	07:48		06:47	06:36	05:41	05:19	05:41	06:29	07:19	08:10	08:05	08:35 (3)
	17:03 78	10:50 (1)	17:59		18:50	20:43	21:32	22:03	21:49	20:57	19:47	18:39	16:44 95	10:26 (1)
20	08:37	09:05 (3)	07:46		06:44	06:34	05:40	05:19	05:43	06:30	07:21	08:11	08:06	08:37 (3)
	17:05 84	10:51 (1)	18:01		18:51	20:44	21:33	22:03	21:48	20:55	19:45	18:37	16:43 92	10:26 (1)
21	08:36	09:04 (3)	07:44		06:42	06:32	05:38	05:19	05:44	06:32	07:22	08:13	08:08	08:39 (3)
	17:06 87	10:51 (1)	18:03		18:53	20:46	21:35	22:03	21:47	20:53	19:42	18:35	16:42 87	10:26 (1)
22	08:35	09:02 (3)	07:42		06:40	06:30	05:37	05:19	05:45	06:33	07:24	08:15	08:10	08:41 (3)
	17:08 92	10:51 (1)	18:05		18:55	20:48	21:36	22:03	21:46	20:51	19:40	18:33	16:41 84	10:27 (1)
23	08:33	09:01 (3)	07:40		06:37	06:28	05:36	05:20	05:47	06:35	07:26	08:17	08:11	08:43 (3)
	17:10 95	10:52 (1)	18:07		18:56	20:49	21:37	22:04	21:44	20:49	19:38	18:31	16:40 78	10:27 (1)
24	08:32	09:00 (3)	07:38		06:35	06:26	05:35	05:20	05:48	06:37	07:27	08:18	08:13	08:56 (2)
	17:12 98	10:52 (1)	18:09		18:58	20:51	21:39	22:04	21:43	20:46	19:35	18:29	16:39 75	10:28 (1)
25	08:31	08:59 (3)	07:36		06:33	06:24	05:33	05:20	05:49	06:38	07:29	07:20	08:15	08:56 (2)
	17:13 99	10:52 (1)	18:10		19:00	20:53	21:40	22:04	21:42	20:44	19:33	17:26	16:37 73	10:27 (1)
26	08:30	08:59 (3)	07:34		06:31	06:22	05:32	05:21	05:51	06:40	07:31	07:22	08:16	08:57 (2)
	17:15 100	10:53 (1)	18:12		19:02	20:55	21:42	22:04	21:40	20:42	19:31	17:24	16:37 71	10:27 (1)
27	08:28	08:58 (3)	07:32		06:28	06:20	05:31	05:21	05:52	06:42	07:32	07:24	08:18	08:59 (2)
	17:17 99	10:52 (1)	18:14		19:03	20:56	21:43	22:04	21:39	20:40	19:28	17:22	16:36 69	10:28 (1)
28	08:27	08:59 (3)	07:30		06:26	06:18	05:30	05:22	05:54	06:43	07:34	07:26	08:19	08:59 (2)
	17:19 99	10:53 (1)	18:16		19:05	20:58	21:44	22:04	21:37	20:38	19:26	17:21	16:35 67	10:27 (1)
29	08:25	08:59 (3)			07:24	06:16	05:29	05:22	05:55	06:45	07:36	07:27	08:21	09:01 (2)
	17:20 98	10:52 (1)			20:07	21:00	21:45	22:03	21:36	20:35	19:24	17:19	16:34 64	10:28 (1)
30	08:24	08:58 (3)			07:21	06:14	05:28	05:23	05:57	06:46	07:37	07:29	08:22	09:03 (2)
	17:22 97	10:51 (1)			20:08	21:01	21:47	22:03	21:34	20:33	19:21	17:17	16:33 61	10:28 (1)
31	08:22	08:59 (3)			07:19		05:27		05:58	06:48		07:31 09:50 (1)		08:48
	17:24 97	10:52 (1)			20:10		21:48		21:33	20:31		17:15 16 10:06 (1)		16:37 39
Potential sun hours	259		277		367	416	485	499	502	454	381	331	266	243
Total, worst case	2190		642									16	2335	1235
Sun reduction	0,24		0,30									0,34	0,24	0,20
Oper. time red.	0,95		0,95									0,95	0,95	0,95
Wind dir. red.	0,60		0,59									0,60	0,59	0,60
Total reduction	0,14		0,17									0,19	0,13	0,12
Total, real	297		110									3	311	144

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:35/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN149@164Shadow receptor: AO - 3997ML144

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March	April	May	June	July	August	September	October	November		December	
1	08:48		10:03 (1)	08:21		09:01 (3)	07:27	07:17	06:12	05:26	05:23	06:00	06:50	07:39	07:33	09:55 (1)	08:24	09:05 (2)
	16:38	42	10:45 (1)	17:26	92	10:56 (1)	18:18	20:12	21:03	21:49	22:03	21:31	20:29	19:19	17:13	10:12 (1)	16:32	10:34 (1)
2	08:48		10:03 (1)	08:19		09:02 (3)	07:25	07:14	06:10	05:25	05:24	06:01	06:51	07:41	07:35	09:52 (1)	08:25	09:07 (2)
	16:39	43	10:46 (1)	17:28	88	10:55 (1)	18:20	20:14	21:05	21:50	22:03	21:29	20:27	19:17	17:11	10:16 (1)	16:32	10:35 (1)
3	08:48		10:04 (1)	08:18		09:04 (3)	07:23	07:12	06:08	05:25	05:25	06:03	06:53	07:42	07:36	09:50 (1)	08:27	09:08 (2)
	16:40	43	10:47 (1)	17:30	82	10:55 (1)	18:21	20:15	21:06	21:51	22:02	21:28	20:24	19:15	17:09	10:18 (1)	16:31	10:34 (1)
4	08:47		10:03 (1)	08:16		09:04 (3)	07:21	07:10	06:06	05:24	05:25	06:04	06:55	07:44	07:38	09:02 (2)	08:28	09:10 (2)
	16:41	44	10:47 (1)	17:32	78	10:54 (1)	18:23	20:17	21:08	21:52	22:02	21:26	20:22	19:12	17:07	10:20 (1)	16:31	10:35 (1)
5	08:47		10:04 (1)	08:14		09:06 (3)	07:19	07:07	06:04	05:23	05:26	06:06	06:56	07:46	07:40	08:37 (3)	08:29	09:13 (2)
	16:43	44	10:48 (1)	17:33	69	10:53 (1)	18:25	20:19	21:10	21:53	22:01	21:24	20:20	19:10	17:06	10:21 (1)	16:30	10:35 (1)
6	08:47		10:03 (1)	08:13		09:08 (3)	07:16	07:05	06:02	05:23	05:27	06:08	06:58	07:47	07:42	08:35 (3)	08:31	09:49 (1)
	16:44	46	10:49 (1)	17:35	58	10:51 (1)	18:27	20:20	21:11	21:54	22:01	21:22	20:17	19:08	17:04	10:23 (1)	16:30	10:35 (1)
7	08:46		09:28 (2)	08:11		09:33 (2)	07:14	07:03	06:01	05:22	05:28	06:09	07:00	07:49	07:44	08:34 (3)	08:32	09:51 (1)
	16:45	49	10:50 (1)	17:37	40	10:50 (1)	18:29	20:22	21:13	21:55	22:00	21:21	20:15	19:05	17:02	10:24 (1)	16:29	10:35 (1)
8	08:46		09:26 (2)	08:09		10:20 (1)	07:12	07:01	05:59	05:21	05:29	06:11	07:01	07:51	07:45	08:33 (3)	08:33	09:51 (1)
	16:46	54	10:50 (1)	17:39	28	10:48 (1)	18:30	20:24	21:15	21:56	22:00	21:19	20:13	19:03	17:01	10:25 (1)	16:29	10:35 (1)
9	08:46		09:25 (2)	08:08		10:23 (1)	07:10	06:58	05:57	05:21	05:30	06:12	07:03	07:52	07:47	08:33 (3)	08:34	09:52 (1)
	16:48	58	10:51 (1)	17:41	22	10:45 (1)	18:32	20:26	21:16	21:57	21:59	21:17	20:10	19:01	16:59	10:26 (1)	16:29	10:35 (1)
10	08:45		09:24 (2)	08:06		10:26 (1)	07:07	06:56	05:55	05:21	05:31	06:14	07:04	07:54	07:49	08:32 (3)	08:36	09:52 (1)
	16:49	62	10:52 (1)	17:43	16	10:42 (1)	18:34	20:27	21:18	21:58	21:58	21:15	20:08	18:59	16:57	10:27 (1)	16:28	10:35 (1)
11	08:44		09:23 (2)	08:04			07:05	06:54	05:54	05:20	05:32	06:16	07:06	07:56	07:51	08:32 (3)	08:37	09:54 (1)
	16:51	64	10:52 (1)	17:45			18:36	20:29	21:19	21:58	21:57	21:13	20:06	18:56	16:56	10:28 (1)	16:28	10:36 (1)
12	08:44		09:22 (2)	08:02			07:03	06:52	05:52	05:20	05:33	06:17	07:08	07:57	07:53	08:32 (3)	08:38	09:54 (1)
	16:52	68	10:53 (1)	17:46			18:37	20:31	21:21	21:59	21:57	21:11	20:04	18:54	16:54	10:29 (1)	16:28	10:37 (1)
13	08:43		09:21 (2)	08:00			07:01	06:49	05:50	05:20	05:34	06:19	07:09	07:59	07:54	08:32 (3)	08:39	09:55 (1)
	16:53	70	10:53 (1)	17:48			18:39	20:32	21:23	22:00	21:56	21:09	20:01	18:52	16:53	10:29 (1)	16:28	10:37 (1)
14	08:42		09:22 (2)	07:58			06:58	06:47	05:49	05:19	05:35	06:20	07:11	08:01	07:56	08:32 (3)	08:40	09:56 (1)
	16:55	72	10:55 (1)	17:50			18:41	20:34	21:24	22:00	21:55	21:07	19:59	18:50	16:51	10:30 (1)	16:28	10:37 (1)
15	08:42		09:21 (2)	07:56			06:56	06:45	05:47	05:19	05:36	06:22	07:13	08:03	07:58	08:33 (3)	08:41	09:55 (1)
	16:57	73	10:55 (1)	17:52			18:43	20:36	21:26	22:01	21:54	21:05	19:57	18:48	16:50	10:31 (1)	16:28	10:36 (1)
16	08:41		09:21 (2)	07:54			06:54	06:43	05:46	05:19	05:38	06:24	07:14	08:04	08:00	08:33 (3)	08:41	09:56 (1)
	16:58	75	10:56 (1)	17:54			18:44	20:38	21:27	22:01	21:53	21:03	19:54	18:45	16:48	10:31 (1)	16:28	10:37 (1)
17	08:40		09:20 (2)	07:52			06:51	06:41	05:44	05:19	05:39	06:25	07:16	08:06	08:01	08:34 (3)	08:42	09:57 (1)
	17:00	76	10:55 (1)	17:56			18:46	20:39	21:29	22:02	21:52	21:01	19:52	18:43	16:47	10:32 (1)	16:28	10:37 (1)
18	08:39		09:07 (3)	07:50			06:49	06:38	05:43	05:19	05:40	06:27	07:17	08:08	08:03	08:35 (3)	08:43	09:58 (1)
	17:01	81	10:56 (1)	17:58			18:48	20:41	21:30	22:02	21:51	20:59	19:49	18:41	16:46	10:32 (1)	16:29	10:38 (1)
19	08:38		09:06 (3)	07:48			06:47	06:36	05:41	05:19	05:41	06:29	07:19	08:10	08:05	08:35 (3)	08:44	09:59 (1)
	17:03	85	10:56 (1)	17:59			18:50	20:43	21:32	22:03	21:49	20:57	19:47	18:39	16:44	10:32 (1)	16:29	10:39 (1)
20	08:37		09:05 (3)	07:46			06:44	06:34	05:40	05:19	05:43	06:30	07:21	08:11	08:06	08:37 (3)	08:44	09:59 (1)
	17:05	90	10:57 (1)	18:01			18:51	20:44	21:33	22:03	21:48	20:55	19:45	18:37	16:43	10:32 (1)	16:29	10:39 (1)
21	08:36		09:04 (3)	07:44			06:42	06:32	05:38	05:19	05:44	06:32	07:22	08:13	08:08	08:39 (3)	08:45	10:00 (1)
	17:06	94	10:58 (1)	18:03			18:53	20:46	21:35	22:03	21:47	20:53	19:42	18:35	16:42	10:33 (1)	16:30	10:39 (1)
22	08:35		09:02 (3)	07:42			06:40	06:30	05:37	05:19	05:45	06:33	07:24	08:15	08:10	08:41 (3)	08:45	10:00 (1)
	17:08	97	10:57 (1)	18:05			18:55	20:48	21:36	22:03	21:46	20:51	19:40	18:33	16:41	10:33 (1)	16:30	10:39 (1)
23	08:33		09:01 (3)	07:40			06:37	06:28	05:36	05:20	05:47	06:35	07:26	08:17	08:11	08:43 (3)	08:46	10:01 (1)
	17:10	99	10:58 (1)	18:07			18:56	20:49	21:37	22:04	21:44	20:49	19:38	18:31	16:40	10:33 (1)	16:31	10:41 (1)
24	08:32		09:01 (3)	07:38			06:35	06:26	05:35	05:20	05:48	06:37	07:27	08:18	08:13	08:45 (3)	08:46	10:01 (1)
	17:12	100	10:58 (1)	18:09			18:58	20:51	21:39	22:04	21:43	20:46	19:35	18:29	16:39	10:34 (1)	16:31	10:41 (1)
25	08:31		09:00 (3)	07:36			06:33	06:24	05:33	05:20	05:49	06:38	07:29	07:20	08:15	08:58 (2)	08:47	10:01 (1)
	17:13	101	10:58 (1)	18:10			19:00	20:53	21:40	22:04	21:42	20:44	19:33	17:26	16:37	10:33 (1)	16:32	10:41 (1)
26	08:30		09:00 (3)	07:34			06:31	06:22	05:32	05:21	05:51	06:40	07:31	07:22	08:16	08:59 (2)	08:47	10:01 (1)
	17:15	102	10:58 (1)	18:12			19:02	20:55	21:42	22:04	21:40	20:42	19:31	17:24	16:37	10:34 (1)	16:33	10:41 (1)
27	08:28		09:00 (3)	07:32			06:28	06:20	05:31	05:21	05:52	06:42	07:32	07:24	08:18	09:00 (2)	08:47	10:02 (1)
	17:17	101	10:58 (1)	18:14			19:03	20:56	21:43	22:04	21:39	20:40	19:28	17:22	16:36	10:34 (1)	16:33	10:43 (1)
28	08:27		09:00 (3)	07:30			06:26	06:18	05:30	05:22	05:54	06:43	07:34	07:26	08:19	09:01 (2)	08:48	10:02 (1)
	17:19	100	10:58 (1)	18:16			19:05	20:58	21:44	22:04	21:37	20:38	19:26	17:21	16:35	10:34 (1)	16:34	10:43 (1)
29	08:25		09:00 (3)				07:24	06:16	05:29	05:22	05:55	06:45	07:36	07:27	08:21	09:02 (2)	08:48	10:03 (1)
	17:20	99	10:58 (1)				20:07	21:00	21:45	22:03	21:36	20:35	19:24	17:19	16:34	10:34 (1)	16:35	10:44 (1)
30	08:24		09:00 (3)				07:21	06:14	05:28	05:23	05:57	06:46	07:37	07:29	08:22	09:04 (2)	08:48	10:03 (1)
	17:22	98	10:57 (1)				20:08	21:01	21:47	22:03	21:34	20:33	19:21	17:17	16:33	10:35 (1)	16:36	10:44 (1)
31	08:22		09:01 (3)				07:19		05:27		05:58	06:48		07:31	10:00 (1)		08:48	10:03 (1)
	17:24	96	10:57 (1)				20:10		21:48		21:33	20:31		17:15	7 10:07 (1)		16:37	10:45 (1)
Potential sun hours	259			277			367	416	485	499	502	454	381	331			243	
Total, worst case		2326			573										7	2361		1363
Sun reduction		0,24			0,30										0,34	0,24		0,20
Oper. time red.		0,95			0,95										0,95	0,95		0,95
Wind dir. red.		0,60			0,60										0,61	0,60		0,61
Total reduction		0,14			0,17										0,19	0,13		0,12
Total, real		316			98										1	316		160

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:35/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN149@164Shadow receptor: AP - 3998NL69

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	08:12 (4) | 06:12	07:23 (3) | 05:26	07:08 (3) | 05:23	07:15 (3) | 06:00	07:22 (3) | 06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12 35	08:47 (4) | 21:03 48	08:11 (3) | 21:49 74	08:22 (3) | 22:03 72	08:27 (3) | 21:31 68	08:30 (3) | 20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	08:12 (4) | 06:10	07:21 (3) | 05:25	07:08 (3) | 05:24	07:15 (3) | 06:01	07:22 (3) | 06:51	07:40	07:35	08:25
	16:39	17:28	18:20	20:14 35	08:47 (4) | 21:05 51	08:12 (3) | 21:50 74	08:22 (3) | 22:02 73	08:28 (3) | 21:29 67	08:29 (3) | 20:26	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	08:13 (4) | 06:08	07:19 (3) | 05:25	07:09 (3) | 05:25	07:15 (3) | 06:03	07:23 (3) | 06:53	08:20 (4) | 07:42	07:36	08:27
	16:40	17:30	18:21	20:15 33	08:46 (4) | 21:06 54	08:13 (3) | 21:51 74	08:23 (3) | 22:02 72	08:27 (3) | 21:28 66	08:29 (3) | 20:24 9	08:29 (4) | 19:14	17:09	16:31
4	08:47	08:16	07:21	07:10	08:13 (4) | 06:06	07:18 (3) | 05:24	07:09 (3) | 05:25	07:15 (3) | 06:04	07:23 (3) | 06:55	08:16 (4) | 07:44	07:38	08:28
	16:41	17:32	18:23	20:17 31	08:44 (4) | 21:08 57	08:15 (3) | 21:52 74	08:23 (3) | 22:02 73	08:28 (3) | 21:26 65	08:28 (3) | 20:22 17	08:33 (4) | 19:12	17:07	16:31
5	08:47	08:14	07:19	07:07	08:14 (4) | 06:04	07:17 (3) | 05:23	07:09 (3) | 05:26	07:15 (3) | 06:06	07:24 (3) | 06:56	08:13 (4) | 07:46	07:40	08:29
	16:43	17:33	18:25	20:19 28	08:42 (4) | 21:10 58	08:15 (3) | 21:53 73	08:22 (3) | 22:01 73	08:28 (3) | 21:24 63	08:27 (3) | 20:20 21	08:34 (4) | 19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	08:15 (4) | 06:02	07:15 (3) | 05:23	07:09 (3) | 05:27	07:16 (3) | 06:08	07:25 (3) | 06:58	08:11 (4) | 07:47	07:42	08:31
	16:44	17:35	18:27	20:20 26	08:41 (4) | 21:11 61	08:16 (3) | 21:54 74	08:23 (3) | 22:01 73	08:29 (3) | 21:22 61	08:26 (3) | 20:17 26	08:37 (4) | 19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	08:17 (4) | 06:01	07:15 (3) | 05:22	07:09 (3) | 05:28	07:16 (3) | 06:09	07:25 (3) | 06:59	08:09 (4) | 07:49	07:44	08:32
	16:45	17:37	18:28	20:22 21	08:38 (4) | 21:13 62	08:17 (3) | 21:55 73	08:22 (3) | 22:00 73	08:29 (3) | 21:20 60	08:25 (3) | 20:15 28	08:37 (4) | 19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	08:18 (4) | 05:59	07:14 (3) | 05:21	07:10 (3) | 05:29	07:15 (3) | 06:11	07:27 (3) | 07:01	08:08 (4) | 07:51	07:45	08:33
	16:46	17:39	18:30	20:24 17	08:35 (4) | 21:14 63	08:17 (3) | 21:56 73	08:23 (3) | 21:59 74	08:29 (3) | 21:19 57	08:24 (3) | 20:13 31	08:39 (4) | 19:03	17:00	16:29
9	08:45	08:07	07:10	06:58	08:22 (4) | 05:57	07:13 (3) | 05:21	07:10 (3) | 05:30	07:15 (3) | 06:12	07:27 (3) | 07:03	08:06 (4) | 07:52	07:47	08:34
	16:48	17:41	18:32	20:25 9	08:31 (4) | 21:16 65	08:18 (3) | 21:57 73	08:23 (3) | 21:59 74	08:29 (3) | 21:17 56	08:23 (3) | 20:10 33	08:39 (4) | 19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55	07:12 (3) | 05:21	07:10 (3) | 05:31	07:16 (3) | 06:14	07:29 (3) | 07:04	08:06 (4) | 07:54	07:49	08:35
	16:49	17:43	18:34	20:27	21:18 67	08:19 (3) | 21:57 73	08:23 (3) | 21:58 73	08:29 (3) | 21:15 53	08:22 (3) | 20:08 34	08:40 (4) | 18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54	07:11 (3) | 05:20	07:10 (3) | 05:32	07:16 (3) | 06:16	07:30 (3) | 07:06	08:04 (4) | 07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19 68	08:19 (3) | 21:58 73	08:23 (3) | 21:57 74	08:30 (3) | 21:13 50	08:20 (3) | 20:06 36	08:40 (4) | 18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52	07:11 (3) | 05:20	07:11 (3) | 05:33	07:16 (3) | 06:17	07:31 (3) | 07:08	08:04 (4) | 07:57	07:52	08:38
	16:52	17:46	18:37	20:31	21:21 69	08:20 (3) | 21:59 72	08:23 (3) | 21:56 74	08:30 (3) | 21:11 48	08:19 (3) | 20:03 36	08:40 (4) | 18:54	16:54	16:28
13	08:43	08:00	07:00	06:49	05:50	07:10 (3) | 05:20	07:11 (3) | 05:34	07:16 (3) | 06:19	07:32 (3) | 07:09	08:03 (4) | 07:59	07:54	08:39
	16:53	17:48	18:39	20:32	21:22 70	08:20 (3) | 22:00 73	08:24 (3) | 21:56 74	08:30 (3) | 21:09 45	08:17 (3) | 20:01 38	08:41 (4) | 18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49	07:10 (3) | 05:19	07:11 (3) | 05:35	07:16 (3) | 06:20	07:34 (3) | 07:11	08:02 (4) | 08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24 70	08:20 (3) | 22:00 72	08:23 (3) | 21:55 74	08:30 (3) | 21:07 42	08:16 (3) | 19:59 38	08:40 (4) | 18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47	07:09 (3) | 05:19	07:11 (3) | 05:36	07:17 (3) | 06:22	07:37 (3) | 07:13	08:02 (4) | 08:03	07:58	08:40
	16:57	17:52	18:43	20:36	21:26 71	08:20 (3) | 22:01 72	08:23 (3) | 21:54 74	08:31 (3) | 21:05 37	08:14 (3) | 19:56 38	08:40 (4) | 18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46	07:09 (3) | 05:19	07:11 (3) | 05:38	07:17 (3) | 06:24	07:38 (3) | 07:14	08:01 (4) | 08:04	08:00	08:41
	16:58	17:54	18:44	20:37	21:27 72	08:21 (3) | 22:01 72	08:23 (3) | 21:53 74	08:31 (3) | 21:03 33	08:11 (3) | 19:54 38	08:39 (4) | 18:45	16:48	16:28
17	08:40	07:52	06:51 07:29 (4) | 06:41	05:44	07:09 (3) | 05:19	07:12 (3) | 05:39	07:17 (3) | 06:25	07:41 (3) | 07:16	08:02 (4) | 08:06	08:01	08:42
	17:00	17:56	18:46 12 07:41 (4) | 20:39	21:29 72	08:21 (3) | 22:02 72	08:24 (3) | 21:52 74	08:31 (3) | 21:01 27	08:08 (3) | 19:52 37	08:39 (4) | 18:43	16:47	16:28
18	08:39	07:50	06:49 07:26 (4) | 06:38	05:43	07:08 (3) | 05:19	07:12 (3) | 05:40	07:17 (3) | 06:27	07:44 (3) | 07:17	08:02 (4) | 08:08	08:03	08:43
	17:01	17:58	18:48 18 07:44 (4) | 20:41	21:30 73	08:21 (3) | 22:02 72	08:24 (3) | 21:50 74	08:31 (3) | 20:59 20	08:04 (3) | 19:49 37	08:39 (4) | 18:41	16:46	16:29
19	08:38	07:48	06:47 07:23 (4) | 06:36	05:41	07:08 (3) | 05:19	07:12 (3) | 05:41	07:17 (3) | 06:29	07:19	08:02 (4) | 08:10	08:05	08:44
	17:03	17:59	18:49 23 07:46 (4) | 20:43	21:32 73	08:21 (3) | 22:02 72	08:24 (3) | 21:49 74	08:31 (3) | 20:57	19:47 35	08:37 (4) | 18:39	16:44	16:29
20	08:37	07:46	06:44 07:21 (4) | 06:34	05:40	07:08 (3) | 05:19	07:13 (3) | 05:43	07:18 (3) | 06:30	07:21	08:02 (4) | 08:11	08:06	08:44
	17:05	18:01	18:51 26 07:47 (4) | 20:44	21:33 74	08:22 (3) | 22:03 72	08:25 (3) | 21:48 74	08:32 (3) | 20:55	19:45 34	08:36 (4) | 18:37	16:43	16:29
21	08:36	07:44	06:42 07:19 (4) | 06:32	05:38	07:09 (3) | 05:19	07:13 (3) | 05:44	07:18 (3) | 06:32	07:22	08:02 (4) | 08:13	08:08	08:45
	17:06	18:03	18:53 30 07:49 (4) | 20:46	21:35 73	08:22 (3) | 22:03 72	08:25 (3) | 21:47 74	08:32 (3) | 20:53	19:42 33	08:35 (4) | 18:35	16:42	16:30
22	08:34	07:42	06:40 07:17 (4) | 06:30	05:37	07:08 (3) | 05:19	07:13 (3) | 05:45	07:18 (3) | 06:33	07:24	08:04 (4) | 08:15	08:10	08:45
	17:08	18:05	18:55 32 07:49 (4) | 20:48	21:36 73	08:21 (3) | 22:03 72	08:25 (3) | 21:46 74	08:32 (3) | 20:51	19:40 30	08:34 (4) | 18:33	16:41	16:30
23	08:33	07:40	06:37 07:16 (4) | 06:28	05:36	07:08 (3) | 05:20	07:13 (3) | 05:47	07:18 (3) | 06:35	07:26	08:05 (4) | 08:17	08:11	08:46
	17:10	18:07	18:56 34 07:50 (4) | 20:49	21:37 74	08:22 (3) | 22:03 72	08:25 (3) | 21:44 73	08:31 (3) | 20:49	19:38 27	08:32 (4) | 18:31	16:40	16:31
24	08:32	07:38	06:35 07:15 (4) | 06:26 07:44 (3) | 05:35	07:08 (3) | 05:20	07:14 (3) | 05:48	07:19 (3) | 06:37	07:27	08:06 (4) | 08:18	08:13	08:46
	17:12	18:09	18:58 35 07:50 (4) | 20:51 8 07:52 (3) | 21:39	74 08:22 (3) | 22:04	72 08:26 (3) | 21:43	73 08:32 (3) | 20:46	19:35 24	08:30 (4) | 18:28	16:38	16:31
25	08:31	07:36	06:33 07:14 (4) | 06:24 07:37 (3) | 05:33	07:08 (3) | 05:20	07:14 (3) | 05:49	07:19 (3) | 06:38	07:29	08:08 (4) | 07:20	08:15	08:47
	17:13	18:10	19:00 36 07:50 (4) | 20:53 21 07:58 (3) | 21:40	74 08:22 (3) | 22:04	72 08:26 (3) | 21:42	73 08:32 (3) | 20:44	19:33 20	08:28 (4) | 17:26	16:37	16:32
26	08:29	07:34	06:30 07:13 (4) | 06:22 07:33 (3) | 05:32	07:08 (3) | 05:21	07:13 (3) | 05:51	07:19 (3) | 06:40	07:31	08:11 (4) | 07:22	08:16	08:47
	17:15	18:12	19:02 37 07:50 (4) | 20:54 28 08:01 (3) | 21:41	74 08:22 (3) | 22:04	72 08:25 (3) | 21:40	72 08:31 (3) | 20:42	19:31 14	08:25 (4) | 17:24	16:37	16:33
27	08:28	07:32	06:28 07:13 (4) | 06:20 07:31 (3) | 05:31	07:08 (3) | 05:21	07:14 (3) | 05:52	07:20 (3) | 06:42	07:32	07:24	08:18	08:47
	17:17	18:14	19:03 38 07:51 (4) | 20:56 34 08:05 (3) | 21:43	74 08:22 (3) | 22:04	72 08:26 (3) | 21:39	72 08:32 (3) | 20:40	19:28	17:22	16:36	16:33
28	08:27	07:30	06:26 07:12 (4) | 06:18 07:29 (3) | 05:30	07:08 (3) | 05:22	07:14 (3) | 05:54	07:20 (3) | 06:43	07:34	07:26	08:19	08:47
	17:19	18:16	19:05 38 07:50 (4) | 20:58 38 08:07 (3) | 21:44	74 08:22 (3) | 22:03	72 08:26 (3) | 21:37	71 08:31 (3) | 20:38	19:26	17:20	16:35	16:34
29	08:25		07:24 08:12 (4) | 06:16 07:26 (3) | 05:29	07:08 (3) | 05:22	07:15 (3) | 05:55	07:20 (3) | 06:45	07:35	07:27	08:21	08:48
	17:20		20:07 38 08:50 (4) | 21:00 43 08:09 (3) | 21:45	74 08:22 (3) | 22:03	72 08:27 (3) | 21:36	70 08:30 (3) | 20:35	19:24	17:19	16:34	16:35
30	08:24		07:21 08:12 (4) | 06:14 07:24 (3) | 05:28	07:08 (3) | 05:23	07:14 (3) | 05:57	07:21 (3) | 06:46	07:37	07:29	08:22	08:48
	17:22		20:08 37 08:49 (4) | 21:01 46 08:10 (3) | 21:46	74 08:22 (3) | 22:03	73 08:27 (3) | 21:34	70 08:31 (3) | 20:33	19:21	17:17	16:33	16:36
31	08:22		07:19 08:12 (4) |	05:27	07:09 (3) |	05:58	07:21 (3) | 06:48		07:31		08:48
	17:24		20:10 37 08:49 (4) |	21:48 74	08:23 (3) |	21:32 69	08:30 (3) | 20:31		17:15		16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case			471	453	2110	2178	2261	918	714			
Sun reduction			0,33	0,42	0,43	0,39	0,41	0,42	0,36			
Oper. time red.			0,95	0,95	0,95	0,95	0,95	0,95	0,95			
Wind dir. red.			0,60	0,61	0,63	0,63	0,63	0,63	0,60			
Total reduction			0,19	0,24	0,25	0,23	0,24	0,25	0,21			
Total, real			88	110	537	506	548	228	147			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:35/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN149@164Shadow receptor: AQ - 3998JK67

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	06:59 (2)	05:26	06:08 (1)	05:23	06:15 (1)	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03	8 07:07 (2)	21:49	28 06:36 (1)	22:03	25 06:40 (1)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10		05:26	06:08 (1)	05:24	06:15 (1)	06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05		21:50	27 06:35 (1)	22:03	26 06:41 (1)	21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08		05:25	06:09 (1)	05:25	06:16 (1)	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06		21:51	27 06:36 (1)	22:02	26 06:42 (1)	21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06		05:24	06:09 (1)	05:26	06:15 (1)	06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08		21:52	27 06:36 (1)	22:02	26 06:41 (1)	21:26	20:22	19:12	17:07	16:31
5	08:47	08:14	07:19	07:08	06:04		05:23	06:09 (1)	05:26	06:15 (1)	06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10		21:53	27 06:36 (1)	22:01	27 06:42 (1)	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02		05:23	06:09 (1)	05:27	06:16 (1)	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11		21:54	27 06:36 (1)	22:01	26 06:42 (1)	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01		05:22	06:10 (1)	05:28	06:16 (1)	06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13		21:55	27 06:37 (1)	22:00	27 06:43 (1)	21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59		05:22	06:10 (1)	05:29	06:16 (1)	06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15		21:56	26 06:36 (1)	22:00	27 06:43 (1)	21:19	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57		05:21	06:10 (1)	05:30	06:16 (1)	06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16		21:57	27 06:37 (1)	21:59	27 06:43 (1)	21:17	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55		05:21	06:10 (1)	05:31	06:15 (1)	06:14	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18		21:58	26 06:36 (1)	21:58	28 06:43 (1)	21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54		05:20	06:11 (1)	05:32	06:15 (1)	06:16	07:10 (2)	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19		21:58	25 06:36 (1)	21:57	28 06:43 (1)	21:13	4 07:14 (2)	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52		05:20	06:11 (1)	05:33	06:16 (1)	06:17	07:07 (2)	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21		21:59	26 06:37 (1)	21:57	27 06:43 (1)	21:11	10 07:17 (2)	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50		05:20	06:12 (1)	05:34	06:17 (1)	06:19	07:05 (2)	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23		22:00	25 06:37 (1)	21:56	27 06:44 (1)	21:09	14 07:19 (2)	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49		05:19	06:12 (1)	05:35	06:17 (1)	06:21	07:03 (2)	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24		22:00	25 06:37 (1)	21:55	27 06:44 (1)	21:07	16 07:19 (2)	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47	06:19 (1)	05:19	06:11 (1)	05:36	06:17 (1)	06:22	07:03 (2)	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26	3 06:22 (1)	22:01	25 06:36 (1)	21:54	27 06:44 (1)	21:05	18 07:21 (2)	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46	06:16 (1)	05:19	06:12 (1)	05:38	06:17 (1)	06:24	07:01 (2)	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27	10 06:26 (1)	22:01	25 06:37 (1)	21:53	27 06:44 (1)	21:03	20 07:21 (2)	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	07:04 (2) 05:44	06:14 (1)	05:19	06:12 (1)	05:39	06:17 (1)	06:25	07:01 (2)	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	7 07:11 (2) 21:29	14 06:28 (1)	22:02	25 06:37 (1)	21:52	27 06:44 (1)	21:01	20 07:21 (2)	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	07:02 (2) 05:43	06:12 (1)	05:19	06:12 (1)	05:40	06:17 (1)	06:27	07:00 (2)	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	11 07:13 (2) 21:30	17 06:29 (1)	22:02	25 06:37 (1)	21:51	26 06:43 (1)	20:59	21 07:21 (2)	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	07:00 (2) 05:41	06:11 (1)	05:19	06:13 (1)	05:41	06:18 (1)	06:29	07:00 (2)	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	14 07:14 (2) 21:32	19 06:30 (1)	22:03	25 06:38 (1)	21:49	25 06:43 (1)	20:57	21 07:21 (2)	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	06:58 (2) 05:40	06:11 (1)	05:19	06:14 (1)	05:43	06:19 (1)	06:30	07:00 (2)	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	17 07:15 (2) 21:33	20 06:31 (1)	22:03	24 06:38 (1)	21:48	25 06:44 (1)	20:55	20 07:20 (2)	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	06:56 (2) 05:39	06:10 (1)	05:19	06:14 (1)	05:44	06:19 (1)	06:32	07:00 (2)	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	19 07:15 (2) 21:35	22 06:32 (1)	22:03	24 06:38 (1)	21:47	24 06:43 (1)	20:53	20 07:20 (2)	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	06:56 (2) 05:37	06:09 (1)	05:19	06:14 (1)	05:45	06:19 (1)	06:34	07:00 (2)	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	20 07:16 (2) 21:36	23 06:32 (1)	22:03	24 06:38 (1)	21:46	23 06:42 (1)	20:51	19 07:19 (2)	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	06:55 (2) 05:36	06:08 (1)	05:20	06:14 (1)	05:47	06:20 (1)	06:35	07:02 (2)	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	21 07:16 (2) 21:37	25 06:33 (1)	22:04	24 06:38 (1)	21:44	21 06:41 (1)	20:49	17 07:19 (2)	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	06:55 (2) 05:35	06:08 (1)	05:20	06:14 (1)	05:48	06:21 (1)	06:37	07:03 (2)	07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	21 07:16 (2) 21:39	25 06:33 (1)	22:04	25 06:39 (1)	21:43	20 06:41 (1)	20:46	14 07:17 (2)	19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	06:55 (2) 05:34	06:08 (1)	05:20	06:14 (1)	05:50	06:22 (1)	06:38	07:05 (2)	07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	20 07:15 (2) 21:40	26 06:34 (1)	22:04	25 06:39 (1)	21:42	18 06:40 (1)	20:44	10 07:15 (2)	19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	06:55 (2) 05:32	06:08 (1)	05:21	06:14 (1)	05:51	06:23 (1)	06:40	07:07 (2)	07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	20 07:15 (2) 21:42	26 06:34 (1)	22:04	25 06:39 (1)	21:40	16 06:39 (1)	20:42	6 07:13 (2)	19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	06:55 (2) 05:31	06:08 (1)	05:21	06:15 (1)	05:52	06:25 (1)	06:42		07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	19 07:14 (2) 21:43	26 06:34 (1)	22:04	24 06:39 (1)	21:39	13 06:38 (1)	20:40		19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	06:55 (2) 05:30	06:08 (1)	05:22	06:14 (1)	05:54	06:27 (1)	06:43		07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	18 07:13 (2) 21:44	27 06:35 (1)	22:04	25 06:39 (1)	21:37	8 06:35 (1)	20:38		19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	06:56 (2) 05:29	06:07 (1)	05:22	06:15 (1)	05:55		06:45		07:36	07:27	08:21	08:48
	17:21		20:07	21:00	15 07:11 (2) 21:45	28 06:35 (1)	22:03	25 06:40 (1)	21:36		20:36		19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	06:57 (2) 05:28	06:08 (1)	05:23	06:15 (1)	05:57		06:47		07:37	07:29	08:22	08:48
	17:22		20:08	21:01	13 07:10 (2) 21:47	28 06:36 (1)	22:03	26 06:41 (1)	21:34		20:33		19:22	17:17	16:33	16:36
31	08:22		07:19		05:27	06:08 (1)			05:58		06:48			07:31		08:48
	17:24		20:10		21:48	28 06:36 (1)			21:33		20:31			17:15		16:37
Potential sun hours	259	277	367	416	485		499		502		454		381	331	266	243
Total, worst case				235	375		766		674		250					
Sun reduction				0,42	0,43		0,39		0,41		0,42					
Oper. time red.				0,95	0,95		0,95		0,95		0,95					
Wind dir. red.				0,63	0,67		0,67		0,67		0,63					
Total reduction				0,25	0,27		0,25		0,26		0,25					
Total, real				59	102		190		174		62					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:35/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN149@164Shadow receptor: AR - 3945LA1

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March	April	May	June	July	August	September	October		November		December		
1	08:48		08:21		15:54 (4)	07:27	07:16	06:12	05:26	05:23	06:00	06:50	07:39		07:33		08:24		15:32 (4)
	16:38		17:26	24	16:18 (4)	18:18	20:12	21:03	21:49	22:03	21:31	20:29	19:19		17:13		16:32	20	15:52 (4)
2	08:48		08:19		15:55 (4)	07:25	07:14	06:10	05:25	05:24	06:01	06:51	07:40		07:34		08:25		15:33 (4)
	16:39		17:28	22	16:17 (4)	18:19	20:13	21:04	21:50	22:02	21:29	20:26	19:17		17:11		16:32	19	15:52 (4)
3	08:47		08:18		15:58 (4)	07:23	07:12	06:08	05:25	05:25	06:03	06:53	07:42		07:36		08:27		15:34 (4)
	16:40		17:30	18	16:16 (4)	18:21	20:15	21:06	21:51	22:02	21:27	20:24	19:14		17:09		16:31	16	15:50 (4)
4	08:47		08:16		16:00 (4)	07:21	07:10	06:06	05:24	05:25	06:04	06:54	07:44		07:38		08:28		15:35 (4)
	16:41		17:31	14	16:14 (4)	18:23	20:17	21:08	21:52	22:02	21:26	20:22	19:12		17:07		16:30	14	15:49 (4)
5	08:47	15:54 (4)	08:14		16:03 (4)	07:18	07:07	06:04	05:23	05:26	06:06	06:56	07:45		07:40		08:29		15:37 (4)
	16:42	6 16:00 (4)	17:33	9	16:12 (4)	18:25	20:19	21:09	21:53	22:01	21:24	20:20	19:10		17:05		16:30	12	15:49 (4)
6	08:47	15:52 (4)	08:13			07:16	07:05	06:02	05:22	05:27	06:07	06:58	07:47		07:42	15:32 (4)	08:31		15:38 (4)
	16:44	10 16:02 (4)	17:35			18:27	20:20	21:11	21:54	22:01	21:22	20:17	19:08		17:04	10 15:42 (4)	16:29	10	15:48 (4)
7	08:46	15:52 (4)	08:11			07:14	07:03	06:00	05:22	05:28	06:09	06:59	07:49		07:43	15:29 (4)	08:32		15:41 (4)
	16:45	12 16:04 (4)	17:37			18:28	20:22	21:13	21:55	22:00	21:20	20:15	19:05		17:02	15 15:44 (4)	16:29	6	15:47 (4)
8	08:46	15:51 (4)	08:09			07:12	07:00	05:59	05:21	05:29	06:11	07:01	07:51		07:45	15:27 (4)	08:33		
	16:46	14 16:05 (4)	17:39			18:30	20:24	21:14	21:56	21:59	21:19	20:13	19:03		17:00	19 15:46 (4)	16:29		
9	08:45	15:50 (4)	08:07			07:09	06:58	05:57	05:21	05:30	06:12	07:03	07:52		07:47	15:26 (4)	08:34		
	16:48	16 16:06 (4)	17:41			18:32	20:25	21:16	21:57	21:59	21:17	20:10	19:01		16:59	22 15:48 (4)	16:28		
10	08:45	15:50 (4)	08:06			07:07	06:56	05:55	05:20	05:31	06:14	07:04	07:54		07:49	15:25 (4)	08:35		
	16:49	18 16:08 (4)	17:43			18:34	20:27	21:18	21:57	21:58	21:15	20:08	18:58		16:57	24 15:49 (4)	16:28		
11	08:44	15:50 (4)	08:04			07:05	06:54	05:53	05:20	05:32	06:15	07:06	07:56		07:51	15:24 (4)	08:36		
	16:50	19 16:09 (4)	17:44			18:35	20:29	21:19	21:58	21:57	21:13	20:06	18:56		16:56	26 15:50 (4)	16:28		
12	08:44	15:49 (4)	08:02			07:03	06:51	05:52	05:20	05:33	06:17	07:08	07:57		07:52	15:24 (4)	08:38		
	16:52	21 16:10 (4)	17:46			18:37	20:31	21:21	21:59	21:56	21:11	20:03	18:54		16:54	26 15:50 (4)	16:28		
13	08:43	15:49 (4)	08:00		17:09 (3)	07:00	06:49	05:50	05:19	05:34	06:19	07:09	07:59		07:54	15:23 (4)	08:39		
	16:53	22 16:11 (4)	17:48	10	17:19 (3)	18:39	20:32	21:22	21:59	21:55	21:09	20:01	18:52		16:52	28 15:51 (4)	16:28		
14	08:42	15:48 (4)	07:58		17:07 (3)	06:58	06:47	05:49	05:19	05:35	06:20	07:11	08:01	17:42 (3)	07:56	15:23 (4)	08:39		
	16:55	24 16:12 (4)	17:50	14	17:21 (3)	18:41	20:34	21:24	22:00	21:55	21:07	19:59	18:50	10 17:52 (3)	16:51	29 15:52 (4)	16:28		
15	08:41	15:48 (4)	07:56		17:05 (3)	06:56	06:45	05:47	05:19	05:36	06:22	07:12	08:02	17:38 (3)	07:58	15:23 (4)	08:40		
	16:56	25 16:13 (4)	17:52	18	17:23 (3)	18:42	20:36	21:26	22:01	21:54	21:05	19:56	18:47	15 17:53 (3)	16:50	29 15:52 (4)	16:28		
16	08:40	15:48 (4)	07:54		17:04 (3)	06:53	06:43	05:45	05:19	05:37	06:24	07:14	08:04	17:36 (3)	07:59	15:23 (4)	08:41		
	16:58	26 16:14 (4)	17:54	20	17:24 (3)	18:44	20:37	21:27	22:01	21:53	21:03	19:54	18:45	18 17:54 (3)	16:48	30 15:53 (4)	16:28		
17	08:40	15:48 (4)	07:52		17:03 (3)	06:51	06:40	05:44	05:19	05:39	06:25	07:16	08:06	17:35 (3)	08:01	15:23 (4)	08:42		
	17:00	27 16:15 (4)	17:56	22	17:25 (3)	18:46	20:39	21:29	22:02	21:51	21:01	19:52	18:43	20 17:55 (3)	16:47	30 15:53 (4)	16:28		
18	08:39	15:48 (4)	07:50		17:03 (3)	06:49	06:38	05:42	05:19	05:40	06:27	07:17	08:08	17:34 (3)	08:03	15:23 (4)	08:43		
	17:01	28 16:16 (4)	17:57	23	17:26 (3)	18:48	20:41	21:30	22:02	21:50	20:59	19:49	18:41	22 17:56 (3)	16:45	30 15:53 (4)	16:28		
19	08:38	15:48 (4)	07:48		17:02 (3)	06:47	06:36	05:41	05:19	05:41	06:28	07:19	08:09	17:34 (3)	08:05	15:23 (4)	08:43		
	17:03	29 16:17 (4)	17:59	23	17:25 (3)	18:49	20:42	21:32	22:02	21:49	20:57	19:47	18:39	23 17:57 (3)	16:44	30 15:53 (4)	16:29		
20	08:37	15:49 (4)	07:46		17:02 (3)	06:44	06:34	05:40	05:19	05:42	06:30	07:21	08:11	17:33 (3)	08:06	15:24 (4)	08:44		
	17:05	29 16:18 (4)	18:01	24	17:26 (3)	18:51	20:44	21:33	22:03	21:48	20:55	19:45	18:37	24 17:57 (3)	16:43	29 15:53 (4)	16:29		
21	08:35	15:48 (4)	07:44		17:02 (3)	06:42	06:32	05:38	05:19	05:44	06:32	07:22	08:13	17:32 (3)	08:08	15:24 (4)	08:45		
	17:06	29 16:17 (4)	18:03	24	17:26 (3)	18:53	20:46	21:34	22:03	21:47	20:53	19:42	18:35	24 17:56 (3)	16:42	29 15:53 (4)	16:29		
22	08:34	15:49 (4)	07:42		17:02 (3)	06:40	06:30	05:37	05:19	05:45	06:33	07:24	08:15	17:32 (3)	08:10	15:25 (4)	08:45		
	17:08	29 16:18 (4)	18:05	23	17:25 (3)	18:55	20:48	21:36	22:03	21:46	20:51	19:40	18:32	24 17:56 (3)	16:41	29 15:54 (4)	16:30		
23	08:33	15:49 (4)	07:40		17:02 (3)	06:37	06:28	05:36	05:19	05:47	06:35	07:25	08:17	17:32 (3)	08:11	15:25 (4)	08:46		
	17:10	30 16:19 (4)	18:07	23	17:25 (3)	18:56	20:49	21:37	22:03	21:44	20:48	19:38	18:30	24 17:56 (3)	16:39	29 15:54 (4)	16:30		
24	08:32	15:49 (4)	07:38		17:03 (3)	06:35	06:26	05:34	05:20	05:48	06:37	07:27	08:18	17:33 (3)	08:13	15:25 (4)	08:46		
	17:11	30 16:19 (4)	18:09	22	17:25 (3)	18:58	20:51	21:39	22:03	21:43	20:46	19:35	18:28	22 17:55 (3)	16:38	28 15:53 (4)	16:31		
25	08:31	15:49 (4)	07:36		17:04 (3)	06:33	06:24	05:33	05:20	05:49	06:38	07:29	07:20		16:33 (3)	08:15	15:26 (4)	08:47		
	17:13	30 16:19 (4)	18:10	20	17:24 (3)	19:00	20:53	21:40	22:04	21:41	20:44	19:33	17:26	21 16:54 (3)	16:37	27 15:53 (4)	16:32		
26	08:29	15:50 (4)	07:34		17:05 (3)	06:30	06:21	05:32	05:20	05:51	06:40	07:30	07:22		16:34 (3)	08:16	15:27 (4)	08:47		
	17:15	30 16:20 (4)	18:12	17	17:22 (3)	19:01	20:54	21:41	22:04	21:40	20:42	19:31	17:24	20 16:54 (3)	16:36	26 15:53 (4)	16:32		
27	08:28	15:50 (4)	07:32		17:07 (3)	06:28	06:19	05:31	05:21	05:52	06:41	07:32	07:24		16:35 (3)	08:18	15:28 (4)	08:47		
	17:17	29 16:19 (4)	18:14	13	17:20 (3)	19:03	20:56	21:43	22:03	21:39	20:40	19:28	17:22	17 16:52 (3)	16:35	25 15:53 (4)	16:33		
28	08:27	15:51 (4)	07:29		17:10 (3)	06:26	06:17	05:30	05:21	05:54	06:43	07:34	07:25		16:37 (3)	08:19	15:28 (4)	08:47		
	17:19	29 16:20 (4)	18:16	7	17:17 (3)	19:05	20:58	21:44	22:03	21:37	20:38	19:26	17:20	14 16:51 (3)	16:35	24 15:52 (4)	16:34		
29	08:25	15:52 (4)				07:23	06:15	05:29	05:22	05:55	06:45	07:35	07:27	16:39 (3)	08:21	15:30 (4)	08:48		
	17:20	27 16:19 (4)				20:07	20:59	21:45	22:03	21:36	20:35	19:24	17:18	9 16:48 (3)	16:34	23 15:53 (4)	16:35		
30	08:24	15:52 (4)				07:21	06:13	05:28	05:22	05:57	06:46	07:37	07:29		08:22	15:30 (4)	08:48		
	17:22	26 16:18 (4)				20:08	21:01	21:46	22:03	21:34	20:33	19:21	17:16		16:33	22 15:52 (4)	16:36		
31	08:22	15:54 (4)				07:19		05:27		05:58	06:48		07:31				08:48		
	17:24	25 16:19 (4)				20:10		21:48		21:32	20:31		17:15				16:37		
Potential sun hours	259		277		367	416	485	499	502	454	381	331		266		243			
Total, worst case		640		390									307		639			97	
Sun reduction		0,24		0,30									0,34		0,24			0,20	
Oper. time red.		0,95		0,95									0,95		0,95			0,95	
Wind dir. red.		0,67		0,67									0,67		0,67			0,67	
Total reduction		0,15		0,19									0,21		0,15			0,13	
Total, real		97		75									65		96			13	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:35/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN149@164Shadow receptor: AS - 3998NM3

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June		July		August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	05:26		05:23	21:19 (2)	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03	21:49		22:03	4 21:23 (2)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	05:25		05:24		06:01	06:51	07:40	07:34	08:25
	16:39	17:28	18:19	20:13	21:04	21:50		22:02		21:29	20:26	19:17	17:11	16:32
3	08:47	08:18	07:23	07:12	06:08	05:25		05:25		06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06	21:51		22:02		21:27	20:24	19:14	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06	05:24		05:25		06:04	06:55	07:44	07:38	08:28
	16:41	17:31	18:23	20:17	21:08	21:52		22:02		21:26	20:22	19:12	17:07	16:30
5	08:47	08:14	07:18	07:07	06:04	05:23		05:26		06:06	06:56	07:45	07:40	08:29
	16:43	17:33	18:25	20:19	21:09	21:53		22:01		21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02	05:23		05:27		06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11	21:54		22:01		21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:00	05:22		05:28		06:09	06:59	07:49	07:43	08:32
	16:45	17:37	18:28	20:22	21:13	21:55		22:00		21:20	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59	05:21		05:29		06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:14	21:56		21:59		21:19	20:13	19:03	17:00	16:29
9	08:45	08:07	07:10	06:58	05:57	05:21		05:30		06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:25	21:16	21:57		21:59		21:17	20:10	19:01	16:59	16:28
10	08:45	08:06	07:07	06:56	05:55	05:20		05:31		06:14	07:04	07:54	07:49	08:35
	16:49	17:43	18:34	20:27	21:18	21:57		21:58		21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54	05:20		05:32		06:16	07:06	07:56	07:51	08:36
	16:51	17:45	18:35	20:29	21:19	21:58	3	21:57		21:13	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52	05:20		05:33		06:17	07:08	07:57	07:52	08:37
	16:52	17:46	18:37	20:31	21:21	21:59	6	21:56		21:11	20:03	18:54	16:54	16:28
13	08:43	08:00	07:00	06:49	05:50	05:19		05:34		06:19	07:09	07:59	07:54	08:38
	16:53	17:48	18:39	20:32	21:22	21:59	9	21:55		21:09	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49	05:19		05:35		06:20	07:11	08:01	07:56	08:39
	16:55	17:50	18:41	20:34	21:24	22:00	10	21:55		21:07	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47	05:19		05:36		06:22	07:12	08:03	07:58	08:40
	16:57	17:52	18:42	20:36	21:26	22:01	11	21:54		21:05	19:56	18:47	16:50	16:28
16	08:40	07:54	06:54	06:43	05:46	05:19		05:38		06:24	07:14	08:04	07:59	08:41
	16:58	17:54	18:44	20:37	21:27	22:01	11	21:53		21:03	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44	05:19		05:39		06:25	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29	22:02	12	21:51		21:01	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:38	05:43	05:19		05:40		06:27	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30	22:02	12	21:50		20:59	19:49	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41	05:19		05:41		06:28	07:19	08:09	08:05	08:43
	17:03	17:59	18:49	20:42	21:32	22:02	12	21:49		20:57	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40	05:19		05:43		06:30	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33	22:03	13	21:48		20:55	19:45	18:37	16:43	16:29
21	08:35	07:44	06:42	06:32	05:38	05:19		05:44		06:32	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:34	22:03	13	21:47		20:53	19:42	18:35	16:42	16:30
22	08:34	07:42	06:40	06:30	05:37	05:19		05:45		06:33	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36	22:03	13	21:46		20:51	19:40	18:33	16:41	16:30
23	08:33	07:40	06:37	06:28	05:36	05:20		05:47		06:35	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	21:37	22:03	13	21:44		20:48	19:38	18:30	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35	05:20		05:48		06:37	07:27	08:18	08:13	08:46
	17:11	18:09	18:58	20:51	21:39	22:03	12	21:43		20:46	19:35	18:28	16:38	16:31
25	08:31	07:36	06:33	06:24	05:33	05:20		05:49		06:38	07:29	07:20	08:15	08:47
	17:13	18:10	19:00	20:53	21:40	22:04	12	21:41		20:44	19:33	17:26	16:37	16:32
26	08:29	07:34	06:30	06:22	05:32	05:21		05:51		06:40	07:30	07:22	08:16	08:47
	17:15	18:12	19:01	20:54	21:41	22:04	11	21:40		20:42	19:31	17:24	16:36	16:32
27	08:28	07:32	06:28	06:20	05:31	05:21		05:52		06:42	07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21:43	22:03	11	21:39		20:40	19:28	17:22	16:36	16:33
28	08:27	07:29	06:26	06:18	05:30	05:21		05:54		06:43	07:34	07:25	08:19	08:47
	17:19	18:16	19:05	20:58	21:44	22:03	10	21:37		20:38	19:26	17:20	16:35	16:34
29	08:25		07:23	06:16	05:29	05:22		05:55		06:45	07:35	07:27	08:21	08:48
	17:20		20:07	20:59	21:45	22:03	9	21:36		20:35	19:24	17:18	16:34	16:35
30	08:24		07:21	06:14	05:28	05:23		05:57		06:46	07:37	07:29	08:22	08:48
	17:22		20:08	21:01	21:46	22:03	7	21:34		20:33	19:21	17:17	16:33	16:36
31	08:22		07:19		05:27			05:58		06:48		07:31		08:48
	17:24		20:10		21:48			21:32		20:31		17:15		16:37
Potential sun hours	259	277	367	416	485	499		502		454	381	331	266	243
Total, worst case						210		4						
Sun reduction						0,39		0,41						
Oper. time red.						0,95		0,95						
Wind dir. red.						0,59		0,59						
Total reduction						0,22		0,23						
Total, real						46		1						

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:35/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN149@164Shadow receptor: AT - 3998NM1

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	05:26	05:23	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03	21:49	22:03	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	05:25	05:24	06:01	06:51	07:40	07:34	08:25
	16:39	17:28	18:19	20:13	21:04	21:50	22:02	21:29	20:26	19:17	17:11	16:32
3	08:47	08:18	07:23	07:12	06:08	05:25	05:25	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06	21:51	22:02	21:27	20:24	19:14	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06	05:24	05:25	06:04	06:55	07:44	07:38	08:28
	16:41	17:31	18:23	20:17	21:08	21:52	22:02	21:26	20:22	19:12	17:07	16:31
5	08:47	08:14	07:18	07:07	06:04	05:23	05:26	06:06	06:56	07:45	07:40	08:29
	16:43	17:33	18:25	20:19	21:09	21:53	22:01	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02	05:23	05:27	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11	21:54	22:01	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:00	05:22	05:28	06:09	06:59	07:49	07:43	08:32
	16:45	17:37	18:28	20:22	21:13	21:55	22:00	21:20	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59	05:21	05:29	06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:14	21:56	21:59	21:19	20:13	19:03	17:00	16:29
9	08:45	08:07	07:10	06:58	05:57	05:21	05:30	06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:25	21:16	21:57	21:59	21:17	20:10	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55	05:21	05:31	06:14	07:04	07:54	07:49	08:35
	16:49	17:43	18:34	20:27	21:18	21:57	21:58	21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54	05:20	05:32	06:16	07:06	07:56	07:51	08:36
	16:51	17:45	18:35	20:29	21:19	21:58	21:57	21:13	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52	05:20	05:33	06:17	07:08	07:57	07:52	08:37
	16:52	17:46	18:37	20:31	21:21	21:59	21:56	21:11	20:03	18:54	16:54	16:28
13	08:43	08:00	07:00	06:49	05:50	05:19	05:34	06:19	07:09	07:59	07:54	08:38
	16:53	17:48	18:39	20:32	21:22	21:59	21:55	21:09	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49	05:19	05:35	06:20	07:11	08:01	07:56	08:39
	16:55	17:50	18:41	20:34	21:24	22:00	21:55	21:07	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47	05:19	05:36	06:22	07:12	08:03	07:58	08:40
	16:57	17:52	18:42	20:36	21:26	22:01	21:54	21:05	19:56	18:47	16:50	16:28
16	08:40	07:54	06:54	06:43	05:46	05:19	05:38	06:24	07:14	08:04	07:59	08:41
	16:58	17:54	18:44	20:37	21:27	22:01	21:53	21:03	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44	05:19	05:39	06:25	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29	22:02	21:51	21:01	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:38	05:43	05:19	05:40	06:27	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30	22:02	21:50	20:59	19:49	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41	05:19	05:41	06:28	07:19	08:09	08:05	08:43
	17:03	17:59	18:49	20:42	21:32	22:02	21:49	20:57	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40	05:19	05:43	06:30	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33	22:03	21:48	20:55	19:45	18:37	16:43	16:29
21	08:35	07:44	06:42	06:32	05:38	05:19	05:44	06:32	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:34	22:03	21:47	20:53	19:42	18:35	16:42	16:30
22	08:34	07:42	06:40	06:30	05:37	05:19	05:45	06:33	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36	22:03	21:46	20:51	19:40	18:33	16:41	16:30
23	08:33	07:40	06:37	06:28	05:36	05:20	05:47	06:35	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	21:37	22:03	21:44	20:48	19:38	18:30	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35	05:20	05:48	06:37	07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	21:39	22:03	21:43	20:46	19:35	18:28	16:38	16:31
25	08:31	07:36	06:33	06:24	05:33	05:20	05:49	06:38	07:29	07:20	08:15	08:47
	17:13	18:10	19:00	20:53	21:40	22:03	21:41	20:44	19:33	17:26	16:37	16:32
26	08:29	07:34	06:30	06:22	05:32	05:21	05:51	06:40	07:30	07:22	08:16	08:47
	17:15	18:12	19:01	20:54	21:41	22:03	21:40	20:42	19:31	17:24	16:36	16:32
27	08:28	07:32	06:28	06:20	05:31	05:21	05:52	06:42	07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21:43	22:03	21:39	20:40	19:28	17:22	16:36	16:33
28	08:27	07:29	06:26	06:18	05:30	05:21	05:54	06:43	07:34	07:25	08:19	08:47
	17:19	18:16	19:05	20:58	21:44	22:03	21:37	20:38	19:26	17:20	16:35	16:34
29	08:25		07:23	06:16	05:29	05:22	05:55	06:45	07:35	07:27	08:21	08:48
	17:20		20:07	20:59	21:45	22:03	21:36	20:35	19:24	17:18	16:34	16:35
30	08:24		07:21	06:14	05:28	05:23	05:57	06:46	07:37	07:29	08:22	08:48
	17:22		20:08	21:01	21:46	22:03	21:34	20:33	19:21	17:17	16:33	16:36
31	08:22		07:19		05:27		05:58	06:48		07:31		08:48
	17:24		20:10		21:48		21:32	20:31		17:15		16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:35/3.2.737

SHADOW - Calendar

Calculation: Copy of NordexN149@164Shadow receptor: AU - 3961MN33

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:16	19:10 (3)	06:12	05:26	05:23	06:00	06:50	07:39	18:04 (4)	07:33	08:24
	16:38	17:26	18:18	20:12 19	19:29 (3)	21:03	21:49	22:03	21:31	20:29	19:19 32	18:36 (4)	17:13	16:32
2	08:48	08:19	07:25	07:14	19:11 (3)	06:10	05:25	05:24	06:01	06:51	07:40	18:04 (4)	07:34	08:25
	16:39	17:28	18:19	20:13 16	19:27 (3)	21:04	21:50	22:02	21:29	20:26	19:17 31	18:35 (4)	17:11	16:32
3	08:47	08:18	07:23	07:12	19:13 (3)	06:08	05:25	05:25	06:03	06:53	07:42	18:03 (4)	07:36	08:27
	16:40	17:30	18:21	20:15 13	19:26 (3)	21:06	21:51	22:02	21:27	20:24	19:14 31	18:34 (4)	17:09	16:31
4	08:47	08:16	07:21	17:36 (4) 07:10	19:15 (3)	06:06	05:24	05:25	06:04	06:54	07:44	18:04 (4)	07:38	08:28
	16:41	17:31	18:23 12	17:48 (4) 20:17 6	19:21 (3)	21:08	21:52	22:02	21:26	20:22	19:12 29	18:33 (4)	17:07	16:30
5	08:47	08:14	07:18	17:33 (4) 07:07		06:04	05:23	05:26	06:06	06:56	07:45	18:05 (4)	07:40	08:29
	16:42	17:33	18:25 18	17:51 (4) 20:19		21:09	21:53	22:01	21:24	20:19	19:10 27	18:32 (4)	17:05	16:30
6	08:47	08:13	07:16	17:30 (4) 07:05		06:02	05:22	05:27	06:08	06:58	07:47	18:05 (4)	07:42	08:31
	16:44	17:35	18:27 22	17:52 (4) 20:20		21:11	21:54	22:01	21:22	20:17	19:08 25	18:30 (4)	17:04	16:29
7	08:46	08:11	07:14	17:29 (4) 07:03		06:00	05:22	05:28	06:09	06:59	07:49	18:06 (4)	07:43	08:32
	16:45	17:37	18:28 25	17:54 (4) 20:22		21:13	21:55	22:00	21:20	20:15	19:05 23	18:29 (4)	17:02	16:29
8	08:46	08:09	07:12	17:28 (4) 07:00		05:59	05:21	05:29	06:11	07:01 19:11 (3)	07:50	18:07 (4)	07:45	08:33
	16:46	17:39	18:30 27	17:55 (4) 20:24		21:14	21:56	21:59	21:19	20:13 5 19:16 (3)	19:03 20	18:27 (4)	17:00	16:29
9	08:45	08:07	07:09	17:27 (4) 06:58		05:57	05:21	05:30	06:12	07:03 19:07 (3)	07:52	18:09 (4)	07:47	08:34
	16:48	17:41	18:32 29	17:56 (4) 20:25		21:16	21:57	21:59	21:17	20:10 12 19:19 (3)	19:01 16	18:25 (4)	16:59	16:28
10	08:45	08:06	07:07	17:26 (4) 06:56		05:55	05:20	05:31	06:14	07:04 19:05 (3)	07:54	18:11 (4)	07:49	08:35
	16:49	17:43	18:34 30	17:56 (4) 20:27		21:18	21:57	21:58	21:15	20:08 15 19:20 (3)	18:58 10	18:21 (4)	16:57	16:28
11	08:44	08:04	07:05	17:25 (4) 06:54		05:53	05:20	05:32	06:15	07:06 19:02 (3)	07:56		07:51	08:36
	16:50	17:44	18:35 31	17:56 (4) 20:29		21:19	21:58	21:57	21:13	20:06 19 19:21 (3)	18:56		16:56	16:28
12	08:44	08:02	07:03	17:25 (4) 06:51		05:52	05:20	05:33	06:17	07:08 19:01 (3)	07:57		07:52	08:37
	16:52	17:46	18:37 32	17:57 (4) 20:31		21:21	21:59	21:56	21:11	20:03 21 19:22 (3)	18:54		16:54	16:28
13	08:43	08:00	07:00	17:24 (4) 06:49		05:50	05:19	05:34	06:19	07:09 19:00 (3)	07:59		07:54	08:38
	16:53	17:48	18:39 32	17:56 (4) 20:32		21:22	21:59	21:55	21:09	20:01 22 19:22 (3)	18:52		16:52	16:28
14	08:42	07:58	06:58	17:24 (4) 06:47		05:49	05:19	05:35	06:20	07:11 18:59 (3)	08:01		07:56	08:39
	16:55	17:50	18:41 32	17:56 (4) 20:34		21:24	22:00	21:55	21:07	19:59 23 19:22 (3)	18:50		16:51	16:28
15	08:41	07:56	06:56	17:25 (4) 06:45		05:47	05:19	05:36	06:22	07:12 18:59 (3)	08:02		07:58	08:40
	16:56	17:52	18:42 31	17:56 (4) 20:36		21:25	22:01	21:54	21:05	19:56 23 19:22 (3)	18:47		16:50	16:28
16	08:40	07:54	06:53	17:24 (4) 06:43		05:45	05:19	05:37	06:24	07:14 18:58 (3)	08:04		07:59	08:41
	16:58	17:54	18:44 30	17:54 (4) 20:37		21:27	22:01	21:53	21:03	19:54 23 19:21 (3)	18:45		16:48	16:28
17	08:40	07:52	06:51	17:25 (4) 06:40		05:44	05:19	05:39	06:25	07:16 18:58 (3)	08:06		08:01	08:42
	17:00	17:56	18:46 29	17:54 (4) 20:39		21:29	22:02	21:51	21:01	19:52 23 19:21 (3)	18:43		16:47	16:28
18	08:39	07:50	06:49	17:26 (4) 06:38		05:42	05:19	05:40	06:27	07:17 18:59 (3)	08:08		08:03	08:43
	17:01	17:57	18:48 27	17:53 (4) 20:41		21:30	22:02	21:50	20:59	19:49 21 19:20 (3)	18:41		16:45	16:28
19	08:38	07:48	06:47	17:26 (4) 06:36		05:41	05:19	05:41	06:28	07:19 18:58 (3)	08:09		08:05	08:43
	17:03	17:59	18:49 25	17:51 (4) 20:42		21:32	22:02	21:49	20:57	19:47 20 19:18 (3)	18:39		16:44	16:29
20	08:37	07:46	06:44	17:28 (4) 06:34		05:40	05:19	05:43	06:30	07:21 19:00 (3)	08:11		08:06	08:44
	17:05	18:01	18:51 22	17:50 (4) 20:44		21:33	22:03	21:48	20:55	19:45 17 19:17 (3)	18:37		16:43	16:29
21	08:35	07:44	06:42	17:30 (4) 06:32		05:38	05:19	05:44	06:32	07:22 18:18 (4)	08:13		08:08	08:45
	17:06	18:03	18:53 26	18:27 (3) 20:46		21:34	22:03	21:47	20:53	19:42 27 19:15 (3)	18:35		16:42	16:29
22	08:34	07:42	06:40	17:31 (4) 06:30		05:37	05:19	05:45	06:33	07:24 18:15 (4)	08:15		08:10	08:45
	17:08	18:05	18:55 28	18:29 (3) 20:48		21:36	22:03	21:46	20:51	19:40 27 19:12 (3)	18:32		16:41	16:30
23	08:33	07:40	06:37	17:36 (4) 06:28		05:36	05:19	05:47	06:35	07:25 18:13 (4)	08:16		08:11	08:46
	17:10	18:07	18:56 21	18:30 (3) 20:49		21:37	22:03	21:44	20:48	19:38 21 18:34 (4)	18:30		16:39	16:30
24	08:32	07:38	06:35	18:12 (3) 06:26		05:34	05:20	05:48	06:37	07:27 18:10 (4)	08:18		08:13	08:46
	17:11	18:09	18:58 20	18:32 (3) 20:51		21:39	22:03	21:43	20:46	19:35 24 18:34 (4)	18:28		16:38	16:31
25	08:31	07:36	06:33	18:10 (3) 06:24		05:33	05:20	05:49	06:38	07:29 18:09 (4)	07:20		08:15	08:47
	17:13	18:10	19:00 22	18:32 (3) 20:53		21:40	22:03	21:41	20:44	19:33 26 18:35 (4)	17:26		16:37	16:32
26	08:29	07:34	06:30	18:10 (3) 06:21		05:32	05:20	05:51	06:40	07:30 18:08 (4)	07:22		08:16	08:47
	17:15	18:12	19:01 22	18:32 (3) 20:54		21:41	22:03	21:40	20:42	19:31 28 18:36 (4)	17:24		16:36	16:32
27	08:28	07:32	06:28	18:10 (3) 06:19		05:31	05:21	05:52	06:41	07:32 18:06 (4)	07:24		08:18	08:47
	17:17	18:14	19:03 23	18:33 (3) 20:56		21:43	22:03	21:39	20:40	19:28 30 18:36 (4)	17:22		16:35	16:33
28	08:27	07:29	06:26	18:09 (3) 06:17		05:30	05:21	05:54	06:43	07:34 18:06 (4)	07:25		08:19	08:47
	17:19	18:16	19:05 23	18:32 (3) 20:58		21:44	22:03	21:37	20:38	19:26 30 18:36 (4)	17:20		16:35	16:34
29	08:25		07:23	19:09 (3) 06:15		05:29	05:22	05:55	06:45	07:35 18:04 (4)	07:27		08:21	08:48
	17:20		20:07 23	19:32 (3) 20:59		21:45	22:03	21:36	20:35	19:24 32 18:36 (4)	17:18		16:34	16:35
30	08:24		07:21	19:09 (3) 06:13		05:28	05:23	05:57	06:46	07:37 18:04 (4)	07:29		08:22	08:48
	17:22		20:08 22	19:31 (3) 21:01		21:46	22:03	21:34	20:33	19:21 32 18:36 (4)	17:16		16:33	16:36
31	08:22		07:19	19:09 (3)		05:27		05:58	06:48		07:31			08:48
	17:24		20:10 21	19:30 (3)		21:48		21:32	20:31		17:15			16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case			705	54					521	244		
Sun reduction			0,33	0,42					0,36	0,34		
Oper. time red.			0,95	0,95					0,95	0,95		
Wind dir. red.			0,63	0,62					0,63	0,64		
Total reduction			0,20	0,25					0,22	0,20		
Total, real			139	13					113	50		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:34/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion3.7M140@160Shadow receptor: A - 3998JD94

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May		June		July		August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12		05:26		05:23		06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03		21:49	18	06:16 (1)	24	06:25 (1)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10		05:26		05:58 (1)		06:02 (1)	06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05		21:50	19	06:17 (1)	24	06:26 (1)	21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08		05:25		05:58 (1)		06:02 (1)	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06		21:51	20	06:18 (1)	24	06:26 (1)	21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06		05:24		05:57 (1)		06:02 (1)	06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08		21:52	21	06:18 (1)	23	06:25 (1)	21:26	20:22	19:12	17:07	16:31
5	08:47	08:14	07:19	07:08	06:04		05:23		05:58 (1)		06:02 (1)	06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10		21:53	21	06:19 (1)	23	06:25 (1)	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02		05:23		05:57 (1)		06:03 (1)	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11		21:54	22	06:19 (1)	23	06:26 (1)	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01		05:22		05:57 (1)		06:04 (1)	06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13		21:55	23	06:20 (1)	22	06:26 (1)	21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59		05:22		05:57 (1)		06:04 (1)	06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15		21:56	23	06:20 (1)	22	06:26 (1)	21:19	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57		05:21		05:57 (1)		06:05 (1)	06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16		21:57	24	06:21 (1)	20	06:25 (1)	21:17	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55		05:21		05:56 (1)		06:05 (1)	06:14	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18		21:58	24	06:20 (1)	19	06:24 (1)	21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54		05:20		05:57 (1)		06:05 (1)	06:16	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19		21:58	24	06:21 (1)	19	06:24 (1)	21:13	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52		05:20		05:57 (1)		06:06 (1)	06:17	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21		21:59	25	06:22 (1)	17	06:23 (1)	21:11	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50		05:20		05:57 (1)		06:08 (1)	06:19	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23		22:00	25	06:22 (1)	16	06:24 (1)	21:09	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49		05:19		05:58 (1)		06:09 (1)	06:21	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24		22:00	24	06:22 (1)	14	06:23 (1)	21:07	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47		05:19		05:57 (1)		06:10 (1)	06:22	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26		22:01	25	06:22 (1)	12	06:22 (1)	21:05	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46		05:19		05:57 (1)		06:12 (1)	06:24	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27		22:01	25	06:22 (1)	9	06:21 (1)	21:03	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44		05:19		05:57 (1)		06:15 (1)	06:25	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29		22:02	25	06:22 (1)	3	06:18 (1)	21:01	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43		05:19		05:57 (1)			06:27	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30		22:02	26	06:23 (1)			20:59	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41		05:19		05:59 (1)			06:29	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32		22:03	25	06:24 (1)			20:57	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40		05:19		05:59 (1)			06:30	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33		22:03	25	06:24 (1)			20:55	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	05:39		05:19		05:59 (1)			06:32	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:35		22:03	25	06:24 (1)			20:53	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	05:37		05:19		05:59 (1)			06:34	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36		22:03	25	06:24 (1)			20:51	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	05:36		05:20		05:59 (1)			06:35	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	21:37		22:04	25	06:24 (1)			20:49	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35		05:20		05:59 (1)			06:37	07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	21:39		22:04	26	06:25 (1)			20:46	19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	05:34		05:20		05:59 (1)			06:38	07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	21:40		22:04	25	06:24 (1)			20:44	19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	05:32		05:21		05:59 (1)			06:40	07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	21:42		22:04	25	06:24 (1)			20:42	19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	05:31	06:03 (1)	05:21		06:00 (1)			06:42	07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21:43	7 06:10 (1)	22:04	25	06:25 (1)			20:40	19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	05:30	06:01 (1)	05:22		06:00 (1)			06:43	07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	21:44	11 06:12 (1)	22:04	25	06:25 (1)			20:38	19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	05:29	06:00 (1)	05:22		06:00 (1)			06:45	07:36	07:27	08:21	08:48
	17:21		20:07	21:00	21:45	13 06:13 (1)	22:03	25	06:25 (1)			20:35	19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	05:28	06:00 (1)	05:23		06:01 (1)			06:47	07:37	07:29	08:22	08:48
	17:22		20:08	21:01	21:47	15 06:15 (1)	22:03	25	06:26 (1)			20:33	19:22	17:17	16:33	16:36
31	08:22		07:19		05:27	05:59 (1)						06:48		07:31		08:48
	17:24		20:10		21:48	17 06:16 (1)			21:33			20:31		17:15		16:37
Potential sun hours	259	277	367	416	485		499		502		454	381	331	266	243	
Total, worst case						63		715		314						
Sun reduction						0,43		0,39		0,41						
Oper. time red.						0,95		0,95		0,95						
Wind dir. red.						0,67		0,67		0,67						
Total reduction						0,27		0,25		0,26						
Total, real						17		178		82						

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:34/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion3.7M140@160Shadow receptor: B - 3998JD87

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	05:26	06:07 (1) | 05:23	06:14 (1) | 06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03	21:49 24	06:31 (1) | 22:03 22	06:36 (1) | 21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	05:26	06:06 (1) | 05:24	06:14 (1) | 06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05	21:50 25	06:31 (1) | 22:03 23	06:37 (1) | 21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08	05:25	06:07 (1) | 05:25	06:14 (1) | 06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06	21:51 25	06:32 (1) | 22:02 23	06:37 (1) | 21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06	05:24	06:07 (1) | 05:26	06:14 (1) | 06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08	21:52 25	06:32 (1) | 22:02 23	06:37 (1) | 21:26	20:22	19:12	17:07	16:31
5	08:47	08:15	07:19	07:08	06:04	05:23	06:08 (1) | 05:26	06:14 (1) | 06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10	21:53 24	06:32 (1) | 22:01 23	06:37 (1) | 21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02	05:23	06:08 (1) | 05:27	06:14 (1) | 06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11	21:54 24	06:32 (1) | 22:01 24	06:38 (1) | 21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01	05:22	06:09 (1) | 05:28	06:14 (1) | 06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13	21:55 23	06:32 (1) | 22:00 24	06:38 (1) | 21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59	05:22	06:08 (1) | 05:29	06:15 (1) | 06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15	21:56 24	06:32 (1) | 22:00 24	06:39 (1) | 21:19	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57	05:21	06:09 (1) | 05:30	06:15 (1) | 06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16	21:57 23	06:32 (1) | 21:59 24	06:39 (1) | 21:17	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55	05:21	06:09 (1) | 05:31	06:14 (1) | 06:14	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18	21:58 22	06:31 (1) | 21:58 24	06:38 (1) | 21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54	05:20	06:09 (1) | 05:32	06:14 (1) | 06:16	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19	21:58 23	06:32 (1) | 21:57 25	06:39 (1) | 21:13	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52	05:20	06:10 (1) | 05:33	06:14 (1) | 06:17	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21	21:59 22	06:32 (1) | 21:57 25	06:39 (1) | 21:11	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50	05:20	06:10 (1) | 05:34	06:15 (1) | 06:19	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23	22:00 22	06:32 (1) | 21:56 25	06:40 (1) | 21:09	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49	05:19	06:11 (1) | 05:35	06:15 (1) | 06:21	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24	22:00 22	06:33 (1) | 21:55 25	06:40 (1) | 21:07	19:59	18:50	16:51	16:28
15	08:42	07:56	06:56	06:45	05:47	05:19	06:10 (1) | 05:36	06:15 (1) | 06:22	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26	22:01 22	06:32 (1) | 21:54 25	06:40 (1) | 21:05	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46 06:16 (1)	05:19	06:11 (1) | 05:38	06:16 (1) | 06:24	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27 4 06:20 (1)	22:01 21	06:32 (1) | 21:53 24	06:40 (1) | 21:03	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44 06:14 (1)	05:19	06:11 (1) | 05:39	06:16 (1) | 06:25	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29 9 06:23 (1)	22:02 21	06:32 (1) | 21:52 24	06:40 (1) | 21:01	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43 06:11 (1)	05:19	06:11 (1) | 05:40	06:16 (1) | 06:27	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30 13 06:24 (1)	22:02 21	06:32 (1) | 21:51 23	06:39 (1) | 20:59	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41 06:10 (1)	05:19	06:12 (1) | 05:41	06:16 (1) | 06:29	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32 16 06:26 (1)	22:03 21	06:33 (1) | 21:49 23	06:39 (1) | 20:57	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40 06:09 (1)	05:19	06:13 (1) | 05:43	06:17 (1) | 06:30	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33 18 06:27 (1)	22:03 20	06:33 (1) | 21:48 22	06:39 (1) | 20:55	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	05:39 06:09 (1)	05:19	06:13 (1) | 05:44	06:18 (1) | 06:32	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:35 19 06:28 (1)	22:03 20	06:33 (1) | 21:47 21	06:39 (1) | 20:53	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	05:37 06:07 (1)	05:19	06:13 (1) | 05:45	06:18 (1) | 06:34	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36 21 06:28 (1)	22:03 20	06:33 (1) | 21:46 20	06:38 (1) | 20:51	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	05:36 06:07 (1)	05:20	06:12 (1) | 05:47	06:19 (1) | 06:35	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	21:37 22 06:29 (1)	22:04 21	06:33 (1) | 21:44 18	06:37 (1) | 20:49	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35 06:07 (1)	05:20	06:13 (1) | 05:48	06:20 (1) | 06:37	07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	21:39 22 06:29 (1)	22:04 21	06:34 (1) | 21:43 17	06:37 (1) | 20:46	19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	05:34 06:06 (1)	05:20	06:13 (1) | 05:50	06:21 (1) | 06:38	07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	21:40 24 06:30 (1)	22:04 21	06:34 (1) | 21:42 15	06:36 (1) | 20:44	19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	05:32 06:06 (1)	05:21	06:13 (1) | 05:51	06:22 (1) | 06:40	07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	21:42 24 06:30 (1)	22:04 21	06:34 (1) | 21:40 12	06:34 (1) | 20:42	19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	05:31 06:06 (1)	05:21	06:14 (1) | 05:52	06:25 (1) | 06:42	07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21:43 24 06:30 (1)	22:04 21	06:35 (1) | 21:39 8	06:33 (1) | 20:40	19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	05:30 06:06 (1)	05:22	06:13 (1) | 05:54	06:43	07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	21:44 24 06:30 (1)	22:04 22	06:35 (1) | 21:37	20:38	19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	05:29 06:06 (1)	05:22	06:14 (1) | 05:55	06:45	07:36	07:27	08:21	08:48
	17:21		20:07	21:00	21:45 24 06:30 (1)	22:03 21	06:35 (1) | 21:36	20:36	19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	05:28 06:07 (1)	05:23	06:14 (1) | 05:57	06:47	07:37	07:29	08:22	08:48
	17:22		20:09	21:01	21:47 24 06:31 (1)	22:03 22	06:36 (1) | 21:34	20:33	19:22	17:17	16:33	16:36
31	08:22		07:19		05:27 06:07 (1)		05:58	06:48		07:31		08:48
	17:24		20:10		21:48 24 06:31 (1)		21:33	20:31		17:15		16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case					312	664	586					
Sun reduction					0,43	0,39	0,41					
Oper. time red.					0,95	0,95	0,95					
Wind dir. red.					0,67	0,67	0,67					
Total reduction					0,27	0,25	0,26					
Total, real					85	165	151					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:34/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion3.7M140@160Shadow receptor: C - 3997MR25

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December	
1	08:48		08:21		08:51 (4)		07:27	12:41 (1)	07:17	06:12	05:26	05:23	06:00	06:50		07:39		13:26 (1)	07:33	08:25 (4)	08:24		09:38 (2)
	16:38		17:26	177	14:12 (1)		18:18	104	14:25 (1)	20:12	21:03	21:49	22:03	21:31	20:29		19:19	90	14:56 (1)	17:13	182	13:51 (1)	16:32	25	10:03 (2)
2	08:48		08:19		08:50 (4)		07:25		12:41 (1)	07:14	06:10	05:25	05:24	06:01	06:51		07:41		13:24 (1)	07:35		08:24 (4)	08:25		09:40 (2)
	16:39		17:28	180	14:13 (1)		18:20	104	14:25 (1)	20:14	21:05	21:50	22:03	21:29	20:26		19:17	93	14:57 (1)	17:11	184	13:50 (1)	16:32	23	10:03 (2)
3	08:48		08:18		08:51 (4)		07:23		12:41 (1)	07:12	06:08	05:25	05:25	06:03	06:53		07:42		13:22 (1)	07:36		08:23 (4)	08:27		09:41 (2)
	16:40		17:30	182	14:15 (1)		18:21	103	14:24 (1)	20:15	21:06	21:51	22:02	21:28	20:24		19:15	94	14:56 (1)	17:09	184	13:49 (1)	16:31	20	10:01 (2)
4	08:47		08:16		08:51 (4)		07:21		12:41 (1)	07:10	06:06	05:24	05:25	06:04	06:55		07:44		13:21 (1)	07:38		08:21 (4)	08:28		09:44 (2)
	16:41		17:32	183	14:16 (1)		18:23	102	14:23 (1)	20:17	21:08	21:52	22:02	21:26	20:22		19:12	96	14:57 (1)	17:07	186	13:48 (1)	16:31	17	10:01 (2)
5	08:47		08:14		08:51 (4)		07:19		12:42 (1)	07:07	06:04	05:23	05:26	06:06	06:56		07:46		13:20 (1)	07:40		08:21 (4)	08:29		09:45 (2)
	16:43		17:33	183	14:16 (1)		18:25	101	14:23 (1)	20:19	21:10	21:53	22:01	21:24	20:20		19:10	98	14:58 (1)	17:06	186	13:47 (1)	16:30	14	09:59 (2)
6	08:47		10:02 (2)	08:13			08:51 (4)		07:16		12:42 (1)	07:05	06:02	05:23	05:27	06:08	06:58		07:47		13:19 (1)	07:42		08:21 (4)	08:31		09:48 (2)
	16:44	8	10:10 (2)	17:35	185	14:17 (1)		18:27	101	14:23 (1)	20:20	21:11	21:54	22:01	21:22	20:17		19:08	99	14:58 (1)	17:04	184	13:46 (1)	16:30	9	09:57 (2)
7	08:46		10:00 (2)	08:11			08:52 (4)		07:14		12:42 (1)	07:03	06:00	05:22	05:28	06:09	07:00		07:49		13:17 (1)	07:44		08:21 (4)	08:32		
	16:45	14	10:14 (2)	17:37	185	14:18 (1)		18:28	99	14:21 (1)	20:22	21:13	21:55	22:00	21:21	20:15		19:05	101	14:58 (1)	17:02	182	13:45 (1)	16:29		
8	08:46		09:59 (2)	08:09			08:53 (4)		07:12		12:43 (1)	07:01	05:59	05:21	05:29	06:11	07:01		07:51		13:17 (1)	07:45		08:21 (4)	08:33		
	16:46	17	10:16 (2)	17:39	186	14:20 (1)		18:30	98	14:21 (1)	20:24	21:15	21:56	22:00	21:19	20:13		19:03	101	14:58 (1)	17:00	181	13:44 (1)	16:29		
9	08:46		09:58 (2)	08:08			08:54 (4)		07:10		12:44 (1)	06:58	05:57	05:21	05:30	06:12	07:03		07:52		13:16 (1)	07:47		08:21 (4)	08:34		
	16:48	20	10:18 (2)	17:41	185	14:20 (1)		18:32	96	14:20 (1)	20:26	21:16	21:57	21:59	21:17	20:10		19:01	102	14:58 (1)	16:59	179	13:44 (1)	16:29		
10	08:45		09:57 (2)	08:06			08:55 (4)		07:07		12:44 (1)	06:56	05:55	05:21	05:31	06:14	07:04		07:54		13:16 (1)	07:49		08:22 (4)	08:35		
	16:49	23	10:20 (2)	17:43	180	14:21 (1)		18:34	95	14:19 (1)	20:27	21:18	21:58	21:58	21:15	20:08		18:59	103	14:59 (1)	16:57	177	13:43 (1)	16:28		
11	08:44		09:56 (2)	08:04			08:58 (4)		07:05		12:45 (1)	06:54	05:54	05:20	05:32	06:16	07:06		07:56		13:14 (1)	07:51		08:22 (4)	08:37		
	16:51	25	10:21 (2)	17:45	173	14:22 (1)		18:36	93	14:18 (1)	20:29	21:19	21:58	21:57	21:13	20:06		18:56	104	14:58 (1)	16:56	175	13:42 (1)	16:28		
12	08:44		09:55 (2)	08:02			09:13 (3)		07:03		12:46 (1)	06:52	05:52	05:20	05:33	06:17	07:08		07:57		13:14 (1)	07:53		08:23 (4)	08:38		
	16:52	27	10:22 (2)	17:46	161	14:22 (1)		18:37	91	14:17 (1)	20:31	21:21	21:59	21:56	21:11	20:03		18:54	104	14:58 (1)	16:54	170	13:41 (1)	16:28		
13	08:43		09:53 (2)	08:00			09:15 (3)		07:01		12:47 (1)	06:49	05:50	05:20	05:34	06:19	07:09		07:59		13:14 (1)	07:54		08:24 (4)	08:39		
	16:53	31	10:24 (2)	17:48	156	14:23 (1)		18:39	88	14:15 (1)	20:32	21:23	22:00	21:56	21:09	20:01		18:52	104	14:58 (1)	16:53	166	13:40 (1)	16:28		
14	08:42		09:53 (2)	07:58			09:19 (3)		06:58		12:48 (1)	06:47	05:49	05:19	05:35	06:20	07:11		08:01		13:14 (1)	07:56		08:26 (4)	08:40		
	16:55	32	10:25 (2)	17:50	148	14:23 (1)		18:41	86	14:14 (1)	20:34	21:24	22:00	21:55	21:07	19:59		18:50	104	14:58 (1)	16:51	160	13:39 (1)	16:28		
15	08:41		09:53 (2)	07:56			09:53 (2)		06:56		12:50 (1)	06:45	05:47	05:19	05:36	06:22	07:13		08:03		13:14 (1)	07:58		08:28 (4)	08:40		
	16:57	34	10:27 (2)	17:52	142	14:24 (1)		18:43	83	14:13 (1)	20:36	21:26	22:01	21:54	21:05	19:56		18:48	104	14:58 (1)	16:50	154	13:38 (1)	16:28		
16	08:41		09:51 (2)	07:54			09:54 (2)		06:54		12:52 (1)	06:43	05:46	05:19	05:38	06:24	07:14		08:04		13:13 (1)	08:00		08:30 (4)	08:41		
	16:58	54	13:35 (1)	17:54	140	14:24 (1)		18:44	79	14:11 (1)	20:37	21:27	22:01	21:53	21:03	19:54		18:45	104	14:57 (1)	16:48	145	13:37 (1)	16:28		
17	08:40		09:51 (2)	07:52			09:56 (2)		06:51		12:54 (1)	06:41	05:44	05:19	05:39	06:25	07:16		08:06		13:12 (1)	08:01		08:43 (3)	08:42		
	17:00	65	13:41 (1)	17:56	137	14:25 (1)		18:46	75	14:09 (1)	20:39	21:29	22:02	21:52	21:01	19:52		18:43	105	14:57 (1)	16:47	131	13:35 (1)	16:28		
18	08:39		09:50 (2)	07:50			09:57 (2)		06:49		12:57 (1)	06:38	05:43	05:19	05:40	06:27	07:17		08:08		13:12 (1)	08:03		08:44 (3)	08:43		
	17:01	74	13:45 (1)	17:58	134	14:25 (1)		18:48	70	14:07 (1)	20:41	21:30	22:02	21:51	20:59	19:49		18:41	105	14:57 (1)	16:46	125	13:34 (1)	16:29		
19	08:38		09:50 (2)	07:48			09:59 (2)		06:47		12:59 (1)	06:36	05:41	05:19	05:41	06:29	07:19		08:10		13:12 (1)	08:05		08:45 (3)	08:44		
	17:03	80	13:48 (1)	17:59	131	14:26 (1)		18:50	65	14:04 (1)	20:43	21:32	22:03	21:49	20:57	19:47		18:39	105	14:57 (1)	16:44	118	13:32 (1)	16:29		
20	08:37		09:50 (2)	07:46			10:02 (2)		06:44		13:04 (1)	06:34	05:40	05:19	05:43	06:30	07:21		14:21 (1)	08:11		13:12 (1)	08:06		08:47 (3)	08:44		
	17:05	85	13:51 (1)	18:01	126	14:26 (1)		18:51	57	14:01 (1)	20:44	21:33	22:03	21:48	20:55	19:45	3	14:24 (1)	18:37	105	14:57 (1)	16:43	110	13:30 (1)	16:29		
21	08:36		09:14 (3)	07:44			10:05 (2)		06:42		13:09 (1)	06:32	05:38	05:19	05:44	06:32	07:22		14:04 (1)	08:13		10:35 (2)	08:08		08:49 (3)	08:45		
	17:06	102	13:54 (1)	18:03	117	14:25 (1)		18:53	49	13:58 (1)	20:46	21:35	22:03	21:47	20:53	19:42	32	14:36 (1)	18:35	120	14:57 (1)	16:42	102	13:29 (1)	16:30		
22	08:34		09:12 (3)	07:42			12:41 (1)		06:40		13:15 (1)	06:30	05:37	05:19	05:45	06:33	07:24		13:55 (1)	08:15		10:31 (2)	08:10		08:54 (3)	08:45		
	17:08	110	13:55 (1)	18:05	105	14:26 (1)		18:55	37	13:52 (1)	20:48	21:36	22:03	21:46	20:51	19:40	46	14:41 (1)	18:33	126	14:55 (1)	16:41	87	13:27 (1)	16:30		
23	08:33		09:11 (3)	07:40			12:41 (1)		06:37		13:28 (1)	06:28	05:36	05:20	05:47	06:35	07:26		13:50 (1)	08:17		10:28 (2)	08:11		09:27 (2)	08:46		
	17:10	118	13:58 (1)	18:07	105	14:26 (1)		18:56	16	13:44 (1)	20:49	21:37	22:04	21:44	20:49	19:38	55	14:45 (1)	18:31	132	14:55 (1)	16:40	80	13:25 (1)	16:31		
24	08:32		09:10 (3)	07:38			12:41 (1)		06:35			06:26	05:35	05:20	05:48	06:37	07:27		13:44 (1)	08:18		10:26 (2)	08:13		09:27 (2)	08:46		
	17:12	125	14:00 (1)	18:09	105	14:26 (1)		18:58			20:51	21:39	22:04	21:43	20:46	19:35	63	14:47 (1)	18:28	136	14:55 (1)	16:38	74	13:22 (1)	16:31		
25	08:31		09:09 (3)	07:36			12:41 (1)		06:33			06:24	05:33	05:20	05:49	06:38	07:29		13:41 (1)	07:20		09:25 (2)	08:15		09:29 (2)	08:47		
	17:13	131	14:01 (1)	18:10	105	14:26 (1)		19:00			20:53	21:40	22:04	21:42	20:44	19:33	68	14:49 (1)	17:26	137	13:54 (1)	16:37	65	13:19 (1)	16:32		
26	08:30		08:57 (4)	07:34			12:41 (1)		06:30			06:22	05:32	05:21	05:51	06:40	07:31		13:38 (1)	07:22		09:24 (2)	08:16		09:30 (2)	08:47		
	17:15	145	14:04 (1)	18:12	105	14:26 (1)		19:02			20:54	21:41	22:04	21:40	20:42	19:31	73	14:51 (1)	17:24	140	13:54 (1)	16:36	55	13:14 (1)	16:33		
27	08:28		08:55 (4)	07:32			12:40 (1)		06:28			06:20	05:31	05:21	05:52	06:42	07:32		13:34 (1)	07:24		09:23 (2)	08:18		09:32 (2)	08:47		
	17:17	154	14:05 (1)	18:14	105	14:25 (1)		19:03			20:56	21:43	22:04	21:39	20:40	19:28	78	14:52 (1)	17:22	141	13:53 (1)	16:36	34	10:06 (2)	16:33		
28	08:27		08:54 (4)	07:30			12:41 (1)		06:26			06:18	05:30	05:21	05:54	06:43	07:34		13:32 (1)	07:26		08:47 (3)	08:19		09:33 (2)	08:48		
	17:19	161	14:07 (1)	18:16	104	14:25 (1)		19:05			20:58	21:44	22:03	21:37	20:38	19:26	81	14:53 (1)	17:20	151	13:53 (1)	16:35	32	10:05 (2)	16:34		
29	08:25		08:52 (4)					07:24			06:16	05:29	05:22	05:55	06:45	07:36		13:30 (1)	07:27		08:44 (3)	08:21		09:34 (2)	08:48		
	17:20	166	14:08 (1)					20:07			21:00	21:45	22:03	21:36	20:35	19:24	85	14:55 (1)	17:19	158	13:52 (1)	16:34	31	10:05 (2)	16:35		
30	08:24		08:51 (4)					07:21			06:14	05:28	05:23	05:57	06:46	07:37		13:27 (1)	07:29		08:42 (3)	08:22		09:37 (2)	08:48		
	17:22	171	14:09 (1)					20:08			21:01	21:47	22:03	21:34	20:33	19:21	88	14:55 (1)	17:17	162	13:52 (1)	16:33	27	10:04 (2)	16:36		
31	08:22		08:51 (4)					07:19				05:27		05:58	06:48				07:31		08:27 (4)				08:48		
	17:24	175	14:11 (1)					20:10				21:48		21:33	20:31				17:15	173	13:51 (1)				16:37		
Potential sun hours	259			277			367			416	485	499	502	454	381				331			266			243		
Total, worst case		2147			4125			1892								672				3597			3866			108
Sun reduction		0,24			0,30			0,33								0,36				0,34			0,24			0,20
Oper. time red.		0,95			0,95			0,95								0,95				0,95			0,95			0,95
Wind dir. red.		0,62			0,65			0,68								0,68				0,67			0,63			0,59
Total reduction		0,14			0,19			0,21								0,23				0,21			0,14			0,11
Total, real		303			764			400								156				764			542			12

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:34/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion3.7M140@160Shadow receptor: D - 3945LA3

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December	
1	08:48	13:41 (4)	08:21	15:52 (3)	07:27	17:23 (2)	07:17	06:12	05:26	05:23	06:00	06:50		07:39	18:03 (2)	07:33	15:25 (3)	08:24	
	16:38 24	14:05 (4)	17:26 36	16:28 (3)	18:18 22	17:45 (2)	20:12	21:03	21:49	22:03	21:31	20:29		19:19 16	18:19 (2)	17:13 32	15:57 (3)	16:32	
2	08:48	13:42 (4)	08:19	15:51 (3)	07:25	17:22 (2)	07:14	06:10	05:25	05:24	06:01	06:51		07:40	18:01 (2)	07:34	15:23 (3)	08:25	
	16:39 23	14:05 (4)	17:28 37	16:28 (3)	18:19 24	17:46 (2)	20:13	21:05	21:50	22:02	21:29	20:26		19:17 19	18:20 (2)	17:11 33	15:56 (3)	16:32	
3	08:47	13:43 (4)	08:18	15:52 (3)	07:23	17:20 (2)	07:12	06:08	05:25	05:25	06:03	06:53		07:42	17:59 (2)	07:36	15:23 (3)	08:27	
	16:40 22	14:05 (4)	17:30 37	16:29 (3)	18:21 26	17:46 (2)	20:15	21:06	21:51	22:02	21:27	20:24		19:14 22	18:21 (2)	17:09 34	15:57 (3)	16:31	
4	08:47	13:44 (4)	08:16	15:52 (3)	07:21	17:20 (2)	07:10	06:06	05:24	05:25	06:04	06:55		07:44	17:58 (2)	07:38	15:22 (3)	08:28	13:38 (4)
	16:41 20	14:04 (4)	17:31 37	16:29 (3)	18:23 26	17:46 (2)	20:17	21:08	21:52	22:02	21:26	20:22		19:12 23	18:21 (2)	17:07 36	15:58 (3)	16:30 6	13:44 (4)
5	08:47	13:46 (4)	08:14	15:52 (3)	07:18	17:20 (2)	07:07	06:04	05:23	05:26	06:06	06:56		07:45	17:57 (2)	07:40	15:22 (3)	08:29	13:36 (4)
	16:42 18	14:04 (4)	17:33 36	16:28 (3)	18:25 27	17:47 (2)	20:19	21:09	21:53	22:01	21:24	20:20		19:10 25	18:22 (2)	17:06 36	15:58 (3)	16:30 11	13:47 (4)
6	08:47	13:47 (4)	08:13	15:52 (3)	07:16	17:19 (2)	07:05	06:02	05:22	05:27	06:08	06:58		07:47	17:55 (2)	07:42	15:22 (3)	08:31	13:34 (4)
	16:44 16	14:03 (4)	17:35 36	16:28 (3)	18:27 27	17:46 (2)	20:20	21:11	21:54	22:01	21:22	20:17		19:08 27	18:22 (2)	17:04 36	15:58 (3)	16:29 15	13:49 (4)
7	08:46	13:50 (4)	08:11	15:53 (3)	07:14	17:19 (2)	07:03	06:00	05:22	05:28	06:09	06:59		07:49	17:55 (2)	07:43	15:22 (3)	08:32	13:33 (4)
	16:45 12	14:02 (4)	17:37 35	16:28 (3)	18:28 27	17:46 (2)	20:22	21:13	21:55	22:00	21:20	20:15		19:05 27	18:22 (2)	17:02 36	15:58 (3)	16:29 18	13:51 (4)
8	08:46	13:53 (4)	08:09	15:54 (3)	07:12	17:20 (2)	07:01	05:59	05:21	05:29	06:11	07:01		07:51	17:55 (2)	07:45	15:22 (3)	08:33	13:32 (4)
	16:46 7	14:00 (4)	17:39 34	16:28 (3)	18:30 25	17:45 (2)	20:24	21:14	21:56	21:59	21:19	20:13		19:03 27	18:22 (2)	17:00 36	15:58 (3)	16:29 20	13:52 (4)
9	08:45		08:07	15:55 (3)	07:10	17:20 (2)	06:58	05:57	05:21	05:30	06:12	07:03		07:52	17:55 (2)	07:47	15:22 (3)	08:34	13:32 (4)
	16:48		17:41 33	16:28 (3)	18:32 25	17:45 (2)	20:25	21:16	21:57	21:59	21:17	20:10		19:01 27	18:22 (2)	16:59 36	15:58 (3)	16:28 21	13:53 (4)
10	08:45		08:06	15:55 (3)	07:07	17:20 (2)	06:56	05:55	05:20	05:31	06:14	07:04		07:54	17:54 (2)	07:49	15:22 (3)	08:35	13:31 (4)
	16:49		17:43 32	16:27 (3)	18:34 23	17:43 (2)	20:27	21:18	21:57	21:58	21:15	20:08		18:59 26	18:20 (2)	16:57 36	15:58 (3)	16:28 23	13:54 (4)
11	08:44		08:04	15:56 (3)	07:05	17:22 (2)	06:54	05:53	05:20	05:32	06:15	07:06		07:56	17:55 (2)	07:51	15:23 (3)	08:36	13:31 (4)
	16:50		17:44 30	16:26 (3)	18:35 20	17:42 (2)	20:29	21:19	21:58	21:57	21:13	20:06		18:56 25	18:20 (2)	16:56 35	15:58 (3)	16:28 24	13:55 (4)
12	08:44		08:02	15:57 (3)	07:03	17:24 (2)	06:52	05:52	05:20	05:33	06:17	07:08		07:57	17:55 (2)	07:52	15:23 (3)	08:38	13:31 (4)
	16:52		17:46 28	16:25 (3)	18:37 17	17:41 (2)	20:31	21:21	21:59	21:56	21:11	20:03		18:54 24	18:19 (2)	16:54 35	15:58 (3)	16:28 25	13:56 (4)
13	08:43		08:00	15:59 (3)	07:00	17:25 (2)	06:49	05:50	05:19	05:34	06:19	07:09		07:59	17:56 (2)	07:54	15:24 (3)	08:39	13:30 (4)
	16:53		17:48 25	16:24 (3)	18:39 13	17:38 (2)	20:32	21:22	22:00	21:56	21:09	20:01		18:52 22	18:18 (2)	16:52 34	15:58 (3)	16:28 27	13:57 (4)
14	08:42		07:58	16:01 (3)	06:58	17:30 (2)	06:47	05:49	05:19	05:35	06:20	07:11		08:01	17:57 (2)	07:56	15:25 (3)	08:39	13:31 (4)
	16:55		17:50 22	16:23 (3)	18:41 3	17:33 (2)	20:34	21:24	22:00	21:55	21:07	19:59		18:50 19	18:16 (2)	16:51 33	15:58 (3)	16:28 27	13:58 (4)
15	08:41		07:56	16:03 (3)	06:56	18:12 (1)	06:45	05:47	05:19	05:36	06:22	07:12		08:03	17:58 (2)	07:58	15:26 (3)	08:40	13:31 (4)
	16:56		17:52 18	16:21 (3)	18:42 5	18:17 (1)	20:36	21:26	22:01	21:54	21:05	19:56		18:47 15	18:13 (2)	16:50 31	15:57 (3)	16:28 27	13:58 (4)
16	08:41		07:54	16:07 (3)	06:54	18:08 (1)	06:43	05:45	05:19	05:37	06:24	07:14	18:57 (1)	08:04	18:00 (2)	07:59	15:26 (3)	08:41	13:31 (4)
	16:58		17:54 11	16:18 (3)	18:44 10	18:18 (1)	20:37	21:27	22:01	21:53	21:03	19:54 6	19:03 (1)	18:45 11	18:11 (2)	16:48 31	15:57 (3)	16:28 28	13:59 (4)
17	08:40		07:52		06:51	18:06 (1)	06:41	05:44	05:19	05:39	06:25	07:16	18:54 (1)	08:06		08:01		15:27 (3)	08:42	13:32 (4)
	17:00		17:56		18:46 15	18:21 (1)	20:39	21:29	22:02	21:52	21:01	19:52 12	19:06 (1)	18:43		16:47 30	15:57 (3)	16:28 28	14:00 (4)
18	08:39	16:01 (3)	07:50		06:49	18:05 (1)	06:38	05:43	05:19	05:40	06:27	07:17	18:52 (1)	08:08		08:03		15:27 (3)	08:43	13:32 (4)
	17:01 9	16:10 (3)	17:58		18:48 18	18:23 (1)	20:41	21:30	22:02	21:50	20:59	19:49 16	19:08 (1)	18:41		16:45 28	15:55 (3)	16:28 29	14:01 (4)
19	08:38	15:59 (3)	07:48		06:47	18:04 (1)	06:36	05:41	05:19	05:41	06:28	07:19	18:50 (1)	08:10		08:05		15:29 (3)	08:44	13:32 (4)
	17:03 14	16:13 (3)	17:59		18:49 19	18:23 (1)	20:43	21:32	22:02	21:49	20:57	19:47 18	19:08 (1)	18:39		16:44 25	15:54 (3)	16:29 29	14:01 (4)
20	08:37	15:57 (3)	07:46		06:44	18:03 (1)	06:34	05:40	05:19	05:43	06:30	07:21	18:49 (1)	08:11		08:06		15:30 (3)	08:44	13:33 (4)
	17:05 18	16:15 (3)	18:01		18:51 20	18:23 (1)	20:44	21:33	22:03	21:48	20:55	19:45 19	19:08 (1)	18:37		16:43 24	15:54 (3)	16:29 29	14:02 (4)
21	08:36	15:57 (3)	07:44		06:42	18:03 (1)	06:32	05:38	05:19	05:44	06:32	07:22	18:48 (1)	08:13		08:08		15:32 (3)	08:45	13:34 (4)
	17:06 20	16:17 (3)	18:03		18:53 20	18:23 (1)	20:46	21:35	22:03	21:47	20:53	19:42 20	19:08 (1)	18:35		16:42 21	15:53 (3)	16:30 29	14:03 (4)
22	08:34	15:55 (3)	07:42		06:40	18:02 (1)	06:30	05:37	05:19	05:45	06:33	07:24	18:48 (1)	08:15		08:10		15:33 (3)	08:45	13:33 (4)
	17:08 24	16:19 (3)	18:05		18:55 20	18:22 (1)	20:48	21:36	22:03	21:46	20:51	19:40 20	19:08 (1)	18:33		16:41 18	15:51 (3)	16:30 30	14:03 (4)
23	08:33	15:55 (3)	07:40		06:37	18:03 (1)	06:28	05:36	05:19	05:47	06:35	07:26	18:48 (1)	08:17		08:11		15:36 (3)	08:46	13:34 (4)
	17:10 25	16:20 (3)	18:07		18:56 19	18:22 (1)	20:49	21:37	22:03	21:44	20:48	19:38 20	19:08 (1)	18:30		16:39 14	15:50 (3)	16:31 29	14:03 (4)
24	08:32	15:53 (3)	07:38		06:35	18:03 (1)	06:26	05:35	05:20	05:48	06:37	07:27	18:47 (1)	08:18		08:13		15:38 (3)	08:46	13:35 (4)
	17:11 28	16:21 (3)	18:09		18:58 18	18:21 (1)	20:51	21:39	22:04	21:43	20:46	19:35 19	19:06 (1)	18:28		16:38 9	15:47 (3)	16:31 29	14:04 (4)
25	08:31	15:53 (3)	07:36	17:32 (2)	06:33	18:04 (1)	06:24	05:33	05:20	05:49	06:38	07:29	18:48 (1)	07:20		08:15		08:47		13:35 (4)
	17:13 30	16:23 (3)	18:10 5	17:37 (2)	19:00 15	18:19 (1)	20:53	21:40	22:04	21:42	20:44	19:33 18	19:06 (1)	17:26		16:37		16:32 29		14:04 (4)
26	08:29	15:53 (3)	07:34	17:27 (2)	06:30	18:05 (1)	06:22	05:32	05:20	05:51	06:40	07:30	18:49 (1)	07:22	15:35 (3)	08:16		08:47		13:35 (4)
	17:15 31	16:24 (3)	18:12 13	17:40 (2)	19:01 13	18:18 (1)	20:54	21:41	22:04	21:40	20:42	19:31 15	19:04 (1)	17:24 13	15:48 (3)	16:36		16:32 29		14:04 (4)
27	08:28	15:53 (3)	07:32	17:25 (2)	06:28	18:08 (1)	06:19	05:31	05:21	05:52	06:41	07:32	18:49 (1)	07:24	15:32 (3)	08:18		08:47		13:36 (4)
	17:17 32	16:25 (3)	18:14 17	17:42 (2)	19:03 8	18:16 (1)	20:56	21:43	22:04	21:39	20:40	19:28 12	19:01 (1)	17:22 19	15:51 (3)	16:35		16:33 28		14:04 (4)
28	08:27	15:53 (3)	07:29	17:24 (2)	06:26		06:17	05:30	05:21	05:54	06:43	07:34	18:51 (1)	07:25	15:30 (3)	08:19		08:47		13:38 (4)
	17:19 33	16:26 (3)	18:16 20	17:44 (2)	19:05		20:58	21:44	22:03	21:37	20:38	19:26 8	18:59 (1)	17:20 23	15:53 (3)	16:35		16:34 27		14:05 (4)
29	08:25	15:52 (3)			07:23		06:15	05:29	05:22	05:55	06:45	07:35		07:27	15:28 (3)	08:21		08:48		13:38 (4)
	17:20 34	16:26 (3)			20:07		20:59	21:45	22:03	21:36	20:35	19:24		17:18 26	15:54 (3)	16:34		16:35 27		14:05 (4)
30	08:24	15:51 (3)			07:21		06:14	05:28	05:23	05:57	06:46	07:37	18:06 (2)	07:29	15:27 (3)	08:22		08:48		13:38 (4)
	17:22 35	16:26 (3)			20:08		21:01	21:46	22:03	21:34	20:33	19:21 10	18:16 (2)	17:17 28	15:55 (3)	16:33		16:36 27		14:05 (4)
31	08:22	15:52 (3)			07:19			05:27		05:58	06:48			07:31	15:26 (3)			08:48		13:39 (4)
	17:24 36	16:28 (3)			20:10			21:48		21:32	20:31			17:15 30	15:56 (3)			16:37 26		14:05 (4)
Potential sun hours	259		277		367		416	485	499	502	454	381		331		266		243		
Total, worst case		511		542		505							213		494		719		697	
Sun reduction		0,24		0,30		0,33							0,36		0,34		0,24		0,20	
Oper. time red.		0,95		0,95		0,95							0,95		0,95		0,95		0,95	
Wind dir. red.		0,67		0,67		0,64							0,63		0,65		0,67		0,68	
Total reduction		0,15		0,19		0,20							0,22		0,21		0,15		0,13	
Total, real		78		104		101							46		103		108		91	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:34/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion3.7M140@160Shadow receptor: E - 3945LA5

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September	October		November		December		
1	08:48		15:00 (3)	08:21		15:12 (3)	07:27	16:59 (2)	07:17	06:12	05:26	05:23	06:00	06:50	07:39		18:39 (1)	07:33		08:24		14:44 (3)
	16:38	33	15:33 (3)	17:26	31	15:43 (3)	18:18	30	17:29 (2)	20:12	21:03	21:49	22:03	21:31	20:29		19:19	11	18:50 (1)	17:13			16:32	38	15:22 (3)
2	08:48		15:00 (3)	08:19		15:13 (3)	07:25		16:59 (2)	07:14	06:10	05:25	05:24	06:01	06:51		07:40			07:34			08:25		14:45 (3)
	16:39	34	15:34 (3)	17:28	29	15:42 (3)	18:19	30	17:29 (2)	20:13	21:05	21:50	22:02	21:29	20:26		19:17			17:11			16:32	38	15:23 (3)
3	08:48		15:01 (3)	08:18		15:15 (3)	07:23		16:59 (2)	07:12	06:08	05:25	05:25	06:03	06:53		07:42			07:36			08:27		14:45 (3)
	16:40	34	15:35 (3)	17:30	27	15:42 (3)	18:21	29	17:28 (2)	20:15	21:06	21:51	22:02	21:27	20:24		19:14			17:09			16:31	38	15:23 (3)
4	08:47		15:00 (3)	08:16		15:17 (3)	07:21		16:59 (2)	07:10	06:06	05:24	05:25	06:04	06:55		07:44		17:49 (2)	07:38			08:28		14:46 (3)
	16:41	35	15:35 (3)	17:31	23	15:40 (3)	18:23	28	17:27 (2)	20:17	21:08	21:52	22:02	21:26	20:22		19:12	2	17:51 (2)	17:07			16:30	37	15:23 (3)
5	08:47		15:01 (3)	08:14		15:20 (3)	07:18		17:00 (2)	07:07	06:04	05:23	05:26	06:06	06:56		07:45		17:43 (2)	07:40		14:52 (3)	08:29		14:46 (3)
	16:42	35	15:36 (3)	17:33	18	15:38 (3)	18:25	26	17:26 (2)	20:19	21:10	21:53	22:01	21:24	20:20		19:10	14	17:57 (2)	17:06	13	15:05 (3)	16:30	37	15:23 (3)
6	08:47		15:00 (3)	08:13		15:23 (3)	07:16		17:01 (2)	07:05	06:02	05:22	05:27	06:08	06:58		07:47		17:40 (2)	07:42		14:49 (3)	08:31		14:46 (3)
	16:44	37	15:37 (3)	17:35	11	15:34 (3)	18:27	23	17:24 (2)	20:20	21:11	21:54	22:01	21:22	20:17		19:08	18	17:58 (2)	17:04	19	15:08 (3)	16:29	37	15:23 (3)
7	08:46		15:01 (3)	08:11			07:14		17:03 (2)	07:03	06:00	05:22	05:28	06:09	06:59		07:49		17:38 (2)	07:44		14:47 (3)	08:32		14:48 (3)
	16:45	37	15:38 (3)	17:37			18:29	20	17:23 (2)	20:22	21:13	21:55	22:00	21:20	20:15		19:05	21	17:59 (2)	17:02	23	15:10 (3)	16:29	36	15:24 (3)
8	08:46		15:01 (3)	08:09			07:12		17:05 (2)	07:01	05:59	05:21	05:29	06:11	07:01		07:51		17:36 (2)	07:45		14:45 (3)	08:33		14:48 (3)
	16:46	37	15:38 (3)	17:39			18:30	16	17:21 (2)	20:24	21:14	21:56	21:59	21:19	20:13		19:03	25	18:01 (2)	17:00	26	15:11 (3)	16:29	35	15:23 (3)
9	08:45		15:02 (3)	08:07			07:10		17:08 (2)	06:58	05:57	05:21	05:30	06:12	07:03		07:52		17:35 (2)	07:47		14:44 (3)	08:34		14:49 (3)
	16:48	38	15:40 (3)	17:41			18:32	10	17:18 (2)	20:25	21:16	21:57	21:59	21:17	20:10		19:01	27	18:02 (2)	16:59	29	15:13 (3)	16:28	34	15:23 (3)
10	08:45		15:02 (3)	08:06			07:07			06:56	05:55	05:20	05:31	06:14	07:04		07:54		17:33 (2)	07:49		14:42 (3)	08:35		14:49 (3)
	16:49	38	15:40 (3)	17:43			18:34			20:27	21:18	21:57	21:58	21:15	20:08		18:59	28	18:01 (2)	16:57	32	15:14 (3)	16:28	34	15:23 (3)
11	08:44		15:01 (3)	08:04			07:05			06:54	05:53	05:20	05:32	06:15	07:06		07:56		17:32 (2)	07:51		14:42 (3)	08:37		14:50 (3)
	16:50	39	15:40 (3)	17:44			18:35			20:29	21:19	21:58	21:57	21:13	20:06		18:56	30	18:02 (2)	16:56	33	15:15 (3)	16:28	33	15:23 (3)
12	08:44		15:01 (3)	08:02			07:03		18:02 (1)	06:52	05:52	05:20	05:33	06:17	07:08		07:57		17:32 (2)	07:52		14:41 (3)	08:38		14:50 (3)
	16:52	40	15:41 (3)	17:46			18:37	8	18:10 (1)	20:31	21:21	21:59	21:56	21:11	20:03		18:54	30	18:02 (2)	16:54	35	15:16 (3)	16:28	33	15:23 (3)
13	08:43		15:01 (3)	08:00			07:00		17:58 (1)	06:49	05:50	05:19	05:34	06:19	07:09		07:59		17:32 (2)	07:54		14:40 (3)	08:39		14:51 (3)
	16:53	40	15:41 (3)	17:48			18:39	14	18:12 (1)	20:32	21:22	22:00	21:56	21:09	20:01		18:52	30	18:02 (2)	16:52	37	15:17 (3)	16:28	32	15:23 (3)
14	08:42		15:02 (3)	07:58			06:58		17:57 (1)	06:47	05:49	05:19	05:35	06:20	07:11		08:01		17:31 (2)	07:56		14:40 (3)	08:40		14:52 (3)
	16:55	40	15:42 (3)	17:50			18:41	17	18:14 (1)	20:34	21:24	22:00	21:55	21:07	19:59		18:50	31	18:02 (2)	16:51	38	15:18 (3)	16:28	32	15:24 (3)
15	08:41		15:02 (3)	07:56			06:56		17:56 (1)	06:45	05:47	05:19	05:36	06:22	07:12		08:03		17:30 (2)	07:58		14:40 (3)	08:40		14:52 (3)
	16:56	40	15:42 (3)	17:52			18:42	19	18:15 (1)	20:36	21:26	22:01	21:54	21:05	19:56		18:47	31	18:01 (2)	16:50	38	15:18 (3)	16:28	32	15:24 (3)
16	08:41		15:02 (3)	07:54			06:54		17:54 (1)	06:43	05:45	05:19	05:37	06:24	07:14		08:04		17:31 (2)	07:59		14:40 (3)	08:41		14:53 (3)
	16:58	41	15:43 (3)	17:54			18:44	21	18:15 (1)	20:37	21:27	22:01	21:53	21:03	19:54		18:45	30	18:01 (2)	16:48	39	15:19 (3)	16:28	31	15:24 (3)
17	08:40		15:02 (3)	07:52			06:51		17:53 (1)	06:41	05:44	05:19	05:39	06:25	07:16		08:06		17:31 (2)	08:01		14:40 (3)	08:42		14:54 (3)
	17:00	41	15:43 (3)	17:56			18:46	23	18:16 (1)	20:39	21:29	22:02	21:52	21:01	19:52		18:43	30	18:01 (2)	16:47	40	15:20 (3)	16:28	31	15:25 (3)
18	08:39		15:03 (3)	07:50		17:09 (2)	06:49		17:53 (1)	06:38	05:43	05:19	05:40	06:27	07:17		18:46 (1)	08:08		17:31 (2)	08:03		14:39 (3)	08:43		14:55 (3)
	17:01	41	15:44 (3)	17:58	11	17:20 (2)	18:48	23	18:16 (1)	20:41	21:30	22:02	21:50	20:59	19:49	9	18:55 (1)	18:41	29	18:00 (2)	16:45	40	15:19 (3)	16:28	31	15:26 (3)
19	08:38		15:03 (3)	07:48		17:07 (2)	06:47		17:52 (1)	06:36	05:41	05:19	05:41	06:28	07:19		18:43 (1)	08:10		17:32 (2)	08:05		14:39 (3)	08:44		14:55 (3)
	17:03	42	15:45 (3)	17:59	16	17:23 (2)	18:49	23	18:15 (1)	20:43	21:32	22:02	21:49	20:57	19:47	13	18:56 (1)	18:39	27	17:59 (2)	16:44	41	15:20 (3)	16:29	30	15:25 (3)
20	08:37		15:04 (3)	07:46		17:04 (2)	06:44		17:53 (1)	06:34	05:40	05:19	05:43	06:30	07:21		18:41 (1)	08:11		17:33 (2)	08:06		14:39 (3)	08:44		14:56 (3)
	17:05	41	15:45 (3)	18:01	20	17:24 (2)	18:51	22	18:15 (1)	20:44	21:33	22:03	21:48	20:55	19:45	17	18:58 (1)	18:37	25	17:58 (2)	16:43	41	15:20 (3)	16:29	30	15:26 (3)
21	08:36		15:04 (3)	07:44		17:02 (2)	06:42		17:53 (1)	06:32	05:38	05:19	05:44	06:32	07:22		18:39 (1)	08:13		17:33 (2)	08:08		14:39 (3)	08:45		14:57 (3)
	17:06	42	15:46 (3)	18:03	24	17:26 (2)	18:53	22	18:15 (1)	20:46	21:35	22:03	21:47	20:53	19:42	19	18:58 (1)	18:35	23	17:56 (2)	16:42	42	15:21 (3)	16:30	30	15:27 (3)
22	08:34		15:04 (3)	07:42		17:01 (2)	06:40		17:53 (1)	06:30	05:37	05:19	05:45	06:33	07:24		18:38 (1)	08:15		17:35 (2)	08:10		14:40 (3)	08:45		14:57 (3)
	17:08	41	15:45 (3)	18:05	26	17:27 (2)	18:55	20	18:13 (1)	20:48	21:36	22:03	21:46	20:51	19:40	21	18:59 (1)	18:33	19	17:54 (2)	16:41	41	15:21 (3)	16:30	30	15:27 (3)
23	08:33		15:05 (3)	07:40		17:01 (2)	06:37		17:54 (1)	06:28	05:36	05:19	05:47	06:35	07:26		18:37 (1)	08:17		17:37 (2)	08:11		14:40 (3)	08:46		14:57 (3)
	17:10	41	15:46 (3)	18:07	27	17:28 (2)	18:56	18	18:12 (1)	20:49	21:37	22:03	21:44	20:48	19:38	22	18:59 (1)	18:30	15	17:52 (2)	16:39	42	15:22 (3)	16:31	30	15:27 (3)
24	08:32		15:05 (3)	07:38		17:00 (2)	06:35		17:56 (1)	06:26	05:35	05:20	05:48	06:37	07:27		18:36 (1)	08:18		17:40 (2)	08:13		14:40 (3)	08:46		14:58 (3)
	17:11	40	15:45 (3)	18:09	29	17:29 (2)	18:58	14	18:10 (1)	20:51	21:39	22:04	21:43	20:46	19:35	23	18:59 (1)	18:28	8	17:48 (2)	16:38	41	15:21 (3)	16:31	30	15:28 (3)
25	08:31		15:06 (3)	07:36		17:00 (2)	06:33		17:57 (1)	06:24	05:33	05:20	05:49	06:38	07:29		18:36 (1)	07:20			08:15		14:40 (3)	08:47		14:58 (3)
	17:13	40	15:46 (3)	18:10	29	17:29 (2)	19:00	10	18:07 (1)	20:53	21:40	22:04	21:42	20:44	19:33	23	18:59 (1)	17:26			16:37	42	15:22 (3)	16:32	30	15:28 (3)
26	08:29		15:07 (3)	07:34		16:58 (2)	06:30			06:22	05:32	05:20	05:51	06:40	07:30		18:36 (1)	07:22			08:16		14:41 (3)	08:47		14:58 (3)
	17:15	39	15:46 (3)	18:12	31	17:29 (2)	19:01			20:54	21:41	22:04	21:40	20:42	19:31	22	18:58 (1)	17:24			16:36	41	15:22 (3)	16:32	31	15:29 (3)
27	08:28		15:07 (3)	07:32		16:58 (2)	06:28			06:20	05:31	05:21	05:52	06:41	07:32		18:35 (1)	07:24			08:18		14:42 (3)	08:47		14:58 (3)
	17:17	38	15:45 (3)	18:14	31	17:29 (2)	19:03			20:56	21:43	22:04	21:39	20:40	19:28	22	18:57 (1)	17:22			16:35	40	15:22 (3)	16:33	31	15:29 (3)
28	08:27		15:08 (3)	07:29		16:58 (2)	06:26			06:17	05:30	05:21	05:54	06:43	07:34		18:36 (1)	07:25			08:19		14:42 (3)	08:47		14:59 (3)
	17:19	38	15:46 (3)	18:16	31	17:29 (2)	19:05			20:58	21:44	22:03	21:37	20:38	19:26	20	18:56 (1)	17:20			16:35	40	15:22 (3)	16:34	32	15:31 (3)
29	08:25		15:09 (3)				07:23			06:16	05:29	05:22	05:55	06:45	07:35		18:37 (1)	07:27			08:21		14:43 (3)	08:48		15:00 (3)
	17:20	36	15:45 (3)				20:07			20:59	21:45	22:03	21:36	20:35	19:24	18	18:55 (1)	17:18			16:34	39	15:22 (3)	16:35	31	15:31 (3)
30	08:24		15:09 (3)				07:21			06:14	05:28	05:23	05:57	06:46	07:37		18:37 (1)	07:29			08:22		14:43 (3)	08:48		15:00 (3)
	17:22	35	15:44 (3)				20:08			21:01	21:46	22:03	21:34	20:33	19:21	15	18:52 (1)	17:17			16:33	39	15:22 (3)	16:36	32	15:32 (3)
31	08:22		15:11 (3)				07:19				05:27		05:58	06:48				07:31						08:48		14:59 (3)
	17:24	33	15:44 (3)				20:10				21:48		21:32	20:31				17:15						16:37	33	15:32 (3)
Potential sun hours	259			277			367		416	485	499	502	454	381				331			266			243		
Total, worst case		1186			414			466							244				504			931			1019	
Sun reduction		0,24			0,30			0,33							0,36				0,34			0,24			0,20	
Oper. time red.		0,95			0,95			0,95							0,95				0,95			0,95			0,95	
Wind dir. red.		0,69			0,67			0,64							0,63				0,66			0,69			0,69	
Total reduction		0,16			0,19			0,20							0,22				0,21			0,16			0,13	
Total, real		187			80			94							53				107			145			136	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:34/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion3.7M140@160Shadow receptor: F - 3998NH4

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	07:53 (3) 06:12	05:26	06:42 (2) 05:23	06:48 (2) 06:00	07:02 (2) 06:50	07:53 (3) 07:39	08:05 (4) 07:33	08:24
	16:38	17:26	18:18	20:12 30	08:23 (3) 21:03	21:49 56	07:38 (2) 22:03 56	07:44 (2) 21:31 36	07:38 (2) 20:29 22	08:15 (3) 19:19 13	08:18 (4) 17:13	16:32
2	08:48	08:19	07:25	07:14	07:52 (3) 06:10	05:25	06:42 (2) 05:24	06:48 (2) 06:01	07:03 (2) 06:51	07:50 (3) 07:41	08:07 (4) 07:35	08:25
	16:39	17:28	18:20	20:14 31	08:23 (3) 21:05	21:50 56	07:38 (2) 22:03 56	07:44 (2) 21:29 34	07:37 (2) 20:26 25	08:15 (3) 19:17 8	08:15 (4) 17:11	16:32
3	08:48	08:18	07:23	07:12	07:52 (3) 06:08	05:25	06:43 (2) 05:25	06:48 (2) 06:03	07:05 (2) 06:53	07:50 (3) 07:42		08:27
	16:40	17:30	18:21	20:15 31	08:23 (3) 21:06	21:51 56	07:39 (2) 22:02 56	07:44 (2) 21:28 31	07:36 (2) 20:24 26	08:16 (3) 19:15		16:31
4	08:47	08:16	07:21	07:10	07:51 (3) 06:06	05:24	06:42 (2) 05:25	06:48 (2) 06:05	07:06 (2) 06:55	07:49 (3) 07:44		08:28
	16:41	17:32	18:23	20:17 31	08:22 (3) 21:08	21:52 56	07:38 (2) 22:02 56	07:44 (2) 21:26 27	07:33 (2) 20:22 28	08:17 (3) 19:12		16:31
5	08:47	08:14	07:19	07:07	07:51 (3) 06:04	05:23	06:42 (2) 05:26	06:48 (2) 06:06	07:09 (2) 06:56	07:47 (3) 07:46		08:29
	16:43	17:33	18:25	20:19 31	08:22 (3) 21:10	21:53 56	07:38 (2) 22:01 57	07:45 (2) 21:24 23	07:32 (2) 20:20 30	08:17 (3) 19:10		16:30
6	08:47	08:13	07:16	07:05	07:51 (3) 06:02 07:03 (2)	05:23	06:43 (2) 05:27	06:49 (2) 06:08	07:11 (2) 06:58	07:47 (3) 07:47		08:31
	16:44	17:35	18:27	20:20 31	08:22 (3) 21:11 13	07:16 (2) 21:54 56	07:39 (2) 22:01 56	07:45 (2) 21:22 18	07:29 (2) 20:17 31	08:18 (3) 19:08		16:30
7	08:46	08:11	07:14	07:03	07:51 (3) 06:01	07:00 (2) 05:22	06:42 (2) 05:28	06:49 (2) 06:09	07:15 (2) 07:00	07:46 (3) 07:49		08:32
	16:45	17:37	18:28	20:22 30	08:21 (3) 21:13 20	07:20 (2) 21:55 56	07:38 (2) 22:00 56	07:45 (2) 21:20 8	07:23 (2) 20:15 31	08:17 (3) 19:05		16:29
8	08:46	08:09	07:12	07:01	07:51 (3) 05:59	06:57 (2) 05:21	06:43 (2) 05:29	06:50 (2) 06:11	07:01	07:46 (3) 07:51		08:33
	16:46	17:39	18:30	20:24 28	08:19 (3) 21:15 25	07:22 (2) 21:56 56	07:39 (2) 21:59 56	07:46 (2) 21:19	20:13 31	08:17 (3) 19:03		16:29
9	08:45	08:08	07:10	06:58	07:52 (3) 05:57	06:55 (2) 05:21	06:43 (2) 05:30	06:49 (2) 06:12	07:03	07:45 (3) 07:52		08:34
	16:48	17:41	18:32	20:26 26	08:18 (3) 21:16 29	07:24 (2) 21:57 57	07:40 (2) 21:59 56	07:45 (2) 21:17	20:10 31	08:16 (3) 19:01		16:29
10	08:45	08:06	07:07	06:56	07:52 (3) 05:55	06:54 (2) 05:21	06:43 (2) 05:31	06:49 (2) 06:14	07:04	07:45 (3) 07:54		08:35
	16:49	17:43	18:34	20:27 25	08:17 (3) 21:18 32	07:26 (2) 21:57 56	07:39 (2) 21:58 56	07:45 (2) 21:15	20:08 31	08:16 (3) 18:59		16:28
11	08:44	08:04	07:05 07:31 (4)	06:54	07:54 (3) 05:54	06:52 (2) 05:20	06:43 (2) 05:32	06:49 (2) 06:16	07:06	07:46 (3) 07:56		08:37
	16:51	17:45	18:36 3 07:34 (4)	20:29 22	08:16 (3) 21:19 35	07:27 (2) 21:58 57	07:40 (2) 21:57 56	07:45 (2) 21:13	20:06 30	08:16 (3) 18:56		16:28
12	08:44	08:02	07:03 07:27 (4)	06:52	07:55 (3) 05:52	06:51 (2) 05:20	06:44 (2) 05:33	06:50 (2) 06:17	07:08	07:46 (3) 07:57		08:38
	16:52	17:46	18:37 11 07:38 (4)	20:31 19	08:14 (3) 21:21 37	07:28 (2) 21:59 56	07:40 (2) 21:56 55	07:45 (2) 21:11	20:03 28	08:14 (3) 18:54		16:28
13	08:43	08:00	07:01 07:24 (4)	06:49	07:56 (3) 05:50	06:49 (2) 05:20	06:44 (2) 05:34	06:50 (2) 06:19	07:09	07:46 (3) 07:59		08:39
	16:54	17:48	18:39 15 07:39 (4)	20:32 14	08:10 (3) 21:23 40	07:29 (2) 22:00 56	07:40 (2) 21:56 55	07:45 (2) 21:09	20:01 28	08:14 (3) 18:52		16:28
14	08:42	07:58	06:58 07:22 (4)	06:47	08:00 (3) 05:49	06:49 (2) 05:19	06:44 (2) 05:35	06:51 (2) 06:20	07:11	07:46 (3) 08:01		08:40
	16:55	17:50	18:41 18 07:40 (4)	20:34 6	08:06 (3) 21:24 41	07:30 (2) 22:00 56	07:40 (2) 21:55 55	07:46 (2) 21:07	19:59 26	08:12 (3) 18:50		16:28
15	08:41	07:56	06:56 07:22 (4)	06:45	05:47	06:47 (2) 05:19	06:44 (2) 05:36	06:51 (2) 06:22	07:13	07:48 (3) 08:03		08:40
	16:57	17:52	18:43 19 07:41 (4)	20:36	21:26 43	07:30 (2) 22:01 56	07:40 (2) 21:54 55	07:46 (2) 21:05	19:56 23	08:11 (3) 18:48		16:28
16	08:41	07:54	06:54 07:20 (4)	06:43	05:46	06:47 (2) 05:19	06:44 (2) 05:38	06:51 (2) 06:24	07:14	07:49 (3) 08:04		08:41
	16:58	17:54	18:44 21 07:41 (4)	20:37	21:27 45	07:32 (2) 22:01 56	07:40 (2) 21:53 55	07:46 (2) 21:03	19:54 19	08:08 (3) 18:45		16:28
17	08:40	07:52	06:51 07:20 (4)	06:41	05:44	06:46 (2) 05:19	06:44 (2) 05:39	06:52 (2) 06:25	07:16	07:51 (3) 08:06		08:42
	17:00	17:56	18:46 21 07:41 (4)	20:39	21:29 47	07:33 (2) 22:02 56	07:40 (2) 21:52 54	07:46 (2) 21:01	19:52 15	08:06 (3) 18:43		16:28
18	08:39	07:50	06:49 07:20 (4)	06:38	05:43	06:45 (2) 05:19	06:44 (2) 05:40	06:52 (2) 06:27	07:17	07:55 (3) 08:08		08:43
	17:01	17:58	18:48 21 07:41 (4)	20:41	21:30 48	07:33 (2) 22:02 57	07:41 (2) 21:51 54	07:46 (2) 20:59	19:49 7	08:02 (3) 18:41		16:29
19	08:38	07:48	06:47 07:19 (4)	06:36	05:41	06:44 (2) 05:19	06:45 (2) 05:41	06:52 (2) 06:29	07:19	08:11 (4) 08:10		08:44
	17:03	17:59	18:50 21 07:40 (4)	20:43	21:32 50	07:34 (2) 22:03 56	07:41 (2) 21:49 53	07:45 (2) 20:57	19:47 7	08:18 (4) 18:39		16:29
20	08:37	07:46	06:44 07:19 (4)	06:34	05:40	06:44 (2) 05:19	06:46 (2) 05:43	06:53 (2) 06:30	07:21	08:09 (4) 08:11		08:44
	17:05	18:01	18:51 21 07:40 (4)	20:44	21:33 50	07:34 (2) 22:03 56	07:42 (2) 21:48 53	07:46 (2) 20:55	19:45 12	08:21 (4) 18:37		16:29
21	08:36	07:44	06:42 07:20 (4)	06:32	05:38	06:44 (2) 05:19	06:46 (2) 05:44	06:53 (2) 06:32	07:22	08:06 (4) 08:13		08:45
	17:06	18:03	18:53 19 07:39 (4)	20:46	21:35 51	07:35 (2) 22:03 56	07:42 (2) 21:47 52	07:45 (2) 20:53	19:42 16	08:22 (4) 18:35		16:30
22	08:34	07:42	06:40 07:20 (4)	06:30	05:37	06:43 (2) 05:19	06:46 (2) 05:45	06:53 (2) 06:33	07:24	08:05 (4) 08:15		08:45
	17:08	18:05	18:55 17 07:37 (4)	20:48	21:36 52	07:35 (2) 22:03 56	07:42 (2) 21:46 52	07:45 (2) 20:51	19:40 18	08:23 (4) 18:33		16:30
23	08:33	07:40	06:37 07:22 (4)	06:28	05:36	06:43 (2) 05:20	06:46 (2) 05:47	06:54 (2) 06:35	07:26	08:04 (4) 08:17		08:46
	17:10	18:07	18:56 13 07:35 (4)	20:49	21:37 52	07:35 (2) 22:03 56	07:42 (2) 21:44 50	07:44 (2) 20:49	19:38 20	08:24 (4) 18:31		16:31
24	08:32	07:38	06:35 07:24 (4)	06:26	05:35	06:42 (2) 05:20	06:47 (2) 05:48	06:55 (2) 06:37	07:27	08:03 (4) 08:18		08:46
	17:12	18:09	18:58 9 07:33 (4)	20:51	21:39 54	07:36 (2) 22:04 56	07:43 (2) 21:43 50	07:45 (2) 20:46	19:35 21	08:24 (4) 18:29		16:31
25	08:31	07:36	06:33 07:08 (3)	06:24	05:33	06:42 (2) 05:20	06:46 (2) 05:50	06:55 (2) 06:38	07:29	08:02 (4) 08:20		08:47
	17:13	18:10	19:00 4 07:12 (3)	20:53	21:40 54	07:36 (2) 22:04 56	07:42 (2) 21:42 49	07:44 (2) 20:44	19:33 22	08:24 (4) 17:26		16:32
26	08:29	07:34	06:30 07:03 (3)	06:22	05:32	06:42 (2) 05:21	06:46 (2) 05:51	06:55 (2) 06:40	07:31	08:02 (4) 07:22		08:47
	17:15	18:12	19:02 14 07:17 (3)	20:54	21:41 54	07:36 (2) 22:04 56	07:42 (2) 21:40 48	07:43 (2) 20:42	19:31 22	08:24 (4) 17:24		16:33
27	08:28	07:32	06:28 07:01 (3)	06:20	05:31	06:42 (2) 05:21	06:47 (2) 05:52	06:57 (2) 06:42	07:32	08:02 (4) 07:24		08:47
	17:17	18:14	19:03 18 07:19 (3)	20:56	21:43 55	07:37 (2) 22:04 56	07:43 (2) 21:39 46	07:43 (2) 20:40	19:28 21	08:23 (4) 17:22		16:33
28	08:27	07:30	06:26 06:58 (3)	06:18	05:30	06:42 (2) 05:22	06:47 (2) 05:54	06:57 (2) 06:43	07:34	08:02 (4) 07:26		08:48
	17:19	18:16	19:05 22 07:20 (3)	20:58	21:44 55	07:37 (2) 22:03 56	07:43 (2) 21:37 45	07:42 (2) 20:38	19:26 20	08:22 (4) 17:21		16:34
29	08:25		07:24 07:56 (3)	06:16	05:29	06:42 (2) 05:22	06:47 (2) 05:55	06:58 (2) 06:45	08:00 (3) 07:36	08:03 (4) 07:27		08:48
	17:21		20:07 25 08:21 (3)	21:00	21:45 55	07:37 (2) 22:03 56	07:43 (2) 21:36 43	07:41 (2) 20:35 8	08:08 (3) 19:24 19	08:22 (4) 17:19		16:35
30	08:24		07:21 07:55 (3)	06:14	05:28	06:42 (2) 05:23	06:47 (2) 05:57	06:59 (2) 06:46	07:57 (3) 07:37	08:03 (4) 07:29		08:48
	17:22		20:08 27 08:22 (3)	21:01	21:47 56	07:38 (2) 22:03 56	07:43 (2) 21:34 41	07:40 (2) 20:33 14	08:11 (3) 19:21 16	08:19 (4) 17:17		16:36
31	08:22		07:19 07:54 (3)		05:27 06:42 (2)		05:58 07:00 (2) 06:48	07:54 (3)		07:31		08:48
	17:24		20:10 29 08:23 (3)		21:48 56 07:38 (2)		21:33 39 07:39 (2) 20:31 19	08:13 (3)		17:15		16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case			368	355	1149	1683	1621	218	676	21		
Sun reduction			0,33	0,42	0,43	0,39	0,41	0,42	0,36	0,34		
Oper. time red.			0,95	0,95	0,95	0,95	0,95	0,95	0,95	0,95		
Wind dir. red.			0,60	0,62	0,65	0,65	0,65	0,64	0,61	0,60		
Total reduction			0,19	0,24	0,26	0,24	0,25	0,25	0,21	0,19		
Total, real			69	87	302	404	406	55	142	4		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:34/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion3.7M140@160Shadow receptor: G - 3945LA2a

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December		
1	08:48		14:29 (3)	08:21			07:17	06:12	05:26	05:23	06:00	06:50		07:39		18:17 (1)	07:33		16:08 (2)	08:24		14:17 (3)
	16:38	39	15:08 (3)	17:26			20:12	21:03	21:49	22:03	21:31	20:29		19:19	23	18:40 (1)	17:13	25	16:33 (2)	16:32	35	14:52 (3)
2	08:48		14:29 (3)	08:19			07:14	06:10	05:25	05:24	06:01	06:51		07:40		18:17 (1)	07:34		16:09 (2)	08:25		14:17 (3)
	16:39	39	15:08 (3)	17:28			20:13	21:05	21:50	22:02	21:29	20:26		19:17	23	18:40 (1)	17:11	21	16:30 (2)	16:32	37	14:54 (3)
3	08:48		14:30 (3)	08:18			07:12	06:08	05:25	05:25	06:03	06:53		07:42		18:15 (1)	07:36		16:10 (2)	08:27		14:17 (3)
	16:40	39	15:09 (3)	17:30			20:15	21:06	21:51	22:02	21:27	20:24		19:14	24	18:39 (1)	17:09	19	16:29 (2)	16:31	37	14:54 (3)
4	08:47		14:30 (3)	08:16			07:21	17:46 (1)	07:10	06:06	05:24	05:25	06:04	06:55		07:44		18:16 (1)	07:38		16:12 (2)	08:28		14:18 (3)
	16:41	39	15:09 (3)	17:31			18:23	9	17:55 (1)	20:17	21:08	21:52	22:02	21:26		19:12	22	18:38 (1)	17:07	15	16:27 (2)	16:30	37	14:55 (3)
5	08:47		14:31 (3)	08:14			07:18	17:44 (1)	07:07	06:04	05:23	05:26	06:06	06:56		07:45		18:16 (1)	07:40		16:15 (2)	08:29		14:17 (3)
	16:42	38	15:09 (3)	17:33			18:25	13	17:57 (1)	20:19	21:10	21:53	22:01	21:24		20:20		19:10	22	18:38 (1)	17:06	9	16:24 (2)	16:30	38	14:55 (3)
6	08:47		14:31 (3)	08:13	16:45 (2)		07:16	17:41 (1)	07:05	06:02	05:22	05:27	06:08	06:58		07:47		18:16 (1)	07:42			08:31		14:17 (3)
	16:44	38	15:09 (3)	17:35	16:55 (2)	10	18:27	17	17:58 (1)	20:20	21:11	21:54	22:01	21:22		20:17		19:08	20	18:36 (1)	17:04			16:29	38	14:55 (3)
7	08:46		14:32 (3)	08:11	16:42 (2)		07:14		17:40 (1)	07:03	06:00	05:22	05:28	06:09		06:59		07:49		18:17 (1)	07:44			08:32		14:18 (3)
	16:45	38	15:10 (3)	17:37	16:57 (2)	15	18:28	20	18:00 (1)	20:22	21:13	21:55	22:00	21:20		20:15		19:05	18	18:35 (1)	17:02			16:29	38	14:56 (3)
8	08:46		14:33 (3)	08:09	16:41 (2)		07:12		17:39 (1)	07:01	05:59	05:21	05:29	06:11		07:01		07:51		18:18 (1)	07:45			08:33		14:18 (3)
	16:46	37	15:10 (3)	17:39	17:00 (2)	19	18:30	22	18:01 (1)	20:24	21:14	21:56	21:59	21:19		20:13		19:03	15	18:33 (1)	17:00			16:29	39	14:57 (3)
9	08:45		14:34 (3)	08:07	16:40 (2)		07:10		17:39 (1)	06:58	05:57	05:21	05:30	06:12		07:03		07:52		18:20 (1)	07:47			08:34		14:18 (3)
	16:48	37	15:11 (3)	17:41	17:02 (2)	22	18:32	22	18:01 (1)	20:25	21:16	21:57	21:59	21:17		20:10		19:01	11	18:31 (1)	16:59			16:28	39	14:57 (3)
10	08:45		14:34 (3)	08:06	16:39 (2)		07:07		17:38 (1)	06:56	05:55	05:20	05:31	06:14		07:04		07:54		18:23 (1)	07:49			08:35		14:19 (3)
	16:49	37	15:11 (3)	17:43	17:03 (2)	24	18:34	23	18:01 (1)	20:27	21:18	21:57	21:58	21:15		20:08		18:59	3	18:26 (1)	16:57			16:28	38	14:57 (3)
11	08:44		14:35 (3)	08:04	16:38 (2)		07:05		17:38 (1)	06:54	05:53	05:20	05:32	06:15		07:06		07:56			07:51			08:37		14:19 (3)
	16:50	35	15:10 (3)	17:44	17:04 (2)	26	18:35	23	18:01 (1)	20:29	21:19	21:58	21:57	21:13		20:06		18:56			16:56			16:28	39	14:58 (3)
12	08:44		14:35 (3)	08:02	16:37 (2)		07:03		17:38 (1)	06:52	05:52	05:20	05:33	06:17		07:08		07:57			07:52			08:38		14:19 (3)
	16:52	35	15:10 (3)	17:46	17:05 (2)	28	18:37	23	18:01 (1)	20:31	21:21	21:59	21:56	21:11		20:03		18:54			16:54			16:28	39	14:58 (3)
13	08:43		14:36 (3)	08:00	16:36 (2)		07:00		17:37 (1)	06:49	05:50	05:19	05:34	06:19		07:09		07:59			07:54			08:39		14:20 (3)
	16:53	34	15:10 (3)	17:48	17:06 (2)	30	18:39	23	18:00 (1)	20:32	21:22	22:00	21:56	21:09		20:01		18:52			16:52			16:28	39	14:59 (3)
14	08:42		14:37 (3)	07:58	16:36 (2)		06:58		17:38 (1)	06:47	05:49	05:19	05:35	06:20		07:11		08:01			07:56			08:40		14:20 (3)
	16:55	33	15:10 (3)	17:50	17:06 (2)	30	18:41	21	17:59 (1)	20:34	21:24	22:00	21:55	21:07		19:59		18:50			16:51			16:28	39	14:59 (3)
15	08:41		14:38 (3)	07:56	16:36 (2)		06:56		17:39 (1)	06:45	05:47	05:19	05:36	06:22		07:12		08:03		17:18 (2)	07:58			08:40		14:20 (3)
	16:56	32	15:10 (3)	17:52	17:06 (2)	30	18:42	19	17:58 (1)	20:36	21:26	22:01	21:54	21:05		19:56		18:47	9	17:27 (2)	16:50			16:28	40	15:00 (3)
16	08:41		14:39 (3)	07:54	16:36 (2)		06:54		17:40 (1)	06:43	05:45	05:19	05:37	06:24		07:14		08:04		17:15 (2)	07:59			08:41		14:21 (3)
	16:58	31	15:10 (3)	17:54	17:07 (2)	31	18:44	16	17:56 (1)	20:37	21:27	22:01	21:53	21:03		19:54		18:45	15	17:30 (2)	16:48			16:28	39	15:00 (3)
17	08:40		14:40 (3)	07:52	16:36 (2)		06:51		17:42 (1)	06:41	05:44	05:19	05:39	06:25		07:16		08:06		17:12 (2)	08:01			08:42		14:22 (3)
	17:00	30	15:10 (3)	17:56	17:07 (2)	31	18:46	12	17:54 (1)	20:39	21:29	22:02	21:52	21:01		19:52		18:43	20	17:32 (2)	16:47			16:28	39	15:01 (3)
18	08:39		14:41 (3)	07:50	16:36 (2)		06:49		17:45 (1)	06:38	05:43	05:19	05:40	06:27		07:17		08:08		17:11 (2)	08:03		14:31 (3)	08:43		14:22 (3)
	17:01	28	15:09 (3)	17:58	17:07 (2)	31	18:48	6	17:51 (1)	20:41	21:30	22:02	21:50	20:59		19:49		18:41	23	17:34 (2)	16:45	1	14:32 (3)	16:28	40	15:02 (3)
19	08:38		14:43 (3)	07:48	16:36 (2)		06:47			06:36	05:41	05:19	05:41	06:28		07:19		08:10		17:09 (2)	08:05		14:26 (3)	08:44		14:22 (3)
	17:03	26	15:09 (3)	17:59	17:06 (2)	30	18:49			20:43	21:32	22:02	21:49	20:57		19:47		18:39	26	17:35 (2)	16:44	12	14:38 (3)	16:29	39	15:01 (3)
20	08:37		14:45 (3)	07:46	16:36 (2)		06:44			06:34	05:40	05:19	05:43	06:30		07:21		08:11		17:08 (2)	08:06		14:23 (3)	08:44		14:23 (3)
	17:05	23	15:08 (3)	18:01	17:05 (2)	29	18:51			20:44	21:33	22:03	21:48	20:55		19:45		18:37	27	17:35 (2)	16:43	18	14:41 (3)	16:29	39	15:02 (3)
21	08:36		14:47 (3)	07:44	16:36 (2)		06:42			06:32	05:38	05:19	05:44	06:32		07:22		08:13		17:06 (2)	08:08		14:22 (3)	08:45		14:24 (3)
	17:06	21	15:08 (3)	18:03	17:05 (2)	29	18:53			20:46	21:35	22:03	21:47	20:53		19:42		18:35	29	17:35 (2)	16:42	21	14:43 (3)	16:30	39	15:03 (3)
22	08:34		14:48 (3)	07:42	16:37 (2)		06:40			06:30	05:37	05:19	05:45	06:33		07:24		08:15		17:06 (2)	08:10		14:21 (3)	08:45		14:24 (3)
	17:08	18	15:06 (3)	18:05	17:04 (2)	27	18:55			20:48	21:36	22:03	21:46	20:51		19:40		18:33	30	17:36 (2)	16:41	23	14:44 (3)	16:30	39	15:03 (3)
23	08:33		14:52 (3)	07:40	16:38 (2)		06:37			06:28	05:36	05:19	05:47	06:35		07:26		08:17		17:05 (2)	08:11		14:20 (3)	08:46		14:24 (3)
	17:10	12	15:04 (3)	18:07	17:03 (2)	25	18:56			20:49	21:37	22:03	21:44	20:48		19:38		18:30	31	17:36 (2)	16:39	26	14:46 (3)	16:31	39	15:03 (3)
24	08:32		14:57 (3)	07:38	16:40 (2)		06:35			06:26	05:35	05:20	05:48	06:37		07:27		08:18		17:05 (2)	08:13		14:18 (3)	08:46		14:25 (3)
	17:11	1	14:58 (3)	18:09	17:02 (2)	22	18:58			20:51	21:39	22:04	21:43	20:46		19:35		18:28	31	17:36 (2)	16:38	28	14:46 (3)	16:31	39	15:04 (3)
25	08:31			07:36	16:42 (2)		06:33			06:24	05:33	05:20	05:49	06:38		07:29		07:20		16:05 (2)	08:15		14:18 (3)	08:47		14:25 (3)
	17:13			18:10	17:00 (2)	18	19:00			20:53	21:40	22:04	21:42	20:44		19:33		17:26	31	16:36 (2)	16:37	30	14:48 (3)	16:32	40	15:05 (3)
26	08:29			07:34	16:44 (2)		06:30			06:22	05:32	05:20	05:51	06:40		07:30	18:25 (1)	07:22		16:05 (2)	08:16		14:18 (3)	08:47		14:26 (3)
	17:15			18:12	16:57 (2)	13	19:01			20:54	21:41	22:04	21:40	20:42		19:31	11 18:36 (1)	17:24	31	16:36 (2)	16:36	31	14:49 (3)	16:32	39	15:05 (3)
27	08:28			07:32	16:49 (2)		06:28			06:20	05:31	05:21	05:52	06:41		07:32	18:22 (1)	07:24		16:05 (2)	08:18		14:18 (3)	08:47		14:26 (3)
	17:17			18:14	16:52 (2)	3	19:03			20:56	21:43	22:04	21:39	20:40		19:28	15 18:37 (1)	17:22	31	16:36 (2)	16:35	32	14:50 (3)	16:33	39	15:05 (3)
28	08:27			07:29			06:26			06:17	05:30	05:21	05:54	06:43		07:34	18:20 (1)	07:25		16:06 (2)	08:19		14:17 (3)	08:47		14:27 (3)
	17:19			18:16			19:05			20:58	21:44	22:03	21:37	20:38		19:26	18 18:38 (1)	17:20	30	16:36 (2)	16:35	33	14:50 (3)	16:34	39	15:06 (3)
29	08:25						07:23			06:16	05:29	05:22	05:55	06:45		07:35	18:19 (1)	07:27		16:06 (2)	08:21		14:17 (3)	08:48		14:28 (3)
	17:20						20:07			20:59	21:45	22:03	21:36	20:35		19:24	20 18:39 (1)	17:18	29	16:35 (2)	16:34	34	14:51 (3)	16:35	39	15:07 (3)
30	08:24						07:21			06:14	05:28	05:23	05:57	06:46		07:37	18:17 (1)	07:29		16:07 (2)	08:22		14:16 (3)	08:48		14:28 (3)
	17:22						20:08			21:01	21:46	22:03	21:34	20:33		19:21	22 18:39 (1)	17:17	27	16:34 (2)	16:33	35	14:51 (3)	16:36	39	15:07 (3)
31	08:22						07:19				05:27		05:58	06:48				07:31		16:07 (2)					08:48		14:28 (3)
	17:24						20:10				21:48		21:32	20:31				17:15	27	16:34 (2)					16:37	39	15:07 (3)
Potential sun hours	259			277			367		416	485	499	502	454	381				331			266			243		
Total, worst case		740			523			269							86				628			413			1198	
Sun reduction		0,24			0,30			0,33							0,36				0,34			0,24			0,20	
Oper. time red.		0,95			0,95			0,95							0,95				0,95			0,95			0,95	
Wind dir. red.		0,70			0,67			0,63							0,63				0,66			0,69			0,70	
Total reduction		0,16			0,19			0,20							0,22				0,21			0,16			0,13	
Total, real		117			101			53							19				133			64			162	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:34/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion3.7M140@160Shadow receptor: H - 3998NL146

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 16:38	08:21 17:26	07:27 18:18	07:17 20:12 33	08:11 (4) 08:44 (4)	06:12 21:03 29	08:03 (4) 08:32 (4)	05:26 21:49	05:23 22:03	06:00 21:31	06:50 20:29 53	07:56 (4) 08:49 (4)	07:39 19:19	07:33 17:13	08:24 16:32
2	08:48 16:39	08:19 17:28	07:25 18:19	07:14 20:14 36	08:09 (4) 08:45 (4)	06:10 21:05 25	08:04 (4) 08:29 (4)	05:25 21:50	05:24 22:02	06:01 21:29	06:51 20:26 52	07:56 (4) 08:48 (4)	07:40 19:17	07:35 17:11	08:25 16:32
3	08:48 16:40	08:18 17:30	07:23 18:21	07:12 20:15 40	08:07 (4) 08:47 (4)	06:08 21:06 20	08:06 (4) 08:26 (4)	05:25 21:51	05:25 22:02	06:03 21:27	06:53 20:24 51	07:57 (4) 08:48 (4)	07:42 19:14	07:36 17:09	08:27 16:31
4	08:47 16:41	08:16 17:31	07:21 18:23	07:10 20:17 43	08:04 (4) 08:47 (4)	06:06 21:08 14	08:10 (4) 08:24 (4)	05:24 21:52	05:25 22:02	06:04 21:26	06:55 20:22 50	07:56 (4) 08:46 (4)	07:44 19:12	07:38 17:07	08:28 16:31
5	08:47 16:43	08:14 17:33	07:19 18:25	07:07 20:19 45	08:03 (4) 08:48 (4)	06:04 21:10		05:23 21:53	05:26 22:01	06:06 21:24	06:56 20:20 49	07:57 (4) 08:46 (4)	07:46 19:10	07:40 17:06	08:29 16:30
6	08:47 16:44	08:13 17:35	07:16 18:27	07:05 20:20 47	08:02 (4) 08:49 (4)	06:02 21:11		05:23 21:54	05:27 22:01	06:08 21:22	06:58 20:17 47	07:58 (4) 08:45 (4)	07:47 19:08	07:42 17:04	08:31 16:30
7	08:46 16:45	08:11 17:37	07:14 18:28	07:03 20:22 49	08:01 (4) 08:50 (4)	06:00 21:13		05:22 21:55	05:28 22:00	06:09 21:20	06:59 20:15 45	07:58 (4) 08:43 (4)	07:49 19:05	07:44 17:02	08:32 16:29
8	08:46 16:46	08:09 17:39	07:12 18:30	07:01 20:24 50	07:59 (4) 08:49 (4)	05:59 21:14		05:21 21:56	05:29 21:59	06:11 21:19 6	08:23 (4) 08:29 (4)	07:01 20:13 42	08:00 (4) 08:42 (4)	07:51 19:03	07:45 17:00	08:33 16:29
9	08:45 16:48	08:07 17:41	07:10 18:32	06:58 20:25 51	07:59 (4) 08:50 (4)	05:57 21:16		05:21 21:57	05:30 21:59	06:12 21:17 16	08:17 (4) 08:33 (4)	07:03 20:10 40	08:00 (4) 08:40 (4)	07:52 19:01	07:47 16:59	08:34 16:29
10	08:45 16:49	08:06 17:43	07:07 18:34	06:56 20:27 52	07:58 (4) 08:50 (4)	05:55 21:18		05:21 21:57	05:31 21:58	06:14 21:15 22	08:15 (4) 08:37 (4)	07:04 20:08 37	08:02 (4) 08:39 (4)	07:54 18:59	07:49 16:57	08:35 16:28
11	08:44 16:51	08:04 17:45	07:05 18:36	06:54 20:29 53	07:57 (4) 08:50 (4)	05:54 21:19		05:20 21:58	05:32 21:57	06:16 21:13 26	08:12 (4) 08:38 (4)	07:06 20:06 33	08:03 (4) 08:36 (4)	07:56 18:56	07:51 16:56	08:37 16:28
12	08:44 16:52	08:02 17:46	07:03 18:37	06:52 20:31 53	07:56 (4) 08:49 (4)	05:52 21:21		05:20 21:59	05:33 21:56	06:17 21:11 30	08:11 (4) 08:41 (4)	07:08 20:03 29	08:05 (4) 08:34 (4)	07:57 18:54	07:52 16:54	08:38 16:28
13	08:43 16:53	08:00 17:48	07:00 18:39	06:49 20:32 53	07:56 (4) 08:49 (4)	05:50 21:22		05:20 22:00	05:34 21:56	06:19 21:09 33	08:09 (4) 08:42 (4)	07:09 20:01 25	08:07 (4) 08:32 (4)	07:59 18:52	07:54 16:53	08:39 16:28
14	08:42 16:55	07:58 17:50	06:58 18:41	06:47 20:34 54	07:55 (4) 08:49 (4)	05:49 21:24		05:19 22:00	05:35 21:55	06:20 21:07 35	08:08 (4) 08:43 (4)	07:11 19:59 17	08:10 (4) 08:27 (4)	08:01 18:50	07:56 16:51	08:40 16:28
15	08:41 16:57	07:56 17:52	06:56 18:43	06:45 20:36 54	07:55 (4) 08:49 (4)	05:47 21:26		05:19 22:01	05:36 21:54	06:22 21:05 38	08:07 (4) 08:45 (4)	07:12 19:56 2	08:18 (4) 08:20 (4)	08:03 18:47	07:58 16:50	08:40 16:28
16	08:41 16:58	07:54 17:54	06:54 18:44	06:43 20:37 54	07:55 (4) 08:49 (4)	05:46 21:27		05:19 22:01	05:38 21:53	06:24 21:03 41	08:05 (4) 08:46 (4)	07:14 19:54		08:04 18:45	07:59 16:48	08:41 16:28
17	08:40 17:00	07:52 17:56	06:51 18:46	06:41 20:39 54	07:55 (4) 08:49 (4)	05:44 21:29		05:19 22:02	05:39 21:52	06:25 21:01 43	08:04 (4) 08:47 (4)	07:16 19:52		08:06 18:43	08:01 16:47	08:42 16:28
18	08:39 17:01	07:50 17:58	06:49 18:48	06:38 20:41 53	07:55 (4) 08:48 (4)	05:43 21:30		05:19 22:02	05:40 21:50	06:27 20:59 45	08:03 (4) 08:48 (4)	07:17 19:49		08:08 18:41	08:03 16:46	08:43 16:29
19	08:38 17:03	07:48 17:59	06:47 18:49	06:36 20:43 52	07:55 (4) 08:47 (4)	05:41 21:32		05:19 22:02	05:41 21:49	06:28 20:57 47	08:02 (4) 08:49 (4)	07:19 19:47		08:10 18:39	08:05 16:44	08:44 16:29
20	08:37 17:05	07:46 18:01	06:44 18:51	06:34 20:44 52	07:54 (4) 08:46 (4)	05:40 21:33		05:19 22:03	05:43 21:48	06:30 20:55 48	08:01 (4) 08:49 (4)	07:21 19:45		08:11 18:37	08:06 16:43	08:44 16:29
21	08:36 17:06	07:44 18:03	06:42 18:53	06:32 20:46 50	07:55 (4) 08:45 (4)	05:38 21:35		05:19 22:03	05:44 21:47	06:32 20:53 50	08:00 (4) 08:50 (4)	07:22 19:42		08:13 18:35	08:08 16:42	08:45 16:30
22	08:34 17:08	07:42 18:05	06:40 18:55	06:30 20:48 49	07:55 (4) 08:44 (4)	05:37 21:36		05:19 22:03	05:45 21:46	06:33 20:51 51	07:59 (4) 08:50 (4)	07:24 19:40		08:15 18:33	08:10 16:41	08:45 16:30
23	08:33 17:10	07:40 18:07	06:37 18:56	06:28 20:49 48	07:55 (4) 08:43 (4)	05:36 21:37		05:20 22:03	05:47 21:44	06:35 20:48 52	07:59 (4) 08:51 (4)	07:26 19:38		08:17 18:31	08:11 16:40	08:46 16:31
24	08:32 17:12	07:38 18:09	06:35 18:58	06:26 20:51 46	07:56 (4) 08:42 (4)	05:35 21:39		05:20 22:04	05:48 21:43	06:37 20:46 52	07:58 (4) 08:50 (4)	07:27 19:35		08:18 18:28	08:13 16:38	08:46 16:31
25	08:31 17:13	07:36 18:10	06:33 19:00	06:24 20:53 45	07:56 (4) 08:41 (4)	05:33 21:40		05:20 22:04	05:49 21:42	06:38 20:44 53	07:58 (4) 08:51 (4)	07:29 19:33		07:20 17:26	08:15 16:37	08:47 16:32
26	08:29 17:15	07:34 18:12	06:30 19:02	06:22 20:54 42	07:57 (4) 08:39 (4)	05:32 21:41		05:21 22:04	05:51 21:40	06:40 20:42 53	07:57 (4) 08:50 (4)	07:30 19:31		07:22 17:24	08:16 16:36	08:47 16:33
27	08:28 17:17	07:32 18:14	06:28 19:03	06:20 20:56 40	07:59 (4) 08:39 (4)	05:31 21:43		05:21 22:04	05:52 21:39	06:42 20:40 54	07:57 (4) 08:51 (4)	07:32 19:28		07:24 17:22	08:18 16:36	08:47 16:33
28	08:27 17:19	07:29 18:16	06:26 19:05	06:18 20:58 38	07:59 (4) 08:37 (4)	05:30 21:44		05:22 22:03	05:54 21:37	06:43 20:38 54	07:57 (4) 08:51 (4)	07:34 19:26		07:26 17:20	08:19 16:35	08:47 16:34
29	08:25 17:20		07:23 20:07 16	08:20 (4) 08:36 (4)	06:16 20:59 35	08:00 (4) 08:35 (4)	05:29 21:45	05:22 22:03	05:55 21:36	06:45 20:35 54	07:56 (4) 08:50 (4)	07:35 19:24		07:27 17:19	08:21 16:34	08:48 16:35
30	08:24 17:22		07:21 20:08 24	08:16 (4) 08:40 (4)	06:14 21:01 33	08:01 (4) 08:34 (4)	05:28 21:46	05:23 22:03	05:57 21:34	06:46 20:33 53	07:57 (4) 08:50 (4)	07:37 19:21		07:29 17:17	08:22 16:33	08:48 16:36
31	08:22 17:24		07:19 20:10 29	08:13 (4) 08:42 (4)			05:27 21:48		05:58 21:32	06:48 20:31 53	07:56 (4) 08:49 (4)			07:31 17:15		08:48 16:37
Potential sun hours	259	277	367	416	485		499	502	454		381			331	266	243
Total, worst case			69	1404	88				1009		572					
Sun reduction			0,33	0,42	0,43				0,42		0,36					
Oper. time red.			0,95	0,95	0,95				0,95		0,95					
Wind dir. red.			0,62	0,62	0,62				0,62		0,62					
Total reduction			0,19	0,24	0,25				0,24		0,21					
Total, real			13	342	22				245		121					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:34/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion3.7M140@160Shadow receptor: I - 3998JD88

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May		June		July		August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12		05:26		06:05 (1)	05:23	06:11 (1)	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03		21:49	25	06:30 (1)	22:03	24 06:35 (1)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10		05:26		06:05 (1)	05:24	06:12 (1)	06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05		21:50	25	06:30 (1)	22:03	24 06:36 (1)	21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08		05:25		06:06 (1)	05:25	06:12 (1)	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06		21:51	25	06:31 (1)	22:02	24 06:36 (1)	21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06		05:24		06:05 (1)	05:26	06:11 (1)	06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08		21:52	25	06:30 (1)	22:02	25 06:36 (1)	21:26	20:22	19:12	17:07	16:31
5	08:47	08:14	07:19	07:08	06:04		05:23		06:06 (1)	05:26	06:12 (1)	06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10		21:53	25	06:31 (1)	22:01	24 06:36 (1)	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02		05:23		06:06 (1)	05:27	06:12 (1)	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11		21:54	25	06:31 (1)	22:01	25 06:37 (1)	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01		05:22		06:07 (1)	05:28	06:12 (1)	06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13		21:55	24	06:31 (1)	22:00	25 06:37 (1)	21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59		05:22		06:06 (1)	05:29	06:13 (1)	06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15		21:56	25	06:31 (1)	22:00	25 06:38 (1)	21:19	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57		05:21		06:07 (1)	05:30	06:13 (1)	06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16		21:57	24	06:31 (1)	21:59	25 06:38 (1)	21:17	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55		05:21		06:06 (1)	05:31	06:12 (1)	06:14	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18		21:58	25	06:31 (1)	21:58	25 06:37 (1)	21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54		05:20		06:07 (1)	05:32	06:12 (1)	06:16	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19		21:58	24	06:31 (1)	21:57	25 06:37 (1)	21:13	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52		05:20		06:08 (1)	05:33	06:12 (1)	06:17	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21		21:59	23	06:31 (1)	21:57	25 06:37 (1)	21:11	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50		05:20		06:08 (1)	05:34	06:14 (1)	06:19	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23		22:00	24	06:32 (1)	21:56	24 06:38 (1)	21:09	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49		05:19		06:08 (1)	05:35	06:14 (1)	06:21	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24		22:00	24	06:32 (1)	21:55	24 06:38 (1)	21:07	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47		05:19		06:08 (1)	05:36	06:14 (1)	06:22	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26		22:01	23	06:31 (1)	21:54	24 06:38 (1)	21:05	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46		05:19		06:08 (1)	05:38	06:14 (1)	06:24	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27		22:01	23	06:31 (1)	21:53	24 06:38 (1)	21:03	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44		05:19		06:08 (1)	05:39	06:14 (1)	06:25	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29		22:02	23	06:31 (1)	21:52	24 06:38 (1)	21:01	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43	06:12 (1)	05:19		06:09 (1)	05:40	06:15 (1)	06:27	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30	8 06:20 (1)	22:02	23	06:32 (1)	21:51	22 06:37 (1)	20:59	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41	06:10 (1)	05:19		06:10 (1)	05:41	06:15 (1)	06:29	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32	12 06:22 (1)	22:03	23	06:33 (1)	21:49	22 06:37 (1)	20:57	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40	06:09 (1)	05:19		06:10 (1)	05:43	06:16 (1)	06:30	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33	15 06:24 (1)	22:03	23	06:33 (1)	21:48	21 06:37 (1)	20:55	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	05:39	06:08 (1)	05:19		06:10 (1)	05:44	06:17 (1)	06:32	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:35	17 06:25 (1)	22:03	23	06:33 (1)	21:47	19 06:36 (1)	20:53	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	05:37	06:07 (1)	05:19		06:10 (1)	05:45	06:18 (1)	06:34	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36	18 06:25 (1)	22:03	23	06:33 (1)	21:46	17 06:35 (1)	20:51	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	05:36	06:06 (1)	05:20		06:10 (1)	05:47	06:18 (1)	06:35	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	21:37	20 06:26 (1)	22:04	23	06:33 (1)	21:44	16 06:34 (1)	20:49	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35	06:06 (1)	05:20		06:11 (1)	05:48	06:20 (1)	06:37	07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	21:39	21 06:27 (1)	22:04	23	06:34 (1)	21:43	14 06:34 (1)	20:46	19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	05:34	06:05 (1)	05:20		06:11 (1)	05:50	06:22 (1)	06:38	07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	21:40	22 06:27 (1)	22:04	22	06:33 (1)	21:42	10 06:32 (1)	20:44	19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	05:32	06:05 (1)	05:21		06:10 (1)	05:51	06:24 (1)	06:40	07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	21:42	23 06:28 (1)	22:04	23	06:33 (1)	21:40	5 06:29 (1)	20:42	19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	05:31	06:05 (1)	05:21		06:11 (1)	05:52		06:42	07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21:43	23 06:28 (1)	22:04	23	06:34 (1)	21:39		20:40	19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	05:30	06:05 (1)	05:22		06:11 (1)	05:54		06:43	07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	21:44	24 06:29 (1)	22:04	23	06:34 (1)	21:37		20:38	19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	05:29	06:04 (1)	05:22		06:11 (1)	05:55		06:45	07:36	07:27	08:21	08:48
	17:21		20:07	21:00	21:45	25 06:29 (1)	22:03	24	06:35 (1)	21:36		20:36	19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	05:28	06:05 (1)	05:23		06:12 (1)	05:57		06:47	07:37	07:29	08:22	08:48
	17:22		20:09	21:01	21:47	25 06:30 (1)	22:03	23	06:35 (1)	21:34		20:33	19:22	17:17	16:33	16:36
31	08:22		07:19		05:27	06:05 (1)				05:58		06:48		07:31		08:48
	17:24		20:10		21:48	25 06:30 (1)				21:33		20:31		17:15		16:37
Potential sun hours	259	277	367	416	485		499			502		454	381	331	266	243
Total, worst case						278		711		562						
Sun reduction						0,43		0,39		0,41						
Oper. time red.						0,95		0,95		0,95						
Wind dir. red.						0,67		0,67		0,67						
Total reduction						0,27		0,25		0,26						
Total, real						76		176		145						

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:34/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion3.7M140@160Shadow receptor: J - 3998NL71

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March		April		May	June	July	August		September		October	November	December
1	08:48	08:21	07:27		07:17		08:07 (4)	06:12	05:26	05:23	06:00		06:50	08:05 (4)	07:39	07:33	08:24
	16:38	17:26	18:18		20:12	43	08:50 (4)	21:03	21:49	22:03	21:31		20:29	39 08:44 (4)	19:19	17:13	16:32
2	08:48	08:19	07:25		07:14		08:07 (4)	06:10	05:25	05:24	06:01		06:51	08:03 (4)	07:40	07:35	08:25
	16:39	17:28	18:20		20:14	43	08:50 (4)	21:05	21:50	22:02	21:29		20:26	41 08:44 (4)	19:17	17:11	16:32
3	08:48	08:18	07:23		07:12		08:07 (4)	06:08	05:25	05:25	06:03		06:53	08:03 (4)	07:42	07:36	08:27
	16:40	17:30	18:21		20:15	43	08:50 (4)	21:06	21:51	22:02	21:27		20:24	42 08:45 (4)	19:14	17:09	16:31
4	08:47	08:16	07:21		07:10		08:05 (4)	06:06	05:24	05:25	06:04		06:55	08:02 (4)	07:44	07:38	08:28
	16:41	17:32	18:23		20:17	44	08:49 (4)	21:08	21:52	22:02	21:26		20:22	42 08:44 (4)	19:12	17:07	16:31
5	08:47	08:14	07:19		07:07		08:05 (4)	06:04	05:23	05:26	06:06		06:56	08:01 (4)	07:46	07:40	08:29
	16:43	17:33	18:25		20:19	44	08:49 (4)	21:10	21:53	22:01	21:24		20:20	44 08:45 (4)	19:10	17:06	16:30
6	08:47	08:13	07:16		07:05		08:05 (4)	06:02	05:23	05:27	06:08		06:58	08:01 (4)	07:47	07:42	08:31
	16:44	17:35	18:27		20:20	44	08:49 (4)	21:11	21:54	22:01	21:22		20:17	44 08:45 (4)	19:08	17:04	16:30
7	08:46	08:11	07:14		07:03		08:05 (4)	06:00	05:22	05:28	06:09		06:59	08:00 (4)	07:49	07:44	08:32
	16:45	17:37	18:28		20:22	44	08:49 (4)	21:13	21:55	22:00	21:20		20:15	44 08:44 (4)	19:05	17:02	16:29
8	08:46	08:09	07:12		07:01		08:05 (4)	05:59	05:21	05:29	06:11		07:01	08:01 (4)	07:51	07:45	08:33
	16:46	17:39	18:30		20:24	42	08:47 (4)	21:14	21:56	21:59	21:19		20:13	44 08:45 (4)	19:03	17:00	16:29
9	08:45	08:07	07:10		06:58		08:05 (4)	05:57	05:21	05:30	06:12		07:03	08:00 (4)	07:52	07:47	08:34
	16:48	17:41	18:32		20:25	42	08:47 (4)	21:16	21:57	21:59	21:17		20:10	44 08:44 (4)	19:01	16:59	16:29
10	08:45	08:06	07:07		06:56		08:05 (4)	05:55	05:21	05:31	06:14		07:04	08:00 (4)	07:54	07:49	08:35
	16:49	17:43	18:34		20:27	41	08:46 (4)	21:18	21:57	21:58	21:15		20:08	43 08:43 (4)	18:59	16:57	16:28
11	08:44	08:04	07:05		06:54		08:06 (4)	05:54	05:20	05:32	06:16		07:06	08:00 (4)	07:56	07:51	08:37
	16:51	17:45	18:36		20:29	39	08:45 (4)	21:19	21:58	21:57	21:13		20:06	42 08:42 (4)	18:56	16:56	16:28
12	08:44	08:02	07:03		06:52		08:06 (4)	05:52	05:20	05:33	06:17		07:08	08:00 (4)	07:57	07:52	08:38
	16:52	17:46	18:37		20:31	37	08:43 (4)	21:21	21:59	21:56	21:11		20:03	42 08:42 (4)	18:54	16:54	16:28
13	08:43	08:00	07:00		06:49		08:07 (4)	05:50	05:20	05:34	06:19		07:09	08:01 (4)	07:59	07:54	08:39
	16:53	17:48	18:39		20:32	35	08:42 (4)	21:22	22:00	21:56	21:09		20:01	40 08:41 (4)	18:52	16:53	16:28
14	08:42	07:58	06:58		06:47		08:08 (4)	05:49	05:19	05:35	06:20		07:11	08:01 (4)	08:01	07:56	08:40
	16:55	17:50	18:41		20:34	32	08:40 (4)	21:24	22:00	21:55	21:07		19:59	39 08:40 (4)	18:50	16:51	16:28
15	08:41	07:56	06:56		06:45		08:09 (4)	05:47	05:19	05:36	06:22		07:12	08:02 (4)	08:03	07:58	08:40
	16:57	17:52	18:43		20:36	29	08:38 (4)	21:26	22:01	21:54	21:05		19:56	37 08:39 (4)	18:47	16:50	16:28
16	08:41	07:54	06:54		06:43		08:10 (4)	05:46	05:19	05:38	06:24		07:14	08:02 (4)	08:04	08:00	08:41
	16:58	17:54	18:44		20:37	26	08:36 (4)	21:27	22:01	21:53	21:03		19:54	35 08:37 (4)	18:45	16:48	16:28
17	08:40	07:52	06:51		06:41		08:12 (4)	05:44	05:19	05:39	06:25		07:16	08:03 (4)	08:06	08:01	08:42
	17:00	17:56	18:46		20:39	22	08:34 (4)	21:29	22:02	21:52	21:01		19:52	33 08:36 (4)	18:43	16:47	16:28
18	08:39	07:50	06:49		06:38		08:14 (4)	05:43	05:19	05:40	06:27		07:17	08:05 (4)	08:08	08:03	08:43
	17:01	17:58	18:48		20:41	18	08:32 (4)	21:30	22:02	21:50	20:59		19:49	29 08:34 (4)	18:41	16:46	16:29
19	08:38	07:48	06:47		06:36		08:18 (4)	05:41	05:19	05:41	06:29		07:19	08:06 (4)	08:10	08:05	08:44
	17:03	17:59	18:49		20:43	9	08:27 (4)	21:32	22:02	21:49	20:57		19:47	25 08:31 (4)	18:39	16:44	16:29
20	08:37	07:46	06:44		06:34			05:40	05:19	05:43	06:30		07:21	08:09 (4)	08:11	08:06	08:44
	17:05	18:01	18:51		20:44			21:33	22:03	21:48	20:55		19:45	20 08:29 (4)	18:37	16:43	16:29
21	08:36	07:44	06:42		06:32			05:38	05:19	05:44	06:32		07:22	08:11 (4)	08:13	08:08	08:45
	17:06	18:03	18:53		20:46			21:35	22:03	21:47	20:53		19:42	13 08:24 (4)	18:35	16:42	16:30
22	08:34	07:42	06:40	07:27 (4)	06:30			05:37	05:19	05:45	06:33		07:24		08:15	08:10	08:45
	17:08	18:05	18:55	10 07:37 (4)	20:48			21:36	22:03	21:46	20:51		19:40		18:33	16:41	16:30
23	08:33	07:40	06:37	07:23 (4)	06:28			05:36	05:20	05:47	06:35		07:26		08:17	08:11	08:46
	17:10	18:07	18:56	19 07:42 (4)	20:49			21:37	22:03	21:44	20:48		19:38		18:31	16:40	16:31
24	08:32	07:38	06:35	07:20 (4)	06:26			05:35	05:20	05:48	06:37	08:20 (4)	07:27		08:18	08:13	08:46
	17:12	18:09	18:58	24 07:44 (4)	20:51			21:39	22:04	21:43	20:46	11 08:31 (4)	19:35		18:28	16:38	16:31
25	08:31	07:36	06:33	07:17 (4)	06:24			05:33	05:20	05:49	06:38	08:16 (4)	07:29		07:20	08:15	08:47
	17:13	18:10	19:00	28 07:45 (4)	20:53			21:40	22:04	21:42	20:44	19 08:35 (4)	19:33		17:26	16:37	16:32
26	08:29	07:34	06:30	07:15 (4)	06:22			05:32	05:21	05:51	06:40	08:13 (4)	07:31		07:22	08:16	08:47
	17:15	18:12	19:02	32 07:47 (4)	20:54			21:41	22:04	21:40	20:42	23 08:36 (4)	19:31		17:24	16:36	16:33
27	08:28	07:32	06:28	07:14 (4)	06:20			05:31	05:21	05:52	06:42	08:12 (4)	07:32		07:24	08:18	08:47
	17:17	18:14	19:03	34 07:48 (4)	20:56			21:43	22:04	21:39	20:40	26 08:38 (4)	19:28		17:22	16:36	16:33
28	08:27	07:29	06:26	07:11 (4)	06:18			05:30	05:22	05:54	06:43	08:10 (4)	07:34		07:26	08:19	08:47
	17:19	18:16	19:05	37 07:48 (4)	20:58			21:44	22:03	21:37	20:38	30 08:40 (4)	19:26		17:20	16:35	16:34
29	08:25		07:24	08:10 (4)	06:16			05:29	05:22	05:55	06:45	08:08 (4)	07:35		07:27	08:21	08:48
	17:20		20:07	39 08:49 (4)	20:59			21:45	22:03	21:36	20:35	33 08:41 (4)	19:24		17:19	16:34	16:35
30	08:24		07:21	08:10 (4)	06:14			05:28	05:23	05:57	06:46	08:07 (4)	07:37		07:29	08:22	08:48
	17:22		20:08	40 08:50 (4)	21:01			21:46	22:03	21:34	20:33	36 08:43 (4)	19:21		17:17	16:33	16:36
31	08:22		07:19	08:08 (4)				05:27		05:58	06:48	08:06 (4)			07:31		08:48
	17:24		20:10	42 08:50 (4)				21:48		21:32	20:31	37 08:43 (4)			17:15		16:37
Potential sun hours	259	277	367		416		485	499	502	454		381		331	266	243	
Total, worst case				305		677					215		782				
Sun reduction				0,33		0,42					0,42		0,36				
Oper. time red.				0,95		0,95					0,95		0,95				
Wind dir. red.				0,61		0,61					0,61		0,61				
Total reduction				0,19		0,24					0,24		0,21				
Total, real				58		163					52		163				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:34/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion3.7M140@160Shadow receptor: K - 3998JD91

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	05:26	06:01 (1) | 05:23	06:07 (1) | 06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03	21:49 24	06:25 (1) | 22:03 25	06:32 (1) | 21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	05:26	06:01 (1) | 05:24	06:07 (1) | 06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05	21:50 24	06:25 (1) | 22:03 25	06:32 (1) | 21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08	05:25	06:02 (1) | 05:25	06:08 (1) | 06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06	21:51 24	06:26 (1) | 22:02 25	06:33 (1) | 21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06	05:24	06:01 (1) | 05:26	06:07 (1) | 06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08	21:52 25	06:26 (1) | 22:02 25	06:32 (1) | 21:26	20:22	19:12	17:07	16:31
5	08:47	08:14	07:19	07:08	06:04	05:23	06:02 (1) | 05:26	06:08 (1) | 06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10	21:53 25	06:27 (1) | 22:01 25	06:33 (1) | 21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02	05:23	06:02 (1) | 05:27	06:08 (1) | 06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11	21:54 25	06:27 (1) | 22:01 25	06:33 (1) | 21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01	05:22	06:02 (1) | 05:28	06:08 (1) | 06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13	21:55 25	06:27 (1) | 22:00 25	06:33 (1) | 21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59	05:22	06:02 (1) | 05:29	06:09 (1) | 06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15	21:56 25	06:27 (1) | 22:00 24	06:33 (1) | 21:19	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57	05:21	06:02 (1) | 05:30	06:09 (1) | 06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16	21:57 25	06:27 (1) | 21:59 25	06:34 (1) | 21:17	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55	05:21	06:02 (1) | 05:31	06:08 (1) | 06:14	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18	21:58 25	06:27 (1) | 21:58 25	06:33 (1) | 21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54	05:20	06:02 (1) | 05:32	06:09 (1) | 06:16	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19	21:58 25	06:27 (1) | 21:57 24	06:33 (1) | 21:13	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52	05:20	06:03 (1) | 05:33	06:09 (1) | 06:17	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21	21:59 25	06:28 (1) | 21:57 24	06:33 (1) | 21:11	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50	05:20	06:03 (1) | 05:34	06:10 (1) | 06:19	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23	22:00 25	06:28 (1) | 21:56 23	06:33 (1) | 21:09	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49	05:19	06:04 (1) | 05:35	06:11 (1) | 06:21	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24	22:00 25	06:29 (1) | 21:55 22	06:33 (1) | 21:07	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47	05:19	06:03 (1) | 05:36	06:11 (1) | 06:22	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26	22:01 25	06:28 (1) | 21:54 22	06:33 (1) | 21:05	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46	05:19	06:03 (1) | 05:38	06:12 (1) | 06:24	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27	22:01 25	06:28 (1) | 21:53 20	06:32 (1) | 21:03	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44	05:19	06:03 (1) | 05:39	06:12 (1) | 06:25	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29	22:02 25	06:28 (1) | 21:52 20	06:32 (1) | 21:01	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43	05:19	06:04 (1) | 05:40	06:13 (1) | 06:27	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30	22:02 24	06:28 (1) | 21:51 18	06:31 (1) | 20:59	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41	05:19	06:05 (1) | 05:41	06:13 (1) | 06:29	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32	22:03 25	06:30 (1) | 21:49 17	06:30 (1) | 20:57	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40	05:19	06:05 (1) | 05:43	06:15 (1) | 06:30	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33	22:03 25	06:30 (1) | 21:48 15	06:30 (1) | 20:55	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	05:39 06:09 (1)	05:19	06:05 (1) | 05:44	06:16 (1) | 06:32	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:35 7 06:16 (1)	22:03 25	06:30 (1) | 21:47 13	06:29 (1) | 20:53	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	05:37 06:07 (1)	05:19	06:05 (1) | 05:45	06:18 (1) | 06:34	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36 11 06:18 (1)	22:03 25	06:30 (1) | 21:46 9	06:27 (1) | 20:51	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	05:36 06:05 (1)	05:20	06:05 (1) | 05:47	06:21 (1) | 06:35	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	21:37 14 06:19 (1)	22:04 25	06:30 (1) | 21:44 3	06:24 (1) | 20:49	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35 06:04 (1)	05:20	06:06 (1) | 05:48	06:37	07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	21:39 16 06:20 (1)	22:04 24	06:30 (1) | 21:43	20:46	19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	05:34 06:04 (1)	05:20	06:06 (1) | 05:50	06:38	07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	21:40 17 06:21 (1)	22:04 24	06:30 (1) | 21:42	20:44	19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	05:32 06:03 (1)	05:21	06:05 (1) | 05:51	06:40	07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	21:42 19 06:22 (1)	22:04 25	06:30 (1) | 21:40	20:42	19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	05:31 06:02 (1)	05:21	06:06 (1) | 05:52	06:42	07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21:43 21 06:23 (1)	22:04 25	06:31 (1) | 21:39	20:40	19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	05:30 06:02 (1)	05:22	06:06 (1) | 05:54	06:43	07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	21:44 21 06:23 (1)	22:04 25	06:31 (1) | 21:37	20:38	19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	05:29 06:01 (1)	05:22	06:06 (1) | 05:55	06:45	07:36	07:27	08:21	08:48
	17:21		20:07	21:00	21:45 23 06:24 (1)	22:03 25	06:31 (1) | 21:36	20:36	19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	05:28 06:02 (1)	05:23	06:07 (1) | 05:57	06:47	07:37	07:29	08:22	08:48
	17:22		20:09	21:01	21:47 23 06:25 (1)	22:03 25	06:32 (1) | 21:34	20:33	19:22	17:17	16:33	16:36
31	08:22		07:19		05:27 06:02 (1)		05:58	06:48		07:31		08:48
	17:24		20:10		21:48 23 06:25 (1)		21:33	20:31		17:15		16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case					195	744	479					
Sun reduction					0,43	0,39	0,41					
Oper. time red.					0,95	0,95	0,95					
Wind dir. red.					0,67	0,67	0,67					
Total reduction					0,27	0,25	0,26					
Total, real					53	185	124					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:34/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion3.7M140@160Shadow receptor: L - 3997MP25a

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April		May	June	July	August	September		October		November		December	
1	08:48		09:53 (3)		08:21		09:22 (4)		07:27		16:32 (1)	07:17		17:26 (1)	06:12	05:26	05:23	06:00	06:50		07:39		16:57 (1)	07:33		11:48 (2)	08:24		09:02 (4)
	16:38	102	13:13 (2)	128	13:28 (2)		18:18	36	17:08 (1)	20:12	38	18:04 (1)	21:03	21:49	22:03	21:31	20:29		19:19	61	17:58 (1)	17:13	67	12:55 (2)	16:32	128	13:02 (2)
2	08:48		09:53 (3)		08:19		09:23 (4)		07:25		16:31 (1)	07:14		17:29 (1)	06:10	05:25	05:24	06:01	06:51		07:40		16:58 (1)	07:35		11:47 (2)	08:25		09:04 (4)
	16:39	104	13:14 (2)	123	13:28 (2)		18:20	39	17:10 (1)	20:14	33	18:02 (1)	21:05	21:50	22:03	21:29	20:26		19:17	60	17:58 (1)	17:11	68	12:55 (2)	16:32	124	13:03 (2)
3	08:48		09:54 (3)		08:18		09:26 (4)		07:23		16:28 (1)	07:12		17:31 (1)	06:08	05:25	05:25	06:03	06:53		07:42		16:57 (1)	07:36		11:47 (2)	08:27		09:06 (4)
	16:40	104	13:15 (2)	115	13:28 (2)		18:21	43	17:11 (1)	20:15	29	18:00 (1)	21:06	21:51	22:02	21:28	20:24		19:14	59	17:56 (1)	17:09	69	12:56 (2)	16:31	120	13:03 (2)
4	08:47		09:53 (3)		08:16		09:28 (4)		07:21		16:27 (1)	07:10		17:34 (1)	06:06	05:24	05:25	06:04	06:55		07:44		16:58 (1)	07:38		11:45 (2)	08:28		09:09 (4)
	16:41	106	13:15 (2)	108	13:28 (2)		18:23	46	17:13 (1)	20:17	22	17:56 (1)	21:08	21:52	22:02	21:26	20:22		19:12	57	17:55 (1)	17:07	71	12:56 (2)	16:30	114	13:03 (2)
5	08:47		09:54 (3)		08:14		09:32 (4)		07:19		16:25 (1)	07:07		17:38 (1)	06:04	05:23	05:26	06:06	06:56		07:46		16:58 (1)	07:40		09:44 (3)	08:29		09:39 (3)
	16:43	106	13:16 (2)	92	13:27 (2)		18:25	50	17:15 (1)	20:19	14	17:52 (1)	21:10	21:53	22:01	21:24	20:20		19:10	57	17:55 (1)	17:06	83	12:56 (2)	16:30	109	13:03 (2)
6	08:47		09:54 (3)		08:13		10:15 (3)		07:16		16:24 (1)	07:05			06:02	05:23	05:27	06:08	06:58		07:47		16:59 (1)	07:42		09:01 (4)	08:31		09:40 (3)
	16:44	108	13:17 (2)	82	13:27 (2)		18:27	52	17:16 (1)	20:20			21:11	21:54	22:01	21:22	20:17		19:08	55	17:54 (1)	17:04	95	12:57 (2)	16:30	108	13:03 (2)
7	08:46		09:54 (3)		08:11		12:15 (2)		07:14		16:23 (1)	07:03			06:00	05:22	05:28	06:09	06:59		17:34 (1)	07:49		16:59 (1)	07:44		08:57 (4)	08:32		09:41 (3)
	16:45	109	13:18 (2)	71	13:26 (2)		18:28	53	17:16 (1)	20:22			21:13	21:55	22:00	21:20	20:15	12	17:46 (1)	53	17:52 (1)	17:02	109	12:58 (2)	16:29	107	13:04 (2)
8	08:46		09:24 (4)		08:09		12:17 (2)		07:12		16:22 (1)	07:01			05:59	05:21	05:29	06:11	07:01		17:29 (1)	07:51		17:00 (1)	07:45		08:55 (4)	08:33		09:41 (3)
	16:46	114	13:18 (2)	69	13:26 (2)		18:30	55	17:17 (1)	20:24			21:14	21:56	21:59	21:19	20:13	22	17:51 (1)	50	19:03	17:00	117	12:58 (2)	16:29	106	13:03 (2)
9	08:45		09:23 (4)		08:07		12:18 (2)		07:10		16:21 (1)	06:58			05:57	05:21	05:30	06:12	07:03		17:25 (1)	07:52		17:01 (1)	07:47		08:54 (4)	08:34		09:42 (3)
	16:48	119	13:19 (2)	68	13:26 (2)		18:32	57	17:18 (1)	20:26			21:16	21:57	21:59	21:17	20:10	28	17:53 (1)	48	19:01	16:59	123	12:58 (2)	16:29	104	13:03 (2)
10	08:45		09:21 (4)		08:06		12:19 (2)		07:07		16:19 (1)	06:56			05:55	05:20	05:31	06:14	07:04		17:22 (1)	07:54		17:02 (1)	07:49		08:53 (4)	08:35		09:42 (3)
	16:49	124	13:20 (2)	66	13:25 (2)		18:34	59	17:18 (1)	20:27			21:18	21:57	21:58	21:15	20:08	33	17:55 (1)	45	18:59	17:47 (1)	128	16:57	12:59 (2)	16:28	104	13:03 (2)
11	08:44		09:20 (4)		08:04		12:19 (2)		07:05		16:19 (1)	06:54			05:54	05:20	05:32	06:16	07:06		17:19 (1)	07:56		17:03 (1)	07:51		08:53 (4)	08:37		09:43 (3)
	16:51	127	13:20 (2)	65	13:24 (2)		18:36	60	17:19 (1)	20:29			21:19	21:58	21:57	21:13	20:06	37	17:56 (1)	41	18:56	17:44 (1)	132	16:56	12:59 (2)	16:28	103	13:04 (2)
12	08:44		09:19 (4)		08:02		12:21 (2)		07:03		16:19 (1)	06:52			05:52	05:20	05:33	06:17	07:08		17:17 (1)	07:57		17:04 (1)	07:53		08:52 (4)	08:38		09:45 (3)
	16:52	131	13:21 (2)	62	13:23 (2)		18:37	60	17:19 (1)	20:31			21:21	21:59	21:56	21:11	20:03	41	17:58 (1)	38	18:54	17:42 (1)	135	16:54	12:59 (2)	16:28	102	13:05 (2)
13	08:43		09:19 (4)		08:00		12:22 (2)		07:00		16:17 (1)	06:49			05:50	05:19	05:34	06:19	07:09		17:15 (1)	07:59		17:06 (1)	07:54		08:52 (4)	08:39		09:45 (3)
	16:53	132	13:21 (2)	60	13:22 (2)		18:39	62	17:19 (1)	20:32			21:23	22:00	21:56	21:09	20:01	44	17:59 (1)	34	18:52	17:40 (1)	138	16:53	13:00 (2)	16:28	101	13:05 (2)
14	08:42		09:18 (4)		07:58		12:23 (2)		06:58		16:17 (1)	06:47			05:49	05:19	05:35	06:20	07:11		17:12 (1)	08:01		17:09 (1)	07:56		08:52 (4)	08:40		09:46 (3)
	16:55	136	13:22 (2)	57	13:20 (2)		18:41	62	17:19 (1)	20:34			21:24	22:00	21:55	21:07	19:59	47	17:59 (1)	29	18:50	17:38 (1)	141	16:51	13:00 (2)	16:28	100	13:05 (2)
15	08:41		09:18 (4)		07:56		12:25 (2)		06:56		16:17 (1)	06:45			05:47	05:19	05:36	06:22	07:13		17:11 (1)	08:03		17:11 (1)	07:58		08:52 (4)	08:40		09:46 (3)
	16:57	136	13:22 (2)	54	13:19 (2)		18:43	62	17:19 (1)	20:36			21:26	22:01	21:54	21:05	19:56	49	18:00 (1)	22	18:47	17:33 (1)	142	16:50	13:00 (2)	16:28	100	13:05 (2)
16	08:41		09:18 (4)		07:54		12:27 (2)		06:54		16:16 (1)	06:43			05:46	05:19	05:38	06:24	07:14		17:08 (1)	08:04		17:16 (1)	08:00		08:52 (4)	08:41		09:46 (3)
	16:58	139	13:23 (2)	50	13:17 (2)		18:44	63	17:19 (1)	20:37			21:27	22:01	21:53	21:03	19:54	52	18:00 (1)	12	18:45	17:28 (1)	144	16:48	13:01 (2)	16:28	99	13:05 (2)
17	08:40		09:17 (4)		07:52		12:29 (2)		06:51		16:16 (1)	06:41			05:44	05:19	05:39	06:25	07:16		17:07 (1)	08:06			08:01		08:52 (4)	08:42		09:47 (3)
	17:00	141	13:24 (2)	45	13:14 (2)		18:46	63	17:19 (1)	20:39			21:29	22:02	21:52	21:01	19:52	54	18:01 (1)		18:43			16:47	144	13:01 (2)	16:28	99	13:06 (2)
18	08:39		09:17 (4)		07:50		12:32 (2)		06:49		16:16 (1)	06:38			05:43	05:19	05:40	06:27	07:17		17:06 (1)	08:08			08:03		08:52 (4)	08:43		09:48 (3)
	17:01	143	13:24 (2)	40	13:12 (2)		18:48	63	17:19 (1)	20:41			21:30	22:02	21:51	20:59	19:49	56	18:02 (1)		18:41			16:46	146	13:01 (2)	16:29	98	13:06 (2)
19	08:38		09:17 (4)		07:48		12:35 (2)		06:47		16:16 (1)	06:36			05:41	05:19	05:41	06:28	07:19		17:04 (1)	08:10			08:05		08:52 (4)	08:44		09:48 (3)
	17:03	143	13:25 (2)	33	13:08 (2)		18:49	62	17:18 (1)	20:43			21:32	22:03	21:49	20:57	19:47	58	18:02 (1)		18:39			16:44	146	13:01 (2)	16:29	98	13:06 (2)
20	08:37		09:18 (4)		07:46		12:40 (2)		06:44		16:16 (1)	06:34			05:40	05:19	05:43	06:30	07:21		17:03 (1)	08:11			08:06		08:52 (4)	08:44		09:49 (3)
	17:05	145	13:26 (2)	22	13:02 (2)		18:51	62	17:18 (1)	20:44			21:33	22:03	21:48	20:55	19:45	59	18:02 (1)		18:37			16:43	146	13:01 (2)	16:29	98	13:07 (2)
21	08:36		09:18 (4)		07:44				06:42		16:16 (1)	06:32			05:38	05:19	05:44	06:32	07:22		17:02 (1)	08:13			08:08		08:53 (4)	08:45		09:50 (3)
	17:06	144	13:26 (2)	18:03					18:53	61	17:17 (1)	20:46			21:35	22:03	21:47	20:53	19:42	60	18:02 (1)	18:35			16:42	144	13:01 (2)	16:30	98	13:08 (2)
22	08:34		09:17 (4)		07:42				06:40		16:16 (1)	06:30			05:37	05:19	05:45	06:33	07:24		17:01 (1)	08:15		13:08 (2)	08:10		08:54 (4)	08:45		09:50 (3)
	17:08	146	13:26 (2)	18:05					18:55	60	17:16 (1)	20:48			21:36	22:03	21:46	20:51	19:40	61	18:02 (1)	18:33	26	13:34 (2)	16:41	145	13:02 (2)	16:30	98	13:08 (2)
23	08:33		09:18 (4)		07:40				06:37		16:17 (1)	06:28			05:36	05:20	05:47	06:35	07:26		17:01 (1)	08:17		13:04 (2)	08:11		08:54 (4)	08:46		09:50 (3)
	17:10	146	13:27 (2)	18:07					18:56	59	17:16 (1)	20:49			21:37	22:03	21:44	20:49	19:38	61	18:02 (1)	18:31	35	13:39 (2)	16:40	143	13:02 (2)	16:31	98	13:08 (2)
24	08:32		09:18 (4)		07:38				06:35		16:18 (1)	06:26			05:35	05:20	05:48	06:37	07:27		16:59 (1)	08:18		13:00 (2)	08:13		08:54 (4)	08:46		09:51 (3)
	17:12	146	13:27 (2)	18:09					18:58	57	17:15 (1)	20:51			21:39	22:04	21:43	20:46	19:35	62	18:01 (1)	18:28	42	13:42 (2)	16:38	143	13:01 (2)	16:31	98	13:09 (2)
25	08:31		09:18 (4)		07:36				06:33		16:17 (1)	06:24			05:33	05:20	05:49	06:38	07:29		16:59 (1)	07:20		11:58 (2)	08:15		08:55 (4)	08:47		09:51 (3)
	17:13	144	13:27 (2)	18:10					19:00	57	17:14 (1)	20:53			21:40	22:04	21:42	20:44	19:33	62	18:01 (1)	17:26	47	12:45 (2)	16:37	141	13:02 (2)	16:32	98	13:09 (2)
26	08:29		09:19 (4)		07:34		16:43 (1)		06:30		16:19 (1)	06:22			05:32	05:21	05:51	06:40	07:31		16:59 (1)	07:22		11:56 (2)	08:16		08:57 (4)	08:47		09:51 (3)
	17:15	144	13:28 (2)	18:12	16	16:59 (1)	19:02	54	17:13 (1)	20:54			21:41	22:04	21:40	20:42	19:31	62	18:01 (1)	17:24	51	12:47 (2)	16:36	139	13:02 (2)	16:32	99	13:10 (2)
27	08:28		09:19 (4)		07:32		16:38 (1)		06:28		16:20 (1)	06:20			05:31	05:21	05:52	06:42	07:32		16:58 (1)	07:24		11:54 (2)	08:18		08:58 (4)	08:47		09:51 (3)
	17:17	144	13:28 (2)	18:14	25	17:03 (1)	19:03	52	17:12 (1)	20:56			21:43	22:04	21:39	20:40	19:28	62	18:00 (1)	17:22	54	12:48 (2)	16:36	136	13:02 (2)	16:33	99	13:10 (2)
28	08:27		09:20 (4)		07:30		16:35 (1)		06:26		16:20 (1)	06:18			05:30	05:21	05:54	06:43	07:34		16:58 (1)	07:26		11:52 (2)	08:19		08:58 (4)	08:48		09:53 (3)
	17:19	140	13:28 (2)	18:16	30	17:05 (1)	19:05	50	17:10 (1)	20:58			21:44	22:03	21:37	20:38	19:26	62	18:00 (1)	17:20	58	12:50 (2)	16:35	135	13:02 (2)	16:34	99	13:11 (2)
29	08:25		09:20 (4)						07:24		17:22 (1)	06:16			05:29	05:22	05:55	06:45	07:35		16:58 (1)	07:27		11:51 (2)	08:21		09:00 (4)	08:48		09:53 (3)
	17:20	138	13:28 (2)						20:07	47	18:09 (1)	21:00			21:45	22:03	21:36	20:35	19:24	62	18:00 (1)	17:19	60	12:51 (2)	16:34	132	13:02 (2)	16:35	100	13:12 (2)
30	08:24		09:20 (4)						07:21		17:23 (1)	06:14			05:28	05:23	05:57	06:46	07:37		16:57 (1)	07:29		11:50 (2)	08:22		09:01 (4)	08:48		09:53 (3)
	17:22	137	13:28 (2)						20:08	45	18:08 (1)	21:01			21:47	22:03	21:34	20:33	19:21	62	17:59 (1)	17:17	63	12:53 (2)	16:33	131	13:03 (2)	16:36	101	13:13 (2)
31	08:22		09:22 (4)						07:19		17:25 (1)				05:27		05:58	06:48				07:31		11:49 (2)				08:48		09:52 (3)
	17:24	132	13:28 (2)						20:10	42	18:07 (1)				21:48		21:33	20:31				17:15	65	12:54 (2)				16:37	102	13:12 (2)
Potential sun hours	259			277			367			416			485	499	502	454	381			331			266			243		
Total, worst case		4030			1481			1693			136							1208			1222			3733			3212	
Sun reduction		0,24			0,30			0,33			0,42							0,36			0,34			0,24			0,20	
Oper. time red.		0,95			0,95			0,95			0,95							0,95			0,95			0,95			0,95	
Wind dir. red.		0,64			0,66			0,66			0,66							0,66			0,67			0,64			0,65	
Total reduction		0,14			0,19			0,21			0,26							0,23			0,21			0,14			0,12	
Total, real		581			279			350			36							275			259			533			399	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:34/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion3.7M140@160Shadow receptor: M - 3998JK67a

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	05:26	06:08 (1) 05:23	06:15 (1) 06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03	21:49 26	06:34 (1) 22:03 24	06:39 (1) 21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	05:26	06:08 (1) 05:24	06:16 (1) 06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05	21:50 26	06:34 (1) 22:03 24	06:40 (1) 21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08	05:25	06:09 (1) 05:25	06:16 (1) 06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06	21:51 26	06:35 (1) 22:02 24	06:40 (1) 21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06	05:24	06:09 (1) 05:26	06:16 (1) 06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08	21:52 26	06:35 (1) 22:02 24	06:40 (1) 21:26	20:22	19:12	17:07	16:31
5	08:47	08:14	07:19	07:08	06:04	05:23	06:10 (1) 05:26	06:16 (1) 06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10	21:53 25	06:35 (1) 22:01 24	06:40 (1) 21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02	05:23	06:10 (1) 05:27	06:16 (1) 06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11	21:54 25	06:35 (1) 22:01 25	06:41 (1) 21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01	05:22	06:11 (1) 05:28	06:16 (1) 06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13	21:55 24	06:35 (1) 22:00 25	06:41 (1) 21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59	05:22	06:10 (1) 05:29	06:16 (1) 06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15	21:56 25	06:35 (1) 22:00 26	06:42 (1) 21:19	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57	05:21	06:11 (1) 05:30	06:17 (1) 06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16	21:57 24	06:35 (1) 21:59 25	06:42 (1) 21:17	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55	05:21	06:11 (1) 05:31	06:16 (1) 06:14	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18	21:58 23	06:34 (1) 21:58 25	06:41 (1) 21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54	05:20	06:11 (1) 05:32	06:16 (1) 06:16	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19	21:58 24	06:35 (1) 21:57 26	06:42 (1) 21:13	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52	05:20	06:12 (1) 05:33	06:16 (1) 06:17	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21	21:59 23	06:35 (1) 21:57 26	06:42 (1) 21:11	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50	05:20	06:12 (1) 05:34	06:17 (1) 06:19	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23	22:00 23	06:35 (1) 21:56 26	06:43 (1) 21:09	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49	05:19	06:13 (1) 05:35	06:17 (1) 06:21	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24	22:00 23	06:36 (1) 21:55 26	06:43 (1) 21:07	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47	05:19	06:12 (1) 05:36	06:17 (1) 06:22	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26	22:01 23	06:35 (1) 21:54 26	06:43 (1) 21:05	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46 06:16 (1)	05:19	06:13 (1) 05:38	06:17 (1) 06:24	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27 9 06:25 (1)	22:01 22	06:35 (1) 21:53 26	06:43 (1) 21:03	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44 06:14 (1)	05:19	06:13 (1) 05:39	06:17 (1) 06:25	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29 13 06:27 (1)	22:02 22	06:35 (1) 21:52 26	06:43 (1) 21:01	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43 06:12 (1)	05:19	06:13 (1) 05:40	06:18 (1) 06:27	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30 16 06:28 (1)	22:02 22	06:35 (1) 21:51 24	06:42 (1) 20:59	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41 06:11 (1)	05:19	06:14 (1) 05:41	06:18 (1) 06:29	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32 18 06:29 (1)	22:03 22	06:36 (1) 21:49 24	06:42 (1) 20:57	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40 06:11 (1)	05:19	06:14 (1) 05:43	06:19 (1) 06:30	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33 19 06:30 (1)	22:03 22	06:36 (1) 21:48 24	06:43 (1) 20:55	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	05:39 06:10 (1)	05:19	06:14 (1) 05:44	06:19 (1) 06:32	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:35 21 06:31 (1)	22:03 22	06:36 (1) 21:47 23	06:42 (1) 20:53	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	05:37 06:09 (1)	05:19	06:14 (1) 05:45	06:20 (1) 06:34	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36 22 06:31 (1)	22:03 22	06:36 (1) 21:46 21	06:41 (1) 20:51	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	05:36 06:09 (1)	05:20	06:14 (1) 05:47	06:20 (1) 06:35	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	21:37 23 06:32 (1)	22:04 22	06:36 (1) 21:44 20	06:40 (1) 20:49	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35 06:08 (1)	05:20	06:15 (1) 05:48	06:22 (1) 06:37	07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	21:39 24 06:32 (1)	22:04 22	06:37 (1) 21:43 18	06:40 (1) 20:46	19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	05:34 06:08 (1)	05:20	06:15 (1) 05:50	06:22 (1) 06:38	07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	21:40 25 06:33 (1)	22:04 22	06:37 (1) 21:42 17	06:39 (1) 20:44	19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	05:32 06:08 (1)	05:21	06:15 (1) 05:51	06:23 (1) 06:40	07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	21:42 25 06:33 (1)	22:04 22	06:37 (1) 21:40 15	06:38 (1) 20:42	19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	05:31 06:08 (1)	05:21	06:15 (1) 05:52	06:26 (1) 06:42	07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21:43 25 06:33 (1)	22:04 23	06:38 (1) 21:39 11	06:37 (1) 20:40	19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	05:30 06:08 (1)	05:22	06:15 (1) 05:54	06:28 (1) 06:43	07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	21:44 25 06:33 (1)	22:04 23	06:38 (1) 21:37 6	06:34 (1) 20:38	19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	05:29 06:08 (1)	05:22	06:16 (1) 05:55	06:45	07:36	07:27	08:21	08:48
	17:21		20:07	21:00	21:45 26 06:34 (1)	22:03 22	06:38 (1) 21:36	20:36	19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	05:28 06:09 (1)	05:23	06:16 (1) 05:57	06:47	07:37	07:29	08:22	08:48
	17:22		20:08	21:01	21:47 26 06:35 (1)	22:03 23	06:39 (1) 21:34	20:33	19:22	17:17	16:33	16:36
31	08:22		07:19		05:27 06:09 (1)		05:58	06:48		07:31		08:48
	17:24		20:10		21:48 25 06:34 (1)		21:33	20:31		17:15		16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case					342	699	631					
Sun reduction					0,43	0,39	0,41					
Oper. time red.					0,95	0,95	0,95					
Wind dir. red.					0,67	0,67	0,67					
Total reduction					0,27	0,25	0,26					
Total, real					93	173	163					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:34/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion3.7M140@160Shadow receptor: N - 3945LA11

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December		
1	08:48		10:33 (4)		08:21		15:39 (2)	07:27		07:17	06:12	05:26	05:23	06:00	06:50		07:39		18:06 (1)	07:33		15:06 (2)	08:24		10:27 (4)
	16:38	76	13:10 (3)	17:26	40	16:19 (2)	18:18			20:12	21:03	21:49	22:03	21:31	20:29		19:19	31	18:37 (1)	17:13	49	15:55 (2)	16:32	53	12:53 (3)
2	08:48		10:34 (4)	08:19		15:38 (2)	07:25			07:14	06:10	05:25	05:24	06:01	06:51		07:40		18:07 (1)	07:35		15:06 (2)	08:25		10:26 (4)
	16:39	74	13:10 (3)	17:28	42	16:20 (2)	18:19			20:14	21:05	21:50	22:02	21:29	20:26		19:17	29	18:36 (1)	17:11	49	15:55 (2)	16:32	58	12:54 (3)
3	08:48		10:35 (4)	08:18		15:38 (2)	07:23			07:12	06:08	05:25	05:25	06:03	06:53		07:42		18:07 (1)	07:36		15:05 (2)	08:27		10:25 (4)
	16:40	74	13:11 (3)	17:30	44	16:22 (2)	18:21			20:15	21:06	21:51	22:02	21:28	20:24		19:14	27	18:34 (1)	17:09	49	15:54 (2)	16:31	61	12:55 (3)
4	08:47		10:36 (4)	08:16		15:38 (2)	07:21			07:10	06:06	05:24	05:25	06:04	06:55		07:44		18:08 (1)	07:38		15:06 (2)	08:28		10:25 (4)
	16:41	71	13:10 (3)	17:31	44	16:22 (2)	18:23			20:17	21:08	21:52	22:02	21:26	20:22		19:12	24	18:32 (1)	17:07	47	15:53 (2)	16:30	64	12:56 (3)
5	08:47		10:37 (4)	08:14		15:37 (2)	07:19			07:07	06:04	05:23	05:26	06:06	06:56		07:46		18:09 (1)	07:40		15:06 (2)	08:29		10:24 (4)
	16:43	70	13:11 (3)	17:33	46	16:23 (2)	18:25			20:19	21:10	21:53	22:01	21:24	20:20		19:10	22	18:31 (1)	17:06	47	15:53 (2)	16:30	66	12:56 (3)
6	08:47		10:37 (4)	08:13		15:36 (2)	07:16	17:40 (1)		07:05	06:02	05:23	05:27	06:08	06:58		07:47		18:11 (1)	07:42		15:07 (2)	08:31		10:24 (4)
	16:44	70	13:11 (3)	17:35	47	16:23 (2)	18:27	5 17:45 (1)		20:20	21:11	21:54	22:01	21:22	20:17		19:08	17	18:28 (1)	17:04	46	15:53 (2)	16:30	69	12:57 (3)
7	08:46		10:39 (4)	08:11		15:36 (2)	07:14	17:36 (1)		07:03	06:00	05:22	05:28	06:09	06:59		07:49		18:13 (1)	07:44		15:07 (2)	08:32		10:24 (4)
	16:45	67	13:11 (3)	17:37	48	16:24 (2)	18:28	14 17:50 (1)		20:22	21:13	21:55	22:00	21:20	20:15		19:05	11	18:24 (1)	17:02	45	15:52 (2)	16:29	70	12:58 (3)
8	08:46		10:40 (4)	08:09		15:37 (2)	07:12	17:33 (1)		07:01	05:59	05:21	05:29	06:11	07:01		07:51			07:45		15:08 (2)	08:33		10:24 (4)
	16:46	64	13:11 (3)	17:39	48	16:25 (2)	18:30	20 17:53 (1)		20:24	21:14	21:56	21:59	21:19	20:13		19:03			17:00	43	15:51 (2)	16:29	72	12:59 (3)
9	08:45		10:42 (4)	08:07		15:36 (2)	07:10	17:31 (1)		06:58	05:57	05:21	05:30	06:12	07:03		07:52			07:47		15:09 (2)	08:34		10:24 (4)
	16:48	61	13:11 (3)	17:41	49	16:25 (2)	18:32	24 17:55 (1)		20:25	21:16	21:57	21:59	21:17	20:10		19:01			16:59	42	15:51 (2)	16:28	73	12:59 (3)
10	08:45		10:43 (4)	08:06		15:36 (2)	07:07	17:29 (1)		06:56	05:55	05:20	05:31	06:14	07:04		07:54			07:49		15:10 (2)	08:35		10:23 (4)
	16:49	58	13:11 (3)	17:43	50	16:26 (2)	18:34	26 17:55 (1)		20:27	21:18	21:57	21:58	21:15	20:08		18:59			16:57	40	15:50 (2)	16:28	74	12:59 (3)
11	08:44		10:44 (4)	08:04		15:36 (2)	07:05	17:28 (1)		06:54	05:54	05:20	05:32	06:16	07:06		07:56			07:51		15:11 (2)	08:37		10:23 (4)
	16:50	54	13:11 (3)	17:45	50	16:26 (2)	18:36	29 17:57 (1)		20:29	21:19	21:58	21:57	21:13	20:06		18:56			16:56	38	15:49 (2)	16:28	76	13:00 (3)
12	08:44		10:46 (4)	08:02		15:36 (2)	07:03	17:27 (1)		06:52	05:52	05:20	05:33	06:17	07:08		07:57			07:52		15:12 (2)	08:38		10:25 (4)
	16:52	48	13:10 (3)	17:46	50	16:26 (2)	18:37	31 17:58 (1)		20:31	21:21	21:59	21:56	21:11	20:03		18:54			16:54	36	15:48 (2)	16:28	76	13:01 (3)
13	08:43		10:51 (4)	08:00		15:36 (2)	07:00	17:26 (1)		06:49	05:50	05:19	05:34	06:19	07:09		07:59			07:54		15:13 (2)	08:39		10:25 (4)
	16:53	38	13:10 (3)	17:48	50	16:26 (2)	18:39	31 17:57 (1)		20:32	21:22	22:00	21:56	21:09	20:01		18:52			16:53	34	15:47 (2)	16:28	77	13:02 (3)
14	08:42		12:34 (3)	07:58		15:36 (2)	06:58	17:25 (1)		06:47	05:49	05:19	05:35	06:20	07:11		08:01		16:27 (2)	07:56		15:15 (2)	08:40		10:24 (4)
	16:55	35	13:09 (3)	17:50	50	16:26 (2)	18:41	33 17:58 (1)		20:34	21:24	22:00	21:55	21:07	19:59		18:50	16	16:43 (2)	16:51	31	15:46 (2)	16:28	78	13:02 (3)
15	08:41		12:35 (3)	07:56		15:36 (2)	06:56	17:25 (1)		06:45	05:47	05:19	05:36	06:22	07:12		08:03		16:22 (2)	07:58		15:16 (2)	08:40		10:24 (4)
	16:57	34	13:09 (3)	17:52	49	16:25 (2)	18:43	33 17:58 (1)		20:36	21:26	22:01	21:54	21:05	19:56		18:47	23	16:45 (2)	16:50	29	15:45 (2)	16:28	79	13:02 (3)
16	08:41		12:37 (3)	07:54		15:37 (2)	06:54	17:24 (1)		06:43	05:46	05:19	05:38	06:24	07:14		08:04		16:19 (2)	08:00		15:18 (2)	08:41		10:25 (4)
	16:58	31	13:08 (3)	17:54	48	16:25 (2)	18:44	34 17:58 (1)		20:37	21:27	22:01	21:53	21:03	19:54		18:45	28	16:47 (2)	16:48	25	15:43 (2)	16:28	79	13:03 (3)
17	08:40		12:39 (3)	07:52		15:37 (2)	06:51	17:24 (1)		06:41	05:44	05:19	05:39	06:25	07:16	18:21 (1)	08:06		16:17 (2)	08:01		15:21 (2)	08:42		10:26 (4)
	17:00	28	13:07 (3)	17:56	48	16:25 (2)	18:46	34 17:58 (1)		20:39	21:29	22:02	21:52	21:01	19:52	13 18:34 (1)	18:43	32	16:49 (2)	16:47	20	15:41 (2)	16:28	79	13:04 (3)
18	08:39		12:41 (3)	07:50		15:38 (2)	06:49	17:24 (1)		06:38	05:43	05:19	05:40	06:27	07:17	18:18 (1)	08:08		16:15 (2)	08:03		15:22 (2)	08:43		10:26 (4)
	17:01	25	13:06 (3)	17:58	46	16:24 (2)	18:48	34 17:58 (1)		20:41	21:30	22:02	21:50	20:59	19:49	18 18:36 (1)	18:41	35	16:50 (2)	16:46	16	15:38 (2)	16:28	80	13:05 (3)
19	08:38		12:43 (3)	07:48		15:39 (2)	06:47	17:24 (1)		06:36	05:41	05:19	05:41	06:28	07:19	18:15 (1)	08:10		16:13 (2)	08:05		15:26 (2)	08:44		10:26 (4)
	17:03	21	13:04 (3)	17:59	45	16:24 (2)	18:49	32 17:56 (1)		20:43	21:32	22:03	21:49	20:57	19:47	22 18:37 (1)	18:39	38	16:51 (2)	16:44	9	15:35 (2)	16:29	79	13:04 (3)
20	08:37		12:47 (3)	07:46		15:39 (2)	06:44	17:24 (1)		06:34	05:40	05:19	05:43	06:30	07:21	18:13 (1)	08:11		16:12 (2)	08:06			08:44		10:27 (4)
	17:05	14	13:01 (3)	18:01	43	16:22 (2)	18:51	32 17:56 (1)		20:44	21:33	22:03	21:48	20:55	19:45	26 18:39 (1)	18:37	40	16:52 (2)	16:43			16:29	79	13:05 (3)
21	08:36			07:44		15:40 (2)	06:42	17:25 (1)		06:32	05:38	05:19	05:44	06:32	07:22	18:11 (1)	08:13		16:11 (2)	08:08			08:45		10:28 (4)
	17:06			18:03	41	16:21 (2)	18:53	30 17:55 (1)		20:46	21:35	22:03	21:47	20:53	19:42	28 18:39 (1)	18:35	42	16:53 (2)	16:42			16:30	80	13:06 (3)
22	08:34			07:42		15:41 (2)	06:40	17:25 (1)		06:30	05:37	05:19	05:45	06:33	07:24	18:10 (1)	08:15		16:09 (2)	08:10		12:23 (3)	08:45		10:28 (4)
	17:08			18:05	40	16:21 (2)	18:55	29 17:54 (1)		20:48	21:36	22:03	21:46	20:51	19:40	30 18:40 (1)	18:33	44	16:53 (2)	16:41	14	12:37 (3)	16:30	80	13:06 (3)
23	08:33		15:52 (2)	07:40		15:42 (2)	06:37	17:27 (1)		06:28	05:36	05:19	05:47	06:35	07:26	18:09 (1)	08:17		16:08 (2)	08:11		12:21 (3)	08:46		10:28 (4)
	17:10	9	16:01 (2)	18:07	38	16:20 (2)	18:56	25 17:52 (1)		20:49	21:37	22:03	21:44	20:48	19:38	31 18:40 (1)	18:30	45	16:53 (2)	16:40	20	12:41 (3)	16:31	80	13:06 (3)
24	08:32		15:49 (2)	07:38		15:44 (2)	06:35	17:28 (1)		06:26	05:35	05:20	05:48	06:37	07:27	18:08 (1)	08:18		16:07 (2)	08:13		12:18 (3)	08:46		10:29 (4)
	17:11	16	16:05 (2)	18:09	34	16:18 (2)	18:58	23 17:51 (1)		20:51	21:39	22:04	21:43	20:46	19:35	32 18:40 (1)	18:28	47	16:54 (2)	16:38	25	12:43 (3)	16:31	79	13:07 (3)
25	08:31		15:47 (2)	07:36		15:46 (2)	06:33	17:29 (1)		06:24	05:33	05:20	05:49	06:38	07:29	18:07 (1)	07:20		15:07 (2)	08:15		12:17 (3)	08:47		10:29 (4)
	17:13	20	16:07 (2)	18:10	31	16:17 (2)	19:00	19 17:48 (1)		20:53	21:40	22:04	21:42	20:44	19:33	33 18:40 (1)	17:26	47	15:54 (2)	16:37	28	12:45 (3)	16:32	79	13:07 (3)
26	08:29		15:45 (2)	07:34		15:48 (2)	06:30	17:32 (1)		06:22	05:32	05:21	05:51	06:40	07:30	18:07 (1)	07:22		15:06 (2)	08:16		12:16 (3)	08:47		10:29 (4)
	17:15	25	16:10 (2)	18:12	26	16:14 (2)	19:02	14 17:46 (1)		20:54	21:41	22:04	21:40	20:42	19:31	33 18:40 (1)	17:24	49	15:55 (2)	16:36	31	12:47 (3)	16:32	80	13:08 (3)
27	08:28		15:43 (2)	07:32		15:51 (2)	06:28	17:37 (1)		06:20	05:31	05:21	05:52	06:42	07:32	18:06 (1)	07:24		15:06 (2)	08:18		12:15 (3)	08:47		10:30 (4)
	17:17	29	16:12 (2)	18:14	20	16:11 (2)	19:03	4 17:41 (1)		20:56	21:43	22:04	21:39	20:40	19:28	33 18:39 (1)	17:22	49	15:55 (2)	16:36	34	12:49 (3)	16:33	79	13:08 (3)
28	08:27		15:43 (2)	07:29		15:55 (2)	06:26			06:18	05:30	05:21	05:54	06:43	07:34	18:06 (1)	07:26		15:06 (2)	08:19		12:14 (3)	08:47		10:31 (4)
	17:19	31	16:14 (2)	18:16	13	16:08 (2)	19:05			20:58	21:44	22:03	21:37	20:38	19:26	33 18:39 (1)	17:20	49	15:55 (2)	16:35	35	12:49 (3)	16:34	79	13:09 (3)
29	08:25		15:41 (2)				07:23			06:16	05:29	05:22	05:55	06:45	07:35	18:06 (1)	07:27		15:06 (2)	08:21		12:14 (3)	08:48		10:32 (4)
	17:20	35	16:16 (2)				20:07			21:00	21:45	22:03	21:36	20:35	19:24	33 18:39 (1)	17:18	49	15:55 (2)	16:34	37	12:51 (3)	16:35	79	13:10 (3)
30	08:24		15:40 (2)				07:21			06:14	05:28	05:23	05:57	06:46	07:37	18:05 (1)	07:29		15:05 (2)	08:22		10:28 (4)	08:48		10:33 (4)
	17:22	37	16:17 (2)				20:08			21:01	21:46	22:03	21:34	20:33	19:21	32 18:37 (1)	17:17	50	15:55 (2)	16:33	47	12:51 (3)	16:36	77	13:10 (3)
31	08:22		15:40 (2)				07:19				05:27		05:58	06:48			07:31		15:06 (2)				08:48		10:32 (4)
	17:24	39	16:19 (2)				20:10				21:48		21:32	20:31			17:15	49	15:55 (2)				16:37	77	13:09 (3)
Potential sun hours	259			277			367			416	485	499	502	454	381		331			266			243		
Total, worst case		1254			1180			556								397			893			966			2311
Sun reduction		0,24			0,30			0,33								0,36			0,34			0,24			0,20
Oper. time red.		0,95			0,95			0,95								0,95			0,95			0,95			0,95
Wind dir. red.		0,66			0,67			0,63								0,63			0,66			0,67			0,66
Total reduction		0,15			0,19			0,20								0,22			0,21			0,15			0,13
Total, real		189			226			110								86			188			145			293

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:34/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion3.7M140@160Shadow receptor: O - 3998NA2

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	07:28 (2)	05:26	05:23	06:00	06:50	07:35 (2)	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03 31	07:59 (2)	21:49	22:03	21:31	20:29 27	08:02 (2)	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	07:29 (2)	05:25	05:24	06:01	06:51	07:36 (2)	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05 29	07:58 (2)	21:50	22:03	21:29	20:26 24	08:00 (2)	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08	07:30 (2)	05:25	05:25	06:03	06:53	07:38 (2)	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06 27	07:57 (2)	21:51	22:02	21:28	20:24 19	07:57 (2)	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06	07:31 (2)	05:24	05:25	06:05	06:55	07:42 (2)	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08 24	07:55 (2)	21:52	22:02	21:26	20:22 12	07:54 (2)	19:12	17:07	16:31
5	08:47	08:14	07:19	07:07	06:04	07:33 (2)	05:23	05:26	06:06	06:56		07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10 20	07:53 (2)	21:53	22:01	21:24	20:20		19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02	07:34 (2)	05:23	05:27	06:08 07:46 (2)	06:58		07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11 17	07:51 (2)	21:54	22:01	21:22 13	07:59 (2)	20:17		19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01	07:38 (2)	05:22	05:28	06:09	07:43 (2)	07:00		07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13 10	07:48 (2)	21:55	22:00	21:21 18	08:01 (2)	20:15		19:05	17:02	16:29
8	08:46	08:09	07:12	07:01 07:44 (2)	05:59		05:21	05:29	06:11	07:41 (2)	07:01		07:51	07:45	08:33
	16:46	17:39	18:30	20:24 12 07:56 (2)	21:15		21:56	22:00	21:19 22	08:03 (2)	20:13		19:03	17:01	16:29
9	08:45	08:08	07:10	06:58 07:40 (2)	05:57		05:21	05:30	06:12	07:39 (2)	07:03		07:52	07:47	08:34
	16:48	17:41	18:32	20:26 19 07:59 (2)	21:16		21:57	21:59	21:17 25	08:04 (2)	20:10		19:01	16:59	16:29
10	08:45	08:06	07:07	06:56 07:38 (2)	05:55		05:21	05:31	06:14	07:38 (2)	07:04		07:54	07:49	08:35
	16:49	17:43	18:34	20:27 24 08:02 (2)	21:18		21:58	21:58	21:15 28	08:06 (2)	20:08		18:59	16:57	16:28
11	08:44	08:04	07:05	06:54 07:36 (2)	05:54		05:20	05:32	06:16	07:38 (2)	07:06		07:56	07:51	08:37
	16:51	17:45	18:36	20:29 27 08:03 (2)	21:19		21:58	21:57	21:13 30	08:08 (2)	20:06		18:56	16:56	16:28
12	08:44	08:02	07:03	06:52 07:34 (2)	05:52		05:20	05:33	06:17	07:36 (2)	07:08	08:07 (3)	07:57	07:53	08:38
	16:52	17:46	18:37	20:31 31 08:05 (2)	21:21		21:59	21:56	21:11 32	08:08 (2)	20:03 10	08:17 (3)	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49 07:32 (2)	05:50		05:20	05:34	06:19	07:36 (2)	07:09	08:05 (3)	07:59	07:54	08:39
	16:54	17:48	18:39	20:32 33 08:05 (2)	21:23		22:00	21:56	21:09 34	08:10 (2)	20:01 15	08:20 (3)	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47 07:30 (2)	05:49		05:19	05:35	06:20	07:34 (2)	07:11	08:02 (3)	08:01	07:56	08:40
	16:55	17:50	18:41	20:34 36 08:06 (2)	21:24		22:00	21:55	21:07 36	08:10 (2)	19:59 19	08:21 (3)	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45 07:29 (2)	05:47		05:19	05:36	06:22	07:34 (2)	07:13	08:01 (3)	08:03	07:58	08:40
	16:57	17:52	18:43	20:36 37 08:06 (2)	21:26		22:01	21:54	21:05 37	08:11 (2)	19:56 21	08:22 (3)	18:48	16:50	16:28
16	08:41	07:54	06:54 07:22 (3)	06:43 07:29 (2)	05:46		05:19	05:38	06:24	07:33 (2)	07:14	07:59 (3)	08:04	08:00	08:41
	16:58	17:54	18:44 8 07:30 (3)	20:37 38 08:07 (2)	21:27		22:01	21:53	21:03 38	08:11 (2)	19:54 23	08:22 (3)	18:45	16:48	16:28
17	08:40	07:52	06:51 07:19 (3)	06:41 07:28 (2)	05:44		05:19	05:39	06:25	07:32 (2)	07:16	07:59 (3)	08:06	08:01	08:42
	17:00	17:56	18:46 14 07:33 (3)	20:39 39 08:07 (2)	21:29		22:02	21:52	21:01 40	08:12 (2)	19:52 24	08:23 (3)	18:43	16:47	16:28
18	08:39	07:50	06:49 07:17 (3)	06:38 07:27 (2)	05:43		05:19	05:40	06:27	07:31 (2)	07:17	07:58 (3)	08:08	08:03	08:43
	17:01	17:58	18:48 18 07:35 (3)	20:41 40 08:07 (2)	21:30		22:02	21:51	20:59 40	08:11 (2)	19:49 26	08:24 (3)	18:41	16:46	16:29
19	08:38	07:48	06:47 07:14 (3)	06:36 07:27 (2)	05:41		05:19	05:41	06:29	07:31 (2)	07:19	07:57 (3)	08:10	08:05	08:44
	17:03	17:59	18:50 21 07:35 (3)	20:43 40 08:07 (2)	21:32		22:03	21:49	20:57 41	08:12 (2)	19:47 26	08:23 (3)	18:39	16:44	16:29
20	08:37	07:46	06:44 07:13 (3)	06:34 07:26 (2)	05:40		05:19	05:43	06:30	07:30 (2)	07:21	07:57 (3)	08:11	08:06	08:44
	17:05	18:01	18:51 23 07:36 (3)	20:44 41 08:07 (2)	21:33		22:03	21:48	20:55 41	08:11 (2)	19:45 26	08:23 (3)	18:37	16:43	16:29
21	08:36	07:44	06:42 07:12 (3)	06:32 07:25 (2)	05:38		05:19	05:44	06:32	07:31 (2)	07:22	07:57 (3)	08:13	08:08	08:45
	17:06	18:03	18:53 25 07:37 (3)	20:46 41 08:06 (2)	21:35		22:03	21:47	20:53 41	08:12 (2)	19:42 26	08:23 (3)	18:35	16:42	16:30
22	08:34	07:42	06:40 07:11 (3)	06:30 07:25 (2)	05:37		05:19	05:45	06:33	07:30 (2)	07:24	07:57 (3)	08:15	08:10	08:45
	17:08	18:05	18:55 25 07:36 (3)	20:48 41 08:06 (2)	21:36		22:03	21:46	20:51 41	08:11 (2)	19:40 24	08:21 (3)	18:33	16:41	16:30
23	08:33	07:40	06:37 07:11 (3)	06:28 07:25 (2)	05:36		05:20	05:47	06:35	07:30 (2)	07:26	07:57 (3)	08:17	08:11	08:46
	17:10	18:07	18:56 25 07:36 (3)	20:49 41 08:06 (2)	21:37		22:03	21:44	20:49 41	08:11 (2)	19:38 24	08:21 (3)	18:31	16:40	16:31
24	08:32	07:38	06:35 07:11 (3)	06:26 07:25 (2)	05:35		05:20	05:48	06:37	07:30 (2)	07:27	07:57 (3)	08:18	08:13	08:46
	17:12	18:09	18:58 25 07:36 (3)	20:51 40 08:05 (2)	21:39		22:04	21:43	20:46 40	08:10 (2)	19:35 22	08:19 (3)	18:29	16:39	16:31
25	08:31	07:36	06:33 07:10 (3)	06:24 07:25 (2)	05:33		05:20	05:50	06:38	07:30 (2)	07:29	07:59 (3)	07:20	08:15	08:47
	17:13	18:10	19:00 25 07:35 (3)	20:53 40 08:05 (2)	21:40		22:04	21:42	20:44 40	08:10 (2)	19:33 19	08:18 (3)	17:26	16:38	16:32
26	08:30	07:34	06:31 07:10 (3)	06:22 07:26 (2)	05:32		05:21	05:51	06:40	07:31 (2)	07:31	08:01 (3)	07:22	08:16	08:47
	17:15	18:12	19:02 25 07:35 (3)	20:54 39 08:05 (2)	21:41		22:04	21:40	20:42 39	08:10 (2)	19:31 15	08:16 (3)	17:24	16:37	16:33
27	08:28	07:32	06:28 07:11 (3)	06:20 07:26 (2)	05:31		05:21	05:52	06:42	07:31 (2)	07:32	08:02 (3)	07:24	08:18	08:47
	17:17	18:14	19:03 23 07:34 (3)	20:56 38 08:04 (2)	21:43		22:04	21:39	20:40 38	08:09 (2)	19:28 11	08:13 (3)	17:22	16:36	16:33
28	08:27	07:30	06:26 07:11 (3)	06:18 07:26 (2)	05:30		05:22	05:54	06:43	07:31 (2)	07:34		07:26	08:19	08:48
	17:19	18:16	19:05 21 07:32 (3)	20:58 37 08:03 (2)	21:44		22:03	21:37	20:38 37	08:08 (2)	19:26		17:21	16:35	16:34
29	08:25		07:24 08:12 (3)	06:16 07:27 (2)	05:29		05:22	05:55	06:45	07:31 (2)	07:36		07:27	08:21	08:48
	17:21		20:07 19 08:31 (3)	21:00 35 08:02 (2)	21:45		22:03	21:36	20:35 35	08:06 (2)	19:24		17:19	16:34	16:35
30	08:24		07:21 08:13 (3)	06:14 07:27 (2)	05:28		05:23	05:57	06:46	07:33 (2)	07:37		07:29	08:22	08:48
	17:22		20:08 16 08:29 (3)	21:01 34 08:01 (2)	21:47		22:03	21:34	20:33 32	08:05 (2)	19:21		17:17	16:33	16:36
31	08:22		07:19 08:16 (3)		05:27			05:58	06:48	07:33 (2)			07:31		08:48
	17:24		20:10 10 08:26 (3)		21:48			21:33	20:31 30	08:03 (2)			17:15		16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case			323	803	158			889	413			
Sun reduction			0,33	0,42	0,43			0,42	0,36			
Oper. time red.			0,95	0,95	0,95			0,95	0,95			
Wind dir. red.			0,60	0,63	0,63			0,63	0,61			
Total reduction			0,19	0,25	0,25			0,25	0,21			
Total, real			61	199	40			220	86			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:34/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion3.7M140@160Shadow receptor: P - 3998JD89

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May		June		July		August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12		05:26	06:04 (1)	05:23	06:10 (1)	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03		21:49 25	06:29 (1)	22:03 25	06:35 (1)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10		05:26	06:04 (1)	05:24	06:11 (1)	06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05		21:50 25	06:29 (1)	22:03 24	06:35 (1)	21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08		05:25	06:05 (1)	05:25	06:11 (1)	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06		21:51 25	06:30 (1)	22:02 25	06:36 (1)	21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06		05:24	06:05 (1)	05:26	06:11 (1)	06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08		21:52 25	06:30 (1)	22:02 24	06:35 (1)	21:26	20:22	19:12	17:07	16:31
5	08:47	08:14	07:19	07:08	06:04		05:23	06:05 (1)	05:26	06:11 (1)	06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10		21:53 25	06:30 (1)	22:01 25	06:36 (1)	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02		05:23	06:05 (1)	05:27	06:11 (1)	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11		21:54 25	06:30 (1)	22:01 25	06:36 (1)	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01		05:22	06:06 (1)	05:28	06:12 (1)	06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13		21:55 25	06:31 (1)	22:00 25	06:37 (1)	21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59		05:22	06:05 (1)	05:29	06:12 (1)	06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15		21:56 25	06:30 (1)	22:00 25	06:37 (1)	21:19	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57		05:21	06:06 (1)	05:30	06:12 (1)	06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16		21:57 25	06:31 (1)	21:59 25	06:37 (1)	21:17	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55		05:21	06:06 (1)	05:31	06:11 (1)	06:14	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18		21:58 24	06:30 (1)	21:58 25	06:36 (1)	21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54		05:20	06:06 (1)	05:32	06:12 (1)	06:16	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19		21:58 25	06:31 (1)	21:57 25	06:37 (1)	21:13	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52		05:20	06:07 (1)	05:33	06:12 (1)	06:17	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21		21:59 24	06:31 (1)	21:57 25	06:37 (1)	21:11	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50		05:20	06:07 (1)	05:34	06:13 (1)	06:19	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23		22:00 24	06:31 (1)	21:56 25	06:38 (1)	21:09	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49		05:19	06:08 (1)	05:35	06:13 (1)	06:21	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24		22:00 23	06:31 (1)	21:55 25	06:38 (1)	21:07	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47		05:19	06:07 (1)	05:36	06:14 (1)	06:22	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26		22:01 24	06:31 (1)	21:54 23	06:37 (1)	21:05	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46		05:19	06:07 (1)	05:38	06:14 (1)	06:24	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27		22:01 24	06:31 (1)	21:53 23	06:37 (1)	21:03	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44		05:19	06:08 (1)	05:39	06:14 (1)	06:25	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29		22:02 23	06:31 (1)	21:52 23	06:37 (1)	21:01	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43	06:13 (1)	05:19	06:08 (1)	05:40	06:14 (1)	06:27	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30 4	06:17 (1)	22:02 23	06:31 (1)	21:51 22	06:36 (1)	20:59	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41	06:11 (1)	05:19	06:09 (1)	05:41	06:15 (1)	06:29	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32 10	06:21 (1)	22:03 23	06:32 (1)	21:49 21	06:36 (1)	20:57	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40	06:10 (1)	05:19	06:09 (1)	05:43	06:16 (1)	06:30	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33 13	06:23 (1)	22:03 23	06:32 (1)	21:48 20	06:36 (1)	20:55	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	05:39	06:09 (1)	05:19	06:09 (1)	05:44	06:17 (1)	06:32	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:35 15	06:24 (1)	22:03 23	06:32 (1)	21:47 18	06:35 (1)	20:53	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	05:37	06:07 (1)	05:19	06:09 (1)	05:45	06:18 (1)	06:34	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36 17	06:24 (1)	22:03 23	06:32 (1)	21:46 16	06:34 (1)	20:51	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	05:36	06:06 (1)	05:20	06:09 (1)	05:47	06:19 (1)	06:35	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	21:37 19	06:25 (1)	22:04 23	06:32 (1)	21:44 14	06:33 (1)	20:49	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35	06:05 (1)	05:20	06:10 (1)	05:48	06:21 (1)	06:37	07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	21:39 21	06:26 (1)	22:04 23	06:33 (1)	21:43 11	06:32 (1)	20:46	19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	05:34	06:05 (1)	05:20	06:10 (1)	05:50	06:22 (1)	06:38	07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	21:40 22	06:27 (1)	22:04 23	06:33 (1)	21:42 8	06:30 (1)	20:44	19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	05:32	06:05 (1)	05:21	06:09 (1)	05:51		06:40	07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	21:42 22	06:27 (1)	22:04 24	06:33 (1)	21:40		20:42	19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	05:31	06:04 (1)	05:21	06:10 (1)	05:52		06:42	07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21:43 23	06:27 (1)	22:04 24	06:34 (1)	21:39		20:40	19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	05:30	06:04 (1)	05:22	06:10 (1)	05:54		06:43	07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	21:44 24	06:28 (1)	22:04 24	06:34 (1)	21:37		20:38	19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	05:29	06:04 (1)	05:22	06:10 (1)	05:55		06:45	07:36	07:27	08:21	08:48
	17:21		20:07	21:00	21:45 24	06:28 (1)	22:03 24	06:34 (1)	21:36		20:36	19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	05:28	06:05 (1)	05:23	06:11 (1)	05:57		06:47	07:37	07:29	08:22	08:48
	17:22		20:09	21:01	21:47 24	06:29 (1)	22:03 24	06:35 (1)	21:34		20:33	19:22	17:17	16:33	16:36
31	08:22		07:19		05:27	06:04 (1)			05:58		06:48		07:31		08:48
	17:24		20:10		21:48 25	06:29 (1)			21:33		20:31		17:15		16:37
Potential sun hours	259	277	367	416	485		499		502		454	381	331	266	243
Total, worst case					263		720		547						
Sun reduction					0,43		0,39		0,41						
Oper. time red.					0,95		0,95		0,95						
Wind dir. red.					0,67		0,67		0,67						
Total reduction					0,27		0,25		0,26						
Total, real					71		179		142						

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:34/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion3.7M140@160Shadow receptor: Q - 3998JD85

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	05:26	06:10 (1) 05:23	06:18 (1) 06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03	21:49 24	06:34 (1) 22:03 19	06:37 (1) 21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	05:26	06:10 (1) 05:24	06:18 (1) 06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05	21:50 23	06:33 (1) 22:03 20	06:38 (1) 21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08	05:25	06:11 (1) 05:25	06:19 (1) 06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06	21:51 23	06:34 (1) 22:02 20	06:39 (1) 21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06	05:24	06:11 (1) 05:26	06:18 (1) 06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08	21:52 23	06:34 (1) 22:02 21	06:39 (1) 21:26	20:22	19:12	17:07	16:31
5	08:47	08:15	07:19	07:08	06:04	05:23	06:12 (1) 05:26	06:18 (1) 06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10	21:53 22	06:34 (1) 22:01 21	06:39 (1) 21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02	05:23	06:12 (1) 05:27	06:18 (1) 06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11	21:54 22	06:34 (1) 22:01 22	06:40 (1) 21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01	05:22	06:13 (1) 05:28	06:18 (1) 06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13	21:55 21	06:34 (1) 22:00 22	06:40 (1) 21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59	05:22	06:12 (1) 05:29	06:18 (1) 06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15	21:56 21	06:33 (1) 22:00 23	06:41 (1) 21:19	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57	05:21	06:13 (1) 05:30	06:18 (1) 06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16	21:57 21	06:34 (1) 21:59 23	06:41 (1) 21:17	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55	05:21	06:13 (1) 05:31	06:17 (1) 06:14	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18	21:58 20	06:33 (1) 21:58 24	06:41 (1) 21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54	05:20	06:14 (1) 05:32	06:17 (1) 06:16	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19	21:58 19	06:33 (1) 21:57 24	06:41 (1) 21:13	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52	05:20	06:14 (1) 05:33	06:17 (1) 06:17	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21	21:59 19	06:33 (1) 21:57 24	06:41 (1) 21:11	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50	05:20	06:15 (1) 05:34	06:18 (1) 06:19	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23	22:00 19	06:34 (1) 21:56 25	06:43 (1) 21:09	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49 06:19 (1)	05:19	06:15 (1) 05:35	06:18 (1) 06:21	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24 4	06:23 (1) 22:00 19	06:34 (1) 21:55 25	06:43 (1) 21:07	19:59	18:50	16:51	16:28
15	08:42	07:56	06:56	06:45	05:47 06:15 (1)	05:19	06:15 (1) 05:36	06:18 (1) 06:22	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26 11	06:26 (1) 22:01 18	06:33 (1) 21:54 25	06:43 (1) 21:05	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46 06:14 (1)	05:19	06:15 (1) 05:38	06:18 (1) 06:24	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27 14	06:28 (1) 22:01 18	06:33 (1) 21:53 25	06:43 (1) 21:03	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44 06:13 (1)	05:19	06:16 (1) 05:39	06:18 (1) 06:25	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29 16	06:29 (1) 22:02 17	06:33 (1) 21:52 25	06:43 (1) 21:01	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43 06:11 (1)	05:19	06:16 (1) 05:40	06:18 (1) 06:27	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30 19	06:30 (1) 22:02 17	06:33 (1) 21:51 25	06:43 (1) 20:59	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41 06:11 (1)	05:19	06:17 (1) 05:41	06:18 (1) 06:29	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32 20	06:31 (1) 22:03 17	06:34 (1) 21:49 24	06:42 (1) 20:57	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40 06:10 (1)	05:19	06:17 (1) 05:43	06:19 (1) 06:30	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33 21	06:31 (1) 22:03 17	06:34 (1) 21:48 24	06:43 (1) 20:55	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	05:39 06:10 (1)	05:19	06:17 (1) 05:44	06:20 (1) 06:32	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:35 22	06:32 (1) 22:03 17	06:34 (1) 21:47 23	06:43 (1) 20:53	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	05:37 06:09 (1)	05:19	06:17 (1) 05:45	06:20 (1) 06:34	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36 23	06:32 (1) 22:03 17	06:34 (1) 21:46 22	06:42 (1) 20:51	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	05:36 06:09 (1)	05:20	06:17 (1) 05:47	06:20 (1) 06:35	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	21:37 23	06:32 (1) 22:04 17	06:34 (1) 21:44 21	06:41 (1) 20:49	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35 06:09 (1)	05:20	06:18 (1) 05:48	06:21 (1) 06:37	07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	21:39 24	06:33 (1) 22:04 17	06:35 (1) 21:43 21	06:42 (1) 20:46	19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	05:34 06:09 (1)	05:20	06:18 (1) 05:50	06:22 (1) 06:38	07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	21:40 24	06:33 (1) 22:04 17	06:35 (1) 21:42 19	06:41 (1) 20:44	19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	05:32 06:09 (1)	05:21	06:17 (1) 05:51	06:22 (1) 06:40	07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	21:42 24	06:33 (1) 22:04 18	06:35 (1) 21:40 18	06:40 (1) 20:42	19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	05:31 06:09 (1)	05:21	06:18 (1) 05:52	06:24 (1) 06:42	07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21:43 24	06:33 (1) 22:04 18	06:36 (1) 21:39 15	06:39 (1) 20:40	19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	05:30 06:09 (1)	05:22	06:18 (1) 05:54	06:25 (1) 06:43	07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	21:44 24	06:33 (1) 22:04 18	06:36 (1) 21:37 13	06:38 (1) 20:38	19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	05:29 06:09 (1)	05:22	06:18 (1) 05:55	06:28 (1) 06:45	07:36	07:27	08:21	08:48
	17:21		20:07	21:00	21:45 24	06:33 (1) 22:03 19	06:37 (1) 21:36 8	06:36 (1) 20:36	19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	05:28 06:10 (1)	05:23	06:19 (1) 05:57	06:47	07:37	07:29	08:22	08:48
	17:22		20:09	21:01	21:47 24	06:34 (1) 22:03 18	06:37 (1) 21:34	20:33	19:22	17:17	16:33	16:36
31	08:22		07:19		05:27 06:10 (1)		05:58	06:48		07:31		08:48
	17:24		20:10		21:48 24	06:34 (1)	21:33	20:31		17:15		16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case					365	576	621					
Sun reduction					0,43	0,39	0,41					
Oper. time red.					0,95	0,95	0,95					
Wind dir. red.					0,67	0,67	0,67					
Total reduction					0,27	0,25	0,26					
Total, real					99	142	160					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:34/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion3.7M140@160Shadow receptor: R - 3998JD92

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	05:26	06:00 (1) | 05:23	06:04 (1) | 06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03	21:49 22	06:22 (1) | 22:03 25	06:29 (1) | 21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	05:26	05:59 (1) | 05:24	06:05 (1) | 06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05	21:50 23	06:22 (1) | 22:03 25	06:30 (1) | 21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08	05:25	06:00 (1) | 05:25	06:05 (1) | 06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06	21:51 23	06:23 (1) | 22:02 25	06:30 (1) | 21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06	05:24	05:59 (1) | 05:26	06:05 (1) | 06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08	21:52 24	06:23 (1) | 22:02 25	06:30 (1) | 21:26	20:22	19:12	17:07	16:31
5	08:47	08:14	07:19	07:08	06:04	05:23	06:00 (1) | 05:26	06:05 (1) | 06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10	21:53 24	06:24 (1) | 22:01 25	06:30 (1) | 21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02	05:23	06:00 (1) | 05:27	06:06 (1) | 06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11	21:54 24	06:24 (1) | 22:01 24	06:30 (1) | 21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01	05:22	06:00 (1) | 05:28	06:06 (1) | 06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13	21:55 25	06:25 (1) | 22:00 25	06:31 (1) | 21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59	05:22	06:00 (1) | 05:29	06:07 (1) | 06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15	21:56 25	06:25 (1) | 22:00 24	06:31 (1) | 21:19	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57	05:21	06:00 (1) | 05:30	06:07 (1) | 06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16	21:57 25	06:25 (1) | 21:59 24	06:31 (1) | 21:17	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55	05:21	06:00 (1) | 05:31	06:07 (1) | 06:14	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18	21:58 25	06:25 (1) | 21:58 23	06:30 (1) | 21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54	05:20	06:00 (1) | 05:32	06:07 (1) | 06:16	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19	21:58 25	06:25 (1) | 21:57 23	06:30 (1) | 21:13	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52	05:20	06:00 (1) | 05:33	06:08 (1) | 06:17	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21	21:59 26	06:26 (1) | 21:57 21	06:29 (1) | 21:11	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50	05:20	06:01 (1) | 05:34	06:09 (1) | 06:19	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23	22:00 25	06:26 (1) | 21:56 21	06:30 (1) | 21:09	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49	05:19	06:01 (1) | 05:35	06:10 (1) | 06:21	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24	22:00 26	06:27 (1) | 21:55 20	06:30 (1) | 21:07	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47	05:19	06:00 (1) | 05:36	06:10 (1) | 06:22	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26	22:01 26	06:26 (1) | 21:54 19	06:29 (1) | 21:05	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46	05:19	06:01 (1) | 05:38	06:11 (1) | 06:24	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27	22:01 25	06:26 (1) | 21:53 18	06:29 (1) | 21:03	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44	05:19	06:01 (1) | 05:39	06:12 (1) | 06:25	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29	22:02 25	06:26 (1) | 21:52 16	06:28 (1) | 21:01	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43	05:19	06:01 (1) | 05:40	06:13 (1) | 06:27	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30	22:02 25	06:26 (1) | 21:51 14	06:27 (1) | 20:59	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41	05:19	06:02 (1) | 05:41	06:14 (1) | 06:29	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32	22:03 26	06:28 (1) | 21:49 12	06:26 (1) | 20:57	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40	05:19	06:02 (1) | 05:43	06:16 (1) | 06:30	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33	22:03 26	06:28 (1) | 21:48 9	06:25 (1) | 20:55	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	05:39	05:19	06:02 (1) | 05:44	06:32	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:35	22:03 26	06:28 (1) | 21:47	20:53	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	05:37	05:19	06:02 (1) | 05:45	06:34	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36	22:03 26	06:28 (1) | 21:46	20:51	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	05:36 06:07 (1)	05:20	06:02 (1) | 05:47	06:35	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	21:37 6 06:13 (1)	22:04 26	06:28 (1) | 21:44	20:49	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35 06:05 (1)	05:20	06:03 (1) | 05:48	06:37	07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	21:39 10 06:15 (1)	22:04 26	06:29 (1) | 21:43	20:46	19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	05:34 06:04 (1)	05:20	06:03 (1) | 05:50	06:38	07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	21:40 13 06:17 (1)	22:04 25	06:28 (1) | 21:42	20:44	19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	05:32 06:03 (1)	05:21	06:03 (1) | 05:51	06:40	07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	21:42 15 06:18 (1)	22:04 25	06:28 (1) | 21:40	20:42	19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	05:31 06:02 (1)	05:21	06:03 (1) | 05:52	06:42	07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21:43 17 06:19 (1)	22:04 26	06:29 (1) | 21:39	20:40	19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	05:30 06:01 (1)	05:22	06:03 (1) | 05:54	06:43	07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	21:44 19 06:20 (1)	22:04 26	06:29 (1) | 21:37	20:38	19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	05:29 06:00 (1)	05:22	06:04 (1) | 05:55	06:45	07:36	07:27	08:21	08:48
	17:21		20:07	21:00	21:45 20 06:20 (1)	22:03 25	06:29 (1) | 21:36	20:36	19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	05:28 06:01 (1)	05:23	06:05 (1) | 05:57	06:47	07:37	07:29	08:22	08:48
	17:22		20:08	21:01	21:47 21 06:22 (1)	22:03 25	06:30 (1) | 21:34	20:33	19:22	17:17	16:33	16:36
31	08:22		07:19		05:27 06:00 (1)		05:58	06:48		07:31		08:48
	17:24		20:10		21:48 22 06:22 (1)		21:33	20:31		17:15		16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case					143	751	418					
Sun reduction					0,43	0,39	0,41					
Oper. time red.					0,95	0,95	0,95					
Wind dir. red.					0,67	0,67	0,67					
Total reduction					0,27	0,25	0,26					
Total, real					39	187	108					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:34/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion3.7M140@160Shadow receptor: S - 3998NA1

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 16:38	08:21 17:26	07:27 18:18	07:17 20:12	06:12 21:03	06:47 (2) 07:08 (2)	05:26 21:49	06:01 (1) 06:19 (1)	05:23 22:03	06:03 (1) 06:28 (1)	06:00 21:31	06:50 20:29	07:39 19:19	07:33 17:13	08:24 16:32
2	08:48 16:39	08:19 17:28	07:25 18:20	07:14 20:14	06:10 21:05	06:48 (2) 07:07 (2)	05:26 21:50	06:00 (1) 06:19 (1)	05:24 22:03	06:03 (1) 06:29 (1)	06:01 21:29	06:51 20:27	07:41 19:17	07:35 17:11	08:25 16:32
3	08:48 16:40	08:18 17:30	07:23 18:21	07:12 20:15	06:08 21:06	06:49 (2) 07:06 (2)	05:25 21:51	06:00 (1) 06:21 (1)	05:25 22:02	06:04 (1) 06:29 (1)	06:03 21:28	06:53 20:24	07:42 19:15	07:36 17:09	08:27 16:31
4	08:47 16:41	08:16 17:32	07:21 18:23	07:10 20:17	06:06 21:08	06:50 (2) 07:05 (2)	05:24 21:52	05:59 (1) 06:21 (1)	05:26 22:02	06:04 (1) 06:28 (1)	06:05 21:26	06:55 20:22	07:44 19:12	07:38 17:07	08:28 16:31
5	08:47 16:43	08:14 17:33	07:19 18:25	07:08 20:19	06:04 21:10	06:51 (2) 07:03 (2)	05:23 21:53	05:59 (1) 06:21 (1)	05:26 22:01	06:04 (1) 06:28 (1)	06:06 21:24	06:56 20:20	07:46 19:10	07:40 17:06	08:29 16:30
6	08:47 16:44	08:13 17:35	07:16 18:27	07:05 20:20	06:02 21:11	06:52 (2) 07:01 (2)	05:23 21:54	05:59 (1) 06:22 (1)	05:27 22:01	06:05 (1) 06:29 (1)	06:08 21:22	07:04 (2) 07:09 (2)	06:58 20:17	07:47 19:08	07:42 17:04	08:31 16:30
7	08:46 16:45	08:11 17:37	07:14 18:29	07:03 20:22	06:01 21:13		05:22 21:55	05:58 (1) 06:22 (1)	05:28 22:00	06:06 (1) 06:29 (1)	06:09 21:21	07:02 (2) 07:12 (2)	07:00 20:15	07:49 19:05	07:44 17:02	08:32 16:29
8	08:46 16:46	08:09 17:39	07:12 18:30	07:01 20:24	05:59 21:15		05:22 21:56	05:59 (1) 06:23 (1)	05:29 22:00	06:06 (1) 06:28 (1)	06:11 21:19	07:00 (2) 07:13 (2)	07:01 20:13	07:51 19:03	07:45 17:01	08:33 16:29
9	08:46 16:48	08:08 17:41	07:10 18:32	06:58 20:26	05:57 21:16		05:21 21:57	05:59 (1) 06:24 (1)	05:30 21:59	06:07 (1) 06:28 (1)	06:12 21:17	06:59 (2) 07:15 (2)	07:03 20:11	07:52 19:01	07:47 16:59	08:34 16:29
10	08:45 16:49	08:06 17:43	07:07 18:34	06:56 20:27	05:55 21:18		05:21 21:58	05:58 (1) 06:23 (1)	05:31 21:58	06:07 (1) 06:27 (1)	06:14 21:15	06:57 (2) 07:15 (2)	07:04 20:08	07:54 18:59	07:49 16:57	08:36 16:28
11	08:44 16:51	08:04 17:45	07:05 18:36	06:54 20:29	05:54 21:19		05:20 21:58	05:59 (1) 06:24 (1)	05:32 21:57	06:08 (1) 06:27 (1)	06:16 21:13	06:57 (2) 07:16 (2)	07:06 20:06	07:56 18:56	07:51 16:56	08:37 16:28
12	08:44 16:52	08:02 17:47	07:03 18:37	06:52 20:31	05:52 21:21		05:20 21:59	05:59 (1) 06:25 (1)	05:33 21:57	06:09 (1) 06:26 (1)	06:17 21:11	06:56 (2) 07:16 (2)	07:08 20:04	07:58 18:54	07:53 16:54	08:38 16:28
13	08:43 16:54	08:00 17:48	07:01 18:39	06:49 20:32	05:50 21:23		05:20 22:00	05:59 (1) 06:25 (1)	05:34 21:56	06:11 (1) 06:26 (1)	06:19 21:09	06:56 (2) 07:17 (2)	07:09 20:01	07:59 18:52	07:54 16:53	08:39 16:28
14	08:42 16:55	07:58 17:50	06:58 18:41	06:47 20:34	05:49 21:24		05:19 22:00	05:58 (1) 06:25 (1)	05:35 21:55	06:12 (1) 06:26 (1)	06:21 21:07	06:55 (2) 07:16 (2)	07:11 19:59	08:01 18:50	07:56 16:51	08:40 16:28
15	08:41 16:57	07:56 17:52	06:56 18:43	06:45 20:36	05:47 21:26		05:19 22:01	05:59 (1) 06:25 (1)	05:36 21:54	06:13 (1) 06:24 (1)	06:22 21:05	06:55 (2) 07:17 (2)	07:13 19:57	08:03 18:48	07:58 16:50	08:41 16:28
16	08:41 16:58	07:54 17:54	06:54 18:44	06:43 20:38	05:46 21:27		05:19 22:01	05:59 (1) 06:25 (1)	05:38 21:53	06:15 (1) 06:22 (1)	06:24 21:03	06:55 (2) 07:16 (2)	07:14 19:54	08:04 18:45	08:00 16:48	08:41 16:28
17	08:40 17:00	07:52 17:56	06:51 18:46	06:41 20:39	05:44 21:29		05:19 22:02	05:59 (1) 06:26 (1)	05:39 21:52		06:25 21:01	06:55 (2) 07:16 (2)	07:16 19:52	08:06 18:43	08:01 16:47	08:42 16:28
18	08:39 17:01	07:50 17:58	06:49 18:48	06:39 20:41	05:43 21:30		05:19 22:02	05:59 (1) 06:26 (1)	05:40 21:51		06:27 20:59	06:55 (2) 07:14 (2)	07:17 19:50	08:08 18:41	08:03 16:46	08:43 16:29
19	08:38 17:03	07:48 18:00	06:47 18:50	06:36 20:43	05:41 21:32		05:19 22:03	05:59 (1) 06:26 (1)	05:41 21:49		06:29 20:57	06:56 (2) 07:14 (2)	07:19 19:47	08:10 18:39	08:05 16:44	08:44 16:29
20	08:37 17:05	07:46 18:01	06:44 18:51	06:34 20:44	05:40 21:33		05:19 22:03	06:00 (1) 06:27 (1)	05:43 21:48		06:30 20:55	06:57 (2) 07:12 (2)	07:21 19:45	08:11 18:37	08:06 16:43	08:44 16:29
21	08:36 17:06	07:44 18:03	06:42 18:53	06:32 20:46	06:56 (2) 05:39 07:04 (2) 21:35		05:19 22:03	06:00 (1) 06:27 (1)	05:44 21:47		06:32 20:53	06:59 (2) 07:11 (2)	07:22 19:42	08:13 18:35	08:08 16:42	08:45 16:30
22	08:35 17:08	07:42 18:05	06:40 18:55	06:30 20:48	06:54 (2) 05:37 07:06 (2) 21:36		05:19 22:03	06:00 (1) 06:27 (1)	05:45 21:46		06:33 20:51	07:00 (2) 07:08 (2)	07:24 19:40	08:15 18:33	08:10 16:41	08:45 16:30
23	08:33 17:10	07:40 18:07	06:38 18:56	06:28 20:49	06:52 (2) 05:36 07:08 (2) 21:37		05:20 22:04	06:00 (1) 06:27 (1)	05:47 21:44		06:35 20:49		07:26 19:38	08:17 18:31	08:11 16:40	08:46 16:31
24	08:32 17:12	07:38 18:09	06:35 18:58	06:26 20:51	06:51 (2) 05:35 07:08 (2) 21:39		05:20 22:04	06:01 (1) 06:28 (1)	05:48 21:43		06:37 20:46		07:27 19:35	08:18 18:29	08:13 16:39	08:46 16:31
25	08:31 17:13	07:36 18:11	06:33 19:00	06:24 20:53	06:50 (2) 05:34 07:09 (2) 21:40		05:20 22:04	06:01 (1) 06:28 (1)	05:50 21:42		06:38 20:44		07:29 19:33	07:20 17:27	08:15 16:38	08:47 16:32
26	08:30 17:15	07:34 18:12	06:31 19:02	06:22 20:55	06:49 (2) 05:32 07:09 (2) 21:42		05:21 22:04	06:01 (1) 06:27 (1)	05:51 21:40		06:40 20:42		07:31 19:31	07:22 17:25	08:16 16:37	08:47 16:33
27	08:28 17:17	07:32 18:14	06:28 19:03	06:20 20:56	06:48 (2) 05:31 07:09 (2) 21:43	06:07 (1) 4 06:11 (1)	05:21 22:04	06:02 (1) 06:28 (1)	05:52 21:39		06:42 20:40		07:32 19:28	07:24 17:23	08:18 16:36	08:47 16:33
28	08:27 17:19	07:30 18:16	06:26 19:05	06:18 20:58	06:48 (2) 05:30 07:09 (2) 21:44	06:04 (1) 10 06:14 (1)	05:22 22:04	06:01 (1) 06:28 (1)	05:54 21:37		06:43 20:38		07:34 19:26	07:26 17:21	08:19 16:35	08:48 16:34
29	08:25 17:21		07:24 20:07	06:16 21:00	06:48 (2) 05:29 07:09 (2) 21:45	06:03 (1) 13 06:16 (1)	05:22 22:03	06:02 (1) 06:28 (1)	05:55 21:36		06:45 20:35		07:36 19:24	07:27 17:19	08:21 16:34	08:48 16:35
30	08:24 17:22		07:21 20:08	06:14 21:01	06:47 (2) 05:28 07:08 (2) 21:47	06:03 (1) 15 06:18 (1)	05:23 22:03	06:03 (1) 06:29 (1)	05:57 21:34		06:47 20:33		07:37 19:22	07:29 17:17	08:22 16:33	08:48 16:36
31	08:22 17:24		07:19 20:10		05:27 21:48	06:02 (1) 16 06:18 (1)			05:58 21:33		06:48 20:31			07:31 17:15		08:48 16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case				176	151	753	317	279				
Sun reduction				0,42	0,43	0,39	0,41	0,42				
Oper. time red.				0,95	0,95	0,95	0,95	0,95				
Wind dir. red.				0,64	0,65	0,67	0,67	0,64				
Total reduction				0,25	0,26	0,25	0,26	0,25				
Total, real				45	40	188	82	70				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:34/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion3.7M140@160Shadow receptor: T - 3997MR17

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March	April	May	June	July	August	September	October	November		December	
1	08:48	09:40 (4)	08:21	14:43 (1)	07:27	07:17	06:12	05:26	05:23	06:00	06:50	07:39	07:33		08:24	09:30 (4)
	16:38 95	15:13 (1)	17:26 39	15:22 (1)	18:18	20:12	21:03	21:49	22:03	21:31	20:29	19:19	17:13		16:32 60	15:02 (1)
2	08:48	09:41 (4)	08:19	14:44 (1)	07:25	07:14	06:10	05:25	05:24	06:01	06:51	07:41	07:35		08:25	09:30 (4)
	16:39 90	15:14 (1)	17:28 37	15:21 (1)	18:20	20:14	21:05	21:50	22:03	21:29	20:26	19:17	17:11		16:32 62	15:03 (1)
3	08:48	09:41 (4)	08:18	14:46 (1)	07:23	07:12	06:08	05:25	05:25	06:03	06:53	07:42	07:36	14:30 (1)	08:27	09:29 (4)
	16:40 86	15:15 (1)	17:30 35	15:21 (1)	18:21	20:15	21:06	21:51	22:02	21:28	20:24	19:14	17:09 9	14:39 (1)	16:31 63	15:02 (1)
4	08:47	09:41 (4)	08:16	14:48 (1)	07:21	07:10	06:06	05:24	05:25	06:04	06:55	07:44	07:38	14:25 (1)	08:28	09:30 (4)
	16:41 78	15:15 (1)	17:31 31	15:19 (1)	18:23	20:17	21:08	21:52	22:02	21:26	20:22	19:12	17:07 18	14:43 (1)	16:30 63	15:03 (1)
5	08:47	09:43 (4)	08:14	14:50 (1)	07:19	07:07	06:04	05:23	05:26	06:06	06:56	07:46	07:40	14:22 (1)	08:29	09:29 (4)
	16:43 64	15:16 (1)	17:33 27	15:17 (1)	18:25	20:19	21:10	21:53	22:01	21:24	20:20	19:10	17:06 23	14:45 (1)	16:30 64	15:03 (1)
6	08:47	09:43 (4)	08:13	14:52 (1)	07:16	07:05	06:02	05:23	05:27	06:08	06:58	07:47	07:42	14:19 (1)	08:31	09:29 (4)
	16:44 63	15:16 (1)	17:35 23	15:15 (1)	18:27	20:20	21:11	21:54	22:01	21:22	20:17	19:08	17:04 28	14:47 (1)	16:30 64	15:03 (1)
7	08:46	09:44 (4)	08:11	14:56 (1)	07:14	07:03	06:00	05:22	05:28	06:09	06:59	07:49	07:44	14:17 (1)	08:32	09:30 (4)
	16:45 65	15:18 (1)	17:37 17	15:13 (1)	18:28	20:22	21:13	21:55	22:00	21:20	20:15	19:05	17:02 32	14:49 (1)	16:29 64	15:03 (1)
8	08:46	09:45 (4)	08:09	15:02 (1)	07:12	07:01	05:59	05:21	05:29	06:11	07:01	07:51	07:45	14:16 (1)	08:33	09:30 (4)
	16:46 63	15:18 (1)	17:39 6	15:08 (1)	18:30	20:24	21:15	21:56	22:00	21:19	20:13	19:03	17:00 35	14:51 (1)	16:29 77	15:03 (1)
9	08:45	09:46 (4)	08:08		07:10	06:58	05:57	05:21	05:30	06:12	07:03	07:52	07:47	14:15 (1)	08:34	09:30 (4)
	16:48 63	15:19 (1)	17:41		18:32	20:26	21:16	21:57	21:59	21:17	20:10	19:01	16:59 37	14:52 (1)	16:28 84	15:03 (1)
10	08:45	09:47 (4)	08:06		07:07	06:56	05:55	05:20	05:31	06:14	07:04	07:54	07:49	14:14 (1)	08:35	09:30 (4)
	16:49 61	15:19 (1)	17:43		18:34	20:27	21:18	21:58	21:58	21:15	20:08	18:59	16:57 39	14:53 (1)	16:28 90	15:03 (1)
11	08:44	09:48 (4)	08:04		07:05	06:54	05:54	05:20	05:32	06:16	07:06	07:56	07:51	14:13 (1)	08:37	09:30 (4)
	16:51 60	15:20 (1)	17:45		18:36	20:29	21:19	21:58	21:57	21:13	20:06	18:56	16:56 41	14:54 (1)	16:28 96	15:04 (1)
12	08:44	09:50 (4)	08:02		07:03	06:52	05:52	05:20	05:33	06:17	07:08	07:57	07:53	14:12 (1)	08:38	09:31 (4)
	16:52 57	15:20 (1)	17:46		18:37	20:31	21:21	21:59	21:56	21:11	20:03	18:54	16:54 43	14:55 (1)	16:28 99	15:05 (1)
13	08:43	09:52 (4)	08:00		07:00	06:49	05:50	05:19	05:34	06:19	07:09	07:59	07:54	14:12 (1)	08:39	09:31 (4)
	16:53 54	15:21 (1)	17:48		18:39	20:32	21:23	22:00	21:56	21:09	20:01	18:52	16:53 43	14:55 (1)	16:28 101	15:05 (1)
14	08:42	14:32 (1)	07:58		06:58	06:47	05:49	05:19	05:35	06:20	07:11	08:01	07:56	14:12 (1)	08:40	09:32 (4)
	16:55 49	15:21 (1)	17:50		18:41	20:34	21:24	22:00	21:55	21:07	19:59	18:50	16:51 44	14:56 (1)	16:28 103	15:05 (1)
15	08:41	14:34 (1)	07:56		06:56	06:45	05:47	05:19	05:36	06:22	07:13	08:03	07:58	14:11 (1)	08:40	09:31 (4)
	16:57 48	15:22 (1)	17:52		18:43	20:36	21:26	22:01	21:54	21:05	19:56	18:47	16:50 46	14:57 (1)	16:28 106	15:05 (1)
16	08:41	14:33 (1)	07:54		06:54	06:43	05:46	05:19	05:38	06:24	07:14	08:04	08:00	14:11 (1)	08:41	09:32 (4)
	16:58 49	15:22 (1)	17:54		18:44	20:37	21:27	22:01	21:53	21:03	19:54	18:45	16:48 46	14:57 (1)	16:28 104	15:05 (1)
17	08:40	14:33 (1)	07:52		06:51	06:41	05:44	05:19	05:39	06:25	07:16	08:06	08:01	14:11 (1)	08:42	09:32 (4)
	17:00 49	15:22 (1)	17:56		18:46	20:39	21:29	22:02	21:52	21:01	19:52	18:43	16:47 47	14:58 (1)	16:28 107	15:06 (1)
18	08:39	14:34 (1)	07:50		06:49	06:38	05:43	05:19	05:40	06:27	07:17	08:08	08:03	14:11 (1)	08:43	09:33 (4)
	17:01 49	15:23 (1)	17:58		18:48	20:41	21:30	22:02	21:51	20:59	19:49	18:41	16:46 48	14:59 (1)	16:29 108	15:06 (1)
19	08:38	14:34 (1)	07:48		06:47	06:36	05:41	05:19	05:41	06:28	07:19	08:10	08:05	14:10 (1)	08:44	09:33 (4)
	17:03 49	15:23 (1)	17:59		18:50	20:43	21:32	22:03	21:49	20:57	19:47	18:39	16:44 48	14:58 (1)	16:29 109	15:06 (1)
20	08:37	14:35 (1)	07:46		06:44	06:34	05:40	05:19	05:43	06:30	07:21	08:11	08:06	14:10 (1)	08:44	09:34 (4)
	17:05 49	15:24 (1)	18:01		18:51	20:44	21:33	22:03	21:48	20:55	19:45	18:37	16:43 49	14:59 (1)	16:29 109	15:07 (1)
21	08:36	14:36 (1)	07:44		06:42	06:32	05:38	05:19	05:44	06:32	07:22	08:13	08:08	14:11 (1)	08:45	09:35 (4)
	17:06 48	15:24 (1)	18:03		18:53	20:46	21:35	22:03	21:47	20:53	19:42	18:35	16:42 48	14:59 (1)	16:30 108	15:08 (1)
22	08:34	14:35 (1)	07:42		06:40	06:30	05:37	05:19	05:45	06:33	07:24	08:15	08:10	14:11 (1)	08:45	09:35 (4)
	17:08 49	15:24 (1)	18:05		18:55	20:48	21:36	22:03	21:46	20:51	19:40	18:33	16:41 49	15:00 (1)	16:30 108	15:08 (1)
23	08:33	14:36 (1)	07:40		06:37	06:28	05:36	05:20	05:47	06:35	07:26	08:17	08:11	14:11 (1)	08:46	09:35 (4)
	17:10 48	15:24 (1)	18:07		18:56	20:49	21:37	22:04	21:44	20:49	19:38	18:31	16:40 49	15:00 (1)	16:31 108	15:08 (1)
24	08:32	14:37 (1)	07:38		06:35	06:26	05:35	05:20	05:48	06:37	07:27	08:18	08:13	14:11 (1)	08:46	09:36 (4)
	17:12 48	15:25 (1)	18:09		18:58	20:51	21:39	22:04	21:43	20:46	19:35	18:28	16:38 49	15:00 (1)	16:31 109	15:09 (1)
25	08:31	14:37 (1)	07:36		06:33	06:24	05:33	05:20	05:49	06:38	07:29	07:20	08:15	14:11 (1)	08:47	09:36 (4)
	17:13 47	15:24 (1)	18:10		19:00	20:53	21:40	22:04	21:42	20:44	19:33	17:26	16:37 49	15:00 (1)	16:32 109	15:09 (1)
26	08:30	14:38 (1)	07:34		06:30	06:22	05:32	05:21	05:51	06:40	07:31	07:22	08:16	14:12 (1)	08:47	09:36 (4)
	17:15 46	15:24 (1)	18:12		19:02	20:54	21:41	22:04	21:40	20:42	19:31	17:24	16:36 49	15:01 (1)	16:32 108	15:10 (1)
27	08:28	14:38 (1)	07:32		06:28	06:20	05:31	05:21	05:52	06:42	07:32	07:24	08:18	14:13 (1)	08:47	09:38 (4)
	17:17 46	15:24 (1)	18:14		19:03	20:56	21:43	22:04	21:39	20:40	19:28	17:22	16:36 49	15:02 (1)	16:33 106	15:11 (1)
28	08:27	14:40 (1)	07:30		06:26	06:18	05:30	05:21	05:54	06:43	07:34	07:26	08:19	14:13 (1)	08:48	09:38 (4)
	17:19 44	15:24 (1)	18:16		19:05	20:58	21:44	22:03	21:37	20:38	19:26	17:20	16:35 48	15:01 (1)	16:34 105	15:11 (1)
29	08:25	14:40 (1)			07:24	06:16	05:29	05:22	05:55	06:45	07:35	07:27	08:21	09:33 (4)	08:48	09:38 (4)
	17:20 43	15:23 (1)			20:07	21:00	21:45	22:03	21:36	20:35	19:24	17:19	16:34 54	15:02 (1)	16:35 104	15:12 (1)
30	08:24	14:41 (1)			07:21	06:14	05:28	05:23	05:57	06:46	07:37	07:29	08:22	09:32 (4)	08:48	09:39 (4)
	17:22 42	15:23 (1)			20:08	21:01	21:47	22:03	21:34	20:33	19:21	17:17	16:33 57	15:02 (1)	16:36 101	15:13 (1)
31	08:22	14:42 (1)			07:19		05:27		05:58	06:48		07:31			08:48	09:39 (4)
	17:24 41	15:23 (1)			20:10		21:48		21:33	20:31		17:15			16:37 99	15:12 (1)
Potential sun hours	259		277		367	416	485	499	502	454	381	331	266		243	
Total, worst case	1743		215										1177		2898	
Sun reduction	0,24		0,30										0,24		0,20	
Oper. time red.	0,95		0,95										0,95		0,95	
Wind dir. red.	0,68		0,70										0,69		0,65	
Total reduction	0,15		0,20										0,16		0,13	
Total, real	268		43										183		366	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:34/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion3.7M140@160Shadow receptor: U - 3945LA4

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December		
1	08:48		13:50 (3)	08:21		16:14 (2)	07:27	17:37 (1)	07:17	06:12	05:26	05:23	06:00	06:50		07:39		18:07 (1)	07:33		15:41 (2)	08:24		13:43 (3)
	16:38	34	14:24 (3)	17:26	26	16:40 (2)	18:18	10	17:47 (1)	20:12	21:03	21:49	22:03	21:31	20:29		19:19	23	18:30 (1)	17:13	35	16:16 (2)	16:32	21	14:04 (3)
2	08:48		13:51 (3)	08:19		16:13 (2)	07:25	17:34 (1)	07:14	06:10	05:25	05:24	06:01	06:51		07:40		18:06 (1)	07:35		15:41 (2)	08:25		13:42 (3)
	16:39	33	14:24 (3)	17:28	28	16:41 (2)	18:19	15	17:49 (1)	20:13	21:05	21:50	22:02	21:29	20:26		19:17	25	18:31 (1)	17:11	35	16:16 (2)	16:32	24	14:06 (3)
3	08:48		13:52 (3)	08:18		16:13 (2)	07:23	17:32 (1)	07:12	06:08	05:25	05:25	06:03	06:53		07:42		18:05 (1)	07:36		15:40 (2)	08:27		13:41 (3)
	16:40	32	14:24 (3)	17:30	30	16:43 (2)	18:21	18	17:50 (1)	20:15	21:06	21:51	22:02	21:27	20:24		19:14	25	18:30 (1)	17:09	35	16:15 (2)	16:31	26	14:07 (3)
4	08:47		13:52 (3)	08:16		16:12 (2)	07:21	17:31 (1)	07:10	06:06	05:24	05:25	06:04	06:55		07:44		18:05 (1)	07:38		15:40 (2)	08:28		13:41 (3)
	16:41	32	14:24 (3)	17:31	31	16:43 (2)	18:23	21	17:52 (1)	20:17	21:08	21:52	22:02	21:26	20:22		19:12	26	18:31 (1)	17:07	34	16:14 (2)	16:30	28	14:09 (3)
5	08:47		13:53 (3)	08:14		16:12 (2)	07:18	17:30 (1)	07:07	06:04	05:23	05:26	06:06	06:56		07:45		18:04 (1)	07:40		15:41 (2)	08:29		13:41 (3)
	16:42	31	14:24 (3)	17:33	32	16:44 (2)	18:25	23	17:53 (1)	20:19	21:10	21:53	22:01	21:24	20:20		19:10	27	18:31 (1)	17:06	33	16:14 (2)	16:30	28	14:09 (3)
6	08:47		13:54 (3)	08:13		16:11 (2)	07:16	17:28 (1)	07:05	06:02	05:23	05:27	06:08	06:58		07:47		18:04 (1)	07:42		15:42 (2)	08:31		13:40 (3)
	16:44	30	14:24 (3)	17:35	33	16:44 (2)	18:27	25	17:53 (1)	20:20	21:11	21:54	22:01	21:22	20:17		19:08	25	18:29 (1)	17:04	32	16:14 (2)	16:29	30	14:10 (3)
7	08:46		13:55 (3)	08:11		16:11 (2)	07:14	17:28 (1)	07:03	06:00	05:22	05:28	06:09	06:59		07:49		18:04 (1)	07:44		15:42 (2)	08:32		13:40 (3)
	16:45	29	14:24 (3)	17:37	34	16:45 (2)	18:28	25	17:53 (1)	20:22	21:13	21:55	22:00	21:20	20:15		19:05	25	18:29 (1)	17:02	31	16:13 (2)	16:29	31	14:11 (3)
8	08:46		13:56 (3)	08:09		16:11 (2)	07:12	17:28 (1)	07:01	05:59	05:21	05:29	06:11	07:01		07:51		18:04 (1)	07:45		15:43 (2)	08:33		13:40 (3)
	16:46	28	14:24 (3)	17:39	35	16:46 (2)	18:30	26	17:54 (1)	20:24	21:14	21:56	21:59	21:19	20:13		19:03	24	18:28 (1)	17:00	29	16:12 (2)	16:29	32	14:12 (3)
9	08:45		13:58 (3)	08:07		16:11 (2)	07:10	17:28 (1)	06:58	05:57	05:21	05:30	06:12	07:03		07:52		18:05 (1)	07:47		15:44 (2)	08:34		13:40 (3)
	16:48	26	14:24 (3)	17:41	35	16:46 (2)	18:32	26	17:54 (1)	20:25	21:16	21:57	21:59	21:17	20:10		19:01	22	18:27 (1)	16:59	28	16:12 (2)	16:28	33	14:13 (3)
10	08:45		13:59 (3)	08:06		16:11 (2)	07:07	17:27 (1)	06:56	05:55	05:20	05:31	06:14	07:04		07:54		18:05 (1)	07:49		15:45 (2)	08:35		13:40 (3)
	16:49	24	14:23 (3)	17:43	35	16:46 (2)	18:34	26	17:53 (1)	20:27	21:18	21:57	21:58	21:15	20:08		18:59	20	18:25 (1)	16:57	26	16:11 (2)	16:28	33	14:13 (3)
11	08:44		14:00 (3)	08:04		16:11 (2)	07:05	17:27 (1)	06:54	05:53	05:20	05:32	06:16	07:06		07:56		18:06 (1)	07:51		15:47 (2)	08:37		13:40 (3)
	16:50	22	14:22 (3)	17:45	35	16:46 (2)	18:35	25	17:52 (1)	20:29	21:19	21:58	21:57	21:13	20:06		18:56	18	18:24 (1)	16:56	22	16:09 (2)	16:28	34	14:14 (3)
12	08:44		14:02 (3)	08:02		16:11 (2)	07:03	17:28 (1)	06:52	05:52	05:20	05:33	06:17	07:08		07:57		18:08 (1)	07:52		15:48 (2)	08:38		13:40 (3)
	16:52	19	14:21 (3)	17:46	35	16:46 (2)	18:37	24	17:52 (1)	20:31	21:21	21:59	21:56	21:11	20:03		18:54	13	18:21 (1)	16:54	20	16:08 (2)	16:28	34	14:14 (3)
13	08:43		14:05 (3)	08:00		16:11 (2)	07:00	17:28 (1)	06:49	05:50	05:19	05:34	06:19	07:09		07:59		18:12 (1)	07:54		15:50 (2)	08:39		13:41 (3)
	16:53	15	14:20 (3)	17:48	35	16:46 (2)	18:39	22	17:50 (1)	20:32	21:22	22:00	21:56	21:09	20:01		18:52	6	18:18 (1)	16:52	16	16:06 (2)	16:28	35	14:16 (3)
14	08:42		14:08 (3)	07:58		16:12 (2)	06:58	17:29 (1)	06:47	05:49	05:19	05:35	06:20	07:11		08:01			07:56		15:53 (2)	08:40		13:40 (3)
	16:55	10	14:18 (3)	17:50	34	16:46 (2)	18:41	20	17:49 (1)	20:34	21:24	22:00	21:55	21:07	19:59		18:50			16:51	11	16:04 (2)	16:28	36	14:16 (3)
15	08:41			07:56		16:12 (2)	06:56	17:31 (1)	06:45	05:47	05:19	05:36	06:22	07:12		08:03			07:58			08:40		13:41 (3)
	16:56			17:52	33	16:45 (2)	18:43	16	17:47 (1)	20:36	21:26	22:01	21:54	21:05	19:56		18:47			16:50			16:28	35	14:16 (3)
16	08:41			07:54		16:13 (2)	06:54	17:33 (1)	06:43	05:46	05:19	05:37	06:24	07:14		08:04			08:00			08:41		13:41 (3)
	16:58			17:54	32	16:45 (2)	18:44	11	17:44 (1)	20:37	21:27	22:01	21:53	21:03	19:54		18:45			16:48			16:28	36	14:17 (3)
17	08:40			07:52		16:14 (2)	06:51			06:41	05:44	05:19	05:39	06:25	07:16		08:06			08:01			08:42		13:42 (3)
	17:00			17:56	30	16:44 (2)	18:46			20:39	21:29	22:02	21:52	21:01	19:52		18:43			16:47			16:28	36	14:18 (3)
18	08:39			07:50		16:15 (2)	06:49			06:38	05:43	05:19	05:40	06:27	07:17		08:08			08:03			08:43		13:42 (3)
	17:01			17:58	28	16:43 (2)	18:48			20:41	21:30	22:02	21:50	20:59	19:49		18:41			16:45			16:28	37	14:19 (3)
19	08:38			07:48		16:17 (2)	06:47			06:36	05:41	05:19	05:41	06:28	07:19		08:10			08:05			08:44		13:42 (3)
	17:03			17:59	25	16:42 (2)	18:49			20:43	21:32	22:02	21:49	20:57	19:47		18:39			16:44			16:29	36	14:18 (3)
20	08:37			07:46		16:18 (2)	06:44			06:34	05:40	05:19	05:43	06:30	07:21		08:11		16:54 (2)	08:06			08:44		13:43 (3)
	17:05			18:01	21	16:39 (2)	18:51			20:44	21:33	22:03	21:48	20:55	19:45		18:37	13	17:07 (2)	16:43			16:29	36	14:19 (3)
21	08:36			07:44		16:20 (2)	06:42			06:32	05:38	05:19	05:44	06:32	07:22		08:13		16:51 (2)	08:08			08:45		13:44 (3)
	17:06			18:03	17	16:37 (2)	18:53			20:46	21:35	22:03	21:47	20:53	19:42		18:35	18	17:09 (2)	16:42			16:30	36	14:20 (3)
22	08:34			07:42		16:24 (2)	06:40			06:30	05:37	05:19	05:45	06:33	07:24		08:15		16:48 (2)	08:10			08:45		13:44 (3)
	17:08			18:05	10	16:34 (2)	18:55			20:48	21:36	22:03	21:46	20:51	19:40		18:33	22	17:10 (2)	16:41			16:30	36	14:20 (3)
23	08:33			07:40			06:37			06:28	05:36	05:19	05:47	06:35	07:26		08:17		16:46 (2)	08:11			08:46		13:44 (3)
	17:10			18:07			18:56			20:49	21:37	22:03	21:44	20:48	19:38		18:30	26	17:12 (2)	16:39			16:31	36	14:20 (3)
24	08:32			07:38			06:35			06:26	05:35	05:20	05:48	06:37	07:27		08:18		16:44 (2)	08:13			08:46		13:45 (3)
	17:11			18:09			18:58			20:51	21:39	22:04	21:43	20:46	19:35		18:28	29	17:13 (2)	16:38			16:31	36	14:21 (3)
25	08:31			07:36			06:33			06:24	05:33	05:20	05:49	06:38	07:29		07:20		15:43 (2)	08:15			08:47		13:45 (3)
	17:13			18:10			19:00			20:53	21:40	22:04	21:42	20:44	19:33		17:26	30	16:13 (2)	16:37			16:32	37	14:22 (3)
26	08:29			07:34			06:30			06:22	05:32	05:20	05:51	06:40	07:30		07:22		15:43 (2)	08:16			08:47		13:46 (3)
	17:15			18:12			19:02			20:54	21:41	22:04	21:40	20:42	19:31		17:24	31	16:14 (2)	16:36			16:32	36	14:22 (3)
27	08:28			07:32			06:28			06:20	05:31	05:21	05:52	06:41	07:32	18:16 (1)	07:24		15:42 (2)	08:18			08:47		13:46 (3)
	17:17			18:14			19:03			20:56	21:43	22:04	21:39	20:40	19:28	18:25 (1)	17:22	33	16:15 (2)	16:35			16:33	36	14:22 (3)
28	08:27		16:21 (2)	07:29			06:26			06:18	05:30	05:21	05:54	06:43	07:34	18:13 (1)	07:26		15:41 (2)	08:19		13:48 (3)	08:47		13:47 (3)
	17:19	11	16:32 (2)	18:16			19:05			20:58	21:44	22:03	21:37	20:38	19:26	18:27 (1)	17:20	34	16:15 (2)	16:35	10	13:58 (3)	16:34	36	14:23 (3)
29	08:25		16:18 (2)				07:23			06:16	05:29	05:22	05:55	06:45	07:35	18:11 (1)	07:27		15:41 (2)	08:21		13:46 (3)	08:48		13:48 (3)
	17:20	16	16:34 (2)				20:07			20:59	21:45	22:03	21:36	20:35	19:24	18:29 (1)	17:18	35	16:16 (2)	16:34	15	14:01 (3)	16:35	35	14:23 (3)
30	08:24		16:16 (2)				07:21			06:14	05:28	05:23	05:57	06:46	07:37	18:08 (1)	07:29		15:41 (2)	08:22		13:43 (3)	08:48		13:49 (3)
	17:22	20	16:36 (2)				20:08			21:01	21:46	22:03	21:34	20:33	19:21	18:29 (1)	17:17	35	16:16 (2)	16:33	19	14:02 (3)	16:36	35	14:24 (3)
31	08:22		16:16 (2)				07:19				05:27		05:58	06:48			07:31		15:41 (2)				08:48		13:49 (3)
	17:24	23	16:39 (2)				20:10				21:48		21:32	20:31			17:15	35	16:16 (2)				16:37	34	14:23 (3)
Potential sun hours	259			277			367		416	485	499	502	454	381			331			266			243		
Total, worst case		435			654			333							62			620			431			1034	
Sun reduction		0,24			0,30			0,33							0,36			0,34			0,24			0,20	
Oper. time red.		0,95			0,95			0,95							0,95			0,95			0,95			0,95	
Wind dir. red.		0,68			0,67			0,64							0,64			0,66			0,67			0,68	
Total reduction		0,16			0,19			0,20							0,22			0,21			0,15			0,13	
Total, real		68			127			67							14			131			65			137	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:34/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion3.7M140@160Shadow receptor: V - 3998JD90

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	05:26	06:03 (1) | 05:23	06:09 (1)	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03	21:49 25	06:28 (1) | 22:03 25	06:34 (1)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	05:26	06:03 (1) | 05:24	06:09 (1)	06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05	21:50 25	06:28 (1) | 22:03 25	06:34 (1)	21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08	05:25	06:04 (1) | 05:25	06:10 (1)	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06	21:51 25	06:29 (1) | 22:02 25	06:35 (1)	21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06	05:24	06:03 (1) | 05:26	06:09 (1)	06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08	21:52 25	06:28 (1) | 22:02 25	06:34 (1)	21:26	20:22	19:12	17:07	16:31
5	08:47	08:14	07:19	07:08	06:04	05:23	06:04 (1) | 05:26	06:10 (1)	06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10	21:53 25	06:29 (1) | 22:01 25	06:35 (1)	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02	05:23	06:04 (1) | 05:27	06:10 (1)	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11	21:54 25	06:29 (1) | 22:01 25	06:35 (1)	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01	05:22	06:04 (1) | 05:28	06:10 (1)	06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13	21:55 25	06:29 (1) | 22:00 25	06:35 (1)	21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59	05:22	06:04 (1) | 05:29	06:11 (1)	06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15	21:56 25	06:29 (1) | 22:00 25	06:36 (1)	21:19	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57	05:21	06:05 (1) | 05:30	06:11 (1)	06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16	21:57 25	06:30 (1) | 21:59 25	06:36 (1)	21:17	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55	05:21	06:04 (1) | 05:31	06:10 (1)	06:14	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18	21:58 25	06:29 (1) | 21:58 25	06:35 (1)	21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54	05:20	06:05 (1) | 05:32	06:10 (1)	06:16	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19	21:58 25	06:30 (1) | 21:57 25	06:35 (1)	21:13	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52	05:20	06:05 (1) | 05:33	06:11 (1)	06:17	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21	21:59 25	06:30 (1) | 21:57 24	06:35 (1)	21:11	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50	05:20	06:06 (1) | 05:34	06:12 (1)	06:19	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23	22:00 24	06:30 (1) | 21:56 24	06:36 (1)	21:09	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49	05:19	06:06 (1) | 05:35	06:12 (1)	06:21	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24	22:00 25	06:31 (1) | 21:55 24	06:36 (1)	21:07	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47	05:19	06:05 (1) | 05:36	06:13 (1)	06:22	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26	22:01 25	06:30 (1) | 21:54 23	06:36 (1)	21:05	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46	05:19	06:06 (1) | 05:38	06:13 (1)	06:24	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27	22:01 24	06:30 (1) | 21:53 22	06:35 (1)	21:03	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44	05:19	06:06 (1) | 05:39	06:13 (1)	06:25	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29	22:02 24	06:30 (1) | 21:52 22	06:35 (1)	21:01	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43	05:19	06:06 (1) | 05:40	06:14 (1)	06:27	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30	22:02 24	06:30 (1) | 21:51 20	06:34 (1)	20:59	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41 06:13 (1)	05:19	06:07 (1) | 05:41	06:14 (1)	06:29	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32 3 06:16 (1)	22:03 24	06:31 (1) | 21:49 20	06:34 (1)	20:57	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40 06:10 (1)	05:19	06:07 (1) | 05:43	06:16 (1)	06:30	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33 10 06:20 (1)	22:03 24	06:31 (1) | 21:48 18	06:34 (1)	20:55	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	05:39 06:09 (1)	05:19	06:07 (1) | 05:44	06:17 (1)	06:32	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:35 12 06:21 (1)	22:03 24	06:31 (1) | 21:47 16	06:33 (1)	20:53	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	05:37 06:07 (1)	05:19	06:07 (1) | 05:45	06:18 (1)	06:34	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36 15 06:22 (1)	22:03 24	06:31 (1) | 21:46 14	06:32 (1)	20:51	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	05:36 06:06 (1)	05:20	06:07 (1) | 05:47	06:19 (1)	06:35	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	21:37 17 06:23 (1)	22:04 24	06:31 (1) | 21:44 11	06:30 (1)	20:49	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35 06:05 (1)	05:20	06:08 (1) | 05:48	06:21 (1)	06:37	07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	21:39 19 06:24 (1)	22:04 24	06:32 (1) | 21:43 8	06:29 (1)	20:46	19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	05:34 06:04 (1)	05:20	06:08 (1) | 05:50		06:38	07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	21:40 21 06:25 (1)	22:04 24	06:32 (1) | 21:42		20:44	19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	05:32 06:04 (1)	05:21	06:08 (1) | 05:51		06:40	07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	21:42 21 06:25 (1)	22:04 24	06:32 (1) | 21:40		20:42	19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	05:31 06:04 (1)	05:21	06:08 (1) | 05:52		06:42	07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21:43 22 06:26 (1)	22:04 25	06:33 (1) | 21:39		20:40	19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	05:30 06:03 (1)	05:22	06:08 (1) | 05:54		06:43	07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	21:44 23 06:26 (1)	22:04 25	06:33 (1) | 21:37		20:38	19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	05:29 06:03 (1)	05:22	06:09 (1) | 05:55		06:45	07:36	07:27	08:21	08:48
	17:21		20:07	21:00	21:45 23 06:26 (1)	22:03 24	06:33 (1) | 21:36		20:36	19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	05:28 06:04 (1)	05:23	06:09 (1) | 05:57		06:47	07:37	07:29	08:22	08:48
	17:22		20:09	21:01	21:47 24 06:28 (1)	22:03 25	06:34 (1) | 21:34		20:33	19:22	17:17	16:33	16:36
31	08:22		07:19		05:27 06:03 (1)		05:58		06:48		07:31		08:48
	17:24		20:10		21:48 25 06:28 (1)		21:33		20:31		17:15		16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case					235	737	521					
Sun reduction					0,43	0,39	0,41					
Oper. time red.					0,95	0,95	0,95					
Wind dir. red.					0,67	0,67	0,67					
Total reduction					0,27	0,25	0,26					
Total, real					64	183	135					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:34/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion3.7M140@160Shadow receptor: W - 3998JD93

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	05:26	06:00 (1)	05:23	06:04 (1)	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03	21:49 22	06:22 (1)	22:03 25	06:29 (1)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	05:26	05:59 (1)	05:24	06:05 (1)	06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05	21:50 23	06:22 (1)	22:03 25	06:30 (1)	21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08	05:25	06:00 (1)	05:25	06:05 (1)	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06	21:51 23	06:23 (1)	22:02 25	06:30 (1)	21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06	05:24	05:59 (1)	05:26	06:05 (1)	06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08	21:52 24	06:23 (1)	22:02 25	06:30 (1)	21:26	20:22	19:12	17:07	16:31
5	08:47	08:14	07:19	07:08	06:04	05:23	06:00 (1)	05:26	06:05 (1)	06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10	21:53 24	06:24 (1)	22:01 25	06:30 (1)	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02	05:23	06:00 (1)	05:27	06:06 (1)	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11	21:54 24	06:24 (1)	22:01 24	06:30 (1)	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01	05:22	06:00 (1)	05:28	06:06 (1)	06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13	21:55 25	06:25 (1)	22:00 25	06:31 (1)	21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59	05:22	06:00 (1)	05:29	06:07 (1)	06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15	21:56 25	06:25 (1)	22:00 24	06:31 (1)	21:19	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57	05:21	06:00 (1)	05:30	06:07 (1)	06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16	21:57 25	06:25 (1)	21:59 24	06:31 (1)	21:17	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55	05:21	06:00 (1)	05:31	06:07 (1)	06:14	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18	21:58 25	06:25 (1)	21:58 23	06:30 (1)	21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54	05:20	06:00 (1)	05:32	06:07 (1)	06:16	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19	21:58 25	06:25 (1)	21:57 23	06:30 (1)	21:13	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52	05:20	06:00 (1)	05:33	06:08 (1)	06:17	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21	21:59 26	06:26 (1)	21:57 21	06:29 (1)	21:11	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50	05:20	06:01 (1)	05:34	06:09 (1)	06:19	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23	22:00 25	06:26 (1)	21:56 21	06:30 (1)	21:09	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49	05:19	06:01 (1)	05:35	06:10 (1)	06:21	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24	22:00 26	06:27 (1)	21:55 20	06:30 (1)	21:07	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47	05:19	06:00 (1)	05:36	06:10 (1)	06:22	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26	22:01 26	06:26 (1)	21:54 19	06:29 (1)	21:05	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46	05:19	06:01 (1)	05:38	06:11 (1)	06:24	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27	22:01 25	06:26 (1)	21:53 18	06:29 (1)	21:03	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44	05:19	06:01 (1)	05:39	06:12 (1)	06:25	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29	22:02 25	06:26 (1)	21:52 16	06:28 (1)	21:01	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43	05:19	06:01 (1)	05:40	06:13 (1)	06:27	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30	22:02 25	06:26 (1)	21:51 14	06:27 (1)	20:59	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41	05:19	06:02 (1)	05:41	06:14 (1)	06:29	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32	22:03 26	06:28 (1)	21:49 12	06:26 (1)	20:57	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40	05:19	06:02 (1)	05:43	06:16 (1)	06:30	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33	22:03 26	06:28 (1)	21:48 9	06:25 (1)	20:55	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	05:39	05:19	06:02 (1)	05:44		06:32	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:35	22:03 26	06:28 (1)	21:47		20:53	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	05:37	05:19	06:02 (1)	05:45		06:34	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36	22:03 26	06:28 (1)	21:46		20:51	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	05:36 06:07 (1)	05:20	06:02 (1)	05:47		06:35	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	21:37 6 06:13 (1)	22:04 26	06:28 (1)	21:44		20:49	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35 06:05 (1)	05:20	06:03 (1)	05:48		06:37	07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	21:39 10 06:15 (1)	22:04 26	06:29 (1)	21:43		20:46	19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	05:34 06:04 (1)	05:20	06:03 (1)	05:50		06:38	07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	21:40 13 06:17 (1)	22:04 25	06:28 (1)	21:42		20:44	19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	05:32 06:03 (1)	05:21	06:03 (1)	05:51		06:40	07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	21:42 15 06:18 (1)	22:04 25	06:28 (1)	21:40		20:42	19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	05:31 06:02 (1)	05:21	06:03 (1)	05:52		06:42	07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21:43 17 06:19 (1)	22:04 26	06:29 (1)	21:39		20:40	19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	05:30 06:01 (1)	05:22	06:03 (1)	05:54		06:43	07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	21:44 19 06:20 (1)	22:04 26	06:29 (1)	21:37		20:38	19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	05:29 06:00 (1)	05:22	06:04 (1)	05:55		06:45	07:36	07:27	08:21	08:48
	17:21		20:07	21:00	21:45 20 06:20 (1)	22:03 25	06:29 (1)	21:36		20:36	19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	05:28 06:01 (1)	05:23	06:05 (1)	05:57		06:47	07:37	07:29	08:22	08:48
	17:22		20:08	21:01	21:47 21 06:22 (1)	22:03 25	06:30 (1)	21:34		20:33	19:22	17:17	16:33	16:36
31	08:22		07:19		05:27 06:00 (1)			05:58		06:48		07:31		08:48
	17:24		20:10		21:48 22 06:22 (1)			21:33		20:31		17:15		16:37
Potential sun hours	259	277	367	416	485	499		502		454	381	331	266	243
Total, worst case					143	751		418						
Sun reduction					0,43	0,39		0,41						
Oper. time red.					0,95	0,95		0,95						
Wind dir. red.					0,67	0,67		0,67						
Total reduction					0,27	0,25		0,26						
Total, real					39	187		108						

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:34/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion3.7M140@160Shadow receptor: X - 3961ME2

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May		June		July		August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12		05:26	20:29 (3)	05:23	20:31 (3)	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03		21:49 34	21:03 (2)	22:03 37	21:08 (3)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10		05:25	20:28 (3)	05:24	20:32 (3)	06:01	06:51	07:40	07:34	08:25
	16:39	17:28	18:19	20:13	21:04		21:50 35	21:03 (2)	22:02 36	21:08 (3)	21:29	20:26	19:17	17:11	16:32
3	08:47	08:18	07:23	07:12	06:08		05:25	20:29 (3)	05:25	20:32 (3)	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06		21:51 34	21:03 (2)	22:02 36	21:08 (2)	21:27	20:24	19:14	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06		05:24	20:28 (3)	05:25	20:33 (3)	06:04	06:55	07:44	07:38	08:28
	16:41	17:31	18:23	20:17	21:08		21:52 35	21:03 (2)	22:02 35	21:08 (3)	21:26	20:22	19:12	17:07	16:30
5	08:47	08:14	07:18	07:07	06:04		05:23	20:27 (3)	05:26	20:33 (3)	06:06	06:56	07:45	07:40	08:29
	16:43	17:33	18:25	20:19	21:09		21:53 36	21:03 (2)	22:01 36	21:09 (2)	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02		05:23	20:28 (3)	05:27	20:34 (3)	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11		21:54 35	21:03 (2)	22:01 35	21:09 (2)	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:00		05:22	20:27 (3)	05:28	20:35 (3)	06:09	06:59	07:49	07:43	08:32
	16:45	17:37	18:28	20:22	21:13		21:55 36	21:03 (2)	22:00 35	21:10 (2)	21:20	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59		05:21	20:27 (3)	05:29	20:34 (3)	06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:14		21:56 36	21:03 (2)	21:59 35	21:09 (2)	21:19	20:13	19:03	17:00	16:29
9	08:45	08:07	07:09	06:58	05:57		05:21	20:28 (3)	05:30	20:35 (3)	06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:25	21:16		21:57 35	21:03 (3)	21:59 35	21:10 (2)	21:17	20:10	19:01	16:59	16:28
10	08:45	08:06	07:07	06:56	05:55		05:20	20:27 (3)	05:31	20:35 (3)	06:14	07:04	07:54	07:49	08:35
	16:49	17:43	18:34	20:27	21:18		21:57 36	21:03 (3)	21:58 35	21:10 (2)	21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54		05:20	20:27 (3)	05:32	20:36 (3)	06:16	07:06	07:56	07:51	08:36
	16:50	17:45	18:35	20:29	21:19		21:58 37	21:04 (3)	21:57 34	21:10 (2)	21:13	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52		05:20	20:28 (3)	05:33	20:37 (3)	06:17	07:08	07:57	07:52	08:37
	16:52	17:46	18:37	20:31	21:21		21:59 36	21:04 (3)	21:56 33	21:10 (2)	21:11	20:03	18:54	16:54	16:28
13	08:43	08:00	07:00	06:49	05:50		05:19	20:27 (3)	05:34	20:38 (3)	06:19	07:09	07:59	07:54	08:38
	16:53	17:48	18:39	20:32	21:22		21:59 37	21:04 (3)	21:55 32	21:10 (2)	21:09	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49		05:19	20:27 (3)	05:35	20:38 (3)	06:20	07:11	08:01	07:56	08:39
	16:55	17:50	18:41	20:34	21:24		22:00 37	21:04 (3)	21:55 33	21:11 (2)	21:07	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47	20:45 (2)	05:19	20:27 (3)	05:36	20:40 (3)	06:22	07:12	08:03	07:58	08:40
	16:57	17:52	18:42	20:36	21:26 6	20:51 (2)	22:01 38	21:05 (3)	21:54 32	21:12 (2)	21:05	19:56	18:47	16:50	16:28
16	08:40	07:54	06:54	06:43	05:46	20:43 (2)	05:19	20:28 (3)	05:38	20:41 (3)	06:24	07:14	08:04	07:59	08:41
	16:58	17:54	18:44	20:37	21:27 11	20:54 (2)	22:01 37	21:05 (3)	21:53 30	21:11 (2)	21:03	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44	20:42 (2)	05:19	20:28 (3)	05:39	20:42 (3)	06:25	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29 14	20:56 (2)	22:02 37	21:05 (3)	21:51 29	21:11 (2)	21:01	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:38	05:43	20:40 (2)	05:19	20:28 (3)	05:40	20:44 (3)	06:27	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30 17	20:57 (2)	22:02 37	21:05 (3)	21:50 27	21:11 (2)	20:59	19:49	18:41	16:45	16:29
19	08:38	07:48	06:47	06:36	05:41	20:39 (2)	05:19	20:28 (3)	05:41	20:46 (3)	06:28	07:19	08:09	08:05	08:43
	17:03	17:59	18:49	20:42	21:32 19	20:58 (2)	22:02 38	21:06 (3)	21:49 25	21:11 (2)	20:57	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40	20:39 (2)	05:19	20:28 (3)	05:43	20:46 (2)	06:30	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33 20	20:59 (2)	22:03 38	21:06 (3)	21:48 24	21:10 (2)	20:55	19:45	18:37	16:43	16:29
21	08:35	07:44	06:42	06:32	05:38	20:37 (2)	05:19	20:29 (3)	05:44	20:48 (2)	06:32	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:34 22	20:59 (2)	22:03 38	21:07 (3)	21:47 23	21:11 (2)	20:53	19:42	18:35	16:42	16:30
22	08:34	07:42	06:40	06:30	05:37	20:37 (2)	05:19	20:29 (3)	05:45	20:48 (2)	06:33	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36 23	21:00 (2)	22:03 38	21:07 (3)	21:46 22	21:10 (2)	20:51	19:40	18:33	16:41	16:30
23	08:33	07:40	06:37	06:28	05:36	20:37 (2)	05:20	20:29 (3)	05:47	20:48 (2)	06:35	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	21:37 23	21:00 (2)	22:03 38	21:07 (3)	21:44 21	21:09 (2)	20:48	19:38	18:30	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35	20:37 (3)	05:20	20:30 (3)	05:48	20:50 (2)	06:37	07:27	08:18	08:13	08:46
	17:11	18:09	18:58	20:51	21:39 24	21:01 (2)	22:03 38	21:08 (3)	21:43 19	21:09 (2)	20:46	19:35	18:28	16:38	16:31
25	08:31	07:36	06:33	06:24	05:33	20:35 (3)	05:20	20:30 (3)	05:49	20:50 (2)	06:38	07:29	07:20	08:15	08:47
	17:13	18:10	19:00	20:53	21:40 26	21:01 (2)	22:03 37	21:07 (3)	21:41 18	21:08 (2)	20:44	19:33	17:26	16:37	16:32
26	08:29	07:34	06:30	06:22	05:32	20:33 (3)	05:21	20:30 (3)	05:51	20:51 (2)	06:40	07:30	07:22	08:16	08:47
	17:15	18:12	19:01	20:54	21:41 29	21:02 (2)	22:03 37	21:07 (3)	21:40 15	21:06 (2)	20:42	19:31	17:24	16:36	16:32
27	08:28	07:32	06:28	06:20	05:31	20:32 (3)	05:21	20:30 (3)	05:52	20:53 (2)	06:41	07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21:43 30	21:02 (2)	22:03 38	21:08 (3)	21:39 13	21:06 (2)	20:40	19:28	17:22	16:36	16:33
28	08:27	07:29	06:26	06:18	05:30	20:31 (3)	05:21	20:30 (3)	05:54	20:54 (2)	06:43	07:34	07:25	08:19	08:47
	17:19	18:16	19:05	20:58	21:44 31	21:02 (2)	22:03 37	21:07 (3)	21:37 10	21:04 (2)	20:38	19:26	17:20	16:35	16:34
29	08:25		07:23	06:16	05:29	20:30 (3)	05:22	20:31 (3)	05:55	20:58 (2)	06:45	07:35	07:27	08:21	08:48
	17:20		20:07	20:59	21:45 32	21:02 (2)	22:03 37	21:08 (3)	21:36 1	20:59 (2)	20:35	19:24	17:18	16:34	16:35
30	08:24		07:21	06:14	05:28	20:29 (3)	05:23	20:31 (3)	05:57		06:46	07:37	07:29	08:22	08:48
	17:22		20:08	21:01	21:46 33	21:02 (2)	22:03 36	21:07 (3)	21:34		20:33	19:21	17:17	16:33	16:36
31	08:22		07:19		05:27	20:30 (3)			05:58		06:48		07:31		08:48
	17:24		20:10		21:48 33	21:03 (2)			21:32		20:31		17:15		16:37
Potential sun hours	259	277	367	416	485		499		502		454	381	331	266	243
Total, worst case						393		1098		796					
Sun reduction						0,43		0,39		0,41					
Oper. time red.						0,95		0,95		0,95					
Wind dir. red.						0,58		0,59		0,59					
Total reduction						0,24		0,22		0,23					
Total, real						93		238		180					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:34/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion3.7M140@160Shadow receptor: Y - 3998JD86

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May		June		July		August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12		05:26	06:08 (1)	05:23	06:16 (1)	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03		21:49	25 06:33 (1)	22:03	21 06:37 (1)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10		05:26	06:08 (1)	05:24	06:16 (1)	06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05		21:50	24 06:32 (1)	22:03	21 06:37 (1)	21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08		05:25	06:09 (1)	05:25	06:16 (1)	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06		21:51	24 06:33 (1)	22:02	22 06:38 (1)	21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06		05:24	06:09 (1)	05:26	06:15 (1)	06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08		21:52	24 06:33 (1)	22:02	23 06:38 (1)	21:26	20:22	19:12	17:07	16:31
5	08:47	08:15	07:19	07:08	06:04		05:23	06:10 (1)	05:26	06:16 (1)	06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10		21:53	23 06:33 (1)	22:01	22 06:38 (1)	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02		05:23	06:10 (1)	05:27	06:16 (1)	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11		21:54	23 06:33 (1)	22:01	23 06:39 (1)	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01		05:22	06:10 (1)	05:28	06:16 (1)	06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13		21:55	23 06:33 (1)	22:00	23 06:39 (1)	21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59		05:22	06:10 (1)	05:29	06:16 (1)	06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15		21:56	23 06:33 (1)	22:00	24 06:40 (1)	21:19	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57		05:21	06:11 (1)	05:30	06:16 (1)	06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16		21:57	22 06:33 (1)	21:59	24 06:40 (1)	21:17	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55		05:21	06:11 (1)	05:31	06:15 (1)	06:14	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18		21:58	21 06:32 (1)	21:58	25 06:40 (1)	21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54		05:20	06:11 (1)	05:32	06:16 (1)	06:16	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19		21:58	22 06:33 (1)	21:57	24 06:40 (1)	21:13	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52		05:20	06:12 (1)	05:33	06:16 (1)	06:17	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21		21:59	21 06:33 (1)	21:57	24 06:40 (1)	21:11	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50		05:20	06:12 (1)	05:34	06:17 (1)	06:19	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23		22:00	21 06:33 (1)	21:56	24 06:41 (1)	21:09	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49		05:19	06:13 (1)	05:35	06:17 (1)	06:21	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24		22:00	20 06:33 (1)	21:55	24 06:41 (1)	21:07	19:59	18:50	16:51	16:28
15	08:42	07:56	06:56	06:45	05:47	06:17 (1)	05:19	06:12 (1)	05:36	06:17 (1)	06:22	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26	4 06:21 (1)	22:01	20 06:32 (1)	21:54	24 06:41 (1)	21:05	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46	06:14 (1)	05:19	06:13 (1)	05:38	06:17 (1)	06:24	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27	10 06:24 (1)	22:01	20 06:33 (1)	21:53	24 06:41 (1)	21:03	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44	06:13 (1)	05:19	06:13 (1)	05:39	06:17 (1)	06:25	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29	13 06:26 (1)	22:02	20 06:33 (1)	21:52	24 06:41 (1)	21:01	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43	06:11 (1)	05:19	06:13 (1)	05:40	06:17 (1)	06:27	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30	16 06:27 (1)	22:02	20 06:33 (1)	21:51	24 06:41 (1)	20:59	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41	06:10 (1)	05:19	06:15 (1)	05:41	06:17 (1)	06:29	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32	18 06:28 (1)	22:03	19 06:34 (1)	21:49	24 06:41 (1)	20:57	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40	06:10 (1)	05:19	06:15 (1)	05:43	06:18 (1)	06:30	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33	19 06:29 (1)	22:03	19 06:34 (1)	21:48	23 06:41 (1)	20:55	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	05:39	06:09 (1)	05:19	06:15 (1)	05:44	06:18 (1)	06:32	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:35	21 06:30 (1)	22:03	19 06:34 (1)	21:47	23 06:41 (1)	20:53	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	05:37	06:08 (1)	05:19	06:15 (1)	05:45	06:19 (1)	06:34	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36	22 06:30 (1)	22:03	19 06:34 (1)	21:46	21 06:40 (1)	20:51	19:40	18:33	16:41	16:30
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	17:10	18:07	18:56	20:49	21:37	22 06:30 (1)	22:04	19 06:34 (1)	21:44	20 06:39 (1)	20:49	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35	06:08 (1)	05:20	06:15 (1)	05:48	06:21 (1)	06:37	07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	21:39	23 06:31 (1)	22:04	20 06:35 (1)	21:43	18 06:39 (1)	20:46	19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	05:34	06:08 (1)	05:20	06:15 (1)	05:50	06:21 (1)	06:38	07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	21:40	23 06:31 (1)	22:04	20 06:35 (1)	21:42	17 06:38 (1)	20:44	19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	05:32	06:07 (1)	05:21	06:15 (1)	05:51	06:22 (1)	06:40	07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	21:42	25 06:32 (1)	22:04	20 06:35 (1)	21:40	15 06:37 (1)	20:42	19:31	17:25	16:37	16:33
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	17:17	18:14	19:03	20:56	21:43	25 06:32 (1)	22:04	19 06:35 (1)	21:39	12 06:36 (1)	20:40	19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	05:30	06:07 (1)	05:22	06:15 (1)	05:54	06:26 (1)	06:43	07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	21:44	25 06:32 (1)	22:04	20 06:35 (1)	21:37	8 06:34 (1)	20:38	19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	05:29	06:07 (1)	05:22	06:16 (1)	05:55		06:45	07:36	07:27	08:21	08:48
	17:21		20:07	21:00	21:45	25 06:32 (1)	22:03	20 06:36 (1)	21:36		20:36	19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	05:28	06:08 (1)	05:23	06:16 (1)	05:57		06:47	07:37	07:29	08:22	08:48
	17:22		20:09	21:01	21:47	25 06:33 (1)	22:03	21 06:37 (1)	21:34		20:33	19:22	17:17	16:33	16:36
31	08:22		07:19		05:27	06:08 (1)			05:58		06:48		07:31		08:48
	17:24		20:10		21:48	25 06:33 (1)			21:33		20:31		17:15		16:37
Potential sun hours	259	277	367	416	485		499		502		454	381	331	266	243
Total, worst case						341		631		601					
Sun reduction						0,43		0,39		0,41					
Oper. time red.						0,95		0,95		0,95					
Wind dir. red.						0,67		0,67		0,67					
Total reduction						0,27		0,25		0,26					
Total, real						92		156		155					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:34/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion3.7M140@160Shadow receptor: Z - 3998JK68

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 16:38	08:21 17:26	07:27 18:18	07:17 20:12	06:12 21:03	06:45 (2) 07:05 (2) 20	05:26 21:49	05:59 (1) 06:18 (1) 19	05:23 22:03	06:02 (1) 06:27 (1) 25	06:00 21:31	06:50 20:29	07:39 19:19	07:33 17:13	08:24 16:32
2	08:48 16:39	08:19 17:28	07:25 18:20	07:14 20:14	06:10 21:05	06:45 (2) 07:04 (2) 19	05:26 21:50	05:59 (1) 06:18 (1) 19	05:24 22:03	06:02 (1) 06:27 (1) 25	06:01 21:29	06:51 20:27	07:41 19:17	07:35 17:11	08:25 16:32
3	08:48 16:40	08:18 17:30	07:23 18:21	07:12 20:15	06:08 21:06	06:46 (2) 07:04 (2) 18	05:25 21:51	05:59 (1) 06:19 (1) 20	05:25 22:02	06:03 (1) 06:27 (1) 24	06:03 21:28	06:53 20:24	07:42 19:15	07:36 17:09	08:27 16:31
4	08:47 16:41	08:16 17:32	07:21 18:23	07:10 20:17	06:06 21:08	06:47 (2) 07:03 (2) 16	05:24 21:52	05:58 (1) 06:19 (1) 21	05:26 22:02	06:03 (1) 06:27 (1) 24	06:05 21:26	06:55 20:22	07:44 19:12	07:38 17:07	08:28 16:31
5	08:47 16:43	08:14 17:33	07:19 18:25	07:08 20:19	06:04 21:10	06:47 (2) 07:01 (2) 14	05:23 21:53	05:57 (1) 06:20 (1) 23	05:26 22:01	06:03 (1) 06:27 (1) 24	06:06 21:24	06:56 20:20	07:46 19:10	07:40 17:06	08:29 16:30
6	08:47 16:44	08:13 17:35	07:16 18:27	07:05 20:20	06:02 21:11	06:48 (2) 06:59 (2) 11	05:23 21:54	05:58 (1) 06:21 (1) 23	05:27 22:01	06:04 (1) 06:27 (1) 23	06:08 21:22	07:00 (2) 07:08 (2) 8	06:58 20:17	07:47 19:08	07:42 17:04	08:31 16:30
7	08:46 16:45	08:11 17:37	07:14 18:29	07:03 20:22	06:01 21:13	06:51 (2) 06:57 (2) 6	05:22 21:55	05:58 (1) 06:22 (1) 24	05:28 22:00	06:05 (1) 06:27 (1) 22	06:09 21:21	06:58 (2) 07:10 (2) 12	07:00 20:15	07:49 19:05	07:44 17:02	08:32 16:29
8	08:46 16:46	08:09 17:39	07:12 18:30	07:01 20:24	05:59 21:15	05:22 21:56	05:58 (1) 06:21 (1) 23	05:29 22:00	06:05 (1) 06:27 (1) 22	06:11 21:19	06:56 (2) 07:11 (2) 15	07:01 20:13	07:51 19:03	07:45 17:01	08:33 16:29
9	08:46 16:48	08:08 17:41	07:10 18:32	06:58 20:26	05:57 21:16	05:21 21:57	05:58 (1) 06:22 (1) 24	05:30 21:59	06:06 (1) 06:27 (1) 21	06:12 21:17	06:56 (2) 07:12 (2) 16	07:03 20:11	07:52 19:01	07:47 16:59	08:34 16:29
10	08:45 16:49	08:06 17:43	07:07 18:34	06:56 20:27	05:55 21:18	05:21 21:58	05:57 (1) 06:22 (1) 25	05:31 21:58	06:06 (1) 06:26 (1) 20	06:14 21:15	06:54 (2) 07:13 (2) 19	07:04 20:08	07:54 18:59	07:49 16:57	08:36 16:28
11	08:44 16:51	08:04 17:45	07:05 18:36	06:54 20:29	05:54 21:19	05:20 21:58	05:58 (1) 06:22 (1) 24	05:32 21:57	06:06 (1) 06:25 (1) 19	06:16 21:13	06:54 (2) 07:14 (2) 20	07:06 20:06	07:56 18:56	07:51 16:56	08:37 16:28
12	08:44 16:52	08:02 17:47	07:03 18:37	06:52 20:31	05:52 21:21	05:20 21:59	05:58 (1) 06:23 (1) 25	05:33 21:57	06:07 (1) 06:25 (1) 18	06:17 21:11	06:53 (2) 07:13 (2) 20	07:08 20:04	07:58 18:54	07:53 16:54	08:38 16:28
13	08:43 16:54	08:00 17:48	07:01 18:39	06:49 20:32	05:50 21:23	05:20 22:00	05:58 (1) 06:24 (1) 26	05:34 21:56	06:09 (1) 06:25 (1) 16	06:19 21:09	06:53 (2) 07:14 (2) 21	07:09 20:01	07:59 18:52	07:54 16:53	08:39 16:28
14	08:42 16:55	07:58 17:50	06:58 18:41	06:47 20:34	05:49 21:24	05:19 22:00	05:58 (1) 06:24 (1) 26	05:35 21:55	06:10 (1) 06:24 (1) 14	06:21 21:07	06:53 (2) 07:13 (2) 20	07:11 19:59	08:01 18:50	07:56 16:51	08:40 16:28
15	08:41 16:57	07:56 17:52	06:56 18:43	06:45 20:36	05:47 21:26	05:19 22:01	05:58 (1) 06:23 (1) 25	05:36 21:54	06:11 (1) 06:23 (1) 12	06:22 21:05	06:53 (2) 07:13 (2) 20	07:13 19:57	08:03 18:48	07:58 16:50	08:41 16:28
16	08:41 16:58	07:54 17:54	06:54 18:44	06:43 20:38	05:46 21:27	05:19 22:01	05:58 (1) 06:24 (1) 26	05:38 21:53	06:13 (1) 06:22 (1) 9	06:24 21:03	06:53 (2) 07:12 (2) 19	07:14 19:54	08:04 18:45	08:00 16:48	08:41 16:28
17	08:40 17:00	07:52 17:56	06:51 18:46	06:41 20:39	05:44 21:29	05:19 22:02	05:58 (1) 06:24 (1) 26	05:39 21:52	06:16 (1) 06:19 (1) 3	06:25 21:01	06:54 (2) 07:12 (2) 18	07:16 19:52	08:06 18:43	08:01 16:47	08:42 16:28
18	08:39 17:01	07:50 17:58	06:49 18:48	06:39 20:41	05:43 21:30	05:19 22:02	05:58 (1) 06:24 (1) 26	05:40 21:51		06:27 20:59	06:54 (2) 07:11 (2) 17	07:17 19:50	08:08 18:41	08:03 16:46	08:43 16:29
19	08:38 17:03	07:48 18:00	06:47 18:50	06:36 20:43	05:41 21:32	05:19 22:03	05:59 (1) 06:25 (1) 26	05:41 21:49		06:29 20:57	06:56 (2) 07:10 (2) 14	07:19 19:47	08:10 18:39	08:05 16:44	08:44 16:29
20	08:37 17:05	07:46 18:01	06:44 18:51	06:34 20:44	05:40 21:33	05:19 22:03	05:59 (1) 06:25 (1) 26	05:43 21:48		06:30 20:55	06:57 (2) 07:08 (2) 11	07:21 19:45	08:11 18:37	08:06 16:43	08:44 16:29
21	08:36 17:06	07:44 18:03	06:42 18:53	06:32 20:46	05:39 21:35	05:19 22:03	05:59 (1) 06:25 (1) 26	05:44 21:47		06:32 20:53	06:59 (2) 07:05 (2) 6	07:22 19:43	08:13 18:35	08:08 16:42	08:45 16:30
22	08:35 17:08	07:42 18:05	06:40 18:55	06:30 20:48 7	06:54 (2) 07:01 (2)	05:37 21:36	05:19 22:03 26	05:45 06:25 (1)		06:33 20:51		07:24 19:40	08:15 18:33	08:10 16:41	08:45 16:30
23	08:33 17:10	07:40 18:07	06:38 18:56	06:28 20:49 11	06:52 (2) 07:03 (2)	05:36 21:37	05:20 22:04 26	05:47 06:25 (1)		06:35 20:49		07:26 19:38	08:17 18:31	08:11 16:40	08:46 16:31
24	08:32 17:12	07:38 18:09	06:35 18:58	06:26 20:51 14	06:50 (2) 07:04 (2)	05:35 21:39	05:20 22:04 26	06:00 (1) 06:26 (1)		06:37 20:46		07:27 19:35	08:18 18:29	08:13 16:39	08:46 16:31
25	08:31 17:13	07:36 18:11	06:33 19:00	06:24 20:53 17	06:48 (2) 07:05 (2)	05:34 21:40	05:20 22:04 26	06:00 (1) 06:26 (1)		06:38 20:44		07:29 19:33	07:20 17:27	08:15 16:38	08:47 16:32
26	08:30 17:15	07:34 18:12	06:31 19:02	06:22 20:55 19	06:47 (2) 07:06 (2)	05:32 21:42	05:21 22:04 26	06:00 (1) 06:26 (1)		06:40 20:42		07:31 19:31	07:22 17:25	08:16 16:37	08:47 16:33
27	08:28 17:17	07:32 18:14	06:28 19:03	06:20 20:56 20	06:46 (2) 07:06 (2)	05:31 21:43 6	06:05 (1) 06:11 (1)	05:21 22:04 25		06:01 (1) 06:26 (1)	05:52 21:39		06:42 20:40		07:32 19:28	07:24 17:23	08:18 16:36	08:47 16:33
28	08:27 17:19	07:30 18:16	06:26 19:05	06:18 20:58 21	06:45 (2) 07:06 (2)	05:30 21:44 10	06:03 (1) 06:13 (1)	05:22 22:04 25		06:01 (1) 06:26 (1)	05:54 21:37		06:43 20:38		07:34 19:26	07:26 17:21	08:19 16:35	08:48 16:34
29	08:25 17:21		07:24 20:07	06:16 21:00 21	06:45 (2) 07:06 (2)	05:29 21:45 13	06:01 (1) 06:14 (1)	05:22 22:03 26		06:01 (1) 06:27 (1)	05:55 21:36		06:45 20:35		07:36 19:24	07:27 17:19	08:21 16:34	08:48 16:35
30	08:24 17:22		07:21 20:08	06:14 21:01 20	06:45 (2) 07:05 (2)	05:28 21:47 15	06:01 (1) 06:16 (1)	05:23 22:03 25		06:02 (1) 06:27 (1)	05:57 21:34		06:47 20:33		07:37 19:22	07:29 17:17	08:22 16:33	08:48 16:36
31	08:22 17:24		07:19 20:10			05:27 21:48 17	06:00 (1) 06:17 (1)				05:58 21:33		06:48 20:31			07:31 17:15		08:48 16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case				150	165	734	321	256				
Sun reduction				0,42	0,43	0,39	0,41	0,42				
Oper. time red.				0,95	0,95	0,95	0,95	0,95				
Wind dir. red.				0,64	0,65	0,67	0,67	0,64				
Total reduction				0,25	0,26	0,25	0,26	0,25				
Total, real				38	44	183	83	65				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:34/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion3.7M140@160Shadow receptor: AA - 3997MP20

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December		
1	08:48		09:31 (4)		08:21		13:20 (2)	07:27		16:52 (1)	07:17	06:12	05:26	05:23	06:00	06:50		07:39		17:19 (1)	07:33		12:58 (2)	08:24		09:15 (4)
	16:38	132	14:14 (2)	17:26	68	14:28 (2)	18:18	29	17:21 (1)	20:12	21:03	21:49	22:03	21:31	20:29			19:19	50	18:09 (1)	17:13	56	13:54 (2)	16:32	139	14:03 (2)
2	08:48		09:32 (4)	08:19		13:20 (2)	07:25		16:50 (1)	07:14	06:10	05:25	05:24	06:01	06:51			07:40		17:19 (1)	07:35		12:57 (2)	08:25		09:16 (4)
	16:39	132	14:15 (2)	17:28	68	14:28 (2)	18:19	34	17:24 (1)	20:14	21:05	21:50	22:03	21:29	20:26			19:17	50	18:09 (1)	17:11	58	13:55 (2)	16:32	140	14:04 (2)
3	08:48		09:32 (4)	08:18		13:22 (2)	07:23		16:48 (1)	07:12	06:08	05:25	05:25	06:03	06:53			07:42		17:18 (1)	07:36		12:55 (2)	08:27		09:16 (4)
	16:40	133	14:16 (2)	17:30	66	14:28 (2)	18:21	37	17:25 (1)	20:15	21:06	21:51	22:02	21:28	20:24			19:14	50	18:08 (1)	17:09	60	13:55 (2)	16:31	139	14:03 (2)
4	08:47		09:32 (4)	08:16		13:22 (2)	07:21		16:47 (1)	07:10	06:06	05:24	05:25	06:04	06:55			07:44		17:19 (1)	07:38		12:54 (2)	08:28		09:17 (4)
	16:41	134	14:16 (2)	17:31	66	14:28 (2)	18:23	39	17:26 (1)	20:17	21:08	21:52	22:02	21:26	20:22			19:12	48	18:07 (1)	17:07	61	13:55 (2)	16:30	138	14:04 (2)
5	08:47		09:32 (4)	08:14		13:23 (2)	07:19		16:46 (1)	07:07	06:04	05:23	05:26	06:06	06:56			07:46		17:19 (1)	07:40		12:53 (2)	08:29		09:18 (4)
	16:43	136	14:17 (2)	17:33	64	14:27 (2)	18:25	41	17:27 (1)	20:19	21:10	21:53	22:01	21:24	20:20			19:10	48	18:07 (1)	17:06	63	13:56 (2)	16:30	137	14:04 (2)
6	08:47		09:32 (4)	08:13		13:23 (2)	07:16		16:45 (1)	07:05	06:02	05:23	05:27	06:08	06:58			07:47		17:20 (1)	07:42		12:52 (2)	08:31		09:18 (4)
	16:44	135	14:17 (2)	17:35	63	14:26 (2)	18:27	44	17:29 (1)	20:20	21:11	21:54	22:01	21:22	20:17			19:08	46	18:06 (1)	17:04	65	13:57 (2)	16:30	137	14:04 (2)
7	08:46		09:33 (4)	08:11		13:24 (2)	07:14		16:43 (1)	07:03	06:00	05:22	05:28	06:09	06:59			07:49		17:19 (1)	07:44		12:52 (2)	08:32		09:19 (4)
	16:45	137	14:19 (2)	17:37	62	14:26 (2)	18:29	46	17:29 (1)	20:22	21:13	21:55	22:00	21:20	20:15			19:05	45	18:04 (1)	17:02	65	13:57 (2)	16:29	136	14:04 (2)
8	08:46		09:32 (4)	08:09		13:26 (2)	07:12		16:42 (1)	07:01	05:59	05:21	05:29	06:11	07:01			07:51		17:20 (1)	07:45		12:52 (2)	08:33		09:20 (4)
	16:46	138	14:19 (2)	17:39	60	14:26 (2)	18:30	47	17:29 (1)	20:24	21:14	21:56	21:59	21:19	20:13			19:03	43	18:03 (1)	17:00	66	13:58 (2)	16:29	135	14:04 (2)
9	08:45		09:33 (4)	08:07		13:27 (2)	07:10		16:42 (1)	06:58	05:57	05:21	05:30	06:12	07:03			07:52		17:21 (1)	07:47		12:51 (2)	08:34		09:20 (4)
	16:48	138	14:20 (2)	17:41	58	14:25 (2)	18:32	48	17:30 (1)	20:26	21:16	21:57	21:59	21:17	20:10			19:01	41	18:02 (1)	16:59	67	13:58 (2)	16:28	134	14:04 (2)
10	08:45		09:33 (4)	08:06		13:28 (2)	07:07		16:41 (1)	06:56	05:55	05:20	05:31	06:14	07:04			07:54		17:22 (1)	07:49		12:51 (2)	08:35		09:21 (4)
	16:49	140	14:21 (2)	17:43	56	14:24 (2)	18:34	49	17:30 (1)	20:27	21:18	21:57	21:58	21:15	20:08			18:59	38	18:00 (1)	16:57	68	13:59 (2)	16:28	133	14:04 (2)
11	08:44		09:33 (4)	08:04		13:30 (2)	07:05		16:40 (1)	06:54	05:54	05:20	05:32	06:16	07:06			07:56		17:23 (1)	07:51		12:51 (2)	08:37		09:21 (4)
	16:51	139	14:21 (2)	17:45	53	14:23 (2)	18:36	50	17:30 (1)	20:29	21:19	21:58	21:57	21:13	20:06			18:56	35	17:58 (1)	16:56	68	13:59 (2)	16:28	132	14:04 (2)
12	08:44		09:33 (4)	08:02		13:31 (2)	07:03		16:40 (1)	06:52	05:52	05:20	05:33	06:17	07:08			07:57		17:24 (1)	07:52		12:51 (2)	08:38		09:23 (4)
	16:52	140	14:22 (2)	17:46	51	14:22 (2)	18:37	51	17:31 (1)	20:31	21:21	21:59	21:56	21:11	20:03			18:54	32	17:56 (1)	16:54	69	14:00 (2)	16:28	132	14:06 (2)
13	08:43		09:33 (4)	08:00		13:33 (2)	07:00		16:39 (1)	06:49	05:50	05:19	05:34	06:19	07:09			07:59		17:26 (1)	07:54		09:20 (4)	08:39		09:23 (4)
	16:53	141	14:22 (2)	17:48	47	14:20 (2)	18:39	51	17:30 (1)	20:32	21:23	22:00	21:56	21:09	20:01			18:52	28	17:54 (1)	16:53	90	14:00 (2)	16:28	130	14:06 (2)
14	08:42		09:34 (4)	07:58		13:35 (2)	06:58		16:39 (1)	06:47	05:49	05:19	05:35	06:20	07:11		17:46 (1)	08:01		17:29 (1)	07:56		09:18 (4)	08:40		09:23 (4)
	16:55	141	14:23 (2)	17:50	43	14:18 (2)	18:41	51	17:30 (1)	20:34	21:24	22:00	21:55	21:07	19:59	13	17:59 (1)	18:50	22	17:51 (1)	16:51	103	14:01 (2)	16:28	129	14:05 (2)
15	08:41		09:34 (4)	07:56		13:38 (2)	06:56		16:39 (1)	06:45	05:47	05:19	05:36	06:22	07:12		17:42 (1)	08:03		17:31 (1)	07:58		09:16 (4)	08:40		09:24 (4)
	16:57	140	14:23 (2)	17:52	38	14:16 (2)	18:43	51	17:30 (1)	20:36	21:26	22:01	21:54	21:05	19:56	21	18:03 (1)	18:47	16	17:47 (1)	16:50	112	14:01 (2)	16:28	128	14:05 (2)
16	08:41		09:34 (4)	07:54		13:41 (2)	06:54		16:39 (1)	06:43	05:46	05:19	05:38	06:24	07:14		17:38 (1)	08:04			08:00		09:15 (4)	08:41		09:25 (4)
	16:58	142	14:24 (2)	17:54	33	14:14 (2)	18:44	50	17:29 (1)	20:37	21:27	22:01	21:53	21:03	19:54	26	18:04 (1)	18:45			16:48	118	14:01 (2)	16:28	128	14:06 (2)
17	08:40		09:35 (4)	07:52		13:45 (2)	06:51		16:39 (1)	06:41	05:44	05:19	05:39	06:25	07:16		17:36 (1)	08:06			08:01		09:15 (4)	08:42		09:26 (4)
	17:00	139	14:24 (2)	17:56	25	14:10 (2)	18:46	50	17:29 (1)	20:39	21:29	22:02	21:52	21:01	19:52	30	18:06 (1)	18:43			16:47	122	14:02 (2)	16:28	128	14:07 (2)
18	08:39		09:36 (4)	07:50		13:53 (2)	06:49		16:40 (1)	06:38	05:43	05:19	05:40	06:27	07:17		17:34 (1)	08:08			08:03		09:14 (4)	08:43		09:26 (4)
	17:01	138	14:25 (2)	17:58	11	14:04 (2)	18:48	48	17:28 (1)	20:41	21:30	22:02	21:50	20:59	19:49	34	18:08 (1)	18:41			16:46	126	14:02 (2)	16:29	126	14:07 (2)
19	08:38		09:36 (4)	07:48			06:47		16:39 (1)	06:36	05:41	05:19	05:41	06:28	07:19		17:31 (1)	08:10			08:05		09:13 (4)	08:44		09:26 (4)
	17:03	139	14:26 (2)	17:59			18:49	48	17:27 (1)	20:43	21:32	22:03	21:49	20:57	19:47	37	18:08 (1)	18:39			16:44	129	14:01 (2)	16:29	127	14:07 (2)
20	08:37		09:37 (4)	07:46			06:44		16:40 (1)	06:34	05:40	05:19	05:43	06:30	07:21		17:29 (1)	08:11			08:06		09:13 (4)	08:44		09:27 (4)
	17:05	136	14:26 (2)	18:01			18:51	46	17:26 (1)	20:44	21:33	22:03	21:48	20:55	19:45	40	18:09 (1)	18:37			16:43	132	14:02 (2)	16:29	128	14:08 (2)
21	08:36		09:38 (4)	07:44			06:42		16:41 (1)	06:32	05:38	05:19	05:44	06:32	07:22		17:27 (1)	08:13			08:08		09:13 (4)	08:45		09:28 (4)
	17:06	134	14:27 (2)	18:03			18:53	45	17:26 (1)	20:46	21:35	22:03	21:47	20:53	19:42	42	18:09 (1)	18:35			16:42	134	14:02 (2)	16:30	128	14:09 (2)
22	08:34		09:38 (4)	07:42			06:40		16:41 (1)	06:30	05:37	05:19	05:45	06:33	07:24		17:26 (1)	08:15			08:10		09:13 (4)	08:45		09:28 (4)
	17:08	132	14:27 (2)	18:05			18:55	43	17:24 (1)	20:48	21:36	22:03	21:46	20:51	19:40	44	18:10 (1)	18:33			16:41	136	14:02 (2)	16:30	128	14:09 (2)
23	08:33		09:39 (4)	07:40			06:37		16:42 (1)	06:28	05:36	05:20	05:47	06:35	07:26		17:25 (1)	08:17			08:11		09:13 (4)	08:46		09:28 (4)
	17:10	129	14:27 (2)	18:07			18:56	41	17:23 (1)	20:49	21:37	22:03	21:44	20:49	19:38	46	18:11 (1)	18:30			16:40	139	14:03 (2)	16:31	128	14:09 (2)
24	08:32		09:40 (4)	07:38			06:35		16:44 (1)	06:26	05:35	05:20	05:48	06:37	07:27		17:23 (1)	08:18		14:20 (2)	08:13		09:13 (4)	08:46		09:29 (4)
	17:12	126	14:28 (2)	18:09			18:58	38	17:22 (1)	20:51	21:39	22:04	21:43	20:46	19:35	47	18:10 (1)	18:28	16	14:36 (2)	16:38	138	14:02 (2)	16:31	128	14:10 (2)
25	08:31		09:41 (4)	07:36			06:33		16:45 (1)	06:24	05:33	05:20	05:49	06:38	07:29		17:22 (1)	07:20		13:13 (2)	08:15		09:13 (4)	08:47		09:29 (4)
	17:13	122	14:28 (2)	18:10			19:00	35	17:20 (1)	20:53	21:40	22:04	21:42	20:44	19:33	49	18:11 (1)	17:26	28	13:41 (2)	16:37	139	14:02 (2)	16:32	126	14:10 (2)
26	08:29		09:42 (4)	07:34		17:03 (1)	06:30		16:47 (1)	06:22	05:32	05:21	05:51	06:40	07:31		17:22 (1)	07:22		13:09 (2)	08:16		09:14 (4)	08:47		09:30 (4)
	17:15	118	14:28 (2)	18:12	8	17:11 (1)	19:02	31	17:18 (1)	20:54	21:41	22:04	21:40	20:42	19:31	49	18:11 (1)	17:24	35	13:44 (2)	16:36	141	14:03 (2)	16:32	125	14:10 (2)
27	08:28		09:43 (4)	07:32		16:57 (1)	06:28		16:49 (1)	06:20	05:31	05:21	05:52	06:42	07:32		17:21 (1)	07:24		13:06 (2)	08:18		09:14 (4)	08:47		09:30 (4)
	17:17	112	14:28 (2)	18:14	19	17:16 (1)	19:03	27	17:16 (1)	20:56	21:43	22:04	21:39	20:40	19:28	50	18:11 (1)	17:22	40	13:46 (2)	16:36	141	14:03 (2)	16:33	128	14:11 (2)
28	08:27		09:46 (4)	07:30		16:54 (1)	06:26		16:51 (1)	06:18	05:30	05:21	05:54	06:43	07:34		17:20 (1)	07:26		13:04 (2)	08:19		09:14 (4)	08:48		09:31 (4)
	17:19	103	14:29 (2)	18:16	25	17:19 (1)	19:05	22	17:13 (1)	20:58	21:44	22:03	21:37	20:38	19:26	51	18:11 (1)	17:20	44	13:48 (2)	16:35	141	14:03 (2)	16:34	128	14:12 (2)
29	08:25		09:48 (4)				07:24		17:55 (1)	06:16	05:29	05:22	05:55	06:45	07:35		17:20 (1)	07:27		13:02 (2)	08:21		09:15 (4)	08:48		09:31 (4)
	17:20	90	14:28 (2)				20:07	14	18:09 (1)	21:00	21:45	22:03	21:36	20:35	19:24	51	18:11 (1)	17:19	48	13:50 (2)	16:34	141	14:03 (2)	16:35	130	14:13 (2)
30	08:24		13:19 (2)				07:21			06:14	05:28	05:23	05:57	06:46	07:37		17:19 (1)	07:29		13:00 (2)	08:22		09:15 (4)	08:48		09:31 (4)
	17:22	69	14:28 (2)				20:08			21:01	21:46	22:03	21:34	20:33	19:21	51	18:10 (1)	17:17	51	13:51 (2)	16:33	140	14:04 (2)	16:36	131	14:14 (2)
31	08:22		13:20 (2)				07:19				05:27		05:58	06:48				07:31		12:59 (2)				08:48		09:31 (4)
	17:24	68	14:28 (2)				20:10				21:48		21:33	20:31				17:15	54	13:53 (2)				16:37	131	14:13 (2)
Potential sun hours	259			277			367			416	485	499	502	454	381			331			266			243		
Total, worst case		3953			984			1206								681			908			3088			4067	
Sun reduction		0,24			0,30			0,33								0,36			0,34			0,24			0,20	
Oper. time red.		0,95			0,95			0,95								0,95			0,95			0,95			0,95	
Wind dir. red.		0,64			0,68			0,66								0,66			0,67			0,65			0,64	
Total reduction		0,15			0,19			0,20								0,23			0,21			0,15			0,12	
Total, real		576			191			247								154			192			451			502	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:34/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion3.7M140@160Shadow receptor: AB - 3945LA1b

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September	October		November		December		
1	08:48	14:05 (4)	08:21	16:07 (3)	07:27	17:26 (2)	07:17	06:12	05:26	05:23	06:00	06:50	07:39	18:10 (2)	07:33	15:38 (3)	08:24	14:03 (4)	
	16:38	29 14:34 (4)	17:26	31 16:38 (3)	18:18	21 17:47 (2)	20:12	21:03	21:49	22:03	21:31	20:29	19:19	8 18:18 (2)	17:13	31 16:09 (3)	16:32	8 14:11 (4)	
2	08:48	14:07 (4)	08:19	16:07 (3)	07:25	17:26 (2)	07:14	06:10	05:25	05:24	06:01	06:51	07:40	18:07 (2)	07:34	15:37 (3)	08:25	14:01 (4)	
	16:39	27 14:34 (4)	17:28	31 16:38 (3)	18:19	22 17:48 (2)	20:13	21:04	21:50	22:02	21:29	20:26	19:17	14 18:21 (2)	17:11	31 16:08 (3)	16:32	13 14:14 (4)	
3	08:47	14:08 (4)	08:18	16:07 (3)	07:23	17:24 (2)	07:12	06:08	05:25	05:25	06:03	06:53	07:42	18:04 (2)	07:36	15:37 (3)	08:27	13:59 (4)	
	16:40	26 14:34 (4)	17:30	32 16:39 (3)	18:21	24 17:48 (2)	20:15	21:06	21:51	22:02	21:27	20:24	19:14	17 18:21 (2)	17:09	32 16:09 (3)	16:31	16 14:15 (4)	
4	08:47	14:08 (4)	08:16	16:07 (3)	07:21	17:24 (2)	07:10	06:06	05:24	05:25	06:04	06:55	07:44	18:03 (2)	07:38	15:36 (3)	08:28	13:57 (4)	
	16:41	26 14:34 (4)	17:31	32 16:39 (3)	18:23	24 17:48 (2)	20:17	21:08	21:52	22:02	21:26	20:22	19:12	20 18:23 (2)	17:07	33 16:09 (3)	16:30	19 14:16 (4)	
5	08:47	14:10 (4)	08:14	16:07 (3)	07:18	17:24 (2)	07:07	06:04	05:23	05:26	06:06	06:56	07:45	18:02 (2)	07:40	15:36 (3)	08:29	13:57 (4)	
	16:42	24 14:34 (4)	17:33	33 16:40 (3)	18:25	25 17:49 (2)	20:19	21:09	21:53	22:01	21:24	20:20	19:10	22 18:24 (2)	17:06	33 16:09 (3)	16:30	21 14:18 (4)	
6	08:47	14:10 (4)	08:13	16:07 (3)	07:16	17:23 (2)	07:05	06:02	05:22	05:27	06:08	06:58	07:47	18:00 (2)	07:42	15:36 (3)	08:31	13:56 (4)	
	16:44	23 14:33 (4)	17:35	32 16:39 (3)	18:27	25 17:48 (2)	20:20	21:11	21:54	22:01	21:22	20:17	19:08	23 18:23 (2)	17:04	33 16:09 (3)	16:29	23 14:19 (4)	
7	08:46	14:12 (4)	08:11	16:07 (3)	07:14	17:24 (2)	07:03	06:00	05:22	05:28	06:09	06:59	07:49	17:59 (2)	07:43	15:37 (3)	08:32	13:57 (4)	
	16:45	21 14:33 (4)	17:37	32 16:39 (3)	18:28	23 17:47 (2)	20:22	21:13	21:55	22:00	21:20	20:15	19:05	25 18:24 (2)	17:02	32 16:09 (3)	16:29	24 14:21 (4)	
8	08:46	14:13 (4)	08:09	16:08 (3)	07:12	17:24 (2)	07:01	05:59	05:21	05:29	06:11	07:01	07:51	17:59 (2)	07:45	15:37 (3)	08:33	13:56 (4)	
	16:46	19 14:32 (4)	17:39	32 16:40 (3)	18:30	23 17:47 (2)	20:24	21:14	21:56	21:59	21:19	20:13	19:03	25 18:24 (2)	17:00	32 16:09 (3)	16:29	26 14:22 (4)	
9	08:45	14:16 (4)	08:07	16:08 (3)	07:10	17:25 (2)	06:58	05:57	05:21	05:30	06:12	07:03	07:52	17:59 (2)	07:47	15:37 (3)	08:34	13:56 (4)	
	16:48	16 14:32 (4)	17:41	32 16:40 (3)	18:32	21 17:46 (2)	20:25	21:16	21:57	21:59	21:17	20:10	19:01	25 18:24 (2)	16:59	32 16:09 (3)	16:28	26 14:22 (4)	
10	08:45	14:18 (4)	08:06	16:09 (3)	07:07	17:25 (2)	06:56	05:55	05:20	05:31	06:14	07:04	07:54	17:58 (2)	07:49	15:38 (3)	08:35	13:56 (4)	
	16:49	13 14:31 (4)	17:43	30 16:39 (3)	18:34	19 17:44 (2)	20:27	21:18	21:57	21:58	21:15	20:08	18:58	24 18:22 (2)	16:57	31 16:09 (3)	16:28	27 14:23 (4)	
11	08:44	14:21 (4)	08:04	16:09 (3)	07:05	17:27 (2)	06:54	05:53	05:20	05:32	06:15	07:06	07:56	17:59 (2)	07:51	15:39 (3)	08:36	13:56 (4)	
	16:50	8 14:29 (4)	17:44	30 16:39 (3)	18:35	16 17:43 (2)	20:29	21:19	21:58	21:57	21:13	20:06	18:56	23 18:22 (2)	16:56	29 16:08 (3)	16:28	28 14:24 (4)	
12	08:44		08:02	16:10 (3)	07:03	17:30 (2)	06:52	05:52	05:20	05:33	06:17	07:08	07:57	17:59 (2)	07:52	15:40 (3)	08:38	13:56 (4)	
	16:52		17:46	28 16:38 (3)	18:37	11 17:41 (2)	20:31	21:21	21:59	21:56	21:11	20:03	18:54	22 18:21 (2)	16:54	28 16:08 (3)	16:28	28 14:24 (4)	
13	08:43		08:00	16:11 (3)	07:00		06:49	05:50	05:19	05:34	06:19	07:09	07:59	18:00 (2)	07:54	15:40 (3)	08:39	13:56 (4)	
	16:53		17:48	26 16:37 (3)	18:39		20:32	21:22	22:00	21:56	21:09	20:01	18:52	20 18:20 (2)	16:52	27 16:07 (3)	16:28	29 14:25 (4)	
14	08:42		07:58	16:13 (3)	06:58		06:47	05:49	05:19	05:35	06:20	07:11	08:01	18:01 (2)	07:56	15:41 (3)	08:39	13:56 (4)	
	16:55		17:50	23 16:36 (3)	18:41		20:34	21:24	22:00	21:55	21:07	19:59	18:50	18 18:19 (2)	16:51	26 16:07 (3)	16:28	30 14:26 (4)	
15	08:41		07:56	16:14 (3)	06:56		06:45	05:47	05:19	05:36	06:22	07:12	08:03	18:02 (2)	07:58	15:43 (3)	08:40	13:56 (4)	
	16:56		17:52	21 16:35 (3)	18:42		20:36	21:26	22:01	21:54	21:05	19:56	18:47	14 18:16 (2)	16:50	23 16:06 (3)	16:28	30 14:26 (4)	
16	08:41		07:54	16:17 (3)	06:54		06:43	05:45	05:19	05:37	06:24	07:14	08:04	18:04 (2)	07:59	15:44 (3)	08:41	13:57 (4)	
	16:58		17:54	16 16:33 (3)	18:44		20:37	21:27	22:01	21:53	21:03	19:54	18:45	9 18:13 (2)	16:48	21 16:05 (3)	16:28	30 14:27 (4)	
17	08:40		07:52	16:20 (3)	06:51		06:40	05:44	05:19	05:39	06:25	07:16	08:06		08:01	15:46 (3)	08:42	13:57 (4)	
	17:00		17:56	9 16:29 (3)	18:46		20:39	21:29	22:02	21:52	21:01	19:52	18:43		16:47	17 16:03 (3)	16:28	31 14:28 (4)	
18	08:39		07:50		06:49		06:38	05:43	05:19	05:40	06:27	07:17	08:08		08:03	15:47 (3)	08:43	13:58 (4)	
	17:01		17:58		18:48		20:41	21:30	22:02	21:50	20:59	19:49	18:41		16:45	14 16:01 (3)	16:28	31 14:29 (4)	
19	08:38		07:48		06:47		06:36	05:41	05:19	05:41	06:28	07:19	08:09		08:05	15:50 (3)	08:44	13:57 (4)	
	17:03		17:59		18:49		20:42	21:32	22:02	21:49	20:57	19:47	18:39		16:44	9 15:59 (3)	16:29	32 14:29 (4)	
20	08:37		07:46		06:44		06:34	05:40	05:19	05:43	06:30	07:21	08:11		08:06		08:44	13:58 (4)	
	17:05		18:01		18:51		20:44	21:33	22:03	21:48	20:55	19:45	18:37		16:43		16:29	32 14:30 (4)	
21	08:36		07:44		06:42		06:32	05:38	05:19	05:44	06:32	07:22	08:13		08:08		08:45	13:58 (4)	
	17:06		18:03		18:53		20:46	21:35	22:03	21:47	20:53	19:42	18:35		16:42		16:30	32 14:30 (4)	
22	08:34		07:42		06:40		06:30	05:37	05:19	05:45	06:33	07:24	08:15		08:10		08:45	13:59 (4)	
	17:08		18:05		18:55		20:48	21:36	22:03	21:46	20:51	19:40	18:32		16:41		16:30	32 14:31 (4)	
23	08:33	16:16 (3)	07:40		06:37		06:28	05:36	05:19	05:47	06:35	07:25	08:17		08:11		08:46	13:59 (4)	
	17:10	9 16:25 (3)	18:07		18:56		20:49	21:37	22:03	21:44	20:48	19:38	18:30		16:39		16:31	32 14:31 (4)	
24	08:32	16:13 (3)	07:38		06:35		06:26	05:35	05:20	05:48	06:37	07:27	08:18		08:13		08:46	14:00 (4)	
	17:11	14 16:27 (3)	18:09		18:58		20:51	21:39	22:04	21:43	20:46	19:35	18:28		16:38		16:31	32 14:32 (4)	
25	08:31	16:12 (3)	07:36		06:33		06:24	05:33	05:20	05:49	06:38	07:29	07:20	15:49 (3)	08:15		08:47	14:01 (4)	
	17:13	17 16:29 (3)	18:10		19:00		20:53	21:40	22:04	21:42	20:44	19:33	17:26	11 16:00 (3)	16:37		16:32	31 14:32 (4)	
26	08:29	16:11 (3)	07:34	17:31 (2)	06:30		06:22	05:32	05:20	05:51	06:40	07:30	07:22	15:46 (3)	08:16		08:47	14:01 (4)	
	17:15	21 16:32 (3)	18:12	11 17:42 (2)	19:01		20:54	21:41	22:04	21:40	20:42	19:31	17:24	17 16:03 (3)	16:36		16:32	31 14:32 (4)	
27	08:28	16:10 (3)	07:32	17:29 (2)	06:28		06:19	05:31	05:21	05:52	06:41	07:32	07:24	15:43 (3)	08:18		08:47	14:01 (4)	
	17:17	23 16:33 (3)	18:14	15 17:44 (2)	19:03		20:56	21:43	22:03	21:39	20:40	19:28	17:22	21 16:04 (3)	16:35		16:33	31 14:32 (4)	
28	08:27	16:10 (3)	07:29	17:27 (2)	06:26		06:17	05:30	05:21	05:54	06:43	07:34	07:25	15:42 (3)	08:19		08:47	14:02 (4)	
	17:19	25 16:35 (3)	18:16	19 17:46 (2)	19:05		20:58	21:44	22:03	21:37	20:38	19:26	17:20	24 16:06 (3)	16:35		16:34	30 14:32 (4)	
29	08:25	16:09 (3)			07:23		06:15	05:29	05:22	05:55	06:45	07:35	07:27	15:41 (3)	08:21		08:48	14:04 (4)	
	17:20	26 16:35 (3)			20:07		20:59	21:45	22:03	21:36	20:35	19:24	17:18	26 16:07 (3)	16:34		16:35	30 14:34 (4)	
30	08:24	16:08 (3)			07:21		06:14	05:28	05:23	05:57	06:46	07:37	07:29	15:40 (3)	08:22		08:48	14:03 (4)	
	17:22	28 16:36 (3)			20:08		21:01	21:46	22:03	21:34	20:33	19:21	17:17	28 16:08 (3)	16:33		16:36	30 14:33 (4)	
31	08:22	16:08 (3)			07:19			05:27		05:58	06:48		07:31	15:39 (3)			08:48	14:04 (4)	
	17:24	29 16:37 (3)			20:10			21:48		21:32	20:31		17:15	29 16:08 (3)			16:37	29 14:33 (4)	
Potential sun hours	259		277		367		416	485	499	502	454	381	331		266		243		
Total, worst case	424		515		254								465		514		844		
Sun reduction	0,24		0,30		0,33								0,34		0,24		0,20		
Oper. time red.	0,95		0,95		0,95								0,95		0,95		0,95		
Wind dir. red.	0,68		0,67		0,65								0,66		0,67		0,69		
Total reduction	0,16		0,19		0,20								0,21		0,15		0,13		
Total, real	66		99		51								98		78		113		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:34/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion3.7M140@160Shadow receptor: AC - 3997MP25

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April		May	June	July	August	September	October	November	December
1	08:48		09:51 (3)	08:21		09:21 (4)	07:27	16:29 (1)	07:17	17:24 (1)	06:12	05:26	05:23	06:00	06:50	07:39	16:54 (1)	07:33	11:43 (2)	08:24	09:02 (4)
	16:38	102	13:09 (2)	17:26	129	13:23 (2)	18:18	38	17:07 (1)	20:12	38	18:02 (1)	21:03	21:49	22:03	21:31	20:29	19:19	62	17:56 (1)	17:13	67	12:50 (2)	16:32	125	12:58 (2)
2	08:48		09:52 (3)	08:19		09:22 (4)	07:25	16:27 (1)	07:14	17:26 (1)	06:10	05:25	05:24	06:01	06:51	07:40	16:55 (1)	07:35	11:43 (2)	08:25	09:04 (4)
	16:39	103	13:10 (2)	17:28	124	13:23 (2)	18:20	42	17:09 (1)	20:14	34	18:00 (1)	21:05	21:50	22:03	21:29	20:26	19:17	61	17:56 (1)	17:11	67	12:50 (2)	16:32	122	12:58 (2)
3	08:48		09:52 (3)	08:18		09:24 (4)	07:23	16:25 (1)	07:12	17:29 (1)	06:08	05:25	05:25	06:03	06:53	07:42	16:54 (1)	07:36	11:42 (2)	08:27	09:06 (4)
	16:40	104	13:11 (2)	17:30	118	13:23 (2)	18:21	45	17:10 (1)	20:15	29	17:58 (1)	21:06	21:51	22:02	21:28	20:24	19:14	60	17:54 (1)	17:09	69	12:51 (2)	16:31	117	12:58 (2)
4	08:47		09:52 (3)	08:16		09:26 (4)	07:21	16:23 (1)	07:10	17:31 (1)	06:06	05:24	05:25	06:04	06:55	07:44	16:55 (1)	07:38	11:40 (2)	08:28	09:38 (3)
	16:41	105	13:11 (2)	17:31	109	13:23 (2)	18:23	49	17:12 (1)	20:17	23	17:54 (1)	21:08	21:52	22:02	21:26	20:22	19:12	59	17:54 (1)	17:07	71	12:51 (2)	16:31	108	12:58 (2)
5	08:47		09:52 (3)	08:14		09:29 (4)	07:19	16:22 (1)	07:07	17:36 (1)	06:04	05:23	05:26	06:06	06:56	07:46	16:55 (1)	07:40	09:41 (3)	08:29	09:38 (3)
	16:43	106	13:12 (2)	17:33	97	13:22 (2)	18:25	51	17:13 (1)	20:19	14	17:50 (1)	21:10	21:53	22:01	21:24	20:20	19:10	58	17:53 (1)	17:06	86	12:52 (2)	16:30	108	12:58 (2)
6	08:47		09:52 (3)	08:13		10:12 (3)	07:16	16:21 (1)	07:05				06:02	05:23	05:27	06:08	06:58	07:47		16:56 (1)	07:42		08:58 (4)	08:31		09:38 (3)
	16:44	107	13:12 (2)	17:35	85	13:22 (2)	18:27	53	17:14 (1)	20:20			21:11	21:54	22:01	21:22	20:17	19:08	56	17:52 (1)	17:04	99	12:52 (2)	16:30	107	12:58 (2)
7	08:46		09:53 (3)	08:11		12:11 (2)	07:14	16:20 (1)	07:03				06:00	05:22	05:28	06:09	06:59	17:32 (1)	07:49	16:56 (1)	07:44		08:56 (4)	08:32		09:39 (3)
	16:45	108	13:13 (2)	17:37	70	13:21 (2)	18:28	55	17:15 (1)	20:22			21:13	21:55	22:00	21:20	20:15	12	17:44 (1)	19:05	54	17:50 (1)	17:02	110	12:53 (2)	16:29	106	12:59 (2)
8	08:46		09:52 (3)	08:09		12:12 (2)	07:12	16:19 (1)	07:01				05:59	05:21	05:29	06:11	07:01	17:27 (1)	07:51	16:57 (1)	07:45		08:54 (4)	08:33		09:40 (3)
	16:46	109	13:13 (2)	17:39	69	13:21 (2)	18:30	57	17:16 (1)	20:24			21:14	21:56	21:59	21:19	20:13	22	17:49 (1)	19:03	52	17:49 (1)	17:00	119	12:53 (2)	16:29	105	12:59 (2)
9	08:45		09:23 (4)	08:07		12:13 (2)	07:10	16:18 (1)	06:58				05:57	05:21	05:30	06:12	07:03	17:22 (1)	07:52	16:58 (1)	07:47		08:53 (4)	08:34		09:40 (3)
	16:48	117	13:15 (2)	17:41	68	13:21 (2)	18:32	58	17:16 (1)	20:26			21:16	21:57	21:59	21:17	20:10	29	17:51 (1)	19:01	50	17:48 (1)	16:59	124	12:54 (2)	16:29	104	12:59 (2)
10	08:45		09:21 (4)	08:06		12:14 (2)	07:07	16:16 (1)	06:56				05:55	05:20	05:31	06:14	07:04	17:20 (1)	07:54	16:59 (1)	07:49		08:52 (4)	08:35		09:41 (3)
	16:49	122	13:15 (2)	17:43	66	13:20 (2)	18:34	60	17:16 (1)	20:27			21:18	21:57	21:58	21:15	20:08	33	17:53 (1)	18:59	47	17:46 (1)	16:57	130	12:54 (2)	16:28	103	12:59 (2)
11	08:44		09:20 (4)	08:04		12:15 (2)	07:05	16:16 (1)	06:54				05:54	05:20	05:32	06:16	07:06	17:17 (1)	07:56	16:59 (1)	07:51		08:52 (4)	08:37		09:42 (3)
	16:51	124	13:15 (2)	17:45	64	13:19 (2)	18:36	61	17:17 (1)	20:29			21:19	21:58	21:57	21:13	20:06	37	17:54 (1)	18:56	44	17:43 (1)	16:56	132	12:54 (2)	16:28	101	12:59 (2)
12	08:44		09:19 (4)	08:02		12:16 (2)	07:03	16:16 (1)	06:52				05:52	05:20	05:33	06:17	07:08	17:14 (1)	07:57	17:01 (1)	07:53		08:51 (4)	08:38		09:43 (3)
	16:52	128	13:16 (2)	17:46	62	13:18 (2)	18:37	61	17:17 (1)	20:31			21:21	21:59	21:56	21:11	20:03	42	17:56 (1)	18:54	40	17:41 (1)	16:54	137	12:55 (2)	16:28	102	13:00 (2)
13	08:43		09:18 (4)	08:00		12:17 (2)	07:00	16:14 (1)	06:49				05:50	05:19	05:34	06:19	07:09	17:12 (1)	07:59	17:03 (1)	07:54		08:51 (4)	08:39		09:44 (3)
	16:53	131	13:16 (2)	17:48	59	13:16 (2)	18:39	63	17:17 (1)	20:32			21:23	22:00	21:56	21:09	20:01	45	17:57 (1)	18:52	36	17:39 (1)	16:53	138	12:55 (2)	16:28	100	13:00 (2)
14	08:42		09:18 (4)	07:58		12:19 (2)	06:58	16:14 (1)	06:47				05:49	05:19	05:35	06:20	07:11	17:10 (1)	08:01	17:05 (1)	07:56		08:51 (4)	08:40		09:45 (3)
	16:55	134	13:17 (2)	17:50	56	13:15 (2)	18:41	63	17:17 (1)	20:34			21:24	22:00	21:55	21:07	19:59	47	17:57 (1)	18:50	32	17:37 (1)	16:51	141	12:55 (2)	16:28	98	13:00 (2)
15	08:41		09:17 (4)	07:56		12:20 (2)	06:56	16:14 (1)	06:45				05:47	05:19	05:36	06:22	07:13	17:08 (1)	08:03	17:07 (1)	07:58		08:51 (4)	08:40		09:44 (3)
	16:57	137	13:18 (2)	17:52	53	13:13 (2)	18:43	64	17:18 (1)	20:36			21:26	22:01	21:54	21:05	19:56	50	17:58 (1)	18:47	26	17:33 (1)	16:50	143	12:56 (2)	16:28	99	13:00 (2)
16	08:41		09:17 (4)	07:54		12:22 (2)	06:54	16:13 (1)	06:43				05:46	05:19	05:38	06:24	07:14	17:06 (1)	08:04	17:11 (1)	08:00		08:51 (4)	08:41		09:45 (3)
	16:58	138	13:18 (2)	17:54	49	13:11 (2)	18:44	64	17:17 (1)	20:37			21:27	22:01	21:53	21:03	19:54	52	17:58 (1)	18:45	18	17:29 (1)	16:48	143	12:56 (2)	16:28	98	13:00 (2)
17	08:40		09:17 (4)	07:52		12:24 (2)	06:51	16:13 (1)	06:41				05:44	05:19	05:39	06:25	07:16	17:05 (1)	08:06		08:01		08:51 (4)	08:42		09:46 (3)
	17:00	140	13:19 (2)	17:56	45	13:09 (2)	18:46	64	17:17 (1)	20:39			21:29	22:02	21:52	21:01	19:52	54	17:59 (1)	18:43			16:47	144	12:56 (2)	16:28	97	13:01 (2)
18	08:39		09:17 (4)	07:50		12:27 (2)	06:49	16:14 (1)	06:38				05:43	05:19	05:40	06:27	07:17	17:04 (1)	08:08		08:03		08:51 (4)	08:43		09:47 (3)
	17:01	141	13:19 (2)	17:58	39	13:06 (2)	18:48	63	17:17 (1)	20:41			21:30	22:02	21:51	20:59	19:49	56	18:00 (1)	18:41			16:46	147	12:57 (2)	16:29	97	13:02 (2)
19	08:38		09:17 (4)	07:48		12:31 (2)	06:47	16:13 (1)	06:36				05:41	05:19	05:41	06:28	07:19	17:02 (1)	08:10		08:05		08:51 (4)	08:44		09:47 (3)
	17:03	141	13:20 (2)	17:59	32	13:03 (2)	18:49	63	17:16 (1)	20:43			21:32	22:03	21:49	20:57	19:47	58	18:00 (1)	18:39			16:44	145	12:56 (2)	16:29	96	13:01 (2)
20	08:37		09:17 (4)	07:46		12:36 (2)	06:44	16:13 (1)	06:34				05:40	05:19	05:43	06:30	07:21	17:01 (1)	08:11		08:06		08:51 (4)	08:44		09:48 (3)
	17:05	144	13:21 (2)	18:01	20	12:56 (2)	18:51	63	17:16 (1)	20:44			21:33	22:03	21:48	20:55	19:45	59	18:00 (1)	18:37			16:43	145	12:56 (2)	16:29	96	13:02 (2)
21	08:36		09:17 (4)	07:44			06:42	16:14 (1)	06:32				05:38	05:19	05:44	06:32	07:22	16:59 (1)	08:13		08:08		08:52 (4)	08:45		09:49 (3)
	17:06	143	13:21 (2)	18:03			18:53	62	17:16 (1)	20:46			21:35	22:03	21:47	20:53	19:42	61	18:00 (1)	18:35			16:42	143	12:56 (2)	16:30	96	13:03 (2)
22	08:34		09:16 (4)	07:42			06:40	16:13 (1)	06:30				05:37	05:19	05:45	06:33	07:24	16:59 (1)	08:15	13:04 (2)	08:10		08:53 (4)	08:45		09:49 (3)
	17:08	145	13:21 (2)	18:05			18:55	61	17:14 (1)	20:48			21:36	22:03	21:46	20:51	19:40	61	18:00 (1)	18:33	24	13:28 (2)	16:41	144	12:57 (2)	16:30	96	13:03 (2)
23	08:33		09:17 (4)	07:40			06:37	16:14 (1)	06:28				05:36	05:20	05:47	06:35	07:26	16:58 (1)	08:17	12:59 (2)	08:11		08:54 (4)	08:46		09:49 (3)
	17:10	145	13:22 (2)	18:07			18:56	60	17:14 (1)	20:49			21:37	22:03	21:44	20:49	19:38	62	18:00 (1)	18:31	34	13:33 (2)	16:40	142	12:57 (2)	16:31	96	13:03 (2)
24	08:32		09:17 (4)	07:38			06:35	16:15 (1)	06:26				05:35	05:20	05:48	06:37	07:27	16:57 (1)	08:18	12:56 (2)	08:13		08:54 (4)	08:46		09:50 (3)
	17:12	147	13:23 (2)	18:09			18:58	58	17:13 (1)	20:51			21:39	22:04	21:43	20:46	19:35	62	17:59 (1)	18:28	41	13:37 (2)	16:38	141	12:56 (2)	16:31	96	13:04 (2)
25	08:31		09:17 (4)	07:36		16:43 (1)	06:33	16:15 (1)	06:24				05:33	05:20	05:49	06:38	07:29	16:56 (1)	07:20	11:53 (2)	08:15		08:55 (4)	08:47		09:50 (3)
	17:13	144	13:22 (2)	18:10	11	16:54 (1)	19:00	57	17:12 (1)	20:53			21:40	22:04	21:42	20:44	19:33	64	18:00 (1)	17:26	46	12:39 (2)	16:37	140	12:57 (2)	16:32	96	13:04 (2)
26	08:29		09:18 (4)	07:34		16:38 (1)	06:30	16:16 (1)	06:22				05:32	05:21	05:51	06:40	07:31	16:56 (1)	07:22	11:51 (2)	08:16		08:56 (4)	08:47		09:50 (3)
	17:15	143	13:23 (2)	18:12	21	16:59 (1)	19:02	55	17:11 (1)	20:54			21:41	22:04	21:40	20:42	19:31	64	18:00 (1)	17:24	50	12:41 (2)	16:36	138	12:57 (2)	16:32	97	13:05 (2)
27	08:28		09:18 (4)	07:32		16:33 (1)	06:28	16:17 (1)	06:20				05:31	05:21	05:52	06:42	07:32	16:55 (1)	07:24	11:49 (2)	08:18		08:57 (4)	08:47		09:50 (3)
	17:17	144	13:23 (2)	18:14	29	17:02 (1)	19:03	53	17:10 (1)	20:56			21:43	22:04	21:39	20:40	19:28	64	17:59 (1)	17:22	54	12:43 (2)	16:36	137	12:58 (2)	16:33	98	13:05 (2)
28	08:27		09:19 (4)	07:30		16:31 (1)	06:26	16:18 (1)	06:18				05:30	05:21	05:54	06:43	07:34	16:55 (1)	07:26	11:48 (2)	08:19		08:58 (4)	08:48		09:51 (3)
	17:19	140	13:23 (2)	18:16	33	17:04 (1)	19:05	50	17:08 (1)	20:58			21:44	22:03	21:37	20:38	19:26	63	17:58 (1)	17:20	57	12:45 (2)	16:35	134	12:57 (2)	16:34	99	13:07 (2)
29	08:25		09:19 (4)				07:24	17:19 (1)	06:16				05:29	05:22	05:55	06:45	07:35	16:55 (1)	07:27	11:46 (2)	08:21		08:59 (4)	08:48		09:51 (3)
	17:20	138	13:23 (2)				20:07	48	18:07 (1)	21:00			21:45	22:03	21:36	20:35	19:24	63	17:58 (1)	17:19	60	12:46 (2)	16:34	132	12:58 (2)	16:35	99	13:07 (2)
30	08:24		09:19 (4)				07:21	17:21 (1)	06:14				05:28	05:23	05:57	06:46	07:37	16:54 (1)	07:29	11:45 (2)	08:22		09:01 (4)	08:48		09:52 (3)
	17:22	137	13:23 (2)				20:08	45	18:06 (1)	21:01			21:47	22:03	21:34	20:33	19:21	63	17:57 (1)	17:17	63	12:48 (2)	16:33	128	12:58 (2)	16:36	99	13:08 (2)
31	08:22		09:21 (4)				07:19	17:23 (1)					05:27		05:58	06:48				07:31	11:44 (2)			08:48		09:51 (3)
	17:24	132	13:23 (2)				20:10	42	18:05 (1)				21:48		21:33	20:31				17:15	65	12:49 (2)				16:37	101	13:08 (2)
Potential sun hours	259			277			367		416		485	499	502	454	381		331		266			243				
Total, worst case		3999			1508			1728		138						1223		1249			3736			3162	
Sun reduction		0,24			0,30			0,33		0,42						0,36		0,34			0,24			0,20	
Oper. time red.		0,95			0,95			0,95		0,95						0,95		0,95			0,95			0,95	
Wind dir. red.		0,64			0,66			0,67		0,67						0,67		0,67			0,64			0,64	
Total reduction		0,14			0,19			0,21		0,26						0,23		0,21			0,14			0,12	
Total, real		575			283			358		36						278		265			532			392	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:34/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion3.7M140@160Shadow receptor: AD - 3945LA9

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December		
1	08:48		10:58 (4)		08:21		15:56 (2)	07:27		07:17	06:12	05:26	05:23	06:00	06:50		07:39		18:08 (1)	07:33		15:21 (2)	08:24		12:42 (3)
	16:38	61	13:35 (3)		17:26	32	16:28 (2)	18:18		20:12	21:03	21:49	22:03	21:31	20:29		19:19	30	18:38 (1)	17:13	44	16:05 (2)	16:32	36	13:18 (3)
2	08:48		11:00 (4)		08:19		15:54 (2)	07:25		07:14	06:10	05:25	05:24	06:01	06:51		07:40		18:08 (1)	07:35		15:21 (2)	08:25		12:42 (3)
	16:39	59	13:36 (3)		17:28	35	16:29 (2)	18:19		20:14	21:05	21:50	22:02	21:29	20:26		19:17	29	18:37 (1)	17:11	44	16:05 (2)	16:32	37	13:19 (3)
3	08:48		11:01 (4)		08:18		15:54 (2)	07:23		07:12	06:08	05:25	05:25	06:03	06:53		07:42		18:08 (1)	07:36		15:21 (2)	08:27		12:41 (3)
	16:40	56	13:36 (3)		17:30	37	16:31 (2)	18:21		20:15	21:06	21:51	22:02	21:28	20:24		19:14	27	18:35 (1)	17:09	43	16:04 (2)	16:31	39	13:20 (3)
4	08:47		11:03 (4)		08:16		15:54 (2)	07:21		07:10	06:06	05:24	05:25	06:04	06:55		07:44		18:09 (1)	07:38		15:21 (2)	08:28		12:41 (3)
	16:41	52	13:36 (3)		17:31	38	16:32 (2)	18:23		20:17	21:08	21:52	22:02	21:26	20:22		19:12	25	18:34 (1)	17:07	42	16:03 (2)	16:30	40	13:21 (3)
5	08:47		11:06 (4)		08:14		15:53 (2)	07:19		07:07	06:04	05:23	05:26	06:06	06:56		07:46		18:10 (1)	07:40		15:22 (2)	08:29		12:41 (3)
	16:42	47	13:36 (3)		17:33	39	16:32 (2)	18:25		20:19	21:10	21:53	22:01	21:24	20:20		19:10	23	18:33 (1)	17:06	41	16:03 (2)	16:30	41	13:22 (3)
6	08:47		12:54 (3)		08:13		15:52 (2)	07:16	17:38 (1)	07:05	06:02	05:23	05:27	06:08	06:58		07:47		18:11 (1)	07:42		15:23 (2)	08:31		12:41 (3)
	16:44	42	13:36 (3)		17:35	41	16:33 (2)	18:27	12 17:50 (1)	20:20	21:11	21:54	22:01	21:22	20:17		19:08	19	18:30 (1)	17:04	39	16:02 (2)	16:29	41	13:22 (3)
7	08:46		12:56 (3)		08:11		15:51 (2)	07:14	17:36 (1)	07:03	06:00	05:22	05:28	06:09	06:59		07:49		18:13 (1)	07:44		15:23 (2)	08:32		10:53 (4)
	16:45	41	13:37 (3)		17:37	43	16:34 (2)	18:28	17 17:53 (1)	20:22	21:13	21:55	22:00	21:20	20:15		19:05	15	18:28 (1)	17:02	38	16:01 (2)	16:29	47	13:23 (3)
8	08:46		12:56 (3)		08:09		15:52 (2)	07:12	17:34 (1)	07:01	05:59	05:21	05:29	06:11	07:01		07:51		18:17 (1)	07:45		15:24 (2)	08:33		10:51 (4)
	16:46	40	13:36 (3)		17:39	43	16:35 (2)	18:30	21 17:55 (1)	20:24	21:14	21:56	21:59	21:19	20:13		19:03	7	18:24 (1)	17:00	37	16:01 (2)	16:29	52	13:24 (3)
9	08:45		12:58 (3)		08:07		15:52 (2)	07:10	17:33 (1)	06:58	05:57	05:21	05:30	06:12	07:03		07:52			07:47		15:25 (2)	08:34		10:50 (4)
	16:48	39	13:37 (3)		17:41	43	16:35 (2)	18:32	24 17:57 (1)	20:25	21:16	21:57	21:59	21:17	20:10		19:01			16:59	35	16:00 (2)	16:28	55	13:24 (3)
10	08:45		12:59 (3)		08:06		15:51 (2)	07:07	17:31 (1)	06:56	05:55	05:20	05:31	06:14	07:04		07:54			07:49		15:27 (2)	08:35		10:49 (4)
	16:49	37	13:36 (3)		17:43	45	16:36 (2)	18:34	26 17:57 (1)	20:27	21:18	21:57	21:58	21:15	20:08		18:59			16:57	32	15:59 (2)	16:28	59	13:25 (3)
11	08:44		13:00 (3)		08:04		15:51 (2)	07:05	17:30 (1)	06:54	05:54	05:20	05:32	06:16	07:06		07:56			07:51		15:28 (2)	08:37		10:48 (4)
	16:50	36	13:36 (3)		17:45	45	16:36 (2)	18:36	28 17:58 (1)	20:29	21:19	21:58	21:57	21:13	20:06		18:56			16:56	29	15:57 (2)	16:28	61	13:25 (3)
12	08:44		13:01 (3)		08:02		15:51 (2)	07:03	17:29 (1)	06:52	05:52	05:20	05:33	06:17	07:08		07:57			07:52		15:30 (2)	08:38		10:48 (4)
	16:52	34	13:35 (3)		17:46	45	16:36 (2)	18:37	30 17:59 (1)	20:31	21:21	21:59	21:56	21:11	20:03		18:54			16:54	26	15:56 (2)	16:28	63	13:26 (3)
13	08:43		13:02 (3)		08:00		15:51 (2)	07:00	17:28 (1)	06:49	05:50	05:19	05:34	06:19	07:09		07:59			07:54		15:31 (2)	08:39		10:49 (4)
	16:53	33	13:35 (3)		17:48	45	16:36 (2)	18:39	30 17:58 (1)	20:32	21:22	22:00	21:56	21:09	20:01		18:52			16:53	23	15:54 (2)	16:28	65	13:28 (3)
14	08:42		13:03 (3)		07:58		15:51 (2)	06:58	17:28 (1)	06:47	05:49	05:19	05:35	06:20	07:11		08:01		16:42 (2)	07:56		15:34 (2)	08:40		10:48 (4)
	16:55	31	13:34 (3)		17:50	45	16:36 (2)	18:41	31 17:59 (1)	20:34	21:24	22:00	21:55	21:07	19:59		18:50	10	16:52 (2)	16:51	18	15:52 (2)	16:28	65	13:27 (3)
15	08:41		13:05 (3)		07:56		15:51 (2)	06:56	17:28 (1)	06:45	05:47	05:19	05:36	06:22	07:12		08:03		16:37 (2)	07:58		15:37 (2)	08:40		10:48 (4)
	16:56	28	13:33 (3)		17:52	45	16:36 (2)	18:43	31 17:59 (1)	20:36	21:26	22:01	21:54	21:05	19:56		18:47	18	16:55 (2)	16:50	13	15:50 (2)	16:28	67	13:28 (3)
16	08:41		13:07 (3)		07:54		15:52 (2)	06:54	17:27 (1)	06:43	05:46	05:19	05:38	06:24	07:14		08:04		16:34 (2)	08:00			08:41		10:48 (4)
	16:58	25	13:32 (3)		17:54	44	16:36 (2)	18:44	31 17:58 (1)	20:37	21:27	22:01	21:53	21:03	19:54		18:45	23	16:57 (2)	16:48			16:28	68	13:29 (3)
17	08:40		13:09 (3)		07:52		15:52 (2)	06:51	17:27 (1)	06:41	05:44	05:19	05:39	06:25	07:16		08:06		16:31 (2)	08:01			08:42		10:49 (4)
	17:00	22	13:31 (3)		17:56	43	16:35 (2)	18:46	31 17:58 (1)	20:39	21:29	22:02	21:52	21:01	19:52		18:43	28	16:59 (2)	16:47			16:28	68	13:29 (3)
18	08:39		13:12 (3)		07:50		15:53 (2)	06:49	17:28 (1)	06:38	05:43	05:19	05:40	06:27	07:17		08:08		16:29 (2)	08:03			08:43		10:49 (4)
	17:01	17	13:29 (3)		17:58	42	16:35 (2)	18:48	29 17:57 (1)	20:41	21:30	22:02	21:50	20:59	19:49		18:41	32	17:01 (2)	16:45			16:28	69	13:30 (3)
19	08:38		13:18 (3)		07:48		15:53 (2)	06:47	17:27 (1)	06:36	05:41	05:19	05:41	06:28	07:19	18:23 (1)	08:10		16:28 (2)	08:05			08:44		10:49 (4)
	17:03	8	13:26 (3)		17:59	42	16:35 (2)	18:49	29 17:56 (1)	20:43	21:32	22:03	21:49	20:57	19:47	10 18:33 (1)	18:39	34	17:02 (2)	16:44			16:29	69	13:30 (3)
20	08:37				07:46		15:53 (2)	06:44	17:28 (1)	06:34	05:40	05:19	05:43	06:30	07:21	18:19 (1)	08:11		16:26 (2)	08:06			08:44		10:50 (4)
	17:05				18:01	40	16:33 (2)	18:51	27 17:55 (1)	20:44	21:33	22:03	21:48	20:55	19:45	17 18:36 (1)	18:37	37	17:03 (2)	16:43			16:29	69	13:31 (3)
21	08:36				07:44		15:54 (2)	06:42	17:30 (1)	06:32	05:38	05:19	05:44	06:32	07:22	18:16 (1)	08:13		16:25 (2)	08:08			08:45		10:51 (4)
	17:06				18:03	38	16:32 (2)	18:53	24 17:54 (1)	20:46	21:35	22:03	21:47	20:53	19:42	21 18:37 (1)	18:35	39	17:04 (2)	16:42			16:30	70	13:32 (3)
22	08:34				07:42		15:55 (2)	06:40	17:30 (1)	06:30	05:37	05:19	05:45	06:33	07:24	18:15 (1)	08:15		16:23 (2)	08:10			08:45		10:51 (4)
	17:08				18:05	36	16:31 (2)	18:55	22 17:52 (1)	20:48	21:36	22:03	21:46	20:51	19:40	23 18:38 (1)	18:33	41	17:04 (2)	16:41			16:30	70	13:32 (3)
23	08:33				07:40		15:57 (2)	06:37	17:32 (1)	06:28	05:36	05:19	05:47	06:35	07:26	18:13 (1)	08:17		16:22 (2)	08:11		12:55 (3)	08:46		10:51 (4)
	17:10				18:07	33	16:30 (2)	18:56	18 17:50 (1)	20:49	21:37	22:03	21:44	20:48	19:38	26 18:39 (1)	18:30	42	17:04 (2)	16:39	8	13:03 (3)	16:31	70	13:32 (3)
24	08:32				07:38		15:59 (2)	06:35	17:35 (1)	06:26	05:35	05:20	05:48	06:37	07:27	18:11 (1)	08:18		16:22 (2)	08:13		12:49 (3)	08:46		10:52 (4)
	17:11				18:09	30	16:29 (2)	18:58	12 17:47 (1)	20:51	21:39	22:04	21:43	20:46	19:35	28 18:39 (1)	18:28	43	17:05 (2)	16:38	17	13:06 (3)	16:31	69	13:33 (3)
25	08:31				07:36		16:01 (2)	06:33		06:24	05:33	05:20	05:49	06:38	07:29	18:11 (1)	07:20		15:21 (2)	08:15		12:47 (3)	08:47		10:52 (4)
	17:13				18:10	26	16:27 (2)	19:00		20:53	21:40	22:04	21:42	20:44	19:33	29 18:40 (1)	17:26	44	16:05 (2)	16:37	22	13:09 (3)	16:32	69	13:33 (3)
26	08:29		16:10 (2)		07:34		16:03 (2)	06:30		06:22	05:32	05:21	05:51	06:40	07:30	18:10 (1)	07:22		15:21 (2)	08:16		12:46 (3)	08:47		10:53 (4)
	17:15	1	16:11 (2)		18:12	21	16:24 (2)	19:02		20:54	21:41	22:04	21:40	20:42	19:31	30 18:40 (1)	17:24	44	16:05 (2)	16:36	25	13:11 (3)	16:32	68	13:33 (3)
27	08:28		16:04 (2)		07:32		16:06 (2)	06:28		06:20	05:31	05:21	05:52	06:42	07:32	18:09 (1)	07:24		15:21 (2)	08:18		12:45 (3)	08:47		10:53 (4)
	17:17	13	16:17 (2)		18:14	15	16:21 (2)	19:03		20:56	21:43	22:04	21:39	20:40	19:28	30 18:39 (1)	17:22	45	16:06 (2)	16:36	28	13:13 (3)	16:33	67	13:33 (3)
28	08:27		16:02 (2)		07:29			06:26		06:18	05:30	05:21	05:54	06:43	07:34	18:08 (1)	07:26		15:21 (2)	08:19		12:43 (3)	08:47		10:55 (4)
	17:19	18	16:20 (2)		18:16			19:05		20:58	21:44	22:03	21:37	20:38	19:26	32 18:40 (1)	17:20	45	16:06 (2)	16:35	31	13:14 (3)	16:34	67	13:35 (3)
29	08:25		15:59 (2)					07:23		06:16	05:29	05:22	05:55	06:45	07:35	18:08 (1)	07:27		15:20 (2)	08:21		12:43 (3)	08:48		10:56 (4)
	17:20	23	16:22 (2)					20:07		21:00	21:45	22:03	21:36	20:35	19:24	31 18:39 (1)	17:18	46	16:06 (2)	16:34	33	13:16 (3)	16:35	65	13:35 (3)
30	08:24		15:58 (2)					07:21		06:14	05:28	05:23	05:57	06:46	07:37	18:08 (1)	07:29		15:21 (2)	08:22		12:42 (3)	08:48		10:57 (4)
	17:22	26	16:24 (2)					20:08		21:01	21:46	22:03	21:34	20:33	19:21	30 18:38 (1)	17:17	45	16:06 (2)	16:33	34	13:16 (3)	16:36	64	13:35 (3)
31	08:22		15:57 (2)					07:19			05:27		05:58	06:48			07:31		15:21 (2)				08:48		10:57 (4)
	17:24	30	16:27 (2)					20:10			21:48		21:32	20:31			17:15	44	16:05 (2)				16:37	63	13:35 (3)
Potential sun hours	259		277		367		416	485	499	502	454	381		331		266		243			
Total, worst case		819		1031		473							307		835		702		1853		
Sun reduction		0,24		0,30		0,33							0,36		0,34		0,24		0,20		
Oper. time red.		0,95		0,95		0,95							0,95		0,95		0,95		0,95		
Wind dir. red.		0,68		0,67		0,63							0,63		0,66		0,67		0,67		
Total reduction		0,15		0,19		0,20							0,22		0,21		0,15		0,13		
Total, real		126		199		93							67		177		106		239		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:34/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion3.7M140@160Shadow receptor: AE - 3945LA1a

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March	April	May	June	July	August	September	October	November	December	
1	08:48	15:45 (4)	08:21	15:53 (4)	07:27	07:16	06:12	05:26	05:23	06:00	06:50	07:39	07:33	08:24	15:25 (4)
	16:38 10	15:55 (4)	17:26 16	16:09 (4)	18:18	20:12	21:03	21:49	22:03	21:31	20:29	19:19	17:13	16:32 23	15:48 (4)
2	08:48	15:45 (4)	08:19	15:56 (4)	07:25	07:14	06:10	05:25	05:24	06:01	06:51	07:40	07:34	08:25	15:26 (4)
	16:39 11	15:56 (4)	17:28 11	16:07 (4)	18:19	20:13	21:04	21:50	22:02	21:29	20:26	19:17	17:11	16:32 23	15:49 (4)
3	08:47	15:45 (4)	08:18	16:01 (4)	07:23	07:12	06:08	05:25	05:25	06:03	06:53	07:42	07:36	08:27	15:27 (4)
	16:40 13	15:58 (4)	17:30 3	16:04 (4)	18:21	20:15	21:06	21:51	22:02	21:27	20:24	19:14	17:09	16:31 21	15:48 (4)
4	08:47	15:44 (4)	08:16		07:21	07:10	06:06	05:24	05:25	06:04	06:54	07:44	07:38	08:28	15:27 (4)
	16:41 14	15:58 (4)	17:31		18:23	20:17	21:08	21:52	22:02	21:26	20:22	19:12	17:07	16:30 20	15:47 (4)
5	08:47	15:44 (4)	08:14		07:18	07:07	06:04	05:23	05:26	06:06	06:56	07:45	07:40	08:29	15:29 (4)
	16:42 16	16:00 (4)	17:33		18:25	20:19	21:09	21:53	22:01	21:24	20:20	19:10	17:05	16:30 19	15:48 (4)
6	08:47	15:43 (4)	08:13		07:16	07:05	06:02	05:22	05:27	06:07	06:58	07:47	07:42	08:31	15:29 (4)
	16:44 18	16:01 (4)	17:35		18:27	20:20	21:11	21:54	22:01	21:22	20:17	19:08	17:04	16:29 18	15:47 (4)
7	08:46	15:44 (4)	08:11		07:14	07:03	06:00	05:22	05:28	06:09	06:59	07:49	07:43	08:32	15:31 (4)
	16:45 19	16:03 (4)	17:37		18:28	20:22	21:13	21:55	22:00	21:20	20:15	19:05	17:02	16:29 16	15:47 (4)
8	08:46	15:43 (4)	08:09		07:12	07:00	05:59	05:21	05:29	06:11	07:01	07:51	07:45	15:30 (4) 08:33	15:32 (4)
	16:46 20	16:03 (4)	17:39		18:30	20:24	21:14	21:56	21:59	21:19	20:13	19:03	17:00 4	15:34 (4) 16:29 15	15:47 (4)
9	08:45	15:43 (4)	08:07		07:09	06:58	05:57	05:21	05:30	06:12	07:03	07:52	07:47	15:26 (4) 08:34	15:33 (4)
	16:48 21	16:04 (4)	17:41		18:32	20:25	21:16	21:57	21:59	21:17	20:10	19:01	16:59 12	15:38 (4) 16:28 13	15:46 (4)
10	08:45	15:43 (4)	08:06		07:07	06:56	05:55	05:20	05:31	06:14	07:04	07:54	07:49	15:24 (4) 08:35	15:34 (4)
	16:49 23	16:06 (4)	17:43		18:34	20:27	21:18	21:57	21:58	21:15	20:08	18:58	16:57 16	15:40 (4) 16:28 11	15:45 (4)
11	08:44	15:43 (4)	08:04		07:05	06:54	05:53	05:20	05:32	06:15	07:06	07:56	07:51	15:22 (4) 08:36	15:35 (4)
	16:50 23	16:06 (4)	17:44		18:35	20:29	21:19	21:58	21:57	21:13	20:06	18:56	16:56 20	15:42 (4) 16:28 10	15:45 (4)
12	08:44	15:43 (4)	08:02	17:07 (3)	07:03	06:51	05:52	05:20	05:33	06:17	07:08	07:57	07:52	15:21 (4) 08:38	15:36 (4)
	16:52 24	16:07 (4)	17:46 10	17:17 (3)	18:37	20:31	21:21	21:59	21:56	21:11	20:03	18:54	16:54 22	15:43 (4) 16:28 8	15:44 (4)
13	08:43	15:42 (4)	08:00	17:04 (3)	07:00	06:49	05:50	05:19	05:34	06:19	07:09	07:59	07:54	15:21 (4) 08:39	15:38 (4)
	16:53 26	16:08 (4)	17:48 15	17:19 (3)	18:39	20:32	21:22	21:59	21:55	21:09	20:01	18:52	16:52 23	15:44 (4) 16:28 5	15:43 (4)
14	08:42	15:42 (4)	07:58	17:03 (3)	06:58	06:47	05:49	05:19	05:35	06:20	07:11	08:01	07:56	15:20 (4) 08:39	
	16:55 27	16:09 (4)	17:50 17	17:20 (3)	18:41	20:34	21:24	22:00	21:55	21:07	19:59	18:50	16:51 25	15:45 (4) 16:28	
15	08:41	15:42 (4)	07:56	17:02 (3)	06:56	06:45	05:47	05:19	05:36	06:22	07:12	08:03 17:39 (3)	07:58	15:20 (4) 08:40	
	16:56 27	16:09 (4)	17:52 20	17:22 (3)	18:42	20:36	21:26	22:01	21:54	21:05	19:56	18:47 8	17:47 (3) 16:50 26	15:46 (4) 16:28	
16	08:40	15:43 (4)	07:54	17:01 (3)	06:54	06:43	05:45	05:19	05:37	06:24	07:14	08:04	17:37 (3) 07:59	15:19 (4) 08:41	
	16:58 27	16:10 (4)	17:54 21	17:22 (3)	18:44	20:37	21:27	22:01	21:53	21:03	19:54	18:45 13	17:50 (3) 16:48 28	15:47 (4) 16:28	
17	08:40	15:43 (4)	07:52	17:01 (3)	06:51	06:40	05:44	05:19	05:39	06:25	07:16	08:06	17:35 (3) 08:01	15:19 (4) 08:42	
	17:00 28	16:11 (4)	17:56 22	17:23 (3)	18:46	20:39	21:29	22:02	21:52	21:01	19:52	18:43 16	17:51 (3) 16:47 28	15:47 (4) 16:28	
18	08:39	15:43 (4)	07:50	17:01 (3)	06:49	06:38	05:42	05:19	05:40	06:27	07:17	08:08	17:33 (3) 08:03	15:18 (4) 08:43	
	17:01 28	16:11 (4)	17:57 22	17:23 (3)	18:48	20:41	21:30	22:02	21:50	20:59	19:49	18:41 19	17:52 (3) 16:45 29	15:47 (4) 16:28	
19	08:38	15:43 (4)	07:48	16:59 (3)	06:47	06:36	05:41	05:19	05:41	06:28	07:19	08:09	17:32 (3) 08:05	15:19 (4) 08:43	
	17:03 29	16:12 (4)	17:59 24	17:23 (3)	18:49	20:42	21:32	22:02	21:49	20:57	19:47	18:39 21	17:53 (3) 16:44 28	15:47 (4) 16:29	
20	08:37	15:44 (4)	07:46	17:00 (3)	06:44	06:34	05:40	05:19	05:42	06:30	07:21	08:11	17:32 (3) 08:06	15:19 (4) 08:44	
	17:05 29	16:13 (4)	18:01 23	17:23 (3)	18:51	20:44	21:33	22:03	21:48	20:55	19:45	18:37 22	17:54 (3) 16:43 29	15:48 (4) 16:29	
21	08:35	15:43 (4)	07:44	17:00 (3)	06:42	06:32	05:38	05:19	05:44	06:32	07:22	08:13	17:30 (3) 08:08	15:19 (4) 08:45	
	17:06 29	16:12 (4)	18:03 23	17:23 (3)	18:53	20:46	21:34	22:03	21:47	20:53	19:42	18:35 23	17:53 (3) 16:42 29	15:48 (4) 16:29	
22	08:34	15:44 (4)	07:42	17:00 (3)	06:40	06:30	05:37	05:19	05:45	06:33	07:24	08:15	17:30 (3) 08:10	15:20 (4) 08:45	
	17:08 29	16:13 (4)	18:05 22	17:22 (3)	18:55	20:48	21:36	22:03	21:46	20:51	19:40	18:32 23	17:53 (3) 16:41 29	15:49 (4) 16:30	
23	08:33	15:45 (4)	07:40	17:01 (3)	06:37	06:28	05:36	05:19	05:47	06:35	07:25	08:17	17:30 (3) 08:11	15:20 (4) 08:46	
	17:10 28	16:13 (4)	18:07 21	17:22 (3)	18:56	20:49	21:37	22:03	21:44	20:48	19:38	18:30 23	17:53 (3) 16:39 29	15:49 (4) 16:30	
24	08:32	15:44 (4)	07:38	17:02 (3)	06:35	06:26	05:34	05:20	05:48	06:37	07:27	08:18	17:30 (3) 08:13	15:20 (4) 08:46	
	17:11 29	16:13 (4)	18:09 19	17:21 (3)	18:58	20:51	21:39	22:03	21:43	20:46	19:35	18:28 23	17:53 (3) 16:38 28	15:48 (4) 16:31	
25	08:31	15:45 (4)	07:36	17:04 (3)	06:33	06:24	05:33	05:20	05:49	06:38	07:29	07:20	16:30 (3) 08:15	15:21 (4) 08:47	
	17:13 28	16:13 (4)	18:10 15	17:19 (3)	19:00	20:53	21:40	22:04	21:41	20:44	19:33	17:26 22	16:52 (3) 16:37 28	15:49 (4) 16:32	
26	08:29	15:47 (4)	07:34	17:05 (3)	06:30	06:21	05:32	05:20	05:51	06:40	07:30	07:22	16:31 (3) 08:16	15:22 (4) 08:47	
	17:15 27	16:14 (4)	18:12 11	17:16 (3)	19:01	20:54	21:41	22:04	21:40	20:42	19:31	17:24 21	16:52 (3) 16:36 27	15:49 (4) 16:32	
27	08:28	15:47 (4)	07:32	17:10 (3)	06:28	06:19	05:31	05:21	05:52	06:41	07:32	07:24	16:32 (3) 08:18	15:22 (4) 08:47	
	17:17 26	16:13 (4)	18:14 2	17:12 (3)	19:03	20:56	21:43	22:03	21:39	20:40	19:28	17:22 19	16:51 (3) 16:35 27	15:49 (4) 16:33	
28	08:27	15:48 (4)	07:29		06:26	06:17	05:30	05:21	05:54	06:43	07:34	07:25	16:33 (3) 08:19	15:22 (4) 08:47	
	17:19 25	16:13 (4)	18:16		19:05	20:58	21:44	22:03	21:37	20:38	19:26	17:20 17	16:50 (3) 16:35 27	15:49 (4) 16:34	
29	08:25	15:49 (4)			07:23	06:15	05:29	05:22	05:55	06:45	07:35	07:27	16:34 (3) 08:21	15:24 (4) 08:48	
	17:20 23	16:12 (4)			20:07	20:59	21:45	22:03	21:36	20:35	19:24	17:18 14	16:48 (3) 16:34 25	15:49 (4) 16:35	
30	08:24	15:50 (4)			07:21	06:13	05:28	05:22	05:57	06:46	07:37	07:29	16:37 (3) 08:22	15:24 (4) 08:48	15:46 (4)
	17:22 21	16:11 (4)			20:08	21:01	21:46	22:03	21:34	20:33	19:21	17:16 9	16:46 (3) 16:33 24	15:48 (4) 16:36 4	15:50 (4)
31	08:22	15:52 (4)			07:19		05:27		05:58	06:48		07:31		08:48	15:46 (4)
	17:24 19	16:11 (4)			20:10		21:48		21:32	20:31		17:15		16:37 7	15:53 (4)
Potential sun hours	259		277		367	416	485	499	502	454	381	331	266	243	
Total, worst case	717		317									293	563	213	
Sun reduction	0,24		0,30									0,34	0,24	0,20	
Oper. time red.	0,95		0,95									0,95	0,95	0,95	
Wind dir. red.	0,67		0,67									0,67	0,67	0,67	
Total reduction	0,15		0,19									0,21	0,15	0,13	
Total, real	110		61									62	85	28	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:34/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion3.7M140@160Shadow receptor: AF - 3945LA7

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December		
1	08:48		13:52 (3)	08:21		07:27		16:33 (2)	07:17	06:12	05:26	05:23	06:00	06:50		07:39		18:29 (1)	07:33		16:16 (2)	08:24		13:39 (3)
	16:38	49	14:41 (3)	17:26		18:18	33	17:06 (2)	20:12	21:03	21:49	22:03	21:31	20:29		19:19	17	18:46 (1)	17:13	7	16:23 (2)	16:32	47	14:26 (3)
2	08:48		13:52 (3)	08:19		07:25		16:34 (2)	07:14	06:10	05:25	05:24	06:01	06:51		07:40		18:31 (1)	07:35			08:25		13:40 (3)
	16:39	49	14:41 (3)	17:28		18:19	31	17:05 (2)	20:13	21:05	21:50	22:02	21:29	20:26		19:17	13	18:44 (1)	17:11			16:32	47	14:27 (3)
3	08:48		13:53 (3)	08:18		07:23		16:35 (2)	07:12	06:08	05:25	05:25	06:03	06:53		07:42		18:33 (1)	07:36			08:27		13:39 (3)
	16:40	49	14:42 (3)	17:30		18:21	28	17:03 (2)	20:15	21:06	21:51	22:02	21:27	20:24		19:14	7	18:40 (1)	17:09			16:31	48	14:27 (3)
4	08:47		13:53 (3)	08:16		07:21		16:37 (2)	07:10	06:06	05:24	05:25	06:04	06:55		07:44			07:38			08:28		13:40 (3)
	16:41	49	14:42 (3)	17:31		18:23	25	17:02 (2)	20:17	21:08	21:52	22:02	21:26	20:22		19:12			17:07			16:30	48	14:28 (3)
5	08:47		13:54 (3)	08:14		07:18		16:39 (2)	07:07	06:04	05:23	05:26	06:06	06:56		07:45			07:40			08:29		13:40 (3)
	16:42	48	14:42 (3)	17:33		18:25	21	17:00 (2)	20:19	21:10	21:53	22:01	21:24	20:20		19:10			17:06			16:30	48	14:28 (3)
6	08:47		13:54 (3)	08:13		07:16		16:41 (2)	07:05	06:02	05:23	05:27	06:08	06:58		07:47			07:42			08:31		13:40 (3)
	16:44	48	14:42 (3)	17:35		18:27	16	16:57 (2)	20:20	21:11	21:54	22:01	21:22	20:17		19:08			17:04			16:29	48	14:28 (3)
7	08:46		13:55 (3)	08:11		07:14		16:45 (2)	07:03	06:00	05:22	05:28	06:09	06:59		07:49		17:19 (2)	07:44			08:32		13:41 (3)
	16:45	48	14:43 (3)	17:37		18:29	7	16:52 (2)	20:22	21:13	21:55	22:00	21:20	20:15		19:05	12	17:31 (2)	17:02			16:29	49	14:30 (3)
8	08:46		13:55 (3)	08:09		07:12			07:01	05:59	05:21	05:29	06:11	07:01		07:51		17:15 (2)	07:45			08:33		13:41 (3)
	16:46	48	14:43 (3)	17:39		18:30			20:24	21:14	21:56	21:59	21:19	20:13		19:03	19	17:34 (2)	17:00			16:29	49	14:30 (3)
9	08:45		13:56 (3)	08:07		07:10			06:58	05:57	05:21	05:30	06:12	07:03		07:52		17:13 (2)	07:47			08:34		13:41 (3)
	16:48	48	14:44 (3)	17:41		18:32			20:25	21:16	21:57	21:59	21:17	20:10		19:01	23	17:36 (2)	16:59			16:28	49	14:30 (3)
10	08:45		13:57 (3)	08:06	16:46 (2)	07:07			06:56	05:55	05:20	05:31	06:14	07:04		07:54		17:10 (2)	07:49			08:35		13:41 (3)
	16:49	47	14:44 (3)	17:43	8 16:54 (2)	18:34			20:27	21:18	21:57	21:58	21:15	20:08		18:59	27	17:37 (2)	16:57			16:28	49	14:30 (3)
11	08:44		13:57 (3)	08:04	16:42 (2)	07:05		17:53 (1)	06:54	05:54	05:20	05:32	06:16	07:06		07:56		17:08 (2)	07:51			08:37		13:42 (3)
	16:50	47	14:44 (3)	17:45	16 16:58 (2)	18:35	11	18:04 (1)	20:29	21:19	21:58	21:57	21:13	20:06		18:56	30	17:38 (2)	16:56			16:28	49	14:31 (3)
12	08:44		13:57 (3)	08:02	16:40 (2)	07:03		17:50 (1)	06:52	05:52	05:20	05:33	06:17	07:08		07:57		17:07 (2)	07:52			08:38		13:42 (3)
	16:52	47	14:44 (3)	17:46	20 17:00 (2)	18:37	17	18:07 (1)	20:31	21:21	21:59	21:56	21:11	20:03		18:54	32	17:39 (2)	16:54			16:28	49	14:31 (3)
13	08:43		13:58 (3)	08:00	16:38 (2)	07:00		17:48 (1)	06:49	05:50	05:19	05:34	06:19	07:09		07:59		17:06 (2)	07:54		13:57 (3)	08:39		13:42 (3)
	16:53	46	14:44 (3)	17:48	24 17:02 (2)	18:39	20	18:08 (1)	20:32	21:22	22:00	21:56	21:09	20:01		18:52	34	17:40 (2)	16:53	5	14:02 (3)	16:28	49	14:31 (3)
14	08:42		13:59 (3)	07:58	16:36 (2)	06:58		17:47 (1)	06:47	05:49	05:19	05:35	06:20	07:11		08:01		17:05 (2)	07:56		13:52 (3)	08:40		13:43 (3)
	16:55	45	14:44 (3)	17:50	28 17:04 (2)	18:41	22	18:09 (1)	20:34	21:24	22:00	21:55	21:07	19:59		18:50	35	17:40 (2)	16:51	16	14:08 (3)	16:28	49	14:32 (3)
15	08:41		13:59 (3)	07:56	16:35 (2)	06:56		17:46 (1)	06:45	05:47	05:19	05:36	06:22	07:12		08:03		17:03 (2)	07:58		13:49 (3)	08:40		13:43 (3)
	16:56	45	14:44 (3)	17:52	30 17:05 (2)	18:43	24	18:10 (1)	20:36	21:26	22:01	21:54	21:05	19:56		18:47	37	17:40 (2)	16:50	21	14:10 (3)	16:28	49	14:32 (3)
16	08:41		14:00 (3)	07:54	16:34 (2)	06:54		17:44 (1)	06:43	05:46	05:19	05:37	06:24	07:14		08:04		17:03 (2)	07:59		13:46 (3)	08:41		11:41 (4)
	16:58	44	14:44 (3)	17:54	33 17:07 (2)	18:44	26	18:10 (1)	20:37	21:27	22:01	21:53	21:03	19:54		18:45	37	17:40 (2)	16:48	27	14:13 (3)	16:28	52	14:33 (3)
17	08:40		14:01 (3)	07:52	16:34 (2)	06:51		17:44 (1)	06:41	05:44	05:19	05:39	06:25	07:16	18:38 (1)	08:06		17:02 (2)	08:01		13:45 (3)	08:42		11:40 (4)
	17:00	43	14:44 (3)	17:56	34 17:08 (2)	18:46	26	18:10 (1)	20:39	21:29	22:02	21:52	21:01	19:52	11 18:49 (1)	18:43	38	17:40 (2)	16:47	29	14:14 (3)	16:28	55	14:34 (3)
18	08:39		14:02 (3)	07:50	16:33 (2)	06:49		17:44 (1)	06:38	05:43	05:19	05:40	06:27	07:17	18:35 (1)	08:08		17:02 (2)	08:03		13:43 (3)	08:43		11:40 (4)
	17:01	42	14:44 (3)	17:58	35 17:08 (2)	18:48	27	18:11 (1)	20:41	21:30	22:02	21:50	20:59	19:49	16 18:51 (1)	18:41	38	17:40 (2)	16:45	32	14:15 (3)	16:28	57	14:34 (3)
19	08:38		14:03 (3)	07:48	16:32 (2)	06:47		17:43 (1)	06:36	05:41	05:19	05:41	06:28	07:19	18:32 (1)	08:10		17:02 (2)	08:05		13:42 (3)	08:44		11:39 (4)
	17:03	41	14:44 (3)	17:59	37 17:09 (2)	18:49	27	18:10 (1)	20:43	21:32	22:02	21:49	20:57	19:47	20 18:52 (1)	18:39	38	17:40 (2)	16:44	34	14:16 (3)	16:29	59	14:34 (3)
20	08:37		14:04 (3)	07:46	16:31 (2)	06:44		17:43 (1)	06:34	05:40	05:19	05:43	06:30	07:21	18:31 (1)	08:11		17:02 (2)	08:06		13:41 (3)	08:44		11:40 (4)
	17:05	40	14:44 (3)	18:01	37 17:08 (2)	18:51	27	18:10 (1)	20:44	21:33	22:03	21:48	20:55	19:45	22 18:53 (1)	18:37	38	17:40 (2)	16:43	37	14:18 (3)	16:29	59	14:35 (3)
21	08:36		14:06 (3)	07:44	16:31 (2)	06:42		17:44 (1)	06:32	05:38	05:19	05:44	06:32	07:22	18:29 (1)	08:13		17:02 (2)	08:08		13:41 (3)	08:45		11:41 (4)
	17:06	38	14:44 (3)	18:03	38 17:09 (2)	18:53	25	18:09 (1)	20:46	21:35	22:03	21:47	20:53	19:42	24 18:53 (1)	18:35	38	17:40 (2)	16:42	38	14:19 (3)	16:30	59	14:36 (3)
22	08:34		14:06 (3)	07:42	16:31 (2)	06:40		17:43 (1)	06:30	05:37	05:19	05:45	06:33	07:24	18:28 (1)	08:15		17:02 (2)	08:10		13:40 (3)	08:45		11:41 (4)
	17:08	37	14:43 (3)	18:05	38 17:09 (2)	18:55	25	18:08 (1)	20:48	21:36	22:03	21:46	20:51	19:40	26 18:54 (1)	18:33	37	17:39 (2)	16:41	40	14:20 (3)	16:30	59	14:36 (3)
23	08:33		14:08 (3)	07:40	16:31 (2)	06:37		17:44 (1)	06:28	05:36	05:19	05:47	06:35	07:26	18:28 (1)	08:17		17:02 (2)	08:11		13:40 (3)	08:46		11:41 (4)
	17:10	34	14:42 (3)	18:07	38 17:09 (2)	18:56	23	18:07 (1)	20:49	21:37	22:03	21:44	20:48	19:38	26 18:54 (1)	18:30	36	17:38 (2)	16:39	41	14:21 (3)	16:31	59	14:36 (3)
24	08:32		14:09 (3)	07:38	16:31 (2)	06:35		17:46 (1)	06:26	05:35	05:20	05:48	06:37	07:27	18:27 (1)	08:18		17:03 (2)	08:13		13:39 (3)	08:46		11:42 (4)
	17:11	32	14:41 (3)	18:09	38 17:09 (2)	18:58	20	18:06 (1)	20:51	21:39	22:04	21:43	20:46	19:35	26 18:53 (1)	18:28	35	17:38 (2)	16:38	42	14:21 (3)	16:31	59	14:37 (3)
25	08:31		14:11 (3)	07:36	16:31 (2)	06:33		17:46 (1)	06:24	05:33	05:20	05:49	06:38	07:29	18:26 (1)	07:20		16:03 (2)	08:15		13:39 (3)	08:47		11:43 (4)
	17:13	29	14:40 (3)	18:10	38 17:09 (2)	19:00	17	18:03 (1)	20:53	21:40	22:04	21:42	20:44	19:33	27 18:53 (1)	17:26	34	16:37 (2)	16:37	43	14:22 (3)	16:32	57	14:37 (3)
26	08:29		14:14 (3)	07:34	16:31 (2)	06:30		17:49 (1)	06:22	05:32	05:21	05:51	06:40	07:30	18:27 (1)	07:22		16:04 (2)	08:16		13:39 (3)	08:47		11:44 (4)
	17:15	26	14:40 (3)	18:12	37 17:08 (2)	19:02	12	18:01 (1)	20:54	21:41	22:04	21:40	20:42	19:31	26 18:53 (1)	17:24	32	16:36 (2)	16:36	44	14:23 (3)	16:32	55	14:38 (3)
27	08:28		14:16 (3)	07:32	16:31 (2)	06:28		17:53 (1)	06:20	05:31	05:21	05:52	06:41	07:32	18:26 (1)	07:24		16:05 (2)	08:18		13:39 (3)	08:47		11:45 (4)
	17:17	21	14:37 (3)	18:14	36 17:07 (2)	19:03	4	17:57 (1)	20:56	21:43	22:04	21:39	20:40	19:28	26 18:52 (1)	17:22	30	16:35 (2)	16:36	45	14:24 (3)	16:33	53	14:38 (3)
28	08:27		14:20 (3)	07:29	16:32 (2)	06:26			06:18	05:30	05:21	05:54	06:43	07:34	18:26 (1)	07:26		16:06 (2)	08:19		13:39 (3)	08:47		13:50 (3)
	17:19	15	14:35 (3)	18:16	35 17:07 (2)	19:05			20:58	21:44	22:03	21:37	20:38	19:26	25 18:51 (1)	17:20	27	16:33 (2)	16:35	45	14:24 (3)	16:34	49	14:39 (3)
29	08:25		14:26 (3)			07:23			06:16	05:29	05:22	05:55	06:45	07:35	18:27 (1)	07:27		16:08 (2)	08:21		13:39 (3)	08:48		13:51 (3)
	17:20	4	14:30 (3)			20:07			20:59	21:45	22:03	21:36	20:35	19:24	23 18:50 (1)	17:18	24	16:32 (2)	16:34	46	14:25 (3)	16:35	49	14:40 (3)
30	08:24					07:21			06:14	05:28	05:23	05:57	06:46	07:37	18:27 (1)	07:29		16:10 (2)	08:22		13:38 (3)	08:48		13:51 (3)
	17:22					20:08			21:01	21:46	22:03	21:34	20:33	19:21	21 18:48 (1)	17:17	20	16:30 (2)	16:33	47	14:25 (3)	16:36	49	14:40 (3)
31	08:22					07:19				05:27		05:58	06:48			07:31		16:12 (2)				08:48		13:51 (3)
	17:24					20:10				21:48		21:32	20:31			17:15	15	16:27 (2)				16:37	49	14:40 (3)
Potential sun hours	259			277		367		416	485	499	502	454	381			331			266			243		
Total, worst case		1159			600		514								319		803			639			1606	
Sun reduction		0,24			0,30		0,33								0,36		0,34			0,24			0,20	
Oper. time red.		0,95			0,95		0,95								0,95		0,95			0,95			0,95	
Wind dir. red.		0,69			0,67		0,64								0,63		0,67			0,69			0,69	
Total reduction		0,16			0,19		0,20								0,22		0,21			0,16			0,13	
Total, real		182			116		103								69		172			99			213	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:34/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion3.7M140@160Shadow receptor: AG - 3998NA6

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 16:38	08:21 17:26	07:27 18:18 21	07:56 (4) 08:17 (4)	07:17 20:12 45	08:19 (2) 09:04 (2)	06:12 21:03 42	08:10 (2) 08:52 (2)	05:26 21:49	05:23 22:03	06:00 21:31	06:50 20:29 61	08:07 (2) 09:08 (2)	07:39 19:19 32	08:23 (3) 08:55 (3)	07:33 17:13	08:24 16:32
2	08:48 16:39	08:19 17:28	07:25 18:20 22	07:55 (4) 08:17 (4)	07:14 20:14 47	08:18 (2) 09:05 (2)	06:10 21:05 39	08:11 (2) 08:50 (2)	05:25 21:50	05:24 22:03	06:01 21:29	06:51 20:26 61	08:06 (2) 09:07 (2)	07:41 19:17 32	08:23 (3) 08:55 (3)	07:35 17:11	08:25 16:32
3	08:48 16:40	08:18 17:30	07:23 18:21 22	07:54 (4) 08:16 (4)	07:12 20:15 50	08:16 (2) 09:06 (2)	06:08 21:06 36	08:13 (2) 08:49 (2)	05:25 21:51	05:25 22:02	06:03 21:28	06:53 20:24 59	08:07 (2) 09:06 (2)	07:42 19:15 31	08:22 (3) 08:53 (3)	07:36 17:09	08:27 16:31
4	08:47 16:41	08:16 17:32	07:21 18:23 22	07:54 (4) 08:16 (4)	07:10 20:17 52	08:14 (2) 09:06 (2)	06:06 21:08 33	08:14 (2) 08:47 (2)	05:24 21:52	05:25 22:02	06:05 21:26	06:55 20:22 59	08:07 (2) 09:06 (2)	07:44 19:12 30	08:23 (3) 08:53 (3)	07:38 17:07	08:28 16:31
5	08:47 16:43	08:14 17:33	07:19 18:25 23	07:53 (3) 08:16 (4)	07:07 20:19 54	08:13 (2) 09:07 (2)	06:04 21:10 28	08:16 (2) 08:44 (2)	05:23 21:53	05:26 22:01	06:06 21:24 14	08:33 (2) 08:47 (2)	06:56 20:20 58	08:07 (2) 09:05 (2)	07:46 19:10 28	08:24 (3) 08:52 (3)	07:40 17:06	08:29 16:30
6	08:47 16:44	08:13 17:35	07:16 18:27 24	07:51 (3) 08:15 (4)	07:05 20:20 56	08:12 (2) 09:08 (2)	06:02 21:11 25	08:17 (2) 08:42 (2)	05:23 21:54	05:27 22:01	06:08 21:22 21	08:29 (2) 08:50 (2)	06:58 20:17 56	08:08 (2) 09:04 (2)	07:47 19:08 26	08:25 (3) 08:51 (3)	07:42 17:04	08:31 16:30
7	08:46 16:45	08:11 17:37	07:14 18:28 25	07:48 (3) 08:13 (3)	07:03 20:22 57	08:11 (2) 09:08 (2)	06:01 21:13 18	08:21 (2) 08:39 (2)	05:22 21:55	05:28 22:00	06:09 21:20 26	08:26 (2) 08:52 (2)	07:00 20:15 54	08:08 (2) 09:02 (2)	07:49 19:05 25	08:25 (3) 08:50 (4)	07:44 17:02	08:32 16:29
8	08:46 16:46	08:09 17:39	07:12 18:30 27	07:47 (3) 08:14 (3)	07:01 20:24 59	08:09 (2) 09:08 (2)	05:59 21:15 10	08:24 (2) 08:34 (2)	05:21 21:56	05:29 22:00	06:11 21:19 30	08:25 (2) 08:55 (2)	07:01 20:13 52	08:09 (2) 09:01 (2)	07:51 19:03 23	08:27 (3) 08:50 (4)	07:45 17:01	08:33 16:29
9	08:45 16:48	08:08 17:41	07:10 18:32 29	07:46 (3) 08:15 (3)	06:58 20:26 59	08:09 (2) 09:08 (2)	05:57 21:16		05:21 21:57	05:30 21:59	06:12 21:17 34	08:22 (2) 08:56 (2)	07:03 20:10 51	08:09 (2) 09:00 (2)	07:52 19:01 22	08:29 (3) 08:51 (4)	07:47 16:59	08:34 16:29
10	08:45 16:49	08:06 17:43	07:07 18:34 30	07:45 (3) 08:15 (3)	06:56 20:27 61	08:08 (2) 09:09 (2)	05:55 21:18		05:21 21:57	05:31 21:58	06:14 21:15 37	08:21 (2) 08:58 (2)	07:04 20:08 47	08:11 (2) 08:58 (2)	07:54 18:59 22	08:29 (4) 08:51 (4)	07:49 16:57	08:35 16:28
11	08:44 16:51	08:04 17:45	07:05 18:36 32	07:44 (3) 08:16 (3)	06:54 20:29 61	08:08 (2) 09:09 (2)	05:54 21:19		05:20 21:58	05:32 21:57	06:16 21:13 40	08:19 (2) 08:59 (2)	07:06 20:06 45	08:12 (2) 08:57 (2)	07:56 18:56 22	08:28 (4) 08:50 (4)	07:51 16:56	08:37 16:28
12	08:44 16:52	08:02 17:46	07:03 18:37 32	07:44 (3) 08:16 (3)	06:52 20:31 62	08:07 (2) 09:09 (2)	05:52 21:21		05:20 21:59	05:33 21:56	06:17 21:11 42	08:19 (2) 09:01 (2)	07:08 20:03 42	08:13 (2) 08:55 (2)	07:57 18:54 22	08:28 (4) 08:50 (4)	07:53 16:54	08:38 16:28
13	08:43 16:54	08:00 17:48	07:01 18:39 32	07:43 (3) 08:15 (3)	06:49 20:32 62	08:06 (2) 09:08 (2)	05:50 21:23		05:20 22:00	05:34 21:56	06:19 21:09 44	08:18 (2) 09:02 (2)	07:09 20:01 38	08:15 (2) 08:53 (2)	07:59 18:52 21	08:29 (4) 08:50 (4)	07:54 16:53	08:39 16:28
14	08:42 16:55	07:58 17:50	06:58 18:41 32	07:43 (3) 08:15 (3)	06:47 20:34 62	08:06 (2) 09:08 (2)	05:49 21:24		05:19 22:00	05:35 21:55	06:20 21:07 47	08:16 (2) 09:03 (2)	07:11 19:59 34	08:16 (2) 08:50 (2)	08:01 18:50 19	08:30 (4) 08:49 (4)	07:56 16:51	08:40 16:28
15	08:41 16:57	07:56 17:52	06:56 18:43 32	07:43 (3) 08:15 (3)	06:45 20:36 62	08:06 (2) 09:08 (2)	05:47 21:26		05:19 22:01	05:36 21:54	06:22 21:05 49	08:16 (2) 09:05 (2)	07:13 19:56 29	08:19 (2) 08:48 (2)	08:03 18:48 18	08:30 (4) 08:48 (4)	07:58 16:50	08:40 16:28
16	08:41 16:58	07:54 17:54	06:54 18:44 30	07:43 (3) 08:13 (3)	06:43 20:37 62	08:05 (2) 09:07 (2)	05:46 21:27		05:19 22:01	05:38 21:53	06:24 21:03 51	08:14 (2) 09:05 (2)	07:14 19:54 23	08:21 (2) 08:44 (2)	08:04 18:45 15	08:31 (4) 08:46 (4)	08:00 16:48	08:41 16:28
17	08:40 17:00	07:52 17:56	06:51 18:46 30	07:43 (3) 08:13 (3)	06:41 20:39 62	08:05 (2) 09:07 (2)	05:44 21:29		05:19 22:02	05:39 21:52	06:25 21:01 52	08:14 (2) 09:06 (2)	07:16 19:52 13	08:26 (2) 08:39 (2)	08:06 18:43 11	08:33 (4) 08:44 (4)	08:01 16:47	08:42 16:28
18	08:39 17:01	07:50 17:58	06:49 18:48 28	07:44 (3) 08:12 (3)	06:38 20:41 61	08:05 (2) 09:06 (2)	05:43 21:30		05:19 22:02	05:40 21:51	06:27 20:59 54	08:12 (2) 09:06 (2)	07:17 19:49		08:08 18:41 3	08:37 (4) 08:40 (4)	08:03 16:46	08:43 16:29
19	08:38 17:03	07:48 17:59	06:47 18:50 26	07:44 (3) 08:10 (3)	06:36 20:43 61	08:05 (2) 09:06 (2)	05:41 21:32		05:19 22:03	05:41 21:49	06:29 20:57 56	08:12 (2) 09:08 (2)	07:19 19:47		08:10 18:39		08:05 16:44	08:44 16:29
20	08:37 17:05	07:46 18:01	06:44 18:51 23	07:45 (3) 08:08 (3)	06:34 20:44 60	08:05 (2) 09:05 (2)	05:40 21:33		05:19 22:03	05:43 21:48	06:30 20:55 57	08:11 (2) 09:08 (2)	07:21 19:45 4	08:40 (3) 08:44 (3)	08:11 18:37		08:06 16:43	08:44 16:29
21	08:36 17:06	07:44 18:03	06:42 18:53 20	07:47 (3) 08:07 (3)	06:32 20:46 59	08:04 (2) 09:03 (2)	05:38 21:35		05:19 22:03	05:44 21:47	06:32 20:53 58	08:10 (2) 09:08 (2)	07:22 19:42 14	08:34 (3) 08:48 (3)	08:13 18:35		08:08 16:42	08:45 16:30
22	08:34 17:08	07:42 18:05	06:40 18:55 15	07:48 (3) 08:03 (3)	06:30 20:48 58	08:05 (2) 09:03 (2)	05:37 21:36		05:19 22:03	05:45 21:46	06:33 20:51 59	08:09 (2) 09:08 (2)	07:24 19:40 19	08:32 (3) 08:51 (3)	08:15 18:33		08:10 16:41	08:45 16:30
23	08:33 17:10	07:40 18:07	06:37 18:56 9	07:51 (3) 08:00 (3)	06:28 20:49 57	08:05 (2) 09:02 (2)	05:36 21:37		05:20 22:03	05:47 21:44	06:35 20:49 60	08:09 (2) 09:09 (2)	07:26 19:38 23	08:30 (3) 08:53 (3)	08:17 18:31		08:11 16:40	08:46 16:31
24	08:32 17:12	07:38 18:09 7	08:04 (4) 06:35 08:11 (4) 18:58		06:26 20:51 56	08:05 (2) 09:01 (2)	05:35 21:39		05:20 22:04	05:48 21:43	06:37 20:46 61	08:08 (2) 09:09 (2)	07:27 19:35 25	08:28 (3) 08:53 (3)	08:18 18:28		08:13 16:39	08:46 16:31
25	08:31 17:13	07:36 18:10 12	08:01 (4) 06:33 08:13 (4) 19:00		06:24 20:53 54	08:06 (2) 09:00 (2)	05:33 21:40		05:20 22:04	05:50 21:42	06:38 20:44 61	08:08 (2) 09:09 (2)	07:29 19:33 27	08:27 (3) 08:54 (3)	07:20 17:26		08:15 16:37	08:47 16:32
26	08:30 17:15	07:34 18:12 16	07:59 (4) 06:30 08:15 (4) 19:02 9	07:39 (2) 07:48 (2)	06:22 20:54 52	08:07 (2) 08:59 (2)	05:32 21:41		05:21 22:04	05:51 21:40	06:40 20:42 62	08:08 (2) 09:10 (2)	07:31 19:31 29	08:26 (3) 08:55 (3)	07:22 17:24		08:16 16:37	08:47 16:33
27	08:28 17:17	07:32 18:14 18	07:57 (4) 06:28 08:15 (4) 19:03 21	07:33 (2) 07:54 (2)	06:20 20:56 50	08:08 (2) 08:58 (2)	05:31 21:43		05:21 22:04	05:52 21:39	06:42 20:40 62	08:07 (2) 09:09 (2)	07:32 19:28 31	08:24 (3) 08:55 (3)	07:24 17:22		08:18 16:36	08:47 16:33
28	08:27 17:19	07:30 18:16 20	07:56 (4) 06:26 08:16 (4) 19:05 28	07:29 (2) 07:57 (2)	06:18 20:58 49	08:08 (2) 08:57 (2)	05:30 21:44		05:22 22:03	05:54 21:37	06:43 20:38 62	08:07 (2) 09:09 (2)	07:34 19:26 31	08:24 (3) 08:55 (3)	07:26 17:21		08:19 16:35	08:48 16:34
29	08:25 17:20		07:24 20:07 34	08:26 (2) 09:00 (2)	06:16 21:00 46	08:09 (2) 08:55 (2)	05:29 21:45		05:22 22:03	05:55 21:36	06:45 20:35 62	08:07 (2) 09:09 (2)	07:36 19:24 32	08:24 (3) 08:56 (3)	07:27 17:19		08:21 16:34	08:48 16:35
30	08:24 17:22		07:21 20:08 38	08:24 (2) 09:02 (2)	06:14 21:01 43	08:10 (2) 08:53 (2)	05:28 21:47		05:23 22:03	05:57 21:34	06:46 20:33 62	08:07 (2) 09:09 (2)	07:37 19:21 32	08:23 (3) 08:55 (3)	07:29 17:17		08:22 16:33	08:48 16:36
31	08:22 17:24		07:19 20:10 41	08:22 (2) 09:03 (2)			05:27 21:48			05:58 21:33	06:48 20:31 62	08:06 (2) 09:08 (2)			07:31 17:15			08:48 16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case		73	757	1679	231			1325	1049	402		
Sun reduction		0,30	0,33	0,42	0,43			0,42	0,36	0,34		
Oper. time red.		0,95	0,95	0,95	0,95			0,95	0,95	0,95		
Wind dir. red.		0,57	0,58	0,61	0,61			0,61	0,60	0,57		
Total reduction		0,16	0,18	0,24	0,25			0,24	0,20	0,18		
Total, real		12	136	403	57			317	215	73		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:34/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion3.7M140@160Shadow receptor: AH - 3998JK68

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	06:50 (2)	05:26	06:01 (1)	05:23	06:06 (1)	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03 17	07:07 (2)	21:49 24	06:25 (1)	22:03 27	06:33 (1)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	06:50 (2)	05:26	06:01 (1)	05:24	06:06 (1)	06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05 16	07:06 (2)	21:50 24	06:25 (1)	22:03 27	06:33 (1)	21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08	06:52 (2)	05:25	06:01 (1)	05:25	06:07 (1)	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06 13	07:05 (2)	21:51 25	06:26 (1)	22:02 26	06:33 (1)	21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06	06:53 (2)	05:24	06:01 (1)	05:26	06:06 (1)	06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08 10	07:03 (2)	21:52 25	06:26 (1)	22:02 27	06:33 (1)	21:26	20:22	19:12	17:07	16:31
5	08:47	08:14	07:19	07:08	06:04	06:57 (2)	05:23	06:01 (1)	05:26	06:07 (1)	06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10 2	06:59 (2)	21:53 25	06:26 (1)	22:01 26	06:33 (1)	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02		05:23	06:01 (1)	05:27	06:07 (1)	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11		21:54 26	06:27 (1)	22:01 26	06:33 (1)	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01		05:22	06:02 (1)	05:28	06:08 (1)	06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13		21:55 26	06:28 (1)	22:00 26	06:34 (1)	21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59		05:22	06:01 (1)	05:29	06:08 (1)	06:11	07:04 (2)	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15		21:56 27	06:28 (1)	22:00 26	06:34 (1)	21:19 6	07:10 (2)	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57		05:21	06:02 (1)	05:30	06:09 (1)	06:12	07:02 (2)	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16		21:57 26	06:28 (1)	21:59 25	06:34 (1)	21:17 11	07:13 (2)	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55		05:21	06:01 (1)	05:31	06:08 (1)	06:14	07:00 (2)	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18		21:58 27	06:28 (1)	21:58 25	06:33 (1)	21:15 14	07:14 (2)	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54		05:20	06:01 (1)	05:32	06:09 (1)	06:16	07:00 (2)	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19		21:58 27	06:28 (1)	21:57 23	06:32 (1)	21:13 16	07:16 (2)	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52		05:20	06:02 (1)	05:33	06:09 (1)	06:17	06:58 (2)	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21		21:59 27	06:29 (1)	21:57 23	06:32 (1)	21:11 18	07:16 (2)	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50		05:20	06:02 (1)	05:34	06:11 (1)	06:19	06:58 (2)	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23		22:00 27	06:29 (1)	21:56 22	06:33 (1)	21:09 19	07:17 (2)	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49		05:19	06:02 (1)	05:35	06:11 (1)	06:21	06:57 (2)	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24		22:00 28	06:30 (1)	21:55 22	06:33 (1)	21:07 20	07:17 (2)	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47		05:19	06:02 (1)	05:36	06:12 (1)	06:22	06:57 (2)	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26		22:01 27	06:29 (1)	21:54 20	06:32 (1)	21:05 20	07:17 (2)	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46		05:19	06:02 (1)	05:38	06:13 (1)	06:24	06:56 (2)	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27		22:01 27	06:29 (1)	21:53 18	06:31 (1)	21:03 21	07:17 (2)	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44		05:19	06:02 (1)	05:39	06:14 (1)	06:25	06:56 (2)	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29		22:02 27	06:29 (1)	21:52 17	06:31 (1)	21:01 21	07:17 (2)	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43		05:19	06:02 (1)	05:40	06:15 (1)	06:27	06:56 (2)	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30		22:02 28	06:30 (1)	21:51 15	06:30 (1)	20:59 20	07:16 (2)	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41		05:19	06:03 (1)	05:41	06:16 (1)	06:29	06:57 (2)	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32		22:03 28	06:31 (1)	21:49 12	06:28 (1)	20:57 19	07:16 (2)	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	06:58 (2) 05:40		05:19	06:04 (1)	05:43	06:18 (1)	06:30	06:57 (2)	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44 8	07:06 (2) 21:33		22:03 27	06:31 (1)	21:48 9	06:27 (1)	20:55 17	07:14 (2)	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	06:56 (2) 05:39		05:19	06:04 (1)	05:44	06:22 (1)	06:32	06:59 (2)	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46 12	07:08 (2) 21:35		22:03 27	06:31 (1)	21:47 2	06:24 (1)	20:53 14	07:13 (2)	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	06:54 (2) 05:37		05:19	06:04 (1)	05:45		06:33	07:00 (2)	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48 15	07:09 (2) 21:36		22:03 27	06:31 (1)	21:46		20:51 11	07:11 (2)	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	06:52 (2) 05:36	06:09 (1)	05:20	06:03 (1)	05:47		06:35	07:02 (2)	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49 18	07:10 (2) 21:37 7	06:16 (1)	22:04 28	06:31 (1)	21:44		20:49 7	07:09 (2)	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	06:51 (2) 05:35	06:07 (1)	05:20	06:04 (1)	05:48		06:37		07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51 19	07:10 (2) 21:39 11	06:18 (1)	22:04 28	06:32 (1)	21:43		20:46		19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	06:50 (2) 05:34	06:06 (1)	05:20	06:04 (1)	05:50		06:38		07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53 20	07:10 (2) 21:40 13	06:19 (1)	22:04 28	06:32 (1)	21:42		20:44		19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	06:50 (2) 05:32	06:05 (1)	05:21	06:04 (1)	05:51		06:40		07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55 20	07:10 (2) 21:42 16	06:21 (1)	22:04 27	06:31 (1)	21:40		20:42		19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	06:49 (2) 05:31	06:04 (1)	05:21	06:05 (1)	05:52		06:42		07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56 21	07:10 (2) 21:43 18	06:22 (1)	22:04 27	06:32 (1)	21:39		20:40		19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	06:49 (2) 05:30	06:03 (1)	05:22	06:05 (1)	05:54		06:43		07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58 21	07:10 (2) 21:44 19	06:22 (1)	22:04 27	06:32 (1)	21:37		20:38		19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	06:49 (2) 05:29	06:02 (1)	05:22	06:05 (1)	05:55		06:45		07:36	07:27	08:21	08:48
	17:21		20:07	21:00 20	07:09 (2) 21:45 21	06:23 (1)	22:03 27	06:32 (1)	21:36		20:35		19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	06:49 (2) 05:28	06:03 (1)	05:23	06:06 (1)	05:57		06:47		07:37	07:29	08:22	08:48
	17:22		20:08	21:01 19	07:08 (2) 21:47 21	06:24 (1)	22:03 27	06:33 (1)	21:34		20:33		19:22	17:17	16:33	16:36
31	08:22		07:19		05:27	06:02 (1)			05:58		06:48			07:31		08:48
	17:24		20:10		21:48 23	06:25 (1)			21:33		20:31			17:15		16:37
Potential sun hours	259	277	367	416	485		499		502		454		381	331	266	243
Total, worst case				193	207		801		444		254					
Sun reduction				0,42	0,43		0,39		0,41		0,42					
Oper. time red.				0,95	0,95		0,95		0,95		0,95					
Wind dir. red.				0,64	0,66		0,67		0,67		0,64					
Total reduction				0,25	0,27		0,25		0,26		0,25					
Total, real				49	56		199		115		64					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:34/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion3.7M140@160Shadow receptor: AI - 3945LA2

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December		
1	08:48		14:33 (3)	08:21			07:27		07:17	06:12	05:26	05:23	06:00	06:50		07:39		18:17 (1)	07:33		16:11 (2)	08:24		14:21 (3)
	16:38	39	15:12 (3)	17:26			18:18		20:12	21:03	21:49	22:03	21:31	20:29		19:19	23	18:40 (1)	17:13	23	16:34 (2)	16:32	36	14:57 (3)
2	08:48		14:34 (3)	08:19			07:25		07:14	06:10	05:25	05:24	06:01	06:51		07:40		18:17 (1)	07:34		16:11 (2)	08:25		14:22 (3)
	16:39	39	15:13 (3)	17:28			18:19		20:13	21:05	21:50	22:02	21:29	20:26		19:17	23	18:40 (1)	17:11	20	16:31 (2)	16:32	36	14:58 (3)
3	08:48		14:35 (3)	08:18			07:23		07:12	06:08	05:25	05:25	06:03	06:53		07:42		18:16 (1)	07:36		16:13 (2)	08:27		14:22 (3)
	16:40	38	15:13 (3)	17:30			18:21		20:15	21:06	21:51	22:02	21:27	20:24		19:14	23	18:39 (1)	17:09	16	16:29 (2)	16:31	36	14:58 (3)
4	08:47		14:35 (3)	08:16			07:21	17:47 (1)	07:10	06:06	05:24	05:25	06:04	06:55		07:44		18:16 (1)	07:38		16:15 (2)	08:28		14:22 (3)
	16:41	38	15:13 (3)	17:31			18:23	8 17:55 (1)	20:17	21:08	21:52	22:02	21:26	20:22		19:12	23	18:39 (1)	17:07	12	16:27 (2)	16:30	37	14:59 (3)
5	08:47		14:36 (3)	08:14			07:18	17:44 (1)	07:07	06:04	05:23	05:26	06:06	06:56		07:45		18:16 (1)	07:40		16:19 (2)	08:29		14:22 (3)
	16:42	38	15:14 (3)	17:33			18:25	14 17:58 (1)	20:19	21:10	21:53	22:01	21:24	20:20		19:10	22	18:38 (1)	17:06	4	16:23 (2)	16:30	37	14:59 (3)
6	08:47		14:36 (3)	08:13	16:48 (2)		07:16	17:42 (1)	07:05	06:02	05:22	05:27	06:08	06:58		07:47		18:16 (1)	07:42			08:31		14:22 (3)
	16:44	38	15:14 (3)	17:35	6 16:54 (2)	18:27	17 17:59 (1)	20:20	21:11	21:54	22:01	21:22	20:17			19:08	20	18:36 (1)	17:04			16:29	38	15:00 (3)
7	08:46		14:37 (3)	08:11	16:45 (2)	07:14		17:41 (1)	07:03	06:00	05:22	05:28	06:09	06:59		07:49		18:17 (1)	07:44			08:32		14:23 (3)
	16:45	37	15:14 (3)	17:37	13 16:58 (2)	18:28	19 18:00 (1)	20:22	21:13	21:55	22:00	21:20	20:15			19:05	18	18:35 (1)	17:02			16:29	38	15:01 (3)
8	08:46		14:37 (3)	08:09	16:44 (2)	07:12		17:40 (1)	07:01	05:59	05:21	05:29	06:11	07:01		07:51		18:18 (1)	07:45			08:33		14:23 (3)
	16:46	37	15:14 (3)	17:39	17 17:01 (2)	18:30	21 18:01 (1)	20:24	21:14	21:56	21:59	21:19	20:13			19:03	16	18:34 (1)	17:00			16:29	38	15:01 (3)
9	08:45		14:38 (3)	08:07	16:42 (2)	07:10		17:39 (1)	06:58	05:57	05:21	05:30	06:12	07:03		07:52		18:20 (1)	07:47			08:34		14:23 (3)
	16:48	37	15:15 (3)	17:41	21 17:03 (2)	18:32	23 18:02 (1)	20:25	21:16	21:57	21:59	21:17	20:10			19:01	12	18:32 (1)	16:59			16:28	38	15:01 (3)
10	08:45		14:39 (3)	08:06	16:41 (2)	07:07		17:38 (1)	06:56	05:55	05:20	05:31	06:14	07:04		07:54		18:23 (1)	07:49			08:35		14:23 (3)
	16:49	36	15:15 (3)	17:43	23 17:04 (2)	18:34	23 18:01 (1)	20:27	21:18	21:57	21:58	21:15	20:08			18:59	4	18:27 (1)	16:57			16:28	39	15:02 (3)
11	08:44		14:39 (3)	08:04	16:40 (2)	07:05		17:38 (1)	06:54	05:53	05:20	05:32	06:15	07:06		07:56			07:51			08:37		14:24 (3)
	16:50	36	15:15 (3)	17:44	25 17:05 (2)	18:35	23 18:01 (1)	20:29	21:19	21:58	21:57	21:13	20:06			18:56			16:56			16:28	38	15:02 (3)
12	08:44		14:40 (3)	08:02	16:39 (2)	07:03		17:38 (1)	06:52	05:52	05:20	05:33	06:17	07:08		07:57			07:52			08:38		14:24 (3)
	16:52	35	15:15 (3)	17:46	27 17:06 (2)	18:37	23 18:01 (1)	20:31	21:21	21:59	21:56	21:11	20:03			18:54			16:54			16:28	38	15:02 (3)
13	08:43		14:40 (3)	08:00	16:38 (2)	07:00		17:38 (1)	06:49	05:50	05:19	05:34	06:19	07:09		07:59			07:54			08:39		14:24 (3)
	16:53	35	15:15 (3)	17:48	29 17:07 (2)	18:39	22 18:00 (1)	20:32	21:22	22:00	21:56	21:09	20:01			18:52			16:52			16:28	39	15:03 (3)
14	08:42		14:41 (3)	07:58	16:38 (2)	06:58		17:39 (1)	06:47	05:49	05:19	05:35	06:20	07:11		08:01			07:56			08:40		14:25 (3)
	16:55	34	15:15 (3)	17:50	29 17:07 (2)	18:41	20 17:59 (1)	20:34	21:24	22:00	21:55	21:07	19:59			18:50			16:51			16:28	38	15:03 (3)
15	08:41		14:42 (3)	07:56	16:38 (2)	06:56		17:40 (1)	06:45	05:47	05:19	05:36	06:22	07:12		08:03		17:20 (2)	07:58			08:40		14:25 (3)
	16:56	33	15:15 (3)	17:52	30 17:08 (2)	18:42	18 17:58 (1)	20:36	21:26	22:01	21:54	21:05	19:56			18:47	9	17:29 (2)	16:50			16:28	39	15:04 (3)
16	08:41		14:43 (3)	07:54	16:38 (2)	06:54		17:41 (1)	06:43	05:45	05:19	05:37	06:24	07:14		08:04		17:17 (2)	07:59			08:41		14:26 (3)
	16:58	32	15:15 (3)	17:54	30 17:08 (2)	18:44	15 17:56 (1)	20:37	21:27	22:01	21:53	21:03	19:54			18:45	15	17:32 (2)	16:48			16:28	38	15:04 (3)
17	08:40		14:44 (3)	07:52	16:38 (2)	06:51		17:43 (1)	06:41	05:44	05:19	05:39	06:25	07:16		08:06		17:14 (2)	08:01			08:42		14:27 (3)
	17:00	30	15:14 (3)	17:56	30 17:08 (2)	18:46	11 17:54 (1)	20:39	21:29	22:02	21:52	21:01	19:52			18:43	20	17:34 (2)	16:47			16:28	38	15:05 (3)
18	08:39		14:45 (3)	07:50	16:38 (2)	06:49		06:38	05:43	05:19	05:40	06:27	07:17			08:08		17:12 (2)	08:03		14:31 (3)	08:43		14:27 (3)
	17:01	29	15:14 (3)	17:58	30 17:08 (2)	18:48		20:41	21:30	22:02	21:50	20:59	19:49			18:41	23	17:35 (2)	16:45	10	14:41 (3)	16:28	39	15:06 (3)
19	08:38		14:47 (3)	07:48	16:38 (2)	06:47		06:36	05:41	05:19	05:41	06:28	07:19			08:10		17:11 (2)	08:05		14:29 (3)	08:44		14:27 (3)
	17:03	27	15:14 (3)	17:59	30 17:08 (2)	18:49		20:43	21:32	22:02	21:49	20:57	19:47			18:39	25	17:36 (2)	16:44	15	14:44 (3)	16:29	39	15:06 (3)
20	08:37		14:48 (3)	07:46	16:37 (2)	06:44		06:34	05:40	05:19	05:43	06:30	07:21			08:11		17:10 (2)	08:06		14:27 (3)	08:44		14:28 (3)
	17:05	26	15:14 (3)	18:01	30 17:07 (2)	18:51		20:44	21:33	22:03	21:48	20:55	19:45			18:37	27	17:37 (2)	16:43	19	14:46 (3)	16:29	38	15:06 (3)
21	08:36		14:50 (3)	07:44	16:38 (2)	06:42		06:32	05:38	05:19	05:44	06:32	07:22			08:13		17:08 (2)	08:08		14:25 (3)	08:45		14:29 (3)
	17:06	23	15:13 (3)	18:03	28 17:06 (2)	18:53		20:46	21:35	22:03	21:47	20:53	19:42			18:35	29	17:37 (2)	16:42	23	14:48 (3)	16:30	38	15:07 (3)
22	08:34		14:52 (3)	07:42	16:39 (2)	06:40		06:30	05:37	05:19	05:45	06:33	07:24			08:15		17:08 (2)	08:10		14:24 (3)	08:45		14:29 (3)
	17:08	19	15:11 (3)	18:05	26 17:05 (2)	18:55		20:48	21:36	22:03	21:46	20:51	19:40			18:33	29	17:37 (2)	16:41	26	14:50 (3)	16:30	38	15:07 (3)
23	08:33		14:55 (3)	07:40	16:40 (2)	06:37		06:28	05:36	05:19	05:47	06:35	07:26			08:17		17:07 (2)	08:11		14:24 (3)	08:46		14:29 (3)
	17:10	15	15:10 (3)	18:07	24 17:04 (2)	18:56		20:49	21:37	22:03	21:44	20:48	19:38			18:30	30	17:37 (2)	16:39	27	14:51 (3)	16:31	38	15:07 (3)
24	08:32		14:57 (3)	07:38	16:42 (2)	06:35		06:26	05:35	05:20	05:48	06:37	07:27			08:18		17:07 (2)	08:13		14:22 (3)	08:46		14:30 (3)
	17:11	10	15:07 (3)	18:09	21 17:03 (2)	18:58		20:51	21:39	22:04	21:43	20:46	19:35			18:28	31	17:38 (2)	16:38	29	14:51 (3)	16:31	39	15:09 (3)
25	08:31			07:36	16:44 (2)	06:33		06:24	05:33	05:20	05:49	06:38	07:29			07:20		16:07 (2)	08:15		14:22 (3)	08:47		14:30 (3)
	17:13			18:10	18 17:02 (2)	19:00		20:53	21:40	22:04	21:42	20:44	19:33			17:26	31	16:38 (2)	16:37	30	14:52 (3)	16:32	39	15:09 (3)
26	08:29			07:34	16:45 (2)	06:30		06:22	05:32	05:20	05:51	06:40	07:30	18:27 (1)		07:22		16:07 (2)	08:16		14:22 (3)	08:47		14:30 (3)
	17:15			18:12	14 16:59 (2)	19:01		20:54	21:41	22:04	21:40	20:42	19:31	8 18:35 (1)		17:24	30	16:37 (2)	16:36	32	14:54 (3)	16:32	39	15:09 (3)
27	08:28			07:32	16:50 (2)	06:28		06:20	05:31	05:21	05:52	06:41	07:32	18:23 (1)		07:24		16:07 (2)	08:18		14:22 (3)	08:47		14:31 (3)
	17:17			18:14	4 16:54 (2)	19:03		20:56	21:43	22:04	21:39	20:40	19:28	14 18:37 (1)		17:22	30	16:37 (2)	16:35	33	14:55 (3)	16:33	38	15:09 (3)
28	08:27			07:29		06:26		06:17	05:30	05:21	05:54	06:43	07:34	18:21 (1)		07:25		16:08 (2)	08:19		14:21 (3)	08:47		14:32 (3)
	17:19			18:16		19:05		20:58	21:44	22:03	21:37	20:38	19:26	17 18:38 (1)		17:20	29	16:37 (2)	16:35	34	14:55 (3)	16:34	39	15:11 (3)
29	08:25					07:23		06:16	05:29	05:22	05:55	06:45	07:35	18:20 (1)		07:27		16:08 (2)	08:21		14:21 (3)	08:48		14:33 (3)
	17:20					20:07		20:59	21:45	22:03	21:36	20:35	19:24	19 18:39 (1)		17:18	28	16:36 (2)	16:34	35	14:56 (3)	16:35	38	15:11 (3)
30	08:24					07:21		06:14	05:28	05:23	05:57	06:46	07:37	18:18 (1)		07:29		16:09 (2)	08:22		14:21 (3)	08:48		14:33 (3)
	17:22					20:08		21:01	21:46	22:03	21:34	20:33	19:21	21 18:39 (1)		17:17	27	16:36 (2)	16:33	35	14:56 (3)	16:36	39	15:12 (3)
31	08:22					07:19			05:27		05:58	06:48				07:31		16:10 (2)				08:48		14:33 (3)
	17:24					20:10			21:48		21:32	20:31				17:15	25	16:35 (2)				16:37	38	15:11 (3)
Potential sun hours	259			277		367		416	485	499	502	454	381			331			266			243		
Total, worst case		761			505		257							79			622			423			1180	
Sun reduction		0,24			0,30		0,33							0,36			0,34			0,24			0,20	
Oper. time red.		0,95			0,95		0,95							0,95			0,95			0,95			0,95	
Wind dir. red.		0,70			0,67		0,63							0,63			0,66			0,69			0,70	
Total reduction		0,16			0,19		0,20							0,22			0,21			0,16			0,13	
Total, real		121			98		51							17			132			66			159	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:34/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion3.7M140@160Shadow receptor: AJ - 3997MR15

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January			February	March	April	May	June	July	August	September	October	November			December		
1	08:48		09:44 (4)	08:21	07:27	07:17	06:12	05:26	05:23	06:00	06:50	07:39	07:33			08:24		13:58 (1)
	16:38	64	14:58 (1)	17:26	18:18	20:12	21:03	21:49	22:03	21:31	20:29	19:19	17:13			16:32	46	14:44 (1)
2	08:48		09:45 (4)	08:19	07:25	07:14	06:10	05:25	05:24	06:01	06:51	07:41	07:35			08:25		13:59 (1)
	16:39	64	14:59 (1)	17:28	18:20	20:14	21:05	21:50	22:03	21:29	20:26	19:17	17:11			16:32	46	14:45 (1)
3	08:48		09:46 (4)	08:18	07:23	07:12	06:08	05:25	05:25	06:03	06:53	07:42	07:36			08:27		09:38 (4)
	16:40	62	14:59 (1)	17:30	18:21	20:15	21:06	21:51	22:02	21:28	20:24	19:14	17:09			16:31	49	14:45 (1)
4	08:47		09:47 (4)	08:16	07:21	07:10	06:06	05:24	05:25	06:04	06:55	07:44	07:38			08:28		09:37 (4)
	16:41	60	14:59 (1)	17:31	18:23	20:17	21:08	21:52	22:02	21:26	20:22	19:12	17:07			16:30	54	14:46 (1)
5	08:47		09:48 (4)	08:14	07:19	07:07	06:04	05:23	05:26	06:06	06:56	07:46	07:40			08:29		09:35 (4)
	16:43	61	15:00 (1)	17:33	18:25	20:19	21:10	21:53	22:01	21:24	20:20	19:10	17:06			16:30	58	14:46 (1)
6	08:47		09:49 (4)	08:13	07:16	07:05	06:02	05:23	05:27	06:08	06:58	07:47	07:42			08:31		09:35 (4)
	16:44	59	15:00 (1)	17:35	18:27	20:20	21:11	21:54	22:01	21:22	20:17	19:08	17:04			16:30	59	14:46 (1)
7	08:46		09:50 (4)	08:11	07:14	07:03	06:00	05:22	05:28	06:09	06:59	07:49	07:44			08:32		09:35 (4)
	16:45	58	15:01 (1)	17:37	18:28	20:22	21:13	21:55	22:00	21:20	20:15	19:05	17:02			16:29	61	14:47 (1)
8	08:46		09:51 (4)	08:09	07:12	07:01	05:59	05:21	05:29	06:11	07:01	07:51	07:45			08:33		09:35 (4)
	16:46	55	15:01 (1)	17:39	18:30	20:24	21:15	21:56	22:00	21:19	20:13	19:03	17:00			16:29	60	14:47 (1)
9	08:46		09:54 (4)	08:08	07:10	06:58	05:57	05:21	05:30	06:12	07:03	07:52	07:47			08:34		09:34 (4)
	16:48	52	15:02 (1)	17:41	18:32	20:26	21:16	21:57	21:59	21:17	20:10	19:01	16:59			16:28	62	14:47 (1)
10	08:45		14:16 (1)	08:06	07:07	06:56	05:55	05:20	05:31	06:14	07:04	07:54	07:49			08:35		09:34 (4)
	16:49	46	15:02 (1)	17:43	18:34	20:27	21:18	21:58	21:58	21:15	20:08	18:59	16:57			16:28	64	14:48 (1)
11	08:44		14:16 (1)	08:04	07:05	06:54	05:54	05:20	05:32	06:16	07:06	07:56	07:51			08:37		09:34 (4)
	16:51	46	15:02 (1)	17:45	18:36	20:29	21:19	21:58	21:57	21:13	20:06	18:56	16:56			16:28	64	14:48 (1)
12	08:44		14:16 (1)	08:02	07:03	06:52	05:52	05:20	05:33	06:17	07:08	07:57	07:53		14:11 (1)	08:38		09:36 (4)
	16:52	46	15:02 (1)	17:46	18:37	20:31	21:21	21:59	21:56	21:11	20:03	18:54	16:54	13	14:24 (1)	16:28	63	14:49 (1)
13	08:43		14:17 (1)	08:00	07:00	06:49	05:50	05:19	05:34	06:19	07:09	07:59	07:54		14:08 (1)	08:39		09:36 (4)
	16:53	45	15:02 (1)	17:48	18:39	20:32	21:23	22:00	21:56	21:09	20:01	18:52	16:53	19	14:27 (1)	16:28	65	14:50 (1)
14	08:42		14:18 (1)	07:58	06:58	06:47	05:49	05:19	05:35	06:20	07:11	08:01	07:56		14:05 (1)	08:40		09:36 (4)
	16:55	45	15:03 (1)	17:50	18:41	20:34	21:24	22:00	21:55	21:07	19:59	18:50	16:51	25	14:30 (1)	16:28	64	14:50 (1)
15	08:41		14:19 (1)	07:56	06:56	06:45	05:47	05:19	05:36	06:22	07:13	08:03	07:58		14:04 (1)	08:41		09:35 (4)
	16:57	44	15:03 (1)	17:52	18:43	20:36	21:26	22:01	21:54	21:05	19:56	18:47	16:50	28	14:32 (1)	16:28	66	14:50 (1)
16	08:41		14:19 (1)	07:54	06:54	06:43	05:46	05:19	05:38	06:24	07:14	08:04	08:00		14:03 (1)	08:41		09:36 (4)
	16:58	43	15:02 (1)	17:54	18:44	20:37	21:27	22:01	21:53	21:03	19:54	18:45	16:48	30	14:33 (1)	16:28	65	14:50 (1)
17	08:40		14:19 (1)	07:52	06:51	06:41	05:44	05:19	05:39	06:25	07:16	08:06	08:01		14:02 (1)	08:42		09:37 (4)
	17:00	44	15:03 (1)	17:56	18:46	20:39	21:29	22:02	21:52	21:01	19:52	18:43	16:47	33	14:35 (1)	16:28	64	14:51 (1)
18	08:39		14:20 (1)	07:50	06:49	06:38	05:43	05:19	05:40	06:27	07:17	08:08	08:03		14:01 (1)	08:43		09:37 (4)
	17:01	43	15:03 (1)	17:58	18:48	20:41	21:30	22:02	21:51	20:59	19:49	18:41	16:46	35	14:36 (1)	16:29	66	14:52 (1)
19	08:38		14:21 (1)	07:48	06:47	06:36	05:41	05:19	05:41	06:28	07:19	08:10	08:05		13:59 (1)	08:44		09:37 (4)
	17:03	42	15:03 (1)	17:59	18:50	20:43	21:32	22:03	21:49	20:57	19:47	18:39	16:44	37	14:36 (1)	16:29	67	14:51 (1)
20	08:37		14:22 (1)	07:46	06:44	06:34	05:40	05:19	05:43	06:30	07:21	08:11	08:06		13:59 (1)	08:44		09:38 (4)
	17:05	41	15:03 (1)	18:01	18:51	20:44	21:33	22:03	21:48	20:55	19:45	18:37	16:43	38	14:37 (1)	16:29	69	14:52 (1)
21	08:36		14:23 (1)	07:44	06:42	06:32	05:38	05:19	05:44	06:32	07:22	08:13	08:08		13:58 (1)	08:45		09:39 (4)
	17:06	40	15:03 (1)	18:03	18:53	20:46	21:35	22:03	21:47	20:53	19:42	18:35	16:42	40	14:38 (1)	16:30	69	14:53 (1)
22	08:34		14:24 (1)	07:42	06:40	06:30	05:37	05:19	05:45	06:33	07:24	08:15	08:10		13:58 (1)	08:45		09:39 (4)
	17:08	38	15:02 (1)	18:05	18:55	20:48	21:36	22:03	21:46	20:51	19:40	18:33	16:41	41	14:39 (1)	16:30	69	14:53 (1)
23	08:33		14:25 (1)	07:40	06:37	06:28	05:36	05:20	05:47	06:35	07:26	08:17	08:11		13:58 (1)	08:46		09:40 (4)
	17:10	37	15:02 (1)	18:07	18:56	20:49	21:37	22:04	21:44	20:49	19:38	18:31	16:40	42	14:40 (1)	16:31	69	14:54 (1)
24	08:32		14:27 (1)	07:38	06:35	06:26	05:35	05:20	05:48	06:37	07:27	08:18	08:13		13:57 (1)	08:46		09:40 (4)
	17:12	35	15:02 (1)	18:09	18:58	20:51	21:39	22:04	21:43	20:46	19:35	18:28	16:38	43	14:40 (1)	16:31	68	14:54 (1)
25	08:31		14:28 (1)	07:36	06:33	06:24	05:33	05:20	05:49	06:38	07:29	07:20	08:15		13:57 (1)	08:47		09:40 (4)
	17:13	33	15:01 (1)	18:10	19:00	20:53	21:40	22:04	21:42	20:44	19:33	17:26	16:37	44	14:41 (1)	16:32	65	14:54 (1)
26	08:30		14:30 (1)	07:34	06:30	06:22	05:32	05:21	05:51	06:40	07:31	07:22	08:16		13:58 (1)	08:47		09:40 (4)
	17:15	30	15:00 (1)	18:12	19:02	20:54	21:41	22:04	21:40	20:42	19:31	17:24	16:36	43	14:41 (1)	16:32	65	14:55 (1)
27	08:28		14:31 (1)	07:32	06:28	06:20	05:31	05:21	05:52	06:42	07:32	07:24	08:18		13:58 (1)	08:47		09:42 (4)
	17:17	28	14:59 (1)	18:14	19:03	20:56	21:43	22:04	21:39	20:40	19:28	17:22	16:36	44	14:42 (1)	16:33	65	14:56 (1)
28	08:27		14:34 (1)	07:30	06:26	06:18	05:30	05:21	05:54	06:43	07:34	07:26	08:19		13:57 (1)	08:48		09:42 (4)
	17:19	24	14:58 (1)	18:16	19:05	20:58	21:44	22:03	21:37	20:38	19:26	17:20	16:35	45	14:42 (1)	16:34	65	14:56 (1)
29	08:25		14:36 (1)		07:24	06:16	05:29	05:22	05:55	06:45	07:36	07:27	08:21		13:58 (1)	08:48		09:43 (4)
	17:20	19	14:55 (1)		20:07	21:00	21:45	22:03	21:36	20:35	19:24	17:19	16:34	45	14:43 (1)	16:35	64	14:57 (1)
30	08:24		14:40 (1)		07:21	06:14	05:28	05:23	05:57	06:46	07:37	07:29	08:22		13:58 (1)	08:48		09:43 (4)
	17:22	12	14:52 (1)		20:08	21:01	21:47	22:03	21:34	20:33	19:21	17:17	16:33	46	14:44 (1)	16:36	64	14:57 (1)
31	08:22				07:19		05:27		05:58	06:48		07:31				08:48		09:43 (4)
	17:24				20:10		21:48		21:33	20:31		17:15				16:37	64	14:57 (1)
Potential sun hours	259			277	367	416	485	499	502	454	381	331	266			243		
Total, worst case		1316												691			1939	
Sun reduction		0,24												0,24			0,20	
Oper. time red.		0,95												0,95			0,95	
Wind dir. red.		0,69												0,69			0,67	
Total reduction		0,16												0,16			0,13	
Total, real		205												107			250	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:34/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion3.7M140@160Shadow receptor: AK - 3998JD84

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May		June		July		August		September	October	November	December
1	08:48	08:21	07:27	07:17	06:12		05:26		06:18 (1)	05:23		06:00	06:30 (1)	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03		21:49	18	06:36 (1)	22:03		21:31	13 06:43 (1)	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10		05:26		06:18 (1)	05:24	06:31 (1)	06:01	06:32 (1)	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05		21:50	17	06:35 (1)	22:03	4 06:35 (1)	21:29	8 06:40 (1)	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08		05:25		06:19 (1)	05:25	06:30 (1)	06:03		06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06		21:51	16	06:35 (1)	22:02	7 06:37 (1)	21:28		20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06		05:24		06:19 (1)	05:26	06:28 (1)	06:05		06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08		21:52	16	06:35 (1)	22:02	9 06:37 (1)	21:26		20:22	19:12	17:07	16:31
5	08:47	08:15	07:19	07:08	06:04		05:23		06:21 (1)	05:26	06:28 (1)	06:06		06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10		21:53	14	06:35 (1)	22:01	11 06:39 (1)	21:24		20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02		05:23		06:21 (1)	05:27	06:28 (1)	06:08		06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11		21:54	13	06:34 (1)	22:01	12 06:40 (1)	21:22		20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01		05:22		06:22 (1)	05:28	06:27 (1)	06:09		07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13		21:55	12	06:34 (1)	22:00	14 06:41 (1)	21:21		20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59		05:22		06:23 (1)	05:29	06:27 (1)	06:11		07:01	07:51	07:45	08:33
	16:47	17:39	18:30	20:24	21:15		21:56	9	06:32 (1)	22:00	15 06:42 (1)	21:19		20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57		05:21		06:24 (1)	05:30	06:27 (1)	06:12		07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16		21:57	8	06:32 (1)	21:59	15 06:42 (1)	21:17		20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55	06:24 (1)	05:21		06:25 (1)	05:31	06:25 (1)	06:14		07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18	4 06:28 (1)	21:58	6	06:31 (1)	21:58	17 06:42 (1)	21:15		20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54	06:21 (1)	05:20		06:27 (1)	05:32	06:25 (1)	06:16		07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19	10 06:31 (1)	21:58	2	06:29 (1)	21:57	18 06:43 (1)	21:13		20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52	06:19 (1)	05:20			05:33	06:25 (1)	06:17		07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21	14 06:33 (1)	21:59			21:57	19 06:44 (1)	21:11		20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50	06:17 (1)	05:20			05:34	06:26 (1)	06:19		07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23	17 06:34 (1)	22:00			21:56	19 06:45 (1)	21:09		20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49	06:17 (1)	05:19			05:35	06:25 (1)	06:21		07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24	18 06:35 (1)	22:00			21:55	21 06:46 (1)	21:07		19:59	18:50	16:51	16:28
15	08:42	07:56	06:56	06:45	05:47	06:15 (1)	05:19			05:36	06:25 (1)	06:22		07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26	20 06:35 (1)	22:01			21:54	21 06:46 (1)	21:05		19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46	06:15 (1)	05:19			05:38	06:25 (1)	06:24		07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27	21 06:36 (1)	22:01			21:53	21 06:46 (1)	21:03		19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44	06:15 (1)	05:19			05:39	06:24 (1)	06:25		07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29	22 06:37 (1)	22:02			21:52	23 06:47 (1)	21:01		19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43	06:14 (1)	05:19			05:40	06:24 (1)	06:27		07:18	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30	23 06:37 (1)	22:02			21:51	23 06:47 (1)	20:59		19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41	06:14 (1)	05:19			05:41	06:24 (1)	06:29		07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32	23 06:37 (1)	22:03			21:49	23 06:47 (1)	20:57		19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40	06:14 (1)	05:19			05:43	06:24 (1)	06:30		07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33	24 06:38 (1)	22:03			21:48	24 06:48 (1)	20:55		19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	05:39	06:14 (1)	05:19			05:44	06:24 (1)	06:32		07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:35	24 06:38 (1)	22:03			21:47	24 06:48 (1)	20:53		19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	05:37	06:14 (1)	05:19			05:45	06:24 (1)	06:34		07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36	23 06:37 (1)	22:03			21:46	24 06:48 (1)	20:51		19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	05:36	06:14 (1)	05:20			05:47	06:24 (1)	06:35		07:26	08:17	08:12	08:46
	17:10	18:07	18:57	20:49	21:37	23 06:37 (1)	22:04			21:44	23 06:47 (1)	20:49		19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35	06:14 (1)	05:20			05:48	06:25 (1)	06:37		07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	21:39	23 06:37 (1)	22:04			21:43	23 06:48 (1)	20:46		19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	05:34	06:14 (1)	05:20			05:50	06:25 (1)	06:38		07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	21:40	23 06:37 (1)	22:04			21:42	23 06:48 (1)	20:44		19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	05:32	06:15 (1)	05:21			05:51	06:25 (1)	06:40		07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	21:42	22 06:37 (1)	22:04			21:40	22 06:47 (1)	20:42		19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	05:31	06:15 (1)	05:21			05:52	06:26 (1)	06:42		07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21:43	22 06:37 (1)	22:04			21:39	21 06:47 (1)	20:40		19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	05:30	06:15 (1)	05:22			05:54	06:26 (1)	06:43		07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	21:44	22 06:37 (1)	22:04			21:37	20 06:46 (1)	20:38		19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	05:29	06:16 (1)	05:22			05:55	06:27 (1)	06:45		07:36	07:27	08:21	08:48
	17:21		20:07	21:00	21:45	20 06:36 (1)	22:03			21:36	19 06:46 (1)	20:36		19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	05:28	06:17 (1)	05:23			05:57	06:28 (1)	06:47		07:37	07:29	08:22	08:48
	17:22		20:09	21:01	21:47	20 06:37 (1)	22:03			21:34	17 06:45 (1)	20:33		19:22	17:17	16:33	16:36
31	08:22		07:19		05:27	06:17 (1)				05:58	06:28 (1)	06:48			07:31		08:48
	17:24		20:10		21:48	20 06:37 (1)				21:33	16 06:44 (1)	20:31			17:15		16:37
Potential sun hours	259	277	367	416	485		499			502		454		381	331	266	243
Total, worst case						438		131			548		21				
Sun reduction						0,43		0,39			0,41		0,42				
Oper. time red.						0,95		0,95			0,95		0,95				
Wind dir. red.						0,67		0,67			0,67		0,67				
Total reduction						0,27		0,25			0,26		0,26				
Total, real						118		32			141		6				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:34/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion3.7M140@160Shadow receptor: AL - 3997MR19

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March	April	May	June	July	August	September	October	November	December
1	08:48	09:32 (4)	08:21	14:47 (1)	07:27	07:17	06:12	05:26	05:23	06:00	06:50	07:39	07:33	08:24
	16:38 120	15:19 (1)	17:26 52	15:39 (1)	18:18	20:12	21:03	21:49	22:03	21:31	20:29	19:19	17:13 41	16:32 101
2	08:48	09:33 (4)	08:19	14:48 (1)	07:25	07:14	06:10	05:25	05:24	06:01	06:51	07:41	07:35	08:25
	16:39 120	15:20 (1)	17:28 51	15:39 (1)	18:20	20:14	21:05	21:50	22:03	21:29	20:26	19:17	17:11 43	16:32 105
3	08:48	09:33 (4)	08:18	14:49 (1)	07:23	07:12	06:08	05:25	05:25	06:03	06:53	07:42	07:36	08:27
	16:40 119	15:21 (1)	17:30 50	15:39 (1)	18:21	20:15	21:06	21:51	22:02	21:28	20:24	19:14	17:09 45	16:31 108
4	08:47	09:33 (4)	08:16	14:49 (1)	07:21	07:10	06:06	05:24	05:25	06:04	06:55	07:44	07:38	08:28
	16:41 119	15:21 (1)	17:31 50	15:39 (1)	18:23	20:17	21:08	21:52	22:02	21:26	20:22	19:12	17:07 46	16:30 112
5	08:47	09:34 (4)	08:14	14:50 (1)	07:19	07:07	06:04	05:23	05:26	06:06	06:56	07:46	07:40	08:29
	16:43 118	15:23 (1)	17:33 48	15:38 (1)	18:25	20:19	21:10	21:53	22:01	21:24	20:20	19:10	17:06 48	16:30 116
6	08:47	09:34 (4)	08:13	14:50 (1)	07:16	07:05	06:02	05:23	05:27	06:08	06:58	07:47	07:42	08:31
	16:44 116	15:23 (1)	17:35 48	15:38 (1)	18:27	20:20	21:11	21:54	22:01	21:22	20:17	19:08	17:04 49	16:30 117
7	08:46	09:35 (4)	08:11	14:51 (1)	07:14	07:03	06:00	05:22	05:28	06:09	06:59	07:49	07:44	08:32
	16:45 116	15:25 (1)	17:37 46	15:37 (1)	18:28	20:22	21:13	21:55	22:00	21:20	20:15	19:05	17:02 50	16:29 118
8	08:46	09:35 (4)	08:09	14:53 (1)	07:12	07:01	05:59	05:21	05:29	06:11	07:01	07:51	07:45	08:33
	16:46 111	15:25 (1)	17:39 44	15:37 (1)	18:30	20:24	21:15	21:56	22:00	21:19	20:13	19:03	17:00 50	16:29 119
9	08:45	09:37 (4)	08:08	14:54 (1)	07:10	06:58	05:57	05:21	05:30	06:12	07:03	07:52	07:47	08:34
	16:48 109	15:27 (1)	17:41 43	15:37 (1)	18:32	20:26	21:16	21:57	21:59	21:17	20:10	19:01	16:59 52	16:28 120
10	08:45	09:37 (4)	08:06	14:55 (1)	07:07	06:56	05:55	05:20	05:31	06:14	07:04	07:54	07:49	08:35
	16:49 105	15:28 (1)	17:43 41	15:36 (1)	18:34	20:27	21:18	21:58	21:58	21:15	20:08	18:59	16:57 52	16:28 120
11	08:44	09:38 (4)	08:04	14:56 (1)	07:05	06:54	05:54	05:20	05:32	06:16	07:06	07:56	07:51	08:37
	16:51 101	15:28 (1)	17:45 38	15:34 (1)	18:36	20:29	21:19	21:58	21:57	21:13	20:06	18:56	16:56 53	16:28 121
12	08:44	09:38 (4)	08:02	14:58 (1)	07:03	06:52	05:52	05:20	05:33	06:17	07:08	07:57	07:53	08:38
	16:52 96	15:29 (1)	17:46 35	15:33 (1)	18:37	20:31	21:21	21:59	21:56	21:11	20:03	18:54	16:54 53	16:28 120
13	08:43	09:39 (4)	08:00	15:00 (1)	07:00	06:49	05:50	05:19	05:34	06:19	07:09	07:59	07:54	08:39
	16:53 85	15:30 (1)	17:48 31	15:31 (1)	18:39	20:32	21:23	22:00	21:56	21:09	20:01	18:52	16:53 53	16:28 120
14	08:42	09:40 (4)	07:58	15:03 (1)	06:58	06:47	05:49	05:19	05:35	06:20	07:11	08:01	07:56	08:40
	16:55 76	15:31 (1)	17:50 26	15:29 (1)	18:41	20:34	21:24	22:00	21:55	21:07	19:59	18:50	16:51 53	16:28 120
15	08:41	09:42 (4)	07:56	15:06 (1)	06:56	06:45	05:47	05:19	05:36	06:22	07:13	08:03	07:58	08:40
	16:57 63	15:33 (1)	17:52 21	15:27 (1)	18:43	20:36	21:26	22:01	21:54	21:05	19:56	18:47	16:50 53	16:28 121
16	08:41	09:42 (4)	07:54	15:11 (1)	06:54	06:43	05:46	05:19	05:38	06:24	07:14	08:04	08:00	08:41
	16:58 61	15:32 (1)	17:54 12	15:23 (1)	18:44	20:37	21:27	22:01	21:53	21:03	19:54	18:45	16:48 53	16:28 119
17	08:40	09:44 (4)	07:52		06:51	06:41	05:44	05:19	05:39	06:25	07:16	08:06	08:01	08:42
	17:00 59	15:33 (1)	17:56		18:46	20:39	21:29	22:02	21:52	21:01	19:52	18:43	16:47 53	16:28 120
18	08:39	09:46 (4)	07:50		06:49	06:38	05:43	05:19	05:40	06:27	07:17	08:08	08:03	08:43
	17:01 57	15:34 (1)	17:58		18:48	20:41	21:30	22:02	21:51	20:59	19:49	18:41	16:46 52	16:29 119
19	08:38	14:45 (1)	07:48		06:47	06:36	05:41	05:19	05:41	06:28	07:19	08:10	08:05	08:44
	17:03 50	15:35 (1)	17:59		18:50	20:43	21:32	22:03	21:49	20:57	19:47	18:39	16:44 52	16:29 118
20	08:37	14:45 (1)	07:46		06:44	06:34	05:40	05:19	05:43	06:30	07:21	08:11	08:06	08:44
	17:05 51	15:36 (1)	18:01		18:51	20:44	21:33	22:03	21:48	20:55	19:45	18:37	16:43 51	16:29 119
21	08:36	14:46 (1)	07:44		06:42	06:32	05:38	05:19	05:44	06:32	07:22	08:13	08:08	08:45
	17:06 51	15:37 (1)	18:03		18:53	20:46	21:35	22:03	21:47	20:53	19:42	18:35	16:42 51	16:30 119
22	08:34	14:45 (1)	07:42		06:40	06:30	05:37	05:19	05:45	06:33	07:24	08:15	08:10	08:45
	17:08 51	15:36 (1)	18:05		18:55	20:48	21:36	22:03	21:46	20:51	19:40	18:33	16:41 51	16:30 119
23	08:33	14:45 (1)	07:40		06:37	06:28	05:36	05:20	05:47	06:35	07:26	08:17	08:11	08:46
	17:10 52	15:37 (1)	18:07		18:56	20:49	21:37	22:03	21:44	20:49	19:38	18:31	16:40 50	16:31 119
24	08:32	14:46 (1)	07:38		06:35	06:26	05:35	05:20	05:48	06:37	07:27	08:18	08:13	09:23 (4)
	17:12 52	15:38 (1)	18:09		18:58	20:51	21:39	22:04	21:43	20:46	19:35	18:28	16:38 57	16:31 118
25	08:31	14:45 (1)	07:36		06:33	06:24	05:33	05:20	05:49	06:38	07:29	07:20	08:15	09:22 (4)
	17:13 53	15:38 (1)	18:10		19:00	20:53	21:40	22:04	21:42	20:44	19:33	17:26	16:37 59	15:11 (1)
26	08:30	14:46 (1)	07:34		06:30	06:22	05:32	05:21	05:51	06:40	07:31	07:22	14:39 (1)	08:16
	17:15 53	15:39 (1)	18:12		19:02	20:54	21:41	22:04	21:40	20:42	19:31	17:24 15	14:54 (1)	16:36 61
27	08:28	14:46 (1)	07:32		06:28	06:20	05:31	05:21	05:52	06:42	07:32	07:24	14:35 (1)	08:18
	17:17 53	15:39 (1)	18:14		19:03	20:56	21:43	22:04	21:39	20:40	19:28	17:22 22	14:57 (1)	16:36 63
28	08:27	14:47 (1)	07:30		06:26	06:18	05:30	05:21	05:54	06:43	07:34	07:26	14:32 (1)	08:19
	17:19 52	15:39 (1)	18:16		19:05	20:58	21:44	22:03	21:37	20:38	19:26	17:20 28	15:00 (1)	16:35 74
29	08:25	14:46 (1)			07:24	06:16	05:29	05:22	05:55	06:45	07:35	07:27	14:29 (1)	08:21
	17:20 53	15:39 (1)			20:07	21:00	21:45	22:03	21:36	20:35	19:24	17:19 32	15:01 (1)	16:34 85
30	08:24	14:46 (1)			07:21	06:14	05:28	05:23	05:57	06:46	07:37	07:29	14:27 (1)	08:22
	17:22 53	15:39 (1)			20:08	21:01	21:47	22:03	21:34	20:33	19:21	17:17 36	15:03 (1)	16:33 95
31	08:22	14:47 (1)			07:19		05:27		05:58	06:48		07:31	14:26 (1)	
	17:24 53	15:40 (1)			20:10		21:48		21:33	20:31		17:15 38	15:04 (1)	
Potential sun hours	259		277		367	416	485	499	502	454	381	331		266
Total, worst case	2428		636									171		1648
Sun reduction	0,24		0,30									0,34		0,24
Oper. time red.	0,95		0,95									0,95		0,95
Wind dir. red.	0,66		0,69									0,69		0,68
Total reduction	0,15		0,20									0,22		0,15
Total, real	364		126									38		252

	January		February		March	April	May	June	July	August	September	October	November	December
1	09:20 (4)		14:47 (1)		07:27	07:17	06:12	05:26	05:23	06:00	06:50	07:39	07:33	14:24 (1)	08:24	09:20 (4)
	16:38 120	15:19 (1)	17:26 52	15:39 (1)	18:18	20:12	21:03	21:49	22:03	21:31	20:29	19:19	17:13 41	15:05 (1)	16:32 101	15:11 (1)
2	08:48	09:33 (4)	08:19	14:48 (1)	07:25	07:14	06:10	05:25	05:24	06:01	06:51	07:41	07:35	14:23 (1)	08:25	09:20 (4)
	16:39 120	15:20 (1)	17:28 51	15:39 (1)	18:20	20:14	21:05	21:50	22:03	21:29	20:26	19:17	17:11 43	15:06 (1)	16:32 105	15:11 (1)
3	08:48	09:33 (4)	08:18	14:49 (1)	07:23	07:12	06:08	05:25	05:25	06:03	06:53	07:42	07:36	14:22 (1)	08:27	09:20 (4)
	16:40 119	15:21 (1)	17:30 50	15:39 (1)	18:21	20:15	21:06	21:51	22:02	21:28	20:24	19:14	17:09 45	15:07 (1)	16:31 108	15:10 (1)
4	08:47	09:33 (4)	08:16	14:49 (1)	07:21	07:10	06:06	05:24	05:25	06:04	06:55	07:44	07:38	14:21 (1)	08:28	09:20 (4)
	16:41 119	15:21 (1)	17:31 50	15:39 (1)	18:23	20:17	21:08	21:52	22:02	21:26	20:22	19:12	17:07 46	15:07 (1)	16:30 112	15:11 (1)
5	08:47	09:34 (4)	08:14	14:50 (1)	07:19	07:07	06:04	05:23	05:26	06:06	06:56	07:46	07:40	14:20 (1)	08:29	09:20 (4)
	16:43 118	15:23 (1)	17:33 48	15:38 (1)	18:25	20:19	21:10	21:53	22:01	21:24	20:20	19:10	17:06 48	15:08 (1)	16:30 116	15:10 (1)
6	08:47	09:34 (4)	08:13	14:50 (1)	07:16	07:05	06:02	05:23	05:27	06:08	06:58	07:47	07:42	14:19 (1)	08:31	09:20 (4)
	16:44 116	15:23 (1)	17:35 48	15:38 (1)	18:27	20:20	21:11	21:54	22:01	21:22	20:17	19:08	17:04 49	15:08 (1)	16:30 117	15:09 (1)
7	08:46	09:35 (4)	08:11	14:51 (1)	07:14	07:03	06:00	05:22	05:28	06:09	06:59	07:49	07:44	14:19 (1)	08:32	09:21 (4)
	16:45 116	15:25 (1)	17:37 46	15:37 (1)	18:28	20:22	21:13	21:55	22:00	21:20	20:15	19:05	17:02 50	15:09 (1)	16:29 118	15:10 (1)
8	08:46	09:35 (4)	08:09	14:53 (1)	07:12	07:01	05:59	05:21	05:29	06:11	07:01	07:51	07:45	14:19 (1)	08:33	09:21 (4)
	16:46 111	15:25 (1)	17:39 44	15:37 (1)	18:30	20:24	21:15	21:56	22:00	21:19	20:13	19:03	17:00 50	15:09 (1)	16:29 119	15:10 (1)
9	08:45	09:37 (4)	08:08	14:54 (1)	07:10	06:58	05:57	05:21	05:30	06:12	07:03	07:52	07:47	14:18 (1)	08:34	09:21 (4)
	16:48 109	15:27 (1)	17:41 43	15:37 (1)	18:32	20:26	21:16	21:57	21:59	21:17	20:10	19:01	16:59 52	15:10 (1)	16:28 120	15:09 (1)
10	08:45	09:37 (4)	08:06	14:55 (1)	07:07	06:56	05:55	05:20	05:31	06:14	07:04	07:54	07:49	14:18 (1)	08:35	09:22 (4)
	16:49 105	15:28 (1)	17:43 41	15:36 (1)	18:34	20:27	21:18	21:58	21:58	21:15	20:08	18:59	16:57 52	15:10 (1)	16:28 120	15:09 (1)
11	08:44	09:38 (4)	08:04	14:56 (1)	07:05	06:54	05:54	05:20	05:32	06:16	07:06	07:56	07:51	14:18 (1)	08:37	09:22 (4)
	16:51 101	15:28 (1)	17:45 38	15:34 (1)	18:36	20:29	21:19	21:58	21:57	21:13	20:06	18:56	16:56 53	15:11 (1)	16:28 121	15:09 (1)
12	08:44	09:38 (4)	08:02	14:58 (1)	07:03	06:52	05:52	05:20	05:33	06:17	07:08	07:57	07:53	14:18 (1)	08:38	09:23 (4)
	16:52 96	15:29 (1)	17:46 35	15:33 (1)	18:37	20:31	21:21	21:59	21:56	21:11	20:03	18:54	16:54 53	15:11 (1)	16:28 120	15:10 (1)
13	08:43	09:39 (4)	08:00	15:00 (1)	07:00	06:49	05:50	05:19	05:34	06:19	07:09	07:59	07:54	14:18 (1)	08:39	09:24 (4)
	16:53 85	15:30 (1)	17:48 31	15:31 (1)	18:39	20:32	21:23	22:00	21:56	21:09	20:01	18:52	16:53 53	15:11 (1)	16:28 120	15:10 (1)
14	08:42	09:40 (4)	07:58	15:03 (1)	06:58	06:47	05:49	05:19	05:35	06:20	07:11	08:01	07:56	14:18 (1)	08:40	09:24 (4)
	16:55 76	15:31 (1)	17:50 26	15:29 (1)	18:41	20:34	21:24	22:00	21:55	21:07	19:59	18:50	16:51 53	15:11 (1)	16:28 120	15:10 (1)
15	08:41	09:42 (4)	07:56	15:06 (1)	06:56	06:45	05:47	05:19	05:36	06:22	07:13	08:03	07:58	14:19 (1)	08:40	09:24 (4)
	16:57 63	15:33 (1)	17:52 21	15:27 (1)	18:43	20:36	21:26	22:01	21:54	21:05	19:56	18:47	16:50 53	15:12 (1)	16:28 121	15:09 (1)
16	08:41	09:42 (4)	07:54	15:11 (1)	06:54	06:43	05:46	05:19	05:38	06:24	07:14	08:04	08:00	14:19 (1)	08:41	09:24 (4)
	16:58 61	15:32 (1)	17:54 12	15:23 (1)	18:44	20:37	21:27	22:01	21:53	21:03	19:54	18:45	16:48 53	15:12 (1)	16:28 119	15:09 (1)
17	08:40	09:44 (4)	07:52		06:51	06:41	05:44	05:19	05:39	06:25	07:16	08:06	08:01	14:19 (1)	08:42	09:25 (4)
	17:00 59	15:33 (1)	17:56		18:46	20:39	21:29	22:02	21:52	21:01	19:52	18:43	16:47 53	15:12 (1)	16:28 120	15:09 (1)
18	08:39	09:46 (4)	07:50		06:49	06:38	05:43	05:19	05:40	06:27	07:17	08:08	08:03	14:20 (1)	08:43	09:26 (4)
	17:01 57	15:34 (1)	17:58		18:48	20:41	21:30	22:02	21:51	20:59	19:49	18:41	16:46 52	15:12 (1)	16:29 119	15:10 (1)
19	08:38	14:45 (1)	07:48		06:47	06:36	05:41	05:19	05:41	06:28	07:19	08:10	08:05	14:19 (1)	08:44	09:26 (4)
	17:03 50	15:35 (1)	17:59		18:50	20:43	21:32	22:03	21:49	20:57	19:47	18:39	16:44 52	15:11 (1)	16:29 118	15:09 (1)
20	08:37	14:45 (1)	07:46		06:44	06:34	05:40	05:19	05:43	06:30	07:21	08:11	08:06	14:20 (1)	08:44	09:27 (4)
	17:05 51	15:36 (1)	18:01		18:51	20:44	21:33	22:03	21:48	20:55	19:45	18:37	16:43 51	15:11 (1)	16:29 119	15:10 (1)
21	08:36	14:46 (1)	07:44		06:42	06:32	05:38	05:19	05:44	06:32	07:22	08:13	08:08	14:21 (1)	08:45	09:28 (4)
	17:06 51	15:37 (1)	18:03		18:53	20:46	21:35	22:03	21:47	20:53	19:42	18:35	16:42 51	15:12 (1)	16:30 119	15:11 (1)
22	08:34	14:45 (1)	07:42		06:40	06:30	05:37	05:19	05:45	06:33	07:24	08:15	08:10	14:21 (1)	08:45	09:28 (4)
	17:08 51	15:36 (1)	18:05		18:55	20:48	21:36	22:03	21:46	20:51	19:40	18:33	16:41 51	15:12 (1)	16:30 119	15:11 (1)
23	08:33	14:45 (1)	07:40		06:37	06:28	05:36	05:20	05:47	06:35	07:26	08:17	08:11	14:22 (1)	08:46	09:28 (4)
	17:10 52	15:37 (1)	18:07		18:56	20:49	21:37	22:03	21:44	20:49	19:38	18:31	16:40 50	15:12 (1)	16:31 119	15:11 (1)
24	08:32	14:46 (1)	07:38		06:35	06:26	05:35	05:20	05:48	06:37	07:27	08:18	08:13	09:23 (4)	08:46	09:29 (4)
	17:12 52	15:38 (1)	18:09		18:58	20:51	21:39	22:04	21:43	20:46	19:35	18:28	16:38 57	15:11 (1)	16:31 118	15:12 (1)
25	08:31	14:45 (1)	07:36		06:33	06:24	05:33	05:20	05:49	06:38	07:29	07:20	08:15	09:22 (4)	08:47	09:29 (4)
	17:13 53	15:38 (1)	18:10		19:00	20:53	21:40	22:04	21:42	20:44	19:33	17:26	16:37 59	15:11 (1)	16:32 119	15:13 (1)
26	08:30	14:46 (1)	07:34		06:30	06:22	05:32	05:21	05:51	06:40	07:31	07:22	14:39 (1)	08:16	08:47	09:29 (4)
	17:15 53	15:39 (1)	18:12		19:02	20:54	21:41	22:04	21:40	20:42	19:31	17:24 15	14:54 (1)	16:36 61	15:11 (1)	16:32 120	15:13 (1)
27	08:28	14:46 (1)	07:32		06:28	06:20	05:31	05:21	05:52	06:42	07:32	07:24	14:35 (1)	08:18	09:21 (4)	08:47	09:30 (4)
	17:17 53	15:39 (1)	18:14		19:03	20:56	21:43	22:04	21:39	20:40	19:28	17:22 22	14:57 (1)	16:36 63	15:12 (1)	16:33 121	15:15 (1)
28	08:27	14:47 (1)	07:30		06:26	06:18	05:30	05:21	05:54	06:43	07:34	07:26	14:32 (1)	08:19	09:20 (4)	08:48	09:31 (4)
	17:19 52	15:39 (1)	18:16		19:05	20:58	21:44	22:03	21:37	20:38	19:26	17:20 28	15:00 (1)	16:35 74	15:11 (1)	16:34 120	15:15 (1)
29	08:25	14:46 (1)			07:24	06:16	05:29	05:22	05:55	06:45	07:35	07:27	14:29 (1)	08:21	09:20 (4)	08:48	09:31 (4)
	17:20 53	15:39 (1)			20:07	21:00	21:45	22:03	21:36	20:35	19:24	17:19 32	15:01 (1)	16:34 85	15:11 (1)	16:35 120	15:16 (1)
30	08:24	14:46 (1)			07:21	06:14	05:28	05:23	05:57	06:46	07:37	07:29	14:27 (1)	08:22	09:20 (4)	08:48	09:32 (4)
	17:22 53	15:39 (1)			20:08	21:01	21:47	22:03	21:34	20:33	19:21	17:17 36	15:03 (1)	16:33 95	15:11 (1)	16:36 120	15:17 (1)
31	08:22	14:47 (1)			07:19		05:27		05:58	06:48		07:31	14:26 (1)			08:48	09:31 (4)
	17:24 53	15:40 (1)			20:10		21:48		21:33	20:31		17:15 38	15:04 (1)			16:37 119	15:17 (1)
Potential sun hours	259		277		367	416	485	499	502	454	381	331		266		243	
Total, worst case	2428		636									171		1648		3647	
Sun reduction	0,24		0,30									0,34		0,24		0,20	
Oper. time red.	0,95		0,95									0,95		0,95		0,95	
Wind dir. red.	0,66		0,69									0,69		0,68		0,64	
Total reduction	0,15		0,20									0,22		0,15		0,12	
Total, real	364		126									38		252		451	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:34/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion3.7M140@160Shadow receptor: AM - 3945LA6

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December		
1	08:48		09:38 (4)		08:21		13:51 (2)	07:27		17:11 (1)	07:17	06:12	05:26	05:23	06:00	06:50		07:39		17:32 (1)	07:33		13:26 (2)	08:24		09:24 (4)
	16:38	129	14:40 (2)	67	14:58 (2)	13	18:18	17:24 (1)	20:12	21:03	21:49	22:03	21:31	20:29		19:19	46	18:18 (1)	59	17:13	59	14:25 (2)	16:32	136	14:30 (2)
2	08:48		09:39 (4)		08:19		13:51 (2)	07:25		17:07 (1)	07:14	06:10	05:25	05:24	06:01	06:51		07:40		17:32 (1)	07:35		13:26 (2)	08:25		09:25 (4)
	16:39	130	14:41 (2)	66	14:57 (2)	21	18:19	17:28 (1)	20:14	21:05	21:50	22:02	21:29	20:26		19:17	45	18:17 (1)	60	17:11	60	14:26 (2)	16:32	133	14:30 (2)
3	08:48		09:39 (4)		08:18		13:52 (2)	07:23		17:04 (1)	07:12	06:08	05:25	05:25	06:03	06:53		07:42		17:31 (1)	07:36		13:24 (2)	08:27		09:25 (4)
	16:40	132	14:42 (2)	66	14:58 (2)	25	18:21	17:29 (1)	20:15	21:06	21:51	22:02	21:28	20:24		19:14	45	18:16 (1)	62	17:09	62	14:26 (2)	16:31	133	14:30 (2)
4	08:47		09:39 (4)		08:16		13:52 (2)	07:21		17:02 (1)	07:10	06:06	05:24	05:25	06:04	06:55		07:44		17:32 (1)	07:38		13:23 (2)	08:28		09:26 (4)
	16:41	131	14:42 (2)	66	14:58 (2)	30	18:23	17:32 (1)	20:17	21:08	21:52	22:02	21:26	20:22		19:12	43	18:15 (1)	63	17:07	63	14:26 (2)	16:30	134	14:30 (2)
5	08:47		09:40 (4)		08:14		13:53 (2)	07:19		17:00 (1)	07:07	06:04	05:23	05:26	06:06	06:56		07:46		17:33 (1)	07:40		13:23 (2)	08:29		09:26 (4)
	16:43	132	14:43 (2)	64	14:57 (2)	34	18:25	17:34 (1)	20:19	21:10	21:53	22:01	21:24	20:20		19:10	41	18:14 (1)	64	17:06	64	14:27 (2)	16:30	134	14:30 (2)
6	08:47		09:40 (4)		08:13		13:53 (2)	07:16		16:59 (1)	07:05	06:02	05:23	05:27	06:08	06:58		07:47		17:34 (1)	07:42		13:23 (2)	08:31		09:26 (4)
	16:44	133	14:44 (2)	64	14:57 (2)	36	18:27	17:35 (1)	20:20	21:11	21:54	22:01	21:22	20:17		19:08	39	18:13 (1)	64	17:04	64	14:27 (2)	16:30	133	14:30 (2)
7	08:46		09:41 (4)		08:11		13:54 (2)	07:14		16:57 (1)	07:03	06:00	05:22	05:28	06:09	06:59		07:49		17:34 (1)	07:44		13:22 (2)	08:32		09:27 (4)
	16:45	134	14:45 (2)	62	14:56 (2)	38	18:28	17:35 (1)	20:22	21:13	21:55	22:00	21:20	20:15		19:05	37	18:11 (1)	66	17:02	66	14:28 (2)	16:29	132	14:30 (2)
8	08:46		09:40 (4)		08:09		13:55 (2)	07:12		16:56 (1)	07:01	05:59	05:21	05:29	06:11	07:01		07:51		17:35 (1)	07:45		13:22 (2)	08:33		09:27 (4)
	16:46	135	14:45 (2)	62	14:57 (2)	41	18:30	17:37 (1)	20:24	21:14	21:56	21:59	21:19	20:13		19:03	34	18:09 (1)	66	17:00	66	14:28 (2)	16:29	131	14:30 (2)
9	08:45		09:41 (4)		08:07		13:56 (2)	07:10		16:55 (1)	06:58	05:57	05:21	05:30	06:12	07:03		07:52		17:36 (1)	07:47		13:22 (2)	08:34		09:27 (4)
	16:48	135	14:47 (2)	60	14:56 (2)	43	18:32	17:38 (1)	20:25	21:16	21:57	21:59	21:17	20:10		19:01	32	18:08 (1)	66	16:59	66	14:28 (2)	16:28	132	14:30 (2)
10	08:45		09:42 (4)		08:06		13:57 (2)	07:07		16:54 (1)	06:56	05:55	05:20	05:31	06:14	07:04		07:54		17:38 (1)	07:49		13:22 (2)	08:35		09:28 (4)
	16:49	133	14:47 (2)	58	14:55 (2)	43	18:34	17:37 (1)	20:27	21:18	21:57	21:58	21:15	20:08		18:59	28	18:06 (1)	67	16:57	67	14:29 (2)	16:28	130	14:30 (2)
11	08:44		09:42 (4)		08:04		13:58 (2)	07:05		16:53 (1)	06:54	05:54	05:20	05:32	06:16	07:06		07:56		17:39 (1)	07:51		13:22 (2)	08:37		09:28 (4)
	16:51	135	14:48 (2)	57	14:55 (2)	45	18:36	17:38 (1)	20:29	21:19	21:58	21:57	21:13	20:06		18:56	23	18:02 (1)	67	16:56	67	14:29 (2)	16:28	129	14:30 (2)
12	08:44		09:42 (4)		08:02		13:59 (2)	07:03		16:53 (1)	06:52	05:52	05:20	05:33	06:17	07:08		07:57		17:42 (1)	07:52		13:22 (2)	08:38		09:30 (4)
	16:52	135	14:48 (2)	55	14:54 (2)	46	18:37	17:39 (1)	20:31	21:21	21:59	21:56	21:11	20:03		18:54	18	18:00 (1)	67	16:54	67	14:29 (2)	16:28	129	14:31 (2)
13	08:43		09:42 (4)		08:00		14:00 (2)	07:00		16:52 (1)	06:49	05:50	05:19	05:34	06:19	07:09		07:59		17:46 (1)	07:54		13:22 (2)	08:39		09:30 (4)
	16:53	136	14:49 (2)	53	14:53 (2)	46	18:39	17:38 (1)	20:32	21:23	22:00	21:56	21:09	20:01		18:52	9	17:55 (1)	68	16:53	68	14:30 (2)	16:28	128	14:31 (2)
14	08:42		09:43 (4)		07:58		14:02 (2)	06:58		16:52 (1)	06:47	05:49	05:19	05:35	06:20	07:11		17:57 (1)		08:01		07:56		13:22 (2)	08:40		09:30 (4)
	16:55	135	14:50 (2)	50	14:52 (2)	46	18:41	17:38 (1)	20:34	21:24	22:00	21:55	21:07	19:59	11	18:08 (1)	50	18:50				16:51	68	14:30 (2)	16:28	127	14:30 (2)
15	08:41		09:43 (4)		07:56		14:04 (2)	06:56		16:52 (1)	06:45	05:47	05:19	05:36	06:22	07:12		17:53 (1)		08:03		07:58		09:30 (4)	08:40		09:31 (4)
	16:57	135	14:50 (2)	46	14:50 (2)	46	18:43	17:38 (1)	20:36	21:26	22:01	21:54	21:05	19:56	19	18:12 (1)	87	18:47				16:50	87	14:30 (2)	16:28	127	14:31 (2)
16	08:41		09:44 (4)		07:54		14:06 (2)	06:54		16:51 (1)	06:43	05:46	05:19	05:38	06:24	07:14		17:49 (1)		08:04		08:00		09:28 (4)	08:41		09:31 (4)
	16:58	134	14:51 (2)	43	14:49 (2)	46	18:44	17:37 (1)	20:37	21:27	22:01	21:53	21:03	19:54	25	18:14 (1)	99	18:45				16:48	99	14:30 (2)	16:28	126	14:31 (2)
17	08:40		09:44 (4)		07:52		14:08 (2)	06:51		16:51 (1)	06:41	05:44	05:19	05:39	06:25	07:16		17:47 (1)		08:06		08:01		09:27 (4)	08:42		09:32 (4)
	17:00	134	14:52 (2)	39	14:47 (2)	46	18:46	17:37 (1)	20:39	21:29	22:02	21:52	21:01	19:52	28	18:15 (1)	107	18:43				16:47	107	14:30 (2)	16:28	126	14:32 (2)
18	08:39		09:45 (4)		07:50		14:11 (2)	06:49		16:52 (1)	06:38	05:43	05:19	05:40	06:27	07:17		17:45 (1)		08:08		08:03		09:26 (4)	08:43		09:33 (4)
	17:01	133	14:53 (2)	34	14:45 (2)	45	18:48	17:37 (1)	20:41	21:30	22:02	21:50	20:59	19:49	32	18:17 (1)	114	18:41				16:46	114	14:31 (2)	16:29	124	14:32 (2)
19	08:38		09:46 (4)		07:48		14:15 (2)	06:47		16:51 (1)	06:36	05:41	05:19	05:41	06:28	07:19		17:42 (1)		08:10		08:05		09:24 (4)	08:44		09:33 (4)
	17:03	130	14:53 (2)	27	14:42 (2)	45	18:49	17:36 (1)	20:43	21:32	22:03	21:49	20:57	19:47	35	18:17 (1)	119	18:39				16:44	119	14:30 (2)	16:29	124	14:32 (2)
20	08:37		09:47 (4)		07:46		14:20 (2)	06:44		16:52 (1)	06:34	05:40	05:19	05:43	06:30	07:21		17:41 (1)		08:11		08:06		09:24 (4)	08:44		09:34 (4)
	17:05	128	14:54 (2)	16	14:36 (2)	43	18:51	17:35 (1)	20:44	21:33	22:03	21:48	20:55	19:45	37	18:18 (1)	122	18:37				16:43	122	14:30 (2)	16:29	124	14:33 (2)
21	08:36		09:48 (4)		07:44		06:42	16:53 (1)	06:32	05:38	05:19	05:44	06:32	07:22		17:38 (1)	108	18:13				08:08		09:23 (4)	08:45		09:35 (4)
	17:06	127	14:55 (2)	18:03			18:53	42	17:35 (1)	20:46	21:35	22:03	21:47	20:53	19:42	40	18:18 (1)	135	18:35				16:42	127	14:30 (2)	16:30	125	14:34 (2)
22	08:34		09:49 (4)		07:42		06:40	16:53 (1)	06:30	05:37	05:19	05:45	06:33	07:24		17:37 (1)	135	18:15		14:49 (2)	108	08:10		09:23 (4)	08:45		09:35 (4)
	17:08	122	14:55 (2)	18:05			18:55	40	17:33 (1)	20:48	21:36	22:03	21:46	20:51	19:40	42	18:19 (1)	163	18:33	19	15:08 (2)	128	16:41	128	14:30 (2)	16:30	125	14:34 (2)
23	08:33		09:50 (4)		07:40		06:37	16:54 (1)	06:28	05:36	05:20	05:47	06:35	07:26		17:37 (1)	163	18:17		14:44 (2)	108	08:11		09:23 (4)	08:46		09:35 (4)
	17:10	119	14:56 (2)	18:07			18:56	38	17:32 (1)	20:49	21:37	22:03	21:44	20:49	19:38	43	18:20 (1)	163	18:30	28	15:12 (2)	163	16:40	131	14:31 (2)	16:31	125	14:34 (2)
24	08:32		09:52 (4)		07:38		06:35	16:55 (1)	06:26	05:35	05:20	05:48	06:37	07:27		17:35 (1)	163	18:18		14:40 (2)	163	08:13		09:22 (4)	08:46		09:36 (4)
	17:12	114	14:57 (2)	18:09			18:58	36	17:31 (1)	20:51	21:39	22:04	21:43	20:46	19:35	44	18:19 (1)	163	18:28	35	15:15 (2)	163	16:38	133	14:30 (2)	16:31	124	14:35 (2)
25	08:31		09:53 (4)		07:36		06:33	16:56 (1)	06:24	05:33	05:20	05:49	06:38	07:29		17:34 (1)	163	18:20		13:37 (2)	163	08:15		09:23 (4)	08:47		09:36 (4)
	17:13	107	14:56 (2)	18:10			19:00	33	17:29 (1)	20:53	21:40	22:04	21:42	20:44	19:33	46	18:20 (1)	163	17:26	40	14:17 (2)	163	16:37	134	14:30 (2)	16:32	124	14:35 (2)
26	08:29		09:55 (4)		07:34		06:30	16:58 (1)	06:22	05:32	05:21	05:51	06:40	07:31		17:34 (1)	163	17:22		13:35 (2)	163	08:16		09:23 (4)	08:47		09:36 (4)
	17:15	98	14:57 (2)	18:12			19:02	29	17:27 (1)	20:54	21:41	22:04	21:40	20:42	19:31	46	18:20 (1)	163	17:24	44	14:19 (2)	163	16:36	134	14:30 (2)	16:32	125	14:35 (2)
27	08:28		09:58 (4)		07:32		06:28	17:00 (1)	06:20	05:31	05:21	05:52	06:42	07:32		17:33 (1)	163	17:24		13:33 (2)	163	08:18		09:23 (4)	08:47		09:36 (4)
	17:17	85	14:57 (2)	18:14			19:03	26	17:26 (1)	20:56	21:43	22:04	21:39	20:40	19:28	46	18:19 (1)	163	17:22	47	14:20 (2)	163	16:36	135	14:31 (2)	16:33	126	14:36 (2)
28	08:27		13:50 (2)		07:30		06:26	17:02 (1)	06:18	05:30	05:21	05:54	06:43	07:34		17:33 (1)	163	17:26		13:31 (2)	163	08:19		09:23 (4)	08:48		09:37 (4)
	17:19	68	14:58 (2)	18:16			19:05	20	17:22 (1)	20:58	21:44	22:03	21:37	20:38	19:26	46	18:19 (1)	163	17:20	50	14:21 (2)	163	16:35	135	14:30 (2)	16:34	127	14:38 (2)
29	08:25		13:50 (2)				07:23	18:06 (1)	06:16	05:29	05:22	05:55	06:45	07:35		17:32 (1)	163	17:27		13:30 (2)	163	08:21		09:23 (4)	08:48		09:38 (4)
	17:20	68	14:58 (2)				20:07	13	18:19 (1)	21:00	21:45	22:03	21:36	20:35	19:24	47	18:19 (1)	163	17:19	53	14:23 (2)	163	16:34	136	14:30 (2)	16:35	126	14:38 (2)
30	08:24		13:50 (2)				07:21			06:14	05:28	05:23	05:57	06:46	07:37		17:32 (1)	163	17:29		13:28 (2)	163	08:22		09:24 (4)	08:48		09:38 (4)
	17:22	67	14:57 (2)				20:08			21:01	21:46	22:03	21:34	20:33	19:21	46	18:18 (1)	163	17:17	56	14:24 (2)	163	16:33	136	14:31 (2)	16:36	128	14:39 (2)
31	08:22		13:51 (2)				07:19				05:27		05:58	06:48				163	17:31		13:27 (2)					08:48		09:38 (4)
	17:24	67	14:58 (2)				20:10				21:48		21:33	20:31				163	17:15	57	14:24 (2)					16:37	127	14:39 (2)
Potential sun hours	259			277			367		416	485	499	502	454	381				331				266			243		
Total, worst case		3701			1055			1055							633				869				2884			3974	
Sun reduction		0,24			0,30			0,33							0,36				0,34				0,24			0,20	
Oper. time red.		0,95			0,95			0,95							0,95				0,95				0,95			0,95	
Wind dir. red.		0,65			0,69			0,65							0,65				0,67				0,66			0,64	
Total reduction		0,15			0,20			0,20							0,22				0,21				0,15			0,12	
Total, real		547			208			214							141				186				429			494	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:34/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion3.7M140@160Shadow receptor: AN - 3997ML142

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March	April	May	June	July	August	September	October	November		December	
1	08:48		09:59 (1)	08:21		09:00 (3)	07:27	07:17	06:12	05:26	05:23	06:00	06:50	07:39	07:33		09:54 (1)	08:24		09:05 (2)
	16:38	38	10:37 (1)	17:26	85	10:48 (1)	18:18	20:12	21:03	21:49	22:03	21:31	20:29	19:19	17:13	7	10:01 (1)	16:32	54	10:26 (1)
2	08:48		09:59 (1)	08:19		09:00 (3)	07:25	07:14	06:10	05:25	05:24	06:01	06:51	07:41	07:35		09:49 (1)	08:25		09:07 (2)
	16:39	39	10:38 (1)	17:28	81	10:47 (1)	18:20	20:14	21:05	21:50	22:03	21:29	20:27	19:17	17:11	17	10:06 (1)	16:32	51	10:27 (1)
3	08:48		10:00 (1)	08:18		09:02 (3)	07:23	07:12	06:08	05:25	05:25	06:03	06:53	07:42	07:36		09:46 (1)	08:27		09:44 (1)
	16:40	39	10:39 (1)	17:30	75	10:47 (1)	18:21	20:15	21:06	21:51	22:02	21:28	20:24	19:15	17:09	23	10:09 (1)	16:31	42	10:26 (1)
4	08:47		09:59 (1)	08:16		09:03 (3)	07:21	07:10	06:06	05:24	05:25	06:05	06:55	07:44	07:38		09:01 (2)	08:28		09:45 (1)
	16:41	40	10:39 (1)	17:32	70	10:46 (1)	18:23	20:17	21:08	21:52	22:02	21:26	20:22	19:12	17:07	33	10:12 (1)	16:31	42	10:27 (1)
5	08:47		10:00 (1)	08:14		09:04 (3)	07:19	07:07	06:04	05:23	05:26	06:06	06:56	07:46	07:40		08:36 (3)	08:29		09:45 (1)
	16:43	40	10:40 (1)	17:33	62	10:45 (1)	18:25	20:19	21:10	21:53	22:01	21:24	20:20	19:10	17:06	51	10:13 (1)	16:30	42	10:27 (1)
6	08:47		10:00 (1)	08:13		09:07 (3)	07:16	07:05	06:02	05:23	05:27	06:08	06:58	07:47	07:42		08:34 (3)	08:31		09:46 (1)
	16:44	40	10:40 (1)	17:35	47	10:43 (1)	18:27	20:20	21:11	21:54	22:01	21:22	20:17	19:08	17:04	62	10:15 (1)	16:30	40	10:26 (1)
7	08:46		10:00 (1)	08:11		09:32 (2)	07:14	07:03	06:01	05:22	05:28	06:09	07:00	07:49	07:44		08:33 (3)	08:32		09:47 (1)
	16:45	42	10:42 (1)	17:37	31	10:42 (1)	18:29	20:22	21:13	21:55	22:00	21:21	20:15	19:05	17:02	71	10:16 (1)	16:29	40	10:27 (1)
8	08:46		10:00 (1)	08:09		10:17 (1)	07:12	07:01	05:59	05:21	05:29	06:11	07:01	07:51	07:45		08:32 (3)	08:33		09:47 (1)
	16:46	42	10:42 (1)	17:39	22	10:39 (1)	18:30	20:24	21:15	21:56	22:00	21:19	20:13	19:03	17:01	76	10:17 (1)	16:29	40	10:27 (1)
9	08:46		10:01 (1)	08:08		10:20 (1)	07:10	06:58	05:57	05:21	05:30	06:12	07:03	07:52	07:47		08:31 (3)	08:34		09:48 (1)
	16:48	42	10:43 (1)	17:41	16	10:36 (1)	18:32	20:26	21:16	21:57	21:59	21:17	20:10	19:01	16:59	81	10:18 (1)	16:29	39	10:27 (1)
10	08:45		09:25 (2)	08:06		10:26 (1)	07:07	06:56	05:55	05:21	05:31	06:14	07:04	07:54	07:49		08:31 (3)	08:36		09:49 (1)
	16:49	50	10:44 (1)	17:43	3	10:29 (1)	18:34	20:27	21:18	21:58	21:58	21:15	20:08	18:59	16:57	86	10:19 (1)	16:28	38	10:27 (1)
11	08:44		09:23 (2)	08:04			07:05	06:54	05:54	05:20	05:32	06:16	07:06	07:56	07:51		08:31 (3)	08:37		09:50 (1)
	16:51	54	10:44 (1)	17:45			18:36	20:29	21:19	21:58	21:57	21:13	20:06	18:56	16:56	89	10:20 (1)	16:28	38	10:28 (1)
12	08:44		09:22 (2)	08:02			07:03	06:52	05:52	05:20	05:33	06:17	07:08	07:57	07:53		08:31 (3)	08:38		09:51 (1)
	16:52	57	10:44 (1)	17:46			18:37	20:31	21:21	21:59	21:57	21:11	20:04	18:54	16:54	92	10:21 (1)	16:28	37	10:28 (1)
13	08:43		09:20 (2)	08:00			07:01	06:49	05:50	05:20	05:34	06:19	07:09	07:59	07:54		08:31 (3)	08:39		09:51 (1)
	16:54	61	10:45 (1)	17:48			18:39	20:32	21:23	22:00	21:56	21:09	20:01	18:52	16:53	93	10:22 (1)	16:28	37	10:28 (1)
14	08:42		09:21 (2)	07:58			06:58	06:47	05:49	05:19	05:35	06:20	07:11	08:01	07:56		08:31 (3)	08:40		09:52 (1)
	16:55	63	10:46 (1)	17:50			18:41	20:34	21:24	22:00	21:55	21:07	19:59	18:50	16:51	94	10:22 (1)	16:28	36	10:28 (1)
15	08:42		09:20 (2)	07:56			06:56	06:45	05:47	05:19	05:36	06:22	07:13	08:03	07:58		08:32 (3)	08:41		09:52 (1)
	16:57	66	10:47 (1)	17:52			18:43	20:36	21:26	22:01	21:54	21:05	19:57	18:48	16:50	94	10:23 (1)	16:28	36	10:28 (1)
16	08:41		09:19 (2)	07:54			06:54	06:43	05:46	05:19	05:38	06:24	07:14	08:04	08:00		08:32 (3)	08:41		09:53 (1)
	16:58	68	10:48 (1)	17:54			18:44	20:38	21:27	22:01	21:53	21:03	19:54	18:45	16:48	94	10:23 (1)	16:28	35	10:28 (1)
17	08:40		09:18 (2)	07:52			06:51	06:41	05:44	05:19	05:39	06:25	07:16	08:06	08:01		08:33 (3)	08:42		09:54 (1)
	17:00	69	10:47 (1)	17:56			18:46	20:39	21:29	22:02	21:52	21:01	19:52	18:43	16:47	94	10:24 (1)	16:28	35	10:29 (1)
18	08:39		09:18 (2)	07:50			06:49	06:38	05:43	05:19	05:40	06:27	07:17	08:08	08:03		08:34 (3)	08:43		09:54 (1)
	17:01	71	10:48 (1)	17:58			18:48	20:41	21:30	22:02	21:51	20:59	19:49	18:41	16:46	93	10:24 (1)	16:29	35	10:29 (1)
19	08:38		09:18 (2)	07:48			06:47	06:36	05:41	05:19	05:41	06:29	07:19	08:10	08:05		08:35 (3)	08:44		09:55 (1)
	17:03	72	10:48 (1)	17:59			18:50	20:43	21:32	22:03	21:49	20:57	19:47	18:39	16:44	90	10:24 (1)	16:29	35	10:30 (1)
20	08:37		09:05 (3)	07:46			06:44	06:34	05:40	05:19	05:43	06:30	07:21	08:11	08:06		08:37 (3)	08:44		09:55 (1)
	17:05	79	10:49 (1)	18:01			18:51	20:44	21:33	22:03	21:48	20:55	19:45	18:37	16:43	87	10:24 (1)	16:29	35	10:30 (1)
21	08:36		09:04 (3)	07:44			06:42	06:32	05:38	05:19	05:44	06:32	07:22	08:13	08:08		08:39 (3)	08:45		09:56 (1)
	17:06	85	10:50 (1)	18:03			18:53	20:46	21:35	22:03	21:47	20:53	19:42	18:35	16:42	85	10:25 (1)	16:30	35	10:31 (1)
22	08:35		09:02 (3)	07:42			06:40	06:30	05:37	05:19	05:45	06:33	07:24	08:15	08:10		08:41 (3)	08:45		09:56 (1)
	17:08	87	10:49 (1)	18:05			18:55	20:48	21:36	22:03	21:46	20:51	19:40	18:33	16:41	79	10:25 (1)	16:30	35	10:31 (1)
23	08:33		09:01 (3)	07:40			06:37	06:28	05:36	05:20	05:47	06:35	07:26	08:17	08:11		08:43 (3)	08:46		09:57 (1)
	17:10	90	10:50 (1)	18:07			18:56	20:49	21:37	22:04	21:44	20:49	19:38	18:31	16:40	73	10:26 (1)	16:31	35	10:32 (1)
24	08:32		09:00 (3)	07:38			06:35	06:26	05:35	05:20	05:48	06:37	07:27	08:18	08:13		08:56 (2)	08:46		09:57 (1)
	17:12	93	10:50 (1)	18:09			18:58	20:51	21:39	22:04	21:43	20:46	19:35	18:29	16:39	71	10:26 (1)	16:31	35	10:32 (1)
25	08:31		08:59 (3)	07:36			06:33	06:24	05:33	05:20	05:49	06:38	07:29	07:20	08:15		08:56 (2)	08:47		09:57 (1)
	17:13	94	10:50 (1)	18:10			19:00	20:53	21:40	22:04	21:42	20:44	19:33	17:26	16:37	69	10:25 (1)	16:32	35	10:32 (1)
26	08:30		08:59 (3)	07:34			06:31	06:22	05:32	05:21	05:51	06:40	07:31	07:22	08:16		08:57 (2)	08:47		09:58 (1)
	17:15	94	10:50 (1)	18:12			19:02	20:55	21:42	22:04	21:40	20:42	19:31	17:24	16:37	68	10:26 (1)	16:33	35	10:33 (1)
27	08:28		08:59 (3)	07:32			06:28	06:20	05:31	05:21	05:52	06:42	07:32	07:24	08:18		08:59 (2)	08:47		09:59 (1)
	17:17	94	10:50 (1)	18:14			19:03	20:56	21:43	22:04	21:39	20:40	19:28	17:22	16:36	66	10:26 (1)	16:33	35	10:34 (1)
28	08:27		08:59 (3)	07:30			06:26	06:18	05:30	05:22	05:54	06:43	07:34	07:26	08:19		09:00 (2)	08:48		09:59 (1)
	17:19	94	10:50 (1)	18:16			19:05	20:58	21:44	22:04	21:37	20:38	19:26	17:21	16:35	64	10:26 (1)	16:34	36	10:35 (1)
29	08:25		08:59 (3)				07:24	06:16	05:29	05:22	05:55	06:45	07:36	07:27	08:21		09:01 (2)	08:48		09:59 (1)
	17:20	93	10:50 (1)				20:07	21:00	21:45	22:03	21:36	20:35	19:24	17:19	16:34	61	10:26 (1)	16:35	36	10:35 (1)
30	08:24		08:59 (3)				07:21	06:14	05:28	05:23	05:57	06:46	07:37	07:29	08:22		09:04 (2)	08:48		09:59 (1)
	17:22	91	10:49 (1)				20:08	21:01	21:47	22:03	21:34	20:33	19:21	17:17	16:33	58	10:27 (1)	16:36	37	10:36 (1)
31	08:22		09:00 (3)				07:19		05:27		05:58	06:48		07:31				08:48		10:00 (1)
	17:24	89	10:49 (1)				20:10		21:48		21:33	20:31		17:15				16:37	37	10:37 (1)
Potential sun hours	259			277			367	416	485	499	502	454	381	331	266			243		
Total, worst case		2076			492											2121			1178	
Sun reduction		0,24			0,30											0,24			0,20	
Oper. time red.		0,95			0,95											0,95			0,95	
Wind dir. red.		0,60			0,59											0,59			0,60	
Total reduction		0,14			0,17											0,13			0,12	
Total, real		281			84											283			137	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:34/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion3.7M140@160Shadow receptor: AO - 3997ML144

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March	April	May	June	July	August	September	October	November		December	
1	08:48		10:03 (1)	08:21	09:02 (3)	07:17	06:12	05:26	05:23	06:00	06:50	07:39	07:33		08:24	09:05 (2)
	16:38	41	10:44 (1)	17:26	84 10:53 (1)	18:18	20:12	21:03	21:49	22:03	21:31	20:29	19:19	17:13		16:32	62 10:33 (1)
2	08:48		10:04 (1)	08:19	09:03 (3)	07:25	07:14	06:10	05:25	05:24	06:01	06:51	07:41	07:35	09:58 (1)	08:25	09:07 (2)
	16:39	41	10:45 (1)	17:28	78 10:52 (1)	18:20	20:14	21:05	21:50	22:03	21:29	20:27	19:17	17:11	10 10:08 (1)	16:32	58 10:33 (1)
3	08:48		10:04 (1)	08:18	09:04 (3)	07:23	07:12	06:08	05:25	05:25	06:03	06:53	07:42	07:36	09:54 (1)	08:27	09:08 (2)
	16:40	42	10:46 (1)	17:30	73 10:52 (1)	18:21	20:15	21:06	21:51	22:02	21:28	20:24	19:15	17:09	18 10:12 (1)	16:31	56 10:33 (1)
4	08:47		10:04 (1)	08:16	09:05 (3)	07:21	07:10	06:06	05:24	05:25	06:04	06:55	07:44	07:38	09:52 (1)	08:28	09:11 (2)
	16:41	42	10:46 (1)	17:32	64 10:51 (1)	18:23	20:17	21:08	21:52	22:02	21:26	20:22	19:12	17:07	23 10:15 (1)	16:31	52 10:34 (1)
5	08:47		10:04 (1)	08:14	09:07 (3)	07:19	07:07	06:04	05:23	05:26	06:06	06:56	07:46	07:40	09:01 (2)	08:29	09:50 (1)
	16:43	43	10:47 (1)	17:33	54 10:49 (1)	18:25	20:19	21:10	21:53	22:01	21:24	20:20	19:10	17:06	37 10:17 (1)	16:30	43 10:33 (1)
6	08:47		10:04 (1)	08:13	09:32 (2)	07:16	07:05	06:02	05:23	05:27	06:08	06:58	07:47	07:42	08:37 (3)	08:31	09:50 (1)
	16:44	43	10:47 (1)	17:35	36 10:47 (1)	18:27	20:20	21:11	21:54	22:01	21:22	20:17	19:08	17:04	54 10:19 (1)	16:30	43 10:33 (1)
7	08:46		10:05 (1)	08:11	10:22 (1)	07:14	06:01	05:22	05:28	06:09	07:00	07:49	07:44	08:35 (3)	08:32	09:51 (1)
	16:45	43	10:48 (1)	17:37	23 10:45 (1)	18:29	20:22	21:13	21:55	22:00	21:21	20:15	19:05	17:02	66 10:21 (1)	16:29	43 10:34 (1)
8	08:46		09:26 (2)	08:09	10:25 (1)	07:12	07:01	05:59	05:21	05:29	06:11	07:01	07:51	07:45	08:34 (3)	08:33	09:52 (1)
	16:46	52	10:49 (1)	17:39	17 10:42 (1)	18:30	20:24	21:15	21:56	22:00	21:19	20:13	19:03	17:01	74 10:22 (1)	16:29	42 10:34 (1)
9	08:46		09:25 (2)	08:08	10:30 (1)	07:10	06:58	05:57	05:21	05:30	06:12	07:03	07:52	07:47	08:33 (3)	08:34	09:52 (1)
	16:48	56	10:50 (1)	17:41	7 10:37 (1)	18:32	20:26	21:16	21:57	21:59	21:17	20:10	19:01	16:59	79 10:23 (1)	16:29	42 10:34 (1)
10	08:45		09:24 (2)	08:06		07:07	06:56	05:55	05:21	05:31	06:14	07:04	07:54	07:49	08:33 (3)	08:36	09:53 (1)
	16:49	58	10:50 (1)	17:43		18:34	20:27	21:18	21:58	21:58	21:15	20:08	18:59	16:57	83 10:24 (1)	16:28	41 10:34 (1)
11	08:44		09:23 (2)	08:04		07:05	06:54	05:54	05:20	05:32	06:16	07:06	07:56	07:51	08:33 (3)	08:37	09:54 (1)
	16:51	62	10:51 (1)	17:45		18:36	20:29	21:19	21:58	21:57	21:13	20:06	18:56	16:56	86 10:25 (1)	16:28	41 10:35 (1)
12	08:44		09:22 (2)	08:02		07:03	06:52	05:52	05:20	05:33	06:17	07:08	07:57	07:53	08:32 (3)	08:38	09:55 (1)
	16:52	64	10:51 (1)	17:46		18:37	20:31	21:21	21:59	21:57	21:11	20:04	18:54	16:54	91 10:26 (1)	16:28	40 10:35 (1)
13	08:43		09:21 (2)	08:00		07:01	06:49	05:50	05:20	05:34	06:19	07:09	07:59	07:54	08:33 (3)	08:39	09:55 (1)
	16:53	66	10:51 (1)	17:48		18:39	20:32	21:23	22:00	21:56	21:09	20:01	18:52	16:53	92 10:27 (1)	16:28	40 10:35 (1)
14	08:42		09:22 (2)	07:58		06:58	06:47	05:49	05:19	05:35	06:20	07:11	08:01	07:56	08:33 (3)	08:40	09:56 (1)
	16:55	68	10:53 (1)	17:50		18:41	20:34	21:24	22:00	21:55	21:07	19:59	18:50	16:51	93 10:28 (1)	16:28	40 10:36 (1)
15	08:42		09:21 (2)	07:56		06:56	06:45	05:47	05:19	05:36	06:22	07:13	08:03	07:58	08:33 (3)	08:41	09:56 (1)
	16:57	70	10:53 (1)	17:52		18:43	20:36	21:26	22:01	21:54	21:05	19:57	18:48	16:50	95 10:28 (1)	16:28	39 10:35 (1)
16	08:41		09:21 (2)	07:54		06:54	06:43	05:46	05:19	05:38	06:24	07:14	08:04	08:00	08:34 (3)	08:41	09:57 (1)
	16:58	71	10:54 (1)	17:54		18:44	20:38	21:27	22:01	21:53	21:03	19:54	18:45	16:48	95 10:29 (1)	16:28	39 10:36 (1)
17	08:40		09:20 (2)	07:52		06:51	06:41	05:44	05:19	05:39	06:25	07:16	08:06	08:01	08:34 (3)	08:42	09:57 (1)
	17:00	73	10:54 (1)	17:56		18:46	20:39	21:29	22:02	21:52	21:01	19:52	18:43	16:47	97 10:30 (1)	16:28	39 10:36 (1)
18	08:39		09:20 (2)	07:50		06:49	06:38	05:43	05:19	05:40	06:27	07:17	08:08	08:03	08:35 (3)	08:43	09:58 (1)
	17:01	74	10:54 (1)	17:58		18:48	20:41	21:30	22:02	21:51	20:59	19:49	18:41	16:46	95 10:30 (1)	16:29	39 10:37 (1)
19	08:38		09:06 (3)	07:48		06:47	06:36	05:41	05:19	05:41	06:29	07:19	08:10	08:05	08:35 (3)	08:44	09:59 (1)
	17:03	82	10:55 (1)	17:59		18:50	20:43	21:32	22:03	21:49	20:57	19:47	18:39	16:44	94 10:30 (1)	16:29	38 10:37 (1)
20	08:37		09:05 (3)	07:46		06:44	06:34	05:40	05:19	05:43	06:30	07:21	08:11	08:06	08:37 (3)	08:44	09:59 (1)
	17:05	86	10:55 (1)	18:01		18:51	20:44	21:33	22:03	21:48	20:55	19:45	18:37	16:43	91 10:30 (1)	16:29	38 10:37 (1)
21	08:36		09:04 (3)	07:44		06:42	06:32	05:38	05:19	05:44	06:32	07:22	08:13	08:08	08:39 (3)	08:45	10:00 (1)
	17:06	88	10:56 (1)	18:03		18:53	20:46	21:35	22:03	21:47	20:53	19:42	18:35	16:42	88 10:31 (1)	16:30	38 10:38 (1)
22	08:35		09:02 (3)	07:42		06:40	06:30	05:37	05:19	05:45	06:33	07:24	08:15	08:10	08:41 (3)	08:45	10:00 (1)
	17:08	91	10:55 (1)	18:05		18:55	20:48	21:36	22:03	21:46	20:51	19:40	18:33	16:41	86 10:31 (1)	16:30	38 10:38 (1)
23	08:33		09:01 (3)	07:40		06:37	06:28	05:36	05:20	05:47	06:35	07:26	08:17	08:11	08:43 (3)	08:46	10:01 (1)
	17:10	94	10:56 (1)	18:07		18:56	20:49	21:37	22:04	21:44	20:49	19:38	18:31	16:40	82 10:32 (1)	16:31	38 10:39 (1)
24	08:32		09:01 (3)	07:38		06:35	06:26	05:35	05:20	05:48	06:37	07:27	08:18	08:13	08:45 (3)	08:46	10:01 (1)
	17:12	95	10:56 (1)	18:09		18:58	20:51	21:39	22:04	21:43	20:46	19:35	18:29	16:39	76 10:32 (1)	16:31	38 10:39 (1)
25	08:31		09:00 (3)	07:36		06:33	06:24	05:33	05:20	05:49	06:38	07:29	07:20	08:15	08:58 (2)	08:47	10:01 (1)
	17:13	97	10:56 (1)	18:10		19:00	20:53	21:40	22:04	21:42	20:44	19:33	17:26	16:37	73 10:32 (1)	16:32	39 10:40 (1)
26	08:30		09:01 (3)	07:34		06:31	06:22	05:32	05:21	05:51	06:40	07:31	07:22	08:16	08:59 (2)	08:47	10:01 (1)
	17:15	95	10:56 (1)	18:12		19:02	20:55	21:42	22:04	21:40	20:42	19:31	17:24	16:37	71 10:32 (1)	16:33	39 10:40 (1)
27	08:28		09:00 (3)	07:32		06:28	06:20	05:31	05:21	05:52	06:42	07:32	07:24	08:18	09:00 (2)	08:47	10:03 (1)
	17:17	96	10:56 (1)	18:14		19:03	20:56	21:43	22:04	21:39	20:40	19:28	17:22	16:36	71 10:33 (1)	16:33	38 10:41 (1)
28	08:27		09:01 (3)	07:30		06:26	06:18	05:30	05:22	05:54	06:43	07:34	07:26	08:19	09:01 (2)	08:48	10:03 (1)
	17:19	93	10:56 (1)	18:16		19:05	20:58	21:44	22:04	21:37	20:38	19:26	17:21	16:35	68 10:32 (1)	16:34	39 10:42 (1)
29	08:25		09:01 (3)			07:24	06:16	05:29	05:22	05:55	06:45	07:36	07:27	08:21	09:02 (2)	08:48	10:03 (1)
	17:20	92	10:55 (1)			20:07	21:00	21:45	22:03	21:36	20:35	19:24	17:19	16:34	67 10:33 (1)	16:35	39 10:42 (1)
30	08:24		09:01 (3)			07:21	06:14	05:28	05:23	05:57	06:46	07:37	07:29	08:22	09:04 (2)	08:48	10:03 (1)
	17:22	90	10:54 (1)			20:08	21:01	21:47	22:03	21:34	20:33	19:21	17:17	16:33	64 10:33 (1)	16:36	40 10:43 (1)
31	08:22		09:02 (3)			07:19		05:27		05:58	06:48		07:31			08:48	10:04 (1)
	17:24	86	10:54 (1)			20:10		21:48		21:33	20:31		17:15			16:37	40 10:44 (1)
Potential sun hours	259		277		367	416	485	499	502	454	381	331	266		243	
Total, worst case		2194		436										2119		1301
Sun reduction		0,24		0,30										0,24		0,20
Oper. time red.		0,95		0,95										0,95		0,95
Wind dir. red.		0,60		0,60										0,60		0,61
Total reduction		0,14		0,17										0,13		0,12
Total, real		298		75										283		153

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:34/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion3.7M140@160Shadow receptor: AP - 3998NL69

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	08:13 (4)	06:12	07:23 (3)	05:26	07:09 (3)	05:23	07:16 (3)	06:00	07:22 (3)	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12 32	08:45 (4)	21:03 45	08:08 (3)	21:49 70	08:19 (3)	22:03 68	08:24 (3)	21:31 65	08:27 (3)	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	08:13 (4)	06:10	07:21 (3)	05:25	07:09 (3)	05:24	07:16 (3)	06:01	07:22 (3)	06:51	07:40	07:35	08:25
	16:39	17:28	18:20	20:14 32	08:45 (4)	21:05 48	08:09 (3)	21:50 70	08:19 (3)	22:02 68	08:24 (3)	21:29 64	08:26 (3)	20:26	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	08:14 (4)	06:08	07:19 (3)	05:25	07:10 (3)	05:25	07:16 (3)	06:03	07:24 (3)	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15 29	08:43 (4)	21:06 51	08:10 (3)	21:51 69	08:19 (3)	22:02 68	08:24 (3)	21:28 62	08:26 (3)	20:24	19:14	17:09	16:31
4	08:47	08:16	07:21	07:10	08:14 (4)	06:06	07:19 (3)	05:24	07:10 (3)	05:25	07:16 (3)	06:04	07:24 (3)	06:55	08:21 (4)	07:44	07:38	08:28
	16:41	17:32	18:23	20:17 27	08:41 (4)	21:08 53	08:12 (3)	21:52 69	08:19 (3)	22:02 68	08:24 (3)	21:26 61	08:25 (3)	20:22 6	08:27 (4)	19:12	17:07	16:31
5	08:47	08:14	07:19	07:07	08:15 (4)	06:04	07:17 (3)	05:23	07:10 (3)	05:26	07:17 (3)	06:06	07:24 (3)	06:56	08:16 (4)	07:46	07:40	08:29
	16:43	17:33	18:25	20:19 24	08:39 (4)	21:10 55	08:12 (3)	21:53 69	08:19 (3)	22:01 68	08:25 (3)	21:24 60	08:24 (3)	20:20 15	08:31 (4)	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	08:17 (4)	06:02	07:16 (3)	05:23	07:11 (3)	05:27	07:17 (3)	06:08	07:25 (3)	06:58	08:13 (4)	07:47	07:42	08:31
	16:44	17:35	18:27	20:20 20	08:37 (4)	21:11 57	08:13 (3)	21:54 68	08:19 (3)	22:01 68	08:25 (3)	21:22 58	08:23 (3)	20:17 20	08:33 (4)	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	08:19 (4)	06:01	07:15 (3)	05:22	07:10 (3)	05:28	07:17 (3)	06:09	07:26 (3)	06:59	08:11 (4)	07:49	07:44	08:32
	16:45	17:37	18:28	20:22 16	08:35 (4)	21:13 59	08:14 (3)	21:55 69	08:19 (3)	22:00 69	08:26 (3)	21:20 56	08:22 (3)	20:15 23	08:34 (4)	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	08:22 (4)	05:59	07:14 (3)	05:21	07:11 (3)	05:29	07:16 (3)	06:11	07:27 (3)	07:01	08:09 (4)	07:51	07:45	08:33
	16:46	17:39	18:30	20:24 8	08:30 (4)	21:14 61	08:15 (3)	21:56 68	08:19 (3)	21:59 69	08:25 (3)	21:19 55	08:22 (3)	20:13 27	08:36 (4)	19:03	17:00	16:29
9	08:45	08:07	07:10	06:58		05:57	07:13 (3)	05:21	07:12 (3)	05:30	07:17 (3)	06:12	07:27 (3)	07:03	08:07 (4)	07:52	07:47	08:34
	16:48	17:41	18:32	20:25		21:16 62	08:15 (3)	21:57 68	08:20 (3)	21:59 69	08:26 (3)	21:17 53	08:20 (3)	20:10 29	08:36 (4)	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56		05:55	07:13 (3)	05:21	07:11 (3)	05:31	07:17 (3)	06:14	07:29 (3)	07:04	08:07 (4)	07:54	07:49	08:35
	16:49	17:43	18:34	20:27		21:18 63	08:16 (3)	21:57 68	08:19 (3)	21:58 69	08:26 (3)	21:15 50	08:19 (3)	20:08 31	08:38 (4)	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54		05:54	07:12 (3)	05:20	07:12 (3)	05:32	07:17 (3)	06:16	07:30 (3)	07:06	08:05 (4)	07:56	07:51	08:37
	16:51	17:45	18:36	20:29		21:19 64	08:16 (3)	21:58 67	08:19 (3)	21:57 69	08:26 (3)	21:13 47	08:17 (3)	20:06 33	08:38 (4)	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52		05:52	07:12 (3)	05:20	07:12 (3)	05:33	07:17 (3)	06:17	07:32 (3)	07:08	08:04 (4)	07:57	07:52	08:38
	16:52	17:46	18:37	20:31		21:21 65	08:17 (3)	21:59 68	08:20 (3)	21:56 70	08:27 (3)	21:11 44	08:16 (3)	20:03 34	08:38 (4)	18:54	16:54	16:28
13	08:43	08:00	07:00	06:49		05:50	07:11 (3)	05:20	07:13 (3)	05:34	07:17 (3)	06:19	07:33 (3)	07:09	08:04 (4)	07:59	07:54	08:39
	16:53	17:48	18:39	20:32		21:22 66	08:17 (3)	22:00 67	08:20 (3)	21:56 70	08:27 (3)	21:09 41	08:14 (3)	20:01 35	08:39 (4)	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47		05:49	07:11 (3)	05:19	07:12 (3)	05:35	07:17 (3)	06:20	07:35 (3)	07:11	08:03 (4)	08:01	07:56	08:40
	16:55	17:50	18:41	20:34		21:24 66	08:17 (3)	22:00 67	08:19 (3)	21:55 70	08:27 (3)	21:07 38	08:13 (3)	19:59 35	08:38 (4)	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45		05:47	07:10 (3)	05:19	07:12 (3)	05:36	07:18 (3)	06:22	07:37 (3)	07:13	08:03 (4)	08:03	07:58	08:40
	16:57	17:52	18:43	20:36		21:26 67	08:17 (3)	22:01 67	08:19 (3)	21:54 70	08:28 (3)	21:05 34	08:11 (3)	19:56 35	08:38 (4)	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43		05:46	07:10 (3)	05:19	07:13 (3)	05:38	07:18 (3)	06:24	07:39 (3)	07:14	08:02 (4)	08:04	08:00	08:41
	16:58	17:54	18:44	20:37		21:27 68	08:18 (3)	22:01 67	08:20 (3)	21:53 70	08:28 (3)	21:03 29	08:08 (3)	19:54 35	08:37 (4)	18:45	16:48	16:28
17	08:40	07:52	06:51	07:30 (4)	06:41	05:44	07:10 (3)	05:19	07:13 (3)	05:39	07:18 (3)	06:25	07:42 (3)	07:16	08:02 (4)	08:06	08:01	08:42
	17:00	17:56	18:46 9	07:39 (4)	20:39	21:29 68	08:18 (3)	22:02 67	08:20 (3)	21:52 70	08:28 (3)	21:01 23	08:05 (3)	19:52 35	08:37 (4)	18:43	16:47	16:28
18	08:39	07:50	06:49	07:26 (4)	06:38	05:43	07:09 (3)	05:19	07:13 (3)	05:40	07:18 (3)	06:27	07:46 (3)	07:17	08:03 (4)	08:08	08:03	08:43
	17:01	17:58	18:48 17	07:43 (4)	20:41	21:30 69	08:18 (3)	22:02 67	08:20 (3)	21:50 70	08:28 (3)	20:59 14	08:00 (3)	19:49 34	08:37 (4)	18:41	16:46	16:29
19	08:38	07:48	06:47	07:23 (4)	06:36	05:41	07:09 (3)	05:19	07:13 (3)	05:41	07:18 (3)	06:29		07:19	08:02 (4)	08:10	08:05	08:44
	17:03	17:59	18:49 21	07:44 (4)	20:43	21:32 69	08:18 (3)	22:02 67	08:20 (3)	21:49 70	08:28 (3)	20:57		19:47 34	08:36 (4)	18:39	16:44	16:29
20	08:37	07:46	06:44	07:21 (4)	06:34	05:40	07:09 (3)	05:19	07:14 (3)	05:43	07:19 (3)	06:30		07:21	08:03 (4)	08:11	08:06	08:44
	17:05	18:01	18:51 25	07:46 (4)	20:44	21:33 70	08:19 (3)	22:03 67	08:21 (3)	21:48 70	08:29 (3)	20:55		19:45 32	08:35 (4)	18:37	16:43	16:29
21	08:36	07:44	06:42	07:20 (4)	06:32	05:38	07:09 (3)	05:19	07:14 (3)	05:44	07:19 (3)	06:32		07:22	08:03 (4)	08:13	08:08	08:45
	17:06	18:03	18:53 27	07:47 (4)	20:46	21:35 70	08:19 (3)	22:03 67	08:21 (3)	21:47 70	08:29 (3)	20:53		19:42 30	08:33 (4)	18:35	16:42	16:30
22	08:34	07:42	06:40	07:17 (4)	06:30	05:37	07:08 (3)	05:19	07:14 (3)	05:45	07:19 (3)	06:33		07:24	08:04 (4)	08:15	08:10	08:45
	17:08	18:05	18:55 30	07:47 (4)	20:48	21:36 70	08:18 (3)	22:03 67	08:21 (3)	21:46 70	08:29 (3)	20:51		19:40 28	08:32 (4)	18:33	16:41	16:30
23	08:33	07:40	06:37	07:16 (4)	06:28	05:36	07:08 (3)	05:20	07:14 (3)	05:47	07:19 (3)	06:35		07:26	08:05 (4)	08:17	08:11	08:46
	17:10	18:07	18:56 32	07:48 (4)	20:49	21:37 70	08:18 (3)	22:03 67	08:21 (3)	21:44 69	08:28 (3)	20:49		19:38 26	08:31 (4)	18:31	16:40	16:31
24	08:32	07:38	06:35	07:16 (4)	06:26	05:35	07:08 (3)	05:20	07:15 (3)	05:48	07:20 (3)	06:37		07:27	08:06 (4)	08:18	08:13	08:46
	17:12	18:09	18:58 33	07:49 (4)	20:51	21:39 71	08:19 (3)	22:04 67	08:22 (3)	21:43 69	08:29 (3)	20:46		19:35 22	08:28 (4)	18:28	16:38	16:31
25	08:31	07:36	06:33	07:14 (4)	06:24	07:38 (3) 05:33	07:09 (3)	05:20	07:15 (3)	05:49	07:20 (3)	06:38		07:29	08:08 (4)	07:20	08:15	08:47
	17:13	18:10	19:00 35	07:49 (4)	20:53 16	07:54 (3) 21:40	08:19 (3)	22:04 67	08:22 (3)	21:42 69	08:29 (3)	20:44		19:33 18	08:26 (4)	17:26	16:37	16:32
26	08:29	07:34	06:30	07:14 (4)	06:22	07:34 (3) 05:32	07:09 (3)	05:21	07:15 (3)	05:51	07:19 (3)	06:40		07:31	08:11 (4)	07:22	08:16	08:47
	17:15	18:12	19:02 35	07:49 (4)	20:54 24	07:58 (3) 21:41	08:19 (3)	22:04 67	08:22 (3)	21:40 69	08:28 (3)	20:42		19:31 12	08:23 (4)	17:24	16:37	16:33
27	08:28	07:32	06:28	07:14 (4)	06:20	07:32 (3) 05:31	07:09 (3)	05:21	07:15 (3)	05:52	07:20 (3)	06:42		07:32		07:24	08:18	08:47
	17:17	18:14	19:03 35	07:49 (4)	20:56 30	08:02 (3) 21:43	08:19 (3)	22:04 68	08:23 (3)	21:39 69	08:29 (3)	20:40		19:28		17:22	16:36	16:33
28	08:27	07:30	06:26	07:12 (4)	06:18	07:29 (3) 05:30	07:09 (3)	05:22	07:15 (3)	05:54	07:20 (3)	06:43		07:34		07:26	08:19	08:47
	17:19	18:16	19:05 36	07:48 (4)	20:58 35	08:04 (3) 21:44	08:19 (3)	22:03 67	08:22 (3)	21:37 68	08:28 (3)	20:38		19:26		17:20	16:35	16:34
29	08:25		07:24	08:13 (4)	06:16	07:27 (3) 05:29	07:09 (3)	05:22	07:16 (3)	05:55	07:20 (3)	06:45		07:35		07:27	08:21	08:48
	17:20		20:07 35	08:48 (4)	21:00 39	08:06 (3) 21:45	08:19 (3)	22:03 67	08:23 (3)	21:36 67	08:27 (3)	20:35		19:24		17:19	16:34	16:35
30	08:24		07:21	08:13 (4)	06:14	07:25 (3) 05:28	07:09 (3)	05:23	07:15 (3)	05:57	07:21 (3)	06:46		07:37		07:29	08:22	08:48
	17:22		20:08 35	08:48 (4)	21:01 42	08:07 (3) 21:46	69 08:18 (3)	22:03 68	08:23 (3)	21:34 67	08:28 (3)	20:33		19:21		17:17	16:33	16:36
31	08:22		07:19	08:13 (4)		05:27	07:10 (3)			05:58	07:21 (3)	06:48				07:31		08:48
	17:24		20:10 34	08:47 (4)		21:48	69 08:19 (3)			21:32 66	08:27 (3)	20:31				17:15		16:37
Potential sun hours	259	277	367	416		485	499			502		454		381		331	266	243
Total, worst case			439	374		1995	2031			2136		854		629				
Sun reduction			0,33	0,42		0,43	0,39			0,41		0,42		0,36				
Oper. time red.			0,95	0,95		0,95	0,95			0,95		0,95		0,95				
Wind dir. red.			0,60	0,62		0,63	0,63			0,63		0,63		0,60				
Total reduction			0,19	0,24		0,25	0,23			0,24		0,25		0,21				
Total, real			82	91		508	472			518		212		130				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:34/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion3.7M140@160Shadow receptor: AQ - 3998JK67

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	05:26	06:08 (1) 05:23	06:15 (1) 06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03	21:49 26	06:34 (1) 22:03 24	06:39 (1) 21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	05:26	06:08 (1) 05:24	06:16 (1) 06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05	21:50 26	06:34 (1) 22:03 24	06:40 (1) 21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08	05:25	06:09 (1) 05:25	06:16 (1) 06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06	21:51 26	06:35 (1) 22:02 24	06:40 (1) 21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06	05:24	06:09 (1) 05:26	06:16 (1) 06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08	21:52 26	06:35 (1) 22:02 24	06:40 (1) 21:26	20:22	19:12	17:07	16:31
5	08:47	08:14	07:19	07:08	06:04	05:23	06:10 (1) 05:26	06:16 (1) 06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10	21:53 25	06:35 (1) 22:01 24	06:40 (1) 21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02	05:23	06:10 (1) 05:27	06:16 (1) 06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11	21:54 25	06:35 (1) 22:01 25	06:41 (1) 21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01	05:22	06:11 (1) 05:28	06:16 (1) 06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13	21:55 24	06:35 (1) 22:00 25	06:41 (1) 21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59	05:22	06:10 (1) 05:29	06:16 (1) 06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15	21:56 25	06:35 (1) 22:00 26	06:42 (1) 21:19	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57	05:21	06:11 (1) 05:30	06:17 (1) 06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16	21:57 24	06:35 (1) 21:59 25	06:42 (1) 21:17	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55	05:21	06:11 (1) 05:31	06:16 (1) 06:14	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18	21:58 23	06:34 (1) 21:58 25	06:41 (1) 21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54	05:20	06:11 (1) 05:32	06:16 (1) 06:16	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19	21:58 24	06:35 (1) 21:57 26	06:42 (1) 21:13	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52	05:20	06:12 (1) 05:33	06:16 (1) 06:17	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21	21:59 23	06:35 (1) 21:57 26	06:42 (1) 21:11	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50	05:20	06:12 (1) 05:34	06:17 (1) 06:19	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23	22:00 23	06:35 (1) 21:56 26	06:43 (1) 21:09	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49	05:19	06:13 (1) 05:35	06:17 (1) 06:21	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24	22:00 23	06:36 (1) 21:55 26	06:43 (1) 21:07	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47	05:19	06:12 (1) 05:36	06:17 (1) 06:22	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26	22:01 23	06:35 (1) 21:54 26	06:43 (1) 21:05	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46 06:16 (1)	05:19	06:13 (1) 05:38	06:17 (1) 06:24	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27 9 06:25 (1)	22:01 22	06:35 (1) 21:53 26	06:43 (1) 21:03	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44 06:14 (1)	05:19	06:13 (1) 05:39	06:17 (1) 06:25	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29 13 06:27 (1)	22:02 22	06:35 (1) 21:52 26	06:43 (1) 21:01	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43 06:12 (1)	05:19	06:13 (1) 05:40	06:18 (1) 06:27	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30 16 06:28 (1)	22:02 22	06:35 (1) 21:51 24	06:42 (1) 20:59	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41 06:11 (1)	05:19	06:14 (1) 05:41	06:18 (1) 06:29	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32 18 06:29 (1)	22:03 22	06:36 (1) 21:49 24	06:42 (1) 20:57	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40 06:11 (1)	05:19	06:14 (1) 05:43	06:19 (1) 06:30	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33 19 06:30 (1)	22:03 22	06:36 (1) 21:48 24	06:43 (1) 20:55	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	05:39 06:10 (1)	05:19	06:14 (1) 05:44	06:19 (1) 06:32	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:35 21 06:31 (1)	22:03 22	06:36 (1) 21:47 23	06:42 (1) 20:53	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	05:37 06:09 (1)	05:19	06:14 (1) 05:45	06:20 (1) 06:34	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36 22 06:31 (1)	22:03 22	06:36 (1) 21:46 21	06:41 (1) 20:51	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	05:36 06:09 (1)	05:20	06:14 (1) 05:47	06:20 (1) 06:35	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	21:37 23 06:32 (1)	22:04 22	06:36 (1) 21:44 20	06:40 (1) 20:49	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35 06:08 (1)	05:20	06:15 (1) 05:48	06:22 (1) 06:37	07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	21:39 24 06:32 (1)	22:04 22	06:37 (1) 21:43 18	06:40 (1) 20:46	19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	05:34 06:08 (1)	05:20	06:15 (1) 05:50	06:22 (1) 06:38	07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	21:40 25 06:33 (1)	22:04 22	06:37 (1) 21:42 17	06:39 (1) 20:44	19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	05:32 06:08 (1)	05:21	06:15 (1) 05:51	06:23 (1) 06:40	07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	21:42 25 06:33 (1)	22:04 22	06:37 (1) 21:40 15	06:38 (1) 20:42	19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	05:31 06:08 (1)	05:21	06:15 (1) 05:52	06:26 (1) 06:42	07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21:43 25 06:33 (1)	22:04 23	06:38 (1) 21:39 11	06:37 (1) 20:40	19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	05:30 06:08 (1)	05:22	06:15 (1) 05:54	06:28 (1) 06:43	07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	21:44 25 06:33 (1)	22:04 23	06:38 (1) 21:37 6	06:34 (1) 20:38	19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	05:29 06:08 (1)	05:22	06:16 (1) 05:55	06:45	07:36	07:27	08:21	08:48
	17:21		20:07	21:00	21:45 26 06:34 (1)	22:03 22	06:38 (1) 21:36	20:36	19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	05:28 06:09 (1)	05:23	06:16 (1) 05:57	06:47	07:37	07:29	08:22	08:48
	17:22		20:08	21:01	21:47 26 06:35 (1)	22:03 23	06:39 (1) 21:34	20:33	19:22	17:17	16:33	16:36
31	08:22		07:19		05:27 06:09 (1)		05:58	06:48		07:31		08:48
	17:24		20:10		21:48 25 06:34 (1)		21:33	20:31		17:15		16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case					342	699	631					
Sun reduction					0,43	0,39	0,41					
Oper. time red.					0,95	0,95	0,95					
Wind dir. red.					0,67	0,67	0,67					
Total reduction					0,27	0,25	0,26					
Total, real					93	173	163					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:34/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion3.7M140@160Shadow receptor: AR - 3945LA1

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March	April	May	June	July	August	September	October	November	December
1	08:48		08:21		15:56 (4)	07:27	07:16	06:12	05:26	05:23	06:00	06:50	07:39	07:33	08:24	15:32 (4)
	16:38		17:26	20	16:16 (4)	18:18	20:12	21:03	21:49	22:03	21:31	20:29	19:19	17:13	16:32 19	15:51 (4)
2	08:48		08:19		15:58 (4)	07:25	07:14	06:10	05:25	05:24	06:01	06:51	07:40	07:34	08:25	15:34 (4)
	16:39		17:28	17	16:15 (4)	18:19	20:13	21:04	21:50	22:02	21:29	20:26	19:17	17:11	16:32 17	15:51 (4)
3	08:47		08:18		16:01 (4)	07:23	07:12	06:08	05:25	05:25	06:03	06:53	07:42	07:36	08:27	15:35 (4)
	16:40		17:30	13	16:14 (4)	18:21	20:15	21:06	21:51	22:02	21:27	20:24	19:14	17:09	16:31 15	15:50 (4)
4	08:47		08:16		16:04 (4)	07:21	07:10	06:06	05:24	05:25	06:04	06:54	07:44	07:38	08:28	15:36 (4)
	16:41		17:31	7	16:11 (4)	18:23	20:17	21:08	21:52	22:02	21:26	20:22	19:12	17:07	16:30 13	15:49 (4)
5	08:47	15:55 (4)	08:14			07:18	07:07	06:04	05:23	05:26	06:06	06:56	07:45	07:40	08:29	15:38 (4)
	16:42 4	15:59 (4)	17:33			18:25	20:19	21:09	21:53	22:01	21:24	20:20	19:10	17:05	16:30 11	15:49 (4)
6	08:47	15:53 (4)	08:13			07:16	07:05	06:02	05:22	05:27	06:07	06:58	07:47	07:42	08:31	15:39 (4)
	16:44 8	16:01 (4)	17:35			18:27	20:20	21:11	21:54	22:01	21:22	20:17	19:08	17:04	16:29 9	15:48 (4)
7	08:46	15:53 (4)	08:11			07:14	07:03	06:00	05:22	05:28	06:09	06:59	07:49	07:43	15:33 (4) 08:32	15:42 (4)
	16:45 11	16:04 (4)	17:37			18:28	20:22	21:13	21:55	22:00	21:20	20:15	19:05	17:02 8	15:41 (4) 16:29 5	15:47 (4)
8	08:46	15:52 (4)	08:09			07:12	07:00	05:59	05:21	05:29	06:11	07:01	07:51	07:45	15:30 (4) 08:33	
	16:46 13	16:05 (4)	17:39			18:30	20:24	21:14	21:56	21:59	21:19	20:13	19:03	17:00 14	15:44 (4) 16:29	
9	08:45	15:51 (4)	08:07			07:09	06:58	05:57	05:21	05:30	06:12	07:03	07:52	07:47	15:28 (4) 08:34	
	16:48 15	16:06 (4)	17:41			18:32	20:25	21:16	21:57	21:59	21:17	20:10	19:01	16:59 18	15:46 (4) 16:28	
10	08:45	15:51 (4)	08:06			07:07	06:56	05:55	05:20	05:31	06:14	07:04	07:54	07:49	15:27 (4) 08:35	
	16:49 17	16:08 (4)	17:43			18:34	20:27	21:18	21:57	21:58	21:15	20:08	18:58	16:57 20	15:47 (4) 16:28	
11	08:44	15:50 (4)	08:04			07:05	06:54	05:53	05:20	05:32	06:15	07:06	07:56	07:51	15:26 (4) 08:36	
	16:50 19	16:09 (4)	17:44			18:35	20:29	21:19	21:58	21:57	21:13	20:06	18:56	16:56 22	15:48 (4) 16:28	
12	08:44	15:50 (4)	08:02			07:03	06:51	05:52	05:20	05:33	06:17	07:08	07:57	07:52	15:26 (4) 08:38	
	16:52 20	16:10 (4)	17:46			18:37	20:31	21:21	21:59	21:56	21:11	20:03	18:54	16:54 23	15:49 (4) 16:28	
13	08:43	15:50 (4)	08:00		17:10 (3)	07:00	06:49	05:50	05:19	05:34	06:19	07:09	07:59	07:54	15:25 (4) 08:39	
	16:53 21	16:11 (4)	17:48	9	17:19 (3)	18:39	20:32	21:22	21:59	21:55	21:09	20:01	18:52	16:52 25	15:50 (4) 16:28	
14	08:42	15:49 (4)	07:58		17:07 (3)	06:58	06:47	05:49	05:19	05:35	06:20	07:11	08:01	17:46 (3) 07:56	15:25 (4) 08:39	
	16:55 23	16:12 (4)	17:50	14	17:21 (3)	18:41	20:34	21:24	22:00	21:55	21:07	19:59	18:50 2	17:48 (3) 16:51 26	15:51 (4) 16:28	
15	08:41	15:49 (4)	07:56		17:06 (3)	06:56	06:45	05:47	05:19	05:36	06:22	07:12	08:02	17:40 (3) 07:58	15:25 (4) 08:40	
	16:56 24	16:13 (4)	17:52	17	17:23 (3)	18:42	20:36	21:26	22:01	21:54	21:05	19:56	18:47 11	17:51 (3) 16:50 27	15:52 (4) 16:28	
16	08:40	15:49 (4)	07:54		17:05 (3)	06:53	06:43	05:45	05:19	05:37	06:24	07:14	08:04	17:38 (3) 07:59	15:25 (4) 08:41	
	16:58 25	16:14 (4)	17:54	19	17:24 (3)	18:44	20:37	21:27	22:01	21:53	21:03	19:54	18:45 15	17:53 (3) 16:48 27	15:52 (4) 16:28	
17	08:40	15:49 (4)	07:52		17:04 (3)	06:51	06:40	05:44	05:19	05:39	06:25	07:16	08:06	17:37 (3) 08:01	15:25 (4) 08:42	
	17:00 26	16:15 (4)	17:56	21	17:25 (3)	18:46	20:39	21:29	22:02	21:51	21:01	19:52	18:43 17	17:54 (3) 16:47 28	15:53 (4) 16:28	
18	08:39	15:49 (4)	07:50		17:04 (3)	06:49	06:38	05:42	05:19	05:40	06:27	07:17	08:08	17:35 (3) 08:03	15:24 (4) 08:43	
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19	08:38	15:49 (4)	07:48		17:03 (3)	06:47	06:36	05:41	05:19	05:41	06:28	07:19	08:09	17:35 (3) 08:05	15:24 (4) 08:43	
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	17:05 27	16:17 (4)	18:01	22	17:25 (3)	18:51	20:44	21:33	22:03	21:48	20:55	19:45	18:37 22	17:56 (3) 16:43 28	15:53 (4) 16:29	
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	17:06 28	16:17 (4)	18:03	22	17:25 (3)	18:53	20:46	21:34	22:03	21:47	20:53	19:42	18:35 23	17:56 (3) 16:42 28	15:53 (4) 16:29	
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	17:08 28	16:18 (4)	18:05	22	17:25 (3)	18:55	20:48	21:36	22:03	21:46	20:51	19:40	18:32 23	17:56 (3) 16:41 27	15:53 (4) 16:30	
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27	08:28	15:52 (4)	07:32		17:09 (3)	06:28	06:19	05:31	05:21	05:52	06:41	07:32	07:24	16:36 (3) 08:18	15:29 (4) 08:47	
	17:17 27	16:19 (4)	18:14	9	17:18 (3)	19:03	20:56	21:43	22:03	21:39	20:40	19:28	17:22 16	16:52 (3) 16:35 24	15:53 (4) 16:33	
28	08:27	15:53 (4)	07:29			06:26	06:17	05:30	05:21	05:54	06:43	07:34	07:25	16:37 (3) 08:19	15:29 (4) 08:47	
	17:19 26	16:19 (4)	18:16			19:05	20:58	21:44	22:03	21:37	20:38	19:26	17:20 13	16:50 (3) 16:35 23	15:52 (4) 16:34	
29	08:25	15:53 (4)				07:23	06:15	05:29	05:22	05:55	06:45	07:35	07:27	16:40 (3) 08:21	15:31 (4) 08:48	
	17:20 25	16:18 (4)				20:07	20:59	21:45	22:03	21:36	20:35	19:24	17:18 8	16:48 (3) 16:34 21	15:52 (4) 16:35	
30	08:24	15:54 (4)				07:21	06:13	05:28	05:22	05:57	06:46	07:37	07:29	08:22	15:31 (4) 08:48	
	17:22 23	16:17 (4)				20:08	21:01	21:46	22:03	21:34	20:33	19:21	17:16	16:33 20	15:51 (4) 16:36	
31	08:22	15:55 (4)				07:19		05:27		05:58	06:48		07:31		08:48	
	17:24 23	16:18 (4)				20:10		21:48		21:32	20:31		17:15		16:37	
Potential sun hours	259		277		367	416	485	499	502	454	381	331	266	243		
Total, worst case	598		326									273	570	89		
Sun reduction	0,24		0,30									0,34	0,24	0,20		
Oper. time red.	0,95		0,95									0,95	0,95	0,95		
Wind dir. red.	0,67		0,67									0,67	0,67	0,67		
Total reduction	0,15		0,19									0,21	0,15	0,13		
Total, real	91		62									58	86	12		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:34/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion3.7M140@160Shadow receptor: AS - 3998NM3

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June		July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	05:26		05:23	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03	21:49		22:03	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	05:25		05:24	06:01	06:51	07:40	07:34	08:25
	16:39	17:28	18:19	20:13	21:04	21:50		22:02	21:29	20:26	19:17	17:11	16:32
3	08:47	08:18	07:23	07:12	06:08	05:25		05:25	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06	21:51		22:02	21:27	20:24	19:14	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06	05:24		05:25	06:04	06:55	07:44	07:38	08:28
	16:41	17:31	18:23	20:17	21:08	21:52		22:02	21:26	20:22	19:12	17:07	16:30
5	08:47	08:14	07:18	07:07	06:04	05:23		05:26	06:06	06:56	07:45	07:40	08:29
	16:43	17:33	18:25	20:19	21:09	21:53		22:01	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02	05:23		05:27	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11	21:54		22:01	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:00	05:22		05:28	06:09	06:59	07:49	07:43	08:32
	16:45	17:37	18:28	20:22	21:13	21:55		22:00	21:20	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59	05:21		05:29	06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:14	21:56		21:59	21:19	20:13	19:03	17:00	16:29
9	08:45	08:07	07:10	06:58	05:57	05:21		05:30	06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:25	21:16	21:57		21:59	21:17	20:10	19:01	16:59	16:28
10	08:45	08:06	07:07	06:56	05:55	05:20		05:31	06:14	07:04	07:54	07:49	08:35
	16:49	17:43	18:34	20:27	21:18	21:57		21:58	21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54	05:20		05:32	06:16	07:06	07:56	07:51	08:36
	16:51	17:45	18:35	20:29	21:19	21:58		21:57	21:13	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52	05:20	21:16 (2)	05:33	06:17	07:08	07:57	07:52	08:37
	16:52	17:46	18:37	20:31	21:21	21:59	4 21:20 (2)	21:56	21:11	20:03	18:54	16:54	16:28
13	08:43	08:00	07:00	06:49	05:50	05:19	21:14 (2)	05:34	06:19	07:09	07:59	07:54	08:38
	16:53	17:48	18:39	20:32	21:22	21:59	6 21:20 (2)	21:55	21:09	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49	05:19	21:13 (2)	05:35	06:20	07:11	08:01	07:56	08:39
	16:55	17:50	18:41	20:34	21:24	22:00	8 21:21 (2)	21:55	21:07	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47	05:19	21:13 (2)	05:36	06:22	07:12	08:03	07:58	08:40
	16:57	17:52	18:42	20:36	21:26	22:01	9 21:22 (2)	21:54	21:05	19:56	18:47	16:50	16:28
16	08:40	07:54	06:54	06:43	05:46	05:19	21:13 (2)	05:38	06:24	07:14	08:04	07:59	08:41
	16:58	17:54	18:44	20:37	21:27	22:01	10 21:23 (2)	21:53	21:03	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44	05:19	21:13 (2)	05:39	06:25	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29	22:02	11 21:24 (2)	21:51	21:01	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:38	05:43	05:19	21:13 (2)	05:40	06:27	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30	22:02	11 21:24 (2)	21:50	20:59	19:49	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41	05:19	21:13 (2)	05:41	06:28	07:19	08:09	08:05	08:43
	17:03	17:59	18:49	20:42	21:32	22:02	11 21:24 (2)	21:49	20:57	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40	05:19	21:13 (2)	05:43	06:30	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33	22:03	11 21:24 (2)	21:48	20:55	19:45	18:37	16:43	16:29
21	08:35	07:44	06:42	06:32	05:38	05:19	21:14 (2)	05:44	06:32	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:34	22:03	12 21:26 (2)	21:47	20:53	19:42	18:35	16:42	16:30
22	08:34	07:42	06:40	06:30	05:37	05:19	21:14 (2)	05:45	06:33	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36	22:03	11 21:25 (2)	21:46	20:51	19:40	18:33	16:41	16:30
23	08:33	07:40	06:37	06:28	05:36	05:20	21:14 (2)	05:47	06:35	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	21:37	22:03	11 21:25 (2)	21:44	20:48	19:38	18:30	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35	05:20	21:15 (2)	05:48	06:37	07:27	08:18	08:13	08:46
	17:11	18:09	18:58	20:51	21:39	22:03	11 21:26 (2)	21:43	20:46	19:35	18:28	16:38	16:31
25	08:31	07:36	06:33	06:24	05:33	05:20	21:15 (2)	05:49	06:38	07:29	07:20	08:15	08:47
	17:13	18:10	19:00	20:53	21:40	22:04	11 21:26 (2)	21:41	20:44	19:33	17:26	16:37	16:32
26	08:29	07:34	06:30	06:22	05:32	05:21	21:15 (2)	05:51	06:40	07:30	07:22	08:16	08:47
	17:15	18:12	19:01	20:54	21:41	22:04	10 21:25 (2)	21:40	20:42	19:31	17:24	16:36	16:32
27	08:28	07:32	06:28	06:20	05:31	05:21	21:16 (2)	05:52	06:42	07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21:43	22:03	10 21:26 (2)	21:39	20:40	19:28	17:22	16:36	16:33
28	08:27	07:29	06:26	06:18	05:30	05:21	21:16 (2)	05:54	06:43	07:34	07:25	08:19	08:47
	17:19	18:16	19:05	20:58	21:44	22:03	9 21:25 (2)	21:37	20:38	19:26	17:20	16:35	16:34
29	08:25		07:23	06:16	05:29	05:22	21:18 (2)	05:55	06:45	07:35	07:27	08:21	08:48
	17:20		20:07	20:59	21:45	22:03	7 21:25 (2)	21:36	20:35	19:24	17:18	16:34	16:35
30	08:24		07:21	06:14	05:28	05:23	21:18 (2)	05:57	06:46	07:37	07:29	08:22	08:48
	17:22		20:08	21:01	21:46	22:03	5 21:23 (2)	21:34	20:33	19:21	17:17	16:33	16:36
31	08:22		07:19		05:27			05:58	06:48		07:31		08:48
	17:24		20:10		21:48			21:32	20:31		17:15		16:37
Potential sun hours	259	277	367	416	485	499		502	454	381	331	266	243
Total, worst case							178						
Sun reduction							0,39						
Oper. time red.							0,95						
Wind dir. red.							0,59						
Total reduction							0,22						
Total, real							39						

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:34/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion3.7M140@160Shadow receptor: AT - 3998NM1

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	05:26	05:23	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03	21:49	22:03	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	05:25	05:24	06:01	06:51	07:40	07:34	08:25
	16:39	17:28	18:19	20:13	21:04	21:50	22:02	21:29	20:26	19:17	17:11	16:32
3	08:47	08:18	07:23	07:12	06:08	05:25	05:25	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06	21:51	22:02	21:27	20:24	19:14	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06	05:24	05:25	06:04	06:55	07:44	07:38	08:28
	16:41	17:31	18:23	20:17	21:08	21:52	22:02	21:26	20:22	19:12	17:07	16:31
5	08:47	08:14	07:18	07:07	06:04	05:23	05:26	06:06	06:56	07:45	07:40	08:29
	16:43	17:33	18:25	20:19	21:09	21:53	22:01	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02	05:23	05:27	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11	21:54	22:01	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:00	05:22	05:28	06:09	06:59	07:49	07:43	08:32
	16:45	17:37	18:28	20:22	21:13	21:55	22:00	21:20	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59	05:21	05:29	06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:14	21:56	21:59	21:19	20:13	19:03	17:00	16:29
9	08:45	08:07	07:10	06:58	05:57	05:21	05:30	06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:25	21:16	21:57	21:59	21:17	20:10	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55	05:21	05:31	06:14	07:04	07:54	07:49	08:35
	16:49	17:43	18:34	20:27	21:18	21:57	21:58	21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54	05:20	05:32	06:16	07:06	07:56	07:51	08:36
	16:51	17:45	18:35	20:29	21:19	21:58	21:57	21:13	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52	05:20	05:33	06:17	07:08	07:57	07:52	08:37
	16:52	17:46	18:37	20:31	21:21	21:59	21:56	21:11	20:03	18:54	16:54	16:28
13	08:43	08:00	07:00	06:49	05:50	05:19	05:34	06:19	07:09	07:59	07:54	08:38
	16:53	17:48	18:39	20:32	21:22	21:59	21:55	21:09	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49	05:19	05:35	06:20	07:11	08:01	07:56	08:39
	16:55	17:50	18:41	20:34	21:24	22:00	21:55	21:07	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47	05:19	05:36	06:22	07:12	08:03	07:58	08:40
	16:57	17:52	18:42	20:36	21:26	22:01	21:54	21:05	19:56	18:47	16:50	16:28
16	08:40	07:54	06:54	06:43	05:46	05:19	05:38	06:24	07:14	08:04	07:59	08:41
	16:58	17:54	18:44	20:37	21:27	22:01	21:53	21:03	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44	05:19	05:39	06:25	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29	22:02	21:51	21:01	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:38	05:43	05:19	05:40	06:27	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30	22:02	21:50	20:59	19:49	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41	05:19	05:41	06:28	07:19	08:09	08:05	08:43
	17:03	17:59	18:49	20:42	21:32	22:02	21:49	20:57	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40	05:19	05:43	06:30	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33	22:03	21:48	20:55	19:45	18:37	16:43	16:29
21	08:35	07:44	06:42	06:32	05:38	05:19	05:44	06:32	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:34	22:03	21:47	20:53	19:42	18:35	16:42	16:30
22	08:34	07:42	06:40	06:30	05:37	05:19	05:45	06:33	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36	22:03	21:46	20:51	19:40	18:33	16:41	16:30
23	08:33	07:40	06:37	06:28	05:36	05:20	05:47	06:35	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	21:37	22:03	21:44	20:48	19:38	18:30	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35	05:20	05:48	06:37	07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	21:39	22:03	21:43	20:46	19:35	18:28	16:38	16:31
25	08:31	07:36	06:33	06:24	05:33	05:20	05:49	06:38	07:29	07:20	08:15	08:47
	17:13	18:10	19:00	20:53	21:40	22:03	21:41	20:44	19:33	17:26	16:37	16:32
26	08:29	07:34	06:30	06:22	05:32	05:21	05:51	06:40	07:30	07:22	08:16	08:47
	17:15	18:12	19:01	20:54	21:41	22:03	21:40	20:42	19:31	17:24	16:36	16:32
27	08:28	07:32	06:28	06:20	05:31	05:21	05:52	06:42	07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21:43	22:03	21:39	20:40	19:28	17:22	16:36	16:33
28	08:27	07:29	06:26	06:18	05:30	05:21	05:54	06:43	07:34	07:25	08:19	08:47
	17:19	18:16	19:05	20:58	21:44	22:03	21:37	20:38	19:26	17:20	16:35	16:34
29	08:25		07:23	06:16	05:29	05:22	05:55	06:45	07:35	07:27	08:21	08:48
	17:20		20:07	20:59	21:45	22:03	21:36	20:35	19:24	17:18	16:34	16:35
30	08:24		07:21	06:14	05:28	05:23	05:57	06:46	07:37	07:29	08:22	08:48
	17:22		20:08	21:01	21:46	22:03	21:34	20:33	19:21	17:17	16:33	16:36
31	08:22		07:19		05:27		05:58	06:48		07:31		08:48
	17:24		20:10		21:48		21:32	20:31		17:15		16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:34/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion3.7M140@160Shadow receptor: AU - 3961MN33

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:16	19:11 (3)	06:12	05:26	05:23	06:00	06:50	07:39	18:05 (4)	07:33	08:24
	16:38	17:26	18:18	20:12	17 19:28 (3)	21:03	21:49	22:03	21:31	20:29	19:19	30 18:35 (4)	17:13	16:32
2	08:48	08:19	07:25	07:14	19:13 (3)	06:10	05:25	05:24	06:01	06:51	07:40	18:05 (4)	07:34	08:25
	16:39	17:28	18:19	20:13	13 19:26 (3)	21:04	21:50	22:02	21:29	20:26	19:17	30 18:35 (4)	17:11	16:32
3	08:47	08:18	07:23	07:12	19:16 (3)	06:08	05:25	05:25	06:03	06:53	07:42	18:05 (4)	07:36	08:27
	16:40	17:30	18:21	20:15	8 19:24 (3)	21:06	21:51	22:02	21:27	20:24	19:14	29 18:34 (4)	17:09	16:31
4	08:47	08:16	07:21	17:37 (4)	07:10	06:06	05:24	05:25	06:04	06:54	07:44	18:05 (4)	07:38	08:28
	16:41	17:31	18:23	11 17:48 (4)	20:17	21:08	21:52	22:02	21:26	20:22	19:12	28 18:33 (4)	17:07	16:30
5	08:47	08:14	07:18	17:34 (4)	07:07	06:04	05:23	05:26	06:06	06:56	07:45	18:06 (4)	07:40	08:29
	16:42	17:33	18:25	17 17:51 (4)	20:19	21:09	21:53	22:01	21:24	20:19	19:10	26 18:32 (4)	17:05	16:30
6	08:47	08:13	07:16	17:31 (4)	07:05	06:02	05:22	05:27	06:08	06:58	07:47	18:06 (4)	07:42	08:31
	16:44	17:35	18:27	21 17:52 (4)	20:20	21:11	21:54	22:01	21:22	20:17	19:08	24 18:30 (4)	17:04	16:29
7	08:46	08:11	07:14	17:30 (4)	07:03	06:00	05:22	05:28	06:09	06:59	07:49	18:07 (4)	07:43	08:32
	16:45	17:37	18:28	24 17:54 (4)	20:22	21:13	21:55	22:00	21:20	20:15	19:05	22 18:29 (4)	17:02	16:29
8	08:46	08:09	07:12	17:29 (4)	07:00	05:59	05:21	05:29	06:11	07:01	07:50	18:08 (4)	07:45	08:33
	16:46	17:39	18:30	26 17:55 (4)	20:24	21:14	21:56	21:59	21:19	20:13	19:03	19 18:27 (4)	17:00	16:29
9	08:45	08:07	07:09	17:28 (4)	06:58	05:57	05:21	05:30	06:12	07:03	19:09 (3)	07:52	18:10 (4)	07:47	08:34
	16:48	17:41	18:32	28 17:56 (4)	20:25	21:16	21:57	21:59	21:17	20:10	8 19:17 (3)	19:01	15 18:25 (4)	16:59	16:28
10	08:45	08:06	07:07	17:27 (4)	06:56	05:55	05:20	05:31	06:14	07:04	19:07 (3)	07:54	18:13 (4)	07:49	08:35
	16:49	17:43	18:34	29 17:56 (4)	20:27	21:18	21:57	21:58	21:15	20:08	12 19:19 (3)	18:58	7 18:20 (4)	16:57	16:28
11	08:44	08:04	07:05	17:27 (4)	06:54	05:53	05:20	05:32	06:15	07:06	19:04 (3)	07:56		07:51	08:36
	16:50	17:44	18:35	29 17:56 (4)	20:29	21:19	21:58	21:57	21:13	20:06	16 19:20 (3)	18:56		16:56	16:28
12	08:44	08:02	07:03	17:27 (4)	06:51	05:52	05:20	05:33	06:17	07:08	19:03 (3)	07:57		07:52	08:37
	16:52	17:46	18:37	29 17:56 (4)	20:31	21:21	21:59	21:56	21:11	20:03	18 19:21 (3)	18:54		16:54	16:28
13	08:43	08:00	07:00	17:26 (4)	06:49	05:50	05:19	05:34	06:19	07:09	19:02 (3)	07:59		07:54	08:38
	16:53	17:48	18:39	29 17:55 (4)	20:32	21:22	21:59	21:55	21:09	20:01	20 19:22 (3)	18:52		16:52	16:28
14	08:42	07:58	06:58	17:26 (4)	06:47	05:49	05:19	05:35	06:20	07:11	19:00 (3)	08:01		07:56	08:39
	16:55	17:50	18:41	29 17:55 (4)	20:34	21:24	22:00	21:55	21:07	19:59	21 19:21 (3)	18:50		16:51	16:28
15	08:41	07:56	06:56	17:26 (4)	06:45	05:47	05:19	05:36	06:22	07:12	19:00 (3)	08:02		07:58	08:40
	16:56	17:52	18:42	29 17:55 (4)	20:36	21:25	22:01	21:54	21:05	19:56	22 19:22 (3)	18:47		16:50	16:28
16	08:40	07:54	06:53	17:26 (4)	06:43	05:45	05:19	05:37	06:24	07:14	18:59 (3)	08:04		07:59	08:41
	16:58	17:54	18:44	28 17:54 (4)	20:37	21:27	22:01	21:53	21:03	19:54	22 19:21 (3)	18:45		16:48	16:28
17	08:40	07:52	06:51	17:27 (4)	06:40	05:44	05:19	05:39	06:25	07:16	18:59 (3)	08:06		08:01	08:42
	17:00	17:56	18:46	26 17:53 (4)	20:39	21:29	22:02	21:51	21:01	19:52	22 19:21 (3)	18:43		16:47	16:28
18	08:39	07:50	06:49	17:28 (4)	06:38	05:42	05:19	05:40	06:27	07:17	19:00 (3)	08:08		08:03	08:43
	17:01	17:57	18:48	24 17:52 (4)	20:41	21:30	22:02	21:50	20:59	19:49	20 19:20 (3)	18:41		16:45	16:28
19	08:38	07:48	06:47	17:28 (4)	06:36	05:41	05:19	05:41	06:28	07:19	18:59 (3)	08:09		08:05	08:43
	17:03	17:59	18:49	22 17:50 (4)	20:42	21:32	22:02	21:49	20:57	19:47	19 19:18 (3)	18:39		16:44	16:29
20	08:37	07:46	06:44	17:30 (4)	06:34	05:40	05:19	05:43	06:30	07:21	19:00 (3)	08:11		08:06	08:44
	17:05	18:01	18:51	18 17:48 (4)	20:44	21:33	22:03	21:48	20:55	19:45	17 19:17 (3)	18:37		16:43	16:29
21	08:35	07:44	06:42	17:33 (4)	06:32	05:38	05:19	05:44	06:32	07:22	19:01 (3)	08:13		08:08	08:45
	17:06	18:03	18:53	19 18:26 (3)	20:46	21:34	22:03	21:47	20:53	19:42	13 19:14 (3)	18:35		16:42	16:29
22	08:34	07:42	06:40	17:36 (4)	06:30	05:37	05:19	05:45	06:33	07:24	18:18 (4)	08:15		08:10	08:45
	17:08	18:05	18:55	17 18:28 (3)	20:48	21:36	22:03	21:46	20:51	19:40	21 19:12 (3)	18:32		16:41	16:30
23	08:33	07:40	06:37	18:14 (3)	06:28	05:36	05:19	05:47	06:35	07:25	18:16 (4)	08:16		08:11	08:46
	17:10	18:07	18:56	16 18:30 (3)	20:49	21:37	22:03	21:44	20:48	19:38	16 18:32 (4)	18:30		16:39	16:30
24	08:32	07:38	06:35	18:13 (3)	06:26	05:34	05:20	05:48	06:37	07:27	18:12 (4)	08:18		08:13	08:46
	17:11	18:09	18:58	19 18:32 (3)	20:51	21:39	22:03	21:43	20:46	19:35	21 18:33 (4)	18:28		16:38	16:31
25	08:31	07:36	06:33	18:11 (3)	06:24	05:33	05:20	05:49	06:38	07:29	18:11 (4)	07:20		08:15	08:47
	17:13	18:10	19:00	21 18:32 (3)	20:53	21:40	22:03	21:41	20:44	19:33	23 18:34 (4)	17:26		16:37	16:32
26	08:29	07:34	06:30	18:11 (3)	06:21	05:32	05:20	05:51	06:40	07:30	18:10 (4)	07:22		08:16	08:47
	17:15	18:12	19:01	21 18:32 (3)	20:54	21:41	22:03	21:40	20:42	19:31	25 18:35 (4)	17:24		16:36	16:32
27	08:28	07:32	06:28	18:11 (3)	06:19	05:31	05:21	05:52	06:41	07:32	18:08 (4)	07:24		08:18	08:47
	17:17	18:14	19:03	21 18:32 (3)	20:56	21:43	22:03	21:39	20:40	19:28	27 18:35 (4)	17:22		16:35	16:33
28	08:27	07:29	06:26	18:10 (3)	06:17	05:30	05:21	05:54	06:43	07:34	18:07 (4)	07:25		08:19	08:47
	17:19	18:16	19:05	21 18:31 (3)	20:58	21:44	22:03	21:37	20:38	19:26	29 18:36 (4)	17:20		16:35	16:34
29	08:25		07:23	19:10 (3)	06:15	05:29	05:22	05:55	06:45	07:35	18:06 (4)	07:27		08:21	08:48
	17:20		20:07	21 19:31 (3)	20:59	21:45	22:03	21:36	20:35	19:24	29 18:35 (4)	17:18		16:34	16:35
30	08:24		07:21	19:10 (3)	06:13	05:28	05:23	05:57	06:46	07:37	18:05 (4)	07:29		08:22	08:48
	17:22		20:08	21 19:31 (3)	21:01	21:46	22:03	21:34	20:33	19:21	30 18:35 (4)	17:16		16:33	16:36
31	08:22		07:19	19:10 (3)		05:27		05:58	06:48			07:31			08:48
	17:24		20:10	19 19:29 (3)		21:48		21:32	20:31			17:15			16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case			635	38					451	230		
Sun reduction			0,33	0,42					0,36	0,34		
Oper. time red.			0,95	0,95					0,95	0,95		
Wind dir. red.			0,63	0,62					0,63	0,64		
Total reduction			0,20	0,25					0,22	0,20		
Total, real			125	9					98	47		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:33/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion4.2M148@165Shadow receptor: A - 3998JD94

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 16:38	08:21 17:26	07:27 18:18	07:17 20:12	06:12 21:03	06:42 (2) 21 07:03 (2) 21	05:26 21:49	05:58 (1) 19 06:17 (1)	05:23 22:03	06:01 (1) 25 06:26 (1)	06:00 21:31	06:50 20:29	07:39 19:19	07:33 17:13	08:24 16:32
2	08:48 16:39	08:19 17:28	07:25 18:20	07:14 20:14	06:10 21:05	06:42 (2) 21 07:03 (2) 21	05:26 21:50	05:58 (1) 20 06:18 (1)	05:24 22:03	06:02 (1) 25 06:27 (1)	06:01 21:29	06:51 20:27	07:41 19:17	07:35 17:11	08:25 16:32
3	08:48 16:40	08:18 17:30	07:23 18:21	07:12 20:15	06:08 21:06	06:43 (2) 20 07:03 (2) 21	05:25 21:51	05:58 (1) 21 06:19 (1)	05:25 22:02	06:02 (1) 25 06:27 (1)	06:03 21:28	06:53 20:24	07:42 19:15	07:36 17:09	08:27 16:31
4	08:47 16:41	08:16 17:32	07:21 18:23	07:10 20:17	06:06 21:08	06:43 (2) 19 07:02 (2) 22	05:24 21:52	05:57 (1) 22 06:19 (1)	05:26 22:02	06:02 (1) 24 06:26 (1)	06:05 21:26	06:59 (2) 6 07:05 (2)	06:55 20:22	07:44 19:12	07:38 17:07	08:28 16:31
5	08:47 16:43	08:14 17:33	07:19 18:25	07:08 20:19	06:04 21:10	06:44 (2) 17 07:01 (2) 22	05:23 21:53	05:58 (1) 22 06:20 (1)	05:26 22:01	06:02 (1) 24 06:26 (1)	06:06 21:24	06:57 (2) 11 07:08 (2)	06:56 20:20	07:46 19:10	07:40 17:06	08:29 16:30
6	08:47 16:44	08:13 17:35	07:16 18:27	07:05 20:20	06:02 21:11	06:44 (2) 16 07:00 (2) 23	05:23 21:54	05:57 (1) 24 06:20 (1)	05:27 22:01	06:03 (1) 24 06:27 (1)	06:08 21:22	06:55 (2) 14 07:09 (2)	06:58 20:17	07:47 19:08	07:42 17:04	08:31 16:30
7	08:46 16:45	08:11 17:37	07:14 18:29	07:03 20:22	06:01 21:13	06:46 (2) 13 06:59 (2) 24	05:22 21:55	05:57 (1) 24 06:21 (1)	05:28 22:00	06:04 (1) 23 06:27 (1)	06:09 21:21	06:54 (2) 16 07:10 (2)	07:00 20:15	07:49 19:05	07:44 17:02	08:32 16:29
8	08:46 16:46	08:09 17:39	07:12 18:30	07:01 20:24	05:59 21:15	06:47 (2) 10 06:57 (2) 24	05:22 21:56	05:57 (1) 24 06:21 (1)	05:29 22:00	06:04 (1) 23 06:27 (1)	06:11 21:19	06:53 (2) 18 07:11 (2)	07:01 20:13	07:51 19:03	07:45 17:01	08:33 16:29
9	08:46 16:48	08:08 17:41	07:10 18:32	06:58 20:26	05:57 21:16	06:51 (2) 1 06:52 (2)	05:21 21:57	05:57 (1) 25 06:22 (1)	05:30 21:59	06:05 (1) 21 06:26 (1)	06:12 21:17	06:53 (2) 19 07:12 (2)	07:03 20:11	07:52 19:01	07:47 16:59	08:34 16:29
10	08:45 16:49	08:06 17:43	07:07 18:34	06:56 20:27	05:55 21:18	21:58 25	05:21 06:21 (1)	05:56 (1) 20 21:58	05:31 06:25 (1)	06:05 (1) 20 21:15	06:14 20	06:52 (2) 20 07:12 (2)	07:04 20:08	07:54 18:59	07:49 16:57	08:36 16:28
11	08:44 16:51	08:04 17:45	07:05 18:36	06:54 20:29	05:54 21:19	05:20 21:58 25	05:57 (1) 06:22 (1)	05:32 21:57 19	06:06 (1) 06:25 (1)	06:16 21:13	20	06:52 (2) 07:12 (2)	07:06 20:06	07:56 18:56	07:51 16:56	08:37 16:28
12	08:44 16:52	08:02 17:47	07:03 18:37	06:52 20:31	05:52 21:21	05:20 21:59 26	05:57 (1) 06:23 (1)	05:33 21:57 18	06:06 (1) 06:24 (1)	06:17 21:11	21	06:51 (2) 07:12 (2)	07:08 20:04	07:58 18:54	07:53 16:54	08:38 16:28
13	08:43 16:54	08:00 17:48	07:01 18:39	06:49 20:32	05:50 21:23	05:20 22:00 26	05:57 (1) 06:23 (1)	05:34 21:56 17	06:08 (1) 06:25 (1)	06:19 21:09	21	06:51 (2) 07:12 (2)	07:09 20:01	07:59 18:52	07:54 16:53	08:39 16:28
14	08:42 16:55	07:58 17:50	06:58 18:41	06:47 20:34	05:49 21:24	05:19 22:00 26	05:58 (1) 06:24 (1)	05:35 21:55 15	06:09 (1) 06:24 (1)	06:21 21:07	20	06:51 (2) 07:11 (2)	07:11 19:59	08:01 18:50	07:56 16:51	08:40 16:28
15	08:41 16:57	07:56 17:52	06:56 18:43	06:45 20:36	05:47 21:26	05:19 22:01 26	05:57 (1) 06:23 (1)	05:36 21:54 13	06:10 (1) 06:23 (1)	06:22 21:05	20	06:51 (2) 07:11 (2)	07:13 19:57	08:03 18:48	07:58 16:50	08:41 16:28
16	08:41 16:58	07:54 17:54	06:54 18:44	06:43 20:38	05:46 21:27	05:19 22:01 26	05:57 (1) 06:23 (1)	05:38 21:53 9	06:12 (1) 06:21 (1)	06:24 21:03	19	06:51 (2) 07:10 (2)	07:14 19:54	08:04 18:45	08:00 16:48	08:41 16:28
17	08:40 17:00	07:52 17:56	06:51 18:46	06:41 20:39	05:44 21:29	05:19 22:02 26	05:57 (1) 06:23 (1)	05:39 21:52 4	06:15 (1) 06:19 (1)	06:25 21:01	17	06:53 (2) 07:10 (2)	07:16 19:52	08:06 18:43	08:01 16:47	08:42 16:28
18	08:39 17:01	07:50 17:58	06:49 18:48	06:39 20:41	05:43 21:30	05:19 22:02 27	05:57 (1) 06:24 (1)	05:40 21:51		06:27 20:59	14	06:54 (2) 07:08 (2)	07:17 19:50	08:08 18:41	08:03 16:46	08:43 16:29
19	08:38 17:03	07:48 18:00	06:47 18:50	06:36 20:43	05:41 21:32	05:19 22:03 27	05:58 (1) 06:25 (1)	05:41 21:49		06:29 20:57	11	06:56 (2) 07:07 (2)	07:19 19:47	08:10 18:39	08:05 16:44	08:44 16:29
20	08:37 17:05	07:46 18:01	06:44 18:51	06:34 20:44	05:40 21:33	05:19 22:03 27	05:58 (1) 06:25 (1)	05:43 21:48		06:30 20:55	7	06:57 (2) 07:04 (2)	07:21 19:45	08:11 18:37	08:06 16:43	08:44 16:29
21	08:36 17:06	07:44 18:03	06:42 18:53	06:32 20:46	05:39 21:35	05:19 22:03 27	05:58 (1) 06:25 (1)	05:44 21:47		06:32 20:53			07:22 19:43	08:13 18:35	08:08 16:42	08:45 16:30
22	08:35 17:08	07:42 18:05	06:40 18:55	06:30 20:48	05:37 21:36	05:19 22:03 27	05:58 (1) 06:25 (1)	05:45 21:46		06:34 20:51			07:24 19:40	08:15 18:33	08:10 16:41	08:45 16:30
23	08:33 17:10	07:40 18:07	06:38 18:56	06:28 20:49 8	06:52 (2) 07:00 (2)	05:36 21:37	05:20 22:04 27	05:58 (1) 06:25 (1)	05:47 21:44	06:35 20:49			07:26 19:38	08:17 18:31	08:11 16:40	08:46 16:31
24	08:32 17:12	07:38 18:09	06:35 18:58	06:26 20:51 11	06:50 (2) 07:01 (2)	05:35 21:39	05:20 22:04 27	05:59 (1) 06:26 (1)	05:48 21:43	06:37 20:46			07:27 19:35	08:18 18:29	08:13 16:39	08:46 16:31
25	08:31 17:13	07:36 18:11	06:33 19:00	06:24 20:53 15	06:48 (2) 07:03 (2)	05:34 21:40	05:20 22:04 27	05:59 (1) 06:26 (1)	05:50 21:42	06:38 20:44			07:29 19:33	07:20 17:27	08:15 16:38	08:47 16:32
26	08:30 17:15	07:34 18:12	06:31 19:02	06:22 20:55 17	06:46 (2) 07:03 (2)	05:32 21:42	05:21 22:04 26	05:59 (1) 06:25 (1)	05:51 21:40	06:40 20:42			07:31 19:31	07:22 17:25	08:16 16:37	08:47 16:33
27	08:28 17:17	07:32 18:14	06:28 19:03	06:20 20:56 20	06:44 (2) 07:04 (2)	05:31 21:43 7	06:04 (1) 06:11 (1)	05:21 22:04 26	06:00 (1) 06:26 (1)	05:52 21:39			07:32 19:28	07:24 17:23	08:18 16:36	08:47 16:33
28	08:27 17:19	07:30 18:16	06:26 19:05	06:18 20:58 20	06:44 (2) 07:04 (2)	05:30 21:44 11	06:02 (1) 06:13 (1)	05:22 22:04 26	06:00 (1) 06:26 (1)	05:54 21:37			07:34 19:26	07:26 17:21	08:19 16:35	08:48 16:34
29	08:25 17:21		07:24 20:07	06:16 21:00 21	06:43 (2) 07:04 (2)	05:29 21:45 14	06:00 (1) 06:14 (1)	05:22 22:03 26	06:00 (1) 06:26 (1)	05:55 21:36			07:36 19:24	07:27 17:19	08:21 16:34	08:48 16:35
30	08:24 17:22		07:21 20:08	06:14 21:01 21	06:43 (2) 07:04 (2)	05:28 21:47 16	06:00 (1) 06:16 (1)	05:23 22:03 26	06:01 (1) 06:27 (1)	05:57 21:34			07:37 19:22	07:29 17:17	08:22 16:33	08:48 16:36
31	08:22 17:24		07:19 20:10		05:27 21:48 18	05:59 (1) 06:17 (1)				05:58 21:33				07:31 17:15		08:48 16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case				133	204	752	329	274				
Sun reduction				0,42	0,43	0,39	0,41	0,42				
Oper. time red.				0,95	0,95	0,95	0,95	0,95				
Wind dir. red.				0,64	0,65	0,67	0,67	0,64				
Total reduction				0,26	0,26	0,25	0,26	0,25				
Total, real				34	54	187	85	70				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:33/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion4.2M148@165Shadow receptor: B - 3998JD87

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	05:26	06:06 (1) 05:23	06:13 (1) 06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03	21:49 27	06:33 (1) 22:03 25	06:38 (1) 21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	05:26	06:06 (1) 05:24	06:13 (1) 06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05	21:50 26	06:32 (1) 22:03 25	06:38 (1) 21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08	05:25	06:07 (1) 05:25	06:14 (1) 06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06	21:51 26	06:33 (1) 22:02 25	06:39 (1) 21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06	05:24	06:07 (1) 05:26	06:13 (1) 06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08	21:52 26	06:33 (1) 22:02 25	06:38 (1) 21:26	20:22	19:12	17:07	16:31
5	08:47	08:15	07:19	07:08	06:04	05:23	06:08 (1) 05:26	06:13 (1) 06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10	21:53 26	06:34 (1) 22:01 26	06:39 (1) 21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02	05:23	06:07 (1) 05:27	06:14 (1) 06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11	21:54 26	06:33 (1) 22:01 25	06:39 (1) 21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01	05:22	06:08 (1) 05:28	06:14 (1) 06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13	21:55 26	06:34 (1) 22:00 26	06:40 (1) 21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59	05:22	06:08 (1) 05:29	06:14 (1) 06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15	21:56 25	06:33 (1) 22:00 26	06:40 (1) 21:19	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57	05:21	06:09 (1) 05:30	06:14 (1) 06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16	21:57 25	06:34 (1) 21:59 27	06:41 (1) 21:17	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55	05:21	06:08 (1) 05:31	06:14 (1) 06:14	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18	21:58 25	06:33 (1) 21:58 26	06:40 (1) 21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54	05:20	06:09 (1) 05:32	06:14 (1) 06:16	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19	21:58 24	06:33 (1) 21:57 26	06:40 (1) 21:13	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52	05:20	06:09 (1) 05:33	06:14 (1) 06:17	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21	21:59 25	06:34 (1) 21:57 26	06:40 (1) 21:11	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50	05:20	06:10 (1) 05:34	06:15 (1) 06:19	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23	22:00 24	06:34 (1) 21:56 26	06:41 (1) 21:09	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49	05:19	06:10 (1) 05:35	06:15 (1) 06:21	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24	22:00 24	06:34 (1) 21:55 26	06:41 (1) 21:07	19:59	18:50	16:51	16:28
15	08:42	07:56	06:56	06:45	05:47	05:19	06:10 (1) 05:36	06:15 (1) 06:22	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26	22:01 23	06:33 (1) 21:54 26	06:41 (1) 21:05	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46 06:16 (1)	05:19	06:10 (1) 05:38	06:15 (1) 06:24	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27 5 06:21 (1)	22:01 24	06:34 (1) 21:53 26	06:41 (1) 21:03	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44 06:14 (1)	05:19	06:10 (1) 05:39	06:16 (1) 06:25	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29 10 06:24 (1)	22:02 24	06:34 (1) 21:52 25	06:41 (1) 21:01	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43 06:11 (1)	05:19	06:10 (1) 05:40	06:16 (1) 06:27	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30 14 06:25 (1)	22:02 24	06:34 (1) 21:51 24	06:40 (1) 20:59	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41 06:10 (1)	05:19	06:12 (1) 05:41	06:16 (1) 06:29	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32 17 06:27 (1)	22:03 23	06:35 (1) 21:49 24	06:40 (1) 20:57	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40 06:09 (1)	05:19	06:12 (1) 05:43	06:17 (1) 06:30	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33 19 06:28 (1)	22:03 23	06:35 (1) 21:48 23	06:40 (1) 20:55	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	05:39 06:09 (1)	05:19	06:12 (1) 05:44	06:18 (1) 06:32	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:35 20 06:29 (1)	22:03 23	06:35 (1) 21:47 22	06:40 (1) 20:53	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	05:37 06:07 (1)	05:19	06:12 (1) 05:45	06:18 (1) 06:34	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36 22 06:29 (1)	22:03 23	06:35 (1) 21:46 21	06:39 (1) 20:51	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	05:36 06:07 (1)	05:20	06:12 (1) 05:47	06:19 (1) 06:35	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	21:37 22 06:29 (1)	22:04 23	06:35 (1) 21:44 19	06:38 (1) 20:49	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35 06:07 (1)	05:20	06:13 (1) 05:48	06:20 (1) 06:37	07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	21:39 23 06:30 (1)	22:04 23	06:36 (1) 21:43 18	06:38 (1) 20:46	19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	05:34 06:06 (1)	05:20	06:12 (1) 05:50	06:21 (1) 06:38	07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	21:40 25 06:31 (1)	22:04 24	06:36 (1) 21:42 16	06:37 (1) 20:44	19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	05:32 06:06 (1)	05:21	06:12 (1) 05:51	06:22 (1) 06:40	07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	21:42 25 06:31 (1)	22:04 24	06:36 (1) 21:40 13	06:35 (1) 20:42	19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	05:31 06:06 (1)	05:21	06:13 (1) 05:52	06:25 (1) 06:42	07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21:43 25 06:31 (1)	22:04 24	06:37 (1) 21:39 8	06:33 (1) 20:40	19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	05:30 06:06 (1)	05:22	06:12 (1) 05:54	06:43	07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	21:44 26 06:32 (1)	22:04 24	06:36 (1) 21:37	20:38	19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	05:29 06:06 (1)	05:22	06:13 (1) 05:55	06:45	07:36	07:27	08:21	08:48
	17:21		20:07	21:00	21:45 26 06:32 (1)	22:03 24	06:37 (1) 21:36	20:36	19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	05:28 06:07 (1)	05:23	06:14 (1) 05:57	06:47	07:37	07:29	08:22	08:48
	17:22		20:09	21:01	21:47 26 06:33 (1)	22:03 24	06:38 (1) 21:34	20:33	19:22	17:17	16:33	16:36
31	08:22		07:19		05:27 06:06 (1)		05:58	06:48		07:31		08:48
	17:24		20:10		21:48 27 06:33 (1)		21:33	20:31		17:15		16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case					332	732	625					
Sun reduction					0,43	0,39	0,41					
Oper. time red.					0,95	0,95	0,95					
Wind dir. red.					0,67	0,67	0,67					
Total reduction					0,27	0,25	0,26					
Total, real					90	181	161					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:33/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion4.2M148@165Shadow receptor: C - 3997MR25

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December	
1	08:48		08:21		08:51 (4)		07:27	12:37 (1)	07:17	06:12	05:26	05:23	06:00	06:50		07:39		13:20 (1)		07:33		08:24 (4)		08:24		09:38 (2)
	16:38		17:26	181	14:12 (1)		18:18	111	14:28 (1)	20:12	21:03	21:49	22:03	21:31	20:29		19:19	100	15:00 (1)		17:13	193	13:52 (1)		16:32	26	10:04 (2)
2	08:48		08:19		08:50 (4)		07:25		12:38 (1)	07:14	06:10	05:25	05:24	06:01	06:51		07:41		13:19 (1)		07:35		08:23 (4)		08:25		09:40 (2)
	16:39		17:28	185	14:13 (1)		18:20	110	14:28 (1)	20:14	21:05	21:50	22:03	21:29	20:26		19:17	102	15:01 (1)		17:11	194	13:51 (1)		16:32	24	10:04 (2)
3	08:48		08:18		08:51 (4)		07:23		12:37 (1)	07:12	06:08	05:25	05:25	06:03	06:53		07:42		13:17 (1)		07:36		08:22 (4)		08:27		09:42 (2)
	16:40		17:30	188	14:15 (1)		18:21	109	14:26 (1)	20:15	21:06	21:51	22:02	21:28	20:24		19:15	103	15:00 (1)		17:09	194	13:50 (1)		16:31	20	10:02 (2)
4	08:47		08:16		08:51 (4)		07:21		12:37 (1)	07:10	06:06	05:24	05:25	06:04	06:55		07:44		13:16 (1)		07:38		08:21 (4)		08:28		09:44 (2)
	16:41		17:32	190	14:16 (1)		18:23	109	14:26 (1)	20:17	21:08	21:52	22:02	21:26	20:22		19:12	105	15:01 (1)		17:07	194	13:48 (1)		16:31	18	10:02 (2)
5	08:47		08:14		08:50 (4)		07:19		12:38 (1)	07:07	06:04	05:23	05:26	06:06	06:56		07:46		13:15 (1)		07:40		08:20 (4)		08:29		09:46 (2)
	16:43		17:33	193	14:17 (1)		18:25	108	14:26 (1)	20:19	21:10	21:53	22:01	21:24	20:20		19:10	106	15:01 (1)		17:06	193	13:47 (1)		16:30	14	10:00 (2)
6	08:47		10:03 (2)		08:51 (4)		07:16		12:38 (1)	07:05	06:02	05:23	05:27	06:08	06:58		07:47		13:15 (1)		07:42		08:20 (4)		08:31		09:48 (2)
	16:44	8	10:11 (2)		14:18 (1)		18:27	108	14:26 (1)	20:20	21:11	21:54	22:01	21:22	20:17		19:08	106	15:01 (1)		17:04	193	13:47 (1)		16:30	9	09:57 (2)
7	08:46		10:01 (2)		08:51 (4)		07:14		12:37 (1)	07:03	06:00	05:22	05:28	06:09	07:00		07:49		13:13 (1)		07:44		08:20 (4)		08:32		
	16:45	13	10:14 (2)		14:19 (1)		18:28	108	14:25 (1)	20:22	21:13	21:55	22:00	21:21	20:15		19:05	108	15:01 (1)		17:02	190	13:46 (1)		16:29		
8	08:46		09:59 (2)		08:52 (4)		07:12		12:38 (1)	07:01	05:59	05:21	05:29	06:11	07:01		07:51		13:13 (1)		07:45		08:21 (4)		08:33		
	16:46	17	10:16 (2)		14:21 (1)		18:30	106	14:24 (1)	20:24	21:15	21:56	22:00	21:19	20:13		19:03	108	15:01 (1)		17:00	188	13:45 (1)		16:29		
9	08:46		09:59 (2)		08:53 (4)		07:10		12:39 (1)	06:58	05:57	05:21	05:30	06:12	07:03		07:52		13:12 (1)		07:47		08:21 (4)		08:34		
	16:48	20	10:19 (2)		14:21 (1)		18:32	105	14:24 (1)	20:26	21:16	21:57	21:59	21:17	20:10		19:01	109	15:01 (1)		16:59	185	13:44 (1)		16:29		
10	08:45		09:57 (2)		08:54 (4)		07:07		12:39 (1)	06:56	05:55	05:21	05:31	06:14	07:04		07:54		13:12 (1)		07:49		08:21 (4)		08:35		
	16:49	24	10:21 (2)		14:22 (1)		18:34	103	14:22 (1)	20:27	21:18	21:58	21:58	21:15	20:08		18:59	109	15:01 (1)		16:57	183	13:43 (1)		16:28		
11	08:44		09:56 (2)		08:56 (4)		07:05		12:39 (1)	06:54	05:54	05:20	05:32	06:16	07:06		07:56		13:11 (1)		07:51		08:22 (4)		08:37		
	16:51	26	10:22 (2)		14:23 (1)		18:36	103	14:22 (1)	20:29	21:19	21:58	21:57	21:13	20:06		18:56	110	15:01 (1)		16:56	179	13:42 (1)		16:28		
12	08:44		09:55 (2)		08:58 (4)		07:03		12:40 (1)	06:52	05:52	05:20	05:33	06:17	07:08		07:57		13:11 (1)		07:53		08:23 (4)		08:38		
	16:52	28	10:23 (2)		14:23 (1)		18:37	101	14:21 (1)	20:31	21:21	21:59	21:56	21:11	20:03		18:54	110	15:01 (1)		16:54	175	13:41 (1)		16:28		
13	08:43		09:54 (2)		09:12 (3)		07:01		12:41 (1)	06:49	05:50	05:20	05:34	06:19	07:09		07:59		13:11 (1)		07:54		08:24 (4)		08:39		
	16:53	31	10:25 (2)		17:48	171	14:24 (1)		18:39	99	14:20 (1)	20:32	21:23	22:00	21:56	21:09	20:01		18:52	110	15:01 (1)		16:53	169	13:40 (1)		16:28	
14	08:42		09:53 (2)		07:58		09:15 (3)		06:58		12:42 (1)	06:47	05:49	05:19	05:35	06:20	07:11		08:01		13:10 (1)		07:56		08:26 (4)		08:40	
	16:55	33	10:26 (2)		17:50	165	14:25 (1)		18:41	97	14:19 (1)	20:34	21:24	22:00	21:55	21:07	19:59		18:50	111	15:01 (1)		16:51	165	13:39 (1)		16:28	
15	08:41		09:53 (2)		07:56		09:18 (3)		06:56		12:43 (1)	06:45	05:47	05:19	05:36	06:22	07:13		08:03		13:10 (1)		07:58		08:28 (4)		08:40	
	16:57	35	10:28 (2)		17:52	158	14:25 (1)		18:43	95	14:18 (1)	20:36	21:26	22:01	21:54	21:05	19:56		18:48	111	15:01 (1)		16:50	158	13:38 (1)		16:28	
16	08:41		09:51 (2)		07:54		09:52 (2)		06:54		12:44 (1)	06:43	05:46	05:19	05:38	06:24	07:14		08:04		13:09 (1)		08:00		08:30 (4)		08:41	
	16:58	51	13:32 (1)		17:54	150	14:26 (1)		18:44	92	14:16 (1)	20:37	21:27	22:01	21:53	21:03	19:54		18:45	110	14:59 (1)		16:48	147	13:36 (1)		16:28	
17	08:40		09:51 (2)		07:52		09:53 (2)		06:51		12:46 (1)	06:41	05:44	05:19	05:39	06:25	07:16		08:06		13:09 (1)		08:01		08:43 (3)		08:42	
	17:00	62	13:38 (1)		17:56	148	14:26 (1)		18:46	89	14:15 (1)	20:39	21:29	22:02	21:52	21:01	19:52		18:43	110	14:59 (1)		16:47	134	13:35 (1)		16:28	
18	08:39		09:50 (2)		07:50		09:54 (2)		06:49		12:48 (1)	06:38	05:43	05:19	05:40	06:27	07:17	14:06 (1)	08:08		13:09 (1)		08:03		08:44 (3)		08:43	
	17:01	72	13:43 (1)		17:58	147	14:27 (1)		18:48	86	14:14 (1)	20:41	21:30	22:02	21:51	20:59	19:49	33 14:39 (1)	18:41	110	14:59 (1)		16:46	128	13:34 (1)		16:29	
19	08:38		09:50 (2)		07:48		09:56 (2)		06:47		12:49 (1)	06:36	05:41	05:19	05:41	06:29	07:19	13:56 (1)	08:10		10:35 (2)		08:05		08:45 (3)		08:44	
	17:03	80	13:47 (1)		17:59	144	14:27 (1)		18:50	82	14:11 (1)	20:43	21:32	22:03	21:49	20:57	19:47	47 14:43 (1)	18:39	126	14:59 (1)		16:44	119	13:31 (1)		16:29	
20	08:37		09:18 (3)		07:46		09:58 (2)		06:44		12:52 (1)	06:34	05:40	05:19	05:43	06:30	07:21	13:50 (1)	08:11		10:32 (2)		08:06		08:47 (3)		08:44	
	17:05	88	13:50 (1)		18:01	140	14:28 (1)		18:51	78	14:10 (1)	20:44	21:33	22:03	21:48	20:55	19:45	57 14:47 (1)	18:37	133	14:59 (1)		16:43	112	13:30 (1)		16:29	
21	08:36		09:15 (3)		07:44		09:59 (2)		06:42		12:55 (1)	06:32	05:38	05:19	05:44	06:32	07:22	13:44 (1)	08:13		10:29 (2)		08:08		08:50 (3)		08:45	
	17:06	102	13:53 (1)		18:03	136	14:27 (1)		18:53	73	14:08 (1)	20:46	21:35	22:03	21:47	20:53	19:42	65 14:49 (1)	18:35	138	14:58 (1)		16:42	102	13:28 (1)		16:30	
22	08:34		09:12 (3)		07:42		10:01 (2)		06:40		12:58 (1)	06:30	05:37	05:19	05:45	06:33	07:24	13:40 (1)	08:15		10:26 (2)		08:10		08:54 (3)		08:45	
	17:08	112	13:55 (1)		18:05	131	14:27 (1)		18:55	66	14:04 (1)	20:48	21:36	22:03	21:46	20:51	19:40	72 14:52 (1)	18:33	143	14:57 (1)		16:41	88	13:26 (1)		16:30	
23	08:33		09:11 (3)		07:40		10:06 (2)		06:37		13:02 (1)	06:28	05:36	05:20	05:47	06:35	07:26	13:37 (1)	08:17		10:25 (2)		08:11		09:27 (2)		08:46	
	17:10	119	13:57 (1)		18:07	123	14:28 (1)		18:56	60	14:02 (1)	20:49	21:37	22:04	21:44	20:49	19:38	77 14:54 (1)	18:31	145	14:57 (1)		16:40	80	13:24 (1)		16:31	
24	08:32		09:10 (3)		07:38		12:38 (1)		06:35		13:08 (1)	06:26	05:35	05:20	05:48	06:37	07:27	13:34 (1)	08:18		10:23 (2)		08:13		09:28 (2)		08:46	
	17:12	128	14:00 (1)		18:09	110	14:28 (1)		18:58	50	13:58 (1)	20:51	21:39	22:04	21:43	20:46	19:35	81 14:55 (1)	18:28	147	14:56 (1)		16:38	71	13:20 (1)		16:31	
25	08:31		09:09 (3)		07:36		12:38 (1)		06:33		13:15 (1)	06:24	05:33	05:20	05:49	06:38	07:29	13:31 (1)	07:20		09:22 (2)		08:15		09:29 (2)		08:47	
	17:13	134	14:01 (1)		18:10	110	14:28 (1)		19:00	37	13:52 (1)	20:53	21:40	22:04	21:42	20:44	19:33	85 14:56 (1)	17:26	150	13:56 (1)		16:37	62	13:16 (1)		16:32	
26	08:30		08:57 (4)		07:34		12:38 (1)		06:30		13:28 (1)	06:22	05:32	05:21	05:51	06:40	07:31	13:29 (1)	07:22		09:21 (2)		08:16		09:31 (2)		08:47	
	17:15	149	14:04 (1)		18:12	110	14:28 (1)		19:02	15	13:43 (1)	20:54	21:41	22:04	21:40	20:42	19:31	88 14:57 (1)	17:24	150	13:55 (1)		16:36	50	13:11 (1)		16:33	
27	08:28		08:55 (4)		07:32		12:37 (1)		06:28			06:20	05:31	05:21	05:52	06:42	07:32	13:26 (1)	07:24		08:46 (3)		08:18		09:32 (2)		08:47	
	17:17	158	14:05 (1)		18:14	110	14:27 (1)		19:03			20:56	21:43	22:04	21:39	20:40	19:28	92 14:58 (1)	17:22	161	13:55 (1)		16:36	35	10:07 (2)		16:33	
28	08:27		08:54 (4)		07:30		12:37 (1)		06:26			06:18	05:30	05:21	05:54	06:43	07:34	13:25 (1)	07:26		08:44 (3)		08:19		09:33 (2)		08:48	
	17:19	165	14:07 (1)		18:16	111	14:28 (1)		19:05			20:58	21:44	22:03	21:37	20:38	19:26	94 14:59 (1)	17:20	166	13:54 (1)		16:35	33	10:06 (2)		16:34	
29	08:25		08:52 (4)						07:24			06:16	05:29	05:22	05:55	06:45	07:36	13:23 (1)	07:27		08:42 (3)		08:21		09:35 (2)		08:48	
	17:20	169	14:08 (1)						20:07			21:00	21:45	22:03	21:36	20:35	19:24	97 15:00 (1)	17:19	172	13:53 (1)		16:34	31	10:06 (2)		16:35	
30	08:24		08:51 (4)						07:21			06:14	05:28	05:23	05:57	06:46	07:37	13:21 (1)	07:29		08:27 (4)		08:22		09:37 (2)		08:48	
	17:22	175	14:09 (1)						20:08			21:01	21:47	22:03	21:34	20:33	19:21	98 14:59 (1)	17:17	184	13:53 (1)		16:33	29	10:06 (2)		16:36	
31	08:22		08:51 (4)						07:19				05:27		05:58	06:48			07:31		08:25 (4)						08:48	
	17:24	179	14:11 (1)						20:10				21:48		21:33	20:31			17:15	190	13:52 (1)						16:37	
Potential sun hours	259			277			367			416	485	499	502	454	381				331			266			243		
Total, worst case		2178			4441			2300								986				3943			3974			111
Sun reduction		0,24			0,30			0,33								0,36				0,34			0,24			0,20
Oper. time red.		0,95			0,95			0,95								0,95				0,95			0,95			0,95
Wind dir. red.		0,62			0,65			0,68								0,68				0,67			0,63			0,59
Total reduction		0,14			0,18			0,21								0,23				0,21			0,14			0,11
Total, real		307			819			486								229				834			557			13

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:33/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion4.2M148@165Shadow receptor: D - 3945LA3

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December		
1	08:48		13:37 (4)	08:21		15:50 (3)	07:27		17:22 (2)	07:17	06:12	05:26	05:23	06:00	06:50		07:39		18:01 (2)	07:33		15:22 (3)	08:24		13:34 (4)
	16:38	31	14:08 (4)	17:26	38	16:28 (3)	18:18	23	17:45 (2)	20:12	21:03	21:49	22:03	21:31	20:29		19:19	19	18:20 (2)	17:13	36	15:58 (3)	16:32	12	13:46 (4)
2	08:48		13:38 (4)	08:19		15:50 (3)	07:25		17:21 (2)	07:14	06:10	05:25	05:24	06:01	06:51		07:40		17:59 (2)	07:34		15:21 (3)	08:25		13:32 (4)
	16:39	30	14:08 (4)	17:28	38	16:28 (3)	18:19	25	17:46 (2)	20:13	21:05	21:50	22:02	21:29	20:26		19:17	22	18:21 (2)	17:11	36	15:57 (3)	16:32	16	13:48 (4)
3	08:47		13:39 (4)	08:18		15:51 (3)	07:23		17:19 (2)	07:12	06:08	05:25	05:25	06:03	06:53		07:42		17:57 (2)	07:36		15:21 (3)	08:27		13:30 (4)
	16:40	30	14:09 (4)	17:30	38	16:29 (3)	18:21	27	17:46 (2)	20:15	21:06	21:51	22:02	21:27	20:24		19:14	24	18:21 (2)	17:09	37	15:58 (3)	16:31	20	13:50 (4)
4	08:47		13:39 (4)	08:16		15:50 (3)	07:21		17:19 (2)	07:10	06:06	05:24	05:25	06:04	06:55		07:44		17:56 (2)	07:38		15:20 (3)	08:28		13:29 (4)
	16:41	29	14:08 (4)	17:31	39	16:29 (3)	18:23	28	17:47 (2)	20:17	21:08	21:52	22:02	21:26	20:22		19:12	26	18:22 (2)	17:07	38	15:58 (3)	16:30	22	13:51 (4)
5	08:47		13:41 (4)	08:14		15:50 (3)	07:18		17:19 (2)	07:07	06:04	05:23	05:26	06:06	06:56		07:45		17:55 (2)	07:40		15:20 (3)	08:29		13:29 (4)
	16:42	27	14:08 (4)	17:33	39	16:29 (3)	18:25	28	17:47 (2)	20:19	21:09	21:53	22:01	21:24	20:20		19:10	28	18:23 (2)	17:06	39	15:59 (3)	16:30	24	13:53 (4)
6	08:47		13:42 (4)	08:13		15:50 (3)	07:16		17:18 (2)	07:05	06:02	05:22	05:27	06:08	06:58		07:47		17:54 (2)	07:42		15:20 (3)	08:31		13:28 (4)
	16:44	26	14:08 (4)	17:35	39	16:29 (3)	18:27	28	17:46 (2)	20:20	21:11	21:54	22:01	21:22	20:17		19:08	28	18:22 (2)	17:04	39	15:59 (3)	16:29	26	13:54 (4)
7	08:46		13:43 (4)	08:11		15:51 (3)	07:14		17:18 (2)	07:03	06:00	05:22	05:28	06:09	06:59		07:49		17:54 (2)	07:43		15:20 (3)	08:32		13:28 (4)
	16:45	25	14:08 (4)	17:37	38	16:29 (3)	18:28	28	17:46 (2)	20:22	21:13	21:55	22:00	21:20	20:15		19:05	28	18:22 (2)	17:02	39	15:59 (3)	16:29	27	13:55 (4)
8	08:46		13:45 (4)	08:09		15:52 (3)	07:12		17:18 (2)	07:01	05:59	05:21	05:29	06:11	07:01		07:51		17:54 (2)	07:45		15:20 (3)	08:33		13:28 (4)
	16:46	22	14:07 (4)	17:39	37	16:29 (3)	18:30	28	17:46 (2)	20:24	21:14	21:56	21:59	21:19	20:13		19:03	28	18:22 (2)	17:00	39	15:59 (3)	16:29	28	13:56 (4)
9	08:45		13:47 (4)	08:07		15:52 (3)	07:10		17:19 (2)	06:58	05:57	05:21	05:30	06:12	07:03		07:52		17:54 (2)	07:47		15:21 (3)	08:34		13:27 (4)
	16:48	20	14:07 (4)	17:41	37	16:29 (3)	18:32	27	17:46 (2)	20:25	21:16	21:57	21:59	21:17	20:10		19:01	28	18:22 (2)	16:59	38	15:59 (3)	16:28	30	13:57 (4)
10	08:45		13:49 (4)	08:06		15:53 (3)	07:07		17:19 (2)	06:56	05:55	05:20	05:31	06:14	07:04		07:54		17:53 (2)	07:49		15:21 (3)	08:35		13:27 (4)
	16:49	16	14:05 (4)	17:43	35	16:28 (3)	18:34	25	17:44 (2)	20:27	21:18	21:57	21:58	21:15	20:08		18:59	27	18:20 (2)	16:57	38	15:59 (3)	16:28	30	13:57 (4)
11	08:44		13:52 (4)	08:04		15:54 (3)	07:05		17:20 (2)	06:54	05:53	05:20	05:32	06:15	07:06		07:56		17:54 (2)	07:51		15:21 (3)	08:36		13:27 (4)
	16:50	12	14:04 (4)	17:44	33	16:27 (3)	18:35	23	17:43 (2)	20:29	21:19	21:58	21:57	21:13	20:06		18:56	26	18:20 (2)	16:56	38	15:59 (3)	16:28	31	13:58 (4)
12	08:44		13:56 (4)	08:02		15:55 (3)	07:03		17:21 (2)	06:52	05:52	05:20	05:33	06:17	07:08		07:57		17:54 (2)	07:52		15:22 (3)	08:38		13:27 (4)
	16:52	4	14:00 (4)	17:46	32	16:27 (3)	18:37	21	17:42 (2)	20:31	21:21	21:59	21:56	21:11	20:03		18:54	25	18:19 (2)	16:54	36	15:58 (3)	16:28	32	13:59 (4)
13	08:43			08:00		15:56 (3)	07:00		17:22 (2)	06:49	05:50	05:19	05:34	06:19	07:09		07:59		17:55 (2)	07:54		15:23 (3)	08:39		13:27 (4)
	16:53			17:48	30	16:26 (3)	18:39	17	17:39 (2)	20:32	21:22	22:00	21:56	21:09	20:01		18:52	23	18:18 (2)	16:52	35	15:58 (3)	16:28	33	14:00 (4)
14	08:42			07:58		15:57 (3)	06:58		17:25 (2)	06:47	05:49	05:19	05:35	06:20	07:11		08:01		17:56 (2)	07:56		15:23 (3)	08:39		13:27 (4)
	16:55			17:50	28	16:25 (3)	18:41	12	17:37 (2)	20:34	21:24	22:00	21:55	21:07	19:59		18:50	20	18:16 (2)	16:51	35	15:58 (3)	16:28	33	14:00 (4)
15	08:41			07:56		15:59 (3)	06:56		18:12 (1)	06:45	05:47	05:19	05:36	06:22	07:12	18:59 (1)	08:03		17:57 (2)	07:58		15:24 (3)	08:40		13:27 (4)
	16:56			17:52	24	16:23 (3)	18:42	5	18:17 (1)	20:36	21:26	22:01	21:54	21:05	19:56	4	19:03 (1)	16	18:13 (2)	16:50	33	15:57 (3)	16:28	34	14:01 (4)
16	08:41			07:54		16:01 (3)	06:54		18:07 (1)	06:43	05:45	05:19	05:37	06:24	07:14	18:54 (1)	08:04		18:00 (2)	07:59		15:25 (3)	08:41		13:28 (4)
	16:58			17:54	20	16:21 (3)	18:44	11	18:18 (1)	20:37	21:27	22:01	21:53	21:03	19:54	11	19:05 (1)	18:45	11	18:11 (2)	16:48	32	15:57 (3)	16:28	34	14:02 (4)
17	08:40			07:52		16:04 (3)	06:51		18:06 (1)	06:41	05:44	05:19	05:39	06:25	07:16	18:52 (1)	08:06			08:01		15:26 (3)	08:42		13:28 (4)
	17:00			17:56	15	16:19 (3)	18:46	15	18:21 (1)	20:39	21:29	22:02	21:52	21:01	19:52	15	19:07 (1)	18:43			16:47	31	15:57 (3)	16:28	35	14:03 (4)
18	08:39		16:00 (3)	07:50		16:10 (3)	06:49		18:05 (1)	06:38	05:43	05:19	05:40	06:27	07:17	18:51 (1)	08:08			08:03		15:26 (3)	08:43		13:29 (4)
	17:01	10	16:10 (3)	17:58	4	16:14 (3)	18:48	18	18:23 (1)	20:41	21:30	22:02	21:50	20:59	19:49	17	19:08 (1)	18:41			16:45	29	15:55 (3)	16:28	34	14:03 (4)
19	08:38		15:58 (3)	07:48			06:47		18:03 (1)	06:36	05:41	05:19	05:41	06:28	07:19	18:49 (1)	08:10			08:05		15:28 (3)	08:44		13:29 (4)
	17:03	15	16:13 (3)	17:59			18:49	20	18:23 (1)	20:43	21:32	22:02	21:49	20:57	19:47	19	19:08 (1)	18:39			16:44	26	15:54 (3)	16:29	34	14:03 (4)
20	08:37		15:57 (3)	07:46			06:44		18:02 (1)	06:34	05:40	05:19	05:43	06:30	07:21	18:48 (1)	08:11			08:06		15:29 (3)	08:44		13:29 (4)
	17:05	18	16:15 (3)	18:01			18:51	21	18:23 (1)	20:44	21:33	22:03	21:48	20:55	19:45	21	19:09 (1)	18:37			16:43	24	15:53 (3)	16:29	35	14:04 (4)
21	08:36		15:56 (3)	07:44			06:42		18:02 (1)	06:32	05:38	05:19	05:44	06:32	07:22	18:47 (1)	08:13			08:08		15:31 (3)	08:45		13:30 (4)
	17:06	21	16:17 (3)	18:03			18:53	22	18:24 (1)	20:46	21:35	22:03	21:47	20:53	19:42	21	19:08 (1)	18:35			16:42	21	15:52 (3)	16:30	35	14:05 (4)
22	08:34		15:54 (3)	07:42			06:40		18:01 (1)	06:30	05:37	05:19	05:45	06:33	07:24	18:47 (1)	08:15			08:10		15:33 (3)	08:45		13:30 (4)
	17:08	24	16:18 (3)	18:05			18:55	22	18:23 (1)	20:48	21:36	22:03	21:46	20:51	19:40	21	19:08 (1)	18:33			16:41	18	15:51 (3)	16:30	35	14:05 (4)
23	08:33		15:54 (3)	07:40			06:37		18:01 (1)	06:28	05:36	05:19	05:47	06:35	07:26	18:47 (1)	08:17			08:11		15:35 (3)	08:46		13:30 (4)
	17:10	26	16:20 (3)	18:07			18:56	21	18:22 (1)	20:49	21:37	22:03	21:44	20:48	19:38	21	19:08 (1)	18:30			16:39	15	15:50 (3)	16:31	35	14:05 (4)
24	08:32		15:52 (3)	07:38			06:35		18:02 (1)	06:26	05:35	05:20	05:48	06:37	07:27	18:46 (1)	08:18		16:37 (3)	08:13		15:37 (3)	08:46		13:32 (4)
	17:11	29	16:21 (3)	18:09			18:58	20	18:22 (1)	20:51	21:39	22:04	21:43	20:46	19:35	20	19:06 (1)	18:28	8	16:45 (3)	16:38	10	15:47 (3)	16:31	34	14:06 (4)
25	08:31		15:52 (3)	07:36		17:31 (2)	06:33		18:02 (1)	06:24	05:33	05:20	05:49	06:38	07:29	18:47 (1)	07:20		15:33 (3)	08:15			08:47		13:32 (4)
	17:13	31	16:23 (3)	18:10	6	17:37 (2)	19:00	18	18:20 (1)	20:53	21:40	22:04	21:42	20:44	19:33	19	19:06 (1)	17:26	16	15:49 (3)	16:37			16:32	34	14:06 (4)
26	08:29		15:52 (3)	07:34		17:26 (2)	06:30		18:03 (1)	06:22	05:32	05:20	05:51	06:40	07:30	18:48 (1)	07:22		15:30 (3)	08:16			08:47		13:32 (4)
	17:15	32	16:24 (3)	18:12	14	17:40 (2)	19:01	16	18:19 (1)	20:54	21:41	22:04	21:40	20:42	19:31	16	19:04 (1)	17:24	21	15:51 (3)	16:36			16:32	35	14:07 (4)
27	08:28		15:51 (3)	07:32		17:24 (2)	06:28		18:05 (1)	06:19	05:31	05:21	05:52	06:41	07:32	18:48 (1)	07:24		15:28 (3)	08:18			08:47		13:33 (4)
	17:17	34	16:25 (3)	18:14	18	17:42 (2)	19:03	12	18:17 (1)	20:56	21:43	22:04	21:39	20:40	19:28	13	19:01 (1)	17:22	25	15:53 (3)	16:35			16:33	34	14:07 (4)
28	08:27		15:52 (3)	07:29		17:23 (2)	06:26		18:07 (1)	06:17	05:30	05:21	05:54	06:43	07:34	18:51 (1)	07:25		15:26 (3)	08:19			08:47		13:34 (4)
	17:19	34	16:26 (3)	18:16	21	17:44 (2)	19:05	6	18:13 (1)	20:58	21:44	22:03	21:37	20:38	19:26	8	18:59 (1)	17:20	28	15:54 (3)	16:35			16:34	34	14:08 (4)
29	08:25		15:51 (3)				07:23			06:15	05:29	05:22	05:55	06:45	07:35		18:07 (2)	07:27		15:25 (3)	08:21			08:48		13:35 (4)
	17:20	35	16:26 (3)				20:07			20:59	21:45	22:03	21:36	20:35	19:24	10	18:17 (2)	17:18	31	15:56 (3)	16:34			16:35	33	14:08 (4)
30	08:24		15:50 (3)				07:21			06:14	05:28	05:23	05:57	06:46	07:37		18:03 (2)	07:29		15:24 (3)	08:22		13:38 (4)	08:48		13:35 (4)
	17:22	37	16:27 (3)				20:08			21:01	21:46	22:03	21:34	20:33	19:21	15	18:18 (2)	17:17	32	15:56 (3)	16:33	3	13:41 (4)	16:36	32	14:07 (4)
31	08:22		15:51 (3)				07:19				05:27		05:58	06:48				07:31		15:23 (3)				08:48		13:35 (4)
	17:24	37	16:28 (3)				20:10				21:48		21:32	20:31				17:15	34	15:57 (3)				16:37	33	14:08 (4)
Potential sun hours	259			277			367		416	485	499	502	454	381				331			266			243		
Total, worst case		655			623			567							251				574			765			944	
Sun reduction		0,24			0,30			0,33							0,36				0,34			0,24			0,20	
Oper. time red.		0,95			0,95			0,95							0,95				0,95			0,95			0,95	
Wind dir. red.		0,67			0,67			0,64							0,63				0,66			0,67			0,68	
Total reduction		0,15			0,19			0,20							0,22				0,21			0,15			0,13	
Total, real		100			119			114							54				120			115			124	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:33/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion4.2M148@165Shadow receptor: E - 3945LA5

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December	
1	08:48	14:59 (3)	08:21	15:09 (3)	07:27	16:57 (2)	07:17	06:12	05:26	05:23	06:00	06:50		07:39	18:39 (1)	07:33		08:24	14:42 (3)
	16:38 34	15:33 (3)	17:26 36	15:45 (3)	18:18 33	17:30 (2)	20:12	21:03	21:49	22:03	21:31	20:29		19:19 11	18:50 (1)	17:13		16:32 41	15:23 (3)
2	08:48	14:59 (3)	08:19	15:10 (3)	07:25	16:57 (2)	07:14	06:10	05:25	05:24	06:01	06:51		07:40		07:34		08:25	14:43 (3)
	16:39 35	15:34 (3)	17:28 34	15:44 (3)	18:19 32	17:29 (2)	20:13	21:05	21:50	22:02	21:29	20:26		19:17		17:11		16:32 40	15:23 (3)
3	08:48	14:59 (3)	08:18	15:12 (3)	07:23	16:57 (2)	07:12	06:08	05:25	05:25	06:03	06:53		07:42	17:47 (2)	07:36	14:52 (3)	08:27	14:43 (3)
	16:40 36	15:35 (3)	17:30 32	15:44 (3)	18:21 31	17:28 (2)	20:15	21:06	21:51	22:02	21:27	20:24		19:14 5	17:52 (2)	17:09 12	15:04 (3)	16:31 40	15:23 (3)
4	08:47	14:59 (3)	08:16	15:13 (3)	07:21	16:57 (2)	07:10	06:06	05:24	05:25	06:04	06:55		07:44	17:42 (2)	07:38	14:49 (3)	08:28	14:45 (3)
	16:41 36	15:35 (3)	17:31 30	15:43 (3)	18:23 31	17:28 (2)	20:17	21:08	21:52	22:02	21:26	20:22		19:12 15	17:57 (2)	17:07 18	15:07 (3)	16:30 38	15:23 (3)
5	08:47	15:00 (3)	08:14	15:15 (3)	07:18	16:58 (2)	07:07	06:04	05:23	05:26	06:06	06:56		07:45	17:40 (2)	07:40	14:46 (3)	08:29	14:45 (3)
	16:42 36	15:36 (3)	17:33 26	15:41 (3)	18:25 29	17:27 (2)	20:19	21:10	21:53	22:01	21:24	20:20		19:10 19	17:59 (2)	17:06 23	15:09 (3)	16:30 38	15:23 (3)
6	08:47	14:59 (3)	08:13	15:17 (3)	07:16	16:58 (2)	07:05	06:02	05:22	05:27	06:08	06:58		07:47	17:37 (2)	07:42	14:44 (3)	08:31	14:45 (3)
	16:44 38	15:37 (3)	17:35 22	15:39 (3)	18:27 27	17:25 (2)	20:20	21:11	21:54	22:01	21:22	20:17		19:08 23	18:00 (2)	17:04 27	15:11 (3)	16:29 38	15:23 (3)
7	08:46	15:00 (3)	08:11	15:20 (3)	07:14	17:00 (2)	07:03	06:00	05:22	05:28	06:09	06:59		07:49	17:35 (2)	07:44	14:42 (3)	08:32	14:47 (3)
	16:45 38	15:38 (3)	17:37 17	15:37 (3)	18:28 24	17:24 (2)	20:22	21:13	21:55	22:00	21:20	20:15		19:05 26	18:01 (2)	17:02 31	15:13 (3)	16:29 37	15:24 (3)
8	08:46	15:00 (3)	08:09	15:25 (3)	07:12	17:02 (2)	07:01	05:59	05:21	05:29	06:11	07:01		07:51	17:34 (2)	07:45	14:41 (3)	08:33	14:47 (3)
	16:46 38	15:38 (3)	17:39 9	15:34 (3)	18:30 21	17:23 (2)	20:24	21:14	21:56	21:59	21:19	20:13		19:03 28	18:02 (2)	17:00 33	15:14 (3)	16:29 36	15:23 (3)
9	08:45	15:00 (3)	08:07		07:10	17:04 (2)	06:58	05:57	05:21	05:30	06:12	07:03		07:52	17:33 (2)	07:47	14:40 (3)	08:34	14:48 (3)
	16:48 40	15:40 (3)	17:41		18:32 17	17:21 (2)	20:25	21:16	21:57	21:59	21:17	20:10		19:01 30	18:03 (2)	16:59 35	15:15 (3)	16:28 35	15:23 (3)
10	08:45	15:00 (3)	08:06		07:07	17:06 (2)	06:56	05:55	05:20	05:31	06:14	07:04		07:54	17:31 (2)	07:49	14:39 (3)	08:35	14:48 (3)
	16:49 40	15:40 (3)	17:43		18:34 11	17:17 (2)	20:27	21:18	21:57	21:58	21:15	20:08		18:59 31	18:02 (2)	16:57 37	15:16 (3)	16:28 35	15:23 (3)
11	08:44	15:00 (3)	08:04		07:05		06:54	05:53	05:20	05:32	06:15	07:06		07:56	17:31 (2)	07:51	14:39 (3)	08:37	14:49 (3)
	16:50 41	15:41 (3)	17:44		18:35		20:29	21:19	21:58	21:57	21:13	20:06		18:56 31	18:02 (2)	16:56 38	15:17 (3)	16:28 34	15:23 (3)
12	08:44	15:00 (3)	08:02		07:03	18:01 (1)	06:52	05:52	05:20	05:33	06:17	07:08		07:57	17:30 (2)	07:52	14:38 (3)	08:38	14:49 (3)
	16:52 41	15:41 (3)	17:46		18:37 9	18:10 (1)	20:31	21:21	21:59	21:56	21:11	20:03		18:54 33	18:03 (2)	16:54 39	15:17 (3)	16:28 34	15:23 (3)
13	08:43	15:00 (3)	08:00		07:00	17:58 (1)	06:49	05:50	05:19	05:34	06:19	07:09		07:59	17:30 (2)	07:54	14:38 (3)	08:39	14:50 (3)
	16:53 42	15:42 (3)	17:48		18:39 14	18:12 (1)	20:32	21:22	22:00	21:56	21:09	20:01		18:52 33	18:03 (2)	16:52 40	15:18 (3)	16:28 33	15:23 (3)
14	08:42	15:00 (3)	07:58		06:58	17:56 (1)	06:47	05:49	05:19	05:35	06:20	07:11		08:01	17:30 (2)	07:56	14:38 (3)	08:40	14:51 (3)
	16:55 42	15:42 (3)	17:50		18:41 18	18:14 (1)	20:34	21:24	22:00	21:55	21:07	19:59		18:50 33	18:03 (2)	16:51 41	15:19 (3)	16:28 33	15:24 (3)
15	08:41	15:00 (3)	07:56		06:56	17:55 (1)	06:45	05:47	05:19	05:36	06:22	07:12		08:03	17:29 (2)	07:58	14:37 (3)	08:40	14:51 (3)
	16:56 43	15:43 (3)	17:52		18:42 20	18:15 (1)	20:36	21:26	22:01	21:54	21:05	19:56		18:47 32	18:01 (2)	16:50 42	15:19 (3)	16:28 33	15:24 (3)
16	08:41	15:00 (3)	07:54		06:54	17:53 (1)	06:43	05:45	05:19	05:37	06:24	07:14		08:04	17:29 (2)	07:59	14:37 (3)	08:41	12:47 (4)
	16:58 43	15:43 (3)	17:54		18:44 22	18:15 (1)	20:37	21:27	22:01	21:53	21:03	19:54		18:45 32	18:01 (2)	16:48 43	15:20 (3)	16:28 38	15:24 (3)
17	08:40	15:01 (3)	07:52		06:51	17:52 (1)	06:41	05:44	05:19	05:39	06:25	07:16	18:46 (1)	08:06	17:30 (2)	08:01	14:37 (3)	08:42	12:46 (4)
	17:00 43	15:44 (3)	17:56		18:46 24	18:16 (1)	20:39	21:29	22:02	21:52	21:01	19:52 8	18:54 (1)	18:43 31	18:01 (2)	16:47 44	15:21 (3)	16:28 41	15:25 (3)
18	08:39	15:01 (3)	07:50	17:08 (2)	06:49	17:52 (1)	06:38	05:43	05:19	05:40	06:27	07:17	18:43 (1)	08:08	17:30 (2)	08:03	14:37 (3)	08:43	12:46 (4)
	17:01 44	15:45 (3)	17:58 12	17:20 (2)	18:48 24	18:16 (1)	20:41	21:30	22:02	21:50	20:59	19:49 14	18:57 (1)	18:41 30	18:00 (2)	16:45 43	15:20 (3)	16:28 42	15:25 (3)
19	08:38	15:01 (3)	07:48	17:06 (2)	06:47	17:51 (1)	06:36	05:41	05:19	05:41	06:28	07:19	18:41 (1)	08:10	17:31 (2)	08:05	14:37 (3)	08:44	12:45 (4)
	17:03 44	15:45 (3)	17:59 17	17:23 (2)	18:49 24	18:15 (1)	20:43	21:32	22:02	21:49	20:57	19:47 17	18:58 (1)	18:39 28	17:59 (2)	16:44 43	15:20 (3)	16:29 43	15:25 (3)
20	08:37	15:02 (3)	07:46	17:03 (2)	06:44	17:51 (1)	06:34	05:40	05:19	05:43	06:30	07:21	18:39 (1)	08:11	17:32 (2)	08:06	14:37 (3)	08:44	12:45 (4)
	17:05 44	15:46 (3)	18:01 21	17:24 (2)	18:51 24	18:15 (1)	20:44	21:33	22:03	21:48	20:55	19:45 20	18:59 (1)	18:37 26	17:58 (2)	16:43 44	15:21 (3)	16:29 44	15:26 (3)
21	08:36	15:02 (3)	07:44	17:01 (2)	06:42	17:52 (1)	06:32	05:38	05:19	05:44	06:32	07:22	18:37 (1)	08:13	17:32 (2)	08:08	14:38 (3)	08:45	12:46 (4)
	17:06 44	15:46 (3)	18:03 25	17:26 (2)	18:53 23	18:15 (1)	20:46	21:35	22:03	21:47	20:53	19:42 22	18:59 (1)	18:35 23	17:55 (2)	16:42 43	15:21 (3)	16:30 44	15:27 (3)
22	08:34	15:02 (3)	07:42	17:00 (2)	06:40	17:51 (1)	06:30	05:37	05:19	05:45	06:33	07:24	18:36 (1)	08:15	17:34 (2)	08:10	14:38 (3)	08:45	12:46 (4)
	17:08 44	15:46 (3)	18:05 27	17:27 (2)	18:55 22	18:13 (1)	20:48	21:36	22:03	21:46	20:51	19:40 23	18:59 (1)	18:33 20	17:54 (2)	16:41 44	15:22 (3)	16:30 44	15:27 (3)
23	08:33	15:03 (3)	07:40	16:59 (2)	06:37	17:52 (1)	06:28	05:36	05:19	05:47	06:35	07:26	18:36 (1)	08:17	17:36 (2)	08:11	14:38 (3)	08:46	12:46 (4)
	17:10 43	15:46 (3)	18:07 29	17:28 (2)	18:56 21	18:13 (1)	20:49	21:37	22:03	21:44	20:48	19:38 24	19:00 (1)	18:30 15	17:51 (2)	16:39 44	15:22 (3)	16:31 44	15:27 (3)
24	08:32	15:03 (3)	07:38	16:59 (2)	06:35	17:54 (1)	06:26	05:35	05:20	05:48	06:37	07:27	18:35 (1)	08:18	17:39 (2)	08:13	14:38 (3)	08:46	12:48 (4)
	17:11 43	15:46 (3)	18:09 30	17:29 (2)	18:58 17	18:11 (1)	20:51	21:39	22:04	21:43	20:46	19:35 24	18:59 (1)	18:28 9	17:48 (2)	16:38 44	15:22 (3)	16:31 43	15:28 (3)
25	08:31	15:04 (3)	07:36	16:58 (2)	06:33	17:55 (1)	06:24	05:33	05:20	05:49	06:38	07:29	18:35 (1)	07:20		08:15	14:39 (3)	08:47	12:48 (4)
	17:13 43	15:47 (3)	18:10 32	17:30 (2)	19:00 14	18:09 (1)	20:53	21:40	22:04	21:42	20:44	19:33 24	18:59 (1)	17:26		16:37 43	15:22 (3)	16:32 43	15:28 (3)
26	08:29	15:04 (3)	07:34	16:57 (2)	06:30	17:57 (1)	06:22	05:32	05:20	05:51	06:40	07:30	18:35 (1)	07:22		08:16	14:40 (3)	08:47	12:49 (4)
	17:15 43	15:47 (3)	18:12 32	17:29 (2)	19:01 9	18:06 (1)	20:54	21:41	22:04	21:40	20:42	19:31 24	18:59 (1)	17:24		16:36 42	15:22 (3)	16:32 42	15:29 (3)
27	08:28	15:05 (3)	07:32	16:57 (2)	06:28		06:20	05:31	05:21	05:52	06:41	07:32	18:34 (1)	07:24		08:18	14:40 (3)	08:47	12:51 (4)
	17:17 41	15:46 (3)	18:14 32	17:29 (2)	19:03		20:56	21:43	22:04	21:39	20:40	19:28 23	18:57 (1)	17:22		16:35 43	15:23 (3)	16:33 40	15:29 (3)
28	08:27	15:06 (3)	07:29	16:57 (2)	06:26		06:17	05:30	05:21	05:54	06:43	07:34	18:35 (1)	07:25		08:19	14:40 (3)	08:47	12:56 (4)
	17:19 41	15:47 (3)	18:16 33	17:30 (2)	19:05		20:58	21:44	22:03	21:37	20:38	19:26 21	18:56 (1)	17:20		16:35 42	15:22 (3)	16:34 35	15:31 (3)
29	08:25	15:06 (3)			07:23		06:16	05:29	05:22	05:55	06:45	07:35	18:36 (1)	07:27		08:21	14:41 (3)	08:48	14:59 (3)
	17:20 40	15:46 (3)			20:07		20:59	21:45	22:03	21:36	20:35	19:24 19	18:55 (1)	17:18		16:34 42	15:23 (3)	16:35 32	15:31 (3)
30	08:24	15:06 (3)			07:21		06:14	05:28	05:23	05:57	06:46	07:37	18:37 (1)	07:29		08:22	14:41 (3)	08:48	14:59 (3)
	17:22 39	15:45 (3)			20:08		21:01	21:46	22:03	21:34	20:33	19:21 15	18:52 (1)	17:17		16:33 41	15:22 (3)	16:36 33	15:32 (3)
31	08:22	15:08 (3)			07:19			05:27		05:58	06:48			07:31				08:48	14:58 (3)
	17:24 38	15:46 (3)			20:10			21:48		21:32	20:31			17:15				16:37 34	15:32 (3)
Potential sun hours	259	277		367		416		485	499	502	454	381		331		266		243	
Total, worst case	1257	496		541								278		564		1061		1187	
Sun reduction	0,24	0,30		0,33								0,36		0,34		0,24		0,20	
Oper. time red.	0,95	0,95		0,95								0,95		0,95		0,95		0,95	
Wind dir. red.	0,69	0,67		0,65								0,63		0,66		0,69		0,69	
Total reduction	0,16	0,19		0,20								0,22		0,21		0,16		0,13	
Total, real	198	96		109								60		120		165		159	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:33/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion4.2M148@165Shadow receptor: F - 3998NH4

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	07:53 (3) 06:12	05:26	06:42 (2) 05:23	06:47 (2) 06:00	07:02 (2) 06:50	07:51 (3) 07:39	08:05 (4) 07:33	08:24
	16:38	17:26	18:18	20:12 31	08:24 (3) 21:03	21:49 59	07:41 (2) 22:03 60	07:47 (2) 21:31 38	07:40 (2) 20:29 26	08:17 (3) 19:19 14	08:19 (4) 17:13	16:32
2	08:48	08:19	07:25	07:14	07:52 (3) 06:10	05:25	06:41 (2) 05:24	06:48 (2) 06:01	07:03 (2) 06:51	07:49 (3) 07:41	08:07 (4) 07:35	08:25
	16:39	17:28	18:20	20:14 32	08:24 (3) 21:05	21:50 60	07:41 (2) 22:03 59	07:47 (2) 21:29 36	07:39 (2) 20:26 29	08:18 (3) 19:17 9	08:16 (4) 17:11	16:32
3	08:48	08:18	07:23	07:12	07:52 (3) 06:08	05:25	06:42 (2) 05:25	06:47 (2) 06:03	07:05 (2) 06:53	07:49 (3) 07:42		08:27
	16:40	17:30	18:21	20:15 33	08:25 (3) 21:06	21:51 59	07:41 (2) 22:02 60	07:47 (2) 21:28 33	07:38 (2) 20:24 30	08:19 (3) 19:15		16:31
4	08:47	08:16	07:21	07:10	07:51 (3) 06:06	05:24	06:42 (2) 05:25	06:48 (2) 06:05	07:06 (2) 06:55	07:48 (3) 07:44		08:28
	16:41	17:32	18:23	20:17 33	08:24 (3) 21:08	21:52 59	07:41 (2) 22:02 59	07:47 (2) 21:26 30	07:36 (2) 20:22 31	08:19 (3) 19:12		16:31
5	08:47	08:14	07:19	07:07	07:50 (3) 06:04	05:23	06:42 (2) 05:26	06:48 (2) 06:06	07:09 (2) 06:56	07:47 (3) 07:46		08:29
	16:43	17:33	18:25	20:19 34	08:24 (3) 21:10	21:53 59	07:41 (2) 22:01 60	07:48 (2) 21:24 25	07:34 (2) 20:20 32	08:19 (3) 19:10		16:30
6	08:47	08:13	07:16	07:05	07:51 (3) 06:02 07:03 (2)	05:23	06:42 (2) 05:27	06:48 (2) 06:08	07:11 (2) 06:58	07:47 (3) 07:47		08:31
	16:44	17:35	18:27	20:20 32	08:23 (3) 21:11 15	07:18 (2) 21:54 60	07:42 (2) 22:01 60	07:48 (2) 21:22 20	07:31 (2) 20:17 32	08:19 (3) 19:08		16:30
7	08:46	08:11	07:14	07:03	07:51 (3) 06:01	07:01 (2) 05:22	06:42 (2) 05:28	06:49 (2) 06:09	07:15 (2) 07:00	07:46 (3) 07:49		08:32
	16:45	17:37	18:28	20:22 32	08:23 (3) 21:13 21	07:22 (2) 21:55 59	07:41 (2) 22:00 59	07:48 (2) 21:20 11	07:26 (2) 20:15 33	08:19 (3) 19:05		16:29
8	08:46	08:09	07:12	07:01	07:50 (3) 05:59	06:58 (2) 05:21	06:42 (2) 05:29	06:49 (2) 06:11	07:01	07:46 (3) 07:51		08:33
	16:46	17:39	18:30	20:24 31	08:21 (3) 21:15 26	07:24 (2) 21:56 60	07:42 (2) 21:59 60	07:49 (2) 21:19	20:13 33	08:19 (3) 19:03		16:29
9	08:45	08:08	07:10	06:58	07:51 (3) 05:57	06:55 (2) 05:21	06:43 (2) 05:30	06:48 (2) 06:12	07:03	07:45 (3) 07:52		08:34
	16:48	17:41	18:32	20:26 30	08:21 (3) 21:16 31	07:26 (2) 21:57 60	07:43 (2) 21:59 60	07:48 (2) 21:17	20:10 33	08:18 (3) 19:01		16:29
10	08:45	08:06	07:07	06:56	07:51 (3) 05:55	06:54 (2) 05:21	06:42 (2) 05:31	06:49 (2) 06:14	07:04	07:45 (3) 07:54		08:35
	16:49	17:43	18:34	20:27 29	08:20 (3) 21:18 34	07:28 (2) 21:57 60	07:42 (2) 21:58 59	07:48 (2) 21:15	20:08 33	08:18 (3) 18:59		16:28
11	08:44	08:04	07:05 07:31 (4)	06:54	07:52 (3) 05:54	06:52 (2) 05:20	06:43 (2) 05:32	06:49 (2) 06:16	07:06	07:46 (3) 07:56		08:37
	16:51	17:45	18:36 4 07:35 (4)	20:29 26	08:18 (3) 21:19 37	07:29 (2) 21:58 60	07:43 (2) 21:57 59	07:48 (2) 21:13	20:06 31	08:17 (3) 18:56		16:28
12	08:44	08:02	07:03 07:27 (4)	06:52	07:53 (3) 05:52	06:51 (2) 05:20	06:43 (2) 05:33	06:49 (2) 06:17	07:08	07:46 (3) 07:57		08:38
	16:52	17:46	18:37 12 07:39 (4)	20:31 24	08:17 (3) 21:21 40	07:31 (2) 21:59 60	07:43 (2) 21:56 59	07:48 (2) 21:11	20:03 30	08:16 (3) 18:54		16:28
13	08:43	08:00	07:01 07:24 (4)	06:49	07:54 (3) 05:50	06:49 (2) 05:20	06:44 (2) 05:34	06:50 (2) 06:19	07:09	07:46 (3) 07:59		08:39
	16:54	17:48	18:39 16 07:40 (4)	20:32 20	08:14 (3) 21:23 42	07:31 (2) 22:00 59	07:43 (2) 21:56 58	07:48 (2) 21:09	20:01 29	08:15 (3) 18:52		16:28
14	08:42	07:58	06:58 07:23 (4)	06:47	07:56 (3) 05:49	06:49 (2) 05:19	06:43 (2) 05:35	06:51 (2) 06:20	07:11	07:47 (3) 08:01		08:40
	16:55	17:50	18:41 18 07:41 (4)	20:34 16	08:12 (3) 21:24 43	07:32 (2) 22:00 60	07:43 (2) 21:55 58	07:49 (2) 21:07	19:59 26	08:13 (3) 18:50		16:28
15	08:41	07:56	06:56 07:22 (4)	06:45	07:59 (3) 05:47	06:47 (2) 05:19	06:43 (2) 05:36	06:51 (2) 06:22	07:13	07:48 (3) 08:03		08:40
	16:57	17:52	18:43 20 07:42 (4)	20:36 9	08:08 (3) 21:26 46	07:33 (2) 22:01 60	07:43 (2) 21:54 58	07:49 (2) 21:05	19:56 24	08:12 (3) 18:48		16:28
16	08:41	07:54	06:54 07:20 (4)	06:43	05:46	06:47 (2) 05:19	06:44 (2) 05:38	06:51 (2) 06:24	07:14	07:49 (3) 08:04		08:41
	16:58	17:54	18:44 22 07:42 (4)	20:37	21:27 47	07:34 (2) 22:01 59	07:43 (2) 21:53 58	07:49 (2) 21:03	19:54 20	08:09 (3) 18:45		16:28
17	08:40	07:52	06:51 07:20 (4)	06:41	05:44	06:46 (2) 05:19	06:44 (2) 05:39	06:51 (2) 06:25	07:16	07:51 (3) 08:06		08:42
	17:00	17:56	18:46 22 07:42 (4)	20:39	21:29 49	07:35 (2) 22:02 59	07:43 (2) 21:52 57	07:48 (2) 21:01	19:52 16	08:07 (3) 18:43		16:28
18	08:39	07:50	06:49 07:19 (4)	06:38	05:43	06:45 (2) 05:19	06:44 (2) 05:40	06:52 (2) 06:27	07:17	07:55 (3) 08:08		08:43
	17:01	17:58	18:48 23 07:42 (4)	20:41	21:30 50	07:35 (2) 22:02 60	07:44 (2) 21:51 56	07:48 (2) 20:59	19:49 13	08:18 (4) 18:41		16:29
19	08:38	07:48	06:47 07:19 (4)	06:36	05:41	06:45 (2) 05:19	06:44 (2) 05:41	06:52 (2) 06:29	07:19	08:09 (4) 08:10		08:44
	17:03	17:59	18:50 22 07:41 (4)	20:43	21:32 51	07:36 (2) 22:03 60	07:44 (2) 21:49 56	07:48 (2) 20:57	19:47 12	08:21 (4) 18:39		16:29
20	08:37	07:46	06:44 07:19 (4)	06:34	05:40	06:44 (2) 05:19	06:45 (2) 05:43	06:53 (2) 06:30	07:21	08:07 (4) 08:11		08:44
	17:05	18:01	18:51 22 07:41 (4)	20:44	21:33 53	07:37 (2) 22:03 60	07:45 (2) 21:48 55	07:48 (2) 20:55	19:45 16	08:23 (4) 18:37		16:29
21	08:36	07:44	06:42 07:19 (4)	06:32	05:38	06:44 (2) 05:19	06:45 (2) 05:44	06:53 (2) 06:32	07:22	08:05 (4) 08:13		08:45
	17:06	18:03	18:53 21 07:40 (4)	20:46	21:35 53	07:37 (2) 22:03 60	07:45 (2) 21:47 55	07:48 (2) 20:53	19:42 19	08:24 (4) 18:35		16:30
22	08:34	07:42	06:40 07:19 (4)	06:30	05:37	06:43 (2) 05:19	06:45 (2) 05:45	06:53 (2) 06:33	07:24	08:04 (4) 08:15		08:45
	17:08	18:05	18:55 20 07:39 (4)	20:48	21:36 54	07:37 (2) 22:03 60	07:45 (2) 21:46 54	07:47 (2) 20:51	19:40 21	08:25 (4) 18:33		16:30
23	08:33	07:40	06:37 07:21 (4)	06:28	05:36	06:43 (2) 05:20	06:45 (2) 05:47	06:54 (2) 06:35	07:26	08:04 (4) 08:17		08:46
	17:10	18:07	18:56 16 07:37 (4)	20:49	21:37 55	07:38 (2) 22:03 60	07:45 (2) 21:44 53	07:47 (2) 20:49	19:38 21	08:25 (4) 18:31		16:31
24	08:32	07:38	06:35 07:22 (4)	06:26	05:35	06:42 (2) 05:20	06:46 (2) 05:48	06:55 (2) 06:37	07:27	08:02 (4) 08:18		08:46
	17:12	18:09	18:58 13 07:35 (4)	20:51	21:39 56	07:38 (2) 22:04 60	07:46 (2) 21:43 52	07:47 (2) 20:46	19:35 23	08:25 (4) 18:29		16:31
25	08:31	07:36	06:33 07:08 (3)	06:24	05:33	06:42 (2) 05:20	06:46 (2) 05:50	06:55 (2) 06:38	07:29	08:02 (4) 07:20		08:47
	17:13	18:10	19:00 13 07:31 (4)	20:53	21:40 56	07:38 (2) 22:04 59	07:45 (2) 21:42 51	07:46 (2) 20:44	19:33 23	08:25 (4) 17:26		16:32
26	08:29	07:34	06:30 07:03 (3)	06:22	05:32	06:42 (2) 05:21	06:46 (2) 05:51	06:56 (2) 06:40	07:31	08:02 (4) 07:22		08:47
	17:15	18:12	19:02 15 07:18 (3)	20:54	21:41 57	07:39 (2) 22:04 59	07:45 (2) 21:40 49	07:45 (2) 20:42	19:31 23	08:25 (4) 17:24		16:33
27	08:28	07:32	06:28 07:01 (3)	06:20	05:31	06:42 (2) 05:21	06:46 (2) 05:52	06:57 (2) 06:42	07:32	08:01 (4) 07:24		08:47
	17:17	18:14	19:03 20 07:21 (3)	20:56	21:43 57	07:39 (2) 22:04 60	07:46 (2) 21:39 48	07:45 (2) 20:40	19:28 23	08:24 (4) 17:22		16:33
28	08:27	07:30	06:26 06:58 (3)	06:18	05:30	06:42 (2) 05:22	06:46 (2) 05:54	06:57 (2) 06:43	08:01 (3) 07:34	08:02 (4) 07:26		08:48
	17:19	18:16	19:05 23 07:21 (3)	20:58	21:44 57	07:39 (2) 22:03 60	07:46 (2) 21:37 47	07:44 (2) 20:38 9	08:10 (3) 19:26 21	08:23 (4) 17:21		16:34
29	08:25		07:24 07:56 (3)	06:16	05:29	06:41 (2) 05:22	06:47 (2) 05:55	06:58 (2) 06:45	07:57 (3) 07:36	08:03 (4) 07:27		08:48
	17:21		20:07 27 08:23 (3)	21:00	21:45 58	07:39 (2) 22:03 59	07:46 (2) 21:36 45	07:43 (2) 20:35 16	08:13 (3) 19:24 19	08:22 (4) 17:19		16:35
30	08:24		07:21 07:55 (3)	06:14	05:28	06:42 (2) 05:23	06:46 (2) 05:57	07:00 (2) 06:46	07:55 (3) 07:37	08:03 (4) 07:29		08:48
	17:22		20:08 29 08:24 (3)	21:01	21:47 59	07:41 (2) 22:03 60	07:46 (2) 21:34 42	07:42 (2) 20:33 20	08:15 (3) 19:21 17	08:20 (4) 17:17		16:36
31	08:22		07:19 07:54 (3)		05:27 06:42 (2)		05:58 07:00 (2) 06:48	07:52 (3)		07:31		08:48
	17:24		20:10 30 08:24 (3)		21:48 59 07:41 (2)		21:33 41 07:41 (2) 20:31 24	08:16 (3)		17:15		16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case			408	412	1206	1789	1707	262	739	23		
Sun reduction			0,33	0,42	0,43	0,39	0,41	0,42	0,36	0,34		
Oper. time red.			0,95	0,95	0,95	0,95	0,95	0,95	0,95	0,95		
Wind dir. red.			0,60	0,62	0,65	0,65	0,65	0,64	0,61	0,60		
Total reduction			0,19	0,24	0,26	0,24	0,25	0,25	0,21	0,19		
Total, real			77	101	317	430	428	66	155	4		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:33/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion4.2M148@165Shadow receptor: G - 3945LA2a

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December		
1	08:48		14:27 (3)	08:21			07:27		07:17	06:12	05:26	05:23	06:00	06:50		07:39		18:16 (1)	07:33		16:07 (2)	08:24		14:15 (3)
	16:38	41	15:08 (3)	17:26			18:18		20:12	21:03	21:49	22:03	21:31	20:29		19:19	24	18:40 (1)	17:13	26	16:33 (2)	16:32	39	14:54 (3)
2	08:48		14:28 (3)	08:19			07:25		07:14	06:10	05:25	05:24	06:01	06:51		07:40		18:15 (1)	07:34		16:08 (2)	08:25		14:15 (3)
	16:39	41	15:09 (3)	17:28			18:19		20:13	21:05	21:50	22:02	21:29	20:26		19:17	25	18:40 (1)	17:11	22	16:30 (2)	16:32	40	14:55 (3)
3	08:48		14:29 (3)	08:18			07:23		07:12	06:08	05:25	05:25	06:03	06:53		07:42		18:14 (1)	07:36		16:09 (2)	08:27		14:15 (3)
	16:40	41	15:10 (3)	17:30			18:21		20:15	21:06	21:51	22:02	21:27	20:24		19:14	25	18:39 (1)	17:09	20	16:29 (2)	16:31	40	14:55 (3)
4	08:47		14:28 (3)	08:16			07:21	17:46 (1)	07:10	06:06	05:24	05:25	06:04	06:55		07:44		18:15 (1)	07:38		16:11 (2)	08:28		14:16 (3)
	16:41	42	15:10 (3)	17:31			18:23	8 17:54 (1)	20:17	21:08	21:52	22:02	21:26	20:22		19:12	24	18:39 (1)	17:07	16	16:27 (2)	16:30	40	14:56 (3)
5	08:47		14:29 (3)	08:14			07:18	17:43 (1)	07:07	06:04	05:23	05:26	06:06	06:56		07:45		18:15 (1)	07:40		16:14 (2)	08:29		14:16 (3)
	16:42	41	15:10 (3)	17:33			18:25	14 17:57 (1)	20:19	21:10	21:53	22:01	21:24	20:20		19:10	23	18:38 (1)	17:06	10	16:24 (2)	16:30	40	14:56 (3)
6	08:47		14:29 (3)	08:13	16:44 (2)		07:16	17:40 (1)	07:05	06:02	05:22	05:27	06:08	06:58		07:47		18:15 (1)	07:42			08:31		14:15 (3)
	16:44	41	15:10 (3)	17:35	11 16:55 (2)		18:27	18 17:58 (1)	20:20	21:11	21:54	22:01	21:22	20:17		19:08	21	18:36 (1)	17:04			16:29	41	14:56 (3)
7	08:46		14:30 (3)	08:11	16:41 (2)		07:14	17:39 (1)	07:03	06:00	05:22	05:28	06:09	06:59		07:49		18:16 (1)	07:44			08:32		14:16 (3)
	16:45	41	15:11 (3)	17:37	16 16:57 (2)		18:28	21 18:00 (1)	20:22	21:13	21:55	22:00	21:20	20:15		19:05	19	18:35 (1)	17:02			16:29	41	14:57 (3)
8	08:46		14:31 (3)	08:09	16:40 (2)		07:12	17:38 (1)	07:01	05:59	05:21	05:29	06:11	07:01		07:51		18:17 (1)	07:45			08:33		14:17 (3)
	16:46	40	15:11 (3)	17:39	20 17:00 (2)		18:30	23 18:01 (1)	20:24	21:14	21:56	21:59	21:19	20:13		19:03	16	18:33 (1)	17:00			16:29	41	14:58 (3)
9	08:45		14:32 (3)	08:07	16:39 (2)		07:10	17:38 (1)	06:58	05:57	05:21	05:30	06:12	07:03		07:52		18:19 (1)	07:47			08:34		14:17 (3)
	16:48	40	15:12 (3)	17:41	23 17:02 (2)		18:32	23 18:01 (1)	20:25	21:16	21:57	21:59	21:17	20:10		19:01	12	18:31 (1)	16:59			16:28	41	14:58 (3)
10	08:45		14:32 (3)	08:06	16:37 (2)		07:07	17:37 (1)	06:56	05:55	05:20	05:31	06:14	07:04		07:54		18:22 (1)	07:49			08:35		14:17 (3)
	16:49	40	15:12 (3)	17:43	26 17:03 (2)		18:34	24 18:01 (1)	20:27	21:18	21:57	21:58	21:15	20:08		18:59	4	18:26 (1)	16:57			16:28	41	14:58 (3)
11	08:44		14:33 (3)	08:04	16:37 (2)		07:05	17:36 (1)	06:54	05:53	05:20	05:32	06:15	07:06		07:56			07:51			08:37		14:17 (3)
	16:50	39	15:12 (3)	17:44	27 17:04 (2)		18:35	25 18:01 (1)	20:29	21:19	21:58	21:57	21:13	20:06		18:56			16:56			16:28	41	14:58 (3)
12	08:44		14:33 (3)	08:02	16:36 (2)		07:03	17:37 (1)	06:52	05:52	05:20	05:33	06:17	07:08		07:57			07:52			08:38		14:17 (3)
	16:52	39	15:12 (3)	17:46	29 17:05 (2)		18:37	24 18:01 (1)	20:31	21:21	21:59	21:56	21:11	20:03		18:54			16:54			16:28	42	14:59 (3)
13	08:43		14:34 (3)	08:00	16:35 (2)		07:00	17:36 (1)	06:49	05:50	05:19	05:34	06:19	07:09		07:59			07:54			08:39		14:18 (3)
	16:53	38	15:12 (3)	17:48	31 17:06 (2)		18:39	24 18:00 (1)	20:32	21:22	22:00	21:56	21:09	20:01		18:52			16:52			16:28	41	14:59 (3)
14	08:42		14:34 (3)	07:58	16:35 (2)		06:58	17:37 (1)	06:47	05:49	05:19	05:35	06:20	07:11		08:01		17:18 (2)	07:56			08:40		14:18 (3)
	16:55	38	15:12 (3)	17:50	31 17:06 (2)		18:41	23 18:00 (1)	20:34	21:24	22:00	21:55	21:07	19:59		18:50	10	17:28 (2)	16:51			16:28	42	15:00 (3)
15	08:41		14:35 (3)	07:56	16:34 (2)		06:56	17:37 (1)	06:45	05:47	05:19	05:36	06:22	07:12		08:03		17:14 (2)	07:58			08:40		14:19 (3)
	16:56	37	15:12 (3)	17:52	33 17:07 (2)		18:42	22 17:59 (1)	20:36	21:26	22:01	21:54	21:05	19:56		18:47	16	17:30 (2)	16:50			16:28	41	15:00 (3)
16	08:41		14:36 (3)	07:54	16:34 (2)		06:54	17:38 (1)	06:43	05:45	05:19	05:37	06:24	07:14		08:04		17:11 (2)	07:59		14:29 (3)	08:41		14:19 (3)
	16:58	36	15:12 (3)	17:54	33 17:07 (2)		18:44	19 17:57 (1)	20:37	21:27	22:01	21:53	21:03	19:54		18:45	21	17:32 (2)	16:48	5	14:34 (3)	16:28	42	15:01 (3)
17	08:40		14:37 (3)	07:52	16:34 (2)		06:51	17:39 (1)	06:41	05:44	05:19	05:39	06:25	07:16		08:06		17:09 (2)	08:01		14:25 (3)	08:42		14:20 (3)
	17:00	34	15:11 (3)	17:56	33 17:07 (2)		18:46	17 17:56 (1)	20:39	21:29	22:02	21:52	21:01	19:52		18:43	25	17:34 (2)	16:47	14	14:39 (3)	16:28	42	15:02 (3)
18	08:39		14:38 (3)	07:50	16:34 (2)		06:49	17:42 (1)	06:38	05:43	05:19	05:40	06:27	07:17		08:08		17:08 (2)	08:03		14:21 (3)	08:43		14:21 (3)
	17:01	33	15:11 (3)	17:58	33 17:07 (2)		18:48	12 17:54 (1)	20:41	21:30	22:02	21:50	20:59	19:49		18:41	27	17:35 (2)	16:45	19	14:40 (3)	16:28	41	15:02 (3)
19	08:38		14:39 (3)	07:48	16:34 (2)		06:47	17:45 (1)	06:36	05:41	05:19	05:41	06:28	07:19		08:10		17:07 (2)	08:05		14:20 (3)	08:44		14:21 (3)
	17:03	32	15:11 (3)	17:59	33 17:07 (2)		18:49	3 17:48 (1)	20:43	21:32	22:02	21:49	20:57	19:47		18:39	29	17:36 (2)	16:44	22	14:42 (3)	16:29	41	15:02 (3)
20	08:37		14:41 (3)	07:46	16:34 (2)		06:44		06:34	05:40	05:19	05:43	06:30	07:21		08:11		17:06 (2)	08:06		14:18 (3)	08:44		14:22 (3)
	17:05	30	15:11 (3)	18:01	32 17:06 (2)		18:51		20:44	21:33	22:03	21:48	20:55	19:45		18:37	30	17:36 (2)	16:43	26	14:44 (3)	16:29	41	15:03 (3)
21	08:36		14:43 (3)	07:44	16:34 (2)		06:42		06:32	05:38	05:19	05:44	06:32	07:22		08:13		17:05 (2)	08:08		14:18 (3)	08:45		14:22 (3)
	17:06	28	15:11 (3)	18:03	31 17:05 (2)		18:53		20:46	21:35	22:03	21:47	20:53	19:42		18:35	31	17:36 (2)	16:42	28	14:46 (3)	16:30	42	15:04 (3)
22	08:34		14:43 (3)	07:42	16:35 (2)		06:40		06:30	05:37	05:19	05:45	06:33	07:24		08:15		17:04 (2)	08:10		14:17 (3)	08:45		14:22 (3)
	17:08	26	15:09 (3)	18:05	30 17:05 (2)		18:55		20:48	21:36	22:03	21:46	20:51	19:40		18:33	32	17:36 (2)	16:41	30	14:47 (3)	16:30	42	15:04 (3)
23	08:33		14:46 (3)	07:40	16:36 (2)		06:37		06:28	05:36	05:19	05:47	06:35	07:26		08:17		17:04 (2)	08:11		14:17 (3)	08:46		14:23 (3)
	17:10	22	15:08 (3)	18:07	28 17:04 (2)		18:56		20:49	21:37	22:03	21:44	20:48	19:38		18:30	32	17:36 (2)	16:39	31	14:48 (3)	16:31	41	15:04 (3)
24	08:32		14:47 (3)	07:38	16:37 (2)		06:35		06:26	05:35	05:20	05:48	06:37	07:27		08:18		17:04 (2)	08:13		14:15 (3)	08:46		14:24 (3)
	17:11	19	15:06 (3)	18:09	26 17:03 (2)		18:58		20:51	21:39	22:04	21:43	20:46	19:35		18:28	33	17:37 (2)	16:38	33	14:48 (3)	16:31	41	15:05 (3)
25	08:31		14:51 (3)	07:36	16:39 (2)		06:33		06:24	05:33	05:20	05:49	06:38	07:29	18:25 (1)	07:20		16:04 (2)	08:15		14:15 (3)	08:47		14:24 (3)
	17:13	14	15:05 (3)	18:10	23 17:02 (2)		19:00		20:53	21:40	22:04	21:42	20:44	19:33	10 18:35 (1)	17:26	33	16:37 (2)	16:37	35	14:50 (3)	16:32	41	15:05 (3)
26	08:29		14:56 (3)	07:34	16:40 (2)		06:30		06:22	05:32	05:20	05:51	06:40	07:30	18:23 (1)	07:22		16:04 (2)	08:16		14:15 (3)	08:47		14:24 (3)
	17:15	5	15:01 (3)	18:12	19 16:59 (2)		19:01		20:54	21:41	22:04	21:40	20:42	19:31	15 18:38 (1)	17:24	32	16:36 (2)	16:36	36	14:51 (3)	16:32	42	15:06 (3)
27	08:28			07:32	16:42 (2)		06:28		06:20	05:31	05:21	05:52	06:41	07:32	18:20 (1)	07:24		16:04 (2)	08:18		14:15 (3)	08:47		14:24 (3)
	17:17			18:14	15 16:57 (2)		19:03		20:56	21:43	22:04	21:39	20:40	19:28	18 18:38 (1)	17:22	32	16:36 (2)	16:35	37	14:52 (3)	16:33	42	15:06 (3)
28	08:27			07:29	16:47 (2)		06:26		06:17	05:30	05:21	05:54	06:43	07:34	18:19 (1)	07:25		16:04 (2)	08:19		14:14 (3)	08:47		14:26 (3)
	17:19			18:16	6 16:53 (2)		19:05		20:58	21:44	22:03	21:37	20:38	19:26	20 18:39 (1)	17:20	32	16:36 (2)	16:35	38	14:52 (3)	16:34	41	15:07 (3)
29	08:25						07:23		06:16	05:29	05:22	05:55	06:45	07:35	18:18 (1)	07:27		16:05 (2)	08:21		14:15 (3)	08:48		14:26 (3)
	17:20						20:07		20:59	21:45	22:03	21:36	20:35	19:24	22 18:40 (1)	17:18	30	16:35 (2)	16:34	38	14:53 (3)	16:35	42	15:08 (3)
30	08:24						07:21		06:14	05:28	05:23	05:57	06:46	07:37	18:16 (1)	07:29		16:06 (2)	08:22		14:14 (3)	08:48		14:27 (3)
	17:22						20:08		21:01	21:46	22:03	21:34	20:33	19:21	24 18:40 (1)	17:17	28	16:34 (2)	16:33	39	14:53 (3)	16:36	41	15:08 (3)
31	08:22						07:19			05:27		05:58	06:48			07:31		16:06 (2)				08:48		14:26 (3)
	17:24						20:10			21:48		21:32	20:31			17:15	28	16:34 (2)				16:37	42	15:08 (3)
Potential sun hours	259			277			367		416	485	499	502	454	381		331			266			243		
Total, worst case		878			589			300							109		694			525			1275
Sun reduction		0,24			0,30			0,33							0,36		0,34			0,24			0,20
Oper. time red.		0,95			0,95			0,95							0,95		0,95			0,95			0,95
Wind dir. red.		0,70			0,67			0,63							0,63		0,66			0,69			0,70
Total reduction		0,16			0,19			0,20							0,22		0,21			0,16			0,13
Total, real		139			114			59							24		147			82			172

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:33/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion4.2M148@165Shadow receptor: H - 3998NL146

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	08:11 (4)	06:12	08:00 (4)	05:26	05:23	06:00	06:50	07:56 (4)	07:39	07:33	08:24
	16:38	17:26	18:18	20:12 35	08:46 (4)	21:03 37	08:37 (4)	21:49	22:03	21:31	20:29 56	08:52 (4)	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	08:09 (4)	06:10	08:01 (4)	05:25	05:24	06:01	06:51	07:56 (4)	07:40	07:35	08:25
	16:39	17:28	18:19	20:14 38	08:47 (4)	21:05 34	08:35 (4)	21:50	22:02	21:29	20:26 54	08:50 (4)	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	08:07 (4)	06:08	08:02 (4)	05:25	05:25	06:03	06:53	07:57 (4)	07:42	07:36	08:27
	16:40	17:30	18:21	20:15 42	08:49 (4)	21:06 31	08:33 (4)	21:51	22:02	21:27	20:24 53	08:50 (4)	19:14	17:09	16:31
4	08:47	08:16	07:21	07:10	08:05 (4)	06:06	08:04 (4)	05:24	05:25	06:04	06:55	07:56 (4)	07:44	07:38	08:28
	16:41	17:31	18:23	20:17 44	08:49 (4)	21:08 28	08:32 (4)	21:52	22:02	21:26	20:22 53	08:49 (4)	19:12	17:07	16:31
5	08:47	08:14	07:19	07:07	08:03 (4)	06:04	08:06 (4)	05:23	05:26	06:06	06:56	07:57 (4)	07:46	07:40	08:29
	16:43	17:33	18:25	20:19 47	08:50 (4)	21:10 23	08:29 (4)	21:53	22:01	21:24	20:20 51	08:48 (4)	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	08:02 (4)	06:02	08:08 (4)	05:23	05:27	06:08	08:20 (4)	06:58	07:58 (4)	07:47	07:42	08:31
	16:44	17:35	18:27	20:20 49	08:51 (4)	21:11 18	08:26 (4)	21:54	22:01	21:22 13	08:33 (4)	20:17 49	08:47 (4)	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	08:01 (4)	06:00	08:13 (4)	05:22	05:28	06:09	08:16 (4)	06:59	07:58 (4)	07:49	07:44	08:32
	16:45	17:37	18:28	20:22 51	08:52 (4)	21:13 9	08:22 (4)	21:55	22:00	21:20 20	08:36 (4)	20:15 47	08:45 (4)	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	07:59 (4)	05:59		05:21	05:29	06:11	08:14 (4)	07:01	08:00 (4)	07:51	07:45	08:33
	16:46	17:39	18:30	20:24 53	08:52 (4)	21:14		21:56	21:59	21:19 25	08:39 (4)	20:13 44	08:44 (4)	19:03	17:00	16:29
9	08:45	08:07	07:10	06:58	07:59 (4)	05:57		05:21	05:30	06:12	08:12 (4)	07:03	08:00 (4)	07:52	07:47	08:34
	16:48	17:41	18:32	20:25 53	08:52 (4)	21:16		21:57	21:59	21:17 29	08:41 (4)	20:10 42	08:42 (4)	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	07:58 (4)	05:55		05:21	05:31	06:14	08:11 (4)	07:04	08:02 (4)	07:54	07:49	08:35
	16:49	17:43	18:34	20:27 55	08:53 (4)	21:18		21:57	21:58	21:15 32	08:43 (4)	20:08 39	08:41 (4)	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	07:57 (4)	05:54		05:20	05:32	06:16	08:09 (4)	07:06	08:03 (4)	07:56	07:51	08:37
	16:51	17:45	18:36	20:29 56	08:53 (4)	21:19		21:58	21:57	21:13 35	08:44 (4)	20:06 35	08:38 (4)	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	07:56 (4)	05:52		05:20	05:33	06:17	08:08 (4)	07:08	08:05 (4)	07:57	07:52	08:38
	16:52	17:46	18:37	20:31 56	08:52 (4)	21:21		21:59	21:56	21:11 38	08:46 (4)	20:03 31	08:36 (4)	18:54	16:54	16:28
13	08:43	08:00	07:00	06:49	07:55 (4)	05:50		05:20	05:34	06:19	08:06 (4)	07:09	08:08 (4)	07:59	07:54	08:39
	16:53	17:48	18:39	20:32 57	08:52 (4)	21:22		22:00	21:56	21:09 41	08:47 (4)	20:01 26	08:34 (4)	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	07:55 (4)	05:49		05:19	05:35	06:20	08:05 (4)	07:11	08:10 (4)	08:01	07:56	08:40
	16:55	17:50	18:41	20:34 57	08:52 (4)	21:24		22:00	21:55	21:07 43	08:48 (4)	19:59 19	08:29 (4)	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	07:55 (4)	05:47		05:19	05:36	06:22	08:05 (4)	07:12	08:16 (4)	08:03	07:58	08:40
	16:57	17:52	18:43	20:36 57	08:52 (4)	21:26		22:01	21:54	21:05 45	08:50 (4)	19:56 7	08:23 (4)	18:47	16:50	16:28
16	08:41	07:54	06:54	06:43	07:55 (4)	05:46		05:19	05:38	06:24	08:03 (4)	07:14		08:04	07:59	08:41
	16:58	17:54	18:44	20:37 57	08:52 (4)	21:27		22:01	21:53	21:03 47	08:50 (4)	19:54		18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	07:54 (4)	05:44		05:19	05:39	06:25	08:03 (4)	07:16		08:06	08:01	08:42
	17:00	17:56	18:46	20:39 57	08:51 (4)	21:29		22:02	21:52	21:01 48	08:51 (4)	19:52		18:43	16:47	16:28
18	08:39	07:50	06:49	06:38	07:54 (4)	05:43		05:19	05:40	06:27	08:01 (4)	07:17		08:08	08:03	08:43
	17:01	17:58	18:48	20:41 57	08:51 (4)	21:30		22:02	21:50	20:59 51	08:52 (4)	19:49		18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	07:54 (4)	05:41		05:19	05:41	06:28	08:01 (4)	07:19		08:10	08:05	08:44
	17:03	17:59	18:49	20:43 57	08:51 (4)	21:32		22:02	21:49	20:57 52	08:53 (4)	19:47		18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	07:53 (4)	05:40		05:19	05:43	06:30	08:00 (4)	07:21		08:11	08:06	08:44
	17:05	18:01	18:51	20:44 56	08:49 (4)	21:33		22:03	21:48	20:55 53	08:53 (4)	19:45		18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	07:54 (4)	05:38		05:19	05:44	06:32	07:59 (4)	07:22		08:13	08:08	08:45
	17:06	18:03	18:53	20:46 54	08:48 (4)	21:35		22:03	21:47	20:53 54	08:53 (4)	19:42		18:35	16:42	16:30
22	08:34	07:42	06:40	06:30	07:54 (4)	05:37		05:19	05:45	06:33	07:58 (4)	07:24		08:15	08:10	08:45
	17:08	18:05	18:55	20:48 54	08:48 (4)	21:36		22:03	21:46	20:51 55	08:53 (4)	19:40		18:33	16:41	16:30
23	08:33	07:40	06:37	06:28	07:54 (4)	05:36		05:20	05:47	06:35	07:58 (4)	07:26		08:17	08:11	08:46
	17:10	18:07	18:56	20:49 53	08:47 (4)	21:37		22:03	21:44	20:48 56	08:54 (4)	19:38		18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	07:54 (4)	05:35		05:20	05:48	06:37	07:57 (4)	07:27		08:18	08:13	08:46
	17:12	18:09	18:58	20:51 52	08:46 (4)	21:39		22:04	21:43	20:46 56	08:53 (4)	19:35		18:28	16:38	16:31
25	08:31	07:36	06:33	06:24	07:55 (4)	05:33		05:20	05:49	06:38	07:57 (4)	07:29		07:20	08:15	08:47
	17:13	18:10	19:00	20:53 50	08:45 (4)	21:40		22:04	21:42	20:44 57	08:54 (4)	19:33		17:26	16:37	16:32
26	08:29	07:34	06:30	06:22	07:55 (4)	05:32		05:21	05:51	06:40	07:56 (4)	07:30		07:22	08:16	08:47
	17:15	18:12	19:02	20:54 49	08:44 (4)	21:41		22:04	21:40	20:42 57	08:53 (4)	19:31		17:24	16:36	16:33
27	08:28	07:32	06:28	06:20	07:57 (4)	05:31		05:21	05:52	06:42	07:56 (4)	07:32		07:24	08:18	08:47
	17:17	18:14	19:03	20:56 46	08:43 (4)	21:43		22:04	21:39	20:40 58	08:54 (4)	19:28		17:22	16:36	16:33
28	08:27	07:29	06:26	06:18	07:57 (4)	05:30		05:22	05:54	06:43	07:57 (4)	07:34		07:26	08:19	08:47
	17:19	18:16	19:05	20:58 45	08:42 (4)	21:44		22:03	21:37	20:38 57	08:54 (4)	19:26		17:20	16:35	16:34
29	08:25		07:23 08:20 (4)	06:16	07:58 (4)	05:29		05:22	05:55	06:45	07:56 (4)	07:35		07:27	08:21	08:48
	17:20		20:07 18 08:38 (4)	20:59 42	08:40 (4)	21:45		22:03	21:36	20:35 57	08:53 (4)	19:24		17:19	16:34	16:35
30	08:24		07:21 08:17 (4)	06:14	07:59 (4)	05:28		05:23	05:57	06:46	07:56 (4)	07:37		07:29	08:22	08:48
	17:22		20:08 25 08:42 (4)	21:01 40	08:39 (4)	21:46		22:03	21:34	20:33 57	08:53 (4)	19:21		17:17	16:33	16:36
31	08:22		07:19 08:13 (4)			05:27			05:58	06:48	07:56 (4)			07:31		08:48
	17:24		20:10 31 08:44 (4)			21:48			21:32	20:31 56	08:52 (4)			17:15		16:37
Potential sun hours	259	277	367	416	485		499	502	454		381		331	266	243
Total, worst case			74	1519	180				1192		606				
Sun reduction			0,33	0,42	0,43				0,42		0,36				
Oper. time red.			0,95	0,95	0,95				0,95		0,95				
Wind dir. red.			0,62	0,62	0,62				0,62		0,62				
Total reduction			0,19	0,24	0,25				0,24		0,21				
Total, real			14	370	45				289		128				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:33/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion4.2M148@165Shadow receptor: I - 3998JD88

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May		June		July		August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12		05:26		05:23		06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03		21:49	26	06:31 (1)	22:03	06:37 (1)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10		05:26		06:04 (1)	05:24	06:11 (1)	06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05		21:50	27	06:31 (1)	22:03	06:37 (1)	21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08		05:25		06:05 (1)	05:25	06:12 (1)	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06		21:51	27	06:32 (1)	22:02	06:38 (1)	21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06		05:24		06:05 (1)	05:26	06:11 (1)	06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08		21:52	27	06:32 (1)	22:02	06:37 (1)	21:26	20:22	19:12	17:07	16:31
5	08:47	08:14	07:19	07:08	06:04		05:23		06:06 (1)	05:26	06:11 (1)	06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10		21:53	26	06:32 (1)	22:01	06:38 (1)	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02		05:23		06:05 (1)	05:27	06:12 (1)	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11		21:54	27	06:32 (1)	22:01	06:38 (1)	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01		05:22		06:06 (1)	05:28	06:12 (1)	06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13		21:55	27	06:33 (1)	22:00	06:39 (1)	21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59		05:22		06:06 (1)	05:29	06:12 (1)	06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15		21:56	26	06:32 (1)	22:00	06:39 (1)	21:19	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57		05:21		06:06 (1)	05:30	06:13 (1)	06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16		21:57	27	06:33 (1)	21:59	06:39 (1)	21:17	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55		05:21		06:06 (1)	05:31	06:12 (1)	06:14	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18		21:58	26	06:32 (1)	21:58	06:38 (1)	21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54		05:20		06:07 (1)	05:32	06:12 (1)	06:16	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19		21:58	25	06:32 (1)	21:57	06:38 (1)	21:13	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52		05:20		06:07 (1)	05:33	06:12 (1)	06:17	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21		21:59	26	06:33 (1)	21:57	06:39 (1)	21:11	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50		05:20		06:08 (1)	05:34	06:13 (1)	06:19	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23		22:00	25	06:33 (1)	21:56	06:39 (1)	21:09	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49		05:19		06:08 (1)	05:35	06:14 (1)	06:21	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24		22:00	25	06:33 (1)	21:55	06:39 (1)	21:07	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47		05:19		06:07 (1)	05:36	06:14 (1)	06:22	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26		22:01	26	06:33 (1)	21:54	06:39 (1)	21:05	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46		05:19		06:08 (1)	05:38	06:14 (1)	06:24	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27		22:01	25	06:33 (1)	21:53	06:39 (1)	21:03	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44		05:19		06:08 (1)	05:39	06:14 (1)	06:25	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29		22:02	25	06:33 (1)	21:52	06:39 (1)	21:01	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43	06:12 (1)	05:19		06:08 (1)	05:40	06:15 (1)	06:27	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30	9 06:21 (1)	22:02	25	06:33 (1)	21:51	06:38 (1)	20:59	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41	06:11 (1)	05:19		06:09 (1)	05:41	06:15 (1)	06:29	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32	12 06:23 (1)	22:03	25	06:34 (1)	21:49	06:38 (1)	20:57	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40	06:10 (1)	05:19		06:09 (1)	05:43	06:17 (1)	06:30	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33	15 06:25 (1)	22:03	25	06:34 (1)	21:48	06:38 (1)	20:55	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	05:39	06:09 (1)	05:19		06:09 (1)	05:44	06:17 (1)	06:32	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:35	17 06:26 (1)	22:03	25	06:34 (1)	21:47	06:37 (1)	20:53	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	05:37	06:07 (1)	05:19		06:09 (1)	05:45	06:18 (1)	06:34	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36	19 06:26 (1)	22:03	25	06:34 (1)	21:46	06:36 (1)	20:51	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	05:36	06:06 (1)	05:20		06:09 (1)	05:47	06:19 (1)	06:35	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	21:37	21 06:27 (1)	22:04	25	06:34 (1)	21:44	06:35 (1)	20:49	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35	06:06 (1)	05:20		06:10 (1)	05:48	06:21 (1)	06:37	07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	21:39	22 06:28 (1)	22:04	25	06:35 (1)	21:43	06:35 (1)	20:46	19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	05:34	06:05 (1)	05:20		06:10 (1)	05:50	06:22 (1)	06:38	07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	21:40	23 06:28 (1)	22:04	25	06:35 (1)	21:42	06:33 (1)	20:44	19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	05:32	06:05 (1)	05:21		06:10 (1)	05:51	06:24 (1)	06:40	07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	21:42	24 06:29 (1)	22:04	25	06:35 (1)	21:40	6 06:30 (1)	20:42	19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	05:31	06:05 (1)	05:21		06:10 (1)	05:52		06:42	07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21:43	24 06:29 (1)	22:04	26	06:36 (1)	21:39		20:40	19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	05:30	06:05 (1)	05:22		06:10 (1)	05:54		06:43	07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	21:44	25 06:30 (1)	22:04	26	06:36 (1)	21:37		20:38	19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	05:29	06:04 (1)	05:22		06:11 (1)	05:55		06:45	07:36	07:27	08:21	08:48
	17:21		20:07	21:00	21:45	26 06:30 (1)	22:03	25	06:36 (1)	21:36		20:36	19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	05:28	06:05 (1)	05:23		06:11 (1)	05:57		06:47	07:37	07:29	08:22	08:48
	17:22		20:09	21:01	21:47	26 06:31 (1)	22:03	26	06:37 (1)	21:34		20:33	19:22	17:17	16:33	16:36
31	08:22		07:19		05:27	06:05 (1)				05:58		06:48		07:31		08:48
	17:24		20:10		21:48	26 06:31 (1)				21:33		20:31		17:15		16:37
Potential sun hours	259	277	367	416	485		499		502		454	381	331	266	243
Total, worst case						289		771		594					
Sun reduction						0,43		0,39		0,41					
Oper. time red.						0,95		0,95		0,95					
Wind dir. red.						0,67		0,67		0,67					
Total reduction						0,27		0,25		0,26					
Total, real						79		191		154					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:33/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion4.2M148@165Shadow receptor: J - 3998NL71

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March		April			May	June	July	August			September			October	November	December
1	08:48	08:21	07:27		07:17		08:07 (4)	06:12	05:26	05:23	06:00			06:50		08:04 (4)	07:39	07:33	08:24
	16:38	17:26	18:18		20:12	45	08:52 (4)	21:03	21:49	22:03	21:31			20:29	43	08:47 (4)	19:19	17:13	16:32
2	08:48	08:19	07:25		07:14		08:07 (4)	06:10	05:25	05:24	06:01			06:51		08:02 (4)	07:40	07:35	08:25
	16:39	17:28	18:20		20:14	45	08:52 (4)	21:05	21:50	22:02	21:29			20:26	45	08:47 (4)	19:17	17:11	16:32
3	08:48	08:18	07:23		07:12		08:06 (4)	06:08	05:25	05:25	06:03			06:53		08:02 (4)	07:42	07:36	08:27
	16:40	17:30	18:21		20:15	46	08:52 (4)	21:06	21:51	22:02	21:27			20:24	45	08:47 (4)	19:14	17:09	16:31
4	08:47	08:16	07:21		07:10		08:05 (4)	06:06	05:24	05:25	06:04			06:55		08:01 (4)	07:44	07:38	08:28
	16:41	17:32	18:23		20:17	47	08:52 (4)	21:08	21:52	22:02	21:26			20:22	46	08:47 (4)	19:12	17:07	16:31
5	08:47	08:14	07:19		07:07		08:05 (4)	06:04	05:23	05:26	06:06			06:56		08:01 (4)	07:46	07:40	08:29
	16:43	17:33	18:25		20:19	47	08:52 (4)	21:10	21:53	22:01	21:24			20:20	46	08:47 (4)	19:10	17:06	16:30
6	08:47	08:13	07:16		07:05		08:05 (4)	06:02	05:23	05:27	06:08			06:58		08:01 (4)	07:47	07:42	08:31
	16:44	17:35	18:27		20:20	46	08:51 (4)	21:11	21:54	22:01	21:22			20:17	46	08:47 (4)	19:08	17:04	16:30
7	08:46	08:11	07:14		07:03		08:05 (4)	06:00	05:22	05:28	06:09			06:59		08:00 (4)	07:49	07:44	08:32
	16:45	17:37	18:28		20:22	46	08:51 (4)	21:13	21:55	22:00	21:20			20:15	47	08:47 (4)	19:05	17:02	16:29
8	08:46	08:09	07:12		07:01		08:04 (4)	05:59	05:21	05:29	06:11			07:01		08:00 (4)	07:51	07:45	08:33
	16:46	17:39	18:30		20:24	46	08:50 (4)	21:14	21:56	21:59	21:19			20:13	47	08:47 (4)	19:03	17:00	16:29
9	08:45	08:07	07:10		06:58		08:04 (4)	05:57	05:21	05:30	06:12			07:03		08:00 (4)	07:52	07:47	08:34
	16:48	17:41	18:32		20:25	45	08:49 (4)	21:16	21:57	21:59	21:17			20:10	46	08:46 (4)	19:01	16:59	16:29
10	08:45	08:06	07:07		06:56		08:05 (4)	05:55	05:21	05:31	06:14			07:04		08:00 (4)	07:54	07:49	08:35
	16:49	17:43	18:34		20:27	44	08:49 (4)	21:18	21:57	21:58	21:15			20:08	45	08:45 (4)	18:59	16:57	16:28
11	08:44	08:04	07:05		06:54		08:05 (4)	05:54	05:20	05:32	06:16			07:06		07:59 (4)	07:56	07:51	08:37
	16:51	17:45	18:36		20:29	43	08:48 (4)	21:19	21:58	21:57	21:13			20:06	45	08:44 (4)	18:56	16:56	16:28
12	08:44	08:02	07:03		06:52		08:04 (4)	05:52	05:20	05:33	06:17			07:08		08:00 (4)	07:57	07:52	08:38
	16:52	17:46	18:37		20:31	42	08:46 (4)	21:21	21:59	21:56	21:11			20:03	44	08:44 (4)	18:54	16:54	16:28
13	08:43	08:00	07:00		06:49		08:05 (4)	05:50	05:20	05:34	06:19			07:09		08:01 (4)	07:59	07:54	08:39
	16:53	17:48	18:39		20:32	40	08:45 (4)	21:22	22:00	21:56	21:09			20:01	42	08:43 (4)	18:52	16:53	16:28
14	08:42	07:58	06:58		06:47		08:06 (4)	05:49	05:19	05:35	06:20			07:11		08:01 (4)	08:01	07:56	08:40
	16:55	17:50	18:41		20:34	38	08:44 (4)	21:24	22:00	21:55	21:07			19:59	40	08:41 (4)	18:50	16:51	16:28
15	08:41	07:56	06:56		06:45		08:07 (4)	05:47	05:19	05:36	06:22			07:12		08:02 (4)	08:03	07:58	08:40
	16:57	17:52	18:43		20:36	35	08:42 (4)	21:26	22:01	21:54	21:05			19:56	39	08:41 (4)	18:47	16:50	16:28
16	08:41	07:54	06:54		06:43		08:08 (4)	05:46	05:19	05:38	06:24			07:14		08:02 (4)	08:04	08:00	08:41
	16:58	17:54	18:44		20:37	33	08:41 (4)	21:27	22:01	21:53	21:03			19:54	36	08:38 (4)	18:45	16:48	16:28
17	08:40	07:52	06:51		06:41		08:09 (4)	05:44	05:19	05:39	06:25			07:16		08:04 (4)	08:06	08:01	08:42
	17:00	17:56	18:46		20:39	30	08:39 (4)	21:29	22:02	21:52	21:01			19:52	33	08:37 (4)	18:43	16:47	16:28
18	08:39	07:50	06:49		06:38		08:11 (4)	05:43	05:19	05:40	06:27			07:17		08:05 (4)	08:08	08:03	08:43
	17:01	17:58	18:48		20:41	26	08:37 (4)	21:30	22:02	21:50	20:59			19:49	31	08:36 (4)	18:41	16:46	16:29
19	08:38	07:48	06:47		06:36		08:12 (4)	05:41	05:19	05:41	06:29			07:19		08:06 (4)	08:10	08:05	08:44
	17:03	17:59	18:49		20:43	22	08:34 (4)	21:32	22:02	21:49	20:57			19:47	27	08:33 (4)	18:39	16:44	16:29
20	08:37	07:46	06:44		06:34		08:14 (4)	05:40	05:19	05:43	06:30			07:21		08:09 (4)	08:11	08:06	08:44
	17:05	18:01	18:51		20:44	16	08:30 (4)	21:33	22:03	21:48	20:55			19:45	21	08:30 (4)	18:37	16:43	16:29
21	08:36	07:44	06:42		06:32		08:19 (4)	05:38	05:19	05:44	06:32			07:22		08:11 (4)	08:13	08:08	08:45
	17:06	18:03	18:53		20:46	6	08:25 (4)	21:35	22:03	21:47	20:53			19:42	15	08:26 (4)	18:35	16:42	16:30
22	08:34	07:42	06:40	07:27 (4)	06:30			05:37	05:19	05:45	06:33		08:22 (4)	07:24			08:15	08:10	08:45
	17:08	18:05	18:55	12 07:39 (4)	20:48			21:36	22:03	21:46	20:51	9	08:31 (4)	19:40			18:33	16:41	16:30
23	08:33	07:40	06:37	07:23 (4)	06:28			05:36	05:20	05:47	06:35		08:18 (4)	07:26			08:17	08:11	08:46
	17:10	18:07	18:56	20 07:43 (4)	20:49			21:37	22:03	21:44	20:48	18	08:36 (4)	19:38			18:31	16:40	16:31
24	08:32	07:38	06:35	07:21 (4)	06:26			05:35	05:20	05:48	06:37		08:15 (4)	07:27			08:18	08:13	08:46
	17:12	18:09	18:58	25 07:46 (4)	20:51			21:39	22:04	21:43	20:46	23	08:38 (4)	19:35			18:28	16:38	16:31
25	08:31	07:36	06:33	07:17 (4)	06:24			05:33	05:20	05:49	06:38		08:13 (4)	07:29			07:20	08:15	08:47
	17:13	18:10	19:00	30 07:47 (4)	20:53			21:40	22:04	21:42	20:44	27	08:40 (4)	19:33			17:26	16:37	16:32
26	08:29	07:34	06:30	07:16 (4)	06:22			05:32	05:21	05:51	06:40		08:11 (4)	07:31			07:22	08:16	08:47
	17:15	18:12	19:02	32 07:48 (4)	20:54			21:41	22:04	21:40	20:42	30	08:41 (4)	19:31			17:24	16:36	16:33
27	08:28	07:32	06:28	07:14 (4)	06:20			05:31	05:21	05:52	06:42		08:10 (4)	07:32			07:24	08:18	08:47
	17:17	18:14	19:03	36 07:50 (4)	20:56			21:43	22:04	21:39	20:40	33	08:43 (4)	19:28			17:22	16:36	16:33
28	08:27	07:29	06:26	07:12 (4)	06:18			05:30	05:22	05:54	06:43		08:09 (4)	07:34			07:26	08:19	08:47
	17:19	18:16	19:05	38 07:50 (4)	20:58			21:44	22:03	21:37	20:38	35	08:44 (4)	19:26			17:20	16:35	16:34
29	08:25		07:24	08:11 (4)	06:16			05:29	05:22	05:55	06:45		08:07 (4)	07:35			07:27	08:21	08:48
	17:20		20:07	40 08:51 (4)	20:59			21:45	22:03	21:36	20:35	38	08:45 (4)	19:24			17:19	16:34	16:35
30	08:24		07:21	08:10 (4)	06:14			05:28	05:23	05:57	06:46		08:06 (4)	07:37			07:29	08:22	08:48
	17:22		20:08	42 08:52 (4)	21:01			21:46	22:03	21:34	20:33	40	08:46 (4)	19:21			17:17	16:33	16:36
31	08:22		07:19	08:08 (4)				05:27		05:58	06:48		08:04 (4)				07:31		08:48
	17:24		20:10	43 08:51 (4)				21:48		21:32	20:31	42	08:46 (4)				17:15		16:37
Potential sun hours	259	277	367		416			485	499	502	454			381			331	266	243
Total, worst case				318		788						295			829				
Sun reduction				0,33		0,42						0,42			0,36				
Oper. time red.				0,95		0,95						0,95			0,95				
Wind dir. red.				0,61		0,61						0,61			0,61				
Total reduction				0,19		0,24						0,24			0,21				
Total, real				60		190						71			173				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:33/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion4.2M148@165Shadow receptor: K - 3998JD91

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May		June		July		August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12		05:26		05:23		06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03		21:49	25	06:26 (1)	22:03 27	06:33 (1)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10		05:26		06:01 (1)	05:24	06:07 (1)	06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05		21:50	25	06:26 (1)	22:03 26	06:33 (1)	21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08		05:25		06:02 (1)	05:25	06:07 (1)	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06		21:51	25	06:27 (1)	22:02 27	06:34 (1)	21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06		05:24		06:01 (1)	05:26	06:07 (1)	06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08		21:52	26	06:27 (1)	22:02 26	06:33 (1)	21:26	20:22	19:12	17:07	16:31
5	08:47	08:14	07:19	07:08	06:04		05:23		06:02 (1)	05:26	06:07 (1)	06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10		21:53	26	06:28 (1)	22:01 27	06:34 (1)	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02		05:23		06:01 (1)	05:27	06:08 (1)	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11		21:54	27	06:28 (1)	22:01 26	06:34 (1)	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01		05:22		06:02 (1)	05:28	06:08 (1)	06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13		21:55	26	06:28 (1)	22:00 26	06:34 (1)	21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59		05:22		06:02 (1)	05:29	06:09 (1)	06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15		21:56	26	06:28 (1)	22:00 26	06:35 (1)	21:19	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57		05:21		06:02 (1)	05:30	06:09 (1)	06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16		21:57	27	06:29 (1)	21:59 26	06:35 (1)	21:17	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55		05:21		06:02 (1)	05:31	06:08 (1)	06:14	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18		21:58	26	06:28 (1)	21:58 26	06:34 (1)	21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54		05:20		06:02 (1)	05:32	06:09 (1)	06:16	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19		21:58	27	06:29 (1)	21:57 25	06:34 (1)	21:13	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52		05:20		06:03 (1)	05:33	06:09 (1)	06:17	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21		21:59	26	06:29 (1)	21:57 25	06:34 (1)	21:11	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50		05:20		06:03 (1)	05:34	06:10 (1)	06:19	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23		22:00	27	06:30 (1)	21:56 24	06:34 (1)	21:09	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49		05:19		06:03 (1)	05:35	06:11 (1)	06:21	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24		22:00	27	06:30 (1)	21:55 23	06:34 (1)	21:07	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47		05:19		06:03 (1)	05:36	06:11 (1)	06:22	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26		22:01	26	06:29 (1)	21:54 23	06:34 (1)	21:05	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46		05:19		06:03 (1)	05:38	06:12 (1)	06:24	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27		22:01	26	06:29 (1)	21:53 21	06:33 (1)	21:03	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44		05:19		06:03 (1)	05:39	06:12 (1)	06:25	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29		22:02	27	06:30 (1)	21:52 21	06:33 (1)	21:01	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43		05:19		06:03 (1)	05:40	06:13 (1)	06:27	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30		22:02	27	06:30 (1)	21:51 19	06:32 (1)	20:59	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41		05:19		06:04 (1)	05:41	06:14 (1)	06:29	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32		22:03	27	06:31 (1)	21:49 17	06:31 (1)	20:57	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40		05:19		06:05 (1)	05:43	06:16 (1)	06:30	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33		22:03	26	06:31 (1)	21:48 15	06:31 (1)	20:55	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	05:39	06:10 (1)	05:19		06:05 (1)	05:44	06:17 (1)	06:32	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:35 7	06:17 (1)	22:03	26	06:31 (1)	21:47 13	06:30 (1)	20:53	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	05:37	06:07 (1)	05:19		06:05 (1)	05:45	06:18 (1)	06:34	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36 11	06:18 (1)	22:03	26	06:31 (1)	21:46 10	06:28 (1)	20:51	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	05:36	06:06 (1)	05:20		06:04 (1)	05:47	06:21 (1)	06:35	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	21:37 14	06:20 (1)	22:04	27	06:31 (1)	21:44 4	06:25 (1)	20:49	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35	06:05 (1)	05:20		06:05 (1)	05:48		06:37	07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	21:39 16	06:21 (1)	22:04	27	06:32 (1)	21:43		20:46	19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	05:34	06:04 (1)	05:20		06:05 (1)	05:50		06:38	07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	21:40 18	06:22 (1)	22:04	27	06:32 (1)	21:42		20:44	19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	05:32	06:03 (1)	05:21		06:05 (1)	05:51		06:40	07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	21:42 20	06:23 (1)	22:04	27	06:32 (1)	21:40		20:42	19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	05:31	06:02 (1)	05:21		06:06 (1)	05:52		06:42	07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21:43 22	06:24 (1)	22:04	26	06:32 (1)	21:39		20:40	19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	05:30	06:02 (1)	05:22		06:05 (1)	05:54		06:43	07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	21:44 22	06:24 (1)	22:04	27	06:32 (1)	21:37		20:38	19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	05:29	06:01 (1)	05:22		06:06 (1)	05:55		06:45	07:36	07:27	08:21	08:48
	17:21		20:07	21:00	21:45 24	06:25 (1)	22:03	27	06:33 (1)	21:36		20:36	19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	05:28	06:02 (1)	05:23		06:07 (1)	05:57		06:47	07:37	07:29	08:22	08:48
	17:22		20:09	21:01	21:47 24	06:26 (1)	22:03	26	06:33 (1)	21:34		20:33	19:22	17:17	16:33	16:36
31	08:22		07:19		05:27	06:02 (1)				05:58		06:48		07:31		08:48
	17:24		20:10		21:48 24	06:26 (1)				21:33		20:31		17:15		16:37
Potential sun hours	259	277	367	416	485		499		502		454	381	331	266	243
Total, worst case					202		791		503						
Sun reduction					0,43		0,39		0,41						
Oper. time red.					0,95		0,95		0,95						
Wind dir. red.					0,67		0,67		0,67						
Total reduction					0,27		0,25		0,26						
Total, real					55		197		130						

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:33/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion4.2M148@165Shadow receptor: L - 3997MP25a

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April		May	June	July	August	September		October		November		December	
1	08:48		09:53 (3)		08:21		09:21 (4)		07:27		16:31 (1)	07:17		17:20 (1)	06:12	05:26	05:23	06:00	06:50		07:39		16:55 (1)	07:33		11:44 (2)	08:24		09:03 (4)
	16:38	105	13:14 (2)	142	13:30 (2)		18:18	36	17:07 (1)	20:12	47	18:07 (1)	21:03	21:49	22:03	21:31	20:29		19:19	63	17:58 (1)	17:13	74	12:58 (2)	16:32	133	13:04 (2)
2	08:48		09:53 (3)		08:19		09:22 (4)		07:25		16:29 (1)	07:14		17:22 (1)	06:10	05:25	05:24	06:01	06:51		07:40		16:55 (1)	07:35		11:44 (2)	08:25		09:05 (4)
	16:39	107	13:15 (2)	138	13:30 (2)		18:20	41	17:10 (1)	20:14	44	18:06 (1)	21:05	21:50	22:03	21:29	20:26		19:17	63	17:58 (1)	17:11	75	12:59 (2)	16:32	127	13:04 (2)
3	08:48		09:54 (3)		08:18		09:24 (4)		07:23		16:26 (1)	07:12		17:25 (1)	06:08	05:25	05:25	06:03	06:53		07:42		16:55 (1)	07:36		09:45 (3)	08:27		09:06 (4)
	16:40	107	13:16 (2)	133	13:31 (2)		18:21	45	17:11 (1)	20:15	39	18:04 (1)	21:06	21:51	22:02	21:28	20:24		19:14	61	17:56 (1)	17:09	88	12:59 (2)	16:31	124	13:04 (2)
4	08:47		09:53 (3)		08:16		09:25 (4)		07:21		16:25 (1)	07:10		17:26 (1)	06:06	05:24	05:25	06:04	06:55		07:44		16:55 (1)	07:38		09:41 (3)	08:28		09:09 (4)
	16:41	109	13:16 (2)	126	13:30 (2)		18:23	48	17:13 (1)	20:17	35	18:01 (1)	21:08	21:52	22:02	21:26	20:22		19:12	60	17:55 (1)	17:07	96	12:59 (2)	16:30	119	13:04 (2)
5	08:47		09:54 (3)		08:14		09:27 (4)		07:19		16:23 (1)	07:07		17:28 (1)	06:04	05:23	05:26	06:06	06:56		07:46		16:56 (1)	07:40		08:59 (4)	08:29		09:39 (3)
	16:43	109	13:17 (2)	118	13:30 (2)		18:25	51	17:14 (1)	20:19	31	17:59 (1)	21:10	21:53	22:01	21:24	20:20	16	17:48 (1)	19:10	59	17:55 (1)	17:06	109	12:59 (2)	16:30	113	13:04 (2)
6	08:47		09:53 (3)		08:13		09:30 (4)		07:16		16:22 (1)	07:05		17:32 (1)	06:02	05:23	05:27	06:08	06:58		17:28 (1)	07:47		16:57 (1)	07:42		08:57 (4)	08:31		09:39 (3)
	16:44	112	13:18 (2)	107	13:30 (2)		18:27	54	17:16 (1)	20:20	24	17:56 (1)	21:11	21:54	22:01	21:22	20:17	24	17:52 (1)	19:08	57	17:54 (1)	17:04	120	13:00 (2)	16:30	112	13:04 (2)
7	08:46		09:54 (3)		08:11		10:12 (3)		07:14		16:20 (1)	07:03		17:36 (1)	06:00	05:22	05:28	06:09	06:59		17:24 (1)	07:49		16:57 (1)	07:44		08:55 (4)	08:32		09:41 (3)
	16:45	112	13:19 (2)	94	13:29 (2)		18:28	56	17:16 (1)	20:22	16	17:52 (1)	21:13	21:55	22:00	21:20	20:15	30	17:54 (1)	19:05	54	17:51 (1)	17:02	127	13:00 (2)	16:29	110	13:05 (2)
8	08:46		09:24 (4)		08:09		10:17 (3)		07:12		16:19 (1)	07:01			05:59	05:21	05:29	06:11	07:01		17:21 (1)	07:51		16:58 (1)	07:45		08:54 (4)	08:33		09:41 (3)
	16:46	118	13:19 (2)	85	13:30 (2)		18:30	58	17:17 (1)	20:24			21:14	21:56	21:59	21:19	20:13	35	17:56 (1)	19:03	52	17:50 (1)	17:00	133	13:01 (2)	16:29	109	13:04 (2)
9	08:45		09:23 (4)		08:07		12:14 (2)		07:10		16:19 (1)	06:58			05:57	05:21	05:30	06:12	07:03		17:18 (1)	07:52		16:59 (1)	07:47		08:53 (4)	08:34		09:42 (3)
	16:48	125	13:21 (2)	75	13:29 (2)		18:32	59	17:18 (1)	20:26			21:16	21:57	21:59	21:17	20:10	39	17:57 (1)	19:01	50	17:49 (1)	16:59	138	13:01 (2)	16:29	107	13:04 (2)
10	08:45		09:22 (4)		08:06		12:15 (2)		07:07		16:17 (1)	06:56			05:55	05:20	05:31	06:14	07:04		17:16 (1)	07:54		17:00 (1)	07:49		08:52 (4)	08:35		09:42 (3)
	16:49	128	13:21 (2)	73	13:28 (2)		18:34	61	17:18 (1)	20:27			21:18	21:57	21:58	21:15	20:08	43	17:59 (1)	18:59	47	17:47 (1)	16:57	141	13:01 (2)	16:28	107	13:04 (2)
11	08:44		09:21 (4)		08:04		12:16 (2)		07:05		16:16 (1)	06:54			05:54	05:20	05:32	06:16	07:06		17:13 (1)	07:56		17:01 (1)	07:51		08:52 (4)	08:37		09:43 (3)
	16:51	131	13:21 (2)	72	13:28 (2)		18:36	63	17:19 (1)	20:29			21:19	21:58	21:57	21:13	20:06	46	17:59 (1)	18:56	43	17:44 (1)	16:56	144	13:01 (2)	16:28	105	13:04 (2)
12	08:44		09:20 (4)		08:02		12:16 (2)		07:03		16:16 (1)	06:52			05:52	05:20	05:33	06:17	07:08		17:11 (1)	07:57		17:03 (1)	07:53		08:51 (4)	08:38		09:44 (3)
	16:52	135	13:22 (2)	71	13:27 (2)		18:37	63	17:19 (1)	20:31			21:21	21:59	21:56	21:11	20:03	49	18:00 (1)	18:54	39	17:42 (1)	16:54	148	13:02 (2)	16:28	106	13:06 (2)
13	08:43		09:19 (4)		08:00		12:17 (2)		07:00		16:15 (1)	06:49			05:50	05:19	05:34	06:19	07:09		17:10 (1)	07:59		17:05 (1)	07:54		08:51 (4)	08:39		09:45 (3)
	16:53	139	13:23 (2)	69	13:26 (2)		18:39	64	17:19 (1)	20:32			21:23	22:00	21:56	21:09	20:01	51	18:01 (1)	18:52	35	17:40 (1)	16:53	149	13:02 (2)	16:28	104	13:06 (2)
14	08:42		09:18 (4)		07:58		12:18 (2)		06:58		16:14 (1)	06:47			05:49	05:19	05:35	06:20	07:11		17:07 (1)	08:01		17:07 (1)	07:56		08:51 (4)	08:40		09:46 (3)
	16:55	141	13:23 (2)	67	13:25 (2)		18:41	65	17:19 (1)	20:34			21:24	22:00	21:55	21:07	19:59	55	18:02 (1)	18:50	30	17:37 (1)	16:51	150	13:02 (2)	16:28	104	13:06 (2)
15	08:41		09:18 (4)		07:56		12:20 (2)		06:56		16:14 (1)	06:45			05:47	05:19	05:36	06:22	07:13		17:06 (1)	08:03		17:09 (1)	07:58		08:51 (4)	08:40		09:46 (3)
	16:57	143	13:24 (2)	64	13:24 (2)		18:43	66	17:20 (1)	20:36			21:26	22:01	21:54	21:05	19:56	56	18:02 (1)	18:47	24	17:33 (1)	16:50	153	13:03 (2)	16:28	103	13:06 (2)
16	08:41		09:18 (4)		07:54		12:21 (2)		06:54		16:13 (1)	06:43			05:46	05:19	05:38	06:24	07:14		17:04 (1)	08:04		17:14 (1)	08:00		08:51 (4)	08:41		09:46 (3)
	16:58	144	13:24 (2)	61	13:22 (2)		18:44	66	17:19 (1)	20:37			21:27	22:01	21:53	21:03	19:54	58	18:02 (1)	18:45	14	17:28 (1)	16:48	154	13:03 (2)	16:28	102	13:06 (2)
17	08:40		09:17 (4)		07:52		12:23 (2)		06:51		16:13 (1)	06:41			05:44	05:19	05:39	06:25	07:16		17:03 (1)	08:06			08:01		08:52 (4)	08:42		09:47 (3)
	17:00	148	13:25 (2)	58	13:21 (2)		18:46	66	17:19 (1)	20:39			21:29	22:02	21:52	21:01	19:52	60	18:03 (1)	18:43			16:47	153	13:03 (2)	16:28	102	13:07 (2)
18	08:39		09:17 (4)		07:50		12:24 (2)		06:49		16:13 (1)	06:38			05:43	05:19	05:40	06:27	07:17		17:02 (1)	08:08			08:03		08:52 (4)	08:43		09:48 (3)
	17:01	149	13:26 (2)	55	13:19 (2)		18:48	66	17:19 (1)	20:41			21:30	22:02	21:51	20:59	19:49	61	18:03 (1)	18:41			16:46	154	13:03 (2)	16:29	101	13:07 (2)
19	08:38		09:17 (4)		07:48		12:26 (2)		06:47		16:12 (1)	06:36			05:41	05:19	05:41	06:28	07:19		17:00 (1)	08:10		13:11 (2)	08:05		08:51 (4)	08:44		09:48 (3)
	17:03	150	13:26 (2)	51	13:17 (2)		18:49	67	17:19 (1)	20:43			21:32	22:03	21:49	20:57	19:47	63	18:03 (1)	18:39	23	13:34 (2)	16:44	154	13:03 (2)	16:29	101	13:07 (2)
20	08:37		09:17 (4)		07:46		12:28 (2)		06:44		16:13 (1)	06:34			05:40	05:19	05:43	06:30	07:21		17:00 (1)	08:11		13:05 (2)	08:06		08:52 (4)	08:44		09:49 (3)
	17:05	153	13:27 (2)	46	13:14 (2)		18:51	66	17:19 (1)	20:44			21:33	22:03	21:48	20:55	19:45	63	18:03 (1)	18:37	34	13:39 (2)	16:43	153	13:03 (2)	16:29	101	13:08 (2)
21	08:36		09:18 (4)		07:44		12:31 (2)		06:42		16:13 (1)	06:32			05:38	05:19	05:44	06:32	07:22		16:58 (1)	08:13		13:02 (2)	08:08		08:53 (4)	08:45		09:50 (3)
	17:06	152	13:28 (2)	40	13:11 (2)		18:53	65	17:18 (1)	20:46			21:35	22:03	21:47	20:53	19:42	65	18:03 (1)	18:35	41	13:43 (2)	16:42	152	13:03 (2)	16:30	101	13:09 (2)
22	08:34		09:17 (4)		07:42		12:35 (2)		06:40		16:13 (1)	06:30			05:37	05:19	05:45	06:33	07:24		16:58 (1)	08:15		12:58 (2)	08:10		08:53 (4)	08:45		09:50 (3)
	17:08	153	13:28 (2)	31	13:06 (2)		18:55	64	17:17 (1)	20:48			21:36	22:03	21:46	20:51	19:40	65	18:03 (1)	18:33	47	13:45 (2)	16:41	153	13:03 (2)	16:30	101	13:09 (2)
23	08:33		09:17 (4)		07:40		12:42 (2)		06:37		16:13 (1)	06:28			05:36	05:20	05:47	06:35	07:26		16:57 (1)	08:17		12:55 (2)	08:11		08:54 (4)	08:46		09:50 (3)
	17:10	154	13:29 (2)	17	12:59 (2)		18:56	64	17:17 (1)	20:49			21:37	22:03	21:44	20:49	19:38	66	18:03 (1)	18:31	52	13:47 (2)	16:40	151	13:04 (2)	16:31	101	13:09 (2)
24	08:32		09:18 (4)		07:38		06:35		16:14 (1)	06:26			05:35	05:20	05:48	06:37	07:27		16:56 (1)	08:18		12:53 (2)	08:13		08:54 (4)	08:46		09:51 (3)
	17:12	154	13:29 (2)		18:09		18:58	63	17:17 (1)	20:51			21:39	22:04	21:43	20:46	19:35	66	18:02 (1)	18:28	56	13:49 (2)	16:38	149	13:03 (2)	16:31	101	13:10 (2)
25	08:31		09:18 (4)		07:36		06:33		16:14 (1)	06:24			05:33	05:20	05:49	06:38	07:29		16:56 (1)	07:20		11:52 (2)	08:15		08:55 (4)	08:47		09:51 (3)
	17:13	153	13:29 (2)		18:10		19:00	61	17:15 (1)	20:53			21:40	22:04	21:42	20:44	19:33	66	18:02 (1)	17:26	59	12:51 (2)	16:37	147	13:03 (2)	16:32	100	13:10 (2)
26	08:29		09:18 (4)		07:34		16:41 (1)		06:30		16:14 (1)	06:22			05:32	05:21	05:51	06:40	07:31		16:56 (1)	07:22		11:50 (2)	08:16		08:57 (4)	08:47		09:51 (3)
	17:15	154	13:30 (2)		18:12		16:59 (1)		19:02	61	17:15 (1)	20:54			21:41	22:04	21:40	20:42	19:31	66	18:02 (1)	17:24	62	12:52 (2)	16:36	144	13:03 (2)	16:32	101	13:10 (2)
27	08:28		09:18 (4)		07:32		16:36 (1)		06:28		16:15 (1)	06:20			05:31	05:21	05:52	06:42	07:32		16:55 (1)	07:24		11:49 (2)	08:18		08:58 (4)	08:47		09:51 (3)
	17:17	153	13:30 (2)		18:14		17:02 (1)		19:03	59	17:14 (1)	20:56			21:43	22:04	21:39	20:40	19:28	66	18:01 (1)	17:22	65	12:54 (2)	16:36	143	13:04 (2)	16:33	102	13:11 (2)
28	08:27		09:19 (4)		07:30		16:33 (1)		06:26		16:16 (1)	06:18			05:30	05:21	05:54	06:43	07:34		16:55 (1)	07:26		11:48 (2)	08:19		08:58 (4)	08:48		09:53 (3)
	17:19	150	13:30 (2)		18:16		17:05 (1)		19:05	56	17:12 (1)	20:58			21:44	22:03	21:37	20:38	19:26	66	18:01 (1)	17:20	67	12:55 (2)	16:35	140	13:03 (2)	16:34	102	13:12 (2)
29	08:25		09:19 (4)						07:24		17:17 (1)	06:16			05:29	05:22	05:55	06:45	07:35		16:55 (1)	07:27		11:47 (2)	08:21		09:00 (4)	08:48		09:53 (3)
	17:20	149	13:30 (2)						20:07	54	18:11 (1)	21:00			21:45	22:03	21:36	20:35	19:24	65	18:00 (1)	17:19	69	12:56 (2)	16:34	139	13:04 (2)	16:35	103	13:13 (2)
30	08:24		09:19 (4)						07:21		17:18 (1)	06:14			05:28	05:23	05:57	06:46	07:37		16:54 (1)	07:29		11:46 (2)	08:22		09:02 (4)	08:48		09:53 (3)
	17:22	148	13:30 (2)						20:08	52	18:10 (1)	21:01			21:47	22:03	21:34	20:33	19:21	65	17:59 (1)	17:17	71	12:57 (2)	16:33	135	13:04 (2)	16:36	104	13:14 (2)
31	08:22		09:21 (4)						07:19		17:20 (1)				05:27		05:58	06:48				07:31		11:45 (2)				08:48		09:52 (3)
	17:24	145	13:31 (2)						20:10	49	18:09 (1)				21:48		21:33	20:31				17:15	72	12:57 (2)				16:37	105	13:13 (2)
Potential sun hours	259			277			367			416				485	499	502	454	381			331			266			243		
Total, worst case		4230			1869			1809			236								1405			1469			4066			3311	
Sun reduction		0,24			0,30			0,33			0,42								0,36			0,34			0,24			0,20	
Oper. time red.		0,95			0,95			0,95			0,95								0,95			0,95			0,95			0,95	
Wind dir. red.		0,64			0,66			0,66			0,66								0,66			0,67			0,64			0,65	
Total reduction		0,14			0,19			0,21			0,26								0,23			0,21			0,14			0,12	
Total, real		610			351			374			62								319			312			580			411	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:33/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion4.2M148@165Shadow receptor: M - 3998JK67a

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	06:58 (2)	05:26	06:08 (1)	05:23	06:15 (1)	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03	10 07:08 (2)	21:49	28 06:36 (1)	22:03	26 06:41 (1)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10		05:26	06:08 (1)	05:24	06:15 (1)	06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05		21:50	27 06:35 (1)	22:03	26 06:41 (1)	21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08		05:25	06:09 (1)	05:25	06:16 (1)	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06		21:51	27 06:36 (1)	22:02	26 06:42 (1)	21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06		05:24	06:09 (1)	05:26	06:15 (1)	06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08		21:52	27 06:36 (1)	22:02	26 06:41 (1)	21:26	20:22	19:12	17:07	16:31
5	08:47	08:14	07:19	07:08	06:04		05:23	06:09 (1)	05:26	06:15 (1)	06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10		21:53	28 06:37 (1)	22:01	27 06:42 (1)	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02		05:23	06:09 (1)	05:27	06:16 (1)	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11		21:54	27 06:36 (1)	22:01	26 06:42 (1)	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01		05:22	06:10 (1)	05:28	06:16 (1)	06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13		21:55	27 06:37 (1)	22:00	27 06:43 (1)	21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59		05:22	06:10 (1)	05:29	06:16 (1)	06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15		21:56	26 06:36 (1)	22:00	27 06:43 (1)	21:19	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57		05:21	06:10 (1)	05:30	06:16 (1)	06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16		21:57	27 06:37 (1)	21:59	28 06:44 (1)	21:17	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55		05:21	06:10 (1)	05:31	06:15 (1)	06:14	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18		21:58	26 06:36 (1)	21:58	28 06:43 (1)	21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54		05:20	06:11 (1)	05:32	06:16 (1)	06:16	07:10 (2)	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19		21:58	25 06:36 (1)	21:57	27 06:43 (1)	21:13	4 07:14 (2)	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52		05:20	06:11 (1)	05:33	06:16 (1)	06:17	07:06 (2)	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21		21:59	26 06:37 (1)	21:57	27 06:43 (1)	21:11	11 07:17 (2)	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50		05:20	06:12 (1)	05:34	06:17 (1)	06:19	07:05 (2)	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23		22:00	25 06:37 (1)	21:56	27 06:44 (1)	21:09	14 07:19 (2)	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49		05:19	06:12 (1)	05:35	06:17 (1)	06:21	07:03 (2)	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24		22:00	25 06:37 (1)	21:55	27 06:44 (1)	21:07	17 07:20 (2)	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47		05:19	06:11 (1)	05:36	06:17 (1)	06:22	07:03 (2)	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26		22:01	26 06:37 (1)	21:54	27 06:44 (1)	21:05	18 07:21 (2)	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46	06:16 (1)	05:19	06:12 (1)	05:38	06:17 (1)	06:24	07:01 (2)	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27	10 06:26 (1)	22:01	25 06:37 (1)	21:53	27 06:44 (1)	21:03	20 07:21 (2)	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	07:04 (2) 05:44	06:15 (1)	05:19	06:12 (1)	05:39	06:17 (1)	06:25	07:01 (2)	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	6 07:10 (2) 21:29	13 06:28 (1)	22:02	25 06:37 (1)	21:52	27 06:44 (1)	21:01	20 07:21 (2)	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	07:02 (2) 05:43	06:13 (1)	05:19	06:12 (1)	05:40	06:18 (1)	06:27	07:00 (2)	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	11 07:13 (2) 21:30	16 06:29 (1)	22:02	25 06:37 (1)	21:51	26 06:44 (1)	20:59	21 07:21 (2)	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	07:00 (2) 05:41	06:12 (1)	05:19	06:13 (1)	05:41	06:18 (1)	06:29	07:00 (2)	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	14 07:14 (2) 21:32	18 06:30 (1)	22:03	25 06:38 (1)	21:49	25 06:43 (1)	20:57	21 07:21 (2)	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	06:58 (2) 05:40	06:11 (1)	05:19	06:14 (1)	05:43	06:19 (1)	06:30	07:00 (2)	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	17 07:15 (2) 21:33	20 06:31 (1)	22:03	24 06:38 (1)	21:48	25 06:44 (1)	20:55	20 07:20 (2)	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	06:56 (2) 05:39	06:10 (1)	05:19	06:14 (1)	05:44	06:19 (1)	06:32	07:00 (2)	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	19 07:15 (2) 21:35	22 06:32 (1)	22:03	24 06:38 (1)	21:47	24 06:43 (1)	20:53	20 07:20 (2)	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	06:56 (2) 05:37	06:09 (1)	05:19	06:14 (1)	05:45	06:20 (1)	06:34	07:00 (2)	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	20 07:16 (2) 21:36	23 06:32 (1)	22:03	24 06:38 (1)	21:46	22 06:42 (1)	20:51	19 07:19 (2)	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	06:55 (2) 05:36	06:09 (1)	05:20	06:14 (1)	05:47	06:20 (1)	06:35	07:02 (2)	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	21 07:16 (2) 21:37	24 06:33 (1)	22:04	24 06:38 (1)	21:44	21 06:41 (1)	20:49	17 07:19 (2)	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	06:55 (2) 05:35	06:08 (1)	05:20	06:14 (1)	05:48	06:22 (1)	06:37	07:03 (2)	07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	21 07:16 (2) 21:39	25 06:33 (1)	22:04	25 06:39 (1)	21:43	19 06:41 (1)	20:46	14 07:17 (2)	19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	06:55 (2) 05:34	06:08 (1)	05:20	06:14 (1)	05:50	06:23 (1)	06:38	07:05 (2)	07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	20 07:15 (2) 21:40	26 06:34 (1)	22:04	25 06:39 (1)	21:42	17 06:40 (1)	20:44	10 07:15 (2)	19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	06:55 (2) 05:32	06:08 (1)	05:21	06:14 (1)	05:51	06:24 (1)	06:40	07:07 (2)	07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	20 07:15 (2) 21:42	26 06:34 (1)	22:04	25 06:39 (1)	21:40	15 06:39 (1)	20:42	6 07:13 (2)	19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	06:55 (2) 05:31	06:08 (1)	05:21	06:15 (1)	05:52	06:26 (1)	06:42		07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	19 07:14 (2) 21:43	26 06:34 (1)	22:04	25 06:40 (1)	21:39	12 06:38 (1)	20:40		19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	06:55 (2) 05:30	06:08 (1)	05:22	06:14 (1)	05:54	06:28 (1)	06:43		07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	18 07:13 (2) 21:44	27 06:35 (1)	22:04	25 06:39 (1)	21:37	7 06:35 (1)	20:38		19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	06:56 (2) 05:29	06:08 (1)	05:22	06:15 (1)	05:55		06:45		07:36	07:27	08:21	08:48
	17:21		20:07	21:00	16 07:12 (2) 21:45	27 06:35 (1)	22:03	25 06:40 (1)	21:36		20:36		19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	06:57 (2) 05:28	06:08 (1)	05:23	06:15 (1)	05:57		06:47		07:37	07:29	08:22	08:48
	17:22		20:08	21:01	13 07:10 (2) 21:47	28 06:36 (1)	22:03	26 06:41 (1)	21:34		20:33		19:22	17:17	16:33	16:36
31	08:22		07:19		05:27	06:08 (1)			05:58		06:48			07:31		08:48
	17:24		20:10		21:48	28 06:36 (1)			21:33		20:31			17:15		16:37
Potential sun hours	259	277	367	416	485		499		502		454		381	331	266	243
Total, worst case				235	369		769		669		252					
Sun reduction				0,42	0,43		0,39		0,41		0,42					
Oper. time red.				0,95	0,95		0,95		0,95		0,95					
Wind dir. red.				0,63	0,67		0,67		0,67		0,63					
Total reduction				0,25	0,27		0,25		0,26		0,25					
Total, real				59	100		190		173		63					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:33/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion4.2M148@165Shadow receptor: N - 3945LA11

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December		
1	08:48		10:32 (4)	08:21		15:37 (2)	07:27		15:51 (2)	07:17	06:12	05:26	05:23	06:00	06:50		07:39		18:05 (1)	07:33		15:04 (2)	08:24		10:23 (4)
	16:38	84	13:12 (3)	17:26	42	16:19 (2)	18:18	20	16:11 (2)	20:12	21:03	21:49	22:03	21:31	20:29		19:19	32	18:37 (1)	17:13	52	15:56 (2)	16:32	69	12:56 (3)
2	08:48		10:33 (4)	08:19		15:37 (2)	07:25		15:56 (2)	07:14	06:10	05:25	05:24	06:01	06:51		07:40		18:05 (1)	07:35		15:04 (2)	08:25		10:23 (4)
	16:39	84	13:13 (3)	17:28	43	16:20 (2)	18:19	10	16:06 (2)	20:14	21:05	21:50	22:02	21:29	20:26		19:17	31	18:36 (1)	17:11	51	15:55 (2)	16:32	71	12:57 (3)
3	08:48		10:34 (4)	08:18		15:37 (2)	07:23			07:12	06:08	05:25	05:25	06:03	06:53		07:42		18:05 (1)	07:36		15:03 (2)	08:27		10:22 (4)
	16:40	82	13:13 (3)	17:30	45	16:22 (2)	18:21			20:15	21:06	21:51	22:02	21:28	20:24		19:14	29	18:34 (1)	17:09	51	15:54 (2)	16:31	73	12:57 (3)
4	08:47		10:34 (4)	08:16		15:36 (2)	07:21			07:10	06:06	05:24	05:25	06:04	06:55		07:44		18:07 (1)	07:38		15:04 (2)	08:28		10:22 (4)
	16:41	82	13:13 (3)	17:31	46	16:22 (2)	18:23			20:17	21:08	21:52	22:02	21:26	20:22		19:12	25	18:32 (1)	17:07	50	15:54 (2)	16:30	77	12:59 (3)
5	08:47		10:35 (4)	08:14		15:35 (2)	07:19			07:07	06:04	05:23	05:26	06:06	06:56		07:46		18:08 (1)	07:40		15:04 (2)	08:29		10:22 (4)
	16:43	81	13:14 (3)	17:33	48	16:23 (2)	18:25			20:19	21:10	21:53	22:01	21:24	20:20		19:10	22	18:30 (1)	17:06	49	15:53 (2)	16:30	77	12:59 (3)
6	08:47		10:35 (4)	08:13		15:35 (2)	07:16		17:39 (1)	07:05	06:02	05:23	05:27	06:08	06:58		07:47		18:10 (1)	07:42		15:05 (2)	08:31		10:21 (4)
	16:44	80	13:13 (3)	17:35	49	16:24 (2)	18:27	6	17:45 (1)	20:20	21:11	21:54	22:01	21:22	20:17		19:08	18	18:28 (1)	17:04	48	15:53 (2)	16:30	79	12:59 (3)
7	08:46		10:37 (4)	08:11		15:34 (2)	07:14		17:34 (1)	07:03	06:00	05:22	05:28	06:09	06:59		07:49		18:12 (1)	07:44		15:06 (2)	08:32		10:22 (4)
	16:45	77	13:14 (3)	17:37	50	16:24 (2)	18:28	16	17:50 (1)	20:22	21:13	21:55	22:00	21:20	20:15		19:05	12	18:24 (1)	17:02	46	15:52 (2)	16:29	81	13:01 (3)
8	08:46		10:37 (4)	08:09		15:35 (2)	07:12		17:32 (1)	07:01	05:59	05:21	05:29	06:11	07:01		07:51			07:45		15:07 (2)	08:33		10:22 (4)
	16:46	77	13:14 (3)	17:39	50	16:25 (2)	18:30	20	17:52 (1)	20:24	21:14	21:56	21:59	21:19	20:13		19:03			17:00	45	15:52 (2)	16:29	82	13:01 (3)
9	08:45		10:39 (4)	08:07		15:34 (2)	07:10		17:30 (1)	06:58	05:57	05:21	05:30	06:12	07:03		07:52			07:47		15:07 (2)	08:34		10:22 (4)
	16:48	74	13:14 (3)	17:41	52	16:26 (2)	18:32	25	17:55 (1)	20:25	21:16	21:57	21:59	21:17	20:10		19:01			16:59	44	15:51 (2)	16:28	82	13:01 (3)
10	08:45		10:40 (4)	08:06		15:34 (2)	07:07		17:28 (1)	06:56	05:55	05:20	05:31	06:14	07:04		07:54			07:49		15:08 (2)	08:35		10:22 (4)
	16:49	71	13:14 (3)	17:43	52	16:26 (2)	18:34	27	17:55 (1)	20:27	21:18	21:57	21:58	21:15	20:08		18:59			16:57	42	15:50 (2)	16:28	84	13:02 (3)
11	08:44		10:41 (4)	08:04		15:34 (2)	07:05		17:27 (1)	06:54	05:54	05:20	05:32	06:16	07:06		07:56			07:51		15:09 (2)	08:37		10:22 (4)
	16:50	69	13:14 (3)	17:45	52	16:26 (2)	18:36	30	17:57 (1)	20:29	21:19	21:58	21:57	21:13	20:06		18:56			16:56	40	15:49 (2)	16:28	84	13:02 (3)
12	08:44		10:42 (4)	08:02		15:34 (2)	07:03		17:26 (1)	06:52	05:52	05:20	05:33	06:17	07:08		07:57		16:27 (2)	07:52		15:11 (2)	08:38		10:23 (4)
	16:52	66	13:13 (3)	17:46	52	16:26 (2)	18:37	32	17:58 (1)	20:31	21:21	21:59	21:56	21:11	20:03		18:54	15	16:42 (2)	16:54	37	15:48 (2)	16:28	85	13:04 (3)
13	08:43		10:43 (4)	08:00		15:34 (2)	07:00		17:24 (1)	06:49	05:50	05:19	05:34	06:19	07:09		07:59		16:23 (2)	07:54		15:12 (2)	08:39		10:23 (4)
	16:53	62	13:13 (3)	17:48	52	16:26 (2)	18:39	33	17:57 (1)	20:32	21:22	22:00	21:56	21:09	20:01		18:52	22	16:45 (2)	16:53	35	15:47 (2)	16:28	86	13:04 (3)
14	08:42		10:45 (4)	07:58		15:34 (2)	06:58		17:24 (1)	06:47	05:49	05:19	05:35	06:20	07:11		08:01		16:20 (2)	07:56		15:14 (2)	08:40		10:23 (4)
	16:55	58	13:13 (3)	17:50	52	16:26 (2)	18:41	34	17:58 (1)	20:34	21:24	22:00	21:55	21:07	19:59		18:50	28	16:48 (2)	16:51	32	15:46 (2)	16:28	86	13:04 (3)
15	08:41		10:48 (4)	07:56		15:34 (2)	06:56		17:24 (1)	06:45	05:47	05:19	05:36	06:22	07:12		18:26 (1)	08:03		16:16 (2)	07:58		15:15 (2)	08:40		10:23 (4)
	16:57	50	13:12 (3)	17:52	52	16:26 (2)	18:43	35	17:59 (1)	20:36	21:26	22:01	21:54	21:05	19:56	4	18:30 (1)	18:47	32	16:48 (2)	16:50	29	15:44 (2)	16:28	86	13:04 (3)
16	08:41		12:32 (3)	07:54		15:34 (2)	06:54		17:22 (1)	06:43	05:46	05:19	05:38	06:24	07:14		18:19 (1)	08:04		16:14 (2)	08:00		15:17 (2)	08:41		10:24 (4)
	16:58	40	13:12 (3)	17:54	52	16:26 (2)	18:44	36	17:58 (1)	20:37	21:27	22:01	21:53	21:03	19:54	15	18:34 (1)	18:45	36	16:50 (2)	16:48	26	15:43 (2)	16:28	87	13:05 (3)
17	08:40		12:34 (3)	07:52		15:35 (2)	06:51		17:22 (1)	06:41	05:44	05:19	05:39	06:25	07:16		18:17 (1)	08:06		16:12 (2)	08:01		15:19 (2)	08:42		10:24 (4)
	17:00	38	13:12 (3)	17:56	51	16:26 (2)	18:46	36	17:58 (1)	20:39	21:29	22:02	21:52	21:01	19:52	20	18:37 (1)	18:43	39	16:51 (2)	16:47	22	15:41 (2)	16:28	88	13:06 (3)
18	08:39		12:35 (3)	07:50		15:35 (2)	06:49		17:23 (1)	06:38	05:43	05:19	05:40	06:27	07:17		18:15 (1)	08:08		16:11 (2)	08:03		15:21 (2)	08:43		10:25 (4)
	17:01	36	13:11 (3)	17:58	51	16:26 (2)	18:48	35	17:58 (1)	20:41	21:30	22:02	21:50	20:59	19:49	23	18:38 (1)	18:41	41	16:52 (2)	16:46	17	15:38 (2)	16:28	87	13:07 (3)
19	08:38		12:37 (3)	07:48		15:36 (2)	06:47		17:22 (1)	06:36	05:41	05:19	05:41	06:28	07:19		18:12 (1)	08:10		16:09 (2)	08:05		12:21 (3)	08:44		10:25 (4)
	17:03	33	13:10 (3)	17:59	49	16:25 (2)	18:49	35	17:57 (1)	20:43	21:32	22:03	21:49	20:57	19:47	27	18:39 (1)	18:39	44	16:53 (2)	16:44	26	15:35 (2)	16:29	86	13:06 (3)
20	08:37		12:39 (3)	07:46		15:35 (2)	06:44		17:22 (1)	06:34	05:40	05:19	05:43	06:30	07:21		18:11 (1)	08:11		16:08 (2)	08:06		12:18 (3)	08:44		10:25 (4)
	17:05	30	13:09 (3)	18:01	49	16:24 (2)	18:51	35	17:57 (1)	20:44	21:33	22:03	21:48	20:55	19:45	29	18:40 (1)	18:37	46	16:54 (2)	16:43	22	12:40 (3)	16:29	88	13:07 (3)
21	08:36		12:41 (3)	07:44		15:36 (2)	06:42		17:23 (1)	06:32	05:38	05:19	05:44	06:32	07:22		18:09 (1)	08:13		16:07 (2)	08:08		12:16 (3)	08:45		10:26 (4)
	17:06	27	13:08 (3)	18:03	47	16:23 (2)	18:53	33	17:56 (1)	20:46	21:35	22:03	21:47	20:53	19:42	31	18:40 (1)	18:35	48	16:55 (2)	16:42	27	12:43 (3)	16:30	88	13:08 (3)
22	08:34		12:43 (3)	07:42		15:37 (2)	06:40		17:23 (1)	06:30	05:37	05:19	05:45	06:33	07:24		18:08 (1)	08:15		16:06 (2)	08:10		12:15 (3)	08:45		10:26 (4)
	17:08	22	13:05 (3)	18:05	45	16:22 (2)	18:55	31	17:54 (1)	20:48	21:36	22:03	21:46	20:51	19:40	33	18:41 (1)	18:33	48	16:54 (2)	16:41	30	12:45 (3)	16:30	88	13:08 (3)
23	08:33		12:47 (3)	07:40		15:39 (2)	06:37		17:24 (1)	06:28	05:36	05:19	05:47	06:35	07:26		18:07 (1)	08:17		16:05 (2)	08:11		12:14 (3)	08:46		10:26 (4)
	17:10	26	16:01 (2)	18:07	43	16:22 (2)	18:56	30	17:54 (1)	20:49	21:37	22:03	21:44	20:48	19:38	34	18:41 (1)	18:30	50	16:55 (2)	16:40	33	12:47 (3)	16:31	88	13:08 (3)
24	08:32		15:48 (2)	07:38		15:40 (2)	06:35		17:25 (1)	06:26	05:35	05:20	05:48	06:37	07:27		18:06 (1)	08:18		16:04 (2)	08:13		12:12 (3)	08:46		10:27 (4)
	17:11	17	16:05 (2)	18:09	41	16:21 (2)	18:58	28	17:53 (1)	20:51	21:39	22:04	21:43	20:46	19:35	34	18:40 (1)	18:28	51	16:55 (2)	16:38	36	12:48 (3)	16:31	88	13:09 (3)
25	08:31		15:45 (2)	07:36		15:42 (2)	06:33		17:26 (1)	06:24	05:33	05:20	05:49	06:38	07:29		18:05 (1)	07:20		15:04 (2)	08:15		12:12 (3)	08:47		10:28 (4)
	17:13	22	16:07 (2)	18:10	38	16:20 (2)	19:00	24	17:50 (1)	20:53	21:40	22:04	21:42	20:44	19:33	36	18:41 (1)	17:26	51	15:55 (2)	16:37	38	12:50 (3)	16:32	87	13:10 (3)
26	08:29		15:44 (2)	07:34		15:42 (2)	06:30		17:28 (1)	06:22	05:32	05:21	05:51	06:40	07:30		18:05 (1)	07:22		15:04 (2)	08:16		12:11 (3)	08:47		10:28 (4)
	17:15	26	16:10 (2)	18:12	35	16:17 (2)	19:02	21	17:49 (1)	20:54	21:41	22:04	21:40	20:42	19:31	36	18:41 (1)	17:24	52	15:56 (2)	16:36	40	12:51 (3)	16:32	87	13:10 (3)
27	08:28		15:42 (2)	07:32		15:45 (2)	06:28		17:30 (1)	06:20	05:31	05:21	05:52	06:42	07:32		18:04 (1)	07:24		15:03 (2)	08:18		10:28 (4)	08:47		10:28 (4)
	17:17	30	16:12 (2)	18:14	31	16:16 (2)	19:03	16	17:46 (1)	20:56	21:43	22:04	21:39	20:40	19:28	36	18:40 (1)	17:22	53	15:56 (2)	16:36	51	12:53 (3)	16:33	88	13:10 (3)
28	08:27		15:42 (2)	07:29		15:48 (2)	06:26		17:34 (1)	06:18	05:30	05:21	05:54	06:43	07:34		18:04 (1)	07:26		15:03 (2)	08:19		10:25 (4)	08:47		10:30 (4)
	17:19	32	16:14 (2)	18:16	25	16:13 (2)	19:05	7	17:41 (1)	20:58	21:44	22:03	21:37	20:38	19:26	35	18:39 (1)	17:20	53	15:56 (2)	16:35	58	12:53 (3)	16:34	86	13:11 (3)
29	08:25		15:40 (2)				07:23			06:16	05:29	05:22	05:55	06:45	07:35		18:04 (1)	07:27		15:03 (2)	08:21		10:25 (4)	08:48		10:30 (4)
	17:20	35	16:15 (2)				20:07			21:00	21:45	22:03	21:36	20:35	19:24	35	18:39 (1)	17:18	53	15:56 (2)	16:34	61	12:54 (3)	16:35	87	13:12 (3)
30	08:24		15:39 (2)				07:21			06:14	05:28	05:23	05:57	06:46	07:37		18:04 (1)	07:29		15:03 (2)	08:22		10:23 (4)	08:48		10:31 (4)
	17:22	37	16:16 (2)				20:08			21:01	21:46	22:03	21:34	20:33	19:21	34	18:38 (1)	17:17	53	15:56 (2)	16:33	67	12:55 (3)	16:36	86	13:12 (3)
31	08:22		15:39 (2)				07:19				05:27		05:58	06:48				07:31		15:03 (2)				08:48		10:31 (4)
	17:24	39	16:18 (2)				20:10				21:48		21:32	20:31				17:15	53	15:56 (2)				16:37	86	13:12 (3)
Potential sun hours	259			277			367			416	485	499	502	454	381			331			266			243		
Total, worst case		1587			1294			655								462			1037			1205			2597	
Sun reduction		0,24			0,30			0,33								0,36			0,34			0,24			0,20	
Oper. time red.		0,95			0,95			0,95								0,95			0,95			0,95			0,95	
Wind dir. red.		0,66			0,67			0,63								0,63			0,66			0,67			0,65	
Total reduction		0,15			0,19			0,20								0,22			0,21			0,15			0,13	
Total, real		238			247			130								100			219			180			329	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:33/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion4.2M148@165Shadow receptor: O - 3998NA2

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 16:38	08:21 17:26	07:27 18:18	07:17 20:12 11 08:26 (3)	06:12 21:03 37	07:26 (2) 08:03 (2)	05:26 21:49	05:23 22:03	06:00 21:31	06:50 20:29 29	07:35 (2) 08:04 (2)	07:39 19:19 19	08:09 (4) 08:28 (4)	07:33 17:13	08:24 16:32
2	08:48 16:39	08:19 17:28	07:25 18:20	07:14 20:14	06:10 21:05 34	07:27 (2) 08:01 (2)	05:25 21:50	05:24 22:03	06:01 21:29	06:51 20:26 25	07:36 (2) 08:01 (2)	07:41 19:17 19	08:09 (4) 08:28 (4)	07:35 17:11	08:25 16:32
3	08:48 16:40	08:18 17:30	07:23 18:21	07:12 20:15	06:08 21:06 32	07:29 (2) 08:01 (2)	05:25 21:51	05:25 22:02	06:03 21:28	06:53 20:24 20	07:39 (2) 07:59 (2)	07:42 19:15 19	08:08 (4) 08:27 (4)	07:36 17:09	08:27 16:31
4	08:47 16:41	08:16 17:32	07:21 18:23	07:10 20:17	06:06 21:08 30	07:29 (2) 07:59 (2)	05:24 21:52	05:25 22:02	06:05 21:26 13	07:47 (2) 08:00 (2)	06:55 20:22 14	07:42 (2) 07:56 (2)	07:44 19:12 17	08:09 (4) 08:26 (4)	07:38 17:07	08:28 16:31
5	08:47 16:43	08:14 17:33	07:19 18:25	07:07 20:19	06:04 21:10 27	07:30 (2) 07:57 (2)	05:23 21:53	05:26 22:01	06:06 21:24 18	07:45 (2) 08:03 (2)	06:56 20:20		07:46 19:10 14	08:11 (4) 08:25 (4)	07:40 17:06	08:29 16:30
6	08:47 16:44	08:13 17:35	07:16 18:27 4	07:40 (4) 07:44 (4) 20:20	06:02 21:11 25	07:31 (2) 07:56 (2)	05:23 21:54	05:27 22:01	06:08 21:22 22	07:42 (2) 08:04 (2)	06:58 20:17		07:47 19:08 11	08:13 (4) 08:24 (4)	07:42 17:04	08:31 16:30
7	08:46 16:45	08:11 17:37	07:14 18:29 9	07:37 (4) 07:46 (4) 20:22	06:01 21:13 21	07:33 (2) 07:54 (2)	05:22 21:55	05:28 22:00	06:09 21:21 26	07:40 (2) 08:06 (2)	07:00 20:15		07:49 19:05 7	08:14 (4) 08:21 (4)	07:44 17:02	08:32 16:29
8	08:46 16:46	08:09 17:39	07:12 18:30 13	07:35 (4) 07:48 (4) 20:24 14	07:01 07:58 (2) 21:15 17	07:44 (2) 07:52 (2)	05:59 21:56	06:11 22:00	07:39 (2) 08:07 (2)	07:01 20:13			07:51 19:03		07:45 17:01	08:33 16:29
9	08:45 16:48	08:08 17:41	07:10 18:32 16	07:33 (4) 07:49 (4) 20:26 20	06:58 07:41 (2) 08:01 (2) 21:16 10	07:38 (2) 07:48 (2)	05:21 21:57	06:12 21:59	07:37 (2) 08:08 (2)	07:03 20:10			07:52 19:01		07:47 16:59	08:34 16:29
10	08:45 16:49	08:06 17:43	07:07 18:34 19	07:30 (4) 07:49 (4) 20:27 25	06:56 07:38 (2) 08:03 (2) 21:18	05:55	05:21 21:58	06:14 21:58	07:37 (2) 08:10 (2)	07:04 20:08			07:54 18:59		07:49 16:57	08:35 16:28
11	08:44 16:51	08:04 17:45	07:05 18:36 19	07:30 (4) 07:49 (4) 20:29 29	06:54 07:36 (2) 08:05 (2) 21:19	05:54	05:20 21:58	06:16 21:57	07:36 (2) 08:11 (2)	07:06 20:06 10	08:09 (3) 08:19 (3)	07:56 18:56			07:51 16:56	08:37 16:28
12	08:44 16:52	08:02 17:46	07:03 18:37 20	07:30 (4) 07:50 (4) 20:31 32	06:52 07:34 (2) 08:06 (2) 21:21	05:52	05:20 21:59	06:17 21:56	07:35 (2) 08:12 (2)	07:08 20:03 15	08:05 (3) 08:20 (3)	07:57 18:54			07:53 16:54	08:38 16:28
13	08:43 16:54	08:00 17:48	07:01 18:39 20	07:29 (4) 07:49 (4) 20:32 34	06:49 07:32 (2) 08:06 (2) 21:23	05:50	05:20 22:00	05:34 21:56	06:19 21:09 39	07:34 (2) 08:13 (2)	07:09 20:01 18	08:04 (3) 08:22 (3)	07:59 18:52		07:54 16:53	08:39 16:28
14	08:42 16:55	07:58 17:50	06:58 18:41 19	07:29 (4) 07:48 (4) 20:34 36	06:47 07:31 (2) 08:07 (2) 21:24	05:49	05:19 22:00	05:35 21:55	06:20 21:07 40	07:33 (2) 08:13 (2)	07:11 19:59 22	08:01 (3) 08:23 (3)	08:01 18:50		07:56 16:51	08:40 16:28
15	08:41 16:57	07:56 17:52	06:56 18:43 18	07:30 (4) 07:48 (4) 20:36 38	06:45 07:30 (2) 08:08 (2) 21:26	05:47	05:19 22:01	05:36 21:54	06:22 21:05 41	07:33 (2) 08:14 (2)	07:13 19:56 24	08:00 (3) 08:24 (3)	08:03 18:48		07:58 16:50	08:40 16:28
16	08:41 16:58	07:54 17:54	06:54 18:44 24	07:22 (3) 07:46 (4) 20:37 40	06:43 07:29 (2) 08:09 (2) 21:27	05:46	05:19 22:01	05:38 21:53	06:24 21:03 41	07:32 (2) 08:13 (2)	07:14 19:54 25	07:59 (3) 08:24 (3)	08:04 18:45		08:00 16:48	08:41 16:28
17	08:40 17:00	07:52 17:56	06:51 18:46 25	07:19 (3) 07:44 (4) 20:39 41	06:41 07:28 (2) 08:09 (2) 21:29	05:44	05:19 22:02	05:39 21:52	06:25 21:01 42	07:32 (2) 08:14 (2)	07:16 19:52 27	07:58 (3) 08:25 (3)	08:06 18:43		08:01 16:47	08:42 16:28
18	08:39 17:01	07:50 17:58	06:49 18:48 24	07:17 (3) 07:41 (4) 20:41 42	06:38 07:27 (2) 08:09 (2) 21:30	05:43	05:19 22:02	05:40 21:51	06:27 20:59 43	07:31 (2) 08:14 (2)	07:17 19:49 27	07:58 (3) 08:25 (3)	08:08 18:41		08:03 16:46	08:43 16:29
19	08:38 17:03	07:48 17:59	06:47 18:50 22	07:14 (3) 07:36 (3) 20:43 42	06:36 07:27 (2) 08:09 (2) 21:32	05:41	05:19 22:03	05:41 21:49	06:29 20:57 43	07:31 (2) 08:14 (2)	07:19 19:47 27	07:57 (3) 08:24 (3)	08:10 18:39		08:05 16:44	08:44 16:29
20	08:37 17:05	07:46 18:01	06:44 18:51 24	07:13 (3) 07:37 (3) 20:44 43	06:34 07:26 (2) 08:09 (2) 21:33	05:40	05:19 22:03	05:43 21:48	06:30 20:55 44	07:30 (2) 08:14 (2)	07:21 19:45 27	07:57 (3) 08:24 (3)	08:11 18:37		08:06 16:43	08:44 16:29
21	08:36 17:06	07:44 18:03	06:42 18:53 26	07:12 (3) 07:38 (3) 20:46 43	06:32 08:08 (2) 21:35	05:38	05:19 22:03	05:44 21:47	06:32 20:53 44	07:30 (2) 08:14 (2)	07:22 19:42 27	07:57 (3) 08:24 (3)	08:13 18:35		08:08 16:42	08:45 16:30
22	08:34 17:08	07:42 18:05	06:40 18:55 26	07:11 (3) 07:37 (3) 20:48 44	06:30 07:24 (2) 08:08 (2) 21:36	05:37	05:19 22:03	05:45 21:46	06:33 20:51 43	07:30 (2) 08:13 (2)	07:24 19:40 26	07:57 (3) 08:23 (3)	08:15 18:33		08:10 16:41	08:45 16:30
23	08:33 17:10	07:40 18:07	06:37 18:56 27	07:11 (3) 07:38 (3) 20:49 44	06:28 07:24 (2) 08:08 (2) 21:37	05:36	05:20 22:03	05:47 21:44	06:35 20:49 43	07:30 (2) 08:13 (2)	07:26 19:38 24	07:58 (3) 08:22 (3)	08:17 18:31		08:11 16:40	08:46 16:31
24	08:32 17:12	07:38 18:09	06:35 18:58 28	07:10 (3) 07:38 (3) 20:51 44	06:26 07:24 (2) 08:08 (2) 21:39	05:35	05:20 22:04	05:48 21:43	06:37 20:46 43	07:29 (2) 08:12 (2)	07:27 19:35 23	07:57 (3) 08:20 (3)	08:18 18:29		08:13 16:39	08:46 16:31
25	08:31 17:13	07:36 18:10	06:33 19:00 27	07:10 (3) 07:37 (3) 20:53 43	06:24 08:07 (2) 21:40	05:33	05:20 22:04	05:50 21:42	06:38 20:44 42	07:30 (2) 08:12 (2)	07:29 19:33 23	07:59 (3) 08:22 (4)	07:20 17:26		08:15 16:38	08:47 16:32
26	08:30 17:15	07:34 18:12	06:31 19:02 26	07:10 (3) 07:36 (3) 20:54 42	06:22 08:07 (2) 21:41	05:32	05:21 22:04	05:51 21:40	06:40 20:42 41	07:31 (2) 08:12 (2)	07:31 19:31 25	08:01 (3) 08:26 (4)	07:22 17:24		08:16 16:37	08:47 16:33
27	08:28 17:17	07:32 18:14	06:28 19:03 26	07:10 (3) 07:36 (3) 20:56 42	06:20 08:07 (2) 21:43	05:31	05:21 22:04	05:52 21:39	06:42 20:40 39	07:31 (2) 08:10 (2)	07:32 19:28 25	08:02 (3) 08:27 (4)	07:24 17:22		08:18 16:36	08:47 16:33
28	08:27 17:19	07:30 18:16	06:26 19:05 24	07:10 (3) 07:34 (3) 20:58 41	06:18 08:06 (2) 21:44	05:30	05:22 22:03	05:54 21:37	06:43 20:38 39	07:31 (2) 08:10 (2)	07:34 19:26 17	08:11 (4) 08:28 (4)	07:26 17:21		08:19 16:35	08:48 16:34
29	08:25 17:21		07:24 20:07 22	08:11 (3) 08:33 (3) 21:00 39	06:16 08:05 (2) 21:45	05:29	05:22 22:03	05:55 21:36	06:45 20:35 36	07:32 (2) 08:08 (2)	07:36 19:24 19	08:10 (4) 08:29 (4)	07:27 17:19		08:21 16:34	08:48 16:35
30	08:24 17:22		07:21 20:08 19	08:12 (3) 08:31 (3) 21:01 38	06:14 08:04 (2) 21:47	05:28	05:23 22:03	05:57 21:34	06:46 20:33 34	07:33 (2) 08:07 (2)	07:37 19:21 19	08:09 (4) 08:28 (4)	07:29 17:17		08:22 16:33	08:48 16:36
31	08:22 17:24		07:19 20:10 15	08:14 (3) 08:29 (3)	05:27 21:48			05:58 21:33	06:48 20:31 32	07:33 (2) 08:05 (2)			07:31 17:15			08:48 16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case			542	867	233			1012	538	106		
Sun reduction			0,33	0,42	0,43			0,42	0,36	0,34		
Oper. time red.			0,95	0,95	0,95			0,95	0,95	0,95		
Wind dir. red.			0,60	0,63	0,63			0,63	0,61	0,59		
Total reduction			0,19	0,25	0,25			0,25	0,21	0,19		
Total, real			101	215	59			250	111	20		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:33/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion4.2M148@165Shadow receptor: P - 3998JD89

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May		June		July		August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12		05:26		05:23		06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03		21:49	26	06:30 (1)	22:03	06:36 (1)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10		05:26		06:04 (1)	05:24	06:10 (1)	06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05		21:50	26	06:30 (1)	22:03	06:37 (1)	21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08		05:25		06:05 (1)	05:25	06:11 (1)	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06		21:51	26	06:31 (1)	22:02	06:37 (1)	21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06		05:24		06:04 (1)	05:26	06:10 (1)	06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08		21:52	27	06:31 (1)	22:02	06:37 (1)	21:26	20:22	19:12	17:07	16:31
5	08:47	08:14	07:19	07:08	06:04		05:23		06:05 (1)	05:26	06:11 (1)	06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10		21:53	27	06:32 (1)	22:01	06:37 (1)	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02		05:23		06:05 (1)	05:27	06:11 (1)	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11		21:54	26	06:31 (1)	22:01	06:38 (1)	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01		05:22		06:05 (1)	05:28	06:11 (1)	06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13		21:55	27	06:32 (1)	22:00	06:38 (1)	21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59		05:22		06:05 (1)	05:29	06:12 (1)	06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15		21:56	27	06:32 (1)	22:00	06:38 (1)	21:19	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57		05:21		06:06 (1)	05:30	06:12 (1)	06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16		21:57	26	06:32 (1)	21:59	06:39 (1)	21:17	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55		05:21		06:05 (1)	05:31	06:11 (1)	06:14	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18		21:58	27	06:32 (1)	21:58	06:38 (1)	21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54		05:20		06:06 (1)	05:32	06:11 (1)	06:16	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19		21:58	26	06:32 (1)	21:57	06:38 (1)	21:13	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52		05:20		06:06 (1)	05:33	06:12 (1)	06:17	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21		21:59	26	06:32 (1)	21:57	06:38 (1)	21:11	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50		05:20		06:07 (1)	05:34	06:13 (1)	06:19	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23		22:00	26	06:33 (1)	21:56	06:39 (1)	21:09	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49		05:19		06:07 (1)	05:35	06:13 (1)	06:21	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24		22:00	26	06:33 (1)	21:55	06:39 (1)	21:07	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47		05:19		06:06 (1)	05:36	06:13 (1)	06:22	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26		22:01	26	06:32 (1)	21:54	06:38 (1)	21:05	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46		05:19		06:07 (1)	05:38	06:14 (1)	06:24	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27		22:01	25	06:32 (1)	21:53	06:38 (1)	21:03	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44		05:19		06:07 (1)	05:39	06:14 (1)	06:25	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29		22:02	26	06:33 (1)	21:52	06:38 (1)	21:01	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43	06:14 (1)	05:19		06:07 (1)	05:40	06:14 (1)	06:27	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30	4 06:18 (1)	22:02	26	06:33 (1)	21:51	06:37 (1)	20:59	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41	06:11 (1)	05:19		06:08 (1)	05:41	06:15 (1)	06:29	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32	11 06:22 (1)	22:03	26	06:34 (1)	21:49	06:37 (1)	20:57	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40	06:10 (1)	05:19		06:08 (1)	05:43	06:16 (1)	06:30	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33	13 06:23 (1)	22:03	26	06:34 (1)	21:48	06:37 (1)	20:55	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	05:39	06:09 (1)	05:19		06:08 (1)	05:44	06:17 (1)	06:32	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:35	16 06:25 (1)	22:03	26	06:34 (1)	21:47	06:36 (1)	20:53	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	05:37	06:07 (1)	05:19		06:08 (1)	05:45	06:18 (1)	06:34	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36	18 06:25 (1)	22:03	26	06:34 (1)	21:46	06:35 (1)	20:51	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	05:36	06:06 (1)	05:20		06:08 (1)	05:47	06:19 (1)	06:35	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	21:37	20 06:26 (1)	22:04	26	06:34 (1)	21:44	06:34 (1)	20:49	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35	06:06 (1)	05:20		06:09 (1)	05:48	06:21 (1)	06:37	07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	21:39	21 06:27 (1)	22:04	26	06:35 (1)	21:43	06:33 (1)	20:46	19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	05:34	06:05 (1)	05:20		06:09 (1)	05:50	06:22 (1)	06:38	07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	21:40	22 06:27 (1)	22:04	26	06:35 (1)	21:42	06:31 (1)	20:44	19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	05:32	06:05 (1)	05:21		06:09 (1)	05:51		06:40	07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	21:42	23 06:28 (1)	22:04	26	06:35 (1)	21:40		20:42	19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	05:31	06:04 (1)	05:21		06:10 (1)	05:52		06:42	07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21:43	24 06:28 (1)	22:04	25	06:35 (1)	21:39		20:40	19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	05:30	06:04 (1)	05:22		06:09 (1)	05:54		06:43	07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	21:44	25 06:29 (1)	22:04	26	06:35 (1)	21:37		20:38	19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	05:29	06:04 (1)	05:22		06:10 (1)	05:55		06:45	07:36	07:27	08:21	08:48
	17:21		20:07	21:00	21:45	25 06:29 (1)	22:03	26	06:36 (1)	21:36		20:36	19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	05:28	06:05 (1)	05:23		06:10 (1)	05:57		06:47	07:37	07:29	08:22	08:48
	17:22		20:09	21:01	21:47	25 06:30 (1)	22:03	27	06:37 (1)	21:34		20:33	19:22	17:17	16:33	16:36
31	08:22		07:19		05:27	06:04 (1)				05:58		06:48		07:31		08:48
	17:24		20:10		21:48	26 06:30 (1)				21:33		20:31		17:15		16:37
Potential sun hours	259	277	367	416	485		499		502		454	381	331	266	243
Total, worst case						273		784		582					
Sun reduction						0,43		0,39		0,41					
Oper. time red.						0,95		0,95		0,95					
Wind dir. red.						0,67		0,67		0,67					
Total reduction						0,27		0,25		0,26					
Total, real						74		195		151					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:33/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion4.2M148@165Shadow receptor: Q - 3998JD85

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	05:26	06:09 (1) 05:23	06:17 (1) 06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03	21:49 26	06:35 (1) 22:03 22	06:39 (1) 21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	05:26	06:09 (1) 05:24	06:17 (1) 06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05	21:50 26	06:35 (1) 22:03 23	06:40 (1) 21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08	05:25	06:10 (1) 05:25	06:18 (1) 06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06	21:51 26	06:36 (1) 22:02 23	06:41 (1) 21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06	05:24	06:10 (1) 05:26	06:17 (1) 06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08	21:52 25	06:35 (1) 22:02 23	06:40 (1) 21:26	20:22	19:12	17:07	16:31
5	08:47	08:15	07:19	07:08	06:04	05:23	06:11 (1) 05:26	06:17 (1) 06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10	21:53 25	06:36 (1) 22:01 24	06:41 (1) 21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02	05:23	06:11 (1) 05:27	06:17 (1) 06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11	21:54 24	06:35 (1) 22:01 24	06:41 (1) 21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01	05:22	06:12 (1) 05:28	06:18 (1) 06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13	21:55 24	06:36 (1) 22:00 24	06:42 (1) 21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59	05:22	06:12 (1) 05:29	06:18 (1) 06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15	21:56 23	06:35 (1) 22:00 24	06:42 (1) 21:19	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57	05:21	06:12 (1) 05:30	06:18 (1) 06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16	21:57 23	06:35 (1) 21:59 25	06:43 (1) 21:17	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55	05:21	06:12 (1) 05:31	06:17 (1) 06:14	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18	21:58 23	06:35 (1) 21:58 25	06:42 (1) 21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54	05:20	06:13 (1) 05:32	06:17 (1) 06:16	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19	21:58 22	06:35 (1) 21:57 26	06:43 (1) 21:13	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52	05:20	06:13 (1) 05:33	06:17 (1) 06:17	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21	21:59 22	06:35 (1) 21:57 26	06:43 (1) 21:11	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50	05:20	06:14 (1) 05:34	06:18 (1) 06:19	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23	22:00 22	06:36 (1) 21:56 26	06:44 (1) 21:09	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49 06:19 (1)	05:19	06:14 (1) 05:35	06:18 (1) 06:21	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24 5	06:24 (1) 22:00 22	06:36 (1) 21:55 26	06:44 (1) 21:07	19:59	18:50	16:51	16:28
15	08:42	07:56	06:56	06:45	05:47 06:15 (1)	05:19	06:14 (1) 05:36	06:18 (1) 06:22	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26 12	06:27 (1) 22:01 21	06:35 (1) 21:54 26	06:44 (1) 21:05	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46 06:14 (1)	05:19	06:14 (1) 05:38	06:18 (1) 06:24	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27 15	06:29 (1) 22:01 21	06:35 (1) 21:53 26	06:44 (1) 21:03	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44 06:13 (1)	05:19	06:15 (1) 05:39	06:18 (1) 06:25	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29 17	06:30 (1) 22:02 20	06:35 (1) 21:52 26	06:44 (1) 21:01	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43 06:11 (1)	05:19	06:15 (1) 05:40	06:18 (1) 06:27	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30 19	06:30 (1) 22:02 20	06:35 (1) 21:51 26	06:44 (1) 20:59	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41 06:11 (1)	05:19	06:16 (1) 05:41	06:18 (1) 06:29	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32 20	06:31 (1) 22:03 20	06:36 (1) 21:49 25	06:43 (1) 20:57	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40 06:11 (1)	05:19	06:16 (1) 05:43	06:19 (1) 06:30	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33 21	06:32 (1) 22:03 20	06:36 (1) 21:48 25	06:44 (1) 20:55	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	05:39 06:10 (1)	05:19	06:16 (1) 05:44	06:19 (1) 06:32	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:35 23	06:33 (1) 22:03 20	06:36 (1) 21:47 25	06:44 (1) 20:53	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	05:37 06:09 (1)	05:19	06:16 (1) 05:45	06:20 (1) 06:34	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36 24	06:33 (1) 22:03 20	06:36 (1) 21:46 23	06:43 (1) 20:51	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	05:36 06:09 (1)	05:20	06:16 (1) 05:47	06:20 (1) 06:35	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	21:37 24	06:33 (1) 22:04 20	06:36 (1) 21:44 22	06:42 (1) 20:49	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35 06:09 (1)	05:20	06:17 (1) 05:48	06:21 (1) 06:37	07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	21:39 25	06:34 (1) 22:04 20	06:37 (1) 21:43 22	06:43 (1) 20:46	19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	05:34 06:09 (1)	05:20	06:17 (1) 05:50	06:22 (1) 06:38	07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	21:40 25	06:34 (1) 22:04 20	06:37 (1) 21:42 20	06:42 (1) 20:44	19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	05:32 06:09 (1)	05:21	06:16 (1) 05:51	06:22 (1) 06:40	07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	21:42 25	06:34 (1) 22:04 21	06:37 (1) 21:40 18	06:40 (1) 20:42	19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	05:31 06:09 (1)	05:21	06:17 (1) 05:52	06:24 (1) 06:42	07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21:43 25	06:34 (1) 22:04 21	06:38 (1) 21:39 16	06:40 (1) 20:40	19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	05:30 06:09 (1)	05:22	06:17 (1) 05:54	06:25 (1) 06:43	07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	21:44 26	06:35 (1) 22:04 21	06:38 (1) 21:37 13	06:38 (1) 20:38	19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	05:29 06:09 (1)	05:22	06:17 (1) 05:55	06:28 (1) 06:45	07:36	07:27	08:21	08:48
	17:21		20:07	21:00	21:45 26	06:35 (1) 22:03 22	06:39 (1) 21:36 9	06:37 (1) 20:36	19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	05:28 06:10 (1)	05:23	06:18 (1) 05:57	06:47	07:37	07:29	08:22	08:48
	17:22		20:09	21:01	21:47 26	06:36 (1) 22:03 21	06:39 (1) 21:34	20:33	19:22	17:17	16:33	16:36
31	08:22		07:19		05:27 06:09 (1)		05:58	06:48		07:31		08:48
	17:24		20:10		21:48 26	06:35 (1)	21:33	20:31		17:15		16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case					384	661	663					
Sun reduction					0,43	0,39	0,41					
Oper. time red.					0,95	0,95	0,95					
Wind dir. red.					0,67	0,67	0,67					
Total reduction					0,27	0,25	0,26					
Total, real					104	164	171					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:33/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion4.2M148@165Shadow receptor: R - 3998JD92

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	06:45 (2)	05:26	06:00 (1)	05:23	06:04 (1)	06:00		06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03	20 07:05 (2)	21:49	23 06:23 (1)	22:03	27 06:31 (1)	21:31		20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	06:45 (2)	05:26	05:59 (1)	05:24	06:05 (1)	06:01		06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05	19 07:04 (2)	21:50	24 06:23 (1)	22:03	26 06:31 (1)	21:29		20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08	06:47 (2)	05:25	06:00 (1)	05:25	06:05 (1)	06:03		06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06	17 07:04 (2)	21:51	24 06:24 (1)	22:02	27 06:32 (1)	21:28		20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06	06:47 (2)	05:24	05:59 (1)	05:26	06:05 (1)	06:05		06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08	15 07:02 (2)	21:52	25 06:24 (1)	22:02	26 06:31 (1)	21:26		20:22	19:12	17:07	16:31
5	08:47	08:14	07:19	07:08	06:04	06:48 (2)	05:23	06:00 (1)	05:26	06:05 (1)	06:06		06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10	13 07:01 (2)	21:53	25 06:25 (1)	22:01	26 06:31 (1)	21:24		20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02	06:49 (2)	05:23	05:59 (1)	05:27	06:06 (1)	06:08	07:01 (2)	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11	10 06:59 (2)	21:54	26 06:25 (1)	22:01	26 06:32 (1)	21:22	6 07:07 (2)	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01	06:54 (2)	05:22	06:00 (1)	05:28	06:06 (1)	06:09	06:59 (2)	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13	1 06:55 (2)	21:55	26 06:26 (1)	22:00	26 06:32 (1)	21:21	11 07:10 (2)	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59		05:22	05:59 (1)	05:29	06:07 (1)	06:11	06:57 (2)	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15		21:56	27 06:26 (1)	22:00	25 06:32 (1)	21:19	14 07:11 (2)	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57		05:21	06:00 (1)	05:30	06:07 (1)	06:12	06:56 (2)	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16		21:57	26 06:26 (1)	21:59	25 06:32 (1)	21:17	16 07:12 (2)	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55		05:21	05:59 (1)	05:31	06:07 (1)	06:14	06:55 (2)	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18		21:58	27 06:26 (1)	21:58	24 06:31 (1)	21:15	18 07:13 (2)	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54		05:20	06:00 (1)	05:32	06:07 (1)	06:16	06:55 (2)	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19		21:58	26 06:26 (1)	21:57	24 06:31 (1)	21:13	19 07:14 (2)	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52		05:20	06:00 (1)	05:33	06:08 (1)	06:17	06:53 (2)	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21		21:59	27 06:27 (1)	21:57	22 06:30 (1)	21:11	20 07:13 (2)	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50		05:20	06:01 (1)	05:34	06:09 (1)	06:19	06:54 (2)	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23		22:00	26 06:27 (1)	21:56	22 06:31 (1)	21:09	20 07:14 (2)	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49		05:19	06:01 (1)	05:35	06:10 (1)	06:21	06:53 (2)	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24		22:00	27 06:28 (1)	21:55	21 06:31 (1)	21:07	21 07:14 (2)	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47		05:19	06:00 (1)	05:36	06:10 (1)	06:22	06:53 (2)	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26		22:01	27 06:27 (1)	21:54	20 06:30 (1)	21:05	21 07:14 (2)	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46		05:19	06:00 (1)	05:38	06:11 (1)	06:24	06:53 (2)	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27		22:01	27 06:27 (1)	21:53	19 06:30 (1)	21:03	20 07:13 (2)	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44		05:19	06:01 (1)	05:39	06:12 (1)	06:25	06:53 (2)	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29		22:02	27 06:28 (1)	21:52	17 06:29 (1)	21:01	20 07:13 (2)	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43		05:19	06:01 (1)	05:40	06:13 (1)	06:27	06:54 (2)	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30		22:02	27 06:28 (1)	21:51	15 06:28 (1)	20:59	17 07:11 (2)	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41		05:19	06:02 (1)	05:41	06:14 (1)	06:29	06:56 (2)	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32		22:03	27 06:29 (1)	21:49	12 06:26 (1)	20:57	15 07:11 (2)	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40		05:19	06:02 (1)	05:43	06:17 (1)	06:30	06:57 (2)	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33		22:03	27 06:29 (1)	21:48	9 06:26 (1)	20:55	12 07:09 (2)	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	06:56 (2)	05:39	05:19	06:02 (1)	05:44	06:20 (1)	06:32	06:59 (2)	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	3 06:59 (2)	21:35	22:03	27 06:29 (1)	21:47	2 06:22 (1)	20:53	8 07:07 (2)	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	06:54 (2)	05:37	05:19	06:02 (1)	05:45		06:34		07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	9 07:03 (2)	21:36	22:03	27 06:29 (1)	21:46		20:51		19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	06:52 (2)	05:36	06:07 (1)	05:20	06:02 (1)	05:47	06:35		07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	12 07:04 (2)	21:37	7 06:14 (1)	22:04	27 06:29 (1)	21:44	20:49		19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	06:50 (2)	05:35	06:05 (1)	05:20	06:03 (1)	05:48	06:37		07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	15 07:05 (2)	21:39	11 06:16 (1)	22:04	27 06:30 (1)	21:43	20:46		19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	06:48 (2)	05:34	06:04 (1)	05:20	06:03 (1)	05:50	06:38		07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	18 07:06 (2)	21:40	14 06:18 (1)	22:04	27 06:30 (1)	21:42	20:44		19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	06:47 (2)	05:32	06:03 (1)	05:21	06:02 (1)	05:51	06:40		07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	19 07:06 (2)	21:42	16 06:19 (1)	22:04	27 06:29 (1)	21:40	20:42		19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	06:46 (2)	05:31	06:02 (1)	05:21	06:03 (1)	05:52	06:42		07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	20 07:06 (2)	21:43	18 06:20 (1)	22:04	27 06:30 (1)	21:39	20:40		19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	06:46 (2)	05:30	06:01 (1)	05:22	06:03 (1)	05:54	06:43		07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	20 07:06 (2)	21:44	19 06:20 (1)	22:04	27 06:30 (1)	21:37	20:38		19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	06:45 (2)	05:29	06:00 (1)	05:22	06:04 (1)	05:55	06:45		07:36	07:27	08:21	08:48
	17:21		20:07	21:00	21 07:06 (2)	21:45	21 06:21 (1)	22:03	27 06:31 (1)	21:36	20:36		19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	06:45 (2)	05:28	06:01 (1)	05:23	06:04 (1)	05:57	06:47		07:37	07:29	08:22	08:48
	17:22		20:08	21:01	20 07:05 (2)	21:47	21 06:22 (1)	22:03	27 06:31 (1)	21:34	20:33		19:22	17:17	16:33	16:36
31	08:22		07:19			05:27	06:00 (1)			05:58	06:48			07:31		08:48
	17:24		20:10			21:48	23 06:23 (1)			21:33	20:31			17:15		16:37
Potential sun hours	259	277	367	416		485		499		502		454		381	331	266	243
Total, worst case					157		245		791		441		258				
Sun reduction					0,42		0,43		0,39		0,41		0,42				
Oper. time red.					0,95		0,95		0,95		0,95		0,95				
Wind dir. red.					0,64		0,66		0,67		0,67		0,64				
Total reduction					0,25		0,27		0,25		0,26		0,25				
Total, real					40		66		197		114		65				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:33/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion4.2M148@165Shadow receptor: S - 3998NA1

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 16:38	08:21 17:26	07:27 18:18	07:17 20:12	06:12 21:03 (22)	06:47 (2) 07:09 (2)	05:26 21:49 (19)	06:01 (1) 06:20 (1)	05:23 22:03 (26)	06:03 (1) 06:29 (1)	06:00 21:31	06:50 20:29	07:39 19:19	07:33 17:13	08:24 16:32
2	08:48 16:39	08:19 17:28	07:25 18:20	07:14 20:14	06:10 21:05 (21)	06:47 (2) 07:08 (2)	05:26 21:50 (20)	06:00 (1) 06:20 (1)	05:24 22:03 (27)	06:03 (1) 06:30 (1)	06:01 21:29	06:51 20:27	07:41 19:17	07:35 17:11	08:25 16:32
3	08:48 16:40	08:18 17:30	07:23 18:21	07:12 20:15	06:08 21:06 (20)	06:48 (2) 07:08 (2)	05:25 21:51 (22)	06:00 (1) 06:22 (1)	05:25 22:02 (26)	06:04 (1) 06:30 (1)	06:03 21:28	06:53 20:24	07:42 19:15	07:36 17:09	08:27 16:31
4	08:47 16:41	08:16 17:32	07:21 18:23	07:10 20:17	06:06 21:08 (18)	06:49 (2) 07:07 (2)	05:24 21:52 (23)	05:59 (1) 06:22 (1)	05:26 22:02 (25)	06:04 (1) 06:29 (1)	06:05 21:26	06:55 20:22	07:44 19:12	07:38 17:07	08:28 16:31
5	08:47 16:43	08:14 17:33	07:19 18:25	07:08 20:19	06:04 21:10 (16)	06:49 (2) 07:05 (2)	05:23 21:53 (23)	05:59 (1) 06:22 (1)	05:26 22:01 (26)	06:04 (1) 06:30 (1)	06:06 21:24 (5)	07:05 (2) 07:10 (2)	06:56 20:20	07:46 19:10	07:40 17:06	08:29 16:30
6	08:47 16:44	08:13 17:35	07:16 18:27	07:05 20:20	06:02 21:11 (13)	06:50 (2) 07:03 (2)	05:23 21:54 (24)	05:59 (1) 06:23 (1)	05:27 22:01 (25)	06:05 (1) 06:30 (1)	06:08 21:22 (10)	07:02 (2) 07:12 (2)	06:58 20:17	07:47 19:08	07:42 17:04	08:31 16:30
7	08:46 16:45	08:11 17:37	07:14 18:29	07:03 20:22	06:01 21:13 (9)	06:53 (2) 07:02 (2)	05:22 21:55 (25)	05:58 (1) 06:23 (1)	05:28 22:00 (24)	06:06 (1) 06:30 (1)	06:09 21:21 (14)	07:00 (2) 07:14 (2)	07:00 20:15	07:49 19:05	07:44 17:02	08:32 16:29
8	08:46 16:46	08:09 17:39	07:12 18:30	07:01 20:24	05:59 21:15	05:22 21:56 (25)	05:59 (1) 06:24 (1)	05:29 22:00 (23)	06:07 (1) 06:30 (1)	06:11 21:19 (16)	06:59 (2) 07:15 (2)	07:01 20:13	07:51 19:03	07:45 17:01	08:33 16:29
9	08:46 16:48	08:08 17:41	07:10 18:32	06:58 20:26	05:57 21:16	05:21 21:57 (26)	05:59 (1) 06:25 (1)	05:30 21:59 (22)	06:07 (1) 06:29 (1)	06:12 21:17 (19)	06:58 (2) 07:17 (2)	07:03 20:11	07:52 19:01	07:47 16:59	08:34 16:29
10	08:45 16:49	08:06 17:43	07:07 18:34	06:56 20:27	05:55 21:18	05:21 21:58 (27)	05:58 (1) 06:25 (1)	05:31 21:58 (21)	06:07 (1) 06:28 (1)	06:14 21:15 (20)	06:57 (2) 07:17 (2)	07:04 20:08	07:54 18:59	07:49 16:57	08:36 16:28
11	08:44 16:51	08:04 17:45	07:05 18:36	06:54 20:29	05:54 21:19	05:20 21:58 (26)	05:59 (1) 06:25 (1)	05:32 21:57 (20)	06:08 (1) 06:28 (1)	06:16 21:13 (21)	06:57 (2) 07:18 (2)	07:06 20:06	07:56 18:56	07:51 16:56	08:37 16:28
12	08:44 16:52	08:02 17:47	07:03 18:37	06:52 20:31	05:52 21:21	05:20 21:59 (27)	05:59 (1) 06:26 (1)	05:33 21:57 (18)	06:09 (1) 06:27 (1)	06:17 21:11 (21)	06:56 (2) 07:17 (2)	07:08 20:04	07:58 18:54	07:53 16:54	08:38 16:28
13	08:43 16:54	08:00 17:48	07:01 18:39	06:49 20:32	05:50 21:23	05:20 22:00 (27)	05:59 (1) 06:26 (1)	05:34 21:56 (16)	06:11 (1) 06:27 (1)	06:19 21:09 (22)	06:56 (2) 07:18 (2)	07:09 20:01	07:59 18:52	07:54 16:53	08:39 16:28
14	08:42 16:55	07:58 17:50	06:58 18:41	06:47 20:34	05:49 21:24	05:19 22:00 (28)	05:58 (1) 06:26 (1)	05:35 21:55 (14)	06:12 (1) 06:26 (1)	06:21 21:07 (22)	06:55 (2) 07:17 (2)	07:11 19:59	08:01 18:50	07:56 16:51	08:40 16:28
15	08:41 16:57	07:56 17:52	06:56 18:43	06:45 20:36	05:47 21:26	05:19 22:01 (27)	05:59 (1) 06:26 (1)	05:36 21:54 (12)	06:13 (1) 06:25 (1)	06:22 21:05 (23)	06:55 (2) 07:18 (2)	07:13 19:57	08:03 18:48	07:58 16:50	08:41 16:28
16	08:41 16:58	07:54 17:54	06:54 18:44	06:43 20:38	05:46 21:27	05:19 22:01 (28)	05:59 (1) 06:27 (1)	05:38 21:53 (8)	06:15 (1) 06:23 (1)	06:24 21:03 (22)	06:55 (2) 07:17 (2)	07:14 19:54	08:04 18:45	08:00 16:48	08:41 16:28
17	08:40 17:00	07:52 17:56	06:51 18:46	06:41 20:39	05:44 21:29	05:19 22:02 (28)	05:59 (1) 06:27 (1)	05:39 21:52		06:25 21:01 (22)	06:55 (2) 07:17 (2)	07:16 19:52	08:06 18:43	08:01 16:47	08:42 16:28
18	08:39 17:01	07:50 17:58	06:49 18:48	06:39 20:41	05:43 21:30	05:19 22:02 (28)	05:59 (1) 06:27 (1)	05:40 21:51		06:27 20:59 (20)	06:55 (2) 07:15 (2)	07:17 19:50	08:08 18:41	08:03 16:46	08:43 16:29
19	08:38 17:03	07:48 18:00	06:47 18:50	06:36 20:43	05:41 21:32	05:19 22:03 (28)	05:59 (1) 06:27 (1)	05:41 21:49		06:29 20:57 (19)	06:56 (2) 07:15 (2)	07:19 19:47	08:10 18:39	08:05 16:44	08:44 16:29
20	08:37 17:05	07:46 18:01	06:44 18:51	06:34 20:44	05:40 21:33	05:19 22:03 (28)	06:00 (1) 06:28 (1)	05:43 21:48		06:30 20:55 (16)	06:57 (2) 07:13 (2)	07:21 19:45	08:11 18:37	08:06 16:43	08:44 16:29
21	08:36 17:06	07:44 18:03	06:42 18:53	06:32 20:46 (9)	06:56 (2) 07:05 (2) 21:35	05:19 22:03 (28)	06:00 (1) 06:28 (1)	05:44 21:47		06:32 20:53 (13)	06:59 (2) 07:12 (2)	07:22 19:42	08:13 18:35	08:08 16:42	08:45 16:30
22	08:35 17:08	07:42 18:05	06:40 18:55	06:30 20:48 (13)	06:54 (2) 07:07 (2) 21:36	05:19 22:03 (28)	06:00 (1) 06:28 (1)	05:45 21:46		06:33 20:51 (7)	07:01 (2) 07:08 (2)	07:24 19:40	08:15 18:33	08:10 16:41	08:45 16:30
23	08:33 17:10	07:40 18:07	06:38 18:56	06:28 20:49 (16)	06:52 (2) 07:08 (2) 21:37	05:20 22:04 (28)	06:00 (1) 06:28 (1)	05:47 21:44		06:35 20:49		07:26 19:38	08:17 18:31	08:11 16:40	08:46 16:31
24	08:32 17:12	07:38 18:09	06:35 18:58	06:26 20:51 (18)	06:51 (2) 07:09 (2) 21:39	05:20 22:04 (28)	06:01 (1) 06:29 (1)	05:48 21:43		06:37 20:46		07:27 19:35	08:18 18:29	08:13 16:39	08:46 16:31
25	08:31 17:13	07:36 18:11	06:33 19:00	06:24 20:53 (20)	06:50 (2) 07:10 (2) 21:40	05:20 22:04 (28)	06:01 (1) 06:29 (1)	05:50 21:42		06:38 20:44		07:29 19:33	07:20 17:27	08:15 16:38	08:47 16:32
26	08:30 17:15	07:34 18:12	06:31 19:02	06:22 20:55 (21)	06:49 (2) 07:10 (2) 21:42	05:21 22:04 (28)	06:01 (1) 06:29 (1)	05:51 21:40		06:40 20:42		07:31 19:31	07:22 17:25	08:16 16:37	08:47 16:33
27	08:28 17:17	07:32 18:14	06:28 19:03	06:20 20:56 (22)	06:48 (2) 07:10 (2) 21:43 (6)	06:07 (1) 06:13 (1) 22:04 (27)	05:21 06:29 (1)	06:02 (1) 21:39		06:42 20:40		07:32 19:28	07:24 17:23	08:18 16:36	08:47 16:33
28	08:27 17:19	07:30 18:16	06:26 19:05	06:18 20:58 (22)	06:48 (2) 07:10 (2) 21:44 (11)	06:04 (1) 06:15 (1) 22:04 (28)	05:22 06:29 (1)	06:01 (1) 21:37		06:43 20:38		07:34 19:26	07:26 17:21	08:19 16:35	08:48 16:34
29	08:25 17:21		07:24 20:07	06:16 21:00 (23)	06:47 (2) 07:10 (2) 21:45 (13)	06:03 (1) 06:16 (1) 22:03 (28)	05:22 06:30 (1)	06:02 (1) 21:36		06:45 20:35		07:36 19:24	07:27 17:19	08:21 16:34	08:48 16:35
30	08:24 17:22		07:21 20:08	06:14 21:01 (22)	06:47 (2) 07:09 (2) 21:47 (16)	06:03 (1) 06:19 (1) 22:03 (27)	05:23 06:30 (1)	06:03 (1) 21:34		06:47 20:33		07:37 19:22	07:29 17:17	08:22 16:33	08:48 16:36
31	08:22 17:24		07:19 20:10		05:27 21:48 (17)	06:02 (1) 06:19 (1)		05:58 21:33		06:48 20:31			07:31 17:15		08:48 16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case				186	182	787	333	312				
Sun reduction				0,42	0,43	0,39	0,41	0,42				
Oper. time red.				0,95	0,95	0,95	0,95	0,95				
Wind dir. red.				0,64	0,65	0,67	0,67	0,64				
Total reduction				0,25	0,26	0,25	0,26	0,25				
Total, real				47	48	196	86	79				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:33/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion4.2M148@165Shadow receptor: T - 3997MR17

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March	April	May	June	July	August	September	October	November		December		
1	08:48		09:39 (4)	08:21		14:40 (1)	07:27	07:17	06:12	05:26	05:23	06:00	06:50	07:39	07:33		14:29 (1)	08:24		09:29 (4)
	16:38	118	15:14 (1)	17:26	44	15:24 (1)	18:18	20:12	21:03	21:49	22:03	21:31	20:29	19:19	17:13	11	14:40 (1)	16:32	64	15:02 (1)
2	08:48		09:40 (4)	08:19		14:40 (1)	07:25	07:14	06:10	05:25	05:24	06:01	06:51	07:41	07:35		14:25 (1)	08:25		09:29 (4)
	16:39	114	15:15 (1)	17:28	43	15:23 (1)	18:20	20:14	21:05	21:50	22:03	21:29	20:26	19:17	17:11	19	14:44 (1)	16:32	66	15:03 (1)
3	08:48		09:41 (4)	08:18		14:42 (1)	07:23	07:12	06:08	05:25	05:25	06:03	06:53	07:42	07:36		14:21 (1)	08:27		09:28 (4)
	16:40	113	15:16 (1)	17:30	41	15:23 (1)	18:21	20:15	21:06	21:51	22:02	21:28	20:24	19:14	17:09	26	14:47 (1)	16:31	72	15:03 (1)
4	08:47		09:41 (4)	08:16		14:44 (1)	07:21	07:10	06:06	05:24	05:25	06:04	06:55	07:44	07:38		14:18 (1)	08:28		09:29 (4)
	16:41	109	15:16 (1)	17:31	38	15:22 (1)	18:23	20:17	21:08	21:52	22:02	21:26	20:22	19:12	17:07	30	14:48 (1)	16:30	82	15:03 (1)
5	08:47		09:42 (4)	08:14		14:45 (1)	07:19	07:07	06:04	05:23	05:26	06:06	06:56	07:46	07:40		14:16 (1)	08:29		09:28 (4)
	16:43	106	15:17 (1)	17:33	36	15:21 (1)	18:25	20:19	21:10	21:53	22:01	21:24	20:20	19:10	17:06	33	14:49 (1)	16:30	93	15:03 (1)
6	08:47		09:42 (4)	08:13		14:46 (1)	07:16	07:05	06:02	05:23	05:27	06:08	06:58	07:47	07:42		14:14 (1)	08:31		09:28 (4)
	16:44	101	15:17 (1)	17:35	33	15:19 (1)	18:27	20:20	21:11	21:54	22:01	21:22	20:17	19:08	17:04	37	14:51 (1)	16:30	101	15:03 (1)
7	08:46		09:43 (4)	08:11		14:48 (1)	07:14	07:03	06:00	05:22	05:28	06:09	06:59	07:49	07:44		14:13 (1)	08:32		09:29 (4)
	16:45	94	15:18 (1)	17:37	30	15:18 (1)	18:28	20:22	21:13	21:55	22:00	21:20	20:15	19:05	17:02	39	14:52 (1)	16:29	105	15:04 (1)
8	08:46		09:44 (4)	08:09		14:52 (1)	07:12	07:01	05:59	05:21	05:29	06:11	07:01	07:51	07:45		14:12 (1)	08:33		09:29 (4)
	16:46	84	15:18 (1)	17:39	25	15:17 (1)	18:30	20:24	21:15	21:56	22:00	21:19	20:13	19:03	17:00	41	14:53 (1)	16:29	108	15:04 (1)
9	08:45		09:45 (4)	08:08		14:56 (1)	07:10	06:58	05:57	05:21	05:30	06:12	07:03	07:52	07:47		14:11 (1)	08:34		09:29 (4)
	16:48	73	15:20 (1)	17:41	18	15:14 (1)	18:32	20:26	21:16	21:57	21:59	21:17	20:10	19:01	16:59	43	14:54 (1)	16:28	112	15:04 (1)
10	08:45		09:46 (4)	08:06		15:01 (1)	07:07	06:56	05:55	05:20	05:31	06:14	07:04	07:54	07:49		14:11 (1)	08:35		09:29 (4)
	16:49	66	15:20 (1)	17:43	8	15:09 (1)	18:34	20:27	21:18	21:58	21:58	21:15	20:08	18:59	16:57	44	14:55 (1)	16:28	114	15:04 (1)
11	08:44		09:47 (4)	08:04			07:05	06:54	05:54	05:20	05:32	06:16	07:06	07:56	07:51		14:10 (1)	08:37		09:29 (4)
	16:51	64	15:20 (1)	17:45			18:36	20:29	21:19	21:58	21:57	21:13	20:06	18:56	16:56	46	14:56 (1)	16:28	117	15:04 (1)
12	08:44		09:48 (4)	08:02			07:03	06:52	05:52	05:20	05:33	06:17	07:08	07:57	07:53		14:09 (1)	08:38		09:30 (4)
	16:52	64	15:21 (1)	17:46			18:37	20:31	21:21	21:59	21:56	21:11	20:03	18:54	16:54	47	14:56 (1)	16:28	117	15:05 (1)
13	08:43		09:49 (4)	08:00			07:00	06:49	05:50	05:19	05:34	06:19	07:09	07:59	07:54		14:09 (1)	08:39		09:31 (4)
	16:53	62	15:21 (1)	17:48			18:39	20:32	21:23	22:00	21:56	21:09	20:01	18:52	16:53	48	14:57 (1)	16:28	119	15:05 (1)
14	08:42		09:51 (4)	07:58			06:58	06:47	05:49	05:19	05:35	06:20	07:11	08:01	07:56		14:09 (1)	08:40		09:31 (4)
	16:55	59	15:22 (1)	17:50			18:41	20:34	21:24	22:00	21:55	21:07	19:59	18:50	16:51	49	14:58 (1)	16:28	120	15:05 (1)
15	08:41		09:55 (4)	07:56			06:56	06:45	05:47	05:19	05:36	06:22	07:13	08:03	07:58		14:09 (1)	08:40		09:31 (4)
	16:57	54	15:23 (1)	17:52			18:43	20:36	21:26	22:01	21:54	21:05	19:56	18:47	16:50	49	14:58 (1)	16:28	122	15:05 (1)
16	08:41		14:31 (1)	07:54			06:54	06:43	05:46	05:19	05:38	06:24	07:14	08:04	08:00		14:09 (1)	08:41		09:31 (4)
	16:58	52	15:23 (1)	17:54			18:44	20:37	21:27	22:01	21:53	21:03	19:54	18:45	16:48	50	14:59 (1)	16:28	121	15:05 (1)
17	08:40		14:32 (1)	07:52			06:51	06:41	05:44	05:19	05:39	06:25	07:16	08:06	08:01		14:09 (1)	08:42		09:32 (4)
	17:00	51	15:23 (1)	17:56			18:46	20:39	21:29	22:02	21:52	21:01	19:52	18:43	16:47	50	14:59 (1)	16:28	123	15:06 (1)
18	08:39		14:32 (1)	07:50			06:49	06:38	05:43	05:19	05:40	06:27	07:17	08:08	08:03		14:09 (1)	08:43		09:33 (4)
	17:01	52	15:24 (1)	17:58			18:48	20:41	21:30	22:02	21:51	20:59	19:49	18:41	16:46	51	15:00 (1)	16:29	122	15:06 (1)
19	08:38		14:32 (1)	07:48			06:47	06:36	05:41	05:19	05:41	06:28	07:19	08:10	08:05		14:08 (1)	08:44		09:32 (4)
	17:03	52	15:24 (1)	17:59			18:50	20:43	21:32	22:03	21:49	20:57	19:47	18:39	16:44	51	14:59 (1)	16:29	124	15:06 (1)
20	08:37		14:33 (1)	07:46			06:44	06:34	05:40	05:19	05:43	06:30	07:21	08:11	08:06		14:08 (1)	08:44		09:33 (4)
	17:05	52	15:25 (1)	18:01			18:51	20:44	21:33	22:03	21:48	20:55	19:45	18:37	16:43	52	15:00 (1)	16:29	124	15:07 (1)
21	08:36		14:34 (1)	07:44			06:42	06:32	05:38	05:19	05:44	06:32	07:22	08:13	08:08		14:09 (1)	08:45		09:34 (4)
	17:06	51	15:25 (1)	18:03			18:53	20:46	21:35	22:03	21:47	20:53	19:42	18:35	16:42	51	15:00 (1)	16:30	124	15:08 (1)
22	08:34		14:33 (1)	07:42			06:40	06:30	05:37	05:19	05:45	06:33	07:24	08:15	08:10		14:09 (1)	08:45		09:34 (4)
	17:08	52	15:25 (1)	18:05			18:55	20:48	21:36	22:03	21:46	20:51	19:40	18:33	16:41	52	15:01 (1)	16:30	124	15:08 (1)
23	08:33		14:34 (1)	07:40			06:37	06:28	05:36	05:20	05:47	06:35	07:26	08:17	08:11		14:09 (1)	08:46		09:34 (4)
	17:10	51	15:25 (1)	18:07			18:56	20:49	21:37	22:04	21:44	20:49	19:38	18:31	16:40	52	15:01 (1)	16:31	124	15:08 (1)
24	08:32		14:35 (1)	07:38			06:35	06:26	05:35	05:20	05:48	06:37	07:27	08:18	08:13		14:09 (1)	08:46		09:35 (4)
	17:12	51	15:26 (1)	18:09			18:58	20:51	21:39	22:04	21:43	20:46	19:35	18:28	16:38	52	15:01 (1)	16:31	124	15:09 (1)
25	08:31		14:35 (1)	07:36			06:33	06:24	05:33	05:20	05:49	06:38	07:29	07:20	08:15		14:10 (1)	08:47		09:35 (4)
	17:13	50	15:25 (1)	18:10			19:00	20:53	21:40	22:04	21:42	20:44	19:33	17:26	16:37	51	15:01 (1)	16:32	123	15:09 (1)
26	08:30		14:36 (1)	07:34			06:30	06:22	05:32	05:21	05:51	06:40	07:31	07:22	08:16		14:10 (1)	08:47		09:36 (4)
	17:15	50	15:26 (1)	18:12			19:02	20:54	21:41	22:04	21:40	20:42	19:31	17:24	16:36	52	15:02 (1)	16:32	123	15:10 (1)
27	08:28		14:36 (1)	07:32			06:28	06:20	05:31	05:21	05:52	06:42	07:32	07:24	08:18		09:34 (4)	08:47		09:37 (4)
	17:17	49	15:25 (1)	18:14			19:03	20:56	21:43	22:04	21:39	20:40	19:28	17:22	16:36	54	15:02 (1)	16:33	123	15:11 (1)
28	08:27		14:37 (1)	07:30			06:26	06:18	05:30	05:21	05:54	06:43	07:34	07:26	08:19		09:31 (4)	08:48		09:37 (4)
	17:19	49	15:26 (1)	18:16			19:05	20:58	21:44	22:03	21:37	20:38	19:26	17:20	16:35	59	15:02 (1)	16:34	123	15:12 (1)
29	08:25		14:37 (1)				07:24	06:16	05:29	05:22	05:55	06:45	07:35	07:27	08:21		09:30 (4)	08:48		09:38 (4)
	17:20	48	15:25 (1)				20:07	21:00	21:45	22:03	21:36	20:35	19:24	17:19	16:34	62	15:02 (1)	16:35	120	15:12 (1)
30	08:24		14:38 (1)				07:21	06:14	05:28	05:23	05:57	06:46	07:37	07:29	08:22		09:30 (4)	08:48		09:38 (4)
	17:22	46	15:24 (1)				20:08	21:01	21:47	22:03	21:34	20:33	19:21	17:17	16:33	64	15:03 (1)	16:36	121	15:13 (1)
31	08:22		14:39 (1)				07:19		05:27		05:58	06:48		07:31				08:48		09:38 (4)
	17:24	46	15:25 (1)				20:10		21:48		21:33	20:31		17:15				16:37	119	15:13 (1)
Potential sun hours	259			277		367	416	485	499	502	454	381	331		266			243		
Total, worst case		2083			316											1365			3474	
Sun reduction		0,24			0,30											0,24			0,20	
Oper. time red.		0,95			0,95											0,95			0,95	
Wind dir. red.		0,67			0,70											0,69			0,65	
Total reduction		0,15			0,20											0,15			0,13	
Total, real		318			63											211			437	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:33/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion4.2M148@165Shadow receptor: U - 3945LA4

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December		
1	08:48		13:47 (3)	08:21		16:13 (2)	07:27		17:36 (1)	07:17	06:12	05:26	05:23	06:00	06:50		07:39		18:06 (1)	07:33		15:39 (2)	08:24		13:38 (3)
	16:38	39	14:26 (3)	17:26	27	16:40 (2)	18:18	10	17:46 (1)	20:12	21:03	21:49	22:03	21:31	20:29		19:19	25	18:31 (1)	17:13	37	16:16 (2)	16:32	30	14:08 (3)
2	08:48		13:48 (3)	08:19		16:12 (2)	07:25		17:33 (1)	07:14	06:10	05:25	05:24	06:01	06:51		07:40		18:05 (1)	07:35		15:39 (2)	08:25		13:38 (3)
	16:39	38	14:26 (3)	17:28	29	16:41 (2)	18:19	16	17:49 (1)	20:13	21:05	21:50	22:02	21:29	20:26		19:17	26	18:31 (1)	17:11	37	16:16 (2)	16:32	31	14:09 (3)
3	08:48		13:49 (3)	08:18		16:12 (2)	07:23		17:31 (1)	07:12	06:08	05:25	05:25	06:03	06:53		07:42		18:03 (1)	07:36		15:39 (2)	08:27		13:37 (3)
	16:40	38	14:27 (3)	17:30	31	16:43 (2)	18:21	19	17:50 (1)	20:15	21:06	21:51	22:02	21:27	20:24		19:14	28	18:31 (1)	17:09	36	16:15 (2)	16:31	33	14:10 (3)
4	08:47		13:49 (3)	08:16		16:11 (2)	07:21		17:30 (1)	07:10	06:06	05:24	05:25	06:04	06:55		07:44		18:03 (1)	07:38		15:39 (2)	08:28		13:38 (3)
	16:41	37	14:26 (3)	17:31	32	16:43 (2)	18:23	22	17:52 (1)	20:17	21:08	21:52	22:02	21:26	20:22		19:12	28	18:31 (1)	17:07	36	16:15 (2)	16:30	33	14:11 (3)
5	08:47		13:50 (3)	08:14		16:10 (2)	07:18		17:29 (1)	07:07	06:04	05:23	05:26	06:06	06:56		07:45		18:03 (1)	07:40		15:40 (2)	08:29		13:37 (3)
	16:42	37	14:27 (3)	17:33	34	16:44 (2)	18:25	24	17:53 (1)	20:19	21:10	21:53	22:01	21:24	20:20		19:10	28	18:31 (1)	17:06	34	16:14 (2)	16:30	35	14:12 (3)
6	08:47		13:51 (3)	08:13		16:10 (2)	07:16		17:27 (1)	07:05	06:02	05:23	05:27	06:08	06:58		07:47		18:02 (1)	07:42		15:40 (2)	08:31		13:37 (3)
	16:44	35	14:26 (3)	17:35	35	16:45 (2)	18:27	26	17:53 (1)	20:20	21:11	21:54	22:01	21:22	20:17		19:08	27	18:29 (1)	17:04	34	16:14 (2)	16:29	35	14:12 (3)
7	08:46		13:52 (3)	08:11		16:09 (2)	07:14		17:27 (1)	07:03	06:00	05:22	05:28	06:09	06:59		07:49		18:03 (1)	07:44		15:41 (2)	08:32		13:37 (3)
	16:45	35	14:27 (3)	17:37	36	16:45 (2)	18:28	26	17:53 (1)	20:22	21:13	21:55	22:00	21:20	20:15		19:05	26	18:29 (1)	17:02	32	16:13 (2)	16:29	37	14:14 (3)
8	08:46		13:53 (3)	08:09		16:10 (2)	07:12		17:26 (1)	07:01	05:59	05:21	05:29	06:11	07:01		07:51		18:03 (1)	07:45		15:42 (2)	08:33		13:37 (3)
	16:46	33	14:26 (3)	17:39	36	16:46 (2)	18:30	28	17:54 (1)	20:24	21:14	21:56	21:59	21:19	20:13		19:03	25	18:28 (1)	17:00	30	16:12 (2)	16:29	37	14:14 (3)
9	08:45		13:54 (3)	08:07		16:10 (2)	07:10		17:26 (1)	06:58	05:57	05:21	05:30	06:12	07:03		07:52		18:04 (1)	07:47		15:43 (2)	08:34		13:37 (3)
	16:48	33	14:27 (3)	17:41	37	16:47 (2)	18:32	28	17:54 (1)	20:25	21:16	21:57	21:59	21:17	20:10		19:01	23	18:27 (1)	16:59	29	16:12 (2)	16:28	38	14:15 (3)
10	08:45		13:55 (3)	08:06		16:09 (2)	07:07		17:25 (1)	06:56	05:55	05:20	05:31	06:14	07:04		07:54		18:04 (1)	07:49		15:44 (2)	08:35		13:37 (3)
	16:49	31	14:26 (3)	17:43	38	16:47 (2)	18:34	28	17:53 (1)	20:27	21:18	21:57	21:58	21:15	20:08		18:59	21	18:25 (1)	16:57	26	16:10 (2)	16:28	38	14:15 (3)
11	08:44		13:56 (3)	08:04		16:09 (2)	07:05		17:26 (1)	06:54	05:53	05:20	05:32	06:16	07:06		07:56		18:05 (1)	07:51		15:45 (2)	08:37		13:37 (3)
	16:50	30	14:26 (3)	17:45	38	16:47 (2)	18:35	27	17:53 (1)	20:29	21:19	21:58	21:57	21:13	20:06		18:56	18	18:23 (1)	16:56	24	16:09 (2)	16:28	39	14:16 (3)
12	08:44		13:57 (3)	08:02		16:09 (2)	07:03		17:26 (1)	06:52	05:52	05:20	05:33	06:17	07:08		07:57		18:07 (1)	07:52		15:47 (2)	08:38		13:37 (3)
	16:52	28	14:25 (3)	17:46	38	16:47 (2)	18:37	26	17:52 (1)	20:31	21:21	21:59	21:56	21:11	20:03		18:54	14	18:21 (1)	16:54	21	16:08 (2)	16:28	39	14:16 (3)
13	08:43		13:58 (3)	08:00		16:10 (2)	07:00		17:26 (1)	06:49	05:50	05:19	05:34	06:19	07:09		07:59		18:11 (1)	07:54		15:49 (2)	08:39		13:38 (3)
	16:53	27	14:25 (3)	17:48	37	16:47 (2)	18:39	25	17:51 (1)	20:32	21:22	22:00	21:56	21:09	20:01		18:52	7	18:18 (1)	16:52	17	16:06 (2)	16:28	40	14:18 (3)
14	08:42		14:00 (3)	07:58		16:10 (2)	06:58		17:27 (1)	06:47	05:49	05:19	05:35	06:20	07:11		08:01			07:56		15:52 (2)	08:40		13:38 (3)
	16:55	24	14:24 (3)	17:50	36	16:46 (2)	18:41	23	17:50 (1)	20:34	21:24	22:00	21:55	21:07	19:59		18:50			16:51	12	16:04 (2)	16:28	39	14:17 (3)
15	08:41		14:02 (3)	07:56		16:10 (2)	06:56		17:29 (1)	06:45	05:47	05:19	05:36	06:22	07:12		08:03			07:58			08:40		13:38 (3)
	16:56	21	14:23 (3)	17:52	36	16:46 (2)	18:43	20	17:49 (1)	20:36	21:26	22:01	21:54	21:05	19:56		18:47			16:50			16:28	40	14:18 (3)
16	08:41		14:05 (3)	07:54		16:11 (2)	06:54		17:30 (1)	06:43	05:46	05:19	05:37	06:24	07:14		08:04			08:00			08:41		13:39 (3)
	16:58	16	14:21 (3)	17:54	35	16:46 (2)	18:44	16	17:46 (1)	20:37	21:27	22:01	21:53	21:03	19:54		18:45			16:48			16:28	40	14:19 (3)
17	08:40		14:09 (3)	07:52		16:12 (2)	06:51		17:32 (1)	06:41	05:44	05:19	05:39	06:25	07:16		08:06			08:01			08:42		13:39 (3)
	17:00	10	14:19 (3)	17:56	33	16:45 (2)	18:46	12	17:44 (1)	20:39	21:29	22:02	21:52	21:01	19:52		18:43			16:47			16:28	41	14:20 (3)
18	08:39			07:50		16:13 (2)	06:49			06:38	05:43	05:19	05:40	06:27	07:17		08:08		16:56 (2)	08:03			08:43		13:40 (3)
	17:01			17:58	31	16:44 (2)	18:48			20:41	21:30	22:02	21:50	20:59	19:49		18:41	7	17:03 (2)	16:45			16:28	40	14:20 (3)
19	08:38			07:48		16:14 (2)	06:47			06:36	05:41	05:19	05:41	06:28	07:19		08:10		16:52 (2)	08:05			08:44		13:40 (3)
	17:03			17:59	29	16:43 (2)	18:49			20:43	21:32	22:02	21:49	20:57	19:47		18:39	16	17:08 (2)	16:44			16:29	40	14:20 (3)
20	08:37			07:46		16:14 (2)	06:44			06:34	05:40	05:19	05:43	06:30	07:21		08:11		16:49 (2)	08:06			08:44		13:40 (3)
	17:05			18:01	27	16:41 (2)	18:51			20:44	21:33	22:03	21:48	20:55	19:45		18:37	21	17:10 (2)	16:43			16:29	41	14:21 (3)
21	08:36			07:44		16:16 (2)	06:42			06:32	05:38	05:19	05:44	06:32	07:22		08:13		16:47 (2)	08:08			08:45		13:41 (3)
	17:06			18:03	24	16:40 (2)	18:53			20:46	21:35	22:03	21:47	20:53	19:42		18:35	25	17:12 (2)	16:42			16:30	41	14:22 (3)
22	08:34			07:42		16:19 (2)	06:40			06:30	05:37	05:19	05:45	06:33	07:24		08:15		16:44 (2)	08:10			08:45		13:41 (3)
	17:08			18:05	19	16:38 (2)	18:55			20:48	21:36	22:03	21:46	20:51	19:40		18:33	28	17:12 (2)	16:41			16:30	41	14:22 (3)
23	08:33			07:40		16:22 (2)	06:37			06:28	05:36	05:19	05:47	06:35	07:26		08:17		16:43 (2)	08:11			08:46		13:41 (3)
	17:10			18:07	13	16:35 (2)	18:56			20:49	21:37	22:03	21:44	20:48	19:38		18:30	30	17:13 (2)	16:39			16:31	41	14:22 (3)
24	08:32			07:38			06:35			06:26	05:35	05:20	05:48	06:37	07:27		08:18		16:42 (2)	08:13			08:46		13:43 (3)
	17:11			18:09			18:58			20:51	21:39	22:04	21:43	20:46	19:35		18:28	32	17:14 (2)	16:38			16:31	40	14:23 (3)
25	08:31			07:36			06:33			06:24	05:33	05:20	05:49	06:38	07:29		07:20		15:41 (2)	08:15		13:47 (3)	08:47		13:43 (3)
	17:13			18:10			19:00			20:53	21:40	22:04	21:42	20:44	19:33		17:26	34	16:15 (2)	16:37	10	13:57 (3)	16:32	40	14:23 (3)
26	08:29			07:34			06:30			06:22	05:32	05:20	05:51	06:40	07:30		18:16 (1)		15:40 (2)	08:16		13:44 (3)	08:47		13:43 (3)
	17:15			18:12			19:02			20:54	21:41	22:04	21:40	20:42	19:31	9	18:25 (1)		17:24	35	16:15 (2)	16:36	16	14:00 (3)	16:32	40	14:23 (3)
27	08:28			07:32			06:28			06:20	05:31	05:21	05:52	06:41	07:32		18:12 (1)		07:24		15:40 (2)	08:18		13:42 (3)	08:47		13:43 (3)
	17:17			18:14			19:03			20:56	21:43	22:04	21:39	20:40	19:28	15	18:27 (1)		17:22	36	16:16 (2)	16:35	21	14:03 (3)	16:33	41	14:24 (3)
28	08:27		16:20 (2)	07:29			06:26			06:18	05:30	05:21	05:54	06:43	07:34		18:10 (1)		07:26		15:39 (2)	08:19		13:40 (3)	08:47		13:45 (3)
	17:19	12	16:32 (2)	18:16			19:05			20:58	21:44	22:03	21:37	20:38	19:26	19	18:29 (1)		17:20	37	16:16 (2)	16:35	24	14:04 (3)	16:34	40	14:25 (3)
29	08:25		16:17 (2)				07:23			06:16	05:29	05:22	05:55	06:45	07:35		18:09 (1)		07:27		15:39 (2)	08:21		13:40 (3)	08:48		13:46 (3)
	17:20	17	16:34 (2)				20:07			20:59	21:45	22:03	21:36	20:35	19:24	21	18:30 (1)		17:18	37	16:16 (2)	16:34	26	14:06 (3)	16:35	39	14:25 (3)
30	08:24		16:15 (2)				07:21			06:14	05:28	05:23	05:57	06:46	07:37		18:06 (1)		07:29		15:39 (2)	08:22		13:38 (3)	08:48		13:46 (3)
	17:22	21	16:36 (2)				20:08			21:01	21:46	22:03	21:34	20:33	19:21	24	18:30 (1)		17:17	37	16:16 (2)	16:33	28	14:06 (3)	16:36	40	14:26 (3)
31	08:22		16:15 (2)				07:19				05:27		05:58	06:48					07:31		15:39 (2)				08:48		13:46 (3)
	17:24	23	16:38 (2)				20:10				21:48		21:32	20:31					17:15	37	16:16 (2)				16:37	39	14:25 (3)
Potential sun hours	259			277			367			416	485	499	502	454	381				331			266			243		
Total, worst case		585			731			376								88				708			530			1188	
Sun reduction		0,24			0,30			0,33								0,36				0,34			0,24			0,20	
Oper. time red.		0,95			0,95			0,95								0,95				0,95			0,95			0,95	
Wind dir. red.		0,68			0,67			0,64								0,64				0,66			0,68			0,68	
Total reduction		0,16			0,19			0,20								0,22				0,21			0,15			0,13	
Total, real		91			142			75								19				149			81			157	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:33/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion4.2M148@165Shadow receptor: V - 3998JD90

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	06:49 (2)	05:26	06:03 (1)	05:23	06:08 (1)	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03 17	07:06 (2)	21:49 26	06:29 (1)	22:03 27	06:35 (1)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	06:50 (2)	05:26	06:03 (1)	05:24	06:09 (1)	06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05 15	07:05 (2)	21:50 26	06:29 (1)	22:03 27	06:36 (1)	21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08	06:52 (2)	05:25	06:03 (1)	05:25	06:09 (1)	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06 12	07:04 (2)	21:51 27	06:30 (1)	22:02 27	06:36 (1)	21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06	06:54 (2)	05:24	06:03 (1)	05:26	06:09 (1)	06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08 8	07:02 (2)	21:52 27	06:30 (1)	22:02 27	06:36 (1)	21:26	20:22	19:12	17:07	16:31
5	08:47	08:14	07:19	07:08	06:04	05:23	06:04 (1)	05:26	06:09 (1)	06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10	21:53 26	06:30 (1)	22:01 27	06:36 (1)	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02	05:23	06:03 (1)	05:27	06:10 (1)	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11	21:54 27	06:30 (1)	22:01 26	06:36 (1)	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01	05:22	06:04 (1)	05:28	06:10 (1)	06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13	21:55 27	06:31 (1)	22:00 27	06:37 (1)	21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59	05:22	06:04 (1)	05:29	06:10 (1)	06:11	07:05 (2)	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15	21:56 26	06:30 (1)	22:00 27	06:37 (1)	21:19 3	07:08 (2)	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57	05:21	06:04 (1)	05:30	06:11 (1)	06:12	07:02 (2)	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16	21:57 27	06:31 (1)	21:59 26	06:37 (1)	21:17 10	07:12 (2)	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55	05:21	06:04 (1)	05:31	06:10 (1)	06:14	07:00 (2)	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18	21:58 26	06:30 (1)	21:58 26	06:36 (1)	21:15 13	07:13 (2)	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54	05:20	06:04 (1)	05:32	06:10 (1)	06:16	06:59 (2)	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19	21:58 27	06:31 (1)	21:57 26	06:36 (1)	21:13 16	07:15 (2)	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52	05:20	06:05 (1)	05:33	06:11 (1)	06:17	06:58 (2)	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21	21:59 26	06:31 (1)	21:57 25	06:36 (1)	21:11 17	07:15 (2)	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50	05:20	06:05 (1)	05:34	06:12 (1)	06:19	06:57 (2)	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23	22:00 27	06:32 (1)	21:56 25	06:37 (1)	21:09 19	07:16 (2)	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49	05:19	06:06 (1)	05:35	06:12 (1)	06:21	06:56 (2)	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24	22:00 26	06:32 (1)	21:55 25	06:37 (1)	21:07 20	07:16 (2)	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47	05:19	06:05 (1)	05:36	06:13 (1)	06:22	06:56 (2)	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26	22:01 26	06:31 (1)	21:54 24	06:37 (1)	21:05 21	07:17 (2)	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46	05:19	06:05 (1)	05:38	06:13 (1)	06:24	06:55 (2)	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27	22:01 26	06:31 (1)	21:53 23	06:36 (1)	21:03 21	07:16 (2)	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44	05:19	06:05 (1)	05:39	06:13 (1)	06:25	06:56 (2)	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29	22:02 27	06:32 (1)	21:52 23	06:36 (1)	21:01 20	07:16 (2)	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43	05:19	06:06 (1)	05:40	06:14 (1)	06:27	06:55 (2)	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30	22:02 26	06:32 (1)	21:51 21	06:35 (1)	20:59 20	07:15 (2)	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41	06:13 (1)	05:19	06:07 (1)	05:41	06:14 (1)	06:29	06:56 (2)	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32 4	06:17 (1)	22:03 26	06:33 (1)	21:49 21	06:35 (1)	20:57 19	07:15 (2)	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	06:58 (2) 05:40	06:10 (1)	05:19	06:07 (1)	05:43	06:16 (1)	06:30	06:57 (2)	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44 7	07:05 (2) 21:33	10 06:20 (1)	22:03 26	06:33 (1)	21:48 19	06:35 (1)	20:55 17	07:14 (2)	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	06:56 (2) 05:39	06:09 (1)	05:19	06:07 (1)	05:44	06:17 (1)	06:32	06:59 (2)	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46 11	07:07 (2) 21:35	13 06:22 (1)	22:03 26	06:33 (1)	21:47 17	06:34 (1)	20:53 14	07:13 (2)	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	06:54 (2) 05:37	06:07 (1)	05:19	06:07 (1)	05:45	06:18 (1)	06:34	07:00 (2)	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48 14	07:08 (2) 21:36	16 06:23 (1)	22:03 26	06:33 (1)	21:46 15	06:33 (1)	20:51 11	07:11 (2)	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	06:52 (2) 05:36	06:06 (1)	05:20	06:07 (1)	05:47	06:19 (1)	06:35	07:02 (2)	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49 17	07:09 (2) 21:37	18 06:24 (1)	22:04 26	06:33 (1)	21:44 12	06:31 (1)	20:49 7	07:09 (2)	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	06:50 (2) 05:35	06:05 (1)	05:20	06:08 (1)	05:48	06:22 (1)	06:37		07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51 19	07:09 (2) 21:39	20 06:25 (1)	22:04 26	06:34 (1)	21:43 8	06:30 (1)	20:46		19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	06:50 (2) 05:34	06:04 (1)	05:20	06:07 (1)	05:50		06:38		07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53 20	07:10 (2) 21:40	21 06:25 (1)	22:04 27	06:34 (1)	21:42		20:44		19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	06:49 (2) 05:32	06:04 (1)	05:21	06:07 (1)	05:51		06:40		07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55 21	07:10 (2) 21:42	22 06:26 (1)	22:04 27	06:34 (1)	21:40		20:42		19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	06:49 (2) 05:31	06:04 (1)	05:21	06:08 (1)	05:52		06:42		07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56 20	07:09 (2) 21:43	23 06:27 (1)	22:04 26	06:34 (1)	21:39		20:40		19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	06:49 (2) 05:30	06:03 (1)	05:22	06:08 (1)	05:54		06:43		07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58 20	07:09 (2) 21:44	24 06:27 (1)	22:04 26	06:34 (1)	21:37		20:38		19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	06:49 (2) 05:29	06:03 (1)	05:22	06:08 (1)	05:55		06:45		07:36	07:27	08:21	08:48
	17:21		20:07	21:00 19	07:08 (2) 21:45	24 06:27 (1)	22:03 27	06:35 (1)	21:36		20:36		19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	06:49 (2) 05:28	06:04 (1)	05:23	06:09 (1)	05:57		06:47		07:37	07:29	08:22	08:48
	17:22		20:09	21:01 18	07:07 (2) 21:47	25 06:29 (1)	22:03 26	06:35 (1)	21:34		20:33		19:22	17:17	16:33	16:36
31	08:22		07:19		05:27	06:03 (1)			05:58		06:48			07:31		08:48
	17:24		20:10		21:48 26	06:29 (1)			21:33		20:31			17:15		16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case				186	298	791	551	248				
Sun reduction				0,42	0,43	0,39	0,41	0,42				
Oper. time red.				0,95	0,95	0,95	0,95	0,95				
Wind dir. red.				0,64	0,67	0,67	0,67	0,64				
Total reduction				0,25	0,27	0,25	0,26	0,25				
Total, real				47	80	196	143	62				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:33/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion4.2M148@165Shadow receptor: W - 3998JD93

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	06:45 (2)	05:26	06:00 (1)	05:23	06:04 (1)	06:00		06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03	20 07:05 (2)	21:49	23 06:23 (1)	22:03	27 06:31 (1)	21:31		20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	06:45 (2)	05:26	05:59 (1)	05:24	06:05 (1)	06:01		06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05	19 07:04 (2)	21:50	24 06:23 (1)	22:03	26 06:31 (1)	21:29		20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08	06:47 (2)	05:25	06:00 (1)	05:25	06:05 (1)	06:03		06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06	17 07:04 (2)	21:51	24 06:24 (1)	22:02	27 06:32 (1)	21:28		20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06	06:47 (2)	05:24	05:59 (1)	05:26	06:05 (1)	06:05		06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08	15 07:02 (2)	21:52	25 06:24 (1)	22:02	26 06:31 (1)	21:26		20:22	19:12	17:07	16:31
5	08:47	08:14	07:19	07:08	06:04	06:48 (2)	05:23	06:00 (1)	05:26	06:05 (1)	06:06		06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10	13 07:01 (2)	21:53	25 06:25 (1)	22:01	26 06:31 (1)	21:24		20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02	06:49 (2)	05:23	05:59 (1)	05:27	06:06 (1)	06:08	07:01 (2)	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11	10 06:59 (2)	21:54	26 06:25 (1)	22:01	26 06:32 (1)	21:22	6 07:07 (2)	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01	06:54 (2)	05:22	06:00 (1)	05:28	06:06 (1)	06:09	06:59 (2)	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13	1 06:55 (2)	21:55	26 06:26 (1)	22:00	26 06:32 (1)	21:21	11 07:10 (2)	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59		05:22	05:59 (1)	05:29	06:07 (1)	06:11	06:57 (2)	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15		21:56	27 06:26 (1)	22:00	25 06:32 (1)	21:19	14 07:11 (2)	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57		05:21	06:00 (1)	05:30	06:07 (1)	06:12	06:56 (2)	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16		21:57	26 06:26 (1)	21:59	25 06:32 (1)	21:17	16 07:12 (2)	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55		05:21	05:59 (1)	05:31	06:07 (1)	06:14	06:55 (2)	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18		21:58	27 06:26 (1)	21:58	24 06:31 (1)	21:15	18 07:13 (2)	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54		05:20	06:00 (1)	05:32	06:07 (1)	06:16	06:55 (2)	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19		21:58	26 06:26 (1)	21:57	24 06:31 (1)	21:13	19 07:14 (2)	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52		05:20	06:00 (1)	05:33	06:08 (1)	06:17	06:53 (2)	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21		21:59	27 06:27 (1)	21:57	22 06:30 (1)	21:11	20 07:13 (2)	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50		05:20	06:01 (1)	05:34	06:09 (1)	06:19	06:54 (2)	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23		22:00	26 06:27 (1)	21:56	22 06:31 (1)	21:09	20 07:14 (2)	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49		05:19	06:01 (1)	05:35	06:10 (1)	06:21	06:53 (2)	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24		22:00	27 06:28 (1)	21:55	21 06:31 (1)	21:07	21 07:14 (2)	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47		05:19	06:00 (1)	05:36	06:10 (1)	06:22	06:53 (2)	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26		22:01	27 06:27 (1)	21:54	20 06:30 (1)	21:05	21 07:14 (2)	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46		05:19	06:00 (1)	05:38	06:11 (1)	06:24	06:53 (2)	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27		22:01	27 06:27 (1)	21:53	19 06:30 (1)	21:03	20 07:13 (2)	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44		05:19	06:01 (1)	05:39	06:12 (1)	06:25	06:53 (2)	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29		22:02	27 06:28 (1)	21:52	17 06:29 (1)	21:01	20 07:13 (2)	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43		05:19	06:01 (1)	05:40	06:13 (1)	06:27	06:54 (2)	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30		22:02	27 06:28 (1)	21:51	15 06:28 (1)	20:59	17 07:11 (2)	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41		05:19	06:02 (1)	05:41	06:14 (1)	06:29	06:56 (2)	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32		22:03	27 06:29 (1)	21:49	12 06:26 (1)	20:57	15 07:11 (2)	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40		05:19	06:02 (1)	05:43	06:17 (1)	06:30	06:57 (2)	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33		22:03	27 06:29 (1)	21:48	9 06:26 (1)	20:55	12 07:09 (2)	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	06:56 (2)	05:39	05:19	06:02 (1)	05:44	06:20 (1)	06:32	06:59 (2)	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	3 06:59 (2)	21:35	22:03	27 06:29 (1)	21:47	2 06:22 (1)	20:53	8 07:07 (2)	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	06:54 (2)	05:37	05:19	06:02 (1)	05:45		06:34		07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	9 07:03 (2)	21:36	22:03	27 06:29 (1)	21:46		20:51		19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	06:52 (2)	05:36	06:07 (1)	05:20	06:02 (1)	05:47	06:35		07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	12 07:04 (2)	21:37	7 06:14 (1)	22:04	27 06:29 (1)	21:44	20:49		19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	06:50 (2)	05:35	06:05 (1)	05:20	06:03 (1)	05:48	06:37		07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	15 07:05 (2)	21:39	11 06:16 (1)	22:04	27 06:30 (1)	21:43	20:46		19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	06:48 (2)	05:34	06:04 (1)	05:20	06:03 (1)	05:50	06:38		07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	18 07:06 (2)	21:40	14 06:18 (1)	22:04	27 06:30 (1)	21:42	20:44		19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	06:47 (2)	05:32	06:03 (1)	05:21	06:02 (1)	05:51	06:40		07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	19 07:06 (2)	21:42	16 06:19 (1)	22:04	27 06:29 (1)	21:40	20:42		19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	06:46 (2)	05:31	06:02 (1)	05:21	06:03 (1)	05:52	06:42		07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	20 07:06 (2)	21:43	18 06:20 (1)	22:04	27 06:30 (1)	21:39	20:40		19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	06:46 (2)	05:30	06:01 (1)	05:22	06:03 (1)	05:54	06:43		07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	20 07:06 (2)	21:44	19 06:20 (1)	22:04	27 06:30 (1)	21:37	20:38		19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	06:45 (2)	05:29	06:00 (1)	05:22	06:04 (1)	05:55	06:45		07:36	07:27	08:21	08:48
	17:21		20:07	21:00	21 07:06 (2)	21:45	21 06:21 (1)	22:03	27 06:31 (1)	21:36	20:36		19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	06:45 (2)	05:28	06:01 (1)	05:23	06:04 (1)	05:57	06:47		07:37	07:29	08:22	08:48
	17:22		20:08	21:01	20 07:05 (2)	21:47	21 06:22 (1)	22:03	27 06:31 (1)	21:34	20:33		19:22	17:17	16:33	16:36
31	08:22		07:19			05:27	06:00 (1)			05:58	06:48			07:31		08:48
	17:24		20:10			21:48	23 06:23 (1)			21:33	20:31			17:15		16:37
Potential sun hours	259	277	367	416		485		499		502		454		381	331	266	243
Total, worst case					157		245		791		441		258				
Sun reduction					0,42		0,43		0,39		0,41		0,42				
Oper. time red.					0,95		0,95		0,95		0,95		0,95				
Wind dir. red.					0,64		0,66		0,67		0,67		0,64				
Total reduction					0,25		0,27		0,25		0,26		0,25				
Total, real					40		66		197		114		65				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:33/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion4.2M148@165Shadow receptor: X - 3961ME2

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May		June		July		August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12		05:26	20:27 (3)	05:23	20:30 (3)	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03		21:49 36	21:03 (2)	22:03 38	21:08 (2)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10		05:25	20:27 (3)	05:24	20:31 (3)	06:01	06:51	07:40	07:34	08:25
	16:39	17:28	18:19	20:13	21:04		21:50 36	21:03 (2)	22:02 38	21:09 (2)	21:29	20:26	19:17	17:11	16:32
3	08:47	08:18	07:23	07:12	06:08		05:25	20:27 (3)	05:25	20:30 (3)	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06		21:51 37	21:04 (2)	22:02 38	21:08 (2)	21:27	20:24	19:14	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06		05:24	20:26 (3)	05:25	20:31 (3)	06:04	06:55	07:44	07:38	08:28
	16:41	17:31	18:23	20:17	21:08		21:52 37	21:03 (2)	22:02 38	21:09 (2)	21:26	20:22	19:12	17:07	16:30
5	08:47	08:14	07:18	07:07	06:04		05:23	20:26 (3)	05:26	20:32 (3)	06:06	06:56	07:45	07:40	08:29
	16:43	17:33	18:25	20:19	21:09		21:53 37	21:03 (2)	22:01 37	21:09 (2)	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02		05:23	20:26 (3)	05:27	20:32 (3)	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11		21:54 38	21:04 (2)	22:01 38	21:10 (2)	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:00		05:22	20:26 (3)	05:28	20:33 (3)	06:09	06:59	07:49	07:43	08:32
	16:45	17:37	18:28	20:22	21:13		21:55 37	21:03 (2)	22:00 37	21:10 (2)	21:20	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59		05:21	20:26 (3)	05:29	20:33 (3)	06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:14		21:56 38	21:04 (2)	21:59 37	21:10 (2)	21:19	20:13	19:03	17:00	16:29
9	08:45	08:07	07:09	06:58	05:57		05:21	20:26 (3)	05:30	20:33 (3)	06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:25	21:16		21:57 38	21:04 (2)	21:59 37	21:10 (2)	21:17	20:10	19:01	16:59	16:28
10	08:45	08:06	07:07	06:56	05:55		05:20	20:25 (3)	05:31	20:34 (3)	06:14	07:04	07:54	07:49	08:35
	16:49	17:43	18:34	20:27	21:18		21:57 39	21:04 (2)	21:58 36	21:10 (2)	21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54		05:20	20:26 (3)	05:32	20:35 (3)	06:16	07:06	07:56	07:51	08:36
	16:50	17:45	18:35	20:29	21:19		21:58 38	21:04 (2)	21:57 36	21:11 (2)	21:13	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52		05:20	20:26 (3)	05:33	20:35 (3)	06:17	07:08	07:57	07:52	08:37
	16:52	17:46	18:37	20:31	21:21		21:59 38	21:04 (2)	21:56 36	21:11 (2)	21:11	20:03	18:54	16:54	16:28
13	08:43	08:00	07:00	06:49	05:50		05:19	20:25 (3)	05:34	20:36 (3)	06:19	07:09	07:59	07:54	08:38
	16:53	17:48	18:39	20:32	21:22		21:59 39	21:04 (3)	21:55 35	21:11 (2)	21:09	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49		05:19	20:25 (3)	05:35	20:37 (3)	06:20	07:11	08:01	07:56	08:39
	16:55	17:50	18:41	20:34	21:24		22:00 39	21:04 (2)	21:55 34	21:11 (2)	21:07	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47	20:44 (2)	05:19	20:26 (3)	05:36	20:39 (3)	06:22	07:12	08:03	07:58	08:40
	16:57	17:52	18:42	20:36	21:26 7	20:51 (2)	22:01 39	21:05 (3)	21:54 33	21:12 (2)	21:05	19:56	18:47	16:50	16:28
16	08:40	07:54	06:54	06:43	05:46	20:42 (2)	05:19	20:26 (3)	05:38	20:40 (3)	06:24	07:14	08:04	07:59	08:41
	16:58	17:54	18:44	20:37	21:27 12	20:54 (2)	22:01 39	21:05 (3)	21:53 32	21:12 (2)	21:03	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44	20:41 (2)	05:19	20:26 (3)	05:39	20:41 (3)	06:25	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29 15	20:56 (2)	22:02 39	21:05 (3)	21:51 30	21:11 (2)	21:01	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:38	05:43	20:39 (2)	05:19	20:26 (3)	05:40	20:42 (3)	06:27	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30 17	20:56 (2)	22:02 39	21:05 (3)	21:50 29	21:11 (2)	20:59	19:49	18:41	16:45	16:29
19	08:38	07:48	06:47	06:36	05:41	20:38 (2)	05:19	20:26 (3)	05:41	20:44 (3)	06:28	07:19	08:09	08:05	08:43
	17:03	17:59	18:49	20:42	21:32 20	20:58 (2)	22:02 40	21:06 (3)	21:49 27	21:11 (2)	20:57	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40	20:38 (2)	05:19	20:26 (3)	05:43	20:45 (2)	06:30	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33 21	20:59 (2)	22:03 40	21:06 (3)	21:48 25	21:10 (2)	20:55	19:45	18:37	16:43	16:29
21	08:35	07:44	06:42	06:32	05:38	20:36 (2)	05:19	20:27 (3)	05:44	20:47 (2)	06:32	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:34 23	20:59 (2)	22:03 40	21:07 (3)	21:47 24	21:11 (2)	20:53	19:42	18:35	16:42	16:30
22	08:34	07:42	06:40	06:30	05:37	20:36 (2)	05:19	20:27 (3)	05:45	20:47 (2)	06:33	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36 24	21:00 (2)	22:03 40	21:07 (3)	21:46 23	21:10 (2)	20:51	19:40	18:33	16:41	16:30
23	08:33	07:40	06:37	06:28	05:36	20:36 (2)	05:20	20:27 (3)	05:47	20:47 (2)	06:35	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	21:37 24	21:00 (2)	22:03 40	21:07 (3)	21:44 22	21:09 (2)	20:48	19:38	18:30	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35	20:36 (2)	05:20	20:28 (3)	05:48	20:49 (2)	06:37	07:27	08:18	08:13	08:46
	17:11	18:09	18:58	20:51	21:39 25	21:01 (2)	22:03 40	21:08 (3)	21:43 20	21:09 (2)	20:46	19:35	18:28	16:38	16:31
25	08:31	07:36	06:33	06:24	05:33	20:34 (3)	05:20	20:28 (3)	05:49	20:49 (2)	06:38	07:29	07:20	08:15	08:47
	17:13	18:10	19:00	20:53	21:40 27	21:01 (2)	22:03 39	21:07 (3)	21:41 19	21:08 (2)	20:44	19:33	17:26	16:37	16:32
26	08:29	07:34	06:30	06:22	05:32	20:32 (3)	05:21	20:28 (3)	05:51	20:50 (2)	06:40	07:30	07:22	08:16	08:47
	17:15	18:12	19:01	20:54	21:41 30	21:02 (2)	22:03 39	21:07 (3)	21:40 16	21:06 (2)	20:42	19:31	17:24	16:36	16:32
27	08:28	07:32	06:28	06:20	05:31	20:31 (3)	05:21	20:29 (3)	05:52	20:52 (2)	06:41	07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21:43 31	21:02 (2)	22:03 39	21:08 (3)	21:39 14	21:06 (2)	20:40	19:28	17:22	16:36	16:33
28	08:27	07:29	06:26	06:18	05:30	20:30 (3)	05:21	20:29 (3)	05:54	20:53 (2)	06:43	07:34	07:25	08:19	08:47
	17:19	18:16	19:05	20:58	21:44 32	21:02 (2)	22:03 38	21:07 (2)	21:37 10	21:03 (2)	20:38	19:26	17:20	16:35	16:34
29	08:25		07:23	06:16	05:29	20:29 (3)	05:22	20:29 (3)	05:55	20:56 (2)	06:45	07:35	07:27	08:21	08:48
	17:20		20:07	20:59	21:45 33	21:02 (2)	22:03 39	21:08 (2)	21:36 4	21:00 (2)	20:35	19:24	17:18	16:34	16:35
30	08:24		07:21	06:14	05:28	20:28 (3)	05:23	20:29 (3)	05:57		06:46	07:37	07:29	08:22	08:48
	17:22		20:08	21:01	21:46 34	21:02 (2)	22:03 38	21:07 (2)	21:34		20:33	19:21	17:17	16:33	16:36
31	08:22		07:19		05:27	20:28 (3)			05:58		06:48		07:31		08:48
	17:24		20:10		21:48 35	21:03 (2)			21:32		20:31		17:15		16:37
Potential sun hours	259	277	367	416	485		499		502		454	381	331	266	243
Total, worst case					410		1155		843						
Sun reduction					0,43		0,39		0,41						
Oper. time red.					0,95		0,95		0,95						
Wind dir. red.					0,58		0,59		0,59						
Total reduction					0,24		0,22		0,23						
Total, real					97		250		190						

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:33/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion4.2M148@165Shadow receptor: Y - 3998JD86

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May		June		July		August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12		05:26	06:08 (1)	05:23	06:15 (1)	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03		21:49 26	06:34 (1)	22:03 23	06:38 (1)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10		05:26	06:08 (1)	05:24	06:15 (1)	06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05		21:50 26	06:34 (1)	22:03 24	06:39 (1)	21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08		05:25	06:09 (1)	05:25	06:16 (1)	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06		21:51 25	06:34 (1)	22:02 24	06:40 (1)	21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06		05:24	06:08 (1)	05:26	06:15 (1)	06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08		21:52 26	06:34 (1)	22:02 24	06:39 (1)	21:26	20:22	19:12	17:07	16:31
5	08:47	08:15	07:19	07:08	06:04		05:23	06:09 (1)	05:26	06:15 (1)	06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10		21:53 26	06:35 (1)	22:01 25	06:40 (1)	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02		05:23	06:09 (1)	05:27	06:15 (1)	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11		21:54 25	06:34 (1)	22:01 25	06:40 (1)	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01		05:22	06:10 (1)	05:28	06:16 (1)	06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13		21:55 25	06:35 (1)	22:00 25	06:41 (1)	21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59		05:22	06:10 (1)	05:29	06:16 (1)	06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15		21:56 24	06:34 (1)	22:00 25	06:41 (1)	21:19	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57		05:21	06:10 (1)	05:30	06:16 (1)	06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16		21:57 25	06:35 (1)	21:59 26	06:42 (1)	21:17	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55		05:21	06:10 (1)	05:31	06:15 (1)	06:14	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18		21:58 24	06:34 (1)	21:58 26	06:41 (1)	21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54		05:20	06:11 (1)	05:32	06:15 (1)	06:16	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19		21:58 23	06:34 (1)	21:57 26	06:41 (1)	21:13	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52		05:20	06:11 (1)	05:33	06:15 (1)	06:17	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21		21:59 24	06:35 (1)	21:57 26	06:41 (1)	21:11	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50		05:20	06:12 (1)	05:34	06:16 (1)	06:19	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23		22:00 23	06:35 (1)	21:56 27	06:43 (1)	21:09	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49		05:19	06:12 (1)	05:35	06:16 (1)	06:21	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24		22:00 23	06:35 (1)	21:55 27	06:43 (1)	21:07	19:59	18:50	16:51	16:28
15	08:42	07:56	06:56	06:45	05:47	06:17 (1)	05:19	06:12 (1)	05:36	06:17 (1)	06:22	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26 5	06:22 (1)	22:01 22	06:34 (1)	21:54 26	06:43 (1)	21:05	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46	06:15 (1)	05:19	06:12 (1)	05:38	06:17 (1)	06:24	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27 10	06:25 (1)	22:01 22	06:34 (1)	21:53 25	06:42 (1)	21:03	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44	06:13 (1)	05:19	06:12 (1)	05:39	06:17 (1)	06:25	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29 14	06:27 (1)	22:02 23	06:35 (1)	21:52 25	06:42 (1)	21:01	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43	06:11 (1)	05:19	06:12 (1)	05:40	06:17 (1)	06:27	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30 17	06:28 (1)	22:02 23	06:35 (1)	21:51 25	06:42 (1)	20:59	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41	06:10 (1)	05:19	06:14 (1)	05:41	06:17 (1)	06:29	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32 19	06:29 (1)	22:03 22	06:36 (1)	21:49 25	06:42 (1)	20:57	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40	06:10 (1)	05:19	06:14 (1)	05:43	06:18 (1)	06:30	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33 20	06:30 (1)	22:03 22	06:36 (1)	21:48 24	06:42 (1)	20:55	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	05:39	06:09 (1)	05:19	06:14 (1)	05:44	06:18 (1)	06:32	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:35 22	06:31 (1)	22:03 22	06:36 (1)	21:47 24	06:42 (1)	20:53	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	05:37	06:08 (1)	05:19	06:14 (1)	05:45	06:19 (1)	06:34	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36 23	06:31 (1)	22:03 22	06:36 (1)	21:46 22	06:41 (1)	20:51	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	05:36	06:08 (1)	05:20	06:14 (1)	05:47	06:19 (1)	06:35	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	21:37 23	06:31 (1)	22:04 22	06:36 (1)	21:44 21	06:40 (1)	20:49	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35	06:08 (1)	05:20	06:15 (1)	05:48	06:21 (1)	06:37	07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	21:39 24	06:32 (1)	22:04 22	06:37 (1)	21:43 19	06:40 (1)	20:46	19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	05:34	06:07 (1)	05:20	06:14 (1)	05:50	06:21 (1)	06:38	07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	21:40 25	06:32 (1)	22:04 23	06:37 (1)	21:42 18	06:39 (1)	20:44	19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	05:32	06:07 (1)	05:21	06:14 (1)	05:51	06:22 (1)	06:40	07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	21:42 26	06:33 (1)	22:04 22	06:36 (1)	21:40 16	06:38 (1)	20:42	19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	05:31	06:07 (1)	05:21	06:15 (1)	05:52	06:24 (1)	06:42	07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21:43 26	06:33 (1)	22:04 22	06:37 (1)	21:39 13	06:37 (1)	20:40	19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	05:30	06:07 (1)	05:22	06:14 (1)	05:54	06:26 (1)	06:43	07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	21:44 26	06:33 (1)	22:04 23	06:37 (1)	21:37 9	06:35 (1)	20:38	19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	05:29	06:07 (1)	05:22	06:15 (1)	05:55		06:45	07:36	07:27	08:21	08:48
	17:21		20:07	21:00	21:45 26	06:33 (1)	22:03 23	06:38 (1)	21:36		20:36	19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	05:28	06:08 (1)	05:23	06:15 (1)	05:57		06:47	07:37	07:29	08:22	08:48
	17:22		20:09	21:01	21:47 26	06:34 (1)	22:03 24	06:39 (1)	21:34		20:33	19:22	17:17	16:33	16:36
31	08:22		07:19		05:27	06:08 (1)			05:58		06:48		07:31		08:48
	17:24		20:10		21:48 26	06:34 (1)			21:33		20:31		17:15		16:37
Potential sun hours	259	277	367	416	485		499		502		454	381	331	266	243
Total, worst case					358		704		645						
Sun reduction					0,43		0,39		0,41						
Oper. time red.					0,95		0,95		0,95						
Wind dir. red.					0,67		0,67		0,67						
Total reduction					0,27		0,25		0,26						
Total, real					97		174		167						

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:33/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion4.2M148@165Shadow receptor: Z - 3998JK68

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 16:38	08:21 17:26	07:27 18:18	07:17 20:12	06:12 21:03	06:44 (2) 07:06 (2)	05:26 21:49	06:00 (1) 06:19 (1)	05:23 22:03	06:02 (1) 06:28 (1)	06:00 21:31	06:50 20:29	07:39 19:19	07:33 17:13	08:24 16:32
2	08:48 16:39	08:19 17:28	07:25 18:20	07:14 20:14	06:10 21:05	06:44 (2) 07:05 (2)	05:26 21:50	05:59 (1) 06:19 (1)	05:24 22:03	06:02 (1) 06:28 (1)	06:01 21:29	06:51 20:27	07:41 19:17	07:35 17:11	08:25 16:32
3	08:48 16:40	08:18 17:30	07:23 18:21	07:12 20:15	06:08 21:06	06:46 (2) 07:05 (2)	05:25 21:51	05:59 (1) 06:20 (1)	05:25 22:02	06:03 (1) 06:29 (1)	06:03 21:28	06:53 20:24	07:42 19:15	07:36 17:09	08:27 16:31
4	08:47 16:41	08:16 17:32	07:21 18:23	07:10 20:17	06:06 21:08	06:46 (2) 07:04 (2)	05:24 21:52	05:58 (1) 06:20 (1)	05:26 22:02	06:03 (1) 06:28 (1)	06:05 21:26	06:55 20:22	07:44 19:12	07:38 17:07	08:28 16:31
5	08:47 16:43	08:14 17:33	07:19 18:25	07:08 20:19	06:04 21:10	06:46 (2) 07:03 (2)	05:23 21:53	05:58 (1) 06:21 (1)	05:26 22:01	06:03 (1) 06:28 (1)	06:06 21:24	07:00 (2) 07:09 (2)	06:56 20:20	07:46 19:10	07:40 17:06	08:29 16:30
6	08:47 16:44	08:13 17:35	07:16 18:27	07:05 20:20	06:02 21:11	06:47 (2) 07:01 (2)	05:23 21:54	05:58 (1) 06:22 (1)	05:27 22:01	06:04 (1) 06:28 (1)	06:08 21:22	06:58 (2) 07:10 (2)	06:58 20:17	07:47 19:08	07:42 17:04	08:31 16:30
7	08:46 16:45	08:11 17:37	07:14 18:29	07:03 20:22	06:01 21:13	06:49 (2) 07:00 (2)	05:22 21:55	05:58 (1) 06:23 (1)	05:28 22:00	06:05 (1) 06:28 (1)	06:09 21:21	06:57 (2) 07:12 (2)	07:00 20:15	07:49 19:05	07:44 17:02	08:32 16:29
8	08:46 16:46	08:09 17:39	07:12 18:30	07:01 20:24	05:59 21:15	06:51 (2) 06:58 (2)	05:22 21:56	05:58 (1) 06:22 (1)	05:29 22:00	06:05 (1) 06:28 (1)	06:11 21:19	06:56 (2) 07:13 (2)	07:01 20:13	07:51 19:03	07:45 17:01	08:33 16:29
9	08:46 16:48	08:08 17:41	07:10 18:32	06:58 20:26	05:57 21:16		05:21 21:57	05:58 (1) 06:23 (1)	05:30 21:59	06:06 (1) 06:28 (1)	06:12 21:17	06:55 (2) 07:14 (2)	07:03 20:11	07:52 19:01	07:47 16:59	08:34 16:29
10	08:45 16:49	08:06 17:43	07:07 18:34	06:56 20:27	05:55 21:18		05:21 21:58	05:57 (1) 06:23 (1)	05:31 21:58	06:06 (1) 06:27 (1)	06:14 21:15	06:54 (2) 07:14 (2)	07:04 20:08	07:54 18:59	07:49 16:57	08:36 16:28
11	08:44 16:51	08:04 17:45	07:05 18:36	06:54 20:29	05:54 21:19		05:20 21:58	05:58 (1) 06:24 (1)	05:32 21:57	06:07 (1) 06:26 (1)	06:16 21:13	06:54 (2) 07:15 (2)	07:06 20:06	07:56 18:56	07:51 16:56	08:37 16:28
12	08:44 16:52	08:02 17:47	07:03 18:37	06:52 20:31	05:52 21:21		05:20 21:59	05:58 (1) 06:24 (1)	05:33 21:57	06:07 (1) 06:26 (1)	06:17 21:11	06:53 (2) 07:14 (2)	07:08 20:04	07:58 18:54	07:53 16:54	08:38 16:28
13	08:43 16:54	08:00 17:48	07:01 18:39	06:49 20:32	05:50 21:23		05:20 22:00	05:58 (1) 06:25 (1)	05:34 21:56	06:09 (1) 06:26 (1)	06:19 21:09	06:53 (2) 07:15 (2)	07:09 20:01	07:59 18:52	07:54 16:53	08:39 16:28
14	08:42 16:55	07:58 17:50	06:58 18:41	06:47 20:34	05:49 21:24		05:19 22:00	05:58 (1) 06:25 (1)	05:35 21:55	06:10 (1) 06:25 (1)	06:21 21:07	06:53 (2) 07:14 (2)	07:11 19:59	08:01 18:50	07:56 16:51	08:40 16:28
15	08:41 16:57	07:56 17:52	06:56 18:43	06:45 20:36	05:47 21:26		05:19 22:01	05:58 (1) 06:24 (1)	05:36 21:54	06:12 (1) 06:24 (1)	06:22 21:05	06:53 (2) 07:14 (2)	07:13 19:57	08:03 18:48	07:58 16:50	08:41 16:28
16	08:41 16:58	07:54 17:54	06:54 18:44	06:43 20:38	05:46 21:27		05:19 22:01	05:58 (1) 06:25 (1)	05:38 21:53	06:13 (1) 06:23 (1)	06:24 21:03	06:53 (2) 07:13 (2)	07:14 19:54	08:04 18:45	08:00 16:48	08:41 16:28
17	08:40 17:00	07:52 17:56	06:51 18:46	06:41 20:39	05:44 21:29		05:19 22:02	05:58 (1) 06:25 (1)	05:39 21:52	06:16 (1) 06:20 (1)	06:25 21:01	06:54 (2) 07:13 (2)	07:16 19:52	08:06 18:43	08:01 16:47	08:42 16:28
18	08:39 17:01	07:50 17:58	06:49 18:48	06:39 20:41	05:43 21:30		05:19 22:02	05:58 (1) 06:25 (1)	05:40 21:51		06:27 20:59	06:54 (2) 07:11 (2)	07:17 19:50	08:08 18:41	08:03 16:46	08:43 16:29
19	08:38 17:03	07:48 18:00	06:47 18:50	06:36 20:43	05:41 21:32		05:19 22:03	05:59 (1) 06:26 (1)	05:41 21:49		06:29 20:57	06:56 (2) 07:11 (2)	07:19 19:47	08:10 18:39	08:05 16:44	08:44 16:29
20	08:37 17:05	07:46 18:01	06:44 18:51	06:34 20:44	05:40 21:33		05:19 22:03	05:59 (1) 06:27 (1)	05:43 21:48		06:30 20:55	06:57 (2) 07:08 (2)	07:21 19:45	08:11 18:37	08:06 16:43	08:44 16:29
21	08:36 17:06	07:44 18:03	06:42 18:53	06:32 20:46	05:39 21:35		05:19 22:03	05:59 (1) 06:27 (1)	05:44 21:47		06:32 20:53	06:59 (2) 07:06 (2)	07:22 19:43	08:13 18:35	08:08 16:42	08:45 16:30
22	08:35 17:08	07:42 18:05	06:40 18:55	06:30 20:48 8	06:54 (2) 07:02 (2)	05:37 21:36	05:19 22:03	05:59 (1) 06:27 (1)	05:45 21:46		06:33 20:51		07:24 19:40	08:15 18:33	08:10 16:41	08:45 16:30
23	08:33 17:10	07:40 18:07	06:38 18:56	06:28 20:49 12	06:52 (2) 07:04 (2)	05:36 21:37	05:20 22:04	05:59 (1) 06:26 (1)	05:47 21:44		06:35 20:49		07:26 19:38	08:17 18:31	08:11 16:40	08:46 16:31
24	08:32 17:12	07:38 18:09	06:35 18:58	06:26 20:51 15	06:50 (2) 07:05 (2)	05:35 21:39	05:20 22:04	06:00 (1) 06:27 (1)	05:48 21:43		06:37 20:46		07:27 19:35	08:18 18:29	08:13 16:39	08:46 16:31
25	08:31 17:13	07:36 18:11	06:33 19:00	06:24 20:53 18	06:48 (2) 07:06 (2)	05:34 21:40	05:20 22:04	06:00 (1) 06:27 (1)	05:50 21:42		06:38 20:44		07:29 19:33	07:20 17:27	08:15 16:38	08:47 16:32
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27	08:28 17:17	07:32 18:14	06:28 19:03	06:20 20:56 21	06:46 (2) 07:07 (2)	05:31 21:43 7	06:05 (1) 06:12 (1)	05:21 22:04	06:01 (1) 06:28 (1)	05:52 21:39	06:42 20:40		07:32 19:28	07:24 17:23	08:18 16:36	08:47 16:33
28	08:27 17:19	07:30 18:16	06:26 19:05	06:18 20:58 22	06:45 (2) 07:07 (2)	05:30 21:44 11	06:03 (1) 06:14 (1)	05:22 22:04	06:00 (1) 06:27 (1)	05:54 21:37	06:43 20:38		07:34 19:26	07:26 17:21	08:19 16:35	08:48 16:34
29	08:25 17:21		07:24 20:07	06:16 21:00 22	06:45 (2) 07:07 (2)	05:29 21:45 14	06:01 (1) 06:15 (1)	05:22 22:03	06:01 (1) 06:28 (1)	05:55 21:36	06:45 20:35		07:36 19:24	07:27 17:19	08:21 16:34	08:48 16:35
30	08:24 17:22		07:21 20:08	06:14 21:01 21	06:45 (2) 07:06 (2)	05:28 21:47 16	06:01 (1) 06:17 (1)	05:23 22:03	06:02 (1) 06:28 (1)	05:57 21:34	06:47 20:33		07:37 19:22	07:29 17:17	08:22 16:33	08:48 16:36
31	08:22 17:24		07:19 20:10			05:27 21:48 18	06:00 (1) 06:18 (1)			05:58 21:33	06:48 20:31			07:31 17:15		08:48 16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case				158	195	768	337	287				
Sun reduction				0,42	0,43	0,39	0,41	0,42				
Oper. time red.				0,95	0,95	0,95	0,95	0,95				
Wind dir. red.				0,64	0,65	0,67	0,67	0,64				
Total reduction				0,25	0,26	0,25	0,26	0,25				
Total, real				40	52	191	88	73				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:33/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion4.2M148@165Shadow receptor: AA - 3997MP20

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December		
1	08:48		09:31 (4)		08:21		13:17 (2)	07:27	16:51 (1)	07:17	06:12	05:26	05:23	06:00	06:50		07:39		17:17 (1)	07:33		12:53 (2)	08:24		09:15 (4)
	16:38	137	14:15 (2)	73	14:30 (2)	30	18:18	17:21 (1)	20:12	21:03	21:49	22:03	21:31	20:29		19:19	53	18:10 (1)	17:13	64	13:57 (2)	16:32	147	14:04 (2)
2	08:48		09:32 (4)		08:19		13:18 (2)	07:25	16:49 (1)	07:14	06:10	05:25	05:24	06:01	06:51		07:40		17:17 (1)	07:35		12:52 (2)	08:25		09:16 (4)
	16:39	137	14:16 (2)	72	14:30 (2)	34	18:19	17:23 (1)	20:14	21:05	21:50	22:03	21:29	20:26		19:17	52	18:09 (1)	17:11	66	13:58 (2)	16:32	147	14:05 (2)
3	08:48		09:32 (4)		08:18		13:19 (2)	07:23	16:46 (1)	07:12	06:08	05:25	05:25	06:03	06:53		07:42		17:16 (1)	07:36		12:51 (2)	08:27		09:16 (4)
	16:40	140	14:17 (2)	71	14:30 (2)	38	18:21	17:24 (1)	20:15	21:06	21:51	22:02	21:28	20:24		19:14	52	18:08 (1)	17:09	67	13:58 (2)	16:31	145	14:04 (2)
4	08:47		09:32 (4)		08:16		13:19 (2)	07:21	16:45 (1)	07:10	06:06	05:24	05:25	06:04	06:55		07:44		17:17 (1)	07:38		12:50 (2)	08:28		09:17 (4)
	16:41	140	14:17 (2)	71	14:30 (2)	41	18:23	17:26 (1)	20:17	21:08	21:52	22:02	21:26	20:22		19:12	50	18:07 (1)	17:07	68	13:58 (2)	16:30	144	14:05 (2)
5	08:47		09:32 (4)		08:14		13:19 (2)	07:19	16:44 (1)	07:07	06:04	05:23	05:26	06:06	06:56		07:46		17:17 (1)	07:40		12:50 (2)	08:29		09:18 (4)
	16:43	141	14:18 (2)	70	14:29 (2)	43	18:25	17:27 (1)	20:19	21:10	21:53	22:01	21:24	20:20		19:10	50	18:07 (1)	17:06	69	13:59 (2)	16:30	142	14:04 (2)
6	08:47		09:32 (4)		08:13		13:20 (2)	07:16	16:43 (1)	07:05	06:02	05:23	05:27	06:08	06:58		07:47		17:18 (1)	07:42		12:49 (2)	08:31		09:18 (4)
	16:44	142	14:18 (2)	69	14:29 (2)	46	18:27	17:29 (1)	20:20	21:11	21:54	22:01	21:22	20:17		19:08	48	18:06 (1)	17:04	70	13:59 (2)	16:30	142	14:04 (2)
7	08:46		09:32 (4)		08:11		13:20 (2)	07:14	16:41 (1)	07:03	06:00	05:22	05:28	06:09	06:59		07:49		17:18 (1)	07:44		12:49 (2)	08:32		09:19 (4)
	16:45	143	14:19 (2)	68	14:28 (2)	48	18:28	17:29 (1)	20:22	21:13	21:55	22:00	21:20	20:15		19:05	46	18:04 (1)	17:02	71	14:00 (2)	16:29	141	14:05 (2)
8	08:46		09:32 (4)		08:09		13:22 (2)	07:12	16:40 (1)	07:01	05:59	05:21	05:29	06:11	07:01		07:51		17:18 (1)	07:45		12:48 (2)	08:33		09:20 (4)
	16:46	144	14:20 (2)	67	14:29 (2)	49	18:30	17:29 (1)	20:24	21:14	21:56	21:59	21:19	20:13		19:03	45	18:03 (1)	17:00	72	14:00 (2)	16:29	141	14:05 (2)
9	08:45		09:33 (4)		08:07		13:23 (2)	07:10	16:40 (1)	06:58	05:57	05:21	05:30	06:12	07:03		07:52		17:19 (1)	07:47		12:48 (2)	08:34		09:20 (4)
	16:48	145	14:21 (2)	65	14:28 (2)	50	18:32	17:30 (1)	20:26	21:16	21:57	21:59	21:17	20:10		19:01	43	18:02 (1)	16:59	73	14:01 (2)	16:28	140	14:05 (2)
10	08:45		09:33 (4)		08:06		13:24 (2)	07:07	16:38 (1)	06:56	05:55	05:20	05:31	06:14	07:04		07:54		17:21 (1)	07:49		10:26 (3)	08:35		09:21 (4)
	16:49	146	14:21 (2)	63	14:27 (2)	52	18:34	17:30 (1)	20:27	21:18	21:57	21:58	21:15	20:08		18:59	39	18:00 (1)	16:57	76	14:01 (2)	16:28	137	14:05 (2)
11	08:44		09:33 (4)		08:04		13:25 (2)	07:05	16:38 (1)	06:54	05:54	05:20	05:32	06:16	07:06		07:56		17:21 (1)	07:51		09:22 (4)	08:37		09:21 (4)
	16:51	147	14:22 (2)	61	14:26 (2)	52	18:36	17:30 (1)	20:29	21:19	21:58	21:57	21:13	20:06		18:56	37	17:58 (1)	16:56	93	14:01 (2)	16:28	138	14:05 (2)
12	08:44		09:33 (4)		08:02		13:26 (2)	07:03	16:38 (1)	06:52	05:52	05:20	05:33	06:17	07:08	17:47 (1)	07:57		17:23 (1)	07:52		09:18 (4)	08:38		09:23 (4)
	16:52	148	14:22 (2)	60	14:26 (2)	53	18:37	17:31 (1)	20:31	21:21	21:59	21:56	21:11	20:03	11	17:58 (1)	18:54	32	17:55 (1)	16:54	108	14:02 (2)	16:28	137	14:06 (2)
13	08:43		09:33 (4)		08:00		13:27 (2)	07:00	16:37 (1)	06:49	05:50	05:19	05:34	06:19	07:09	17:42 (1)	07:59		17:25 (1)	07:54		09:17 (4)	08:39		09:24 (4)
	16:53	149	14:23 (2)	57	14:24 (2)	53	18:39	17:30 (1)	20:32	21:23	22:00	21:56	21:09	20:01	20	18:02 (1)	18:52	28	17:53 (1)	16:53	116	14:02 (2)	16:28	134	14:06 (2)
14	08:42		09:33 (4)		07:58		13:29 (2)	06:58	16:37 (1)	06:47	05:49	05:19	05:35	06:20	07:11	17:38 (1)	08:01		17:27 (1)	07:56		09:15 (4)	08:40		09:23 (4)
	16:55	148	14:23 (2)	54	14:23 (2)	53	18:41	17:30 (1)	20:34	21:24	22:00	21:55	21:07	19:59	26	18:04 (1)	18:50	24	17:51 (1)	16:51	123	14:02 (2)	16:28	135	14:06 (2)
15	08:41		09:34 (4)		07:56		13:31 (2)	06:56	16:37 (1)	06:45	05:47	05:19	05:36	06:22	07:12	17:36 (1)	08:03		17:30 (1)	07:58		09:15 (4)	08:40		09:24 (4)
	16:57	149	14:24 (2)	52	14:22 (2)	54	18:43	17:31 (1)	20:36	21:26	22:01	21:54	21:05	19:56	30	18:06 (1)	18:47	16	17:46 (1)	16:50	128	14:03 (2)	16:28	133	14:06 (2)
16	08:41		09:34 (4)		07:54		13:33 (2)	06:54	16:36 (1)	06:43	05:46	05:19	05:38	06:24	07:14	17:33 (1)	08:04			08:00		09:14 (4)	08:41		09:25 (4)
	16:58	149	14:25 (2)	54	14:20 (2)	54	18:44	17:30 (1)	20:37	21:27	22:01	21:53	21:03	19:54	34	18:07 (1)	18:45			16:48	132	14:03 (2)	16:28	132	14:06 (2)
17	08:40		09:34 (4)		07:52		13:35 (2)	06:51	16:36 (1)	06:41	05:44	05:19	05:39	06:25	07:16	17:31 (1)	08:06			08:01		09:14 (4)	08:42		09:26 (4)
	17:00	149	14:25 (2)	43	14:18 (2)	53	18:46	17:29 (1)	20:39	21:29	22:02	21:52	21:01	19:52	38	18:09 (1)	18:43			16:47	136	14:03 (2)	16:28	131	14:07 (2)
18	08:39		09:35 (4)		07:50		13:38 (2)	06:49	16:37 (1)	06:38	05:43	05:19	05:40	06:27	07:17	17:29 (1)	08:08			08:03		09:13 (4)	08:43		09:27 (4)
	17:01	148	14:26 (2)	38	14:16 (2)	52	18:48	17:29 (1)	20:41	21:30	22:02	21:50	20:59	19:49	41	18:10 (1)	18:41			16:46	138	14:03 (2)	16:29	132	14:08 (2)
19	08:38		09:36 (4)		07:48		13:42 (2)	06:47	16:36 (1)	06:36	05:41	05:19	05:41	06:28	07:19	17:27 (1)	08:10			08:05		09:12 (4)	08:44		09:26 (4)
	17:03	147	14:27 (2)	31	14:13 (2)	52	18:49	17:28 (1)	20:43	21:32	22:03	21:49	20:57	19:47	43	18:10 (1)	18:39			16:44	142	14:03 (2)	16:29	132	14:07 (2)
20	08:37		09:36 (4)		07:46		13:47 (2)	06:44	16:37 (1)	06:34	05:40	05:19	05:43	06:30	07:21	17:26 (1)	08:11			08:06		09:12 (4)	08:44		09:27 (4)
	17:05	146	14:27 (2)	20	14:07 (2)	51	18:51	17:28 (1)	20:44	21:33	22:03	21:48	20:55	19:45	45	18:11 (1)	18:37			16:43	143	14:03 (2)	16:29	132	14:08 (2)
21	08:36		09:37 (4)		07:44		06:42	16:38 (1)	06:32	05:38	05:19	05:44	06:32	07:22		17:23 (1)	08:13		14:25 (2)	08:08		09:12 (4)	08:45		09:28 (4)
	17:06	145	14:28 (2)		18:03		18:53	49	17:27 (1)	20:46	21:35	22:03	21:47	20:53	19:42	48	18:11 (1)	18:35	8	14:33 (2)	16:42	145	14:03 (2)	16:30	130	14:09 (2)
22	08:34		09:37 (4)		07:42		06:40		16:38 (1)	06:30	05:37	05:19	05:45	06:33	07:24		17:23 (1)	08:15		14:15 (2)	08:10		09:12 (4)	08:45		09:28 (4)
	17:08	143	14:28 (2)		18:05		18:55	47	17:25 (1)	20:48	21:36	22:03	21:46	20:51	19:40	48	18:11 (1)	18:33	24	14:39 (2)	16:41	147	14:04 (2)	16:30	130	14:09 (2)
23	08:33		09:38 (4)		07:40		06:37		16:39 (1)	06:28	05:36	05:20	05:47	06:35	07:26		17:22 (1)	08:17		14:10 (2)	08:11		09:13 (4)	08:46		09:28 (4)
	17:10	142	14:29 (2)		18:07		18:56	46	17:25 (1)	20:49	21:37	22:03	21:44	20:49	19:38	50	18:12 (1)	18:30	33	14:43 (2)	16:40	147	14:04 (2)	16:31	130	14:09 (2)
24	08:32		09:39 (4)		07:38		06:35		16:40 (1)	06:26	05:35	05:20	05:48	06:37	07:27		17:20 (1)	08:18		14:07 (2)	08:13		09:12 (4)	08:46		09:29 (4)
	17:12	138	14:29 (2)		18:09		18:58	44	17:24 (1)	20:51	21:39	22:04	21:43	20:46	19:35	51	18:11 (1)	18:28	39	14:46 (2)	16:38	148	14:03 (2)	16:31	132	14:10 (2)
25	08:31		09:40 (4)		07:36		06:33		16:40 (1)	06:24	05:33	05:20	05:49	06:38	07:29		17:20 (1)	07:20		13:04 (2)	08:15		09:13 (4)	08:47		09:29 (4)
	17:13	136	14:29 (2)		18:10		19:00	42	17:22 (1)	20:53	21:40	22:04	21:42	20:44	19:33	52	18:12 (1)	17:26	44	13:48 (2)	16:37	147	14:03 (2)	16:32	132	14:10 (2)
26	08:29		09:41 (4)		07:34		17:01 (1)	06:30	16:42 (1)	06:22	05:32	05:21	05:51	06:40	07:31		17:19 (1)	07:22		13:02 (2)	08:16		09:13 (4)	08:47		09:30 (4)
	17:15	132	14:30 (2)		18:12	9	17:10 (1)	19:02	16:37 (1)	20:54	21:41	22:04	21:40	20:42	19:31	53	18:12 (1)	17:24	48	13:50 (2)	16:36	148	14:04 (2)	16:32	132	14:11 (2)
27	08:28		09:42 (4)		07:32		16:56 (1)	06:28	16:44 (1)	06:20	05:31	05:21	05:52	06:42	07:32		17:18 (1)	07:24		13:00 (2)	08:18		09:14 (4)	08:47		09:30 (4)
	17:17	128	14:30 (2)		18:14	20	17:16 (1)	19:03	17:19 (1)	20:56	21:43	22:04	21:39	20:40	19:28	53	18:11 (1)	17:22	52	13:52 (2)	16:36	149	14:04 (2)	16:33	132	14:11 (2)
28	08:27		09:44 (4)		07:30		16:53 (1)	06:26	16:45 (1)	06:18	05:30	05:21	05:54	06:43	07:34		17:18 (1)	07:26		12:58 (2)	08:19		09:13 (4)	08:48		09:31 (4)
	17:19	121	14:30 (2)		18:16	26	17:19 (1)	19:05	17:16 (1)	20:58	21:44	22:03	21:37	20:38	19:26	53	18:11 (1)	17:20	55	13:53 (2)	16:35	149	14:04 (2)	16:34	133	14:13 (2)
29	08:25		09:45 (4)					07:24	17:48 (1)	06:16	05:29	05:22	05:55	06:45	07:35		17:18 (1)	07:27		12:57 (2)	08:21		09:14 (4)	08:48		09:31 (4)
	17:20	116	14:30 (2)					20:07	18:14 (1)	21:00	21:45	22:03	21:36	20:35	19:24	53	18:11 (1)	17:19	57	13:54 (2)	16:34	149	14:04 (2)	16:35	134	14:13 (2)
30	08:24		09:47 (4)					07:21	17:51 (1)	06:14	05:28	05:23	05:57	06:46	07:37		17:17 (1)	07:29		12:55 (2)	08:22		09:15 (4)	08:48		09:31 (4)
	17:22	107	14:30 (2)					20:08	18:12 (1)	21:01	21:46	22:03	21:34	20:33	19:21	53	18:10 (1)	17:17	60	13:55 (2)	16:33	148	14:04 (2)	16:36	135	14:14 (2)
31	08:22		09:51 (4)					07:19	17:55 (1)		05:27		05:58	06:48				07:31		12:54 (2)				08:48		09:31 (4)
	17:24	92	14:30 (2)					20:10	18:07 (1)		21:48		21:33	20:31				17:15	62	13:56 (2)				16:37	135	14:14 (2)
Potential sun hours	259			277			367			416	485	499	502	454	381			331			266			243		
Total, worst case		4295			1206			1349								802			1097			3432			4217	
Sun reduction		0,24			0,30			0,33								0,36			0,34			0,24			0,20	
Oper. time red.		0,95			0,95			0,95								0,95			0,95			0,95			0,95	
Wind dir. red.		0,64			0,68			0,66								0,66			0,67			0,65			0,64	
Total reduction		0,15			0,19			0,20								0,23			0,21			0,15			0,12	
Total, real		625			234			276								181			233			500			520	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:33/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion4.2M148@165Shadow receptor: AB - 3945LA1b

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December		
1	08:48		14:03 (4)	08:21		16:06 (3)	07:27		17:25 (2)	07:17	06:12	05:26	05:23	06:00	06:50			07:39		18:07 (2)	07:33		15:36 (3)	08:24		13:55 (4)
	16:38	33	14:36 (4)	17:26	32	16:38 (3)	18:18	22	17:47 (2)	20:12	21:03	21:49	22:03	21:31	20:29			19:19	13	18:20 (2)	17:13	34	16:10 (3)	16:32	21	14:16 (4)
2	08:48		14:04 (4)	08:19		16:05 (3)	07:25		17:25 (2)	07:14	06:10	05:25	05:24	06:01	06:51			07:40		18:05 (2)	07:34		15:35 (3)	08:25		13:55 (4)
	16:39	32	14:36 (4)	17:28	33	16:38 (3)	18:19	23	17:48 (2)	20:13	21:04	21:50	22:02	21:29	20:26			19:17	17	18:22 (2)	17:11	34	16:09 (3)	16:32	23	14:18 (4)
3	08:47		14:05 (4)	08:18		16:06 (3)	07:23		17:23 (2)	07:12	06:08	05:25	05:25	06:03	06:53			07:42		18:02 (2)	07:36		15:35 (3)	08:27		13:54 (4)
	16:40	32	14:37 (4)	17:30	34	16:40 (3)	18:21	25	17:48 (2)	20:15	21:06	21:51	22:02	21:27	20:24			19:14	20	18:22 (2)	17:09	34	16:09 (3)	16:31	25	14:19 (4)
4	08:47		14:05 (4)	08:16		16:06 (3)	07:21		17:23 (2)	07:10	06:06	05:24	05:25	06:04	06:55			07:44		18:01 (2)	07:38		15:35 (3)	08:28		13:53 (4)
	16:41	31	14:36 (4)	17:31	34	16:40 (3)	18:23	26	17:49 (2)	20:17	21:08	21:52	22:02	21:26	20:22			19:12	22	18:23 (2)	17:07	35	16:10 (3)	16:30	27	14:20 (4)
5	08:47		14:06 (4)	08:14		16:05 (3)	07:18		17:23 (2)	07:07	06:04	05:23	05:26	06:06	06:56			07:45		18:00 (2)	07:40		15:35 (3)	08:29		13:53 (4)
	16:42	30	14:36 (4)	17:33	35	16:40 (3)	18:25	26	17:49 (2)	20:19	21:09	21:53	22:01	21:24	20:20			19:10	24	18:24 (2)	17:06	35	16:10 (3)	16:30	28	14:21 (4)
6	08:47		14:07 (4)	08:13		16:05 (3)	07:16		17:22 (2)	07:05	06:02	05:22	05:27	06:08	06:58			07:47		17:58 (2)	07:42		15:35 (3)	08:31		13:53 (4)
	16:44	29	14:36 (4)	17:35	35	16:40 (3)	18:27	26	17:48 (2)	20:20	21:11	21:54	22:01	21:22	20:17			19:08	26	18:24 (2)	17:04	35	16:10 (3)	16:29	29	14:22 (4)
7	08:46		14:08 (4)	08:11		16:05 (3)	07:14		17:22 (2)	07:03	06:00	05:22	05:28	06:09	06:59			07:49		17:58 (2)	07:43		15:35 (3)	08:32		13:53 (4)
	16:45	28	14:36 (4)	17:37	35	16:40 (3)	18:28	26	17:48 (2)	20:22	21:13	21:55	22:00	21:20	20:15			19:05	26	18:24 (2)	17:02	35	16:10 (3)	16:29	30	14:23 (4)
8	08:46		14:09 (4)	08:09		16:06 (3)	07:12		17:23 (2)	07:01	05:59	05:21	05:29	06:11	07:01			07:51		17:58 (2)	07:45		15:36 (3)	08:33		13:53 (4)
	16:46	27	14:36 (4)	17:39	35	16:41 (3)	18:30	24	17:47 (2)	20:24	21:14	21:56	21:59	21:19	20:13			19:03	26	18:24 (2)	17:00	33	16:09 (3)	16:29	31	14:24 (4)
9	08:45		14:11 (4)	08:07		16:06 (3)	07:10		17:23 (2)	06:58	05:57	05:21	05:30	06:12	07:03			07:52		17:58 (2)	07:47		15:36 (3)	08:34		13:53 (4)
	16:48	25	14:36 (4)	17:41	34	16:40 (3)	18:32	24	17:47 (2)	20:25	21:16	21:57	21:59	21:17	20:10			19:01	26	18:24 (2)	16:59	33	16:09 (3)	16:28	32	14:25 (4)
10	08:45		14:12 (4)	08:06		16:07 (3)	07:07		17:24 (2)	06:56	05:55	05:20	05:31	06:14	07:04			07:54		17:57 (2)	07:49		15:37 (3)	08:35		13:53 (4)
	16:49	23	14:35 (4)	17:43	33	16:40 (3)	18:34	21	17:45 (2)	20:27	21:18	21:57	21:58	21:15	20:08			18:58	25	18:22 (2)	16:57	32	16:09 (3)	16:28	32	14:25 (4)
11	08:44		14:13 (4)	08:04		16:07 (3)	07:05		17:25 (2)	06:54	05:53	05:20	05:32	06:15	07:06			07:56		17:57 (2)	07:51		15:38 (3)	08:36		13:53 (4)
	16:50	21	14:34 (4)	17:44	33	16:40 (3)	18:35	19	17:44 (2)	20:29	21:19	21:58	21:57	21:13	20:06			18:56	25	18:22 (2)	16:56	30	16:08 (3)	16:28	33	14:26 (4)
12	08:44		14:15 (4)	08:02		16:08 (3)	07:03		17:27 (2)	06:52	05:52	05:20	05:33	06:17	07:08			07:57		17:58 (2)	07:52		15:38 (3)	08:38		13:53 (4)
	16:52	18	14:33 (4)	17:46	31	16:39 (3)	18:37	15	17:42 (2)	20:31	21:21	21:59	21:56	21:11	20:03			18:54	23	18:21 (2)	16:54	30	16:08 (3)	16:28	33	14:26 (4)
13	08:43		14:17 (4)	08:00		16:09 (3)	07:00		17:29 (2)	06:49	05:50	05:19	05:34	06:19	07:09			07:59		17:59 (2)	07:54		15:39 (3)	08:39		13:53 (4)
	16:53	15	14:32 (4)	17:48	29	16:38 (3)	18:39	10	17:39 (2)	20:32	21:22	22:00	21:56	21:09	20:01			18:52	21	18:20 (2)	16:52	28	16:07 (3)	16:28	34	14:27 (4)
14	08:42		14:20 (4)	07:58		16:10 (3)	06:58		18:11 (1)	06:47	05:49	05:19	05:35	06:20	07:11			08:01		18:00 (2)	07:56		15:40 (3)	08:39		13:53 (4)
	16:55	10	14:30 (4)	17:50	27	16:37 (3)	18:41	4	18:15 (1)	20:34	21:24	22:00	21:55	21:07	19:59			18:50	19	18:19 (2)	16:51	26	16:06 (3)	16:28	35	14:28 (4)
15	08:41			07:56		16:11 (3)	06:56		18:08 (1)	06:45	05:47	05:19	05:36	06:22	07:12			08:03		18:01 (2)	07:58		15:42 (3)	08:40		13:54 (4)
	16:56			17:52	25	16:36 (3)	18:42	9	18:17 (1)	20:36	21:26	22:01	21:54	21:05	19:56			18:47	15	18:16 (2)	16:50	24	16:06 (3)	16:28	34	14:28 (4)
16	08:41			07:54		16:13 (3)	06:54		18:05 (1)	06:43	05:45	05:19	05:37	06:24	07:14			08:04		18:04 (2)	07:59		15:43 (3)	08:41		13:54 (4)
	16:58			17:54	22	16:35 (3)	18:44	13	18:18 (1)	20:37	21:27	22:01	21:53	21:03	19:54			18:45	9	18:13 (2)	16:48	21	16:04 (3)	16:28	35	14:29 (4)
17	08:40			07:52		16:15 (3)	06:51		18:04 (1)	06:40	05:44	05:19	05:39	06:25	07:16		18:57 (1)	08:06			08:01		15:45 (3)	08:42		13:55 (4)
	17:00			17:56	18	16:33 (3)	18:46	17	18:21 (1)	20:39	21:29	22:02	21:52	21:01	19:52	5	19:02 (1)	18:43			16:47	18	16:03 (3)	16:28	35	14:30 (4)
18	08:39			07:50		16:18 (3)	06:49		18:04 (1)	06:38	05:43	05:19	05:40	06:27	07:17		18:53 (1)	08:08			08:03		15:46 (3)	08:43		13:55 (4)
	17:01			17:58	12	16:30 (3)	18:48	19	18:23 (1)	20:41	21:30	22:02	21:50	20:59	19:49	12	19:05 (1)	18:41			16:45	14	16:00 (3)	16:28	36	14:31 (4)
19	08:38			07:48			06:47		18:02 (1)	06:36	05:41	05:19	05:41	06:28	07:19		18:51 (1)	08:09			08:05		15:49 (3)	08:44		13:55 (4)
	17:03			17:59			18:49	20	18:22 (1)	20:42	21:32	22:02	21:49	20:57	19:47	14	19:05 (1)	18:39			16:44	9	15:58 (3)	16:29	35	14:30 (4)
20	08:37			07:46			06:44		18:02 (1)	06:34	05:40	05:19	05:43	06:30	07:21		18:49 (1)	08:11			08:06			08:44		13:56 (4)
	17:05			18:01			18:51	20	18:22 (1)	20:44	21:33	22:03	21:48	20:55	19:45	18	19:07 (1)	18:37			16:43			16:29	35	14:31 (4)
21	08:36			07:44			06:42		18:02 (1)	06:32	05:38	05:19	05:44	06:32	07:22		18:48 (1)	08:13			08:08			08:45		13:56 (4)
	17:06			18:03			18:53	20	18:22 (1)	20:46	21:35	22:03	21:47	20:53	19:42	18	19:06 (1)	18:35			16:42			16:30	35	14:31 (4)
22	08:34			07:42			06:40		18:02 (1)	06:30	05:37	05:19	05:45	06:33	07:24		18:47 (1)	08:15			08:10			08:45		13:57 (4)
	17:08			18:05			18:55	19	18:21 (1)	20:48	21:36	22:03	21:46	20:51	19:40	20	19:07 (1)	18:32			16:41			16:30	35	14:32 (4)
23	08:33		16:15 (3)	07:40			06:37		18:03 (1)	06:28	05:36	05:19	05:47	06:35	07:25		18:47 (1)	08:17		16:52 (3)	08:11			08:46		13:57 (4)
	17:10	9	16:24 (3)	18:07			18:56	17	18:20 (1)	20:49	21:37	22:03	21:44	20:48	19:38	20	19:07 (1)	18:30	4	16:56 (3)	16:39			16:31	35	14:32 (4)
24	08:32		16:12 (3)	07:38			06:35		18:04 (1)	06:26	05:35	05:20	05:48	06:37	07:27		18:46 (1)	08:18		16:47 (3)	08:13			08:46		13:58 (4)
	17:11	15	16:27 (3)	18:09			18:58	15	18:19 (1)	20:51	21:39	22:04	21:43	20:46	19:35	20	19:06 (1)	18:28	14	17:01 (3)	16:38			16:31	35	14:33 (4)
25	08:31		16:11 (3)	07:36			06:33		18:05 (1)	06:24	05:33	05:20	05:49	06:38	07:29		18:46 (1)	07:20		15:44 (3)	08:15			08:47		13:58 (4)
	17:13	18	16:29 (3)	18:10			19:00	12	18:17 (1)	20:53	21:40	22:04	21:42	20:44	19:33	19	19:05 (1)	17:26	19	16:03 (3)	16:37			16:32	36	14:34 (4)
26	08:29		16:10 (3)	07:34		17:30 (2)	06:30		18:07 (1)	06:22	05:32	05:20	05:51	06:40	07:30		18:47 (1)	07:22		15:42 (3)	08:16			08:47		13:58 (4)
	17:15	21	16:31 (3)	18:12	12	17:42 (2)	19:01	7	18:14 (1)	20:54	21:41	22:04	21:40	20:42	19:31	17	19:04 (1)	17:24	23	16:05 (3)	16:36			16:32	36	14:34 (4)
27	08:28		16:09 (3)	07:32		17:28 (2)	06:28			06:19	05:31	05:21	05:52	06:41	07:32		18:47 (1)	07:24		15:40 (3)	08:18			08:47		13:59 (4)
	17:17	24	16:33 (3)	18:14	16	17:44 (2)	19:03			20:56	21:43	22:03	21:39	20:40	19:28	14	19:01 (1)	17:22	26	16:06 (3)	16:35			16:33	35	14:34 (4)
28	08:27		16:08 (3)	07:29		17:27 (2)	06:26			06:17	05:30	05:21	05:54	06:43	07:34		18:48 (1)	07:25		15:39 (3)	08:19		14:01 (4)	08:47		13:59 (4)
	17:19	27	16:35 (3)	18:16	19	17:46 (2)	19:05			20:58	21:44	22:03	21:37	20:38	19:26	11	18:59 (1)	17:20	28	16:07 (3)	16:35	9	14:10 (4)	16:34	35	14:34 (4)
29	08:25		16:07 (3)				07:23			06:15	05:29	05:22	05:55	06:45	07:35		18:50 (1)	07:27		15:38 (3)	08:21		13:59 (4)	08:48		14:01 (4)
	17:20	28	16:35 (3)				20:07			20:59	21:45	22:03	21:36	20:35	19:24	7	18:57 (1)	17:18	30	16:08 (3)	16:34	14	14:13 (4)	16:35	34	14:35 (4)
30	08:24		16:07 (3)				07:21			06:14	05:28	05:23	05:57	06:46	07:37		18:10 (2)	07:29		15:37 (3)	08:22		13:56 (4)	08:48		14:01 (4)
	17:22	29	16:36 (3)				20:08			21:01	21:46	22:03	21:34	20:33	19:21	7	18:17 (2)	17:17	32	16:09 (3)	16:33	18	14:14 (4)	16:36	34	14:35 (4)
31	08:22		16:07 (3)				07:19				05:27		05:58	06:48				07:31		15:37 (3)				08:48		14:01 (4)
	17:24	31	16:38 (3)				20:10				21:48		21:32	20:31				17:15	32	16:09 (3)				16:37	34	14:35 (4)
Potential sun hours	259			277			367			416	485	499	502	454	381			331			266			243		
Total, worst case		556			584			479								202			545			581			1007	
Sun reduction		0,24			0,30			0,33								0,36			0,34			0,24			0,20	
Oper. time red.		0,95			0,95			0,95								0,95			0,95			0,95			0,95	
Wind dir. red.		0,68			0,67			0,64								0,63			0,66			0,67			0,69	
Total reduction		0,16			0,19			0,20								0,22			0,21			0,15			0,13	
Total, real		87			113			96								44			115			88			135	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:33/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion4.2M148@165Shadow receptor: AC - 3997MP25

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April		May	June	July	August	September		October		November		December	
1	08:48		09:51 (3)	08:21		09:20 (4)	07:27		16:27 (1)	07:17		17:18 (1)	06:12	05:26	05:23	06:00	06:50		07:39		16:52 (1)	07:33		11:40 (2)	08:24		09:02 (4)
	16:38	105	13:10 (2)	17:26	142	13:26 (2)	18:18	39	17:06 (1)	20:12	47	18:05 (1)	21:03	21:49	22:03	21:31	20:29		19:19	65	17:57 (1)	17:13	73	12:53 (2)	16:32	130	12:59 (2)
2	08:48		09:52 (3)	08:19		09:21 (4)	07:25		16:25 (1)	07:14		17:20 (1)	06:10	05:25	05:24	06:01	06:51		07:40		16:52 (1)	07:35		11:39 (2)	08:25		09:05 (4)
	16:39	106	13:11 (2)	17:28	138	13:25 (2)	18:20	44	17:09 (1)	20:14	44	18:04 (1)	21:05	21:50	22:03	21:29	20:26		19:17	64	17:56 (1)	17:11	75	12:54 (2)	16:32	124	12:59 (2)
3	08:48		09:52 (3)	08:18		09:23 (4)	07:23		16:23 (1)	07:12		17:22 (1)	06:08	05:25	05:25	06:03	06:53		07:42		16:52 (1)	07:36		09:43 (3)	08:27		09:06 (4)
	16:40	107	13:12 (2)	17:30	133	13:26 (2)	18:21	47	17:10 (1)	20:15	40	18:02 (1)	21:06	21:51	22:02	21:28	20:24		19:14	62	17:54 (1)	17:09	89	12:55 (2)	16:31	122	12:59 (2)
4	08:47		09:52 (3)	08:16		09:24 (4)	07:21		16:21 (1)	07:10		17:23 (1)	06:06	05:24	05:25	06:04	06:55		07:44		16:52 (1)	07:38		09:39 (3)	08:28		09:37 (3)
	16:41	108	13:12 (2)	17:31	128	13:26 (2)	18:23	50	17:11 (1)	20:17	36	17:59 (1)	21:08	21:52	22:02	21:26	20:22		19:12	62	17:54 (1)	17:07	96	12:54 (2)	16:31	113	13:00 (2)
5	08:47		09:52 (3)	08:14		09:26 (4)	07:19		16:20 (1)	07:07		17:26 (1)	06:04	05:23	05:26	06:06	06:56		17:30 (1)	07:46		16:53 (1)	07:40		08:58 (4)	08:29		09:38 (3)
	16:43	110	13:13 (2)	17:33	119	13:25 (2)	18:25	53	17:13 (1)	20:19	31	17:57 (1)	21:10	21:53	22:01	21:24	20:20	16	17:46 (1)	19:10	60	17:53 (1)	17:06	111	12:55 (2)	16:30	111	12:59 (2)
6	08:47		09:52 (3)	08:13		09:28 (4)	07:16		16:19 (1)	07:05		17:29 (1)	06:02	05:23	05:27	06:08	06:58		17:25 (1)	07:47		16:54 (1)	07:42		08:55 (4)	08:31		09:38 (3)
	16:44	110	13:13 (2)	17:35	110	13:25 (2)	18:27	55	17:14 (1)	20:20	25	17:54 (1)	21:11	21:54	22:01	21:22	20:17	25	17:50 (1)	19:08	58	17:52 (1)	17:04	121	12:55 (2)	16:30	110	12:59 (2)
7	08:46		09:53 (3)	08:11		10:09 (3)	07:14		16:17 (1)	07:03		17:34 (1)	06:00	05:22	05:28	06:09	06:59		17:21 (1)	07:49		16:54 (1)	07:44		08:54 (4)	08:32		09:39 (3)
	16:45	111	13:14 (2)	17:37	95	13:24 (2)	18:28	57	17:14 (1)	20:22	16	17:50 (1)	21:13	21:55	22:00	21:20	20:15	31	17:52 (1)	19:05	56	17:50 (1)	17:02	127	12:55 (2)	16:29	110	13:00 (2)
8	08:46		09:52 (3)	08:09		10:14 (3)	07:12		16:16 (1)	07:01			05:59	05:21	05:29	06:11	07:01		17:19 (1)	07:51		16:55 (1)	07:45		08:52 (4)	08:33		09:40 (3)
	16:46	113	13:15 (2)	17:39	88	13:25 (2)	18:30	60	17:16 (1)	20:24			21:14	21:56	21:59	21:19	20:13	35	17:54 (1)	19:03	54	17:49 (1)	17:00	133	12:56 (2)	16:29	109	13:00 (2)
9	08:45		09:23 (4)	08:07		12:10 (2)	07:10		16:16 (1)	06:58			05:57	05:21	05:30	06:12	07:03		17:16 (1)	07:52		16:56 (1)	07:47		08:52 (4)	08:34		09:40 (3)
	16:48	121	13:16 (2)	17:41	74	13:24 (2)	18:32	60	17:16 (1)	20:26			21:16	21:57	21:59	21:17	20:10	39	17:55 (1)	19:01	51	17:47 (1)	16:59	138	12:56 (2)	16:29	108	13:00 (2)
10	08:45		09:22 (4)	08:06		12:10 (2)	07:07		16:14 (1)	06:56			05:55	05:20	05:31	06:14	07:04		17:13 (1)	07:54		16:57 (1)	07:49		08:51 (4)	08:35		09:41 (3)
	16:49	124	13:16 (2)	17:43	74	13:24 (2)	18:34	62	17:16 (1)	20:27			21:18	21:57	21:58	21:15	20:08	44	17:57 (1)	18:59	49	17:46 (1)	16:57	142	12:56 (2)	16:28	106	13:00 (2)
11	08:44		09:20 (4)	08:04		12:11 (2)	07:05		16:13 (1)	06:54			05:54	05:20	05:32	06:16	07:06		17:10 (1)	07:56		16:57 (1)	07:51		08:51 (4)	08:37		09:41 (3)
	16:51	130	13:17 (2)	17:45	72	13:23 (2)	18:36	64	17:17 (1)	20:29			21:19	21:58	21:57	21:13	20:06	47	17:57 (1)	18:56	46	17:43 (1)	16:56	145	12:57 (2)	16:28	106	13:00 (2)
12	08:44		09:19 (4)	08:02		12:12 (2)	07:03		16:13 (1)	06:52			05:52	05:20	05:33	06:17	07:08		17:09 (1)	07:57		16:59 (1)	07:53		08:50 (4)	08:38		09:43 (3)
	16:52	133	13:17 (2)	17:46	70	13:22 (2)	18:37	65	17:18 (1)	20:31			21:21	21:59	21:56	21:11	20:03	49	17:58 (1)	18:54	42	17:41 (1)	16:54	147	12:57 (2)	16:28	105	13:01 (2)
13	08:43		09:18 (4)	08:00		12:13 (2)	07:00		16:12 (1)	06:49			05:50	05:19	05:34	06:19	07:09		17:07 (1)	07:59		17:01 (1)	07:54		08:50 (4)	08:39		09:44 (3)
	16:53	136	13:18 (2)	17:48	68	13:21 (2)	18:39	65	17:17 (1)	20:32			21:23	22:00	21:56	21:09	20:01	53	18:00 (1)	18:52	38	17:39 (1)	16:53	149	12:57 (2)	16:28	103	13:01 (2)
14	08:42		09:18 (4)	07:58		12:14 (2)	06:58		16:12 (1)	06:47			05:49	05:19	05:35	06:20	07:11		17:05 (1)	08:01		17:03 (1)	07:56		08:50 (4)	08:40		09:45 (3)
	16:55	138	13:18 (2)	17:50	66	13:20 (2)	18:41	66	17:18 (1)	20:34			21:24	22:00	21:55	21:07	19:59	55	18:00 (1)	18:50	33	17:36 (1)	16:51	151	12:58 (2)	16:28	101	13:01 (2)
15	08:41		09:17 (4)	07:56		12:15 (2)	06:56		16:11 (1)	06:45			05:47	05:19	05:36	06:22	07:13		17:04 (1)	08:03		17:05 (1)	07:58		08:50 (4)	08:40		09:44 (3)
	16:57	142	13:19 (2)	17:52	64	13:19 (2)	18:43	67	17:18 (1)	20:36			21:26	22:01	21:54	21:05	19:56	56	18:00 (1)	18:47	27	17:32 (1)	16:50	153	12:58 (2)	16:28	102	13:01 (2)
16	08:41		09:17 (4)	07:54		12:16 (2)	06:54		16:10 (1)	06:43			05:46	05:19	05:38	06:24	07:14		17:01 (1)	08:04		17:09 (1)	08:00		08:50 (4)	08:41		09:45 (3)
	16:58	144	13:20 (2)	17:54	61	13:17 (2)	18:44	67	17:17 (1)	20:37			21:27	22:01	21:53	21:03	19:54	59	18:00 (1)	18:45	20	17:29 (1)	16:48	152	12:58 (2)	16:28	101	13:01 (2)
17	08:40		09:17 (4)	07:52		12:18 (2)	06:51		16:10 (1)	06:41			05:44	05:19	05:39	06:25	07:16		17:00 (1)	08:06		17:17 (1)	08:01		08:51 (4)	08:42		09:46 (3)
	17:00	146	13:20 (2)	17:56	58	13:16 (2)	18:46	67	17:17 (1)	20:39			21:29	22:02	21:52	21:01	19:52	61	18:01 (1)	18:43	4	17:21 (1)	16:47	153	12:58 (2)	16:28	100	13:02 (2)
18	08:39		09:17 (4)	07:50		12:20 (2)	06:49		16:10 (1)	06:38			05:43	05:19	05:40	06:27	07:17		17:00 (1)	08:08			08:03		08:51 (4)	08:43		09:47 (3)
	17:01	146	13:21 (2)	17:58	54	13:14 (2)	18:48	68	17:18 (1)	20:41			21:30	22:02	21:51	20:59	19:49	62	18:02 (1)	18:41			16:46	154	12:58 (2)	16:29	99	13:02 (2)
19	08:38		09:17 (4)	07:48		12:22 (2)	06:47		16:10 (1)	06:36			05:41	05:19	05:41	06:28	07:19		16:58 (1)	08:10		13:07 (2)	08:05		08:51 (4)	08:44		09:47 (3)
	17:03	149	13:22 (2)	17:59	50	13:12 (2)	18:49	67	17:17 (1)	20:43			21:32	22:03	21:49	20:57	19:47	63	18:01 (1)	18:39	21	13:28 (2)	16:44	153	12:58 (2)	16:29	99	13:02 (2)
20	08:37		09:17 (4)	07:46		12:24 (2)	06:44		16:10 (1)	06:34			05:40	05:19	05:43	06:30	07:21		16:57 (1)	08:11		13:01 (2)	08:06		08:51 (4)	08:44		09:48 (3)
	17:05	148	13:22 (2)	18:01	44	13:08 (2)	18:51	67	17:17 (1)	20:44			21:33	22:03	21:48	20:55	19:45	64	18:01 (1)	18:37	33	13:34 (2)	16:43	153	12:58 (2)	16:29	98	13:03 (2)
21	08:36		09:17 (4)	07:44		12:27 (2)	06:42		16:10 (1)	06:32			05:38	05:19	05:44	06:32	07:22		16:56 (1)	08:13		12:57 (2)	08:08		08:52 (4)	08:45		09:49 (3)
	17:06	151	13:23 (2)	18:03	38	13:05 (2)	18:53	67	17:17 (1)	20:46			21:35	22:03	21:47	20:53	19:42	65	18:01 (1)	18:35	40	13:37 (2)	16:42	151	12:58 (2)	16:30	98	13:04 (2)
22	08:34		09:16 (4)	07:42		12:31 (2)	06:40		16:10 (1)	06:30			05:37	05:19	05:45	06:33	07:24		16:55 (1)	08:15		12:53 (2)	08:10		08:53 (4)	08:45		09:49 (3)
	17:08	153	13:23 (2)	18:05	30	13:01 (2)	18:55	65	17:15 (1)	20:48			21:36	22:03	21:46	20:51	19:40	66	18:01 (1)	18:33	46	13:39 (2)	16:41	148	12:58 (2)	16:30	98	13:04 (2)
23	08:33		09:17 (4)	07:40		12:39 (2)	06:37		16:10 (1)	06:28			05:36	05:20	05:47	06:35	07:26		16:55 (1)	08:17		12:51 (2)	08:11		08:54 (4)	08:46		09:49 (3)
	17:10	153	13:24 (2)	18:07	13	12:52 (2)	18:56	65	17:15 (1)	20:49			21:37	22:03	21:44	20:49	19:38	66	18:01 (1)	18:31	51	13:42 (2)	16:40	149	12:59 (2)	16:31	98	13:04 (2)
24	08:32		09:17 (4)	07:38			06:35		16:11 (1)	06:26			05:35	05:20	05:48	06:37	07:27		16:53 (1)	08:18		12:49 (2)	08:13		08:54 (4)	08:46		09:50 (3)
	17:12	155	13:25 (2)	18:09			18:58	64	17:15 (1)	20:51			21:39	22:04	21:43	20:46	19:35	67	18:00 (1)	18:28	55	13:44 (2)	16:38	147	12:58 (2)	16:31	99	13:05 (2)
25	08:31		09:17 (4)	07:36		16:41 (1)	06:33		16:11 (1)	06:24			05:33	05:20	05:49	06:38	07:29		16:53 (1)	07:20		11:47 (2)	08:15		08:55 (4)	08:47		09:50 (3)
	17:13	153	13:24 (2)	18:10	13	16:54 (1)	19:00	62	17:13 (1)	20:53			21:40	22:04	21:42	20:44	19:33	67	18:00 (1)	17:26	59	12:46 (2)	16:37	146	12:58 (2)	16:32	99	13:05 (2)
26	08:29		09:17 (4)	07:34		16:36 (1)	06:30		16:12 (1)	06:22			05:32	05:21	05:51	06:40	07:31		16:53 (1)	07:22		11:46 (2)	08:16		08:56 (4)	08:47		09:50 (3)
	17:15	153	13:25 (2)	18:12	23	16:59 (1)	19:02	61	17:13 (1)	20:54			21:41	22:04	21:40	20:42	19:31	67	18:00 (1)	17:24	61	12:47 (2)	16:36	144	12:59 (2)	16:32	100	13:06 (2)
27	08:28		09:17 (4)	07:32		16:32 (1)	06:28		16:13 (1)	06:20			05:31	05:21	05:52	06:42	07:32		16:52 (1)	07:24		11:44 (2)	08:18		08:57 (4)	08:47		09:50 (3)
	17:17	153	13:25 (2)	18:14	29	17:01 (1)	19:03	59	17:12 (1)	20:56			21:43	22:04	21:39	20:40	19:28	67	17:59 (1)	17:22	65	12:49 (2)	16:36	142	12:59 (2)	16:33	101	13:06 (2)
28	08:27		09:18 (4)	07:30		16:29 (1)	06:26		16:13 (1)	06:18			05:30	05:21	05:54	06:43	07:34		16:52 (1)	07:26		11:43 (2)	08:19		08:58 (4)	08:48		09:51 (3)
	17:19	151	13:26 (2)	18:16	35	17:04 (1)	19:05	57	17:10 (1)	20:58			21:44	22:03	21:37	20:38	19:26	67	17:59 (1)	17:20	67	12:50 (2)	16:35	139	12:58 (2)	16:34	102	13:08 (2)
29	08:25		09:18 (4)				07:24		17:14 (1)	06:16			05:29	05:22	05:55	06:45	07:35		16:52 (1)	07:27		11:42 (2)	08:21		09:00 (4)	08:48		09:51 (3)
	17:20	150	13:25 (2)				20:07	55	18:09 (1)	21:00			21:45	22:03	21:36	20:35	19:24	67	17:59 (1)	17:19	69	12:51 (2)	16:34	136	12:59 (2)	16:35	102	13:08 (2)
30	08:24		09:18 (4)				07:21		17:16 (1)	06:14			05:28	05:23	05:57	06:46	07:37		16:51 (1)	07:29		11:41 (2)	08:22		09:01 (4)	08:48		09:52 (3)
	17:22	147	13:25 (2)				20:08	52	18:08 (1)	21:01			21:47	22:03	21:34	20:33	19:21	66	17:57 (1)	17:17	71	12:52 (2)	16:33	133	12:59 (2)	16:36	103	13:09 (2)
31	08:22		09:20 (4)				07:19		17:17 (1)				05:27		05:58	06:48						07:31			11:40 (2)			09:51 (3)
	17:24	145	13:26 (2)				20:10	50	18:07 (1)				21:48		21:33	20:31						17:15	73	12:53 (2)			104	13:09 (2)
Potential sun hours	259			277			367		416				485	499	502	454	381					331			266		243	
Total, worst case		4191			1889			1847		239								1424					1502			4050		3261
Sun reduction		0,24			0,30			0,33		0,42								0,36					0,34			0,24		0,20
Oper. time red.		0,95			0,95			0,95		0,95								0,95					0,95			0,95		0,95
Wind dir. red.		0,64			0,66			0,67		0,67								0,67					0,67			0,64		0,64
Total reduction		0,14			0,19			0,21		0,26								0,23					0,21			0,14		0,12
Total, real		603			354			382		63								324					319			576		404

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:33/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion4.2M148@165Shadow receptor: AD - 3945LA9

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December		
1	08:48		10:55 (4)	08:21		15:54 (2)	07:27	16:07 (2)	07:17	06:12	05:26	05:23	06:00	06:50		07:39		18:06 (1)	07:33		15:19 (2)	08:24		12:38 (3)
	16:38	75	13:38 (3)	17:26	34	16:28 (2)	18:18	13 16:20 (2)	20:12	21:03	21:49	22:03	21:31	20:29		19:19	32	18:38 (1)	17:13	47	16:06 (2)	16:32	43	13:21 (3)
2	08:48		10:56 (4)	08:19		15:53 (2)	07:25		07:14	06:10	05:25	05:24	06:01	06:51		07:40		18:07 (1)	07:35		15:20 (2)	08:25		12:38 (3)
	16:39	73	13:38 (3)	17:28	36	16:29 (2)	18:19		20:14	21:05	21:50	22:02	21:29	20:26		19:17	30	18:37 (1)	17:11	45	16:05 (2)	16:32	44	13:22 (3)
3	08:48		10:57 (4)	08:18		15:53 (2)	07:23		07:12	06:08	05:25	05:25	06:03	06:53		07:42		18:07 (1)	07:36		15:19 (2)	08:27		10:52 (4)
	16:40	72	13:39 (3)	17:30	38	16:31 (2)	18:21		20:15	21:06	21:51	22:02	21:28	20:24		19:14	28	18:35 (1)	17:09	45	16:04 (2)	16:31	49	13:23 (3)
4	08:47		10:58 (4)	08:16		15:52 (2)	07:21		07:10	06:06	05:24	05:25	06:04	06:55		07:44		18:08 (1)	07:38		15:20 (2)	08:28		10:49 (4)
	16:41	69	13:38 (3)	17:31	40	16:32 (2)	18:23		20:17	21:08	21:52	22:02	21:26	20:22		19:12	26	18:34 (1)	17:07	43	16:03 (2)	16:30	57	13:24 (3)
5	08:47		10:59 (4)	08:14		15:51 (2)	07:19		07:07	06:04	05:23	05:26	06:06	06:56		07:46		18:09 (1)	07:40		15:20 (2)	08:29		10:48 (4)
	16:42	68	13:39 (3)	17:33	41	16:32 (2)	18:25		20:19	21:10	21:53	22:01	21:24	20:20		19:10	24	18:33 (1)	17:06	43	16:03 (2)	16:30	60	13:24 (3)
6	08:47		11:00 (4)	08:13		15:51 (2)	07:16	17:37 (1)	07:05	06:02	05:23	05:27	06:08	06:58		07:47		18:10 (1)	07:42		15:21 (2)	08:31		10:46 (4)
	16:44	63	13:38 (3)	17:35	42	16:33 (2)	18:27	13 17:50 (1)	20:20	21:11	21:54	22:01	21:22	20:17		19:08	20	18:30 (1)	17:04	41	16:02 (2)	16:29	64	13:25 (3)
7	08:46		11:02 (4)	08:11		15:50 (2)	07:14	17:35 (1)	07:03	06:00	05:22	05:28	06:09	06:59		07:49		18:12 (1)	07:44		15:22 (2)	08:32		10:47 (4)
	16:45	61	13:39 (3)	17:37	44	16:34 (2)	18:28	18 17:53 (1)	20:22	21:13	21:55	22:00	21:20	20:15		19:05	15	18:27 (1)	17:02	39	16:01 (2)	16:29	67	13:26 (3)
8	08:46		11:04 (4)	08:09		15:50 (2)	07:12	17:33 (1)	07:01	05:59	05:21	05:29	06:11	07:01		07:51		18:15 (1)	07:45		15:23 (2)	08:33		10:46 (4)
	16:46	57	13:39 (3)	17:39	45	16:35 (2)	18:30	22 17:55 (1)	20:24	21:14	21:56	21:59	21:19	20:13		19:03	9	18:24 (1)	17:00	37	16:00 (2)	16:29	69	13:26 (3)
9	08:45		11:08 (4)	08:07		15:50 (2)	07:10	17:31 (1)	06:58	05:57	05:21	05:30	06:12	07:03		07:52			07:47		15:24 (2)	08:34		10:45 (4)
	16:48	50	13:40 (3)	17:41	46	16:36 (2)	18:32	26 17:57 (1)	20:25	21:16	21:57	21:59	21:17	20:10		19:01			16:59	35	15:59 (2)	16:28	72	13:27 (3)
10	08:45		12:55 (3)	08:06		15:49 (2)	07:07	17:29 (1)	06:56	05:55	05:20	05:31	06:14	07:04		07:54			07:49		15:25 (2)	08:35		10:45 (4)
	16:49	44	13:39 (3)	17:43	47	16:36 (2)	18:34	28 17:57 (1)	20:27	21:18	21:57	21:58	21:15	20:08		18:59			16:57	33	15:58 (2)	16:28	73	13:27 (3)
11	08:44		12:56 (3)	08:04		15:49 (2)	07:05	17:28 (1)	06:54	05:54	05:20	05:32	06:16	07:06		07:56			07:51		15:27 (2)	08:37		10:45 (4)
	16:50	43	13:39 (3)	17:45	47	16:36 (2)	18:36	30 17:58 (1)	20:29	21:19	21:58	21:57	21:13	20:06		18:56			16:56	30	15:57 (2)	16:28	75	13:28 (3)
12	08:44		12:57 (3)	08:02		15:49 (2)	07:03	17:28 (1)	06:52	05:52	05:20	05:33	06:17	07:08		07:57		16:45 (2)	07:52		15:28 (2)	08:38		10:45 (4)
	16:52	42	13:39 (3)	17:46	47	16:36 (2)	18:37	31 17:59 (1)	20:31	21:21	21:59	21:56	21:11	20:03		18:54	3	16:48 (2)	16:54	28	15:56 (2)	16:28	74	13:28 (3)
13	08:43		12:58 (3)	08:00		15:49 (2)	07:00	17:26 (1)	06:49	05:50	05:19	05:34	06:19	07:09		07:59		16:38 (2)	07:54		15:30 (2)	08:39		10:46 (4)
	16:53	40	13:38 (3)	17:48	48	16:37 (2)	18:39	32 17:58 (1)	20:32	21:22	22:00	21:56	21:09	20:01		18:52	17	16:55 (2)	16:53	24	15:54 (2)	16:28	76	13:30 (3)
14	08:42		12:59 (3)	07:58		15:49 (2)	06:58	17:26 (1)	06:47	05:49	05:19	05:35	06:20	07:11		08:01		16:35 (2)	07:56		15:33 (2)	08:40		10:45 (4)
	16:55	39	13:38 (3)	17:50	48	16:37 (2)	18:41	33 17:59 (1)	20:34	21:24	22:00	21:55	21:07	19:59		18:50	23	16:58 (2)	16:51	19	15:52 (2)	16:28	77	13:29 (3)
15	08:41		13:00 (3)	07:56		15:49 (2)	06:56	17:26 (1)	06:45	05:47	05:19	05:36	06:22	07:12		08:03		16:31 (2)	07:58		15:36 (2)	08:40		10:45 (4)
	16:56	37	13:37 (3)	17:52	48	16:37 (2)	18:43	33 17:59 (1)	20:36	21:26	22:01	21:54	21:05	19:56		18:47	28	16:59 (2)	16:50	13	15:49 (2)	16:28	78	13:30 (3)
16	08:41		13:01 (3)	07:54		15:49 (2)	06:54	17:25 (1)	06:43	05:46	05:19	05:38	06:24	07:14		08:04		16:29 (2)	08:00		15:42 (2)	08:41		10:46 (4)
	16:58	36	13:37 (3)	17:54	48	16:37 (2)	18:44	33 17:58 (1)	20:37	21:27	22:01	21:53	21:03	19:54		18:45	31	17:00 (2)	16:48	2	15:44 (2)	16:28	79	13:31 (3)
17	08:40		13:03 (3)	07:52		15:50 (2)	06:51	17:25 (1)	06:41	05:44	05:19	05:39	06:25	07:16		08:06		16:27 (2)	08:01			08:42		10:46 (4)
	17:00	33	13:36 (3)	17:56	46	16:36 (2)	18:46	33 17:58 (1)	20:39	21:29	22:02	21:52	21:01	19:52		18:43	35	17:02 (2)	16:47			16:28	79	13:31 (3)
18	08:39		13:05 (3)	07:50		15:50 (2)	06:49	17:26 (1)	06:38	05:43	05:19	05:40	06:27	07:17	18:22 (1)	08:08		16:25 (2)	08:03			08:43		10:47 (4)
	17:01	30	13:35 (3)	17:58	46	16:36 (2)	18:48	32 17:58 (1)	20:41	21:30	22:02	21:50	20:59	19:49	12 18:34 (1)	18:41	38	17:03 (2)	16:45			16:28	78	13:32 (3)
19	08:38		13:07 (3)	07:48		15:51 (2)	06:47	17:25 (1)	06:36	05:41	05:19	05:41	06:28	07:19	18:18 (1)	08:10		16:24 (2)	08:05			08:44		10:47 (4)
	17:03	27	13:34 (3)	17:59	45	16:36 (2)	18:49	31 17:56 (1)	20:43	21:32	22:03	21:49	20:57	19:47	18 18:36 (1)	18:39	40	17:04 (2)	16:44			16:29	79	13:32 (3)
20	08:37		13:09 (3)	07:46		15:50 (2)	06:44	17:26 (1)	06:34	05:40	05:19	05:43	06:30	07:21	18:16 (1)	08:11		16:23 (2)	08:06		12:52 (3)	08:44		10:47 (4)
	17:05	24	13:33 (3)	18:01	44	16:34 (2)	18:51	30 17:56 (1)	20:44	21:33	22:03	21:48	20:55	19:45	22 18:38 (1)	18:37	42	17:05 (2)	16:43	10	13:02 (3)	16:29	80	13:33 (3)
21	08:36		13:13 (3)	07:44		15:51 (2)	06:42	17:27 (1)	06:32	05:38	05:19	05:44	06:32	07:22	18:13 (1)	08:13		16:22 (2)	08:08		12:48 (3)	08:45		10:48 (4)
	17:06	18	13:31 (3)	18:03	43	16:34 (2)	18:53	28 17:55 (1)	20:46	21:35	22:03	21:47	20:53	19:42	25 18:38 (1)	18:35	43	17:05 (2)	16:42	18	13:06 (3)	16:30	80	13:34 (3)
22	08:34		13:17 (3)	07:42		15:52 (2)	06:40	17:28 (1)	06:30	05:37	05:19	05:45	06:33	07:24	18:12 (1)	08:15		16:20 (2)	08:10		12:45 (3)	08:45		10:48 (4)
	17:08	10	13:27 (3)	18:05	41	16:33 (2)	18:55	25 17:53 (1)	20:48	21:36	22:03	21:46	20:51	19:40	27 18:39 (1)	18:33	45	17:05 (2)	16:41	24	13:09 (3)	16:30	80	13:34 (3)
23	08:33			07:40		15:53 (2)	06:37	17:29 (1)	06:28	05:36	05:19	05:47	06:35	07:26	18:11 (1)	08:17		16:20 (2)	08:11		12:44 (3)	08:46		10:48 (4)
	17:10			18:07	39	16:32 (2)	18:56	23 17:52 (1)	20:49	21:37	22:03	21:44	20:48	19:38	29 18:40 (1)	18:30	45	17:05 (2)	16:39	27	13:11 (3)	16:31	80	13:34 (3)
24	08:32			07:38		15:55 (2)	06:35	17:31 (1)	06:26	05:35	05:20	05:48	06:37	07:27	18:09 (1)	08:18		16:19 (2)	08:13		12:42 (3)	08:46		10:50 (4)
	17:11			18:09	36	16:31 (2)	18:58	19 17:50 (1)	20:51	21:39	22:04	21:43	20:46	19:35	31 18:40 (1)	18:28	47	17:06 (2)	16:38	30	13:12 (3)	16:31	79	13:35 (3)
25	08:31			07:36		15:56 (2)	06:33	17:33 (1)	06:24	05:33	05:20	05:49	06:38	07:29	18:09 (1)	07:20		15:19 (2)	08:15		12:41 (3)	08:47		10:50 (4)
	17:13			18:10	34	16:30 (2)	19:00	13 17:46 (1)	20:53	21:40	22:04	21:42	20:44	19:33	31 18:40 (1)	17:26	47	16:06 (2)	16:37	33	13:14 (3)	16:32	78	13:35 (3)
26	08:29		16:08 (2)	07:34		15:57 (2)	06:30		06:22	05:32	05:21	05:51	06:40	07:30		18:08 (1)	07:22		15:19 (2)	08:16		12:40 (3)	08:47		10:50 (4)
	17:15	3	16:11 (2)	18:12	31	16:28 (2)	19:02		20:54	21:41	22:04	21:40	20:42	19:31	33 18:41 (1)	17:24	47	16:06 (2)	16:36	36	13:16 (3)	16:32	79	13:35 (3)
27	08:28		16:03 (2)	07:32		16:00 (2)	06:28		06:20	05:31	05:21	05:52	06:42	07:32		18:07 (1)	07:24		15:19 (2)	08:18		12:40 (3)	08:47		10:51 (4)
	17:17	14	16:17 (2)	18:14	26	16:26 (2)	19:03		20:56	21:43	22:04	21:39	20:40	19:28	33 18:40 (1)	17:22	47	16:06 (2)	16:36	37	13:17 (3)	16:33	78	13:35 (3)
28	08:27		16:01 (2)	07:29		16:03 (2)	06:26		06:18	05:30	05:21	05:54	06:43	07:34		18:07 (1)	07:26		15:18 (2)	08:19		12:39 (3)	08:47		10:52 (4)
	17:19	19	16:20 (2)	18:16	20	16:23 (2)	19:05		20:58	21:44	22:03	21:37	20:38	19:26	33 18:40 (1)	17:20	48	16:06 (2)	16:35	39	13:18 (3)	16:34	78	13:37 (3)
29	08:25		15:58 (2)				07:23		06:16	05:29	05:22	05:55	06:45	07:35		18:07 (1)	07:27		15:18 (2)	08:21		12:39 (3)	08:48		10:53 (4)
	17:20	24	16:22 (2)				20:07		21:00	21:45	22:03	21:36	20:35	19:24	33 18:40 (1)	17:18	48	16:06 (2)	16:34	40	13:19 (3)	16:35	77	13:37 (3)
30	08:24		15:56 (2)				07:21		06:14	05:28	05:23	05:57	06:46	07:37		18:06 (1)	07:29		15:19 (2)	08:22		12:38 (3)	08:48		10:54 (4)
	17:22	28	16:24 (2)				20:08		21:01	21:46	22:03	21:34	20:33	19:21	32 18:38 (1)	17:17	47	16:06 (2)	16:33	42	13:20 (3)	16:36	75	13:37 (3)
31	08:22		15:56 (2)				07:19			05:27		05:58	06:48			07:31		15:19 (2)				08:48		10:54 (4)
	17:24	30	16:26 (2)				20:10			21:48		21:32	20:31			17:15	47	16:06 (2)				16:37	75	13:37 (3)
Potential sun hours	259			277			367		416	485	499	502	454	381		331			266			243		
Total, worst case		1129			1150			546							359		952			860			2232	
Sun reduction		0,24			0,30			0,33							0,36		0,34			0,24			0,20	
Oper. time red.		0,95			0,95			0,95							0,95		0,95			0,95			0,95	
Wind dir. red.		0,67			0,67			0,63							0,63		0,66			0,67			0,66	
Total reduction		0,15			0,19			0,20							0,22		0,21			0,15			0,13	
Total, real		173			221			108							78		202			130			287	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:33/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion4.2M148@165Shadow receptor: AE - 3945LA1a

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January			February			March	April	May	June	July	August	September	October			November			December		
1	08:48		15:44 (4)	08:21		15:50 (4)	07:27	07:16	06:12	05:26	05:23	06:00	06:50	07:39			07:33			08:24		15:24 (4)
	16:38	10	15:54 (4)	17:26	21	16:11 (4)	18:18	20:12	21:03	21:49	22:03	21:31	20:29	19:19			17:13			16:32	24	15:48 (4)
2	08:48		15:44 (4)	08:19		15:52 (4)	07:25	07:14	06:10	05:25	05:24	06:01	06:51	07:40			07:34			08:25		15:25 (4)
	16:39	12	15:56 (4)	17:28	18	16:10 (4)	18:19	20:13	21:04	21:50	22:02	21:29	20:26	19:17			17:11			16:32	24	15:49 (4)
3	08:47		15:44 (4)	08:18		15:55 (4)	07:23	07:12	06:08	05:25	05:25	06:03	06:53	07:42			07:36			08:27		15:26 (4)
	16:40	14	15:58 (4)	17:30	14	16:09 (4)	18:21	20:15	21:06	21:51	22:02	21:27	20:24	19:14			17:09			16:31	22	15:48 (4)
4	08:47		15:43 (4)	08:16		15:58 (4)	07:21	07:10	06:06	05:24	05:25	06:04	06:54	07:44			07:38			08:28		15:26 (4)
	16:41	15	15:58 (4)	17:31	7	16:05 (4)	18:23	20:17	21:08	21:52	22:02	21:26	20:22	19:12			17:07			16:30	21	15:47 (4)
5	08:47		15:43 (4)	08:14			07:18	07:07	06:04	05:23	05:26	06:06	06:56	07:45			07:40			08:29		15:28 (4)
	16:42	17	16:00 (4)	17:33			18:25	20:19	21:09	21:53	22:01	21:24	20:20	19:10			17:05			16:30	20	15:48 (4)
6	08:47		15:42 (4)	08:13			07:16	07:05	06:02	05:22	05:27	06:07	06:58	07:47			07:42			08:31		15:28 (4)
	16:44	19	16:01 (4)	17:35			18:27	20:20	21:11	21:54	22:01	21:22	20:17	19:08			17:04			16:29	19	15:47 (4)
7	08:46		15:43 (4)	08:11			07:14	07:03	06:00	05:22	05:28	06:09	06:59	07:49			07:43		15:27 (4)	08:32		15:30 (4)
	16:45	19	16:02 (4)	17:37			18:28	20:22	21:13	21:55	22:00	21:20	20:15	19:05			17:02	9	15:36 (4)	16:29	17	15:47 (4)
8	08:46		15:42 (4)	08:09			07:12	07:00	05:59	05:21	05:29	06:11	07:01	07:51			07:45		15:24 (4)	08:33		15:31 (4)
	16:46	21	16:03 (4)	17:39			18:30	20:24	21:14	21:56	21:59	21:19	20:13	19:03			17:00	15	15:39 (4)	16:29	15	15:46 (4)
9	08:45		15:42 (4)	08:07			07:09	06:58	05:57	05:21	05:30	06:12	07:03	07:52			07:47		15:22 (4)	08:34		15:32 (4)
	16:48	22	16:04 (4)	17:41			18:32	20:25	21:16	21:57	21:59	21:17	20:10	19:01			16:59	19	15:41 (4)	16:28	14	15:46 (4)
10	08:45		15:42 (4)	08:06			07:07	06:56	05:55	05:20	05:31	06:14	07:04	07:54			07:49		15:21 (4)	08:35		15:33 (4)
	16:49	24	16:06 (4)	17:43			18:34	20:27	21:18	21:57	21:58	21:15	20:08	18:58			16:57	21	15:42 (4)	16:28	12	15:45 (4)
11	08:44		15:42 (4)	08:04			07:05	06:54	05:53	05:20	05:32	06:15	07:06	07:56			07:51		15:20 (4)	08:36		15:34 (4)
	16:50	24	16:06 (4)	17:44			18:35	20:29	21:19	21:58	21:57	21:13	20:06	18:56			16:56	23	15:43 (4)	16:28	11	15:45 (4)
12	08:44		15:42 (4)	08:02		17:06 (3)	07:03	06:51	05:52	05:20	05:33	06:17	07:08	07:57			07:52		15:19 (4)	08:38		15:36 (4)
	16:52	25	16:07 (4)	17:46	10	17:16 (3)	18:37	20:31	21:21	21:59	21:56	21:11	20:03	18:54			16:54	25	15:44 (4)	16:28	8	15:44 (4)
13	08:43		15:42 (4)	08:00		17:04 (3)	07:00	06:49	05:50	05:19	05:34	06:19	07:09	07:59			07:54		15:19 (4)	08:39		15:37 (4)
	16:53	26	16:08 (4)	17:48	15	17:19 (3)	18:39	20:32	21:22	21:59	21:55	21:09	20:01	18:52			16:52	26	15:45 (4)	16:28	6	15:43 (4)
14	08:42		15:41 (4)	07:58		17:02 (3)	06:58	06:47	05:49	05:19	05:35	06:20	07:11	08:01		17:41 (3)	07:56		15:18 (4)	08:39		
	16:55	28	16:09 (4)	17:50	18	17:20 (3)	18:41	20:34	21:24	22:00	21:55	21:07	19:59	18:50	6	17:47 (3)	16:51	28	15:46 (4)	16:28		
15	08:41		15:41 (4)	07:56		17:01 (3)	06:56	06:45	05:47	05:19	05:36	06:22	07:12	08:03		17:36 (3)	07:58		15:18 (4)	08:40		
	16:56	28	16:09 (4)	17:52	21	17:22 (3)	18:42	20:36	21:26	22:01	21:54	21:05	19:56	18:47	13	17:49 (3)	16:50	29	15:47 (4)	16:28		
16	08:40		15:41 (4)	07:54		17:00 (3)	06:54	06:43	05:45	05:19	05:37	06:24	07:14	08:04		17:34 (3)	07:59		15:18 (4)	08:41		
	16:58	29	16:10 (4)	17:54	22	17:22 (3)	18:44	20:37	21:27	22:01	21:53	21:03	19:54	18:45	17	17:51 (3)	16:48	29	15:47 (4)	16:28		
17	08:40		15:42 (4)	07:52		17:00 (3)	06:51	06:40	05:44	05:19	05:39	06:25	07:16	08:06		17:33 (3)	08:01		15:18 (4)	08:42		
	17:00	29	16:11 (4)	17:56	23	17:23 (3)	18:46	20:39	21:29	22:02	21:52	21:01	19:52	18:43	19	17:52 (3)	16:47	30	15:48 (4)	16:28		
18	08:39		15:42 (4)	07:50		16:59 (3)	06:49	06:38	05:42	05:19	05:40	06:27	07:17	08:08		17:31 (3)	08:03		15:17 (4)	08:43		
	17:01	30	16:12 (4)	17:57	25	17:24 (3)	18:48	20:41	21:30	22:02	21:50	20:59	19:49	18:41	22	17:53 (3)	16:45	30	15:47 (4)	16:28		
19	08:38		15:42 (4)	07:48		16:58 (3)	06:47	06:36	05:41	05:19	05:41	06:28	07:19	08:09		17:31 (3)	08:05		15:17 (4)	08:43		
	17:03	30	16:12 (4)	17:59	25	17:23 (3)	18:49	20:42	21:32	22:02	21:49	20:57	19:47	18:39	23	17:54 (3)	16:44	31	15:48 (4)	16:29		
20	08:37		15:42 (4)	07:46		16:58 (3)	06:44	06:34	05:40	05:19	05:42	06:30	07:21	08:11		17:30 (3)	08:06		15:18 (4)	08:44		
	17:05	31	16:13 (4)	18:01	25	17:23 (3)	18:51	20:44	21:33	22:03	21:48	20:55	19:45	18:37	24	17:54 (3)	16:43	30	15:48 (4)	16:29		
21	08:35		15:42 (4)	07:44		16:59 (3)	06:42	06:32	05:38	05:19	05:44	06:32	07:22	08:13		17:29 (3)	08:08		15:18 (4)	08:45		
	17:06	31	16:13 (4)	18:03	24	17:23 (3)	18:53	20:46	21:34	22:03	21:47	20:53	19:42	18:35	24	17:53 (3)	16:42	31	15:49 (4)	16:29		
22	08:34		15:43 (4)	07:42		16:59 (3)	06:40	06:30	05:37	05:19	05:45	06:33	07:24	08:15		17:29 (3)	08:10		15:19 (4)	08:45		
	17:08	30	16:13 (4)	18:05	24	17:23 (3)	18:55	20:48	21:36	22:03	21:46	20:51	19:40	18:32	24	17:53 (3)	16:41	30	15:49 (4)	16:30		
23	08:33		15:43 (4)	07:40		17:00 (3)	06:37	06:28	05:36	05:19	05:47	06:35	07:25	08:17		17:29 (3)	08:11		15:19 (4)	08:46		
	17:10	31	16:14 (4)	18:07	22	17:22 (3)	18:56	20:49	21:37	22:03	21:44	20:48	19:38	18:30	24	17:53 (3)	16:39	30	15:49 (4)	16:30		
24	08:32		15:43 (4)	07:38		17:01 (3)	06:35	06:26	05:34	05:20	05:48	06:37	07:27	08:18		17:29 (3)	08:13		15:19 (4)	08:46		
	17:11	30	16:13 (4)	18:09	20	17:21 (3)	18:58	20:51	21:39	22:03	21:43	20:46	19:35	18:28	24	17:53 (3)	16:38	30	15:49 (4)	16:31		
25	08:31		15:44 (4)	07:36		17:02 (3)	06:33	06:24	05:33	05:20	05:49	06:38	07:29	07:20		16:29 (3)	08:15		15:20 (4)	08:47		
	17:13	30	16:14 (4)	18:10	18	17:20 (3)	19:00	20:53	21:40	22:04	21:41	20:44	19:33	17:26	23	16:52 (3)	16:37	29	15:49 (4)	16:32		
26	08:29		15:45 (4)	07:34		17:03 (3)	06:30	06:21	05:32	05:20	05:51	06:40	07:30	07:22		16:30 (3)	08:16		15:21 (4)	08:47		
	17:15	29	16:14 (4)	18:12	15	17:18 (3)	19:01	20:54	21:41	22:04	21:40	20:42	19:31	17:24	22	16:52 (3)	16:36	28	15:49 (4)	16:32		
27	08:28		15:45 (4)	07:32		17:05 (3)	06:28	06:19	05:31	05:21	05:52	06:41	07:32	07:24		16:31 (3)	08:18		15:21 (4)	08:47		
	17:17	29	16:14 (4)	18:14	11	17:16 (3)	19:03	20:56	21:43	22:03	21:39	20:40	19:28	17:22	20	16:51 (3)	16:35	28	15:49 (4)	16:33		
28	08:27		15:46 (4)	07:29			06:26	06:17	05:30	05:21	05:54	06:43	07:34	07:25		16:32 (3)	08:19		15:22 (4)	08:47		
	17:19	28	16:14 (4)	18:16			19:05	20:58	21:44	22:03	21:37	20:38	19:26	17:20	17	16:49 (3)	16:35	27	15:49 (4)	16:34		
29	08:25		15:47 (4)				07:23	06:15	05:29	05:22	05:55	06:45	07:35	07:27		16:34 (3)	08:21		15:23 (4)	08:48		
	17:20	26	16:13 (4)				20:07	20:59	21:45	22:03	21:36	20:35	19:24	17:18	14	16:48 (3)	16:34	26	15:49 (4)	16:35		
30	08:24		15:47 (4)				07:21	06:13	05:28	05:22	05:57	06:46	07:37	07:29		16:36 (3)	08:22		15:23 (4)	08:48		15:46 (4)
	17:22	25	16:12 (4)				20:08	21:01	21:46	22:03	21:34	20:33	19:21	17:16	9	16:45 (3)	16:33	25	15:48 (4)	16:36	4	15:50 (4)
31	08:22		15:49 (4)				07:19		05:27		05:58	06:48		07:31						08:48		15:45 (4)
	17:24	23	16:12 (4)				20:10		21:48		21:32	20:31		17:15						16:37	7	15:52 (4)
Potential sun hours	259			277			367	416	485	499	502	454	381	331			266			243		
Total, worst case		765			378										325			629			224	
Sun reduction		0,24			0,30										0,34			0,24			0,20	
Oper. time red.		0,95			0,95										0,95			0,95			0,95	
Wind dir. red.		0,67			0,67										0,67			0,67			0,67	
Total reduction		0,15			0,19										0,21			0,15			0,13	
Total, real		117			73										69			95			29	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:33/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion4.2M148@165Shadow receptor: AF - 3945LA7

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December		
1	08:48	11:43 (4)	08:21		07:27	16:31 (2)	07:17	06:12	05:26	05:23	06:00	06:50		07:39		18:28 (1)	07:33	16:15 (2)	08:24		13:37 (3)
	16:38	67 14:42 (3)	17:26		18:18	36 17:07 (2)	20:12	21:03	21:49	22:03	21:31	20:29		19:19	18	18:46 (1)	17:13	8 16:23 (2)	16:32	50	14:27 (3)
2	08:48	11:45 (4)	08:19		07:25	16:32 (2)	07:14	06:10	05:25	05:24	06:01	06:51		07:40		18:30 (1)	07:35		08:25		13:37 (3)
	16:39	64 14:42 (3)	17:28		18:19	35 17:07 (2)	20:13	21:05	21:50	22:02	21:29	20:26		19:17	14	18:44 (1)	17:11		16:32	51	14:28 (3)
3	08:48	11:48 (4)	08:18		07:23	16:32 (2)	07:12	06:08	05:25	05:25	06:03	06:53		07:42		18:32 (1)	07:36		08:27		13:37 (3)
	16:40	59 14:43 (3)	17:30		18:21	33 17:05 (2)	20:15	21:06	21:51	22:02	21:27	20:24		19:14	8	18:40 (1)	17:09		16:31	51	14:28 (3)
4	08:47	13:51 (3)	08:16		07:21	16:33 (2)	07:10	06:06	05:24	05:25	06:04	06:55		07:44			07:38		08:28		13:38 (3)
	16:41	52 14:43 (3)	17:31		18:23	31 17:04 (2)	20:17	21:08	21:52	22:02	21:26	20:22		19:12			17:07		16:30	51	14:29 (3)
5	08:47	13:52 (3)	08:14		07:18	16:35 (2)	07:07	06:04	05:23	05:26	06:06	06:56		07:45		17:23 (2)	07:40		08:29		13:38 (3)
	16:42	52 14:44 (3)	17:33		18:25	27 17:02 (2)	20:19	21:10	21:53	22:01	21:24	20:20		19:10	5	17:28 (2)	17:06		16:30	51	14:29 (3)
6	08:47	13:52 (3)	08:13		07:16	16:36 (2)	07:05	06:02	05:23	05:27	06:08	06:58		07:47		17:16 (2)	07:42		08:31		13:38 (3)
	16:44	51 14:43 (3)	17:35		18:27	24 17:00 (2)	20:20	21:11	21:54	22:01	21:22	20:17		19:08	16	17:32 (2)	17:04		16:29	52	14:30 (3)
7	08:46	13:53 (3)	08:11		07:14	16:39 (2)	07:03	06:00	05:22	05:28	06:09	06:59		07:49		17:13 (2)	07:44		08:32		13:39 (3)
	16:45	51 14:44 (3)	17:37		18:29	19 16:58 (2)	20:22	21:13	21:55	22:00	21:20	20:15		19:05	22	17:35 (2)	17:02		16:29	52	14:31 (3)
8	08:46	13:53 (3)	08:09		07:12	16:42 (2)	07:01	05:59	05:21	05:29	06:11	07:01		07:51		17:11 (2)	07:45		08:33		13:39 (3)
	16:46	51 14:44 (3)	17:39		18:30	12 16:54 (2)	20:24	21:14	21:56	21:59	21:19	20:13		19:03	26	17:37 (2)	17:00		16:29	52	14:31 (3)
9	08:45	13:54 (3)	08:07		07:10		06:58	05:57	05:21	05:30	06:12	07:03		07:52		17:09 (2)	07:47		08:34		11:36 (4)
	16:48	51 14:45 (3)	17:41		18:32		20:25	21:16	21:57	21:59	21:17	20:10		19:01	29	17:38 (2)	16:59		16:28	59	14:31 (3)
10	08:45	13:54 (3)	08:06	16:44 (2)	07:07		06:56	05:55	05:20	05:31	06:14	07:04		07:54		17:07 (2)	07:49		08:35		11:35 (4)
	16:49	51 14:45 (3)	17:43	10 16:54 (2)	18:34		20:27	21:18	21:57	21:58	21:15	20:08		18:59	31	17:38 (2)	16:57		16:28	62	14:31 (3)
11	08:44	13:55 (3)	08:04	16:41 (2)	07:05	17:52 (1)	06:54	05:54	05:20	05:32	06:16	07:06		07:56		17:05 (2)	07:51	13:53 (3)	08:37		11:34 (4)
	16:50	50 14:45 (3)	17:45	17 16:58 (2)	18:35	12 18:04 (1)	20:29	21:19	21:58	21:57	21:13	20:06		18:56	34	17:39 (2)	16:56	12 14:05 (3)	16:28	66	14:32 (3)
12	08:44	13:55 (3)	08:02	16:38 (2)	07:03	17:50 (1)	06:52	05:52	05:20	05:33	06:17	07:08		07:57		17:04 (2)	07:52	13:49 (3)	08:38		11:33 (4)
	16:52	50 14:45 (3)	17:46	22 17:00 (2)	18:37	17 18:07 (1)	20:31	21:21	21:59	21:56	21:11	20:03		18:54	36	17:40 (2)	16:54	19 14:08 (3)	16:28	69	14:32 (3)
13	08:43	13:56 (3)	08:00	16:37 (2)	07:00	17:47 (1)	06:49	05:50	05:19	05:34	06:19	07:09		07:59		17:03 (2)	07:54	13:46 (3)	08:39		11:33 (4)
	16:53	49 14:45 (3)	17:48	25 17:02 (2)	18:39	21 18:08 (1)	20:32	21:22	22:00	21:56	21:09	20:01		18:52	38	17:41 (2)	16:53	25 14:11 (3)	16:28	69	14:32 (3)
14	08:42	13:56 (3)	07:58	16:35 (2)	06:58	17:46 (1)	06:47	05:49	05:19	05:35	06:20	07:11		08:01		17:03 (2)	07:56	13:44 (3)	08:40		11:33 (4)
	16:55	50 14:46 (3)	17:50	29 17:04 (2)	18:41	23 18:09 (1)	20:34	21:24	22:00	21:55	21:07	19:59		18:50	38	17:41 (2)	16:51	29 14:13 (3)	16:28	71	14:33 (3)
15	08:41	13:57 (3)	07:56	16:34 (2)	06:56	17:45 (1)	06:45	05:47	05:19	05:36	06:22	07:12		08:03		17:01 (2)	07:58	13:43 (3)	08:40		11:33 (4)
	16:56	49 14:46 (3)	17:52	31 17:05 (2)	18:43	25 18:10 (1)	20:36	21:26	22:01	21:54	21:05	19:56		18:47	40	17:41 (2)	16:50	32 14:15 (3)	16:28	71	14:33 (3)
16	08:41	13:57 (3)	07:54	16:33 (2)	06:54	17:43 (1)	06:43	05:46	05:19	05:37	06:24	07:14	18:37 (1)	08:04		17:01 (2)	07:59	13:41 (3)	08:41		11:33 (4)
	16:58	49 14:46 (3)	17:54	34 17:07 (2)	18:44	27 18:10 (1)	20:37	21:27	22:01	21:53	21:03	19:54	12 18:49 (1)	18:45	40	17:41 (2)	16:48	35 14:16 (3)	16:28	73	14:34 (3)
17	08:40	13:58 (3)	07:52	16:32 (2)	06:51	17:43 (1)	06:41	05:44	05:19	05:39	06:25	07:16	18:35 (1)	08:06		17:01 (2)	08:01	13:40 (3)	08:42		11:33 (4)
	17:00	48 14:46 (3)	17:56	36 17:08 (2)	18:46	28 18:11 (1)	20:39	21:29	22:02	21:52	21:01	19:52	16 18:51 (1)	18:43	40	17:41 (2)	16:47	38 14:18 (3)	16:28	74	14:35 (3)
18	08:39	13:59 (3)	07:50	16:32 (2)	06:49	17:43 (1)	06:38	05:43	05:19	05:40	06:27	07:17	18:33 (1)	08:08		17:00 (2)	08:03	13:39 (3)	08:43		11:34 (4)
	17:01	47 14:46 (3)	17:58	36 17:08 (2)	18:48	28 18:11 (1)	20:41	21:30	22:02	21:50	20:59	19:49	20 18:53 (1)	18:41	41	17:41 (2)	16:45	39 14:18 (3)	16:28	73	14:35 (3)
19	08:38	14:00 (3)	07:48	16:31 (2)	06:47	17:41 (1)	06:36	05:41	05:19	05:41	06:28	07:19	18:30 (1)	08:10		17:00 (2)	08:05	13:38 (3)	08:44		11:33 (4)
	17:03	46 14:46 (3)	17:59	38 17:09 (2)	18:49	29 18:10 (1)	20:43	21:32	22:02	21:49	20:57	19:47	23 18:53 (1)	18:39	41	17:41 (2)	16:44	41 14:19 (3)	16:29	74	14:35 (3)
20	08:37	14:01 (3)	07:46	16:30 (2)	06:44	17:42 (1)	06:34	05:40	05:19	05:43	06:30	07:21	18:29 (1)	08:11		17:00 (2)	08:06	13:38 (3)	08:44		11:34 (4)
	17:05	45 14:46 (3)	18:01	39 17:09 (2)	18:51	28 18:10 (1)	20:44	21:33	22:03	21:48	20:55	19:45	25 18:54 (1)	18:37	41	17:41 (2)	16:43	42 14:20 (3)	16:29	75	14:36 (3)
21	08:36	14:02 (3)	07:44	16:29 (2)	06:42	17:42 (1)	06:32	05:38	05:19	05:44	06:32	07:22	18:27 (1)	08:13		17:01 (2)	08:08	13:37 (3)	08:45		11:35 (4)
	17:06	44 14:46 (3)	18:03	40 17:09 (2)	18:53	28 18:10 (1)	20:46	21:35	22:03	21:47	20:53	19:42	27 18:54 (1)	18:35	39	17:40 (2)	16:42	44 14:21 (3)	16:30	75	14:37 (3)
22	08:34	14:03 (3)	07:42	16:29 (2)	06:40	17:42 (1)	06:30	05:37	05:19	05:45	06:33	07:24	18:27 (1)	08:15		17:00 (2)	08:10	13:37 (3)	08:45		11:35 (4)
	17:08	42 14:45 (3)	18:05	40 17:09 (2)	18:55	26 18:08 (1)	20:48	21:36	22:03	21:46	20:51	19:40	27 18:54 (1)	18:33	39	17:39 (2)	16:41	45 14:22 (3)	16:30	75	14:37 (3)
23	08:33	14:04 (3)	07:40	16:29 (2)	06:37	17:42 (1)	06:28	05:36	05:19	05:47	06:35	07:26	18:26 (1)	08:17		17:01 (2)	08:11	13:37 (3)	08:46		11:35 (4)
	17:10	41 14:45 (3)	18:07	41 17:10 (2)	18:56	26 18:08 (1)	20:49	21:37	22:03	21:44	20:48	19:38	29 18:55 (1)	18:30	37	17:38 (2)	16:39	46 14:23 (3)	16:31	75	14:37 (3)
24	08:32	14:05 (3)	07:38	16:29 (2)	06:35	17:43 (1)	06:26	05:35	05:20	05:48	06:37	07:27	18:25 (1)	08:18		17:01 (2)	08:13	13:36 (3)	08:46		11:36 (4)
	17:11	39 14:44 (3)	18:09	41 17:10 (2)	18:58	24 18:07 (1)	20:51	21:39	22:04	21:43	20:46	19:35	29 18:54 (1)	18:28	37	17:38 (2)	16:38	47 14:23 (3)	16:31	75	14:38 (3)
25	08:31	14:06 (3)	07:36	16:29 (2)	06:33	17:44 (1)	06:24	05:33	05:20	05:49	06:38	07:29	18:25 (1)	07:20		16:02 (2)	08:15	13:36 (3)	08:47		11:36 (4)
	17:13	38 14:44 (3)	18:10	41 17:10 (2)	19:00	21 18:05 (1)	20:53	21:40	22:04	21:42	20:44	19:33	29 18:54 (1)	17:26	35	16:37 (2)	16:37	48 14:24 (3)	16:32	74	14:38 (3)
26	08:29	14:08 (3)	07:34	16:29 (2)	06:30	17:46 (1)	06:22	05:32	05:21	05:51	06:40	07:30	18:25 (1)	07:22		16:03 (2)	08:16	13:36 (3)	08:47		11:37 (4)
	17:15	35 14:43 (3)	18:12	40 17:09 (2)	19:02	17 18:03 (1)	20:54	21:41	22:04	21:40	20:42	19:31	28 18:53 (1)	17:24	33	16:36 (2)	16:36	49 14:25 (3)	16:32	74	14:39 (3)
27	08:28	14:10 (3)	07:32	16:29 (2)	06:28	17:48 (1)	06:20	05:31	05:21	05:52	06:41	07:32	18:25 (1)	07:24		16:04 (2)	08:18	13:37 (3)	08:47		11:37 (4)
	17:17	32 14:42 (3)	18:14	39 17:08 (2)	19:03	13 18:01 (1)	20:56	21:43	22:04	21:39	20:40	19:28	27 18:52 (1)	17:22	31	16:35 (2)	16:36	49 14:26 (3)	16:33	74	14:39 (3)
28	08:27	14:12 (3)	07:29	16:30 (2)	06:26	17:52 (1)	06:18	05:30	05:21	05:54	06:43	07:34	18:25 (1)	07:26		16:05 (2)	08:19	13:36 (3)	08:47		11:39 (4)
	17:19	29 14:41 (3)	18:16	38 17:08 (2)	19:05	3 17:55 (1)	20:58	21:44	22:03	21:37	20:38	19:26	26 18:51 (1)	17:20	28	16:33 (2)	16:35	50 14:26 (3)	16:34	72	14:40 (3)
29	08:25	14:14 (3)			07:23		06:16	05:29	05:22	05:55	06:45	07:35	18:26 (1)	07:27		16:07 (2)	08:21		13:37 (3)	08:48		11:40 (4)
	17:20	25 14:39 (3)			20:07		20:59	21:45	22:03	21:36	20:35	19:24	24 18:50 (1)	17:18	24	16:31 (2)	16:34	50 14:27 (3)	16:35	72	14:41 (3)
30	08:24	14:17 (3)			07:21		06:14	05:28	05:23	05:57	06:46	07:37	18:26 (1)	07:29		16:08 (2)	08:22		13:36 (3)	08:48		11:41 (4)
	17:22	19 14:36 (3)			20:08		21:01	21:46	22:03	21:34	20:33	19:21	22 18:48 (1)	17:17	21	16:29 (2)	16:33	50 14:26 (3)	16:36	71	14:41 (3)
31	08:22	14:23 (3)			07:19			05:27		05:58	06:48			07:31		16:11 (2)			08:48		11:41 (4)
	17:24	10 14:33 (3)			20:10			21:48		21:32	20:31			17:15	16	16:27 (2)			16:37	70	14:41 (3)
Potential sun hours	259	277			367		416	485	499	502	454	381		331		266			243		
Total, worst case	1386		637		613							364		898		798			2053		
Sun reduction	0,24		0,30		0,33							0,36		0,34		0,24			0,20		
Oper. time red.	0,95		0,95		0,95							0,95		0,95		0,95			0,95		
Wind dir. red.	0,69		0,67		0,64							0,63		0,67		0,69			0,68		
Total reduction	0,16		0,19		0,20							0,22		0,21		0,15			0,13		
Total, real	217		123		124							79		193		124			269		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:33/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion4.2M148@165Shadow receptor: AG - 3998NA6

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 16:38	08:21 17:26	07:27 18:18 23	07:55 (4) 08:18 (4)	07:17 20:12 46 09:06 (2) | 21:03 49	08:20 (2) | 06:12 08:57 (2) | 21:49	08:08 (2) | 05:26 22:03	05:23 21:31	06:00	06:50 20:29 65	08:06 (2) | 07:39 09:11 (2) | 19:19 33	08:23 (3) | 07:33 08:56 (3) | 17:13	08:24 16:32
2	08:48 16:39	08:19 17:28	07:25 18:20 23	07:55 (4) 08:18 (4)	07:14 20:14 49 09:07 (2) | 21:05 46	08:18 (2) | 06:10 08:55 (2) | 21:50	08:09 (2) | 05:25 22:03	05:24 21:29 15	06:01 08:33 (2) | 06:51 08:48 (2) | 20:26 63	08:06 (2) | 07:41 09:09 (2) | 19:17 33	08:23 (3) | 07:35 08:56 (3) | 17:11	08:25 16:32
3	08:48 16:40	08:18 17:30	07:23 18:21 23	07:54 (4) 08:17 (4)	07:12 20:15 53 09:09 (2) | 21:06 45	08:16 (2) | 06:08 08:55 (2) | 21:51	08:10 (2) | 05:25 22:02	05:25 21:28 22	06:03 08:30 (2) | 06:53 08:52 (2) | 20:24 62	08:07 (2) | 07:42 09:09 (2) | 19:15 33	08:22 (3) | 07:36 08:55 (3) | 17:09	08:27 16:31
4	08:47 16:41	08:16 17:32	07:21 18:23 23	07:54 (4) 08:17 (4)	07:10 20:17 55 09:09 (2) | 21:08 42	08:14 (2) | 06:06 08:53 (2) | 21:52	08:11 (2) | 05:24 22:02	05:25 21:26 26	06:05 08:28 (2) | 06:55 08:54 (2) | 20:22 62	08:07 (2) | 07:44 09:09 (2) | 19:12 31	08:23 (3) | 07:38 08:54 (3) | 17:07	08:28 16:31
5	08:47 16:43	08:14 17:33	07:19 18:25 24	07:53 (3) 08:17 (4)	07:07 20:19 57 09:10 (2) | 21:10 39	08:13 (2) | 06:04 08:51 (2) | 21:53	08:12 (2) | 05:23 22:01	05:26 21:24 30	06:06 08:26 (2) | 06:56 08:56 (2) | 20:20 60	08:07 (2) | 07:46 09:07 (2) | 19:10 29	08:24 (3) | 07:40 08:53 (3) | 17:06	08:29 16:30
6	08:47 16:44	08:13 17:35	07:16 18:27 25	07:51 (3) 08:16 (4)	07:05 20:20 58 09:10 (2) | 21:11 36	08:12 (2) | 06:02 08:49 (2) | 21:54	08:13 (2) | 05:23 22:01	05:27 21:22 34	06:08 08:24 (2) | 06:58 08:58 (2) | 20:17 59	08:08 (2) | 07:47 09:07 (2) | 19:08 27	08:25 (3) | 07:42 08:52 (3) | 17:04	08:31 16:30
7	08:46 16:45	08:11 17:37	07:14 18:28 26	07:49 (3) 08:15 (4)	07:03 20:22 60 09:11 (2) | 21:13 33	08:11 (2) | 06:01 08:48 (2) | 21:55	08:15 (2) | 05:22 22:00	05:28 21:20 37	06:09 08:22 (2) | 07:00 08:59 (2) | 20:15 57	08:08 (2) | 07:49 09:05 (2) | 19:05 26	08:25 (3) | 07:44 08:51 (4) | 17:02	08:32 16:29
8	08:46 16:46	08:09 17:39	07:12 18:30 29	07:47 (3) 08:16 (3)	07:01 20:24 62 09:11 (2) | 21:15 29	08:09 (2) | 05:59 08:45 (2) | 21:56	08:16 (2) | 05:21 22:00	05:29 21:19 40	06:11 08:21 (2) | 07:01 09:01 (2) | 20:13 55	08:09 (2) | 07:51 09:04 (2) | 19:03 25	08:27 (3) | 07:45 08:52 (4) | 17:01	08:33 16:29
9	08:45 16:48	08:08 17:41	07:10 18:32 31	07:46 (3) 08:17 (3)	06:58 20:26 62 09:11 (2) | 21:16 24	08:09 (2) | 05:57 08:42 (2) | 21:57	08:18 (2) | 05:21 21:59	05:30 21:17 43	06:12 08:19 (2) | 07:03 09:02 (2) | 20:10 52	08:10 (2) | 07:52 09:02 (2) | 19:01 23	08:29 (3) | 07:47 08:52 (4) | 16:59	08:34 16:29
10	08:45 16:49	08:06 17:43	07:07 18:34 31	07:45 (3) 08:16 (3)	06:56 20:27 63 09:11 (2) | 21:18 19	08:08 (2) | 05:55 08:40 (2) | 21:57	08:21 (2) | 05:21 21:58	05:31 21:15 46	06:14 08:18 (2) | 07:04 09:04 (2) | 20:08 50	08:11 (2) | 07:54 09:01 (2) | 18:59 23	08:29 (4) | 07:49 08:52 (4) | 16:57	08:35 16:28
11	08:44 16:51	08:04 17:45	07:05 18:36 33	07:44 (3) 08:17 (3)	06:54 20:29 64 09:12 (2) | 21:19 10	08:08 (2) | 05:54 08:35 (2) | 21:58	08:25 (2) | 05:20 21:57	05:32 21:13 47	06:16 08:17 (2) | 07:06 09:04 (2) | 20:06 47	08:13 (2) | 07:56 09:00 (2) | 18:56 23	08:28 (4) | 07:51 08:51 (4) | 16:56	08:37 16:28
12	08:44 16:52	08:02 17:46	07:03 18:37 33	07:44 (3) 08:17 (3)	06:52 20:31 65 09:12 (2) | 21:21	08:07 (2) | 05:52 21:59	05:20 21:56	05:33 21:11 50	06:17 08:16 (2) | 07:08 09:06 (2) | 20:03 44	08:13 (2) | 07:57 08:57 (2) | 18:54 23	08:28 (4) | 07:53 08:51 (4) | 16:54	08:38 16:28
13	08:43 16:54	08:00 17:48	07:01 18:39 34	07:43 (3) 08:17 (3)	06:49 20:32 65 09:11 (2) | 21:23	08:06 (2) | 05:50 22:00	05:20 21:56	05:34 21:09 51	06:19 08:16 (2) | 07:09 09:07 (2) | 20:01 40	08:15 (2) | 07:59 08:55 (2) | 18:52 22	08:29 (4) | 07:54 08:51 (4) | 16:53	08:39 16:28
14	08:42 16:55	07:58 17:50	06:58 18:41 34	07:43 (3) 08:17 (3)	06:47 20:34 66 09:11 (2) | 21:24	08:05 (2) | 05:49 08:08 (2) | 05:54	05:19 22:00	05:35 21:55	06:20 08:14 (2) | 07:11 09:08 (2) | 19:59 35	08:17 (2) | 08:01 08:52 (2) | 18:50 20	08:30 (4) | 07:56 08:50 (4) | 16:51	08:40 16:28
15	08:41 16:57	07:56 17:52	06:56 18:43 34	07:43 (3) 08:17 (3)	06:45 20:36 66 09:11 (2) | 21:26	08:05 (2) | 05:47 22:01	05:19 21:54	05:36 21:05 55	06:22 08:14 (2) | 07:13 09:09 (2) | 19:56 31	08:19 (2) | 08:03 08:50 (2) | 18:48 18	08:31 (4) | 07:58 08:49 (4) | 16:50	08:40 16:28
16	08:41 16:58	07:54 17:54	06:54 18:44 33	07:42 (3) 08:15 (3)	06:43 20:37 65 09:10 (2) | 21:27	08:05 (2) | 05:46 22:01	05:19 21:53	05:38 21:03 57	06:24 08:12 (2) | 07:14 09:09 (2) | 19:54 25	08:21 (2) | 08:04 08:46 (2) | 18:45 16	08:31 (4) | 08:00 08:47 (4) | 16:48	08:41 16:28
17	08:40 17:00	07:52 17:56	06:51 18:46 33	07:42 (3) 08:15 (3)	06:41 20:39 65 09:10 (2) | 21:29	08:05 (2) | 05:44 22:02	05:19 21:52	05:39 21:01 59	06:25 08:12 (2) | 07:16 09:11 (2) | 19:52 15	08:26 (2) | 08:06 08:41 (2) | 18:43 12	08:33 (4) | 08:01 08:45 (4) | 16:47	08:42 16:28
18	08:39 17:01	07:50 17:58	06:49 18:48 31	07:43 (3) 08:14 (3)	06:38 20:41 65 09:10 (2) | 21:30	08:05 (2) | 05:43 22:02	05:19 21:51	05:40 20:59 60	06:27 08:11 (2) | 07:17 09:11 (2) | 19:49	08:08 18:41 4	08:37 (4) | 08:03 08:41 (4) | 16:46	08:43 16:29
19	08:38 17:03	07:48 17:59	06:47 18:50 29	07:43 (3) 08:12 (3)	06:36 20:43 65 09:09 (2) | 21:32	08:04 (2) | 05:41 22:03	05:19 21:49	05:41 20:57 61	06:29 08:11 (2) | 07:19 09:12 (2) | 19:47 7	08:39 (3) | 08:10 08:46 (3) | 18:39	08:05 16:44	08:44 16:29
20	08:37 17:05	07:46 18:01	06:44 18:51 27	07:44 (3) 08:11 (3)	06:34 20:44 65 09:09 (2) | 21:33	08:04 (2) | 05:40 22:03	05:19 21:48	05:43 20:55 62	06:30 08:09 (2) | 07:21 09:11 (2) | 19:45 15	08:35 (3) | 08:11 08:50 (3) | 18:37	08:06 16:43	08:44 16:29
21	08:36 17:06	07:44 18:03	06:42 18:53 25	07:45 (3) 08:10 (3)	06:32 20:46 63 09:07 (2) | 21:35	08:04 (2) | 05:38 22:03	05:19 21:47	05:44 20:53 63	06:32 08:09 (2) | 07:22 09:12 (2) | 19:42 20	08:32 (3) | 08:13 08:52 (3) | 18:35	08:08 16:42	08:45 16:30
22	08:34 17:08	07:42 18:05	06:40 18:55 21	07:46 (3) 08:07 (3)	06:30 20:48 62 09:06 (2) | 21:36	08:04 (2) | 05:37 22:03	05:19 21:46	05:45 20:51 64	06:33 08:08 (2) | 07:24 09:12 (2) | 19:40 24	08:30 (3) | 08:15 08:54 (3) | 18:33	08:10 16:41	08:45 16:30
23	08:33 17:10	07:40 18:07	06:37 18:56 17	07:48 (3) 08:05 (3)	06:28 20:49 62 09:06 (2) | 21:37	08:04 (2) | 05:36 22:03	05:20 21:44	05:47 20:49 65	06:35 08:08 (2) | 07:26 09:13 (2) | 19:38 26	08:29 (3) | 08:17 08:55 (3) | 18:31	08:11 16:40	08:46 16:31
24	08:32 17:12	07:38 18:09 7	08:04 (4) 06:35 08:11 (4) | 18:58 10	07:51 (3) 06:26 08:01 (3) | 20:51 61	08:04 (2) | 05:35 09:05 (2) | 21:39	05:20 22:04	05:48 21:43	06:37 20:46 65	08:07 (2) | 07:27 09:12 (2) | 19:35 29	08:27 (3) | 08:18 08:56 (3) | 18:28	08:13 16:39	08:46 16:31
25	08:31 17:13	07:36 18:10 13	08:01 (4) 06:33 08:14 (4) | 19:00	06:24 20:53 60	08:04 (2) | 05:33 09:04 (2) | 21:40	05:20 22:04	05:50 21:42	06:38 20:44 66	08:07 (2) | 07:29 09:13 (2) | 19:33 31	08:26 (3) | 07:20 08:57 (3) | 17:26	08:15 16:37	08:47 16:32
26	08:30 17:15	07:34 18:12 17	07:59 (4) 06:30 08:16 (4) | 19:02 12	07:39 (2) 06:22 07:51 (2) | 20:54 59	08:05 (2) | 05:32 09:04 (2) | 21:41	05:21 22:04	05:51 21:40	06:40 20:42 66	08:07 (2) | 07:31 09:13 (2) | 19:31 32	08:25 (3) | 07:22 08:57 (3) | 17:24	08:16 16:37	08:47 16:33
27	08:28 17:17	07:32 18:14 19	07:57 (4) 06:28 08:16 (4) | 19:03 23	07:34 (2) 06:20 07:57 (2) | 20:56 57	08:06 (2) | 05:31 09:03 (2) | 21:43	05:21 22:04	05:52 21:39	06:42 20:40 65	08:07 (2) | 07:32 09:12 (2) | 19:28 33	08:24 (3) | 07:24 08:57 (3) | 17:22	08:18 16:36	08:47 16:33
28	08:27 17:19	07:30 18:16 21	07:56 (4) 06:26 08:17 (4) | 19:05 30	07:29 (2) 06:18 07:59 (2) | 20:58 55	08:06 (2) | 05:30 09:01 (2) | 21:44	05:22 22:03	05:54 21:37	06:43 20:38 65	08:07 (2) | 07:34 09:12 (2) | 19:26 33	08:24 (3) | 07:26 08:57 (3) | 17:21	08:19 16:35	08:48 16:34
29	08:25 17:20		07:24 20:07 35	08:27 (2) | 06:16 09:02 (2) | 21:00 53	08:07 (2) | 05:29 09:00 (2) | 21:45	05:22 22:03	05:55 21:36	06:45 20:35 66	08:06 (2) | 07:36 09:12 (2) | 19:24 34	08:23 (3) | 07:27 08:57 (3) | 17:19	08:21 16:34	08:48 16:35
30	08:24 17:22		07:21 20:08 40	08:24 (2) | 06:14 09:04 (2) | 21:01 52	08:07 (2) | 05:28 08:59 (2) | 21:47	05:23 22:03	05:57 21:34	06:46 20:33 65	08:07 (2) | 07:37 09:12 (2) | 19:21 34	08:22 (3) | 07:29 08:56 (3) | 17:17	08:22 16:33	08:48 16:36
31	08:22 17:24		07:19 20:10 44	08:22 (2) | 09:06 (2) |	05:27 21:48		05:58 21:33	06:48 20:31 65	08:06 (2) | 09:11 (2) |	07:31 17:15		08:48 16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case	|	77	836	1800	372	|	|	1564	1140	421	|	|
Sun reduction	|	0,30	0,33	0,42	0,43	|	|	0,42	0,36	0,34	|	|
Oper. time red.	|	0,95	0,95	0,95	0,95	|	|	0,95	0,95	0,95	|	|
Wind dir. red.	|	0,57	0,58	0,61	0,61	|	|	0,61	0,60	0,57	|	|
Total reduction	|	0,16	0,18	0,24	0,25	|	|	0,24	0,20	0,18	|	|
Total, real	|	13	150	433	91	|	|	374	233	76	|	|

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:33/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion4.2M148@165Shadow receptor: AH - 3998JK68

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	06:49 (2)	05:26	06:01 (1)	05:23	06:05 (1)	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03	20 07:09 (2)	21:49	25 06:26 (1)	22:03	29 06:34 (1)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	06:50 (2)	05:26	06:01 (1)	05:24	06:06 (1)	06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05	18 07:08 (2)	21:50	25 06:26 (1)	22:03	28 06:34 (1)	21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08	06:51 (2)	05:25	06:01 (1)	05:25	06:07 (1)	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06	16 07:07 (2)	21:51	26 06:27 (1)	22:02	28 06:35 (1)	21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06	06:52 (2)	05:24	06:01 (1)	05:26	06:06 (1)	06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08	13 07:05 (2)	21:52	26 06:27 (1)	22:02	28 06:34 (1)	21:26	20:22	19:12	17:07	16:31
5	08:47	08:14	07:19	07:08	06:04	06:53 (2)	05:23	06:00 (1)	05:26	06:07 (1)	06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10	10 07:03 (2)	21:53	27 06:27 (1)	22:01	27 06:34 (1)	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02	06:57 (2)	05:23	06:01 (1)	05:27	06:07 (1)	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11	2 06:59 (2)	21:54	27 06:28 (1)	22:01	28 06:35 (1)	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01		05:22	06:01 (1)	05:28	06:08 (1)	06:09	07:05 (2)	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13		21:55	28 06:29 (1)	22:00	27 06:35 (1)	21:21	6 07:11 (2)	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59		05:22	06:01 (1)	05:29	06:08 (1)	06:11	07:02 (2)	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15		21:56	28 06:29 (1)	22:00	27 06:35 (1)	21:19	11 07:13 (2)	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57		05:21	06:01 (1)	05:30	06:09 (1)	06:12	07:01 (2)	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16		21:57	28 06:29 (1)	21:59	26 06:35 (1)	21:17	14 07:15 (2)	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55		05:21	06:01 (1)	05:31	06:08 (1)	06:14	06:59 (2)	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18		21:58	28 06:29 (1)	21:58	26 06:34 (1)	21:15	17 07:16 (2)	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54		05:20	06:01 (1)	05:32	06:09 (1)	06:16	06:59 (2)	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19		21:58	29 06:30 (1)	21:57	25 06:34 (1)	21:13	18 07:17 (2)	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52		05:20	06:02 (1)	05:33	06:09 (1)	06:17	06:58 (2)	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21		21:59	28 06:30 (1)	21:57	24 06:33 (1)	21:11	19 07:17 (2)	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50		05:20	06:02 (1)	05:34	06:11 (1)	06:19	06:57 (2)	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23		22:00	28 06:30 (1)	21:56	23 06:34 (1)	21:09	21 07:18 (2)	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49		05:19	06:02 (1)	05:35	06:11 (1)	06:21	06:56 (2)	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24		22:00	29 06:31 (1)	21:55	23 06:34 (1)	21:07	22 07:18 (2)	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47		05:19	06:02 (1)	05:36	06:12 (1)	06:22	06:57 (2)	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26		22:01	28 06:30 (1)	21:54	21 06:33 (1)	21:05	21 07:18 (2)	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46		05:19	06:02 (1)	05:38	06:13 (1)	06:24	06:56 (2)	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27		22:01	29 06:31 (1)	21:53	19 06:32 (1)	21:03	22 07:18 (2)	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44		05:19	06:02 (1)	05:39	06:14 (1)	06:25	06:56 (2)	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29		22:02	29 06:31 (1)	21:52	18 06:32 (1)	21:01	22 07:18 (2)	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43		05:19	06:02 (1)	05:40	06:15 (1)	06:27	06:56 (2)	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30		22:02	29 06:31 (1)	21:51	15 06:30 (1)	20:59	21 07:17 (2)	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41		05:19	06:03 (1)	05:41	06:16 (1)	06:29	06:57 (2)	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32		22:03	29 06:32 (1)	21:49	13 06:29 (1)	20:57	19 07:16 (2)	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	06:58 (2)	05:40	05:19	06:03 (1)	05:43	06:18 (1)	06:30	06:57 (2)	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	8 07:06 (2)	21:33	22:03	29 06:32 (1)	21:48	10 06:28 (1)	20:55	18 07:15 (2)	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	06:56 (2)	05:39	05:19	06:03 (1)	05:44	06:21 (1)	06:32	06:59 (2)	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	12 07:08 (2)	21:35	22:03	29 06:32 (1)	21:47	4 06:25 (1)	20:53	15 07:14 (2)	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	06:54 (2)	05:37	05:19	06:03 (1)	05:45		06:33	07:00 (2)	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	16 07:10 (2)	21:36	22:03	29 06:32 (1)	21:46		20:51	12 07:12 (2)	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	06:52 (2)	05:36	06:09 (1)	05:20	06:03 (1)	05:47		06:35	07:02 (2)	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	18 07:10 (2)	21:37	7 06:16 (1)	22:04	29 06:32 (1)	21:44		20:49	8 07:10 (2)	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	06:51 (2)	05:35	06:07 (1)	05:20	06:04 (1)	05:48		06:37		07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	20 07:11 (2)	21:39	12 06:19 (1)	22:04	29 06:33 (1)	21:43		20:46		19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	06:50 (2)	05:34	06:06 (1)	05:20	06:04 (1)	05:50		06:38		07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	21 07:11 (2)	21:40	14 06:20 (1)	22:04	29 06:33 (1)	21:42		20:44		19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	06:50 (2)	05:32	06:05 (1)	05:21	06:04 (1)	05:51		06:40		07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	21 07:11 (2)	21:42	17 06:22 (1)	22:04	29 06:33 (1)	21:40		20:42		19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	06:49 (2)	05:31	06:04 (1)	05:21	06:05 (1)	05:52		06:42		07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	22 07:11 (2)	21:43	18 06:22 (1)	22:04	28 06:33 (1)	21:39		20:40		19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	06:49 (2)	05:30	06:03 (1)	05:22	06:04 (1)	05:54		06:43		07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	22 07:11 (2)	21:44	20 06:23 (1)	22:04	29 06:33 (1)	21:37		20:38		19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	06:49 (2)	05:29	06:02 (1)	05:22	06:05 (1)	05:55		06:45		07:36	07:27	08:21	08:48
	17:21		20:07	21:00	21 07:10 (2)	21:45	22 06:24 (1)	22:03	29 06:34 (1)	21:36		20:35		19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	06:49 (2)	05:28	06:03 (1)	05:23	06:06 (1)	05:57		06:47		07:37	07:29	08:22	08:48
	17:22		20:08	21:01	21 07:10 (2)	21:47	22 06:25 (1)	22:03	28 06:34 (1)	21:34		20:33		19:22	17:17	16:33	16:36
31	08:22		07:19			05:27	06:02 (1)			05:58		06:48			07:31		08:48
	17:24		20:10			21:48	24 06:26 (1)			21:33		20:31			17:15		16:37
Potential sun hours	259	277	367	416		485		499		502		454		381	331	266	243
Total, worst case					202		235		843		469		286				
Sun reduction					0,42		0,43		0,39		0,41		0,42				
Oper. time red.					0,95		0,95		0,95		0,95		0,95				
Wind dir. red.					0,64		0,66		0,67		0,67		0,64				
Total reduction					0,25		0,27		0,25		0,26		0,25				
Total, real					51		63		210		122		72				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:33/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion4.2M148@165Shadow receptor: AI - 3945LA2

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December		
1	08:48		14:32 (3)	08:21			07:27		07:17	06:12	05:26	05:23	06:00	06:50		07:39		18:16 (1)	07:33		16:10 (2)	08:24		14:19 (3)
	16:38	41	15:13 (3)	17:26			18:18		20:12	21:03	21:49	22:03	21:31	20:29		19:19	24	18:40 (1)	17:13	24	16:34 (2)	16:32	39	14:58 (3)
2	08:48		14:33 (3)	08:19			07:25		07:14	06:10	05:25	05:24	06:01	06:51		07:40		18:16 (1)	07:34		16:10 (2)	08:25		14:20 (3)
	16:39	40	15:13 (3)	17:28			18:19		20:13	21:05	21:50	22:02	21:29	20:26		19:17	24	18:40 (1)	17:11	21	16:31 (2)	16:32	39	14:59 (3)
3	08:48		14:33 (3)	08:18			07:23		07:12	06:08	05:25	05:25	06:03	06:53		07:42		18:15 (1)	07:36		16:12 (2)	08:27		14:20 (3)
	16:40	41	15:14 (3)	17:30			18:21		20:15	21:06	21:51	22:02	21:27	20:24		19:14	24	18:39 (1)	17:09	17	16:29 (2)	16:31	39	14:59 (3)
4	08:47		14:33 (3)	08:16			07:21	17:46 (1)	07:10	06:06	05:24	05:25	06:04	06:55		07:44		18:15 (1)	07:38		16:14 (2)	08:28		14:20 (3)
	16:41	41	15:14 (3)	17:31			18:23	9 17:55 (1)	20:17	21:08	21:52	22:02	21:26	20:22		19:12	24	18:39 (1)	17:07	13	16:27 (2)	16:30	40	15:00 (3)
5	08:47		14:34 (3)	08:14			07:18	17:43 (1)	07:07	06:04	05:23	05:26	06:06	06:56		07:45		18:15 (1)	07:40		16:18 (2)	08:29		14:20 (3)
	16:42	41	15:15 (3)	17:33			18:25	15 17:58 (1)	20:19	21:10	21:53	22:01	21:24	20:20		19:10	23	18:38 (1)	17:06	5	16:23 (2)	16:30	40	15:00 (3)
6	08:47		14:34 (3)	08:13	16:48 (2)		07:16	17:41 (1)	07:05	06:02	05:22	05:27	06:08	06:58		07:47		18:15 (1)	07:42			08:31		14:20 (3)
	16:44	40	15:14 (3)	17:35	6 16:54 (2)	18:27	18 17:59 (1)	20:20	21:11	21:54	22:01	21:22	20:17			19:08	21	18:36 (1)	17:04			16:29	41	15:01 (3)
7	08:46		14:35 (3)	08:11	16:44 (2)	07:14	17:40 (1)	07:03	06:00	05:22	05:28	06:09	06:59			07:49		18:16 (1)	07:44			08:32		14:21 (3)
	16:45	40	15:15 (3)	17:37	14 16:58 (2)	18:28	20 18:00 (1)	20:22	21:13	21:55	22:00	21:20	20:15			19:05	19	18:35 (1)	17:02			16:29	41	15:02 (3)
8	08:46		14:35 (3)	08:09	16:43 (2)	07:12	17:39 (1)	07:01	05:59	05:21	05:29	06:11	07:01			07:51		18:17 (1)	07:45			08:33		14:21 (3)
	16:46	40	15:15 (3)	17:39	18 17:01 (2)	18:30	22 18:01 (1)	20:24	21:14	21:56	21:59	21:19	20:13			19:03	17	18:34 (1)	17:00			16:29	41	15:02 (3)
9	08:45		14:37 (3)	08:07	16:41 (2)	07:10	17:38 (1)	06:58	05:57	05:21	05:30	06:12	07:03			07:52		18:19 (1)	07:47			08:34		14:21 (3)
	16:48	39	15:16 (3)	17:41	22 17:03 (2)	18:32	24 18:02 (1)	20:25	21:16	21:57	21:59	21:17	20:10			19:01	13	18:32 (1)	16:59			16:28	41	15:02 (3)
10	08:45		14:37 (3)	08:06	16:40 (2)	07:07	17:37 (1)	06:56	05:55	05:20	05:31	06:14	07:04			07:54		18:22 (1)	07:49			08:35		14:22 (3)
	16:49	39	15:16 (3)	17:43	24 17:04 (2)	18:34	24 18:01 (1)	20:27	21:18	21:57	21:58	21:15	20:08			18:59	5	18:27 (1)	16:57			16:28	40	15:02 (3)
11	08:44		14:37 (3)	08:04	16:39 (2)	07:05	17:37 (1)	06:54	05:53	05:20	05:32	06:15	07:06			07:56			07:51			08:37		14:22 (3)
	16:50	39	15:16 (3)	17:44	26 17:05 (2)	18:35	24 18:01 (1)	20:29	21:19	21:58	21:57	21:13	20:06			18:56			16:56			16:28	41	15:03 (3)
12	08:44		14:38 (3)	08:02	16:38 (2)	07:03	17:37 (1)	06:52	05:52	05:20	05:33	06:17	07:08			07:57			07:52			08:38		14:22 (3)
	16:52	38	15:16 (3)	17:46	28 17:06 (2)	18:37	24 18:01 (1)	20:31	21:21	21:59	21:56	21:11	20:03			18:54			16:54			16:28	41	15:03 (3)
13	08:43		14:38 (3)	08:00	16:37 (2)	07:00	17:37 (1)	06:49	05:50	05:19	05:34	06:19	07:09			07:59			07:54			08:39		14:23 (3)
	16:53	38	15:16 (3)	17:48	30 17:07 (2)	18:39	23 18:00 (1)	20:32	21:22	22:00	21:56	21:09	20:01			18:52			16:52			16:28	40	15:03 (3)
14	08:42		14:39 (3)	07:58	16:37 (2)	06:58	17:37 (1)	06:47	05:49	05:19	05:35	06:20	07:11			08:01		17:20 (2)	07:56			08:40		14:23 (3)
	16:55	37	15:16 (3)	17:50	30 17:07 (2)	18:41	23 18:00 (1)	20:34	21:24	22:00	21:55	21:07	19:59			18:50	10	17:30 (2)	16:51			16:28	41	15:04 (3)
15	08:41		14:40 (3)	07:56	16:36 (2)	06:56	17:38 (1)	06:45	05:47	05:19	05:36	06:22	07:12			08:03		17:15 (2)	07:58			08:40		14:24 (3)
	16:56	36	15:16 (3)	17:52	32 17:08 (2)	18:42	21 17:59 (1)	20:36	21:26	22:01	21:54	21:05	19:56			18:47	17	17:32 (2)	16:50			16:28	40	15:04 (3)
16	08:41		14:40 (3)	07:54	16:36 (2)	06:54	17:38 (1)	06:43	05:45	05:19	05:37	06:24	07:14			08:04		17:13 (2)	07:59		14:31 (3)	08:41		14:24 (3)
	16:58	36	15:16 (3)	17:54	32 17:08 (2)	18:44	19 17:57 (1)	20:37	21:27	22:01	21:53	21:03	19:54			18:45	21	17:34 (2)	16:48	10	14:41 (3)	16:28	41	15:05 (3)
17	08:40		14:41 (3)	07:52	16:36 (2)	06:51	17:40 (1)	06:41	05:44	05:19	05:39	06:25	07:16			08:06		17:11 (2)	08:01		14:28 (3)	08:42		14:25 (3)
	17:00	35	15:16 (3)	17:56	32 17:08 (2)	18:46	15 17:55 (1)	20:39	21:29	22:02	21:52	21:01	19:52			18:43	24	17:35 (2)	16:47	17	14:45 (3)	16:28	41	15:06 (3)
18	08:39		14:42 (3)	07:50	16:36 (2)	06:49	17:43 (1)	06:38	05:43	05:19	05:40	06:27	07:17			08:08		17:10 (2)	08:03		14:25 (3)	08:43		14:26 (3)
	17:01	34	15:16 (3)	17:58	32 17:08 (2)	18:48	10 17:53 (1)	20:41	21:30	22:02	21:50	20:59	19:49			18:41	26	17:36 (2)	16:45	21	14:46 (3)	16:28	40	15:06 (3)
19	08:38		14:44 (3)	07:48	16:36 (2)	06:47		06:36	05:41	05:19	05:41	06:28	07:19			08:10		17:09 (2)	08:05		14:23 (3)	08:44		14:26 (3)
	17:03	32	15:16 (3)	17:59	32 17:08 (2)	18:49		20:43	21:32	22:02	21:49	20:57	19:47			18:39	28	17:37 (2)	16:44	25	14:48 (3)	16:29	40	15:06 (3)
20	08:37		14:45 (3)	07:46	16:36 (2)	06:44		06:34	05:40	05:19	05:43	06:30	07:21			08:11		17:08 (2)	08:06		14:22 (3)	08:44		14:26 (3)
	17:05	31	15:16 (3)	18:01	31 17:07 (2)	18:51		20:44	21:33	22:03	21:48	20:55	19:45			18:37	30	17:38 (2)	16:43	27	14:49 (3)	16:29	41	15:07 (3)
21	08:36		14:47 (3)	07:44	16:36 (2)	06:42		06:32	05:38	05:19	05:44	06:32	07:22			08:13		17:06 (2)	08:08		14:22 (3)	08:45		14:27 (3)
	17:06	28	15:15 (3)	18:03	31 17:07 (2)	18:53		20:46	21:35	22:03	21:47	20:53	19:42			18:35	31	17:37 (2)	16:42	28	14:50 (3)	16:30	41	15:08 (3)
22	08:34		14:47 (3)	07:42	16:37 (2)	06:40		06:30	05:37	05:19	05:45	06:33	07:24			08:15		17:06 (2)	08:10		14:21 (3)	08:45		14:27 (3)
	17:08	27	15:14 (3)	18:05	29 17:06 (2)	18:55		20:48	21:36	22:03	21:46	20:51	19:40			18:33	32	17:38 (2)	16:41	31	14:52 (3)	16:30	41	15:08 (3)
23	08:33		14:49 (3)	07:40	16:38 (2)	06:37		06:28	05:36	05:19	05:47	06:35	07:26			08:17		17:06 (2)	08:11		14:21 (3)	08:46		14:27 (3)
	17:10	25	15:14 (3)	18:07	28 17:06 (2)	18:56		20:49	21:37	22:03	21:44	20:48	19:38			18:30	32	17:38 (2)	16:39	32	14:53 (3)	16:31	41	15:08 (3)
24	08:32		14:51 (3)	07:38	16:39 (2)	06:35		06:26	05:35	05:20	05:48	06:37	07:27			08:18		17:06 (2)	08:13		14:20 (3)	08:46		14:29 (3)
	17:11	21	15:12 (3)	18:09	26 17:05 (2)	18:58		20:51	21:39	22:04	21:43	20:46	19:35			18:28	32	17:38 (2)	16:38	33	14:53 (3)	16:31	40	15:09 (3)
25	08:31		14:54 (3)	07:36	16:41 (2)	06:33		06:24	05:33	05:20	05:49	06:38	07:29	18:27 (1)		07:20		16:06 (2)	08:15		14:19 (3)	08:47		14:29 (3)
	17:13	17	15:11 (3)	18:10	22 17:03 (2)	19:00		20:53	21:40	22:04	21:42	20:44	19:33	8 18:35 (1)		17:26	32	16:38 (2)	16:37	35	14:54 (3)	16:32	40	15:09 (3)
26	08:29		14:58 (3)	07:34	16:42 (2)	06:30		06:22	05:32	05:20	05:51	06:40	07:30	18:24 (1)		07:22		16:06 (2)	08:16		14:19 (3)	08:47		14:29 (3)
	17:15	10	15:08 (3)	18:12	19 17:01 (2)	19:01		20:54	21:41	22:04	21:40	20:42	19:31	13 18:37 (1)		17:24	32	16:38 (2)	16:36	36	14:55 (3)	16:32	41	15:10 (3)
27	08:28			07:32	16:44 (2)	06:28		06:20	05:31	05:21	05:52	06:41	07:32	18:21 (1)		07:24		16:06 (2)	08:18		14:20 (3)	08:47		14:29 (3)
	17:17			18:14	15 16:59 (2)	19:03		20:56	21:43	22:04	21:39	20:40	19:28	17 18:38 (1)		17:22	31	16:37 (2)	16:35	36	14:56 (3)	16:33	41	15:10 (3)
28	08:27			07:29	16:49 (2)	06:26		06:17	05:30	05:21	05:54	06:43	07:34	18:19 (1)		07:25		16:06 (2)	08:19		14:19 (3)	08:47		14:31 (3)
	17:19			18:16	6 16:55 (2)	19:05		20:58	21:44	22:03	21:37	20:38	19:26	20 18:39 (1)		17:20	31	16:37 (2)	16:35	37	14:56 (3)	16:34	40	15:11 (3)
29	08:25					07:23		06:16	05:29	05:22	05:55	06:45	07:35	18:18 (1)		07:27		16:07 (2)	08:21		14:19 (3)	08:48		14:31 (3)
	17:20					20:07		20:59	21:45	22:03	21:36	20:35	19:24	22 18:40 (1)		17:18	29	16:36 (2)	16:34	38	14:57 (3)	16:35	41	15:12 (3)
30	08:24					07:21		06:14	05:28	05:23	05:57	06:46	07:37	18:17 (1)		07:29		16:08 (2)	08:22		14:19 (3)	08:48		14:32 (3)
	17:22					20:08		21:01	21:46	22:03	21:34	20:33	19:21	23 18:40 (1)		17:17	28	16:36 (2)	16:33	38	14:57 (3)	16:36	40	15:12 (3)
31	08:22					07:19			05:27		05:58	06:48				07:31		16:09 (2)				08:48		14:31 (3)
	17:24					20:10			21:48		21:32	20:31				17:15	26	16:35 (2)				16:37	41	15:12 (3)
Potential sun hours	259		277		367		416	485	499	502	454	381		331		266			243				
Total, worst case		886		565		291							103		686		524			1254	
Sun reduction		0,24		0,30		0,33							0,36		0,34		0,24			0,20	
Oper. time red.		0,95		0,95		0,95							0,95		0,95		0,95			0,95	
Wind dir. red.		0,70		0,67		0,63							0,63		0,66		0,69			0,70	
Total reduction		0,16		0,19		0,20							0,22		0,21		0,16			0,13	
Total, real		141		110		58							22		145		82			169	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:33/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion4.2M148@165Shadow receptor: AJ - 3997MR15

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March	April	May	June	July	August	September	October	November		December		
1	08:48		09:43 (4)	08:21	14:39 (1)	07:27	07:17	06:12	05:26	05:23	06:00	06:50	07:39	07:33		08:24		09:37 (4)
	16:38	69	14:59 (1)	17:26	15 14:54 (1)	18:18	20:12	21:03	21:49	22:03	21:31	20:29	19:19	17:13		16:32	53	14:45 (1)
2	08:48		09:44 (4)	08:19		07:25	07:14	06:10	05:25	05:24	06:01	06:51	07:41	07:35		08:25		09:36 (4)
	16:39	68	14:59 (1)	17:28		18:20	20:14	21:05	21:50	22:03	21:29	20:26	19:17	17:11		16:32	57	14:46 (1)
3	08:48		09:45 (4)	08:18		07:23	07:12	06:08	05:25	05:25	06:03	06:53	07:42	07:36		08:27		09:35 (4)
	16:40	68	15:00 (1)	17:30		18:21	20:15	21:06	21:51	22:02	21:28	20:24	19:14	17:09		16:31	59	14:46 (1)
4	08:47		09:45 (4)	08:16		07:21	07:10	06:06	05:24	05:25	06:04	06:55	07:44	07:38		08:28		09:35 (4)
	16:41	67	15:00 (1)	17:31		18:23	20:17	21:08	21:52	22:02	21:26	20:22	19:12	17:07		16:30	61	14:47 (1)
5	08:47		09:47 (4)	08:14		07:19	07:07	06:04	05:23	05:26	06:06	06:56	07:46	07:40		08:29		09:34 (4)
	16:43	66	15:01 (1)	17:33		18:25	20:19	21:10	21:53	22:01	21:24	20:20	19:10	17:06		16:30	63	14:47 (1)
6	08:47		09:47 (4)	08:13		07:16	07:05	06:02	05:23	05:27	06:08	06:58	07:47	07:42		08:31		09:33 (4)
	16:44	65	15:01 (1)	17:35		18:27	20:20	21:11	21:54	22:01	21:22	20:17	19:08	17:04		16:30	65	14:47 (1)
7	08:46		09:49 (4)	08:11		07:14	07:03	06:00	05:22	05:28	06:09	06:59	07:49	07:44		08:32		09:34 (4)
	16:45	64	15:02 (1)	17:37		18:28	20:22	21:13	21:55	22:00	21:20	20:15	19:05	17:02		16:29	66	14:48 (1)
8	08:46		09:49 (4)	08:09		07:12	07:01	05:59	05:21	05:29	06:11	07:01	07:51	07:45		08:33		09:34 (4)
	16:46	62	15:02 (1)	17:39		18:30	20:24	21:15	21:56	22:00	21:19	20:13	19:03	17:00		16:29	66	14:48 (1)
9	08:46		09:51 (4)	08:08		07:10	06:58	05:57	05:21	05:30	06:12	07:03	07:52	07:47	14:15 (1)	08:34		09:33 (4)
	16:48	60	15:03 (1)	17:41		18:32	20:26	21:16	21:57	21:59	21:17	20:10	19:01	16:59	4 14:19 (1)	16:28	68	14:48 (1)
10	08:45		09:53 (4)	08:06		07:07	06:56	05:55	05:20	05:31	06:14	07:04	07:54	07:49	14:09 (1)	08:35		09:33 (4)
	16:49	57	15:03 (1)	17:43		18:34	20:27	21:18	21:58	21:58	21:15	20:08	18:59	16:57	16 14:25 (1)	16:28	68	14:48 (1)
11	08:44		09:55 (4)	08:04		07:05	06:54	05:54	05:20	05:32	06:16	07:06	07:56	07:51	14:06 (1)	08:37		09:34 (4)
	16:51	53	15:03 (1)	17:45		18:36	20:29	21:19	21:58	21:57	21:13	20:06	18:56	16:56	22 14:28 (1)	16:28	68	14:49 (1)
12	08:44		14:14 (1)	08:02		07:03	06:52	05:52	05:20	05:33	06:17	07:08	07:57	07:53	14:04 (1)	08:38		09:35 (4)
	16:52	49	15:03 (1)	17:46		18:37	20:31	21:21	21:59	21:56	21:11	20:03	18:54	16:54	26 14:30 (1)	16:28	74	14:50 (1)
13	08:43		14:15 (1)	08:00		07:00	06:49	05:50	05:19	05:34	06:19	07:09	07:59	07:54	14:02 (1)	08:39		09:35 (4)
	16:53	48	15:03 (1)	17:48		18:39	20:32	21:23	22:00	21:56	21:09	20:01	18:52	16:53	30 14:32 (1)	16:28	77	14:50 (1)
14	08:42		14:16 (1)	07:58		06:58	06:47	05:49	05:19	05:35	06:20	07:11	08:01	07:56	14:00 (1)	08:40		09:35 (4)
	16:55	48	15:04 (1)	17:50		18:41	20:34	21:24	22:00	21:55	21:07	19:59	18:50	16:51	33 14:33 (1)	16:28	81	14:51 (1)
15	08:41		14:17 (1)	07:56		06:56	06:45	05:47	05:19	05:36	06:22	07:13	08:03	07:58	13:59 (1)	08:41		09:35 (4)
	16:57	48	15:05 (1)	17:52		18:43	20:36	21:26	22:01	21:54	21:05	19:56	18:47	16:50	36 14:35 (1)	16:28	86	14:50 (1)
16	08:41		14:16 (1)	07:54		06:54	06:43	05:46	05:19	05:38	06:24	07:14	08:04	08:00	13:59 (1)	08:41		09:35 (4)
	16:58	48	15:04 (1)	17:54		18:44	20:37	21:27	22:01	21:53	21:03	19:54	18:45	16:48	37 14:36 (1)	16:28	92	14:51 (1)
17	08:40		14:17 (1)	07:52		06:51	06:41	05:44	05:19	05:39	06:25	07:16	08:06	08:01	13:58 (1)	08:42		09:36 (4)
	17:00	47	15:04 (1)	17:56		18:46	20:39	21:29	22:02	21:52	21:01	19:52	18:43	16:47	39 14:37 (1)	16:28	95	14:51 (1)
18	08:39		14:18 (1)	07:50		06:49	06:38	05:43	05:19	05:40	06:27	07:17	08:08	08:03	13:57 (1)	08:43		09:37 (4)
	17:01	46	15:04 (1)	17:58		18:48	20:41	21:30	22:02	21:51	20:59	19:49	18:41	16:46	41 14:38 (1)	16:29	96	14:52 (1)
19	08:38		14:19 (1)	07:48		06:47	06:36	05:41	05:19	05:41	06:28	07:19	08:10	08:05	13:56 (1)	08:44		09:36 (4)
	17:03	45	15:04 (1)	17:59		18:50	20:43	21:32	22:03	21:49	20:57	19:47	18:39	16:44	42 14:38 (1)	16:29	98	14:52 (1)
20	08:37		14:20 (1)	07:46		06:44	06:34	05:40	05:19	05:43	06:30	07:21	08:11	08:06	13:56 (1)	08:44		09:37 (4)
	17:05	45	15:05 (1)	18:01		18:51	20:44	21:33	22:03	21:48	20:55	19:45	18:37	16:43	43 14:39 (1)	16:29	98	14:53 (1)
21	08:36		14:21 (1)	07:44		06:42	06:32	05:38	05:19	05:44	06:32	07:22	08:13	08:08	13:56 (1)	08:45		09:38 (4)
	17:06	44	15:05 (1)	18:03		18:53	20:46	21:35	22:03	21:47	20:53	19:42	18:35	16:42	44 14:40 (1)	16:30	99	14:54 (1)
22	08:34		14:21 (1)	07:42		06:40	06:30	05:37	05:19	05:45	06:33	07:24	08:15	08:10	13:56 (1)	08:45		09:38 (4)
	17:08	43	15:04 (1)	18:05		18:55	20:48	21:36	22:03	21:46	20:51	19:40	18:33	16:41	45 14:41 (1)	16:30	100	14:54 (1)
23	08:33		14:22 (1)	07:40		06:37	06:28	05:36	05:20	05:47	06:35	07:26	08:17	08:11	13:56 (1)	08:46		09:39 (4)
	17:10	42	15:04 (1)	18:07		18:56	20:49	21:37	22:04	21:44	20:49	19:38	18:31	16:40	45 14:41 (1)	16:31	98	14:55 (1)
24	08:32		14:23 (1)	07:38		06:35	06:26	05:35	05:20	05:48	06:37	07:27	08:18	08:13	13:55 (1)	08:46		09:39 (4)
	17:12	41	15:04 (1)	18:09		18:58	20:51	21:39	22:04	21:43	20:46	19:35	18:28	16:38	46 14:41 (1)	16:31	98	14:55 (1)
25	08:31		14:24 (1)	07:36		06:33	06:24	05:33	05:20	05:49	06:38	07:29	07:20	08:15	13:55 (1)	08:47		09:39 (4)
	17:13	39	15:03 (1)	18:10		19:00	20:53	21:40	22:04	21:42	20:44	19:33	17:26	16:37	47 14:42 (1)	16:32	99	14:55 (1)
26	08:30		14:26 (1)	07:34		06:30	06:22	05:32	05:21	05:51	06:40	07:31	07:22	08:16	13:55 (1)	08:47		09:40 (4)
	17:15	37	15:03 (1)	18:12		19:02	20:54	21:41	22:04	21:40	20:42	19:31	17:24	16:36	48 14:43 (1)	16:32	95	14:55 (1)
27	08:28		14:26 (1)	07:32		06:28	06:20	05:31	05:21	05:52	06:42	07:32	07:24	08:18	13:56 (1)	08:47		09:41 (4)
	17:17	36	15:02 (1)	18:14		19:03	20:56	21:43	22:04	21:39	20:40	19:28	17:22	16:36	48 14:44 (1)	16:33	93	14:57 (1)
28	08:27		14:29 (1)	07:30		06:26	06:18	05:30	05:21	05:54	06:43	07:34	07:26	08:19	13:55 (1)	08:48		09:42 (4)
	17:19	32	15:01 (1)	18:16		19:05	20:58	21:44	22:03	21:37	20:38	19:26	17:20	16:35	49 14:44 (1)	16:34	89	14:57 (1)
29	08:25		14:30 (1)			07:24	06:16	05:29	05:22	05:55	06:45	07:36	07:27	08:21	13:56 (1)	08:48		09:42 (4)
	17:20	30	15:00 (1)			20:07	21:00	21:45	22:03	21:36	20:35	19:24	17:19	16:34	48 14:44 (1)	16:35	85	14:58 (1)
30	08:24		14:32 (1)			07:21	06:14	05:28	05:23	05:57	06:46	07:37	07:29	08:22	13:56 (1)	08:48		09:43 (4)
	17:22	26	14:58 (1)			20:08	21:01	21:47	22:03	21:34	20:33	19:21	17:17	16:33	49 14:45 (1)	16:36	78	14:58 (1)
31	08:22		14:35 (1)			07:19		05:27		05:58	06:48		07:31			08:48		09:42 (4)
	17:24	22	14:57 (1)			20:10		21:48		21:33	20:31		17:15			16:37	76	14:58 (1)
Potential sun hours	259			277		367	416	485	499	502	454	381	331	266		243		
Total, worst case		1515			15										838		2501	
Sun reduction		0,24			0,30										0,24		0,20	
Oper. time red.		0,95			0,95										0,95		0,95	
Wind dir. red.		0,68			0,69										0,69		0,66	
Total reduction		0,15			0,20										0,16		0,13	
Total, real		235			3										130		318	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:33/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion4.2M148@165Shadow receptor: AK - 3998JD84

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May		June		July		August		September	October	November	December
1	08:48	08:21	07:27	07:17	06:12		05:26		06:17 (1)	05:23	06:27 (1)	06:00	06:31 (1)	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03		21:49	21	06:38 (1)	22:03 11	06:38 (1)	21:31 13	06:44 (1)	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10		05:26		06:17 (1)	05:24	06:27 (1)	06:01	06:32 (1)	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05		21:50	20	06:37 (1)	22:03 12	06:39 (1)	21:29 9	06:41 (1)	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08		05:25		06:18 (1)	05:25	06:27 (1)	06:03		06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06		21:51	20	06:38 (1)	22:02 13	06:40 (1)	21:28		20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06		05:24		06:18 (1)	05:26	06:26 (1)	06:05		06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08		21:52	19	06:37 (1)	22:02 14	06:40 (1)	21:26		20:22	19:12	17:07	16:31
5	08:47	08:15	07:19	07:08	06:04		05:23		06:19 (1)	05:26	06:26 (1)	06:06		06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10		21:53	18	06:37 (1)	22:01 15	06:41 (1)	21:24		20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02		05:23		06:20 (1)	05:27	06:26 (1)	06:08		06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11		21:54	16	06:36 (1)	22:01 16	06:42 (1)	21:22		20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01		05:22		06:21 (1)	05:28	06:26 (1)	06:09		07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13		21:55	15	06:36 (1)	22:00 17	06:43 (1)	21:21		20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59		05:22		06:21 (1)	05:29	06:26 (1)	06:11		07:01	07:51	07:45	08:33
	16:47	17:39	18:30	20:24	21:15		21:56	14	06:35 (1)	22:00 18	06:44 (1)	21:19		20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57		05:21		06:22 (1)	05:30	06:26 (1)	06:12		07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16		21:57	13	06:35 (1)	21:59 19	06:45 (1)	21:17		20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55	06:24 (1)	05:21		06:22 (1)	05:31	06:24 (1)	06:14		07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18 5	06:29 (1)	21:58	12	06:34 (1)	21:58 20	06:44 (1)	21:15		20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54	06:21 (1)	05:20		06:23 (1)	05:32	06:24 (1)	06:16		07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19 11	06:32 (1)	21:58	11	06:34 (1)	21:57 21	06:45 (1)	21:13		20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52	06:20 (1)	05:20		06:24 (1)	05:33	06:24 (1)	06:17		07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21 14	06:34 (1)	21:59	10	06:34 (1)	21:57 22	06:46 (1)	21:11		20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50	06:18 (1)	05:20		06:25 (1)	05:34	06:25 (1)	06:19		07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23 17	06:35 (1)	22:00	9	06:34 (1)	21:56 22	06:47 (1)	21:09		20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49	06:17 (1)	05:19		06:26 (1)	05:35	06:25 (1)	06:21		07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24 19	06:36 (1)	22:00	8	06:34 (1)	21:55 22	06:47 (1)	21:07		19:59	18:50	16:51	16:28
15	08:42	07:56	06:56	06:45	05:47	06:15 (1)	05:19		06:26 (1)	05:36	06:24 (1)	06:22		07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26 21	06:36 (1)	22:01	6	06:32 (1)	21:54 24	06:48 (1)	21:05		19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46	06:15 (1)	05:19		06:27 (1)	05:38	06:24 (1)	06:24		07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27 22	06:37 (1)	22:01	5	06:32 (1)	21:53 24	06:48 (1)	21:03		19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44	06:15 (1)	05:19		06:28 (1)	05:39	06:24 (1)	06:25		07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29 23	06:38 (1)	22:02	3	06:31 (1)	21:52 24	06:48 (1)	21:01		19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43	06:14 (1)	05:19		06:29 (1)	05:40	06:24 (1)	06:27		07:18	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30 24	06:38 (1)	22:02	2	06:31 (1)	21:51 24	06:48 (1)	20:59		19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41	06:14 (1)	05:19			05:41	06:23 (1)	06:29		07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32 24	06:38 (1)	22:03			21:49 25	06:48 (1)	20:57		19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40	06:14 (1)	05:19			05:43	06:24 (1)	06:30		07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33 25	06:39 (1)	22:03			21:48 25	06:49 (1)	20:55		19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	05:39	06:14 (1)	05:19			05:44	06:24 (1)	06:32		07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:35 25	06:39 (1)	22:03			21:47 25	06:49 (1)	20:53		19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	05:37	06:13 (1)	05:19			05:45	06:24 (1)	06:34		07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36 25	06:38 (1)	22:03			21:46 25	06:49 (1)	20:51		19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	05:36	06:13 (1)	05:20			05:47	06:24 (1)	06:35		07:26	08:17	08:12	08:46
	17:10	18:07	18:57	20:49	21:37 26	06:39 (1)	22:04			21:44 25	06:49 (1)	20:49		19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35	06:14 (1)	05:20			05:48	06:25 (1)	06:37		07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	21:39 25	06:39 (1)	22:04			21:43 24	06:49 (1)	20:46		19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	05:34	06:14 (1)	05:20		06:30 (1)	05:50	06:25 (1)	06:38		07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	21:40 25	06:39 (1)	22:04	3	06:33 (1)	21:42 24	06:49 (1)	20:44		19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	05:32	06:14 (1)	05:21		06:29 (1)	05:51	06:25 (1)	06:40		07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	21:42 25	06:39 (1)	22:04	5	06:34 (1)	21:40 23	06:48 (1)	20:42		19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	05:31	06:14 (1)	05:21		06:29 (1)	05:52	06:26 (1)	06:42		07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21:43 25	06:39 (1)	22:04	6	06:35 (1)	21:39 22	06:48 (1)	20:40		19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	05:30	06:15 (1)	05:22		06:28 (1)	05:54	06:26 (1)	06:43		07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	21:44 23	06:38 (1)	22:04	8	06:36 (1)	21:37 21	06:47 (1)	20:38		19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	05:29	06:15 (1)	05:22		06:28 (1)	05:55	06:27 (1)	06:45		07:36	07:27	08:21	08:48
	17:21		20:07	21:00	21:45 23	06:38 (1)	22:03	9	06:37 (1)	21:36 20	06:47 (1)	20:36		19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	05:28	06:16 (1)	05:23		06:28 (1)	05:57	06:28 (1)	06:47		07:37	07:29	08:22	08:48
	17:22		20:09	21:01	21:47 23	06:39 (1)	22:03	10	06:38 (1)	21:34 18	06:46 (1)	20:33		19:22	17:17	16:33	16:36
31	08:22		07:19		05:27	06:16 (1)				05:58	06:29 (1)	06:48			07:31		08:48
	17:24		20:10		21:48 22	06:38 (1)				21:33 15	06:44 (1)	20:31			17:15		16:37
Potential sun hours	259	277	367	416	485		499			502		454		381	331	266	243
Total, worst case						472		263		630		22					
Sun reduction						0,43		0,39		0,41		0,42					
Oper. time red.						0,95		0,95		0,95		0,95					
Wind dir. red.						0,67		0,67		0,67		0,67					
Total reduction						0,27		0,25		0,26		0,26					
Total, real						127		65		162		6					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:33/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion4.2M148@165Shadow receptor: AL - 3997MR19

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March	April	May	June	July	August	September	October	November	December
1	08:48	09:32 (4)	08:21	14:45 (1)	07:27	07:17	06:12	05:26	05:23	06:00	06:50	07:39	07:33	14:21 (1) 08:24 09:19 (4)
	16:38 131	15:18 (1)	17:26 55	15:40 (1)	18:18	20:12	21:03	21:49	22:03	21:31	20:29	19:19	17:13 47	15:08 (1) 16:32 121 15:11 (1)
2	08:48	09:32 (4)	08:19	14:45 (1)	07:25	07:14	06:10	05:25	05:24	06:01	06:51	07:41	07:35	14:20 (1) 08:25 09:19 (4)
	16:39 133	15:20 (1)	17:28 55	15:40 (1)	18:20	20:14	21:05	21:50	22:03	21:29	20:26	19:17	17:11 48	15:08 (1) 16:32 125 15:11 (1)
3	08:48	09:33 (4)	08:18	14:46 (1)	07:23	07:12	06:08	05:25	05:25	06:03	06:53	07:42	07:36	14:19 (1) 08:27 09:19 (4)
	16:40 133	15:21 (1)	17:30 55	15:41 (1)	18:21	20:15	21:06	21:51	22:02	21:28	20:24	19:14	17:09 50	15:09 (1) 16:31 126 15:10 (1)
4	08:47	09:33 (4)	08:16	14:46 (1)	07:21	07:10	06:06	05:24	05:25	06:04	06:55	07:44	07:38	14:17 (1) 08:28 09:20 (4)
	16:41 129	15:21 (1)	17:31 54	15:40 (1)	18:23	20:17	21:08	21:52	22:02	21:26	20:22	19:12	17:07 52	15:09 (1) 16:30 129 15:11 (1)
5	08:47	09:34 (4)	08:14	14:47 (1)	07:19	07:07	06:04	05:23	05:26	06:06	06:56	07:46	07:40	14:17 (1) 08:29 09:20 (4)
	16:43 131	15:23 (1)	17:33 53	15:40 (1)	18:25	20:19	21:10	21:53	22:01	21:24	20:20	19:10	17:06 52	15:09 (1) 16:30 130 15:10 (1)
6	08:47	09:34 (4)	08:13	14:47 (1)	07:16	07:05	06:02	05:23	05:27	06:08	06:58	07:47	07:42	14:16 (1) 08:31 09:20 (4)
	16:44 130	15:23 (1)	17:35 52	15:39 (1)	18:27	20:20	21:11	21:54	22:01	21:22	20:17	19:08	17:04 54	15:10 (1) 16:30 130 15:09 (1)
7	08:46	09:35 (4)	08:11	14:48 (1)	07:14	07:03	06:00	05:22	05:28	06:09	06:59	07:49	07:44	14:16 (1) 08:32 09:21 (4)
	16:45 130	15:25 (1)	17:37 51	15:39 (1)	18:28	20:22	21:13	21:55	22:00	21:20	20:15	19:05	17:02 54	15:10 (1) 16:29 131 15:10 (1)
8	08:46	09:35 (4)	08:09	14:49 (1)	07:12	07:01	05:59	05:21	05:29	06:11	07:01	07:51	07:45	14:16 (1) 08:33 09:21 (4)
	16:46 128	15:25 (1)	17:39 50	15:39 (1)	18:30	20:24	21:15	21:56	22:00	21:19	20:13	19:03	17:00 55	15:11 (1) 16:29 129 15:09 (1)
9	08:45	09:36 (4)	08:08	14:50 (1)	07:10	06:58	05:57	05:21	05:30	06:12	07:03	07:52	07:47	14:16 (1) 08:34 09:21 (4)
	16:48 125	15:27 (1)	17:41 49	15:39 (1)	18:32	20:26	21:16	21:57	21:59	21:17	20:10	19:01	16:59 55	15:11 (1) 16:28 131 15:09 (1)
10	08:45	09:36 (4)	08:06	14:51 (1)	07:07	06:56	05:55	05:20	05:31	06:14	07:04	07:54	07:49	14:16 (1) 08:35 09:21 (4)
	16:49 125	15:28 (1)	17:43 47	15:38 (1)	18:34	20:27	21:18	21:58	21:58	21:15	20:08	18:59	16:57 55	15:11 (1) 16:28 131 15:09 (1)
11	08:44	09:37 (4)	08:04	14:52 (1)	07:05	06:54	05:54	05:20	05:32	06:16	07:06	07:56	07:51	14:16 (1) 08:37 09:22 (4)
	16:51 121	15:28 (1)	17:45 45	15:37 (1)	18:36	20:29	21:19	21:58	21:57	21:13	20:06	18:56	16:56 56	15:12 (1) 16:28 130 15:08 (1)
12	08:44	09:37 (4)	08:02	14:54 (1)	07:03	06:52	05:52	05:20	05:33	06:17	07:08	07:57	07:53	14:16 (1) 08:38 09:23 (4)
	16:52 118	15:29 (1)	17:46 42	15:36 (1)	18:37	20:31	21:21	21:59	21:56	21:11	20:03	18:54	16:54 56	15:12 (1) 16:28 129 15:09 (1)
13	08:43	09:38 (4)	08:00	14:55 (1)	07:00	06:49	05:50	05:19	05:34	06:19	07:09	07:59	07:54	14:16 (1) 08:39 09:23 (4)
	16:53 113	15:30 (1)	17:48 40	15:35 (1)	18:39	20:32	21:23	22:00	21:56	21:09	20:01	18:52	16:53 56	15:12 (1) 16:28 131 15:09 (1)
14	08:42	09:39 (4)	07:58	14:57 (1)	06:58	06:47	05:49	05:19	05:35	06:20	07:11	08:01	07:56	14:16 (1) 08:40 09:24 (4)
	16:55 109	15:31 (1)	17:50 36	15:33 (1)	18:41	20:34	21:24	22:00	21:55	21:07	19:59	18:50	16:51 56	15:12 (1) 16:28 130 15:09 (1)
15	08:41	09:41 (4)	07:56	14:59 (1)	06:56	06:45	05:47	05:19	05:36	06:22	07:13	08:03	07:58	14:17 (1) 08:40 09:24 (4)
	16:57 101	15:33 (1)	17:52 33	15:32 (1)	18:43	20:36	21:26	22:01	21:54	21:05	19:56	18:47	16:50 55	15:12 (1) 16:28 129 15:08 (1)
16	08:41	09:41 (4)	07:54	15:02 (1)	06:54	06:43	05:46	05:19	05:38	06:24	07:14	08:04	08:00	14:17 (1) 08:41 09:24 (4)
	16:58 88	15:33 (1)	17:54 28	15:30 (1)	18:44	20:37	21:27	22:01	21:53	21:03	19:54	18:45	16:48 56	15:13 (1) 16:28 130 15:09 (1)
17	08:40	09:42 (4)	07:52	15:06 (1)	06:51	06:41	05:44	05:19	05:39	06:25	07:16	08:06	08:01	14:18 (1) 08:42 09:25 (4)
	17:00 82	15:33 (1)	17:56 21	15:27 (1)	18:46	20:39	21:29	22:02	21:52	21:01	19:52	18:43	16:47 55	15:13 (1) 16:28 130 15:09 (1)
18	08:39	09:43 (4)	07:50	15:10 (1)	06:49	06:38	05:43	05:19	05:40	06:27	07:17	08:08	08:03	14:18 (1) 08:43 09:26 (4)
	17:01 70	15:34 (1)	17:58 13	15:23 (1)	18:48	20:41	21:30	22:02	21:51	20:59	19:49	18:41	16:46 55	15:13 (1) 16:29 129 15:09 (1)
19	08:38	09:45 (4)	07:48		06:47	06:36	05:41	05:19	05:41	06:28	07:19	08:10	08:05	14:18 (1) 08:44 09:26 (4)
	17:03 62	15:35 (1)	17:59		18:50	20:43	21:32	22:03	21:49	20:57	19:47	18:39	16:44 54	15:12 (1) 16:29 128 15:09 (1)
20	08:37	09:48 (4)	07:46		06:44	06:34	05:40	05:19	05:43	06:30	07:21	08:11	08:06	14:18 (1) 08:44 09:26 (4)
	17:05 58	15:36 (1)	18:01		18:51	20:44	21:33	22:03	21:48	20:55	19:45	18:37	16:43 54	15:12 (1) 16:29 129 15:10 (1)
21	08:36	14:44 (1)	07:44		06:42	06:32	05:38	05:19	05:44	06:32	07:22	08:13	08:08	14:19 (1) 08:45 09:27 (4)
	17:06 53	15:37 (1)	18:03		18:53	20:46	21:35	22:03	21:47	20:53	19:42	18:35	16:42 53	15:12 (1) 16:30 129 15:11 (1)
22	08:34	14:43 (1)	07:42		06:40	06:30	05:37	05:19	05:45	06:33	07:24	08:15	08:10	09:24 (4) 08:45 09:27 (4)
	17:08 54	15:37 (1)	18:05		18:55	20:48	21:36	22:03	21:46	20:51	19:40	18:33	16:41 58	15:12 (1) 16:30 128 15:10 (1)
23	08:33	14:44 (1)	07:40		06:37	06:28	05:36	05:20	05:47	06:35	07:26	08:17	08:11	09:22 (4) 08:46 09:27 (4)
	17:10 54	15:38 (1)	18:07		18:56	20:49	21:37	22:03	21:44	20:49	19:38	18:31	16:40 62	15:12 (1) 16:31 129 15:11 (1)
24	08:32	14:44 (1)	07:38		06:35	06:26	05:35	05:20	05:48	06:37	07:27	08:18 15:38 (1)	08:13	09:20 (4) 08:46 09:28 (4)
	17:12 55	15:39 (1)	18:09		18:58	20:51	21:39	22:04	21:43	20:46	19:35	18:28 16 15:54 (1)	16:38 68	15:11 (1) 16:31 129 15:12 (1)
25	08:31	14:44 (1)	07:36		06:33	06:24	05:33	05:20	05:49	06:38	07:29	07:20 14:34 (1)	08:15	09:20 (4) 08:47 09:29 (4)
	17:13 55	15:39 (1)	18:10		19:00	20:53	21:40	22:04	21:42	20:44	19:33	17:26 23 14:57 (1)	16:37 82	15:11 (1) 16:32 128 15:12 (1)
26	08:30	14:44 (1)	07:34		06:30	06:22	05:32	05:21	05:51	06:40	07:31	07:22 14:31 (1)	08:16	09:20 (4) 08:47 09:29 (4)
	17:15 56	15:40 (1)	18:12		19:02	20:54	21:41	22:04	21:40	20:42	19:31	17:24 29 15:00 (1)	16:36 88	15:12 (1) 16:32 129 15:13 (1)
27	08:28	14:44 (1)	07:32		06:28	06:20	05:31	05:21	05:52	06:42	07:32	07:24 14:28 (1)	08:18	09:20 (4) 08:47 09:30 (4)
	17:17 55	15:39 (1)	18:14		19:03	20:56	21:43	22:04	21:39	20:40	19:28	17:22 34 15:02 (1)	16:36 101	15:12 (1) 16:33 130 15:14 (1)
28	08:27	14:44 (1)	07:30		06:26	06:18	05:30	05:21	05:54	06:43	07:34	07:26 14:26 (1)	08:19	09:19 (4) 08:48 09:30 (4)
	17:19 56	15:40 (1)	18:16		19:05	20:58	21:44	22:03	21:37	20:38	19:26	17:20 37 15:03 (1)	16:35 108	15:11 (1) 16:34 129 15:15 (1)
29	08:25	14:44 (1)			07:24	06:16	05:29	05:22	05:55	06:45	07:35	07:27 14:24 (1)	08:21	09:19 (4) 08:48 09:31 (4)
	17:20 56	15:40 (1)			20:07	21:00	21:45	22:03	21:36	20:35	19:24	17:19 41 15:05 (1)	16:34 113	15:11 (1) 16:35 131 15:16 (1)
30	08:24	14:44 (1)			07:21	06:14	05:28	05:23	05:57	06:46	07:37	07:29 14:23 (1)	08:22	09:19 (4) 08:48 09:31 (4)
	17:22 56	15:40 (1)			20:08	21:01	21:47	22:03	21:34	20:33	19:21	17:17 43 15:06 (1)	16:33 118	15:11 (1) 16:36 130 15:17 (1)
31	08:22	14:45 (1)			07:19		05:27		05:58	06:48		07:31 14:22 (1)		08:48 09:31 (4)
	17:24 56	15:41 (1)			20:10		21:48		21:33	20:31		17:15 45 15:07 (1)		16:37 130 15:17 (1)
Potential sun hours	259		277		367	416	485	499	502	454	381	331	266	243
Total, worst case	2823		779									268	1926	4000
Sun reduction	0,24		0,30									0,34	0,24	0,20
Oper. time red.	0,95		0,95									0,95	0,95	0,95
Wind dir. red.	0,66		0,69									0,69	0,68	0,64
Total reduction	0,15		0,20									0,22	0,15	0,12
Total, real	421		154									59	292	494

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:33/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion4.2M148@165Shadow receptor: AM - 3945LA6

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December		
1	08:48		09:38 (4)		08:21		13:48 (2)	07:27	17:09 (1)	07:17	06:12	05:26	05:23	06:00	06:50			07:39		17:30 (1)	07:33		13:23 (2)	08:24		09:23 (4)
	16:38	135	14:40 (2)	71	14:59 (2)	15	18:18	17:24 (1)	20:12	21:03	21:49	22:03	21:31	20:29				19:19	48	18:18 (1)	17:13	65	14:28 (2)	16:32	143	14:30 (2)
2	08:48		09:39 (4)		08:19		13:48 (2)	07:25	17:06 (1)	07:14	06:10	05:25	05:24	06:01	06:51			07:40		17:30 (1)	07:35		13:22 (2)	08:25		09:24 (4)
	16:39	136	14:41 (2)	71	14:59 (2)	21	18:19	17:27 (1)	20:14	21:05	21:50	22:02	21:29	20:26				19:17	47	18:17 (1)	17:11	66	14:28 (2)	16:32	144	14:31 (2)
3	08:48		09:39 (4)		08:18		13:49 (2)	07:23	17:02 (1)	07:12	06:08	05:25	05:25	06:03	06:53			07:42		17:30 (1)	07:36		13:20 (2)	08:27		09:24 (4)
	16:40	136	14:42 (2)	71	15:00 (2)	18	18:21	17:29 (1)	20:15	21:06	21:51	22:02	21:28	20:24				19:14	46	18:16 (1)	17:09	68	14:28 (2)	16:31	142	14:30 (2)
4	08:47		09:39 (4)		08:16		13:50 (2)	07:21	17:00 (1)	07:10	06:06	05:24	05:25	06:04	06:55			07:44		17:30 (1)	07:38		13:20 (2)	08:28		09:25 (4)
	16:41	137	14:42 (2)	70	15:00 (2)	18	18:23	17:31 (1)	20:17	21:08	21:52	22:02	21:26	20:22				19:12	45	18:15 (1)	17:07	68	14:28 (2)	16:30	141	14:31 (2)
5	08:47		09:40 (4)		08:14		13:50 (2)	07:19	16:59 (1)	07:07	06:04	05:23	05:26	06:06	06:56			07:46		17:31 (1)	07:40		13:20 (2)	08:29		09:25 (4)
	16:43	138	14:44 (2)	69	14:59 (2)	18	18:25	17:33 (1)	20:19	21:10	21:53	22:01	21:24	20:20				19:10	43	18:14 (1)	17:06	69	14:29 (2)	16:30	140	14:30 (2)
6	08:47		09:39 (4)		08:13		13:50 (2)	07:16	16:57 (1)	07:05	06:02	05:23	05:27	06:08	06:58			07:47		17:32 (1)	07:42		13:19 (2)	08:31		09:25 (4)
	16:44	140	14:44 (2)	69	14:59 (2)	18	18:27	17:35 (1)	20:20	21:11	21:54	22:01	21:22	20:17				19:08	41	18:13 (1)	17:04	70	14:29 (2)	16:30	140	14:30 (2)
7	08:46		09:40 (4)		08:11		13:50 (2)	07:14	16:55 (1)	07:03	06:00	05:22	05:28	06:09	06:59			07:49		17:32 (1)	07:44		13:19 (2)	08:32		09:27 (4)
	16:45	140	14:45 (2)	68	14:58 (2)	40	18:28	17:35 (1)	20:22	21:13	21:55	22:00	21:20	20:15				19:05	39	18:11 (1)	17:02	70	14:29 (2)	16:29	138	14:31 (2)
8	08:46		09:40 (4)		08:09		13:52 (2)	07:12	16:54 (1)	07:01	05:59	05:21	05:29	06:11	07:01			07:51		17:33 (1)	07:45		13:19 (2)	08:33		09:27 (4)
	16:46	141	14:46 (2)	67	14:59 (2)	43	18:30	17:37 (1)	20:24	21:14	21:56	21:59	21:19	20:13				19:03	36	18:09 (1)	17:00	71	14:30 (2)	16:29	137	14:30 (2)
9	08:45		09:41 (4)		08:07		13:52 (2)	07:10	16:54 (1)	06:58	05:57	05:21	05:30	06:12	07:03			07:52		17:34 (1)	07:47		13:19 (2)	08:34		09:27 (4)
	16:48	142	14:47 (2)	66	14:58 (2)	44	18:32	17:38 (1)	20:25	21:16	21:57	21:59	21:17	20:10				19:01	33	18:07 (1)	16:59	71	14:30 (2)	16:28	137	14:30 (2)
10	08:45		09:41 (4)		08:06		13:53 (2)	07:07	16:52 (1)	06:56	05:55	05:20	05:31	06:14	07:04			07:54		17:36 (1)	07:49		13:19 (2)	08:35		09:28 (4)
	16:49	144	14:48 (2)	65	14:58 (2)	45	18:34	17:37 (1)	20:27	21:18	21:57	21:58	21:15	20:08				18:59	29	18:05 (1)	16:57	71	14:30 (2)	16:28	136	14:30 (2)
11	08:44		09:41 (4)		08:04		13:54 (2)	07:05	16:51 (1)	06:54	05:54	05:20	05:32	06:16	07:06			07:56		17:37 (1)	07:51		13:19 (2)	08:37		09:28 (4)
	16:51	143	14:48 (2)	63	14:57 (2)	47	18:36	17:38 (1)	20:29	21:19	21:58	21:57	21:13	20:06				18:56	25	18:02 (1)	16:56	71	14:30 (2)	16:28	135	14:30 (2)
12	08:44		09:41 (4)		08:02		13:55 (2)	07:03	16:51 (1)	06:52	05:52	05:20	05:33	06:17	07:08		17:59 (1)	07:57		17:40 (1)	07:52		10:45 (3)	08:38		09:30 (4)
	16:52	144	14:49 (2)	62	14:57 (2)	48	18:37	17:39 (1)	20:31	21:21	21:59	21:56	21:11	20:03	7	18:06 (1)	18:54	19	17:59 (1)	16:54	75	14:31 (2)	16:28	134	14:31 (2)
13	08:43		09:42 (4)		08:00		13:56 (2)	07:00	16:50 (1)	06:49	05:50	05:19	05:34	06:19	07:09		17:54 (1)	07:59		17:45 (1)	07:54		09:32 (4)	08:39		09:30 (4)
	16:53	144	14:50 (2)	60	14:56 (2)	48	18:39	17:38 (1)	20:32	21:23	22:00	21:56	21:09	20:01	17	18:11 (1)	18:52	10	17:55 (1)	16:53	91	14:31 (2)	16:28	134	14:31 (2)
14	08:42		09:42 (4)		07:58		13:57 (2)	06:58	16:50 (1)	06:47	05:49	05:19	05:35	06:20	07:11		17:50 (1)	08:01			07:56		09:28 (4)	08:40		09:30 (4)
	16:55	144	14:50 (2)	58	14:55 (2)	49	18:41	17:39 (1)	20:34	21:24	22:00	21:55	21:07	19:59	23	18:13 (1)	18:50			16:51	105	14:31 (2)	16:28	131	14:30 (2)
15	08:41		09:43 (4)		07:56		13:58 (2)	06:56	16:50 (1)	06:45	05:47	05:19	05:36	06:22	07:12		17:47 (1)	08:03			07:58		09:27 (4)	08:40		09:30 (4)
	16:57	144	14:51 (2)	56	14:54 (2)	49	18:43	17:39 (1)	20:36	21:26	22:01	21:54	21:05	19:56	28	18:15 (1)	18:47			16:50	113	14:31 (2)	16:28	133	14:31 (2)
16	08:41		09:43 (4)		07:54		14:00 (2)	06:54	16:49 (1)	06:43	05:46	05:19	05:38	06:24	07:14		17:44 (1)	08:04			08:00		09:25 (4)	08:41		09:31 (4)
	16:58	145	14:52 (2)	53	14:53 (2)	49	18:44	17:38 (1)	20:37	21:27	22:01	21:53	21:03	19:54	32	18:16 (1)	18:45			16:48	120	14:31 (2)	16:28	131	14:31 (2)
17	08:40		09:44 (4)		07:52		14:02 (2)	06:51	16:49 (1)	06:41	05:44	05:19	05:39	06:25	07:16		17:42 (1)	08:06			08:01		09:25 (4)	08:42		09:32 (4)
	17:00	143	14:53 (2)	50	14:52 (2)	49	18:46	17:38 (1)	20:39	21:29	22:02	21:52	21:01	19:52	36	18:18 (1)	18:43			16:47	124	14:31 (2)	16:28	130	14:32 (2)
18	08:39		09:44 (4)		07:50		14:04 (2)	06:49	16:49 (1)	06:38	05:43	05:19	05:40	06:27	07:17		17:41 (1)	08:08			08:03		09:24 (4)	08:43		09:33 (4)
	17:01	142	14:53 (2)	46	14:50 (2)	49	18:48	17:38 (1)	20:41	21:30	22:02	21:50	20:59	19:49	38	18:19 (1)	18:41			16:46	129	14:32 (2)	16:29	129	14:32 (2)
19	08:38		09:45 (4)		07:48		14:06 (2)	06:47	16:49 (1)	06:36	05:41	05:19	05:41	06:28	07:19		17:38 (1)	08:10		14:53 (2)	08:05		09:23 (4)	08:44		09:33 (4)
	17:03	140	14:54 (2)	42	14:48 (2)	48	18:49	17:37 (1)	20:43	21:32	22:03	21:49	20:57	19:47	41	18:19 (1)	18:39	13	15:06 (2)	16:44	134	14:31 (2)	16:29	130	14:32 (2)
20	08:37		09:46 (4)		07:46		14:08 (2)	06:44	16:49 (1)	06:34	05:40	05:19	05:43	06:30	07:21		17:37 (1)	08:11		14:47 (2)	08:06		09:22 (4)	08:44		09:34 (4)
	17:05	140	14:55 (2)	37	14:45 (2)	47	18:51	17:36 (1)	20:44	21:33	22:03	21:48	20:55	19:45	43	18:20 (1)	18:37	24	15:11 (2)	16:43	136	14:31 (2)	16:29	130	14:33 (2)
21	08:36		09:47 (4)		07:44		14:12 (2)	06:42	16:50 (1)	06:32	05:38	05:19	05:44	06:32	07:22		17:35 (1)	08:13		14:42 (2)	08:08		09:22 (4)	08:45		09:34 (4)
	17:06	139	14:56 (2)	31	14:43 (2)	46	18:53	17:36 (1)	20:46	21:35	22:03	21:47	20:53	19:42	45	18:20 (1)	18:35	33	15:15 (2)	16:42	139	14:31 (2)	16:30	131	14:34 (2)
22	08:34		09:47 (4)		07:42		14:17 (2)	06:40	16:50 (1)	06:30	05:37	05:19	05:45	06:33	07:24		17:34 (1)	08:15		14:38 (2)	08:10		09:22 (4)	08:45		09:34 (4)
	17:08	136	14:56 (2)	22	14:39 (2)	44	18:55	17:34 (1)	20:48	21:36	22:03	21:46	20:51	19:40	46	18:20 (1)	18:33	38	15:16 (2)	16:41	140	14:31 (2)	16:30	131	14:34 (2)
23	08:33		09:49 (4)		07:40		14:26 (2)	06:37	16:50 (1)	06:28	05:36	05:20	05:47	06:35	07:26		17:34 (1)	08:17		14:35 (2)	08:11		09:22 (4)	08:46		09:35 (4)
	17:10	134	14:57 (2)	5	14:31 (2)	44	18:56	17:34 (1)	20:49	21:37	22:03	21:44	20:49	19:38	47	18:21 (1)	18:30	43	15:18 (2)	16:40	141	14:31 (2)	16:31	130	14:34 (2)
24	08:32		09:50 (4)		07:38		06:35	16:52 (1)	06:26	05:35	05:20	05:48	06:37	07:27		17:32 (1)	08:18		14:33 (2)	08:13		09:21 (4)	08:46		09:36 (4)
	17:12	129	14:58 (2)	18:09			18:58	41	17:33 (1)	20:51	21:39	22:04	21:43	20:46	19:35	48	18:20 (1)	18:28	47	15:20 (2)	16:38	142	14:30 (2)	16:31	130	14:35 (2)
25	08:31		09:51 (4)		07:36		06:33	16:52 (1)	06:24	05:33	05:20	05:49	06:38	07:29		17:32 (1)	07:20		13:31 (2)	08:15		09:22 (4)	08:47		09:36 (4)
	17:13	124	14:57 (2)	18:10			19:00	39	17:31 (1)	20:53	21:40	22:04	21:42	20:44	19:33	48	18:20 (1)	17:26	50	14:21 (2)	16:37	143	14:31 (2)	16:32	130	14:35 (2)
26	08:29		09:52 (4)		07:34		06:30	16:53 (1)	06:22	05:32	05:21	05:51	06:40	07:31		17:32 (1)	07:22		13:29 (2)	08:16		09:22 (4)	08:47		09:36 (4)
	17:15	120	14:58 (2)	18:12			19:02	36	17:29 (1)	20:54	21:41	22:04	21:40	20:42	19:31	49	18:21 (1)	17:24	54	14:23 (2)	16:36	145	14:31 (2)	16:32	131	14:36 (2)
27	08:28		09:54 (4)		07:32		06:28	16:55 (1)	06:20	05:31	05:21	05:52	06:42	07:32		17:30 (1)	07:24		13:28 (2)	08:18		09:23 (4)	08:47		09:36 (4)
	17:17	113	14:58 (2)	18:14			19:03	33	17:28 (1)	20:56	21:43	22:04	21:39	20:40	19:28	50	18:20 (1)	17:22	56	14:24 (2)	16:36	144	14:31 (2)	16:33	130	14:36 (2)
28	08:27		09:57 (4)		07:30		06:26	16:57 (1)	06:18	05:30	05:21	05:54	06:43	07:34		17:30 (1)	07:26		13:26 (2)	08:19		09:22 (4)	08:48		09:37 (4)
	17:19	104	14:59 (2)	18:16			19:05	28	17:25 (1)	20:58	21:44	22:03	21:37	20:38	19:26	50	18:20 (1)	17:20	59	14:25 (2)	16:35	145	14:30 (2)	16:34	132	14:38 (2)
29	08:25		10:01 (4)				07:23	17:59 (1)	06:16	05:29	05:22	05:55	06:45	07:35		17:30 (1)	07:27		13:25 (2)	08:21		09:23 (4)	08:48		09:38 (4)
	17:20	89	14:59 (2)				20:07	24	18:23 (1)	21:00	21:45	22:03	21:36	20:35	19:24	49	18:19 (1)	17:19	61	14:26 (2)	16:34	143	14:31 (2)	16:35	131	14:38 (2)
30	08:24		13:48 (2)				07:21	18:02 (1)	06:14	05:28	05:23	05:57	06:46	07:37		17:29 (1)	07:29		13:24 (2)	08:22		09:24 (4)	08:48		09:38 (4)
	17:22	71	14:59 (2)				20:08	19	18:21 (1)	21:01	21:46	22:03	21:34	20:33	19:21	49	18:18 (1)	17:17	62	14:26 (2)	16:33	143	14:31 (2)	16:36	134	14:39 (2)
31	08:22		13:48 (2)				07:19	18:06 (1)			05:27		05:58	06:48				07:31		13:23 (2)				08:48		09:37 (4)
	17:24	72	15:00 (2)				20:10	9	18:15 (1)		21:48		21:33	20:31				17:15	64	14:27 (2)				16:37	133	14:39 (2)
Potential sun hours	259			277		367		416	485	499	502	454	381			331			266			243			
Total, worst case		4049		1272		1184								746			1065		3212			4158			
Sun reduction		0,24		0,30		0,33								0,36			0,34		0,24			0,20			
Oper. time red.		0,95		0,95		0,95								0,95			0,95		0,95			0,95			
Wind dir. red.		0,65		0,69		0,65								0,65			0,67		0,66			0,64			
Total reduction		0,15		0,20		0,20								0,22			0,21		0,15			0,12			
Total, real		597		251		240								167			228		476			516			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:33/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion4.2M148@165Shadow receptor: AN - 3997ML142

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March	April	May	June	July	August	September	October	November		December	
1	08:48		09:59 (1)	08:21	09:00 (3)	07:27	07:17	06:12	05:26	05:23	06:00	06:50	07:39	07:33	09:46 (1)	08:24	09:05 (2)
	16:38	39	10:38 (1)	17:26	93	10:51 (1)	18:18	20:12	21:03	21:49	22:03	21:31	20:29	19:19	17:13	24	10:10 (1)	16:32	57	10:28 (1)
2	08:48		09:59 (1)	08:19	09:00 (3)	07:25	07:14	06:10	05:25	05:24	06:01	06:51	07:41	07:35	09:44 (1)	08:25	09:08 (2)
	16:39	40	10:39 (1)	17:28	91	10:50 (1)	18:20	20:14	21:05	21:50	22:03	21:29	20:27	19:17	17:11	29	10:13 (1)	16:32	52	10:28 (1)
3	08:48		10:00 (1)	08:18	09:01 (3)	07:23	07:12	06:08	05:25	05:25	06:03	06:53	07:42	07:36	09:00 (2)	08:27	09:43 (1)
	16:40	40	10:40 (1)	17:30	87	10:51 (1)	18:21	20:15	21:06	21:51	22:02	21:28	20:24	19:15	17:09	41	10:15 (1)	16:31	45	10:28 (1)
4	08:47		09:59 (1)	08:16	09:02 (3)	07:21	07:10	06:06	05:24	05:25	06:05	06:55	07:44	07:38	08:38 (3)	08:28	09:45 (1)
	16:41	41	10:40 (1)	17:32	83	10:50 (1)	18:23	20:17	21:08	21:52	22:02	21:26	20:22	19:12	17:07	56	10:17 (1)	16:31	43	10:28 (1)
5	08:47		10:00 (1)	08:14	09:03 (3)	07:19	07:07	06:04	05:23	05:26	06:06	06:56	07:46	07:40	08:34 (3)	08:29	09:45 (1)
	16:43	41	10:41 (1)	17:33	76	10:48 (1)	18:25	20:19	21:10	21:53	22:01	21:24	20:20	19:10	17:06	68	10:17 (1)	16:30	43	10:28 (1)
6	08:47		09:59 (1)	08:13	09:05 (3)	07:16	07:05	06:02	05:23	05:27	06:08	06:58	07:47	07:42	08:33 (3)	08:31	09:45 (1)
	16:44	43	10:42 (1)	17:35	65	10:47 (1)	18:27	20:20	21:11	21:54	22:01	21:22	20:17	19:08	17:04	75	10:18 (1)	16:30	43	10:28 (1)
7	08:46		10:00 (1)	08:11	09:09 (3)	07:14	07:03	06:01	05:22	05:28	06:09	07:00	07:49	07:44	08:32 (3)	08:32	09:47 (1)
	16:45	43	10:43 (1)	17:37	53	10:47 (1)	18:29	20:22	21:13	21:55	22:00	21:21	20:15	19:05	17:02	82	10:19 (1)	16:29	41	10:28 (1)
8	08:46		10:00 (1)	08:09	09:31 (2)	07:12	07:01	05:59	05:21	05:29	06:11	07:01	07:51	07:45	08:31 (3)	08:33	09:47 (1)
	16:46	43	10:43 (1)	17:39	40	10:45 (1)	18:30	20:24	21:15	21:56	22:00	21:19	20:13	19:03	17:01	88	10:20 (1)	16:29	41	10:28 (1)
9	08:46		10:00 (1)	08:08	10:15 (1)	07:10	06:58	05:57	05:21	05:30	06:12	07:03	07:52	07:47	08:31 (3)	08:34	09:48 (1)
	16:48	45	10:45 (1)	17:41	28	10:43 (1)	18:32	20:26	21:16	21:57	21:59	21:17	20:10	19:01	16:59	91	10:21 (1)	16:29	40	10:28 (1)
10	08:45		09:25 (2)	08:06	10:17 (1)	07:07	06:56	05:55	05:21	05:31	06:14	07:04	07:54	07:49	08:30 (3)	08:36	09:48 (1)
	16:49	52	10:45 (1)	17:43	23	10:40 (1)	18:34	20:27	21:18	21:58	21:58	21:15	20:08	18:59	16:57	94	10:22 (1)	16:28	40	10:28 (1)
11	08:44		09:23 (2)	08:04	10:20 (1)	07:05	06:54	05:54	05:20	05:32	06:16	07:06	07:56	07:51	08:30 (3)	08:37	09:50 (1)
	16:51	56	10:45 (1)	17:45	16	10:36 (1)	18:36	20:29	21:19	21:58	21:57	21:13	20:06	18:56	16:56	97	10:23 (1)	16:28	39	10:29 (1)
12	08:44		09:22 (2)	08:02			07:03	06:52	05:52	05:20	05:33	06:17	07:08	07:57	07:53		08:30 (3)	08:38		09:51 (1)
	16:52	60	10:46 (1)	17:46			18:37	20:31	21:21	21:59	21:57	21:11	20:04	18:54	16:54	98	10:24 (1)	16:28	38	10:29 (1)
13	08:43		09:21 (2)	08:00			07:01	06:49	05:50	05:20	05:34	06:19	07:09	07:59	07:54		08:31 (3)	08:39		09:51 (1)
	16:54	62	10:46 (1)	17:48			18:39	20:32	21:23	22:00	21:56	21:09	20:01	18:52	16:53	98	10:24 (1)	16:28	38	10:29 (1)
14	08:42		09:21 (2)	07:58			06:58	06:47	05:49	05:19	05:35	06:20	07:11	08:01	07:56		08:31 (3)	08:40		09:52 (1)
	16:55	65	10:48 (1)	17:50			18:41	20:34	21:24	22:00	21:55	21:07	19:59	18:50	16:51	99	10:25 (1)	16:28	38	10:30 (1)
15	08:42		09:20 (2)	07:56			06:56	06:45	05:47	05:19	05:36	06:22	07:13	08:03	07:58		08:31 (3)	08:41		09:52 (1)
	16:57	69	10:49 (1)	17:52			18:43	20:36	21:26	22:01	21:54	21:05	19:57	18:48	16:50	99	10:25 (1)	16:28	37	10:29 (1)
16	08:41		09:20 (2)	07:54			06:54	06:43	05:46	05:19	05:38	06:24	07:14	08:04	08:00		08:32 (3)	08:41		09:53 (1)
	16:58	70	10:49 (1)	17:54			18:44	20:38	21:27	22:01	21:53	21:03	19:54	18:45	16:48	100	10:26 (1)	16:28	36	10:29 (1)
17	08:40		09:18 (2)	07:52			06:51	06:41	05:44	05:19	05:39	06:25	07:16	08:06	08:01		08:33 (3)	08:42		09:54 (1)
	17:00	73	10:49 (1)	17:56			18:46	20:39	21:29	22:02	21:52	21:01	19:52	18:43	16:47	99	10:26 (1)	16:28	36	10:30 (1)
18	08:39		09:18 (2)	07:50			06:49	06:38	05:43	05:19	05:40	06:27	07:17	08:08	08:03		08:34 (3)	08:43		09:55 (1)
	17:01	74	10:50 (1)	17:58			18:48	20:41	21:30	22:02	21:51	20:59	19:49	18:41	16:46	97	10:26 (1)	16:29	36	10:31 (1)
19	08:38		09:07 (3)	07:48			06:47	06:36	05:41	05:19	05:41	06:29	07:19	08:10	08:05		08:35 (3)	08:44		09:55 (1)
	17:03	76	10:50 (1)	17:59			18:50	20:43	21:32	22:03	21:49	20:57	19:47	18:39	16:44	95	10:26 (1)	16:29	36	10:31 (1)
20	08:37		09:05 (3)	07:46			06:44	06:34	05:40	05:19	05:43	06:30	07:21	08:11	08:06		08:37 (3)	08:44		09:55 (1)
	17:05	84	10:51 (1)	18:01			18:51	20:44	21:33	22:03	21:48	20:55	19:45	18:37	16:43	92	10:26 (1)	16:29	36	10:31 (1)
21	08:36		09:04 (3)	07:44			06:42	06:32	05:38	05:19	05:44	06:32	07:22	08:13	08:08		08:39 (3)	08:45		09:56 (1)
	17:06	88	10:52 (1)	18:03			18:53	20:46	21:35	22:03	21:47	20:53	19:42	18:35	16:42	88	10:27 (1)	16:30	36	10:32 (1)
22	08:35		09:02 (3)	07:42			06:40	06:30	05:37	05:19	05:45	06:33	07:24	08:15	08:10		08:41 (3)	08:45		09:56 (1)
	17:08	92	10:51 (1)	18:05			18:55	20:48	21:36	22:03	21:46	20:51	19:40	18:33	16:41	84	10:27 (1)	16:30	36	10:32 (1)
23	08:33		09:01 (3)	07:40			06:37	06:28	05:36	05:20	05:47	06:35	07:26	08:17	08:11		08:43 (3)	08:46		09:57 (1)
	17:10	95	10:52 (1)	18:07			18:56	20:49	21:37	22:04	21:44	20:49	19:38	18:31	16:40	77	10:27 (1)	16:31	36	10:33 (1)
24	08:32		09:00 (3)	07:38			06:35	06:26	05:35	05:20	05:48	06:37	07:27	08:18	08:13		08:56 (2)	08:46		09:57 (1)
	17:12	97	10:52 (1)	18:09			18:58	20:51	21:39	22:04	21:43	20:46	19:35	18:29	16:39	74	10:28 (1)	16:31	36	10:33 (1)
25	08:31		08:59 (3)	07:36			06:33	06:24	05:33	05:20	05:49	06:38	07:29	07:20	08:15		08:56 (2)	08:47		09:57 (1)
	17:13	99	10:52 (1)	18:10			19:00	20:53	21:40	22:04	21:42	20:44	19:33	17:26	16:37	73	10:27 (1)	16:32	36	10:33 (1)
26	08:30		08:59 (3)	07:34			06:31	06:22	05:32	05:21	05:51	06:40	07:31	07:22	08:16		08:58 (2)	08:47		09:58 (1)
	17:15	100	10:53 (1)	18:12			19:02	20:55	21:42	22:04	21:40	20:42	19:31	17:24	16:37	70	10:27 (1)	16:33	36	10:34 (1)
27	08:28		08:59 (3)	07:32			06:28	06:20	05:31	05:21	05:52	06:42	07:32	07:24	08:18		08:59 (2)	08:47		09:59 (1)
	17:17	98	10:52 (1)	18:14			19:03	20:56	21:43	22:04	21:39	20:40	19:28	17:22	16:36	69	10:28 (1)	16:33	36	10:35 (1)
28	08:27		08:59 (3)	07:30			06:26	06:18	05:30	05:22	05:54	06:43	07:34	07:26	08:19		09:00 (2)	08:48		09:59 (1)
	17:19	99	10:53 (1)	18:16			19:05	20:58	21:44	22:04	21:37	20:38	19:26	17:21	16:35	66	10:27 (1)	16:34	37	10:36 (1)
29	08:25		08:59 (3)				07:24	06:16	05:29	05:22	05:55	06:45	07:36	07:27	08:21		09:02 (2)	08:48		09:59 (1)
	17:20	98	10:52 (1)				20:07	21:00	21:45	22:03	21:36	20:35	19:24	17:19	16:34	63	10:28 (1)	16:35	37	10:36 (1)
30	08:24		08:59 (3)				07:21	06:14	05:28	05:23	05:57	06:46	07:37	07:29	08:22		09:04 (2)	08:48		09:59 (1)
	17:22	97	10:52 (1)				20:08	21:01	21:47	22:03	21:34	20:33	19:21	17:17	7	10:01 (1)	16:33	60	10:28 (1)	16:36	38	10:37 (1)
31	08:22		08:59 (3)				07:19		05:27		05:58	06:48		07:31		09:49 (1)				08:48		10:00 (1)
	17:24	97	10:52 (1)				20:10		21:48		21:33	20:31		17:15	17	10:06 (1)				16:37	38	10:38 (1)
Potential sun hours	259			277		367	416	485	499	502	454	381	331			266			243			
Total, worst case		2176			655									24			2346			1217		
Sun reduction		0,24			0,30									0,34			0,24			0,20		
Oper. time red.		0,95			0,95									0,95			0,95			0,95		
Wind dir. red.		0,60			0,59									0,60			0,59			0,60		
Total reduction		0,14			0,17									0,19			0,13			0,12		
Total, real		295			112									5			313			142		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:33/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion4.2M148@165Shadow receptor: AO - 3997ML144

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March	April	May	June	July	August	September	October	November	December
1	08:48	10:03 (1)	08:21	09:01 (3)	07:27	07:17	06:12	05:26	05:23	06:00	06:50	07:39	07:33 09:54 (1)	08:24 09:05 (2)
	16:38 42	10:45 (1)	17:26 94	10:57 (1)	18:18	20:12	21:03	21:49	22:03	21:31	20:29	19:19	17:13 19	10:13 (1) 16:32 63 10:34 (1)
2	08:48	10:03 (1)	08:19	09:02 (3)	07:25	07:14	06:10	05:25	05:24	06:01	06:51	07:41	07:35	09:52 (1) 08:25 09:07 (2)
	16:39 43	10:46 (1)	17:28 90	10:56 (1)	18:20	20:14	21:05	21:50	22:03	21:29	20:27	19:17	17:11 24	10:16 (1) 16:32 61 10:35 (1)
3	08:48	10:04 (1)	08:18	09:03 (3)	07:23	07:12	06:08	05:25	05:25	06:03	06:53	07:42	07:36	09:50 (1) 08:27 09:08 (2)
	16:40 43	10:47 (1)	17:30 85	10:56 (1)	18:21	20:15	21:06	21:51	22:02	21:28	20:24	19:15	17:09 29	10:19 (1) 16:31 58 10:34 (1)
4	08:47	10:03 (1)	08:16	09:04 (3)	07:21	07:10	06:06	05:24	05:25	06:04	06:55	07:44	07:38	09:01 (2) 08:28 09:11 (2)
	16:41 44	10:47 (1)	17:32 78	10:54 (1)	18:23	20:17	21:08	21:52	22:02	21:26	20:22	19:12	17:07 45	10:21 (1) 16:31 54 10:35 (1)
5	08:47	10:04 (1)	08:14	09:06 (3)	07:19	07:07	06:04	05:23	05:26	06:06	06:56	07:46	07:40	08:37 (3) 08:29 09:49 (1)
	16:43 44	10:48 (1)	17:33 70	10:53 (1)	18:25	20:19	21:10	21:53	22:01	21:24	20:20	19:10	17:06 62	10:22 (1) 16:30 46 10:35 (1)
6	08:47	10:04 (1)	08:13	09:08 (3)	07:16	07:05	06:02	05:23	05:27	06:08	06:58	07:47	07:42	08:35 (3) 08:31 09:50 (1)
	16:44 44	10:48 (1)	17:35 59	10:52 (1)	18:27	20:20	21:11	21:54	22:01	21:22	20:17	19:08	17:04 71	10:23 (1) 16:30 45 10:35 (1)
7	08:46	10:04 (1)	08:11	09:32 (2)	07:14	07:03	06:01	05:22	05:28	06:09	07:00	07:49	07:44	08:34 (3) 08:32 09:51 (1)
	16:45 46	10:50 (1)	17:37 43	10:51 (1)	18:29	20:22	21:13	21:55	22:00	21:21	20:15	19:05	17:02 78	10:24 (1) 16:29 44 10:35 (1)
8	08:46	09:26 (2)	08:09	10:20 (1)	07:12	07:01	05:59	05:21	05:29	06:11	07:01	07:51	07:45	08:33 (3) 08:33 09:52 (1)
	16:46 54	10:50 (1)	17:39 29	10:49 (1)	18:30	20:24	21:15	21:56	22:00	21:19	20:13	19:03	17:01 86	10:26 (1) 16:29 43 10:35 (1)
9	08:46	09:26 (2)	08:08	10:22 (1)	07:10	06:58	05:57	05:21	05:30	06:12	07:03	07:52	07:47	08:33 (3) 08:34 09:52 (1)
	16:48 57	10:51 (1)	17:41 24	10:46 (1)	18:32	20:26	21:16	21:57	21:59	21:17	20:10	19:01	16:59 90	10:27 (1) 16:29 43 10:35 (1)
10	08:45	09:24 (2)	08:06	10:25 (1)	07:07	06:56	05:55	05:21	05:31	06:14	07:04	07:54	07:49	08:32 (3) 08:36 09:53 (1)
	16:49 61	10:52 (1)	17:43 18	10:43 (1)	18:34	20:27	21:18	21:58	21:58	21:15	20:08	18:59	16:57 93	10:27 (1) 16:28 42 10:35 (1)
11	08:44	09:23 (2)	08:04	10:30 (1)	07:05	06:54	05:54	05:20	05:32	06:16	07:06	07:56	07:51	08:32 (3) 08:37 09:54 (1)
	16:51 63	10:52 (1)	17:45 7	10:37 (1)	18:36	20:29	21:19	21:58	21:57	21:13	20:06	18:56	16:56 96	10:28 (1) 16:28 42 10:36 (1)
12	08:44	09:22 (2)	08:02		07:03	06:52	05:52	05:20	05:33	06:17	07:08	07:57	07:53	08:32 (3) 08:38 09:55 (1)
	16:52 66	10:53 (1)	17:46		18:37	20:31	21:21	21:59	21:57	21:11	20:04	18:54	16:54 98	10:29 (1) 16:28 41 10:36 (1)
13	08:43	09:21 (2)	08:00		07:01	06:49	05:50	05:20	05:34	06:19	07:09	07:59	07:54	08:32 (3) 08:39 09:55 (1)
	16:53 69	10:53 (1)	17:48		18:39	20:32	21:23	22:00	21:56	21:09	20:01	18:52	16:53 99	10:30 (1) 16:28 42 10:37 (1)
14	08:42	09:22 (2)	07:58		06:58	06:47	05:49	05:19	05:35	06:20	07:11	08:01	07:56	08:33 (3) 08:40 09:56 (1)
	16:55 71	10:55 (1)	17:50		18:41	20:34	21:24	22:00	21:55	21:07	19:59	18:50	16:51 100	10:30 (1) 16:28 41 10:37 (1)
15	08:42	09:21 (2)	07:56		06:56	06:45	05:47	05:19	05:36	06:22	07:13	08:03	07:58	08:33 (3) 08:41 09:56 (1)
	16:57 73	10:55 (1)	17:52		18:43	20:36	21:26	22:01	21:54	21:05	19:57	18:48	16:50 101	10:31 (1) 16:28 40 10:36 (1)
16	08:41	09:21 (2)	07:54		06:54	06:43	05:46	05:19	05:38	06:24	07:14	08:04	08:00	08:33 (3) 08:41 09:57 (1)
	16:58 75	10:56 (1)	17:54		18:44	20:38	21:27	22:01	21:53	21:03	19:54	18:45	16:48 101	10:31 (1) 16:28 40 10:37 (1)
17	08:40	09:20 (2)	07:52		06:51	06:41	05:44	05:19	05:39	06:25	07:16	08:06	08:01	08:34 (3) 08:42 09:57 (1)
	17:00 76	10:55 (1)	17:56		18:46	20:39	21:29	22:02	21:52	21:01	19:52	18:43	16:47 101	10:32 (1) 16:28 40 10:37 (1)
18	08:39	09:08 (3)	07:50		06:49	06:38	05:43	05:19	05:40	06:27	07:17	08:08	08:03	08:35 (3) 08:43 09:58 (1)
	17:01 78	10:56 (1)	17:58		18:48	20:41	21:30	22:02	21:51	20:59	19:49	18:41	16:46 100	10:32 (1) 16:29 40 10:38 (1)
19	08:38	09:06 (3)	07:48		06:47	06:36	05:41	05:19	05:41	06:29	07:19	08:10	08:05	08:35 (3) 08:44 09:59 (1)
	17:03 85	10:56 (1)	17:59		18:50	20:43	21:32	22:03	21:49	20:57	19:47	18:39	16:44 99	10:32 (1) 16:29 40 10:39 (1)
20	08:37	09:05 (3)	07:46		06:44	06:34	05:40	05:19	05:43	06:30	07:21	08:11	08:06	08:37 (3) 08:44 09:59 (1)
	17:05 90	10:57 (1)	18:01		18:51	20:44	21:33	22:03	21:48	20:55	19:45	18:37	16:43 96	10:32 (1) 16:29 39 10:38 (1)
21	08:36	09:04 (3)	07:44		06:42	06:32	05:38	05:19	05:44	06:32	07:22	08:13	08:08	08:39 (3) 08:45 10:00 (1)
	17:06 94	10:58 (1)	18:03		18:53	20:46	21:35	22:03	21:47	20:53	19:42	18:35	16:42 94	10:33 (1) 16:30 39 10:39 (1)
22	08:35	09:02 (3)	07:42		06:40	06:30	05:37	05:19	05:45	06:33	07:24	08:15	08:10	08:41 (3) 08:45 10:00 (1)
	17:08 96	10:57 (1)	18:05		18:55	20:48	21:36	22:03	21:46	20:51	19:40	18:33	16:41 90	10:33 (1) 16:30 39 10:39 (1)
23	08:33	09:01 (3)	07:40		06:37	06:28	05:36	05:20	05:47	06:35	07:26	08:17	08:11	08:43 (3) 08:46 10:01 (1)
	17:10 99	10:58 (1)	18:07		18:56	20:49	21:37	22:04	21:44	20:49	19:38	18:31	16:40 85	10:33 (1) 16:31 39 10:40 (1)
24	08:32	09:01 (3)	07:38		06:35	06:26	05:35	05:20	05:48	06:37	07:27	08:18	08:13	08:45 (3) 08:46 10:01 (1)
	17:12 100	10:58 (1)	18:09		18:58	20:51	21:39	22:04	21:43	20:46	19:35	18:29	16:39 80	10:34 (1) 16:31 40 10:41 (1)
25	08:31	09:00 (3)	07:36		06:33	06:24	05:33	05:20	05:49	06:38	07:29	07:20	08:15	08:58 (2) 08:47 10:01 (1)
	17:13 101	10:58 (1)	18:10		19:00	20:53	21:40	22:04	21:42	20:44	19:33	17:26	16:37 76	10:33 (1) 16:32 40 10:41 (1)
26	08:30	09:01 (3)	07:34		06:31	06:22	05:32	05:21	05:51	06:40	07:31	07:22	08:16	08:59 (2) 08:47 10:01 (1)
	17:15 100	10:58 (1)	18:12		19:02	20:55	21:42	22:04	21:40	20:42	19:31	17:24	16:37 75	10:34 (1) 16:33 40 10:41 (1)
27	08:28	09:00 (3)	07:32		06:28	06:20	05:31	05:21	05:52	06:42	07:32	07:24	08:18	09:00 (2) 08:47 10:03 (1)
	17:17 100	10:58 (1)	18:14		19:03	20:56	21:43	22:04	21:39	20:40	19:28	17:22	16:36 73	10:34 (1) 16:33 40 10:43 (1)
28	08:27	09:01 (3)	07:30		06:26	06:18	05:30	05:22	05:54	06:43	07:34	07:26	08:19	09:01 (2) 08:48 10:03 (1)
	17:19 99	10:58 (1)	18:16		19:05	20:58	21:44	22:04	21:37	20:38	19:26	17:21	16:35 71	10:34 (1) 16:34 40 10:43 (1)
29	08:25	09:00 (3)			07:24	06:16	05:29	05:22	05:55	06:45	07:36	07:27	08:21	09:02 (2) 08:48 10:03 (1)
	17:20 99	10:58 (1)			20:07	21:00	21:45	22:03	21:36	20:35	19:24	17:19	16:34 69	10:34 (1) 16:35 41 10:44 (1)
30	08:24	09:00 (3)			07:21	06:14	05:28	05:23	05:57	06:46	07:37	07:29	08:22	09:04 (2) 08:48 10:03 (1)
	17:22 98	10:57 (1)			20:08	21:01	21:47	22:03	21:34	20:33	19:21	17:17	16:33 67	10:35 (1) 16:36 41 10:44 (1)
31	08:22	09:01 (3)			07:19		05:27		05:58	06:48		07:31 09:58 (1)		08:48 10:04 (1)
	17:24 96	10:57 (1)			20:10		21:48		21:33	20:31		17:15 10 10:08 (1)		16:37 41 10:45 (1)
Potential sun hours	259		277		367	416	485	499	502	454	381	331	266	243
Total, worst case	2306		597									10	2368	1344
Sun reduction	0,24		0,30									0,34	0,24	0,20
Oper. time red.	0,95		0,95									0,95	0,95	0,95
Wind dir. red.	0,60		0,60									0,61	0,60	0,61
Total reduction	0,14		0,17									0,19	0,13	0,12
Total, real	313		102									2	317	158

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:33/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion4.2M148@165Shadow receptor: AP - 3998NL69

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	08:12 (4)	06:12	07:23 (3)	05:26	07:09 (3)	05:23	07:15 (3)	06:00	07:22 (3)	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12 36	08:48 (4)	21:03 48	08:11 (3)	21:49 74	08:23 (3)	22:03 73	08:28 (3)	21:31 68	08:30 (3)	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	08:12 (4)	06:10	07:21 (3)	05:25	07:09 (3)	05:24	07:15 (3)	06:01	07:23 (3)	06:51	07:40	07:35	08:25
	16:39	17:28	18:20	20:14 35	08:47 (4)	21:05 51	08:12 (3)	21:50 74	08:23 (3)	22:02 73	08:28 (3)	21:29 66	08:29 (3)	20:26	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	08:13 (4)	06:08	07:20 (3)	05:25	07:09 (3)	05:25	07:15 (3)	06:03	07:24 (3)	06:53	08:19 (4)	07:42	07:36	08:27
	16:40	17:30	18:21	20:15 33	08:46 (4)	21:06 53	08:13 (3)	21:51 74	08:23 (3)	22:02 73	08:28 (3)	21:28 65	08:29 (3)	20:24 11	08:30 (4)	19:14	17:09	16:31
4	08:47	08:16	07:21	07:10	08:13 (4)	06:06	07:19 (3)	05:24	07:09 (3)	05:25	07:15 (3)	06:04	07:24 (3)	06:55	08:16 (4)	07:44	07:38	08:28
	16:41	17:32	18:23	20:17 31	08:44 (4)	21:08 56	08:15 (3)	21:52 74	08:23 (3)	22:02 73	08:28 (3)	21:26 64	08:28 (3)	20:22 18	08:34 (4)	19:12	17:07	16:31
5	08:47	08:14	07:19	07:07	08:14 (4)	06:04	07:17 (3)	05:23	07:09 (3)	05:26	07:16 (3)	06:06	07:24 (3)	06:56	08:13 (4)	07:46	07:40	08:29
	16:43	17:33	18:25	20:19 29	08:43 (4)	21:10 58	08:15 (3)	21:53 74	08:23 (3)	22:01 73	08:29 (3)	21:24 63	08:27 (3)	20:20 22	08:35 (4)	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	08:15 (4)	06:02	07:16 (3)	05:23	07:10 (3)	05:27	07:16 (3)	06:08	07:25 (3)	06:58	08:11 (4)	07:47	07:42	08:31
	16:44	17:35	18:27	20:20 26	08:41 (4)	21:11 60	08:16 (3)	21:54 73	08:23 (3)	22:01 73	08:29 (3)	21:22 61	08:26 (3)	20:17 26	08:37 (4)	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	08:17 (4)	06:01	07:16 (3)	05:22	07:09 (3)	05:28	07:16 (3)	06:09	07:26 (3)	06:59	08:09 (4)	07:49	07:44	08:32
	16:45	17:37	18:28	20:22 22	08:39 (4)	21:13 61	08:17 (3)	21:55 74	08:23 (3)	22:00 74	08:30 (3)	21:20 59	08:25 (3)	20:15 29	08:38 (4)	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	08:18 (4)	05:59	07:14 (3)	05:21	07:10 (3)	05:29	07:16 (3)	06:11	07:27 (3)	07:01	08:08 (4)	07:51	07:45	08:33
	16:46	17:39	18:30	20:24 18	08:36 (4)	21:14 63	08:17 (3)	21:56 73	08:23 (3)	21:59 73	08:29 (3)	21:19 57	08:24 (3)	20:13 31	08:39 (4)	19:03	17:00	16:29
9	08:45	08:07	07:10	06:58	08:21 (4)	05:57	07:13 (3)	05:21	07:11 (3)	05:30	07:16 (3)	06:12	07:28 (3)	07:03	08:06 (4)	07:52	07:47	08:34
	16:48	17:41	18:32	20:25 11	08:32 (4)	21:16 65	08:18 (3)	21:57 73	08:24 (3)	21:59 74	08:30 (3)	21:17 55	08:23 (3)	20:10 33	08:39 (4)	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56		05:55	07:13 (3)	05:21	07:10 (3)	05:31	07:16 (3)	06:14	07:30 (3)	07:04	08:06 (4)	07:54	07:49	08:35
	16:49	17:43	18:34	20:27		21:18 66	08:19 (3)	21:57 73	08:23 (3)	21:58 74	08:30 (3)	21:15 52	08:22 (3)	20:08 34	08:40 (4)	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54		05:54	07:12 (3)	05:20	07:11 (3)	05:32	07:16 (3)	06:16	07:30 (3)	07:06	08:04 (4)	07:56	07:51	08:37
	16:51	17:45	18:36	20:29		21:19 67	08:19 (3)	21:58 72	08:23 (3)	21:57 74	08:30 (3)	21:13 50	08:20 (3)	20:06 36	08:40 (4)	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52		05:52	07:12 (3)	05:20	07:11 (3)	05:33	07:16 (3)	06:17	07:32 (3)	07:08	08:04 (4)	07:57	07:52	08:38
	16:52	17:46	18:37	20:31		21:21 68	08:20 (3)	21:59 73	08:24 (3)	21:56 74	08:30 (3)	21:11 47	08:19 (3)	20:03 36	08:40 (4)	18:54	16:54	16:28
13	08:43	08:00	07:00	06:49		05:50	07:11 (3)	05:20	07:12 (3)	05:34	07:16 (3)	06:19	07:33 (3)	07:09	08:04 (4)	07:59	07:54	08:39
	16:53	17:48	18:39	20:32		21:22 69	08:20 (3)	22:00 72	08:24 (3)	21:56 75	08:31 (3)	21:09 44	08:17 (3)	20:01 37	08:41 (4)	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47		05:49	07:11 (3)	05:19	07:11 (3)	05:35	07:16 (3)	06:20	07:35 (3)	07:11	08:02 (4)	08:01	07:56	08:40
	16:55	17:50	18:41	20:34		21:24 70	08:21 (3)	22:00 72	08:23 (3)	21:55 75	08:31 (3)	21:07 40	08:15 (3)	19:59 38	08:40 (4)	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45		05:47	07:10 (3)	05:19	07:11 (3)	05:36	07:18 (3)	06:22	07:37 (3)	07:13	08:03 (4)	08:03	07:58	08:40
	16:57	17:52	18:43	20:36		21:26 70	08:20 (3)	22:01 73	08:24 (3)	21:54 74	08:32 (3)	21:05 37	08:14 (3)	19:56 37	08:40 (4)	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43		05:46	07:10 (3)	05:19	07:12 (3)	05:38	07:18 (3)	06:24	07:39 (3)	07:14	08:02 (4)	08:04	08:00	08:41
	16:58	17:54	18:44	20:37		21:27 71	08:21 (3)	22:01 72	08:24 (3)	21:53 74	08:32 (3)	21:03 32	08:11 (3)	19:54 37	08:39 (4)	18:45	16:48	16:28
17	08:40	07:52	06:51	07:30 (4)	06:41	05:44	07:10 (3)	05:19	07:12 (3)	05:39	07:18 (3)	06:25	07:43 (3)	07:16	08:02 (4)	08:06	08:01	08:42
	17:00	17:56	18:46 10	07:40 (4)	20:39	21:29 72	08:22 (3)	22:02 72	08:24 (3)	21:52 74	08:32 (3)	21:01 25	08:08 (3)	19:52 37	08:39 (4)	18:43	16:47	16:28
18	08:39	07:50	06:49	07:27 (4)	06:38	05:43	07:09 (3)	05:19	07:12 (3)	05:40	07:18 (3)	06:27	07:46 (3)	07:17	08:02 (4)	08:08	08:03	08:43
	17:01	17:58	18:48 17	07:44 (4)	20:41	21:30 72	08:21 (3)	22:02 72	08:24 (3)	21:50 74	08:32 (3)	20:59 17	08:03 (3)	19:49 37	08:39 (4)	18:41	16:46	16:29
19	08:38	07:48	06:47	07:23 (4)	06:36	05:41	07:09 (3)	05:19	07:12 (3)	05:41	07:18 (3)	06:29		07:19	08:02 (4)	08:10	08:05	08:44
	17:03	17:59	18:49 23	07:46 (4)	20:43	21:32 73	08:22 (3)	22:02 72	08:24 (3)	21:49 74	08:32 (3)	20:57		19:47 35	08:37 (4)	18:39	16:44	16:29
20	08:37	07:46	06:44	07:21 (4)	06:34	05:40	07:09 (3)	05:19	07:13 (3)	05:43	07:19 (3)	06:30		07:21	08:03 (4)	08:11	08:06	08:44
	17:05	18:01	18:51 26	07:47 (4)	20:44	21:33 73	08:22 (3)	22:03 72	08:25 (3)	21:48 73	08:32 (3)	20:55		19:45 34	08:37 (4)	18:37	16:43	16:29
21	08:36	07:44	06:42	07:20 (4)	06:32	05:38	07:09 (3)	05:19	07:13 (3)	05:44	07:18 (3)	06:32		07:22	08:03 (4)	08:13	08:08	08:45
	17:06	18:03	18:53 29	07:49 (4)	20:46	21:35 73	08:22 (3)	22:03 72	08:25 (3)	21:47 74	08:32 (3)	20:53		19:42 32	08:35 (4)	18:35	16:42	16:30
22	08:34	07:42	06:40	07:17 (4)	06:30	05:37	07:08 (3)	05:19	07:13 (3)	05:45	07:18 (3)	06:33		07:24	08:04 (4)	08:15	08:10	08:45
	17:08	18:05	18:55 32	07:49 (4)	20:48	21:36 74	08:22 (3)	22:03 72	08:25 (3)	21:46 74	08:32 (3)	20:51		19:40 30	08:34 (4)	18:33	16:41	16:30
23	08:33	07:40	06:37	07:16 (4)	06:28	05:36	07:08 (3)	05:20	07:13 (3)	05:47	07:18 (3)	06:35		07:26	08:05 (4)	08:17	08:11	08:46
	17:10	18:07	18:56 34	07:50 (4)	20:49	21:37 74	08:22 (3)	22:03 72	08:25 (3)	21:44 74	08:32 (3)	20:49		19:38 27	08:32 (4)	18:31	16:40	16:31
24	08:32	07:38	06:35	07:16 (4)	06:26	05:35	07:08 (3)	05:20	07:14 (3)	05:48	07:19 (3)	06:37		07:27	08:06 (4)	08:18	08:13	08:46
	17:12	18:09	18:58 35	07:51 (4)	20:51	21:39 74	08:22 (3)	22:04 72	08:26 (3)	21:43 73	08:32 (3)	20:46		19:35 24	08:30 (4)	18:28	16:38	16:31
25	08:31	07:36	06:33	07:14 (4)	06:24	07:38 (3)	05:33	07:08 (3)	05:20	07:14 (3)	05:49	07:19 (3)	06:38		07:29	08:08 (4)	07:20	08:15	08:47
	17:13	18:10	19:00 36	07:50 (4)	20:53 19	07:57 (3)	21:40 74	08:22 (3)	22:04 72	08:26 (3)	21:42 73	08:32 (3)	20:44		19:33 20	08:28 (4)	17:26	16:37	16:32
26	08:29	07:34	06:30	07:14 (4)	06:22	07:34 (3)	05:32	07:08 (3)	05:21	07:14 (3)	05:51	07:19 (3)	06:40		07:31	08:11 (4)	07:22	08:16	08:47
	17:15	18:12	19:02 37	07:51 (4)	20:54 27	08:01 (3)	21:41 74	08:22 (3)	22:04 72	08:26 (3)	21:40 72	08:31 (3)	20:42		19:31 14	08:25 (4)	17:24	16:37	16:33
27	08:28	07:32	06:28	07:13 (4)	06:20	07:32 (3)	05:31	07:08 (3)	05:21	07:14 (3)	05:52	07:20 (3)	06:42		07:32		07:24	08:18	08:47
	17:17	18:14	19:03 38	07:51 (4)	20:56 33	08:05 (3)	21:43 74	08:22 (3)	22:04 73	08:27 (3)	21:39 72	08:32 (3)	20:40		19:28		17:22	16:36	16:33
28	08:27	07:30	06:26	07:12 (4)	06:18	07:29 (3)	05:30	07:08 (3)	05:22	07:14 (3)	05:54	07:20 (3)	06:43		07:34		07:26	08:19	08:47
	17:19	18:16	19:05 38	07:50 (4)	20:58 38	08:07 (3)	21:44 74	08:22 (3)	22:03 72	08:26 (3)	21:37 71	08:31 (3)	20:38		19:26		17:20	16:35	16:34
29	08:25		07:24	08:12 (4)	06:16	07:27 (3)	05:29	07:08 (3)	05:22	07:15 (3)	05:55	07:20 (3)	06:45		07:35		07:27	08:21	08:48
	17:20		20:07 38	08:50 (4)	21:00 41	08:08 (3)	21:45 74	08:22 (3)	22:03 72	08:27 (3)	21:36 71	08:31 (3)	20:35		19:24		17:19	16:34	16:35
30	08:24		07:21	08:12 (4)	06:14	07:25 (3)	05:28	07:08 (3)	05:23	07:14 (3)	05:57	07:21 (3)	06:46		07:37		07:29	08:22	08:48
	17:22		20:08 38	08:50 (4)	21:01 45	08:10 (3)	21:46 74	08:22 (3)	22:03 73	08:27 (3)	21:34 70	08:31 (3)	20:33		19:21		17:17	16:33	16:36
31	08:22		07:19	08:12 (4)			05:27	07:09 (3)			05:58	07:21 (3)	06:48				07:31		08:48
	17:24		20:10 37	08:49 (4)			21:48 74	08:23 (3)			21:32 69	08:30 (3)	20:31				17:15		16:37
Potential sun hours	259	277	367	416		485		499		502		454		381		331	266	243
Total, worst case			468	444		2099		2180		2267		902		715				
Sun reduction			0,33	0,42		0,43		0,39		0,41		0,42		0,36				
Oper. time red.			0,95	0,95		0,95		0,95		0,95		0,95		0,95				
Wind dir. red.			0,60	0,61		0,63		0,63		0,63		0,63		0,60				
Total reduction			0,19	0,24		0,25		0,23		0,24		0,25		0,21				
Total, real			88	108		534		507		549		224		148				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:33/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion4.2M148@165Shadow receptor: AQ - 3998JK67

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 - 16:38	08:21 - 17:26	07:27 - 18:18	07:17 - 20:12	06:12 - 21:03	06:58 (2) - 07:08 (2)	05:26 - 21:49	06:08 (1) - 06:36 (1)	05:23 - 22:03	06:15 (1) - 06:41 (1)	06:00 - 21:31	06:50 - 20:29	07:39 - 19:19	07:33 - 17:13	08:24 - 16:32
2	08:48 - 16:39	08:19 - 17:28	07:25 - 18:20	07:14 - 20:14	06:10 - 21:05	05:26 - 21:50	06:08 (1) - 06:35 (1)	06:15 (1) - 06:41 (1)	06:01 - 21:29	06:51 - 20:27	07:41 - 19:17	07:35 - 17:11	08:25 - 16:32		
3	08:48 - 16:40	08:18 - 17:30	07:23 - 18:21	07:12 - 20:15	06:08 - 21:06	05:25 - 21:51	06:09 (1) - 06:36 (1)	06:16 (1) - 06:42 (1)	06:03 - 21:28	06:53 - 20:24	07:42 - 19:15	07:36 - 17:09	08:27 - 16:31		
4	08:47 - 16:41	08:16 - 17:32	07:21 - 18:23	07:10 - 20:17	06:06 - 21:08	05:24 - 21:52	06:09 (1) - 06:36 (1)	06:15 (1) - 06:41 (1)	06:05 - 21:26	06:55 - 20:22	07:44 - 19:12	07:38 - 17:07	08:28 - 16:31		
5	08:47 - 16:43	08:14 - 17:33	07:19 - 18:25	07:08 - 20:19	06:04 - 21:10	05:23 - 21:53	06:09 (1) - 06:37 (1)	06:15 (1) - 06:42 (1)	06:06 - 21:24	06:56 - 20:20	07:46 - 19:10	07:40 - 17:06	08:29 - 16:30		
6	08:47 - 16:44	08:13 - 17:35	07:16 - 18:27	07:05 - 20:20	06:02 - 21:11	05:23 - 21:54	06:09 (1) - 06:36 (1)	06:16 (1) - 06:42 (1)	06:08 - 21:22	06:58 - 20:17	07:47 - 19:08	07:42 - 17:04	08:31 - 16:30		
7	08:46 - 16:45	08:11 - 17:37	07:14 - 18:29	07:03 - 20:22	06:01 - 21:13	05:22 - 21:55	06:10 (1) - 06:37 (1)	06:16 (1) - 06:43 (1)	06:09 - 21:21	07:00 - 20:15	07:49 - 19:05	07:44 - 17:02	08:32 - 16:29		
8	08:46 - 16:46	08:09 - 17:39	07:12 - 18:30	07:01 - 20:24	05:59 - 21:15	05:22 - 21:56	06:10 (1) - 06:36 (1)	06:16 (1) - 06:43 (1)	06:11 - 21:19	07:01 - 20:13	07:51 - 19:03	07:45 - 17:01	08:33 - 16:29		
9	08:46 - 16:48	08:08 - 17:41	07:10 - 18:32	06:58 - 20:26	05:57 - 21:16	05:21 - 21:57	06:10 (1) - 06:37 (1)	06:16 (1) - 06:44 (1)	06:12 - 21:17	07:03 - 20:11	07:52 - 19:01	07:47 - 16:59	08:34 - 16:29		
10	08:45 - 16:49	08:06 - 17:43	07:07 - 18:34	06:56 - 20:27	05:55 - 21:18	05:21 - 21:58	06:10 (1) - 06:36 (1)	06:15 (1) - 06:43 (1)	06:14 - 21:15	07:04 - 20:08	07:54 - 18:59	07:49 - 16:57	08:36 - 16:28		
11	08:44 - 16:51	08:04 - 17:45	07:05 - 18:36	06:54 - 20:29	05:54 - 21:19	05:20 - 21:58	06:11 (1) - 06:36 (1)	06:16 (1) - 06:43 (1)	06:16 - 21:13	07:10 (2) - 07:14 (2)	07:06 - 20:06	07:56 - 18:56	07:51 - 16:56	08:37 - 16:28	
12	08:44 - 16:52	08:02 - 17:47	07:03 - 18:37	06:52 - 20:31	05:52 - 21:21	05:20 - 21:59	06:11 (1) - 06:37 (1)	06:16 (1) - 06:43 (1)	06:17 - 21:11	07:06 (2) - 07:17 (2)	07:08 - 20:04	07:58 - 18:54	07:53 - 16:54	08:38 - 16:28	
13	08:43 - 16:54	08:00 - 17:48	07:01 - 18:39	06:49 - 20:32	05:50 - 21:23	05:20 - 22:00	06:12 (1) - 06:37 (1)	06:17 (1) - 06:44 (1)	06:19 - 21:09	07:05 (2) - 07:19 (2)	07:09 - 20:01	07:59 - 18:52	07:54 - 16:53	08:39 - 16:28	
14	08:42 - 16:55	07:58 - 17:50	06:58 - 18:41	06:47 - 20:34	05:49 - 21:24	05:19 - 22:00	06:12 (1) - 06:37 (1)	06:17 (1) - 06:44 (1)	06:21 - 21:07	07:03 (2) - 07:20 (2)	07:11 - 19:59	08:01 - 18:50	07:56 - 16:51	08:40 - 16:28	
15	08:41 - 16:57	07:56 - 17:52	06:56 - 18:43	06:45 - 20:36	05:47 - 21:26	05:19 - 22:01	06:11 (1) - 06:37 (1)	06:17 (1) - 06:44 (1)	06:22 - 21:05	07:03 (2) - 07:21 (2)	07:13 - 19:57	08:03 - 18:48	07:58 - 16:50	08:41 - 16:28	
16	08:41 - 16:58	07:54 - 17:54	06:54 - 18:44	06:43 - 20:38	05:46 - 21:27	06:16 (1) - 06:26 (1)	06:12 (1) - 06:37 (1)	06:17 (1) - 06:44 (1)	06:24 - 21:03	07:01 (2) - 07:21 (2)	07:14 - 19:54	08:04 - 18:45	08:00 - 16:48	08:41 - 16:28	
17	08:40 - 17:00	07:52 - 17:56	06:51 - 18:46	06:41 - 20:39 (6)	07:04 (2) - 07:10 (2)	05:44 - 06:13 (1)	06:15 (1) - 06:28 (1)	06:17 (1) - 06:44 (1)	06:25 - 21:01	07:01 (2) - 07:21 (2)	07:16 - 19:52	08:06 - 18:43	08:01 - 16:47	08:42 - 16:28	
18	08:39 - 17:01	07:50 - 17:58	06:49 - 18:48	06:39 - 20:41 (11)	07:02 (2) - 07:13 (2)	05:43 - 06:12 (1)	05:19 - 06:29 (1)	06:18 (1) - 06:37 (1)	06:27 - 20:59	07:00 (2) - 07:21 (2)	07:17 - 19:50	08:08 - 18:41	08:03 - 16:46	08:43 - 16:29	
19	08:38 - 17:03	07:48 - 18:00	06:47 - 18:50	06:36 - 20:43 (14)	07:00 (2) - 07:14 (2)	05:41 - 06:30 (1)	05:19 - 06:38 (1)	06:18 (1) - 06:43 (1)	06:29 - 20:57	07:00 (2) - 07:21 (2)	07:19 - 19:47	08:10 - 18:39	08:05 - 16:44	08:44 - 16:29	
20	08:37 - 17:05	07:46 - 18:01	06:44 - 18:51	06:34 - 20:44 (17)	06:58 (2) - 07:15 (2)	05:40 - 06:31 (1)	05:19 - 06:38 (1)	06:19 (1) - 06:44 (1)	06:30 - 20:55	07:00 (2) - 07:20 (2)	07:21 - 19:45	08:11 - 18:37	08:06 - 16:43	08:44 - 16:29	
21	08:36 - 17:06	07:44 - 18:03	06:42 - 18:53	06:32 - 20:46 (19)	06:56 (2) - 07:15 (2)	05:39 - 06:32 (1)	05:19 - 06:38 (1)	06:19 (1) - 06:43 (1)	06:32 - 20:53	07:00 (2) - 07:20 (2)	07:22 - 19:43	08:13 - 18:35	08:08 - 16:42	08:45 - 16:30	
22	08:35 - 17:08	07:42 - 18:05	06:40 - 18:55	06:30 - 20:48 (20)	06:56 (2) - 07:16 (2)	05:37 - 06:32 (1)	06:09 (1) - 06:38 (1)	06:20 (1) - 06:42 (1)	06:34 - 20:51	07:00 (2) - 07:19 (2)	07:24 - 19:40	08:15 - 18:33	08:10 - 16:41	08:45 - 16:30	
23	08:33 - 17:10	07:40 - 18:07	06:38 - 18:56	06:28 - 20:49 (21)	06:55 (2) - 07:16 (2)	05:36 - 06:33 (1)	06:09 (1) - 06:38 (1)	06:20 (1) - 06:41 (1)	06:35 - 20:49	07:02 (2) - 07:19 (2)	07:26 - 19:38	08:17 - 18:31	08:11 - 16:40	08:46 - 16:31	
24	08:32 - 17:12	07:38 - 18:09	06:35 - 18:58	06:26 - 20:51 (21)	06:55 (2) - 07:16 (2)	05:35 - 06:33 (1)	06:08 (1) - 06:39 (1)	06:22 (1) - 06:41 (1)	06:37 - 20:46	07:03 (2) - 07:17 (2)	07:27 - 19:35	08:18 - 18:29	08:13 - 16:39	08:46 - 16:31	
25	08:31 - 17:13	07:36 - 18:11	06:33 - 19:00	06:24 - 20:53 (20)	06:55 (2) - 07:15 (2)	05:34 - 06:34 (1)	06:08 (1) - 06:39 (1)	06:23 (1) - 06:40 (1)	06:38 - 20:44	07:05 (2) - 07:15 (2)	07:29 - 19:33	08:15 - 17:27	08:07 - 16:38	08:47 - 16:32	
26	08:30 - 17:15	07:34 - 18:12	06:31 - 19:02	06:22 - 20:55 (20)	06:55 (2) - 07:15 (2)	05:32 - 06:34 (1)	06:08 (1) - 06:39 (1)	06:24 (1) - 06:40 (1)	06:40 - 20:42	07:07 (2) - 07:13 (2)	07:31 - 19:31	08:22 - 17:25	08:16 - 16:37	08:47 - 16:33	
27	08:28 - 17:17	07:32 - 18:14	06:28 - 19:03	06:20 - 20:56 (19)	06:55 (2) - 07:14 (2)	05:31 - 06:34 (1)	06:08 (1) - 06:40 (1)	06:26 (1) - 06:38 (1)	06:42 - 20:40		07:32 - 19:28	08:24 - 17:23	08:18 - 16:36	08:47 - 16:33	
28	08:27 - 17:19	07:30 - 18:16	06:26 - 19:05	06:18 - 20:58 (18)	06:55 (2) - 07:13 (2)	05:30 - 06:35 (1)	06:08 (1) - 06:39 (1)	06:28 (1) - 06:35 (1)	06:43 - 20:38		07:34 - 19:26	08:26 - 17:21	08:19 - 16:35	08:48 - 16:34	
29	08:25 - 17:21		07:24 - 20:07	06:16 - 21:00 (16)	06:56 (2) - 07:12 (2)	05:29 - 06:35 (1)	06:08 (1) - 06:40 (1)	06:15 (1) - 06:37 (1)	06:45 - 20:36		07:36 - 19:24	08:27 - 17:19	08:21 - 16:34	08:48 - 16:35	
30	08:24 - 17:22		07:21 - 20:08	06:14 - 21:01 (13)	06:57 (2) - 07:10 (2)	05:28 - 06:36 (1)	06:08 (1) - 06:40 (1)	06:15 (1) - 06:36 (1)	06:47 - 20:33		07:37 - 19:22	08:29 - 17:17	08:22 - 16:33	08:48 - 16:36	
31	08:22 - 17:24		07:19 - 20:10		05:27 - 21:48	06:08 (1) - 06:36 (1)	05:58 - 21:33	06:48 - 20:31			07:31 - 17:15			08:48 - 16:37	
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243			
Total, worst case				235	369	769	669	252							
Sun reduction				0,42	0,43	0,39	0,41	0,42							
Oper. time red.				0,95	0,95	0,95	0,95	0,95							
Wind dir. red.				0,63	0,67	0,67	0,67	0,63							
Total reduction				0,25	0,27	0,25	0,26	0,25							
Total, real				59	100	190	173	63							

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:33/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion4.2M148@165Shadow receptor: AR - 3945LA1

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March	April	May	June	July	August	September	October		November		December		
1	08:48		08:21		15:54 (4)	07:27	07:16	06:12	05:26	05:23	06:00	06:50	07:39		07:33		08:24		15:32 (4)
	16:38		17:26	24	16:18 (4)	18:18	20:12	21:03	21:49	22:03	21:31	20:29	19:19		17:13		16:32	19	15:51 (4)
2	08:48		08:19		15:55 (4)	07:25	07:14	06:10	05:25	05:24	06:01	06:51	07:40		07:34		08:25		15:33 (4)
	16:39		17:28	22	16:17 (4)	18:19	20:13	21:04	21:50	22:02	21:29	20:26	19:17		17:11		16:32	18	15:51 (4)
3	08:47		08:18		15:57 (4)	07:23	07:12	06:08	05:25	05:25	06:03	06:53	07:42		07:36		08:27		15:34 (4)
	16:40		17:30	19	16:16 (4)	18:21	20:15	21:06	21:51	22:02	21:27	20:24	19:14		17:09		16:31	16	15:50 (4)
4	08:47		08:16		15:59 (4)	07:21	07:10	06:06	05:24	05:25	06:04	06:54	07:44		07:38		08:28		15:35 (4)
	16:41		17:31	16	16:15 (4)	18:23	20:17	21:08	21:52	22:02	21:26	20:22	19:12		17:07		16:30	14	15:49 (4)
5	08:47	15:55 (4)	08:14		16:02 (4)	07:18	07:07	06:04	05:23	05:26	06:06	06:56	07:45		07:40		08:29		15:37 (4)
	16:42	4 15:59 (4)	17:33	10	16:12 (4)	18:25	20:19	21:09	21:53	22:01	21:24	20:20	19:10		17:05		16:30	12	15:49 (4)
6	08:47	15:52 (4)	08:13			07:16	07:05	06:02	05:22	05:27	06:07	06:58	07:47		07:42	15:31 (4)	08:31		15:38 (4)
	16:44	9 16:01 (4)	17:35			18:27	20:20	21:11	21:54	22:01	21:22	20:17	19:08		17:04	11 15:42 (4)	16:29	9	15:47 (4)
7	08:46	15:52 (4)	08:11			07:14	07:03	06:00	05:22	05:28	06:09	06:59	07:49		07:43	15:29 (4)	08:32		15:41 (4)
	16:45	12 16:04 (4)	17:37			18:28	20:22	21:13	21:55	22:00	21:20	20:15	19:05		17:02	16 15:45 (4)	16:29	6	15:47 (4)
8	08:46	15:51 (4)	08:09			07:12	07:00	05:59	05:21	05:29	06:11	07:01	07:51		07:45	15:27 (4)	08:33		
	16:46	14 16:05 (4)	17:39			18:30	20:24	21:14	21:56	21:59	21:19	20:13	19:03		17:00	19 15:46 (4)	16:29		
9	08:45	15:50 (4)	08:07			07:09	06:58	05:57	05:21	05:30	06:12	07:03	07:52		07:47	15:26 (4)	08:34		
	16:48	16 16:06 (4)	17:41			18:32	20:25	21:16	21:57	21:59	21:17	20:10	19:01		16:59	22 15:48 (4)	16:28		
10	08:45	15:50 (4)	08:06			07:07	06:56	05:55	05:20	05:31	06:14	07:04	07:54		07:49	15:25 (4)	08:35		
	16:49	18 16:08 (4)	17:43			18:34	20:27	21:18	21:57	21:58	21:15	20:08	18:58		16:57	24 15:49 (4)	16:28		
11	08:44	15:50 (4)	08:04			07:05	06:54	05:53	05:20	05:32	06:15	07:06	07:56		07:51	15:24 (4)	08:36		
	16:50	19 16:09 (4)	17:44			18:35	20:29	21:19	21:58	21:57	21:13	20:06	18:56		16:56	26 15:50 (4)	16:28		
12	08:44	15:49 (4)	08:02			07:03	06:51	05:52	05:20	05:33	06:17	07:08	07:57		07:52	15:24 (4)	08:38		
	16:52	21 16:10 (4)	17:46			18:37	20:31	21:21	21:59	21:56	21:11	20:03	18:54		16:54	26 15:50 (4)	16:28		
13	08:43	15:49 (4)	08:00		17:09 (3)	07:00	06:49	05:50	05:19	05:34	06:19	07:09	07:59		07:54	15:23 (4)	08:39		
	16:53	22 16:11 (4)	17:48	10	17:19 (3)	18:39	20:32	21:22	21:59	21:55	21:09	20:01	18:52		16:52	28 15:51 (4)	16:28		
14	08:42	15:48 (4)	07:58		17:07 (3)	06:58	06:47	05:49	05:19	05:35	06:20	07:11	08:01	17:41 (3)	07:56	15:23 (4)	08:39		
	16:55	24 16:12 (4)	17:50	14	17:21 (3)	18:41	20:34	21:24	22:00	21:55	21:07	19:59	18:50	11 17:52 (3)	16:51	29 15:52 (4)	16:28		
15	08:41	15:48 (4)	07:56		17:05 (3)	06:56	06:45	05:47	05:19	05:36	06:22	07:12	08:02	17:38 (3)	07:58	15:23 (4)	08:40		
	16:56	25 16:13 (4)	17:52	18	17:23 (3)	18:42	20:36	21:26	22:01	21:54	21:05	19:56	18:47	15 17:53 (3)	16:50	29 15:52 (4)	16:28		
16	08:40	15:48 (4)	07:54		17:04 (3)	06:53	06:43	05:45	05:19	05:37	06:24	07:14	08:04	17:36 (3)	07:59	15:23 (4)	08:41		
	16:58	26 16:14 (4)	17:54	20	17:24 (3)	18:44	20:37	21:27	22:01	21:53	21:03	19:54	18:45	18 17:54 (3)	16:48	30 15:53 (4)	16:28		
17	08:40	15:48 (4)	07:52		17:03 (3)	06:51	06:40	05:44	05:19	05:39	06:25	07:16	08:06	17:35 (3)	08:01	15:23 (4)	08:42		
	17:00	27 16:15 (4)	17:56	22	17:25 (3)	18:46	20:39	21:29	22:02	21:51	21:01	19:52	18:43	20 17:55 (3)	16:47	30 15:53 (4)	16:28		
18	08:39	15:48 (4)	07:50		17:03 (3)	06:49	06:38	05:42	05:19	05:40	06:27	07:17	08:08	17:34 (3)	08:03	15:23 (4)	08:43		
	17:01	28 16:16 (4)	17:57	23	17:26 (3)	18:48	20:41	21:30	22:02	21:50	20:59	19:49	18:41	22 17:56 (3)	16:45	29 15:52 (4)	16:28		
19	08:38	15:48 (4)	07:48		17:02 (3)	06:47	06:36	05:41	05:19	05:41	06:28	07:19	08:09	17:33 (3)	08:05	15:23 (4)	08:43		
	17:03	29 16:17 (4)	17:59	23	17:25 (3)	18:49	20:42	21:32	22:02	21:49	20:57	19:47	18:39	24 17:57 (3)	16:44	30 15:53 (4)	16:29		
20	08:37	15:49 (4)	07:46		17:01 (3)	06:44	06:34	05:40	05:19	05:42	06:30	07:21	08:11	17:33 (3)	08:06	15:23 (4)	08:44		
	17:05	28 16:17 (4)	18:01	24	17:25 (3)	18:51	20:44	21:33	22:03	21:48	20:55	19:45	18:37	24 17:57 (3)	16:43	30 15:53 (4)	16:29		
21	08:35	15:48 (4)	07:44		17:01 (3)	06:42	06:32	05:38	05:19	05:44	06:32	07:22	08:13	17:32 (3)	08:08	15:24 (4)	08:45		
	17:06	29 16:17 (4)	18:03	24	17:25 (3)	18:53	20:46	21:34	22:03	21:47	20:53	19:42	18:35	24 17:56 (3)	16:42	29 15:53 (4)	16:29		
22	08:34	15:48 (4)	07:42		17:02 (3)	06:40	06:30	05:37	05:19	05:45	06:33	07:24	08:15	17:32 (3)	08:10	15:25 (4)	08:45		
	17:08	30 16:18 (4)	18:05	23	17:25 (3)	18:55	20:48	21:36	22:03	21:46	20:51	19:40	18:32	24 17:56 (3)	16:41	29 15:54 (4)	16:30		
23	08:33	15:49 (4)	07:40		17:02 (3)	06:37	06:28	05:36	05:19	05:47	06:35	07:25	08:17	17:32 (3)	08:11	15:25 (4)	08:46		
	17:10	30 16:19 (4)	18:07	23	17:25 (3)	18:56	20:49	21:37	22:03	21:44	20:48	19:38	18:30	23 17:55 (3)	16:39	29 15:54 (4)	16:30		
24	08:32	15:49 (4)	07:38		17:03 (3)	06:35	06:26	05:34	05:20	05:48	06:37	07:27	08:18	17:32 (3)	08:13	15:25 (4)	08:46		
	17:11	29 16:18 (4)	18:09	22	17:25 (3)	18:58	20:51	21:39	22:03	21:43	20:46	19:35	18:28	23 17:55 (3)	16:38	28 15:53 (4)	16:31		
25	08:31	15:49 (4)	07:36		17:04 (3)	06:33	06:24	05:33	05:20	05:49	06:38	07:29	07:20		16:33 (3)	08:15	15:26 (4)	08:47		
	17:13	30 16:19 (4)	18:10	20	17:24 (3)	19:00	20:53	21:40	22:04	21:41	20:44	19:33	17:26	21 16:54 (3)	16:37	27 15:53 (4)	16:32		
26	08:29	15:50 (4)	07:34		17:04 (3)	06:30	06:21	05:32	05:20	05:51	06:40	07:30	07:22		16:34 (3)	08:16	15:27 (4)	08:47		
	17:15	30 16:20 (4)	18:12	18	17:22 (3)	19:01	20:54	21:41	22:04	21:40	20:42	19:31	17:24	19 16:53 (3)	16:36	26 15:53 (4)	16:32		
27	08:28	15:50 (4)	07:32		17:06 (3)	06:28	06:19	05:31	05:21	05:52	06:41	07:32	07:24		16:35 (3)	08:18	15:28 (4)	08:47		
	17:17	29 16:19 (4)	18:14	14	17:20 (3)	19:03	20:56	21:43	22:03	21:39	20:40	19:28	17:22	17 16:52 (3)	16:35	25 15:53 (4)	16:33		
28	08:27	15:51 (4)	07:29		17:09 (3)	06:26	06:17	05:30	05:21	05:54	06:43	07:34	07:25		16:37 (3)	08:19	15:29 (4)	08:47		
	17:19	29 16:20 (4)	18:16	8	17:17 (3)	19:05	20:58	21:44	22:03	21:37	20:38	19:26	17:20	13 16:50 (3)	16:35	23 15:52 (4)	16:34		
29	08:25	15:51 (4)				07:23	06:15	05:29	05:22	05:55	06:45	07:35	07:27		16:39 (3)	08:21	15:30 (4)	08:48		
	17:20	28 16:19 (4)				20:07	20:59	21:45	22:03	21:36	20:35	19:24	17:18	9 16:48 (3)	16:34	22 15:52 (4)	16:35		
30	08:24	15:52 (4)				07:21	06:13	05:28	05:22	05:57	06:46	07:37	07:29		08:22	15:30 (4)	08:48		
	17:22	26 16:18 (4)				20:08	21:01	21:46	22:03	21:34	20:33	19:21	17:16		16:33	21 15:51 (4)	16:36		
31	08:22	15:53 (4)				07:19		05:27		05:58	06:48		07:31				08:48		
	17:24	26 16:19 (4)				20:10		21:48		21:32	20:31		17:15				16:37		
Potential sun hours	259		277		367	416	485	499	502	454	381	331		266		243			
Total, worst case	638		397									307		638		94			
Sun reduction	0,24		0,30									0,34		0,24		0,20			
Oper. time red.	0,95		0,95									0,95		0,95		0,95			
Wind dir. red.	0,67		0,67									0,67		0,67		0,67			
Total reduction	0,15		0,19									0,21		0,15		0,13			
Total, real	97		76									65		96		12			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:33/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion4.2M148@165Shadow receptor: AS - 3998NM3

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June		July		August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	05:26		05:23	21:20 (2)	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03	21:49		22:03	21:22 (2)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	05:25		05:24		06:01	06:51	07:40	07:34	08:25
	16:39	17:28	18:19	20:13	21:04	21:50		22:02		21:29	20:26	19:17	17:11	16:32
3	08:47	08:18	07:23	07:12	06:08	05:25		05:25		06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06	21:51		22:02		21:27	20:24	19:14	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06	05:24		05:25		06:04	06:55	07:44	07:38	08:28
	16:41	17:31	18:23	20:17	21:08	21:52		22:02		21:26	20:22	19:12	17:07	16:30
5	08:47	08:14	07:18	07:07	06:04	05:23		05:26		06:06	06:56	07:45	07:40	08:29
	16:43	17:33	18:25	20:19	21:09	21:53		22:01		21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02	05:23		05:27		06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11	21:54		22:01		21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:00	05:22		05:28		06:09	06:59	07:49	07:43	08:32
	16:45	17:37	18:28	20:22	21:13	21:55		22:00		21:20	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59	05:21		05:29		06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:14	21:56		21:59		21:19	20:13	19:03	17:00	16:29
9	08:45	08:07	07:10	06:58	05:57	05:21		05:30		06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:25	21:16	21:57		21:59		21:17	20:10	19:01	16:59	16:28
10	08:45	08:06	07:07	06:56	05:55	05:20		05:31		06:14	07:04	07:54	07:49	08:35
	16:49	17:43	18:34	20:27	21:18	21:57		21:58		21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54	05:20		05:32		06:16	07:06	07:56	07:51	08:36
	16:51	17:45	18:35	20:29	21:19	21:58		21:57		21:13	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52	05:20	21:15 (2)	05:33		06:17	07:08	07:57	07:52	08:37
	16:52	17:46	18:37	20:31	21:21	21:59	5 21:20 (2)	21:56		21:11	20:03	18:54	16:54	16:28
13	08:43	08:00	07:00	06:49	05:50	05:19	21:13 (2)	05:34		06:19	07:09	07:59	07:54	08:38
	16:53	17:48	18:39	20:32	21:22	21:59	7 21:20 (2)	21:55		21:09	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49	05:19	21:12 (2)	05:35		06:20	07:11	08:01	07:56	08:39
	16:55	17:50	18:41	20:34	21:24	22:00	9 21:21 (2)	21:55		21:07	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47	05:19	21:12 (2)	05:36		06:22	07:12	08:03	07:58	08:40
	16:57	17:52	18:42	20:36	21:26	22:01	10 21:22 (2)	21:54		21:05	19:56	18:47	16:50	16:28
16	08:40	07:54	06:54	06:43	05:46	05:19	21:12 (2)	05:38		06:24	07:14	08:04	07:59	08:41
	16:58	17:54	18:44	20:37	21:27	22:01	11 21:23 (2)	21:53		21:03	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44	05:19	21:12 (2)	05:39		06:25	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29	22:02	11 21:23 (2)	21:51		21:01	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:38	05:43	05:19	21:12 (2)	05:40		06:27	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30	22:02	12 21:24 (2)	21:50		20:59	19:49	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41	05:19	21:12 (2)	05:41		06:28	07:19	08:09	08:05	08:43
	17:03	17:59	18:49	20:42	21:32	22:02	12 21:24 (2)	21:49		20:57	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40	05:19	21:12 (2)	05:43		06:30	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33	22:03	12 21:24 (2)	21:48		20:55	19:45	18:37	16:43	16:29
21	08:35	07:44	06:42	06:32	05:38	05:19	21:13 (2)	05:44		06:32	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:34	22:03	12 21:25 (2)	21:47		20:53	19:42	18:35	16:42	16:30
22	08:34	07:42	06:40	06:30	05:37	05:19	21:13 (2)	05:45		06:33	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36	22:03	12 21:25 (2)	21:46		20:51	19:40	18:33	16:41	16:30
23	08:33	07:40	06:37	06:28	05:36	05:20	21:13 (2)	05:47		06:35	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	21:37	22:03	12 21:25 (2)	21:44		20:48	19:38	18:30	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35	05:20	21:14 (2)	05:48		06:37	07:27	08:18	08:13	08:46
	17:11	18:09	18:58	20:51	21:39	22:03	12 21:26 (2)	21:43		20:46	19:35	18:28	16:38	16:31
25	08:31	07:36	06:33	06:24	05:33	05:20	21:14 (2)	05:49		06:38	07:29	07:20	08:15	08:47
	17:13	18:10	19:00	20:53	21:40	22:04	12 21:26 (2)	21:41		20:44	19:33	17:26	16:37	16:32
26	08:29	07:34	06:30	06:22	05:32	05:21	21:14 (2)	05:51		06:40	07:30	07:22	08:16	08:47
	17:15	18:12	19:01	20:54	21:41	22:04	11 21:25 (2)	21:40		20:42	19:31	17:24	16:36	16:32
27	08:28	07:32	06:28	06:20	05:31	05:21	21:15 (2)	05:52		06:42	07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21:43	22:03	10 21:25 (2)	21:39		20:40	19:28	17:22	16:36	16:33
28	08:27	07:29	06:26	06:18	05:30	05:21	21:15 (2)	05:54		06:43	07:34	07:25	08:19	08:47
	17:19	18:16	19:05	20:58	21:44	22:03	10 21:25 (2)	21:37		20:38	19:26	17:20	16:35	16:34
29	08:25		07:23	06:16	05:29	05:22	21:17 (2)	05:55		06:45	07:35	07:27	08:21	08:48
	17:20		20:07	20:59	21:45	22:03	8 21:25 (2)	21:36		20:35	19:24	17:18	16:34	16:35
30	08:24		07:21	06:14	05:28	05:23	21:17 (2)	05:57		06:46	07:37	07:29	08:22	08:48
	17:22		20:08	21:01	21:46	22:03	6 21:23 (2)	21:34		20:33	19:21	17:17	16:33	16:36
31	08:22		07:19		05:27			05:58		06:48		07:31		08:48
	17:24		20:10		21:48			21:32		20:31		17:15		16:37
Potential sun hours	259	277	367	416	485	499		502		454	381	331	266	243
Total, worst case						194		2						
Sun reduction						0,39		0,41						
Oper. time red.						0,95		0,95						
Wind dir. red.						0,59		0,59						
Total reduction						0,22		0,23						
Total, real						42		0						

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:33/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion4.2M148@165Shadow receptor: AT - 3998NM1

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	05:26	05:23	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03	21:49	22:03	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	05:25	05:24	06:01	06:51	07:40	07:34	08:25
	16:39	17:28	18:19	20:13	21:04	21:50	22:02	21:29	20:26	19:17	17:11	16:32
3	08:47	08:18	07:23	07:12	06:08	05:25	05:25	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06	21:51	22:02	21:27	20:24	19:14	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06	05:24	05:25	06:04	06:55	07:44	07:38	08:28
	16:41	17:31	18:23	20:17	21:08	21:52	22:02	21:26	20:22	19:12	17:07	16:31
5	08:47	08:14	07:18	07:07	06:04	05:23	05:26	06:06	06:56	07:45	07:40	08:29
	16:43	17:33	18:25	20:19	21:09	21:53	22:01	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02	05:23	05:27	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11	21:54	22:01	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:00	05:22	05:28	06:09	06:59	07:49	07:43	08:32
	16:45	17:37	18:28	20:22	21:13	21:55	22:00	21:20	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59	05:21	05:29	06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:14	21:56	21:59	21:19	20:13	19:03	17:00	16:29
9	08:45	08:07	07:10	06:58	05:57	05:21	05:30	06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:25	21:16	21:57	21:59	21:17	20:10	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55	05:21	05:31	06:14	07:04	07:54	07:49	08:35
	16:49	17:43	18:34	20:27	21:18	21:57	21:58	21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54	05:20	05:32	06:16	07:06	07:56	07:51	08:36
	16:51	17:45	18:35	20:29	21:19	21:58	21:57	21:13	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52	05:20	05:33	06:17	07:08	07:57	07:52	08:37
	16:52	17:46	18:37	20:31	21:21	21:59	21:56	21:11	20:03	18:54	16:54	16:28
13	08:43	08:00	07:00	06:49	05:50	05:19	05:34	06:19	07:09	07:59	07:54	08:38
	16:53	17:48	18:39	20:32	21:22	21:59	21:55	21:09	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49	05:19	05:35	06:20	07:11	08:01	07:56	08:39
	16:55	17:50	18:41	20:34	21:24	22:00	21:55	21:07	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47	05:19	05:36	06:22	07:12	08:03	07:58	08:40
	16:57	17:52	18:42	20:36	21:26	22:01	21:54	21:05	19:56	18:47	16:50	16:28
16	08:40	07:54	06:54	06:43	05:46	05:19	05:38	06:24	07:14	08:04	07:59	08:41
	16:58	17:54	18:44	20:37	21:27	22:01	21:53	21:03	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44	05:19	05:39	06:25	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29	22:02	21:51	21:01	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:38	05:43	05:19	05:40	06:27	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30	22:02	21:50	20:59	19:49	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41	05:19	05:41	06:28	07:19	08:09	08:05	08:43
	17:03	17:59	18:49	20:42	21:32	22:02	21:49	20:57	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40	05:19	05:43	06:30	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33	22:03	21:48	20:55	19:45	18:37	16:43	16:29
21	08:35	07:44	06:42	06:32	05:38	05:19	05:44	06:32	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:34	22:03	21:47	20:53	19:42	18:35	16:42	16:30
22	08:34	07:42	06:40	06:30	05:37	05:19	05:45	06:33	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36	22:03	21:46	20:51	19:40	18:33	16:41	16:30
23	08:33	07:40	06:37	06:28	05:36	05:20	05:47	06:35	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	21:37	22:03	21:44	20:48	19:38	18:30	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35	05:20	05:48	06:37	07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	21:39	22:03	21:43	20:46	19:35	18:28	16:38	16:31
25	08:31	07:36	06:33	06:24	05:33	05:20	05:49	06:38	07:29	07:20	08:15	08:47
	17:13	18:10	19:00	20:53	21:40	22:03	21:41	20:44	19:33	17:26	16:37	16:32
26	08:29	07:34	06:30	06:22	05:32	05:21	05:51	06:40	07:30	07:22	08:16	08:47
	17:15	18:12	19:01	20:54	21:41	22:03	21:40	20:42	19:31	17:24	16:36	16:32
27	08:28	07:32	06:28	06:20	05:31	05:21	05:52	06:42	07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21:43	22:03	21:39	20:40	19:28	17:22	16:36	16:33
28	08:27	07:29	06:26	06:18	05:30	05:21	05:54	06:43	07:34	07:25	08:19	08:47
	17:19	18:16	19:05	20:58	21:44	22:03	21:37	20:38	19:26	17:20	16:35	16:34
29	08:25		07:23	06:16	05:29	05:22	05:55	06:45	07:35	07:27	08:21	08:48
	17:20		20:07	20:59	21:45	22:03	21:36	20:35	19:24	17:18	16:34	16:35
30	08:24		07:21	06:14	05:28	05:23	05:57	06:46	07:37	07:29	08:22	08:48
	17:22		20:08	21:01	21:46	22:03	21:34	20:33	19:21	17:17	16:33	16:36
31	08:22		07:19		05:27		05:58	06:48		07:31		08:48
	17:24		20:10		21:48		21:32	20:31		17:15		16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:33/3.2.737

SHADOW - Calendar

Calculation: Copy of Senvion4.2M148@165Shadow receptor: AU - 3961MN33

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:16	19:10 (3)	06:12	05:26	05:23	06:00	06:50	07:39	18:04 (4)	07:33	08:24
	16:38	17:26	18:18	20:12	19 19:29 (3)	21:03	21:49	22:03	21:31	20:29	19:19	31 18:35 (4)	17:13	16:32
2	08:48	08:19	07:25	07:14	19:11 (3)	06:10	05:25	05:24	06:01	06:51	07:40	18:04 (4)	07:34	08:25
	16:39	17:28	18:19	20:13	16 19:27 (3)	21:04	21:50	22:02	21:29	20:26	19:17	31 18:35 (4)	17:11	16:32
3	08:47	08:18	07:23	07:12	19:13 (3)	06:08	05:25	05:25	06:03	06:53	07:42	18:03 (4)	07:36	08:27
	16:40	17:30	18:21	20:15	13 19:26 (3)	21:06	21:51	22:02	21:27	20:24	19:14	31 18:34 (4)	17:09	16:31
4	08:47	08:16	07:21	17:36 (4)	07:10	19:15 (3)	06:06	05:24	05:25	06:04	06:54	07:44	18:04 (4)	07:38	08:28
	16:41	17:31	18:23	12 17:48 (4)	20:17	7 19:22 (3)	21:08	21:52	22:02	21:26	20:22	19:12	29 18:33 (4)	17:07	16:30
5	08:47	08:14	07:18	17:33 (4)	07:07		06:04	05:23	05:26	06:06	06:56	07:45	18:05 (4)	07:40	08:29
	16:42	17:33	18:25	18 17:51 (4)	20:19		21:09	21:53	22:01	21:24	20:19	19:10	27 18:32 (4)	17:05	16:30
6	08:47	08:13	07:16	17:30 (4)	07:05		06:02	05:22	05:27	06:08	06:58	07:47	18:05 (4)	07:42	08:31
	16:44	17:35	18:27	22 17:52 (4)	20:20		21:11	21:54	22:01	21:22	20:17	19:08	25 18:30 (4)	17:04	16:29
7	08:46	08:11	07:14	17:29 (4)	07:03		06:00	05:22	05:28	06:09	06:59	07:49	18:06 (4)	07:43	08:32
	16:45	17:37	18:28	25 17:54 (4)	20:22		21:13	21:55	22:00	21:20	20:15	19:05	23 18:29 (4)	17:02	16:29
8	08:46	08:09	07:12	17:28 (4)	07:00		05:59	05:21	05:29	06:11	07:01	19:10 (3)	07:50	18:07 (4)	07:45	08:33
	16:46	17:39	18:30	27 17:55 (4)	20:24		21:14	21:56	21:59	21:19	20:13	6 19:16 (3)	19:03	20 18:27 (4)	17:00	16:29
9	08:45	08:07	07:09	17:27 (4)	06:58		05:57	05:21	05:30	06:12	07:03	19:06 (3)	07:52	18:09 (4)	07:47	08:34
	16:48	17:41	18:32	29 17:56 (4)	20:25		21:16	21:57	21:59	21:17	20:10	13 19:19 (3)	19:01	16 18:25 (4)	16:59	16:28
10	08:45	08:06	07:07	17:26 (4)	06:56		05:55	05:20	05:31	06:14	07:04	19:04 (3)	07:54	18:12 (4)	07:49	08:35
	16:49	17:43	18:34	30 17:56 (4)	20:27		21:18	21:57	21:58	21:15	20:08	16 19:20 (3)	18:58	8 18:20 (4)	16:57	16:28
11	08:44	08:04	07:05	17:25 (4)	06:54		05:53	05:20	05:32	06:15	07:06	19:02 (3)	07:56		07:51	08:36
	16:50	17:44	18:35	31 17:56 (4)	20:29		21:19	21:58	21:57	21:13	20:06	19 19:21 (3)	18:56		16:56	16:28
12	08:44	08:02	07:03	17:25 (4)	06:51		05:52	05:20	05:33	06:17	07:08	19:01 (3)	07:57		07:52	08:37
	16:52	17:46	18:37	32 17:57 (4)	20:31		21:21	21:59	21:56	21:11	20:03	21 19:22 (3)	18:54		16:54	16:28
13	08:43	08:00	07:00	17:24 (4)	06:49		05:50	05:19	05:34	06:19	07:09	19:00 (3)	07:59		07:54	08:38
	16:53	17:48	18:39	32 17:56 (4)	20:32		21:22	21:59	21:55	21:09	20:01	22 19:22 (3)	18:52		16:52	16:28
14	08:42	07:58	06:58	17:24 (4)	06:47		05:49	05:19	05:35	06:20	07:11	18:59 (3)	08:01		07:56	08:39
	16:55	17:50	18:41	32 17:56 (4)	20:34		21:24	22:00	21:55	21:07	19:59	23 19:22 (3)	18:50		16:51	16:28
15	08:41	07:56	06:56	17:25 (4)	06:45		05:47	05:19	05:36	06:22	07:12	18:59 (3)	08:02		07:58	08:40
	16:56	17:52	18:42	31 17:56 (4)	20:36		21:25	22:01	21:54	21:05	19:56	23 19:22 (3)	18:47		16:50	16:28
16	08:40	07:54	06:53	17:24 (4)	06:43		05:45	05:19	05:37	06:24	07:14	18:58 (3)	08:04		07:59	08:41
	16:58	17:54	18:44	30 17:54 (4)	20:37		21:27	22:01	21:53	21:03	19:54	23 19:21 (3)	18:45		16:48	16:28
17	08:40	07:52	06:51	17:25 (4)	06:40		05:44	05:19	05:39	06:25	07:16	18:58 (3)	08:06		08:01	08:42
	17:00	17:56	18:46	29 17:54 (4)	20:39		21:29	22:02	21:51	21:01	19:52	23 19:21 (3)	18:43		16:47	16:28
18	08:39	07:50	06:49	17:26 (4)	06:38		05:42	05:19	05:40	06:27	07:17	18:59 (3)	08:08		08:03	08:43
	17:01	17:57	18:48	27 17:53 (4)	20:41		21:30	22:02	21:50	20:59	19:49	21 19:20 (3)	18:41		16:45	16:28
19	08:38	07:48	06:47	17:26 (4)	06:36		05:41	05:19	05:41	06:28	07:19	18:58 (3)	08:09		08:05	08:43
	17:03	17:59	18:49	25 17:51 (4)	20:42		21:32	22:02	21:49	20:57	19:47	20 19:18 (3)	18:39		16:44	16:29
20	08:37	07:46	06:44	17:27 (4)	06:34		05:40	05:19	05:43	06:30	07:21	19:00 (3)	08:11		08:06	08:44
	17:05	18:01	18:51	23 17:50 (4)	20:44		21:33	22:03	21:48	20:55	19:45	17 19:17 (3)	18:37		16:43	16:29
21	08:35	07:44	06:42	17:29 (4)	06:32		05:38	05:19	05:44	06:32	07:22	18:17 (4)	08:13		08:08	08:45
	17:06	18:03	18:53	26 18:26 (3)	20:46		21:34	22:03	21:47	20:53	19:42	27 19:14 (3)	18:35		16:42	16:29
22	08:34	07:42	06:40	17:31 (4)	06:30		05:37	05:19	05:45	06:33	07:24	18:15 (4)	08:15		08:10	08:45
	17:08	18:05	18:55	27 18:28 (3)	20:48		21:36	22:03	21:46	20:51	19:40	27 19:12 (3)	18:32		16:41	16:30
23	08:33	07:40	06:37	17:35 (4)	06:28		05:36	05:19	05:47	06:35	07:25	18:12 (4)	08:16		08:11	08:46
	17:10	18:07	18:56	23 18:30 (3)	20:49		21:37	22:03	21:44	20:48	19:38	22 18:34 (4)	18:30		16:39	16:30
24	08:32	07:38	06:35	18:12 (3)	06:26		05:34	05:20	05:48	06:37	07:27	18:10 (4)	08:18		08:13	08:46
	17:11	18:09	18:58	20 18:32 (3)	20:51		21:39	22:03	21:43	20:46	19:35	24 18:34 (4)	18:28		16:38	16:31
25	08:31	07:36	06:33	18:10 (3)	06:24		05:33	05:20	05:49	06:38	07:29	18:09 (4)	07:20		08:15	08:47
	17:13	18:10	19:00	22 18:32 (3)	20:53		21:40	22:03	21:41	20:44	19:33	26 18:35 (4)	17:26		16:37	16:32
26	08:29	07:34	06:30	18:10 (3)	06:21		05:32	05:20	05:51	06:40	07:30	18:08 (4)	07:22		08:16	08:47
	17:15	18:12	19:01	22 18:32 (3)	20:54		21:41	22:03	21:40	20:42	19:31	28 18:36 (4)	17:24		16:36	16:32
27	08:28	07:32	06:28	18:09 (3)	06:19		05:31	05:21	05:52	06:41	07:32	18:06 (4)	07:24		08:18	08:47
	17:17	18:14	19:03	24 18:33 (3)	20:56		21:43	22:03	21:39	20:40	19:28	30 18:36 (4)	17:22		16:35	16:33
28	08:27	07:29	06:26	18:08 (3)	06:17		05:30	05:21	05:54	06:43	07:34	18:05 (4)	07:25		08:19	08:47
	17:19	18:16	19:05	24 18:32 (3)	20:58		21:44	22:03	21:37	20:38	19:26	31 18:36 (4)	17:20		16:35	16:34
29	08:25		07:23	19:09 (3)	06:15		05:29	05:22	05:55	06:45	07:35	18:04 (4)	07:27		08:21	08:48
	17:20		20:07	23 19:32 (3)	20:59		21:45	22:03	21:36	20:35	19:24	31 18:35 (4)	17:18		16:34	16:35
30	08:24		07:21	19:09 (3)	06:13		05:28	05:23	05:57	06:46	07:37	18:04 (4)	07:29		08:22	08:48
	17:22		20:08	22 19:31 (3)	21:01		21:46	22:03	21:34	20:33	19:21	32 18:36 (4)	17:16		16:33	16:36
31	08:22		07:19	19:09 (3)			05:27		05:58	06:48			07:31			08:48
	17:24		20:10	21 19:30 (3)			21:48		21:32	20:31			17:15			16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case			709	55					525	241		
Sun reduction			0,33	0,42					0,36	0,34		
Oper. time red.			0,95	0,95					0,95	0,95		
Wind dir. red.			0,63	0,62					0,63	0,64		
Total reduction			0,20	0,25					0,22	0,20		
Total, real			140	14					114	49		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:32/3.2.737

SHADOW - Calendar

Calculation: Copy of V136@149Shadow receptor: A - 3998JD94

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	06:42 (2)	05:26	05:56 (1)	05:23	06:00 (1)	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03 19	07:01 (2)	21:49 20	06:16 (1)	22:03 24	06:24 (1)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	06:42 (2)	05:26	05:56 (1)	05:24	06:00 (1)	06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05 18	07:00 (2)	21:50 20	06:16 (1)	22:03 25	06:25 (1)	21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08	06:44 (2)	05:25	05:56 (1)	05:25	06:01 (1)	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06 16	07:00 (2)	21:51 21	06:17 (1)	22:02 24	06:25 (1)	21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06	06:44 (2)	05:24	05:55 (1)	05:26	06:00 (1)	06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08 15	06:59 (2)	21:52 23	06:18 (1)	22:02 24	06:24 (1)	21:26	20:22	19:12	17:07	16:31
5	08:47	08:14	07:19	07:08	06:04	06:45 (2)	05:23	05:56 (1)	05:26	06:01 (1)	06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10 12	06:57 (2)	21:53 23	06:19 (1)	22:01 24	06:25 (1)	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02	06:47 (2)	05:23	05:55 (1)	05:27	06:02 (1)	06:08	06:59 (2)	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11 7	06:54 (2)	21:54 23	06:18 (1)	22:01 23	06:25 (1)	21:22 3	07:02 (2)	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01		05:22	05:56 (1)	05:28	06:02 (1)	06:09	06:56 (2)	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13		21:55 23	06:19 (1)	22:00 23	06:25 (1)	21:21 10	07:06 (2)	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59		05:22	05:55 (1)	05:29	06:03 (1)	06:11	06:54 (2)	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15		21:56 24	06:19 (1)	22:00 22	06:25 (1)	21:19 13	07:07 (2)	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57		05:21	05:56 (1)	05:30	06:03 (1)	06:12	06:54 (2)	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16		21:57 24	06:20 (1)	21:59 22	06:25 (1)	21:17 14	07:08 (2)	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55		05:21	05:55 (1)	05:31	06:03 (1)	06:14	06:52 (2)	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18		21:58 24	06:19 (1)	21:58 21	06:24 (1)	21:15 17	07:09 (2)	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54		05:20	05:55 (1)	05:32	06:03 (1)	06:16	06:52 (2)	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19		21:58 25	06:20 (1)	21:57 21	06:24 (1)	21:13 18	07:10 (2)	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52		05:20	05:56 (1)	05:33	06:04 (1)	06:17	06:51 (2)	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21		21:59 24	06:20 (1)	21:57 19	06:23 (1)	21:11 18	07:09 (2)	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50		05:20	05:56 (1)	05:34	06:06 (1)	06:19	06:51 (2)	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23		22:00 25	06:21 (1)	21:56 18	06:24 (1)	21:09 19	07:10 (2)	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49		05:19	05:56 (1)	05:35	06:06 (1)	06:21	06:50 (2)	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24		22:00 25	06:21 (1)	21:55 17	06:23 (1)	21:07 19	07:09 (2)	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47		05:19	05:56 (1)	05:36	06:07 (1)	06:22	06:50 (2)	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26		22:01 25	06:21 (1)	21:54 16	06:23 (1)	21:05 20	07:10 (2)	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46		05:19	05:56 (1)	05:38	06:08 (1)	06:24	06:51 (2)	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27		22:01 25	06:21 (1)	21:53 14	06:22 (1)	21:03 18	07:09 (2)	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44		05:19	05:56 (1)	05:39	06:10 (1)	06:25	06:53 (2)	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29		22:02 25	06:21 (1)	21:52 10	06:20 (1)	21:01 15	07:08 (2)	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43		05:19	05:56 (1)	05:40	06:11 (1)	06:27	06:54 (2)	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30		22:02 25	06:21 (1)	21:51 8	06:19 (1)	20:59 13	07:07 (2)	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41		05:19	05:57 (1)	05:41		06:29	06:56 (2)	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32		22:03 26	06:23 (1)	21:49		20:57 10	07:06 (2)	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40		05:19	05:58 (1)	05:43		06:30	06:57 (2)	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33		22:03 25	06:23 (1)	21:48		20:55 7	07:04 (2)	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	05:39		05:19	05:58 (1)	05:44		06:32	06:59 (2)	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:35		22:03 25	06:23 (1)	21:47		20:53 2	07:01 (2)	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	06:54 (2) 05:37		05:19	05:58 (1)	05:45		06:34		07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48 3	06:57 (2) 21:36		22:03 25	06:23 (1)	21:46		20:51		19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	06:52 (2) 05:36		05:20	05:57 (1)	05:47		06:35		07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49 7	06:59 (2) 21:37		22:04 26	06:23 (1)	21:44		20:49		19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	06:50 (2) 05:35		05:20	05:58 (1)	05:48		06:37		07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51 11	07:01 (2) 21:39		22:04 25	06:23 (1)	21:43		20:46		19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	06:48 (2) 05:34	06:03 (1)	05:20	05:58 (1)	05:50		06:38		07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53 13	07:01 (2) 21:40 4	06:07 (1)	22:04 25	06:23 (1)	21:42		20:44		19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	06:46 (2) 05:32	06:01 (1)	05:21	05:58 (1)	05:51		06:40		07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55 16	07:02 (2) 21:42 9	06:10 (1)	22:04 25	06:23 (1)	21:40		20:42		19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	06:44 (2) 05:31	05:59 (1)	05:21	05:59 (1)	05:52		06:42		07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56 18	07:02 (2) 21:43 13	06:12 (1)	22:04 25	06:24 (1)	21:39		20:40		19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	06:43 (2) 05:30	05:58 (1)	05:22	05:59 (1)	05:54		06:43		07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58 19	07:02 (2) 21:44 15	06:13 (1)	22:04 24	06:23 (1)	21:37		20:38		19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	06:42 (2) 05:29	05:57 (1)	05:22	05:59 (1)	05:55		06:45		07:36	07:27	08:21	08:48
	17:21		20:07	21:00 20	07:02 (2) 21:45 17	06:14 (1)	22:03 25	06:24 (1)	21:36		20:35		19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	06:42 (2) 05:28	05:58 (1)	05:23	06:00 (1)	05:57		06:47		07:37	07:29	08:22	08:48
	17:22		20:08	21:01 19	07:01 (2) 21:47 17	06:15 (1)	22:03 25	06:25 (1)	21:34		20:33		19:22	17:17	16:33	16:36
31	08:22		07:19		05:27	05:57 (1)			05:58		06:48			07:31		08:48
	17:24		20:10		21:48 19	06:16 (1)			21:33		20:31			17:15		16:37
Potential sun hours	259	277	367	416	485		499		502		454		381	331	266	243
Total, worst case				126	181		725		355		216					
Sun reduction				0,42	0,43		0,39		0,41		0,42					
Oper. time red.				0,95	0,95		0,95		0,95		0,95					
Wind dir. red.				0,64	0,66		0,67		0,67		0,64					
Total reduction				0,26	0,27		0,25		0,26		0,25					
Total, real				32	48		181		92		55					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:32/3.2.737

SHADOW - Calendar

Calculation: Copy of V136@149Shadow receptor: B - 3998JD87

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May		June		July		August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12		05:26	06:06 (1)	05:23	06:14 (1)	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03		21:49 24	06:30 (1)	22:03 20	06:34 (1)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10		05:26	06:06 (1)	05:24	06:14 (1)	06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05		21:50 23	06:29 (1)	22:03 20	06:34 (1)	21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08		05:25	06:07 (1)	05:25	06:14 (1)	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06		21:51 23	06:30 (1)	22:02 21	06:35 (1)	21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06		05:24	06:07 (1)	05:26	06:14 (1)	06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08		21:52 23	06:30 (1)	22:02 21	06:35 (1)	21:26	20:22	19:12	17:07	16:31
5	08:47	08:15	07:19	07:08	06:04		05:23	06:08 (1)	05:26	06:14 (1)	06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10		21:53 22	06:30 (1)	22:01 21	06:35 (1)	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02		05:23	06:08 (1)	05:27	06:14 (1)	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11		21:54 22	06:30 (1)	22:01 22	06:36 (1)	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01		05:22	06:09 (1)	05:28	06:14 (1)	06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13		21:55 21	06:30 (1)	22:00 22	06:36 (1)	21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59		05:22	06:08 (1)	05:29	06:14 (1)	06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15		21:56 22	06:30 (1)	22:00 23	06:37 (1)	21:19	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57		05:21	06:09 (1)	05:30	06:14 (1)	06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16		21:57 21	06:30 (1)	21:59 23	06:37 (1)	21:17	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55		05:21	06:09 (1)	05:31	06:13 (1)	06:14	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18		21:58 20	06:29 (1)	21:58 24	06:37 (1)	21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54		05:20	06:10 (1)	05:32	06:13 (1)	06:16	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19		21:58 19	06:29 (1)	21:57 24	06:37 (1)	21:13	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52		05:20	06:10 (1)	05:33	06:14 (1)	06:17	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21		21:59 20	06:30 (1)	21:57 23	06:37 (1)	21:11	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50		05:20	06:11 (1)	05:34	06:15 (1)	06:19	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23		22:00 19	06:30 (1)	21:56 23	06:38 (1)	21:09	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49		05:19	06:11 (1)	05:35	06:15 (1)	06:21	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24		22:00 19	06:30 (1)	21:55 24	06:39 (1)	21:07	19:59	18:50	16:51	16:28
15	08:42	07:56	06:56	06:45	05:47	06:14 (1)	05:19	06:11 (1)	05:36	06:15 (1)	06:22	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26 5	06:19 (1)	22:01 18	06:29 (1)	21:54 24	06:39 (1)	21:05	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46	06:12 (1)	05:19	06:11 (1)	05:38	06:15 (1)	06:24	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27 10	06:22 (1)	22:01 18	06:29 (1)	21:53 24	06:39 (1)	21:03	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44	06:11 (1)	05:19	06:11 (1)	05:39	06:15 (1)	06:25	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29 13	06:24 (1)	22:02 18	06:29 (1)	21:52 23	06:38 (1)	21:01	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43	06:09 (1)	05:19	06:12 (1)	05:40	06:15 (1)	06:27	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30 15	06:24 (1)	22:02 17	06:29 (1)	21:51 23	06:38 (1)	20:59	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41	06:08 (1)	05:19	06:13 (1)	05:41	06:15 (1)	06:29	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32 18	06:26 (1)	22:03 17	06:30 (1)	21:49 23	06:38 (1)	20:57	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40	06:07 (1)	05:19	06:13 (1)	05:43	06:16 (1)	06:30	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33 20	06:27 (1)	22:03 17	06:30 (1)	21:48 23	06:39 (1)	20:55	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	05:39	06:07 (1)	05:19	06:13 (1)	05:44	06:16 (1)	06:32	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:35 21	06:28 (1)	22:03 17	06:30 (1)	21:47 22	06:38 (1)	20:53	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	05:37	06:06 (1)	05:19	06:13 (1)	05:45	06:16 (1)	06:34	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36 21	06:27 (1)	22:03 17	06:30 (1)	21:46 21	06:37 (1)	20:51	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	05:36	06:06 (1)	05:20	06:13 (1)	05:47	06:17 (1)	06:35	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	21:37 22	06:28 (1)	22:04 17	06:30 (1)	21:44 20	06:37 (1)	20:49	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35	06:05 (1)	05:20	06:14 (1)	05:48	06:18 (1)	06:37	07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	21:39 23	06:28 (1)	22:04 17	06:31 (1)	21:43 19	06:37 (1)	20:46	19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	05:34	06:05 (1)	05:20	06:14 (1)	05:50	06:19 (1)	06:38	07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	21:40 24	06:29 (1)	22:04 17	06:31 (1)	21:42 17	06:36 (1)	20:44	19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	05:32	06:05 (1)	05:21	06:13 (1)	05:51	06:20 (1)	06:40	07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	21:42 24	06:29 (1)	22:04 18	06:31 (1)	21:40 14	06:34 (1)	20:42	19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	05:31	06:05 (1)	05:21	06:14 (1)	05:52	06:22 (1)	06:42	07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21:43 24	06:29 (1)	22:04 18	06:32 (1)	21:39 12	06:34 (1)	20:40	19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	05:30	06:05 (1)	05:22	06:13 (1)	05:54	06:23 (1)	06:43	07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	21:44 24	06:29 (1)	22:04 19	06:32 (1)	21:37 9	06:32 (1)	20:38	19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	05:29	06:05 (1)	05:22	06:14 (1)	05:55		06:45	07:36	07:27	08:21	08:48
	17:21		20:07	21:00	21:45 24	06:29 (1)	22:03 19	06:33 (1)	21:36		20:36	19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	05:28	06:06 (1)	05:23	06:14 (1)	05:57		06:47	07:37	07:29	08:22	08:48
	17:22		20:09	21:01	21:47 24	06:30 (1)	22:03 20	06:34 (1)	21:34		20:33	19:22	17:17	16:33	16:36
31	08:22		07:19		05:27	06:06 (1)			05:58		06:48		07:31		08:48
	17:24		20:10		21:48 24	06:30 (1)			21:33		20:31		17:15		16:37
Potential sun hours	259	277	367	416	485		499		502		454	381	331	266	243
Total, worst case					336		582		585						
Sun reduction					0,43		0,39		0,41						
Oper. time red.					0,95		0,95		0,95						
Wind dir. red.					0,67		0,67		0,67						
Total reduction					0,27		0,25		0,26						
Total, real					91		144		151						

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:32/3.2.737

SHADOW - Calendar

Calculation: Copy of V136@149Shadow receptor: C - 3997MR25

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September	October		November		December	
1	08:48		09:55 (2)		08:21		08:50 (4)	07:27	12:44 (1)	07:17	06:12	05:26	05:23	06:00	06:50		07:39	13:35 (1)	07:33	08:27 (4)	08:24	09:31 (2)
	16:38	15	10:10 (2)	17:26	186	14:18 (1)	18:18	100	14:24 (1)	20:12	21:03	21:49	22:03	21:31	20:29		19:19	76	14:51 (1)	17:13	170	13:54 (1)	16:32	77	13:30 (1)
2	08:48		09:55 (2)	08:19		08:49 (4)	07:25		12:44 (1)	07:14	06:10	05:25	05:24	06:01	06:51		07:41		13:32 (1)	07:35		08:24 (4)	08:25		09:33 (2)
	16:39	17	10:12 (2)	17:28	188	14:19 (1)	18:20	100	14:24 (1)	20:14	21:05	21:50	22:03	21:29	20:26		19:17	80	14:52 (1)	17:11	181	13:54 (1)	16:32	72	13:29 (1)
3	08:48		09:54 (2)	08:18		08:50 (4)	07:23		12:44 (1)	07:12	06:08	05:25	05:25	06:03	06:53		07:42		13:29 (1)	07:36		08:23 (4)	08:27		09:34 (2)
	16:40	20	10:14 (2)	17:30	188	14:20 (1)	18:21	98	14:22 (1)	20:15	21:06	21:51	22:02	21:28	20:24		19:15	83	14:52 (1)	17:09	185	13:53 (1)	16:31	67	13:27 (1)
4	08:47		09:53 (2)	08:16		08:50 (4)	07:21		12:45 (1)	07:10	06:06	05:24	05:25	06:04	06:55		07:44		13:28 (1)	07:38		08:21 (4)	08:28		09:36 (2)
	16:41	28	13:25 (1)	17:32	190	14:21 (1)	18:23	97	14:22 (1)	20:17	21:08	21:52	22:02	21:26	20:22		19:12	86	14:54 (1)	17:07	188	13:52 (1)	16:31	61	13:26 (1)
5	08:47		09:53 (2)	08:14		08:51 (4)	07:19		12:46 (1)	07:07	06:04	05:23	05:26	06:06	06:56		07:46		13:26 (1)	07:40		08:21 (4)	08:29		09:37 (2)
	16:43	38	13:30 (1)	17:33	187	14:21 (1)	18:25	95	14:21 (1)	20:19	21:10	21:53	22:01	21:24	20:20		19:10	89	14:55 (1)	17:06	187	13:51 (1)	16:30	55	13:24 (1)
6	08:47		09:52 (2)	08:13		08:51 (4)	07:16		12:47 (1)	07:05	06:02	05:23	05:27	06:08	06:58		07:47		13:25 (1)	07:42		08:20 (4)	08:31		09:38 (2)
	16:44	47	13:34 (1)	17:35	189	14:22 (1)	18:27	94	14:21 (1)	20:20	21:11	21:54	22:01	21:22	20:17		19:08	91	14:56 (1)	17:04	188	13:51 (1)	16:30	47	13:20 (1)
7	08:46		09:52 (2)	08:11		08:52 (4)	07:14		12:47 (1)	07:03	06:00	05:22	05:28	06:09	07:00		07:49		13:23 (1)	07:44		08:20 (4)	08:32		09:40 (2)
	16:45	54	13:38 (1)	17:37	186	14:22 (1)	18:28	92	14:19 (1)	20:22	21:13	21:55	22:00	21:21	20:15		19:05	92	14:55 (1)	17:02	189	13:50 (1)	16:29	39	13:18 (1)
8	08:46		09:51 (2)	08:09		08:54 (4)	07:12		12:49 (1)	07:01	05:59	05:21	05:29	06:11	07:01		07:51		13:21 (1)	07:45		08:20 (4)	08:33		09:41 (2)
	16:46	61	13:41 (1)	17:39	185	14:24 (1)	18:30	89	14:18 (1)	20:24	21:15	21:56	22:00	21:19	20:13		19:03	95	14:56 (1)	17:00	188	13:50 (1)	16:29	30	13:14 (1)
9	08:46		09:51 (2)	08:08		08:55 (4)	07:10		12:50 (1)	06:58	05:57	05:21	05:30	06:12	07:03		07:52		13:21 (1)	07:47		08:20 (4)	08:34		09:42 (2)
	16:48	67	13:44 (1)	17:41	179	14:24 (1)	18:32	87	14:17 (1)	20:26	21:16	21:57	21:59	21:17	20:10		19:01	96	14:57 (1)	16:59	186	13:49 (1)	16:29	20	10:02 (2)
10	08:45		09:50 (2)	08:06		08:58 (4)	07:07		12:51 (1)	06:56	05:55	05:21	05:31	06:14	07:04		07:54		13:20 (1)	07:49		08:21 (4)	08:35		09:44 (2)
	16:49	71	13:46 (1)	17:43	170	14:25 (1)	18:34	84	14:15 (1)	20:27	21:18	21:58	21:58	21:15	20:08		18:59	97	14:57 (1)	16:57	185	13:49 (1)	16:28	17	10:01 (2)
11	08:44		09:49 (2)	08:04		09:13 (3)	07:05		12:53 (1)	06:54	05:54	05:20	05:32	06:16	07:06		07:56		13:18 (1)	07:51		08:21 (4)	08:37		09:45 (2)
	16:51	76	13:48 (1)	17:45	158	14:25 (1)	18:36	81	14:14 (1)	20:29	21:19	21:58	21:57	21:13	20:06		18:56	99	14:57 (1)	16:56	184	13:48 (1)	16:28	15	10:00 (2)
12	08:44		09:49 (2)	08:02		09:16 (3)	07:03		12:55 (1)	06:52	05:52	05:20	05:33	06:17	07:08		07:57		13:17 (1)	07:53		08:22 (4)	08:38		09:47 (2)
	16:52	81	13:50 (1)	17:46	151	14:25 (1)	18:37	77	14:12 (1)	20:31	21:21	21:59	21:56	21:11	20:03		18:54	100	14:57 (1)	16:54	182	13:48 (1)	16:28	14	10:01 (2)
13	08:43		09:48 (2)	08:00		09:53 (2)	07:01		12:56 (1)	06:49	05:50	05:20	05:34	06:19	07:09		07:59		13:17 (1)	07:54		08:24 (4)	08:39		09:49 (2)
	16:53	86	13:52 (1)	17:48	141	14:26 (1)	18:39	74	14:10 (1)	20:32	21:23	22:00	21:56	21:09	20:01		18:52	100	14:57 (1)	16:53	177	13:47 (1)	16:28	11	10:00 (2)
14	08:42		09:48 (2)	07:58		09:54 (2)	06:58		12:59 (1)	06:47	05:49	05:19	05:35	06:20	07:11		08:01		13:16 (1)	07:56		08:26 (4)	08:40		09:51 (2)
	16:55	90	13:54 (1)	17:50	138	14:26 (1)	18:41	69	14:08 (1)	20:34	21:24	22:00	21:55	21:07	19:59		18:50	102	14:58 (1)	16:51	172	13:46 (1)	16:28	8	09:59 (2)
15	08:41		09:48 (2)	07:56		09:56 (2)	06:56		13:03 (1)	06:45	05:47	05:19	05:36	06:22	07:13		08:03		13:16 (1)	07:58		08:28 (4)	08:40		09:52 (2)
	16:57	94	13:56 (1)	17:52	135	14:26 (1)	18:43	63	14:06 (1)	20:36	21:26	22:01	21:54	21:05	19:56		18:48	102	14:58 (1)	16:50	169	13:46 (1)	16:28	4	09:56 (2)
16	08:41		09:47 (2)	07:54		09:57 (2)	06:54		13:06 (1)	06:43	05:46	05:19	05:38	06:24	07:14		08:04		13:14 (1)	08:00		08:30 (4)	08:41		
	16:58	98	13:57 (1)	17:54	133	14:27 (1)	18:44	56	14:02 (1)	20:37	21:27	22:01	21:53	21:03	19:54		18:45	103	14:57 (1)	16:48	163	13:45 (1)	16:28		
17	08:40		09:47 (2)	07:52		10:00 (2)	06:51		13:11 (1)	06:41	05:44	05:19	05:39	06:25	07:16		08:06		13:14 (1)	08:01		08:32 (4)	08:42		
	17:00	102	13:59 (1)	17:56	127	14:27 (1)	18:46	47	13:58 (1)	20:39	21:29	22:02	21:52	21:01	19:52		18:43	103	14:57 (1)	16:47	156	13:44 (1)	16:28		
18	08:39		09:47 (2)	07:50		10:03 (2)	06:49		13:19 (1)	06:38	05:43	05:19	05:40	06:27	07:17		08:08		13:14 (1)	08:03		08:41 (3)	08:43		
	17:01	105	14:01 (1)	17:58	120	14:27 (1)	18:48	34	13:53 (1)	20:41	21:30	22:02	21:51	20:59	19:49		18:41	104	14:58 (1)	16:46	148	13:44 (1)	16:29		
19	08:38		09:13 (3)	07:48		12:43 (1)	06:47		13:30 (1)	06:36	05:41	05:19	05:41	06:29	07:19		08:10		13:14 (1)	08:05		08:42 (3)	08:44		
	17:03	117	14:02 (1)	17:59	104	14:27 (1)	18:50	13	13:43 (1)	20:43	21:32	22:03	21:49	20:57	19:47		18:39	104	14:58 (1)	16:44	142	13:42 (1)	16:29		
20	08:37		09:11 (3)	07:46		12:43 (1)	06:44			06:34	05:40	05:19	05:43	06:30	07:21		08:11		13:14 (1)	08:06		08:43 (3)	08:44		
	17:05	126	14:04 (1)	18:01	104	14:27 (1)	18:51			20:44	21:33	22:03	21:48	20:55	19:45		18:37	104	14:58 (1)	16:43	137	13:41 (1)	16:29		
21	08:36		09:10 (3)	07:44		12:42 (1)	06:42			06:32	05:38	05:19	05:44	06:32	07:22		08:13		13:14 (1)	08:08		08:45 (3)	08:45		
	17:06	131	14:06 (1)	18:03	104	14:26 (1)	18:53			20:46	21:35	22:03	21:47	20:53	19:42		18:35	104	14:58 (1)	16:42	131	13:41 (1)	16:30		
22	08:34		09:08 (3)	07:42		12:42 (1)	06:40			06:30	05:37	05:19	05:45	06:33	07:24		08:15		13:13 (1)	08:10		08:47 (3)	08:45		
	17:08	137	14:06 (1)	18:05	104	14:26 (1)	18:55			20:48	21:36	22:03	21:46	20:51	19:40		18:33	104	14:57 (1)	16:41	125	13:40 (1)	16:30		
23	08:33		09:08 (3)	07:40		12:42 (1)	06:37			06:28	05:36	05:20	05:47	06:35	07:26		08:17		10:36 (2)	08:11		08:50 (3)	08:46		
	17:10	142	14:08 (1)	18:07	104	14:26 (1)	18:56			20:49	21:37	22:04	21:44	20:49	19:38		18:31	113	14:57 (1)	16:40	117	13:39 (1)	16:31		
24	08:32		09:07 (3)	07:38		12:43 (1)	06:35			06:26	05:35	05:20	05:48	06:37	07:27		08:18		10:31 (2)	08:13		09:24 (2)	08:46		
	17:12	148	14:10 (1)	18:09	103	14:26 (1)	18:58			20:51	21:39	22:04	21:43	20:46	19:35		18:28	122	14:56 (1)	16:38	105	13:38 (1)	16:31		
25	08:31		08:58 (4)	07:36		12:43 (1)	06:33			06:24	05:33	05:20	05:49	06:38	07:29	14:05 (1)	07:20		09:29 (2)	08:15		09:25 (2)	08:47		
	17:13	157	14:11 (1)	18:10	103	14:26 (1)	19:00			20:53	21:40	22:04	21:42	20:44	19:33	29	14:34 (1)	127	13:56 (1)	16:37	102	13:37 (1)	16:32		
26	08:30		08:57 (4)	07:34		12:43 (1)	06:30			06:22	05:32	05:21	05:51	06:40	07:31		13:56 (1)		07:22		09:26 (2)	08:16		09:26 (2)	08:47		
	17:15	163	14:12 (1)	18:12	103	14:26 (1)	19:02			20:54	21:41	22:04	21:40	20:42	19:31	43	14:39 (1)	133	17:24	13:56 (1)	16:36	98	13:36 (1)	16:33		
27	08:28		08:55 (4)	07:32		12:43 (1)	06:28			06:20	05:31	05:21	05:52	06:42	07:32		13:49 (1)		07:24		09:25 (2)	08:18		09:27 (2)	08:47		
	17:17	169	14:13 (1)	18:14	102	14:25 (1)	19:03			20:56	21:43	22:04	21:39	20:40	19:28	53	14:42 (1)	136	17:22	13:56 (1)	16:36	95	13:36 (1)	16:33		
28	08:27		08:54 (4)	07:30		12:43 (1)	06:26			06:18	05:30	05:21	05:54	06:43	07:34		13:45 (1)		07:26		09:23 (2)	08:19		09:28 (2)	08:48		
	17:19	173	14:15 (1)	18:16	101	14:24 (1)	19:05			20:58	21:44	22:03	21:37	20:38	19:26	60	14:45 (1)	140	17:20	13:56 (1)	16:35	90	13:34 (1)	16:34		
29	08:25		08:52 (4)				07:24			06:16	05:29	05:22	05:55	06:45	07:36		13:41 (1)		07:27		09:22 (2)	08:21		09:29 (2)	08:48		09:58 (2)
	17:20	177	14:15 (1)				20:07			21:00	21:45	22:03	21:36	20:35	19:24	67	14:48 (1)	142	17:19	13:55 (1)	16:34	86	13:33 (1)	16:35	7	10:05 (2)
30	08:24		08:50 (4)				07:21			06:14	05:28	05:23	05:57	06:46	07:37		13:37 (1)		07:29	08:45 (3)	08:22		09:31 (2)	08:48		09:57 (2)
	17:22	182	14:16 (1)				20:08			21:01	21:47	22:03	21:34	20:33	19:21	72	14:49 (1)	153	17:17	13:55 (1)	16:33	81	13:32 (1)	16:36	10	10:07 (2)
31	08:22		08:50 (4)				07:19				05:27		05:58	06:48				153	07:31	08:42 (3)				08:48		09:56 (2)
	17:24	184	14:17 (1)				20:10				21:48		21:33	20:31				160	17:15	13:55 (1)				16:37	12	10:08 (2)
Potential sun hours	259			277		367			416	485	499	502	454	381			331			266			243			
Total, worst case		3156			3983			1450							324			3340			4507			566	
Sun reduction		0,24			0,30			0,33							0,36			0,34			0,24			0,20	
Oper. time red.		0,95			0,95			0,95							0,95			0,95			0,95			0,95	
Wind dir. red.		0,63			0,65			0,68							0,68			0,67			0,64			0,63	
Total reduction		0,14			0,19			0,21							0,23			0,21			0,14			0,12	
Total, real		453			743			307							75			714			639			68	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:32/3.2.737

SHADOW - Calendar

Calculation: Copy of V136@149Shadow receptor: D - 3945LA3

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December		
1	08:48	13:51 (4)	08:21	15:53 (3)	07:27	17:23 (2)	07:17	06:12	05:26	05:23	06:00	06:50		07:39	18:08 (2)	07:33	15:28 (3)	08:24		
	16:38 6	13:57 (4)	17:26 36	16:29 (3)	18:18 24	17:47 (2)	20:12	21:03	21:49	22:03	21:31	20:29		19:19 8	18:16 (2)	17:13 28	15:56 (3)	16:32		
2	08:48		08:19	15:53 (3)	07:25	17:23 (2)	07:14	06:10	05:25	05:24	06:01	06:51		07:40	18:05 (2)	07:34	15:26 (3)	08:25		
	16:39		17:28 36	16:29 (3)	18:19 25	17:48 (2)	20:13	21:05	21:50	22:02	21:29	20:26		19:17 14	18:19 (2)	17:11 30	15:56 (3)	16:32		
3	08:47		08:18	15:54 (3)	07:23	17:21 (2)	07:12	06:08	05:25	05:25	06:03	06:53		07:42	18:02 (2)	07:36	15:25 (3)	08:27		
	16:40		17:30 35	16:29 (3)	18:21 26	17:47 (2)	20:15	21:06	21:51	22:02	21:27	20:24		19:14 18	18:20 (2)	17:09 32	15:57 (3)	16:31		
4	08:47		08:16	15:54 (3)	07:21	17:21 (2)	07:10	06:06	05:24	05:25	06:04	06:55		07:44	18:00 (2)	07:38	15:25 (3)	08:28		
	16:41		17:31 35	16:29 (3)	18:23 26	17:47 (2)	20:17	21:08	21:52	22:02	21:26	20:22		19:12 21	18:21 (2)	17:07 33	15:58 (3)	16:30		
5	08:47		08:14	15:54 (3)	07:18	17:21 (2)	07:07	06:04	05:23	05:26	06:06	06:56		07:45	17:59 (2)	07:40	15:24 (3)	08:29		
	16:42		17:33 35	16:29 (3)	18:25 27	17:48 (2)	20:19	21:09	21:53	22:01	21:24	20:20		19:10 23	18:22 (2)	17:06 34	15:58 (3)	16:30		
6	08:47		08:13	15:55 (3)	07:16	17:21 (2)	07:05	06:02	05:22	05:27	06:08	06:58		07:47	17:57 (2)	07:42	15:24 (3)	08:31		
	16:44		17:35 33	16:28 (3)	18:27 25	17:46 (2)	20:20	21:11	21:54	22:01	21:22	20:17		19:08 25	18:22 (2)	17:04 35	15:59 (3)	16:29		
7	08:46		08:11	15:55 (3)	07:14	17:21 (2)	07:03	06:00	05:22	05:28	06:09	06:59		07:49	17:57 (2)	07:43	15:24 (3)	08:32		
	16:45		17:37 33	16:28 (3)	18:28 25	17:46 (2)	20:22	21:13	21:55	22:00	21:20	20:15		19:05 25	18:22 (2)	17:02 35	15:59 (3)	16:29		
8	08:46		08:09	15:57 (3)	07:12	17:22 (2)	07:01	05:59	05:21	05:29	06:11	07:01		07:51	17:57 (2)	07:45	15:24 (3)	08:33		
	16:46		17:39 31	16:28 (3)	18:30 24	17:46 (2)	20:24	21:14	21:56	21:59	21:19	20:13		19:03 26	18:23 (2)	17:00 35	15:59 (3)	16:29		
9	08:45		08:07	15:58 (3)	07:10	17:23 (2)	06:58	05:57	05:21	05:30	06:12	07:03		07:52	17:56 (2)	07:47	15:24 (3)	08:34		
	16:48		17:41 29	16:27 (3)	18:32 22	17:45 (2)	20:25	21:16	21:57	21:59	21:17	20:10		19:01 27	18:23 (2)	16:59 35	15:59 (3)	16:28		
10	08:45		08:06	15:59 (3)	07:07	17:23 (2)	06:56	05:55	05:20	05:31	06:14	07:04		07:54	17:55 (2)	07:49	15:24 (3)	08:35		
	16:49		17:43 27	16:26 (3)	18:34 20	17:43 (2)	20:27	21:18	21:57	21:58	21:15	20:08		18:59 26	18:21 (2)	16:57 36	16:00 (3)	16:28		
11	08:44		08:04	16:00 (3)	07:05	17:25 (2)	06:54	05:53	05:20	05:32	06:15	07:06		07:56	17:56 (2)	07:51	15:24 (3)	08:36		13:41 (4)
	16:50		17:44 25	16:25 (3)	18:35 16	17:41 (2)	20:29	21:19	21:58	21:57	21:13	20:06		18:56 25	18:21 (2)	16:56 36	16:00 (3)	16:28 6		13:47 (4)
12	08:44		08:02	16:02 (3)	07:03	17:28 (2)	06:52	05:52	05:20	05:33	06:17	07:08		07:57	17:56 (2)	07:52	15:25 (3)	08:38		13:40 (4)
	16:52		17:46 22	16:24 (3)	18:37 11	17:39 (2)	20:31	21:21	21:59	21:56	21:11	20:03		18:54 25	18:21 (2)	16:54 35	16:00 (3)	16:28 9		13:49 (4)
13	08:43		08:00	16:04 (3)	07:00		06:49	05:50	05:19	05:34	06:19	07:09		07:59	17:57 (2)	07:54	15:25 (3)	08:39		13:39 (4)
	16:53		17:48 18	16:22 (3)	18:39		20:32	21:22	22:00	21:56	21:09	20:01		18:52 23	18:20 (2)	16:52 35	16:00 (3)	16:28 12		13:51 (4)
14	08:42		07:58	16:07 (3)	06:58		06:47	05:49	05:19	05:35	06:20	07:11		08:01	17:58 (2)	07:56	15:25 (3)	08:39		13:38 (4)
	16:55		17:50 12	16:19 (3)	18:41		20:34	21:24	22:00	21:55	21:07	19:59		18:50 21	18:19 (2)	16:51 35	16:00 (3)	16:28 14		13:52 (4)
15	08:41	16:03 (3)	07:56		06:56	18:11 (1)	06:45	05:47	05:19	05:36	06:22	07:12		08:03	17:58 (2)	07:58	15:26 (3)	08:40		13:38 (4)
	16:56 4	16:07 (3)	17:52		18:42 6	18:17 (1)	20:36	21:26	22:01	21:54	21:05	19:56		18:47 18	18:16 (2)	16:50 33	15:59 (3)	16:28 15		13:53 (4)
16	08:41	16:00 (3)	07:54		06:54	18:08 (1)	06:43	05:45	05:19	05:37	06:24	07:14		08:04	17:59 (2)	07:59	15:27 (3)	08:41		13:38 (4)
	16:58 11	16:11 (3)	17:54		18:44 10	18:18 (1)	20:37	21:27	22:01	21:53	21:03	19:54		18:45 15	18:14 (2)	16:48 32	15:59 (3)	16:28 16		13:54 (4)
17	08:40	15:59 (3)	07:52		06:51	18:07 (1)	06:41	05:44	05:19	05:39	06:25	07:16	18:58 (1)	08:06	18:02 (2)	08:01	15:28 (3)	08:42		13:38 (4)
	17:00 15	16:14 (3)	17:56		18:46 14	18:21 (1)	20:39	21:29	22:02	21:52	21:01	19:52 7	19:05 (1)	18:43 10	18:12 (2)	16:47 31	15:59 (3)	16:28 18		13:56 (4)
18	08:39	15:58 (3)	07:50		06:49	18:06 (1)	06:38	05:43	05:19	05:40	06:27	07:17	18:55 (1)	08:08		08:03	15:28 (3)	08:43		13:38 (4)
	17:01 18	16:16 (3)	17:58		18:48 17	18:23 (1)	20:41	21:30	22:02	21:50	20:59	19:49 12	19:07 (1)	18:41		16:45 30	15:58 (3)	16:28 19		13:57 (4)
19	08:38	15:57 (3)	07:48		06:47	18:04 (1)	06:36	05:41	05:19	05:41	06:28	07:19	18:52 (1)	08:10		08:05	15:29 (3)	08:44		13:38 (4)
	17:03 21	16:18 (3)	17:59		18:49 20	18:24 (1)	20:43	21:32	22:02	21:49	20:57	19:47 16	19:08 (1)	18:39		16:44 28	15:57 (3)	16:29 19		13:57 (4)
20	08:37	15:56 (3)	07:46		06:44	18:04 (1)	06:34	05:40	05:19	05:43	06:30	07:21	18:51 (1)	08:11		08:06	15:30 (3)	08:44		13:39 (4)
	17:05 24	16:20 (3)	18:01		18:51 20	18:24 (1)	20:44	21:33	22:03	21:48	20:55	19:45 18	19:09 (1)	18:37		16:43 27	15:57 (3)	16:29 19		13:58 (4)
21	08:36	15:56 (3)	07:44		06:42	18:04 (1)	06:32	05:38	05:19	05:44	06:32	07:22	18:49 (1)	08:13		08:08	15:31 (3)	08:45		13:39 (4)
	17:06 25	16:21 (3)	18:03		18:53 20	18:24 (1)	20:46	21:35	22:03	21:47	20:53	19:42 19	19:08 (1)	18:35		16:42 25	15:56 (3)	16:30 20		13:59 (4)
22	08:34	15:55 (3)	07:42		06:40	18:04 (1)	06:30	05:37	05:19	05:45	06:33	07:24	18:49 (1)	08:15		08:10	15:32 (3)	08:45		13:39 (4)
	17:08 27	16:22 (3)	18:05		18:55 19	18:23 (1)	20:48	21:36	22:03	21:46	20:51	19:40 20	19:09 (1)	18:33		16:41 24	15:56 (3)	16:30 20		13:59 (4)
23	08:33	15:55 (3)	07:40		06:37	18:04 (1)	06:28	05:36	05:19	05:47	06:35	07:26	18:49 (1)	08:17		08:11	15:34 (3)	08:46		13:39 (4)
	17:10 28	16:23 (3)	18:07		18:56 18	18:22 (1)	20:49	21:37	22:03	21:44	20:48	19:38 20	19:09 (1)	18:30		16:39 21	15:55 (3)	16:31 20		13:59 (4)
24	08:32	15:54 (3)	07:38		06:35	18:05 (1)	06:26	05:35	05:20	05:48	06:37	07:27	18:48 (1)	08:18		08:13	15:35 (3)	08:46		13:41 (4)
	17:11 30	16:24 (3)	18:09		18:58 16	18:21 (1)	20:51	21:39	22:04	21:43	20:46	19:35 19	19:07 (1)	18:28		16:38 18	15:53 (3)	16:31 19		14:00 (4)
25	08:31	15:54 (3)	07:36	17:30 (2)	06:33	18:06 (1)	06:24	05:33	05:20	05:49	06:38	07:29	18:48 (1)	07:20		08:15	15:37 (3)	08:47		13:41 (4)
	17:13 31	16:25 (3)	18:10 11	17:41 (2)	19:00 13	18:19 (1)	20:53	21:40	22:04	21:42	20:44	19:33 18	19:06 (1)	17:26		16:37 15	15:52 (3)	16:32 19		14:00 (4)
26	08:29	15:54 (3)	07:34	17:27 (2)	06:30	18:08 (1)	06:22	05:32	05:20	05:51	06:40	07:30	18:49 (1)	07:22		08:16	15:39 (3)	08:47		13:42 (4)
	17:15 32	16:26 (3)	18:12 16	17:43 (2)	19:01 9	18:17 (1)	20:54	21:41	22:04	21:40	20:42	19:31 15	19:04 (1)	17:24		16:36 11	15:50 (3)	16:32 18		14:00 (4)
27	08:28	15:53 (3)	07:32	17:25 (2)	06:28		06:19	05:31	05:21	05:52	06:41	07:32	18:49 (1)	07:24		08:18	15:43 (3)	08:47		13:42 (4)
	17:17 34	16:27 (3)	18:14 20	17:45 (2)	19:03		20:56	21:43	22:04	21:39	20:40	19:28 12	19:01 (1)	17:22		16:35 5	15:48 (3)	16:33 18		14:00 (4)
28	08:27	15:54 (3)	07:29	17:24 (2)	06:26		06:17	05:30	05:21	05:54	06:43	07:34	18:51 (1)	07:25	15:36 (3)	08:19		08:47		13:44 (4)
	17:19 34	16:28 (3)	18:16 22	17:46 (2)	19:05		20:58	21:44	22:03	21:37	20:38	19:26 8	18:59 (1)	17:20 13	15:49 (3)	16:35		16:34 16		14:00 (4)
29	08:25	15:53 (3)			07:23		06:15	05:29	05:22	05:55	06:45	07:35	18:54 (1)	07:27	15:33 (3)	08:21		08:48		13:46 (4)
	17:20 35	16:28 (3)			20:07		20:59	21:45	22:03	21:36	20:35	19:24 3	18:57 (1)	17:18 19	15:52 (3)	16:34		16:35 14		14:00 (4)
30	08:24	15:53 (3)			07:21		06:14	05:28	05:23	05:57	06:46	07:37		07:29	15:31 (3)	08:22		08:48		13:46 (4)
	17:22 35	16:28 (3)			20:08		21:01	21:46	22:03	21:34	20:33	19:21		17:17 23	15:54 (3)	16:33		16:36 13		13:59 (4)
31	08:22	15:53 (3)			07:19			05:27		05:58	06:48			07:31	15:30 (3)			08:48		13:48 (4)
	17:24 36	16:29 (3)			20:10			21:48		21:32	20:31			17:15 25	15:55 (3)			16:37 11		13:59 (4)
Potential sun hours	259		277		367		416	485	499	502	454	381		331		266		243		
Total, worst case		446		476		453							187		430		774		335	
Sun reduction		0,24		0,30		0,33							0,36		0,34		0,24		0,20	
Oper. time red.		0,95		0,95		0,95							0,95		0,95		0,95		0,95	
Wind dir. red.		0,67		0,66		0,64							0,63		0,65		0,67		0,68	
Total reduction		0,15		0,19		0,20							0,22		0,21		0,15		0,13	
Total, real		68		91		91							40		90		116		44	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:32/3.2.737

SHADOW - Calendar

Calculation: Copy of V136@149Shadow receptor: E - 3945LA5

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January			February			March			April		May	June	July	August	September			October			November			December		
1	08:48		15:00 (3)	08:21		15:17 (3)	07:27		17:01 (2)	07:17		06:12	05:26	05:23	06:00	06:50			07:39		18:39 (1)	07:33			08:24		14:44 (3)
	16:38	36	15:36 (3)	17:26	24	15:41 (3)	18:18	29	17:30 (2)	20:12		21:03	21:49	22:03	21:31	20:29			19:19	13	18:52 (1)	17:13			16:32	40	15:24 (3)
2	08:48		15:00 (3)	08:19		15:19 (3)	07:25		17:01 (2)	07:14		06:10	05:25	05:24	06:01	06:51			07:40		18:42 (1)	07:34			08:25		14:45 (3)
	16:39	37	15:37 (3)	17:28	20	15:39 (3)	18:19	28	17:29 (2)	20:13		21:05	21:50	22:02	21:29	20:26			19:17	8	18:50 (1)	17:11			16:32	40	15:25 (3)
3	08:48		15:01 (3)	08:18		15:23 (3)	07:23		17:01 (2)	07:12		06:08	05:25	05:25	06:03	06:53			07:42			07:36			08:27		14:45 (3)
	16:40	36	15:37 (3)	17:30	14	15:37 (3)	18:21	27	17:28 (2)	20:15		21:06	21:51	22:02	21:27	20:24			19:14			17:09			16:31	39	15:24 (3)
4	08:47		15:00 (3)	08:16		15:28 (3)	07:21		17:02 (2)	07:10		06:06	05:24	05:25	06:04	06:55			07:44			07:38			08:28		14:47 (3)
	16:41	38	15:38 (3)	17:31	5	15:33 (3)	18:23	25	17:27 (2)	20:17		21:08	21:52	22:02	21:26	20:22			19:12			17:07			16:30	38	15:25 (3)
5	08:47		15:01 (3)	08:14			07:18		17:04 (2)	07:07		06:04	05:23	05:26	06:06	06:56			07:45			07:40			08:29		14:47 (3)
	16:42	38	15:39 (3)	17:33			18:25	22	17:26 (2)	20:19		21:10	21:53	22:01	21:24	20:20			19:10			17:06			16:30	38	15:25 (3)
6	08:47		15:01 (3)	08:13			07:16		17:05 (2)	07:05		06:02	05:22	05:27	06:08	06:58			07:47		17:45 (2)	07:42			08:31		14:47 (3)
	16:44	38	15:39 (3)	17:35			18:27	18	17:23 (2)	20:20		21:11	21:54	22:01	21:22	20:17			19:08	10	17:55 (2)	17:04			16:29	38	15:25 (3)
7	08:46		15:02 (3)	08:11			07:14		17:07 (2)	07:03		06:00	05:22	05:28	06:09	06:59			07:49		17:42 (2)	07:44		14:56 (3)	08:32		14:48 (3)
	16:45	38	15:40 (3)	17:37			18:29	14	17:21 (2)	20:22		21:13	21:55	22:00	21:20	20:15			19:05	16	17:58 (2)	17:02	7	15:03 (3)	16:29	38	15:26 (3)
8	08:46		15:01 (3)	08:09			07:12		17:13 (2)	07:01		05:59	05:21	05:29	06:11	07:01			07:51		17:40 (2)	07:45		14:52 (3)	08:33		14:49 (3)
	16:46	39	15:40 (3)	17:39			18:30	3	17:16 (2)	20:24		21:14	21:56	21:59	21:19	20:13			19:03	20	18:00 (2)	17:00	16	15:08 (3)	16:29	37	15:26 (3)
9	08:45		15:02 (3)	08:07			07:10			06:58		05:57	05:21	05:30	06:12	07:03			07:52		17:38 (2)	07:47		14:50 (3)	08:34		14:49 (3)
	16:48	39	15:41 (3)	17:41			18:32			20:25		21:16	21:57	21:59	21:17	20:10			19:01	23	18:01 (2)	16:59	20	15:10 (3)	16:28	37	15:26 (3)
10	08:45		15:02 (3)	08:06			07:07			06:56		05:55	05:20	05:31	06:14	07:04			07:54		17:36 (2)	07:49		14:48 (3)	08:35		14:49 (3)
	16:49	40	15:42 (3)	17:43			18:34			20:27		21:18	21:57	21:58	21:15	20:08			18:59	25	18:01 (2)	16:57	24	15:12 (3)	16:28	37	15:26 (3)
11	08:44		15:02 (3)	08:04			07:05		18:05 (1)	06:54		05:53	05:20	05:32	06:15	07:06			07:56		17:35 (2)	07:51		14:46 (3)	08:37		14:50 (3)
	16:50	40	15:42 (3)	17:44			18:35	4	18:09 (1)	20:29		21:19	21:58	21:57	21:13	20:06			18:56	27	18:02 (2)	16:56	27	15:13 (3)	16:28	36	15:26 (3)
12	08:44		15:02 (3)	08:02			07:03		18:01 (1)	06:52		05:52	05:20	05:33	06:17	07:08			07:57		17:34 (2)	07:52		14:45 (3)	08:38		14:50 (3)
	16:52	40	15:42 (3)	17:46			18:37	11	18:12 (1)	20:31		21:21	21:59	21:56	21:11	20:03			18:54	29	18:03 (2)	16:54	30	15:15 (3)	16:28	36	15:26 (3)
13	08:43		15:02 (3)	08:00			07:00		17:58 (1)	06:49		05:50	05:19	05:34	06:19	07:09			07:59		17:34 (2)	07:54		14:44 (3)	08:39		14:51 (3)
	16:53	41	15:43 (3)	17:48			18:39	15	18:13 (1)	20:32		21:22	22:00	21:56	21:09	20:01			18:52	29	18:03 (2)	16:52	32	15:16 (3)	16:28	35	15:26 (3)
14	08:42		15:03 (3)	07:58			06:58		17:57 (1)	06:47		05:49	05:19	05:35	06:20	07:11			08:01		17:33 (2)	07:56		14:43 (3)	08:40		14:52 (3)
	16:55	40	15:43 (3)	17:50			18:41	18	18:15 (1)	20:34		21:24	22:00	21:55	21:07	19:59			18:50	30	18:03 (2)	16:51	34	15:17 (3)	16:28	34	15:26 (3)
15	08:41		15:03 (3)	07:56			06:56		17:56 (1)	06:45		05:47	05:19	05:36	06:22	07:12			08:03		17:32 (2)	07:58		14:43 (3)	08:40		14:52 (3)
	16:56	41	15:44 (3)	17:52			18:42	21	18:17 (1)	20:36		21:26	22:01	21:54	21:05	19:56			18:47	30	18:02 (2)	16:50	35	15:18 (3)	16:28	35	15:27 (3)
16	08:41		15:03 (3)	07:54			06:54		17:55 (1)	06:43		05:45	05:19	05:37	06:24	07:14			08:04		17:32 (2)	07:59		14:43 (3)	08:41		14:53 (3)
	16:58	41	15:44 (3)	17:54			18:44	21	18:16 (1)	20:37		21:27	22:01	21:53	21:03	19:54			18:45	30	18:02 (2)	16:48	35	15:18 (3)	16:28	34	15:27 (3)
17	08:40		15:04 (3)	07:52		17:10 (2)	06:51		17:55 (1)	06:41		05:44	05:19	05:39	06:25	07:16			08:06		17:32 (2)	08:01		14:42 (3)	08:42		14:54 (3)
	17:00	40	15:44 (3)	17:56	11	17:21 (2)	18:46	22	18:17 (1)	20:39		21:29	22:02	21:52	21:01	19:52			18:43	30	18:02 (2)	16:47	37	15:19 (3)	16:28	34	15:28 (3)
18	08:39		15:04 (3)	07:50		17:08 (2)	06:49		17:55 (1)	06:38		05:43	05:19	05:40	06:27	07:17			08:08		17:32 (2)	08:03		14:41 (3)	08:43		14:55 (3)
	17:01	41	15:45 (3)	17:58	16	17:24 (2)	18:48	22	18:17 (1)	20:41		21:30	22:02	21:50	20:59	19:49			18:41	29	18:01 (2)	16:45	38	15:19 (3)	16:28	33	15:28 (3)
19	08:38		15:05 (3)	07:48		17:06 (2)	06:47		17:54 (1)	06:36		05:41	05:19	05:41	06:28	07:19	18:47 (1)	08:10		17:33 (2)	08:05		14:41 (3)	08:44		14:54 (3)
	17:03	40	15:45 (3)	17:59	20	17:26 (2)	18:49	22	18:16 (1)	20:43		21:32	22:02	21:49	20:57	19:47	8	18:55 (1)	18:39	28	18:01 (2)	16:44	39	15:20 (3)	16:29	34	15:28 (3)
20	08:37		15:06 (3)	07:46		17:04 (2)	06:44		17:54 (1)	06:34		05:40	05:19	05:43	06:30	07:21	18:44 (1)	08:11		17:34 (2)	08:06		14:41 (3)	08:44		14:55 (3)
	17:05	40	15:46 (3)	18:01	23	17:27 (2)	18:51	21	18:15 (1)	20:44		21:33	22:03	21:48	20:55	19:45	13	18:57 (1)	18:37	26	18:00 (2)	16:43	39	15:20 (3)	16:29	34	15:29 (3)
21	08:36		15:06 (3)	07:44		17:03 (2)	06:42		17:55 (1)	06:32		05:38	05:19	05:44	06:32	07:22	18:41 (1)	08:13		17:34 (2)	08:08		14:41 (3)	08:45		14:56 (3)
	17:06	40	15:46 (3)	18:03	25	17:28 (2)	18:53	20	18:15 (1)	20:46		21:35	22:03	21:47	20:53	19:42	17	18:58 (1)	18:35	24	17:58 (2)	16:42	40	15:21 (3)	16:30	34	15:30 (3)
22	08:34		15:06 (3)	07:42		17:02 (2)	06:40		17:55 (1)	06:30		05:37	05:19	05:45	06:33	07:24	18:40 (1)	08:15		17:35 (2)	08:10		14:42 (3)	08:45		14:56 (3)
	17:08	39	15:45 (3)	18:05	27	17:29 (2)	18:55	18	18:13 (1)	20:48		21:36	22:03	21:46	20:51	19:40	19	18:59 (1)	18:33	22	17:57 (2)	16:41	40	15:22 (3)	16:30	34	15:30 (3)
23	08:33		15:07 (3)	07:40		17:01 (2)	06:37		17:57 (1)	06:28		05:36	05:19	05:47	06:35	07:26	18:39 (1)	08:17		17:36 (2)	08:11		14:42 (3)	08:46		14:56 (3)
	17:10	39	15:46 (3)	18:07	29	17:30 (2)	18:56	14	18:11 (1)	20:49		21:37	22:03	21:44	20:48	19:38	21	19:00 (1)	18:30	19	17:55 (2)	16:39	40	15:22 (3)	16:31	34	15:30 (3)
24	08:32		15:07 (3)	07:38		17:01 (2)	06:35		17:59 (1)	06:26		05:35	05:20	05:48	06:37	07:27	18:38 (1)	08:18		17:38 (2)	08:13		14:41 (3)	08:46		14:57 (3)
	17:11	38	15:45 (3)	18:09	29	17:30 (2)	18:58	10	18:09 (1)	20:51		21:39	22:04	21:43	20:46	19:35	21	18:59 (1)	18:28	15	17:53 (2)	16:38	41	15:22 (3)	16:31	34	15:31 (3)
25	08:31		15:08 (3)	07:36		17:01 (2)	06:33			06:24		05:33	05:20	05:49	06:38	07:29	18:37 (1)	07:20		16:41 (2)	08:15		14:42 (3)	08:47		14:58 (3)
	17:13	37	15:45 (3)	18:10	30	17:31 (2)	19:00			20:53		21:40	22:04	21:42	20:44	19:33	22	18:59 (1)	17:26	9	16:50 (2)	16:37	40	15:22 (3)	16:32	33	15:31 (3)
26	08:29		15:10 (3)	07:34		17:00 (2)	06:30			06:22		05:32	05:20	05:51	06:40	07:30	18:37 (1)	07:22			08:16		14:42 (3)	08:47		14:58 (3)
	17:15	36	15:46 (3)	18:12	30	17:30 (2)	19:01			20:54		21:41	22:04	21:40	20:42	19:31	22	18:59 (1)	17:24			16:36	41	15:23 (3)	16:32	34	15:32 (3)
27	08:28		15:10 (3)	07:32		17:00 (2)	06:28			06:20		05:31	05:21	05:52	06:41	07:32	18:36 (1)	07:24			08:18		14:43 (3)	08:47		14:58 (3)
	17:17	35	15:45 (3)	18:14	30	17:30 (2)	19:03			20:56		21:43	22:04	21:39	20:40	19:28	22	18:58 (1)	17:22			16:35	41	15:24 (3)	16:33	34	15:32 (3)
28	08:27		15:12 (3)	07:29		17:00 (2)	06:26			06:17		05:30	05:21	05:54	06:43	07:34	18:37 (1)	07:25			08:19		14:43 (3)	08:47		14:59 (3)
	17:19	33	15:45 (3)	18:16	30	17:30 (2)	19:05			20:58		21:44	22:03	21:37	20:38	19:26	21	18:58 (1)	17:20			16:35	40	15:23 (3)	16:34	35	15:34 (3)
29	08:25		15:12 (3)				07:23			06:16		05:29	05:22	05:55	06:45	07:35		18:38 (1)	07:27			08:21		14:44 (3)	08:48		14:59 (3)
	17:20	32	15:44 (3)				20:07			20:59		21:45	22:03	21:36	20:35	19:24	19	18:57 (1)	17:18			16:34	40	15:24 (3)	16:35	35	15:34 (3)
30	08:24		15:13 (3)				07:21			06:14		05:28	05:23	05:57	06:46	07:37		18:38 (1)	07:29			08:22		14:43 (3)	08:48		15:00 (3)
	17:22	30	15:43 (3)				20:08			21:01		21:46	22:03	21:34	20:33	19:21	16	18:54 (1)	17:17			16:33	40	15:23 (3)	16:36	35	15:35 (3)
31	08:22		15:15 (3)				07:19					05:27		05:58	06:48				07:31						08:48		14:59 (3)
	17:24	27	15:42 (3)				20:10					21:48		21:32	20:31				17:15						16:37	36	15:35 (3)
Potential sun hours	259			277			367			416		485	499	502	454	381			331			266			243		
Total, worst case		1169			363			405									221			492			816			1105	
Sun reduction		0,24			0,30			0,33									0,36			0,34			0,24			0,20	
Oper. time red.		0,95			0,95			0,95									0,95			0,95			0,95			0,95	
Wind dir. red.		0,69			0,67			0,64									0,63			0,66			0,69			0,69	
Total reduction		0,16			0,19			0,20									0,22			0,21			0,16			0,13	
Total, real		184			70			82									48			104			127			148	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:32/3.2.737

SHADOW - Calendar

Calculation: Copy of V136@149Shadow receptor: F - 3998NH4

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 / 16:38	08:21 / 17:26	07:27 / 18:18	07:17 / 20:12 30	07:51 (3) / 08:21 (3) / 07:14 / 21:03	06:12 / 21:49 55	05:26 / 07:35 (2) / 07:14 / 21:52	06:40 (2) / 07:40 (2) / 07:33 / 21:31	06:23 / 06:46 (2) / 07:38 (2) / 20:29 16	06:00 / 06:57 (2) / 08:10 (3) / 19:19 14	06:50 / 07:54 (3) / 08:18 (4) / 17:13	07:39 / 08:04 (4) / 07:33 / 16:32	08:24
2	08:48 / 16:39	08:19 / 17:28	07:25 / 18:20	07:14 / 20:14 30	07:51 (3) / 08:21 (3) / 06:10 / 21:05	05:25 / 21:50 54	06:40 (2) / 05:24 / 07:34 (2) / 22:03 55	06:46 (2) / 06:01 / 07:41 (2) / 21:29 39	06:57 (2) / 06:51 / 07:36 (2) / 20:26 20	07:51 (3) / 07:41 / 08:11 (3) / 19:17 10	08:06 (4) / 08:16 (4) / 17:11	07:35 / 16:32	08:25
3	08:48 / 16:40	08:18 / 17:30	07:23 / 18:21	07:12 / 20:15 30	07:51 (3) / 08:21 (3) / 06:08 / 21:06	05:25 / 21:51 55	06:40 (2) / 05:25 / 07:35 (2) / 22:02 54	06:46 (2) / 06:03 / 07:40 (2) / 21:28 37	06:59 (2) / 06:53 / 07:36 (2) / 20:24 23	07:50 (3) / 07:42 / 08:13 (3) / 19:15 4	08:07 (4) / 08:11 (4) / 17:09	07:36 / 16:31	08:27
4	08:47 / 16:41	08:16 / 17:32	07:21 / 18:23	07:10 / 20:17 30	07:50 (3) / 08:20 (3) / 06:06 / 21:08 13	07:01 (2) / 05:24 / 07:14 (2) / 21:52 55	06:40 (2) / 05:25 / 07:35 (2) / 22:02 55	06:46 (2) / 06:05 / 07:41 (2) / 21:26 34	07:00 (2) / 06:55 / 07:34 (2) / 20:22 25	07:49 (3) / 07:44 / 08:14 (3) / 19:12		07:38 / 17:07	08:28 / 16:31
5	08:47 / 16:43	08:14 / 17:33	07:19 / 18:25	07:07 / 20:19 30	07:50 (3) / 08:04 / 08:20 (3) / 21:10 20	06:57 (2) / 05:23 / 07:17 (2) / 21:53 55	06:40 (2) / 05:26 / 07:35 (2) / 22:01 54	06:47 (2) / 06:06 / 07:41 (2) / 21:24 31	07:02 (2) / 06:56 / 07:33 (2) / 20:20 27	07:47 (3) / 07:46 / 08:14 (3) / 19:10		07:40 / 17:06	08:29 / 16:30
6	08:47 / 16:44	08:13 / 17:35	07:16 / 18:27	07:05 / 20:20 28	07:51 (3) / 06:02 / 08:19 (3) / 21:11 26	06:54 (2) / 05:23 / 07:20 (2) / 21:54 54	06:41 (2) / 05:27 / 07:35 (2) / 22:01 55	06:47 (2) / 06:08 / 07:42 (2) / 21:22 28	07:03 (2) / 06:58 / 07:31 (2) / 20:17 28	07:47 (3) / 07:47 / 08:15 (3) / 19:08		07:42 / 17:04	08:31 / 16:30
7	08:46 / 16:45	08:11 / 17:37	07:14 / 18:28	07:03 / 20:22 27	07:51 (3) / 06:01 / 08:18 (3) / 21:13 29	06:53 (2) / 05:22 / 07:22 (2) / 21:55 55	06:40 (2) / 05:28 / 07:35 (2) / 22:00 55	06:47 (2) / 06:09 / 07:42 (2) / 21:20 23	07:05 (2) / 07:00 / 07:28 (2) / 20:15 30	07:45 (3) / 07:49 / 08:15 (3) / 19:05		07:44 / 17:02	08:32 / 16:29
8	08:46 / 16:46	08:09 / 17:39	07:12 / 18:30	07:01 / 20:24 25	07:51 (3) / 05:59 / 08:16 (3) / 21:15 32	06:51 (2) / 05:21 / 07:23 (2) / 21:56 54	06:41 (2) / 05:29 / 07:35 (2) / 21:59 54	06:48 (2) / 06:11 / 07:42 (2) / 21:19 18	07:08 (2) / 07:01 / 07:26 (2) / 20:13 30	07:45 (3) / 07:51 / 08:15 (3) / 19:03		07:45 / 17:01	08:33 / 16:29
9	08:45 / 16:48	08:08 / 17:41	07:10 / 18:32	06:58 / 20:26 23	07:52 (3) / 05:57 / 08:15 (3) / 21:16 35	06:49 (2) / 05:21 / 07:24 (2) / 21:57 54	06:42 (2) / 05:30 / 07:36 (2) / 21:59 55	06:47 (2) / 06:12 / 07:42 (2) / 21:17 10	07:11 (2) / 07:03 / 07:21 (2) / 20:10 30	07:44 (3) / 07:52 / 08:14 (3) / 19:01		07:47 / 16:59	08:34 / 16:29
10	08:45 / 16:49	08:06 / 17:43	07:07 / 18:34	06:56 / 20:27 20	07:53 (3) / 05:55 / 08:13 (3) / 21:18 38	06:48 (2) / 05:21 / 07:26 (2) / 21:57 54	06:41 (2) / 05:31 / 07:35 (2) / 21:58 55	06:47 (2) / 06:14 / 07:42 (2) / 21:15		07:04 / 20:08 31	07:44 (3) / 07:54 / 08:15 (3) / 18:59	07:49 / 16:57	08:35 / 16:28
11	08:44 / 16:51	08:04 / 17:45	07:05 / 18:36 8	07:28 (4) / 07:36 (4) / 20:29 16	07:55 (3) / 05:54 / 08:11 (3) / 21:19 39	06:47 (2) / 05:20 / 07:26 (2) / 21:58 54	06:42 (2) / 05:32 / 07:36 (2) / 21:57 55	06:47 (2) / 06:16 / 07:42 (2) / 21:13		07:06 / 20:06 30	07:44 (3) / 07:56 / 08:14 (3) / 18:56	07:51 / 16:56	08:37 / 16:28
12	08:44 / 16:52	08:02 / 17:46	07:03 / 18:37 12	07:26 (4) / 07:38 (4) / 20:31 11	07:57 (3) / 05:52 / 08:08 (3) / 21:21 42	06:46 (2) / 05:20 / 07:28 (2) / 21:59 54	06:42 (2) / 05:33 / 07:36 (2) / 21:56 55	06:47 (2) / 06:17 / 07:42 (2) / 21:11		07:08 / 20:03 29	07:44 (3) / 07:57 / 08:13 (3) / 18:54	07:53 / 16:54	08:38 / 16:28
13	08:43 / 16:54	08:00 / 17:48	07:01 / 18:39 16	07:23 (4) / 07:39 (4) / 20:32	06:49 / 05:50 / 21:23 44	06:44 (2) / 05:20 / 07:28 (2) / 22:00 53	06:43 (2) / 05:34 / 07:36 (2) / 21:56 54	06:48 (2) / 06:19 / 07:42 (2) / 21:07		07:09 / 20:01 29	07:44 (3) / 07:59 / 08:13 (3) / 18:52	07:54 / 16:53	08:39 / 16:28
14	08:42 / 16:55	07:58 / 17:50	06:58 / 18:41 19	07:21 (4) / 07:40 (4) / 20:34	06:47 / 05:49 / 21:24 45	06:44 (2) / 05:19 / 07:29 (2) / 22:00 54	06:42 (2) / 05:35 / 07:36 (2) / 21:55 54	06:49 (2) / 06:20 / 07:43 (2) / 21:07		07:11 / 19:59 27	07:44 (3) / 08:01 / 08:11 (3) / 18:50	07:56 / 16:51	08:40 / 16:28
15	08:41 / 16:57	07:56 / 17:52	06:56 / 18:43 21	07:20 (4) / 07:41 (4) / 20:36	06:45 / 05:47 / 21:26 46	06:43 (2) / 05:19 / 07:29 (2) / 22:01 54	06:42 (2) / 05:36 / 07:36 (2) / 21:54 54	06:49 (2) / 06:22 / 07:43 (2) / 21:05		07:13 / 19:56 25	07:45 (3) / 08:03 / 08:10 (3) / 18:48	07:58 / 16:50	08:40 / 16:28
16	08:41 / 16:58	07:54 / 17:54	06:54 / 18:44 21	07:19 (4) / 07:40 (4) / 20:37	06:43 / 05:46 / 21:27 47	06:43 (2) / 05:19 / 07:30 (2) / 22:01 53	06:43 (2) / 05:38 / 07:36 (2) / 21:53 54	06:49 (2) / 06:24 / 07:43 (2) / 21:03		07:14 / 19:54 22	07:46 (3) / 08:04 / 08:08 (3) / 18:45	08:00 / 16:48	08:41 / 16:28
17	08:40 / 17:00	07:52 / 17:56	06:51 / 18:46 21	07:19 (4) / 07:40 (4) / 20:39	06:41 / 05:44 / 21:29 49	06:42 (2) / 05:19 / 07:31 (2) / 22:02 53	06:43 (2) / 05:39 / 07:36 (2) / 21:52 54	06:49 (2) / 06:25 / 07:43 (2) / 21:01		07:16 / 19:52 18	07:48 (3) / 08:06 / 08:06 (3) / 18:43	08:01 / 16:47	08:42 / 16:28
18	08:39 / 17:01	07:50 / 17:58	06:49 / 18:48 21	07:19 (4) / 07:38 (4) / 20:41	06:43 / 05:43 / 21:30 50	06:41 (2) / 05:19 / 07:31 (2) / 22:02 54	06:43 (2) / 05:40 / 07:37 (2) / 21:51 54	06:49 (2) / 06:27 / 07:43 (2) / 20:59		07:17 / 19:49 14	07:50 (3) / 08:08 / 08:04 (3) / 18:41	08:03 / 16:46	08:43 / 16:29
19	08:38 / 17:03	07:48 / 17:59	06:47 / 18:50 21	07:18 (4) / 07:39 (4) / 20:43	06:36 / 05:41 / 21:32 51	06:41 (2) / 05:19 / 07:32 (2) / 22:03 54	06:43 (2) / 05:41 / 07:37 (2) / 21:49 54	06:49 (2) / 06:29 / 07:43 (2) / 20:57		07:19 / 19:47 6	07:53 (3) / 08:10 / 07:59 (3) / 18:39	08:05 / 16:44	08:44 / 16:29
20	08:37 / 17:05	07:46 / 18:01	06:44 / 18:51 19	07:19 (4) / 06:34 / 07:38 (4) / 20:44	05:40 / 21:33 51	06:41 (2) / 05:19 / 07:32 (2) / 22:03 54	06:44 (2) / 05:43 / 07:38 (2) / 21:48 53	06:50 (2) / 06:30 / 07:43 (2) / 20:55		07:21 / 19:45 7	08:10 (4) / 08:11 / 08:17 (4) / 18:37	08:06 / 16:43	08:44 / 16:29
21	08:36 / 17:06	07:44 / 18:03	06:42 / 18:53 17	07:20 (4) / 06:32 / 07:37 (4) / 20:46	05:38 / 21:35 52	06:41 (2) / 05:19 / 07:33 (2) / 22:03 54	06:44 (2) / 05:44 / 07:38 (2) / 21:47 53	06:50 (2) / 06:32 / 07:43 (2) / 20:53		07:22 / 19:42 12	08:07 (4) / 08:13 / 08:19 (4) / 18:35	08:08 / 16:42	08:45 / 16:30
22	08:34 / 17:08	07:42 / 18:05	06:40 / 18:55 13	07:21 (4) / 06:30 / 07:34 (4) / 20:48	05:37 / 21:36 52	06:40 (2) / 05:19 / 07:32 (2) / 22:03 54	06:44 (2) / 05:45 / 07:38 (2) / 21:46 53	06:50 (2) / 06:33 / 07:43 (2) / 20:51		07:24 / 19:40 16	08:05 (4) / 08:15 / 08:21 (4) / 18:33	08:10 / 16:41	08:45 / 16:30
23	08:33 / 17:10	07:40 / 18:07	06:37 / 18:56 9	07:23 (4) / 06:28 / 07:32 (4) / 20:49	05:36 / 21:37 53	06:40 (2) / 05:20 / 07:33 (2) / 22:03 54	06:44 (2) / 05:47 / 07:38 (2) / 21:44 52	06:50 (2) / 06:35 / 07:42 (2) / 20:49		07:26 / 19:38 18	08:04 (4) / 08:17 / 08:22 (4) / 18:31	08:11 / 16:40	08:46 / 16:31
24	08:32 / 17:12	07:38 / 18:09	06:35 / 18:58	06:26 / 20:51	05:35 / 21:39 53	06:40 (2) / 05:20 / 07:33 (2) / 22:04 54	06:45 (2) / 05:48 / 07:39 (2) / 21:43 52	06:51 (2) / 06:37 / 07:43 (2) / 20:46		07:27 / 19:35 20	08:02 (4) / 08:18 / 08:22 (4) / 18:29	08:13 / 16:39	08:46 / 16:31
25	08:31 / 17:13	07:36 / 18:10	06:33 / 19:00 13	07:02 (3) / 06:24 / 07:15 (3) / 20:53	05:33 / 21:40 53	06:40 (2) / 05:20 / 07:33 (2) / 22:04 53	06:45 (2) / 05:50 / 07:38 (2) / 21:42 50	06:52 (2) / 06:38 / 07:42 (2) / 20:44		07:29 / 19:33 20	08:02 (4) / 07:20 / 08:22 (4) / 17:26	08:15 / 16:38	08:47 / 16:32
26	08:29 / 17:15	07:34 / 18:12	06:30 / 19:02 18	07:00 (3) / 06:22 / 07:18 (3) / 20:54	05:32 / 21:41 55	06:39 (2) / 05:21 / 07:34 (2) / 22:04 53	06:45 (2) / 05:51 / 07:38 (2) / 21:40 49	06:52 (2) / 06:40 / 07:41 (2) / 20:42		07:31 / 19:31 21	08:02 (4) / 07:22 / 08:23 (4) / 17:24	08:16 / 16:37	08:47 / 16:33
27	08:28 / 17:17	07:32 / 18:14	06:28 / 19:03 21	06:58 (3) / 06:20 / 07:19 (3) / 20:56	05:31 / 21:43 55	06:39 (2) / 05:21 / 07:34 (2) / 22:04 54	06:45 (2) / 05:52 / 07:39 (2) / 21:39 48	06:53 (2) / 06:42 / 07:41 (2) / 20:40		07:32 / 19:28 21	08:01 (4) / 07:24 / 08:22 (4) / 17:22	08:18 / 16:36	08:47 / 16:33
28	08:27 / 17:19	07:30 / 18:16	06:26 / 19:05 25	06:55 (3) / 06:18 / 07:20 (3) / 20:58	05:30 / 21:44 55	06:39 (2) / 05:22 / 07:34 (2) / 22:03 54	06:45 (2) / 05:54 / 07:39 (2) / 21:37 47	06:53 (2) / 06:43 / 07:40 (2) / 20:38		07:34 / 19:26 20	08:01 (4) / 07:26 / 08:21 (4) / 17:21	08:19 / 16:35	08:48 / 16:34
29	08:25 / 17:21		07:24 / 20:07 27	07:54 (3) / 06:16 / 08:21 (3) / 21:00	05:29 / 21:45 55	06:39 (2) / 05:22 / 07:34 (2) / 22:03 54	06:46 (2) / 05:55 / 07:40 (2) / 21:36 46	06:53 (2) / 06:45 / 07:39 (2) / 20:35		07:36 / 19:24 20	08:01 (4) / 07:27 / 08:21 (4) / 17:19	08:21 / 16:34	08:48 / 16:35
30	08:24 / 17:22		07:21 / 20:08 28	07:53 (3) / 06:14 / 08:21 (3) / 21:01	05:28 / 21:47 55	06:40 (2) / 05:23 / 07:35 (2) / 22:03 54	06:45 (2) / 05:57 / 07:39 (2) / 21:34 44	06:55 (2) / 06:46 / 07:39 (2) / 20:33		07:37 / 19:21 17	08:02 (4) / 07:29 / 08:19 (4) / 17:17	08:22 / 16:33	08:48 / 16:36
31	08:22 / 17:24		07:19 / 20:10 29	07:53 (3) / 08:22 (3)	06:40 (2) / 05:27 / 07:48 55 / 07:35 (2)		05:58 / 21:33 43	06:55 (2) / 06:48 / 07:38 (2) / 20:31 11	07:56 (3) / 08:07 (3)		07:31 / 17:15		08:48 / 16:37
Potential sun hours	259	277	367	416	485	499	502	454	381		331	266	243
Total, worst case			379	300	1250	1620	1624	272	652	28			
Sun reduction			0,33	0,42	0,43	0,39	0,41	0,42	0,36	0,34			
Oper. time red.			0,95	0,95	0,95	0,95	0,95	0,95	0,95	0,95			
Wind dir. red.			0,61	0,62	0,65	0,65	0,65	0,65	0,61	0,60			
Total reduction			0,19	0,24	0,26	0,24	0,25	0,26	0,21	0,19			
Total, real			71	73	329	389	407	70	137	5			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:32/3.2.737

SHADOW - Calendar

Calculation: Copy of V136@149Shadow receptor: G - 3945LA2a

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December		
1	08:48		14:31 (3)	08:21			07:27		07:17	06:12	05:26	05:23	06:00	06:50		07:39		18:19 (1)	07:33		16:09 (2)	08:24		14:20 (3)
	16:38	36	15:07 (3)	17:26			18:18		20:12	21:03	21:49	22:03	21:31	20:29		19:19	21	18:40 (1)	17:13	26	16:35 (2)	16:32	32	14:52 (3)
2	08:48		14:32 (3)	08:19			07:25		07:14	06:10	05:25	05:24	06:01	06:51		07:40		18:18 (1)	07:34		16:09 (2)	08:25		14:20 (3)
	16:39	36	15:08 (3)	17:28			18:19		20:13	21:05	21:50	22:02	21:29	20:26		19:17	22	18:40 (1)	17:11	24	16:33 (2)	16:32	33	14:53 (3)
3	08:48		14:32 (3)	08:18			07:23	17:49 (1)	07:12	06:08	05:25	05:25	06:03	06:53		07:42		18:17 (1)	07:36		16:10 (2)	08:27		14:20 (3)
	16:40	37	15:09 (3)	17:30			18:21	17:54 (1)	20:15	21:06	21:51	22:02	21:27	20:24		19:14	22	18:39 (1)	17:09	22	16:32 (2)	16:31	33	14:53 (3)
4	08:47		14:32 (3)	08:16			07:21	17:45 (1)	07:10	06:06	05:24	05:25	06:04	06:55		07:44		18:17 (1)	07:38		16:11 (2)	08:28		14:20 (3)
	16:41	36	15:08 (3)	17:31			18:23	17:57 (1)	20:17	21:08	21:52	22:02	21:26	20:22		19:12	22	18:39 (1)	17:07	19	16:30 (2)	16:30	34	14:54 (3)
5	08:47		14:33 (3)	08:14	16:45 (2)		07:18	17:44 (1)	07:07	06:04	05:23	05:26	06:06	06:56		07:45		18:17 (1)	07:40		16:13 (2)	08:29		14:20 (3)
	16:42	36	15:09 (3)	17:33	16:57 (2)	12	18:25	17:59 (1)	20:19	21:10	21:53	22:01	21:24	20:20		19:10	22	18:39 (1)	17:06	15	16:28 (2)	16:30	35	14:55 (3)
6	08:47		14:34 (3)	08:13	16:43 (2)		07:16	17:42 (1)	07:05	06:02	05:22	05:27	06:08	06:58		07:47		18:16 (1)	07:42		16:15 (2)	08:31		14:20 (3)
	16:44	35	15:09 (3)	17:35	16:59 (2)	16	18:27	18:00 (1)	20:20	21:11	21:54	22:01	21:22	20:17		19:08	22	18:38 (1)	17:04	11	16:26 (2)	16:29	35	14:55 (3)
7	08:46		14:35 (3)	08:11	16:41 (2)		07:14	17:41 (1)	07:03	06:00	05:22	05:28	06:09	06:59		07:49		18:17 (1)	07:44			08:32		14:21 (3)
	16:45	34	15:09 (3)	17:37	17:01 (2)	20	18:28	18:01 (1)	20:22	21:13	21:55	22:00	21:20	20:15		19:05	20	18:37 (1)	17:02			16:29	35	14:56 (3)
8	08:46		14:35 (3)	08:09	16:41 (2)		07:12	17:40 (1)	07:01	05:59	05:21	05:29	06:11	07:01		07:51		18:18 (1)	07:45			08:33		14:21 (3)
	16:46	34	15:09 (3)	17:39	17:03 (2)	22	18:30	18:02 (1)	20:24	21:14	21:56	21:59	21:19	20:13		19:03	17	18:35 (1)	17:00			16:29	35	14:56 (3)
9	08:45		14:37 (3)	08:07	16:40 (2)		07:10	17:40 (1)	06:58	05:57	05:21	05:30	06:12	07:03		07:52		18:20 (1)	07:47			08:34		14:21 (3)
	16:48	33	15:10 (3)	17:41	17:04 (2)	24	18:32	18:02 (1)	20:25	21:16	21:57	21:59	21:17	20:10		19:01	13	18:33 (1)	16:59			16:28	36	14:57 (3)
10	08:45		14:37 (3)	08:06	16:39 (2)		07:07	17:39 (1)	06:56	05:55	05:20	05:31	06:14	07:04		07:54		18:21 (1)	07:49			08:35		14:21 (3)
	16:49	33	15:10 (3)	17:43	17:05 (2)	26	18:34	18:02 (1)	20:27	21:18	21:57	21:58	21:15	20:08		18:59	9	18:30 (1)	16:57			16:28	36	14:57 (3)
11	08:44		14:38 (3)	08:04	16:38 (2)		07:05	17:39 (1)	06:54	05:53	05:20	05:32	06:15	07:06		07:56			07:51			08:37		14:21 (3)
	16:50	32	15:10 (3)	17:44	17:06 (2)	28	18:35	18:02 (1)	20:29	21:19	21:58	21:57	21:13	20:06		18:56			16:56			16:28	37	14:58 (3)
12	08:44		14:39 (3)	08:02	16:38 (2)		07:03	17:40 (1)	06:52	05:52	05:20	05:33	06:17	07:08		07:57			07:52			08:38		14:21 (3)
	16:52	30	15:09 (3)	17:46	17:07 (2)	29	18:37	18:01 (1)	20:31	21:21	21:59	21:56	21:11	20:03		18:54			16:54			16:28	37	14:58 (3)
13	08:43		14:39 (3)	08:00	16:37 (2)		07:00	17:39 (1)	06:49	05:50	05:19	05:34	06:19	07:09		07:59			07:54			08:39		14:21 (3)
	16:53	30	15:09 (3)	17:48	17:07 (2)	30	18:39	18:00 (1)	20:32	21:22	22:00	21:56	21:09	20:01		18:52			16:52			16:28	38	14:59 (3)
14	08:42		14:40 (3)	07:58	16:37 (2)		06:58	17:40 (1)	06:47	05:49	05:19	05:35	06:20	07:11		08:01			07:56			08:40		14:22 (3)
	16:55	29	15:09 (3)	17:50	17:07 (2)	30	18:41	17:59 (1)	20:34	21:24	22:00	21:55	21:07	19:59		18:50			16:51			16:28	37	14:59 (3)
15	08:41		14:42 (3)	07:56	16:37 (2)		06:56	17:42 (1)	06:45	05:47	05:19	05:36	06:22	07:12		08:03			07:58			08:40		14:22 (3)
	16:56	26	15:08 (3)	17:52	17:07 (2)	30	18:42	17:58 (1)	20:36	21:26	22:01	21:54	21:05	19:56		18:47			16:50			16:28	38	15:00 (3)
16	08:41		14:43 (3)	07:54	16:37 (2)		06:54	17:43 (1)	06:43	05:45	05:19	05:37	06:24	07:14		08:04			07:59			08:41		14:23 (3)
	16:58	25	15:08 (3)	17:54	17:08 (2)	31	18:44	17:55 (1)	20:37	21:27	22:01	21:53	21:03	19:54		18:45			16:48			16:28	37	15:00 (3)
17	08:40		14:45 (3)	07:52	16:37 (2)		06:51	17:47 (1)	06:41	05:44	05:19	05:39	06:25	07:16		08:06		17:18 (2)	08:01			08:42		14:23 (3)
	17:00	22	15:07 (3)	17:56	17:07 (2)	30	18:46	17:51 (1)	20:39	21:29	22:02	21:52	21:01	19:52		18:43	12	17:30 (2)	16:47			16:28	38	15:01 (3)
18	08:39		14:47 (3)	07:50	16:38 (2)		06:49		06:38	05:43	05:19	05:40	06:27	07:17		08:08		17:15 (2)	08:03			08:43		14:24 (3)
	17:01	19	15:06 (3)	17:58	17:07 (2)	29	18:48		20:41	21:30	22:02	21:50	20:59	19:49		18:41	17	17:32 (2)	16:45			16:28	38	15:02 (3)
19	08:38		14:49 (3)	07:48	16:38 (2)		06:47		06:36	05:41	05:19	05:41	06:28	07:19		08:10		17:13 (2)	08:05			08:44		14:24 (3)
	17:03	16	15:05 (3)	17:59	17:07 (2)	29	18:49		20:43	21:32	22:02	21:49	20:57	19:47		18:39	21	17:34 (2)	16:44			16:29	38	15:02 (3)
20	08:37		14:53 (3)	07:46	16:38 (2)		06:44		06:34	05:40	05:19	05:43	06:30	07:21		08:11		17:11 (2)	08:06			08:44		14:25 (3)
	17:05	11	15:04 (3)	18:01	17:05 (2)	27	18:51		20:44	21:33	22:03	21:48	20:55	19:45		18:37	24	17:35 (2)	16:43			16:29	38	15:03 (3)
21	08:36			07:44	16:39 (2)		06:42		06:32	05:38	05:19	05:44	06:32	07:22		08:13		17:09 (2)	08:08			08:45		14:26 (3)
	17:06			18:03	17:04 (2)	25	18:53		20:46	21:35	22:03	21:47	20:53	19:42		18:35	26	17:35 (2)	16:42			16:30	37	15:03 (3)
22	08:34			07:42	16:40 (2)		06:40		06:30	05:37	05:19	05:45	06:33	07:24		08:15		17:08 (2)	08:10		14:29 (3)	08:45		14:26 (3)
	17:08			18:05	17:03 (2)	23	18:55		20:48	21:36	22:03	21:46	20:51	19:40		18:33	28	17:36 (2)	16:41	10	14:39 (3)	16:30	37	15:03 (3)
23	08:33			07:40	16:42 (2)		06:37		06:28	05:36	05:19	05:47	06:35	07:26		08:17		17:08 (2)	08:11		14:26 (3)	08:46		14:26 (3)
	17:10			18:07	17:02 (2)	20	18:56		20:49	21:37	22:03	21:44	20:48	19:38		18:30	28	17:36 (2)	16:39	16	14:42 (3)	16:31	37	15:03 (3)
24	08:32			07:38	16:45 (2)		06:35		06:26	05:35	05:20	05:48	06:37	07:27		08:18		17:07 (2)	08:13		14:24 (3)	08:46		14:27 (3)
	17:11			18:09	17:00 (2)	15	18:58		20:51	21:39	22:04	21:43	20:46	19:35		18:28	30	17:37 (2)	16:38	19	14:43 (3)	16:31	38	15:05 (3)
25	08:31			07:36	16:48 (2)		06:33		06:24	05:33	05:20	05:49	06:38	07:29		07:20		16:07 (2)	08:15		14:23 (3)	08:47		14:27 (3)
	17:13			18:10	16:57 (2)	9	19:00		20:53	21:40	22:04	21:42	20:44	19:33		17:26	30	16:37 (2)	16:37	22	14:45 (3)	16:32	38	15:05 (3)
26	08:29			07:34			06:30		06:22	05:32	05:20	05:51	06:40	07:30		07:22		16:07 (2)	08:16		14:22 (3)	08:47		14:27 (3)
	17:15			18:12			19:01		20:54	21:41	22:04	21:40	20:42	19:31		17:24	30	16:37 (2)	16:36	25	14:47 (3)	16:32	38	15:05 (3)
27	08:28			07:32			06:28		06:20	05:31	05:21	05:52	06:41	07:32	18:26 (1)	07:24		16:07 (2)	08:18		14:22 (3)	08:47		14:28 (3)
	17:17			18:14			19:03		20:56	21:43	22:04	21:39	20:40	19:28	10 18:36 (1)	17:22	30	16:37 (2)	16:35	26	14:48 (3)	16:33	37	15:05 (3)
28	08:27			07:29			06:26		06:17	05:30	05:21	05:54	06:43	07:34	18:23 (1)	07:25		16:07 (2)	08:19		14:21 (3)	08:47		14:29 (3)
	17:19			18:16			19:05		20:58	21:44	22:03	21:37	20:38	19:26	15 18:38 (1)	17:20	30	16:37 (2)	16:35	28	14:49 (3)	16:34	38	15:07 (3)
29	08:25						07:23		06:16	05:29	05:22	05:55	06:45	07:35	18:22 (1)	07:27		16:07 (2)	08:21		14:21 (3)	08:48		14:30 (3)
	17:20						20:07		20:59	21:45	22:03	21:36	20:35	19:24	17 18:39 (1)	17:18	30	16:37 (2)	16:34	29	14:50 (3)	16:35	37	15:07 (3)
30	08:24						07:21		06:14	05:28	05:23	05:57	06:46	07:37	18:19 (1)	07:29		16:07 (2)	08:22		14:20 (3)	08:48		14:30 (3)
	17:22						20:08		21:01	21:46	22:03	21:34	20:33	19:21	20 18:39 (1)	17:17	29	16:36 (2)	16:33	30	14:50 (3)	16:36	37	15:07 (3)
31	08:22						07:19			05:27		05:58	06:48			07:31		16:08 (2)				08:48		14:30 (3)
	17:24						20:10			21:48		21:32	20:31			17:15	28	16:36 (2)				16:37	37	15:07 (3)
Potential sun hours	259			277			367		416	485	499	502	454	381		331			266			243		
Total, worst case		590			505			253							62		583			322			1131
Sun reduction		0,24			0,30			0,33							0,36		0,34			0,24			0,20
Oper. time red.		0,95			0,95			0,95							0,95		0,95			0,95			0,95
Wind dir. red.		0,70			0,67			0,63							0,63		0,66			0,69			0,70
Total reduction		0,16			0,19			0,20							0,22		0,21			0,15			0,13
Total, real		94			98			50							14		123			50			153

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:32/3.2.737

SHADOW - Calendar

Calculation: Copy of V136@149Shadow receptor: H - 3998NL146

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 16:38	08:21 17:26	07:27 18:18	07:17 20:12 38	08:06 (4) 08:44 (4)	06:12 21:03 13	08:08 (4) 08:21 (4)	05:26 21:49	05:23 22:03	06:00 21:31	06:50 20:29 53	07:54 (4) 08:47 (4)	07:39 19:19	07:33 17:13	08:24 16:32
2	08:48 16:39	08:19 17:28	07:25 18:19	07:14 20:14 41	08:04 (4) 08:45 (4)	06:10 21:05		05:25 21:50	05:24 22:02	06:01 21:29	06:51 20:26 53	07:53 (4) 08:46 (4)	07:40 19:17	07:35 17:11	08:25 16:32
3	08:48 16:40	08:18 17:30	07:23 18:21	07:12 20:15 43	08:03 (4) 08:46 (4)	06:08 21:06		05:25 21:51	05:25 22:02	06:03 21:27	06:53 20:24 51	07:54 (4) 08:45 (4)	07:42 19:14	07:36 17:09	08:27 16:31
4	08:47 16:41	08:16 17:31	07:21 18:23	07:10 20:17 46	08:00 (4) 08:46 (4)	06:06 21:08		05:24 21:52	05:25 22:02	06:04 21:26	06:55 20:22 51	07:53 (4) 08:44 (4)	07:44 19:12	07:38 17:07	08:28 16:31
5	08:47 16:43	08:14 17:33	07:19 18:25	07:07 20:19 47	08:00 (4) 08:47 (4)	06:04 21:10		05:23 21:53	05:26 22:01	06:06 21:24	06:56 20:20 50	07:54 (4) 08:44 (4)	07:46 19:10	07:40 17:06	08:29 16:30
6	08:47 16:44	08:13 17:35	07:16 18:27	07:05 20:20 48	07:59 (4) 08:47 (4)	06:02 21:11		05:23 21:54	05:27 22:01	06:08 21:22	06:58 20:17 48	07:55 (4) 08:43 (4)	07:47 19:08	07:42 17:04	08:31 16:30
7	08:46 16:45	08:11 17:37	07:14 18:28	07:03 20:22 50	07:58 (4) 08:48 (4)	06:00 21:13		05:22 21:55	05:28 22:00	06:09 21:20	06:59 20:15 47	07:55 (4) 08:42 (4)	07:49 19:05	07:44 17:02	08:32 16:29
8	08:46 16:46	08:09 17:39	07:12 18:30	07:01 20:24 51	07:56 (4) 08:47 (4)	05:59 21:14		05:21 21:56	05:29 21:59	06:11 21:19	07:01 20:13 45	07:56 (4) 08:41 (4)	07:51 19:03	07:45 17:00	08:33 16:29
9	08:45 16:48	08:07 17:41	07:10 18:32	06:58 20:25 51	07:56 (4) 08:47 (4)	05:57 21:16		05:21 21:57	05:30 21:59	06:12 21:17	07:03 20:10 43	07:56 (4) 08:39 (4)	07:52 19:01	07:47 16:59	08:34 16:29
10	08:45 16:49	08:06 17:43	07:07 18:34	06:56 20:27 53	07:55 (4) 08:48 (4)	05:55 21:18		05:21 21:57	05:31 21:58	06:14 21:15	07:04 20:08 41	07:57 (4) 08:38 (4)	07:54 18:59	07:49 16:57	08:35 16:28
11	08:44 16:51	08:04 17:45	07:05 18:36	06:54 20:29 53	07:55 (4) 08:48 (4)	05:54 21:19		05:20 21:58	05:32 21:57	06:16 21:13 5	08:20 (4) 08:25 (4)	07:06 20:06 38	07:58 (4) 08:36 (4)	07:56 18:56	07:51 16:56	08:37 16:28
12	08:44 16:52	08:02 17:46	07:03 18:37	06:52 20:31 53	07:54 (4) 08:47 (4)	05:52 21:21		05:20 21:59	05:33 21:56	06:17 21:11 16	08:15 (4) 08:31 (4)	07:08 20:03 36	07:59 (4) 08:35 (4)	07:57 18:54	07:52 16:54	08:38 16:28
13	08:43 16:53	08:00 17:48	07:00 18:39	06:49 20:32 52	07:54 (4) 08:46 (4)	05:50 21:22		05:20 22:00	05:34 21:56	06:19 21:09 21	08:12 (4) 08:33 (4)	07:09 20:01 32	08:01 (4) 08:33 (4)	07:59 18:52	07:54 16:53	08:39 16:28
14	08:42 16:55	07:58 17:50	06:58 18:41	06:47 20:34 52	07:54 (4) 08:46 (4)	05:49 21:24		05:19 22:00	05:35 21:55	06:20 21:07 26	08:10 (4) 08:36 (4)	07:11 19:59 27	08:03 (4) 08:30 (4)	08:01 18:50	07:56 16:51	08:40 16:28
15	08:41 16:57	07:56 17:52	06:56 18:43	06:45 20:36 52	07:54 (4) 08:46 (4)	05:47 21:26		05:19 22:01	05:36 21:54	06:22 21:05 30	08:08 (4) 08:38 (4)	07:12 19:56 22	08:05 (4) 08:27 (4)	08:03 18:47	07:58 16:50	08:40 16:28
16	08:41 16:58	07:54 17:54	06:54 18:44	06:43 20:37 51	07:54 (4) 08:45 (4)	05:46 21:27		05:19 22:01	05:38 21:53	06:24 21:03 33	08:06 (4) 08:39 (4)	07:14 19:54 14	08:08 (4) 08:22 (4)	08:04 18:45	07:59 16:48	08:41 16:28
17	08:40 17:00	07:52 17:56	06:51 18:46	06:41 20:39 51	07:54 (4) 08:45 (4)	05:44 21:29		05:19 22:02	05:39 21:52	06:25 21:01 36	08:05 (4) 08:41 (4)	07:16 19:52		08:06 18:43	08:01 16:47	08:42 16:28
18	08:39 17:01	07:50 17:58	06:49 18:48	06:38 20:41 50	07:54 (4) 08:44 (4)	05:43 21:30		05:19 22:02	05:40 21:50	06:27 20:59 39	08:03 (4) 08:42 (4)	07:17 19:49		08:08 18:41	08:03 16:46	08:43 16:29
19	08:38 17:03	07:48 17:59	06:47 18:49	06:36 20:43 49	07:54 (4) 08:43 (4)	05:41 21:32		05:19 22:02	05:41 21:49	06:28 20:57 40	08:03 (4) 08:43 (4)	07:19 19:47		08:10 18:39	08:05 16:44	08:44 16:29
20	08:37 17:05	07:46 18:01	06:44 18:51	06:34 20:44 47	07:54 (4) 08:41 (4)	05:40 21:33		05:19 22:03	05:43 21:48	06:30 20:55 43	08:01 (4) 08:44 (4)	07:21 19:45		08:11 18:37	08:06 16:43	08:44 16:29
21	08:36 17:06	07:44 18:03	06:42 18:53	06:32 20:46 46	07:54 (4) 08:40 (4)	05:38 21:35		05:19 22:03	05:44 21:47	06:32 20:53 45	08:00 (4) 08:45 (4)	07:22 19:42		08:13 18:35	08:08 16:42	08:45 16:30
22	08:34 17:08	07:42 18:05	06:40 18:55	06:30 20:48 44	07:55 (4) 08:39 (4)	05:37 21:36		05:19 22:03	05:45 21:46	06:33 20:51 46	07:59 (4) 08:45 (4)	07:24 19:40		08:15 18:33	08:10 16:41	08:45 16:30
23	08:33 17:10	07:40 18:07	06:37 18:56	06:28 20:49 43	07:55 (4) 08:38 (4)	05:36 21:37		05:20 22:03	05:47 21:44	06:35 20:48 48	07:58 (4) 08:46 (4)	07:26 19:38		08:17 18:31	08:11 16:40	08:46 16:31
24	08:32 17:12	07:38 18:09	06:35 18:58	06:26 20:51 40	07:56 (4) 08:36 (4)	05:35 21:39		05:20 22:04	05:48 21:43	06:37 20:46 49	07:57 (4) 08:46 (4)	07:27 19:35		08:18 18:28	08:13 16:38	08:46 16:31
25	08:31 17:13	07:36 18:10	06:33 19:00	06:24 20:53 38	07:57 (4) 08:35 (4)	05:33 21:40		05:20 22:04	05:49 21:42	06:38 20:44 50	07:57 (4) 08:47 (4)	07:29 19:33		07:20 17:26	08:15 16:37	08:47 16:32
26	08:29 17:15	07:34 18:12	06:30 19:02	06:22 20:54 35	07:58 (4) 08:33 (4)	05:32 21:41		05:21 22:04	05:51 21:40	06:40 20:42 51	07:56 (4) 08:47 (4)	07:30 19:31		07:22 17:24	08:16 16:36	08:47 16:33
27	08:28 17:17	07:32 18:14	06:28 19:03 11	07:21 (4) 07:32 (4)	06:20 20:56 32	05:31 21:43		05:21 22:04	05:52 21:39	06:42 20:40 52	07:55 (4) 08:47 (4)	07:32 19:28		07:24 17:22	08:18 16:36	08:47 16:33
28	08:27 17:19	07:29 18:16	06:26 19:05 20	07:16 (4) 07:36 (4)	06:18 20:58 29	08:01 (4) 08:30 (4)	05:30 21:44	05:22 22:03	05:54 21:37	06:43 20:38 53	07:55 (4) 08:48 (4)	07:34 19:26		07:26 17:20	08:19 16:35	08:47 16:34
29	08:25 17:20		07:23 20:07 26	08:13 (4) 08:39 (4)	06:16 20:59 25	08:03 (4) 08:28 (4)	05:29 21:45	05:22 22:03	05:55 21:36	06:45 20:35 53	07:54 (4) 08:47 (4)	07:35 19:24		07:27 17:19	08:21 16:34	08:48 16:35
30	08:24 17:22		07:21 20:08 31	08:10 (4) 08:41 (4)	06:14 21:01 20	08:05 (4) 08:25 (4)	05:28 21:46	05:23 22:03	05:57 21:34	06:46 20:33 52	07:55 (4) 08:47 (4)	07:37 19:21		07:29 17:17	08:22 16:33	08:48 16:36
31	08:22 17:24		07:19 20:10 35	08:07 (4) 08:42 (4)			05:27 21:48		05:58 21:32	06:48 20:31 52	07:54 (4) 08:46 (4)			07:31 17:15		08:48 16:37
Potential sun hours	259	277	367	416	485		499	502	454		381		331	266	243
Total, worst case			123	1330	13				840		651				
Sun reduction			0,33	0,42	0,43				0,42		0,36				
Oper. time red.			0,95	0,95	0,95				0,95		0,95				
Wind dir. red.			0,62	0,62	0,62				0,62		0,62				
Total reduction			0,19	0,24	0,25				0,24		0,21				
Total, real			24	324	3				204		137				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:32/3.2.737

SHADOW - Calendar

Calculation: Copy of V136@149Shadow receptor: I - 3998JD88

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May		June		July		August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12		05:26	06:04 (1)	05:23	06:11 (1)	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03		21:49 24	06:28 (1)	22:03 22	06:33 (1)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10		05:26	06:04 (1)	05:24	06:12 (1)	06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05		21:50 24	06:28 (1)	22:03 22	06:34 (1)	21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08		05:25	06:05 (1)	05:25	06:12 (1)	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06		21:51 24	06:29 (1)	22:02 22	06:34 (1)	21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06		05:24	06:05 (1)	05:26	06:11 (1)	06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08		21:52 24	06:29 (1)	22:02 23	06:34 (1)	21:26	20:22	19:12	17:07	16:31
5	08:47	08:14	07:19	07:08	06:04		05:23	06:06 (1)	05:26	06:11 (1)	06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10		21:53 23	06:29 (1)	22:01 24	06:35 (1)	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02		05:23	06:05 (1)	05:27	06:12 (1)	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11		21:54 24	06:29 (1)	22:01 23	06:35 (1)	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01		05:22	06:06 (1)	05:28	06:12 (1)	06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13		21:55 23	06:29 (1)	22:00 23	06:35 (1)	21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59		05:22	06:06 (1)	05:29	06:12 (1)	06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15		21:56 23	06:29 (1)	22:00 24	06:36 (1)	21:19	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57		05:21	06:07 (1)	05:30	06:12 (1)	06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16		21:57 22	06:29 (1)	21:59 24	06:36 (1)	21:17	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55		05:21	06:06 (1)	05:31	06:11 (1)	06:14	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18		21:58 23	06:29 (1)	21:58 25	06:36 (1)	21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54		05:20	06:07 (1)	05:32	06:12 (1)	06:16	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19		21:58 22	06:29 (1)	21:57 24	06:36 (1)	21:13	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52		05:20	06:08 (1)	05:33	06:12 (1)	06:17	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21		21:59 21	06:29 (1)	21:57 24	06:36 (1)	21:11	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50		05:20	06:08 (1)	05:34	06:13 (1)	06:19	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23		22:00 21	06:29 (1)	21:56 24	06:37 (1)	21:09	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49		05:19	06:09 (1)	05:35	06:13 (1)	06:21	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24		22:00 21	06:30 (1)	21:55 24	06:37 (1)	21:07	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47		05:19	06:08 (1)	05:36	06:13 (1)	06:22	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26		22:01 21	06:29 (1)	21:54 24	06:37 (1)	21:05	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46		05:19	06:08 (1)	05:38	06:13 (1)	06:24	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27		22:01 21	06:29 (1)	21:53 24	06:37 (1)	21:03	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44	06:11 (1)	05:19	06:09 (1)	05:39	06:13 (1)	06:25	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29 9	06:20 (1)	22:02 20	06:29 (1)	21:52 24	06:37 (1)	21:01	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43	06:09 (1)	05:19	06:09 (1)	05:40	06:13 (1)	06:27	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30 12	06:21 (1)	22:02 20	06:29 (1)	21:51 23	06:36 (1)	20:59	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41	06:08 (1)	05:19	06:10 (1)	05:41	06:14 (1)	06:29	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32 15	06:23 (1)	22:03 20	06:30 (1)	21:49 22	06:36 (1)	20:57	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40	06:07 (1)	05:19	06:10 (1)	05:43	06:15 (1)	06:30	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33 17	06:24 (1)	22:03 20	06:30 (1)	21:48 21	06:36 (1)	20:55	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	05:39	06:06 (1)	05:19	06:10 (1)	05:44	06:15 (1)	06:32	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:35 19	06:25 (1)	22:03 20	06:30 (1)	21:47 21	06:36 (1)	20:53	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	05:37	06:05 (1)	05:19	06:10 (1)	05:45	06:16 (1)	06:34	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36 20	06:25 (1)	22:03 20	06:30 (1)	21:46 19	06:35 (1)	20:51	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	05:36	06:04 (1)	05:20	06:10 (1)	05:47	06:16 (1)	06:35	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	21:37 22	06:26 (1)	22:04 20	06:30 (1)	21:44 18	06:34 (1)	20:49	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35	06:04 (1)	05:20	06:11 (1)	05:48	06:18 (1)	06:37	07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	21:39 22	06:26 (1)	22:04 20	06:31 (1)	21:43 16	06:34 (1)	20:46	19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	05:34	06:04 (1)	05:20	06:11 (1)	05:50	06:19 (1)	06:38	07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	21:40 23	06:27 (1)	22:04 20	06:31 (1)	21:42 14	06:33 (1)	20:44	19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	05:32	06:04 (1)	05:21	06:10 (1)	05:51	06:20 (1)	06:40	07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	21:42 23	06:27 (1)	22:04 21	06:31 (1)	21:40 11	06:31 (1)	20:42	19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	05:31	06:04 (1)	05:21	06:11 (1)	05:52	06:23 (1)	06:42	07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21:43 23	06:27 (1)	22:04 21	06:32 (1)	21:39 6	06:29 (1)	20:40	19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	05:30	06:04 (1)	05:22	06:11 (1)	05:54		06:43	07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	21:44 23	06:27 (1)	22:04 21	06:32 (1)	21:37		20:38	19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	05:29	06:03 (1)	05:22	06:11 (1)	05:55		06:45	07:36	07:27	08:21	08:48
	17:21		20:07	21:00	21:45 25	06:28 (1)	22:03 22	06:33 (1)	21:36		20:36	19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	05:28	06:04 (1)	05:23	06:12 (1)	05:57		06:47	07:37	07:29	08:22	08:48
	17:22		20:09	21:01	21:47 25	06:29 (1)	22:03 21	06:33 (1)	21:34		20:33	19:22	17:17	16:33	16:36
31	08:22		07:19		05:27	06:04 (1)			05:58		06:48		07:31		08:48
	17:24		20:10		21:48 25	06:29 (1)			21:33		20:31		17:15		16:37
Potential sun hours	259	277	367	416	485		499		502		454	381	331	266	243
Total, worst case						303		647		571					
Sun reduction						0,43		0,39		0,41					
Oper. time red.						0,95		0,95		0,95					
Wind dir. red.						0,67		0,67		0,67					
Total reduction						0,27		0,25		0,26					
Total, real						82		160		148					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:32/3.2.737

SHADOW - Calendar

Calculation: Copy of V136@149Shadow receptor: J - 3998NL71

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	08:05 (4)	06:12	05:26	05:23	06:00	06:50	08:05 (4)	07:39	07:33	08:24
	16:38	17:26	18:18	20:12 43	08:48 (4)	21:03	21:49	22:03	21:31	20:29 35	08:40 (4)	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	08:05 (4)	06:10	05:25	05:24	06:01	06:51	08:03 (4)	07:40	07:35	08:25
	16:39	17:28	18:20	20:14 43	08:48 (4)	21:05	21:50	22:02	21:29	20:26 37	08:40 (4)	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	08:05 (4)	06:08	05:25	05:25	06:03	06:53	08:03 (4)	07:42	07:36	08:27
	16:40	17:30	18:21	20:15 43	08:48 (4)	21:06	21:51	22:02	21:27	20:24 38	08:41 (4)	19:14	17:09	16:31
4	08:47	08:16	07:21	07:10	08:04 (4)	06:06	05:24	05:25	06:04	06:55	08:01 (4)	07:44	07:38	08:28
	16:41	17:32	18:23	20:17 43	08:47 (4)	21:08	21:52	22:02	21:26	20:22 40	08:41 (4)	19:12	17:07	16:31
5	08:47	08:14	07:19	07:07	08:04 (4)	06:04	05:23	05:26	06:06	06:56	08:01 (4)	07:46	07:40	08:29
	16:43	17:33	18:25	20:19 42	08:46 (4)	21:10	21:53	22:01	21:24	20:20 40	08:41 (4)	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	08:04 (4)	06:02	05:23	05:27	06:08	06:58	08:00 (4)	07:47	07:42	08:31
	16:44	17:35	18:27	20:20 42	08:46 (4)	21:11	21:54	22:01	21:22	20:17 42	08:42 (4)	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	08:05 (4)	06:00	05:22	05:28	06:09	06:59	07:59 (4)	07:49	07:44	08:32
	16:45	17:37	18:28	20:22 40	08:45 (4)	21:13	21:55	22:00	21:20	20:15 43	08:42 (4)	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	08:04 (4)	05:59	05:21	05:29	06:11	07:01	07:59 (4)	07:51	07:45	08:33
	16:46	17:39	18:30	20:24 40	08:44 (4)	21:14	21:56	21:59	21:19	20:13 43	08:42 (4)	19:03	17:00	16:29
9	08:45	08:07	07:10	06:58	08:05 (4)	05:57	05:21	05:30	06:12	07:03	07:58 (4)	07:52	07:47	08:34
	16:48	17:41	18:32	20:25 38	08:43 (4)	21:16	21:57	21:59	21:17	20:10 43	08:41 (4)	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	08:05 (4)	05:55	05:21	05:31	06:14	07:04	07:58 (4)	07:54	07:49	08:35
	16:49	17:43	18:34	20:27 37	08:42 (4)	21:18	21:57	21:58	21:15	20:08 43	08:41 (4)	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	08:06 (4)	05:54	05:20	05:32	06:16	07:06	07:58 (4)	07:56	07:51	08:37
	16:51	17:45	18:36	20:29 35	08:41 (4)	21:19	21:58	21:57	21:13	20:06 42	08:40 (4)	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	08:06 (4)	05:52	05:20	05:33	06:17	07:08	07:58 (4)	07:57	07:52	08:38
	16:52	17:46	18:37	20:31 32	08:38 (4)	21:21	21:59	21:56	21:11	20:03 42	08:40 (4)	18:54	16:54	16:28
13	08:43	08:00	07:00	06:49	08:07 (4)	05:50	05:20	05:34	06:19	07:09	07:58 (4)	07:59	07:54	08:39
	16:53	17:48	18:39	20:32 29	08:36 (4)	21:22	22:00	21:56	21:09	20:01 42	08:40 (4)	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	08:09 (4)	05:49	05:19	05:35	06:20	07:11	07:58 (4)	08:01	07:56	08:40
	16:55	17:50	18:41	20:34 25	08:34 (4)	21:24	22:00	21:55	21:07	19:59 40	08:38 (4)	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	08:10 (4)	05:47	05:19	05:36	06:22	07:12	07:59 (4)	08:03	07:58	08:40
	16:57	17:52	18:43	20:36 22	08:32 (4)	21:26	22:01	21:54	21:05	19:56 39	08:38 (4)	18:47	16:50	16:28
16	08:41	07:54	06:54	06:43	08:13 (4)	05:46	05:19	05:38	06:24	07:14	07:59 (4)	08:04	08:00	08:41
	16:58	17:54	18:44	20:37 16	08:29 (4)	21:27	22:01	21:53	21:03	19:54 37	08:36 (4)	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	08:17 (4)	05:44	05:19	05:39	06:25	07:16	08:00 (4)	08:06	08:01	08:42
	17:00	17:56	18:46	20:39 8	08:25 (4)	21:29	22:02	21:52	21:01	19:52 35	08:35 (4)	18:43	16:47	16:28
18	08:39	07:50	06:49	06:38		05:43	05:19	05:40	06:27	07:17	08:01 (4)	08:08	08:03	08:43
	17:01	17:58	18:48	20:41		21:30	22:02	21:50	20:59	19:49 33	08:34 (4)	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36		05:41	05:19	05:41	06:29	07:19	08:02 (4)	08:10	08:05	08:44
	17:03	17:59	18:49	20:43		21:32	22:02	21:49	20:57	19:47 29	08:31 (4)	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34		05:40	05:19	05:43	06:30	07:21	08:04 (4)	08:11	08:06	08:44
	17:05	18:01	18:51	20:44		21:33	22:03	21:48	20:55	19:45 26	08:30 (4)	18:37	16:43	16:29
21	08:36	07:44	06:42	07:25 (4)		05:38	05:19	05:44	06:32	07:22	08:05 (4)	08:13	08:08	08:45
	17:06	18:03	18:53 13	07:38 (4)		21:35	22:03	21:47	20:53	19:42 22	08:27 (4)	18:35	16:42	16:30
22	08:34	07:42	06:40	07:20 (4)		05:37	05:19	05:45	06:33	07:24	08:08 (4)	08:15	08:10	08:45
	17:08	18:05	18:55 20	07:40 (4)		21:36	22:03	21:46	20:51	19:40 15	08:23 (4)	18:33	16:41	16:30
23	08:33	07:40	06:37	07:18 (4)		05:36	05:20	05:47	06:35	07:26		08:17	08:11	08:46
	17:10	18:07	18:56 25	07:43 (4)		21:37	22:03	21:44	20:48	19:38		18:31	16:40	16:31
24	08:32	07:38	06:35	07:16 (4)		05:35	05:20	05:48	06:37	07:27		08:18	08:13	08:46
	17:12	18:09	18:58 28	07:44 (4)		21:39	22:04	21:43	20:46	19:35		18:28	16:38	16:31
25	08:31	07:36	06:33	07:13 (4)		05:33	05:20	05:49	06:38	07:29		07:20	08:15	08:47
	17:13	18:10	19:00 32	07:45 (4)		21:40	22:04	21:42	20:44	19:33		17:26	16:37	16:32
26	08:29	07:34	06:30	07:12 (4)		05:32	05:21	05:51	06:40 08:18 (4)	07:31		07:22	08:16	08:47
	17:15	18:12	19:02 34	07:46 (4)		21:41	22:04	21:40	20:42 9 08:27 (4)	19:31		17:24	16:36	16:33
27	08:28	07:32	06:28	07:10 (4)		05:31	05:21	05:52	06:42 08:14 (4)	07:32		07:24	08:18	08:47
	17:17	18:14	19:03 37	07:47 (4)		21:43	22:04	21:39	20:40 18 08:32 (4)	19:28		17:22	16:36	16:33
28	08:27	07:29	06:26	07:09 (4)		05:30	05:22	05:54	06:43 08:12 (4)	07:34		07:26	08:19	08:47
	17:19	18:16	19:05 38	07:47 (4)		21:44	22:03	21:37	20:38 22 08:34 (4)	19:26		17:20	16:35	16:34
29	08:25		07:24	08:08 (4)		05:29	05:22	05:55	06:45 08:09 (4)	07:35		07:27	08:21	08:48
	17:20		20:07 40	08:48 (4)		21:45	22:03	21:36	20:35 26 08:35 (4)	19:24		17:19	16:34	16:35
30	08:24		07:21	08:07 (4)		05:28	05:23	05:57	06:46 08:08 (4)	07:37		07:29	08:22	08:48
	17:22		20:08 41	08:48 (4)		21:46	22:03	21:34	20:33 29 08:37 (4)	19:21		17:17	16:33	16:36
31	08:22		07:19	08:06 (4)		05:27		05:58	06:48 08:06 (4)			07:31		08:48
	17:24		20:10 42	08:48 (4)		21:48		21:32	20:31 32 08:38 (4)			17:15		16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case			350	578				136	806			
Sun reduction			0,33	0,42				0,42	0,36			
Oper. time red.			0,95	0,95				0,95	0,95			
Wind dir. red.			0,61	0,61				0,61	0,61			
Total reduction			0,19	0,24				0,24	0,21			
Total, real			66	139				33	168			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:32/3.2.737

SHADOW - Calendar

Calculation: Copy of V136@149Shadow receptor: K - 3998JD91

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	06:48 (2)	05:26	06:00 (1)	05:23	06:06 (1)	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03 14	07:02 (2)	21:49 24	06:24 (1)	22:03 24	06:30 (1)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	06:49 (2)	05:26	06:00 (1)	05:24	06:07 (1)	06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05 11	07:00 (2)	21:50 24	06:24 (1)	22:03 24	06:31 (1)	21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08	06:51 (2)	05:25	06:01 (1)	05:25	06:07 (1)	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06 8	06:59 (2)	21:51 24	06:25 (1)	22:02 24	06:31 (1)	21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06		05:24	06:00 (1)	05:26	06:06 (1)	06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08		21:52 25	06:25 (1)	22:02 25	06:31 (1)	21:26	20:22	19:12	17:07	16:31
5	08:47	08:14	07:19	07:08	06:04		05:23	06:01 (1)	05:26	06:07 (1)	06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10		21:53 25	06:26 (1)	22:01 24	06:31 (1)	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02		05:23	06:01 (1)	05:27	06:07 (1)	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11		21:54 24	06:25 (1)	22:01 25	06:32 (1)	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01		05:22	06:02 (1)	05:28	06:07 (1)	06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13		21:55 24	06:26 (1)	22:00 25	06:32 (1)	21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59		05:22	06:01 (1)	05:29	06:08 (1)	06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15		21:56 24	06:25 (1)	22:00 24	06:32 (1)	21:19	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57		05:21	06:02 (1)	05:30	06:08 (1)	06:12	07:03 (2)	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16		21:57 24	06:26 (1)	21:59 24	06:32 (1)	21:17 2	07:05 (2)	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55		05:21	06:01 (1)	05:31	06:07 (1)	06:14	06:59 (2)	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18		21:58 24	06:25 (1)	21:58 24	06:31 (1)	21:15 9	07:08 (2)	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54		05:20	06:02 (1)	05:32	06:08 (1)	06:16	06:58 (2)	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19		21:58 24	06:26 (1)	21:57 24	06:32 (1)	21:13 12	07:10 (2)	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52		05:20	06:02 (1)	05:33	06:08 (1)	06:17	06:56 (2)	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21		21:59 24	06:26 (1)	21:57 24	06:32 (1)	21:11 15	07:11 (2)	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50		05:20	06:03 (1)	05:34	06:09 (1)	06:19	06:56 (2)	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23		22:00 24	06:27 (1)	21:56 24	06:33 (1)	21:09 16	07:12 (2)	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49		05:19	06:03 (1)	05:35	06:09 (1)	06:21	06:54 (2)	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24		22:00 24	06:27 (1)	21:55 23	06:32 (1)	21:07 18	07:12 (2)	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47		05:19	06:03 (1)	05:36	06:10 (1)	06:22	06:54 (2)	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26		22:01 23	06:26 (1)	21:54 22	06:32 (1)	21:05 19	07:13 (2)	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46		05:19	06:03 (1)	05:38	06:10 (1)	06:24	06:53 (2)	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27		22:01 23	06:26 (1)	21:53 22	06:32 (1)	21:03 19	07:12 (2)	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44		05:19	06:03 (1)	05:39	06:10 (1)	06:25	06:54 (2)	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29		22:02 23	06:26 (1)	21:52 21	06:31 (1)	21:01 18	07:12 (2)	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43		05:19	06:03 (1)	05:40	06:11 (1)	06:27	06:54 (2)	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30		22:02 24	06:27 (1)	21:51 20	06:31 (1)	20:59 17	07:11 (2)	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41		05:19	06:04 (1)	05:41	06:11 (1)	06:29	06:56 (2)	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32		22:03 24	06:28 (1)	21:49 19	06:30 (1)	20:57 15	07:11 (2)	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	06:58 (2) 05:40	06:07 (1)	05:19	06:05 (1)	05:43	06:13 (1)	06:30	06:57 (2)	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44 3	07:01 (2) 21:33	9 06:16 (1)	22:03 23	06:28 (1)	21:48 17	06:30 (1)	20:55 13	07:10 (2)	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	06:56 (2) 05:39	06:06 (1)	05:19	06:05 (1)	05:44	06:14 (1)	06:32	06:59 (2)	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46 7	07:03 (2) 21:35	12 06:18 (1)	22:03 23	06:28 (1)	21:47 15	06:29 (1)	20:53 10	07:09 (2)	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	06:54 (2) 05:37	06:04 (1)	05:19	06:05 (1)	05:45	06:15 (1)	06:34	07:00 (2)	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48 10	07:04 (2) 21:36	14 06:18 (1)	22:03 23	06:28 (1)	21:46 13	06:28 (1)	20:51 7	07:07 (2)	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	06:52 (2) 05:36	06:03 (1)	05:20	06:05 (1)	05:47	06:16 (1)	06:35	07:02 (2)	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49 13	07:05 (2) 21:37	16 06:19 (1)	22:04 23	06:28 (1)	21:44 10	06:26 (1)	20:49 2	07:04 (2)	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	06:50 (2) 05:35	06:02 (1)	05:20	06:05 (1)	05:48	06:19 (1)	06:37		07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51 16	07:06 (2) 21:39	18 06:20 (1)	22:04 24	06:29 (1)	21:43 6	06:25 (1)	20:46		19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	06:48 (2) 05:34	06:02 (1)	05:20	06:05 (1)	05:50		06:38		07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53 18	07:06 (2) 21:40	19 06:21 (1)	22:04 24	06:29 (1)	21:42		20:44		19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	06:47 (2) 05:32	06:01 (1)	05:21	06:05 (1)	05:51		06:40		07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55 19	07:06 (2) 21:42	21 06:22 (1)	22:04 23	06:28 (1)	21:40		20:42		19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	06:47 (2) 05:31	06:01 (1)	05:21	06:06 (1)	05:52		06:42		07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56 18	07:05 (2) 21:43	21 06:22 (1)	22:04 23	06:29 (1)	21:39		20:40		19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	06:47 (2) 05:30	06:00 (1)	05:22	06:05 (1)	05:54		06:43		07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58 18	07:05 (2) 21:44	23 06:23 (1)	22:04 24	06:29 (1)	21:37		20:38		19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	06:47 (2) 05:29	06:00 (1)	05:22	06:06 (1)	05:55		06:45		07:36	07:27	08:21	08:48
	17:21		20:07	21:00 17	07:04 (2) 21:45	23 06:23 (1)	22:03 24	06:30 (1)	21:36		20:36		19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	06:47 (2) 05:28	06:01 (1)	05:23	06:07 (1)	05:57		06:47		07:37	07:29	08:22	08:48
	17:22		20:09	21:01 16	07:03 (2) 21:47	23 06:24 (1)	22:03 23	06:30 (1)	21:34		20:33		19:22	17:17	16:33	16:36
31	08:22		07:19		05:27	06:01 (1)			05:58		06:48			07:31		08:48
	17:24		20:10		21:48 23	06:24 (1)			21:33		20:31			17:15		16:37
Potential sun hours	259	277	367	416	485		499		502		454		381	331	266	243
Total, worst case				155	255		712		503		192					
Sun reduction				0,42	0,43		0,39		0,41		0,42					
Oper. time red.				0,95	0,95		0,95		0,95		0,95					
Wind dir. red.				0,64	0,67		0,67		0,67		0,64					
Total reduction				0,25	0,27		0,25		0,26		0,25					
Total, real				39	69		177		130		48					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:32/3.2.737

SHADOW - Calendar

Calculation: Copy of V136@149Shadow receptor: L - 3997MP25a

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April		May	June	July	August	September		October		November		December	
1	08:48		09:50 (3)		08:21		09:24 (4)		07:27		16:32 (1)	07:17		17:36 (1)	06:12	05:26	05:23	06:00	06:50		07:39		17:00 (1)	07:33		11:53 (2)	08:24		08:59 (4)
	16:38	111	13:16 (2)	111	13:26 (2)		18:18	43	17:15 (1)	20:12	24	18:00 (1)	21:03	21:49	22:03	21:31	20:29		19:19	61	18:01 (1)	17:13	57	12:50 (2)	16:32	135	13:03 (2)
2	08:48		09:51 (3)		08:19		09:25 (4)		07:25		16:30 (1)	07:14		17:40 (1)	06:10	05:25	05:24	06:01	06:51		07:40		17:00 (1)	07:35		11:52 (2)	08:25		09:01 (4)
	16:39	109	13:16 (2)	102	13:25 (2)		18:20	46	17:16 (1)	20:14	16	17:56 (1)	21:05	21:50	22:03	21:29	20:26		19:17	61	18:01 (1)	17:11	59	12:51 (2)	16:32	132	13:04 (2)
3	08:48		09:52 (3)		08:18		09:29 (4)		07:23		16:28 (1)	07:12			06:08	05:25	05:25	06:03	06:53		07:42		16:59 (1)	07:36		11:51 (2)	08:27		09:02 (4)
	16:40	109	13:17 (2)	91	13:26 (2)		18:21	49	17:17 (1)	20:15			21:06	21:51	22:02	21:28	20:24		19:14	60	17:59 (1)	17:09	61	12:52 (2)	16:31	130	13:04 (2)
4	08:47		09:51 (3)		08:16		10:19 (3)		07:21		16:27 (1)	07:10			06:06	05:24	05:25	06:04	06:55		07:44		17:00 (1)	07:38		11:49 (2)	08:28		09:04 (4)
	16:41	111	13:17 (2)	69	13:25 (2)		18:23	51	17:18 (1)	20:17			21:08	21:52	22:02	21:26	20:22		19:12	59	17:59 (1)	17:07	63	12:52 (2)	16:30	128	13:05 (2)
5	08:47		09:23 (4)		08:14		12:18 (2)		07:19		16:26 (1)	07:07			06:04	05:23	05:26	06:06	06:56		07:46		17:00 (1)	07:40		11:48 (2)	08:29		09:05 (4)
	16:43	114	13:18 (2)	66	13:24 (2)		18:25	53	17:19 (1)	20:19			21:10	21:53	22:01	21:24	20:20		19:10	58	17:58 (1)	17:06	65	12:53 (2)	16:30	124	13:04 (2)
6	08:47		09:20 (4)		08:13		12:18 (2)		07:16		16:26 (1)	07:05			06:02	05:23	05:27	06:08	06:58		07:47		17:00 (1)	07:42		11:47 (2)	08:31		09:06 (4)
	16:44	119	13:18 (2)	65	13:23 (2)		18:27	54	17:20 (1)	20:20			21:11	21:54	22:01	21:22	20:17		19:08	57	17:57 (1)	17:04	67	12:54 (2)	16:30	119	13:04 (2)
7	08:46		09:20 (4)		08:11		12:19 (2)		07:14		16:24 (1)	07:03			06:00	05:22	05:28	06:09	06:59		07:49		17:00 (1)	07:44		09:46 (3)	08:32		09:09 (4)
	16:45	125	13:19 (2)	63	13:22 (2)		18:28	56	17:20 (1)	20:22			21:13	21:55	22:00	21:20	20:15		19:05	56	17:56 (1)	17:02	73	12:55 (2)	16:29	116	13:05 (2)
8	08:46		09:19 (4)		08:09		12:21 (2)		07:12		16:23 (1)	07:01			05:59	05:21	05:29	06:11	07:01		07:51		17:01 (1)	07:45		08:58 (4)	08:33		09:39 (3)
	16:46	128	13:20 (2)	61	13:22 (2)		18:30	58	17:21 (1)	20:24			21:14	21:56	21:59	21:19	20:13		19:03	54	17:55 (1)	17:00	92	12:56 (2)	16:29	111	13:05 (2)
9	08:45		09:19 (4)		08:07		12:22 (2)		07:10		16:23 (1)	06:58			05:57	05:21	05:30	06:12	07:03		07:52		17:02 (1)	07:47		08:56 (4)	08:34		09:40 (3)
	16:48	130	13:21 (2)	59	13:21 (2)		18:32	59	17:22 (1)	20:26			21:16	21:57	21:59	21:17	20:10		19:01	52	17:54 (1)	16:59	103	12:56 (2)	16:29	109	13:05 (2)
10	08:45		09:18 (4)		08:06		12:24 (2)		07:07		16:21 (1)	06:56			05:55	05:20	05:31	06:14	07:04		17:34 (1)	07:54		17:03 (1)	07:49		08:54 (4)	08:35		09:40 (3)
	16:49	132	13:21 (2)	56	13:20 (2)		18:34	60	17:21 (1)	20:27			21:18	21:57	21:58	21:15	20:08	15	17:49 (1)	50	17:53 (1)	16:57	113	12:57 (2)	16:28	109	13:05 (2)
11	08:44		09:17 (4)		08:04		12:25 (2)		07:05		16:21 (1)	06:54			05:54	05:20	05:32	06:16	07:06		17:29 (1)	07:56		17:03 (1)	07:51		08:53 (4)	08:37		09:41 (3)
	16:51	134	13:21 (2)	53	13:18 (2)		18:36	61	17:22 (1)	20:29			21:19	21:58	21:57	21:13	20:06	23	17:52 (1)	47	17:50 (1)	16:56	119	12:57 (2)	16:28	110	13:06 (2)
12	08:44		09:17 (4)		08:02		12:27 (2)		07:03		16:21 (1)	06:52			05:52	05:20	05:33	06:17	07:08		17:26 (1)	07:57		17:04 (1)	07:53		08:53 (4)	08:38		09:42 (3)
	16:52	136	13:22 (2)	49	13:16 (2)		18:37	61	17:22 (1)	20:31			21:21	21:59	21:56	21:11	20:03	29	17:55 (1)	45	17:49 (1)	16:54	123	12:58 (2)	16:28	109	13:07 (2)
13	08:43		09:16 (4)		08:00		12:29 (2)		07:00		16:20 (1)	06:49			05:50	05:19	05:34	06:19	07:09		17:23 (1)	07:59		17:05 (1)	07:54		08:52 (4)	08:39		09:43 (3)
	16:53	138	13:22 (2)	45	13:14 (2)		18:39	61	17:21 (1)	20:32			21:23	22:00	21:56	21:09	20:01	34	17:57 (1)	42	17:47 (1)	16:53	128	12:58 (2)	16:28	108	13:07 (2)
14	08:42		09:16 (4)		07:58		12:31 (2)		06:58		16:20 (1)	06:47			05:49	05:19	05:35	06:20	07:11		17:20 (1)	08:01		17:07 (1)	07:56		08:52 (4)	08:40		09:43 (3)
	16:55	139	13:23 (2)	41	13:12 (2)		18:41	61	17:21 (1)	20:34			21:24	22:00	21:55	21:07	19:59	38	17:58 (1)	38	17:45 (1)	16:51	132	12:59 (2)	16:28	108	13:08 (2)
15	08:41		09:16 (4)		07:56		12:35 (2)		06:56		16:20 (1)	06:45			05:47	05:19	05:36	06:22	07:13		17:18 (1)	08:03		17:08 (1)	07:58		08:52 (4)	08:40		09:43 (3)
	16:57	140	13:23 (2)	34	13:09 (2)		18:43	62	17:22 (1)	20:36			21:26	22:01	21:54	21:05	19:56	41	17:59 (1)	34	17:42 (1)	16:50	134	12:59 (2)	16:28	107	13:07 (2)
16	08:41		09:16 (4)		07:54		12:39 (2)		06:54		16:19 (1)	06:43			05:46	05:19	05:38	06:24	07:14		17:15 (1)	08:04		17:10 (1)	08:00		08:51 (4)	08:41		09:44 (3)
	16:58	141	13:23 (2)	25	13:04 (2)		18:44	62	17:21 (1)	20:37			21:27	22:01	21:53	21:03	19:54	44	17:59 (1)	29	17:39 (1)	16:48	137	13:00 (2)	16:28	106	13:07 (2)
17	08:40		09:16 (4)		07:52		06:51		16:20 (1)	06:41			05:44	05:19	05:39	06:25	07:16		17:13 (1)	08:06		17:13 (1)	08:01		08:52 (4)	08:42		09:44 (3)
	17:00	141	13:24 (2)	17:56			18:46	61	17:21 (1)	20:39			21:29	22:02	21:52	21:01	19:52	48	18:01 (1)	18:43	23	17:36 (1)	16:47	139	13:00 (2)	16:28	107	13:08 (2)
18	08:39		09:16 (4)	07:50			06:49		16:20 (1)	06:38			05:43	05:19	05:40	06:27	07:17		17:12 (1)	08:08		17:18 (1)	08:03		08:52 (4)	08:43		09:45 (3)
	17:01	142	13:24 (2)	17:58			18:48	60	17:20 (1)	20:41			21:30	22:02	21:51	20:59	19:49	50	18:02 (1)	18:41	14	17:32 (1)	16:46	140	13:01 (2)	16:29	107	13:09 (2)
19	08:38		09:16 (4)		07:48		06:47		16:20 (1)	06:36			05:41	05:19	05:41	06:28	07:19		17:10 (1)	08:10			08:05		08:51 (4)	08:44		09:45 (3)
	17:03	143	13:25 (2)	17:59			18:49	59	17:19 (1)	20:43			21:32	22:03	21:49	20:57	19:47	52	18:02 (1)	18:39			16:44	142	13:00 (2)	16:29	105	13:08 (2)
20	08:37		09:16 (4)		07:46		06:44		16:20 (1)	06:34			05:40	05:19	05:43	06:30	07:21		17:09 (1)	08:11			08:06		08:51 (4)	08:44		09:46 (3)
	17:05	144	13:26 (2)	18:01			18:51	59	17:19 (1)	20:44			21:33	22:03	21:48	20:55	19:45	54	18:03 (1)	18:37			16:43	143	13:01 (2)	16:29	105	13:09 (2)
21	08:36		09:17 (4)		07:44		06:42		16:21 (1)	06:32			05:38	05:19	05:44	06:32	07:22		17:07 (1)	08:13			08:08		08:52 (4)	08:45		09:47 (3)
	17:06	143	13:26 (2)	18:03			18:53	57	17:18 (1)	20:46			21:35	22:03	21:47	20:53	19:42	55	18:02 (1)	18:35			16:42	143	13:01 (2)	16:30	105	13:10 (2)
22	08:34		09:16 (4)		07:42		06:40		16:21 (1)	06:30			05:37	05:19	05:45	06:33	07:24		17:06 (1)	08:15			08:10		08:52 (4)	08:45		09:47 (3)
	17:08	143	13:26 (2)	18:05			18:55	56	17:17 (1)	20:48			21:36	22:03	21:46	20:51	19:40	57	18:03 (1)	18:33			16:41	144	13:02 (2)	16:30	105	13:10 (2)
23	08:33		09:17 (4)		07:40		06:37		16:22 (1)	06:28			05:36	05:20	05:47	06:35	07:26		17:05 (1)	08:17			08:11		08:53 (4)	08:46		09:47 (3)
	17:10	142	13:26 (2)	18:07			18:56	54	17:16 (1)	20:49			21:37	22:03	21:44	20:49	19:38	58	18:03 (1)	18:31			16:40	143	13:02 (2)	16:31	105	13:10 (2)
24	08:32		09:18 (4)		07:38		16:45 (1)		06:35		16:23 (1)	06:26			05:35	05:20	05:48	06:37	07:27		17:03 (1)	08:18			08:13		08:53 (4)	08:46		09:48 (3)
	17:12	140	13:27 (2)	18:09	17		17:02 (1)		18:58	52	17:15 (1)	20:51			21:39	22:04	21:43	20:46	19:35	60	18:03 (1)	18:28			16:38	143	13:02 (2)	16:31	105	13:11 (2)
25	08:31		09:18 (4)		07:36		16:41 (1)		06:33		16:23 (1)	06:24			05:33	05:20	05:49	06:38	07:29		17:03 (1)	07:20		12:15 (2)	08:15		08:54 (4)	08:47		09:48 (3)
	17:13	139	13:26 (2)	18:10	25		17:06 (1)		19:00	51	17:14 (1)	20:53			21:40	22:04	21:42	20:44	19:33	60	18:03 (1)	17:26	12	12:27 (2)	16:37	142	13:02 (2)	16:32	107	13:12 (2)
26	08:29		09:19 (4)		07:34		16:38 (1)		06:30		16:25 (1)	06:22			05:32	05:21	05:51	06:40	07:31		17:03 (1)	07:22		12:07 (2)	08:16		08:55 (4)	08:47		09:48 (3)
	17:15	136	13:27 (2)	18:12	31		17:09 (1)		19:02	47	17:12 (1)	20:54			21:41	22:04	21:40	20:42	19:31	60	18:03 (1)	17:24	28	12:35 (2)	16:36	142	13:03 (2)	16:32	107	13:12 (2)
27	08:28		09:19 (4)		07:32		16:35 (1)		06:28		16:26 (1)	06:20			05:31	05:21	05:52	06:42	07:32		17:01 (1)	07:24		12:03 (2)	08:18		08:56 (4)	08:47		09:49 (3)
	17:17	134	13:26 (2)	18:14	35		17:10 (1)		19:03	45	17:11 (1)	20:56			21:43	22:04	21:39	20:40	19:28	61	18:02 (1)	17:22	36	12:39 (2)	16:36	140	13:03 (2)	16:33	106	13:12 (2)
28	08:27		09:20 (4)		07:30		16:33 (1)		06:26		16:27 (1)	06:18			05:30	05:21	05:54	06:43	07:34		17:01 (1)	07:26		12:00 (2)	08:19		08:56 (4)	08:48		09:50 (3)
	17:19	132	13:27 (2)	18:16	40		17:13 (1)		19:05	42	17:09 (1)	20:58			21:44	22:03	21:37	20:38	19:26	61	18:02 (1)	17:20	42	12:42 (2)	16:35	139	13:03 (2)	16:34	107	13:14 (2)
29	08:25		09:20 (4)						07:24		17:29 (1)	06:16			05:29	05:22	05:55	06:45	07:35		17:01 (1)	07:27		11:58 (2)	08:21		08:57 (4)	08:48		09:50 (3)
	17:20	129	13:27 (2)						20:07	39	18:08 (1)	21:00			21:45	22:03	21:36	20:35	19:24	61	18:02 (1)	17:19	46	12:44 (2)	16:34	136	13:03 (2)	16:35	107	13:14 (2)
30	08:24		09:21 (4)						07:21		17:32 (1)	06:14			05:28	05:23	05:57	06:46	07:37		17:00 (1)	07:29		11:56 (2)	08:22		08:59 (4)	08:48		09:51 (3)
	17:22	124	13:26 (2)						20:08	34	18:06 (1)	21:01			21:47	22:03	21:34	20:33	19:21	61	18:01 (1)	17:17	50	12:46 (2)	16:33	137	13:04 (2)	16:36	108	13:15 (2)
31	08:22		09:23 (4)						07:19		17:34 (1)				05:27		05:58	06:48					07:31		11:54 (2)			08:48		09:50 (3)
	17:24	119	13:27 (2)						20:10	30	18:04 (1)				21:48		21:33	20:31					17:15	54	12:48 (2)			16:37	109	13:15 (2)
Potential sun hours	259			277			367			416			485	499	502	454	381				331			266			243		
Total, worst case		4067			1138			1643			40							1022				1108			3499			3456	
Sun reduction		0,24			0,30			0,33			0,42							0,36				0,34			0,24			0,20	
Oper. time red.		0,95			0,95			0,95			0,95							0,95				0,95			0,95			0,95	
Wind dir. red.		0,64			0,66			0,66			0,66							0,66				0,67			0,64			0,64	
Total reduction		0,14			0,19			0,21			0,26							0,23				0,21			0,14			0,12	
Total, real		587			216			340			10							232				235			501			429	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:32/3.2.737

SHADOW - Calendar

Calculation: Copy of V136@149Shadow receptor: M - 3998JK67a

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 16:38	08:21 17:26	07:27 18:18	07:17 20:12	06:12 21:03	05:26 21:49 25	06:08 (1) 06:33 (1)	05:23 22:03 20	06:16 (1) 06:36 (1)	06:00 21:31	06:50 20:29	07:39 19:19	07:33 17:13	08:24 16:32
2	08:48 16:39	08:19 17:28	07:25 18:20	07:14 20:14	06:10 21:05	05:26 21:50 24	06:08 (1) 06:32 (1)	05:24 22:03 21	06:16 (1) 06:37 (1)	06:01 21:29	06:51 20:27	07:41 19:17	07:35 17:11	08:25 16:32
3	08:48 16:40	08:18 17:30	07:23 18:21	07:12 20:15	06:08 21:06	05:25 21:51 24	06:09 (1) 06:33 (1)	05:25 22:02 22	06:16 (1) 06:38 (1)	06:03 21:28	06:53 20:24	07:42 19:15	07:36 17:09	08:27 16:31
4	08:47 16:41	08:16 17:32	07:21 18:23	07:10 20:17	06:06 21:08	05:24 21:52 24	06:09 (1) 06:33 (1)	05:26 22:02 22	06:16 (1) 06:38 (1)	06:05 21:26	06:55 20:22	07:44 19:12	07:38 17:07	08:28 16:31
5	08:47 16:43	08:14 17:33	07:19 18:25	07:08 20:19	06:04 21:10	05:23 21:53 23	06:10 (1) 06:33 (1)	05:26 22:01 22	06:16 (1) 06:38 (1)	06:06 21:24	06:56 20:20	07:46 19:10	07:40 17:06	08:29 16:30
6	08:47 16:44	08:13 17:35	07:16 18:27	07:05 20:20	06:02 21:11	05:23 21:54 23	06:10 (1) 06:33 (1)	05:27 22:01 23	06:16 (1) 06:39 (1)	06:08 21:22	06:58 20:17	07:47 19:08	07:42 17:04	08:31 16:30
7	08:46 16:45	08:11 17:37	07:14 18:29	07:03 20:22	06:01 21:13	05:22 21:55 23	06:10 (1) 06:33 (1)	05:28 22:00 23	06:16 (1) 06:39 (1)	06:09 21:21	07:00 20:15	07:49 19:05	07:44 17:02	08:32 16:29
8	08:46 16:46	08:09 17:39	07:12 18:30	07:01 20:24	05:59 21:15	05:22 21:56 22	06:10 (1) 06:32 (1)	05:29 22:00 24	06:16 (1) 06:40 (1)	06:11 21:19	07:01 20:13	07:51 19:03	07:45 17:01	08:33 16:29
9	08:46 16:48	08:08 17:41	07:10 18:32	06:58 20:26	05:57 21:16	05:21 21:57 22	06:11 (1) 06:33 (1)	05:30 21:59 24	06:16 (1) 06:40 (1)	06:12 21:17	07:03 20:11	07:52 19:01	07:47 16:59	08:34 16:29
10	08:45 16:49	08:06 17:43	07:07 18:34	06:56 20:27	05:55 21:18	05:21 21:58 21	06:11 (1) 06:32 (1)	05:31 21:58 25	06:15 (1) 06:40 (1)	06:14 21:15	07:04 20:08	07:54 18:59	07:49 16:57	08:36 16:28
11	08:44 16:51	08:04 17:45	07:05 18:36	06:54 20:29	05:54 21:19	05:20 21:58 21	06:11 (1) 06:32 (1)	05:32 21:57 25	06:15 (1) 06:40 (1)	06:16 21:13	07:06 20:06	07:56 18:56	07:51 16:56	08:37 16:28
12	08:44 16:52	08:02 17:47	07:03 18:37	06:52 20:31	05:52 21:21	05:20 21:59 21	06:12 (1) 06:33 (1)	05:33 21:57 25	06:15 (1) 06:40 (1)	06:17 21:11	07:08 20:04	07:58 18:54	07:53 16:54	08:38 16:28
13	08:43 16:54	08:00 17:48	07:01 18:39	06:49 20:32	05:50 21:23	05:20 22:00 20	06:13 (1) 06:33 (1)	05:34 21:56 25	06:16 (1) 06:41 (1)	06:19 21:09 4	07:09 (2) 07:13 (2)	07:09 20:01	07:59 18:52	07:54 16:53	08:39 16:28
14	08:42 16:55	07:58 17:50	06:58 18:41	06:47 20:34	05:49 21:24 3	06:18 (1) 06:21 (1)	05:19 22:00 20	06:13 (1) 06:33 (1)	05:35 21:55 26	06:16 (1) 06:42 (1)	06:21 21:07 10	07:05 (2) 07:15 (2)	07:11 19:59	08:01 18:50	07:56 16:51	08:40 16:28
15	08:41 16:57	07:56 17:52	06:56 18:43	06:45 20:36	05:47 21:26 10	06:14 (1) 06:24 (1)	05:19 22:01 19	06:13 (1) 06:32 (1)	05:36 21:54 26	06:16 (1) 06:42 (1)	06:22 21:05 13	07:04 (2) 07:17 (2)	07:13 19:57	08:03 18:48	07:58 16:50	08:41 16:28
16	08:41 16:58	07:54 17:54	06:54 18:44	06:43 20:38 1	07:06 (2) 07:07 (2)	05:46 21:27 13	06:13 (1) 06:26 (1)	05:19 22:01 19	06:13 (1) 06:32 (1)	05:38 21:53 26	06:16 (1) 06:42 (1)	06:24 21:03 15	07:02 (2) 07:17 (2)	07:14 19:54	08:04 18:45	08:00 16:48	08:41 16:28
17	08:40 17:00	07:52 17:56	06:51 18:46	06:41 20:39 6	07:04 (2) 07:10 (2)	05:44 21:29 16	06:12 (1) 06:28 (1)	05:19 22:02 19	06:13 (1) 06:32 (1)	05:39 21:52 25	06:16 (1) 06:41 (1)	06:25 21:01 17	07:02 (2) 07:19 (2)	07:16 19:52	08:06 18:43	08:01 16:47	08:42 16:28
18	08:39 17:01	07:50 17:58	06:49 18:48	06:39 20:41 10	07:02 (2) 07:12 (2)	05:43 21:30 18	06:10 (1) 06:28 (1)	05:19 22:02 18	06:14 (1) 06:32 (1)	05:40 21:51 25	06:16 (1) 06:41 (1)	06:27 20:59 18	07:00 (2) 07:18 (2)	07:17 19:50	08:08 18:41	08:03 16:46	08:43 16:29
19	08:38 17:03	07:48 18:00	06:47 18:50	06:36 20:43 13	07:00 (2) 07:13 (2)	05:41 21:32 20	06:09 (1) 06:29 (1)	05:19 22:03 18	06:15 (1) 06:33 (1)	05:41 21:49 24	06:17 (1) 06:41 (1)	06:29 20:57 19	07:00 (2) 07:19 (2)	07:19 19:47	08:10 18:39	08:05 16:44	08:44 16:29
20	08:37 17:05	07:46 18:01	06:44 18:51	06:34 20:44 16	06:58 (2) 07:14 (2)	05:40 21:33 21	06:09 (1) 06:30 (1)	05:19 22:03 18	06:15 (1) 06:33 (1)	05:43 21:48 24	06:18 (1) 06:42 (1)	06:30 20:55 19	06:59 (2) 07:18 (2)	07:21 19:45	08:11 18:37	08:06 16:43	08:44 16:29
21	08:36 17:06	07:44 18:03	06:42 18:53	06:32 20:46 18	06:56 (2) 07:14 (2)	05:39 21:35 22	06:09 (1) 06:31 (1)	05:19 22:03 18	06:15 (1) 06:33 (1)	05:44 21:47 23	06:18 (1) 06:41 (1)	06:32 20:53 19	07:00 (2) 07:19 (2)	07:22 19:43	08:13 18:35	08:08 16:42	08:45 16:30
22	08:35 17:08	07:42 18:05	06:40 18:55	06:30 20:48 19	06:55 (2) 07:14 (2)	05:37 21:36 23	06:07 (1) 06:30 (1)	05:19 22:03 18	06:15 (1) 06:33 (1)	05:45 21:46 23	06:18 (1) 06:41 (1)	06:34 20:51 18	07:00 (2) 07:18 (2)	07:24 19:40	08:15 18:33	08:10 16:41	08:45 16:30
23	08:33 17:10	07:40 18:07	06:38 18:56	06:28 20:49 19	06:55 (2) 07:14 (2)	05:36 21:37 24	06:07 (1) 06:31 (1)	05:20 22:04 18	06:15 (1) 06:33 (1)	05:47 21:44 22	06:18 (1) 06:40 (1)	06:35 20:49 15	07:02 (2) 07:17 (2)	07:26 19:38	08:17 18:31	08:11 16:40	08:46 16:31
24	08:32 17:12	07:38 18:09	06:35 18:58	06:26 20:51 18	06:55 (2) 07:13 (2)	05:35 21:39 24	06:07 (1) 06:31 (1)	05:20 22:04 18	06:16 (1) 06:34 (1)	05:48 21:43 20	06:20 (1) 06:40 (1)	06:37 20:46 13	07:03 (2) 07:16 (2)	07:27 19:35	08:18 18:29	08:13 16:39	08:46 16:31
25	08:31 17:13	07:36 18:11	06:33 19:00	06:24 20:53 18	06:55 (2) 07:13 (2)	05:34 21:40 25	06:07 (1) 06:32 (1)	05:20 22:04 19	06:15 (1) 06:34 (1)	05:50 21:42 19	06:20 (1) 06:39 (1)	06:38 20:44 10	07:05 (2) 07:15 (2)	07:29 19:33	07:20 17:27	08:15 16:38	08:47 16:32
26	08:30 17:15	07:34 18:12	06:31 19:02	06:22 20:55 17	06:55 (2) 07:12 (2)	05:32 21:42 25	06:07 (1) 06:32 (1)	05:21 22:04 19	06:15 (1) 06:34 (1)	05:51 21:40 17	06:21 (1) 06:38 (1)	06:40 20:42 6	07:07 (2) 07:13 (2)	07:31 19:31	07:22 17:25	08:16 16:37	08:47 16:33
27	08:28 17:17	07:32 18:14	06:28 19:03	06:20 20:56 15	06:56 (2) 07:11 (2)	05:31 21:43 25	06:07 (1) 06:32 (1)	05:21 22:04 19	06:16 (1) 06:35 (1)	05:52 21:39 15	06:23 (1) 06:38 (1)	06:42 20:40		07:32 19:28	07:24 17:23	08:18 16:36	08:47 16:33
28	08:27 17:19	07:30 18:16	06:26 19:05	06:18 20:58 12	06:57 (2) 07:09 (2)	05:30 21:44 25	06:07 (1) 06:32 (1)	05:22 22:04 20	06:15 (1) 06:35 (1)	05:54 21:37 12	06:24 (1) 06:36 (1)	06:43 20:38		07:34 19:26	07:26 17:21	08:19 16:35	08:48 16:34
29	08:25 17:21		07:24 20:07	06:16 21:00 9	06:58 (2) 07:07 (2)	05:29 21:45 25	06:07 (1) 06:32 (1)	05:22 22:03 20	06:16 (1) 06:36 (1)	05:55 21:36 8	06:26 (1) 06:34 (1)	06:45 20:36		07:36 19:24	07:27 17:19	08:21 16:34	08:48 16:35
30	08:24 17:22		07:21 20:08	06:14 21:01		05:28 21:47 25	06:08 (1) 06:33 (1)	05:23 22:03 21	06:16 (1) 06:37 (1)	05:57 21:34		06:47 20:33		07:37 19:22	07:29 17:17	08:22 16:33	08:48 16:36
31	08:22 17:24		07:19 20:10			05:27 21:48 25	06:08 (1) 06:33 (1)			05:58 21:33		06:48 20:31			07:31 17:15		08:48 16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case				191	369	614	636	196				
Sun reduction				0,42	0,43	0,39	0,41	0,42				
Oper. time red.				0,95	0,95	0,95	0,95	0,95				
Wind dir. red.				0,63	0,67	0,67	0,67	0,63				
Total reduction				0,25	0,27	0,25	0,26	0,25				
Total, real				48	100	152	164	49				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:32/3.2.737

SHADOW - Calendar

Calculation: Copy of V136@149Shadow receptor: N - 3945LA11

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September	October	November	December
1	08:48		10:36 (4)	08:21		15:39 (2)	07:27		07:17	06:12	05:26	05:23	06:00	06:50	07:39	18:07 (1)	07:33	15:08 (2)	08:24	12:18 (3)
	16:38	63	13:07 (3)	17:26	44	16:23 (2)	18:18		20:12	21:03	21:49	22:03	21:31	20:29	19:19	32	18:39 (1)	17:13	49	15:57 (2)	16:32	30	12:48 (3)
2	08:48		10:37 (4)	08:19		15:39 (2)	07:25		07:14	06:10	05:25	05:24	06:01	06:51	07:40		18:08 (1)	07:35		15:08 (2)	08:25		12:18 (3)
	16:39	61	13:07 (3)	17:28	44	16:23 (2)	18:19		20:14	21:05	21:50	22:02	21:29	20:26	19:17	30	18:38 (1)	17:11	49	15:57 (2)	16:32	31	12:49 (3)
3	08:48		10:38 (4)	08:18		15:39 (2)	07:23		07:12	06:08	05:25	05:25	06:03	06:53	07:42		18:07 (1)	07:36		15:07 (2)	08:27		12:17 (3)
	16:40	60	13:08 (3)	17:30	46	16:25 (2)	18:21		20:15	21:06	21:51	22:02	21:28	20:24	19:14	29	18:36 (1)	17:09	48	15:55 (2)	16:31	33	12:50 (3)
4	08:47		10:38 (4)	08:16		15:39 (2)	07:21		07:10	06:06	05:24	05:25	06:04	06:55	07:44		18:08 (1)	07:38		15:07 (2)	08:28		10:31 (4)
	16:41	58	13:07 (3)	17:31	46	16:25 (2)	18:23		20:17	21:08	21:52	22:02	21:26	20:22	19:12	27	18:35 (1)	17:07	48	15:55 (2)	16:30	42	12:52 (3)
5	08:47		10:40 (4)	08:14		15:38 (2)	07:19	17:43 (1)	07:07	06:04	05:23	05:26	06:06	06:56	07:46		18:09 (1)	07:40		15:07 (2)	08:29		10:29 (4)
	16:43	56	13:08 (3)	17:33	47	16:25 (2)	18:25	5 17:48 (1)	20:19	21:10	21:53	22:01	21:24	20:20	19:10	25	18:34 (1)	17:06	48	15:55 (2)	16:30	46	12:52 (3)
6	08:47		10:41 (4)	08:13		15:38 (2)	07:16	17:37 (1)	07:05	06:02	05:23	05:27	06:08	06:58	07:47		18:11 (1)	07:42		15:08 (2)	08:31		10:27 (4)
	16:44	52	13:07 (3)	17:35	47	16:25 (2)	18:27	14 17:51 (1)	20:20	21:11	21:54	22:01	21:22	20:17	19:08	21	18:32 (1)	17:04	47	15:55 (2)	16:30	52	12:53 (3)
7	08:46		10:43 (4)	08:11		15:37 (2)	07:14	17:35 (1)	07:03	06:00	05:22	05:28	06:09	06:59	07:49		18:12 (1)	07:44		15:08 (2)	08:32		10:27 (4)
	16:45	48	13:07 (3)	17:37	49	16:26 (2)	18:29	19 17:54 (1)	20:22	21:13	21:55	22:00	21:20	20:15	19:05	17	18:29 (1)	17:02	47	15:55 (2)	16:29	55	12:55 (3)
8	08:46		10:45 (4)	08:09		15:38 (2)	07:12	17:33 (1)	07:01	05:59	05:21	05:29	06:11	07:01	07:51		18:15 (1)	07:45		15:09 (2)	08:33		10:27 (4)
	16:46	43	13:07 (3)	17:39	49	16:27 (2)	18:30	23 17:56 (1)	20:24	21:14	21:56	21:59	21:19	20:13	19:03	11	18:26 (1)	17:00	45	15:54 (2)	16:29	57	12:55 (3)
9	08:45		12:34 (3)	08:07		15:38 (2)	07:10	17:32 (1)	06:58	05:57	05:21	05:30	06:12	07:03	07:52			07:47		15:10 (2)	08:34		10:26 (4)
	16:48	33	13:07 (3)	17:41	49	16:27 (2)	18:32	26 17:58 (1)	20:25	21:16	21:57	21:59	21:17	20:10	19:01			16:59	44	15:54 (2)	16:28	60	12:56 (3)
10	08:45		12:35 (3)	08:06		15:38 (2)	07:07	17:30 (1)	06:56	05:55	05:20	05:31	06:14	07:04	07:54			07:49		15:10 (2)	08:35		10:26 (4)
	16:49	31	13:06 (3)	17:43	49	16:27 (2)	18:34	28 17:58 (1)	20:27	21:18	21:57	21:58	21:15	20:08	18:59			16:57	43	15:53 (2)	16:28	61	12:56 (3)
11	08:44		12:36 (3)	08:04		15:38 (2)	07:05	17:29 (1)	06:54	05:54	05:20	05:32	06:16	07:06	07:56			07:51		15:11 (2)	08:37		10:26 (4)
	16:50	29	13:05 (3)	17:45	49	16:27 (2)	18:36	30 17:59 (1)	20:29	21:19	21:58	21:57	21:13	20:06	18:56			16:56	42	15:53 (2)	16:28	63	12:57 (3)
12	08:44		12:37 (3)	08:02		15:38 (2)	07:03	17:28 (1)	06:52	05:52	05:20	05:33	06:17	07:08	07:57			07:52		15:12 (2)	08:38		10:27 (4)
	16:52	28	13:05 (3)	17:46	49	16:27 (2)	18:37	32 18:00 (1)	20:31	21:21	21:59	21:56	21:11	20:03	18:54			16:54	40	15:52 (2)	16:28	65	12:59 (3)
13	08:43		12:39 (3)	08:00		15:39 (2)	07:00	17:27 (1)	06:49	05:50	05:19	05:34	06:19	07:09	07:59			07:54		15:13 (2)	08:39		10:27 (4)
	16:53	24	13:03 (3)	17:48	48	16:27 (2)	18:39	32 17:59 (1)	20:32	21:22	22:00	21:56	21:09	20:01	18:52			16:53	39	15:52 (2)	16:28	66	12:59 (3)
14	08:42		12:41 (3)	07:58		15:39 (2)	06:58	17:27 (1)	06:47	05:49	05:19	05:35	06:20	07:11	08:01			07:56		15:14 (2)	08:40		10:26 (4)
	16:55	21	13:02 (3)	17:50	47	16:26 (2)	18:41	32 17:59 (1)	20:34	21:24	22:00	21:55	21:07	19:59	18:50			16:51	37	15:51 (2)	16:28	67	12:59 (3)
15	08:41		12:44 (3)	07:56		15:40 (2)	06:56	17:27 (1)	06:45	05:47	05:19	05:36	06:22	07:12	08:03			07:58		15:15 (2)	08:40		10:26 (4)
	16:57	16	13:00 (3)	17:52	46	16:26 (2)	18:43	33 18:00 (1)	20:36	21:26	22:01	21:54	21:05	19:56	18:47			16:50	35	15:50 (2)	16:28	68	13:00 (3)
16	08:41			07:54		15:40 (2)	06:54	17:26 (1)	06:43	05:46	05:19	05:38	06:24	07:14	08:04		16:29 (2)	08:00		15:17 (2)	08:41		10:27 (4)
	16:58			17:54	45	16:25 (2)	18:44	33 17:59 (1)	20:37	21:27	22:01	21:53	21:03	19:54	18:45	12	16:41 (2)	16:48	32	15:49 (2)	16:28	68	13:00 (3)
17	08:40			07:52		15:41 (2)	06:51	17:26 (1)	06:41	05:44	05:19	05:39	06:25	07:16	08:06		16:25 (2)	08:01		15:18 (2)	08:42		10:27 (4)
	17:00			17:56	44	16:25 (2)	18:46	33 17:59 (1)	20:39	21:29	22:02	21:52	21:01	19:52	18:43	20	16:45 (2)	16:47	30	15:48 (2)	16:28	69	13:01 (3)
18	08:39			07:50		15:42 (2)	06:49	17:27 (1)	06:38	05:43	05:19	05:40	06:27	07:17	18:25 (1)	08:08	16:22 (2)	08:03		15:19 (2)	08:43		10:28 (4)
	17:01			17:58	42	16:24 (2)	18:48	31 17:58 (1)	20:41	21:30	22:02	21:50	20:59	19:49	8 18:33 (1)	18:41	25 16:47 (2)	16:46	27	15:46 (2)	16:28	70	13:02 (3)
19	08:38			07:48		15:43 (2)	06:47	17:26 (1)	06:36	05:41	05:19	05:41	06:28	07:19	18:20 (1)	08:10	16:19 (2)	08:05		15:21 (2)	08:44		10:27 (4)
	17:03			17:59	40	16:23 (2)	18:49	31 17:57 (1)	20:43	21:32	22:03	21:49	20:57	19:47	15 18:35 (1)	18:39	30 16:49 (2)	16:44	23	15:44 (2)	16:29	71	13:02 (3)
20	08:37		15:54 (2)	07:46		15:43 (2)	06:44	17:27 (1)	06:34	05:40	05:19	05:43	06:30	07:21	18:18 (1)	08:11	16:17 (2)	08:06		15:23 (2)	08:44		10:28 (4)
	17:05	7	16:01 (2)	18:01	38	16:21 (2)	18:51	29 17:56 (1)	20:44	21:33	22:03	21:48	20:55	19:45	20 18:38 (1)	18:37	34 16:51 (2)	16:43	20	15:43 (2)	16:29	71	13:03 (3)
21	08:36		15:51 (2)	07:44		15:45 (2)	06:42	17:28 (1)	06:32	05:38	05:19	05:44	06:32	07:22	18:15 (1)	08:13	16:16 (2)	08:08		15:26 (2)	08:45		10:29 (4)
	17:06	15	16:06 (2)	18:03	35	16:20 (2)	18:53	27 17:55 (1)	20:46	21:35	22:03	21:47	20:53	19:42	23 18:38 (1)	18:35	36 16:52 (2)	16:42	15	15:41 (2)	16:30	71	13:04 (3)
22	08:34		15:48 (2)	07:42		15:47 (2)	06:40	17:29 (1)	06:30	05:37	05:19	05:45	06:33	07:24	18:13 (1)	08:15	16:13 (2)	08:10		15:30 (2)	08:45		10:29 (4)
	17:08	19	16:07 (2)	18:05	32	16:19 (2)	18:55	24 17:53 (1)	20:48	21:36	22:03	21:46	20:51	19:40	26 18:39 (1)	18:33	39 16:52 (2)	16:41	7	15:37 (2)	16:30	71	13:04 (3)
23	08:33		15:47 (2)	07:40		15:49 (2)	06:37	17:31 (1)	06:28	05:36	05:19	05:47	06:35	07:26	18:12 (1)	08:17	16:12 (2)	08:11			08:46		10:29 (4)
	17:10	23	16:10 (2)	18:07	28	16:17 (2)	18:56	21 17:52 (1)	20:49	21:37	22:03	21:44	20:48	19:38	28 18:40 (1)	18:30	41 16:53 (2)	16:40			16:31	71	13:04 (3)
24	08:32		15:46 (2)	07:38		15:52 (2)	06:35	17:33 (1)	06:26	05:35	05:20	05:48	06:37	07:27	18:10 (1)	08:18	16:11 (2)	08:13			08:46		10:30 (4)
	17:11	27	16:13 (2)	18:09	23	16:15 (2)	18:58	17 17:50 (1)	20:51	21:39	22:04	21:43	20:46	19:35	30 18:40 (1)	18:28	43 16:54 (2)	16:38			16:31	71	13:05 (3)
25	08:31		15:44 (2)	07:36		15:55 (2)	06:33	17:35 (1)	06:24	05:33	05:20	05:49	06:38	07:29	18:10 (1)	07:20	15:10 (2)	08:15			08:47		10:31 (4)
	17:13	30	16:14 (2)	18:10	18	16:13 (2)	19:00	10 17:45 (1)	20:53	21:40	22:04	21:42	20:44	19:33	31 18:41 (1)	17:26	44 15:54 (2)	16:37			16:32	70	13:05 (3)
26	08:29		15:44 (2)	07:34		16:00 (2)	06:30		06:22	05:32	05:21	05:51	06:40	07:30	18:09 (1)	07:22	15:10 (2)	08:16			08:47		10:31 (4)
	17:15	32	16:16 (2)	18:12	6	16:06 (2)	19:02		20:54	21:41	22:04	21:40	20:42	19:31	32 18:41 (1)	17:24	45 15:55 (2)	16:36			16:32	69	13:05 (3)
27	08:28		15:42 (2)	07:32			06:28		06:20	05:31	05:21	05:52	06:42	07:32	18:08 (1)	07:24	15:09 (2)	08:18		12:24 (3)	08:47		10:31 (4)
	17:17	35	16:17 (2)	18:14			19:03		20:56	21:43	22:04	21:39	20:40	19:28	32 18:40 (1)	17:22	46 15:55 (2)	16:36	16	12:40 (3)	16:33	69	13:05 (3)
28	08:27		15:42 (2)	07:29			06:26		06:18	05:30	05:21	05:54	06:43	07:34	18:08 (1)	07:26	15:08 (2)	08:19		12:22 (3)	08:47		10:33 (4)
	17:19	37	16:19 (2)	18:16			19:05		20:58	21:44	22:03	21:37	20:38	19:26	32 18:40 (1)	17:20	48 15:56 (2)	16:35	20	12:42 (3)	16:34	68	13:07 (3)
29	08:25		15:41 (2)				07:23		06:16	05:29	05:22	05:55	06:45	07:35	18:08 (1)	07:27	15:08 (2)	08:21		12:20 (3)	08:48		10:34 (4)
	17:20	39	16:20 (2)				20:07		21:00	21:45	22:03	21:36	20:35	19:24	32 18:40 (1)	17:18	48 15:56 (2)	16:34	24	12:44 (3)	16:35	67	13:07 (3)
30	08:24		15:40 (2)				07:21		06:14	05:28	05:23	05:57	06:46	07:37	18:07 (1)	07:29	15:08 (2)	08:22		12:19 (3)	08:48		10:34 (4)
	17:22	40	16:20 (2)				20:08		21:01	21:46	22:03	21:34	20:33	19:21	32 18:39 (1)	17:17	48 15:56 (2)	16:33	27	12:46 (3)	16:36	66	13:07 (3)
31	08:22		15:40 (2)				07:19			05:27		05:58	06:48			07:31	15:08 (2)				08:48		10:34 (4)
	17:24	42	16:22 (2)				20:10			21:48		21:32	20:31			17:15	48 15:56 (2)				16:37	66	13:07 (3)
Potential sun hours	259			277			367		416	485	499	502	454	381		331		266			243		
Total, worst case		969			1060			530							341		799		902			1904	
Sun reduction		0,24			0,30			0,33							0,36		0,34		0,24			0,20	
Oper. time red.		0,95			0,95			0,95							0,95		0,95		0,95			0,95	
Wind dir. red.		0,66			0,67			0,63							0,63		0,66		0,67			0,66	
Total reduction		0,15			0,19			0,20							0,22		0,21		0,15			0,13	
Total, real		146			203			105							74		168		135			242	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:32/3.2.737

SHADOW - Calendar

Calculation: Copy of V136@149Shadow receptor: O - 3998NA2

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	07:29 (2)	05:26	05:23	06:00	06:50	07:31 (2)	07:39	08:08 (4)	07:33	08:24
	16:38	17:26	18:18	20:12	21:03 25	07:54 (2)	21:49	22:03	21:31	20:29 31	08:02 (2)	19:19 18	08:26 (4)	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	07:30 (2)	05:25	05:24	06:01	06:51	07:32 (2)	07:41	08:08 (4)	07:35	08:25
	16:39	17:28	18:20	20:14	21:05 22	07:52 (2)	21:50	22:03	21:29	20:26 28	08:00 (2)	19:17 18	08:26 (4)	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08	07:32 (2)	05:25	05:25	06:03	06:53	07:34 (2)	07:42	08:07 (4)	07:36	08:27
	16:40	17:30	18:21	20:15	21:06 19	07:51 (2)	21:51	22:02	21:28	20:24 24	07:58 (2)	19:15 18	08:25 (4)	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06	07:34 (2)	05:24	05:25	06:05	06:55	07:36 (2)	07:44	08:09 (4)	07:38	08:28
	16:41	17:32	18:23	20:17	21:08 14	07:48 (2)	21:52	22:02	21:26	20:22 20	07:56 (2)	19:12 16	08:25 (4)	17:07	16:31
5	08:47	08:14	07:19	07:07	06:04	07:39 (2)	05:23	05:26	06:06	06:56	07:38 (2)	07:46	08:11 (4)	07:40	08:29
	16:43	17:33	18:25	20:19	21:10 4	07:43 (2)	21:53	22:01	21:24	20:20 14	07:52 (2)	19:10 13	08:24 (4)	17:06	16:30
6	08:47	08:13	07:16	07:40 (4)	07:05		05:23	05:27	06:08	06:58		07:47	08:13 (4)	07:42	08:31
	16:44	17:35	18:27 4	07:44 (4)	20:20		21:54	22:01	21:22	20:17		19:08 10	08:23 (4)	17:04	16:30
7	08:46	08:11	07:14	07:37 (4)	07:03	07:42 (2)	06:01	05:22	05:28	06:09		07:00		07:49	08:14 (4)	07:44	08:32
	16:45	17:37	18:29 9	07:46 (4)	20:22 14	07:56 (2)	21:13	21:55	22:00	21:21		20:15		19:05 7	08:21 (4)	17:02	16:29
8	08:46	08:09	07:12	07:35 (4)	07:01	07:38 (2)	05:59	05:21	05:29	06:11	07:46 (2)	07:01		07:51	08:16 (4)	07:45	08:33
	16:46	17:39	18:30 12	07:47 (4)	20:24 20	07:58 (2)	21:15	21:56	22:00	21:19 9	07:55 (2)	20:13		19:03 1	08:17 (4)	17:01	16:29
9	08:45	08:08	07:10	07:33 (4)	06:58	07:36 (2)	05:57	05:21	05:30	06:12	07:42 (2)	07:03		07:52		07:47	08:34
	16:48	17:41	18:32 15	07:48 (4)	20:26 24	08:00 (2)	21:16	21:57	21:59	21:17 16	07:58 (2)	20:10		19:01		16:59	16:29
10	08:45	08:06	07:07	07:30 (4)	06:56	07:34 (2)	05:55	05:21	05:31	06:14	07:40 (2)	07:04		07:54		07:49	08:35
	16:49	17:43	18:34 17	07:47 (4)	20:27 28	08:02 (2)	21:18	21:58	21:58	21:15 20	08:00 (2)	20:08		18:59		16:57	16:28
11	08:44	08:04	07:05	07:29 (4)	06:54	07:32 (2)	05:54	05:20	05:32	06:16	07:39 (2)	07:06		07:56		07:51	08:37
	16:51	17:45	18:36 19	07:48 (4)	20:29 31	08:03 (2)	21:19	21:58	21:57	21:13 23	08:02 (2)	20:06		18:56		16:56	16:28
12	08:44	08:02	07:03	07:29 (4)	06:52	07:31 (2)	05:52	05:20	05:33	06:17	07:37 (2)	07:08		07:57		07:53	08:38
	16:52	17:46	18:37 19	07:48 (4)	20:31 33	08:04 (2)	21:21	21:59	21:56	21:11 26	08:03 (2)	20:03		18:54		16:54	16:28
13	08:43	08:00	07:01	07:29 (4)	06:49	07:29 (2)	05:50	05:20	05:34	06:19	07:36 (2)	07:09	08:07 (3)	07:59		07:54	08:39
	16:54	17:48	18:39 17	07:46 (4)	20:32 35	08:04 (2)	21:23	22:00	21:56	21:09 29	08:05 (2)	20:01 8	08:15 (3)	18:52		16:53	16:28
14	08:42	07:58	06:58	07:30 (4)	06:47	07:28 (2)	05:49	05:19	05:35	06:20	07:34 (2)	07:11	08:03 (3)	08:01		07:56	08:40
	16:55	17:50	18:41 15	07:45 (4)	20:34 36	08:04 (2)	21:24	22:00	21:55	21:07 32	08:06 (2)	19:59 14	08:17 (3)	18:50		16:51	16:28
15	08:41	07:56	06:56	07:23 (3)	06:45	07:27 (2)	05:47	05:19	05:36	06:22	07:34 (2)	07:13	08:02 (3)	08:03		07:58	08:40
	16:57	17:52	18:43 18	07:44 (4)	20:36 38	08:05 (2)	21:26	22:01	21:54	21:05 33	08:07 (2)	19:56 17	08:19 (3)	18:48		16:50	16:28
16	08:41	07:54	06:54	07:18 (3)	06:43	07:26 (2)	05:46	05:19	05:38	06:24	07:32 (2)	07:14	07:59 (3)	08:04		08:00	08:41
	16:58	17:54	18:44 22	07:41 (4)	20:37 39	08:05 (2)	21:27	22:01	21:53	21:03 35	08:07 (2)	19:54 21	08:20 (3)	18:45		16:48	16:28
17	08:40	07:52	06:51	07:16 (3)	06:41	07:26 (2)	05:44	05:19	05:39	06:25	07:32 (2)	07:16	07:59 (3)	08:06		08:01	08:42
	17:00	17:56	18:46 17	07:33 (3)	20:39 39	08:05 (2)	21:29	22:02	21:52	21:01 36	08:08 (2)	19:52 22	08:21 (3)	18:43		16:47	16:28
18	08:39	07:50	06:49	07:14 (3)	06:38	07:25 (2)	05:43	05:19	05:40	06:27	07:31 (2)	07:17	07:58 (3)	08:08		08:03	08:43
	17:01	17:58	18:48 20	07:34 (3)	20:41 40	08:05 (2)	21:30	22:02	21:51	20:59 37	08:08 (2)	19:49 24	08:22 (3)	18:41		16:46	16:29
19	08:38	07:48	06:47	07:12 (3)	06:36	07:25 (2)	05:41	05:19	05:41	06:29	07:30 (2)	07:19	07:57 (3)	08:10		08:05	08:44
	17:03	17:59	18:50 22	07:34 (3)	20:43 40	08:05 (2)	21:32	22:03	21:49	20:57 39	08:09 (2)	19:47 24	08:21 (3)	18:39		16:44	16:29
20	08:37	07:46	06:44	07:12 (3)	06:34	07:25 (2)	05:40	05:19	05:43	06:30	07:29 (2)	07:21	07:56 (3)	08:11		08:06	08:44
	17:05	18:01	18:51 23	07:35 (3)	20:44 40	08:05 (2)	21:33	22:03	21:48	20:55 40	08:09 (2)	19:45 25	08:21 (3)	18:37		16:43	16:29
21	08:36	07:44	06:42	07:11 (3)	06:32	07:24 (2)	05:38	05:19	05:44	06:32	07:29 (2)	07:22	07:56 (3)	08:13		08:08	08:45
	17:06	18:03	18:53 25	07:36 (3)	20:46 40	08:04 (2)	21:35	22:03	21:47	20:53 40	08:09 (2)	19:42 25	08:21 (3)	18:35		16:42	16:30
22	08:34	07:42	06:40	07:10 (3)	06:30	07:24 (2)	05:37	05:19	05:45	06:33	07:28 (2)	07:24	07:56 (3)	08:15		08:10	08:45
	17:08	18:05	18:55 25	07:35 (3)	20:48 39	08:03 (2)	21:36	22:03	21:46	20:51 41	08:09 (2)	19:40 24	08:20 (3)	18:33		16:41	16:30
23	08:33	07:40	06:37	07:10 (3)	06:28	07:24 (2)	05:36	05:20	05:47	06:35	07:29 (2)	07:26	07:56 (3)	08:17		08:11	08:46
	17:10	18:07	18:56 25	07:35 (3)	20:49 39	08:03 (2)	21:37	22:03	21:44	20:49 40	08:09 (2)	19:38 24	08:20 (3)	18:31		16:40	16:31
24	08:32	07:38	06:35	07:10 (3)	06:26	07:24 (2)	05:35	05:20	05:48	06:37	07:28 (2)	07:27	07:56 (3)	08:18		08:13	08:46
	17:12	18:09	18:58 25	07:35 (3)	20:51 38	08:02 (2)	21:39	22:04	21:43	20:46 40	08:08 (2)	19:35 22	08:18 (3)	18:29		16:39	16:31
25	08:31	07:36	06:33	07:09 (3)	06:24	07:24 (2)	05:33	05:20	05:50	06:38	07:28 (2)	07:29	07:57 (3)	07:20		08:15	08:47
	17:13	18:10	19:00 24	07:33 (3)	20:53 37	08:01 (2)	21:40	22:04	21:42	20:44 40	08:08 (2)	19:33 20	08:17 (3)	17:26		16:38	16:32
26	08:30	07:34	06:31	07:10 (3)	06:22	07:25 (2)	05:32	05:21	05:51	06:40	07:29 (2)	07:31	07:58 (3)	07:22		08:16	08:47
	17:15	18:12	19:02 23	07:33 (3)	20:54 36	08:01 (2)	21:41	22:04	21:40	20:42 39	08:08 (2)	19:31 18	08:16 (3)	17:24		16:37	16:33
27	08:28	07:32	06:28	07:11 (3)	06:20	07:26 (2)	05:31	05:21	05:52	06:42	07:28 (2)	07:32	07:59 (3)	07:24		08:18	08:47
	17:17	18:14	19:03 21	07:32 (3)	20:56 34	08:00 (2)	21:43	22:04	21:39	20:40 39	08:07 (2)	19:28 22	08:22 (4)	17:22		16:36	16:33
28	08:27	07:30	06:26	07:11 (3)	06:18	07:26 (2)	05:30	05:22	05:54	06:43	07:29 (2)	07:34	08:02 (3)	07:26		08:19	08:48
	17:19	18:16	19:05 18	07:29 (3)	20:58 33	07:59 (2)	21:44	22:03	21:37	20:38 38	08:07 (2)	19:26 21	08:24 (4)	17:21		16:35	16:34
29	08:25		07:24	08:13 (3)	06:16	07:27 (2)	05:29	05:22	05:55	06:45	07:29 (2)	07:36	08:11 (4)	07:27		08:21	08:48
	17:21		20:07 14	08:27 (3)	21:00 31	07:58 (2)	21:45	22:03	21:36	20:35 36	08:05 (2)	19:24 15	08:26 (4)	17:19		16:34	16:35
30	08:24		07:21	08:15 (3)	06:14	07:28 (2)	05:28	05:23	05:57	06:46	07:30 (2)	07:37	08:09 (4)	07:29		08:22	08:48
	17:22		20:08 10	08:25 (3)	21:01 28	07:56 (2)	21:47	22:03	21:34	20:33 35	08:05 (2)	19:21 17	08:26 (4)	17:17		16:33	16:36
31	08:22		07:19				05:27		05:58	06:48	07:30 (2)			07:31			08:48
	17:24		20:10				21:48		21:33	20:31 33	08:03 (2)			17:15			16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case			459	812	84			796	480	101		
Sun reduction			0,33	0,42	0,43			0,42	0,36	0,34		
Oper. time red.			0,95	0,95	0,95			0,95	0,95	0,95		
Wind dir. red.			0,60	0,63	0,63			0,63	0,61	0,59		
Total reduction			0,19	0,25	0,25			0,25	0,21	0,19		
Total, real			85	201	21			197	100	19		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:32/3.2.737

SHADOW - Calendar

Calculation: Copy of V136@149Shadow receptor: P - 3998JD89

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	06:53 (2)	05:26	06:03 (1)	05:23	06:10 (1)	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03 9	07:02 (2)	21:49 25	06:28 (1)	22:03 23	06:33 (1)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	06:56 (2)	05:26	06:03 (1)	05:24	06:11 (1)	06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05 2	06:58 (2)	21:50 25	06:28 (1)	22:03 22	06:33 (1)	21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08		05:25	06:04 (1)	05:25	06:11 (1)	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06		21:51 24	06:28 (1)	22:02 23	06:34 (1)	21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06		05:24	06:04 (1)	05:26	06:10 (1)	06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08		21:52 24	06:28 (1)	22:02 24	06:34 (1)	21:26	20:22	19:12	17:07	16:31
5	08:47	08:14	07:19	07:08	06:04		05:23	06:05 (1)	05:26	06:11 (1)	06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10		21:53 24	06:29 (1)	22:01 23	06:34 (1)	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02		05:23	06:05 (1)	05:27	06:11 (1)	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11		21:54 23	06:28 (1)	22:01 24	06:35 (1)	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01		05:22	06:05 (1)	05:28	06:11 (1)	06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13		21:55 24	06:29 (1)	22:00 24	06:35 (1)	21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59		05:22	06:05 (1)	05:29	06:11 (1)	06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15		21:56 23	06:28 (1)	22:00 24	06:35 (1)	21:19	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57		05:21	06:06 (1)	05:30	06:12 (1)	06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16		21:57 23	06:29 (1)	21:59 24	06:36 (1)	21:17	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55		05:21	06:05 (1)	05:31	06:11 (1)	06:14	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18		21:58 23	06:28 (1)	21:58 24	06:35 (1)	21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54		05:20	06:06 (1)	05:32	06:11 (1)	06:16	07:04 (2)	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19		21:58 23	06:29 (1)	21:57 24	06:35 (1)	21:13 5	07:09 (2)	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52		05:20	06:07 (1)	05:33	06:11 (1)	06:17	07:01 (2)	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21		21:59 22	06:29 (1)	21:57 24	06:35 (1)	21:11 10	07:11 (2)	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50		05:20	06:07 (1)	05:34	06:12 (1)	06:19	07:00 (2)	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23		22:00 22	06:29 (1)	21:56 24	06:36 (1)	21:09 13	07:13 (2)	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49		05:19	06:07 (1)	05:35	06:12 (1)	06:21	06:58 (2)	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24		22:00 22	06:29 (1)	21:55 24	06:36 (1)	21:07 15	07:13 (2)	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47		05:19	06:07 (1)	05:36	06:12 (1)	06:22	06:58 (2)	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26		22:01 22	06:29 (1)	21:54 24	06:36 (1)	21:05 16	07:14 (2)	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46		05:19	06:07 (1)	05:38	06:13 (1)	06:24	06:56 (2)	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27		22:01 22	06:29 (1)	21:53 23	06:36 (1)	21:03 18	07:14 (2)	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44	06:12 (1)	05:19	06:08 (1)	05:39	06:13 (1)	06:25	06:56 (2)	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29 6	06:18 (1)	22:02 21	06:29 (1)	21:52 23	06:36 (1)	21:01 19	07:15 (2)	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43	06:09 (1)	05:19	06:08 (1)	05:40	06:13 (1)	06:27	06:56 (2)	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30 11	06:20 (1)	22:02 21	06:29 (1)	21:51 23	06:36 (1)	20:59 18	07:14 (2)	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	07:00 (2) 05:41	06:08 (1)	05:19	06:09 (1)	05:41	06:13 (1)	06:29	06:56 (2)	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43 5	07:05 (2) 21:32	14 06:22 (1)	22:03 21	06:30 (1)	21:49 22	06:35 (1)	20:57 18	07:14 (2)	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	06:58 (2) 05:40	06:07 (1)	05:19	06:09 (1)	05:43	06:14 (1)	06:30	06:57 (2)	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44 9	07:07 (2) 21:33	16 06:23 (1)	22:03 21	06:30 (1)	21:48 22	06:36 (1)	20:55 16	07:13 (2)	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	06:56 (2) 05:39	06:06 (1)	05:19	06:09 (1)	05:44	06:15 (1)	06:32	06:59 (2)	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46 12	07:08 (2) 21:35	18 06:24 (1)	22:03 21	06:30 (1)	21:47 20	06:35 (1)	20:53 14	07:13 (2)	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	06:54 (2) 05:37	06:05 (1)	05:19	06:09 (1)	05:45	06:15 (1)	06:34	07:00 (2)	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48 14	07:08 (2) 21:36	19 06:24 (1)	22:03 21	06:30 (1)	21:46 19	06:34 (1)	20:51 11	07:11 (2)	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	06:52 (2) 05:36	06:04 (1)	05:20	06:09 (1)	05:47	06:16 (1)	06:35	07:02 (2)	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49 17	07:09 (2) 21:37	21 06:25 (1)	22:04 21	06:30 (1)	21:44 17	06:33 (1)	20:49 8	07:10 (2)	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	06:50 (2) 05:35	06:04 (1)	05:20	06:10 (1)	05:48	06:18 (1)	06:37	07:04 (2)	07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51 19	07:09 (2) 21:39	21 06:25 (1)	22:04 21	06:31 (1)	21:43 15	06:33 (1)	20:46 5	07:09 (2)	19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	06:50 (2) 05:34	06:04 (1)	05:20	06:10 (1)	05:50	06:19 (1)	06:38		07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53 19	07:09 (2) 21:40	22 06:26 (1)	22:04 21	06:31 (1)	21:42 12	06:31 (1)	20:44		19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	06:50 (2) 05:32	06:03 (1)	05:21	06:09 (1)	05:51	06:20 (1)	06:40		07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55 18	07:08 (2) 21:42	23 06:26 (1)	22:04 22	06:31 (1)	21:40 9	06:29 (1)	20:42		19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	06:50 (2) 05:31	06:03 (1)	05:21	06:10 (1)	05:52		06:42		07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56 18	07:08 (2) 21:43	24 06:27 (1)	22:04 22	06:32 (1)	21:39		20:40		19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	06:50 (2) 05:30	06:03 (1)	05:22	06:10 (1)	05:54		06:43		07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58 17	07:07 (2) 21:44	24 06:27 (1)	22:04 21	06:31 (1)	21:37		20:38		19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	06:51 (2) 05:29	06:03 (1)	05:22	06:10 (1)	05:55		06:45		07:36	07:27	08:21	08:48
	17:21		20:07	21:00 15	07:06 (2) 21:45	24 06:27 (1)	22:03 22	06:32 (1)	21:36		20:36		19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	06:51 (2) 05:28	06:04 (1)	05:23	06:11 (1)	05:57		06:47		07:37	07:29	08:22	08:48
	17:22		20:09	21:01 13	07:04 (2) 21:47	24 06:28 (1)	22:03 22	06:33 (1)	21:34		20:33		19:22	17:17	16:33	16:36
31	08:22		07:19		05:27	06:04 (1)			05:58		06:48			07:31		08:48
	17:24		20:10		21:48 24	06:28 (1)			21:33		20:31			17:15		16:37
Potential sun hours	259	277	367	416	485		499		502		454		381	331	266	243
Total, worst case				176	302		669		560		186					
Sun reduction				0,42	0,43		0,39		0,41		0,42					
Oper. time red.				0,95	0,95		0,95		0,95		0,95					
Wind dir. red.				0,64	0,67		0,67		0,67		0,64					
Total reduction				0,25	0,27		0,25		0,26		0,25					
Total, real				44	82		166		145		47					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:32/3.2.737

SHADOW - Calendar

Calculation: Copy of V136@149Shadow receptor: Q - 3998JD85

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May		June		July		August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12		05:26		05:23		06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03		21:49	22	06:32 (1)	15	06:19 (1)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10		05:26		06:10 (1)		06:34 (1)	21:29	19:19	17:13	16:32
	16:39	17:28	18:20	20:14	21:05		21:50	21	06:31 (1)	16	06:19 (1)	06:01	06:51	07:41	07:35	08:25
3	08:48	08:18	07:23	07:12	06:08		05:25		06:11 (1)		06:35 (1)	21:29	20:27	19:17	17:11	16:32
	16:40	17:30	18:21	20:15	21:06		21:51	21	06:32 (1)	17	06:19 (1)	06:03	06:53	07:42	07:36	08:27
4	08:47	08:16	07:21	07:10	06:06		05:24		06:11 (1)		06:36 (1)	21:28	20:24	19:15	17:09	16:31
	16:41	17:32	18:23	20:17	21:08		21:52	20	06:31 (1)	18	06:18 (1)	06:05	06:55	07:44	07:38	08:28
5	08:47	08:15	07:19	07:08	06:04		05:23		06:12 (1)		06:36 (1)	21:26	20:22	19:12	17:07	16:31
	16:43	17:33	18:25	20:19	21:10		21:53	20	06:32 (1)	19	06:18 (1)	06:06	06:56	07:46	07:40	08:29
6	08:47	08:13	07:16	07:05	06:02		05:23		06:12 (1)		06:37 (1)	21:24	20:20	19:10	17:06	16:30
	16:44	17:35	18:27	20:20	21:11		21:54	19	06:31 (1)	19	06:18 (1)	06:08	06:58	07:47	07:42	08:31
7	08:46	08:11	07:14	07:03	06:01		05:22		06:13 (1)		06:37 (1)	21:22	20:17	19:08	17:04	16:30
	16:45	17:37	18:29	20:22	21:13		21:55	18	06:31 (1)	20	06:18 (1)	06:09	07:00	07:49	07:44	08:32
8	08:46	08:09	07:12	07:01	05:59		05:22		06:13 (1)		06:38 (1)	21:21	20:15	19:05	17:02	16:29
	16:46	17:39	18:30	20:24	21:15		21:56	18	06:31 (1)	21	06:18 (1)	06:11	07:01	07:51	07:45	08:33
9	08:46	08:08	07:10	06:58	05:57		05:21		06:14 (1)		06:39 (1)	21:19	20:13	19:03	17:01	16:29
	16:48	17:41	18:32	20:26	21:16		21:57	17	06:31 (1)	21	06:18 (1)	06:12	07:03	07:52	07:47	08:34
10	08:45	08:06	07:07	06:56	05:55		05:21		06:14 (1)		06:39 (1)	21:17	20:11	19:01	16:59	16:29
	16:49	17:43	18:34	20:27	21:18		21:58	16	06:30 (1)	22	06:17 (1)	06:14	07:04	07:54	07:49	08:36
11	08:44	08:04	07:05	06:54	05:54		05:20		06:14 (1)		06:39 (1)	21:15	20:08	18:59	16:57	16:28
	16:51	17:45	18:36	20:29	21:19		21:58	16	06:30 (1)	22	06:17 (1)	06:16	07:06	07:56	07:51	08:37
12	08:44	08:02	07:03	06:52	05:52		05:20		06:15 (1)		06:39 (1)	21:13	20:06	18:56	16:56	16:28
	16:52	17:47	18:37	20:31	21:21		21:59	15	06:30 (1)	22	06:17 (1)	06:17	07:08	07:58	07:53	08:38
13	08:43	08:00	07:01	06:49	05:50	06:17 (1)	05:20		06:16 (1)		06:39 (1)	21:11	20:04	18:54	16:54	16:28
	16:54	17:48	18:39	20:32	21:23	5 06:22 (1)	22:00	14	06:30 (1)	23	06:18 (1)	06:19	07:09	07:59	07:54	08:39
14	08:42	07:58	06:58	06:47	05:49	06:15 (1)	05:19		06:16 (1)		06:41 (1)	21:09	20:01	18:52	16:53	16:28
	16:55	17:50	18:41	20:34	21:24	10 06:25 (1)	22:00	14	06:30 (1)	23	06:18 (1)	06:21	07:11	08:01	07:56	08:40
15	08:42	07:56	06:56	06:45	05:47	06:13 (1)	05:19		06:16 (1)		06:41 (1)	21:07	19:59	18:50	16:51	16:28
	16:57	17:52	18:43	20:36	21:26	13 06:26 (1)	22:01	13	06:29 (1)	23	06:18 (1)	06:22	07:13	08:03	07:58	08:41
16	08:41	07:54	06:54	06:43	05:46	06:12 (1)	05:19		06:16 (1)		06:41 (1)	21:05	19:57	18:48	16:50	16:28
	16:58	17:54	18:44	20:38	21:27	16 06:28 (1)	22:01	13	06:29 (1)	23	06:18 (1)	06:24	07:14	08:04	08:00	08:41
17	08:40	07:52	06:51	06:41	05:44	06:11 (1)	05:19		06:17 (1)		06:41 (1)	21:03	19:54	18:45	16:48	16:28
	17:00	17:56	18:46	20:39	21:29	18 06:29 (1)	22:02	12	06:29 (1)	23	06:18 (1)	06:25	07:16	08:06	08:01	08:42
18	08:39	07:50	06:49	06:39	05:43	06:10 (1)	05:19		06:17 (1)		06:41 (1)	21:01	19:52	18:43	16:47	16:28
	17:01	17:58	18:48	20:41	21:30	19 06:29 (1)	22:02	12	06:29 (1)	24	06:17 (1)	06:27	07:17	08:08	08:03	08:43
19	08:38	07:48	06:47	06:36	05:41	06:09 (1)	05:19		06:18 (1)		06:41 (1)	20:59	19:50	18:41	16:46	16:29
	17:03	18:00	18:50	20:43	21:32	21 06:30 (1)	22:03	12	06:30 (1)	24	06:17 (1)	06:29	07:19	08:10	08:05	08:44
20	08:37	07:46	06:44	06:34	05:40	06:09 (1)	05:19		06:19 (1)		06:41 (1)	20:57	19:47	18:39	16:44	16:29
	17:05	18:01	18:51	20:44	21:33	22 06:31 (1)	22:03	11	06:30 (1)	24	06:18 (1)	06:30	07:21	08:11	08:06	08:44
21	08:36	07:44	06:42	06:32	05:39	06:09 (1)	05:19		06:19 (1)		06:42 (1)	20:55	19:45	18:37	16:43	16:29
	17:06	18:03	18:53	20:46	21:35	22 06:31 (1)	22:03	11	06:30 (1)	24	06:18 (1)	06:32	07:22	08:13	08:08	08:45
22	08:35	07:42	06:40	06:30	05:37	06:08 (1)	05:19		06:19 (1)		06:42 (1)	20:53	19:43	18:35	16:42	16:30
	17:08	18:05	18:55	20:48	21:36	23 06:31 (1)	22:03	11	06:30 (1)	24	06:18 (1)	06:34	07:24	08:15	08:10	08:45
23	08:33	07:40	06:38	06:28	05:36	06:08 (1)	05:20		06:19 (1)		06:41 (1)	20:51	19:40	18:33	16:41	16:30
	17:10	18:07	18:56	20:49	21:37	23 06:31 (1)	22:04	11	06:30 (1)	23	06:18 (1)	06:35	07:26	08:17	08:11	08:46
24	08:32	07:38	06:35	06:26	05:35	06:08 (1)	05:20		06:19 (1)		06:41 (1)	20:49	19:38	18:31	16:40	16:31
	17:12	18:09	18:58	20:51	21:39	24 06:32 (1)	22:04	12	06:31 (1)	21	06:20 (1)	06:37	07:27	08:18	08:13	08:46
25	08:31	07:36	06:33	06:24	05:34	06:08 (1)	05:20		06:19 (1)		06:41 (1)	20:46	19:35	18:29	16:39	16:31
	17:13	18:11	19:00	20:53	21:40	24 06:32 (1)	22:04	12	06:31 (1)	20	06:20 (1)	06:38	07:29	07:20	08:15	08:47
26	08:30	07:34	06:31	06:22	05:32	06:08 (1)	05:21		06:19 (1)		06:40 (1)	20:44	19:33	17:27	16:38	16:32
	17:15	18:12	19:02	20:55	21:42	24 06:32 (1)	22:04	12	06:31 (1)	19	06:20 (1)	06:40	07:31	07:22	08:16	08:47
27	08:28	07:32	06:28	06:20	05:31	06:08 (1)	05:21		06:19 (1)		06:39 (1)	20:42	19:31	17:25	16:37	16:33
	17:17	18:14	19:03	20:56	21:43	24 06:32 (1)	22:04	13	06:32 (1)	17	06:22 (1)	06:42	07:32	07:24	08:18	08:47
28	08:27	07:30	06:26	06:18	05:30	06:08 (1)	05:22		06:19 (1)		06:39 (1)	20:40	19:28	17:23	16:36	16:33
	17:19	18:16	19:05	20:58	21:44	24 06:32 (1)	22:04	13	06:32 (1)	15	06:23 (1)	06:43	07:34	07:26	08:19	08:48
29	08:25		07:24	06:16	05:29	06:08 (1)	05:22		06:19 (1)		06:38 (1)	20:38	19:26	17:21	16:35	16:34
	17:21		20:07	21:00	21:45	24 06:32 (1)	22:03	14	06:33 (1)	12	06:25 (1)	06:45	07:36	07:27	08:21	08:48
30	08:24		07:21	06:14	05:28	06:09 (1)	05:23		06:19 (1)		06:37 (1)	20:36	19:24	17:19	16:34	16:35
	17:22		20:09	21:01	21:47	23 06:32 (1)	22:03	15	06:34 (1)	9	06:26 (1)	06:47	07:37	07:29	08:22	08:48
31	08:22		07:19		05:27	06:10 (1)					06:35 (1)	20:33	19:22	17:17	16:33	16:36
	17:24		20:10		21:48	22 06:32 (1)					05:58	06:48		07:31		08:48
Potential sun hours	259	277	367	416	485		499		502		21:33	20:31		17:15		16:37
Total, worst case						381		448		602	454	381	331	266	243	
Sun reduction						0,43		0,39		0,41						
Oper. time red.						0,95		0,95		0,95						
Wind dir. red.						0,67		0,67		0,67						
Total reduction						0,27		0,25		0,26						
Total, real						103		111		155						

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:32/3.2.737

SHADOW - Calendar

Calculation: Copy of V136@149Shadow receptor: R - 3998JD92

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	06:45 (2)	05:26	05:58 (1)	05:23	06:03 (1)	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03	17 07:02 (2)	21:49	23 06:21 (1)	22:03	25 06:28 (1)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	06:46 (2)	05:26	05:58 (1)	05:24	06:04 (1)	06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05	14 07:00 (2)	21:50	23 06:21 (1)	22:03	25 06:29 (1)	21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08	06:48 (2)	05:25	05:59 (1)	05:25	06:04 (1)	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06	12 07:00 (2)	21:51	23 06:22 (1)	22:02	25 06:29 (1)	21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06	06:49 (2)	05:24	05:58 (1)	05:26	06:04 (1)	06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08	9 06:58 (2)	21:52	24 06:22 (1)	22:02	25 06:29 (1)	21:26	20:22	19:12	17:07	16:31
5	08:47	08:14	07:19	07:08	06:04		05:23	05:59 (1)	05:26	06:04 (1)	06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10		21:53	24 06:23 (1)	22:01	25 06:29 (1)	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02		05:23	05:58 (1)	05:27	06:05 (1)	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11		21:54	25 06:23 (1)	22:01	24 06:29 (1)	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01		05:22	05:59 (1)	05:28	06:05 (1)	06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13		21:55	25 06:24 (1)	22:00	25 06:30 (1)	21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59		05:22	05:59 (1)	05:29	06:06 (1)	06:11	07:01 (2)	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15		21:56	24 06:23 (1)	22:00	24 06:30 (1)	21:19	3 07:04 (2)	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57		05:21	05:59 (1)	05:30	06:06 (1)	06:12	06:58 (2)	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16		21:57	25 06:24 (1)	21:59	24 06:30 (1)	21:17	10 07:08 (2)	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55		05:21	05:59 (1)	05:31	06:05 (1)	06:14	06:56 (2)	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18		21:58	24 06:23 (1)	21:58	24 06:29 (1)	21:15	13 07:09 (2)	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54		05:20	05:59 (1)	05:32	06:06 (1)	06:16	06:55 (2)	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19		21:58	25 06:24 (1)	21:57	23 06:29 (1)	21:13	15 07:10 (2)	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52		05:20	06:00 (1)	05:33	06:06 (1)	06:17	06:54 (2)	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21		21:59	24 06:24 (1)	21:57	23 06:29 (1)	21:11	17 07:11 (2)	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50		05:20	06:00 (1)	05:34	06:07 (1)	06:19	06:54 (2)	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23		22:00	25 06:25 (1)	21:56	23 06:30 (1)	21:09	17 07:11 (2)	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49		05:19	06:00 (1)	05:35	06:08 (1)	06:21	06:53 (2)	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24		22:00	25 06:25 (1)	21:55	21 06:29 (1)	21:07	18 07:11 (2)	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47		05:19	06:00 (1)	05:36	06:08 (1)	06:22	06:53 (2)	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26		22:01	24 06:24 (1)	21:54	21 06:29 (1)	21:05	19 07:12 (2)	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46		05:19	06:00 (1)	05:38	06:09 (1)	06:24	06:52 (2)	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27		22:01	25 06:25 (1)	21:53	19 06:28 (1)	21:03	19 07:11 (2)	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44		05:19	06:00 (1)	05:39	06:09 (1)	06:25	06:53 (2)	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29		22:02	25 06:25 (1)	21:52	19 06:28 (1)	21:01	18 07:11 (2)	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43		05:19	06:00 (1)	05:40	06:10 (1)	06:27	06:54 (2)	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30		22:02	25 06:25 (1)	21:51	17 06:27 (1)	20:59	16 07:10 (2)	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41		05:19	06:02 (1)	05:41	06:11 (1)	06:29	06:56 (2)	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32		22:03	24 06:26 (1)	21:49	15 06:26 (1)	20:57	13 07:09 (2)	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40		05:19	06:02 (1)	05:43	06:13 (1)	06:30	06:57 (2)	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33		22:03	24 06:26 (1)	21:48	13 06:26 (1)	20:55	11 07:08 (2)	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	06:56 (2)	05:39	05:19	06:02 (1)	05:44	06:14 (1)	06:32	06:59 (2)	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	4 07:00 (2)	21:35	22:03	24 06:26 (1)	21:47	10 06:24 (1)	20:53	8 07:07 (2)	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	06:54 (2)	05:37	06:05 (1)	05:19	06:02 (1)	05:45	06:16 (1)	06:34	07:00 (2)	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	8 07:02 (2)	21:36	8 06:13 (1)	22:03	24 06:26 (1)	21:46	6 06:22 (1)	20:51	4 07:04 (2)	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	06:52 (2)	05:36	06:03 (1)	05:20	06:02 (1)	05:47		06:35		07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	11 07:03 (2)	21:37	12 06:15 (1)	22:04	24 06:26 (1)	21:44		20:49		19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	06:50 (2)	05:35	06:02 (1)	05:20	06:02 (1)	05:48		06:37		07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	14 07:04 (2)	21:39	14 06:16 (1)	22:04	25 06:27 (1)	21:43		20:46		19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	06:48 (2)	05:34	06:01 (1)	05:20	06:02 (1)	05:50		06:38		07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	16 07:04 (2)	21:40	16 06:17 (1)	22:04	25 06:27 (1)	21:42		20:44		19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	06:46 (2)	05:32	06:00 (1)	05:21	06:02 (1)	05:51		06:40		07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	18 07:04 (2)	21:42	18 06:18 (1)	22:04	25 06:27 (1)	21:40		20:42		19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	06:45 (2)	05:31	06:00 (1)	05:21	06:03 (1)	05:52		06:42		07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	19 07:04 (2)	21:43	19 06:19 (1)	22:04	24 06:27 (1)	21:39		20:40		19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	06:45 (2)	05:30	05:59 (1)	05:22	06:03 (1)	05:54		06:43		07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	19 07:04 (2)	21:44	20 06:19 (1)	22:04	24 06:27 (1)	21:37		20:38		19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	06:45 (2)	05:29	05:59 (1)	05:22	06:03 (1)	05:55		06:45		07:36	07:27	08:21	08:48
	17:21		20:07	21:00	18 07:03 (2)	21:45	21 06:20 (1)	22:03	25 06:28 (1)	21:36		20:36		19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	06:45 (2)	05:28	05:59 (1)	05:23	06:04 (1)	05:57		06:47		07:37	07:29	08:22	08:48
	17:22		20:08	21:01	18 07:03 (2)	21:47	22 06:21 (1)	22:03	25 06:29 (1)	21:34		20:33		19:22	17:17	16:33	16:36
31	08:22		07:19			05:27	05:59 (1)			05:58		06:48			07:31		08:48
	17:24		20:10			21:48	22 06:21 (1)			21:33		20:31			17:15		16:37
Potential sun hours	259	277	367	416	485		499		502		454		381	331	266	243
Total, worst case				145	224		731		456		201					
Sun reduction				0,42	0,43		0,39		0,41		0,42					
Oper. time red.				0,95	0,95		0,95		0,95		0,95					
Wind dir. red.				0,64	0,66		0,67		0,67		0,64					
Total reduction				0,25	0,27		0,25		0,26		0,25					
Total, real				37	60		182		118		51					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:32/3.2.737

SHADOW - Calendar

Calculation: Copy of V136@149Shadow receptor: S - 3998NA1

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	06:47 (2)	05:26	05:58 (1)	05:23	06:01 (1)	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03 19	07:06 (2)	21:49 21	06:19 (1)	22:03 26	06:27 (1)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	06:48 (2)	05:26	05:57 (1)	05:24	06:02 (1)	06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05 16	07:04 (2)	21:50 22	06:19 (1)	22:03 26	06:28 (1)	21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08	06:50 (2)	05:25	05:58 (1)	05:25	06:02 (1)	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06 14	07:04 (2)	21:51 22	06:20 (1)	22:02 26	06:28 (1)	21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06	06:51 (2)	05:24	05:57 (1)	05:26	06:02 (1)	06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08 11	07:02 (2)	21:52 23	06:20 (1)	22:02 26	06:28 (1)	21:26	20:22	19:12	17:07	16:31
5	08:47	08:14	07:19	07:08	06:04	06:52 (2)	05:23	05:57 (1)	05:26	06:03 (1)	06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10 7	06:59 (2)	21:53 24	06:21 (1)	22:01 25	06:28 (1)	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02		05:23	05:57 (1)	05:27	06:03 (1)	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11		21:54 25	06:22 (1)	22:01 25	06:28 (1)	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01		05:22	05:56 (1)	05:28	06:04 (1)	06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13		21:55 25	06:21 (1)	22:00 24	06:28 (1)	21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59		05:22	05:57 (1)	05:29	06:04 (1)	06:11	07:01 (2)	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15		21:56 25	06:22 (1)	22:00 24	06:28 (1)	21:19 9	07:10 (2)	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57		05:21	05:57 (1)	05:30	06:05 (1)	06:12	07:00 (2)	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16		21:57 26	06:23 (1)	21:59 23	06:28 (1)	21:17 12	07:12 (2)	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55		05:21	05:57 (1)	05:31	06:05 (1)	06:14	06:58 (2)	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18		21:58 26	06:23 (1)	21:58 22	06:27 (1)	21:15 15	07:13 (2)	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54		05:20	05:57 (1)	05:32	06:05 (1)	06:16	06:57 (2)	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19		21:58 26	06:23 (1)	21:57 21	06:26 (1)	21:13 17	07:14 (2)	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52		05:20	05:57 (1)	05:33	06:06 (1)	06:17	06:56 (2)	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21		21:59 27	06:24 (1)	21:57 20	06:26 (1)	21:11 18	07:14 (2)	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50		05:20	05:58 (1)	05:34	06:08 (1)	06:19	06:56 (2)	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23		22:00 26	06:24 (1)	21:56 19	06:27 (1)	21:09 19	07:15 (2)	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49		05:19	05:57 (1)	05:35	06:09 (1)	06:21	06:55 (2)	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24		22:00 27	06:24 (1)	21:55 17	06:26 (1)	21:07 20	07:15 (2)	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47		05:19	05:57 (1)	05:36	06:10 (1)	06:22	06:55 (2)	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26		22:01 27	06:24 (1)	21:54 15	06:25 (1)	21:05 20	07:15 (2)	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46		05:19	05:57 (1)	05:38	06:11 (1)	06:24	06:54 (2)	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27		22:01 27	06:24 (1)	21:53 13	06:24 (1)	21:03 21	07:15 (2)	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44		05:19	05:58 (1)	05:39	06:12 (1)	06:25	06:54 (2)	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29		22:02 27	06:25 (1)	21:52 11	06:23 (1)	21:01 21	07:15 (2)	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43		05:19	05:58 (1)	05:40	06:14 (1)	06:27	06:54 (2)	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30		22:02 27	06:25 (1)	21:51 7	06:21 (1)	20:59 20	07:14 (2)	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41		05:19	05:58 (1)	05:41		06:29	06:56 (2)	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32		22:03 27	06:25 (1)	21:49		20:57 17	07:13 (2)	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	06:58 (2) 05:40		05:19	05:59 (1)	05:43		06:30	06:57 (2)	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44 4	07:02 (2) 21:33		22:03 27	06:26 (1)	21:48		20:55 15	07:12 (2)	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	06:56 (2) 05:39		05:19	05:59 (1)	05:44		06:32	06:59 (2)	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46 9	07:05 (2) 21:35		22:03 27	06:26 (1)	21:47		20:53 12	07:11 (2)	19:42	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	06:54 (2) 05:37		05:19	05:59 (1)	05:45		06:33	07:00 (2)	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48 12	07:06 (2) 21:36		22:03 27	06:26 (1)	21:46		20:51 8	07:08 (2)	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	06:52 (2) 05:36		05:20	05:59 (1)	05:47		06:35	07:02 (2)	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49 15	07:07 (2) 21:37		22:04 27	06:26 (1)	21:44		20:49 3	07:05 (2)	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	06:50 (2) 05:35		05:20	06:00 (1)	05:48		06:37		07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51 18	07:08 (2) 21:39		22:04 27	06:27 (1)	21:43		20:46		19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	06:48 (2) 05:34	06:07 (1)	05:20	06:00 (1)	05:50		06:38		07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53 20	07:08 (2) 21:40 2	06:09 (1)	22:04 27	06:27 (1)	21:42		20:44		19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	06:48 (2) 05:32	06:03 (1)	05:21	05:59 (1)	05:51		06:40		07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55 20	07:08 (2) 21:42 9	06:12 (1)	22:04 27	06:26 (1)	21:40		20:42		19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	06:47 (2) 05:31	06:02 (1)	05:21	06:00 (1)	05:52		06:42		07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56 21	07:08 (2) 21:43 12	06:14 (1)	22:04 27	06:27 (1)	21:39		20:40		19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	06:47 (2) 05:30	06:01 (1)	05:22	06:00 (1)	05:54		06:43		07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58 21	07:08 (2) 21:44 14	06:15 (1)	22:04 27	06:27 (1)	21:37		20:38		19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	06:47 (2) 05:29	06:00 (1)	05:22	06:01 (1)	05:55		06:45		07:36	07:27	08:21	08:48
	17:21		20:07	21:00 20	07:07 (2) 21:45 16	06:16 (1)	22:03 26	06:27 (1)	21:36		20:35		19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	06:47 (2) 05:28	06:00 (1)	05:23	06:01 (1)	05:57		06:47		07:37	07:29	08:22	08:48
	17:22		20:08	21:01 20	07:07 (2) 21:47 18	06:18 (1)	22:03 27	06:28 (1)	21:34		20:33		19:22	17:17	16:33	16:36
31	08:22		07:19		05:27	05:59 (1)			05:58		06:48			07:31		08:48
	17:24		20:10		21:48 19	06:18 (1)			21:33		20:31			17:15		16:37
Potential sun hours	259	277	367	416	485		499		502		454		381	331	266	243
Total, worst case				180	157		776		370		247					
Sun reduction				0,42	0,43		0,39		0,41		0,42					
Oper. time red.				0,95	0,95		0,95		0,95		0,95					
Wind dir. red.				0,64	0,66		0,67		0,67		0,64					
Total reduction				0,25	0,27		0,25		0,26		0,25					
Total, real				46	42		193		96		62					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:32/3.2.737

SHADOW - Calendar

Calculation: Copy of V136@149Shadow receptor: T - 3997MR17

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March	April	May	June	July	August	September	October	November		December	
1	08:48	09:40 (4)	08:21	14:49 (1)	07:27	07:17	06:12	05:26	05:23	06:00	06:50	07:39	07:33		08:24	14:15 (1)
	16:38 65	15:16 (1)	17:26 30	15:19 (1)	18:18	20:12	21:03	21:49	22:03	21:31	20:29	19:19	17:13		16:32 48	15:03 (1)
2	08:48	09:41 (4)	08:19	14:50 (1)	07:25	07:14	06:10	05:25	05:24	06:01	06:51	07:41	07:35		08:25	09:33 (4)
	16:39 63	15:16 (1)	17:28 28	15:18 (1)	18:20	20:14	21:05	21:50	22:03	21:29	20:26	19:17	17:11		16:32 55	15:04 (1)
3	08:48	09:42 (4)	08:18	14:54 (1)	07:23	07:12	06:08	05:25	05:25	06:03	06:53	07:42	07:36		08:27	09:31 (4)
	16:40 63	15:17 (1)	17:30 23	15:17 (1)	18:21	20:15	21:06	21:51	22:02	21:28	20:24	19:14	17:09		16:31 58	15:04 (1)
4	08:47	09:42 (4)	08:16	14:57 (1)	07:21	07:10	06:06	05:24	05:25	06:04	06:55	07:44	07:38		08:28	09:31 (4)
	16:41 63	15:17 (1)	17:31 17	15:14 (1)	18:23	20:17	21:08	21:52	22:02	21:26	20:22	19:12	17:07		16:30 60	15:05 (1)
5	08:47	09:43 (4)	08:14	15:01 (1)	07:19	07:07	06:04	05:23	05:26	06:06	06:56	07:46	07:40		08:29	09:30 (4)
	16:43 62	15:18 (1)	17:33 9	15:10 (1)	18:25	20:19	21:10	21:53	22:01	21:24	20:20	19:10	17:06		16:30 61	15:04 (1)
6	08:47	09:44 (4)	08:13		07:16	07:05	06:02	05:23	05:27	06:08	06:58	07:47	07:42	14:30 (1)	08:31	09:30 (4)
	16:44 62	15:18 (1)	17:35		18:27	20:20	21:11	21:54	22:01	21:22	20:17	19:08	17:04 10	14:40 (1)	16:30 62	15:04 (1)
7	08:46	09:45 (4)	08:11		07:14	07:03	06:00	05:22	05:28	06:09	06:59	07:49	07:44	14:26 (1)	08:32	09:30 (4)
	16:45 61	15:19 (1)	17:37		18:28	20:22	21:13	21:55	22:00	21:20	20:15	19:05	17:02 18	14:44 (1)	16:29 62	15:05 (1)
8	08:46	09:46 (4)	08:09		07:12	07:01	05:59	05:21	05:29	06:11	07:01	07:51	07:45	14:23 (1)	08:33	09:30 (4)
	16:46 59	15:19 (1)	17:39		18:30	20:24	21:15	21:56	22:00	21:19	20:13	19:03	17:00 24	14:47 (1)	16:29 63	15:05 (1)
9	08:45	09:48 (4)	08:08		07:10	06:58	05:57	05:21	05:30	06:12	07:03	07:52	07:47	14:21 (1)	08:34	09:30 (4)
	16:48 58	15:21 (1)	17:41		18:32	20:26	21:16	21:57	21:59	21:17	20:10	19:01	16:59 28	14:49 (1)	16:28 64	15:05 (1)
10	08:45	09:49 (4)	08:06		07:07	06:56	05:55	05:20	05:31	06:14	07:04	07:54	07:49	14:19 (1)	08:35	09:30 (4)
	16:49 56	15:21 (1)	17:43		18:34	20:27	21:18	21:58	21:58	21:15	20:08	18:59	16:57 31	14:50 (1)	16:28 64	15:06 (1)
11	08:44	09:53 (4)	08:04		07:05	06:54	05:54	05:20	05:32	06:16	07:06	07:56	07:51	14:18 (1)	08:37	09:30 (4)
	16:51 49	15:21 (1)	17:45		18:36	20:29	21:19	21:58	21:57	21:13	20:06	18:56	16:56 34	14:52 (1)	16:28 65	15:06 (1)
12	08:44	14:33 (1)	08:02		07:03	06:52	05:52	05:20	05:33	06:17	07:08	07:57	07:53	14:17 (1)	08:38	09:31 (4)
	16:52 48	15:21 (1)	17:46		18:37	20:31	21:21	21:59	21:56	21:11	20:03	18:54	16:54 36	14:53 (1)	16:28 64	15:07 (1)
13	08:43	14:34 (1)	08:00		07:00	06:49	05:50	05:19	05:34	06:19	07:09	07:59	07:54	14:16 (1)	08:39	09:32 (4)
	16:53 48	15:22 (1)	17:48		18:39	20:32	21:23	22:00	21:56	21:09	20:01	18:52	16:53 38	14:54 (1)	16:28 64	15:07 (1)
14	08:42	14:34 (1)	07:58		06:58	06:47	05:49	05:19	05:35	06:20	07:11	08:01	07:56	14:15 (1)	08:40	09:32 (4)
	16:55 48	15:22 (1)	17:50		18:41	20:34	21:24	22:00	21:55	21:07	19:59	18:50	16:51 40	14:55 (1)	16:28 65	15:08 (1)
15	08:41	14:35 (1)	07:56		06:56	06:45	05:47	05:19	05:36	06:22	07:13	08:03	07:58	14:15 (1)	08:40	09:31 (4)
	16:57 48	15:23 (1)	17:52		18:43	20:36	21:26	22:01	21:54	21:05	19:56	18:47	16:50 41	14:56 (1)	16:28 71	15:07 (1)
16	08:41	14:35 (1)	07:54		06:54	06:43	05:46	05:19	05:38	06:24	07:14	08:04	08:00	14:14 (1)	08:41	09:32 (4)
	16:58 48	15:23 (1)	17:54		18:44	20:37	21:27	22:01	21:53	21:03	19:54	18:45	16:48 43	14:57 (1)	16:28 72	15:08 (1)
17	08:40	14:35 (1)	07:52		06:51	06:41	05:44	05:19	05:39	06:25	07:16	08:06	08:01	14:14 (1)	08:42	09:32 (4)
	17:00 48	15:23 (1)	17:56		18:46	20:39	21:29	22:02	21:52	21:01	19:52	18:43	16:47 44	14:58 (1)	16:28 73	15:08 (1)
18	08:39	14:36 (1)	07:50		06:49	06:38	05:43	05:19	05:40	06:27	07:17	08:08	08:03	14:14 (1)	08:43	09:33 (4)
	17:01 47	15:23 (1)	17:58		18:48	20:41	21:30	22:02	21:51	20:59	19:49	18:41	16:46 44	14:58 (1)	16:29 75	15:09 (1)
19	08:38	14:36 (1)	07:48		06:47	06:36	05:41	05:19	05:41	06:28	07:19	08:10	08:05	14:13 (1)	08:44	09:33 (4)
	17:03 48	15:24 (1)	17:59		18:50	20:43	21:32	22:03	21:49	20:57	19:47	18:39	16:44 45	14:58 (1)	16:29 75	15:09 (1)
20	08:37	14:37 (1)	07:46		06:44	06:34	05:40	05:19	05:43	06:30	07:21	08:11	08:06	14:13 (1)	08:44	09:34 (4)
	17:05 47	15:24 (1)	18:01		18:51	20:44	21:33	22:03	21:48	20:55	19:45	18:37	16:43 46	14:59 (1)	16:29 75	15:09 (1)
21	08:36	14:38 (1)	07:44		06:42	06:32	05:38	05:19	05:44	06:32	07:22	08:13	08:08	14:13 (1)	08:45	09:35 (4)
	17:06 46	15:24 (1)	18:03		18:53	20:46	21:35	22:03	21:47	20:53	19:42	18:35	16:42 46	14:59 (1)	16:30 75	15:10 (1)
22	08:34	14:38 (1)	07:42		06:40	06:30	05:37	05:19	05:45	06:33	07:24	08:15	08:10	14:13 (1)	08:45	09:35 (4)
	17:08 46	15:24 (1)	18:05		18:55	20:48	21:36	22:03	21:46	20:51	19:40	18:33	16:41 47	15:00 (1)	16:30 75	15:10 (1)
23	08:33	14:39 (1)	07:40		06:37	06:28	05:36	05:20	05:47	06:35	07:26	08:17	08:11	14:13 (1)	08:46	09:35 (4)
	17:10 45	15:24 (1)	18:07		18:56	20:49	21:37	22:04	21:44	20:49	19:38	18:31	16:40 48	15:01 (1)	16:31 75	15:10 (1)
24	08:32	14:40 (1)	07:38		06:35	06:26	05:35	05:20	05:48	06:37	07:27	08:18	08:13	14:13 (1)	08:46	09:36 (4)
	17:12 44	15:24 (1)	18:09		18:58	20:51	21:39	22:04	21:43	20:46	19:35	18:28	16:38 47	15:00 (1)	16:31 75	15:12 (1)
25	08:31	14:40 (1)	07:36		06:33	06:24	05:33	05:20	05:49	06:38	07:29	07:20	08:15	14:13 (1)	08:47	09:36 (4)
	17:13 44	15:24 (1)	18:10		19:00	20:53	21:40	22:04	21:42	20:44	19:33	17:26	16:37 48	15:01 (1)	16:32 75	15:12 (1)
26	08:30	14:42 (1)	07:34		06:30	06:22	05:32	05:21	05:51	06:40	07:31	07:22	08:16	14:14 (1)	08:47	09:36 (4)
	17:15 42	15:24 (1)	18:12		19:02	20:54	21:41	22:04	21:40	20:42	19:31	17:24	16:36 48	15:02 (1)	16:32 73	15:12 (1)
27	08:28	14:42 (1)	07:32		06:28	06:20	05:31	05:21	05:52	06:42	07:32	07:24	08:18	14:14 (1)	08:47	09:38 (4)
	17:17 41	15:23 (1)	18:14		19:03	20:56	21:43	22:04	21:39	20:40	19:28	17:22	16:36 48	15:02 (1)	16:33 71	15:13 (1)
28	08:27	14:44 (1)	07:30		06:26	06:18	05:30	05:21	05:54	06:43	07:34	07:26	08:19	14:14 (1)	08:48	09:38 (4)
	17:19 39	15:23 (1)	18:16		19:05	20:58	21:44	22:03	21:37	20:38	19:26	17:20	16:35 48	15:02 (1)	16:34 71	15:14 (1)
29	08:25	14:44 (1)			07:24	06:16	05:29	05:22	05:55	06:45	07:35	07:27	08:21	14:15 (1)	08:48	09:39 (4)
	17:20 38	15:22 (1)			20:07	21:00	21:45	22:03	21:36	20:35	19:24	17:19	16:34 48	15:03 (1)	16:35 68	15:14 (1)
30	08:24	14:45 (1)			07:21	06:14	05:28	05:23	05:57	06:46	07:37	07:29	08:22	14:15 (1)	08:48	09:39 (4)
	17:22 36	15:21 (1)			20:08	21:01	21:47	22:03	21:34	20:33	19:21	17:17	16:33 48	15:03 (1)	16:36 65	15:15 (1)
31	08:22	14:47 (1)			07:19		05:27		05:58	06:48		07:31			08:48	09:39 (4)
	17:24 34	15:21 (1)			20:10		21:48		21:33	20:31		17:15			16:37 65	15:15 (1)
Potential sun hours	259		277		367	416	485	499	502	454	381	331	266		243	
Total, worst case	1546		107										998		2084	
Sun reduction	0,24		0,30										0,24		0,20	
Oper. time red.	0,95		0,95										0,95		0,95	
Wind dir. red.	0,69		0,70										0,70		0,66	
Total reduction	0,16		0,20										0,16		0,13	
Total, real	240		21										155		266	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:32/3.2.737

SHADOW - Calendar

Calculation: Copy of V136@149Shadow receptor: U - 3945LA4

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December		
1	08:48		13:54 (3)	08:21		16:14 (2)	07:27		17:36 (1)	07:17	06:12	05:26	05:23	06:00	06:50			07:39		18:10 (1)	07:33		15:42 (2)	08:24		
	16:38	27	14:21 (3)	17:26	29	16:43 (2)	18:18	14	17:50 (1)	20:12	21:03	21:49	22:03	21:31	20:29			19:19	20	18:30 (1)	17:13	35	16:17 (2)	16:32			
2	08:48		13:55 (3)	08:19		16:14 (2)	07:25		17:34 (1)	07:14	06:10	05:25	05:24	06:01	06:51			07:40		18:09 (1)	07:35		15:42 (2)	08:25		13:55 (3)
	16:39	26	14:21 (3)	17:28	29	16:43 (2)	18:19	18	17:52 (1)	20:13	21:05	21:50	22:02	21:29	20:26			19:17	22	18:31 (1)	17:11	35	16:17 (2)	16:32	2	13:57 (3)
3	08:48		13:57 (3)	08:18		16:14 (2)	07:23		17:32 (1)	07:12	06:08	05:25	05:25	06:03	06:53			07:42		18:07 (1)	07:36		15:41 (2)	08:27		13:50 (3)
	16:40	25	14:22 (3)	17:30	31	16:45 (2)	18:21	20	17:52 (1)	20:15	21:06	21:51	22:02	21:27	20:24			19:14	24	18:31 (1)	17:09	35	16:16 (2)	16:31	11	14:01 (3)
4	08:47		13:57 (3)	08:16		16:13 (2)	07:21		17:31 (1)	07:10	06:06	05:24	05:25	06:04	06:55			07:44		18:06 (1)	07:38		15:42 (2)	08:28		13:49 (3)
	16:41	24	14:21 (3)	17:31	32	16:45 (2)	18:23	23	17:54 (1)	20:17	21:08	21:52	22:02	21:26	20:22			19:12	25	18:31 (1)	17:07	34	16:16 (2)	16:30	15	14:04 (3)
5	08:47		13:59 (3)	08:14		16:13 (2)	07:18		17:30 (1)	07:07	06:04	05:23	05:26	06:06	06:56			07:45		18:06 (1)	07:40		15:42 (2)	08:29		13:47 (3)
	16:42	22	14:21 (3)	17:33	33	16:46 (2)	18:25	24	17:54 (1)	20:19	21:10	21:53	22:01	21:24	20:20			19:10	25	18:31 (1)	17:06	34	16:16 (2)	16:30	18	14:05 (3)
6	08:47		14:00 (3)	08:13		16:12 (2)	07:16		17:29 (1)	07:05	06:02	05:23	05:27	06:08	06:58			07:47		18:05 (1)	07:42		15:42 (2)	08:31		13:46 (3)
	16:44	20	14:20 (3)	17:35	34	16:46 (2)	18:27	25	17:54 (1)	20:20	21:11	21:54	22:01	21:22	20:17			19:08	25	18:30 (1)	17:04	33	16:15 (2)	16:29	20	14:06 (3)
7	08:46		14:02 (3)	08:11		16:12 (2)	07:14		17:29 (1)	07:03	06:00	05:22	05:28	06:09	06:59			07:49		18:05 (1)	07:44		15:43 (2)	08:32		13:46 (3)
	16:45	18	14:20 (3)	17:37	34	16:46 (2)	18:28	25	17:54 (1)	20:22	21:13	21:55	22:00	21:20	20:15			19:05	25	18:30 (1)	17:02	32	16:15 (2)	16:29	22	14:08 (3)
8	08:46		14:04 (3)	08:09		16:13 (2)	07:12		17:29 (1)	07:01	05:59	05:21	05:29	06:11	07:01			07:51		18:05 (1)	07:45		15:44 (2)	08:33		13:45 (3)
	16:46	15	14:19 (3)	17:39	34	16:47 (2)	18:30	25	17:54 (1)	20:24	21:14	21:56	21:59	21:19	20:13			19:03	25	18:30 (1)	17:00	31	16:15 (2)	16:29	24	14:09 (3)
9	08:45		14:07 (3)	08:07		16:13 (2)	07:10		17:29 (1)	06:58	05:57	05:21	05:30	06:12	07:03			07:52		18:06 (1)	07:47		15:44 (2)	08:34		13:45 (3)
	16:48	11	14:18 (3)	17:41	34	16:47 (2)	18:32	25	17:54 (1)	20:25	21:16	21:57	21:59	21:17	20:10			19:01	23	18:29 (1)	16:59	30	16:14 (2)	16:28	25	14:10 (3)
10	08:45		14:11 (3)	08:06		16:13 (2)	07:07		17:29 (1)	06:56	05:55	05:20	05:31	06:14	07:04			07:54		18:06 (1)	07:49		15:45 (2)	08:35		13:44 (3)
	16:49	3	14:14 (3)	17:43	34	16:47 (2)	18:34	24	17:53 (1)	20:27	21:18	21:57	21:58	21:15	20:08			18:59	21	18:27 (1)	16:57	28	16:13 (2)	16:28	26	14:10 (3)
11	08:44			08:04		16:13 (2)	07:05		17:29 (1)	06:54	05:53	05:20	05:32	06:16	07:06			07:56		18:07 (1)	07:51		15:46 (2)	08:37		13:44 (3)
	16:50			17:45	34	16:47 (2)	18:35	23	17:52 (1)	20:29	21:19	21:58	21:57	21:13	20:06			18:56	19	18:26 (1)	16:56	27	16:13 (2)	16:28	27	14:11 (3)
12	08:44			08:02		16:13 (2)	07:03		17:31 (1)	06:52	05:52	05:20	05:33	06:17	07:08			07:57		18:08 (1)	07:52		15:47 (2)	08:38		13:44 (3)
	16:52			17:46	34	16:47 (2)	18:37	21	17:52 (1)	20:31	21:21	21:59	21:56	21:11	20:03			18:54	16	18:24 (1)	16:54	25	16:12 (2)	16:28	28	14:12 (3)
13	08:43			08:00		16:14 (2)	07:00		17:31 (1)	06:49	05:50	05:19	05:34	06:19	07:09			07:59		18:10 (1)	07:54		15:49 (2)	08:39		13:45 (3)
	16:53			17:48	32	16:46 (2)	18:39	19	17:50 (1)	20:32	21:22	22:00	21:56	21:09	20:01			18:52	12	18:22 (1)	16:52	21	16:10 (2)	16:28	29	14:14 (3)
14	08:42			07:58		16:15 (2)	06:58		17:33 (1)	06:47	05:49	05:19	05:35	06:20	07:11			08:01		18:14 (1)	07:56		15:51 (2)	08:40		13:44 (3)
	16:55			17:50	31	16:46 (2)	18:41	15	17:48 (1)	20:34	21:24	22:00	21:55	21:07	19:59			18:50	3	18:17 (1)	16:51	18	16:09 (2)	16:28	29	14:13 (3)
15	08:41			07:56		16:15 (2)	06:56		17:36 (1)	06:45	05:47	05:19	05:36	06:22	07:12			08:03			07:58		15:53 (2)	08:40		13:45 (3)
	16:56			17:52	30	16:45 (2)	18:43	10	17:46 (1)	20:36	21:26	22:01	21:54	21:05	19:56			18:47			16:50	14	16:07 (2)	16:28	29	14:14 (3)
16	08:41			07:54		16:17 (2)	06:54			06:43	05:46	05:19	05:37	06:24	07:14			08:04			08:00		15:56 (2)	08:41		13:45 (3)
	16:58			17:54	27	16:44 (2)	18:44			20:37	21:27	22:01	21:53	21:03	19:54			18:45			16:48	9	16:05 (2)	16:28	30	14:15 (3)
17	08:40			07:52		16:18 (2)	06:51			06:41	05:44	05:19	05:39	06:25	07:16			08:06			08:01			08:42		13:45 (3)
	17:00			17:56	25	16:43 (2)	18:46			20:39	21:29	22:02	21:52	21:01	19:52			18:43			16:47			16:28	31	14:16 (3)
18	08:39			07:50		16:20 (2)	06:49			06:38	05:43	05:19	05:40	06:27	07:17			08:08			08:03			08:43		13:46 (3)
	17:01			17:58	22	16:42 (2)	18:48			20:41	21:30	22:02	21:50	20:59	19:49			18:41			16:45			16:28	31	14:17 (3)
19	08:38			07:48		16:22 (2)	06:47			06:36	05:41	05:19	05:41	06:28	07:19			08:10			08:05			08:44		13:46 (3)
	17:03			17:59	18	16:40 (2)	18:49			20:43	21:32	22:02	21:49	20:57	19:47			18:39			16:44			16:29	31	14:17 (3)
20	08:37			07:46		16:24 (2)	06:44			06:34	05:40	05:19	05:43	06:30	07:21			08:11			08:06			08:44		13:46 (3)
	17:05			18:01	12	16:36 (2)	18:51			20:44	21:33	22:03	21:48	20:55	19:45			18:37			16:43			16:29	31	14:17 (3)
21	08:36			07:44			06:42			06:32	05:38	05:19	05:44	06:32	07:22			08:13		16:59 (2)	08:08			08:45		13:47 (3)
	17:06			18:03			18:53			20:46	21:35	22:03	21:47	20:53	19:42			18:35	5	17:04 (2)	16:42			16:30	31	14:18 (3)
22	08:34			07:42			06:40			06:30	05:37	05:19	05:45	06:33	07:24			08:15		16:53 (2)	08:10			08:45		13:47 (3)
	17:08			18:05			18:55			20:48	21:36	22:03	21:46	20:51	19:40			18:33	14	17:07 (2)	16:41			16:30	31	14:18 (3)
23	08:33			07:40			06:37			06:28	05:36	05:19	05:47	06:35	07:26			08:17		16:51 (2)	08:11			08:46		13:47 (3)
	17:10			18:07			18:56			20:49	21:37	22:03	21:44	20:48	19:38			18:30	19	17:10 (2)	16:39			16:31	31	14:18 (3)
24	08:32			07:38			06:35			06:26	05:35	05:20	05:48	06:37	07:27			08:18		16:49 (2)	08:13			08:46		13:49 (3)
	17:11			18:09			18:58			20:51	21:39	22:04	21:43	20:46	19:35			18:28	22	17:11 (2)	16:38			16:31	31	14:20 (3)
25	08:31			07:36			06:33			06:24	05:33	05:20	05:49	06:38	07:29			07:20		15:47 (2)	08:15			08:47		13:49 (3)
	17:13			18:10			19:00			20:53	21:40	22:04	21:42	20:44	19:33			17:26	26	16:13 (2)	16:37			16:32	31	14:20 (3)
26	08:29		16:23 (2)	07:34			06:30			06:22	05:32	05:20	05:51	06:40	07:30			07:22		15:46 (2)	08:16			08:47		13:49 (3)
	17:15	9	16:32 (2)	18:12			19:02			20:54	21:41	22:04	21:40	20:42	19:31			17:24	28	16:14 (2)	16:36			16:32	31	14:20 (3)
27	08:28		16:20 (2)	07:32			06:28			06:20	05:31	05:21	05:52	06:41	07:32			07:24		15:45 (2)	08:18			08:47		13:50 (3)
	17:17	14	16:34 (2)	18:14			19:03			20:56	21:43	22:04	21:39	20:40	19:28			17:22	30	16:15 (2)	16:35			16:33	30	14:20 (3)
28	08:27		16:19 (2)	07:29		17:39 (1)	06:26			06:18	05:30	05:21	05:54	06:43	07:34		18:18 (1)	07:26		15:44 (2)	08:19			08:47		13:51 (3)
	17:19	18	16:37 (2)	18:16	8	17:47 (1)	19:05			20:58	21:44	22:03	21:37	20:38	19:26	7	18:25 (1)	17:20	31	16:15 (2)	16:35			16:34	30	14:21 (3)
29	08:25		16:17 (2)				07:23			06:16	05:29	05:22	05:55	06:45	07:35		18:15 (1)	07:27		15:43 (2)	08:21			08:48		13:52 (3)
	17:20	22	16:39 (2)				20:07			20:59	21:45	22:03	21:36	20:35	19:24	13	18:28 (1)	17:18	33	16:16 (2)	16:34			16:35	29	14:21 (3)
30	08:24		16:16 (2)				07:21			06:14	05:28	05:23	05:57	06:46	07:37		18:11 (1)	07:29		15:43 (2)	08:22			08:48		13:53 (3)
	17:22	24	16:40 (2)				20:08			21:01	21:46	22:03	21:34	20:33	19:21	18	18:29 (1)	17:17	33	16:16 (2)	16:33			16:36	29	14:22 (3)
31	08:22		16:15 (2)				07:19				05:27		05:58	06:48				07:31		15:43 (2)				08:48		13:53 (3)
	17:24	27	16:42 (2)				20:10				21:48		21:32	20:31				17:15	34	16:17 (2)				16:37	28	14:21 (3)
Potential sun hours	259			277			367		416	485	499	502	454	381				331			266			243		
Total, worst case		305			597			311							38				560			441			791	
Sun reduction		0,24			0,30			0,33							0,36				0,34			0,24			0,20	
Oper. time red.		0,95			0,95			0,95							0,95				0,95			0,95			0,95	
Wind dir. red.		0,68			0,67			0,64							0,64				0,66			0,67			0,68	
Total reduction		0,15			0,19			0,20							0,22				0,21			0,15			0,13	
Total, real		47			116			62							8				118			67			105	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:32/3.2.737

SHADOW - Calendar

Calculation: Copy of V136@149Shadow receptor: V - 3998JD90

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	06:51 (2)	05:26	06:02 (1)	05:23	06:08 (1)	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03 11	07:02 (2)	21:49 25	06:27 (1)	22:03 24	06:32 (1)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	06:52 (2)	05:26	06:02 (1)	05:24	06:09 (1)	06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05 8	07:00 (2)	21:50 24	06:26 (1)	22:03 23	06:32 (1)	21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08		05:25	06:03 (1)	05:25	06:09 (1)	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06		21:51 24	06:27 (1)	22:02 24	06:33 (1)	21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06		05:24	06:02 (1)	05:26	06:09 (1)	06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08		21:52 25	06:27 (1)	22:02 24	06:33 (1)	21:26	20:22	19:12	17:07	16:31
5	08:47	08:14	07:19	07:08	06:04		05:23	06:03 (1)	05:26	06:09 (1)	06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10		21:53 25	06:28 (1)	22:01 24	06:33 (1)	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02		05:23	06:03 (1)	05:27	06:09 (1)	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11		21:54 24	06:27 (1)	22:01 25	06:34 (1)	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01		05:22	06:04 (1)	05:28	06:10 (1)	06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13		21:55 24	06:28 (1)	22:00 24	06:34 (1)	21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59		05:22	06:03 (1)	05:29	06:10 (1)	06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15		21:56 24	06:27 (1)	22:00 24	06:34 (1)	21:19	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57		05:21	06:04 (1)	05:30	06:10 (1)	06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16		21:57 24	06:28 (1)	21:59 25	06:35 (1)	21:17	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55		05:21	06:04 (1)	05:31	06:09 (1)	06:14	07:05 (2)	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18		21:58 23	06:27 (1)	21:58 25	06:34 (1)	21:15 1	07:06 (2)	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54		05:20	06:04 (1)	05:32	06:09 (1)	06:16	07:01 (2)	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19		21:58 24	06:28 (1)	21:57 25	06:34 (1)	21:13 9	07:10 (2)	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52		05:20	06:05 (1)	05:33	06:10 (1)	06:17	06:59 (2)	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21		21:59 23	06:28 (1)	21:57 24	06:34 (1)	21:11 12	07:11 (2)	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50		05:20	06:05 (1)	05:34	06:11 (1)	06:19	06:58 (2)	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23		22:00 23	06:28 (1)	21:56 24	06:35 (1)	21:09 15	07:13 (2)	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49		05:19	06:06 (1)	05:35	06:11 (1)	06:21	06:57 (2)	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24		22:00 23	06:29 (1)	21:55 24	06:35 (1)	21:07 16	07:13 (2)	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47		05:19	06:05 (1)	05:36	06:11 (1)	06:22	06:56 (2)	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26		22:01 23	06:28 (1)	21:54 24	06:35 (1)	21:05 18	07:14 (2)	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46		05:19	06:05 (1)	05:38	06:11 (1)	06:24	06:55 (2)	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27		22:01 23	06:28 (1)	21:53 24	06:35 (1)	21:03 19	07:14 (2)	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44		05:19	06:06 (1)	05:39	06:12 (1)	06:25	06:55 (2)	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29		22:02 22	06:28 (1)	21:52 22	06:34 (1)	21:01 19	07:14 (2)	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43	06:10 (1)	05:19	06:06 (1)	05:40	06:12 (1)	06:27	06:55 (2)	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30 6	06:16 (1)	22:02 22	06:28 (1)	21:51 22	06:34 (1)	20:59 18	07:13 (2)	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	07:00 (2) 05:41	06:08 (1)	05:19	06:07 (1)	05:41	06:12 (1)	06:29	06:56 (2)	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43 3	07:03 (2) 21:32 11	06:19 (1)	22:03 22	06:29 (1)	21:49 21	06:33 (1)	20:57 17	07:13 (2)	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	06:58 (2) 05:40	06:07 (1)	05:19	06:07 (1)	05:43	06:14 (1)	06:30	06:57 (2)	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44 7	07:05 (2) 21:33 13	06:20 (1)	22:03 22	06:29 (1)	21:48 20	06:34 (1)	20:55 15	07:12 (2)	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	06:56 (2) 05:39	06:06 (1)	05:19	06:07 (1)	05:44	06:14 (1)	06:32	06:59 (2)	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46 10	07:06 (2) 21:35 16	06:22 (1)	22:03 22	06:29 (1)	21:47 19	06:33 (1)	20:53 13	07:12 (2)	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	06:54 (2) 05:37	06:04 (1)	05:19	06:07 (1)	05:45	06:15 (1)	06:34	07:00 (2)	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48 13	07:07 (2) 21:36 18	06:22 (1)	22:03 22	06:29 (1)	21:46 17	06:32 (1)	20:51 10	07:10 (2)	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	06:52 (2) 05:36	06:04 (1)	05:20	06:07 (1)	05:47	06:16 (1)	06:35	07:02 (2)	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49 16	07:08 (2) 21:37 19	06:23 (1)	22:04 22	06:29 (1)	21:44 15	06:31 (1)	20:49 7	07:09 (2)	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	06:50 (2) 05:35	06:03 (1)	05:20	06:08 (1)	05:48	06:18 (1)	06:37	07:04 (2)	07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51 18	07:08 (2) 21:39 20	06:23 (1)	22:04 22	06:30 (1)	21:43 12	06:30 (1)	20:46 2	07:06 (2)	19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	06:49 (2) 05:34	06:03 (1)	05:20	06:08 (1)	05:50	06:19 (1)	06:38		07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53 19	07:08 (2) 21:40 21	06:24 (1)	22:04 22	06:30 (1)	21:42 9	06:28 (1)	20:44		19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	06:49 (2) 05:32	06:02 (1)	05:21	06:07 (1)	05:51		06:40		07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55 18	07:07 (2) 21:42 23	06:25 (1)	22:04 23	06:30 (1)	21:40		20:42		19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	06:49 (2) 05:31	06:02 (1)	05:21	06:08 (1)	05:52		06:42		07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56 18	07:07 (2) 21:43 23	06:25 (1)	22:04 23	06:31 (1)	21:39		20:40		19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	06:49 (2) 05:30	06:02 (1)	05:22	06:08 (1)	05:54		06:43		07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58 17	07:06 (2) 21:44 23	06:25 (1)	22:04 23	06:31 (1)	21:37		20:38		19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	06:49 (2) 05:29	06:02 (1)	05:22	06:08 (1)	05:55		06:45		07:36	07:27	08:21	08:48
	17:21		20:07	21:00 16	07:05 (2) 21:45 23	06:25 (1)	22:03 23	06:31 (1)	21:36		20:36		19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	06:50 (2) 05:28	06:02 (1)	05:23	06:09 (1)	05:57		06:47		07:37	07:29	08:22	08:48
	17:22		20:09	21:01 14	07:04 (2) 21:47 25	06:27 (1)	22:03 23	06:32 (1)	21:34		20:33		19:22	17:17	16:33	16:36
31	08:22		07:19		05:27	06:02 (1)			05:58		06:48			07:31		08:48
	17:24		20:10		21:48 25	06:27 (1)			21:33		20:31			17:15		16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case				169	285	694	544	191				
Sun reduction				0,42	0,43	0,39	0,41	0,42				
Oper. time red.				0,95	0,95	0,95	0,95	0,95				
Wind dir. red.				0,64	0,67	0,67	0,67	0,64				
Total reduction				0,25	0,27	0,25	0,26	0,25				
Total, real				43	77	172	141	48				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:32/3.2.737

SHADOW - Calendar

Calculation: Copy of V136@149Shadow receptor: W - 3998JD93

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	06:45 (2)	05:26	05:58 (1)	05:23	06:03 (1)	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03	17 07:02 (2)	21:49	23 06:21 (1)	22:03	25 06:28 (1)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	06:46 (2)	05:26	05:58 (1)	05:24	06:04 (1)	06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05	14 07:00 (2)	21:50	23 06:21 (1)	22:03	25 06:29 (1)	21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08	06:48 (2)	05:25	05:59 (1)	05:25	06:04 (1)	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06	12 07:00 (2)	21:51	23 06:22 (1)	22:02	25 06:29 (1)	21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06	06:49 (2)	05:24	05:58 (1)	05:26	06:04 (1)	06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08	9 06:58 (2)	21:52	24 06:22 (1)	22:02	25 06:29 (1)	21:26	20:22	19:12	17:07	16:31
5	08:47	08:14	07:19	07:08	06:04		05:23	05:59 (1)	05:26	06:04 (1)	06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10		21:53	24 06:23 (1)	22:01	25 06:29 (1)	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02		05:23	05:58 (1)	05:27	06:05 (1)	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11		21:54	25 06:23 (1)	22:01	24 06:29 (1)	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01		05:22	05:59 (1)	05:28	06:05 (1)	06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13		21:55	25 06:24 (1)	22:00	25 06:30 (1)	21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59		05:22	05:59 (1)	05:29	06:06 (1)	06:11	07:01 (2)	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15		21:56	24 06:23 (1)	22:00	24 06:30 (1)	21:19	3 07:04 (2)	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57		05:21	05:59 (1)	05:30	06:06 (1)	06:12	06:58 (2)	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16		21:57	25 06:24 (1)	21:59	24 06:30 (1)	21:17	10 07:08 (2)	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55		05:21	05:59 (1)	05:31	06:05 (1)	06:14	06:56 (2)	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18		21:58	24 06:23 (1)	21:58	24 06:29 (1)	21:15	13 07:09 (2)	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54		05:20	05:59 (1)	05:32	06:06 (1)	06:16	06:55 (2)	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19		21:58	25 06:24 (1)	21:57	23 06:29 (1)	21:13	15 07:10 (2)	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52		05:20	06:00 (1)	05:33	06:06 (1)	06:17	06:54 (2)	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21		21:59	24 06:24 (1)	21:57	23 06:29 (1)	21:11	17 07:11 (2)	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50		05:20	06:00 (1)	05:34	06:07 (1)	06:19	06:54 (2)	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23		22:00	25 06:25 (1)	21:56	23 06:30 (1)	21:09	17 07:11 (2)	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49		05:19	06:00 (1)	05:35	06:08 (1)	06:21	06:53 (2)	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24		22:00	25 06:25 (1)	21:55	21 06:29 (1)	21:07	18 07:11 (2)	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47		05:19	06:00 (1)	05:36	06:08 (1)	06:22	06:53 (2)	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26		22:01	24 06:24 (1)	21:54	21 06:29 (1)	21:05	19 07:12 (2)	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46		05:19	06:00 (1)	05:38	06:09 (1)	06:24	06:52 (2)	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27		22:01	25 06:25 (1)	21:53	19 06:28 (1)	21:03	19 07:11 (2)	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44		05:19	06:00 (1)	05:39	06:09 (1)	06:25	06:53 (2)	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29		22:02	25 06:25 (1)	21:52	19 06:28 (1)	21:01	18 07:11 (2)	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43		05:19	06:00 (1)	05:40	06:10 (1)	06:27	06:54 (2)	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30		22:02	25 06:25 (1)	21:51	17 06:27 (1)	20:59	16 07:10 (2)	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41		05:19	06:02 (1)	05:41	06:11 (1)	06:29	06:56 (2)	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32		22:03	24 06:26 (1)	21:49	15 06:26 (1)	20:57	13 07:09 (2)	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40		05:19	06:02 (1)	05:43	06:13 (1)	06:30	06:57 (2)	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33		22:03	24 06:26 (1)	21:48	13 06:26 (1)	20:55	11 07:08 (2)	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	06:56 (2)	05:39	05:19	06:02 (1)	05:44	06:14 (1)	06:32	06:59 (2)	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	4 07:00 (2)	21:35	22:03	24 06:26 (1)	21:47	10 06:24 (1)	20:53	8 07:07 (2)	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	06:54 (2)	05:37	06:05 (1)	05:19	06:02 (1)	05:45	06:16 (1)	06:34	07:00 (2)	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	8 07:02 (2)	21:36	8 06:13 (1)	22:03	24 06:26 (1)	21:46	6 06:22 (1)	20:51	4 07:04 (2)	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	06:52 (2)	05:36	06:03 (1)	05:20	06:02 (1)	05:47		06:35		07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	11 07:03 (2)	21:37	12 06:15 (1)	22:04	24 06:26 (1)	21:44		20:49		19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	06:50 (2)	05:35	06:02 (1)	05:20	06:02 (1)	05:48		06:37		07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	14 07:04 (2)	21:39	14 06:16 (1)	22:04	25 06:27 (1)	21:43		20:46		19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	06:48 (2)	05:34	06:01 (1)	05:20	06:02 (1)	05:50		06:38		07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	16 07:04 (2)	21:40	16 06:17 (1)	22:04	25 06:27 (1)	21:42		20:44		19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	06:46 (2)	05:32	06:00 (1)	05:21	06:02 (1)	05:51		06:40		07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	18 07:04 (2)	21:42	18 06:18 (1)	22:04	25 06:27 (1)	21:40		20:42		19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	06:45 (2)	05:31	06:00 (1)	05:21	06:03 (1)	05:52		06:42		07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	19 07:04 (2)	21:43	19 06:19 (1)	22:04	24 06:27 (1)	21:39		20:40		19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	06:45 (2)	05:30	05:59 (1)	05:22	06:03 (1)	05:54		06:43		07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	19 07:04 (2)	21:44	20 06:19 (1)	22:04	24 06:27 (1)	21:37		20:38		19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	06:45 (2)	05:29	05:59 (1)	05:22	06:03 (1)	05:55		06:45		07:36	07:27	08:21	08:48
	17:21		20:07	21:00	18 07:03 (2)	21:45	21 06:20 (1)	22:03	25 06:28 (1)	21:36		20:36		19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	06:45 (2)	05:28	05:59 (1)	05:23	06:04 (1)	05:57		06:47		07:37	07:29	08:22	08:48
	17:22		20:08	21:01	18 07:03 (2)	21:47	22 06:21 (1)	22:03	25 06:29 (1)	21:34		20:33		19:22	17:17	16:33	16:36
31	08:22		07:19			05:27	05:59 (1)			05:58		06:48			07:31		08:48
	17:24		20:10			21:48	22 06:21 (1)			21:33		20:31			17:15		16:37
Potential sun hours	259	277	367	416	485		499		502		454		381	331	266	243
Total, worst case				145	224		731		456		201					
Sun reduction				0,42	0,43		0,39		0,41		0,42					
Oper. time red.				0,95	0,95		0,95		0,95		0,95					
Wind dir. red.				0,64	0,66		0,67		0,67		0,64					
Total reduction				0,25	0,27		0,25		0,26		0,25					
Total, real				37	60		182		118		51					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:32/3.2.737

SHADOW - Calendar

Calculation: Copy of V136@149Shadow receptor: X - 3961ME2

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	05:26	20:30 (3) 05:23	20:33 (3) 06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03	21:49 33	21:03 (2) 22:03 37	21:10 (3) 21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	05:25	20:29 (3) 05:24	20:33 (3) 06:01	06:51	07:40	07:34	08:25
	16:39	17:28	18:19	20:13	21:04	21:50 34	21:03 (2) 22:02 38	21:11 (3) 21:29	20:26	19:17	17:11	16:32
3	08:47	08:18	07:23	07:12	06:08	05:25	20:29 (3) 05:25	20:33 (3) 06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06	21:51 35	21:04 (2) 22:02 37	21:10 (3) 21:27	20:24	19:14	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06	05:24	20:29 (3) 05:25	20:34 (3) 06:04	06:55	07:44	07:38	08:28
	16:41	17:31	18:23	20:17	21:08	21:52 34	21:03 (2) 22:02 36	21:10 (3) 21:26	20:22	19:12	17:07	16:30
5	08:47	08:14	07:18	07:07	06:04	05:23	20:28 (3) 05:26	20:34 (3) 06:06	06:56	07:45	07:40	08:29
	16:43	17:33	18:25	20:19	21:09	21:53 35	21:03 (2) 22:01 36	21:10 (3) 21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02	05:23	20:29 (3) 05:27	20:35 (3) 06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11	21:54 35	21:04 (3) 22:01 36	21:11 (3) 21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:00	05:22	20:28 (3) 05:28	20:35 (3) 06:09	06:59	07:49	07:43	08:32
	16:45	17:37	18:28	20:22	21:13	21:55 36	21:04 (3) 22:00 36	21:11 (3) 21:20	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59	05:21	20:29 (3) 05:29	20:35 (3) 06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:14	21:56 36	21:05 (3) 21:59 35	21:10 (3) 21:19	20:13	19:03	17:00	16:29
9	08:45	08:07	07:09	06:58	05:57	05:21	20:29 (3) 05:30	20:36 (3) 06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:25	21:16	21:57 37	21:06 (3) 21:59 34	21:10 (2) 21:17	20:10	19:01	16:59	16:28
10	08:45	08:06	07:07	06:56	05:55	05:20	20:28 (3) 05:31	20:36 (3) 06:14	07:04	07:54	07:49	08:35
	16:49	17:43	18:34	20:27	21:18	21:57 37	21:05 (3) 21:58 34	21:10 (2) 21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54	05:20	20:29 (3) 05:32	20:37 (3) 06:16	07:06	07:56	07:51	08:36
	16:50	17:45	18:35	20:29	21:19	21:58 37	21:06 (3) 21:57 34	21:11 (2) 21:13	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52	05:20	20:29 (3) 05:33	20:37 (3) 06:17	07:08	07:57	07:52	08:37
	16:52	17:46	18:37	20:31	21:21	21:59 38	21:07 (3) 21:56 34	21:11 (2) 21:11	20:03	18:54	16:54	16:28
13	08:43	08:00	07:00	06:49	05:50	05:19	20:28 (3) 05:34	20:38 (3) 06:19	07:09	07:59	07:54	08:38
	16:53	17:48	18:39	20:32	21:22	21:59 38	21:06 (3) 21:55 33	21:11 (2) 21:09	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49 20:46 (2)	05:19	20:29 (3) 05:35	20:38 (3) 06:20	07:11	08:01	07:56	08:39
	16:55	17:50	18:41	20:34	21:24 7 20:53 (2)	22:00 38	21:07 (3) 21:55 33	21:11 (2) 21:07	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47 20:43 (2)	05:19	20:29 (3) 05:36	20:40 (3) 06:22	07:12	08:03	07:58	08:40
	16:57	17:52	18:42	20:36	21:26 12 20:55 (2)	22:01 38	21:07 (3) 21:54 32	21:12 (2) 21:05	19:56	18:47	16:50	16:28
16	08:40	07:54	06:54	06:43	05:46 20:42 (2)	05:19	20:29 (3) 05:38	20:41 (3) 06:24	07:14	08:04	07:59	08:41
	16:58	17:54	18:44	20:37	21:27 15 20:57 (2)	22:01 38	21:07 (3) 21:53 31	21:12 (2) 21:03	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44 20:41 (2)	05:19	20:29 (3) 05:39	20:42 (3) 06:25	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29 18 20:59 (2)	22:02 39	21:08 (3) 21:51 30	21:12 (2) 21:01	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:38	05:43 20:40 (2)	05:19	20:29 (3) 05:40	20:42 (3) 06:27	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30 19 20:59 (2)	22:02 39	21:08 (3) 21:50 30	21:12 (2) 20:59	19:49	18:41	16:45	16:29
19	08:38	07:48	06:47	06:36	05:41 20:40 (2)	05:19	20:29 (3) 05:41	20:44 (3) 06:28	07:19	08:09	08:05	08:43
	17:03	17:59	18:49	20:42	21:32 20 21:00 (2)	22:02 39	21:08 (3) 21:49 28	21:12 (2) 20:57	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40 20:39 (2)	05:19	20:29 (3) 05:43	20:45 (3) 06:30	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33 22 21:01 (2)	22:03 39	21:08 (3) 21:48 26	21:11 (2) 20:55	19:45	18:37	16:43	16:29
21	08:35	07:44	06:42	06:32	05:38 20:38 (2)	05:19	20:30 (3) 05:44	20:47 (3) 06:32	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:34 23 21:01 (2)	22:03 39	21:09 (3) 21:47 25	21:12 (2) 20:53	19:42	18:35	16:42	16:30
22	08:34	07:42	06:40	06:30	05:37 20:38 (2)	05:19	20:30 (3) 05:45	20:49 (2) 06:33	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36 23 21:01 (2)	22:03 39	21:09 (3) 21:46 22	21:11 (2) 20:51	19:40	18:33	16:41	16:30
23	08:33	07:40	06:37	06:28	05:36 20:36 (3)	05:20	20:30 (3) 05:47	20:49 (2) 06:35	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	21:37 26 21:02 (2)	22:03 39	21:09 (3) 21:44 22	21:11 (2) 20:48	19:38	18:30	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35 20:35 (3)	05:20	20:31 (3) 05:48	20:50 (2) 06:37	07:27	08:18	08:13	08:46
	17:11	18:09	18:58	20:51	21:39 27 21:02 (2)	22:03 39	21:10 (3) 21:43 21	21:11 (2) 20:46	19:35	18:28	16:38	16:31
25	08:31	07:36	06:33	06:24	05:33 20:33 (3)	05:20	20:31 (3) 05:49	20:50 (2) 06:38	07:29	07:20	08:15	08:47
	17:13	18:10	19:00	20:53	21:40 29 21:02 (2)	22:03 39	21:10 (3) 21:41 20	21:10 (2) 20:44	19:33	17:26	16:37	16:32
26	08:29	07:34	06:30	06:22	05:32 20:33 (3)	05:21	20:31 (3) 05:51	20:51 (2) 06:40	07:30	07:22	08:16	08:47
	17:15	18:12	19:01	20:54	21:41 30 21:03 (2)	22:03 38	21:09 (3) 21:40 18	21:09 (2) 20:42	19:31	17:24	16:36	16:32
27	08:28	07:32	06:28	06:20	05:31 20:32 (3)	05:21	20:32 (3) 05:52	20:52 (2) 06:41	07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21:43 31 21:03 (2)	22:03 38	21:10 (3) 21:39 16	21:08 (2) 20:40	19:28	17:22	16:36	16:33
28	08:27	07:29	06:26	06:18	05:30 20:31 (3)	05:21	20:32 (3) 05:54	20:53 (2) 06:43	07:34	07:25	08:19	08:47
	17:19	18:16	19:05	20:58	21:44 32 21:03 (2)	22:03 38	21:10 (3) 21:37 14	21:07 (2) 20:38	19:26	17:20	16:35	16:34
29	08:25		07:23	06:16	05:29 20:30 (3)	05:22	20:32 (3) 05:55	20:54 (2) 06:45	07:35	07:27	08:21	08:48
	17:20		20:07	20:59	21:45 33 21:03 (2)	22:03 38	21:10 (3) 21:36 11	21:05 (2) 20:35	19:24	17:18	16:34	16:35
30	08:24		07:21	06:14	05:28 20:30 (3)	05:23	20:32 (3) 05:57	20:58 (2) 06:46	07:37	07:29	08:22	08:48
	17:22		20:08	21:01	21:46 33 21:03 (2)	22:03 38	21:10 (3) 21:34 4	21:02 (2) 20:33	19:21	17:17	16:33	16:36
31	08:22		07:19		05:27 20:30 (3)		05:58	06:48		07:31		08:48
	17:24		20:10		21:48 34 21:04 (2)		21:32	20:31		17:15		16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case					434	1120	843					
Sun reduction					0,43	0,39	0,41					
Oper. time red.					0,95	0,95	0,95					
Wind dir. red.					0,59	0,59	0,59					
Total reduction					0,24	0,22	0,23					
Total, real					103	243	190					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:32/3.2.737

SHADOW - Calendar

Calculation: Copy of V136@149Shadow receptor: Y - 3998JD86

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	05:26	06:08 (1) 05:23	06:16 (1) 06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03	21:49 23	06:31 (1) 22:03 18	06:34 (1) 21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	05:26	06:08 (1) 05:24	06:16 (1) 06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05	21:50 22	06:30 (1) 22:03 19	06:35 (1) 21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08	05:25	06:09 (1) 05:25	06:16 (1) 06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06	21:51 22	06:31 (1) 22:02 20	06:36 (1) 21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06	05:24	06:09 (1) 05:26	06:16 (1) 06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08	21:52 22	06:31 (1) 22:02 19	06:35 (1) 21:26	20:22	19:12	17:07	16:31
5	08:47	08:15	07:19	07:08	06:04	05:23	06:10 (1) 05:26	06:16 (1) 06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10	21:53 21	06:31 (1) 22:01 20	06:36 (1) 21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02	05:23	06:10 (1) 05:27	06:16 (1) 06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11	21:54 21	06:31 (1) 22:01 21	06:37 (1) 21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01	05:22	06:10 (1) 05:28	06:16 (1) 06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13	21:55 21	06:31 (1) 22:00 21	06:37 (1) 21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59	05:22	06:10 (1) 05:29	06:16 (1) 06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15	21:56 20	06:30 (1) 22:00 22	06:38 (1) 21:19	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57	05:21	06:11 (1) 05:30	06:16 (1) 06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16	21:57 20	06:31 (1) 21:59 22	06:38 (1) 21:17	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55	05:21	06:11 (1) 05:31	06:15 (1) 06:14	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18	21:58 19	06:30 (1) 21:58 23	06:38 (1) 21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54	05:20	06:12 (1) 05:32	06:15 (1) 06:16	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19	21:58 18	06:30 (1) 21:57 23	06:38 (1) 21:13	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52	05:20	06:12 (1) 05:33	06:15 (1) 06:17	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21	21:59 18	06:30 (1) 21:57 23	06:38 (1) 21:11	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50	05:20	06:13 (1) 05:34	06:16 (1) 06:19	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23	22:00 17	06:30 (1) 21:56 24	06:40 (1) 21:09	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49	06:16 (1) 05:19	06:13 (1) 05:35	06:16 (1) 06:21	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24 5	06:21 (1) 22:00 17	06:30 (1) 21:55 24	06:40 (1) 21:07	19:59	18:50	16:51	16:28
15	08:42	07:56	06:56	06:45	05:47	06:13 (1) 05:19	06:13 (1) 05:36	06:16 (1) 06:22	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26 10	06:23 (1) 22:01 16	06:29 (1) 21:54 24	06:40 (1) 21:05	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46	06:12 (1) 05:19	06:13 (1) 05:38	06:16 (1) 06:24	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27 13	06:25 (1) 22:01 17	06:30 (1) 21:53 24	06:40 (1) 21:03	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44	06:11 (1) 05:19	06:14 (1) 05:39	06:16 (1) 06:25	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29 16	06:27 (1) 22:02 16	06:30 (1) 21:52 24	06:40 (1) 21:01	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43	06:09 (1) 05:19	06:14 (1) 05:40	06:16 (1) 06:27	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30 18	06:27 (1) 22:02 16	06:30 (1) 21:51 24	06:40 (1) 20:59	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41	06:08 (1) 05:19	06:15 (1) 05:41	06:16 (1) 06:29	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32 20	06:28 (1) 22:03 16	06:31 (1) 21:49 24	06:40 (1) 20:57	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40	06:08 (1) 05:19	06:15 (1) 05:43	06:17 (1) 06:30	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33 21	06:29 (1) 22:03 16	06:31 (1) 21:48 23	06:40 (1) 20:55	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	05:39	06:08 (1) 05:19	06:15 (1) 05:44	06:17 (1) 06:32	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:35 21	06:29 (1) 22:03 16	06:31 (1) 21:47 23	06:40 (1) 20:53	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	05:37	06:07 (1) 05:19	06:15 (1) 05:45	06:17 (1) 06:34	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36 22	06:29 (1) 22:03 16	06:31 (1) 21:46 22	06:39 (1) 20:51	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	05:36	06:07 (1) 05:20	06:15 (1) 05:47	06:17 (1) 06:35	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	21:37 23	06:30 (1) 22:04 16	06:31 (1) 21:44 22	06:39 (1) 20:49	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35	06:06 (1) 05:20	06:16 (1) 05:48	06:19 (1) 06:37	07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	21:39 24	06:30 (1) 22:04 16	06:32 (1) 21:43 20	06:39 (1) 20:46	19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	05:34	06:06 (1) 05:20	06:16 (1) 05:50	06:19 (1) 06:38	07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	21:40 24	06:30 (1) 22:04 16	06:32 (1) 21:42 19	06:38 (1) 20:44	19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	05:32	06:06 (1) 05:21	06:16 (1) 05:51	06:20 (1) 06:40	07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	21:42 24	06:30 (1) 22:04 16	06:32 (1) 21:40 17	06:37 (1) 20:42	19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	05:31	06:06 (1) 05:21	06:16 (1) 05:52	06:22 (1) 06:42	07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21:43 24	06:30 (1) 22:04 16	06:32 (1) 21:39 15	06:37 (1) 20:40	19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	05:30	06:07 (1) 05:22	06:16 (1) 05:54	06:23 (1) 06:43	07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	21:44 23	06:30 (1) 22:04 16	06:32 (1) 21:37 12	06:35 (1) 20:38	19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	05:29	06:07 (1) 05:22	06:16 (1) 05:55	06:25 (1) 06:45	07:36	07:27	08:21	08:48
	17:21		20:07	21:00	21:45 23	06:30 (1) 22:03 17	06:33 (1) 21:36 9	06:34 (1) 20:36	19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	05:28	06:08 (1) 05:23	06:17 (1) 05:57	06:47	07:37	07:29	08:22	08:48
	17:22		20:09	21:01	21:47 23	06:31 (1) 22:03 17	06:34 (1) 21:34	20:33	19:22	17:17	16:33	16:36
31	08:22		07:19		05:27	06:08 (1)	05:58	06:48		07:31		08:48
	17:24		20:10		21:48 23	06:31 (1)	21:33	20:31		17:15		16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case					357	540	601					
Sun reduction					0,43	0,39	0,41					
Oper. time red.					0,95	0,95	0,95					
Wind dir. red.					0,67	0,67	0,67					
Total reduction					0,27	0,25	0,26					
Total, real					97	134	155					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:32/3.2.737

SHADOW - Calendar

Calculation: Copy of V136@149Shadow receptor: Z - 3998JK68

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	06:45 (2)	05:26	05:57 (1)	05:23	06:00 (1)	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03	18 07:03 (2)	21:49	20 06:17 (1)	22:03	26 06:26 (1)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	06:45 (2)	05:26	05:56 (1)	05:24	06:01 (1)	06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05	17 07:02 (2)	21:50	22 06:18 (1)	22:03	25 06:26 (1)	21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08	06:46 (2)	05:25	05:57 (1)	05:25	06:02 (1)	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06	16 07:02 (2)	21:51	22 06:19 (1)	22:02	25 06:27 (1)	21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06	06:47 (2)	05:24	05:56 (1)	05:26	06:01 (1)	06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08	13 07:00 (2)	21:52	23 06:19 (1)	22:02	25 06:26 (1)	21:26	20:22	19:12	17:07	16:31
5	08:47	08:14	07:19	07:08	06:04	06:48 (2)	05:23	05:56 (1)	05:26	06:02 (1)	06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10	10 06:58 (2)	21:53	23 06:19 (1)	22:01	24 06:26 (1)	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02	06:51 (2)	05:23	05:56 (1)	05:27	06:02 (1)	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11	4 06:55 (2)	21:54	24 06:20 (1)	22:01	24 06:26 (1)	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01		05:22	05:57 (1)	05:28	06:03 (1)	06:09	07:00 (2)	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13		21:55	24 06:21 (1)	22:00	23 06:26 (1)	21:21	7 07:07 (2)	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59		05:22	05:56 (1)	05:29	06:03 (1)	06:11	06:57 (2)	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15		21:56	25 06:21 (1)	22:00	23 06:26 (1)	21:19	11 07:08 (2)	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57		05:21	05:56 (1)	05:30	06:04 (1)	06:12	06:56 (2)	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16		21:57	25 06:21 (1)	21:59	22 06:26 (1)	21:17	14 07:10 (2)	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55		05:21	05:56 (1)	05:31	06:04 (1)	06:14	06:55 (2)	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18		21:58	25 06:21 (1)	21:58	21 06:25 (1)	21:15	16 07:11 (2)	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54		05:20	05:56 (1)	05:32	06:04 (1)	06:16	06:54 (2)	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19		21:58	26 06:22 (1)	21:57	21 06:25 (1)	21:13	18 07:12 (2)	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52		05:20	05:57 (1)	05:33	06:05 (1)	06:17	06:53 (2)	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21		21:59	25 06:22 (1)	21:57	20 06:25 (1)	21:11	19 07:12 (2)	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50		05:20	05:57 (1)	05:34	06:07 (1)	06:19	06:53 (2)	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23		22:00	25 06:22 (1)	21:56	18 06:25 (1)	21:09	19 07:12 (2)	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49		05:19	05:57 (1)	05:35	06:07 (1)	06:21	06:52 (2)	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24		22:00	26 06:23 (1)	21:55	18 06:25 (1)	21:07	20 07:12 (2)	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47		05:19	05:56 (1)	05:36	06:08 (1)	06:22	06:52 (2)	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26		22:01	26 06:22 (1)	21:54	16 06:24 (1)	21:05	20 07:12 (2)	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46		05:19	05:57 (1)	05:38	06:09 (1)	06:24	06:52 (2)	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27		22:01	26 06:23 (1)	21:53	14 06:23 (1)	21:03	19 07:11 (2)	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44		05:19	05:57 (1)	05:39	06:11 (1)	06:25	06:53 (2)	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29		22:02	26 06:23 (1)	21:52	11 06:22 (1)	21:01	18 07:11 (2)	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43		05:19	05:57 (1)	05:40	06:12 (1)	06:27	06:54 (2)	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30		22:02	26 06:23 (1)	21:51	8 06:20 (1)	20:59	16 07:10 (2)	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41		05:19	05:58 (1)	05:41		06:29	06:56 (2)	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32		22:03	26 06:24 (1)	21:49		20:57	13 07:09 (2)	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40		05:19	05:58 (1)	05:43		06:30	06:57 (2)	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33		22:03	26 06:24 (1)	21:48		20:55	11 07:08 (2)	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	06:56 (2)	05:39	05:19	05:58 (1)	05:44		06:32	06:59 (2)	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	3 06:59 (2)	21:35	22:03	26 06:24 (1)	21:47		20:53	7 07:06 (2)	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	06:54 (2)	05:37	05:19	05:58 (1)	05:45		06:33	07:00 (2)	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	8 07:02 (2)	21:36	22:03	26 06:24 (1)	21:46		20:51	2 07:02 (2)	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	06:52 (2)	05:36	05:20	05:58 (1)	05:47		06:35		07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	11 07:03 (2)	21:37	22:04	26 06:24 (1)	21:44		20:49		19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	06:50 (2)	05:35	05:20	05:59 (1)	05:48		06:37		07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	14 07:04 (2)	21:39	22:04	26 06:25 (1)	21:43		20:46		19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	06:48 (2)	05:34	06:04 (1)	05:20	05:59 (1)	05:50		06:38		07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	17 07:05 (2)	21:40	5 06:09 (1)	22:04	26 06:25 (1)	21:42		20:44		19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	06:46 (2)	05:32	06:02 (1)	05:21	05:59 (1)	05:51		06:40		07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	19 07:05 (2)	21:42	9 06:11 (1)	22:04	26 06:25 (1)	21:40		20:42		19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	06:45 (2)	05:31	06:00 (1)	05:21	06:00 (1)	05:52		06:42		07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	20 07:05 (2)	21:43	13 06:13 (1)	22:04	25 06:25 (1)	21:39		20:40		19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	06:45 (2)	05:30	05:59 (1)	05:22	05:59 (1)	05:54		06:43		07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	20 07:05 (2)	21:44	15 06:14 (1)	22:04	26 06:25 (1)	21:37		20:38		19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	06:45 (2)	05:29	05:58 (1)	05:22	06:00 (1)	05:55		06:45		07:36	07:27	08:21	08:48
	17:21		20:07	21:00	19 07:04 (2)	21:45	17 06:15 (1)	22:03	26 06:26 (1)	21:36		20:35		19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	06:44 (2)	05:28	05:59 (1)	05:23	06:01 (1)	05:57		06:47		07:37	07:29	08:22	08:48
	17:22		20:08	21:01	20 07:04 (2)	21:47	18 06:17 (1)	22:03	25 06:26 (1)	21:34		20:33		19:22	17:17	16:33	16:36
31	08:22		07:19			05:27	05:58 (1)			05:58		06:48			07:31		08:48
	17:24		20:10			21:48	19 06:17 (1)			21:33		20:31			17:15		16:37
Potential sun hours	259	277	367	416	485		499		502		454		381	331	266	243
Total, worst case				151	174		749		364		230					
Sun reduction				0,42	0,43		0,39		0,41		0,42					
Oper. time red.				0,95	0,95		0,95		0,95		0,95					
Wind dir. red.				0,64	0,66		0,67		0,67		0,64					
Total reduction				0,25	0,27		0,25		0,26		0,25					
Total, real				38	46		187		95		58					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:32/3.2.737

SHADOW - Calendar

Calculation: Copy of V136@149Shadow receptor: AA - 3997MP20

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December		
1	08:48		09:29 (4)		08:21		13:24 (2)	07:27		16:52 (1)	07:17	06:12	05:26	05:23	06:00	06:50		07:39		17:22 (1)	07:33		13:05 (2)	08:24		09:14 (4)
	16:38	136	14:17 (2)	63	14:27 (2)	35	18:18	17:27 (1)	20:12	21:03	21:49	22:03	21:31	20:29		19:19	49	18:11 (1)	44	17:13	44	13:49 (2)	16:32	139	14:05 (2)
2	08:48		09:30 (4)		08:19		13:24 (2)	07:25		16:50 (1)	07:14	06:10	05:25	05:24	06:01	06:51		07:40		17:21 (1)	07:35		13:03 (2)	08:25		09:15 (4)
	16:39	137	14:18 (2)	62	14:26 (2)	38	18:19	17:28 (1)	20:14	21:05	21:50	22:03	21:29	20:26		19:17	50	18:11 (1)	48	17:11	48	13:51 (2)	16:32	139	14:06 (2)
3	08:48		09:30 (4)		08:18		13:26 (2)	07:23		16:48 (1)	07:12	06:08	05:25	05:25	06:03	06:53		07:42		17:21 (1)	07:36		13:00 (2)	08:27		09:15 (4)
	16:40	137	14:19 (2)	60	14:26 (2)	41	18:21	17:29 (1)	20:15	21:06	21:51	22:02	21:28	20:24		19:14	49	18:10 (1)	51	17:09	51	13:51 (2)	16:31	139	14:05 (2)
4	08:47		09:30 (4)		08:16		13:26 (2)	07:21		16:48 (1)	07:10	06:06	05:24	05:25	06:04	06:55		07:44		17:21 (1)	07:38		12:59 (2)	08:28		09:16 (4)
	16:41	137	14:19 (2)	60	14:26 (2)	42	18:23	17:30 (1)	20:17	21:08	21:52	22:02	21:26	20:22		19:12	49	18:10 (1)	54	17:07	54	13:53 (2)	16:30	139	14:06 (2)
5	08:47		09:31 (4)		08:14		13:27 (2)	07:19		16:47 (1)	07:07	06:04	05:23	05:26	06:06	06:56		07:46		17:21 (1)	07:40		12:58 (2)	08:29		09:16 (4)
	16:43	138	14:20 (2)	58	14:25 (2)	44	18:25	17:31 (1)	20:19	21:10	21:53	22:01	21:24	20:20		19:10	48	18:09 (1)	56	17:06	56	13:54 (2)	16:30	138	14:06 (2)
6	08:47		09:31 (4)		08:13		13:28 (2)	07:16		16:46 (1)	07:05	06:02	05:23	05:27	06:08	06:58		07:47		17:21 (1)	07:42		12:57 (2)	08:31		09:17 (4)
	16:44	138	14:20 (2)	57	14:24 (2)	46	18:27	17:32 (1)	20:20	21:11	21:54	22:01	21:22	20:17		19:08	48	18:09 (1)	58	17:04	58	13:55 (2)	16:30	138	14:06 (2)
7	08:46		09:31 (4)		08:11		13:30 (2)	07:14		16:45 (1)	07:03	06:00	05:22	05:28	06:09	06:59		07:49		17:21 (1)	07:44		12:56 (2)	08:32		09:18 (4)
	16:45	138	14:21 (2)	53	14:23 (2)	47	18:29	17:32 (1)	20:22	21:13	21:55	22:00	21:20	20:15		19:05	46	18:07 (1)	59	17:02	59	13:55 (2)	16:29	137	14:07 (2)
8	08:46		09:31 (4)		08:09		13:32 (2)	07:12		16:44 (1)	07:01	05:59	05:21	05:29	06:11	07:01		07:51		17:21 (1)	07:45		12:55 (2)	08:33		09:18 (4)
	16:46	138	14:21 (2)	50	14:22 (2)	48	18:30	17:32 (1)	20:24	21:14	21:56	21:59	21:19	20:13		19:03	45	18:06 (1)	61	17:00	61	13:56 (2)	16:29	137	14:07 (2)
9	08:45		09:32 (4)		08:07		13:34 (2)	07:10		16:44 (1)	06:58	05:57	05:21	05:30	06:12	07:03		07:52		17:22 (1)	07:47		12:55 (2)	08:34		09:19 (4)
	16:48	139	14:22 (2)	47	14:21 (2)	49	18:32	17:33 (1)	20:26	21:16	21:57	21:59	21:17	20:10		19:01	44	18:06 (1)	62	16:59	62	13:57 (2)	16:28	136	14:07 (2)
10	08:45		09:32 (4)		08:06		13:35 (2)	07:07		16:43 (1)	06:56	05:55	05:20	05:31	06:14	07:04		07:54		17:23 (1)	07:49		12:54 (2)	08:35		09:19 (4)
	16:49	139	14:23 (2)	44	14:19 (2)	49	18:34	17:32 (1)	20:27	21:18	21:57	21:58	21:15	20:08		18:59	41	18:04 (1)	64	16:57	64	13:58 (2)	16:28	136	14:07 (2)
11	08:44		09:32 (4)		08:04		13:38 (2)	07:05		16:43 (1)	06:54	05:54	05:20	05:32	06:16	07:06		07:56		17:23 (1)	07:51		12:54 (2)	08:37		09:19 (4)
	16:51	139	14:23 (2)	39	14:17 (2)	49	18:36	17:32 (1)	20:29	21:19	21:58	21:57	21:13	20:06		18:56	39	18:02 (1)	64	16:56	64	13:58 (2)	16:28	136	14:07 (2)
12	08:44		09:33 (4)		08:02		13:41 (2)	07:03		16:43 (1)	06:52	05:52	05:20	05:33	06:17	07:08		07:57		17:24 (1)	07:52		12:54 (2)	08:38		09:21 (4)
	16:52	138	14:23 (2)	34	14:15 (2)	49	18:37	17:32 (1)	20:31	21:21	21:59	21:56	21:11	20:03		18:54	37	18:01 (1)	65	16:54	65	13:59 (2)	16:28	135	14:08 (2)
13	08:43		09:33 (4)		08:00		13:44 (2)	07:00		16:42 (1)	06:49	05:50	05:19	05:34	06:19	07:09		07:59		17:26 (1)	07:54		12:53 (2)	08:39		09:22 (4)
	16:53	139	14:24 (2)	28	14:12 (2)	49	18:39	17:31 (1)	20:32	21:23	22:00	21:56	21:09	20:01		18:52	33	17:59 (1)	66	16:53	66	13:59 (2)	16:28	135	14:09 (2)
14	08:42		09:33 (4)		07:58		13:50 (2)	06:58		16:42 (1)	06:47	05:49	05:19	05:35	06:20	07:11		08:01		17:27 (1)	07:56		12:53 (2)	08:40		09:21 (4)
	16:55	138	14:24 (2)	18	14:08 (2)	49	18:41	17:31 (1)	20:34	21:24	22:00	21:55	21:07	19:59		18:50	30	17:57 (1)	67	16:51	67	14:00 (2)	16:28	133	14:08 (2)
15	08:41		09:34 (4)		07:56		06:56	16:43 (1)	06:45	05:47	05:19	05:36	06:22	07:12		08:03		17:28 (1)	07:58		09:19 (4)	08:40		09:22 (4)
	16:57	136	14:24 (2)	17:52		18:43	48	17:31 (1)	20:36	21:26	22:01	21:54	21:05	19:56		18:47	26	17:54 (1)	16:50	77	14:01 (2)	16:28	134	14:08 (2)
16	08:41		09:34 (4)		07:54		06:54	16:42 (1)	06:43	05:46	05:19	05:38	06:24	07:14		17:49 (1)		08:04		17:31 (1)	08:00		09:17 (4)	08:41		09:23 (4)
	16:58	135	14:25 (2)	17:54		18:44	48	17:30 (1)	20:37	21:27	22:01	21:53	21:03	19:54	9	17:58 (1)	20	18:45	17:51 (1)	93	14:01 (2)	16:28	133	14:09 (2)
17	08:40		09:35 (4)		07:52		06:51	16:43 (1)	06:41	05:44	05:19	05:39	06:25	07:16		17:44 (1)		08:06		17:35 (1)	08:01		09:16 (4)	08:42		09:23 (4)
	17:00	133	14:25 (2)	17:56		18:46	46	17:29 (1)	20:39	21:29	22:02	21:52	21:01	19:52	19	18:03 (1)	12	18:43	17:47 (1)	103	14:02 (2)	16:28	134	14:10 (2)
18	08:39		09:35 (4)		07:50		06:49	16:44 (1)	06:38	05:43	05:19	05:40	06:27	07:17		17:41 (1)		08:08			08:03		09:15 (4)	08:43		09:24 (4)
	17:01	133	14:26 (2)	17:58		18:48	45	17:29 (1)	20:41	21:30	22:02	21:50	20:59	19:49	24	18:05 (1)		18:41			16:46	110	14:02 (2)	16:29	133	14:10 (2)
19	08:38		09:36 (4)		07:48		06:47	16:44 (1)	06:36	05:41	05:19	05:41	06:28	07:19		17:38 (1)		08:10			08:05		09:14 (4)	08:44		09:24 (4)
	17:03	131	14:26 (2)	17:59		18:49	43	17:27 (1)	20:43	21:32	22:03	21:49	20:57	19:47	28	18:06 (1)		18:39			16:44	115	14:02 (2)	16:29	133	14:10 (2)
20	08:37		09:37 (4)		07:46		06:44	16:45 (1)	06:34	05:40	05:19	05:43	06:30	07:21		17:35 (1)		08:11			08:06		09:14 (4)	08:44		09:25 (4)
	17:05	127	14:27 (2)	18:01		18:51	41	17:26 (1)	20:44	21:33	22:03	21:48	20:55	19:45	33	18:08 (1)		18:37			16:43	120	14:02 (2)	16:29	133	14:11 (2)
21	08:36		09:38 (4)		07:44		06:42	16:46 (1)	06:32	05:38	05:19	05:44	06:32	07:22		17:32 (1)		08:13			08:08		09:13 (4)	08:45		09:26 (4)
	17:06	125	14:27 (2)	18:03		18:53	39	17:25 (1)	20:46	21:35	22:03	21:47	20:53	19:42	37	18:09 (1)		18:35			16:42	125	14:02 (2)	16:30	133	14:12 (2)
22	08:34		09:39 (4)		07:42		06:40	16:46 (1)	06:30	05:37	05:19	05:45	06:33	07:24		17:31 (1)		08:15			08:10		09:13 (4)	08:45		09:26 (4)
	17:08	120	14:27 (2)	18:05		18:55	37	17:23 (1)	20:48	21:36	22:03	21:46	20:51	19:40	39	18:10 (1)		18:33			16:41	127	14:03 (2)	16:30	133	14:12 (2)
23	08:33		09:40 (4)		07:40		06:37	16:48 (1)	06:28	05:36	05:20	05:47	06:35	07:26		17:30 (1)		08:17			08:11		09:13 (4)	08:46		09:26 (4)
	17:10	115	14:28 (2)	18:07		18:56	34	17:22 (1)	20:49	21:37	22:03	21:44	20:49	19:38	41	18:11 (1)		18:30			16:40	131	14:03 (2)	16:31	133	14:12 (2)
24	08:32		09:41 (4)		07:38		06:35	16:51 (1)	06:26	05:35	05:20	05:48	06:37	07:27		17:27 (1)		08:18			08:13		09:13 (4)	08:46		09:27 (4)
	17:12	110	14:28 (2)	18:09		18:58	29	17:20 (1)	20:51	21:39	22:04	21:43	20:46	19:35	44	18:11 (1)		18:28			16:38	132	14:03 (2)	16:31	133	14:13 (2)
25	08:31		09:42 (4)		07:36	17:02 (1)	06:33	16:52 (1)	06:24	05:33	05:20	05:49	06:38	07:29		17:27 (1)		07:20			08:15		09:13 (4)	08:47		09:27 (4)
	17:13	103	14:28 (2)	18:10	15	17:17 (1)	19:00	25	17:17 (1)	20:53	21:40	22:04	21:42	20:44	19:33	44	18:11 (1)		17:26			16:37	133	14:03 (2)	16:32	133	14:13 (2)
26	08:29		09:45 (4)		07:34		16:58 (1)	06:30		16:55 (1)	06:22	05:32	05:21	05:51	06:40	07:31		17:26 (1)		07:22			08:16		09:13 (4)	08:47		09:27 (4)
	17:15	91	14:28 (2)	18:12	22	17:20 (1)	19:02	20	17:15 (1)	20:54	21:41	22:04	21:40	20:42	19:31	46	18:12 (1)		17:24			16:36	135	14:04 (2)	16:32	133	14:13 (2)
27	08:28		09:47 (4)		07:32		16:55 (1)	06:28		16:59 (1)	06:20	05:31	05:21	05:52	06:42	07:32		17:24 (1)		07:24			08:18		09:14 (4)	08:47		09:28 (4)
	17:17	76	14:28 (2)	18:14	27	17:22 (1)	19:03	12	17:11 (1)	20:56	21:43	22:04	21:39	20:40	19:28	47	18:11 (1)		17:22			16:36	137	14:05 (2)	16:33	133	14:14 (2)
28	08:27		13:21 (2)		07:30		16:53 (1)	06:26			06:18	05:30	05:21	05:54	06:43	07:34		17:24 (1)		07:26		13:18 (2)	08:19		09:13 (4)	08:48		09:29 (4)
	17:19	67	14:28 (2)	18:16	32	17:25 (1)	19:05				20:58	21:44	22:03	21:37	20:38	19:26	48	18:12 (1)		17:20	21	13:39 (2)	16:35	137	14:04 (2)	16:34	133	14:15 (2)
29	08:25		13:22 (2)				07:24				06:16	05:29	05:22	05:55	06:45	07:35		17:23 (1)		07:27		13:13 (2)	08:21		09:14 (4)	08:48		09:29 (4)
	17:20	66	14:28 (2)				20:07				21:00	21:45	22:03	21:36	20:35	19:24	49	18:12 (1)		17:19	30	13:43 (2)	16:34	139	14:05 (2)	16:35	135	14:16 (2)
30	08:24		13:22 (2)				07:21				06:14	05:28	05:23	05:57	06:46	07:37		17:22 (1)		07:29		13:09 (2)	08:22		09:15 (4)	08:48		09:29 (4)
	17:22	65	14:27 (2)				20:08				21:01	21:46	22:03	21:34	20:33	19:21	49	18:11 (1)		17:17	36	13:45 (2)	16:33	137	14:05 (2)	16:36	135	14:16 (2)
31	08:22		13:23 (2)				07:19					05:27		05:58	06:48					07:31		13:07 (2)				08:48		09:29 (4)
	17:24	64	14:27 (2)				20:10					21:48		21:33	20:31					17:15	41	13:48 (2)				16:37	135	14:16 (2)
Potential sun hours	259			277			367			416		485	499	502	454	381				331			266			243		
Total, worst case		3728			768			1102									557				794			2770			4186	
Sun reduction		0,24			0,30			0,33									0,36				0,34			0,24			0,20	
Oper. time red.		0,95			0,95			0,95									0,95				0,95			0,95			0,95	
Wind dir. red.		0,65			0,68			0,66									0,66				0,66			0,66			0,64	
Total reduction		0,15			0,19			0,21									0,23				0,21			0,15			0,12	
Total, real		546			149			226									126				167			406			517	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:32/3.2.737

SHADOW - Calendar

Calculation: Copy of V136@149Shadow receptor: AB - 3945LA1b

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December		
1	08:48		14:11 (4)	08:21		16:08 (3)	07:27		17:27 (2)	07:17	06:12	05:26	05:23	06:00	06:50		07:39			07:33		15:41 (3)	08:24		
	16:38	19	14:30 (4)	17:26	31	16:39 (3)	18:18	22	17:49 (2)	20:12	21:03	21:49	22:03	21:31	20:29		19:19			17:13	28	16:09 (3)	16:32		
2	08:48		14:12 (4)	08:19		16:08 (3)	07:25		17:27 (2)	07:14	06:10	05:25	05:24	06:01	06:51		07:40		18:12 (2)	07:34		15:39 (3)	08:25		
	16:39	18	14:30 (4)	17:28	31	16:39 (3)	18:19	23	17:50 (2)	20:13	21:04	21:50	22:02	21:29	20:26		19:17	6	18:18 (2)	17:11	30	16:09 (3)	16:32		
3	08:47		14:14 (4)	08:18		16:08 (3)	07:23		17:25 (2)	07:12	06:08	05:25	05:25	06:03	06:53		07:42		18:08 (2)	07:36		15:39 (3)	08:27		
	16:40	16	14:30 (4)	17:30	33	16:41 (3)	18:21	24	17:49 (2)	20:15	21:06	21:51	22:02	21:27	20:24		19:14	12	18:20 (2)	17:09	30	16:09 (3)	16:31		
4	08:47		14:15 (4)	08:16		16:08 (3)	07:21		17:25 (2)	07:10	06:06	05:24	05:25	06:04	06:55		07:44		18:05 (2)	07:38		15:38 (3)	08:28		
	16:41	14	14:29 (4)	17:31	32	16:40 (3)	18:23	24	17:49 (2)	20:17	21:08	21:52	22:02	21:26	20:22		19:12	17	18:22 (2)	17:07	32	16:10 (3)	16:30		
5	08:47		14:17 (4)	08:14		16:08 (3)	07:18		17:25 (2)	07:07	06:04	05:23	05:26	06:06	06:56		07:45		18:04 (2)	07:40		15:38 (3)	08:29		
	16:42	12	14:29 (4)	17:33	32	16:40 (3)	18:25	24	17:49 (2)	20:19	21:09	21:53	22:01	21:24	20:20		19:10	19	18:23 (2)	17:06	32	16:10 (3)	16:30		
6	08:47		14:19 (4)	08:13		16:08 (3)	07:16		17:25 (2)	07:05	06:02	05:22	05:27	06:08	06:58		07:47		18:02 (2)	07:42		15:38 (3)	08:31		14:06 (4)
	16:44	8	14:27 (4)	17:35	32	16:40 (3)	18:27	23	17:48 (2)	20:20	21:11	21:54	22:01	21:22	20:17		19:08	21	18:23 (2)	17:04	32	16:10 (3)	16:29	7	14:13 (4)
7	08:46			08:11		16:09 (3)	07:14		17:26 (2)	07:03	06:00	05:22	05:28	06:09	06:59		07:49		18:01 (2)	07:43		15:38 (3)	08:32		14:05 (4)
	16:45			17:37	31	16:40 (3)	18:28	22	17:48 (2)	20:22	21:13	21:55	22:00	21:20	20:15		19:05	23	18:24 (2)	17:02	32	16:10 (3)	16:29	11	14:16 (4)
8	08:46			08:09		16:10 (3)	07:12		17:26 (2)	07:01	05:59	05:21	05:29	06:11	07:01		07:51		18:01 (2)	07:45		15:38 (3)	08:33		14:03 (4)
	16:46			17:39	30	16:40 (3)	18:30	21	17:47 (2)	20:24	21:14	21:56	21:59	21:19	20:13		19:03	23	18:24 (2)	17:00	32	16:10 (3)	16:29	14	14:17 (4)
9	08:45			08:07		16:11 (3)	07:10		17:28 (2)	06:58	05:57	05:21	05:30	06:12	07:03		07:52		18:00 (2)	07:47		15:39 (3)	08:34		14:02 (4)
	16:48			17:41	29	16:40 (3)	18:32	18	17:46 (2)	20:25	21:16	21:57	21:59	21:17	20:10		19:01	24	18:24 (2)	16:59	31	16:10 (3)	16:28	16	14:18 (4)
10	08:45			08:06		16:11 (3)	07:07		17:29 (2)	06:56	05:55	05:20	05:31	06:14	07:04		07:54		17:59 (2)	07:49		15:39 (3)	08:35		14:01 (4)
	16:49			17:43	28	16:39 (3)	18:34	14	17:43 (2)	20:27	21:18	21:57	21:58	21:15	20:08		18:58	24	18:23 (2)	16:57	31	16:10 (3)	16:28	18	14:19 (4)
11	08:44			08:04		16:12 (3)	07:05		17:31 (2)	06:54	05:53	05:20	05:32	06:15	07:06		07:56		18:00 (2)	07:51		15:39 (3)	08:36		14:01 (4)
	16:50			17:44	26	16:38 (3)	18:35	10	17:41 (2)	20:29	21:19	21:58	21:57	21:13	20:06		18:56	23	18:23 (2)	16:56	31	16:10 (3)	16:28	19	14:20 (4)
12	08:44			08:02		16:14 (3)	07:03			06:52	05:52	05:20	05:33	06:17	07:08		07:57		18:00 (2)	07:52		15:40 (3)	08:38		14:00 (4)
	16:52			17:46	23	16:37 (3)	18:37			20:31	21:21	21:59	21:56	21:11	20:03		18:54	23	18:23 (2)	16:54	30	16:10 (3)	16:28	21	14:21 (4)
13	08:43			08:00		16:15 (3)	07:00			06:49	05:50	05:19	05:34	06:19	07:09		07:59		18:01 (2)	07:54		15:41 (3)	08:39		14:00 (4)
	16:53			17:48	21	16:36 (3)	18:39			20:32	21:22	22:00	21:56	21:09	20:01		18:52	21	18:22 (2)	16:52	28	16:09 (3)	16:28	22	14:22 (4)
14	08:42			07:58		16:17 (3)	06:58		18:11 (1)	06:47	05:49	05:19	05:35	06:20	07:11		08:01		18:01 (2)	07:56		15:42 (3)	08:39		14:00 (4)
	16:55			17:50	17	16:34 (3)	18:41	4	18:15 (1)	20:34	21:24	22:00	21:55	21:07	19:59		18:50	20	18:21 (2)	16:51	27	16:09 (3)	16:28	23	14:23 (4)
15	08:41			07:56		16:20 (3)	06:56		18:09 (1)	06:45	05:47	05:19	05:36	06:22	07:12		08:03		18:02 (2)	07:58		15:43 (3)	08:40		14:01 (4)
	16:56			17:52	12	16:32 (3)	18:42	8	18:17 (1)	20:36	21:26	22:01	21:54	21:05	19:56		18:47	16	18:18 (2)	16:50	25	16:08 (3)	16:28	23	14:24 (4)
16	08:41			07:54			06:54		18:07 (1)	06:43	05:45	05:19	05:37	06:24	07:14		08:04		18:03 (2)	07:59		15:44 (3)	08:41		14:01 (4)
	16:58			17:54			18:44	11	18:18 (1)	20:37	21:27	22:01	21:53	21:03	19:54		18:45	13	18:16 (2)	16:48	24	16:08 (3)	16:28	24	14:25 (4)
17	08:40			07:52			06:51		18:06 (1)	06:40	05:44	05:19	05:39	06:25	07:16		08:06		18:06 (2)	08:01		15:45 (3)	08:42		14:01 (4)
	17:00			17:56			18:46	15	18:21 (1)	20:39	21:29	22:02	21:52	21:01	19:52		18:43	7	18:13 (2)	16:47	22	16:07 (3)	16:28	25	14:26 (4)
18	08:39			07:50			06:49		18:05 (1)	06:38	05:43	05:19	05:40	06:27	07:17		08:08			08:03		15:45 (3)	08:43		14:02 (4)
	17:01			17:58			18:48	18	18:23 (1)	20:41	21:30	22:02	21:50	20:59	19:49		18:41			16:45	20	16:05 (3)	16:28	25	14:27 (4)
19	08:38			07:48			06:47		18:04 (1)	06:36	05:41	05:19	05:41	06:28	07:19	18:55 (1)	08:09			08:05		15:47 (3)	08:44		14:02 (4)
	17:03			17:59			18:49	19	18:23 (1)	20:42	21:32	22:02	21:49	20:57	19:47	8 19:03 (1)	18:39			16:44	16	16:03 (3)	16:29	25	14:27 (4)
20	08:37			07:46			06:44		18:04 (1)	06:34	05:40	05:19	05:43	06:30	07:21	18:53 (1)	08:11			08:06		15:49 (3)	08:44		14:02 (4)
	17:05			18:01			18:51	19	18:23 (1)	20:44	21:33	22:03	21:48	20:55	19:45	13 19:06 (1)	18:37			16:43	13	16:02 (3)	16:29	25	14:27 (4)
21	08:36		16:18 (3)	07:44			06:42		18:05 (1)	06:32	05:38	05:19	05:44	06:32	07:22	18:51 (1)	08:13			08:08		15:53 (3)	08:45		14:02 (4)
	17:06	7	16:25 (3)	18:03			18:53	17	18:22 (1)	20:46	21:35	22:03	21:47	20:53	19:42	15 19:06 (1)	18:35			16:42	7	16:00 (3)	16:30	25	14:27 (4)
22	08:34		16:14 (3)	07:42			06:40		18:05 (1)	06:30	05:37	05:19	05:45	06:33	07:24	18:50 (1)	08:15			08:10			08:45		14:03 (4)
	17:08	13	16:27 (3)	18:05			18:55	16	18:21 (1)	20:48	21:36	22:03	21:46	20:51	19:40	17 19:07 (1)	18:32			16:41			16:30	25	14:28 (4)
23	08:33		16:13 (3)	07:40			06:37		18:06 (1)	06:28	05:36	05:19	05:47	06:35	07:25	18:49 (1)	08:17			08:11			08:46		14:03 (4)
	17:10	16	16:29 (3)	18:07			18:56	13	18:19 (1)	20:49	21:37	22:03	21:44	20:48	19:38	18 19:07 (1)	18:30			16:39			16:31	25	14:28 (4)
24	08:32		16:11 (3)	07:38			06:35		18:08 (1)	06:26	05:35	05:20	05:48	06:37	07:27	18:48 (1)	08:18			08:13			08:46		14:04 (4)
	17:11	20	16:31 (3)	18:09			18:58	10	18:18 (1)	20:51	21:39	22:04	21:43	20:46	19:35	18 19:06 (1)	18:28			16:38			16:31	25	14:29 (4)
25	08:31		16:11 (3)	07:36		17:34 (2)	06:33			06:24	05:33	05:20	05:49	06:38	07:29	18:48 (1)	07:20			08:15			08:47		14:05 (4)
	17:13	22	16:33 (3)	18:10	9	17:43 (2)	19:00			20:53	21:40	22:04	21:42	20:44	19:33	18 19:06 (1)	17:26			16:37			16:32	25	14:30 (4)
26	08:29		16:11 (3)	07:34		17:30 (2)	06:30			06:22	05:32	05:20	05:51	06:40	07:30	18:48 (1)	07:22		15:54 (3)	08:16			08:47		14:05 (4)
	17:15	24	16:35 (3)	18:12	15	17:45 (2)	19:01			20:54	21:41	22:04	21:40	20:42	19:31	16 19:04 (1)	17:24	3	15:57 (3)	16:36			16:32	25	14:30 (4)
27	08:28		16:10 (3)	07:32		17:29 (2)	06:28			06:19	05:31	05:21	05:52	06:41	07:32	18:48 (1)	07:24		15:49 (3)	08:18			08:47		14:06 (4)
	17:17	25	16:35 (3)	18:14	18	17:47 (2)	19:03			20:56	21:43	22:03	21:39	20:40	19:28	13 19:01 (1)	17:22	13	16:02 (3)	16:35			16:33	24	14:30 (4)
28	08:27		16:10 (3)	07:29		17:28 (2)	06:26			06:17	05:30	05:21	05:54	06:43	07:34	18:49 (1)	07:25		15:46 (3)	08:19			08:47		14:06 (4)
	17:19	27	16:37 (3)	18:16	20	17:48 (2)	19:05			20:58	21:44	22:03	21:37	20:38	19:26	10 18:59 (1)	17:20	18	16:04 (3)	16:35			16:34	24	14:30 (4)
29	08:25		16:09 (3)				07:23			06:15	05:29	05:22	05:55	06:45	07:35	18:51 (1)	07:27		15:44 (3)	08:21			08:48		14:08 (4)
	17:20	28	16:37 (3)				20:07			20:59	21:45	22:03	21:36	20:35	19:24	6 18:57 (1)	17:18	22	16:06 (3)	16:34			16:35	23	14:31 (4)
30	08:24		16:08 (3)				07:21			06:14	05:28	05:23	05:57	06:46	07:37	18:53 (1)	07:29		15:43 (3)	08:22			08:48		14:08 (4)
	17:22	30	16:38 (3)				20:08			21:01	21:46	22:03	21:34	20:33	19:21	1 18:54 (1)	17:17	24	16:07 (3)	16:33			16:36	22	14:30 (4)
31	08:22		16:09 (3)				07:19				05:27		05:58	06:48			07:31		15:42 (3)				08:48		14:09 (4)
	17:24	30	16:39 (3)				20:10				21:48		21:32	20:31			17:15	26	16:08 (3)				16:37	21	14:30 (4)
Potential sun hours	259			277			367			416	485	499	502	454	381		331			266			243		
Total, worst case		329			470			375								153		398			553			562	
Sun reduction		0,24			0,30			0,33								0,36		0,34			0,24			0,20	
Oper. time red.		0,95			0,95			0,95								0,95		0,95			0,95			0,95	
Wind dir. red.		0,68			0,67			0,64								0,63		0,65			0,67			0,69	
Total reduction		0,15			0,19			0,20								0,22		0,21			0,15			0,13	
Total, real		51			90			75								33		83			84			75	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:32/3.2.737

SHADOW - Calendar

Calculation: Copy of V136@149Shadow receptor: AC - 3997MP25

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April		May	June	July	August	September		October		November		December	
1	08:48		09:49 (3)		08:21		09:22 (4)		07:27		16:28 (1)		07:17		17:34 (1)		06:12	05:26	05:23	06:00	06:50		07:39		16:57 (1)		07:33		11:48 (2)		08:24		08:59 (4)
	16:38	108	13:11 (2)	112	17:26	112	13:21 (2)	45	18:18	45	17:13 (1)	24	20:12	24	17:58 (1)		21:03	21:49	22:03	21:31	20:29		19:19	62	17:59 (1)	56	17:13	56	12:44 (2)	131	16:32	131	12:59 (2)
2	08:48		09:49 (3)		08:19		09:24 (4)		07:25		16:27 (1)		07:14		17:38 (1)		06:10	05:25	05:24	06:01	06:51		07:40		16:57 (1)		07:35		11:47 (2)		08:25		09:01 (4)
	16:39	109	13:11 (2)	104	17:28	104	13:20 (2)	48	18:20	48	17:15 (1)	16	20:14	16	17:54 (1)		21:05	21:50	22:03	21:29	20:26		19:17	62	17:59 (1)	59	17:11	59	12:46 (2)	128	16:32	128	12:59 (2)
3	08:48		09:50 (3)		08:18		09:27 (4)		07:23		16:25 (1)		07:12				06:08	05:25	05:25	06:03	06:53		07:42		16:56 (1)		07:36		11:46 (2)		08:27		09:02 (4)
	16:40	109	13:12 (2)	93	17:30	93	13:21 (2)	50	18:21	50	17:15 (1)		20:15				21:06	21:51	22:02	21:28	20:24		19:14	61	17:57 (1)	61	17:09	61	12:47 (2)	126	16:31	126	12:59 (2)
4	08:47		09:50 (3)		08:16		10:13 (3)		07:21		16:24 (1)		07:10				06:06	05:24	05:25	06:04	06:55		07:44		16:57 (1)		07:38		11:44 (2)		08:28		09:04 (4)
	16:41	110	13:12 (2)	76	17:31	76	13:20 (2)	53	18:23	53	17:17 (1)		20:17				21:08	21:52	22:02	21:26	20:22		19:12	60	17:57 (1)	63	17:07	63	12:47 (2)	124	16:31	124	13:00 (2)
5	08:47		09:50 (3)		08:14		12:13 (2)		07:19		16:23 (1)		07:07				06:04	05:23	05:26	06:06	06:56		07:46		16:57 (1)		07:40		11:43 (2)		08:29		09:05 (4)
	16:43	111	13:13 (2)	66	17:33	66	13:19 (2)	55	18:25	55	17:18 (1)		20:19				21:10	21:53	22:01	21:24	20:20		19:10	59	17:56 (1)	65	17:06	65	12:48 (2)	121	16:30	121	13:00 (2)
6	08:47		09:21 (4)		08:13		12:14 (2)		07:16		16:23 (1)		07:05				06:02	05:23	05:27	06:08	06:58		07:47		16:58 (1)		07:42		11:43 (2)		08:31		09:07 (4)
	16:44	115	13:13 (2)	64	17:35	64	13:18 (2)	56	18:27	56	17:19 (1)		20:20				21:11	21:54	22:01	21:22	20:17		19:08	58	17:56 (1)	66	17:04	66	12:49 (2)	116	16:30	116	12:59 (2)
7	08:46		09:20 (4)		08:11		12:14 (2)		07:14		16:21 (1)		07:03				06:00	05:22	05:28	06:09	06:59		07:49		16:57 (1)		07:44		09:43 (3)		08:32		09:37 (3)
	16:45	120	13:15 (2)	63	17:37	63	13:17 (2)	57	18:28	57	17:18 (1)		20:22				21:13	21:55	22:00	21:20	20:15		19:05	57	17:54 (1)	76	17:02	76	12:50 (2)	111	16:29	111	13:00 (2)
8	08:46		09:19 (4)		08:09		12:16 (2)		07:12		16:20 (1)		07:01				05:59	05:21	05:29	06:11	07:01		07:51		16:58 (1)		07:45		08:57 (4)		08:33		09:38 (3)
	16:46	123	13:15 (2)	61	17:39	61	13:17 (2)	59	18:30	59	17:19 (1)		20:24				21:14	21:56	21:59	21:19	20:13		19:03	55	17:53 (1)	95	17:00	95	12:51 (2)	110	16:29	110	13:00 (2)
9	08:45		09:19 (4)		08:07		12:18 (2)		07:10		16:20 (1)		06:58				05:57	05:21	05:30	06:12	07:03		07:52		16:59 (1)		07:47		08:54 (4)		08:34		09:38 (3)
	16:48	128	13:16 (2)	58	17:41	58	13:16 (2)	60	18:32	60	17:20 (1)		20:26				21:16	21:57	21:59	21:17	20:10		19:01	53	17:52 (1)	105	16:59	105	12:51 (2)	109	16:29	109	13:00 (2)
10	08:45		09:18 (4)		08:06		12:19 (2)		07:07		16:19 (1)		06:56				05:55	05:20	05:31	06:14	07:04		17:32 (1)		07:54		17:00 (1)		07:49		08:53 (4)		08:35		09:39 (3)
	16:49	130	13:16 (2)	56	17:43	56	13:15 (2)	60	18:34	60	17:19 (1)		20:27				21:18	21:57	21:58	21:15	20:08	14	17:46 (1)	51	18:59	51	17:51 (1)	113	16:57	113	12:52 (2)	109	16:28	109	13:01 (2)
11	08:44		09:17 (4)		08:04		12:20 (2)		07:05		16:18 (1)		06:54				05:54	05:20	05:32	06:16	07:06		17:27 (1)		07:56		17:00 (1)		07:51		08:52 (4)		08:37		09:39 (3)
	16:51	132	13:16 (2)	53	17:45	53	13:13 (2)	62	18:36	62	17:20 (1)		20:29				21:19	21:58	21:57	21:13	20:06	23	17:50 (1)	49	18:56	49	17:49 (1)	119	16:56	119	12:52 (2)	108	16:28	108	13:01 (2)
12	08:44		09:16 (4)		08:02		12:22 (2)		07:03		16:18 (1)		06:52				05:52	05:20	05:33	06:17	07:08		17:23 (1)		07:57		17:01 (1)		07:53		08:52 (4)		08:38		09:41 (3)
	16:52	134	13:17 (2)	49	17:46	49	13:11 (2)	62	18:37	62	17:20 (1)		20:31				21:21	21:59	21:56	21:11	20:03	30	17:53 (1)	46	18:54	46	17:47 (1)	125	16:54	125	12:53 (2)	107	16:28	107	13:02 (2)
13	08:43		09:16 (4)		08:00		12:24 (2)		07:00		16:17 (1)		06:49				05:50	05:19	05:34	06:19	07:09		17:21 (1)		07:59		17:02 (1)		07:54		08:51 (4)		08:39		09:41 (3)
	16:53	135	13:17 (2)	45	17:48	45	13:09 (2)	62	18:39	62	17:19 (1)		20:32				21:23	22:00	21:56	21:09	20:01	34	17:55 (1)	44	18:52	44	17:46 (1)	129	16:53	129	12:54 (2)	107	16:28	107	13:02 (2)
14	08:42		09:15 (4)		07:58		12:27 (2)		06:58		16:17 (1)		06:47				05:49	05:19	05:35	06:20	07:11		17:18 (1)		08:01		17:04 (1)		07:56		08:51 (4)		08:40		09:42 (3)
	16:55	138	13:18 (2)	39	17:50	39	13:06 (2)	63	18:41	63	17:20 (1)		20:34				21:24	22:00	21:55	21:07	19:59	38	17:56 (1)	40	18:50	40	17:44 (1)	132	16:51	132	12:54 (2)	107	16:28	107	13:03 (2)
15	08:41		09:15 (4)		07:56		12:30 (2)		06:56		16:17 (1)		06:45				05:47	05:19	05:36	06:22	07:13		17:16 (1)		08:03		17:04 (1)		07:58		08:51 (4)		08:40		09:41 (3)
	16:57	140	13:18 (2)	33	17:52	33	13:03 (2)	63	18:43	63	17:20 (1)		20:36				21:26	22:01	21:54	21:05	19:56	41	17:57 (1)	37	18:47	37	17:41 (1)	134	16:50	134	12:54 (2)	106	16:28	106	13:02 (2)
16	08:41		09:15 (4)		07:54		12:35 (2)		06:54		16:17 (1)		06:43				05:46	05:19	05:38	06:24	07:14		17:13 (1)		08:04		17:06 (1)		08:00		08:50 (4)		08:41		09:42 (3)
	16:58	140	13:19 (2)	23	17:54	23	12:58 (2)	62	18:44	62	17:19 (1)		20:37				21:27	22:01	21:53	21:03	19:54	44	17:57 (1)	32	18:45	32	17:38 (1)	137	16:48	137	12:55 (2)	106	16:28	106	13:03 (2)
17	08:40		09:15 (4)		07:52				06:51		16:17 (1)		06:41				05:44	05:19	05:39	06:25	07:16		17:11 (1)		08:06		17:09 (1)		08:01		08:51 (4)		08:42		09:43 (3)
	17:00	141	13:19 (2)	17:56					18:46	62	17:19 (1)		20:39				21:29	22:02	21:52	21:01	19:52	48	17:59 (1)	27	18:43	27	17:36 (1)	138	16:47	138	12:55 (2)	106	16:28	106	13:03 (2)
18	08:39		09:15 (4)	07:50					06:49		16:18 (1)		06:38				05:43	05:19	05:40	06:27	07:17		17:10 (1)		08:08		17:12 (1)		08:03		08:51 (4)		08:43		09:44 (3)
	17:01	142	13:20 (2)	17:58					18:48	60	17:18 (1)		20:41				21:30	22:02	21:51	20:59	19:49	50	18:00 (1)	20	18:41	20	17:32 (1)	140	16:46	140	12:56 (2)	105	16:29	105	13:04 (2)
19	08:38		09:15 (4)		07:48				06:47		16:17 (1)		06:36				05:41	05:19	05:41	06:28	07:19		17:07 (1)		08:10		17:19 (1)		08:05		08:50 (4)		08:44		09:44 (3)
	17:03	142	13:20 (2)	17:59					18:49	60	17:17 (1)		20:43				21:32	22:03	21:49	20:57	19:47	53	18:00 (1)	7	18:39	7	17:26 (1)		16:44	142	12:55 (2)	105	16:29	105	13:04 (2)
20	08:37		09:16 (4)		07:46				06:44		16:18 (1)		06:34				05:40	05:19	05:43	06:30	07:21		17:06 (1)		08:11				08:06		08:51 (4)		08:44		09:45 (3)
	17:05	143	13:21 (2)	18:01					18:51	59	17:17 (1)		20:44				21:33	22:03	21:48	20:55	19:45	55	18:01 (1)	55	18:37				16:43	142	12:56 (2)	104	16:29	104	13:04 (2)
21	08:36		09:16 (4)		07:44				06:42		16:18 (1)		06:32				05:38	05:19	05:44	06:32	07:22		17:04 (1)		08:13				08:08		08:51 (4)		08:45		09:46 (3)
	17:06	141	13:21 (2)	18:03					18:53	58	17:16 (1)		20:46				21:35	22:03	21:47	20:53	19:42	56	18:00 (1)	56	18:35				16:42	141	12:56 (2)	104	16:30	104	13:05 (2)
22	08:34		09:16 (4)		07:42				06:40		16:18 (1)		06:30				05:37	05:19	05:45	06:33	07:24		17:03 (1)		08:15				08:10		08:52 (4)		08:45		09:46 (3)
	17:08	142	13:21 (2)	18:05					18:55	57	17:15 (1)		20:48				21:36	22:03	21:46	20:51	19:40	58	18:01 (1)	58	18:33				16:41	143	12:57 (2)	104	16:30	104	13:05 (2)
23	08:33		09:16 (4)		07:40		16:44 (1)		06:37		16:19 (1)		06:28				05:36	05:20	05:47	06:35	07:26		17:03 (1)		08:17				08:11		08:52 (4)		08:46		09:46 (3)
	17:10	142	13:21 (2)	18:07	14	16:58 (1)	18:56	55	17:14 (1)		20:49						21:37	22:03	21:44	20:49	19:38	58	18:01 (1)	58	18:31				16:40	142	12:57 (2)	104	16:31	104	13:05 (2)
24	08:32		09:17 (4)		07:38		16:40 (1)		06:35		16:21 (1)		06:26				05:35	05:20	05:48	06:37	07:27		17:01 (1)		08:18				08:13		08:52 (4)		08:46		09:47 (3)
	17:12	140	13:22 (2)	18:09	22	17:02 (1)	18:58	52	17:13 (1)		20:51						21:39	22:04	21:43	20:46	19:35	60	18:01 (1)	58	18:28				16:38	142	12:57 (2)	105	16:31	105	13:07 (2)
25	08:31		09:17 (4)		07:36		16:37 (1)		06:33		16:21 (1)		06:24				05:33	05:20	05:49	06:38	07:29		17:00 (1)		07:20		12:13 (2)		08:15		08:53 (4)		08:47		09:47 (3)
	17:13	138	13:21 (2)	18:10	29	17:06 (1)	19:00	51	17:12 (1)		20:53						21:40	22:04	21:42	20:44	19:33	61	18:01 (1)	2	17:26	2	12:15 (2)	141	16:37	141	12:57 (2)	105	16:32	105	13:07 (2)
26	08:29		09:18 (4)		07:34		16:34 (1)		06:30		16:22 (1)		06:22				05:32	05:21	05:51	06:40	07:31		17:00 (1)		07:22		12:03 (2)		08:16		08:54 (4)		08:47		09:47 (3)
	17:15	135	13:22 (2)	18:12	34	17:08 (1)	19:02	48	17:10 (1)		20:54						21:41	22:04	21:40	20:42	19:31	61	18:01 (1)	26	17:24	26	12:29 (2)	140	16:36	140	12:58 (2)	105	16:32	105	13:07 (2)
27	08:28		09:18 (4)		07:32		16:31 (1)		06:28		16:24 (1)		06:20				05:31	05:21	05:52	06:42	07:32		16:59 (1)		07:24		11:59 (2)		08:18		08:55 (4)		08:47		09:47 (3)
	17:17	135	13:22 (2)	18:14	38	17:09 (1)	19:03	45	17:09 (1)		20:56						21:43	22:04	21:39	20:40	19:28	61	18:00 (1)	34	17:22	34	12:33 (2)	140	16:36	140	12:58 (2)	105	16:33	105	13:07 (2)
28	08:27		09:19 (4)		07:30		16:30 (1)		06:26		16:25 (1)		06:18				05:30	05:21	05:54	06:43	07:34		16:58 (1)		07:26		11:56 (2)		08:19		08:56 (4)		08:48		09:48 (3)
	17:19	132	13:22 (2)	18:16	41	17:11 (1)	19:05	42	17:07 (1)		20:58						21:44	22:03	21:37	20:38	19:26	62	18:00 (1)	41	17:20	41	12:37 (2)	137	16:35	137	12:58 (2)	106	16:34	106	13:09 (2)
29	08:25		09:19 (4)						07:24		17:27 (1)		06:16				05:29	05:22	05:55	06:45	07:35		16:58 (1)		07:27		11:53 (2)		08:21		08:57 (4)		08:48		09:49 (3)
	17:20	129	13:22 (2)						20:07	39	18:06 (1)		21:00				21:45	22:03	21:36	20:35	19:24	62	18:00 (1)	46	17:19	46	12:39 (2)	135	16:34	135	12:58 (2)	106	16:35	106	13:09 (2)
30	08:24		09:20 (4)						07:21		17:29 (1)		06:14				05:28	05:23	05:57	06:46	07:37		16:57 (1)		07:29		11:51 (2)		08:22		08:58 (4)		08:48		09:49 (3)
	17:22	123	13:21 (2)						20:08	35	18:04 (1)		21:01				21:47	22:03	21:34	20:33	19:21	62	17:59 (1)	50	17:17	50	12:41 (2)	134	16:33	134	12:59 (2)	106	16:36	106	13:10 (2)
31	08:22		09:21 (4)						07:19		17:32 (1)						05:27		05:58	06:48							11:50 (2)						08:48		09:48 (3)
	17:24	119	13:22 (2)						20:10	30	18:02 (1)						21:48		21:33	20:31							17:15	53	12:43 (2)				16:37	108	13:10 (2)
Potential sun hours	259				277				367				416				485	499	502	454	381						331				266		243		
Total, worst case		4026				1173				1670				40								1031						1132			3492			3404
Sun reduction		0,24				0,30				0,33				0,42								0,36						0,34			0,24			0,20
Oper. time red.		0,95				0,95				0,95				0,95								0,95						0,95			0,95			0,95
Wind dir. red.		0,64				0,66				0,67				0,67								0,67						0,67			0,64			0,64
Total reduction		0,14				0,19				0,21				0,26								0,23						0,21			0,14			0,12
Total, real		579				222				346				11								235						240			498			421

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:32/3.2.737

SHADOW - Calendar

Calculation: Copy of V136@149Shadow receptor: AD - 3945LA9

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December		
1	08:48		12:54 (3)	08:21		15:56 (2)	07:27		07:17	06:12	05:26	05:23	06:00	06:50		07:39		18:09 (1)	07:33		15:23 (2)	08:24		12:48 (3)
	16:38	39	13:33 (3)	17:26	35	16:31 (2)	18:18		20:12	21:03	21:49	22:03	21:31	20:29		19:19	30	18:39 (1)	17:13	44	16:07 (2)	16:32	24	13:12 (3)
2	08:48		12:56 (3)	08:19		15:55 (2)	07:25		07:14	06:10	05:25	05:24	06:01	06:51		07:40		18:09 (1)	07:35		15:23 (2)	08:25		12:48 (3)
	16:39	37	13:33 (3)	17:28	37	16:32 (2)	18:19		20:14	21:05	21:50	22:02	21:29	20:26		19:17	30	18:39 (1)	17:11	44	16:07 (2)	16:32	26	13:14 (3)
3	08:48		12:57 (3)	08:18		15:55 (2)	07:23		07:12	06:08	05:25	05:25	06:03	06:53		07:42		18:09 (1)	07:36		15:22 (2)	08:27		12:46 (3)
	16:40	36	13:33 (3)	17:30	39	16:34 (2)	18:21		20:15	21:06	21:51	22:02	21:28	20:24		19:14	28	18:37 (1)	17:09	44	16:06 (2)	16:31	29	13:15 (3)
4	08:47		12:57 (3)	08:16		15:54 (2)	07:21		07:10	06:06	05:24	05:25	06:04	06:55		07:44		18:10 (1)	07:38		15:22 (2)	08:28		12:46 (3)
	16:41	36	13:33 (3)	17:31	40	16:34 (2)	18:23		20:17	21:08	21:52	22:02	21:26	20:22		19:12	26	18:36 (1)	17:07	43	16:05 (2)	16:30	31	13:17 (3)
5	08:47		12:58 (3)	08:14		15:54 (2)	07:19	17:41 (1)	07:07	06:04	05:23	05:26	06:06	06:56		07:46		18:11 (1)	07:40		15:23 (2)	08:29		12:46 (3)
	16:42	35	13:33 (3)	17:33	41	16:35 (2)	18:25	11 17:52 (1)	20:19	21:10	21:53	22:01	21:24	20:20		19:10	24	18:35 (1)	17:06	42	16:05 (2)	16:30	32	13:18 (3)
6	08:47		12:59 (3)	08:13		15:53 (2)	07:16	17:37 (1)	07:05	06:02	05:23	05:27	06:08	06:58		07:47		18:11 (1)	07:42		15:23 (2)	08:31		12:45 (3)
	16:44	33	13:32 (3)	17:35	42	16:35 (2)	18:27	17 17:54 (1)	20:20	21:11	21:54	22:01	21:22	20:17		19:08	22	18:33 (1)	17:04	42	16:05 (2)	16:29	33	13:18 (3)
7	08:46		13:01 (3)	08:11		15:53 (2)	07:14	17:35 (1)	07:03	06:00	05:22	05:28	06:09	06:59		07:49		18:12 (1)	07:44		15:24 (2)	08:32		12:45 (3)
	16:45	32	13:33 (3)	17:37	43	16:36 (2)	18:28	21 17:56 (1)	20:22	21:13	21:55	22:00	21:20	20:15		19:05	19	18:31 (1)	17:02	40	16:04 (2)	16:29	35	13:20 (3)
8	08:46		13:01 (3)	08:09		15:53 (2)	07:12	17:34 (1)	07:01	05:59	05:21	05:29	06:11	07:01		07:51		18:14 (1)	07:45		15:25 (2)	08:33		12:45 (3)
	16:46	31	13:32 (3)	17:39	44	16:37 (2)	18:30	24 17:58 (1)	20:24	21:14	21:56	21:59	21:19	20:13		19:03	15	18:29 (1)	17:00	39	16:04 (2)	16:29	36	13:21 (3)
9	08:45		13:03 (3)	08:07		15:53 (2)	07:10	17:33 (1)	06:58	05:57	05:21	05:30	06:12	07:03		07:52		18:18 (1)	07:47		15:26 (2)	08:34		12:45 (3)
	16:48	29	13:32 (3)	17:41	44	16:37 (2)	18:32	26 17:59 (1)	20:25	21:16	21:57	21:59	21:17	20:10		19:01	7	18:25 (1)	16:59	37	16:03 (2)	16:28	36	13:21 (3)
10	08:45		13:04 (3)	08:06		15:53 (2)	07:07	17:31 (1)	06:56	05:55	05:20	05:31	06:14	07:04		07:54			07:49		15:26 (2)	08:35		12:45 (3)
	16:49	27	13:31 (3)	17:43	44	16:37 (2)	18:34	28 17:59 (1)	20:27	21:18	21:57	21:58	21:15	20:08		18:59			16:57	36	16:02 (2)	16:28	37	13:22 (3)
11	08:44		13:06 (3)	08:04		15:53 (2)	07:05	17:31 (1)	06:54	05:54	05:20	05:32	06:16	07:06		07:56			07:51		15:28 (2)	08:37		12:45 (3)
	16:50	24	13:30 (3)	17:45	44	16:37 (2)	18:36	29 18:00 (1)	20:29	21:19	21:58	21:57	21:13	20:06		18:56			16:56	33	16:01 (2)	16:28	38	13:23 (3)
12	08:44		13:08 (3)	08:02		15:53 (2)	07:03	17:30 (1)	06:52	05:52	05:20	05:33	06:17	07:08		07:57			07:52		15:29 (2)	08:38		12:45 (3)
	16:52	21	13:29 (3)	17:46	44	16:37 (2)	18:37	30 18:00 (1)	20:31	21:21	21:59	21:56	21:11	20:03		18:54			16:54	31	16:00 (2)	16:28	38	13:23 (3)
13	08:43		13:10 (3)	08:00		15:53 (2)	07:00	17:29 (1)	06:49	05:50	05:19	05:34	06:19	07:09		07:59			07:54		15:30 (2)	08:39		12:46 (3)
	16:53	17	13:27 (3)	17:48	44	16:37 (2)	18:39	31 18:00 (1)	20:32	21:22	22:00	21:56	21:09	20:01		18:52			16:53	29	15:59 (2)	16:28	39	13:25 (3)
14	08:42		13:14 (3)	07:58		15:54 (2)	06:58	17:29 (1)	06:47	05:49	05:19	05:35	06:20	07:11		08:01			07:56		15:32 (2)	08:40		12:45 (3)
	16:55	11	13:25 (3)	17:50	43	16:37 (2)	18:41	31 18:00 (1)	20:34	21:24	22:00	21:55	21:07	19:59		18:50			16:51	26	15:58 (2)	16:28	40	13:25 (3)
15	08:41			07:56		15:54 (2)	06:56	17:30 (1)	06:45	05:47	05:19	05:36	06:22	07:12		08:03			07:58		15:33 (2)	08:40		10:56 (4)
	16:56			17:52	43	16:37 (2)	18:43	30 18:00 (1)	20:36	21:26	22:01	21:54	21:05	19:56		18:47			16:50	23	15:56 (2)	16:28	43	13:25 (3)
16	08:41			07:54		15:55 (2)	06:54	17:29 (1)	06:43	05:46	05:19	05:38	06:24	07:14		08:04		16:44 (2)	08:00		15:35 (2)	08:41		10:55 (4)
	16:58			17:54	41	16:36 (2)	18:44	29 17:58 (1)	20:37	21:27	22:01	21:53	21:03	19:54		18:45	7	16:51 (2)	16:48	20	15:55 (2)	16:28	46	13:26 (3)
17	08:40			07:52		15:55 (2)	06:51	17:29 (1)	06:41	05:44	05:19	05:39	06:25	07:16		08:06		16:39 (2)	08:01		15:38 (2)	08:42		10:55 (4)
	17:00			17:56	41	16:36 (2)	18:46	29 17:58 (1)	20:39	21:29	22:02	21:52	21:01	19:52		18:43	17	16:56 (2)	16:47	15	15:53 (2)	16:28	49	13:27 (3)
18	08:39			07:50		15:56 (2)	06:49	17:30 (1)	06:38	05:43	05:19	05:40	06:27	07:17		08:08		16:36 (2)	08:03		15:41 (2)	08:43		10:55 (4)
	17:01			17:58	39	16:35 (2)	18:48	27 17:57 (1)	20:41	21:30	22:02	21:50	20:59	19:49		18:41	22	16:58 (2)	16:45	8	15:49 (2)	16:28	50	13:28 (3)
19	08:38			07:48		15:57 (2)	06:47	17:30 (1)	06:36	05:41	05:19	05:41	06:28	07:19		08:10		16:33 (2)	08:05			08:44		10:54 (4)
	17:03			17:59	37	16:34 (2)	18:49	26 17:56 (1)	20:43	21:32	22:03	21:49	20:57	19:47		18:39	27	17:00 (2)	16:44			16:29	51	13:28 (3)
20	08:37			07:46		15:57 (2)	06:44	17:32 (1)	06:34	05:40	05:19	05:43	06:30	07:21		18:26 (1)	08:11		16:31 (2)	08:06			08:44		10:55 (4)
	17:05			18:01	35	16:32 (2)	18:51	23 17:55 (1)	20:44	21:33	22:03	21:48	20:55	19:45	6	18:32 (1)	18:37	31	17:02 (2)	16:43			16:29	51	13:29 (3)
21	08:36			07:44		15:59 (2)	06:42	17:34 (1)	06:32	05:38	05:19	05:44	06:32	07:22		18:21 (1)	08:13		16:30 (2)	08:08			08:45		10:56 (4)
	17:06			18:03	32	16:31 (2)	18:53	19 17:53 (1)	20:46	21:35	22:03	21:47	20:53	19:42	14	18:35 (1)	18:35	33	17:03 (2)	16:42			16:30	52	13:30 (3)
22	08:34			07:42		16:01 (2)	06:40	17:35 (1)	06:30	05:37	05:19	05:45	06:33	07:24		18:19 (1)	08:15		16:27 (2)	08:10			08:45		10:56 (4)
	17:08			18:05	29	16:30 (2)	18:55	15 17:50 (1)	20:48	21:36	22:03	21:46	20:51	19:40	18	18:37 (1)	18:33	36	17:03 (2)	16:41			16:30	52	13:30 (3)
23	08:33			07:40		16:03 (2)	06:37	17:38 (1)	06:28	05:36	05:19	05:47	06:35	07:26		18:17 (1)	08:17		16:26 (2)	08:11			08:46		10:56 (4)
	17:10			18:07	25	16:28 (2)	18:56	9 17:47 (1)	20:49	21:37	22:03	21:44	20:48	19:38	22	18:39 (1)	18:30	38	17:04 (2)	16:39			16:31	52	13:30 (3)
24	08:32		16:08 (2)	07:38		16:06 (2)	06:35		06:26	05:35	05:20	05:48	06:37	07:27		18:14 (1)	08:18		16:25 (2)	08:13			08:46		10:57 (4)
	17:11	8	16:16 (2)	18:09	20	16:26 (2)	18:58		20:51	21:39	22:04	21:43	20:46	19:35	25	18:39 (1)	18:28	40	17:05 (2)	16:38			16:31	51	13:31 (3)
25	08:31		16:04 (2)	07:36		16:09 (2)	06:33		06:24	05:33	05:20	05:49	06:38	07:29		18:13 (1)	07:20		15:24 (2)	08:15			08:47		10:58 (4)
	17:13	15	16:19 (2)	18:10	14	16:23 (2)	19:00		20:53	21:40	22:04	21:42	20:44	19:33	27	18:40 (1)	17:26	41	16:05 (2)	16:37			16:32	50	13:31 (3)
26	08:29		16:02 (2)	07:34			06:30		06:22	05:32	05:21	05:51	06:40	07:30		18:12 (1)	07:22		15:24 (2)	08:16			08:47		10:58 (4)
	17:15	20	16:22 (2)	18:12			19:02		20:54	21:41	22:04	21:40	20:42	19:31	29	18:41 (1)	17:24	42	16:06 (2)	16:36			16:32	50	13:31 (3)
27	08:28		16:00 (2)	07:32			06:28		06:20	05:31	05:21	05:52	06:42	07:32		18:11 (1)	07:24		15:23 (2)	08:18			08:47		10:59 (4)
	17:17	24	16:24 (2)	18:14			19:03		20:56	21:43	22:04	21:39	20:40	19:28	29	18:40 (1)	17:22	43	16:06 (2)	16:36			16:33	47	13:31 (3)
28	08:27		16:00 (2)	07:29			06:26		06:18	05:30	05:21	05:54	06:43	07:34		18:10 (1)	07:26		15:23 (2)	08:19		12:55 (3)	08:47		11:02 (4)
	17:19	26	16:26 (2)	18:16			19:05		20:58	21:44	22:03	21:37	20:38	19:26	30	18:40 (1)	17:20	43	16:06 (2)	16:35	10	13:05 (3)	16:34	44	13:32 (3)
29	08:25		15:58 (2)				07:23		06:16	05:29	05:22	05:55	06:45	07:35		18:10 (1)	07:27		15:23 (2)	08:21		12:51 (3)	08:48		12:53 (3)
	17:20	30	16:28 (2)				20:07		21:00	21:45	22:03	21:36	20:35	19:24	31	18:41 (1)	17:18	44	16:07 (2)	16:34	17	13:08 (3)	16:35	40	13:33 (3)
30	08:24		15:57 (2)				07:21		06:14	05:28	05:23	05:57	06:46	07:37		18:09 (1)	07:29		15:23 (2)	08:22		12:49 (3)	08:48		12:54 (3)
	17:22	32	16:29 (2)				20:08		21:01	21:46	22:03	21:34	20:33	19:21	30	18:39 (1)	17:17	44	16:07 (2)	16:33	21	13:10 (3)	16:36	39	13:33 (3)
31	08:22		15:57 (2)				07:19			05:27		05:58	06:48				07:31		15:23 (2)				08:48		12:53 (3)
	17:24	34	16:31 (2)				20:10			21:48		21:32	20:31				17:15	44	16:07 (2)				16:37	39	13:32 (3)
Potential sun hours	259			277			367		416	485	499	502	454	381			331			266			243		
Total, worst case		597			940			455							261			753			644			1280
Sun reduction		0,24			0,30			0,33							0,36			0,34			0,24			0,20
Oper. time red.		0,95			0,95			0,95							0,95			0,95			0,95			0,95
Wind dir. red.		0,68			0,67			0,63							0,63			0,66			0,67			0,68
Total reduction		0,15			0,19			0,20							0,22			0,21			0,15			0,13
Total, real		92			181			90							57			159			97			168

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:32/3.2.737

SHADOW - Calendar

Calculation: Copy of V136@149Shadow receptor: AE - 3945LA1a

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January			February			March	April	May	June	July	August	September	October			November			December		
1	08:48		15:43 (4)	08:21		16:00 (4)	07:27	07:16	06:12	05:26	05:23	06:00	06:50	07:39			07:33			08:24		15:25 (4)
	16:38	16	15:59 (4)	17:26	5	16:05 (4)	18:18	20:12	21:03	21:49	22:03	21:31	20:29	19:19			17:13			16:32	25	15:50 (4)
2	08:48		15:43 (4)	08:19			07:25	07:14	06:10	05:25	05:24	06:01	06:51	07:40			07:34			08:25		15:26 (4)
	16:39	17	16:00 (4)	17:28			18:19	20:13	21:04	21:50	22:02	21:29	20:26	19:17			17:11			16:32	25	15:51 (4)
3	08:47		15:44 (4)	08:18			07:23	07:12	06:08	05:25	05:25	06:03	06:53	07:42			07:36			08:27		15:27 (4)
	16:40	17	16:01 (4)	17:30			18:21	20:15	21:06	21:51	22:02	21:27	20:24	19:14			17:09			16:31	23	15:50 (4)
4	08:47		15:43 (4)	08:16			07:21	07:10	06:06	05:24	05:25	06:04	06:54	07:44			07:38			08:28		15:27 (4)
	16:41	19	16:02 (4)	17:31			18:23	20:17	21:08	21:52	22:02	21:26	20:22	19:12			17:07			16:30	23	15:50 (4)
5	08:47		15:43 (4)	08:14			07:18	07:07	06:04	05:23	05:26	06:06	06:56	07:45			07:40			08:29		15:28 (4)
	16:42	20	16:03 (4)	17:33			18:25	20:19	21:09	21:53	22:01	21:24	20:20	19:10			17:05			16:30	22	15:50 (4)
6	08:47		15:43 (4)	08:13			07:16	07:05	06:02	05:22	05:27	06:07	06:58	07:47			07:42			08:31		15:29 (4)
	16:44	21	16:04 (4)	17:35			18:27	20:20	21:11	21:54	22:01	21:22	20:17	19:08			17:04			16:29	21	15:50 (4)
7	08:46		15:43 (4)	08:11			07:14	07:03	06:00	05:22	05:28	06:09	06:59	07:49			07:43			08:32		15:30 (4)
	16:45	22	16:05 (4)	17:37			18:28	20:22	21:13	21:55	22:00	21:20	20:15	19:05			17:02			16:29	20	15:50 (4)
8	08:46		15:43 (4)	08:09			07:12	07:00	05:59	05:21	05:29	06:11	07:01	07:51			07:45			08:33		15:31 (4)
	16:46	23	16:06 (4)	17:39			18:30	20:24	21:14	21:56	21:59	21:19	20:13	19:03			17:00			16:29	19	15:50 (4)
9	08:45		15:43 (4)	08:07			07:09	06:58	05:57	05:21	05:30	06:12	07:03	07:52			07:47			08:34		15:32 (4)
	16:48	23	16:06 (4)	17:41			18:32	20:25	21:16	21:57	21:59	21:17	20:10	19:01			16:59			16:28	18	15:50 (4)
10	08:45		15:43 (4)	08:06			07:07	06:56	05:55	05:20	05:31	06:14	07:04	07:54			07:49		15:30 (4)	08:35		15:32 (4)
	16:49	25	16:08 (4)	17:43			18:34	20:27	21:18	21:57	21:58	21:15	20:08	18:58			16:57	6	15:36 (4)	16:28	17	15:49 (4)
11	08:44		15:43 (4)	08:04		17:08 (3)	07:05	06:54	05:53	05:20	05:32	06:15	07:06	07:56			07:51		15:27 (4)	08:36		15:33 (4)
	16:50	25	16:08 (4)	17:44	8	17:16 (3)	18:35	20:29	21:19	21:58	21:57	21:13	20:06	18:56			16:56	13	15:40 (4)	16:28	16	15:49 (4)
12	08:44		15:43 (4)	08:02		17:06 (3)	07:03	06:51	05:52	05:20	05:33	06:17	07:08	07:57			07:52		15:25 (4)	08:38		15:34 (4)
	16:52	26	16:09 (4)	17:46	12	17:18 (3)	18:37	20:31	21:21	21:59	21:56	21:11	20:03	18:54			16:54	17	15:42 (4)	16:28	15	15:49 (4)
13	08:43		15:43 (4)	08:00		17:04 (3)	07:00	06:49	05:50	05:19	05:34	06:19	07:09	07:59			07:54		15:24 (4)	08:39		15:35 (4)
	16:53	26	16:09 (4)	17:48	16	17:20 (3)	18:39	20:32	21:22	21:59	21:55	21:09	20:01	18:52			16:52	19	15:43 (4)	16:28	13	15:48 (4)
14	08:42		15:43 (4)	07:58		17:03 (3)	06:58	06:47	05:49	05:19	05:35	06:20	07:11	08:01			07:56		15:23 (4)	08:39		15:36 (4)
	16:55	27	16:10 (4)	17:50	19	17:22 (3)	18:41	20:34	21:24	22:00	21:55	21:07	19:59	18:50			16:51	21	15:44 (4)	16:28	12	15:48 (4)
15	08:41		15:43 (4)	07:56		17:03 (3)	06:56	06:45	05:47	05:19	05:36	06:22	07:12	08:03			07:58		15:22 (4)	08:40		15:37 (4)
	16:56	27	16:10 (4)	17:52	20	17:23 (3)	18:42	20:36	21:26	22:01	21:54	21:05	19:56	18:47			16:50	23	15:45 (4)	16:28	11	15:48 (4)
16	08:40		15:43 (4)	07:54		17:02 (3)	06:54	06:43	05:45	05:19	05:37	06:24	07:14	08:04		17:41 (3)	07:59		15:22 (4)	08:41		15:38 (4)
	16:58	28	16:11 (4)	17:54	22	17:24 (3)	18:44	20:37	21:27	22:01	21:53	21:03	19:54	18:45	6	17:47 (3)	16:48	24	15:46 (4)	16:28	11	15:49 (4)
17	08:40		15:44 (4)	07:52		17:02 (3)	06:51	06:40	05:44	05:19	05:39	06:25	07:16	08:06		17:38 (3)	08:01		15:21 (4)	08:42		15:39 (4)
	17:00	28	16:12 (4)	17:56	22	17:24 (3)	18:46	20:39	21:29	22:02	21:52	21:01	19:52	18:43	12	17:50 (3)	16:47	26	15:47 (4)	16:28	10	15:49 (4)
18	08:39		15:44 (4)	07:50		17:02 (3)	06:49	06:38	05:42	05:19	05:40	06:27	07:17	08:08		17:36 (3)	08:03		15:20 (4)	08:43		15:40 (4)
	17:01	28	16:12 (4)	17:57	22	17:24 (3)	18:48	20:41	21:30	22:02	21:50	20:59	19:49	18:41	16	17:52 (3)	16:45	27	15:47 (4)	16:28	9	15:49 (4)
19	08:38		15:44 (4)	07:48		17:01 (3)	06:47	06:36	05:41	05:19	05:41	06:28	07:19	08:09		17:34 (3)	08:05		15:20 (4)	08:43		15:40 (4)
	17:03	29	16:13 (4)	17:59	22	17:23 (3)	18:49	20:42	21:32	22:02	21:49	20:57	19:47	18:39	19	17:53 (3)	16:44	28	15:48 (4)	16:29	9	15:49 (4)
20	08:37		15:45 (4)	07:46		17:01 (3)	06:44	06:34	05:40	05:19	05:42	06:30	07:21	08:11		17:33 (3)	08:06		15:20 (4)	08:44		15:41 (4)
	17:05	28	16:13 (4)	18:01	22	17:23 (3)	18:51	20:44	21:33	22:03	21:48	20:55	19:45	18:37	21	17:54 (3)	16:43	28	15:48 (4)	16:29	8	15:49 (4)
21	08:35		15:45 (4)	07:44		17:02 (3)	06:42	06:32	05:38	05:19	05:44	06:32	07:22	08:13		17:32 (3)	08:08		15:21 (4)	08:45		15:42 (4)
	17:06	28	16:13 (4)	18:03	21	17:23 (3)	18:53	20:46	21:34	22:03	21:47	20:53	19:42	18:35	21	17:53 (3)	16:42	28	15:49 (4)	16:29	7	15:49 (4)
22	08:34		15:45 (4)	07:42		17:02 (3)	06:40	06:30	05:37	05:19	05:45	06:33	07:24	08:15		17:31 (3)	08:10		15:21 (4)	08:45		15:43 (4)
	17:08	28	16:13 (4)	18:05	20	17:22 (3)	18:55	20:48	21:36	22:03	21:46	20:51	19:40	18:32	23	17:54 (3)	16:41	28	15:49 (4)	16:30	7	15:50 (4)
23	08:33		15:46 (4)	07:40		17:04 (3)	06:37	06:28	05:36	05:19	05:47	06:35	07:25	08:17		17:31 (3)	08:11		15:21 (4)	08:46		15:42 (4)
	17:10	28	16:14 (4)	18:07	17	17:21 (3)	18:56	20:49	21:37	22:03	21:44	20:48	19:38	18:30	23	17:54 (3)	16:39	29	15:50 (4)	16:30	8	15:50 (4)
24	08:32		15:46 (4)	07:38		17:05 (3)	06:35	06:26	05:34	05:20	05:48	06:37	07:27	08:18		17:31 (3)	08:13		15:21 (4)	08:46		15:43 (4)
	17:11	27	16:13 (4)	18:09	15	17:20 (3)	18:58	20:51	21:39	22:03	21:43	20:46	19:35	18:28	23	17:54 (3)	16:38	28	15:49 (4)	16:31	8	15:51 (4)
25	08:31		15:48 (4)	07:36		17:08 (3)	06:33	06:24	05:33	05:20	05:49	06:38	07:29	07:20		16:31 (3)	08:15		15:22 (4)	08:47		15:43 (4)
	17:13	25	16:13 (4)	18:10	10	17:18 (3)	19:00	20:53	21:40	22:04	21:41	20:44	19:33	17:26	22	16:53 (3)	16:37	28	15:50 (4)	16:32	9	15:52 (4)
26	08:29		15:49 (4)	07:34			06:30	06:21	05:32	05:20	05:51	06:40	07:30	07:22		16:32 (3)	08:16		15:22 (4)	08:47		15:43 (4)
	17:15	24	16:13 (4)	18:12			19:01	20:54	21:41	22:04	21:40	20:42	19:31	17:24	21	16:53 (3)	16:36	28	15:50 (4)	16:32	10	15:53 (4)
27	08:28		15:49 (4)	07:32			06:28	06:19	05:31	05:21	05:52	06:41	07:32	07:24		16:32 (3)	08:18		15:23 (4)	08:47		15:43 (4)
	17:17	23	16:12 (4)	18:14			19:03	20:56	21:43	22:03	21:39	20:40	19:28	17:22	20	16:52 (3)	16:35	28	15:51 (4)	16:33	10	15:53 (4)
28	08:27		15:51 (4)	07:29			06:26	06:17	05:30	05:21	05:54	06:43	07:34	07:25		16:33 (3)	08:19		15:23 (4)	08:47		15:43 (4)
	17:19	21	16:12 (4)	18:16			19:05	20:58	21:44	22:03	21:37	20:38	19:26	17:20	18	16:51 (3)	16:35	27	15:50 (4)	16:34	11	15:54 (4)
29	08:25		15:52 (4)				07:23	06:15	05:29	05:22	05:55	06:45	07:35	07:27		16:34 (3)	08:21		15:24 (4)	08:48		15:43 (4)
	17:20	19	16:11 (4)				20:07	20:59	21:45	22:03	21:36	20:35	19:24	17:18	15	16:49 (3)	16:34	26	15:50 (4)	16:35	12	15:55 (4)
30	08:24		15:53 (4)				07:21	06:13	05:28	05:22	05:57	06:46	07:37	07:29		16:36 (3)	08:22		15:24 (4)	08:48		15:43 (4)
	17:22	17	16:10 (4)				20:08	21:01	21:46	22:03	21:34	20:33	19:21	17:16	11	16:47 (3)	16:33	26	15:50 (4)	16:36	13	15:56 (4)
31	08:22		15:56 (4)				07:19		05:27		05:58	06:48		07:31		16:38 (3)				08:48		15:43 (4)
	17:24	13	16:09 (4)				20:10		21:48		21:32	20:31		17:15	7	16:45 (3)				16:37	14	15:57 (4)
Potential sun hours	259			277			367	416	485	499	502	454	381	331			266			243		
Total, worst case		728			273										278			508			436	
Sun reduction		0,24			0,30										0,34			0,24			0,20	
Oper. time red.		0,95			0,95										0,95			0,95			0,95	
Wind dir. red.		0,67			0,67										0,67			0,67			0,67	
Total reduction		0,15			0,19										0,21			0,15			0,13	
Total, real		112			52										59			77			57	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:32/3.2.737

SHADOW - Calendar

Calculation: Copy of V136@149Shadow receptor: AF - 3945LA7

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December		
1	08:48		13:53 (3)	08:21		07:27	16:37 (2)	07:17	06:12	05:26	05:23	06:00	06:50		07:39		18:29 (1)	07:33	16:13 (2)	08:24	13:42 (3)
	16:38	47	14:40 (3)	17:26		18:18	29 17:06 (2)	20:12	21:03	21:49	22:03	21:31	20:29		19:19	20	18:49 (1)	17:13	17 16:30 (2)	16:32	43 14:25 (3)
2	08:48		13:54 (3)	08:19		07:25	16:39 (2)	07:14	06:10	05:25	05:24	06:01	06:51		07:40		18:30 (1)	07:35	16:16 (2)	08:25	13:42 (3)
	16:39	47	14:41 (3)	17:28		18:19	25 17:04 (2)	20:13	21:05	21:50	22:02	21:29	20:26		19:17	17	18:47 (1)	17:11	11 16:27 (2)	16:32	44 14:26 (3)
3	08:48		13:55 (3)	08:18		07:23	16:40 (2)	07:12	06:08	05:25	05:25	06:03	06:53		07:42		18:31 (1)	07:36		08:27	13:42 (3)
	16:40	47	14:42 (3)	17:30		18:21	22 17:02 (2)	20:15	21:06	21:51	22:02	21:27	20:24		19:14	13	18:44 (1)	17:09		16:31	44 14:26 (3)
4	08:47		13:55 (3)	08:16		07:21	16:42 (2)	07:10	06:06	05:24	05:25	06:04	06:55		07:44		18:36 (1)	07:38		08:28	13:43 (3)
	16:41	46	14:41 (3)	17:31		18:23	18 17:00 (2)	20:17	21:08	21:52	22:02	21:26	20:22		19:12	4	18:40 (1)	17:07		16:30	45 14:28 (3)
5	08:47		13:56 (3)	08:14		07:18	16:46 (2)	07:07	06:04	05:23	05:26	06:06	06:56		07:45			07:40		08:29	13:42 (3)
	16:42	46	14:42 (3)	17:33		18:25	10 16:56 (2)	20:19	21:10	21:53	22:01	21:24	20:20		19:10			17:06		16:30	46 14:28 (3)
6	08:47		13:56 (3)	08:13		07:16		07:05	06:02	05:23	05:27	06:08	06:58		07:47			07:42		08:31	13:42 (3)
	16:44	46	14:42 (3)	17:35		18:27		20:20	21:11	21:54	22:01	21:22	20:17		19:08			17:04		16:29	46 14:28 (3)
7	08:46		13:57 (3)	08:11		07:14		07:03	06:00	05:22	05:28	06:09	06:59		07:49			07:44		08:32	13:43 (3)
	16:45	46	14:43 (3)	17:37		18:28		20:22	21:13	21:55	22:00	21:20	20:15		19:05			17:02		16:29	46 14:29 (3)
8	08:46		13:57 (3)	08:09		07:12		07:01	05:59	05:21	05:29	06:11	07:01		07:51			07:45		08:33	13:43 (3)
	16:46	45	14:42 (3)	17:39		18:30		20:24	21:14	21:56	21:59	21:19	20:13		19:03			17:00		16:29	46 14:29 (3)
9	08:45		13:59 (3)	08:07	16:45 (2)	07:10		06:58	05:57	05:21	05:30	06:12	07:03		07:52		17:19 (2)	07:47		08:34	13:43 (3)
	16:48	44	14:43 (3)	17:41	13 16:58 (2)	18:32		20:25	21:16	21:57	21:59	21:17	20:10		19:01	14	17:33 (2)	16:59		16:28	47 14:30 (3)
10	08:45		13:59 (3)	08:06	16:42 (2)	07:07	17:55 (1)	06:56	05:55	05:20	05:31	06:14	07:04		07:54		17:15 (2)	07:49		08:35	13:43 (3)
	16:49	44	14:43 (3)	17:43	19 17:01 (2)	18:34	10 18:05 (1)	20:27	21:18	21:57	21:58	21:15	20:08		18:59	20	17:35 (2)	16:57		16:28	47 14:30 (3)
11	08:44		14:00 (3)	08:04	16:40 (2)	07:05	17:52 (1)	06:54	05:54	05:20	05:32	06:16	07:06		07:56		17:13 (2)	07:51		08:37	13:44 (3)
	16:50	43	14:43 (3)	17:45	23 17:03 (2)	18:35	15 18:07 (1)	20:29	21:19	21:58	21:57	21:13	20:06		18:56	24	17:37 (2)	16:56		16:28	47 14:31 (3)
12	08:44		14:00 (3)	08:02	16:39 (2)	07:03	17:51 (1)	06:52	05:52	05:20	05:33	06:17	07:08		07:57		17:11 (2)	07:52		08:38	13:44 (3)
	16:52	43	14:43 (3)	17:46	25 17:04 (2)	18:37	18 18:09 (1)	20:31	21:21	21:59	21:56	21:11	20:03		18:54	27	17:38 (2)	16:54		16:28	47 14:31 (3)
13	08:43		14:01 (3)	08:00	16:38 (2)	07:00	17:48 (1)	06:49	05:50	05:19	05:34	06:19	07:09		07:59		17:10 (2)	07:54		08:39	13:44 (3)
	16:53	42	14:43 (3)	17:48	28 17:06 (2)	18:39	22 18:10 (1)	20:32	21:22	22:00	21:56	21:09	20:01		18:52	29	17:39 (2)	16:53		16:28	47 14:31 (3)
14	08:42		14:02 (3)	07:58	16:37 (2)	06:58	17:47 (1)	06:47	05:49	05:19	05:35	06:20	07:11		08:01		17:08 (2)	07:56		08:40	13:45 (3)
	16:55	41	14:43 (3)	17:50	30 17:07 (2)	18:41	24 18:11 (1)	20:34	21:24	22:00	21:55	21:07	19:59		18:50	32	17:40 (2)	16:51		16:28	47 14:32 (3)
15	08:41		14:03 (3)	07:56	16:36 (2)	06:56	17:47 (1)	06:45	05:47	05:19	05:36	06:22	07:12		08:03		17:06 (2)	07:58		08:40	13:45 (3)
	16:56	40	14:43 (3)	17:52	32 17:08 (2)	18:43	25 18:12 (1)	20:36	21:26	22:01	21:54	21:05	19:56		18:47	34	17:40 (2)	16:50		16:28	48 14:33 (3)
16	08:41		14:04 (3)	07:54	16:35 (2)	06:54	17:45 (1)	06:43	05:46	05:19	05:37	06:24	07:14		08:04		17:06 (2)	07:59		08:41	13:46 (3)
	16:58	39	14:43 (3)	17:54	34 17:09 (2)	18:44	26 18:11 (1)	20:37	21:27	22:01	21:53	21:03	19:54		18:45	35	17:41 (2)	16:48		16:28	47 14:33 (3)
17	08:40		14:05 (3)	07:52	16:35 (2)	06:51	17:45 (1)	06:41	05:44	05:19	05:39	06:25	07:16		08:06		17:05 (2)	08:01	13:56 (3)	08:42	13:46 (3)
	17:00	37	14:42 (3)	17:56	35 17:10 (2)	18:46	26 18:11 (1)	20:39	21:29	22:02	21:52	21:01	19:52		18:43	36	17:41 (2)	16:47	11 14:07 (3)	16:28	48 14:34 (3)
18	08:39		14:06 (3)	07:50	16:34 (2)	06:49	17:45 (1)	06:38	05:43	05:19	05:40	06:27	07:17	18:40 (1)	08:08		17:05 (2)	08:03	13:51 (3)	08:43	13:47 (3)
	17:01	36	14:42 (3)	17:58	36 17:10 (2)	18:48	27 18:12 (1)	20:41	21:30	22:02	21:50	20:59	19:49	10 18:50 (1)	18:41	36	17:41 (2)	16:45	19 14:10 (3)	16:28	48 14:35 (3)
19	08:38		14:08 (3)	07:48	16:34 (2)	06:47	17:45 (1)	06:36	05:41	05:19	05:41	06:28	07:19	18:36 (1)	08:10		17:04 (2)	08:05	13:49 (3)	08:44	13:47 (3)
	17:03	34	14:42 (3)	17:59	37 17:11 (2)	18:49	25 18:10 (1)	20:43	21:32	22:02	21:49	20:57	19:47	15 18:51 (1)	18:39	37	17:41 (2)	16:44	23 14:12 (3)	16:29	47 14:34 (3)
20	08:37		14:09 (3)	07:46	16:33 (2)	06:44	17:45 (1)	06:34	05:40	05:19	05:43	06:30	07:21	18:34 (1)	08:11		17:04 (2)	08:06	13:47 (3)	08:44	13:48 (3)
	17:05	32	14:41 (3)	18:01	37 17:10 (2)	18:51	25 18:10 (1)	20:44	21:33	22:03	21:48	20:55	19:45	19 18:53 (1)	18:37	38	17:42 (2)	16:43	27 14:14 (3)	16:29	47 14:35 (3)
21	08:36		14:11 (3)	07:44	16:33 (2)	06:42	17:46 (1)	06:32	05:38	05:19	05:44	06:32	07:22	18:32 (1)	08:13		17:04 (2)	08:08	13:46 (3)	08:45	13:49 (3)
	17:06	30	14:41 (3)	18:03	37 17:10 (2)	18:53	24 18:10 (1)	20:46	21:35	22:03	21:47	20:53	19:42	21 18:53 (1)	18:35	37	17:41 (2)	16:42	30 14:16 (3)	16:30	47 14:36 (3)
22	08:34		14:12 (3)	07:42	16:33 (2)	06:40	17:46 (1)	06:30	05:37	05:19	05:45	06:33	07:24	18:31 (1)	08:15		17:03 (2)	08:10	13:45 (3)	08:45	13:49 (3)
	17:08	27	14:39 (3)	18:05	37 17:10 (2)	18:55	22 18:08 (1)	20:48	21:36	22:03	21:46	20:51	19:40	23 18:54 (1)	18:33	37	17:40 (2)	16:41	32 14:17 (3)	16:30	47 14:36 (3)
23	08:33		14:15 (3)	07:40	16:33 (2)	06:37	17:47 (1)	06:28	05:36	05:19	05:47	06:35	07:26	18:30 (1)	08:17		17:03 (2)	08:11	13:45 (3)	08:46	13:49 (3)
	17:10	23	14:38 (3)	18:07	37 17:10 (2)	18:56	20 18:07 (1)	20:49	21:37	22:03	21:44	20:48	19:38	25 18:55 (1)	18:30	37	17:40 (2)	16:39	34 14:19 (3)	16:31	47 14:36 (3)
24	08:32		14:17 (3)	07:38	16:33 (2)	06:35	17:49 (1)	06:26	05:35	05:20	05:48	06:37	07:27	18:28 (1)	08:18		17:04 (2)	08:13	13:43 (3)	08:46	13:50 (3)
	17:11	19	14:36 (3)	18:09	37 17:10 (2)	18:58	16 18:05 (1)	20:51	21:39	22:04	21:43	20:46	19:35	26 18:54 (1)	18:28	36	17:40 (2)	16:38	36 14:19 (3)	16:31	47 14:37 (3)
25	08:31		14:22 (3)	07:36	16:34 (2)	06:33	17:50 (1)	06:24	05:33	05:20	05:49	06:38	07:29	18:28 (1)	07:20		16:04 (2)	08:15	13:43 (3)	08:47	13:50 (3)
	17:13	11	14:33 (3)	18:10	36 17:10 (2)	19:00	12 18:02 (1)	20:53	21:40	22:04	21:42	20:44	19:33	26 18:54 (1)	17:26	35	16:39 (2)	16:37	37 14:20 (3)	16:32	48 14:38 (3)
26	08:29			07:34	16:34 (2)	06:30		06:22	05:32	05:21	05:51	06:40	07:30	18:28 (1)	07:22		16:05 (2)	08:16	13:43 (3)	08:47	13:50 (3)
	17:15			18:12	34 17:08 (2)	19:02		20:54	21:41	22:04	21:40	20:42	19:31	26 18:54 (1)	17:24	33	16:38 (2)	16:36	39 14:22 (3)	16:32	48 14:38 (3)
27	08:28			07:32	16:35 (2)	06:28		06:20	05:31	05:21	05:52	06:41	07:32	18:27 (1)	07:24		16:06 (2)	08:18	13:43 (3)	08:47	13:51 (3)
	17:17			18:14	32 17:07 (2)	19:03		20:56	21:43	22:04	21:39	20:40	19:28	26 18:53 (1)	17:22	31	16:37 (2)	16:36	40 14:23 (3)	16:33	47 14:38 (3)
28	08:27			07:29	16:36 (2)	06:26		06:18	05:30	05:21	05:54	06:43	07:34	18:27 (1)	07:26		16:06 (2)	08:19	13:42 (3)	08:47	13:52 (3)
	17:19			18:16	31 17:07 (2)	19:05		20:58	21:44	22:03	21:37	20:38	19:26	26 18:53 (1)	17:20	30	16:36 (2)	16:35	41 14:23 (3)	16:34	47 14:39 (3)
29	08:25					07:23		06:16	05:29	05:22	05:55	06:45	07:35	18:28 (1)	07:27		16:08 (2)	08:21		13:42 (3)	08:48	13:52 (3)
	17:20					20:07		20:59	21:45	22:03	21:36	20:35	19:24	24 18:52 (1)	17:18	27	16:35 (2)	16:34	42 14:24 (3)	16:35	48 14:40 (3)
30	08:24					07:21		06:14	05:28	05:23	05:57	06:46	07:37	18:28 (1)	07:29		16:09 (2)	08:22		13:41 (3)	08:48	13:53 (3)
	17:22					20:08		21:01	21:46	22:03	21:34	20:33	19:21	22 18:50 (1)	17:17	25	16:34 (2)	16:33	43 14:24 (3)	16:36	47 14:40 (3)
31	08:22					07:19			05:27		05:58	06:48			07:31		16:10 (2)			08:48	13:53 (3)
	17:24					20:10			21:48		21:32	20:31			17:15	22	16:32 (2)			16:37	47 14:40 (3)
Potential sun hours	259		277		367		416	485	499	502	454	381		331		266		243		
Total, worst case		955		630		441							289		766		482		1447		
Sun reduction		0,24		0,30		0,33							0,36		0,34		0,24		0,20		
Oper. time red.		0,95		0,95		0,95							0,95		0,95		0,95		0,95		
Wind dir. red.		0,69		0,67		0,64							0,63		0,67		0,69		0,69		
Total reduction		0,16		0,19		0,20							0,22		0,21		0,15		0,13		
Total, real		150		122		88							63		164		75		193		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:32/3.2.737

SHADOW - Calendar

Calculation: Copy of V136@149Shadow receptor: AG - 3998NA6

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 16:38	08:21 17:26	07:27 18:18 21	07:55 (4) 08:16 (4)	07:17 20:12 49	08:14 (2) 09:03 (2)	06:12 21:03 30	08:13 (2) 08:43 (2)	05:26 21:49	05:23 22:03	06:00 21:31	06:50 20:29 61	08:04 (2) 09:05 (2)	07:39 19:19 31	08:22 (3) 08:53 (3)	07:33 17:13	08:24 16:32
2	08:48 16:39	08:19 17:28	07:25 18:20 21	07:55 (4) 08:16 (4)	07:14 20:14 51	08:13 (2) 09:04 (2)	06:10 21:05 27	08:14 (2) 08:41 (2)	05:25 21:50	05:24 22:03	06:01 21:29	06:51 20:26 61	08:03 (2) 09:04 (2)	07:41 19:17 31	08:22 (3) 08:53 (3)	07:35 17:11	08:25 16:32
3	08:48 16:40	08:18 17:30	07:23 18:21 21	07:54 (4) 08:15 (4)	07:12 20:15 53	08:12 (2) 09:05 (2)	06:08 21:06 22	08:17 (2) 08:39 (2)	05:25 21:51	05:25 22:02	06:03 21:28	06:53 20:24 60	08:04 (2) 09:04 (2)	07:42 19:15 31	08:21 (3) 08:52 (3)	07:36 17:09	08:27 16:31
4	08:47 16:41	08:16 17:32	07:21 18:23 22	07:52 (3) 08:14 (4)	07:10 20:17 55	08:10 (2) 09:05 (2)	06:06 21:08 15	08:20 (2) 08:35 (2)	05:24 21:52	05:25 22:02	06:05 21:26	06:55 20:22 59	08:04 (2) 09:03 (2)	07:44 19:12 30	08:21 (3) 08:51 (3)	07:38 17:07	08:28 16:31
5	08:47 16:43	08:14 17:33	07:19 18:25 24	07:50 (3) 08:14 (4)	07:07 20:19 56	08:09 (2) 09:05 (2)	06:04 21:10		05:23 21:53	05:26 22:01	06:06 21:24	06:56 20:20 58	08:04 (2) 09:02 (2)	07:46 19:10 29	08:22 (3) 08:51 (3)	07:40 17:06	08:29 16:30
6	08:47 16:44	08:13 17:35	07:16 18:27 25	07:48 (3) 08:13 (4)	07:05 20:20 58	08:08 (2) 09:06 (2)	06:02 21:11		05:23 21:54	05:27 22:01	06:08 21:22	06:58 20:17 58	08:04 (2) 09:02 (2)	07:47 19:08 27	08:23 (3) 08:50 (3)	07:42 17:04	08:31 16:30
7	08:46 16:45	08:11 17:37	07:14 18:28 27	07:46 (3) 08:13 (3)	07:03 20:22 58	08:08 (2) 09:06 (2)	06:01 21:13		05:22 21:55	05:28 22:00	06:09 21:20	07:00 20:15 56	08:04 (2) 09:00 (2)	07:49 19:05 25	08:23 (3) 08:48 (3)	07:44 17:02	08:32 16:29
8	08:46 16:46	08:09 17:39	07:12 18:30 29	07:45 (3) 08:14 (3)	07:01 20:24 59	08:06 (2) 09:05 (2)	05:59 21:15		05:21 21:56	05:29 22:00	06:11 21:19 6	08:34 (2) 08:40 (2)	07:01 20:13 55	08:05 (2) 09:00 (2)	07:51 19:03 24	08:24 (3) 08:48 (4)	07:45 17:01	08:33 16:29
9	08:45 16:48	08:08 17:41	07:10 18:32 29	07:45 (3) 08:14 (3)	06:58 20:26 60	08:06 (2) 09:06 (2)	05:57 21:16		05:21 21:57	05:30 21:59	06:12 21:17 17	08:28 (2) 08:45 (2)	07:03 20:10 53	08:05 (2) 08:58 (2)	07:52 19:01 23	08:26 (3) 08:49 (4)	07:47 16:59	08:34 16:29
10	08:45 16:49	08:06 17:43	07:07 18:34 31	07:43 (3) 08:14 (3)	06:56 20:27 61	08:05 (2) 09:06 (2)	05:55 21:18		05:21 21:57	05:31 21:58	06:14 21:15 23	08:25 (2) 08:48 (2)	07:04 20:08 51	08:06 (2) 08:57 (2)	07:54 18:59 22	08:28 (3) 08:50 (4)	07:49 16:57	08:35 16:28
11	08:44 16:51	08:04 17:45	07:05 18:36 31	07:43 (3) 08:14 (3)	06:54 20:29 61	08:05 (2) 09:06 (2)	05:54 21:19		05:20 21:58	05:32 21:57	06:16 21:13 28	08:22 (2) 08:50 (2)	07:06 20:06 49	08:07 (2) 08:56 (2)	07:56 18:56 21	08:28 (4) 08:49 (4)	07:51 16:56	08:37 16:28
12	08:44 16:52	08:02 17:46	07:03 18:37 31	07:43 (3) 08:14 (3)	06:52 20:31 60	08:05 (2) 09:05 (2)	05:52 21:21		05:20 21:59	05:33 21:56	06:17 21:11 31	08:21 (2) 08:52 (2)	07:08 20:03 47	08:07 (2) 08:54 (2)	07:57 18:54 21	08:28 (4) 08:49 (4)	07:53 16:54	08:38 16:28
13	08:43 16:54	08:00 17:48	07:01 18:39 31	07:42 (3) 08:13 (3)	06:49 20:32 60	08:04 (2) 09:04 (2)	05:50 21:23		05:20 22:00	05:34 21:56	06:19 21:09 35	08:20 (2) 08:55 (2)	07:09 20:01 44	08:09 (2) 08:53 (2)	07:59 18:52 21	08:28 (4) 08:49 (4)	07:54 16:53	08:39 16:28
14	08:42 16:55	07:58 17:50	06:58 18:41 31	07:42 (3) 08:13 (3)	06:47 20:34 60	08:04 (2) 09:04 (2)	05:49 21:24		05:19 22:00	05:35 21:55	06:20 21:07 38	08:17 (2) 08:55 (2)	07:11 19:59 41	08:10 (2) 08:51 (2)	08:01 18:50 20	08:28 (4) 08:48 (4)	07:56 16:51	08:40 16:28
15	08:41 16:57	07:56 17:52	06:56 18:43 29	07:43 (3) 08:12 (3)	06:45 20:36 60	08:04 (2) 09:04 (2)	05:47 21:26		05:19 22:01	05:36 21:54	06:22 21:05 40	08:17 (2) 08:57 (2)	07:13 19:56 37	08:12 (2) 08:49 (2)	08:03 18:48 19	08:29 (4) 08:48 (4)	07:58 16:50	08:40 16:28
16	08:41 16:58	07:54 17:54	06:54 18:44 29	07:42 (3) 08:11 (3)	06:43 20:37 59	08:04 (2) 09:03 (2)	05:46 21:27		05:19 22:01	05:38 21:53	06:24 21:03 43	08:15 (2) 08:58 (2)	07:14 19:54 33	08:13 (2) 08:46 (2)	08:04 18:45 16	08:30 (4) 08:46 (4)	08:00 16:48	08:41 16:28
17	08:40 17:00	07:52 17:56	06:51 18:46 27	07:43 (3) 08:10 (3)	06:41 20:39 59	08:04 (2) 09:03 (2)	05:44 21:29		05:19 22:02	05:39 21:52	06:25 21:01 46	08:14 (2) 09:00 (2)	07:16 19:52 27	08:16 (2) 08:43 (2)	08:06 18:43 12	08:32 (4) 08:44 (4)	08:01 16:47	08:42 16:28
18	08:39 17:01	07:50 17:58	06:49 18:48 25	07:44 (3) 08:09 (3)	06:38 20:41 58	08:04 (2) 09:02 (2)	05:43 21:30		05:19 22:02	05:40 21:51	06:27 20:59 48	08:12 (2) 09:00 (2)	07:17 19:49 21	08:19 (2) 08:40 (2)	08:08 18:41 8	08:34 (4) 08:42 (4)	08:03 16:46	08:43 16:29
19	08:38 17:03	07:48 17:59	06:47 18:50 21	07:45 (3) 08:06 (3)	06:36 20:43 57	08:04 (2) 09:01 (2)	05:41 21:32		05:19 22:03	05:41 21:49	06:29 20:57 50	08:12 (2) 09:02 (2)	07:19 19:47 11	08:23 (2) 08:34 (2)	08:10 18:39		08:05 16:44	08:44 16:29
20	08:37 17:05	07:46 18:01	06:44 18:51 18	07:46 (3) 08:04 (3)	06:34 20:44 56	08:04 (2) 09:00 (2)	05:40 21:33		05:19 22:03	05:43 21:48	06:30 20:55 52	08:10 (2) 09:02 (2)	07:21 19:45		08:11 18:37		08:06 16:43	08:44 16:29
21	08:36 17:06	07:44 18:03	06:42 18:53 12	07:49 (3) 08:01 (3)	06:32 20:46 54	08:04 (2) 08:58 (2)	05:38 21:35		05:19 22:03	05:44 21:47	06:32 20:53 53	08:10 (2) 09:03 (2)	07:22 19:42		08:13 18:35		08:08 16:42	08:45 16:30
22	08:34 17:08	07:42 18:05	06:40 18:55		06:30 20:48 53	08:04 (2) 08:57 (2)	05:37 21:36		05:19 22:03	05:45 21:46	06:33 20:51 55	08:08 (2) 09:03 (2)	07:24 19:40 11	08:34 (3) 08:45 (3)	08:15 18:33		08:10 16:41	08:45 16:30
23	08:33 17:10	07:40 18:07 4	08:04 (4) 06:37 08:08 (4) 18:56		06:28 20:49 51	08:05 (2) 08:56 (2)	05:36 21:37		05:20 22:03	05:47 21:44	06:35 20:49 56	08:08 (2) 09:04 (2)	07:26 19:38 16	08:32 (3) 08:48 (3)	08:17 18:31		08:11 16:40	08:46 16:31
24	08:32 17:12	07:38 18:09 10	08:02 (4) 06:35 08:12 (4) 18:58 4	07:40 (2) 07:44 (2)	06:26 20:51 50	08:05 (2) 08:55 (2)	05:35 21:39		05:20 22:04	05:48 21:43	06:37 20:46 57	08:07 (2) 09:04 (2)	07:27 19:35 20	08:29 (3) 08:49 (3)	08:18 18:28		08:13 16:39	08:46 16:31
25	08:31 17:13	07:36 18:10 14	08:00 (4) 06:33 08:14 (4) 19:00 20	07:31 (2) 07:51 (2)	06:24 20:53 47	08:06 (2) 08:53 (2)	05:33 21:40		05:20 22:04	05:50 21:42	06:38 20:44 58	08:07 (2) 09:05 (2)	07:29 19:33 24	08:27 (3) 08:51 (3)	07:20 17:26		08:15 16:37	08:47 16:32
26	08:30 17:15	07:34 18:12 17	07:58 (4) 06:30 08:15 (4) 19:02 26	07:28 (2) 07:54 (2)	06:22 20:54 45	08:08 (2) 08:53 (2)	05:32 21:41		05:21 22:04	05:51 21:40	06:40 20:42 59	08:06 (2) 09:05 (2)	07:31 19:31 26	08:26 (3) 08:52 (3)	07:22 17:24		08:16 16:37	08:47 16:33
27	08:28 17:17	07:32 18:14 20	07:55 (4) 06:28 08:15 (4) 19:03 32	07:25 (2) 07:57 (2)	06:20 20:56 43	08:08 (2) 08:51 (2)	05:31 21:43		05:21 22:04	05:52 21:39	06:42 20:40 60	08:05 (2) 09:05 (2)	07:32 19:28 28	08:24 (3) 08:52 (3)	07:24 17:22		08:18 16:36	08:47 16:33
28	08:27 17:19	07:30 18:16 20	07:55 (4) 06:26 08:15 (4) 19:05 36	07:22 (2) 07:58 (2)	06:18 20:58 40	08:09 (2) 08:49 (2)	05:30 21:44		05:22 22:03	05:54 21:37	06:43 20:38 60	08:05 (2) 09:05 (2)	07:34 19:26 29	08:24 (3) 08:53 (3)	07:26 17:21		08:19 16:35	08:48 16:34
29	08:25 17:20		07:24 20:07 40	08:20 (2) 09:00 (2)	06:16 21:00 37	08:10 (2) 08:47 (2)	05:29 21:45		05:22 22:03	05:55 21:36	06:45 20:35 61	08:04 (2) 09:05 (2)	07:36 19:24 30	08:23 (3) 08:53 (3)	07:27 17:19		08:21 16:34	08:48 16:35
30	08:24 17:22		07:21 20:08 43	08:18 (2) 09:01 (2)	06:14 21:01 35	08:11 (2) 08:46 (2)	05:28 21:47		05:23 22:03	05:57 21:34	06:46 20:33 60	08:05 (2) 09:05 (2)	07:37 19:21 31	08:22 (3) 08:53 (3)	07:29 17:17		08:22 16:33	08:48 16:36
31	08:22 17:24		07:19 20:10 47	08:16 (2) 09:03 (2)			05:27 21:48			05:58 21:33	06:48 20:31 60	08:04 (2) 09:04 (2)			07:31 17:15			08:48 16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case		85	783	1605	94			1096	1097	411		
Sun reduction		0,30	0,33	0,42	0,43			0,42	0,36	0,34		
Oper. time red.		0,95	0,95	0,95	0,95			0,95	0,95	0,95		
Wind dir. red.		0,57	0,58	0,61	0,61			0,61	0,60	0,57		
Total reduction		0,16	0,18	0,24	0,25			0,24	0,21	0,18		
Total, real		14	142	386	23			262	226	75		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:32/3.2.737

SHADOW - Calendar

Calculation: Copy of V136@149Shadow receptor: AH - 3998JK68

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	06:50 (2) 05:26	06:00 (1) 05:23	06:05 (1) 06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03 15	07:05 (2) 21:49 24	06:24 (1) 22:03 26	06:31 (1) 21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	06:51 (2) 05:26	05:59 (1) 05:24	06:05 (1) 06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05 12	07:03 (2) 21:50 25	06:24 (1) 22:03 27	06:32 (1) 21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08	06:53 (2) 05:25	06:00 (1) 05:25	06:06 (1) 06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06 9	07:02 (2) 21:51 25	06:25 (1) 22:02 26	06:32 (1) 21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06	05:24	06:00 (1) 05:26	06:05 (1) 06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08	21:52 25	06:25 (1) 22:02 27	06:32 (1) 21:26	20:22	19:12	17:07	16:31
5	08:47	08:14	07:19	07:08	06:04	05:23	05:59 (1) 05:26	06:06 (1) 06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10	21:53 26	06:25 (1) 22:01 26	06:32 (1) 21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02	05:23	06:00 (1) 05:27	06:06 (1) 06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11	21:54 26	06:26 (1) 22:01 26	06:32 (1) 21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01	05:22	06:00 (1) 05:28	06:06 (1) 06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13	21:55 27	06:27 (1) 22:00 26	06:32 (1) 21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59	05:22	06:00 (1) 05:29	06:07 (1) 06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15	21:56 26	06:26 (1) 22:00 26	06:33 (1) 21:19	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57	05:21	06:00 (1) 05:30	06:07 (1) 06:12 07:05 (2)	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16	21:57 27	06:27 (1) 21:59 26	06:33 (1) 21:17 4	07:09 (2)	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55	05:21	06:00 (1) 05:31	06:07 (1) 06:14	07:01 (2)	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18	21:58 26	06:26 (1) 21:58 25	06:32 (1) 21:15 10	07:11 (2)	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54	05:20	06:00 (1) 05:32	06:07 (1) 06:16	07:00 (2)	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19	21:58 27	06:27 (1) 21:57 25	06:32 (1) 21:13 13	07:13 (2)	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52	05:20	06:01 (1) 05:33	06:08 (1) 06:17	06:58 (2)	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21	21:59 26	06:27 (1) 21:57 24	06:32 (1) 21:11 16	07:14 (2)	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50	05:20	06:01 (1) 05:34	06:09 (1) 06:19	06:58 (2)	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23	22:00 27	06:28 (1) 21:56 23	06:32 (1) 21:09 17	07:15 (2)	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49	05:19	06:02 (1) 05:35	06:09 (1) 06:21	06:57 (2)	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24	22:00 26	06:28 (1) 21:55 23	06:32 (1) 21:07 18	07:15 (2)	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47	05:19	06:01 (1) 05:36	06:10 (1) 06:22	06:56 (2)	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26	22:01 26	06:27 (1) 21:54 22	06:32 (1) 21:05 20	07:16 (2)	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46	05:19	06:01 (1) 05:38	06:10 (1) 06:24	06:55 (2)	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27	22:01 27	06:28 (1) 21:53 21	06:31 (1) 21:03 20	07:15 (2)	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44	05:19	06:01 (1) 05:39	06:11 (1) 06:25	06:56 (2)	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29	22:02 27	06:28 (1) 21:52 19	06:30 (1) 21:01 20	07:16 (2)	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43	05:19	06:02 (1) 05:40	06:12 (1) 06:27	06:55 (2)	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30	22:02 26	06:28 (1) 21:51 18	06:30 (1) 20:59 20	07:15 (2)	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36 07:00 (2)	05:41	05:19	06:03 (1) 05:41	06:13 (1) 06:29	06:56 (2)	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43 3 07:03 (2)	21:32	22:03 26	06:29 (1) 21:49 16	06:29 (1) 20:57 19	07:15 (2)	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34 06:58 (2)	05:40	05:19	06:03 (1) 05:43	06:15 (1) 06:30	06:57 (2)	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44 8 07:06 (2)	21:33	22:03 26	06:29 (1) 21:48 14	06:29 (1) 20:55 16	07:13 (2)	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32 06:56 (2)	05:39 06:11 (1)	05:19	06:03 (1) 05:44	06:16 (1) 06:32	06:59 (2)	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46 11 07:07 (2)	21:35 1 06:12 (1)	22:03 26	06:29 (1) 21:47 11	06:27 (1) 20:53 14	07:13 (2)	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30 06:54 (2)	05:37 06:06 (1)	05:19	06:03 (1) 05:45	06:18 (1) 06:33	07:00 (2)	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48 14 07:08 (2)	21:36 9 06:15 (1)	22:03 26	06:29 (1) 21:46 7	06:25 (1) 20:51 11	07:11 (2)	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28 06:52 (2)	05:36 06:05 (1)	05:20	06:03 (1) 05:47	06:35	07:02 (2)	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49 17 07:09 (2)	21:37 12 06:17 (1)	22:04 26	06:29 (1) 21:44	20:49 8	07:10 (2)	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26 06:50 (2)	05:35 06:04 (1)	05:20	06:04 (1) 05:48	06:37	07:03 (2)	07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51 19 07:09 (2)	21:39 15 06:19 (1)	22:04 26	06:30 (1) 21:43	20:46 2	07:05 (2)	19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24 06:49 (2)	05:34 06:03 (1)	05:20	06:03 (1) 05:50	06:38		07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53 20 07:09 (2)	21:40 17 06:20 (1)	22:04 27	06:30 (1) 21:42	20:44		19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22 06:49 (2)	05:32 06:02 (1)	05:21	06:03 (1) 05:51	06:40		07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55 20 07:09 (2)	21:42 19 06:21 (1)	22:04 27	06:30 (1) 21:40	20:42		19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20 06:49 (2)	05:31 06:01 (1)	05:21	06:04 (1) 05:52	06:42		07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56 20 07:09 (2)	21:43 20 06:21 (1)	22:04 27	06:31 (1) 21:39	20:40		19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18 06:49 (2)	05:30 06:01 (1)	05:22	06:04 (1) 05:54	06:43		07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58 19 07:08 (2)	21:44 21 06:22 (1)	22:04 26	06:30 (1) 21:37	20:38		19:26	17:21	16:35	16:34
29	08:25		07:24	06:16 06:49 (2)	05:29 06:00 (1)	05:22	06:04 (1) 05:55	06:45		07:36	07:27	08:21	08:48
	17:21		20:07	21:00 18 07:07 (2)	21:45 22 06:22 (1)	22:03 27	06:31 (1) 21:36	20:35		19:24	17:19	16:34	16:35
30	08:24		07:21	06:14 06:49 (2)	05:28 06:01 (1)	05:23	06:05 (1) 05:57	06:47		07:37	07:29	08:22	08:48
	17:22		20:08	21:01 17 07:06 (2)	21:47 23 06:24 (1)	22:03 27	06:32 (1) 21:34	20:33		19:22	17:17	16:33	16:36
31	08:22		07:19		05:27 06:00 (1)		05:58	06:48			07:31		08:48
	17:24		20:10		21:48 24 06:24 (1)		21:33	20:31			17:15		16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case				186	219	786	484	228				
Sun reduction				0,42	0,43	0,39	0,41	0,42				
Oper. time red.				0,95	0,95	0,95	0,95	0,95				
Wind dir. red.				0,64	0,67	0,67	0,67	0,64				
Total reduction				0,25	0,27	0,25	0,26	0,25				
Total, real				47	59	195	126	57				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:32/3.2.737

SHADOW - Calendar

Calculation: Copy of V136@149Shadow receptor: AI - 3945LA2

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December		
1	08:48		14:35 (3)	08:21		07:27		07:17	06:12	05:26	05:23	06:00	06:50		07:39		18:19 (1)	07:33		16:11 (2)	08:24		14:24 (3)
	16:38	37	15:12 (3)	17:26		18:18		20:12	21:03	21:49	22:03	21:31	20:29		19:19	21	18:40 (1)	17:13	25	16:36 (2)	16:32	32	14:56 (3)
2	08:48		14:36 (3)	08:19		07:25		07:14	06:10	05:25	05:24	06:01	06:51		07:40		18:19 (1)	07:34		16:11 (2)	08:25		14:25 (3)
	16:39	37	15:13 (3)	17:28		18:19		20:13	21:05	21:50	22:02	21:29	20:26		19:17	21	18:40 (1)	17:11	23	16:34 (2)	16:32	32	14:57 (3)
3	08:48		14:37 (3)	08:18		07:23	17:49 (1)	07:12	06:08	05:25	05:25	06:03	06:53		07:42		18:17 (1)	07:36		16:12 (2)	08:27		14:24 (3)
	16:40	36	15:13 (3)	17:30		18:21	6 17:55 (1)	20:15	21:06	21:51	22:02	21:27	20:24		19:14	23	18:40 (1)	17:09	21	16:33 (2)	16:31	34	14:58 (3)
4	08:47		14:37 (3)	08:16		07:21	17:46 (1)	07:10	06:06	05:24	05:25	06:04	06:55		07:44		18:17 (1)	07:38		16:14 (2)	08:28		14:25 (3)
	16:41	36	15:13 (3)	17:31		18:23	11 17:57 (1)	20:17	21:08	21:52	22:02	21:26	20:22		19:12	23	18:40 (1)	17:07	17	16:31 (2)	16:30	34	14:59 (3)
5	08:47		14:38 (3)	08:14	16:49 (2)	07:18	17:44 (1)	07:07	06:04	05:23	05:26	06:06	06:56		07:45		18:17 (1)	07:40		16:16 (2)	08:29		14:24 (3)
	16:42	36	15:14 (3)	17:33	8 16:57 (2)	18:25	15 17:59 (1)	20:19	21:10	21:53	22:01	21:24	20:20		19:10	22	18:39 (1)	17:06	13	16:29 (2)	16:30	35	14:59 (3)
6	08:47		14:38 (3)	08:13	16:46 (2)	07:16	17:42 (1)	07:05	06:02	05:22	05:27	06:08	06:58		07:47		18:17 (1)	07:42		16:19 (2)	08:31		14:24 (3)
	16:44	35	15:13 (3)	17:35	14 17:00 (2)	18:27	18 18:00 (1)	20:20	21:11	21:54	22:01	21:22	20:17		19:08	21	18:38 (1)	17:04	7	16:26 (2)	16:29	35	14:59 (3)
7	08:46		14:39 (3)	08:11	16:44 (2)	07:14	17:41 (1)	07:03	06:00	05:22	05:28	06:09	06:59		07:49		18:17 (1)	07:44			08:32		14:25 (3)
	16:45	35	15:14 (3)	17:37	18 17:02 (2)	18:28	20 18:01 (1)	20:22	21:13	21:55	22:00	21:20	20:15		19:05	20	18:37 (1)	17:02			16:29	36	15:01 (3)
8	08:46		14:40 (3)	08:09	16:43 (2)	07:12	17:41 (1)	07:01	05:59	05:21	05:29	06:11	07:01		07:51		18:18 (1)	07:45			08:33		14:25 (3)
	16:46	34	15:14 (3)	17:39	21 17:04 (2)	18:30	21 18:02 (1)	20:24	21:14	21:56	21:59	21:19	20:13		19:03	17	18:35 (1)	17:00			16:29	36	15:01 (3)
9	08:45		14:41 (3)	08:07	16:42 (2)	07:10	17:40 (1)	06:58	05:57	05:21	05:30	06:12	07:03		07:52		18:20 (1)	07:47			08:34		14:25 (3)
	16:48	34	15:15 (3)	17:41	23 17:05 (2)	18:32	23 18:03 (1)	20:25	21:16	21:57	21:59	21:17	20:10		19:01	13	18:33 (1)	16:59			16:28	36	15:01 (3)
10	08:45		14:41 (3)	08:06	16:41 (2)	07:07	17:39 (1)	06:56	05:55	05:20	05:31	06:14	07:04		07:54		18:21 (1)	07:49			08:35		14:25 (3)
	16:49	33	15:14 (3)	17:43	25 17:06 (2)	18:34	23 18:02 (1)	20:27	21:18	21:57	21:58	21:15	20:08		18:59	9	18:30 (1)	16:57			16:28	37	15:02 (3)
11	08:44		14:42 (3)	08:04	16:40 (2)	07:05	17:40 (1)	06:54	05:53	05:20	05:32	06:15	07:06		07:56			07:51			08:37		14:25 (3)
	16:50	32	15:14 (3)	17:44	27 17:07 (2)	18:35	22 18:02 (1)	20:29	21:19	21:58	21:57	21:13	20:06		18:56			16:56			16:28	37	15:02 (3)
12	08:44		14:43 (3)	08:02	16:40 (2)	07:03	17:40 (1)	06:52	05:52	05:20	05:33	06:17	07:08		07:57			07:52			08:38		14:26 (3)
	16:52	31	15:14 (3)	17:46	28 17:08 (2)	18:37	21 18:01 (1)	20:31	21:21	21:59	21:56	21:11	20:03		18:54			16:54			16:28	36	15:02 (3)
13	08:43		14:44 (3)	08:00	16:39 (2)	07:00	17:40 (1)	06:49	05:50	05:19	05:34	06:19	07:09		07:59			07:54			08:39		14:26 (3)
	16:53	30	15:14 (3)	17:48	29 17:08 (2)	18:39	20 18:00 (1)	20:32	21:22	22:00	21:56	21:09	20:01		18:52			16:52			16:28	37	15:03 (3)
14	08:42		14:45 (3)	07:58	16:39 (2)	06:58	17:41 (1)	06:47	05:49	05:19	05:35	06:20	07:11		08:01			07:56			08:40		14:26 (3)
	16:55	29	15:14 (3)	17:50	30 17:09 (2)	18:41	18 17:59 (1)	20:34	21:24	22:00	21:55	21:07	19:59		18:50			16:51			16:28	37	15:03 (3)
15	08:41		14:46 (3)	07:56	16:39 (2)	06:56	17:43 (1)	06:45	05:47	05:19	05:36	06:22	07:12		08:03			07:58			08:40		14:27 (3)
	16:56	27	15:13 (3)	17:52	30 17:09 (2)	18:42	15 17:58 (1)	20:36	21:26	22:01	21:54	21:05	19:56		18:47			16:50			16:28	37	15:04 (3)
16	08:41		14:47 (3)	07:54	16:39 (2)	06:54	17:44 (1)	06:43	05:45	05:19	05:37	06:24	07:14		08:04			07:59			08:41		14:28 (3)
	16:58	26	15:13 (3)	17:54	30 17:09 (2)	18:44	11 17:55 (1)	20:37	21:27	22:01	21:53	21:03	19:54		18:45			16:48			16:28	37	15:05 (3)
17	08:40		14:48 (3)	07:52	16:39 (2)	06:51		06:41	05:44	05:19	05:39	06:25	07:16		08:06		17:19 (2)	08:01			08:42		14:28 (3)
	17:00	24	15:12 (3)	17:56	30 17:09 (2)	18:46		20:39	21:29	22:02	21:52	21:01	19:52		18:43	13	17:32 (2)	16:47			16:28	37	15:05 (3)
18	08:39		14:50 (3)	07:50	16:40 (2)	06:49		06:38	05:43	05:19	05:40	06:27	07:17		08:08		17:17 (2)	08:03			08:43		14:29 (3)
	17:01	22	15:12 (3)	17:58	29 17:09 (2)	18:48		20:41	21:30	22:02	21:50	20:59	19:49		18:41	17	17:34 (2)	16:45			16:28	37	15:06 (3)
19	08:38		14:52 (3)	07:48	16:40 (2)	06:47		06:36	05:41	05:19	05:41	06:28	07:19		08:10		17:15 (2)	08:05			08:44		14:29 (3)
	17:03	19	15:11 (3)	17:59	28 17:08 (2)	18:49		20:43	21:32	22:02	21:49	20:57	19:47		18:39	20	17:35 (2)	16:44			16:29	37	15:06 (3)
20	08:37		14:55 (3)	07:46	16:40 (2)	06:44		06:34	05:40	05:19	05:43	06:30	07:21		08:11		17:13 (2)	08:06			08:44		14:30 (3)
	17:05	15	15:10 (3)	18:01	27 17:07 (2)	18:51		20:44	21:33	22:03	21:48	20:55	19:45		18:37	24	17:37 (2)	16:43			16:29	37	15:07 (3)
21	08:36		14:59 (3)	07:44	16:41 (2)	06:42		06:32	05:38	05:19	05:44	06:32	07:22		08:13		17:11 (2)	08:08		14:34 (3)	08:45		14:30 (3)
	17:06	9	15:08 (3)	18:03	25 17:06 (2)	18:53		20:46	21:35	22:03	21:47	20:53	19:42		18:35	25	17:36 (2)	16:42	8	14:42 (3)	16:30	38	15:08 (3)
22	08:34			07:42	16:42 (2)	06:40		06:30	05:37	05:19	05:45	06:33	07:24		08:15		17:10 (2)	08:10		14:31 (3)	08:45		14:30 (3)
	17:08			18:05	23 17:05 (2)	18:55		20:48	21:36	22:03	21:46	20:51	19:40		18:33	27	17:37 (2)	16:41	15	14:46 (3)	16:30	38	15:08 (3)
23	08:33			07:40	16:44 (2)	06:37		06:28	05:36	05:19	05:47	06:35	07:26		08:17		17:09 (2)	08:11		14:29 (3)	08:46		14:30 (3)
	17:10			18:07	20 17:04 (2)	18:56		20:49	21:37	22:03	21:44	20:48	19:38		18:30	29	17:38 (2)	16:39	19	14:48 (3)	16:31	38	15:08 (3)
24	08:32			07:38	16:46 (2)	06:35		06:26	05:35	05:20	05:48	06:37	07:27		08:18		17:09 (2)	08:13		14:27 (3)	08:46		14:32 (3)
	17:11			18:09	16 17:02 (2)	18:58		20:51	21:39	22:04	21:43	20:46	19:35		18:28	29	17:38 (2)	16:38	22	14:49 (3)	16:31	37	15:09 (3)
25	08:31			07:36	16:49 (2)	06:33		06:24	05:33	05:20	05:49	06:38	07:29		07:20		16:09 (2)	08:15		14:27 (3)	08:47		14:32 (3)
	17:13			18:10	10 16:59 (2)	19:00		20:53	21:40	22:04	21:42	20:44	19:33		17:26	29	16:38 (2)	16:37	23	14:50 (3)	16:32	37	15:09 (3)
26	08:29			07:34		06:30		06:22	05:32	05:20	05:51	06:40	07:30		07:22		16:09 (2)	08:16		14:26 (3)	08:47		14:32 (3)
	17:15			18:12		19:01		20:54	21:41	22:04	21:40	20:42	19:31		17:24	29	16:38 (2)	16:36	26	14:52 (3)	16:32	37	15:09 (3)
27	08:28			07:32		06:28		06:20	05:31	05:21	05:52	06:41	07:32	18:27 (1)	07:24		16:09 (2)	08:18		14:26 (3)	08:47		14:32 (3)
	17:17			18:14		19:03		20:56	21:43	22:04	21:39	20:40	19:28	8 18:35 (1)	17:22	29	16:38 (2)	16:35	27	14:53 (3)	16:33	38	15:10 (3)
28	08:27			07:29		06:26		06:17	05:30	05:21	05:54	06:43	07:34	18:24 (1)	07:25		16:09 (2)	08:19		14:25 (3)	08:47		14:34 (3)
	17:19			18:16		19:05		20:58	21:44	22:03	21:37	20:38	19:26	14 18:38 (1)	17:20	29	16:38 (2)	16:35	29	14:54 (3)	16:34	37	15:11 (3)
29	08:25					07:23		06:16	05:29	05:22	05:55	06:45	07:35	18:22 (1)	07:27		16:09 (2)	08:21		14:25 (3)	08:48		14:34 (3)
	17:20					20:07		20:59	21:45	22:03	21:36	20:35	19:24	17 18:39 (1)	17:18	29	16:38 (2)	16:34	30	14:55 (3)	16:35	37	15:11 (3)
30	08:24					07:21		06:14	05:28	05:23	05:57	06:46	07:37	18:20 (1)	07:29		16:10 (2)	08:22		14:24 (3)	08:48		14:35 (3)
	17:22					20:08		21:01	21:46	22:03	21:34	20:33	19:21	19 18:39 (1)	17:17	27	16:37 (2)	16:33	31	14:55 (3)	16:36	37	15:12 (3)
31	08:22					07:19			05:27		05:58	06:48			07:31		16:10 (2)				08:48		14:34 (3)
	17:24					20:10			21:48		21:32	20:31			17:15	27	16:37 (2)				16:37	37	15:11 (3)
Potential sun hours	259			277		367		416	485	499	502	454	381		331			266			243		
Total, worst case		617			491		244							58		573			336			1127	
Sun reduction		0,24			0,30		0,33							0,36		0,34			0,24			0,20	
Oper. time red.		0,95			0,95		0,95							0,95		0,95			0,95			0,95	
Wind dir. red.		0,70			0,67		0,63							0,63		0,66			0,69			0,70	
Total reduction		0,16			0,19		0,20							0,22		0,21			0,16			0,13	
Total, real		98			95		48							13		121			52			152	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:32/3.2.737

SHADOW - Calendar

Calculation: Copy of V136@149Shadow receptor: AJ - 3997MR15

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January			February	March	April	May	June	July	August	September	October	November			December		
1	08:48		09:45 (4)	08:21	07:27	07:17	06:12	05:26	05:23	06:00	06:50	07:39	07:33			08:24		14:00 (1)
	16:38	59	14:58 (1)	17:26	18:18	20:12	21:03	21:49	22:03	21:31	20:29	19:19	17:13			16:32	44	14:44 (1)
2	08:48		09:46 (4)	08:19	07:25	07:14	06:10	05:25	05:24	06:01	06:51	07:41	07:35			08:25		14:01 (1)
	16:39	58	14:59 (1)	17:28	18:20	20:14	21:05	21:50	22:03	21:29	20:26	19:17	17:11			16:32	44	14:45 (1)
3	08:48		09:48 (4)	08:18	07:23	07:12	06:08	05:25	05:25	06:03	06:53	07:42	07:36			08:27		14:01 (1)
	16:40	57	15:00 (1)	17:30	18:21	20:15	21:06	21:51	22:02	21:28	20:24	19:14	17:09			16:31	44	14:45 (1)
4	08:47		09:48 (4)	08:16	07:21	07:10	06:06	05:24	05:25	06:04	06:55	07:44	07:38			08:28		14:01 (1)
	16:41	55	14:59 (1)	17:31	18:23	20:17	21:08	21:52	22:02	21:26	20:22	19:12	17:07			16:30	45	14:46 (1)
5	08:47		09:50 (4)	08:14	07:19	07:07	06:04	05:23	05:26	06:06	06:56	07:46	07:40			08:29		14:01 (1)
	16:43	53	15:00 (1)	17:33	18:25	20:19	21:10	21:53	22:01	21:24	20:20	19:10	17:06			16:30	45	14:46 (1)
6	08:47		09:52 (4)	08:13	07:16	07:05	06:02	05:23	05:27	06:08	06:58	07:47	07:42			08:31		09:38 (4)
	16:44	49	15:00 (1)	17:35	18:27	20:20	21:11	21:54	22:01	21:22	20:17	19:08	17:04			16:30	49	14:46 (1)
7	08:46		14:16 (1)	08:11	07:14	07:03	06:00	05:22	05:28	06:09	06:59	07:49	07:44			08:32		09:37 (4)
	16:45	45	15:01 (1)	17:37	18:28	20:22	21:13	21:55	22:00	21:20	20:15	19:05	17:02			16:29	53	14:47 (1)
8	08:46		14:16 (1)	08:09	07:12	07:01	05:59	05:21	05:29	06:11	07:01	07:51	07:45			08:33		09:36 (4)
	16:46	45	15:01 (1)	17:39	18:30	20:24	21:15	21:56	22:00	21:19	20:13	19:03	17:00			16:29	56	14:48 (1)
9	08:46		14:18 (1)	08:08	07:10	06:58	05:57	05:21	05:30	06:12	07:03	07:52	07:47			08:34		09:36 (4)
	16:48	44	15:02 (1)	17:41	18:32	20:26	21:16	21:57	21:59	21:17	20:10	19:01	16:59			16:28	57	14:48 (1)
10	08:45		14:18 (1)	08:06	07:07	06:56	05:55	05:20	05:31	06:14	07:04	07:54	07:49			08:35		09:36 (4)
	16:49	44	15:02 (1)	17:43	18:34	20:27	21:18	21:58	21:58	21:15	20:08	18:59	16:57			16:28	57	14:48 (1)
11	08:44		14:18 (1)	08:04	07:05	06:54	05:54	05:20	05:32	06:16	07:06	07:56	07:51			08:37		09:35 (4)
	16:51	44	15:02 (1)	17:45	18:36	20:29	21:19	21:58	21:57	21:13	20:06	18:56	16:56			16:28	59	14:48 (1)
12	08:44		14:19 (1)	08:02	07:03	06:52	05:52	05:20	05:33	06:17	07:08	07:57	07:53			08:38		09:36 (4)
	16:52	43	15:02 (1)	17:46	18:37	20:31	21:21	21:59	21:56	21:11	20:03	18:54	16:54			16:28	61	14:50 (1)
13	08:43		14:19 (1)	08:00	07:00	06:49	05:50	05:19	05:34	06:19	07:09	07:59	07:54			08:39		09:37 (4)
	16:53	43	15:02 (1)	17:48	18:39	20:32	21:23	22:00	21:56	21:09	20:01	18:52	16:53			16:28	59	14:50 (1)
14	08:42		14:21 (1)	07:58	06:58	06:47	05:49	05:19	05:35	06:20	07:11	08:01	07:56			08:40		09:37 (4)
	16:55	42	15:03 (1)	17:50	18:41	20:34	21:24	22:00	21:55	21:07	19:59	18:50	16:51			16:28	61	14:51 (1)
15	08:41		14:22 (1)	07:56	06:56	06:45	05:47	05:19	05:36	06:22	07:13	08:03	07:58		14:14 (1)	08:41		09:36 (4)
	16:57	41	15:03 (1)	17:52	18:43	20:36	21:26	22:01	21:54	21:05	19:56	18:47	16:50	11	14:25 (1)	16:28	61	14:50 (1)
16	08:41		14:22 (1)	07:54	06:54	06:43	05:46	05:19	05:38	06:24	07:14	08:04	08:00		14:11 (1)	08:41		09:37 (4)
	16:58	40	15:02 (1)	17:54	18:44	20:37	21:27	22:01	21:53	21:03	19:54	18:45	16:48	17	14:28 (1)	16:28	62	14:51 (1)
17	08:40		14:23 (1)	07:52	06:51	06:41	05:44	05:19	05:39	06:25	07:16	08:06	08:01		14:08 (1)	08:42		09:37 (4)
	17:00	39	15:02 (1)	17:56	18:46	20:39	21:29	22:02	21:52	21:01	19:52	18:43	16:47	23	14:31 (1)	16:28	62	14:52 (1)
18	08:39		14:24 (1)	07:50	06:49	06:38	05:43	05:19	05:40	06:27	07:17	08:08	08:03		14:07 (1)	08:43		09:38 (4)
	17:01	38	15:02 (1)	17:58	18:48	20:41	21:30	22:02	21:51	20:59	19:49	18:41	16:46	26	14:33 (1)	16:29	61	14:52 (1)
19	08:38		14:25 (1)	07:48	06:47	06:36	05:41	05:19	05:41	06:28	07:19	08:10	08:05		14:04 (1)	08:44		09:37 (4)
	17:03	36	15:01 (1)	17:59	18:50	20:43	21:32	22:03	21:49	20:57	19:47	18:39	16:44	29	14:33 (1)	16:29	63	14:52 (1)
20	08:37		14:26 (1)	07:46	06:44	06:34	05:40	05:19	05:43	06:30	07:21	08:11	08:06		14:03 (1)	08:44		09:38 (4)
	17:05	35	15:01 (1)	18:01	18:51	20:44	21:33	22:03	21:48	20:55	19:45	18:37	16:43	32	14:35 (1)	16:29	63	14:53 (1)
21	08:36		14:28 (1)	07:44	06:42	06:32	05:38	05:19	05:44	06:32	07:22	08:13	08:08		14:03 (1)	08:45		09:39 (4)
	17:06	33	15:01 (1)	18:03	18:53	20:46	21:35	22:03	21:47	20:53	19:42	18:35	16:42	33	14:36 (1)	16:30	63	14:54 (1)
22	08:34		14:28 (1)	07:42	06:40	06:30	05:37	05:19	05:45	06:33	07:24	08:15	08:10		14:02 (1)	08:45		09:39 (4)
	17:08	32	15:00 (1)	18:05	18:55	20:48	21:36	22:03	21:46	20:51	19:40	18:33	16:41	35	14:37 (1)	16:30	63	14:54 (1)
23	08:33		14:30 (1)	07:40	06:37	06:28	05:36	05:20	05:47	06:35	07:26	08:17	08:11		14:02 (1)	08:46		09:40 (4)
	17:10	29	14:59 (1)	18:07	18:56	20:49	21:37	22:04	21:44	20:49	19:38	18:31	16:40	36	14:38 (1)	16:31	63	14:55 (1)
24	08:32		14:33 (1)	07:38	06:35	06:26	05:35	05:20	05:48	06:37	07:27	08:18	08:13		14:01 (1)	08:46		09:40 (4)
	17:12	26	14:59 (1)	18:09	18:58	20:51	21:39	22:04	21:43	20:46	19:35	18:28	16:38	38	14:39 (1)	16:31	63	14:55 (1)
25	08:31		14:34 (1)	07:36	06:33	06:24	05:33	05:20	05:49	06:38	07:29	07:20	08:15		14:01 (1)	08:47		09:41 (4)
	17:13	23	14:57 (1)	18:10	19:00	20:53	21:40	22:04	21:42	20:44	19:33	17:26	16:37	39	14:40 (1)	16:32	61	14:55 (1)
26	08:30		14:38 (1)	07:34	06:30	06:22	05:32	05:21	05:51	06:40	07:31	07:22	08:16		14:01 (1)	08:47		09:41 (4)
	17:15	17	14:55 (1)	18:12	19:02	20:54	21:41	22:04	21:40	20:42	19:31	17:24	16:36	40	14:41 (1)	16:32	62	14:56 (1)
27	08:28		14:41 (1)	07:32	06:28	06:20	05:31	05:21	05:52	06:42	07:32	07:24	08:18		14:01 (1)	08:47		09:42 (4)
	17:17	11	14:52 (1)	18:14	19:03	20:56	21:43	22:04	21:39	20:40	19:28	17:22	16:36	41	14:42 (1)	16:33	63	14:57 (1)
28	08:27			07:30	06:26	06:18	05:30	05:21	05:54	06:43	07:34	07:26	08:19		14:00 (1)	08:48		09:43 (4)
	17:19			18:16	19:05	20:58	21:44	22:03	21:37	20:38	19:26	17:20	16:35	42	14:42 (1)	16:34	62	14:57 (1)
29	08:25				07:24	06:16	05:29	05:22	05:55	06:45	07:36	07:27	08:21		14:00 (1)	08:48		09:43 (4)
	17:20				20:07	21:00	21:45	22:03	21:36	20:35	19:24	17:19	16:34	43	14:43 (1)	16:35	62	14:58 (1)
30	08:24				07:21	06:14	05:28	05:23	05:57	06:46	07:37	07:29	08:22		14:01 (1)	08:48		09:44 (4)
	17:22				20:08	21:01	21:47	22:03	21:34	20:33	19:21	17:17	16:33	43	14:44 (1)	16:36	61	14:58 (1)
31	08:22				07:19		05:27		05:58	06:48		07:31				08:48		09:44 (4)
	17:24				20:10		21:48		21:33	20:31		17:15				16:37	60	14:58 (1)
Potential sun hours	259			277	367	416	485	499	502	454	381	331	266			243		
Total, worst case		1081												528			1789	
Sun reduction		0,24												0,24			0,20	
Oper. time red.		0,95												0,95			0,95	
Wind dir. red.		0,69												0,69			0,67	
Total reduction		0,16												0,16			0,13	
Total, real		169												82			232	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:32/3.2.737

SHADOW - Calendar

Calculation: Copy of V136@149Shadow receptor: AK - 3998JD84

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	05:26	06:18 (1)	05:23	06:00	06:29 (1)	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03	21:49 15	06:33 (1)	22:03	21:31 14	06:43 (1)	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	05:26	06:19 (1)	05:24	06:01	06:30 (1)	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05	21:50 13	06:32 (1)	22:03	21:29 11	06:41 (1)	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08	05:25	06:20 (1)	05:25	06:03	06:32 (1)	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06	21:51 12	06:32 (1)	22:02	21:28 8	06:40 (1)	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06	05:24	06:21 (1)	05:26	06:05		06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08	21:52 10	06:31 (1)	22:02	21:26		20:22	19:12	17:07	16:31
5	08:47	08:15	07:19	07:08	06:04	05:23	06:23 (1)	05:26	06:06		06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10	21:53 7	06:30 (1)	22:01	21:24		20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02	05:23	06:24 (1)	05:27	06:32 (1)	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11	21:54 4	06:28 (1)	22:01 1	06:33 (1)	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01	05:22		05:28	06:30 (1)	06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13	21:55		22:00 6	06:36 (1)	21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59	05:22		05:29	06:29 (1)	06:11	07:01	07:51	07:45	08:33
	16:47	17:39	18:30	20:24	21:15	21:56		22:00 9	06:38 (1)	21:19	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57	06:23 (1) 05:21		05:30	06:28 (1)	06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16 3	06:26 (1) 21:57		21:59 11	06:39 (1)	21:17	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55	06:21 (1) 05:21		05:31	06:26 (1)	06:14	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18 9	06:30 (1) 21:58		21:58 13	06:39 (1)	21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54	06:19 (1) 05:20		05:32	06:26 (1)	06:16	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19 12	06:31 (1) 21:58		21:57 14	06:40 (1)	21:13	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52	06:18 (1) 05:20		05:33	06:25 (1)	06:17	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21 15	06:33 (1) 21:59		21:57 16	06:41 (1)	21:11	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50	06:16 (1) 05:20		05:34	06:26 (1)	06:19	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23 17	06:33 (1) 22:00		21:56 17	06:43 (1)	21:09	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49	06:15 (1) 05:19		05:35	06:25 (1)	06:21	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24 20	06:35 (1) 22:00		21:55 18	06:43 (1)	21:07	19:59	18:50	16:51	16:28
15	08:42	07:56	06:56	06:45	05:47	06:14 (1) 05:19		05:36	06:25 (1)	06:22	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26 21	06:35 (1) 22:01		21:54 19	06:44 (1)	21:05	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46	06:14 (1) 05:19		05:38	06:25 (1)	06:24	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27 21	06:35 (1) 22:01		21:53 19	06:44 (1)	21:03	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44	06:14 (1) 05:19		05:39	06:24 (1)	06:25	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29 22	06:36 (1) 22:02		21:52 21	06:45 (1)	21:01	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43	06:13 (1) 05:19		05:40	06:24 (1)	06:27	07:18	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30 23	06:36 (1) 22:02		21:51 21	06:45 (1)	20:59	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41	06:13 (1) 05:19		05:41	06:23 (1)	06:29	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32 23	06:36 (1) 22:03		21:49 22	06:45 (1)	20:57	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40	06:13 (1) 05:19		05:43	06:24 (1)	06:30	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33 23	06:36 (1) 22:03		21:48 22	06:46 (1)	20:55	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	05:39	06:14 (1) 05:19		05:44	06:24 (1)	06:32	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:35 23	06:37 (1) 22:03		21:47 22	06:46 (1)	20:53	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	05:37	06:13 (1) 05:19		05:45	06:23 (1)	06:34	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36 23	06:36 (1) 22:03		21:46 23	06:46 (1)	20:51	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	05:36	06:13 (1) 05:20		05:47	06:23 (1)	06:35	07:26	08:17	08:12	08:46
	17:10	18:07	18:57	20:49	21:37 23	06:36 (1) 22:04		21:44 23	06:46 (1)	20:49	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35	06:14 (1) 05:20		05:48	06:24 (1)	06:37	07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	21:39 22	06:36 (1) 22:04		21:43 23	06:47 (1)	20:46	19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	05:34	06:14 (1) 05:20		05:50	06:24 (1)	06:38	07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	21:40 22	06:36 (1) 22:04		21:42 22	06:46 (1)	20:44	19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	05:32	06:14 (1) 05:21		05:51	06:23 (1)	06:40	07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	21:42 21	06:35 (1) 22:04		21:40 23	06:46 (1)	20:42	19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	05:31	06:15 (1) 05:21		05:52	06:24 (1)	06:42	07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21:43 20	06:35 (1) 22:04		21:39 22	06:46 (1)	20:40	19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	05:30	06:15 (1) 05:22		05:54	06:24 (1)	06:43	07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	21:44 20	06:35 (1) 22:04		21:37 22	06:46 (1)	20:38	19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	05:29	06:16 (1) 05:22		05:55	06:26 (1)	06:45	07:36	07:27	08:21	08:48
	17:21		20:07	21:00	21:45 18	06:34 (1) 22:03		21:36 20	06:46 (1)	20:36	19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	05:28	06:17 (1) 05:23		05:57	06:26 (1)	06:47	07:37	07:29	08:22	08:48
	17:22		20:09	21:01	21:47 17	06:34 (1) 22:03		21:34 19	06:45 (1)	20:33	19:22	17:17	16:33	16:36
31	08:22		07:19		05:27	06:18 (1)		05:58	06:27 (1)	06:48		07:31		08:48
	17:24		20:10		21:48 16	06:34 (1)		21:33 16	06:43 (1)	20:31		17:15		16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case					434	61	464	33				
Sun reduction					0,43	0,39	0,41	0,42				
Oper. time red.					0,95	0,95	0,95	0,95				
Wind dir. red.					0,67	0,67	0,67	0,67				
Total reduction					0,27	0,25	0,26	0,26				
Total, real					117	15	119	9				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:32/3.2.737

SHADOW - Calendar

Calculation: Copy of V136@149Shadow receptor: AL - 3997MR19

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March	April	May	June	July	August	September	October	November	December
1	08:48	09:32 (4)	08:21	14:50 (1)	07:27	07:17	06:12	05:26	05:23	06:00	06:50	07:39	07:33	08:24
	16:38 112	15:23 (1)	17:26 49	15:39 (1)	18:18	20:12	21:03	21:49	22:03	21:31	20:29	19:19	17:13 32	16:32 65
2	08:48	09:32 (4)	08:19	14:51 (1)	07:25	07:14	06:10	05:25	05:24	06:01	06:51	07:41	07:35	08:25
	16:39 111	15:25 (1)	17:28 48	15:39 (1)	18:20	20:14	21:05	21:50	22:03	21:29	20:26	19:17	17:11 35	16:32 63
3	08:48	09:33 (4)	08:18	14:52 (1)	07:23	07:12	06:08	05:25	05:25	06:03	06:53	07:42	07:36	08:27
	16:40 109	15:26 (1)	17:30 47	15:39 (1)	18:21	20:15	21:06	21:51	22:02	21:28	20:24	19:14	17:09 39	16:31 75
4	08:47	09:33 (4)	08:16	14:53 (1)	07:21	07:10	06:06	05:24	05:25	06:04	06:55	07:44	07:38	08:28
	16:41 107	15:26 (1)	17:31 45	15:38 (1)	18:23	20:17	21:08	21:52	22:02	21:26	20:22	19:12	17:07 41	16:30 87
5	08:47	09:34 (4)	08:14	14:54 (1)	07:19	07:07	06:04	05:23	05:26	06:06	06:56	07:46	07:40	08:29
	16:43 104	15:27 (1)	17:33 44	15:38 (1)	18:25	20:19	21:10	21:53	22:01	21:24	20:20	19:10	17:06 43	16:30 95
6	08:47	09:34 (4)	08:13	14:55 (1)	07:16	07:05	06:02	05:23	05:27	06:08	06:58	07:47	07:42	08:31
	16:44 100	15:27 (1)	17:35 42	15:37 (1)	18:27	20:20	21:11	21:54	22:01	21:22	20:17	19:08	17:04 44	16:30 100
7	08:46	09:35 (4)	08:11	14:56 (1)	07:14	07:03	06:00	05:22	05:28	06:09	06:59	07:49	07:44	08:32
	16:45 96	15:29 (1)	17:37 40	15:36 (1)	18:28	20:22	21:13	21:55	22:00	21:20	20:15	19:05	17:02 45	16:29 104
8	08:46	09:36 (4)	08:09	14:58 (1)	07:12	07:01	05:59	05:21	05:29	06:11	07:01	07:51	07:45	08:33
	16:46 89	15:29 (1)	17:39 38	15:36 (1)	18:30	20:24	21:15	21:56	22:00	21:19	20:13	19:03	17:00 47	16:29 106
9	08:45	09:37 (4)	08:08	15:00 (1)	07:10	06:58	05:57	05:21	05:30	06:12	07:03	07:52	07:47	08:34
	16:48 78	15:31 (1)	17:41 34	15:34 (1)	18:32	20:26	21:16	21:57	21:59	21:17	20:10	19:01	16:59 48	16:28 109
10	08:45	09:37 (4)	08:06	15:02 (1)	07:07	06:56	05:55	05:20	05:31	06:14	07:04	07:54	07:49	08:35
	16:49 64	15:31 (1)	17:43 31	15:33 (1)	18:34	20:27	21:18	21:58	21:58	21:15	20:08	18:59	16:57 49	16:28 110
11	08:44	09:38 (4)	08:04	15:04 (1)	07:05	06:54	05:54	05:20	05:32	06:16	07:06	07:56	07:51	08:37
	16:51 65	15:32 (1)	17:45 27	15:31 (1)	18:36	20:29	21:19	21:58	21:57	21:13	20:06	18:56	16:56 50	16:28 113
12	08:44	09:39 (4)	08:02	15:07 (1)	07:03	06:52	05:52	05:20	05:33	06:17	07:08	07:57	07:53	08:38
	16:52 63	15:32 (1)	17:46 21	15:28 (1)	18:37	20:31	21:21	21:59	21:56	21:11	20:03	18:54	16:54 50	16:28 114
13	08:43	09:40 (4)	08:00	15:11 (1)	07:00	06:49	05:50	05:19	05:34	06:19	07:09	07:59	07:54	08:39
	16:53 63	15:33 (1)	17:48 14	15:25 (1)	18:39	20:32	21:23	22:00	21:56	21:09	20:01	18:52	16:53 51	16:28 115
14	08:42	09:41 (4)	07:58		06:58	06:47	05:49	05:19	05:35	06:20	07:11	08:01	07:56	08:40
	16:55 61	15:33 (1)	17:50		18:41	20:34	21:24	22:00	21:55	21:07	19:59	18:50	16:51 51	16:28 113
15	08:41	09:43 (4)	07:56		06:56	06:45	05:47	05:19	05:36	06:22	07:13	08:03	07:58	08:40
	16:57 60	15:35 (1)	17:52		18:43	20:36	21:26	22:01	21:54	21:05	19:56	18:47	16:50 51	16:28 115
16	08:41	09:44 (4)	07:54		06:54	06:43	05:46	05:19	05:38	06:24	07:14	08:04	08:00	08:41
	16:58 58	15:35 (1)	17:54		18:44	20:37	21:27	22:01	21:53	21:03	19:54	18:45	16:48 52	16:28 115
17	08:40	14:46 (1)	07:52		06:51	06:41	05:44	05:19	05:39	06:25	07:16	08:06	08:01	08:42
	17:00 49	15:35 (1)	17:56		18:46	20:39	21:29	22:02	21:52	21:01	19:52	18:43	16:47 52	16:28 116
18	08:39	14:46 (1)	07:50		06:49	06:38	05:43	05:19	05:40	06:27	07:17	08:08	08:03	08:43
	17:01 50	15:36 (1)	17:58		18:48	20:41	21:30	22:02	21:51	20:59	19:49	18:41	16:46 52	16:29 117
19	08:38	14:46 (1)	07:48		06:47	06:36	05:41	05:19	05:41	06:28	07:19	08:10	08:05	08:44
	17:03 51	15:37 (1)	17:59		18:50	20:43	21:32	22:03	21:49	20:57	19:47	18:39	16:44 52	16:29 117
20	08:37	14:46 (1)	07:46		06:44	06:34	05:40	05:19	05:43	06:30	07:21	08:11	08:06	08:44
	17:05 52	15:38 (1)	18:01		18:51	20:44	21:33	22:03	21:48	20:55	19:45	18:37	16:43 52	16:29 117
21	08:36	14:47 (1)	07:44		06:42	06:32	05:38	05:19	05:44	06:32	07:22	08:13	08:08	08:45
	17:06 51	15:38 (1)	18:03		18:53	20:46	21:35	22:03	21:47	20:53	19:42	18:35	16:42 51	16:30 116
22	08:34	14:46 (1)	07:42		06:40	06:30	05:37	05:19	05:45	06:33	07:24	08:15	08:10	08:45
	17:08 52	15:38 (1)	18:05		18:55	20:48	21:36	22:03	21:46	20:51	19:40	18:33	16:41 52	16:30 116
23	08:33	14:47 (1)	07:40		06:37	06:28	05:36	05:20	05:47	06:35	07:26	08:17	08:11	08:46
	17:10 52	15:39 (1)	18:07		18:56	20:49	21:37	22:03	21:44	20:49	19:38	18:31	16:40 51	16:31 116
24	08:32	14:48 (1)	07:38		06:35	06:26	05:35	05:20	05:48	06:37	07:27	08:18	08:13	08:46
	17:12 51	15:39 (1)	18:09		18:58	20:51	21:39	22:04	21:43	20:46	19:35	18:28	16:38 50	16:31 116
25	08:31	14:47 (1)	07:36		06:33	06:24	05:33	05:20	05:49	06:38	07:29	07:20	08:15	08:47
	17:13 52	15:39 (1)	18:10		19:00	20:53	21:40	22:04	21:42	20:44	19:33	17:26	16:37 50	16:32 117
26	08:30	14:48 (1)	07:34		06:30	06:22	05:32	05:21	05:51	06:40	07:31	07:22	08:16	09:24 (4)
	17:15 52	15:40 (1)	18:12		19:02	20:54	21:41	22:04	21:40	20:42	19:31	17:24	16:36 57	15:14 (1)
27	08:28	14:48 (1)	07:32		06:28	06:20	05:31	05:21	05:52	06:42	07:32	07:24	08:18	09:22 (4)
	17:17 52	15:40 (1)	18:14		19:03	20:56	21:43	22:04	21:39	20:40	19:28	17:22	16:36 60	15:14 (1)
28	08:27	14:49 (1)	07:30		06:26	06:18	05:30	05:21	05:54	06:43	07:34	07:26	08:19	09:21 (4)
	17:19 51	15:40 (1)	18:16		19:05	20:58	21:44	22:03	21:37	20:38	19:26	17:20	16:35 62	15:14 (1)
29	08:25	14:49 (1)			07:24	06:16	05:29	05:22	05:55	06:45	07:35	07:27	14:40 (1)	08:21
	17:20 51	15:40 (1)			20:07	21:00	21:45	22:03	21:36	20:35	19:24	17:19 15	14:55 (1)	16:34 63
30	08:24	14:49 (1)			07:21	06:14	05:28	05:23	05:57	06:46	07:37	07:29	14:36 (1)	08:22
	17:22 50	15:39 (1)			20:08	21:01	21:47	22:03	21:34	20:33	19:21	17:17 23	14:59 (1)	16:33 63
31	08:22	14:50 (1)			07:19		05:27		05:58	06:48		07:31	14:33 (1)	
	17:24 50	15:40 (1)			20:10		21:48		21:33	20:31		17:15 28	15:01 (1)	
Potential sun hours	259		277		367	416	485	499	502	454	381	331	266	243
Total, worst case	2106		480									66	1495	3337
Sun reduction	0,24		0,30									0,34	0,24	0,20
Oper. time red.	0,95		0,95									0,95	0,95	0,95
Wind dir. red.	0,67		0,69									0,69	0,69	0,65
Total reduction	0,15		0,20									0,22	0,15	0,12
Total, real	319		95									15	230	415

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:32/3.2.737

SHADOW - Calendar

Calculation: Copy of V136@149Shadow receptor: AM - 3945LA6

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December		
1	08:48	09:37 (4)	08:21	13:54 (2)	07:27	17:08 (1)	07:17	06:12	05:26	05:23	06:00	06:50		07:39		17:34 (1)	07:33	13:32 (2)	08:24	09:23 (4)	
	16:38	133 14:44 (2)	17:26	64 14:58 (2)	18:18	23 17:31 (1)	20:12	21:03	21:49	22:03	21:31	20:29		19:19	45 18:19 (1)	17:13	51 14:23 (2)	16:32	134 14:33 (2)	
2	08:48	09:38 (4)	08:19	13:54 (2)	07:25	17:06 (1)	07:14	06:10	05:25	05:24	06:01	06:51		07:40		17:34 (1)	07:35	13:31 (2)	08:25	09:24 (4)	
	16:39	133 14:45 (2)	17:28	63 14:57 (2)	18:19	27 17:33 (1)	20:14	21:05	21:50	22:02	21:29	20:26		19:17	45 18:19 (1)	17:11	53 14:24 (2)	16:32	133 14:33 (2)	
3	08:48	09:38 (4)	08:18	13:56 (2)	07:23	17:03 (1)	07:12	06:08	05:25	05:25	06:03	06:53		07:42		17:33 (1)	07:36	13:29 (2)	08:27	09:24 (4)	
	16:40	134 14:46 (2)	17:30	61 14:57 (2)	18:21	31 17:34 (1)	20:15	21:06	21:51	22:02	21:28	20:24		19:14	45 18:18 (1)	17:09	55 14:24 (2)	16:31	135 14:33 (2)	
4	08:47	09:38 (4)	08:16	13:56 (2)	07:21	17:02 (1)	07:10	06:06	05:24	05:25	06:04	06:55		07:44		17:34 (1)	07:38	13:28 (2)	08:28	09:25 (4)	
	16:41	134 14:46 (2)	17:31	61 14:57 (2)	18:23	34 17:36 (1)	20:17	21:08	21:52	22:02	21:26	20:22		19:12	43 18:17 (1)	17:07	57 14:25 (2)	16:30	134 14:34 (2)	
5	08:47	09:39 (4)	08:14	13:57 (2)	07:19	17:01 (1)	07:07	06:04	05:23	05:26	06:06	06:56		07:46		17:34 (1)	07:40	13:27 (2)	08:29	09:25 (4)	
	16:43	135 14:47 (2)	17:33	59 14:56 (2)	18:25	36 17:37 (1)	20:19	21:10	21:53	22:01	21:24	20:20		19:10	43 18:17 (1)	17:06	58 14:25 (2)	16:30	133 14:33 (2)	
6	08:47	09:39 (4)	08:13	13:57 (2)	07:16	17:00 (1)	07:05	06:02	05:23	05:27	06:08	06:58		07:47		17:35 (1)	07:42	13:26 (2)	08:31	09:25 (4)	
	16:44	134 14:47 (2)	17:35	59 14:56 (2)	18:27	39 17:39 (1)	20:20	21:11	21:54	22:01	21:22	20:17		19:08	41 18:16 (1)	17:04	60 14:26 (2)	16:30	133 14:33 (2)	
7	08:46	09:40 (4)	08:11	13:58 (2)	07:14	16:58 (1)	07:03	06:00	05:22	05:28	06:09	06:59		07:49		17:34 (1)	07:44	13:26 (2)	08:32	09:26 (4)	
	16:45	133 14:48 (2)	17:37	57 14:55 (2)	18:29	41 17:38 (1)	20:22	21:13	21:55	22:00	21:20	20:15		19:05	40 18:14 (1)	17:02	61 14:27 (2)	16:29	134 14:34 (2)	
8	08:46	09:40 (4)	08:09	14:00 (2)	07:12	16:57 (1)	07:01	05:59	05:21	05:29	06:11	07:01		07:51		17:35 (1)	07:45	13:25 (2)	08:33	09:26 (4)	
	16:46	135 14:49 (2)	17:39	55 14:55 (2)	18:30	42 17:39 (1)	20:24	21:14	21:56	21:59	21:19	20:13		19:03	38 18:13 (1)	17:00	62 14:27 (2)	16:29	133 14:34 (2)	
9	08:45	09:41 (4)	08:07	14:01 (2)	07:10	16:57 (1)	06:58	05:57	05:21	05:30	06:12	07:03		07:52		17:36 (1)	07:47	13:25 (2)	08:34	09:26 (4)	
	16:48	135 14:50 (2)	17:41	53 14:54 (2)	18:32	43 17:40 (1)	20:25	21:16	21:57	21:59	21:17	20:10		19:01	36 18:12 (1)	16:59	63 14:28 (2)	16:28	133 14:34 (2)	
10	08:45	09:41 (4)	08:06	14:03 (2)	07:07	16:55 (1)	06:56	05:55	05:20	05:31	06:14	07:04		07:54		17:37 (1)	07:49	13:25 (2)	08:35	09:27 (4)	
	16:49	133 14:50 (2)	17:43	50 14:53 (2)	18:34	45 17:40 (1)	20:27	21:18	21:57	21:58	21:15	20:08		18:59	33 18:10 (1)	16:57	63 14:28 (2)	16:28	132 14:34 (2)	
11	08:44	09:41 (4)	08:04	14:04 (2)	07:05	16:55 (1)	06:54	05:54	05:20	05:32	06:16	07:06		07:56		17:38 (1)	07:51	13:24 (2)	08:37	09:27 (4)	
	16:51	134 14:51 (2)	17:45	48 14:52 (2)	18:36	45 17:40 (1)	20:29	21:19	21:58	21:57	21:13	20:06		18:56	29 18:07 (1)	16:56	65 14:29 (2)	16:28	133 14:34 (2)	
12	08:44	09:42 (4)	08:02	14:06 (2)	07:03	16:55 (1)	06:52	05:52	05:20	05:33	06:17	07:08		07:57		17:40 (1)	07:52	13:24 (2)	08:38	09:29 (4)	
	16:52	132 14:51 (2)	17:46	44 14:50 (2)	18:37	45 17:40 (1)	20:31	21:21	21:59	21:56	21:11	20:03		18:54	25 18:05 (1)	16:54	65 14:29 (2)	16:28	132 14:35 (2)	
13	08:43	09:42 (4)	08:00	14:08 (2)	07:00	16:54 (1)	06:49	05:50	05:19	05:34	06:19	07:09		07:59		17:42 (1)	07:54	13:24 (2)	08:39	09:29 (4)	
	16:53	133 14:52 (2)	17:48	41 14:49 (2)	18:39	46 17:40 (1)	20:32	21:23	22:00	21:56	21:09	20:01		18:52	21 18:03 (1)	16:53	66 14:30 (2)	16:28	132 14:35 (2)	
14	08:42	09:43 (4)	07:58	14:11 (2)	06:58	16:54 (1)	06:47	05:49	05:19	05:35	06:20	07:11		08:01	17:46 (1)	07:56		13:24 (2)	08:40	09:29 (4)	
	16:55	130 14:52 (2)	17:50	36 14:47 (2)	18:41	46 17:40 (1)	20:34	21:24	22:00	21:55	21:07	19:59		18:50	13 17:59 (1)	16:51	66 14:30 (2)	16:28	132 14:35 (2)	
15	08:41	09:43 (4)	07:56	14:14 (2)	06:56	16:55 (1)	06:45	05:47	05:19	05:36	06:22	07:12		08:03		07:58		13:24 (2)	08:40	09:29 (4)	
	16:57	130 14:53 (2)	17:52	30 14:44 (2)	18:43	45 17:40 (1)	20:36	21:26	22:01	21:54	21:05	19:56		18:47		16:50	67 14:31 (2)	16:28	131 14:35 (2)	
16	08:41	09:44 (4)	07:54	14:19 (2)	06:54	16:54 (1)	06:43	05:46	05:19	05:38	06:24	07:14	17:58 (1)	08:04		08:00		13:25 (2)	08:41	09:30 (4)	
	16:58	127 14:53 (2)	17:54	22 14:41 (2)	18:44	45 17:39 (1)	20:37	21:27	22:01	21:53	21:03	19:54	10 18:08 (1)	18:45		16:48	66 14:31 (2)	16:28	132 14:36 (2)	
17	08:40	09:45 (4)	07:52	14:25 (2)	06:51	16:54 (1)	06:41	05:44	05:19	05:39	06:25	07:16	17:54 (1)	08:06		08:01		09:31 (4)	08:42	09:31 (4)	
	17:00	125 14:54 (2)	17:56	10 14:35 (2)	18:46	44 17:38 (1)	20:39	21:29	22:02	21:52	21:01	19:52	18 18:12 (1)	18:43		16:47	72 14:31 (2)	16:28	130 14:36 (2)	
18	08:39	09:46 (4)	07:50		06:49	16:55 (1)	06:38	05:43	05:19	05:40	06:27	07:17	17:51 (1)	08:08		08:03		09:28 (4)	08:43	09:31 (4)	
	17:01	123 14:55 (2)	17:58		18:48	43 17:38 (1)	20:41	21:30	22:02	21:50	20:59	19:49	24 18:15 (1)	18:41		16:46	83 14:32 (2)	16:29	131 14:37 (2)	
19	08:38	09:47 (4)	07:48		06:47	16:55 (1)	06:36	05:41	05:19	05:41	06:28	07:19	17:48 (1)	08:10		08:05		09:26 (4)	08:44	09:31 (4)	
	17:03	119 14:55 (2)	17:59		18:49	41 17:36 (1)	20:43	21:32	22:03	21:49	20:57	19:47	28 18:16 (1)	18:39		16:44	97 14:31 (2)	16:29	130 14:36 (2)	
20	08:37	09:48 (4)	07:46		06:44	16:56 (1)	06:34	05:40	05:19	05:43	06:30	07:21	17:46 (1)	08:11		08:06		09:25 (4)	08:44	09:32 (4)	
	17:05	116 14:56 (2)	18:01		18:51	40 17:36 (1)	20:44	21:33	22:03	21:48	20:55	19:45	32 18:18 (1)	18:37		16:43	105 14:31 (2)	16:29	130 14:37 (2)	
21	08:36	09:49 (4)	07:44		06:42	16:57 (1)	06:32	05:38	05:19	05:44	06:32	07:22	17:43 (1)	08:13		08:08		09:24 (4)	08:45	09:33 (4)	
	17:06	112 14:57 (2)	18:03		18:53	38 17:35 (1)	20:46	21:35	22:03	21:47	20:53	19:42	35 18:18 (1)	18:35		16:42	112 14:32 (2)	16:30	129 14:38 (2)	
22	08:34	09:50 (4)	07:42		06:40	16:57 (1)	06:30	05:37	05:19	05:45	06:33	07:24	17:42 (1)	08:15		08:10		09:24 (4)	08:45	09:33 (4)	
	17:08	105 14:56 (2)	18:05		18:55	36 17:33 (1)	20:48	21:36	22:03	21:46	20:51	19:40	37 18:19 (1)	18:33		16:41	116 14:32 (2)	16:30	129 14:38 (2)	
23	08:33	09:52 (4)	07:40		06:37	16:59 (1)	06:28	05:36	05:20	05:47	06:35	07:26	17:41 (1)	08:17		08:11		09:24 (4)	08:46	09:33 (4)	
	17:10	97 14:57 (2)	18:07		18:56	32 17:31 (1)	20:49	21:37	22:03	21:44	20:49	19:38	39 18:20 (1)	18:30		16:40	119 14:32 (2)	16:31	130 14:38 (2)	
24	08:32	09:54 (4)	07:38		06:35	17:01 (1)	06:26	05:35	05:20	05:48	06:37	07:27	17:39 (1)	08:18		08:13		09:23 (4)	08:46	09:34 (4)	
	17:12	83 14:58 (2)	18:09		18:58	29 17:30 (1)	20:51	21:39	22:04	21:43	20:46	19:35	41 18:20 (1)	18:28		16:38	123 14:32 (2)	16:31	130 14:39 (2)	
25	08:31	09:57 (4)	07:36		06:33	17:02 (1)	06:24	05:33	05:20	05:49	06:38	07:29	17:38 (1)	07:20		13:52 (2)	08:15	09:23 (4)	08:47	09:34 (4)	
	17:13	71 14:57 (2)	18:10		19:00	25 17:27 (1)	20:53	21:40	22:04	21:42	20:44	19:33	42 18:20 (1)	17:26	15	14:07 (2)	16:37	125 14:32 (2)	16:32	131 14:40 (2)	
26	08:29	13:52 (2)	07:34		06:30	17:05 (1)	06:22	05:32	05:21	05:51	06:40	07:31	17:37 (1)	07:22		13:47 (2)	08:16	09:23 (4)	08:47	09:35 (4)	
	17:15	66 14:58 (2)	18:12		19:02	20 17:25 (1)	20:54	21:41	22:04	21:40	20:42	19:31	44 18:21 (1)	17:24	24	14:11 (2)	16:36	128 14:33 (2)	16:32	131 14:40 (2)	
27	08:28	13:52 (2)	07:32	17:16 (1)	06:28	17:09 (1)	06:20	05:31	05:21	05:52	06:42	07:32	17:36 (1)	07:24		13:43 (2)	08:18	09:23 (4)	08:47	09:35 (4)	
	17:17	66 14:58 (2)	18:14	6 17:22 (1)	19:03	12 17:21 (1)	20:56	21:43	22:04	21:39	20:40	19:28	44 18:20 (1)	17:22	31	14:14 (2)	16:36	130 14:33 (2)	16:33	131 14:40 (2)	
28	08:27	13:52 (2)	07:30	17:11 (1)	06:26		06:18	05:30	05:21	05:54	06:43	07:34	17:35 (1)	07:26		13:40 (2)	08:19	09:23 (4)	08:48	09:36 (4)	
	17:19	66 14:58 (2)	18:16	17 17:28 (1)	19:05		20:58	21:44	22:03	21:37	20:38	19:26	45 18:20 (1)	17:20	37	14:17 (2)	16:35	130 14:32 (2)	16:34	132 14:42 (2)	
29	08:25	13:52 (2)			07:23		06:16	05:29	05:22	05:55	06:45	07:35	17:35 (1)	07:27		13:37 (2)	08:21	09:23 (4)	08:48	09:36 (4)	
	17:20	66 14:58 (2)			20:07		21:00	21:45	22:03	21:36	20:35	19:24	46 18:21 (1)	17:19	42	14:19 (2)	16:34	132 14:33 (2)	16:35	131 14:42 (2)	
30	08:24	13:52 (2)			07:21		06:14	05:28	05:23	05:57	06:46	07:37	17:34 (1)	07:29		13:35 (2)	08:22	09:24 (4)	08:48	09:37 (4)	
	17:22	65 14:57 (2)			20:08		21:01	21:46	22:03	21:34	20:33	19:21	46 18:20 (1)	17:17	45	14:20 (2)	16:33	132 14:33 (2)	16:36	132 14:43 (2)	
31	08:22	13:54 (2)			07:19			05:27		05:58	06:48			07:31		13:34 (2)			08:48	09:36 (4)	
	17:24	64 14:58 (2)			20:10			21:48		21:33	20:31			17:15	48 14:22 (2)				16:37	134 14:43 (2)	
Potential sun hours	259	277			367		416	485	499	502	454	381		331		266			243		
Total, worst case		3469		836		993							531		739		2582		4087		
Sun reduction		0,24		0,30		0,33							0,36		0,34		0,24		0,20		
Oper. time red.		0,95		0,95		0,95							0,95		0,95		0,95		0,95		
Wind dir. red.		0,66		0,69		0,65							0,65		0,66		0,67		0,65		
Total reduction		0,15		0,20		0,20							0,22		0,21		0,15		0,12		
Total, real		516		165		202							119		156		387		509		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:32/3.2.737

SHADOW - Calendar

Calculation: Copy of V136@149Shadow receptor: AN - 3997ML142

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March	April	May	June	July	August	September	October	November		December	
1	08:48		08:21		07:27	07:17	06:12	05:26	05:23	06:00	06:50	07:39	07:33		08:24	
	16:38	41	17:26	74	18:18	20:12	21:03	21:49	22:03	21:31	20:29	19:19	17:13		16:32	61
2	08:48		08:19		07:25	07:14	06:10	05:25	05:24	06:01	06:51	07:41	07:35		08:25	
	16:39	41	17:28	68	18:20	20:14	21:05	21:50	22:03	21:29	20:27	19:17	17:11		16:32	59
3	08:48		08:18		07:23	07:12	06:08	05:25	05:25	06:03	06:53	07:42	07:36		08:27	
	16:40	42	17:30	60	18:21	20:15	21:06	21:51	22:02	21:28	20:24	19:15	17:09		16:31	56
4	08:47		08:16		07:21	07:10	06:06	05:24	05:25	06:05	06:55	07:44	07:38		08:28	
	16:41	42	17:32	50	18:23	20:17	21:08	21:52	22:02	21:26	20:22	19:12	17:07	11	16:31	52
5	08:47		08:14		07:19	07:07	06:04	05:23	05:26	06:06	06:56	07:46	07:40		08:29	
	16:43	43	17:33	32	18:25	20:19	21:10	21:53	22:01	21:24	20:20	19:10	17:06	19	16:30	48
6	08:47		08:13		07:16	07:05	06:02	05:23	05:27	06:08	06:58	07:47	07:42		08:31	
	16:44	43	17:35	17	18:27	20:20	21:11	21:54	22:01	21:22	20:17	19:08	17:04	36	16:30	43
7	08:46		08:11		07:14	07:03	06:01	05:22	05:28	06:09	07:00	07:49	07:44		08:32	
	16:45	47	17:37	9	18:29	20:22	21:13	21:55	22:00	21:21	20:15	19:05	17:02	51	16:29	43
8	08:46		08:09		07:12	07:01	05:59	05:21	05:29	06:11	07:01	07:51	07:45		08:33	
	16:46	52	17:39		18:30	20:24	21:15	21:56	22:00	21:19	20:13	19:03	17:01	62	16:29	42
9	08:46		08:08		07:10	06:58	05:57	05:21	05:30	06:12	07:03	07:52	07:47		08:34	
	16:48	56	17:41		18:32	20:26	21:16	21:57	21:59	21:17	20:10	19:01	16:59	69	16:29	42
10	08:45		08:06		07:07	06:56	05:55	05:21	05:31	06:14	07:04	07:54	07:49		08:36	
	16:49	59	17:43		18:34	20:27	21:18	21:58	21:58	21:15	20:08	18:59	16:57	75	16:28	41
11	08:44		08:04		07:05	06:54	05:54	05:20	05:32	06:16	07:06	07:56	07:51		08:37	
	16:51	61	17:45		18:36	20:29	21:19	21:58	21:57	21:13	20:06	18:56	16:56	79	16:28	41
12	08:44		08:02		07:03	06:52	05:52	05:20	05:33	06:17	07:08	07:57	07:53		08:38	
	16:52	64	17:46		18:37	20:31	21:21	21:59	21:57	21:11	20:04	18:54	16:54	84	16:28	40
13	08:43		08:00		07:01	06:49	05:50	05:20	05:34	06:19	07:09	07:59	07:54		08:39	
	16:54	65	17:48		18:39	20:32	21:23	22:00	21:56	21:09	20:01	18:52	16:53	86	16:28	41
14	08:42		07:58		06:58	06:47	05:49	05:19	05:35	06:20	07:11	08:01	07:56		08:40	
	16:55	67	17:50		18:41	20:34	21:24	22:00	21:55	21:07	19:59	18:50	16:51	88	16:28	40
15	08:42		07:56		06:56	06:45	05:47	05:19	05:36	06:22	07:13	08:03	07:58		08:41	
	16:57	68	17:52		18:43	20:36	21:26	22:01	21:54	21:05	19:57	18:48	16:50	90	16:28	39
16	08:41		07:54		06:54	06:43	05:46	05:19	05:38	06:24	07:14	08:04	08:00		08:41	
	16:58	70	17:54		18:44	20:38	21:27	22:01	21:53	21:03	19:54	18:45	16:48	92	16:28	40
17	08:40		07:52		06:51	06:41	05:44	05:19	05:39	06:25	07:16	08:06	08:01		08:42	
	17:00	71	17:56		18:46	20:39	21:29	22:02	21:52	21:01	19:52	18:43	16:47	91	16:28	39
18	08:39		07:50		06:49	06:38	05:43	05:19	05:40	06:27	07:17	08:08	08:03		08:43	
	17:01	72	17:58		18:48	20:41	21:30	22:02	21:51	20:59	19:49	18:41	16:46	91	16:29	39
19	08:38		07:48		06:47	06:36	05:41	05:19	05:41	06:29	07:19	08:10	08:05		08:44	
	17:03	77	17:59		18:50	20:43	21:32	22:03	21:49	20:57	19:47	18:39	16:44	89	16:29	39
20	08:37		07:46		06:44	06:34	05:40	05:19	05:43	06:30	07:21	08:11	08:06		08:44	
	17:05	80	18:01		18:51	20:44	21:33	22:03	21:48	20:55	19:45	18:37	16:43	86	16:29	38
21	08:36		07:44		06:42	06:32	05:38	05:19	05:44	06:32	07:22	08:13	08:08		08:45	
	17:06	83	18:03		18:53	20:46	21:35	22:03	21:47	20:53	19:42	18:35	16:42	83	16:30	38
22	08:35		07:42		06:40	06:30	05:37	05:19	05:45	06:33	07:24	08:15	08:10		08:45	
	17:08	86	18:05		18:55	20:48	21:36	22:03	21:46	20:51	19:40	18:33	16:41	80	16:30	38
23	08:33		07:40		06:37	06:28	05:36	05:20	05:47	06:35	07:26	08:17	08:11		08:46	
	17:10	89	18:07		18:56	20:49	21:37	22:04	21:44	20:49	19:38	18:31	16:40	77	16:31	38
24	08:32		07:38		06:35	06:26	05:35	05:20	05:48	06:37	07:27	08:18	08:13		08:46	
	17:12	91	18:09		18:58	20:51	21:39	22:04	21:43	20:46	19:35	18:29	16:39	72	16:31	39
25	08:31		07:36		06:33	06:24	05:33	05:20	05:49	06:38	07:29	07:20	08:15		08:47	
	17:13	91	18:10		19:00	20:53	21:40	22:04	21:42	20:44	19:33	17:26	16:37	71	16:32	39
26	08:30		07:34		06:31	06:22	05:32	05:21	05:51	06:40	07:31	07:22	08:16		08:47	
	17:15	92	18:12		19:02	20:55	21:42	22:04	21:40	20:42	19:31	17:24	16:37	70	16:33	39
27	08:28		07:32		06:28	06:20	05:31	05:21	05:52	06:42	07:32	07:24	08:18		08:47	
	17:17	90	18:14		19:03	20:56	21:43	22:04	21:39	20:40	19:28	17:22	16:36	68	16:33	40
28	08:27		07:30		06:26	06:18	05:30	05:22	05:54	06:43	07:34	07:26	08:19		08:48	
	17:19	88	18:16		19:05	20:58	21:44	22:04	21:37	20:38	19:26	17:21	16:35	67	16:34	39
29	08:25				07:24	06:16	05:29	05:22	05:55	06:45	07:36	07:27	08:21		08:48	
	17:20	85			20:07	21:00	21:45	22:03	21:36	20:35	19:24	17:19	16:34	65	16:35	40
30	08:24				07:21	06:14	05:28	05:23	05:57	06:46	07:37	07:29	08:22		08:48	
	17:22	83			20:08	21:01	21:47	22:03	21:34	20:33	19:21	17:17	16:33	64	16:36	40
31	08:22				07:19		05:27		05:58	06:48		07:31			08:48	
	17:24	79			20:10		21:48		21:33	20:31		17:15			16:37	40
Potential sun hours	259		277		367	416	485	499	502	454	381	331	266		243	
Total, worst case		2118		310										1916		1313
Sun reduction		0,24		0,30										0,24		0,20
Oper. time red.		0,95		0,95										0,95		0,95
Wind dir. red.		0,60		0,59										0,59		0,60
Total reduction		0,14		0,17										0,13		0,12
Total, real		287		53										255		153

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:32/3.2.737

SHADOW - Calendar

Calculation: Copy of V136@149Shadow receptor: AO - 3997ML144

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March	April	May	June	July	August	September	October	November		December	
1	08:48	10:01 (1)	08:21	09:02 (3)	07:27	07:17	06:12	05:26	05:23	06:00	06:50	07:39	07:33		08:24	09:02 (2)
	16:38 43	10:44 (1)	17:26 71	10:49 (1)	18:18	20:12	21:03	21:49	22:03	21:31	20:29	19:19	17:13		16:32 66	10:32 (1)
2	08:48	10:01 (1)	08:19	09:03 (3)	07:25	07:14	06:10	05:25	05:24	06:01	06:51	07:41	07:35		08:25	09:03 (2)
	16:39 44	10:45 (1)	17:28 63	10:47 (1)	18:20	20:14	21:05	21:50	22:03	21:29	20:27	19:17	17:11		16:32 65	10:32 (1)
3	08:48	10:02 (1)	08:18	09:05 (3)	07:23	07:12	06:08	05:25	05:25	06:03	06:53	07:42	07:36		08:27	09:04 (2)
	16:40 43	10:45 (1)	17:30 54	10:46 (1)	18:21	20:15	21:06	21:51	22:02	21:28	20:24	19:15	17:09		16:31 63	10:32 (1)
4	08:47	10:01 (1)	08:16	09:07 (3)	07:21	07:10	06:06	05:24	05:25	06:04	06:55	07:44	07:38		08:28	09:06 (2)
	16:41 44	10:45 (1)	17:32 40	10:44 (1)	18:23	20:17	21:08	21:52	22:02	21:26	20:22	19:12	17:07		16:31 61	10:33 (1)
5	08:47	09:24 (2)	08:14	10:23 (1)	07:19	07:07	06:04	05:23	05:26	06:06	06:56	07:46	07:40	09:55 (1)	08:29	09:07 (2)
	16:43 51	10:46 (1)	17:33 17	10:40 (1)	18:25	20:19	21:10	21:53	22:01	21:24	20:20	19:10	17:06 12	10:07 (1)	16:30 58	10:33 (1)
6	08:47	09:23 (2)	08:13	10:26 (1)	07:16	07:05	06:02	05:23	05:27	06:08	06:58	07:47	07:42	09:52 (1)	08:31	09:09 (2)
	16:44 54	10:47 (1)	17:35 10	10:36 (1)	18:27	20:20	21:11	21:54	22:01	21:22	20:17	19:08	17:04 19	10:11 (1)	16:30 55	10:33 (1)
7	08:46	09:22 (2)	08:11		07:14	07:03	06:01	05:22	05:28	06:09	07:00	07:49	07:44	08:37 (3)	08:32	09:11 (2)
	16:45 58	10:48 (1)	17:37		18:29	20:22	21:13	21:55	22:00	21:21	20:15	19:05	17:02 41	10:14 (1)	16:29 52	10:34 (1)
8	08:46	09:21 (2)	08:09		07:12	07:01	05:59	05:21	05:29	06:11	07:01	07:51	07:45	08:35 (3)	08:33	09:49 (1)
	16:46 61	10:48 (1)	17:39		18:30	20:24	21:15	21:56	22:00	21:19	20:13	19:03	17:01 55	10:16 (1)	16:29 45	10:34 (1)
9	08:46	09:21 (2)	08:08		07:10	06:58	05:57	05:21	05:30	06:12	07:03	07:52	07:47	08:34 (3)	08:34	09:50 (1)
	16:48 63	10:49 (1)	17:41		18:32	20:26	21:16	21:57	21:59	21:17	20:10	19:01	16:59 64	10:18 (1)	16:29 44	10:34 (1)
10	08:45	09:20 (2)	08:06		07:07	06:56	05:55	05:21	05:31	06:14	07:04	07:54	07:49	08:33 (3)	08:36	09:50 (1)
	16:49 64	10:49 (1)	17:43		18:34	20:27	21:18	21:58	21:58	21:15	20:08	18:59	16:57 72	10:20 (1)	16:28 44	10:34 (1)
11	08:44	09:20 (2)	08:04		07:05	06:54	05:54	05:20	05:32	06:16	07:06	07:56	07:51	08:33 (3)	08:37	09:52 (1)
	16:51 66	10:50 (1)	17:45		18:36	20:29	21:19	21:58	21:57	21:13	20:06	18:56	16:56 77	10:21 (1)	16:28 43	10:35 (1)
12	08:44	09:19 (2)	08:02		07:03	06:52	05:52	05:20	05:33	06:17	07:08	07:57	07:53	08:32 (3)	08:38	09:52 (1)
	16:52 68	10:50 (1)	17:46		18:37	20:31	21:21	21:59	21:57	21:11	20:04	18:54	16:54 82	10:22 (1)	16:28 43	10:35 (1)
13	08:43	09:19 (2)	08:00		07:01	06:49	05:50	05:20	05:34	06:19	07:09	07:59	07:54	08:32 (3)	08:39	09:53 (1)
	16:53 68	10:50 (1)	17:48		18:39	20:32	21:23	22:00	21:56	21:09	20:01	18:52	16:53 85	10:23 (1)	16:28 42	10:35 (1)
14	08:42	09:19 (2)	07:58		06:58	06:47	05:49	05:19	05:35	06:20	07:11	08:01	07:56	08:32 (3)	08:40	09:53 (1)
	16:55 71	10:52 (1)	17:50		18:41	20:34	21:24	22:00	21:55	21:07	19:59	18:50	16:51 87	10:24 (1)	16:28 43	10:36 (1)
15	08:42	09:19 (2)	07:56		06:56	06:45	05:47	05:19	05:36	06:22	07:13	08:03	07:58	08:32 (3)	08:41	09:53 (1)
	16:57 72	10:52 (1)	17:52		18:43	20:36	21:26	22:01	21:54	21:05	19:57	18:48	16:50 91	10:25 (1)	16:28 42	10:35 (1)
16	08:41	09:19 (2)	07:54		06:54	06:43	05:46	05:19	05:38	06:24	07:14	08:04	08:00	08:33 (3)	08:41	09:54 (1)
	16:58 74	10:53 (1)	17:54		18:44	20:38	21:27	22:01	21:53	21:03	19:54	18:45	16:48 92	10:26 (1)	16:28 42	10:36 (1)
17	08:40	09:08 (3)	07:52		06:51	06:41	05:44	05:19	05:39	06:25	07:16	08:06	08:01	08:33 (3)	08:42	09:55 (1)
	17:00 74	10:52 (1)	17:56		18:46	20:39	21:29	22:02	21:52	21:01	19:52	18:43	16:47 92	10:27 (1)	16:28 41	10:36 (1)
18	08:39	09:07 (3)	07:50		06:49	06:38	05:43	05:19	05:40	06:27	07:17	08:08	08:03	08:34 (3)	08:43	09:55 (1)
	17:01 79	10:52 (1)	17:58		18:48	20:41	21:30	22:02	21:51	20:59	19:49	18:41	16:46 93	10:28 (1)	16:29 42	10:37 (1)
19	08:38	09:06 (3)	07:48		06:47	06:36	05:41	05:19	05:41	06:29	07:19	08:10	08:05	08:35 (3)	08:44	09:56 (1)
	17:03 83	10:53 (1)	17:59		18:50	20:43	21:32	22:03	21:49	20:57	19:47	18:39	16:44 91	10:27 (1)	16:29 42	10:38 (1)
20	08:37	09:05 (3)	07:46		06:44	06:34	05:40	05:19	05:43	06:30	07:21	08:11	08:06	08:37 (3)	08:44	09:56 (1)
	17:05 84	10:53 (1)	18:01		18:51	20:44	21:33	22:03	21:48	20:55	19:45	18:37	16:43 89	10:28 (1)	16:29 41	10:37 (1)
21	08:36	09:04 (3)	07:44		06:42	06:32	05:38	05:19	05:44	06:32	07:22	08:13	08:08	08:39 (3)	08:45	09:57 (1)
	17:06 88	10:54 (1)	18:03		18:53	20:46	21:35	22:03	21:47	20:53	19:42	18:35	16:42 89	10:29 (1)	16:30 41	10:38 (1)
22	08:35	09:02 (3)	07:42		06:40	06:30	05:37	05:19	05:45	06:33	07:24	08:15	08:10	08:41 (3)	08:45	09:57 (1)
	17:08 89	10:53 (1)	18:05		18:55	20:48	21:36	22:03	21:46	20:51	19:40	18:33	16:41 84	10:29 (1)	16:30 41	10:38 (1)
23	08:33	09:01 (3)	07:40		06:37	06:28	05:36	05:20	05:47	06:35	07:26	08:17	08:11	08:43 (3)	08:46	09:58 (1)
	17:10 91	10:53 (1)	18:07		18:56	20:49	21:37	22:04	21:44	20:49	19:38	18:31	16:40 83	10:30 (1)	16:31 41	10:39 (1)
24	08:32	09:00 (3)	07:38		06:35	06:26	05:35	05:20	05:48	06:37	07:27	08:18	08:13	08:45 (3)	08:46	09:58 (1)
	17:12 93	10:54 (1)	18:09		18:58	20:51	21:39	22:04	21:43	20:46	19:35	18:29	16:39 79	10:30 (1)	16:31 42	10:40 (1)
25	08:31	08:59 (3)	07:36		06:33	06:24	05:33	05:20	05:49	06:38	07:29	07:20	08:15	08:46 (3)	08:47	09:58 (1)
	17:13 92	10:53 (1)	18:10		19:00	20:53	21:40	22:04	21:42	20:44	19:33	17:26	16:37 74	10:30 (1)	16:32 42	10:40 (1)
26	08:30	09:00 (3)	07:34		06:31	06:22	05:32	05:21	05:51	06:40	07:31	07:22	08:16	08:57 (2)	08:47	09:58 (1)
	17:15 92	10:53 (1)	18:12		19:02	20:55	21:42	22:04	21:40	20:42	19:31	17:24	16:37 74	10:31 (1)	16:33 42	10:40 (1)
27	08:28	09:00 (3)	07:32		06:28	06:20	05:31	05:21	05:52	06:42	07:32	07:24	08:18	08:58 (2)	08:47	10:00 (1)
	17:17 90	10:52 (1)	18:14		19:03	20:56	21:43	22:04	21:39	20:40	19:28	17:22	16:36 72	10:31 (1)	16:33 41	10:41 (1)
28	08:27	09:00 (3)	07:30		06:26	06:18	05:30	05:22	05:54	06:43	07:34	07:26	08:19	08:58 (2)	08:48	10:00 (1)
	17:19 86	10:52 (1)	18:16		19:05	20:58	21:44	22:04	21:37	20:38	19:26	17:21	16:35 71	10:31 (1)	16:34 42	10:42 (1)
29	08:25	09:00 (3)			07:24	06:16	05:29	05:22	05:55	06:45	07:36	07:27	08:21	09:00 (2)	08:48	10:00 (1)
	17:20 85	10:51 (1)			20:07	21:00	21:45	22:03	21:36	20:35	19:24	17:19	16:34 68	10:31 (1)	16:35 42	10:42 (1)
30	08:24	09:00 (3)			07:21	06:14	05:28	05:23	05:57	06:46	07:37	07:29	08:22	09:01 (2)	08:48	10:01 (1)
	17:22 81	10:50 (1)			20:08	21:01	21:47	22:03	21:34	20:33	19:21	17:17	16:33 68	10:32 (1)	16:36 42	10:43 (1)
31	08:22	09:02 (3)			07:19		05:27		05:58	06:48		07:31			08:48	10:01 (1)
	17:24 77	10:50 (1)			20:10		21:48		21:33	20:31		17:15			16:37 43	10:44 (1)
Potential sun hours	259		277		367	416	485	499	502	454	381	331	266		243	
Total, worst case	2228		255										1904		1433	
Sun reduction	0,24		0,30										0,24		0,20	
Oper. time red.	0,95		0,95										0,95		0,95	
Wind dir. red.	0,60		0,60										0,60		0,61	
Total reduction	0,14		0,17										0,13		0,12	
Total, real	302		44										254		168	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:32/3.2.737

SHADOW - Calendar

Calculation: Copy of V136@149Shadow receptor: AP - 3998NL69

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	08:13 (4)	06:12	07:16 (3)	05:26	07:08 (3)	05:23	07:15 (3)	06:00	07:18 (3)	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	29 08:42 (4)	21:03	51 08:07 (3)	21:49	66 08:14 (3)	22:03	63 08:18 (3)	21:31	66 08:24 (3)	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	08:14 (4)	06:10	07:15 (3)	05:25	07:07 (3)	05:24	07:15 (3)	06:01	07:18 (3)	06:51	07:40	07:35	08:25
	16:39	17:28	18:20	20:14	27 08:41 (4)	21:05	53 08:08 (3)	21:50	67 08:14 (3)	22:02	63 08:18 (3)	21:29	65 08:23 (3)	20:26	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	08:15 (4)	06:08	07:13 (3)	05:25	07:08 (3)	05:25	07:14 (3)	06:03	07:19 (3)	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	24 08:39 (4)	21:06	56 08:09 (3)	21:51	66 08:14 (3)	22:02	64 08:18 (3)	21:28	64 08:23 (3)	20:24	19:14	17:09	16:31
4	08:47	08:16	07:21	07:10	08:15 (4)	06:06	07:13 (3)	05:24	07:08 (3)	05:25	07:15 (3)	06:04	07:19 (3)	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21 08:36 (4)	21:08	57 08:10 (3)	21:52	66 08:14 (3)	22:02	64 08:19 (3)	21:26	64 08:23 (3)	20:22	19:12	17:07	16:31
5	08:47	08:14	07:19	07:07	08:17 (4)	06:04	07:12 (3)	05:23	07:08 (3)	05:26	07:15 (3)	06:06	07:19 (3)	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	17 08:34 (4)	21:10	59 08:11 (3)	21:53	65 08:13 (3)	22:01	64 08:19 (3)	21:24	63 08:22 (3)	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	08:20 (4)	06:02	07:11 (3)	05:23	07:09 (3)	05:27	07:15 (3)	06:08	07:20 (3)	06:58	08:17 (4)	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	11 08:31 (4)	21:11	60 08:11 (3)	21:54	65 08:14 (3)	22:01	65 08:20 (3)	21:22	61 08:21 (3)	20:17	10 08:27 (4)	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03		06:01	07:11 (3)	05:22	07:09 (3)	05:28	07:16 (3)	06:09	07:20 (3)	06:59	08:12 (4)	07:49	07:44	08:32
	16:45	17:37	18:28	20:22		21:13	61 08:12 (3)	21:55	64 08:13 (3)	22:00	64 08:20 (3)	21:20	60 08:20 (3)	20:15	17 08:29 (4)	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01		05:59	07:10 (3)	05:21	07:09 (3)	05:29	07:15 (3)	06:11	07:22 (3)	07:01	08:10 (4)	07:51	07:45	08:33
	16:46	17:39	18:30	20:24		21:14	62 08:12 (3)	21:56	65 08:14 (3)	21:59	65 08:20 (3)	21:19	58 08:20 (3)	20:13	21 08:31 (4)	19:03	17:00	16:29
9	08:45	08:07	07:10	06:58		05:57	07:09 (3)	05:21	07:10 (3)	05:30	07:15 (3)	06:12	07:22 (3)	07:03	08:08 (4)	07:52	07:47	08:34
	16:48	17:41	18:32	20:25		21:16	63 08:12 (3)	21:57	64 08:14 (3)	21:59	65 08:20 (3)	21:17	57 08:19 (3)	20:10	24 08:32 (4)	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56		05:55	07:09 (3)	05:21	07:10 (3)	05:31	07:15 (3)	06:14	07:23 (3)	07:04	08:07 (4)	07:54	07:49	08:35
	16:49	17:43	18:34	20:27		21:18	64 08:13 (3)	21:57	63 08:13 (3)	21:58	66 08:21 (3)	21:15	55 08:18 (3)	20:08	27 08:34 (4)	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54		05:54	07:08 (3)	05:20	07:10 (3)	05:32	07:15 (3)	06:16	07:24 (3)	07:06	08:05 (4)	07:56	07:51	08:37
	16:51	17:45	18:36	20:29		21:19	65 08:13 (3)	21:58	64 08:14 (3)	21:57	66 08:21 (3)	21:13	52 08:16 (3)	20:06	29 08:34 (4)	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52		05:52	07:08 (3)	05:20	07:11 (3)	05:33	07:15 (3)	06:17	07:25 (3)	07:08	08:04 (4)	07:57	07:52	08:38
	16:52	17:46	18:37	20:31		21:21	66 08:14 (3)	21:59	63 08:14 (3)	21:56	67 08:22 (3)	21:11	51 08:16 (3)	20:03	31 08:35 (4)	18:54	16:54	16:28
13	08:43	08:00	07:00	06:49		05:50	07:07 (3)	05:20	07:11 (3)	05:34	07:15 (3)	06:19	07:26 (3)	07:09	08:04 (4)	07:59	07:54	08:39
	16:53	17:48	18:39	20:32		21:22	67 08:14 (3)	22:00	63 08:14 (3)	21:56	67 08:22 (3)	21:09	48 08:14 (3)	20:01	32 08:36 (4)	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47		05:49	07:07 (3)	05:19	07:11 (3)	05:35	07:15 (3)	06:20	07:28 (3)	07:11	08:02 (4)	08:01	07:56	08:40
	16:55	17:50	18:41	20:34		21:24	67 08:14 (3)	22:00	62 08:13 (3)	21:55	67 08:22 (3)	21:07	45 08:13 (3)	19:59	34 08:36 (4)	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45		05:47	07:06 (3)	05:19	07:11 (3)	05:36	07:16 (3)	06:22	07:30 (3)	07:13	08:02 (4)	08:03	07:58	08:40
	16:57	17:52	18:43	20:36		21:26	68 08:14 (3)	22:01	63 08:14 (3)	21:54	67 08:23 (3)	21:05	42 08:12 (3)	19:56	34 08:36 (4)	18:48	16:50	16:28
16	08:41	07:54	06:54	07:28 (4)	06:43	05:46	07:06 (3)	05:19	07:12 (3)	05:38	07:16 (3)	06:24	07:31 (3)	07:14	08:01 (4)	08:04	08:00	08:41
	16:58	17:54	18:44	10 07:38 (4)	20:37	21:27	68 08:14 (3)	22:01	62 08:14 (3)	21:53	67 08:23 (3)	21:03	39 08:10 (3)	19:54	34 08:35 (4)	18:45	16:48	16:28
17	08:40	07:52	06:51	07:25 (4)	06:41	05:44	07:07 (3)	05:19	07:12 (3)	05:39	07:16 (3)	06:25	07:33 (3)	07:16	08:01 (4)	08:06	08:01	08:42
	17:00	17:56	18:46	16 07:41 (4)	20:39	21:29	68 08:15 (3)	22:02	62 08:14 (3)	21:52	68 08:24 (3)	21:01	35 08:08 (3)	19:52	34 08:35 (4)	18:43	16:47	16:28
18	08:39	07:50	06:49	07:23 (4)	06:38	05:43	07:06 (3)	05:19	07:12 (3)	05:40	07:16 (3)	06:27	07:34 (3)	07:17	08:01 (4)	08:08	08:03	08:43
	17:01	17:58	18:48	21 07:44 (4)	20:41	21:30	68 08:14 (3)	22:02	62 08:14 (3)	21:50	68 08:24 (3)	20:59	31 08:05 (3)	19:49	34 08:35 (4)	18:41	16:46	16:29
19	08:38	07:48	06:47	07:20 (4)	06:36	05:41	07:06 (3)	05:19	07:12 (3)	05:41	07:15 (3)	06:29	07:37 (3)	07:19	08:00 (4)	08:10	08:05	08:44
	17:03	17:59	18:49	24 07:44 (4)	20:43	21:32	68 08:14 (3)	22:02	62 08:14 (3)	21:49	69 08:24 (3)	20:57	25 08:02 (3)	19:47	34 08:34 (4)	18:39	16:44	16:29
20	08:37	07:46	06:44	07:18 (4)	06:34	05:40	07:06 (3)	05:19	07:13 (3)	05:43	07:16 (3)	06:30	07:41 (3)	07:21	08:01 (4)	08:11	08:06	08:44
	17:05	18:01	18:51	28 07:46 (4)	20:44	21:33	69 08:15 (3)	22:03	62 08:15 (3)	21:48	69 08:25 (3)	20:55	16 07:57 (3)	19:45	33 08:34 (4)	18:37	16:43	16:29
21	08:36	07:44	06:42	07:17 (4)	06:32	05:38	07:06 (3)	05:19	07:13 (3)	05:44	07:16 (3)	06:32		07:22	08:00 (4)	08:13	08:08	08:45
	17:06	18:03	18:53	30 07:47 (4)	20:46	21:35	69 08:15 (3)	22:03	62 08:15 (3)	21:47	69 08:25 (3)	20:53		19:42	32 08:32 (4)	18:35	16:42	16:30
22	08:34	07:42	06:40	07:15 (4)	06:30	05:37	07:06 (3)	05:19	07:13 (3)	05:45	07:16 (3)	06:33		07:24	08:01 (4)	08:15	08:10	08:45
	17:08	18:05	18:55	31 07:46 (4)	20:48	21:36	68 08:14 (3)	22:03	62 08:15 (3)	21:46	68 08:24 (3)	20:51		19:40	30 08:31 (4)	18:33	16:41	16:30
23	08:33	07:40	06:37	07:14 (4)	06:28	07:34 (3)	05:36	07:06 (3)	05:20	07:13 (3)	05:47	07:16 (3)	06:35	07:26	08:02 (4)	08:17	08:11	08:46
	17:10	18:07	18:56	33 07:47 (4)	20:49	19 07:53 (3)	21:37	68 08:14 (3)	22:03	62 08:15 (3)	21:44	68 08:24 (3)	20:49	19:38	28 08:30 (4)	18:31	16:40	16:31
24	08:32	07:38	06:35	07:14 (4)	06:26	07:30 (3)	05:35	07:06 (3)	05:20	07:14 (3)	05:48	07:17 (3)	06:37	07:27	08:03 (4)	08:18	08:13	08:46
	17:12	18:09	18:58	34 07:48 (4)	20:51	26 07:56 (3)	21:39	68 08:14 (3)	22:04	62 08:16 (3)	21:43	68 08:25 (3)	20:46	19:35	25 08:28 (4)	18:28	16:38	16:31
25	08:31	07:36	06:33	07:13 (4)	06:24	07:27 (3)	05:33	07:06 (3)	05:20	07:14 (3)	05:49	07:16 (3)	06:38	07:29	08:05 (4)	07:20	08:15	08:47
	17:13	18:10	19:00	34 07:47 (4)	20:53	32 07:59 (3)	21:40	68 08:14 (3)	22:04	62 08:16 (3)	21:42	69 08:25 (3)	20:44	19:33	22 08:27 (4)	17:26	16:37	16:32
26	08:29	07:34	06:30	07:12 (4)	06:22	07:25 (3)	05:32	07:06 (3)	05:21	07:14 (3)	05:51	07:16 (3)	06:40	07:31	08:07 (4)	07:22	08:16	08:47
	17:15	18:12	19:02	35 07:47 (4)	20:54	36 08:01 (3)	21:41	68 08:14 (3)	22:04	62 08:16 (3)	21:40	68 08:24 (3)	20:42	19:31	18 08:25 (4)	17:24	16:37	16:33
27	08:28	07:32	06:28	07:12 (4)	06:20	07:24 (3)	05:31	07:06 (3)	05:21	07:14 (3)	05:52	07:17 (3)	06:42	07:32	08:08 (4)	07:24	08:18	08:47
	17:17	18:14	19:03	35 07:47 (4)	20:56	39 08:03 (3)	21:43	68 08:14 (3)	22:04	63 08:17 (3)	21:39	68 08:25 (3)	20:40	19:28	13 08:21 (4)	17:22	16:36	16:33
28	08:27	07:30	06:26	07:11 (4)	06:18	07:22 (3)	05:30	07:06 (3)	05:22	07:14 (3)	05:54	07:17 (3)	06:43	07:34		07:26	08:19	08:47
	17:19	18:16	19:05	35 07:46 (4)	20:58	43 08:05 (3)	21:44	68 08:14 (3)	22:03	63 08:17 (3)	21:37	68 08:25 (3)	20:38	19:26		17:20	16:35	16:34
29	08:25		07:24	08:12 (4)	06:16	07:20 (3)	05:29	07:06 (3)	05:22	07:15 (3)	05:55	07:17 (3)	06:45	07:35		07:27	08:21	08:48
	17:20		20:07	33 08:45 (4)	21:00	46 08:06 (3)	21:45	68 08:14 (3)	22:03	62 08:17 (3)	21:36	67 08:24 (3)	20:35	19:24		17:19	16:34	16:35
30	08:24		07:21	08:12 (4)	06:14	07:18 (3)	05:28	07:07 (3)	05:23	07:14 (3)	05:57	07:18 (3)	06:46	07:37		07:29	08:22	08:48
	17:22		20:08	33 08:45 (4)	21:01	49 08:07 (3)	21:46	66 08:13 (3)	22:03	63 08:17 (3)	21:34	66 08:24 (3)	20:33	19:21		17:17	16:33	16:36
31	08:22		07:19	08:13 (4)			05:27	07:08 (3)			05:58	07:17 (3)	06:48			07:31		08:48
	17:24		20:10	31 08:44 (4)			21:48	66 08:14 (3)			21:32	67 08:24 (3)	20:31			17:15		16:37
Potential sun hours	259	277	367	416		485	499		502		454		381		331	266	243
Total, worst case			463	419		2005	1899		2064		997		596				
Sun reduction			0,33	0,42		0,43	0,39		0,41		0,42		0,36				
Oper. time red.			0,95	0,95		0,95	0,95		0,95		0,95		0,95				
Wind dir. red.			0,60	0,62		0,63	0,63		0,63		0,63		0,60				
Total reduction			0,19	0,25		0,25	0,23		0,24		0,25		0,21				
Total, real			87	103		510	441		500		247		123				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:32/3.2.737

SHADOW - Calendar

Calculation: Copy of V136@149Shadow receptor: AQ - 3998JK67

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	05:26	06:08 (1)	05:23	06:16 (1)	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03	21:49 25	06:33 (1)	22:03 20	06:36 (1)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	05:26	06:08 (1)	05:24	06:16 (1)	06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05	21:50 24	06:32 (1)	22:03 21	06:37 (1)	21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08	05:25	06:09 (1)	05:25	06:16 (1)	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06	21:51 24	06:33 (1)	22:02 22	06:38 (1)	21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06	05:24	06:09 (1)	05:26	06:16 (1)	06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08	21:52 24	06:33 (1)	22:02 22	06:38 (1)	21:26	20:22	19:12	17:07	16:31
5	08:47	08:14	07:19	07:08	06:04	05:23	06:10 (1)	05:26	06:16 (1)	06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10	21:53 23	06:33 (1)	22:01 22	06:38 (1)	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02	05:23	06:10 (1)	05:27	06:16 (1)	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11	21:54 23	06:33 (1)	22:01 23	06:39 (1)	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01	05:22	06:10 (1)	05:28	06:16 (1)	06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13	21:55 23	06:33 (1)	22:00 23	06:39 (1)	21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59	05:22	06:10 (1)	05:29	06:16 (1)	06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15	21:56 22	06:32 (1)	22:00 24	06:40 (1)	21:19	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57	05:21	06:11 (1)	05:30	06:16 (1)	06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16	21:57 22	06:33 (1)	21:59 24	06:40 (1)	21:17	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55	05:21	06:11 (1)	05:31	06:15 (1)	06:14	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18	21:58 21	06:32 (1)	21:58 25	06:40 (1)	21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54	05:20	06:11 (1)	05:32	06:15 (1)	06:16	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19	21:58 21	06:32 (1)	21:57 25	06:40 (1)	21:13	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52	05:20	06:12 (1)	05:33	06:15 (1)	06:17	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21	21:59 21	06:33 (1)	21:57 25	06:40 (1)	21:11	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50	05:20	06:13 (1)	05:34	06:16 (1)	06:19 07:09 (2)	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23	22:00 20	06:33 (1)	21:56 25	06:41 (1)	21:09 4	07:13 (2)	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49 06:18 (1)	05:19	06:13 (1)	05:35	06:16 (1)	06:21	07:05 (2)	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24 3	06:21 (1) 22:00 20	06:33 (1)	21:55 26	06:42 (1)	21:07 10	07:15 (2)	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47	06:14 (1) 05:19	06:13 (1)	05:36	06:16 (1)	06:22	07:04 (2)	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26 10	06:24 (1) 22:01 19	06:32 (1)	21:54 26	06:42 (1)	21:05 13	07:17 (2)	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43 07:06 (2)	05:46	06:13 (1) 05:19	06:13 (1)	05:38	06:16 (1)	06:24	07:02 (2)	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38 1	07:07 (2) 21:27 13	06:26 (1) 22:01 19	06:32 (1)	21:53 26	06:42 (1)	21:03 15	07:17 (2)	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41 07:04 (2)	05:44	06:12 (1) 05:19	06:13 (1)	05:39	06:16 (1)	06:25	07:02 (2)	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39 6	07:10 (2) 21:29 16	06:28 (1) 22:02 19	06:32 (1)	21:52 25	06:41 (1)	21:01 17	07:19 (2)	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39 07:02 (2)	05:43	06:10 (1) 05:19	06:14 (1)	05:40	06:16 (1)	06:27	07:00 (2)	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41 10	07:12 (2) 21:30 18	06:28 (1) 22:02 18	06:32 (1)	21:51 25	06:41 (1)	20:59 18	07:18 (2)	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36 07:00 (2)	05:41	06:09 (1) 05:19	06:15 (1)	05:41	06:17 (1)	06:29	07:00 (2)	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43 13	07:13 (2) 21:32 20	06:29 (1) 22:03 18	06:33 (1)	21:49 24	06:41 (1)	20:57 19	07:19 (2)	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34 06:58 (2)	05:40	06:09 (1) 05:19	06:15 (1)	05:43	06:18 (1)	06:30	06:59 (2)	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44 16	07:14 (2) 21:33 21	06:30 (1) 22:03 18	06:33 (1)	21:48 24	06:42 (1)	20:55 19	07:18 (2)	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32 06:56 (2)	05:39	06:09 (1) 05:19	06:15 (1)	05:44	06:18 (1)	06:32	07:00 (2)	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46 18	07:14 (2) 21:35 22	06:31 (1) 22:03 18	06:33 (1)	21:47 23	06:41 (1)	20:53 19	07:19 (2)	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30 06:55 (2)	05:37	06:07 (1) 05:19	06:15 (1)	05:45	06:18 (1)	06:34	07:00 (2)	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48 19	07:14 (2) 21:36 23	06:30 (1) 22:03 18	06:33 (1)	21:46 23	06:41 (1)	20:51 18	07:18 (2)	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28 06:55 (2)	05:36	06:07 (1) 05:20	06:15 (1)	05:47	06:18 (1)	06:35	07:02 (2)	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49 19	07:14 (2) 21:37 24	06:31 (1) 22:04 18	06:33 (1)	21:44 22	06:40 (1)	20:49 15	07:17 (2)	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26 06:55 (2)	05:35	06:07 (1) 05:20	06:16 (1)	05:48	06:20 (1)	06:37	07:03 (2)	07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51 18	07:13 (2) 21:39 24	06:31 (1) 22:04 18	06:34 (1)	21:43 20	06:40 (1)	20:46 13	07:16 (2)	19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24 06:55 (2)	05:34	06:07 (1) 05:20	06:15 (1)	05:50	06:20 (1)	06:38	07:05 (2)	07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53 18	07:13 (2) 21:40 25	06:32 (1) 22:04 19	06:34 (1)	21:42 19	06:39 (1)	20:44 10	07:15 (2)	19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22 06:55 (2)	05:32	06:07 (1) 05:21	06:15 (1)	05:51	06:21 (1)	06:40	07:07 (2)	07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55 17	07:12 (2) 21:42 25	06:32 (1) 22:04 19	06:34 (1)	21:40 17	06:38 (1)	20:42 6	07:13 (2)	19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20 06:56 (2)	05:31	06:07 (1) 05:21	06:16 (1)	05:52	06:23 (1)	06:42	07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56 15	07:11 (2) 21:43 25	06:32 (1) 22:04 19	06:35 (1)	21:39 15	06:38 (1)	20:40	19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18 06:57 (2)	05:30	06:07 (1) 05:22	06:15 (1)	05:54	06:24 (1)	06:43	07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58 12	07:09 (2) 21:44 25	06:32 (1) 22:04 20	06:35 (1)	21:37 12	06:36 (1)	20:38	19:26	17:21	16:35	16:34
29	08:25		07:24	06:16 06:58 (2)	05:29	06:07 (1) 05:22	06:16 (1)	05:55	06:26 (1)	06:45	07:36	07:27	08:21	08:48
	17:21		20:07	21:00 9	07:07 (2) 21:45 25	06:32 (1) 22:03 20	06:36 (1)	21:36 8	06:34 (1)	20:36	19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	05:28	06:08 (1) 05:23	06:16 (1)	05:57		06:47	07:37	07:29	08:22	08:48
	17:22		20:08	21:01	21:47 25	06:33 (1) 22:03 21	06:37 (1)	21:34		20:33	19:22	17:17	16:33	16:36
31	08:22		07:19		05:27	06:08 (1)		05:58		06:48		07:31		08:48
	17:24		20:10		21:48 25	06:33 (1)		21:33		20:31		17:15		16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case				191	369	614	636	196				
Sun reduction				0,42	0,43	0,39	0,41	0,42				
Oper. time red.				0,95	0,95	0,95	0,95	0,95				
Wind dir. red.				0,63	0,67	0,67	0,67	0,63				
Total reduction				0,25	0,27	0,25	0,26	0,25				
Total, real				48	100	152	164	49				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:32/3.2.737

SHADOW - Calendar

Calculation: Copy of V136@149Shadow receptor: AR - 3945LA1

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January			February			March	April	May	June	July	August	September	October			November			December		
1	08:48			08:21		16:01 (4)	07:27	07:16	06:12	05:26	05:23	06:00	06:50	07:39			07:33			08:24		15:32 (4)
	16:38			17:26	14	16:15 (4)	18:18	20:12	21:03	21:49	22:03	21:31	20:29	19:19			17:13			16:32	22	15:54 (4)
2	08:48		15:54 (4)	08:19		16:03 (4)	07:25	07:14	06:10	05:25	05:24	06:01	06:51	07:40			07:34			08:25		15:34 (4)
	16:39	6	16:00 (4)	17:28	9	16:12 (4)	18:19	20:13	21:04	21:50	22:02	21:29	20:26	19:17			17:11			16:32	20	15:54 (4)
3	08:47		15:53 (4)	08:18			07:23	07:12	06:08	05:25	05:25	06:03	06:53	07:42			07:36			08:27		15:34 (4)
	16:40	9	16:02 (4)	17:30			18:21	20:15	21:06	21:51	22:02	21:27	20:24	19:14			17:09			16:31	19	15:53 (4)
4	08:47		15:52 (4)	08:16			07:21	07:10	06:06	05:24	05:25	06:04	06:54	07:44			07:38			08:28		15:35 (4)
	16:41	11	16:03 (4)	17:31			18:23	20:17	21:08	21:52	22:02	21:26	20:22	19:12			17:07			16:30	17	15:52 (4)
5	08:47		15:52 (4)	08:14			07:18	07:07	06:04	05:23	05:26	06:06	06:56	07:45			07:40			08:29		15:36 (4)
	16:42	13	16:05 (4)	17:33			18:25	20:19	21:09	21:53	22:01	21:24	20:20	19:10			17:05			16:30	17	15:53 (4)
6	08:47		15:51 (4)	08:13			07:16	07:05	06:02	05:22	05:27	06:07	06:58	07:47			07:42			08:31		15:37 (4)
	16:44	15	16:06 (4)	17:35			18:27	20:20	21:11	21:54	22:01	21:22	20:17	19:08			17:04			16:29	15	15:52 (4)
7	08:46		15:51 (4)	08:11			07:14	07:03	06:00	05:22	05:28	06:09	06:59	07:49			07:43			08:32		15:39 (4)
	16:45	16	16:07 (4)	17:37			18:28	20:22	21:13	21:55	22:00	21:20	20:15	19:05			17:02			16:29	13	15:52 (4)
8	08:46		15:51 (4)	08:09			07:12	07:00	05:59	05:21	05:29	06:11	07:01	07:51			07:45			08:33		15:40 (4)
	16:46	17	16:08 (4)	17:39			18:30	20:24	21:14	21:56	21:59	21:19	20:13	19:03			17:00			16:29	11	15:51 (4)
9	08:45		15:50 (4)	08:07			07:09	06:58	05:57	05:21	05:30	06:12	07:03	07:52			07:47		15:34 (4)	08:34		15:41 (4)
	16:48	19	16:09 (4)	17:41			18:32	20:25	21:16	21:57	21:59	21:17	20:10	19:01			16:59	9	15:43 (4)	16:28	9	15:50 (4)
10	08:45		15:51 (4)	08:06			07:07	06:56	05:55	05:20	05:31	06:14	07:04	07:54			07:49		15:31 (4)	08:35		15:43 (4)
	16:49	20	16:11 (4)	17:43			18:34	20:27	21:18	21:57	21:58	21:15	20:08	18:58			16:57	15	15:46 (4)	16:28	6	15:49 (4)
11	08:44		15:50 (4)	08:04			07:05	06:54	05:53	05:20	05:32	06:15	07:06	07:56			07:51		15:30 (4)	08:36		15:45 (4)
	16:50	22	16:12 (4)	17:44			18:35	20:29	21:19	21:58	21:57	21:13	20:06	18:56			16:56	17	15:47 (4)	16:28	2	15:47 (4)
12	08:44		15:50 (4)	08:02		17:11 (3)	07:03	06:51	05:52	05:20	05:33	06:17	07:08	07:57			07:52		15:28 (4)	08:38		
	16:52	22	16:12 (4)	17:46	7	17:18 (3)	18:37	20:31	21:21	21:59	21:56	21:11	20:03	18:54			16:54	21	15:49 (4)	16:28		
13	08:43		15:50 (4)	08:00		17:09 (3)	07:00	06:49	05:50	05:19	05:34	06:19	07:09	07:59			07:54		15:28 (4)	08:39		
	16:53	23	16:13 (4)	17:48	11	17:20 (3)	18:39	20:32	21:22	21:59	21:55	21:09	20:01	18:52			16:52	22	15:50 (4)	16:28		
14	08:42		15:50 (4)	07:58		17:07 (3)	06:58	06:47	05:49	05:19	05:35	06:20	07:11	08:01			07:56		15:27 (4)	08:39		
	16:55	24	16:14 (4)	17:50	15	17:22 (3)	18:41	20:34	21:24	22:00	21:55	21:07	19:59	18:50			16:51	24	15:51 (4)	16:28		
15	08:41		15:50 (4)	07:56		17:06 (3)	06:56	06:45	05:47	05:19	05:36	06:22	07:12	08:02			07:58		15:27 (4)	08:40		
	16:56	25	16:15 (4)	17:52	18	17:24 (3)	18:42	20:36	21:26	22:01	21:54	21:05	19:56	18:47			16:50	25	15:52 (4)	16:28		
16	08:40		15:50 (4)	07:54		17:06 (3)	06:53	06:43	05:45	05:19	05:37	06:24	07:14	08:04		17:42 (3)	07:59		15:26 (4)	08:41		
	16:58	25	16:15 (4)	17:54	20	17:26 (3)	18:44	20:37	21:27	22:01	21:53	21:03	19:54	18:45	10	17:52 (3)	16:48	26	15:52 (4)	16:28		
17	08:40		15:50 (4)	07:52		17:05 (3)	06:51	06:40	05:44	05:19	05:39	06:25	07:16	08:06		17:39 (3)	08:01		15:26 (4)	08:42		
	17:00	26	16:16 (4)	17:56	21	17:26 (3)	18:46	20:39	21:29	22:02	21:51	21:01	19:52	18:43	15	17:54 (3)	16:47	27	15:53 (4)	16:28		
18	08:39		15:50 (4)	07:50		17:05 (3)	06:49	06:38	05:42	05:19	05:40	06:27	07:17	08:08		17:38 (3)	08:03		15:25 (4)	08:43		
	17:01	27	16:17 (4)	17:57	22	17:27 (3)	18:48	20:41	21:30	22:02	21:50	20:59	19:49	18:41	17	17:55 (3)	16:45	27	15:52 (4)	16:28		
19	08:38		15:50 (4)	07:48		17:04 (3)	06:47	06:36	05:41	05:19	05:41	06:28	07:19	08:09		17:37 (3)	08:05		15:26 (4)	08:43		
	17:03	28	16:18 (4)	17:59	22	17:26 (3)	18:49	20:42	21:32	22:02	21:49	20:57	19:47	18:39	19	17:56 (3)	16:44	27	15:53 (4)	16:29		
20	08:37		15:51 (4)	07:46		17:04 (3)	06:44	06:34	05:40	05:19	05:42	06:30	07:21	08:11		17:36 (3)	08:06		15:26 (4)	08:44		
	17:05	27	16:18 (4)	18:01	22	17:26 (3)	18:51	20:44	21:33	22:03	21:48	20:55	19:45	18:37	21	17:57 (3)	16:43	27	15:53 (4)	16:29		
21	08:35		15:50 (4)	07:44		17:04 (3)	06:42	06:32	05:38	05:19	05:44	06:32	07:22	08:13		17:34 (3)	08:08		15:26 (4)	08:45		
	17:06	28	16:18 (4)	18:03	22	17:26 (3)	18:53	20:46	21:34	22:03	21:47	20:53	19:42	18:35	22	17:56 (3)	16:42	28	15:54 (4)	16:29		
22	08:34		15:51 (4)	07:42		17:05 (3)	06:40	06:30	05:37	05:19	05:45	06:33	07:24	08:15		17:34 (3)	08:10		15:27 (4)	08:45		
	17:08	27	16:18 (4)	18:05	20	17:25 (3)	18:55	20:48	21:36	22:03	21:46	20:51	19:40	18:32	22	17:56 (3)	16:41	27	15:54 (4)	16:30		
23	08:33		15:52 (4)	07:40		17:06 (3)	06:37	06:28	05:36	05:19	05:47	06:35	07:25	08:17		17:34 (3)	08:11		15:27 (4)	08:46		
	17:10	27	16:19 (4)	18:07	18	17:24 (3)	18:56	20:49	21:37	22:03	21:44	20:48	19:38	18:30	22	17:56 (3)	16:39	28	15:55 (4)	16:30		
24	08:32		15:51 (4)	07:38		17:07 (3)	06:35	06:26	05:34	05:20	05:48	06:37	07:27	08:18		17:34 (3)	08:13		15:27 (4)	08:46		
	17:11	27	16:18 (4)	18:09	16	17:23 (3)	18:58	20:51	21:39	22:03	21:43	20:46	19:35	18:28	22	17:56 (3)	16:38	27	15:54 (4)	16:31		
25	08:31		15:52 (4)	07:36		17:09 (3)	06:33	06:24	05:33	05:20	05:49	06:38	07:29	07:20		16:35 (3)	08:15		15:28 (4)	08:47		
	17:13	27	16:19 (4)	18:10	13	17:22 (3)	19:00	20:53	21:40	22:04	21:41	20:44	19:33	17:26	21	16:56 (3)	16:37	26	15:54 (4)	16:32		
26	08:29		15:54 (4)	07:34		17:11 (3)	06:30	06:21	05:32	05:20	05:51	06:40	07:30	07:22		16:35 (3)	08:16		15:29 (4)	08:47		
	17:15	25	16:19 (4)	18:12	8	17:19 (3)	19:01	20:54	21:41	22:04	21:40	20:42	19:31	17:24	20	16:55 (3)	16:36	26	15:55 (4)	16:32		
27	08:28		15:54 (4)	07:32			06:28	06:19	05:31	05:21	05:52	06:41	07:32	07:24		16:36 (3)	08:18		15:30 (4)	08:47		
	17:17	25	16:19 (4)	18:14			19:03	20:56	21:43	22:03	21:39	20:40	19:28	17:22	17	16:53 (3)	16:35	25	15:55 (4)	16:33		
28	08:27		15:55 (4)	07:29			06:26	06:17	05:30	05:21	05:54	06:43	07:34	07:25		16:37 (3)	08:19		15:30 (4)	08:47		
	17:19	24	16:19 (4)	18:16			19:05	20:58	21:44	22:03	21:37	20:38	19:26	17:20	14	16:51 (3)	16:35	24	15:54 (4)	16:34		
29	08:25		15:56 (4)				07:23	06:15	05:29	05:22	05:55	06:45	07:35	07:27		16:39 (3)	08:21		15:31 (4)	08:48		
	17:20	22	16:18 (4)				20:07	20:59	21:45	22:03	21:36	20:35	19:24	17:18	10	16:49 (3)	16:34	23	15:54 (4)	16:35		
30	08:24		15:57 (4)				07:21	06:13	05:28	05:22	05:57	06:46	07:37	07:29		16:41 (3)	08:22		15:31 (4)	08:48		
	17:22	20	16:17 (4)				20:08	21:01	21:46	22:03	21:34	20:33	19:21	17:16	6	16:47 (3)	16:33	23	15:54 (4)	16:36		
31	08:22		15:59 (4)				07:19		05:27		05:58	06:48		07:31						08:48		
	17:24	17	16:16 (4)				20:10		21:48		21:32	20:31		17:15						16:37		
Potential sun hours	259			277			367	416	485	499	502	454	381	331			266			243		
Total, worst case		644			278										258			524			151	
Sun reduction		0,24			0,30										0,34			0,24			0,20	
Oper. time red.		0,95			0,95										0,95			0,95			0,95	
Wind dir. red.		0,67			0,67										0,67			0,67			0,67	
Total reduction		0,15			0,19										0,21			0,15			0,13	
Total, real		98			53										55			79			20	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:32/3.2.737

SHADOW - Calendar

Calculation: Copy of V136@149Shadow receptor: AS - 3998NM3

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June		July		August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	05:26		05:23	21:17 (2)	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03	21:49		22:03	11 21:28 (2)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	05:25		05:24	21:18 (2)	06:01	06:51	07:40	07:34	08:25
	16:39	17:28	18:19	20:13	21:04	21:50		22:02	10 21:28 (2)	21:29	20:26	19:17	17:11	16:32
3	08:47	08:18	07:23	07:12	06:08	05:25		05:25	21:19 (2)	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06	21:51		22:02	8 21:27 (2)	21:27	20:24	19:14	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06	05:24		05:25	21:20 (2)	06:04	06:55	07:44	07:38	08:28
	16:41	17:31	18:23	20:17	21:08	21:52		22:02	6 21:26 (2)	21:26	20:22	19:12	17:07	16:30
5	08:47	08:14	07:18	07:07	06:04	05:23		05:26		06:06	06:56	07:45	07:40	08:29
	16:43	17:33	18:25	20:19	21:09	21:53		22:01		21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02	05:23		05:27		06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11	21:54		22:01		21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:00	05:22		05:28		06:09	06:59	07:49	07:43	08:32
	16:45	17:37	18:28	20:22	21:13	21:55		22:00		21:20	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59	05:21	21:16 (2)	05:29		06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:14	21:56	3 21:19 (2)	21:59		21:19	20:13	19:03	17:00	16:29
9	08:45	08:07	07:10	06:58	05:57	05:21	21:15 (2)	05:30		06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:25	21:16	21:57	7 21:22 (2)	21:59		21:17	20:10	19:01	16:59	16:28
10	08:45	08:06	07:07	06:56	05:55	05:20	21:13 (2)	05:31		06:14	07:04	07:54	07:49	08:35
	16:49	17:43	18:34	20:27	21:18	21:57	9 21:22 (2)	21:58		21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54	05:20	21:13 (2)	05:32		06:16	07:06	07:56	07:51	08:36
	16:51	17:45	18:35	20:29	21:19	21:58	11 21:24 (2)	21:57		21:13	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52	05:20	21:13 (2)	05:33		06:17	07:08	07:57	07:52	08:37
	16:52	17:46	18:37	20:31	21:21	21:59	12 21:25 (2)	21:56		21:11	20:03	18:54	16:54	16:28
13	08:43	08:00	07:00	06:49	05:50	05:19	21:12 (2)	05:34		06:19	07:09	07:59	07:54	08:38
	16:53	17:48	18:39	20:32	21:22	21:59	13 21:25 (2)	21:55		21:09	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49	05:19	21:12 (2)	05:35		06:20	07:11	08:01	07:56	08:39
	16:55	17:50	18:41	20:34	21:24	22:00	13 21:25 (2)	21:55		21:07	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47	05:19	21:12 (2)	05:36		06:22	07:12	08:03	07:58	08:40
	16:57	17:52	18:42	20:36	21:26	22:01	14 21:26 (2)	21:54		21:05	19:56	18:47	16:50	16:28
16	08:40	07:54	06:54	06:43	05:46	05:19	21:12 (2)	05:38		06:24	07:14	08:04	07:59	08:41
	16:58	17:54	18:44	20:37	21:27	22:01	14 21:26 (2)	21:53		21:03	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44	05:19	21:12 (2)	05:39		06:25	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29	22:02	15 21:27 (2)	21:51		21:01	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:38	05:43	05:19	21:12 (2)	05:40		06:27	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30	22:02	15 21:27 (2)	21:50		20:59	19:49	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41	05:19	21:12 (2)	05:41		06:28	07:19	08:09	08:05	08:43
	17:03	17:59	18:49	20:42	21:32	22:02	15 21:27 (2)	21:49		20:57	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40	05:19	21:12 (2)	05:43		06:30	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33	22:03	16 21:28 (2)	21:48		20:55	19:45	18:37	16:43	16:29
21	08:35	07:44	06:42	06:32	05:38	05:19	21:13 (2)	05:44		06:32	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:34	22:03	16 21:29 (2)	21:47		20:53	19:42	18:35	16:42	16:30
22	08:34	07:42	06:40	06:30	05:37	05:19	21:13 (2)	05:45		06:33	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36	22:03	16 21:29 (2)	21:46		20:51	19:40	18:33	16:41	16:30
23	08:33	07:40	06:37	06:28	05:36	05:20	21:13 (2)	05:47		06:35	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	21:37	22:03	15 21:28 (2)	21:44		20:48	19:38	18:30	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35	05:20	21:14 (2)	05:48		06:37	07:27	08:18	08:13	08:46
	17:11	18:09	18:58	20:51	21:39	22:03	15 21:29 (2)	21:43		20:46	19:35	18:28	16:38	16:31
25	08:31	07:36	06:33	06:24	05:33	05:20	21:14 (2)	05:49		06:38	07:29	07:20	08:15	08:47
	17:13	18:10	19:00	20:53	21:40	22:04	15 21:29 (2)	21:41		20:44	19:33	17:26	16:37	16:32
26	08:29	07:34	06:30	06:22	05:32	05:21	21:14 (2)	05:51		06:40	07:30	07:22	08:16	08:47
	17:15	18:12	19:01	20:54	21:41	22:04	15 21:29 (2)	21:40		20:42	19:31	17:24	16:36	16:32
27	08:28	07:32	06:28	06:20	05:31	05:21	21:15 (2)	05:52		06:42	07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21:43	22:03	14 21:29 (2)	21:39		20:40	19:28	17:22	16:36	16:33
28	08:27	07:29	06:26	06:18	05:30	05:21	21:15 (2)	05:54		06:43	07:34	07:25	08:19	08:47
	17:19	18:16	19:05	20:58	21:44	22:03	14 21:29 (2)	21:37		20:38	19:26	17:20	16:35	16:34
29	08:25		07:23	06:16	05:29	05:22	21:16 (2)	05:55		06:45	07:35	07:27	08:21	08:48
	17:20		20:07	20:59	21:45	22:03	13 21:29 (2)	21:36		20:35	19:24	17:18	16:34	16:35
30	08:24		07:21	06:14	05:28	05:23	21:16 (2)	05:57		06:46	07:37	07:29	08:22	08:48
	17:22		20:08	21:01	21:46	22:03	12 21:28 (2)	21:34		20:33	19:21	17:17	16:33	16:36
31	08:22		07:19		05:27			05:58		06:48		07:31		08:48
	17:24		20:10		21:48			21:32		20:31		17:15		16:37
Potential sun hours	259	277	367	416	485	499		502		454	381	331	266	243
Total, worst case						302		35						
Sun reduction						0,39		0,41						
Oper. time red.						0,95		0,95						
Wind dir. red.						0,59		0,59						
Total reduction						0,22		0,23						
Total, real						66		8						

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

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David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:32/3.2.737

SHADOW - Calendar

Calculation: Copy of V136@149Shadow receptor: AT - 3998NM1

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	05:26	05:23	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03	21:49	22:03	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	05:25	05:24	06:01	06:51	07:40	07:34	08:25
	16:39	17:28	18:19	20:13	21:04	21:50	22:02	21:29	20:26	19:17	17:11	16:32
3	08:47	08:18	07:23	07:12	06:08	05:25	05:25	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06	21:51	22:02	21:27	20:24	19:14	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06	05:24	05:25	06:04	06:55	07:44	07:38	08:28
	16:41	17:31	18:23	20:17	21:08	21:52	22:02	21:26	20:22	19:12	17:07	16:31
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	16:43	17:33	18:25	20:19	21:09	21:53	22:01	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02	05:23	05:27	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11	21:54	22:01	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:00	05:22	05:28	06:09	06:59	07:49	07:43	08:32
	16:45	17:37	18:28	20:22	21:13	21:55	22:00	21:20	20:15	19:05	17:02	16:29
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9	08:45	08:07	07:10	06:58	05:57	05:21	05:30	06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:25	21:16	21:57	21:59	21:17	20:10	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55	05:21	05:31	06:14	07:04	07:54	07:49	08:35
	16:49	17:43	18:34	20:27	21:18	21:57	21:58	21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54	05:20	05:32	06:16	07:06	07:56	07:51	08:36
	16:51	17:45	18:35	20:29	21:19	21:58	21:57	21:13	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52	05:20	05:33	06:17	07:08	07:57	07:52	08:37
	16:52	17:46	18:37	20:31	21:21	21:59	21:56	21:11	20:03	18:54	16:54	16:28
13	08:43	08:00	07:00	06:49	05:50	05:19	05:34	06:19	07:09	07:59	07:54	08:38
	16:53	17:48	18:39	20:32	21:22	21:59	21:55	21:09	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49	05:19	05:35	06:20	07:11	08:01	07:56	08:39
	16:55	17:50	18:41	20:34	21:24	22:00	21:55	21:07	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47	05:19	05:36	06:22	07:12	08:03	07:58	08:40
	16:57	17:52	18:42	20:36	21:26	22:01	21:54	21:05	19:56	18:47	16:50	16:28
16	08:40	07:54	06:54	06:43	05:46	05:19	05:38	06:24	07:14	08:04	07:59	08:41
	16:58	17:54	18:44	20:37	21:27	22:01	21:53	21:03	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44	05:19	05:39	06:25	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29	22:02	21:51	21:01	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:38	05:43	05:19	05:40	06:27	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30	22:02	21:50	20:59	19:49	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41	05:19	05:41	06:28	07:19	08:09	08:05	08:43
	17:03	17:59	18:49	20:42	21:32	22:02	21:49	20:57	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40	05:19	05:43	06:30	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33	22:03	21:48	20:55	19:45	18:37	16:43	16:29
21	08:35	07:44	06:42	06:32	05:38	05:19	05:44	06:32	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:34	22:03	21:47	20:53	19:42	18:35	16:42	16:30
22	08:34	07:42	06:40	06:30	05:37	05:19	05:45	06:33	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36	22:03	21:46	20:51	19:40	18:33	16:41	16:30
23	08:33	07:40	06:37	06:28	05:36	05:20	05:47	06:35	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	21:37	22:03	21:44	20:48	19:38	18:30	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35	05:20	05:48	06:37	07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	21:39	22:03	21:43	20:46	19:35	18:28	16:38	16:31
25	08:31	07:36	06:33	06:24	05:33	05:20	05:49	06:38	07:29	07:20	08:15	08:47
	17:13	18:10	19:00	20:53	21:40	22:03	21:41	20:44	19:33	17:26	16:37	16:32
26	08:29	07:34	06:30	06:22	05:32	05:21	05:51	06:40	07:30	07:22	08:16	08:47
	17:15	18:12	19:01	20:54	21:41	22:03	21:40	20:42	19:31	17:24	16:36	16:32
27	08:28	07:32	06:28	06:20	05:31	05:21	05:52	06:42	07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21:43	22:03	21:39	20:40	19:28	17:22	16:36	16:33
28	08:27	07:29	06:26	06:18	05:30	05:21	05:54	06:43	07:34	07:25	08:19	08:47
	17:19	18:16	19:05	20:58	21:44	22:03	21:37	20:38	19:26	17:20	16:35	16:34
29	08:25		07:23	06:16	05:29	05:22	05:55	06:45	07:35	07:27	08:21	08:48
	17:20		20:07	20:59	21:45	22:03	21:36	20:35	19:24	17:18	16:34	16:35
30	08:24		07:21	06:14	05:28	05:23	05:57	06:46	07:37	07:29	08:22	08:48
	17:22		20:08	21:01	21:46	22:03	21:34	20:33	19:21	17:17	16:33	16:36
31	08:22		07:19		05:27		05:58	06:48		07:31		08:48
	17:24		20:10		21:48		21:32	20:31		17:15		16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

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+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
18-12-2018 16:32/3.2.737

SHADOW - Calendar

Calculation: Copy of V136@149Shadow receptor: AU - 3961MN33

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:16	19:14 (3)	06:12	05:26	05:23	06:00	06:50	07:39	18:07 (4)	07:33	08:24
	16:38	17:26	18:18	20:12	13 19:27 (3)	21:03	21:49	22:03	21:31	20:29	19:19	29 18:36 (4)	17:13	16:32
2	08:48	08:19	07:25	07:14	19:17 (3)	06:10	05:25	05:24	06:01	06:51	07:40	18:07 (4)	07:34	08:25
	16:39	17:28	18:19	20:13	8 19:25 (3)	21:04	21:50	22:02	21:29	20:26	19:17	29 18:36 (4)	17:11	16:32
3	08:47	08:18	07:23	17:39 (4)	07:12	06:08	05:25	05:25	06:03	06:53	07:42	18:06 (4)	07:36	08:27
	16:40	17:30	18:21	10 17:49 (4)	20:15	21:06	21:51	22:02	21:27	20:24	19:14	29 18:35 (4)	17:09	16:31
4	08:47	08:16	07:21	17:36 (4)	07:10	06:06	05:24	05:25	06:04	06:54	07:44	18:06 (4)	07:38	08:28
	16:41	17:31	18:23	16 17:52 (4)	20:17	21:08	21:52	22:02	21:26	20:22	19:12	29 18:35 (4)	17:07	16:30
5	08:47	08:14	07:18	17:34 (4)	07:07	06:04	05:23	05:26	06:06	06:56	07:45	18:07 (4)	07:40	08:29
	16:42	17:33	18:25	20 17:54 (4)	20:19	21:09	21:53	22:01	21:24	20:19	19:10	27 18:34 (4)	17:05	16:30
6	08:47	08:13	07:16	17:32 (4)	07:05	06:02	05:22	05:27	06:08	06:58	07:47	18:06 (4)	07:42	08:31
	16:44	17:35	18:27	23 17:55 (4)	20:20	21:11	21:54	22:01	21:22	20:17	19:08	26 18:32 (4)	17:04	16:29
7	08:46	08:11	07:14	17:31 (4)	07:03	06:00	05:22	05:28	06:09	06:59	07:49	18:07 (4)	07:43	08:32
	16:45	17:37	18:28	25 17:56 (4)	20:22	21:13	21:55	22:00	21:20	20:15	19:05	24 18:31 (4)	17:02	16:29
8	08:46	08:09	07:12	17:30 (4)	07:00	05:59	05:21	05:29	06:11	07:01	07:50	18:08 (4)	07:45	08:33
	16:46	17:39	18:30	27 17:57 (4)	20:24	21:14	21:56	21:59	21:19	20:13	19:03	22 18:30 (4)	17:00	16:29
9	08:45	08:07	07:09	17:30 (4)	06:58	05:57	05:21	05:30	06:12	07:03	07:52	18:10 (4)	07:47	08:34
	16:48	17:41	18:32	27 17:57 (4)	20:25	21:16	21:57	21:59	21:17	20:10	19:01	18 18:28 (4)	16:59	16:28
10	08:45	08:06	07:07	17:28 (4)	06:56	05:55	05:20	05:31	06:14	07:04	19:10 (3)	07:54	18:11 (4)	07:49	08:35
	16:49	17:43	18:34	29 17:57 (4)	20:27	21:18	21:57	21:58	21:15	20:08	8 19:18 (3)	18:58	14 18:25 (4)	16:57	16:28
11	08:44	08:04	07:05	17:28 (4)	06:54	05:53	05:20	05:32	06:15	07:06	19:07 (3)	07:56	18:15 (4)	07:51	08:36
	16:50	17:44	18:35	29 17:57 (4)	20:29	21:19	21:58	21:57	21:13	20:06	12 19:19 (3)	18:56	6 18:21 (4)	16:56	16:28
12	08:44	08:02	07:03	17:28 (4)	06:51	05:52	05:20	05:33	06:17	07:08	19:05 (3)	07:57		07:52	08:37
	16:52	17:46	18:37	29 17:57 (4)	20:31	21:21	21:59	21:56	21:11	20:03	16 19:21 (3)	18:54		16:54	16:28
13	08:43	08:00	07:00	17:27 (4)	06:49	05:50	05:19	05:34	06:19	07:09	19:04 (3)	07:59		07:54	08:38
	16:53	17:48	18:39	29 17:56 (4)	20:32	21:22	21:59	21:55	21:09	20:01	18 19:22 (3)	18:52		16:52	16:28
14	08:42	07:58	06:58	17:28 (4)	06:47	05:49	05:19	05:35	06:20	07:11	19:02 (3)	08:01		07:56	08:39
	16:55	17:50	18:41	28 17:56 (4)	20:34	21:24	22:00	21:55	21:07	19:59	20 19:22 (3)	18:50		16:51	16:28
15	08:41	07:56	06:56	17:29 (4)	06:45	05:47	05:19	05:36	06:22	07:12	19:01 (3)	08:02		07:58	08:40
	16:56	17:52	18:42	26 17:55 (4)	20:36	21:25	22:01	21:54	21:05	19:56	21 19:22 (3)	18:47		16:50	16:28
16	08:40	07:54	06:53	17:28 (4)	06:43	05:45	05:19	05:37	06:24	07:14	19:00 (3)	08:04		07:59	08:41
	16:58	17:54	18:44	26 17:54 (4)	20:37	21:27	22:01	21:53	21:03	19:54	21 19:21 (3)	18:45		16:48	16:28
17	08:40	07:52	06:51	17:30 (4)	06:40	05:44	05:19	05:39	06:25	07:16	19:00 (3)	08:06		08:01	08:42
	17:00	17:56	18:46	23 17:53 (4)	20:39	21:29	22:02	21:51	21:01	19:52	21 19:21 (3)	18:43		16:47	16:28
18	08:39	07:50	06:49	17:31 (4)	06:38	05:42	05:19	05:40	06:27	07:17	19:00 (3)	08:08		08:03	08:43
	17:01	17:57	18:48	21 17:52 (4)	20:41	21:30	22:02	21:50	20:59	19:49	21 19:21 (3)	18:41		16:45	16:28
19	08:38	07:48	06:47	17:32 (4)	06:36	05:41	05:19	05:41	06:28	07:19	19:00 (3)	08:09		08:05	08:43
	17:03	17:59	18:49	17 17:49 (4)	20:42	21:32	22:02	21:49	20:57	19:47	20 19:20 (3)	18:39		16:44	16:29
20	08:37	07:46	06:44	17:35 (4)	06:34	05:40	05:19	05:43	06:30	07:21	19:01 (3)	08:11		08:06	08:44
	17:05	18:01	18:51	11 17:46 (4)	20:44	21:33	22:03	21:48	20:55	19:45	17 19:18 (3)	18:37		16:43	16:29
21	08:35	07:44	06:42	18:19 (3)	06:32	05:38	05:19	05:44	06:32	07:22	19:01 (3)	08:13		08:08	08:45
	17:06	18:03	18:53	9 18:28 (3)	20:46	21:34	22:03	21:47	20:53	19:42	14 19:15 (3)	18:35		16:42	16:29
22	08:34	07:42	06:40	18:16 (3)	06:30	05:37	05:19	05:45	06:33	07:24	19:03 (3)	08:15		08:10	08:45
	17:08	18:05	18:55	13 18:29 (3)	20:48	21:36	22:03	21:46	20:51	19:40	10 19:13 (3)	18:32		16:41	16:30
23	08:33	07:40	06:37	18:15 (3)	06:28	05:36	05:19	05:47	06:35	07:25	18:21 (4)	08:16		08:11	08:46
	17:10	18:07	18:56	16 18:31 (3)	20:49	21:37	22:03	21:44	20:48	19:38	14 19:11 (3)	18:30		16:39	16:30
24	08:32	07:38	06:35	18:14 (3)	06:26	05:34	05:20	05:48	06:37	07:27	18:17 (4)	08:18		08:13	08:46
	17:11	18:09	18:58	19 18:33 (3)	20:51	21:39	22:03	21:43	20:46	19:35	15 18:32 (4)	18:28		16:38	16:31
25	08:31	07:36	06:33	18:12 (3)	06:24	05:33	05:20	05:49	06:38	07:29	18:15 (4)	07:20		08:15	08:47
	17:13	18:10	19:00	21 18:33 (3)	20:53	21:40	22:03	21:41	20:44	19:33	19 18:34 (4)	17:26		16:37	16:32
26	08:29	07:34	06:30	18:12 (3)	06:21	05:32	05:20	05:51	06:40	07:30	18:13 (4)	07:22		08:16	08:47
	17:15	18:12	19:01	21 18:33 (3)	20:54	21:41	22:03	21:40	20:42	19:31	22 18:35 (4)	17:24		16:36	16:32
27	08:28	07:32	06:28	18:12 (3)	06:19	05:31	05:21	05:52	06:41	07:32	18:11 (4)	07:24		08:18	08:47
	17:17	18:14	19:03	21 18:33 (3)	20:56	21:43	22:03	21:39	20:40	19:28	24 18:35 (4)	17:22		16:35	16:33
28	08:27	07:29	06:26	18:11 (3)	06:17	05:30	05:21	05:54	06:43	07:34	18:10 (4)	07:25		08:19	08:47
	17:19	18:16	19:05	21 18:32 (3)	20:58	21:44	22:03	21:37	20:38	19:26	26 18:36 (4)	17:20		16:35	16:34
29	08:25		07:23	19:12 (3)	06:15	05:29	05:22	05:55	06:45	07:35	18:08 (4)	07:27		08:21	08:48
	17:20		20:07	20 19:32 (3)	20:59	21:45	22:03	21:36	20:35	19:24	28 18:36 (4)	17:18		16:34	16:35
30	08:24		07:21	19:12 (3)	06:13	05:28	05:23	05:57	06:46	07:37	18:07 (4)	07:29		08:22	08:48
	17:22		20:08	19 19:31 (3)	21:01	21:46	22:03	21:34	20:33	19:21	29 18:36 (4)	17:16		16:33	16:36
31	08:22		07:19	19:13 (3)		05:27		05:58	06:48			07:31			08:48
	17:24		20:10	16 19:29 (3)		21:48		21:32	20:31			17:15			16:37
Potential sun hours	259	277	367	416		485	499	502	454	381		331		266	243
Total, worst case			612	21						396		253			
Sun reduction			0,33	0,42						0,36		0,34			
Oper. time red.			0,95	0,95						0,95		0,95			
Wind dir. red.			0,63	0,62						0,63		0,64			
Total reduction			0,20	0,25						0,22		0,20			
Total, real			121	5						86		51			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
20-12-2018 09:08/3.2.737

SHADOW - Calendar

Calculation: Copy of V150@166Shadow receptor: A - 3998JD94

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 16:38	08:21 17:26	07:27 18:18	07:17 20:12	06:12 21:03 22	06:42 (2) 07:04 (2)	05:26 21:49 18	05:59 (1) 06:17 (1)	05:23 22:03 25	06:01 (1) 06:26 (1)	06:00 21:31	06:50 20:29	07:39 19:19	07:33 17:13	08:24 16:32
2	08:48 16:39	08:19 17:28	07:25 18:20	07:14 20:14	06:10 21:05 21	06:42 (2) 07:03 (2)	05:26 21:50 20	05:58 (1) 06:18 (1)	05:24 22:03 25	06:02 (1) 06:27 (1)	06:01 21:29	06:51 20:27	07:41 19:17	07:35 17:11	08:25 16:32
3	08:48 16:40	08:18 17:30	07:23 18:21	07:12 20:15	06:08 21:06 20	06:43 (2) 07:03 (2)	05:25 21:51 21	05:58 (1) 06:19 (1)	05:25 22:02 25	06:02 (1) 06:27 (1)	06:03 21:28	06:53 20:24	07:42 19:15	07:36 17:09	08:27 16:31
4	08:47 16:41	08:16 17:32	07:21 18:23	07:10 20:17	06:06 21:08 19	06:43 (2) 07:02 (2)	05:24 21:52 22	05:57 (1) 06:19 (1)	05:26 22:02 24	06:02 (1) 06:26 (1)	06:05 21:26 6	06:59 (2) 07:05 (2)	06:55 20:22	07:44 19:12	08:28 17:07	08:31 16:31
5	08:47 16:43	08:14 17:33	07:19 18:25	07:08 20:19	06:04 21:10 17	06:44 (2) 07:01 (2)	05:23 21:53 22	05:58 (1) 06:20 (1)	05:26 22:01 24	06:03 (1) 06:27 (1)	06:06 21:24 11	06:57 (2) 07:08 (2)	06:56 20:20	07:46 19:10	07:40 17:06	08:29 16:30
6	08:47 16:44	08:13 17:35	07:16 18:27	07:05 20:20	06:02 21:11 16	06:44 (2) 07:00 (2)	05:23 21:54 23	05:57 (1) 06:20 (1)	05:27 22:01 24	06:03 (1) 06:27 (1)	06:08 21:22 14	06:55 (2) 07:09 (2)	06:58 20:17	07:47 19:08	07:42 17:04	08:31 16:30
7	08:46 16:45	08:11 17:37	07:14 18:29	07:03 20:22	06:01 21:13 13	06:46 (2) 06:59 (2)	05:22 21:55 24	05:57 (1) 06:21 (1)	05:28 22:00 23	06:04 (1) 06:27 (1)	06:09 21:21 17	06:54 (2) 07:11 (2)	07:00 20:15	07:49 19:05	07:44 17:02	08:32 16:29
8	08:46 16:46	08:09 17:39	07:12 18:30	07:01 20:24	05:59 21:15 10	06:47 (2) 06:57 (2)	05:22 21:56 24	05:57 (1) 06:21 (1)	05:29 22:00 22	06:05 (1) 06:27 (1)	06:11 21:19 18	06:53 (2) 07:11 (2)	07:01 20:13	07:51 19:03	07:45 17:01	08:33 16:29
9	08:46 16:48	08:08 17:41	07:10 18:32	06:58 20:26	05:57 21:16 4	06:50 (2) 06:54 (2)	05:21 21:57 25	05:57 (1) 06:22 (1)	05:30 21:59 21	06:05 (1) 06:26 (1)	06:12 21:17 19	06:53 (2) 07:12 (2)	07:03 20:11	07:52 19:01	07:47 16:59	08:34 16:29
10	08:45 16:49	08:06 17:43	07:07 18:34	06:56 20:27	05:55 21:18	21:58 26	05:56 (1) 06:22 (1)	05:31 21:58 20	06:05 (1) 06:25 (1)	06:14 21:15 20	06:52 (2) 07:12 (2)	07:04 20:08	07:54 18:59	07:49 16:57	08:36 16:28
11	08:44 16:51	08:04 17:45	07:05 18:36	06:54 20:29	05:54 21:19	05:20 21:58 25	05:57 (1) 06:22 (1)	05:32 21:57 19	06:06 (1) 06:25 (1)	06:16 21:13 21	06:52 (2) 07:13 (2)	07:06 20:06	07:56 18:56	07:51 16:56	08:37 16:28
12	08:44 16:52	08:02 17:47	07:03 18:37	06:52 20:31	05:52 21:21	05:20 21:59 26	05:57 (1) 06:23 (1)	05:33 21:57 17	06:07 (1) 06:24 (1)	06:17 21:11 21	06:51 (2) 07:12 (2)	07:08 20:04	07:58 18:54	07:53 16:54	08:38 16:28
13	08:43 16:54	08:00 17:48	07:01 18:39	06:49 20:32	05:50 21:23	05:20 22:00 26	05:57 (1) 06:23 (1)	05:34 21:56 16	06:09 (1) 06:25 (1)	06:19 21:09 21	06:51 (2) 07:12 (2)	07:09 20:01	07:59 18:52	07:54 16:53	08:39 16:28
14	08:42 16:55	07:58 17:50	06:58 18:41	06:47 20:34	05:49 21:24	05:19 22:00 26	05:58 (1) 06:24 (1)	05:35 21:55 14	06:10 (1) 06:24 (1)	06:21 21:07 21	06:51 (2) 07:12 (2)	07:11 19:59	08:01 18:50	07:56 16:51	08:40 16:28
15	08:41 16:57	07:56 17:52	06:56 18:43	06:45 20:36	05:47 21:26	05:19 22:01 26	05:57 (1) 06:23 (1)	05:36 21:54 12	06:11 (1) 06:23 (1)	06:22 21:05 21	06:51 (2) 07:12 (2)	07:13 19:57	08:03 18:48	07:58 16:50	08:41 16:28
16	08:41 16:58	07:54 17:54	06:54 18:44	06:43 20:38	05:46 21:27	05:19 22:01 26	05:57 (1) 06:23 (1)	05:38 21:53 9	06:12 (1) 06:21 (1)	06:24 21:03 19	06:51 (2) 07:10 (2)	07:14 19:54	08:04 18:45	08:00 16:48	08:41 16:28
17	08:40 17:00	07:52 17:56	06:51 18:46	06:41 20:39	05:44 21:29	05:19 22:02 27	05:57 (1) 06:24 (1)	05:39 21:52 3	06:15 (1) 06:18 (1)	06:25 21:01 17	06:53 (2) 07:10 (2)	07:16 19:52	08:06 18:43	08:01 16:47	08:42 16:28
18	08:39 17:01	07:50 17:58	06:49 18:48	06:39 20:41	05:43 21:30	05:19 22:02 27	05:57 (1) 06:24 (1)	05:40 21:51		06:27 20:59 14	06:54 (2) 07:08 (2)	07:17 19:50	08:08 18:41	08:03 16:46	08:43 16:29
19	08:38 17:03	07:48 18:00	06:47 18:50	06:36 20:43	05:41 21:32	05:19 22:03 27	05:58 (1) 06:25 (1)	05:41 21:49		06:29 20:57 11	06:56 (2) 07:07 (2)	07:19 19:47	08:10 18:39	08:05 16:44	08:44 16:29
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27	08:28 17:17	07:32 18:14	06:28 19:03	06:20 20:56 20	06:44 (2) 05:31 07:04 (2) 21:43 7	06:04 (1) 06:11 (1)	05:21 22:04 26	06:00 (1) 06:26 (1)	05:52 21:39	06:42 20:40		07:32 19:28	07:24 17:23	08:18 16:36	08:47 16:33
28	08:27 17:19	07:30 18:16	06:26 19:05	06:18 20:58 20	06:44 (2) 05:30 07:04 (2) 21:44 11	06:02 (1) 06:13 (1)	05:22 22:04 26	06:00 (1) 06:26 (1)	05:54 21:37	06:43 20:38		07:34 19:26	07:26 17:21	08:19 16:35	08:48 16:34
29	08:25 17:21		07:24 20:07	06:16 21:00 21	06:43 (2) 05:29 07:04 (2) 21:45 13	06:01 (1) 06:14 (1)	05:22 22:03 26	06:00 (1) 06:26 (1)	05:55 21:36	06:45 20:35		07:36 19:24	07:27 17:19	08:21 16:34	08:48 16:35
30	08:24 17:22		07:21 20:08	06:14 21:01 21	06:43 (2) 05:28 07:04 (2) 21:47 15	06:01 (1) 06:16 (1)	05:23 22:03 26	06:01 (1) 06:27 (1)	05:57 21:34	06:47 20:33		07:37 19:22	07:29 17:17	08:22 16:33	08:48 16:36
31	08:22 17:24		07:19 20:10		05:27 21:48 17	06:00 (1) 06:17 (1)			05:58 21:33	06:48 20:31			07:31 17:15		08:48 16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case				134	205	750	323	278				
Sun reduction				0,42	0,43	0,39	0,41	0,42				
Oper. time red.				0,95	0,95	0,95	0,95	0,95				
Wind dir. red.				0,64	0,65	0,67	0,67	0,64				
Total reduction				0,26	0,26	0,25	0,26	0,25				
Total, real				34	54	187	84	71				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
20-12-2018 09:08/3.2.737

SHADOW - Calendar

Calculation: Copy of V150@166Shadow receptor: B - 3998JD87

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	06:53 (2)	05:26	06:06 (1)	05:23	06:13 (1)	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03	13 07:06 (2)	21:49	27 06:33 (1)	22:03	25 06:38 (1)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	06:55 (2)	05:26	06:06 (1)	05:24	06:13 (1)	06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05	9 07:04 (2)	21:50	27 06:33 (1)	22:03	25 06:38 (1)	21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08	06:59 (2)	05:25	06:07 (1)	05:25	06:14 (1)	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06	3 07:02 (2)	21:51	26 06:33 (1)	22:02	25 06:39 (1)	21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06		05:24	06:07 (1)	05:26	06:13 (1)	06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08		21:52	26 06:33 (1)	22:02	26 06:39 (1)	21:26	20:22	19:12	17:07	16:31
5	08:47	08:15	07:19	07:08	06:04		05:23	06:08 (1)	05:26	06:13 (1)	06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10		21:53	26 06:34 (1)	22:01	26 06:39 (1)	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02		05:23	06:07 (1)	05:27	06:14 (1)	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11		21:54	26 06:33 (1)	22:01	26 06:40 (1)	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01		05:22	06:08 (1)	05:28	06:14 (1)	06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13		21:55	26 06:34 (1)	22:00	26 06:40 (1)	21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59		05:22	06:08 (1)	05:29	06:14 (1)	06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15		21:56	25 06:33 (1)	22:00	26 06:40 (1)	21:19	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57		05:21	06:08 (1)	05:30	06:14 (1)	06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16		21:57	26 06:34 (1)	21:59	27 06:41 (1)	21:17	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55		05:21	06:08 (1)	05:31	06:14 (1)	06:14	07:06 (2)	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18		21:58	25 06:33 (1)	21:58	26 06:40 (1)	21:15	6 07:12 (2)	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54		05:20	06:09 (1)	05:32	06:14 (1)	06:16	07:04 (2)	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19		21:58	25 06:34 (1)	21:57	26 06:40 (1)	21:13	11 07:15 (2)	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52		05:20	06:09 (1)	05:33	06:14 (1)	06:17	07:01 (2)	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21		21:59	25 06:34 (1)	21:57	26 06:40 (1)	21:11	14 07:15 (2)	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50		05:20	06:10 (1)	05:34	06:15 (1)	06:19	07:01 (2)	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23		22:00	24 06:34 (1)	21:56	26 06:41 (1)	21:09	16 07:17 (2)	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49		05:19	06:10 (1)	05:35	06:15 (1)	06:21	06:59 (2)	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24		22:00	25 06:35 (1)	21:55	26 06:41 (1)	21:07	18 07:17 (2)	19:59	18:50	16:51	16:28
15	08:42	07:56	06:56	06:45	05:47		05:19	06:10 (1)	05:36	06:15 (1)	06:22	06:59 (2)	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26		22:01	24 06:34 (1)	21:54	26 06:41 (1)	21:05	19 07:18 (2)	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46	06:17 (1)	05:19	06:10 (1)	05:38	06:16 (1)	06:24	06:58 (2)	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27	3 06:20 (1)	22:01	24 06:34 (1)	21:53	25 06:41 (1)	21:03	20 07:18 (2)	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44	06:14 (1)	05:19	06:10 (1)	05:39	06:16 (1)	06:25	06:58 (2)	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29	10 06:24 (1)	22:02	24 06:34 (1)	21:52	25 06:41 (1)	21:01	20 07:18 (2)	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	07:02 (2) 05:43	06:11 (1)	05:19	06:10 (1)	05:40	06:16 (1)	06:27	06:57 (2)	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	3 07:05 (2) 21:30	14 06:25 (1)	22:02	24 06:34 (1)	21:51	24 06:40 (1)	20:59	21 07:18 (2)	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	07:00 (2) 05:41	06:10 (1)	05:19	06:12 (1)	05:41	06:16 (1)	06:29	06:58 (2)	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	8 07:08 (2) 21:32	17 06:27 (1)	22:03	23 06:35 (1)	21:49	24 06:40 (1)	20:57	20 07:18 (2)	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	06:58 (2) 05:40	06:10 (1)	05:19	06:12 (1)	05:43	06:17 (1)	06:30	06:57 (2)	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	12 07:10 (2) 21:33	18 06:28 (1)	22:03	23 06:35 (1)	21:48	23 06:40 (1)	20:55	20 07:17 (2)	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	06:56 (2) 05:39	06:09 (1)	05:19	06:12 (1)	05:44	06:18 (1)	06:32	06:59 (2)	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	15 07:11 (2) 21:35	20 06:29 (1)	22:03	23 06:35 (1)	21:47	22 06:40 (1)	20:53	17 07:16 (2)	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	06:54 (2) 05:37	06:07 (1)	05:19	06:12 (1)	05:45	06:18 (1)	06:34	07:00 (2)	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	18 07:12 (2) 21:36	22 06:29 (1)	22:03	23 06:35 (1)	21:46	21 06:39 (1)	20:51	14 07:14 (2)	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	06:53 (2) 05:36	06:07 (1)	05:20	06:12 (1)	05:47	06:19 (1)	06:35	07:02 (2)	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	19 07:12 (2) 21:37	23 06:30 (1)	22:04	23 06:35 (1)	21:44	19 06:38 (1)	20:49	12 07:14 (2)	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	06:52 (2) 05:35	06:07 (1)	05:20	06:12 (1)	05:48	06:21 (1)	06:37	07:04 (2)	07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	20 07:12 (2) 21:39	23 06:30 (1)	22:04	24 06:36 (1)	21:43	17 06:38 (1)	20:46	8 07:12 (2)	19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	06:52 (2) 05:34	06:06 (1)	05:20	06:12 (1)	05:50	06:21 (1)	06:38		07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	20 07:12 (2) 21:40	25 06:31 (1)	22:04	24 06:36 (1)	21:42	16 06:37 (1)	20:44		19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	06:51 (2) 05:32	06:06 (1)	05:21	06:12 (1)	05:51	06:23 (1)	06:40		07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	21 07:12 (2) 21:42	25 06:31 (1)	22:04	24 06:36 (1)	21:40	12 06:35 (1)	20:42		19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	06:51 (2) 05:31	06:06 (1)	05:21	06:13 (1)	05:52	06:25 (1)	06:42		07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	20 07:11 (2) 21:43	25 06:31 (1)	22:04	24 06:37 (1)	21:39	8 06:33 (1)	20:40		19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	06:52 (2) 05:30	06:06 (1)	05:22	06:12 (1)	05:54		06:43		07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	18 07:10 (2) 21:44	26 06:32 (1)	22:04	25 06:37 (1)	21:37		20:38		19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	06:52 (2) 05:29	06:06 (1)	05:22	06:13 (1)	05:55		06:45		07:36	07:27	08:21	08:48
	17:21		20:07	21:00	17 07:09 (2) 21:45	26 06:32 (1)	22:03	24 06:37 (1)	21:36		20:36		19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	06:52 (2) 05:28	06:07 (1)	05:23	06:13 (1)	05:57		06:47		07:37	07:29	08:22	08:48
	17:22		20:09	21:01	16 07:08 (2) 21:47	26 06:33 (1)	22:03	25 06:38 (1)	21:34		20:33		19:22	17:17	16:33	16:36
31	08:22		07:19		05:27	06:06 (1)			05:58		06:48			07:31		08:48
	17:24		20:10		21:48	27 06:33 (1)			21:33		20:31			17:15		16:37
Potential sun hours	259	277	367	416	485		499		502		454		381	331	266	243
Total, worst case				207	355		740		624		236					
Sun reduction				0,42	0,43		0,39		0,41		0,42					
Oper. time red.				0,95	0,95		0,95		0,95		0,95					
Wind dir. red.				0,64	0,67		0,67		0,67		0,64					
Total reduction				0,25	0,27		0,25		0,26		0,25					
Total, real				52	96		183		161		59					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
20-12-2018 09:08/3.2.737

SHADOW - Calendar

Calculation: Copy of V150@166Shadow receptor: C - 3997MR25

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December	
1	08:48		08:21		08:51 (4)		07:27	12:37 (1)	07:17	06:12	05:26	05:23	06:00	06:50		07:39		13:19 (1)		07:33		08:24 (4)		08:24		09:39 (2)
	16:38		17:26	181	14:12 (1)		18:18	111	14:28 (1)	20:12	21:03	21:49	22:03	21:31	20:29		19:19	101	15:00 (1)	192	17:13	192	13:51 (1)	192	16:32	25	10:04 (2)
2	08:48		08:19		08:50 (4)		07:25		12:37 (1)	07:14	06:10	05:25	05:24	06:01	06:51		07:41		13:18 (1)		07:35		08:23 (4)		08:25		09:41 (2)
	16:39		17:28	185	14:13 (1)		18:20	111	14:28 (1)	20:14	21:05	21:50	22:03	21:29	20:26		19:17	103	15:01 (1)	195	17:11	195	13:51 (1)	195	16:32	23	10:04 (2)
3	08:48		08:18		08:51 (4)		07:23		12:36 (1)	07:12	06:08	05:25	05:25	06:03	06:53		07:42		13:16 (1)		07:36		08:22 (4)		08:27		09:42 (2)
	16:40		17:30	187	14:15 (1)		18:21	111	14:27 (1)	20:15	21:06	21:51	22:02	21:28	20:24		19:15	105	15:01 (1)	196	17:09	196	13:50 (1)	196	16:31	20	10:02 (2)
4	08:47		08:16		08:51 (4)		07:21		12:37 (1)	07:10	06:06	05:24	05:25	06:04	06:55		07:44		13:15 (1)		07:38		08:21 (4)		08:28		09:45 (2)
	16:41		17:32	190	14:16 (1)		18:23	110	14:27 (1)	20:17	21:08	21:52	22:02	21:26	20:22		19:12	106	15:01 (1)	194	17:07	194	13:48 (1)	194	16:31	16	10:01 (2)
5	08:47		08:14		08:50 (4)		07:19		12:37 (1)	07:07	06:04	05:23	05:26	06:06	06:56		07:46		13:15 (1)		07:40		08:20 (4)		08:29		09:47 (2)
	16:43		17:33	193	14:17 (1)		18:25	109	14:26 (1)	20:19	21:10	21:53	22:01	21:24	20:20		19:10	106	15:01 (1)	194	17:06	194	13:47 (1)	194	16:30	12	09:59 (2)
6	08:47		10:04 (2)		08:51 (4)		07:16		12:37 (1)	07:05	06:02	05:23	05:27	06:08	06:58		07:47		13:14 (1)		07:42		08:20 (4)		08:31		09:50 (2)
	16:44	6	10:10 (2)		14:18 (1)		18:27	109	14:26 (1)	20:20	21:11	21:54	22:01	21:22	20:17		19:08	108	15:02 (1)	194	17:04	193	13:46 (1)	193	16:30	6	09:56 (2)
7	08:46		10:02 (2)		08:51 (4)		07:14		12:37 (1)	07:03	06:00	05:22	05:28	06:09	07:00		07:49		13:13 (1)		07:44		08:20 (4)		08:32		
	16:45	12	10:14 (2)		14:18 (1)		18:28	108	14:25 (1)	20:22	21:13	21:55	22:00	21:21	20:15		19:05	108	15:01 (1)	191	17:02	191	13:46 (1)	191	16:29		
8	08:46		10:00 (2)		08:52 (4)		07:12		12:38 (1)	07:01	05:59	05:21	05:29	06:11	07:01		07:51		13:12 (1)		07:45		08:21 (4)		08:33		
	16:46	16	10:16 (2)		14:20 (1)		18:30	107	14:25 (1)	20:24	21:15	21:56	22:00	21:19	20:13		19:03	109	15:01 (1)	188	17:00	188	13:45 (1)	188	16:29		
9	08:46		09:59 (2)		08:53 (4)		07:10		12:38 (1)	06:58	05:57	05:21	05:30	06:12	07:03		07:52		13:12 (1)		07:47		08:21 (4)		08:34		
	16:48	20	10:19 (2)		14:21 (1)		18:32	106	14:24 (1)	20:26	21:16	21:57	21:59	21:17	20:10		19:01	110	15:02 (1)	185	16:59	185	13:44 (1)	185	16:29		
10	08:45		09:58 (2)		08:54 (4)		07:07		12:38 (1)	06:56	05:55	05:21	05:31	06:14	07:04		07:54		13:12 (1)		07:49		08:21 (4)		08:35		
	16:49	22	10:20 (2)		14:22 (1)		18:34	105	14:23 (1)	20:27	21:18	21:58	21:58	21:15	20:08		18:59	110	15:02 (1)	183	16:57	183	13:43 (1)	183	16:28		
11	08:44		09:57 (2)		08:56 (4)		07:05		12:39 (1)	06:54	05:54	05:20	05:32	06:16	07:06		07:56		13:10 (1)		07:51		08:22 (4)		08:37		
	16:51	25	10:22 (2)		14:23 (1)		18:36	103	14:22 (1)	20:29	21:19	21:58	21:57	21:13	20:06		18:56	111	15:01 (1)	179	16:56	179	13:42 (1)	179	16:28		
12	08:44		09:55 (2)		08:58 (4)		07:03		12:40 (1)	06:52	05:52	05:20	05:33	06:17	07:08		07:57		13:10 (1)		07:53		08:23 (4)		08:38		
	16:52	28	10:23 (2)		14:23 (1)		18:37	102	14:22 (1)	20:31	21:21	21:59	21:56	21:11	20:03		18:54	111	15:01 (1)	175	16:54	175	13:41 (1)	175	16:28		
13	08:43		09:54 (2)		09:12 (3)		07:01		12:40 (1)	06:49	05:50	05:20	05:34	06:19	07:09		07:59		13:10 (1)		07:54		08:24 (4)		08:39		
	16:53	31	10:25 (2)		14:24 (1)		18:39	100	14:20 (1)	20:32	21:23	22:00	21:56	21:09	20:01		18:52	111	15:01 (1)	169	16:53	169	13:39 (1)	169	16:28		
14	08:42		09:53 (2)		09:14 (3)		06:58		12:41 (1)	06:47	05:49	05:19	05:35	06:20	07:11		08:01		13:10 (1)		07:56		08:26 (4)		08:40		
	16:55	33	10:26 (2)		14:25 (1)		18:41	99	14:20 (1)	20:34	21:24	22:00	21:55	21:07	19:59		18:50	111	15:01 (1)	162	16:51	162	13:38 (1)	162	16:28		
15	08:41		09:53 (2)		09:17 (3)		06:56		12:42 (1)	06:45	05:47	05:19	05:36	06:22	07:13		08:03		13:10 (1)		07:58		08:28 (4)		08:40		
	16:57	35	10:28 (2)		14:25 (1)		18:43	97	14:19 (1)	20:36	21:26	22:01	21:54	21:05	19:56		18:48	111	15:01 (1)	157	16:50	157	13:37 (1)	157	16:28		
16	08:41		09:52 (2)		09:52 (2)		06:54		12:43 (1)	06:43	05:46	05:19	05:38	06:24	07:14		08:04		13:09 (1)		08:00		08:30 (4)		08:41		
	16:58	39	13:26 (1)		17:54	151	14:26 (1)	94	14:17 (1)	20:37	21:27	22:01	21:53	21:03	19:54		18:45	111	15:00 (1)	147	16:48	147	13:36 (1)	147	16:28		
17	08:40		09:51 (2)		09:53 (2)		06:51		12:45 (1)	06:41	05:44	05:19	05:39	06:25	07:16		14:13 (1)		08:06		13:09 (1)		08:01		08:43 (3)		08:42		
	17:00	58	13:35 (1)		17:56	149	14:26 (1)	91	14:16 (1)	20:39	21:29	22:02	21:52	21:01	19:52	21	14:34 (1)		18:43	110	14:59 (1)	134	16:47	134	13:35 (1)	134	16:28		
18	08:39		09:51 (2)		09:54 (2)		06:49		12:47 (1)	06:38	05:43	05:19	05:40	06:27	07:17		14:01 (1)		08:08		10:39 (2)		08:03		08:44 (3)		08:43		
	17:01	68	13:41 (1)		17:58	148	14:27 (1)	88	14:15 (1)	20:41	21:30	22:02	21:51	20:59	19:49	41	14:42 (1)		18:41	119	14:59 (1)	127	16:46	127	13:33 (1)	127	16:29		
19	08:38		09:50 (2)		09:55 (2)		06:47		12:48 (1)	06:36	05:41	05:19	05:41	06:29	07:19		13:53 (1)		08:10		10:34 (2)		08:05		08:45 (3)		08:44		
	17:03	78	13:46 (1)		17:59	145	14:27 (1)	84	14:12 (1)	20:43	21:32	22:03	21:49	20:57	19:47	52	14:45 (1)		18:39	130	14:59 (1)	120	16:44	120	13:31 (1)	120	16:29		
20	08:37		09:50 (2)		09:57 (2)		06:44		12:50 (1)	06:34	05:40	05:19	05:43	06:30	07:21		13:48 (1)		08:11		10:31 (2)		08:06		08:47 (3)		08:44		
	17:05	84	13:49 (1)		18:01	142	14:28 (1)	81	14:11 (1)	20:44	21:33	22:03	21:48	20:55	19:45	61	14:49 (1)		18:37	135	14:59 (1)	111	16:43	111	13:29 (1)	111	16:29		
21	08:36		09:15 (3)		07:44		09:58 (2)	06:42		12:53 (1)	06:32	05:38	05:19	05:44	06:32	07:22		13:42 (1)		08:13		10:29 (2)		08:08		08:50 (3)		08:45		
	17:06	100	13:52 (1)		18:03	139	14:27 (1)	76	14:09 (1)	20:46	21:35	22:03	21:47	20:53	19:42	69	14:51 (1)		18:35	139	14:58 (1)	100	16:42	100	13:27 (1)	100	16:30		
22	08:34		09:12 (3)		07:42		10:01 (2)	06:40		12:56 (1)	06:30	05:37	05:19	05:45	06:33	07:24		13:39 (1)		08:15		10:26 (2)		08:10		09:26 (2)		08:45		
	17:08	111	13:54 (1)		18:05	133	14:27 (1)	70	14:06 (1)	20:48	21:36	22:03	21:46	20:51	19:40	74	14:53 (1)		18:33	143	14:57 (1)	84	16:41	84	13:25 (1)	84	16:30		
23	08:33		09:11 (3)		07:40		10:04 (2)	06:37		13:00 (1)	06:28	05:36	05:20	05:47	06:35	07:26		13:36 (1)		08:17		10:24 (2)		08:11		09:27 (2)		08:46		
	17:10	120	13:57 (1)		18:07	127	14:28 (1)	63	14:03 (1)	20:49	21:37	22:04	21:44	20:49	19:38	79	14:55 (1)		18:31	147	14:57 (1)	78	16:40	78	13:23 (1)	78	16:31		
24	08:32		09:10 (3)		07:38		12:38 (1)	06:35		13:05 (1)	06:26	05:35	05:20	05:48	06:37	07:27		13:32 (1)		08:18		10:23 (2)		08:13		09:28 (2)		08:46		
	17:12	127	13:59 (1)		18:09	110	14:28 (1)	55	14:00 (1)	20:51	21:39	22:04	21:43	20:46	19:35	83	14:55 (1)		18:28	148	14:56 (1)	69	16:38	69	13:19 (1)	69	16:31		
25	08:31		09:09 (3)		07:36		12:38 (1)	06:33		13:11 (1)	06:24	05:33	05:20	05:49	06:38	07:29		13:30 (1)		07:20		09:22 (2)		08:15		09:29 (2)		08:47		
	17:13	134	14:01 (1)		18:10	110	14:28 (1)	44	13:55 (1)	20:53	21:40	22:04	21:42	20:44	19:33	87	14:57 (1)		17:26	150	13:56 (1)	59	16:37	59	13:14 (1)	59	16:32		
26	08:30		08:57 (4)		07:34		12:38 (1)	06:30		13:22 (1)	06:22	05:32	05:21	05:51	06:40	07:31		13:28 (1)		07:22		09:21 (2)		08:16		09:31 (2)		08:47		
	17:15	148	14:03 (1)		18:12	110	14:28 (1)	26	13:48 (1)	20:54	21:41	22:04	21:40	20:42	19:31	90	14:58 (1)		17:24	151	13:55 (1)	41	16:36	41	13:06 (1)	41	16:33		
27	08:28		08:55 (4)		07:32		12:37 (1)	06:28			06:20	05:31	05:21	05:52	06:42	07:32		13:25 (1)		07:24		08:46 (3)		08:18		09:32 (2)		08:47		
	17:17	157	14:04 (1)		18:14	111	14:28 (1)		19:03		20:56	21:43	22:04	21:39	20:40	93	19:28	93	14:58 (1)	164	17:22	164	13:55 (1)	164	16:36	36	10:08 (2)		16:33		
28	08:27		08:54 (4)		07:30		12:37 (1)	06:26			06:18	05:30	05:21	05:54	06:43	07:34		13:24 (1)		07:26		08:43 (3)		08:19		09:33 (2)		08:48		
	17:19	162	14:06 (1)		18:16	111	14:28 (1)		19:05		20:58	21:44	22:03	21:37	20:38	95	19:26	95	14:59 (1)	169	17:20	169	13:54 (1)	169	16:35	33	10:06 (2)		16:34		
29	08:25		08:52 (4)				07:24				06:16	05:29	05:22	05:55	06:45	07:36		13:22 (1)		07:27		08:41 (3)		08:21		09:35 (2)		08:48		
	17:20	171	14:08 (1)				20:07				21:00	21:45	22:03	21:36	20:35	98	19:24	98	15:00 (1)	173	17:19	173	13:53 (1)	173	16:34	31	10:06 (2)		16:35		
30	08:24		08:51 (4)				07:21				06:14	05:28	05:23	05:57	06:46	07:37		13:20 (1)		07:29		08:27 (4)		08:22		09:37 (2)		08:48		
	17:22	175	14:09 (1)				20:08				21:01	21:47	22:03	21:34	20:33	19:21	100	15:00 (1)		17:17	186	13:53 (1)	186	16:33	28	10:05 (2)		16:36		
31	08:22		08:51 (4)				07:19					05:27		05:58	06:48					07:31		08:25 (4)						08:48		
	17:24	179	14:11 (1)				20:10					21:48		21:33	20:31					17:15	192	13:52 (1)						16:37		
Potential sun hours	259			277			367		416	485	499	502	454	381						331				266				243		
Total, worst case		2139			4466			2360							1043						3988				3951				102
Sun reduction		0,24			0,30			0,33							0,36						0,34				0,24				0,20
Oper. time red.		0,95			0,95			0,95							0,95						0,95				0,95				0,95
Wind dir. red.		0,62			0,65			0,68							0,68						0,67				0,63				0,59
Total reduction		0,14			0,18			0,21							0,23						0,21				0,14				0,11
Total, real		301			823			499							243						843				553				12

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
20-12-2018 09:08/3.2.737

SHADOW - Calendar

Calculation: Copy of V150@166Shadow receptor: D - 3945LA3

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December		
1	08:48		13:36 (4)	08:21		15:50 (3)	07:27		17:22 (2)	07:17	06:12	05:26	05:23	06:00	06:50		07:39		18:00 (2)	07:33		15:22 (3)	08:24		13:32 (4)
	16:38	32	14:08 (4)	17:26	38	16:28 (3)	18:18	23	17:45 (2)	20:12	21:03	21:49	22:03	21:31	20:29		19:19	20	18:20 (2)	17:13	36	15:58 (3)	16:32	15	13:47 (4)
2	08:48		13:37 (4)	08:19		15:50 (3)	07:25		17:21 (2)	07:14	06:10	05:25	05:24	06:01	06:51		07:40		17:59 (2)	07:34		15:21 (3)	08:25		13:31 (4)
	16:39	32	14:09 (4)	17:28	38	16:28 (3)	18:19	25	17:46 (2)	20:13	21:05	21:50	22:02	21:29	20:26		19:17	23	18:22 (2)	17:11	37	15:58 (3)	16:32	18	13:49 (4)
3	08:47		13:39 (4)	08:18		15:50 (3)	07:23		17:19 (2)	07:12	06:08	05:25	05:25	06:03	06:53		07:42		17:57 (2)	07:36		15:20 (3)	08:27		13:29 (4)
	16:40	30	14:09 (4)	17:30	39	16:29 (3)	18:21	27	17:46 (2)	20:15	21:06	21:51	22:02	21:27	20:24		19:14	25	18:22 (2)	17:09	38	15:58 (3)	16:31	21	13:50 (4)
4	08:47		13:39 (4)	08:16		15:50 (3)	07:21		17:19 (2)	07:10	06:06	05:24	05:25	06:04	06:55		07:44		17:56 (2)	07:38		15:20 (3)	08:28		13:28 (4)
	16:41	29	14:08 (4)	17:31	39	16:29 (3)	18:23	27	17:46 (2)	20:17	21:08	21:52	22:02	21:26	20:22		19:12	26	18:22 (2)	17:07	38	15:58 (3)	16:30	23	13:51 (4)
5	08:47		13:40 (4)	08:14		15:50 (3)	07:18		17:18 (2)	07:07	06:04	05:23	05:26	06:06	06:56		07:45		17:55 (2)	07:40		15:20 (3)	08:29		13:28 (4)
	16:42	29	14:09 (4)	17:33	39	16:29 (3)	18:25	29	17:47 (2)	20:19	21:09	21:53	22:01	21:24	20:20		19:10	28	18:23 (2)	17:06	39	15:59 (3)	16:30	25	13:53 (4)
6	08:47		13:41 (4)	08:13		15:50 (3)	07:16		17:17 (2)	07:05	06:02	05:22	05:27	06:08	06:58		07:47		17:54 (2)	07:42		15:20 (3)	08:31		13:27 (4)
	16:44	27	14:08 (4)	17:35	39	16:29 (3)	18:27	29	17:46 (2)	20:20	21:11	21:54	22:01	21:22	20:17		19:08	28	18:22 (2)	17:04	39	15:59 (3)	16:29	27	13:54 (4)
7	08:46		13:43 (4)	08:11		15:50 (3)	07:14		17:18 (2)	07:03	06:00	05:22	05:28	06:09	06:59		07:49		17:53 (2)	07:43		15:20 (3)	08:32		13:27 (4)
	16:45	25	14:08 (4)	17:37	39	16:29 (3)	18:28	28	17:46 (2)	20:22	21:13	21:55	22:00	21:20	20:15		19:05	29	18:22 (2)	17:02	39	15:59 (3)	16:29	29	13:56 (4)
8	08:46		13:44 (4)	08:09		15:52 (3)	07:12		17:18 (2)	07:01	05:59	05:21	05:29	06:11	07:01		07:51		17:53 (2)	07:45		15:20 (3)	08:33		13:27 (4)
	16:46	23	14:07 (4)	17:39	37	16:29 (3)	18:30	28	17:46 (2)	20:24	21:14	21:56	21:59	21:19	20:13		19:03	29	18:22 (2)	17:00	39	15:59 (3)	16:29	30	13:57 (4)
9	08:45		13:46 (4)	08:07		15:52 (3)	07:10		17:19 (2)	06:58	05:57	05:21	05:30	06:12	07:03		07:52		17:54 (2)	07:47		15:20 (3)	08:34		13:27 (4)
	16:48	21	14:07 (4)	17:41	37	16:29 (3)	18:32	27	17:46 (2)	20:25	21:16	21:57	21:59	21:17	20:10		19:01	28	18:22 (2)	16:59	39	15:59 (3)	16:28	30	13:57 (4)
10	08:45		13:48 (4)	08:06		15:53 (3)	07:07		17:18 (2)	06:56	05:55	05:20	05:31	06:14	07:04		07:54		17:53 (2)	07:49		15:21 (3)	08:35		13:26 (4)
	16:49	18	14:06 (4)	17:43	35	16:28 (3)	18:34	26	17:44 (2)	20:27	21:18	21:57	21:58	21:15	20:08		18:59	27	18:20 (2)	16:57	38	15:59 (3)	16:28	32	13:58 (4)
11	08:44		13:50 (4)	08:04		15:53 (3)	07:05		17:19 (2)	06:54	05:53	05:20	05:32	06:15	07:06		07:56		17:53 (2)	07:51		15:21 (3)	08:36		13:26 (4)
	16:50	15	14:05 (4)	17:44	35	16:28 (3)	18:35	24	17:43 (2)	20:29	21:19	21:58	21:57	21:13	20:06		18:56	27	18:20 (2)	16:56	38	15:59 (3)	16:28	33	13:59 (4)
12	08:44		13:53 (4)	08:02		15:54 (3)	07:03		17:21 (2)	06:52	05:52	05:20	05:33	06:17	07:08		07:57		17:54 (2)	07:52		15:22 (3)	08:38		13:26 (4)
	16:52	10	14:03 (4)	17:46	33	16:27 (3)	18:37	21	17:42 (2)	20:31	21:21	21:59	21:56	21:11	20:03		18:54	25	18:19 (2)	16:54	36	15:58 (3)	16:28	33	13:59 (4)
13	08:43			08:00		15:55 (3)	07:00		17:22 (2)	06:49	05:50	05:19	05:34	06:19	07:09		07:59		17:55 (2)	07:54		15:23 (3)	08:39		13:26 (4)
	16:53			17:48	31	16:26 (3)	18:39	18	17:40 (2)	20:32	21:22	22:00	21:56	21:09	20:01		18:52	23	18:18 (2)	16:52	35	15:58 (3)	16:28	34	14:00 (4)
14	08:42			07:58		15:57 (3)	06:58		17:24 (2)	06:47	05:49	05:19	05:35	06:20	07:11		08:01		17:56 (2)	07:56		15:23 (3)	08:39		13:27 (4)
	16:55			17:50	28	16:25 (3)	18:41	14	17:38 (2)	20:34	21:24	22:00	21:55	21:07	19:59		18:50	20	18:16 (2)	16:51	35	15:58 (3)	16:28	34	14:01 (4)
15	08:41			07:56		15:58 (3)	06:56		17:28 (2)	06:45	05:47	05:19	05:36	06:22	07:12	18:58 (1)	08:03		17:57 (2)	07:58		15:24 (3)	08:40		13:27 (4)
	16:56			17:52	26	16:24 (3)	18:42	10	18:17 (1)	20:36	21:26	22:01	21:54	21:05	19:56	5	19:03 (1)	16	18:13 (2)	16:50	33	15:57 (3)	16:28	34	14:01 (4)
16	08:41			07:54		16:01 (3)	06:54		18:07 (1)	06:43	05:45	05:19	05:37	06:24	07:14		18:54 (1)	08:04		18:00 (2)	07:59		15:25 (3)	08:41		13:27 (4)
	16:58			17:54	21	16:22 (3)	18:44	11	18:18 (1)	20:37	21:27	22:01	21:53	21:03	19:54	12	19:06 (1)	11	18:11 (2)	16:48	32	15:57 (3)	16:28	35	14:02 (4)
17	08:40			07:52		16:03 (3)	06:51		18:06 (1)	06:41	05:44	05:19	05:39	06:25	07:16		18:52 (1)	08:06			08:01		15:26 (3)	08:42		13:28 (4)
	17:00			17:56	17	16:20 (3)	18:46	15	18:21 (1)	20:39	21:29	22:02	21:52	21:01	19:52	15	19:07 (1)	11		16:47	30	15:56 (3)	16:28	35	14:03 (4)
18	08:39		16:00 (3)	07:50		16:08 (3)	06:49		18:04 (1)	06:38	05:43	05:19	05:40	06:27	07:17		18:50 (1)	08:08			08:03		15:26 (3)	08:43		13:29 (4)
	17:01	9	16:09 (3)	17:58	8	16:16 (3)	18:48	19	18:23 (1)	20:41	21:30	22:02	21:50	20:59	19:49	18	19:08 (1)	18:41			16:45	29	15:55 (3)	16:28	35	14:04 (4)
19	08:38		15:58 (3)	07:48			06:47		18:03 (1)	06:36	05:41	05:19	05:41	06:28	07:19		18:49 (1)	08:10			08:05		15:28 (3)	08:44		13:28 (4)
	17:03	14	16:12 (3)	17:59			18:49	20	18:23 (1)	20:43	21:32	22:02	21:49	20:57	19:47	19	19:08 (1)	18:39			16:44	26	15:54 (3)	16:29	36	14:04 (4)
20	08:37		15:57 (3)	07:46			06:44		18:02 (1)	06:34	05:40	05:19	05:43	06:30	07:21		18:48 (1)	08:11			08:06		15:29 (3)	08:44		13:29 (4)
	17:05	18	16:15 (3)	18:01			18:51	21	18:23 (1)	20:44	21:33	22:03	21:48	20:55	19:45	21	19:09 (1)	18:37			16:43	24	15:53 (3)	16:29	36	14:05 (4)
21	08:36		15:56 (3)	07:44			06:42		18:02 (1)	06:32	05:38	05:19	05:44	06:32	07:22		18:47 (1)	08:13			08:08		15:31 (3)	08:45		13:30 (4)
	17:06	21	16:17 (3)	18:03			18:53	22	18:24 (1)	20:46	21:35	22:03	21:47	20:53	19:42	21	19:08 (1)	18:35			16:42	21	15:52 (3)	16:30	36	14:06 (4)
22	08:34		15:54 (3)	07:42			06:40		18:01 (1)	06:30	05:37	05:19	05:45	06:33	07:24		18:47 (1)	08:15			08:10		15:33 (3)	08:45		13:30 (4)
	17:08	24	16:18 (3)	18:05			18:55	22	18:23 (1)	20:48	21:36	22:03	21:46	20:51	19:40	21	19:08 (1)	18:33			16:41	18	15:51 (3)	16:30	36	14:06 (4)
23	08:33		15:54 (3)	07:40			06:37		18:01 (1)	06:28	05:36	05:19	05:47	06:35	07:26		18:47 (1)	08:17			08:11		15:35 (3)	08:46		13:30 (4)
	17:10	26	16:20 (3)	18:07			18:56	21	18:22 (1)	20:49	21:37	22:03	21:44	20:48	19:38	21	19:08 (1)	18:30			16:39	14	15:49 (3)	16:31	36	14:06 (4)
24	08:32		15:52 (3)	07:38			06:35		18:02 (1)	06:26	05:35	05:20	05:48	06:37	07:27		18:46 (1)	08:18		16:35 (3)	08:13		15:37 (3)	08:46		13:31 (4)
	17:11	29	16:21 (3)	18:09			18:58	20	18:22 (1)	20:51	21:39	22:04	21:43	20:46	19:35	20	19:06 (1)	18:28	11	16:46 (3)	16:38	9	15:46 (3)	16:31	36	14:07 (4)
25	08:31		15:52 (3)	07:36		17:31 (2)	06:33		18:02 (1)	06:24	05:33	05:20	05:49	06:38	07:29		18:47 (1)	07:20		15:32 (3)	08:15			08:47		13:31 (4)
	17:13	30	16:22 (3)	18:10	5	17:36 (2)	19:00	18	18:20 (1)	20:53	21:40	22:04	21:42	20:44	19:33	19	19:06 (1)	17:26	18	15:50 (3)	16:37			16:32	36	14:07 (4)
26	08:29		15:52 (3)	07:34		17:26 (2)	06:30		18:03 (1)	06:22	05:32	05:20	05:51	06:40	07:30		18:48 (1)	07:22		15:29 (3)	08:16			08:47		13:32 (4)
	17:15	32	16:24 (3)	18:12	13	17:39 (2)	19:01	16	18:19 (1)	20:54	21:41	22:04	21:40	20:42	19:31	16	19:04 (1)	17:24	23	15:52 (3)	16:36			16:32	35	14:07 (4)
27	08:28		15:51 (3)	07:32		17:24 (2)	06:28		18:05 (1)	06:19	05:31	05:21	05:52	06:41	07:32		18:48 (1)	07:24		15:27 (3)	08:18			08:47		13:32 (4)
	17:17	33	16:24 (3)	18:14	18	17:42 (2)	19:03	13	18:18 (1)	20:56	21:43	22:04	21:39	20:40	19:28	13	19:01 (1)	17:22	26	15:53 (3)	16:35			16:33	35	14:07 (4)
28	08:27		15:51 (3)	07:29		17:23 (2)	06:26		18:07 (1)	06:17	05:30	05:21	05:54	06:43	07:34		18:51 (1)	07:25		15:26 (3)	08:19			08:47		13:34 (4)
	17:19	35	16:26 (3)	18:16	21	17:44 (2)	19:05	7	18:14 (1)	20:58	21:44	22:03	21:37	20:38	19:26	8	18:59 (1)	17:20	29	15:55 (3)	16:35			16:34	34	14:08 (4)
29	08:25		15:51 (3)				07:23			06:15	05:29	05:22	05:55	06:45	07:35		18:06 (2)	07:27		15:25 (3)	08:21			08:48		13:34 (4)
	17:20	35	16:26 (3)				20:07			20:59	21:45	22:03	21:36	20:35	19:24	11	18:17 (2)	17:18	31	15:56 (3)	16:34			16:35	35	14:09 (4)
30	08:24		15:50 (3)				07:21			06:14	05:28	05:23	05:57	06:46	07:37		18:02 (2)	07:29		15:24 (3)	08:22		13:35 (4)	08:48		13:34 (4)
	17:22	37	16:27 (3)				20:08			21:01	21:46	22:03	21:34	20:33	19:21	17	18:19 (2)	17:17	33	15:57 (3)	16:33	8	13:43 (4)	16:36	34	14:08 (4)
31	08:22		15:50 (3)				07:19				05:27		05:58	06:48				07:31		15:23 (3)				08:48		13:35 (4)
	17:24	38	16:28 (3)				20:10				21:48		21:32	20:31				17:15	34	15:57 (3)				16:37	33	14:08 (4)
Potential sun hours	259			277			367		416	485	499	502	454	381				331			266			243		
Total, worst case		672			636			581							257				590			770			981	
Sun reduction		0,24			0,30			0,33							0,36				0,34			0,24			0,20	
Oper. time red.		0,95			0,95			0,95							0,95				0,95			0,95			0,95	
Wind dir. red.		0,67			0,67			0,64							0,63				0,66			0,67			0,68	
Total reduction		0,15			0,19			0,20							0,22				0,21			0,15			0,13	
Total, real		103			122			117							56				124			116			129	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
20-12-2018 09:08/3.2.737

SHADOW - Calendar

Calculation: Copy of V150@166Shadow receptor: E - 3945LA5

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January			February			March			April		May	June	July	August	September		October			November			December		
1	08:48		14:59 (3)	08:21		15:08 (3)	07:27		16:57 (2)	07:17		06:12	05:26	05:23	06:00	06:50		07:39		18:39 (1)	07:33			08:24		14:42 (3)
	16:38	34	15:33 (3)	17:26	37	15:45 (3)	18:18	33	17:30 (2)	20:12		21:03	21:49	22:03	21:31	20:29		19:19	11	18:50 (1)	17:13			16:32	41	15:23 (3)
2	08:48		14:59 (3)	08:19		15:09 (3)	07:25		16:57 (2)	07:14		06:10	05:25	05:24	06:01	06:51		07:40			07:34			08:25		14:43 (3)
	16:39	35	15:34 (3)	17:28	35	15:44 (3)	18:19	32	17:29 (2)	20:13		21:05	21:50	22:02	21:29	20:26		19:17			17:11			16:32	40	15:23 (3)
3	08:48		14:59 (3)	08:18		15:11 (3)	07:23		16:56 (2)	07:12		06:08	05:25	05:25	06:03	06:53		07:42		17:45 (2)	07:36		14:51 (3)	08:27		14:43 (3)
	16:40	36	15:35 (3)	17:30	33	15:44 (3)	18:21	32	17:28 (2)	20:15		21:06	21:51	22:02	21:27	20:24		19:14	8	17:53 (2)	17:09	14	15:05 (3)	16:31	40	15:23 (3)
4	08:47		14:59 (3)	08:16		15:12 (3)	07:21		16:57 (2)	07:10		06:06	05:24	05:25	06:04	06:55		07:44		17:42 (2)	07:38		14:48 (3)	08:28		14:45 (3)
	16:41	36	15:35 (3)	17:31	31	15:43 (3)	18:23	31	17:28 (2)	20:17		21:08	21:52	22:02	21:26	20:22		19:12	15	17:57 (2)	17:07	20	15:08 (3)	16:30	38	15:23 (3)
5	08:47		14:59 (3)	08:14		15:14 (3)	07:18		16:58 (2)	07:07		06:04	05:23	05:26	06:06	06:56		07:45		17:39 (2)	07:40		14:45 (3)	08:29		14:45 (3)
	16:42	37	15:36 (3)	17:33	28	15:42 (3)	18:25	29	17:27 (2)	20:19		21:10	21:53	22:01	21:24	20:20		19:10	20	17:59 (2)	17:06	25	15:10 (3)	16:30	38	15:23 (3)
6	08:47		14:59 (3)	08:13		15:16 (3)	07:16		16:58 (2)	07:05		06:02	05:22	05:27	06:08	06:58		07:47		17:36 (2)	07:42		14:43 (3)	08:31		14:45 (3)
	16:44	38	15:37 (3)	17:35	24	15:40 (3)	18:27	27	17:25 (2)	20:20		21:11	21:54	22:01	21:22	20:17		19:08	24	18:00 (2)	17:04	28	15:11 (3)	16:29	38	15:23 (3)
7	08:46		15:00 (3)	08:11		15:19 (3)	07:14		16:59 (2)	07:03		06:00	05:22	05:28	06:09	06:59		07:49		17:35 (2)	07:44		14:42 (3)	08:32		14:46 (3)
	16:45	38	15:38 (3)	17:37	19	15:38 (3)	18:29	25	17:24 (2)	20:22		21:13	21:55	22:00	21:20	20:15		19:05	26	18:01 (2)	17:02	31	15:13 (3)	16:29	37	15:23 (3)
8	08:46		14:59 (3)	08:09		15:23 (3)	07:12		17:01 (2)	07:01		05:59	05:21	05:29	06:11	07:01		07:51		17:33 (2)	07:45		14:41 (3)	08:33		14:47 (3)
	16:46	39	15:38 (3)	17:39	12	15:35 (3)	18:30	22	17:23 (2)	20:24		21:14	21:56	21:59	21:19	20:13		19:03	29	18:02 (2)	17:00	33	15:14 (3)	16:29	36	15:23 (3)
9	08:45		15:00 (3)	08:07			07:10		17:03 (2)	06:58		05:57	05:21	05:30	06:12	07:03		07:52		17:33 (2)	07:47		14:40 (3)	08:34		14:47 (3)
	16:48	40	15:40 (3)	17:41			18:32	18	17:21 (2)	20:25		21:16	21:57	21:59	21:17	20:10		19:01	30	18:03 (2)	16:59	35	15:15 (3)	16:28	36	15:23 (3)
10	08:45		15:00 (3)	08:06			07:07		17:05 (2)	06:56		05:55	05:20	05:31	06:14	07:04		07:54		17:31 (2)	07:49		14:39 (3)	08:35		14:48 (3)
	16:49	40	15:40 (3)	17:43			18:34	12	17:17 (2)	20:27		21:18	21:57	21:58	21:15	20:08		18:59	31	18:02 (2)	16:57	37	15:16 (3)	16:28	35	15:23 (3)
11	08:44		15:00 (3)	08:04			07:05			06:54		05:53	05:20	05:32	06:15	07:06		07:56		17:30 (2)	07:51		14:38 (3)	08:37		14:49 (3)
	16:50	41	15:41 (3)	17:44			18:35			20:29		21:19	21:58	21:57	21:13	20:06		18:56	32	18:02 (2)	16:56	39	15:17 (3)	16:28	34	15:23 (3)
12	08:44		15:00 (3)	08:02			07:03		18:01 (1)	06:52		05:52	05:20	05:33	06:17	07:08		07:57		17:30 (2)	07:52		14:38 (3)	08:38		14:49 (3)
	16:52	41	15:41 (3)	17:46			18:37	9	18:10 (1)	20:31		21:21	21:59	21:56	21:11	20:03		18:54	33	18:03 (2)	16:54	40	15:18 (3)	16:28	34	15:23 (3)
13	08:43		15:00 (3)	08:00			07:00		17:57 (1)	06:49		05:50	05:19	05:34	06:19	07:09		07:59		17:30 (2)	07:54		14:38 (3)	08:39		14:50 (3)
	16:53	42	15:42 (3)	17:48			18:39	15	18:12 (1)	20:32		21:22	22:00	21:56	21:09	20:01		18:52	33	18:03 (2)	16:52	40	15:18 (3)	16:28	33	15:23 (3)
14	08:42		15:00 (3)	07:58			06:58		17:56 (1)	06:47		05:49	05:19	05:35	06:20	07:11		08:01		17:30 (2)	07:56		14:37 (3)	08:40		12:47 (4)
	16:55	42	15:42 (3)	17:50			18:41	18	18:14 (1)	20:34		21:24	22:00	21:55	21:07	19:59		18:50	33	18:03 (2)	16:51	42	15:19 (3)	16:28	36	15:23 (3)
15	08:41		15:00 (3)	07:56			06:56		17:55 (1)	06:45		05:47	05:19	05:36	06:22	07:12		08:03		17:29 (2)	07:58		14:37 (3)	08:40		12:44 (4)
	16:56	43	15:43 (3)	17:52			18:42	20	18:15 (1)	20:36		21:26	22:01	21:54	21:05	19:56		18:47	32	18:01 (2)	16:50	43	15:20 (3)	16:28	43	15:24 (3)
16	08:41		15:00 (3)	07:54			06:54		17:53 (1)	06:43		05:45	05:19	05:37	06:24	07:14		08:04		17:29 (2)	07:59		14:37 (3)	08:41		12:44 (4)
	16:58	43	15:43 (3)	17:54			18:44	22	18:15 (1)	20:37		21:27	22:01	21:53	21:03	19:54		18:45	32	18:01 (2)	16:48	43	15:20 (3)	16:28	43	15:24 (3)
17	08:40		15:01 (3)	07:52			06:51		17:52 (1)	06:41		05:44	05:19	05:39	06:25	07:16		18:46 (1)	08:06		17:30 (2)	08:01		14:37 (3)	08:42		12:44 (4)
	17:00	43	15:44 (3)	17:56			18:46	24	18:16 (1)	20:39		21:29	22:02	21:52	21:01	19:52	8	18:54 (1)	18:43	31	18:01 (2)	16:47	44	15:21 (3)	16:28	45	15:25 (3)
18	08:39		15:01 (3)	07:50		17:08 (2)	06:49		17:52 (1)	06:38		05:43	05:19	05:40	06:27	07:17		18:43 (1)	08:08		17:30 (2)	08:03		14:36 (3)	08:43		12:44 (4)
	17:01	44	15:45 (3)	17:58	12	17:20 (2)	18:48	24	18:16 (1)	20:41		21:30	22:02	21:50	20:59	19:49	14	18:57 (1)	18:41	30	18:00 (2)	16:45	44	15:20 (3)	16:28	45	15:25 (3)
19	08:38		15:01 (3)	07:48		17:06 (2)	06:47		17:51 (1)	06:36		05:41	05:19	05:41	06:28	07:19		18:40 (1)	08:10		17:31 (2)	08:05		14:37 (3)	08:44		12:43 (4)
	17:03	44	15:45 (3)	17:59	17	17:23 (2)	18:49	24	18:15 (1)	20:43		21:32	22:02	21:49	20:57	19:47	18	18:58 (1)	18:39	28	17:59 (2)	16:44	44	15:21 (3)	16:29	46	15:25 (3)
20	08:37		15:02 (3)	07:46		17:03 (2)	06:44		17:51 (1)	06:34		05:40	05:19	05:43	06:30	07:21		18:39 (1)	08:11		17:32 (2)	08:06		14:37 (3)	08:44		12:44 (4)
	17:05	44	15:46 (3)	18:01	21	17:24 (2)	18:51	24	18:15 (1)	20:44		21:33	22:03	21:48	20:55	19:45	20	18:59 (1)	18:37	26	17:58 (2)	16:43	44	15:21 (3)	16:29	46	15:26 (3)
21	08:36		15:02 (3)	07:44		17:01 (2)	06:42		17:51 (1)	06:32		05:38	05:19	05:44	06:32	07:22		18:37 (1)	08:13		17:32 (2)	08:08		14:37 (3)	08:45		12:45 (4)
	17:06	44	15:46 (3)	18:03	24	17:25 (2)	18:53	24	18:15 (1)	20:46		21:35	22:03	21:47	20:53	19:42	22	18:59 (1)	18:35	23	17:55 (2)	16:42	44	15:21 (3)	16:30	46	15:27 (3)
22	08:34		15:02 (3)	07:42		17:00 (2)	06:40		17:51 (1)	06:30		05:37	05:19	05:45	06:33	07:24		18:36 (1)	08:15		17:34 (2)	08:10		14:38 (3)	08:45		12:45 (4)
	17:08	44	15:46 (3)	18:05	27	17:27 (2)	18:55	22	18:13 (1)	20:48		21:36	22:03	21:46	20:51	19:40	23	18:59 (1)	18:33	19	17:53 (2)	16:41	44	15:22 (3)	16:30	46	15:27 (3)
23	08:33		15:03 (3)	07:40		16:59 (2)	06:37		17:52 (1)	06:28		05:36	05:19	05:47	06:35	07:26		18:36 (1)	08:17		17:36 (2)	08:11		14:38 (3)	08:46		12:45 (4)
	17:10	44	15:47 (3)	18:07	29	17:28 (2)	18:56	21	18:13 (1)	20:49		21:37	22:03	21:44	20:48	19:38	24	19:00 (1)	18:30	15	17:51 (2)	16:39	44	15:22 (3)	16:31	46	15:27 (3)
24	08:32		15:02 (3)	07:38		16:59 (2)	06:35		17:53 (1)	06:26		05:35	05:20	05:48	06:37	07:27		18:35 (1)	08:18		17:39 (2)	08:13		14:38 (3)	08:46		12:46 (4)
	17:11	44	15:46 (3)	18:09	30	17:29 (2)	18:58	19	18:12 (1)	20:51		21:39	22:04	21:43	20:46	19:35	24	18:59 (1)	18:28	9	17:48 (2)	16:38	44	15:22 (3)	16:31	46	15:28 (3)
25	08:31		15:03 (3)	07:36		16:58 (2)	06:33		17:54 (1)	06:24		05:33	05:20	05:49	06:38	07:29		18:35 (1)	07:20			08:15		14:39 (3)	08:47		12:47 (4)
	17:13	44	15:47 (3)	18:10	31	17:29 (2)	19:00	15	18:09 (1)	20:53		21:40	22:04	21:42	20:44	19:33	24	18:59 (1)	17:26			16:37	43	15:22 (3)	16:32	45	15:28 (3)
26	08:29		15:04 (3)	07:34		16:57 (2)	06:30		17:57 (1)	06:22		05:32	05:20	05:51	06:40	07:30		18:35 (1)	07:22			08:16		14:39 (3)	08:47		12:47 (4)
	17:15	43	15:47 (3)	18:12	32	17:29 (2)	19:01	10	18:07 (1)	20:54		21:41	22:04	21:40	20:42	19:31	23	18:58 (1)	17:24			16:36	43	15:22 (3)	16:32	45	15:28 (3)
27	08:28		15:04 (3)	07:32		16:57 (2)	06:28			06:20		05:31	05:21	05:52	06:41	07:32		18:34 (1)	07:24			08:18		14:40 (3)	08:47		12:48 (4)
	17:17	43	15:47 (3)	18:14	32	17:29 (2)	19:03			20:56		21:43	22:04	21:39	20:40	19:28	23	18:57 (1)	17:22			16:35	43	15:23 (3)	16:33	45	15:29 (3)
28	08:27		15:05 (3)	07:29		16:57 (2)	06:26			06:17		05:30	05:21	05:54	06:43	07:34		18:35 (1)	07:25			08:19		14:40 (3)	08:47		12:51 (4)
	17:19	42	15:47 (3)	18:16	33	17:30 (2)	19:05			20:58		21:44	22:03	21:37	20:38	19:26	21	18:56 (1)	17:20			16:35	42	15:22 (3)	16:34	43	15:31 (3)
29	08:25		15:06 (3)				07:23			06:16		05:29	05:22	05:55	06:45	07:35		18:36 (1)	07:27			08:21		14:41 (3)	08:48		12:53 (4)
	17:20	40	15:46 (3)				20:07			20:59		21:45	22:03	21:36	20:35	19:24	19	18:55 (1)	17:18			16:34	42	15:23 (3)	16:35	40	15:31 (3)
30	08:24		15:06 (3)				07:21			06:14		05:28	05:23	05:57	06:46	07:37		18:37 (1)	07:29			08:22		14:41 (3)	08:48		14:59 (3)
	17:22	40	15:46 (3)				20:08			21:01		21:46	22:03	21:34	20:33	19:21	15	18:52 (1)	17:17			16:33	41	15:22 (3)	16:36	33	15:32 (3)
31	08:22		15:08 (3)				07:19					05:27		05:58	06:48				07:31						08:48		14:58 (3)
	17:24	38	15:46 (3)				20:10					21:48		21:32	20:31				17:15						16:37	34	15:32 (3)
Potential sun hours	259			277			367			416		485	499	502	454	381			331			266			243		
Total, worst case		1266			507			552									278			570			1076			1253	
Sun reduction		0,24			0,30			0,33									0,36			0,34			0,24			0,20	
Oper. time red.		0,95			0,95			0,95									0,95			0,95			0,95			0,95	
Wind dir. red.		0,69			0,67			0,65									0,63			0,66			0,69			0,69	
Total reduction		0,16			0,19			0,20									0,22			0,21			0,16			0,13	
Total, real		199			99			112									60			121			167			167	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
20-12-2018 09:08/3.2.737

SHADOW - Calendar

Calculation: Copy of V150@166Shadow receptor: F - 3998NH4

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	07:53 (3) 06:12	05:26	06:42 (2) 05:23	06:47 (2) 06:00	07:03 (2) 06:50	07:51 (3) 07:39	08:05 (4) 07:33	08:24
	16:38	17:26	18:18	20:12 31	08:24 (3) 21:03	21:49 59	07:41 (2) 22:03 60	07:47 (2) 21:31 38	07:41 (2) 20:29 27	08:18 (3) 19:19 14	08:19 (4) 17:13	16:32
2	08:48	08:19	07:25	07:14	07:52 (3) 06:10	05:25	06:42 (2) 05:24	06:48 (2) 06:01	07:03 (2) 06:51	07:49 (3) 07:41	08:08 (4) 07:35	08:25
	16:39	17:28	18:20	20:14 33	08:25 (3) 21:05	21:50 59	07:41 (2) 22:03 60	07:48 (2) 21:29 36	07:39 (2) 20:26 29	08:18 (3) 19:17 8	08:16 (4) 17:11	16:32
3	08:48	08:18	07:23	07:12	07:52 (3) 06:08	05:25	06:42 (2) 05:25	06:47 (2) 06:03	07:05 (2) 06:53	07:49 (3) 07:42		08:27
	16:40	17:30	18:21	20:15 33	08:25 (3) 21:06	21:51 60	07:42 (2) 22:02 60	07:47 (2) 21:28 33	07:38 (2) 20:24 30	08:19 (3) 19:15		16:31
4	08:47	08:16	07:21	07:10	07:51 (3) 06:06	05:24	06:42 (2) 05:25	06:48 (2) 06:05	07:07 (2) 06:55	07:48 (3) 07:44		08:28
	16:41	17:32	18:23	20:17 33	08:24 (3) 21:08	21:52 60	07:42 (2) 22:02 60	07:48 (2) 21:26 29	07:36 (2) 20:22 32	08:20 (3) 19:12		16:31
5	08:47	08:14	07:19	07:07	07:51 (3) 06:04	05:23	06:42 (2) 05:26	06:48 (2) 06:06	07:09 (2) 06:56	07:47 (3) 07:46		08:29
	16:43	17:33	18:25	20:19 33	08:24 (3) 21:10	21:53 59	07:41 (2) 22:01 60	07:48 (2) 21:24 25	07:34 (2) 20:20 32	08:19 (3) 19:10		16:30
6	08:47	08:13	07:16	07:05	07:51 (3) 06:02 07:04 (2)	05:23	06:42 (2) 05:27	06:48 (2) 06:08	07:11 (2) 06:58	07:47 (3) 07:47		08:31
	16:44	17:35	18:27	20:20 33	08:24 (3) 21:11 14	07:18 (2) 21:54 60	07:42 (2) 22:01 60	07:48 (2) 21:22 20	07:31 (2) 20:17 33	08:20 (3) 19:08		16:30
7	08:46	08:11	07:14	07:03	07:51 (3) 06:01	07:01 (2) 05:22	06:42 (2) 05:28	06:49 (2) 06:09	07:15 (2) 07:00	07:46 (3) 07:49		08:32
	16:45	17:37	18:28	20:22 32	08:23 (3) 21:13 21	07:22 (2) 21:55 60	07:42 (2) 22:00 60	07:49 (2) 21:20 11	07:26 (2) 20:15 33	08:19 (3) 19:05		16:29
8	08:46	08:09	07:12	07:01	07:50 (3) 05:59	06:58 (2) 05:21	06:42 (2) 05:29	06:49 (2) 06:11	07:01	07:46 (3) 07:51		08:33
	16:46	17:39	18:30	20:24 32	08:22 (3) 21:15 26	07:24 (2) 21:56 60	07:42 (2) 21:59 60	07:49 (2) 21:19	20:13 33	08:19 (3) 19:03		16:29
9	08:45	08:08	07:10	06:58	07:51 (3) 05:57	06:56 (2) 05:21	06:43 (2) 05:30	06:49 (2) 06:12	07:03	07:45 (3) 07:52		08:34
	16:48	17:41	18:32	20:26 30	08:21 (3) 21:16 30	07:26 (2) 21:57 60	07:43 (2) 21:59 59	07:48 (2) 21:17	20:10 33	08:18 (3) 19:01		16:29
10	08:45	08:06	07:07	06:56	07:51 (3) 05:55	06:54 (2) 05:21	06:42 (2) 05:31	06:49 (2) 06:14	07:04	07:45 (3) 07:54		08:35
	16:49	17:43	18:34	20:27 29	08:20 (3) 21:18 34	07:28 (2) 21:57 60	07:42 (2) 21:58 59	07:48 (2) 21:15	20:08 33	08:18 (3) 18:59		16:28
11	08:44	08:04	07:05 07:31 (4)	06:54	07:52 (3) 05:54	06:53 (2) 05:20	06:43 (2) 05:32	06:49 (2) 06:16	07:06	07:46 (3) 07:56		08:37
	16:51	17:45	18:36 4 07:35 (4)	20:29 27	08:19 (3) 21:19 36	07:29 (2) 21:58 60	07:43 (2) 21:57 59	07:48 (2) 21:13	20:06 31	08:17 (3) 18:56		16:28
12	08:44	08:02	07:03 07:27 (4)	06:52	07:53 (3) 05:52	06:52 (2) 05:20	06:43 (2) 05:33	06:49 (2) 06:17	07:08	07:46 (3) 07:57		08:38
	16:52	17:46	18:37 12 07:39 (4)	20:31 24	08:17 (3) 21:21 39	07:31 (2) 21:59 60	07:43 (2) 21:56 59	07:48 (2) 21:11	20:03 30	08:16 (3) 18:54		16:28
13	08:43	08:00	07:01 07:24 (4)	06:49	07:54 (3) 05:50	06:50 (2) 05:20	06:44 (2) 05:34	06:50 (2) 06:19	07:09	07:47 (3) 07:59		08:39
	16:54	17:48	18:39 16 07:40 (4)	20:32 20	08:14 (3) 21:23 41	07:31 (2) 22:00 60	07:44 (2) 21:56 58	07:48 (2) 21:09	20:01 28	08:15 (3) 18:52		16:28
14	08:42	07:58	06:58 07:23 (4)	06:47	07:56 (3) 05:49	06:49 (2) 05:19	06:43 (2) 05:35	06:51 (2) 06:20	07:11	07:47 (3) 08:01		08:40
	16:55	17:50	18:41 18 07:41 (4)	20:34 16	08:12 (3) 21:24 44	07:33 (2) 22:00 60	07:43 (2) 21:55 58	07:49 (2) 21:07	19:59 26	08:13 (3) 18:50		16:28
15	08:41	07:56	06:56 07:22 (4)	06:45	07:58 (3) 05:47	06:47 (2) 05:19	06:43 (2) 05:36	06:51 (2) 06:22	07:13	07:48 (3) 08:03		08:40
	16:57	17:52	18:43 20 07:42 (4)	20:36 11	08:09 (3) 21:26 46	07:33 (2) 22:01 60	07:43 (2) 21:54 58	07:49 (2) 21:05	19:56 24	08:12 (3) 18:48		16:28
16	08:41	07:54	06:54 07:20 (4)	06:43	05:46	06:47 (2) 05:19	06:44 (2) 05:38	06:51 (2) 06:24	07:14	07:49 (3) 08:04		08:41
	16:58	17:54	18:44 22 07:42 (4)	20:37	21:27 47	07:34 (2) 22:01 60	07:44 (2) 21:53 58	07:49 (2) 21:03	19:54 20	08:09 (3) 18:45		16:28
17	08:40	07:52	06:51 07:20 (4)	06:41	05:44	06:47 (2) 05:19	06:44 (2) 05:39	06:52 (2) 06:25	07:16	07:51 (3) 08:06		08:42
	17:00	17:56	18:46 22 07:42 (4)	20:39	21:29 48	07:35 (2) 22:02 60	07:44 (2) 21:52 57	07:49 (2) 21:01	19:52 16	08:07 (3) 18:43		16:28
18	08:39	07:50	06:49 07:19 (4)	06:38	05:43	06:45 (2) 05:19	06:44 (2) 05:40	06:52 (2) 06:27	07:17	07:55 (3) 08:08		08:43
	17:01	17:58	18:48 24 07:43 (4)	20:41	21:30 50	07:35 (2) 22:02 60	07:44 (2) 21:51 57	07:49 (2) 20:59	19:49 15	08:19 (4) 18:41		16:29
19	08:38	07:48	06:47 07:19 (4)	06:36	05:41	06:45 (2) 05:19	06:44 (2) 05:41	06:52 (2) 06:29	07:19	08:09 (4) 08:10		08:44
	17:03	17:59	18:50 23 07:42 (4)	20:43	21:32 51	07:36 (2) 22:03 60	07:44 (2) 21:49 56	07:48 (2) 20:57	19:47 13	08:22 (4) 18:39		16:29
20	08:37	07:46	06:44 07:19 (4)	06:34	05:40	06:45 (2) 05:19	06:45 (2) 05:43	06:53 (2) 06:30	07:21	08:07 (4) 08:11		08:44
	17:05	18:01	18:51 22 07:41 (4)	20:44	21:33 52	07:37 (2) 22:03 60	07:45 (2) 21:48 56	07:49 (2) 20:55	19:45 17	08:24 (4) 18:37		16:29
21	08:36	07:44	06:42 07:19 (4)	06:32	05:38	06:44 (2) 05:19	06:45 (2) 05:44	06:53 (2) 06:32	07:22	08:05 (4) 08:13		08:45
	17:06	18:03	18:53 22 07:41 (4)	20:46	21:35 54	07:38 (2) 22:03 60	07:45 (2) 21:47 55	07:48 (2) 20:53	19:42 19	08:24 (4) 18:35		16:30
22	08:34	07:42	06:40 07:19 (4)	06:30	05:37	06:43 (2) 05:19	06:45 (2) 05:45	06:54 (2) 06:33	07:24	08:04 (4) 08:15		08:45
	17:08	18:05	18:55 20 07:39 (4)	20:48	21:36 54	07:37 (2) 22:03 60	07:45 (2) 21:46 54	07:48 (2) 20:51	19:40 21	08:25 (4) 18:33		16:30
23	08:33	07:40	06:37 07:20 (4)	06:28	05:36	06:43 (2) 05:20	06:45 (2) 05:47	06:54 (2) 06:35	07:26	08:04 (4) 08:17		08:46
	17:10	18:07	18:56 17 07:37 (4)	20:49	21:37 55	07:38 (2) 22:03 60	07:45 (2) 21:44 53	07:47 (2) 20:49	19:38 22	08:26 (4) 18:31		16:31
24	08:32	07:38	06:35 07:22 (4)	06:26	05:35	06:43 (2) 05:20	06:46 (2) 05:48	06:55 (2) 06:37	07:27	08:02 (4) 08:18		08:46
	17:12	18:09	18:58 14 07:36 (4)	20:51	21:39 55	07:38 (2) 22:04 60	07:46 (2) 21:43 52	07:47 (2) 20:46	19:35 23	08:25 (4) 18:29		16:31
25	08:31	07:36	06:33 07:08 (3)	06:24	05:33	06:42 (2) 05:20	06:46 (2) 05:50	06:55 (2) 06:38	07:29	08:02 (4) 07:20		08:47
	17:13	18:10	19:00 13 07:32 (4)	20:53	21:40 57	07:39 (2) 22:04 60	07:46 (2) 21:42 51	07:46 (2) 20:44	19:33 23	08:25 (4) 17:26		16:32
26	08:29	07:34	06:30 07:04 (3)	06:22	05:32	06:42 (2) 05:21	06:46 (2) 05:51	06:56 (2) 06:40	07:31	08:02 (4) 07:22		08:47
	17:15	18:12	19:02 14 07:18 (3)	20:54	21:41 57	07:39 (2) 22:04 60	07:46 (2) 21:40 49	07:45 (2) 20:42	19:31 23	08:25 (4) 17:24		16:33
27	08:28	07:32	06:28 07:01 (3)	06:20	05:31	06:42 (2) 05:21	06:46 (2) 05:52	06:57 (2) 06:42	07:32	08:01 (4) 07:24		08:47
	17:17	18:14	19:03 20 07:21 (3)	20:56	21:43 57	07:39 (2) 22:04 60	07:46 (2) 21:39 48	07:45 (2) 20:40	19:28 23	08:24 (4) 17:22		16:33
28	08:27	07:30	06:26 06:58 (3)	06:18	05:30	06:42 (2) 05:22	06:46 (2) 05:54	06:58 (2) 06:43	08:00 (3) 07:34	08:02 (4) 07:26		08:48
	17:19	18:16	19:05 23 07:21 (3)	20:58	21:44 58	07:40 (2) 22:03 60	07:46 (2) 21:37 46	07:44 (2) 20:38 11	08:11 (3) 19:26 21	08:23 (4) 17:21		16:34
29	08:25		07:24 07:57 (3)	06:16	05:29	06:42 (2) 05:22	06:47 (2) 05:55	06:58 (2) 06:45	07:56 (3) 07:36	08:03 (4) 07:27		08:48
	17:21		20:07 26 08:23 (3)	21:00	21:45 58	07:40 (2) 22:03 60	07:47 (2) 21:36 45	07:43 (2) 20:35 17	08:13 (3) 19:24 20	08:23 (4) 17:19		16:35
30	08:24		07:21 07:55 (3)	06:14	05:28	06:42 (2) 05:23	06:46 (2) 05:57	07:00 (2) 06:46	07:54 (3) 07:37	08:03 (4) 07:29		08:48
	17:22		20:08 29 08:24 (3)	21:01	21:47 59	07:41 (2) 22:03 61	07:47 (2) 21:34 43	07:43 (2) 20:33 21	08:15 (3) 19:21 17	08:20 (4) 17:17		16:36
31	08:22		07:19 07:54 (3)		05:27 06:42 (2)		05:58 07:01 (2)	07:01 (2) 06:48	07:52 (3)	07:31		08:48
	17:24		20:10 31 08:25 (3)		21:48 59 07:41 (2)		21:33 40	07:41 (2) 20:31 24	08:16 (3)	17:15		16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case			412	417	1202	1798	1710	265	747	22		
Sun reduction			0,33	0,42	0,43	0,39	0,41	0,42	0,36	0,34		
Oper. time red.			0,95	0,95	0,95	0,95	0,95	0,95	0,95	0,95		
Wind dir. red.			0,60	0,62	0,65	0,65	0,65	0,64	0,61	0,60		
Total reduction			0,19	0,24	0,26	0,24	0,25	0,25	0,21	0,19		
Total, real			77	102	316	432	428	67	156	4		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
20-12-2018 09:08/3.2.737

SHADOW - Calendar

Calculation: Copy of V150@166Shadow receptor: G - 3945LA2a

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December		
1	08:48		14:27 (3)	08:21			07:27		07:17	06:12	05:26	05:23	06:00	06:50		07:39		18:15 (1)	07:33		16:07 (2)	08:24		14:14 (3)
	16:38	41	15:08 (3)	17:26			18:18		20:12	21:03	21:49	22:03	21:31	20:29		19:19	25	18:40 (1)	17:13	25	16:32 (2)	16:32	40	14:54 (3)
2	08:48		14:28 (3)	08:19			07:25		07:14	06:10	05:25	05:24	06:01	06:51		07:40		18:15 (1)	07:34		16:07 (2)	08:25		14:15 (3)
	16:39	41	15:09 (3)	17:28			18:19		20:13	21:05	21:50	22:02	21:29	20:26		19:17	25	18:40 (1)	17:11	23	16:30 (2)	16:32	40	14:55 (3)
3	08:48		14:28 (3)	08:18			07:23		07:12	06:08	05:25	05:25	06:03	06:53		07:42		18:14 (1)	07:36		16:09 (2)	08:27		14:15 (3)
	16:40	42	15:10 (3)	17:30			18:21		20:15	21:06	21:51	22:02	21:27	20:24		19:14	25	18:39 (1)	17:09	19	16:28 (2)	16:31	40	14:55 (3)
4	08:47		14:28 (3)	08:16			07:21	17:46 (1)	07:10	06:06	05:24	05:25	06:04	06:55		07:44		18:14 (1)	07:38		16:11 (2)	08:28		14:15 (3)
	16:41	42	15:10 (3)	17:31			18:23	8 17:54 (1)	20:17	21:08	21:52	22:02	21:26	20:22		19:12	25	18:39 (1)	17:07	15	16:26 (2)	16:30	41	14:56 (3)
5	08:47		14:29 (3)	08:14			07:18	17:43 (1)	07:07	06:04	05:23	05:26	06:06	06:56		07:45		18:15 (1)	07:40		16:14 (2)	08:29		14:15 (3)
	16:42	41	15:10 (3)	17:33			18:25	14 17:57 (1)	20:19	21:10	21:53	22:01	21:24	20:20		19:10	23	18:38 (1)	17:06	10	16:24 (2)	16:30	41	14:56 (3)
6	08:47		14:29 (3)	08:13	16:44 (2)		07:16	17:40 (1)	07:05	06:02	05:22	05:27	06:08	06:58		07:47		18:15 (1)	07:42			08:31		14:15 (3)
	16:44	41	15:10 (3)	17:35	10 16:54 (2)	18:27	18 17:58 (1)	20:20	21:11	21:54	22:01	21:22	20:17			19:08	21	18:36 (1)	17:04			16:29	41	14:56 (3)
7	08:46		14:30 (3)	08:11	16:41 (2)	07:14		17:39 (1)	07:03	06:00	05:22	05:28	06:09	06:59		07:49		18:16 (1)	07:44			08:32		14:16 (3)
	16:45	41	15:11 (3)	17:37	16 16:57 (2)	18:28	21 18:00 (1)	20:22	21:13	21:55	22:00	21:20	20:15			19:05	19	18:35 (1)	17:02			16:29	41	14:57 (3)
8	08:46		14:30 (3)	08:09	16:40 (2)	07:12		17:38 (1)	07:01	05:59	05:21	05:29	06:11	07:01		07:51		18:17 (1)	07:45			08:33		14:16 (3)
	16:46	41	15:11 (3)	17:39	20 17:00 (2)	18:30	23 18:01 (1)	20:24	21:14	21:56	21:59	21:19	20:13			19:03	16	18:33 (1)	17:00			16:29	42	14:58 (3)
9	08:45		14:32 (3)	08:07	16:39 (2)	07:10		17:38 (1)	06:58	05:57	05:21	05:30	06:12	07:03		07:52		18:19 (1)	07:47			08:34		14:16 (3)
	16:48	40	15:12 (3)	17:41	23 17:02 (2)	18:32	23 18:01 (1)	20:25	21:16	21:57	21:59	21:17	20:10			19:01	12	18:31 (1)	16:59			16:28	42	14:58 (3)
10	08:45		14:32 (3)	08:06	16:37 (2)	07:07		17:36 (1)	06:56	05:55	05:20	05:31	06:14	07:04		07:54		18:22 (1)	07:49			08:35		14:17 (3)
	16:49	40	15:12 (3)	17:43	26 17:03 (2)	18:34	25 18:01 (1)	20:27	21:18	21:57	21:58	21:15	20:08			18:59	4	18:26 (1)	16:57			16:28	41	14:58 (3)
11	08:44		14:32 (3)	08:04	16:36 (2)	07:05		17:36 (1)	06:54	05:53	05:20	05:32	06:15	07:06		07:56			07:51			08:37		14:17 (3)
	16:50	40	15:12 (3)	17:44	28 17:04 (2)	18:35	25 18:01 (1)	20:29	21:19	21:58	21:57	21:13	20:06			18:56			16:56			16:28	42	14:59 (3)
12	08:44		14:33 (3)	08:02	16:36 (2)	07:03		17:36 (1)	06:52	05:52	05:20	05:33	06:17	07:08		07:57			07:52			08:38		14:17 (3)
	16:52	39	15:12 (3)	17:46	29 17:05 (2)	18:37	25 18:01 (1)	20:31	21:21	21:59	21:56	21:11	20:03			18:54			16:54			16:28	42	14:59 (3)
13	08:43		14:33 (3)	08:00	16:35 (2)	07:00		17:36 (1)	06:49	05:50	05:19	05:34	06:19	07:09		07:59			07:54			08:39		14:18 (3)
	16:53	39	15:12 (3)	17:48	31 17:06 (2)	18:39	24 18:00 (1)	20:32	21:22	22:00	21:56	21:09	20:01			18:52			16:52			16:28	41	14:59 (3)
14	08:42		14:34 (3)	07:58	16:34 (2)	06:58		17:36 (1)	06:47	05:49	05:19	05:35	06:20	07:11		08:01		17:17 (2)	07:56			08:40		14:18 (3)
	16:55	38	15:12 (3)	17:50	32 17:06 (2)	18:41	24 18:00 (1)	20:34	21:24	22:00	21:55	21:07	19:59			18:50	12	17:29 (2)	16:51			16:28	42	15:00 (3)
15	08:41		14:35 (3)	07:56	16:34 (2)	06:56		17:37 (1)	06:45	05:47	05:19	05:36	06:22	07:12		08:03		17:13 (2)	07:58			08:40		14:19 (3)
	16:56	37	15:12 (3)	17:52	33 17:07 (2)	18:42	22 17:59 (1)	20:36	21:26	22:01	21:54	21:05	19:56			18:47	18	17:31 (2)	16:50			16:28	41	15:00 (3)
16	08:41		14:36 (3)	07:54	16:34 (2)	06:54		17:37 (1)	06:43	05:45	05:19	05:37	06:24	07:14		08:04		17:11 (2)	07:59		14:27 (3)	08:41		14:19 (3)
	16:58	36	15:12 (3)	17:54	33 17:07 (2)	18:44	20 17:57 (1)	20:37	21:27	22:01	21:53	21:03	19:54			18:45	22	17:33 (2)	16:48	9	14:36 (3)	16:28	42	15:01 (3)
17	08:40		14:37 (3)	07:52	16:34 (2)	06:51		17:39 (1)	06:41	05:44	05:19	05:39	06:25	07:16		08:06		17:09 (2)	08:01		14:24 (3)	08:42		14:20 (3)
	17:00	35	15:12 (3)	17:56	33 17:07 (2)	18:46	17 17:56 (1)	20:39	21:29	22:02	21:52	21:01	19:52			18:43	25	17:34 (2)	16:47	16	14:40 (3)	16:28	42	15:02 (3)
18	08:39		14:38 (3)	07:50	16:34 (2)	06:49		17:41 (1)	06:38	05:43	05:19	05:40	06:27	07:17		08:08		17:08 (2)	08:03		14:20 (3)	08:43		14:21 (3)
	17:01	34	15:12 (3)	17:58	33 17:07 (2)	18:48	13 17:54 (1)	20:41	21:30	22:02	21:50	20:59	19:49			18:41	27	17:35 (2)	16:45	21	14:41 (3)	16:28	41	15:02 (3)
19	08:38		14:39 (3)	07:48	16:34 (2)	06:47		17:44 (1)	06:36	05:41	05:19	05:41	06:28	07:19		08:10		17:07 (2)	08:05		14:19 (3)	08:44		14:20 (3)
	17:03	32	15:11 (3)	17:59	33 17:07 (2)	18:49	5 17:49 (1)	20:43	21:32	22:02	21:49	20:57	19:47			18:39	29	17:36 (2)	16:44	24	14:43 (3)	16:29	42	15:02 (3)
20	08:37		14:40 (3)	07:46	16:34 (2)	06:44		06:34	05:40	05:19	05:43	06:30	07:21			08:11		17:06 (2)	08:06		14:18 (3)	08:44		14:21 (3)
	17:05	31	15:11 (3)	18:01	32 17:06 (2)	18:51		20:44	21:33	22:03	21:48	20:55	19:45			18:37	30	17:36 (2)	16:43	27	14:45 (3)	16:29	42	15:03 (3)
21	08:36		14:42 (3)	07:44	16:34 (2)	06:42		06:32	05:38	05:19	05:44	06:32	07:22			08:13		17:04 (2)	08:08		14:17 (3)	08:45		14:22 (3)
	17:06	29	15:11 (3)	18:03	31 17:05 (2)	18:53		20:46	21:35	22:03	21:47	20:53	19:42			18:35	32	17:36 (2)	16:42	29	14:46 (3)	16:30	42	15:04 (3)
22	08:34		14:43 (3)	07:42	16:35 (2)	06:40		06:30	05:37	05:19	05:45	06:33	07:24			08:15		17:04 (2)	08:10		14:16 (3)	08:45		14:22 (3)
	17:08	27	15:10 (3)	18:05	30 17:05 (2)	18:55		20:48	21:36	22:03	21:46	20:51	19:40			18:33	32	17:36 (2)	16:41	31	14:47 (3)	16:30	42	15:04 (3)
23	08:33		14:45 (3)	07:40	16:36 (2)	06:37		06:28	05:36	05:19	05:47	06:35	07:26			08:17		17:04 (2)	08:11		14:16 (3)	08:46		14:22 (3)
	17:10	24	15:09 (3)	18:07	28 17:04 (2)	18:56		20:49	21:37	22:03	21:44	20:48	19:38			18:30	32	17:36 (2)	16:39	32	14:48 (3)	16:31	42	15:04 (3)
24	08:32		14:46 (3)	07:38	16:37 (2)	06:35		06:26	05:35	05:20	05:48	06:37	07:27			08:18		17:03 (2)	08:13		14:15 (3)	08:46		14:23 (3)
	17:11	21	15:07 (3)	18:09	26 17:03 (2)	18:58		20:51	21:39	22:04	21:43	20:46	19:35			18:28	34	17:37 (2)	16:38	34	14:49 (3)	16:31	42	15:05 (3)
25	08:31		14:50 (3)	07:36	16:38 (2)	06:33		06:24	05:33	05:20	05:49	06:38	07:29	18:25 (1)		07:20		16:03 (2)	08:15		14:15 (3)	08:47		14:24 (3)
	17:13	16	15:06 (3)	18:10	24 17:02 (2)	19:00		20:53	21:40	22:04	21:42	20:44	19:33	11 18:36 (1)		17:26	33	16:36 (2)	16:37	35	14:50 (3)	16:32	41	15:05 (3)
26	08:29		14:54 (3)	07:34	16:39 (2)	06:30		06:22	05:32	05:20	05:51	06:40	07:30	18:22 (1)		07:22		16:03 (2)	08:16		14:15 (3)	08:47		14:24 (3)
	17:15	9	15:03 (3)	18:12	21 17:00 (2)	19:01		20:54	21:41	22:04	21:40	20:42	19:31	16 18:38 (1)		17:24	33	16:36 (2)	16:36	36	14:51 (3)	16:32	42	15:06 (3)
27	08:28			07:32	16:42 (2)	06:28		06:20	05:31	05:21	05:52	06:41	07:32	18:20 (1)		07:24		16:04 (2)	08:18		14:15 (3)	08:47		14:24 (3)
	17:17			18:14	16 16:58 (2)	19:03		20:56	21:43	22:04	21:39	20:40	19:28	18 18:38 (1)		17:22	32	16:36 (2)	16:35	37	14:52 (3)	16:33	42	15:06 (3)
28	08:27			07:29	16:46 (2)	06:26		06:17	05:30	05:21	05:54	06:43	07:34	18:18 (1)		07:25		16:04 (2)	08:19		14:14 (3)	08:47		14:26 (3)
	17:19			18:16	8 16:54 (2)	19:05		20:58	21:44	22:03	21:37	20:38	19:26	21 18:39 (1)		17:20	32	16:36 (2)	16:35	38	14:52 (3)	16:34	41	15:07 (3)
29	08:25					07:23		06:16	05:29	05:22	05:55	06:45	07:35	18:17 (1)		07:27		16:05 (2)	08:21		14:14 (3)	08:48		14:26 (3)
	17:20					20:07		20:59	21:45	22:03	21:36	20:35	19:24	23 18:40 (1)		17:18	30	16:35 (2)	16:34	39	14:53 (3)	16:35	42	15:08 (3)
30	08:24					07:21		06:14	05:28	05:23	05:57	06:46	07:37	18:16 (1)		07:29		16:05 (2)	08:22		14:14 (3)	08:48		14:26 (3)
	17:22					20:08		21:01	21:46	22:03	21:34	20:33	19:21	24 18:40 (1)		17:17	29	16:34 (2)	16:33	39	14:53 (3)	16:36	42	15:08 (3)
31	08:22					07:19			05:27		05:58	06:48				07:31		16:06 (2)				08:48		14:26 (3)
	17:24					20:10			21:48		21:32	20:31				17:15	27	16:33 (2)				16:37	42	15:08 (3)
Potential sun hours	259			277		367		416	485	499	502	454	381			331			266			243		
Total, worst case		897			596		307							113			704			539			1286	
Sun reduction		0,24			0,30		0,33							0,36			0,34			0,24			0,20	
Oper. time red.		0,95			0,95		0,95							0,95			0,95			0,95			0,95	
Wind dir. red.		0,70			0,67		0,63							0,63			0,66			0,69			0,70	
Total reduction		0,16			0,19		0,20							0,22			0,21			0,16			0,13	
Total, real		142			116		61							25			149			84			173	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
20-12-2018 09:08/3.2.737

SHADOW - Calendar

Calculation: Copy of V150@166Shadow receptor: H - 3998NL146

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 16:38	08:21 17:26	07:27 18:18	07:17 20:12 35	08:11 (4) 08:46 (4)	06:12 21:03 39	07:59 (4) 08:38 (4)	05:26 21:49	05:23 22:03	06:00 21:31	06:50 20:29 56	07:56 (4) 08:52 (4)	07:39 19:19	07:33 17:13	08:24 16:32
2	08:48 16:39	08:19 17:28	07:25 18:19	07:14 20:14 39	08:09 (4) 08:48 (4)	06:10 21:05 36	08:00 (4) 08:36 (4)	05:25 21:50	05:24 22:02	06:01 21:29	06:51 20:26 55	07:56 (4) 08:51 (4)	07:40 19:17	07:35 17:11	08:25 16:32
3	08:48 16:40	08:18 17:30	07:23 18:21	07:12 20:15 41	08:08 (4) 08:49 (4)	06:08 21:06 33	08:01 (4) 08:34 (4)	05:25 21:51	05:25 22:02	06:03 21:27	06:53 20:24 53	07:57 (4) 08:50 (4)	07:42 19:14	07:36 17:09	08:27 16:31
4	08:47 16:41	08:16 17:31	07:21 18:23	07:10 20:17 44	08:05 (4) 08:49 (4)	06:06 21:08 29	08:04 (4) 08:33 (4)	05:24 21:52	05:25 22:02	06:04 21:26	06:55 20:22 52	07:57 (4) 08:49 (4)	07:44 19:12	07:38 17:07	08:28 16:31
5	08:47 16:43	08:14 17:33	07:19 18:25	07:07 20:19 46	08:04 (4) 08:50 (4)	06:04 21:10 25	08:05 (4) 08:30 (4)	05:23 21:53	05:26 22:01	06:06 21:24 5	08:24 (4) 08:29 (4)	06:56 20:20 51	07:57 (4) 08:48 (4)	07:46 19:10	07:40 17:06	08:29 16:30
6	08:47 16:44	08:13 17:35	07:16 18:27	07:05 20:20 49	08:02 (4) 08:51 (4)	06:02 21:11 20	08:07 (4) 08:27 (4)	05:23 21:54	05:27 22:01	06:08 21:22 16	08:19 (4) 08:35 (4)	06:58 20:17 50	07:58 (4) 08:48 (4)	07:47 19:08	07:42 17:04	08:31 16:30
7	08:46 16:45	08:11 17:37	07:14 18:28	07:03 20:22 51	08:01 (4) 08:52 (4)	06:00 21:13 13	08:11 (4) 08:24 (4)	05:22 21:55	05:28 22:00	06:09 21:20 22	08:16 (4) 08:38 (4)	06:59 20:15 47	07:59 (4) 08:46 (4)	07:49 19:05	07:44 17:02	08:32 16:29
8	08:46 16:46	08:09 17:39	07:12 18:30	07:01 20:24 53	07:59 (4) 08:52 (4)	05:59 21:14		05:21 21:56	05:29 21:59	06:11 21:19 26	08:14 (4) 08:40 (4)	07:01 20:13 45	08:00 (4) 08:45 (4)	07:51 19:03	07:45 17:00	08:33 16:29
9	08:45 16:48	08:07 17:41	07:10 18:32	06:58 20:25 53	07:59 (4) 08:52 (4)	05:57 21:16		05:21 21:57	05:30 21:59	06:12 21:17 31	08:11 (4) 08:42 (4)	07:03 20:10 41	08:01 (4) 08:42 (4)	07:52 19:01	07:47 16:59	08:34 16:29
10	08:45 16:49	08:06 17:43	07:07 18:34	06:56 20:27 55	07:58 (4) 08:53 (4)	05:55 21:18		05:21 21:57	05:31 21:58	06:14 21:15 34	08:10 (4) 08:44 (4)	07:04 20:08 39	08:02 (4) 08:41 (4)	07:54 18:59	07:49 16:57	08:35 16:28
11	08:44 16:51	08:04 17:45	07:05 18:36	06:54 20:29 56	07:57 (4) 08:53 (4)	05:54 21:19		05:20 21:58	05:32 21:57	06:16 21:13 37	08:08 (4) 08:45 (4)	07:06 20:06 35	08:03 (4) 08:38 (4)	07:56 18:56	07:51 16:56	08:37 16:28
12	08:44 16:52	08:02 17:46	07:03 18:37	06:52 20:31 56	07:56 (4) 08:52 (4)	05:52 21:21		05:20 21:59	05:33 21:56	06:17 21:11 39	08:08 (4) 08:47 (4)	07:08 20:03 31	08:05 (4) 08:36 (4)	07:57 18:54	07:52 16:54	08:38 16:28
13	08:43 16:53	08:00 17:48	07:00 18:39	06:49 20:32 56	07:56 (4) 08:52 (4)	05:50 21:22		05:20 22:00	05:34 21:56	06:19 21:09 41	08:06 (4) 08:47 (4)	07:09 20:01 26	08:08 (4) 08:34 (4)	07:59 18:52	07:54 16:53	08:39 16:28
14	08:42 16:55	07:58 17:50	06:58 18:41	06:47 20:34 57	07:55 (4) 08:52 (4)	05:49 21:24		05:19 22:00	05:35 21:55	06:20 21:07 44	08:05 (4) 08:49 (4)	07:11 19:59 18	08:11 (4) 08:29 (4)	08:01 18:50	07:56 16:51	08:40 16:28
15	08:41 16:57	07:56 17:52	06:56 18:43	06:45 20:36 57	07:55 (4) 08:52 (4)	05:47 21:26		05:19 22:01	05:36 21:54	06:22 21:05 45	08:05 (4) 08:50 (4)	07:12 19:56 6	08:17 (4) 08:23 (4)	08:03 18:47	07:58 16:50	08:40 16:28
16	08:41 16:58	07:54 17:54	06:54 18:44	06:43 20:37 57	07:55 (4) 08:52 (4)	05:46 21:27		05:19 22:01	05:38 21:53	06:24 21:03 48	08:03 (4) 08:51 (4)	07:14 19:54		08:04 18:45	07:59 16:48	08:41 16:28
17	08:40 17:00	07:52 17:56	06:51 18:46	06:41 20:39 57	07:55 (4) 08:52 (4)	05:44 21:29		05:19 22:02	05:39 21:52	06:25 21:01 49	08:03 (4) 08:52 (4)	07:16 19:52		08:06 18:43	08:01 16:47	08:42 16:28
18	08:39 17:01	07:50 17:58	06:49 18:48	06:38 20:41 57	07:54 (4) 08:51 (4)	05:43 21:30		05:19 22:02	05:40 21:50	06:27 20:59 51	08:01 (4) 08:52 (4)	07:17 19:49		08:08 18:41	08:03 16:46	08:43 16:29
19	08:38 17:03	07:48 17:59	06:47 18:49	06:36 20:43 57	07:54 (4) 08:51 (4)	05:41 21:32		05:19 22:02	05:41 21:49	06:28 20:57 52	08:01 (4) 08:53 (4)	07:19 19:47		08:10 18:39	08:05 16:44	08:44 16:29
20	08:37 17:05	07:46 18:01	06:44 18:51	06:34 20:44 56	07:53 (4) 08:49 (4)	05:40 21:33		05:19 22:03	05:43 21:48	06:30 20:55 53	08:00 (4) 08:53 (4)	07:21 19:45		08:11 18:37	08:06 16:43	08:44 16:29
21	08:36 17:06	07:44 18:03	06:42 18:53	06:32 20:46 55	07:54 (4) 08:49 (4)	05:38 21:35		05:19 22:03	05:44 21:47	06:32 20:53 55	07:59 (4) 08:54 (4)	07:22 19:42		08:13 18:35	08:08 16:42	08:45 16:30
22	08:34 17:08	07:42 18:05	06:40 18:55	06:30 20:48 54	07:54 (4) 08:48 (4)	05:37 21:36		05:19 22:03	05:45 21:46	06:33 20:51 56	07:58 (4) 08:54 (4)	07:24 19:40		08:15 18:33	08:10 16:41	08:45 16:30
23	08:33 17:10	07:40 18:07	06:37 18:56	06:28 20:49 53	07:54 (4) 08:47 (4)	05:36 21:37		05:20 22:03	05:47 21:44	06:35 20:48 56	07:58 (4) 08:54 (4)	07:26 19:38		08:17 18:31	08:11 16:40	08:46 16:31
24	08:32 17:12	07:38 18:09	06:35 18:58	06:26 20:51 52	07:54 (4) 08:46 (4)	05:35 21:39		05:20 22:04	05:48 21:43	06:37 20:46 57	07:57 (4) 08:54 (4)	07:27 19:35		08:18 18:28	08:13 16:38	08:46 16:31
25	08:31 17:13	07:36 18:10	06:33 19:00	06:24 20:53 50	07:55 (4) 08:45 (4)	05:33 21:40		05:20 22:04	05:49 21:42	06:38 20:44 57	07:57 (4) 08:54 (4)	07:29 19:33		07:20 17:26	08:15 16:37	08:47 16:32
26	08:29 17:15	07:34 18:12	06:30 19:02	06:22 20:54 49	07:55 (4) 08:44 (4)	05:32 21:41		05:21 22:04	05:51 21:40	06:40 20:42 58	07:56 (4) 08:54 (4)	07:30 19:31		07:22 17:24	08:16 16:36	08:47 16:33
27	08:28 17:17	07:32 18:14	06:28 19:03	06:20 20:56 47	07:57 (4) 08:44 (4)	05:31 21:43		05:21 22:04	05:52 21:39	06:42 20:40 57	07:57 (4) 08:54 (4)	07:32 19:28		07:24 17:22	08:18 16:36	08:47 16:33
28	08:27 17:19	07:29 18:16	06:26 19:05	06:18 20:58 46	07:57 (4) 08:43 (4)	05:30 21:44		05:22 22:03	05:54 21:37	06:43 20:38 57	07:57 (4) 08:54 (4)	07:34 19:26		07:26 17:20	08:19 16:35	08:47 16:34
29	08:25 17:20		07:23 20:07 17	08:21 (4) 08:38 (4)	06:16 20:59 43	07:58 (4) 08:41 (4)	05:29 21:45	05:22 22:03	05:55 21:36	06:45 20:35 57	07:56 (4) 08:53 (4)	07:35 19:24		07:27 17:19	08:21 16:34	08:48 16:35
30	08:24 17:22		07:21 20:08 25	08:17 (4) 08:42 (4)	06:14 21:01 40	07:59 (4) 08:39 (4)	05:28 21:46	05:23 22:03	05:57 21:34	06:46 20:33 57	07:56 (4) 08:53 (4)	07:37 19:21		07:29 17:17	08:22 16:33	08:48 16:36
31	08:22 17:24		07:19 20:10 31	08:13 (4) 08:44 (4)			05:27 21:48		05:58 21:32	06:48 20:31 56	07:56 (4) 08:52 (4)			07:31 17:15		08:48 16:37
Potential sun hours	259	277	367	416	485	195	499	502	454	1216	381	605	331	266	243
Total, worst case			73	1521											
Sun reduction			0,33	0,42	0,43				0,42		0,36				
Oper. time red.			0,95	0,95	0,95				0,95		0,95				
Wind dir. red.			0,62	0,62	0,62				0,62		0,62				
Total reduction			0,19	0,24	0,25				0,24		0,21				
Total, real			14	371	49				295		128				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
20-12-2018 09:08/3.2.737

SHADOW - Calendar

Calculation: Copy of V150@166Shadow receptor: I - 3998JD88

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	06:51 (2)	05:26	06:05 (1)	05:23	06:11 (1)	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03	16 07:07 (2)	21:49	26 06:31 (1)	22:03	26 06:37 (1)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	06:52 (2)	05:26	06:05 (1)	05:24	06:11 (1)	06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05	13 07:05 (2)	21:50	26 06:31 (1)	22:03	26 06:37 (1)	21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08	06:55 (2)	05:25	06:05 (1)	05:25	06:12 (1)	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06	9 07:04 (2)	21:51	27 06:32 (1)	22:02	26 06:38 (1)	21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06		05:24	06:05 (1)	05:26	06:11 (1)	06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08		21:52	27 06:32 (1)	22:02	27 06:38 (1)	21:26	20:22	19:12	17:07	16:31
5	08:47	08:14	07:19	07:08	06:04		05:23	06:06 (1)	05:26	06:11 (1)	06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10		21:53	26 06:32 (1)	22:01	27 06:38 (1)	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02		05:23	06:05 (1)	05:27	06:12 (1)	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11		21:54	27 06:32 (1)	22:01	26 06:38 (1)	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01		05:22	06:06 (1)	05:28	06:12 (1)	06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13		21:55	27 06:33 (1)	22:00	27 06:39 (1)	21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59		05:22	06:06 (1)	05:29	06:12 (1)	06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15		21:56	26 06:32 (1)	22:00	27 06:39 (1)	21:19	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57		05:21	06:06 (1)	05:30	06:13 (1)	06:12	07:06 (2)	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16		21:57	27 06:33 (1)	21:59	26 06:39 (1)	21:17	5 07:11 (2)	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55		05:21	06:06 (1)	05:31	06:12 (1)	06:14	07:03 (2)	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18		21:58	26 06:32 (1)	21:58	26 06:38 (1)	21:15	10 07:13 (2)	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54		05:20	06:07 (1)	05:32	06:12 (1)	06:16	07:02 (2)	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19		21:58	26 06:33 (1)	21:57	27 06:39 (1)	21:13	13 07:15 (2)	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52		05:20	06:07 (1)	05:33	06:12 (1)	06:17	07:00 (2)	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21		21:59	26 06:33 (1)	21:57	27 06:39 (1)	21:11	16 07:16 (2)	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50		05:20	06:08 (1)	05:34	06:14 (1)	06:19	06:59 (2)	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23		22:00	25 06:33 (1)	21:56	26 06:40 (1)	21:09	18 07:17 (2)	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49		05:19	06:08 (1)	05:35	06:14 (1)	06:21	06:58 (2)	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24		22:00	26 06:34 (1)	21:55	26 06:40 (1)	21:07	19 07:17 (2)	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47		05:19	06:07 (1)	05:36	06:14 (1)	06:22	06:58 (2)	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26		22:01	26 06:33 (1)	21:54	25 06:39 (1)	21:05	20 07:18 (2)	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46		05:19	06:08 (1)	05:38	06:14 (1)	06:24	06:57 (2)	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27		22:01	25 06:33 (1)	21:53	25 06:39 (1)	21:03	20 07:17 (2)	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44		05:19	06:08 (1)	05:39	06:15 (1)	06:25	06:57 (2)	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29		22:02	25 06:33 (1)	21:52	24 06:39 (1)	21:01	21 07:18 (2)	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43	06:13 (1)	05:19	06:08 (1)	05:40	06:15 (1)	06:27	06:56 (2)	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30	8 06:21 (1)	22:02	25 06:33 (1)	21:51	23 06:38 (1)	20:59	21 07:17 (2)	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	07:00 (2) 05:41	06:11 (1)	05:19	06:09 (1)	05:41	06:15 (1)	06:29	06:57 (2)	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	6 07:06 (2) 21:32	12 06:23 (1)	22:03	25 06:34 (1)	21:49	23 06:38 (1)	20:57	20 07:17 (2)	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	06:58 (2) 05:40	06:10 (1)	05:19	06:09 (1)	05:43	06:17 (1)	06:30	06:57 (2)	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	10 07:08 (2) 21:33	15 06:25 (1)	22:03	26 06:35 (1)	21:48	21 06:38 (1)	20:55	18 07:15 (2)	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	06:56 (2) 05:39	06:09 (1)	05:19	06:09 (1)	05:44	06:17 (1)	06:32	06:59 (2)	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	13 07:09 (2) 21:35	17 06:26 (1)	22:03	26 06:35 (1)	21:47	20 06:37 (1)	20:53	16 07:15 (2)	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	06:54 (2) 05:37	06:07 (1)	05:19	06:09 (1)	05:45	06:18 (1)	06:34	07:00 (2)	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	16 07:10 (2) 21:36	19 06:26 (1)	22:03	26 06:35 (1)	21:46	18 06:36 (1)	20:51	13 07:13 (2)	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	06:52 (2) 05:36	06:06 (1)	05:20	06:09 (1)	05:47	06:19 (1)	06:35	07:02 (2)	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	19 07:11 (2) 21:37	21 06:27 (1)	22:04	26 06:35 (1)	21:44	16 06:35 (1)	20:49	10 07:12 (2)	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	06:51 (2) 05:35	06:06 (1)	05:20	06:10 (1)	05:48	06:21 (1)	06:37	07:04 (2)	07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	20 07:11 (2) 21:39	22 06:28 (1)	22:04	25 06:35 (1)	21:43	14 06:35 (1)	20:46	5 07:09 (2)	19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	06:51 (2) 05:34	06:06 (1)	05:20	06:10 (1)	05:50	06:22 (1)	06:38		07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	20 07:11 (2) 21:40	23 06:29 (1)	22:04	25 06:35 (1)	21:42	11 06:33 (1)	20:44		19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	06:50 (2) 05:32	06:05 (1)	05:21	06:10 (1)	05:51	06:24 (1)	06:40		07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	21 07:11 (2) 21:42	24 06:29 (1)	22:04	25 06:35 (1)	21:40	6 06:30 (1)	20:42		19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	06:50 (2) 05:31	06:05 (1)	05:21	06:10 (1)	05:52		06:42		07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21 07:11 (2) 21:43	24 06:29 (1)	22:04	26 06:36 (1)	21:39		20:40		19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	06:50 (2) 05:30	06:05 (1)	05:22	06:10 (1)	05:54		06:43		07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	20 07:10 (2) 21:44	25 06:30 (1)	22:04	26 06:36 (1)	21:37		20:38		19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	06:50 (2) 05:29	06:04 (1)	05:22	06:11 (1)	05:55		06:45		07:36	07:27	08:21	08:48
	17:21		20:07	21:00	19 07:09 (2) 21:45	26 06:30 (1)	22:03	25 06:36 (1)	21:36		20:36		19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	06:51 (2) 05:28	06:05 (1)	05:23	06:11 (1)	05:57		06:47		07:37	07:29	08:22	08:48
	17:22		20:09	21:01	17 07:08 (2) 21:47	26 06:31 (1)	22:03	26 06:37 (1)	21:34		20:33		19:22	17:17	16:33	16:36
31	08:22		07:19		05:27	06:05 (1)			05:58		06:48			07:31		08:48
	17:24		20:10		21:48	26 06:31 (1)			21:33		20:31			17:15		16:37
Potential sun hours	259	277	367	416	485		499		502		454		381	331	266	243
Total, worst case				202	326		776		596		245					
Sun reduction				0,42	0,43		0,39		0,41		0,42					
Oper. time red.				0,95	0,95		0,95		0,95		0,95					
Wind dir. red.				0,64	0,67		0,67		0,67		0,64					
Total reduction				0,25	0,27		0,25		0,26		0,25					
Total, real				51	88		193		154		62					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
20-12-2018 09:08/3.2.737

SHADOW - Calendar

Calculation: Copy of V150@166Shadow receptor: J - 3998NL71

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March		April			May	June	July	August			September			October	November	December
1	08:48	08:21	07:27		07:17		08:07 (4)	06:12	05:26	05:23	06:00			06:50		08:04 (4)	07:39	07:33	08:24
	16:38	17:26	18:18		20:12	45	08:52 (4)	21:03	21:49	22:03	21:31			20:29	43	08:47 (4)	19:19	17:13	16:32
2	08:48	08:19	07:25		07:14		08:07 (4)	06:10	05:25	05:24	06:01			06:51		08:02 (4)	07:40	07:35	08:25
	16:39	17:28	18:20		20:14	46	08:53 (4)	21:05	21:50	22:02	21:29			20:26	45	08:47 (4)	19:17	17:11	16:32
3	08:48	08:18	07:23		07:12		08:06 (4)	06:08	05:25	05:25	06:03			06:53		08:02 (4)	07:42	07:36	08:27
	16:40	17:30	18:21		20:15	47	08:53 (4)	21:06	21:51	22:02	21:27			20:24	46	08:48 (4)	19:14	17:09	16:31
4	08:47	08:16	07:21		07:10		08:05 (4)	06:06	05:24	05:25	06:04			06:55		08:01 (4)	07:44	07:38	08:28
	16:41	17:32	18:23		20:17	47	08:52 (4)	21:08	21:52	22:02	21:26			20:22	46	08:47 (4)	19:12	17:07	16:31
5	08:47	08:14	07:19		07:07		08:05 (4)	06:04	05:23	05:26	06:06			06:56		08:01 (4)	07:46	07:40	08:29
	16:43	17:33	18:25		20:19	47	08:52 (4)	21:10	21:53	22:01	21:24			20:20	47	08:48 (4)	19:10	17:06	16:30
6	08:47	08:13	07:16		07:05		08:05 (4)	06:02	05:23	05:27	06:08			06:58		08:01 (4)	07:47	07:42	08:31
	16:44	17:35	18:27		20:20	47	08:52 (4)	21:11	21:54	22:01	21:22			20:17	47	08:48 (4)	19:08	17:04	16:30
7	08:46	08:11	07:14		07:03		08:05 (4)	06:00	05:22	05:28	06:09			06:59		08:00 (4)	07:49	07:44	08:32
	16:45	17:37	18:28		20:22	47	08:52 (4)	21:13	21:55	22:00	21:20			20:15	47	08:47 (4)	19:05	17:02	16:29
8	08:46	08:09	07:12		07:01		08:04 (4)	05:59	05:21	05:29	06:11			07:01		08:00 (4)	07:51	07:45	08:33
	16:46	17:39	18:30		20:24	46	08:50 (4)	21:14	21:56	21:59	21:19			20:13	47	08:47 (4)	19:03	17:00	16:29
9	08:45	08:07	07:10		06:58		08:04 (4)	05:57	05:21	05:30	06:12			07:03		08:00 (4)	07:52	07:47	08:34
	16:48	17:41	18:32		20:25	46	08:50 (4)	21:16	21:57	21:59	21:17			20:10	46	08:46 (4)	19:01	16:59	16:29
10	08:45	08:06	07:07		06:56		08:04 (4)	05:55	05:21	05:31	06:14			07:04		08:00 (4)	07:54	07:49	08:35
	16:49	17:43	18:34		20:27	45	08:49 (4)	21:18	21:57	21:58	21:15			20:08	46	08:46 (4)	18:59	16:57	16:28
11	08:44	08:04	07:05		06:54		08:05 (4)	05:54	05:20	05:32	06:16			07:06		08:00 (4)	07:56	07:51	08:37
	16:51	17:45	18:36		20:29	43	08:48 (4)	21:19	21:58	21:57	21:13			20:06	44	08:44 (4)	18:56	16:56	16:28
12	08:44	08:02	07:03		06:52		08:04 (4)	05:52	05:20	05:33	06:17			07:08		08:00 (4)	07:57	07:52	08:38
	16:52	17:46	18:37		20:31	42	08:46 (4)	21:21	21:59	21:56	21:11			20:03	44	08:44 (4)	18:54	16:54	16:28
13	08:43	08:00	07:00		06:49		08:05 (4)	05:50	05:20	05:34	06:19			07:09		08:01 (4)	07:59	07:54	08:39
	16:53	17:48	18:39		20:32	40	08:45 (4)	21:22	22:00	21:56	21:09			20:01	42	08:43 (4)	18:52	16:53	16:28
14	08:42	07:58	06:58		06:47		08:06 (4)	05:49	05:19	05:35	06:20			07:11		08:01 (4)	08:01	07:56	08:40
	16:55	17:50	18:41		20:34	38	08:44 (4)	21:24	22:00	21:55	21:07			19:59	41	08:42 (4)	18:50	16:51	16:28
15	08:41	07:56	06:56		06:45		08:07 (4)	05:47	05:19	05:36	06:22			07:12		08:02 (4)	08:03	07:58	08:40
	16:57	17:52	18:43		20:36	36	08:43 (4)	21:26	22:01	21:54	21:05			19:56	39	08:41 (4)	18:47	16:50	16:28
16	08:41	07:54	06:54		06:43		08:08 (4)	05:46	05:19	05:38	06:24			07:14		08:02 (4)	08:04	08:00	08:41
	16:58	17:54	18:44		20:37	33	08:41 (4)	21:27	22:01	21:53	21:03			19:54	37	08:39 (4)	18:45	16:48	16:28
17	08:40	07:52	06:51		06:41		08:09 (4)	05:44	05:19	05:39	06:25			07:16		08:04 (4)	08:06	08:01	08:42
	17:00	17:56	18:46		20:39	30	08:39 (4)	21:29	22:02	21:52	21:01			19:52	33	08:37 (4)	18:43	16:47	16:28
18	08:39	07:50	06:49		06:38		08:10 (4)	05:43	05:19	05:40	06:27			07:17		08:06 (4)	08:08	08:03	08:43
	17:01	17:58	18:48		20:41	28	08:38 (4)	21:30	22:02	21:50	20:59			19:49	30	08:36 (4)	18:41	16:46	16:29
19	08:38	07:48	06:47		06:36		08:12 (4)	05:41	05:19	05:41	06:29			07:19		08:07 (4)	08:10	08:05	08:44
	17:03	17:59	18:49		20:43	23	08:35 (4)	21:32	22:02	21:49	20:57			19:47	26	08:33 (4)	18:39	16:44	16:29
20	08:37	07:46	06:44		06:34		08:13 (4)	05:40	05:19	05:43	06:30			07:21		08:09 (4)	08:11	08:06	08:44
	17:05	18:01	18:51		20:44	18	08:31 (4)	21:33	22:03	21:48	20:55			19:45	21	08:30 (4)	18:37	16:43	16:29
21	08:36	07:44	06:42		06:32		08:17 (4)	05:38	05:19	05:44	06:32			07:22		08:12 (4)	08:13	08:08	08:45
	17:06	18:03	18:53		20:46	10	08:27 (4)	21:35	22:03	21:47	20:53			19:42	14	08:26 (4)	18:35	16:42	16:30
22	08:34	07:42	06:40	07:28 (4)	06:30			05:37	05:19	05:45	06:33	08:21 (4)		07:24			08:15	08:10	08:45
	17:08	18:05	18:55	11 07:39 (4)	20:48			21:36	22:03	21:46	20:51	12 08:33 (4)		19:40			18:33	16:41	16:30
23	08:33	07:40	06:37	07:23 (4)	06:28			05:36	05:20	05:47	06:35	08:18 (4)		07:26			08:17	08:11	08:46
	17:10	18:07	18:56	20 07:43 (4)	20:49			21:37	22:03	21:44	20:48	19 08:37 (4)		19:38			18:31	16:40	16:31
24	08:32	07:38	06:35	07:21 (4)	06:26			05:35	05:20	05:48	06:37	08:14 (4)		07:27			08:18	08:13	08:46
	17:12	18:09	18:58	25 07:46 (4)	20:51			21:39	22:04	21:43	20:46	24 08:38 (4)		19:35			18:28	16:38	16:31
25	08:31	07:36	06:33	07:18 (4)	06:24			05:33	05:20	05:49	06:38	08:13 (4)		07:29			07:20	08:15	08:47
	17:13	18:10	19:00	29 07:47 (4)	20:53			21:40	22:04	21:42	20:44	28 08:41 (4)		19:33			17:26	16:37	16:32
26	08:29	07:34	06:30	07:16 (4)	06:22			05:32	05:21	05:51	06:40	08:11 (4)		07:31			07:22	08:16	08:47
	17:15	18:12	19:02	33 07:49 (4)	20:54			21:41	22:04	21:40	20:42	30 08:41 (4)		19:31			17:24	16:36	16:33
27	08:28	07:32	06:28	07:14 (4)	06:20			05:31	05:21	05:52	06:42	08:09 (4)		07:32			07:24	08:18	08:47
	17:17	18:14	19:03	36 07:50 (4)	20:56			21:43	22:04	21:39	20:40	34 08:43 (4)		19:28			17:22	16:36	16:33
28	08:27	07:29	06:26	07:12 (4)	06:18			05:30	05:22	05:54	06:43	08:08 (4)		07:34			07:26	08:19	08:47
	17:19	18:16	19:05	38 07:50 (4)	20:58			21:44	22:03	21:37	20:38	37 08:45 (4)		19:26			17:20	16:35	16:34
29	08:25		07:24	08:11 (4)	06:16			05:29	05:22	05:55	06:45	08:07 (4)		07:35			07:27	08:21	08:48
	17:20		20:07	40 08:51 (4)	20:59			21:45	22:03	21:36	20:35	38 08:45 (4)		19:24			17:19	16:34	16:35
30	08:24		07:21	08:10 (4)	06:14			05:28	05:23	05:57	06:46	08:06 (4)		07:37			07:29	08:22	08:48
	17:22		20:08	42 08:52 (4)	21:01			21:46	22:03	21:34	20:33	40 08:46 (4)		19:21			17:17	16:33	16:36
31	08:22		07:19	08:08 (4)				05:27		05:58	06:48	08:04 (4)					07:31		08:48
	17:24		20:10	44 08:52 (4)				21:48		21:32	20:31	42 08:46 (4)					17:15		16:37
Potential sun hours	259	277	367		416			485	499	502	454			381			331	266	243
Total, worst case				318		804						304			831				
Sun reduction				0,33		0,42						0,42			0,36				
Oper. time red.				0,95		0,95						0,95			0,95				
Wind dir. red.				0,61		0,61						0,61			0,61				
Total reduction				0,19		0,24						0,24			0,21				
Total, real				60		194						73			173				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
20-12-2018 09:08/3.2.737

SHADOW - Calendar

Calculation: Copy of V150@166Shadow receptor: K - 3998JD91

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 16:38	08:21 17:26	07:27 18:18	07:17 20:12	06:12 21:03 19 06:47 (2)	05:26 21:49 25 06:01 (1)	05:23 22:03 27 06:06 (1)	06:00 21:31	06:50 20:29	07:39 19:19	07:33 17:13	08:24 16:32
2	08:48 16:39	08:19 17:28	07:25 18:20	07:14 20:14	06:10 21:05 17 06:47 (2)	05:26 21:50 25 06:01 (1)	05:24 22:03 27 06:07 (1)	06:01 21:29	06:51 20:27	07:41 19:17	07:35 17:11	08:25 16:32
3	08:48 16:40	08:18 17:30	07:23 18:21	07:12 20:15	06:08 21:06 15 06:49 (2)	05:25 21:51 25 06:02 (1)	05:25 22:02 27 06:07 (1)	06:03 21:28	06:53 20:24	07:42 19:15	07:36 17:09	08:27 16:31
4	08:47 16:41	08:16 17:32	07:21 18:23	07:10 20:17	06:06 21:08 12 06:50 (2)	05:24 21:52 26 06:01 (1)	05:26 22:02 27 06:07 (1)	06:05 21:26	06:55 20:22	07:44 19:12	07:38 17:07	08:28 16:31
5	08:47 16:43	08:14 17:33	07:19 18:25	07:08 20:19	06:04 21:10 9 06:51 (2)	05:23 21:53 26 07:00 (2)	05:26 22:01 27 06:07 (1)	06:06 21:24	06:56 20:20	07:46 19:10	07:40 17:06	08:29 16:30
6	08:47 16:44	08:13 17:35	07:16 18:27	07:05 20:20	06:02 21:11	05:23 21:54 27 06:01 (1)	05:27 22:01 26 06:08 (1)	06:08 21:22	06:58 20:17	07:47 19:08	07:42 17:04	08:31 16:30
7	08:46 16:45	08:11 17:37	07:14 18:29	07:03 20:22	06:01 21:13	05:22 21:55 27 06:02 (1)	05:28 22:00 27 06:08 (1)	06:09 21:21 5 07:03 (2)	07:00 20:15	07:49 19:05	07:44 17:02	08:32 16:29
8	08:46 16:46	08:09 17:39	07:12 18:30	07:01 20:24	05:59 21:15	05:22 21:56 26 06:02 (1)	05:29 22:00 26 06:09 (1)	06:11 21:19 10 07:00 (2)	07:01 20:13	07:51 19:03	07:45 17:01	08:33 16:29
9	08:46 16:48	08:08 17:41	07:10 18:32	06:58 20:26	05:57 21:16	05:21 21:57 27 06:02 (1)	05:30 22:00 26 06:09 (1)	06:12 21:17 13 07:00 (2)	06:59 (2) 20:11	07:03 19:01	07:52 16:59	08:34 16:29
10	08:45 16:49	08:06 17:43	07:07 18:34	06:56 20:27	05:55 21:18	05:21 21:58 26 06:02 (1)	05:31 22:01 26 06:08 (1)	06:14 21:15 16 06:59 (2)	06:57 (2) 20:08	07:04 18:59	07:54 16:57	08:36 16:28
11	08:44 16:51	08:04 17:45	07:05 18:36	06:54 20:29	05:54 21:19	05:20 21:58 27 06:02 (1)	05:32 21:57 25 06:09 (1)	06:16 21:13 17 06:57 (2)	07:06 20:06	07:56 18:56	07:51 16:56	08:37 16:28
12	08:44 16:52	08:02 17:47	07:03 18:37	06:52 20:31	05:52 21:21	05:20 21:59 26 06:03 (1)	05:33 21:57 25 06:09 (1)	06:17 21:11 19 06:55 (2)	07:08 20:04	07:58 18:54	07:53 16:54	08:38 16:28
13	08:43 16:54	08:00 17:48	07:01 18:39	06:49 20:32	05:50 21:23	05:20 22:00 27 06:03 (1)	05:34 21:56 25 06:10 (1)	06:19 21:09 20 06:55 (2)	07:09 20:01	07:59 18:52	07:54 16:53	08:39 16:28
14	08:42 16:55	07:58 17:50	06:58 18:41	06:47 20:34	05:49 21:24	05:19 22:00 27 06:03 (1)	06:03 (1) 21:55 23 06:11 (1)	06:21 21:07 21 06:54 (2)	07:11 19:59	08:01 18:50	07:56 16:51	08:40 16:28
15	08:41 16:57	07:56 17:52	06:56 18:43	06:45 20:36	05:47 21:26	05:19 22:01 26 06:03 (1)	05:36 21:54 23 06:11 (1)	06:22 21:05 21 06:54 (2)	07:13 19:57	08:03 18:48	07:58 16:50	08:41 16:28
16	08:41 16:58	07:54 17:54	06:54 18:44	06:43 20:38	05:46 21:27	05:19 22:01 27 06:03 (1)	05:38 21:53 21 06:12 (1)	06:24 21:03 20 06:54 (2)	07:14 19:54	08:04 18:45	08:00 16:48	08:41 16:28
17	08:40 17:00	07:52 17:56	06:51 18:46	06:41 20:39	05:44 21:29	05:19 22:02 27 06:03 (1)	05:39 21:52 21 06:13 (1)	06:25 21:01 20 06:54 (2)	07:16 19:52	08:06 18:43	08:01 16:47	08:42 16:28
18	08:39 17:01	07:50 17:58	06:49 18:48	06:39 20:41	05:43 21:30	05:19 22:02 27 06:03 (1)	05:40 21:51 19 06:13 (1)	06:27 20:59 19 06:54 (2)	07:17 19:50	08:08 18:41	08:03 16:46	08:43 16:29
19	08:38 17:03	07:48 18:00	06:47 18:50	06:36 20:43	05:41 21:32	05:19 22:03 27 06:04 (1)	05:41 21:49 17 06:14 (1)	06:29 20:57 17 06:56 (2)	07:19 19:47	08:10 18:39	08:05 16:44	08:44 16:29
20	08:37 17:05	07:46 18:01	06:44 18:51	06:34 20:44	05:40 21:33	05:19 22:03 26 06:05 (1)	05:43 21:48 15 06:16 (1)	06:30 20:55 14 06:57 (2)	07:21 19:45	08:11 18:37	08:06 16:43	08:44 16:29
21	08:36 17:06	07:44 18:03	06:42 18:53	06:32 20:46 8 06:56 (2)	05:39 21:35 7 06:10 (1)	05:19 22:03 26 06:05 (1)	05:44 21:47 13 06:17 (1)	06:32 20:53 11 06:59 (2)	07:22 19:43	08:13 18:35	08:08 16:42	08:45 16:30
22	08:35 17:08	07:42 18:05	06:40 18:55	06:30 20:48 11 07:04 (2)	05:37 21:36 11 06:54 (2)	05:19 22:03 26 06:07 (1)	05:45 21:46 10 06:18 (1)	06:34 20:51 7 07:00 (2)	07:24 19:40	08:15 18:33	08:10 16:41	08:45 16:30
23	08:33 17:10	07:40 18:07	06:38 18:56	06:28 20:49 14 07:05 (2)	05:36 21:37 14 06:52 (2)	05:20 22:04 27 06:06 (1)	05:47 21:44 4 06:20 (1)	06:35 20:49	07:07 (2) 19:38	08:17 18:31	08:11 16:40	08:46 16:31
24	08:32 17:12	07:38 18:09	06:35 18:58	06:26 20:51 17 07:07 (2)	05:35 21:39 16 06:50 (2)	05:20 22:04 27 06:05 (1)	05:48 21:43	06:37 20:46	07:27 19:35	08:18 18:29	08:13 16:39	08:46 16:31
25	08:31 17:13	07:36 18:11	06:33 19:00	06:24 20:53 20 07:08 (2)	05:34 21:40 18 06:48 (2)	05:20 22:04 27 06:04 (1)	05:50 21:42	06:38 20:44	07:29 19:33	08:20 17:27	08:15 16:38	08:47 16:32
26	08:30 17:15	07:34 18:12	06:31 19:02	06:22 20:55 20 07:08 (2)	05:32 21:42 20 06:48 (2)	05:21 22:04 27 06:03 (1)	05:51 21:40	06:40 20:42	07:31 19:31	07:22 17:25	08:16 16:37	08:47 16:33
27	08:28 17:17	07:32 18:14	06:28 19:03	06:20 20:56 21 07:08 (2)	05:31 21:43 21 06:47 (2)	05:21 22:04 26 06:03 (1)	05:52 21:39	06:42 20:40	07:32 19:28	07:24 17:23	08:18 16:36	08:47 16:33
28	08:27 17:19	07:30 18:16	06:26 19:05	06:18 20:58 20 07:07 (2)	05:30 21:44 22 06:47 (2)	05:22 22:04 27 06:02 (1)	05:54 21:37	06:43 20:38	07:34 19:26	07:26 17:21	08:19 16:35	08:48 16:34
29	08:25 17:21		07:24 20:07	06:16 21:00 20 07:07 (2)	05:29 21:45 23 06:47 (2)	05:22 22:03 27 06:02 (1)	05:55 21:36	06:45 20:36	07:36 19:24	07:27 17:19	08:21 16:34	08:48 16:35
30	08:24 17:22		07:21 20:09	06:14 21:01 19 07:06 (2)	05:28 21:47 24 06:47 (2)	05:23 22:03 27 06:26 (1)	05:57 21:34	06:47 20:33	07:37 19:22	07:29 17:17	08:22 16:33	08:48 16:36
31	08:22 17:24		07:19 20:10		05:27 21:48 24 06:02 (1) 06:26 (1)		05:58 21:33	06:48 20:31		07:31 17:15		08:48 16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case				170	272	794	507	250				
Sun reduction				0,42	0,43	0,39	0,41	0,42				
Oper. time red.				0,95	0,95	0,95	0,95	0,95				
Wind dir. red.				0,64	0,66	0,67	0,67	0,64				
Total reduction				0,25	0,27	0,25	0,26	0,25				
Total, real				43	73	197	131	63				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
20-12-2018 09:08/3.2.737

SHADOW - Calendar

Calculation: Copy of V150@166Shadow receptor: L - 3997MP25a

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April		May	June	July	August	September		October		November		December	
1	08:48		09:53 (3)		08:21		09:21 (4)		07:27		16:30 (1)	07:17		17:20 (1)	06:12	05:26	05:23	06:00	06:50		07:39		16:54 (1)	07:33		11:44 (2)	08:24		09:03 (4)
	16:38	105	13:14 (2)	143	13:31 (2)		18:18	37	17:07 (1)	20:12	47	18:07 (1)	21:03	21:49	22:03	21:31	20:29		19:19	64	17:58 (1)	17:13	75	12:59 (2)	16:32	133	13:04 (2)
2	08:48		09:53 (3)		08:19		09:22 (4)		07:25		16:28 (1)	07:14		17:21 (1)	06:10	05:25	05:24	06:01	06:51		07:40		16:55 (1)	07:35		11:43 (2)	08:25		09:05 (4)
	16:39	107	13:15 (2)	139	13:30 (2)		18:20	41	17:09 (1)	20:14	45	18:06 (1)	21:05	21:50	22:03	21:29	20:26		19:17	63	17:58 (1)	17:11	76	12:59 (2)	16:32	128	13:04 (2)
3	08:48		09:54 (3)		08:18		09:24 (4)		07:23		16:26 (1)	07:12		17:24 (1)	06:08	05:25	05:25	06:03	06:53		07:42		16:54 (1)	07:36		09:44 (3)	08:27		09:06 (4)
	16:40	107	13:16 (2)	135	13:31 (2)		18:21	45	17:11 (1)	20:15	41	18:05 (1)	21:06	21:51	22:02	21:28	20:24		19:14	62	17:56 (1)	17:09	91	13:00 (2)	16:31	124	13:04 (2)
4	08:47		09:53 (3)		08:16		09:25 (4)		07:21		16:24 (1)	07:10		17:25 (1)	06:06	05:24	05:25	06:04	06:55		07:44		16:55 (1)	07:38		09:40 (3)	08:28		09:09 (4)
	16:41	109	13:16 (2)	129	13:31 (2)		18:23	48	17:12 (1)	20:17	37	18:02 (1)	21:08	21:52	22:02	21:26	20:22	3	17:43 (1)	60	17:55 (1)	17:07	98	12:59 (2)	16:30	119	13:04 (2)
5	08:47		09:54 (3)		08:14		09:27 (4)		07:19		16:23 (1)	07:07		17:27 (1)	06:04	05:23	05:26	06:06	06:56		17:30 (1)	07:46		16:56 (1)	07:40		08:59 (4)	08:29		09:39 (3)
	16:43	109	13:17 (2)	122	13:30 (2)		18:25	51	17:14 (1)	20:19	33	18:00 (1)	21:10	21:53	22:01	21:24	20:20	19	17:49 (1)	58	17:54 (1)	17:06	113	13:00 (2)	16:30	113	13:04 (2)
6	08:47		09:54 (3)		08:13		09:30 (4)		07:16		16:22 (1)	07:05		17:30 (1)	06:02	05:23	05:27	06:08	06:58		17:27 (1)	07:47		16:57 (1)	07:42		08:56 (4)	08:31		09:40 (3)
	16:44	111	13:18 (2)	109	13:30 (2)		18:27	53	17:15 (1)	20:20	27	17:57 (1)	21:11	21:54	22:01	21:22	20:17	26	17:53 (1)	56	17:53 (1)	17:04	123	13:00 (2)	16:30	111	13:04 (2)
7	08:46		09:54 (3)		08:11		10:11 (3)		07:14		16:20 (1)	07:03		17:34 (1)	06:00	05:22	05:28	06:09	06:59		17:23 (1)	07:49		16:57 (1)	07:44		08:55 (4)	08:32		09:41 (3)
	16:45	113	13:19 (2)	97	13:30 (2)		18:28	56	17:16 (1)	20:22	19	17:53 (1)	21:13	21:55	22:00	21:20	20:15	32	17:55 (1)	54	17:51 (1)	17:02	129	13:01 (2)	16:29	110	13:05 (2)
8	08:46		09:24 (4)		08:09		10:15 (3)		07:12		16:19 (1)	07:01		17:41 (1)	05:59	05:21	05:29	06:11	07:01		17:20 (1)	07:51		16:58 (1)	07:45		08:53 (4)	08:33		09:41 (3)
	16:46	118	13:19 (2)	90	13:30 (2)		18:30	58	17:17 (1)	20:24	4	17:45 (1)	21:14	21:56	21:59	21:19	20:13	37	17:57 (1)	52	17:50 (1)	17:00	135	13:01 (2)	16:29	109	13:04 (2)
9	08:45		09:23 (4)		08:07		12:14 (2)		07:10		16:18 (1)	06:58			05:57	05:21	05:30	06:12	07:03		17:17 (1)	07:52		16:59 (1)	07:47		08:53 (4)	08:34		09:42 (3)
	16:48	124	13:21 (2)	76	13:30 (2)		18:32	60	17:18 (1)	20:26			21:16	21:57	21:59	21:17	20:10	41	17:58 (1)	49	17:48 (1)	16:59	139	13:01 (2)	16:29	107	13:04 (2)
10	08:45		09:22 (4)		08:06		12:14 (2)		07:07		16:17 (1)	06:56			05:55	05:20	05:31	06:14	07:04		17:15 (1)	07:54		17:00 (1)	07:49		08:52 (4)	08:35		09:42 (3)
	16:49	128	13:21 (2)	75	13:29 (2)		18:34	61	17:18 (1)	20:27			21:18	21:57	21:58	21:15	20:08	44	17:59 (1)	47	17:47 (1)	16:57	143	13:01 (2)	16:28	107	13:04 (2)
11	08:44		09:21 (4)		08:04		12:15 (2)		07:05		16:16 (1)	06:54			05:54	05:20	05:32	06:16	07:06		17:12 (1)	07:56		17:01 (1)	07:51		08:52 (4)	08:37		09:43 (3)
	16:51	131	13:21 (2)	73	13:28 (2)		18:36	63	17:19 (1)	20:29			21:19	21:58	21:57	21:13	20:06	47	17:59 (1)	43	17:44 (1)	16:56	146	13:02 (2)	16:28	105	13:04 (2)
12	08:44		09:20 (4)		08:02		12:16 (2)		07:03		16:16 (1)	06:52			05:52	05:20	05:33	06:17	07:08		17:10 (1)	07:57		17:02 (1)	07:53		08:51 (4)	08:38		09:45 (3)
	16:52	135	13:22 (2)	71	13:27 (2)		18:37	63	17:19 (1)	20:31			21:21	21:59	21:56	21:11	20:03	51	18:01 (1)	40	17:42 (1)	16:54	149	13:02 (2)	16:28	105	13:06 (2)
13	08:43		09:19 (4)		08:00		12:17 (2)		07:00		16:14 (1)	06:49			05:50	05:19	05:34	06:19	07:09		17:09 (1)	07:59		17:05 (1)	07:54		08:51 (4)	08:39		09:45 (3)
	16:53	139	13:23 (2)	70	13:27 (2)		18:39	65	17:19 (1)	20:32			21:23	22:00	21:56	21:09	20:01	53	18:02 (1)	34	17:39 (1)	16:53	151	13:02 (2)	16:28	104	13:06 (2)
14	08:42		09:18 (4)		07:58		12:18 (2)		06:58		16:14 (1)	06:47			05:49	05:19	05:35	06:20	07:11		17:07 (1)	08:01		17:07 (1)	07:56		08:51 (4)	08:40		09:46 (3)
	16:55	141	13:23 (2)	68	13:26 (2)		18:41	65	17:19 (1)	20:34			21:24	22:00	21:55	21:07	19:59	55	18:02 (1)	30	17:37 (1)	16:51	153	13:03 (2)	16:28	103	13:06 (2)
15	08:41		09:18 (4)		07:56		12:19 (2)		06:56		16:14 (1)	06:45			05:47	05:19	05:36	06:22	07:13		17:05 (1)	08:03		17:09 (1)	07:58		08:51 (4)	08:40		09:46 (3)
	16:57	143	13:24 (2)	65	13:24 (2)		18:43	66	17:20 (1)	20:36			21:26	22:01	21:54	21:05	19:56	58	18:03 (1)	23	17:32 (1)	16:50	153	13:03 (2)	16:28	102	13:05 (2)
16	08:41		09:18 (4)		07:54		12:20 (2)		06:54		16:13 (1)	06:43			05:46	05:19	05:38	06:24	07:14		17:03 (1)	08:04		17:15 (1)	08:00		08:51 (4)	08:41		09:47 (3)
	16:58	145	13:24 (2)	63	13:23 (2)		18:44	66	17:19 (1)	20:37			21:27	22:01	21:53	21:03	19:54	59	18:02 (1)	12	17:27 (1)	18:45	154	13:03 (2)	16:28	102	13:06 (2)
17	08:40		09:17 (4)		07:52		12:22 (2)		06:51		16:13 (1)	06:41			05:44	05:19	05:39	06:25	07:16		17:02 (1)	08:06			08:01		08:52 (4)	08:42		09:47 (3)
	17:00	148	13:25 (2)	60	13:22 (2)		18:46	66	17:19 (1)	20:39			21:29	22:02	21:52	21:01	19:52	61	18:03 (1)			18:43			16:47	153	13:03 (2)	16:28	101	13:06 (2)
18	08:39		09:17 (4)		07:50		12:23 (2)		06:49		16:13 (1)	06:38			05:43	05:19	05:40	06:27	07:17		17:02 (1)	08:08		13:18 (2)	08:03		08:52 (4)	08:43		09:48 (3)
	17:01	150	13:26 (2)	57	13:20 (2)		18:48	66	17:19 (1)	20:41			21:30	22:02	21:51	20:59	19:49	62	18:04 (1)	8	13:26 (2)	18:41	154	13:03 (2)	16:29	101	13:07 (2)
19	08:38		09:17 (4)		07:48		12:25 (2)		06:47		16:12 (1)	06:36			05:41	05:19	05:41	06:28	07:19		17:00 (1)	08:10		13:08 (2)	08:05		08:51 (4)	08:44		09:48 (3)
	17:03	151	13:27 (2)	53	13:18 (2)		18:49	66	17:18 (1)	20:43			21:32	22:03	21:49	20:57	19:47	63	18:03 (1)	28	13:36 (2)	16:44	155	13:03 (2)	16:29	100	13:07 (2)
20	08:37		09:18 (4)		07:46		12:27 (2)		06:44		16:12 (1)	06:34			05:40	05:19	05:43	06:30	07:21		16:59 (1)	08:11		13:03 (2)	08:06		08:52 (4)	08:44		09:49 (3)
	17:05	152	13:27 (2)	48	13:15 (2)		18:51	66	17:18 (1)	20:44			21:33	22:03	21:48	20:55	19:45	64	18:03 (1)	38	13:41 (2)	16:43	154	13:03 (2)	16:29	101	13:08 (2)
21	08:36		09:18 (4)		07:44		12:30 (2)		06:42		16:13 (1)	06:32			05:38	05:19	05:44	06:32	07:22		16:58 (1)	08:13		13:00 (2)	08:08		08:53 (4)	08:45		09:50 (3)
	17:06	152	13:28 (2)	42	13:12 (2)		18:53	65	17:18 (1)	20:46			21:35	22:03	21:47	20:53	19:42	65	18:03 (1)	44	13:44 (2)	16:42	152	13:03 (2)	16:30	101	13:09 (2)
22	08:34		09:17 (4)		07:42		12:33 (2)		06:40		16:12 (1)	06:30			05:37	05:19	05:45	06:33	07:24		16:57 (1)	08:15		12:56 (2)	08:10		08:54 (4)	08:45		09:50 (3)
	17:08	153	13:28 (2)	35	13:08 (2)		18:55	65	17:17 (1)	20:48			21:36	22:03	21:46	20:51	19:40	66	18:03 (1)	50	13:46 (2)	16:41	152	13:03 (2)	16:30	100	13:08 (2)
23	08:33		09:17 (4)		07:40		12:39 (2)		06:37		16:13 (1)	06:28			05:36	05:20	05:47	06:35	07:26		16:57 (1)	08:17		12:54 (2)	08:11		08:54 (4)	08:46		09:50 (3)
	17:10	155	13:29 (2)	24	13:03 (2)		18:56	64	17:17 (1)	20:49			21:37	22:03	21:44	20:49	19:38	66	18:03 (1)	54	13:48 (2)	16:40	151	13:04 (2)	16:31	101	13:09 (2)
24	08:32		09:18 (4)		07:38		06:35		16:13 (1)	06:26			05:35	05:20	05:48	06:37	07:27		16:56 (1)	08:18		12:52 (2)	08:13		08:54 (4)	08:46		09:51 (3)
	17:12	154	13:29 (2)		18:09		18:58	64	17:17 (1)	20:51			21:39	22:04	21:43	20:46	19:35	66	18:02 (1)	58	13:50 (2)	16:38	149	13:03 (2)	16:31	100	13:10 (2)
25	08:31		09:18 (4)		07:36		06:33		16:13 (1)	06:24			05:33	05:20	05:49	06:38	07:29		16:56 (1)	07:20		11:51 (2)	08:15		08:55 (4)	08:47		09:51 (3)
	17:13	153	13:29 (2)		18:10		19:00	62	17:15 (1)	20:53			21:40	22:04	21:42	20:44	19:33	66	18:02 (1)	61	12:52 (2)	16:37	148	13:03 (2)	16:32	101	13:10 (2)
26	08:29		09:18 (4)		07:34		16:41 (1)		06:30		16:14 (1)	06:22			05:32	05:21	05:51	06:40	07:31		16:55 (1)	07:22		11:49 (2)	08:16		08:57 (4)	08:47		09:51 (3)
	17:15	155	13:30 (2)		18:12	17	16:58 (1)		19:02	61	17:15 (1)	20:54			21:41	22:04	21:40	20:42	19:31	67	18:02 (1)	64	12:53 (2)	16:36	146	13:04 (2)	16:32	101	13:10 (2)
27	08:28		09:18 (4)		07:32		16:36 (1)		06:28		16:15 (1)	06:20			05:31	05:21	05:52	06:42	07:32		16:54 (1)	07:24		11:48 (2)	08:18		08:58 (4)	08:47		09:52 (3)
	17:17	153	13:30 (2)		18:14	26	17:02 (1)		19:03	59	17:14 (1)	20:56			21:43	22:04	21:39	20:40	19:28	67	18:01 (1)	66	12:54 (2)	16:36	143	13:04 (2)	16:33	101	13:11 (2)
28	08:27		09:19 (4)		07:30		16:33 (1)		06:26		16:15 (1)	06:18			05:30	05:21	05:54	06:43	07:34		16:55 (1)	07:26		11:47 (2)	08:19		08:58 (4)	08:48		09:53 (3)
	17:19	153	13:31 (2)		18:16	32	17:05 (1)		19:05	57	17:12 (1)	20:58			21:44	22:03	21:37	20:38	19:26	66	18:01 (1)	68	12:55 (2)	16:35	141	13:03 (2)	16:34	102	13:12 (2)
29	08:25		09:19 (4)						07:24		17:16 (1)	06:16			05:29	05:22	05:55	06:45	07:35		16:55 (1)	07:27		11:46 (2)	08:21		09:00 (4)	08:48		09:53 (3)
	17:20	151	13:30 (2)						20:07	56	18:12 (1)	21:00			21:45	22:03	21:36	20:35	19:24	65	18:00 (1)	70	12:56 (2)	16:34	139	13:04 (2)	16:35	103	13:13 (2)
30	08:24		09:19 (4)						07:21		17:17 (1)	06:14			05:28	05:23	05:57	06:46	07:37		16:54 (1)	07:29		11:45 (2)	08:22		09:02 (4)	08:48		09:53 (3)
	17:22	149	13:30 (2)						20:08	54	18:11 (1)	21:01			21:47	22:03	21:34	20:33	19:21	65	17:59 (1)	72	12:57 (2)	16:33	136	13:04 (2)	16:36	104	13:14 (2)
31	08:22		09:21 (4)						07:19		17:19 (1)				05:27		05:58	06:48						07:31		11:45 (2)			08:48		09:53 (3)
	17:24	146	13:31 (2)						20:10	50	18:09 (1)				21:48		21:33	20:31						17:15	73	12:58 (2)			16:37	104	13:13 (2)
Potential sun hours	259			277			367			416				485	499	502	454	381			331		266				243		
Total, worst case		4240			1919			1819			253								1434			1501			4101			3303	
Sun reduction		0,24			0,30			0,33			0,42								0,36			0,34			0,24			0,20	
Oper. time red.		0,95			0,95			0,95			0,95								0,95			0,95			0,95			0,95	
Wind dir. red.		0,64			0,66			0,66			0,66								0,66			0,67			0,64			0,65	
Total reduction		0,14			0,19			0,21			0,26								0,23			0,21			0,14			0,12	
Total, real		611			361			376			66								326			319			585			410	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
20-12-2018 09:08/3.2.737

SHADOW - Calendar

Calculation: Copy of V150@166Shadow receptor: M - 3998JK67a

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	06:58 (2)	05:26	06:08 (1)	05:23	06:15 (1)	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03	10 07:08 (2)	21:49	28 06:36 (1)	22:03	26 06:41 (1)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	07:02 (2)	05:26	06:08 (1)	05:24	06:15 (1)	06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05	2 07:04 (2)	21:50	28 06:36 (1)	22:03	27 06:42 (1)	21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08		05:25	06:09 (1)	05:25	06:16 (1)	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06		21:51	27 06:36 (1)	22:02	26 06:42 (1)	21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06		05:24	06:09 (1)	05:26	06:15 (1)	06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08		21:52	27 06:36 (1)	22:02	27 06:42 (1)	21:26	20:22	19:12	17:07	16:31
5	08:47	08:14	07:19	07:08	06:04		05:23	06:09 (1)	05:26	06:15 (1)	06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10		21:53	28 06:37 (1)	22:01	27 06:42 (1)	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02		05:23	06:09 (1)	05:27	06:16 (1)	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11		21:54	27 06:36 (1)	22:01	27 06:43 (1)	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01		05:22	06:10 (1)	05:28	06:16 (1)	06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13		21:55	27 06:37 (1)	22:00	27 06:43 (1)	21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59		05:22	06:10 (1)	05:29	06:16 (1)	06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15		21:56	26 06:36 (1)	22:00	27 06:43 (1)	21:19	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57		05:21	06:10 (1)	05:30	06:16 (1)	06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16		21:57	27 06:37 (1)	21:59	28 06:44 (1)	21:17	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55		05:21	06:10 (1)	05:31	06:15 (1)	06:14	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18		21:58	26 06:36 (1)	21:58	28 06:43 (1)	21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54		05:20	06:11 (1)	05:32	06:16 (1)	06:16	07:09 (2)	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19		21:58	26 06:37 (1)	21:57	27 06:43 (1)	21:13	6 07:15 (2)	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52		05:20	06:11 (1)	05:33	06:16 (1)	06:17	07:06 (2)	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21		21:59	26 06:37 (1)	21:57	27 06:43 (1)	21:11	11 07:17 (2)	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50		05:20	06:12 (1)	05:34	06:17 (1)	06:19	07:05 (2)	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23		22:00	25 06:37 (1)	21:56	27 06:44 (1)	21:09	14 07:19 (2)	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49		05:19	06:12 (1)	05:35	06:17 (1)	06:21	07:03 (2)	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24		22:00	26 06:38 (1)	21:55	27 06:44 (1)	21:07	17 07:20 (2)	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47		05:19	06:11 (1)	05:36	06:17 (1)	06:22	07:03 (2)	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26		22:01	26 06:37 (1)	21:54	27 06:44 (1)	21:05	18 07:21 (2)	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46	06:16 (1)	05:19	06:12 (1)	05:38	06:17 (1)	06:24	07:01 (2)	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27	10 06:26 (1)	22:01	25 06:37 (1)	21:53	27 06:44 (1)	21:03	20 07:21 (2)	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	07:04 (2) 05:44	06:15 (1)	05:19	06:12 (1)	05:39	06:17 (1)	06:25	07:01 (2)	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	6 07:10 (2) 21:29	13 06:28 (1)	22:02	25 06:37 (1)	21:52	27 06:44 (1)	21:01	21 07:22 (2)	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	07:02 (2) 05:43	06:13 (1)	05:19	06:12 (1)	05:40	06:18 (1)	06:27	07:00 (2)	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	11 07:13 (2) 21:30	16 06:29 (1)	22:02	25 06:37 (1)	21:51	26 06:44 (1)	20:59	21 07:21 (2)	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	07:00 (2) 05:41	06:12 (1)	05:19	06:13 (1)	05:41	06:18 (1)	06:29	07:00 (2)	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	14 07:14 (2) 21:32	18 06:30 (1)	22:03	25 06:38 (1)	21:49	25 06:43 (1)	20:57	21 07:21 (2)	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	06:58 (2) 05:40	06:11 (1)	05:19	06:14 (1)	05:43	06:19 (1)	06:30	07:00 (2)	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	17 07:15 (2) 21:33	20 06:31 (1)	22:03	24 06:38 (1)	21:48	25 06:44 (1)	20:55	21 07:21 (2)	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	06:56 (2) 05:39	06:10 (1)	05:19	06:14 (1)	05:44	06:19 (1)	06:32	07:00 (2)	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	20 07:16 (2) 21:35	22 06:32 (1)	22:03	24 06:38 (1)	21:47	24 06:43 (1)	20:53	21 07:21 (2)	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	06:56 (2) 05:37	06:09 (1)	05:19	06:14 (1)	05:45	06:20 (1)	06:34	07:00 (2)	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	20 07:16 (2) 21:36	23 06:32 (1)	22:03	24 06:38 (1)	21:46	22 06:42 (1)	20:51	19 07:19 (2)	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	06:55 (2) 05:36	06:09 (1)	05:20	06:13 (1)	05:47	06:20 (1)	06:35	07:02 (2)	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	21 07:16 (2) 21:37	24 06:33 (1)	22:04	25 06:38 (1)	21:44	21 06:41 (1)	20:49	17 07:19 (2)	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	06:55 (2) 05:35	06:08 (1)	05:20	06:14 (1)	05:48	06:22 (1)	06:37	07:03 (2)	07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	21 07:16 (2) 21:39	25 06:33 (1)	22:04	25 06:39 (1)	21:43	19 06:41 (1)	20:46	14 07:17 (2)	19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	06:55 (2) 05:34	06:08 (1)	05:20	06:14 (1)	05:50	06:23 (1)	06:38	07:05 (2)	07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	20 07:15 (2) 21:40	26 06:34 (1)	22:04	25 06:39 (1)	21:42	17 06:40 (1)	20:44	10 07:15 (2)	19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	06:55 (2) 05:32	06:08 (1)	05:21	06:14 (1)	05:51	06:24 (1)	06:40	07:07 (2)	07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	20 07:15 (2) 21:42	26 06:34 (1)	22:04	25 06:39 (1)	21:40	15 06:39 (1)	20:42	6 07:13 (2)	19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	06:55 (2) 05:31	06:08 (1)	05:21	06:15 (1)	05:52	06:26 (1)	06:42		07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	19 07:14 (2) 21:43	27 06:35 (1)	22:04	25 06:40 (1)	21:39	12 06:38 (1)	20:40		19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	06:55 (2) 05:30	06:08 (1)	05:22	06:14 (1)	05:54	06:28 (1)	06:43		07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	18 07:13 (2) 21:44	27 06:35 (1)	22:04	26 06:40 (1)	21:37	7 06:35 (1)	20:38		19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	06:56 (2) 05:29	06:08 (1)	05:22	06:15 (1)	05:55		06:45		07:36	07:27	08:21	08:48
	17:21		20:07	21:00	16 07:12 (2) 21:45	27 06:35 (1)	22:03	25 06:40 (1)	21:36		20:36		19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	06:57 (2) 05:28	06:08 (1)	05:23	06:15 (1)	05:57		06:47		07:37	07:29	08:22	08:48
	17:22		20:08	21:01	13 07:10 (2) 21:47	28 06:36 (1)	22:03	26 06:41 (1)	21:34		20:33		19:22	17:17	16:33	16:36
31	08:22		07:19		05:27	06:08 (1)			05:58		06:48			07:31		08:48
	17:24		20:10		21:48	28 06:36 (1)			21:33		20:31			17:15		16:37
Potential sun hours	259	277	367	416	485		499		502		454		381	331	266	243
Total, worst case				236	372		774		672		257					
Sun reduction				0,42	0,43		0,39		0,41		0,42					
Oper. time red.				0,95	0,95		0,95		0,95		0,95					
Wind dir. red.				0,63	0,67		0,67		0,67		0,63					
Total reduction				0,25	0,27		0,25		0,26		0,25					
Total, real				59	101		192		174		64					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
20-12-2018 09:08/3.2.737

SHADOW - Calendar

Calculation: Copy of V150@166Shadow receptor: N - 3945LA11

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December		
1	08:48		10:32 (4)	08:21		15:37 (2)	07:27		15:50 (2)	07:17	06:12	05:26	05:23	06:00	06:50		07:39		18:04 (1)	07:33		15:03 (2)	08:24		10:22 (4)
	16:38	85	13:12 (3)	17:26	42	16:19 (2)	18:18	21	16:11 (2)	20:12	21:03	21:49	22:03	21:31	20:29		19:19	33	18:37 (1)	17:13	53	15:56 (2)	16:32	71	12:56 (3)
2	08:48		10:32 (4)	08:19		15:36 (2)	07:25		15:54 (2)	07:14	06:10	05:25	05:24	06:01	06:51		07:40		18:05 (1)	07:35		15:04 (2)	08:25		10:23 (4)
	16:39	85	13:13 (3)	17:28	44	16:20 (2)	18:19	14	16:08 (2)	20:14	21:05	21:50	22:02	21:29	20:26		19:17	31	18:36 (1)	17:11	51	15:55 (2)	16:32	72	12:57 (3)
3	08:48		10:33 (4)	08:18		15:37 (2)	07:23			07:12	06:08	05:25	05:25	06:03	06:53		07:42		18:05 (1)	07:36		15:03 (2)	08:27		10:22 (4)
	16:40	85	13:14 (3)	17:30	45	16:22 (2)	18:21			20:15	21:06	21:51	22:02	21:28	20:24		19:14	29	18:34 (1)	17:09	51	15:54 (2)	16:31	76	12:58 (3)
4	08:47		10:34 (4)	08:16		15:36 (2)	07:21			07:10	06:06	05:24	05:25	06:04	06:55		07:44		18:06 (1)	07:38		15:04 (2)	08:28		10:22 (4)
	16:41	82	13:13 (3)	17:31	46	16:22 (2)	18:23			20:17	21:08	21:52	22:02	21:26	20:22		19:12	26	18:32 (1)	17:07	50	15:54 (2)	16:30	77	12:59 (3)
5	08:47		10:35 (4)	08:14		15:35 (2)	07:19			07:07	06:04	05:23	05:26	06:06	06:56		07:46		18:08 (1)	07:40		15:04 (2)	08:29		10:22 (4)
	16:43	82	13:14 (3)	17:33	48	16:23 (2)	18:25			20:19	21:10	21:53	22:01	21:24	20:20		19:10	22	18:30 (1)	17:06	49	15:53 (2)	16:30	79	12:59 (3)
6	08:47		10:35 (4)	08:13		15:34 (2)	07:16		17:39 (1)	07:05	06:02	05:23	05:27	06:08	06:58		07:47		18:10 (1)	07:42		15:05 (2)	08:31		10:21 (4)
	16:44	81	13:14 (3)	17:35	49	16:23 (2)	18:27	6	17:45 (1)	20:20	21:11	21:54	22:01	21:22	20:17		19:08	18	18:28 (1)	17:04	48	15:53 (2)	16:30	81	13:00 (3)
7	08:46		10:36 (4)	08:11		15:34 (2)	07:14		17:34 (1)	07:03	06:00	05:22	05:28	06:09	06:59		07:49		18:12 (1)	07:44		15:06 (2)	08:32		10:22 (4)
	16:45	80	13:14 (3)	17:37	50	16:24 (2)	18:28	16	17:50 (1)	20:22	21:13	21:55	22:00	21:20	20:15		19:05	12	18:24 (1)	17:02	46	15:52 (2)	16:29	82	13:01 (3)
8	08:46		10:37 (4)	08:09		15:34 (2)	07:12		17:32 (1)	07:01	05:59	05:21	05:29	06:11	07:01		07:51			07:45		15:06 (2)	08:33		10:22 (4)
	16:46	77	13:14 (3)	17:39	51	16:25 (2)	18:30	20	17:52 (1)	20:24	21:14	21:56	21:59	21:19	20:13		19:03			17:00	45	15:51 (2)	16:29	82	13:01 (3)
9	08:45		10:39 (4)	08:07		15:34 (2)	07:10		17:30 (1)	06:58	05:57	05:21	05:30	06:12	07:03		07:52			07:47		15:07 (2)	08:34		10:22 (4)
	16:48	76	13:15 (3)	17:41	52	16:26 (2)	18:32	24	17:54 (1)	20:25	21:16	21:57	21:59	21:17	20:10		19:01			16:59	44	15:51 (2)	16:28	84	13:02 (3)
10	08:45		10:39 (4)	08:06		15:34 (2)	07:07		17:28 (1)	06:56	05:55	05:20	05:31	06:14	07:04		07:54			07:49		15:08 (2)	08:35		10:22 (4)
	16:49	73	13:14 (3)	17:43	52	16:26 (2)	18:34	27	17:55 (1)	20:27	21:18	21:57	21:58	21:15	20:08		18:59			16:57	42	15:50 (2)	16:28	84	13:02 (3)
11	08:44		10:40 (4)	08:04		15:34 (2)	07:05		17:27 (1)	06:54	05:54	05:20	05:32	06:16	07:06		07:56		16:33 (2)	07:51		15:09 (2)	08:37		10:22 (4)
	16:50	71	13:14 (3)	17:45	52	16:26 (2)	18:36	29	17:56 (1)	20:29	21:19	21:58	21:57	21:13	20:06		18:56	3	16:36 (2)	16:56	40	15:49 (2)	16:28	86	13:03 (3)
12	08:44		10:41 (4)	08:02		15:33 (2)	07:03		17:26 (1)	06:52	05:52	05:20	05:33	06:17	07:08		07:57		16:25 (2)	07:52		15:11 (2)	08:38		10:23 (4)
	16:52	68	13:14 (3)	17:46	53	16:26 (2)	18:37	32	17:58 (1)	20:31	21:21	21:59	21:56	21:11	20:03		18:54	18	16:43 (2)	16:54	37	15:48 (2)	16:28	86	13:04 (3)
13	08:43		10:43 (4)	08:00		15:33 (2)	07:00		17:24 (1)	06:49	05:50	05:19	05:34	06:19	07:09		07:59		16:22 (2)	07:54		15:12 (2)	08:39		10:23 (4)
	16:53	64	13:14 (3)	17:48	53	16:26 (2)	18:39	33	17:57 (1)	20:32	21:22	22:00	21:56	21:09	20:01		18:52	24	16:46 (2)	16:53	35	15:47 (2)	16:28	87	13:05 (3)
14	08:42		10:45 (4)	07:58		15:33 (2)	06:58		17:24 (1)	06:47	05:49	05:19	05:35	06:20	07:11		08:01		16:19 (2)	07:56		15:14 (2)	08:40		10:22 (4)
	16:55	59	13:13 (3)	17:50	53	16:26 (2)	18:41	34	17:58 (1)	20:34	21:24	22:00	21:55	21:07	19:59		18:50	29	16:48 (2)	16:51	32	15:46 (2)	16:28	88	13:04 (3)
15	08:41		10:47 (4)	07:56		15:34 (2)	06:56		17:23 (1)	06:45	05:47	05:19	05:36	06:22	07:12		18:24 (1)	08:03		16:15 (2)	07:58		15:15 (2)	08:40		10:23 (4)
	16:57	54	13:13 (3)	17:52	52	16:26 (2)	18:43	36	17:59 (1)	20:36	21:26	22:01	21:54	21:05	19:56	7	18:31 (1)	18:47	34	16:49 (2)	16:50	29	15:44 (2)	16:28	87	13:05 (3)
16	08:41		10:51 (4)	07:54		15:34 (2)	06:54		17:22 (1)	06:43	05:46	05:19	05:38	06:24	07:14		18:19 (1)	08:04		16:13 (2)	08:00		15:17 (2)	08:41		10:23 (4)
	16:58	45	13:13 (3)	17:54	52	16:26 (2)	18:44	36	17:58 (1)	20:37	21:27	22:01	21:53	21:03	19:54	15	18:34 (1)	18:45	37	16:50 (2)	16:48	25	15:42 (2)	16:28	88	13:05 (3)
17	08:40		12:33 (3)	07:52		15:34 (2)	06:51		17:22 (1)	06:41	05:44	05:19	05:39	06:25	07:16		18:16 (1)	08:06		16:12 (2)	08:01		15:20 (2)	08:42		10:24 (4)
	17:00	39	13:12 (3)	17:56	52	16:26 (2)	18:46	36	17:58 (1)	20:39	21:29	22:02	21:52	21:01	19:52	21	18:37 (1)	18:43	40	16:52 (2)	16:47	21	15:41 (2)	16:28	88	13:06 (3)
18	08:39		12:35 (3)	07:50		15:35 (2)	06:49		17:22 (1)	06:38	05:43	05:19	05:40	06:27	07:17		18:14 (1)	08:08		16:10 (2)	08:03		12:25 (3)	08:43		10:25 (4)
	17:01	37	13:12 (3)	17:58	51	16:26 (2)	18:48	36	17:58 (1)	20:41	21:30	22:02	21:50	20:59	19:49	25	18:39 (1)	18:41	43	16:53 (2)	16:46	24	15:37 (2)	16:28	88	13:07 (3)
19	08:38		12:36 (3)	07:48		15:35 (2)	06:47		17:22 (1)	06:36	05:41	05:19	05:41	06:28	07:19		18:12 (1)	08:10		16:09 (2)	08:05		12:20 (3)	08:44		10:24 (4)
	17:03	35	13:11 (3)	17:59	50	16:25 (2)	18:49	35	17:57 (1)	20:43	21:32	22:03	21:49	20:57	19:47	27	18:39 (1)	18:39	44	16:53 (2)	16:44	26	15:34 (2)	16:29	90	13:07 (3)
20	08:37		12:38 (3)	07:46		15:35 (2)	06:44		17:22 (1)	06:34	05:40	05:19	05:43	06:30	07:21		18:10 (1)	08:11		16:08 (2)	08:06		12:17 (3)	08:44		10:25 (4)
	17:05	32	13:10 (3)	18:01	49	16:24 (2)	18:51	35	17:57 (1)	20:44	21:33	22:03	21:48	20:55	19:45	30	18:40 (1)	18:37	46	16:54 (2)	16:43	25	12:42 (3)	16:29	89	13:08 (3)
21	08:36		12:40 (3)	07:44		15:36 (2)	06:42		17:23 (1)	06:32	05:38	05:19	05:44	06:32	07:22		18:08 (1)	08:13		16:07 (2)	08:08		12:15 (3)	08:45		10:26 (4)
	17:06	29	13:09 (3)	18:03	47	16:23 (2)	18:53	33	17:56 (1)	20:46	21:35	22:03	21:47	20:53	19:42	32	18:40 (1)	18:35	48	16:55 (2)	16:42	29	12:44 (3)	16:30	89	13:09 (3)
22	08:34		12:42 (3)	07:42		15:37 (2)	06:40		17:22 (1)	06:30	05:37	05:19	05:45	06:33	07:24		18:07 (1)	08:15		16:05 (2)	08:10		12:14 (3)	08:45		10:26 (4)
	17:08	25	13:07 (3)	18:05	46	16:23 (2)	18:55	33	17:55 (1)	20:48	21:36	22:03	21:46	20:51	19:40	34	18:41 (1)	18:33	49	16:54 (2)	16:41	32	12:46 (3)	16:30	89	13:09 (3)
23	08:33		12:46 (3)	07:40		15:38 (2)	06:37		17:23 (1)	06:28	05:36	05:19	05:47	06:35	07:26		18:07 (1)	08:17		16:05 (2)	08:11		12:13 (3)	08:46		10:26 (4)
	17:10	26	16:00 (2)	18:07	44	16:22 (2)	18:56	31	17:54 (1)	20:49	21:37	22:03	21:44	20:48	19:38	34	18:41 (1)	18:30	50	16:55 (2)	16:40	35	12:48 (3)	16:31	89	13:09 (3)
24	08:32		12:52 (3)	07:38		15:39 (2)	06:35		17:25 (1)	06:26	05:35	05:20	05:48	06:37	07:27		18:05 (1)	08:18		16:04 (2)	08:13		12:12 (3)	08:46		10:27 (4)
	17:11	24	16:04 (2)	18:09	42	16:21 (2)	18:58	28	17:53 (1)	20:51	21:39	22:04	21:43	20:46	19:35	35	18:40 (1)	18:28	51	16:55 (2)	16:38	37	12:49 (3)	16:31	89	13:10 (3)
25	08:31		15:46 (2)	07:36		15:41 (2)	06:33		17:25 (1)	06:24	05:33	05:20	05:49	06:38	07:29		18:05 (1)	07:20		15:04 (2)	08:15		12:11 (3)	08:47		10:28 (4)
	17:13	21	16:07 (2)	18:10	39	16:20 (2)	19:00	25	17:50 (1)	20:53	21:40	22:04	21:42	20:44	19:33	36	18:41 (1)	17:26	52	15:56 (2)	16:37	39	12:50 (3)	16:32	89	13:10 (3)
26	08:29		15:44 (2)	07:34		15:42 (2)	06:30		17:27 (1)	06:22	05:32	05:21	05:51	06:40	07:30		18:05 (1)	07:22		15:03 (2)	08:16		10:30 (4)	08:47		10:28 (4)
	17:15	25	16:09 (2)	18:12	36	16:18 (2)	19:02	22	17:49 (1)	20:54	21:41	22:04	21:40	20:42	19:31	36	18:41 (1)	17:24	53	15:56 (2)	16:36	45	12:52 (3)	16:32	88	13:10 (3)
27	08:28		15:42 (2)	07:32		15:44 (2)	06:28		17:30 (1)	06:20	05:31	05:21	05:52	06:42	07:32		18:04 (1)	07:24		15:03 (2)	08:18		10:27 (4)	08:47		10:28 (4)
	17:17	29	16:11 (2)	18:14	32	16:16 (2)	19:03	17	17:47 (1)	20:56	21:43	22:04	21:39	20:40	19:28	36	18:40 (1)	17:22	53	15:56 (2)	16:36	53	12:53 (3)	16:33	88	13:10 (3)
28	08:27		15:42 (2)	07:29		15:47 (2)	06:26		17:32 (1)	06:18	05:30	05:21	05:54	06:43	07:34		18:04 (1)	07:26		15:03 (2)	08:19		10:25 (4)	08:47		10:30 (4)
	17:19	32	16:14 (2)	18:16	27	16:14 (2)	19:05	10	17:42 (1)	20:58	21:44	22:03	21:37	20:38	19:26	35	18:39 (1)	17:20	53	15:56 (2)	16:35	59	12:53 (3)	16:34	88	13:12 (3)
29	08:25		15:40 (2)				07:23			06:16	05:29	05:22	05:55	06:45	07:35		18:04 (1)	07:27		15:03 (2)	08:21		10:24 (4)	08:48		10:30 (4)
	17:20	35	16:15 (2)				20:07			21:00	21:45	22:03	21:36	20:35	19:24	35	18:39 (1)	17:18	53	15:56 (2)	16:34	64	12:55 (3)	16:35	88	13:12 (3)
30	08:24		15:39 (2)				07:21			06:14	05:28	05:23	05:57	06:46	07:37		18:04 (1)	07:29		15:03 (2)	08:22		10:23 (4)	08:48		10:31 (4)
	17:22	37	16:16 (2)				20:08			21:01	21:46	22:03	21:34	20:33	19:21	33	18:37 (1)	17:17	53	15:56 (2)	16:33	67	12:55 (3)	16:36	86	13:12 (3)
31	08:22		15:38 (2)				07:19				05:27		05:58	06:48				07:31		15:03 (2)				08:48		10:31 (4)
	17:24	40	16:18 (2)				20:10				21:48		21:32	20:31				17:15	53	15:56 (2)				16:37	86	13:12 (3)
Potential sun hours	259			277			367			416	485	499	502	454	381			331			266			243		
Total, worst case		1633			1309			669								471			1057			1233			2634	
Sun reduction		0,24			0,30			0,33								0,36			0,34			0,24			0,20	
Oper. time red.		0,95			0,95			0,95								0,95			0,95			0,95			0,95	
Wind dir. red.		0,66			0,67			0,63								0,63			0,66			0,67			0,65	
Total reduction		0,15			0,19			0,20								0,22			0,21			0,15			0,13	
Total, real		245			250			132								102			223			185			333	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
20-12-2018 09:08/3.2.737

SHADOW - Calendar

Calculation: Copy of V150@166Shadow receptor: O - 3998NA2

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 16:38	08:21 17:26	07:27 18:18	07:17 20:12	08:15 (3) 08:26 (3)	06:12 21:03	07:26 (2) 08:03 (2)	05:26 21:49	05:23 22:03	06:00 21:31	06:50 20:29	07:35 (2) 08:04 (2)	07:39 19:19	08:09 (4) 08:29 (4)	07:33 17:13	08:24 16:32
2	08:48 16:39	08:19 17:28	07:25 18:20	07:14 20:14		06:10 21:05	07:27 (2) 08:02 (2)	05:25 21:50	05:24 22:03	06:01 21:29	06:51 20:26	07:36 (2) 08:01 (2)	07:41 19:17	08:09 (4) 08:29 (4)	07:35 17:11	08:25 16:32
3	08:48 16:40	08:18 17:30	07:23 18:21	07:12 20:15		06:08 21:06	07:28 (2) 08:02 (2)	05:25 21:51	05:25 22:02	06:03 21:28	07:50 (2) 07:58 (2)	06:53 20:24	07:39 (2) 07:59 (2)	07:42 19:15	08:08 (4) 08:27 (4)	07:36 17:09	08:27 16:31
4	08:47 16:41	08:16 17:32	07:21 18:23	07:10 20:17		06:06 21:08	07:29 (2) 08:00 (2)	05:24 21:52	05:25 22:02	06:05 21:26	07:46 (2) 08:01 (2)	06:55 20:22	07:42 (2) 07:56 (2)	07:44 19:12	08:09 (4) 08:27 (4)	07:38 17:07	08:28 16:31
5	08:47 16:43	08:14 17:33	07:19 18:25	07:07 20:19		06:04 21:10	07:30 (2) 07:58 (2)	05:23 21:53	05:26 22:01	06:06 21:24	07:44 (2) 08:04 (2)	06:56 20:20		07:46 19:10	08:11 (4) 08:26 (4)	07:40 17:06	08:29 16:30
6	08:47 16:44	08:13 17:35	07:16 18:27	07:40 (4) 07:44 (4)	07:05 20:20	06:02 21:11	07:31 (2) 07:56 (2)	05:23 21:54	05:27 22:01	06:08 21:22	07:42 (2) 08:05 (2)	06:58 20:17		07:47 19:08	08:13 (4) 08:24 (4)	07:42 17:04	08:31 16:30
7	08:46 16:45	08:11 17:37	07:14 18:29	07:37 (4) 07:46 (4)	07:03 20:22	06:01 21:13	07:33 (2) 07:55 (2)	05:22 21:55	05:28 22:00	06:09 21:21	07:40 (2) 08:06 (2)	07:00 20:15		07:49 19:05	08:14 (4) 08:21 (4)	07:44 17:02	08:32 16:29
8	08:46 16:46	08:09 17:39	07:12 18:30	07:35 (4) 07:48 (4)	07:01 20:24	07:44 (2) 07:58 (2)	05:59 21:15	07:34 (2) 07:53 (2)	05:21 21:56	05:29 22:00	06:11 21:19	07:39 (2) 08:08 (2)	07:01 20:13	07:51 19:03		07:45 17:01	08:33 16:29
9	08:45 16:48	08:08 17:41	07:10 18:32	07:33 (4) 07:49 (4)	06:58 20:26	07:41 (2) 08:01 (2)	05:57 21:16	07:37 (2) 07:49 (2)	05:21 21:57	05:30 21:59	06:12 21:17	07:37 (2) 08:09 (2)	07:03 20:10	07:52 19:01		07:47 16:59	08:34 16:29
10	08:45 16:49	08:06 17:43	07:07 18:34	07:30 (4) 07:49 (4)	06:56 20:27	07:38 (2) 08:03 (2)	05:55 21:18		05:21 21:58	05:31 21:58	06:14 21:15	07:37 (2) 08:10 (2)	07:04 20:08	07:54 18:59		07:49 16:57	08:35 16:28
11	08:44 16:51	08:04 17:45	07:05 18:36	07:30 (4) 07:50 (4)	06:54 20:29	07:36 (2) 08:05 (2)	05:54 21:19		05:20 21:58	05:32 21:57	06:16 21:13	07:36 (2) 08:12 (2)	07:06 20:06	08:08 (3) 08:19 (3)	07:56 18:56	07:51 16:56	08:37 16:28
12	08:44 16:52	08:02 17:46	07:03 18:37	07:30 (4) 07:50 (4)	06:52 20:31	07:35 (2) 08:06 (2)	05:52 21:21		05:20 21:59	05:33 21:56	06:17 21:11	07:35 (2) 08:12 (2)	07:08 20:03	08:05 (3) 08:21 (3)	07:57 18:54	07:53 16:54	08:38 16:28
13	08:43 16:54	08:00 17:48	07:01 18:39	07:29 (4) 07:49 (4)	06:49 20:32	07:32 (2) 08:06 (2)	05:50 21:23		05:20 22:00	05:34 21:56	06:19 21:09	07:34 (2) 08:13 (2)	07:09 20:01	08:03 (3) 08:23 (3)	07:59 18:52	07:54 16:53	08:39 16:28
14	08:42 16:55	07:58 17:50	06:58 18:41	07:29 (4) 07:48 (4)	06:47 20:34	07:31 (2) 08:07 (2)	05:49 21:24		05:19 22:00	05:35 21:55	06:20 21:07	07:33 (2) 08:13 (2)	07:11 19:59	08:01 (3) 08:23 (3)	08:01 18:50	07:56 16:51	08:40 16:28
15	08:41 16:57	07:56 17:52	06:56 18:43	07:30 (4) 07:48 (4)	06:45 20:36	07:30 (2) 08:08 (2)	05:47 21:26		05:19 22:01	05:36 21:54	06:22 21:05	07:33 (2) 08:14 (2)	07:13 19:56	08:00 (3) 08:24 (3)	08:03 18:48	07:58 16:50	08:40 16:28
16	08:41 16:58	07:54 17:54	06:54 18:44	07:22 (3) 07:46 (4)	06:43 20:37	07:29 (2) 08:09 (2)	05:46 21:27		05:19 22:01	05:38 21:53	06:24 21:03	07:32 (2) 08:14 (2)	07:14 19:54	07:59 (3) 08:24 (3)	08:04 18:45	08:00 16:48	08:41 16:28
17	08:40 17:00	07:52 17:56	06:51 18:46	07:19 (3) 07:44 (4)	06:41 20:39	07:28 (2) 08:09 (2)	05:44 21:29		05:19 22:02	05:39 21:52	06:25 21:01	07:32 (2) 08:15 (2)	07:16 19:52	07:58 (3) 08:25 (3)	08:06 18:43	08:01 16:47	08:42 16:28
18	08:39 17:01	07:50 17:58	06:49 18:48	07:17 (3) 07:42 (4)	06:38 20:41	07:27 (2) 08:10 (2)	05:43 21:30		05:19 22:02	05:40 21:51	06:27 20:59	07:31 (2) 08:14 (2)	07:17 19:49	07:58 (3) 08:25 (3)	08:08 18:41	08:03 16:46	08:43 16:29
19	08:38 17:03	07:48 17:59	06:47 18:50	07:14 (3) 07:36 (3)	06:36 20:43	07:27 (2) 08:10 (2)	05:41 21:32		05:19 22:03	05:41 21:49	06:29 20:57	07:31 (2) 08:15 (2)	07:19 19:47	07:57 (3) 08:24 (3)	08:10 18:39	08:05 16:44	08:44 16:29
20	08:37 17:05	07:46 18:01	06:44 18:51	07:13 (3) 07:37 (3)	06:34 20:44	07:26 (2) 08:10 (2)	05:40 21:33		05:19 22:03	05:43 21:48	06:30 20:55	07:30 (2) 08:14 (2)	07:21 19:45	07:57 (3) 08:24 (3)	08:11 18:37	08:06 16:43	08:44 16:29
21	08:36 17:06	07:44 18:03	06:42 18:53	07:12 (3) 07:38 (3)	06:32 20:46	07:25 (2) 08:09 (2)	05:38 21:35		05:19 22:03	05:44 21:47	06:32 20:53	07:30 (2) 08:14 (2)	07:22 19:42	07:57 (3) 08:24 (3)	08:13 18:35	08:08 16:42	08:45 16:30
22	08:34 17:08	07:42 18:05	06:40 18:55	07:11 (3) 07:37 (3)	06:30 20:48	07:25 (2) 08:09 (2)	05:37 21:36		05:19 22:03	05:45 21:46	06:33 20:51	07:30 (2) 08:13 (2)	07:24 19:40	07:57 (3) 08:23 (3)	08:15 18:33	08:10 16:41	08:45 16:30
23	08:33 17:10	07:40 18:07	06:37 18:56	07:11 (3) 07:38 (3)	06:28 20:49	07:24 (2) 08:08 (2)	05:36 21:37		05:20 22:03	05:47 21:44	06:35 20:49	07:30 (2) 08:13 (2)	07:26 19:38	07:58 (3) 08:22 (3)	08:17 18:31	08:11 16:40	08:46 16:31
24	08:32 17:12	07:38 18:09	06:35 18:58	07:10 (3) 07:38 (3)	06:26 20:51	07:24 (2) 08:08 (2)	05:35 21:39		05:20 22:04	05:48 21:43	06:37 20:46	07:30 (2) 08:12 (2)	07:27 19:35	07:58 (3) 08:20 (3)	08:18 18:29	08:13 16:39	08:46 16:31
25	08:31 17:13	07:36 18:10	06:33 19:00	07:10 (3) 07:37 (3)	06:24 20:53	07:24 (2) 08:07 (2)	05:33 21:40		05:20 22:04	05:50 21:42	06:38 20:44	07:30 (2) 08:12 (2)	07:29 19:33	07:59 (3) 08:23 (4)	07:20 17:26	08:15 16:38	08:47 16:32
26	08:30 17:15	07:34 18:12	06:31 19:02	07:10 (3) 07:37 (3)	06:22 20:54	07:25 (2) 08:08 (2)	05:32 21:41		05:21 22:04	05:51 21:40	06:40 20:42	07:31 (2) 08:12 (2)	07:31 19:31	08:01 (3) 08:26 (4)	07:22 17:24	08:16 16:37	08:47 16:33
27	08:28 17:17	07:32 18:14	06:28 19:03	07:10 (3) 07:36 (3)	06:20 20:56	07:25 (2) 08:07 (2)	05:31 21:43		05:21 22:04	05:52 21:39	06:42 20:40	07:31 (2) 08:11 (2)	07:32 19:28	08:02 (3) 08:27 (4)	07:24 17:22	08:18 16:36	08:47 16:33
28	08:27 17:19	07:30 18:16	06:26 19:05	07:10 (3) 07:34 (3)	06:18 20:58	07:25 (2) 08:06 (2)	05:30 21:44		05:22 22:03	05:54 21:37	06:43 20:38	07:32 (2) 08:10 (2)	07:34 19:26	08:11 (4) 08:28 (4)	07:26 17:21	08:19 16:35	08:48 16:34
29	08:25 17:21		07:24 20:07	08:11 (3) 08:33 (3)	06:16 21:00	07:26 (2) 08:05 (2)	05:29 21:45		05:22 22:03	05:55 21:36	06:45 20:35	07:32 (2) 08:08 (2)	07:36 19:24	08:10 (4) 08:29 (4)	07:27 17:19	08:21 16:34	08:48 16:35
30	08:24 17:22		07:21 20:08	08:12 (3) 08:32 (3)	06:14 21:01	07:26 (2) 08:04 (2)	05:28 21:47		05:23 22:03	05:57 21:34	06:46 20:33	07:33 (2) 08:07 (2)	07:37 19:21	08:09 (4) 08:28 (4)	07:29 17:17	08:22 16:33	08:48 16:36
31	08:22 17:24		07:19 20:10	08:14 (3) 08:30 (3)			05:27 21:48			05:58 21:33	06:48 20:31	07:34 (2) 08:05 (2)			07:31 17:15		08:48 16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case			547	871	243			1029	542	110		
Sun reduction			0,33	0,42	0,43			0,42	0,36	0,34		
Oper. time red.			0,95	0,95	0,95			0,95	0,95	0,95		
Wind dir. red.			0,60	0,63	0,63			0,63	0,61	0,59		
Total reduction			0,19	0,25	0,25			0,25	0,21	0,19		
Total, real			102	216	62			254	112	21		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
20-12-2018 09:08/3.2.737

SHADOW - Calendar

Calculation: Copy of V150@166Shadow receptor: P - 3998JD89

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 16:38	08:21 17:26	07:27 18:18	07:17 20:12	06:12 21:03 16	06:51 (2) 07:07 (2)	05:26 21:49 27	06:04 (1) 06:31 (1)	05:23 22:03 26	06:10 (1) 06:36 (1)	06:00 21:31	06:50 20:29	07:39 19:19	07:33 17:13	08:24 16:32
2	08:48 16:39	08:19 17:28	07:25 18:20	07:14 20:14	06:10 21:05 13	06:52 (2) 07:05 (2)	05:26 21:50 26	06:04 (1) 06:30 (1)	05:24 22:03 27	06:10 (1) 06:37 (1)	06:01 21:29	06:51 20:27	07:41 19:17	07:35 17:11	08:25 16:32
3	08:48 16:40	08:18 17:30	07:23 18:21	07:12 20:15	06:08 21:06 10	06:54 (2) 07:04 (2)	05:25 21:51 26	06:05 (1) 06:31 (1)	05:25 22:02 27	06:11 (1) 06:38 (1)	06:03 21:28	06:53 20:24	07:42 19:15	07:36 17:09	08:27 16:31
4	08:47 16:41	08:16 17:32	07:21 18:23	07:10 20:17	06:06 21:08 5	06:56 (2) 07:01 (2)	05:24 21:52 27	06:04 (1) 06:31 (1)	05:26 22:02 27	06:10 (1) 06:37 (1)	06:05 21:26	06:55 20:22	07:44 19:12	07:38 17:07	08:28 16:31
5	08:47 16:43	08:14 17:33	07:19 18:25	07:08 20:19	06:04 21:10	05:23 21:53 27	06:05 (1) 06:32 (1)	05:26 22:01 26	06:11 (1) 06:37 (1)	06:06 21:24	06:56 20:20	07:46 19:10	07:40 17:06	08:29 16:30
6	08:47 16:44	08:13 17:35	07:16 18:27	07:05 20:20	06:02 21:11	05:23 21:54 27	06:05 (1) 06:32 (1)	05:27 22:01 27	06:11 (1) 06:38 (1)	06:08 21:22	06:58 20:17	07:47 19:08	07:42 17:04	08:31 16:30
7	08:46 16:45	08:11 17:37	07:14 18:29	07:03 20:22	06:01 21:13	05:22 21:55 27	06:05 (1) 06:32 (1)	05:28 22:00 27	06:11 (1) 06:38 (1)	06:09 21:21	07:00 20:15	07:49 19:05	07:44 17:02	08:32 16:29
8	08:46 16:46	08:09 17:39	07:12 18:30	07:01 20:24	05:59 21:15	05:22 21:56 27	06:05 (1) 06:32 (1)	05:29 22:00 26	06:12 (1) 06:38 (1)	06:11 21:19	07:01 20:13	07:51 19:03	07:45 17:01	08:33 16:29
9	08:46 16:48	08:08 17:41	07:10 18:32	06:58 20:26	05:57 21:16	05:21 21:57 26	06:06 (1) 06:32 (1)	05:30 21:59 27	06:12 (1) 06:39 (1)	06:12 21:17 7	07:05 (2) 07:12 (2)	07:03 20:11	07:52 19:01	07:47 16:59	08:34 16:29
10	08:45 16:49	08:06 17:43	07:07 18:34	06:56 20:27	05:55 21:18	05:21 21:58 27	06:05 (1) 06:32 (1)	05:31 21:58 27	06:11 (1) 06:38 (1)	06:14 21:15 11	07:02 (2) 07:13 (2)	07:04 20:08	07:54 18:59	07:49 16:57	08:36 16:28
11	08:44 16:51	08:04 17:45	07:05 18:36	06:54 20:29	05:54 21:19	05:20 21:58 26	06:06 (1) 06:32 (1)	05:32 21:57 27	06:11 (1) 06:38 (1)	06:16 21:13 14	07:01 (2) 07:15 (2)	07:06 20:06	07:56 18:56	07:51 16:56	08:37 16:28
12	08:44 16:52	08:02 17:47	07:03 18:37	06:52 20:31	05:52 21:21	05:20 21:59 27	06:06 (1) 06:33 (1)	05:33 21:57 26	06:12 (1) 06:38 (1)	06:17 21:11 17	06:59 (2) 07:16 (2)	07:08 20:04	07:58 18:54	07:53 16:54	08:38 16:28
13	08:43 16:54	08:00 17:48	07:01 18:39	06:49 20:32	05:50 21:23	05:20 22:00 26	06:07 (1) 06:33 (1)	05:34 21:56 26	06:13 (1) 06:39 (1)	06:19 21:09 18	06:59 (2) 07:17 (2)	07:09 20:01	07:59 18:52	07:54 16:53	08:39 16:28
14	08:42 16:55	07:58 17:50	06:58 18:41	06:47 20:34	05:49 21:24	05:19 22:00 26	06:07 (1) 06:33 (1)	05:35 21:55 26	06:13 (1) 06:39 (1)	06:21 21:07 20	06:57 (2) 07:17 (2)	07:11 19:59	08:01 18:50	07:56 16:51	08:40 16:28
15	08:41 16:57	07:56 17:52	06:56 18:43	06:45 20:36	05:47 21:26	05:19 22:01 26	06:06 (1) 06:32 (1)	05:36 21:54 25	06:14 (1) 06:39 (1)	06:22 21:05 20	06:57 (2) 07:17 (2)	07:13 19:57	08:03 18:48	07:58 16:50	08:41 16:28
16	08:41 16:58	07:54 17:54	06:54 18:44	06:43 20:38	05:46 21:27	05:19 22:01 26	06:07 (1) 06:33 (1)	05:38 21:53 24	06:14 (1) 06:38 (1)	06:24 21:03 21	06:56 (2) 07:17 (2)	07:14 19:54	08:04 18:45	08:00 16:48	08:41 16:28
17	08:40 17:00	07:52 17:56	06:51 18:46	06:41 20:39	05:44 21:29	05:19 22:02 26	06:07 (1) 06:33 (1)	05:39 21:52 24	06:14 (1) 06:38 (1)	06:25 21:01 20	06:57 (2) 07:17 (2)	07:16 19:52	08:06 18:43	08:01 16:47	08:42 16:28
18	08:39 17:01	07:50 17:58	06:49 18:48	06:39 20:41	05:43 21:30 4	06:14 (1) 06:18 (1)	05:19 22:02 26	06:07 (1) 06:33 (1)	05:40 21:51 23	06:14 (1) 06:37 (1)	06:27 20:59 20	06:56 (2) 07:16 (2)	07:17 19:50	08:08 18:41	08:03 16:46	08:43 16:29
19	08:38 17:03	07:48 18:00	06:47 18:50	06:36 20:43 5	07:00 (2) 07:05 (2)	05:41 21:32 11	06:11 (1) 06:22 (1)	05:19 22:03 26	06:08 (1) 06:34 (1)	05:41 21:49 22	06:15 (1) 06:37 (1)	06:29 20:57 19	06:57 (2) 07:16 (2)	07:19 19:47	08:10 18:39	08:05 16:44	08:44 16:29
20	08:37 17:05	07:46 18:01	06:44 18:51	06:34 20:44 10	06:58 (2) 07:08 (2)	05:40 21:33 14	06:10 (1) 06:24 (1)	05:19 22:03 26	06:08 (1) 06:34 (1)	05:43 21:48 21	06:16 (1) 06:37 (1)	06:30 20:55 18	06:57 (2) 07:15 (2)	07:21 19:45	08:11 18:37	08:06 16:43	08:44 16:29
21	08:36 17:06	07:44 18:03	06:42 18:53	06:32 20:46 13	06:56 (2) 07:09 (2)	05:39 21:35 16	06:09 (1) 06:25 (1)	05:19 22:03 26	06:08 (1) 06:34 (1)	05:44 21:47 19	06:17 (1) 06:36 (1)	06:32 20:53 15	06:59 (2) 07:14 (2)	07:22 19:43	08:13 18:35	08:08 16:42	08:45 16:30
22	08:35 17:08	07:42 18:05	06:40 18:55	06:30 20:48 16	06:54 (2) 07:10 (2)	05:37 21:36 18	06:07 (1) 06:25 (1)	05:19 22:03 26	06:08 (1) 06:34 (1)	05:45 21:46 17	06:18 (1) 06:35 (1)	06:34 20:51 12	07:00 (2) 07:12 (2)	07:24 19:40	08:15 18:33	08:10 16:41	08:45 16:30
23	08:33 17:10	07:40 18:07	06:38 18:56	06:28 20:49 18	06:52 (2) 07:10 (2)	05:36 21:37 20	06:06 (1) 06:26 (1)	05:20 22:04 26	06:08 (1) 06:34 (1)	05:47 21:44 15	06:19 (1) 06:34 (1)	06:35 20:49 9	07:02 (2) 07:11 (2)	07:26 19:38	08:17 18:31	08:11 16:40	08:46 16:31
24	08:32 17:12	07:38 18:09	06:35 18:58	06:26 20:51 20	06:51 (2) 07:11 (2)	05:35 21:39 21	06:06 (1) 06:27 (1)	05:20 22:04 26	06:09 (1) 06:35 (1)	05:48 21:43 12	06:21 (1) 06:33 (1)	06:37 20:46 4	07:04 (2) 07:08 (2)	07:27 19:35	08:18 18:29	08:13 16:39	08:46 16:31
25	08:31 17:13	07:36 18:11	06:33 19:00	06:24 20:53 21	06:50 (2) 07:11 (2)	05:34 21:40 23	06:05 (1) 06:28 (1)	05:20 22:04 26	06:09 (1) 06:35 (1)	05:50 21:42 8	06:23 (1) 06:31 (1)	06:38 20:44		07:29 19:33	07:20 17:27	08:15 16:38	08:47 16:32
26	08:30 17:15	07:34 18:12	06:31 19:02	06:22 20:55 21	06:50 (2) 07:11 (2)	05:32 21:42 23	06:05 (1) 06:28 (1)	05:21 22:04 26	06:09 (1) 06:35 (1)	05:51 21:40		06:40 20:42		07:31 19:31	07:22 17:25	08:16 16:37	08:47 16:33
27	08:28 17:17	07:32 18:14	06:28 19:03	06:20 20:56 20	06:50 (2) 07:10 (2)	05:31 21:43 25	06:04 (1) 06:29 (1)	05:21 22:04 26	06:10 (1) 06:36 (1)	05:52 21:39		06:42 20:40		07:32 19:28	07:24 17:23	08:18 16:36	08:47 16:33
28	08:27 17:19	07:30 18:16	06:26 19:05	06:18 20:58 20	06:50 (2) 07:10 (2)	05:30 21:44 25	06:04 (1) 06:29 (1)	05:22 22:04 26	06:09 (1) 06:35 (1)	05:54 21:37		06:43 20:38		07:34 19:26	07:26 17:21	08:19 16:35	08:48 16:34
29	08:25 17:21		07:24 20:07	06:16 21:00 19	06:50 (2) 07:09 (2)	05:29 21:45 25	06:04 (1) 06:29 (1)	05:22 22:03 26	06:10 (1) 06:36 (1)	05:55 21:36		06:45 20:36		07:36 19:24	07:27 17:19	08:21 16:34	08:48 16:35
30	08:24 17:22		07:21 20:09	06:14 21:01 18	06:50 (2) 07:08 (2)	05:28 21:47 25	06:05 (1) 06:30 (1)	05:23 22:03 27	06:10 (1) 06:37 (1)	05:57 21:34		06:47 20:33		07:37 19:22	07:29 17:17	08:22 16:33	08:48 16:36
31	08:22 17:24		07:19 20:10			05:27 21:48 26	06:04 (1) 06:30 (1)			05:58 21:33		06:48 20:31			07:31 17:15		08:48 16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case				201	320	789	582	245				
Sun reduction				0,42	0,43	0,39	0,41	0,42				
Oper. time red.				0,95	0,95	0,95	0,95	0,95				
Wind dir. red.				0,64	0,67	0,67	0,67	0,64				
Total reduction				0,25	0,27	0,25	0,26	0,25				
Total, real				51	86	196	151	62				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
20-12-2018 09:08/3.2.737

SHADOW - Calendar

Calculation: Copy of V150@166Shadow receptor: Q - 3998JD85

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 - 16:38	08:21 - 17:26	07:27 - 18:18	07:17 - 20:12	06:12 - 21:03 (8)	06:58 (2) - 07:06 (2) - 05:26 - 21:49 (26)	06:09 (1) - 06:35 (1) - 05:23 - 22:03 (22)	06:17 (1) - 06:39 (1) - 06:00 - 21:31	06:50 - 20:29	07:39 - 19:19	07:33 - 17:13	08:24 - 16:32
2	08:48 - 16:39	08:19 - 17:28	07:25 - 18:20	07:14 - 20:14	06:10 - 21:05	05:26 - 21:50 (26)	06:09 (1) - 06:35 (1) - 05:24 - 22:03 (23)	06:17 (1) - 06:40 (1) - 06:01 - 21:29	06:51 - 20:27	07:41 - 19:17	07:35 - 17:11	08:25 - 16:32
3	08:48 - 16:40	08:18 - 17:30	07:23 - 18:21	07:12 - 20:15	06:08 - 21:06	05:25 - 21:51 (26)	06:10 (1) - 06:36 (1) - 05:25 - 22:02 (23)	06:18 (1) - 06:41 (1) - 06:03 - 21:28	06:53 - 20:24	07:42 - 19:15	07:36 - 17:09	08:27 - 16:31
4	08:47 - 16:41	08:16 - 17:32	07:21 - 18:23	07:10 - 20:17	06:06 - 21:08	05:24 - 21:52 (25)	06:10 (1) - 06:35 (1) - 05:26 - 22:02 (24)	06:17 (1) - 06:41 (1) - 06:05 - 21:26	06:55 - 20:22	07:44 - 19:12	07:38 - 17:07	08:28 - 16:31
5	08:47 - 16:43	08:15 - 17:33	07:19 - 18:25	07:08 - 20:19	06:04 - 21:10	05:23 - 21:53 (25)	06:11 (1) - 06:36 (1) - 05:26 - 22:01 (24)	06:17 (1) - 06:41 (1) - 06:06 - 21:24	06:56 - 20:20	07:46 - 19:10	07:40 - 17:06	08:29 - 16:30
6	08:47 - 16:44	08:13 - 17:35	07:16 - 18:27	07:05 - 20:20	06:02 - 21:11	05:23 - 21:54 (24)	06:11 (1) - 06:35 (1) - 05:27 - 22:01 (25)	06:17 (1) - 06:42 (1) - 06:08 - 21:22	06:58 - 20:17	07:47 - 19:08	07:42 - 17:04	08:31 - 16:30
7	08:46 - 16:45	08:11 - 17:37	07:14 - 18:29	07:03 - 20:22	06:01 - 21:13	05:22 - 21:55 (24)	06:12 (1) - 06:36 (1) - 05:28 - 22:00 (24)	06:18 (1) - 06:42 (1) - 06:09 - 21:21	07:00 - 20:15	07:49 - 19:05	07:44 - 17:02	08:32 - 16:29
8	08:46 - 16:46	08:09 - 17:39	07:12 - 18:30	07:01 - 20:24	05:59 - 21:15	05:22 - 21:56 (23)	06:12 (1) - 06:35 (1) - 05:29 - 22:00 (25)	06:18 (1) - 06:43 (1) - 06:11 - 21:19	07:01 - 20:13	07:51 - 19:03	07:45 - 17:01	08:33 - 16:29
9	08:46 - 16:48	08:08 - 17:41	07:10 - 18:32	06:58 - 20:26	05:57 - 21:16	05:21 - 21:57 (24)	06:12 (1) - 06:36 (1) - 05:30 - 22:01 (25)	06:18 (1) - 06:43 (1) - 06:12 - 21:17	07:03 - 20:11	07:52 - 19:01	07:47 - 16:59	08:34 - 16:29
10	08:45 - 16:49	08:06 - 17:43	07:07 - 18:34	06:56 - 20:27	05:55 - 21:18	05:21 - 21:58 (23)	06:12 (1) - 06:35 (1) - 05:31 - 21:58 (25)	06:17 (1) - 06:42 (1) - 06:14 - 21:15	07:04 - 20:08	07:54 - 18:59	07:49 - 16:57	08:36 - 16:28
11	08:44 - 16:51	08:04 - 17:45	07:05 - 18:36	06:54 - 20:29	05:54 - 21:19	05:20 - 21:58 (22)	06:13 (1) - 06:35 (1) - 05:32 - 21:57 (26)	06:17 (1) - 06:43 (1) - 06:16 - 21:13	07:06 - 20:06	07:56 - 18:56	07:51 - 16:56	08:37 - 16:28
12	08:44 - 16:52	08:02 - 17:47	07:03 - 18:37	06:52 - 20:31	05:52 - 21:21	05:20 - 21:59 (23)	06:13 (1) - 06:36 (1) - 05:33 - 21:57 (26)	06:17 (1) - 06:43 (1) - 06:17 - 21:11 (9)	07:06 (2) - 07:15 (2)	07:58 - 20:04	07:53 - 18:54	08:38 - 16:28
13	08:43 - 16:54	08:00 - 17:48	07:01 - 18:39	06:49 - 20:32	05:50 - 21:23	05:20 - 22:00 (22)	06:14 (1) - 06:36 (1) - 05:34 - 21:56 (26)	06:18 (1) - 06:44 (1) - 06:19 - 21:09 (13)	07:04 (2) - 07:17 (2)	07:59 - 20:01	07:54 - 18:52	08:39 - 16:28
14	08:42 - 16:55	07:58 - 17:50	06:58 - 18:41	06:47 - 20:34	05:49 - 21:24 (5)	06:19 (1) - 06:24 (1) - 05:19 - 22:00 (22)	06:14 (1) - 06:36 (1) - 05:35 - 21:55 (26)	06:18 (1) - 06:44 (1) - 06:21 - 21:07 (16)	07:02 (2) - 07:18 (2)	07:11 - 19:59	08:01 - 18:50	07:56 - 16:51	08:40 - 16:28
15	08:42 - 16:57	07:56 - 17:52	06:56 - 18:43	06:45 - 20:36	05:47 - 21:26 (11)	06:16 (1) - 06:27 (1) - 05:19 - 22:01 (21)	06:14 (1) - 06:35 (1) - 05:36 - 21:54 (26)	06:18 (1) - 06:44 (1) - 06:22 - 21:05 (17)	07:02 (2) - 07:19 (2)	07:13 - 19:57	08:03 - 18:48	07:58 - 16:50	08:41 - 16:28
16	08:41 - 16:58	07:54 - 17:54	06:54 - 18:44	06:43 - 20:38	05:46 - 21:27 (15)	06:14 (1) - 06:29 (1) - 05:19 - 22:01 (21)	06:14 (1) - 06:35 (1) - 05:38 - 21:53 (26)	06:18 (1) - 06:44 (1) - 06:24 - 21:03 (19)	07:00 (2) - 07:19 (2)	07:14 - 19:54	08:04 - 18:45	08:00 - 16:48	08:41 - 16:28
17	08:40 - 17:00	07:52 - 17:56	06:51 - 18:46	06:41 - 20:39 (4) - 07:04 (2) - 07:08 (2)	05:44 - 21:29 (17)	06:13 (1) - 06:30 (1) - 05:19 - 22:02 (20)	06:15 (1) - 06:35 (1) - 05:39 - 21:52 (26)	06:18 (1) - 06:44 (1) - 06:25 - 21:01 (20)	07:00 (2) - 07:20 (2)	07:16 - 19:52	08:06 - 18:43	08:01 - 16:47	08:42 - 16:28
18	08:39 - 17:01	07:50 - 17:58	06:49 - 18:48	06:39 - 20:41 (9) - 07:02 (2) - 07:11 (2)	05:43 - 21:30 (18)	06:12 (1) - 06:30 (1) - 05:19 - 22:02 (20)	06:15 (1) - 06:35 (1) - 05:40 - 21:51 (26)	06:18 (1) - 06:44 (1) - 06:27 - 20:59 (20)	06:59 (2) - 07:19 (2)	07:17 - 19:50	08:08 - 18:41	08:03 - 16:46	08:43 - 16:29
19	08:38 - 17:03	07:48 - 18:00	06:47 - 18:50	06:36 - 20:43 (12) - 07:00 (2) - 07:12 (2)	05:41 - 21:32 (21)	06:11 (1) - 06:32 (1) - 05:19 - 22:03 (21)	06:16 (1) - 06:37 (1) - 05:41 - 21:49 (26)	06:18 (1) - 06:44 (1) - 06:29 - 20:57 (20)	07:00 (2) - 07:20 (2)	07:19 - 19:47	08:10 - 18:39	08:05 - 16:44	08:44 - 16:29
20	08:37 - 17:05	07:46 - 18:01	06:44 - 18:51	06:34 - 20:44 (15) - 06:58 (2) - 07:13 (2)	05:40 - 21:33 (21)	06:11 (1) - 06:32 (1) - 05:19 - 22:03 (21)	06:16 (1) - 06:37 (1) - 05:43 - 21:48 (25)	06:19 (1) - 06:44 (1) - 06:30 - 20:55 (20)	06:59 (2) - 07:19 (2)	07:21 - 19:45	08:11 - 18:37	08:06 - 16:43	08:44 - 16:29
21	08:36 - 17:06	07:44 - 18:03	06:42 - 18:53	06:32 - 20:46 (18) - 06:56 (2) - 07:14 (2)	05:39 - 21:35 (23)	06:10 (1) - 06:33 (1) - 05:19 - 22:03 (21)	06:16 (1) - 06:37 (1) - 05:44 - 21:47 (24)	06:20 (1) - 06:44 (1) - 06:32 - 20:53 (20)	06:59 (2) - 07:19 (2)	07:22 - 19:43	08:13 - 18:35	08:08 - 16:42	08:45 - 16:30
22	08:35 - 17:08	07:42 - 18:05	06:40 - 18:55	06:30 - 20:48 (19) - 06:55 (2) - 07:14 (2)	05:37 - 21:36 (24)	06:09 (1) - 06:33 (1) - 05:19 - 22:03 (21)	06:16 (1) - 06:37 (1) - 05:45 - 21:46 (23)	06:20 (1) - 06:43 (1) - 06:34 - 20:51 (17)	07:00 (2) - 07:17 (2)	07:24 - 19:40	08:15 - 18:33	08:10 - 16:41	08:45 - 16:30
23	08:33 - 17:10	07:40 - 18:07	06:38 - 18:56	06:28 - 20:49 (20) - 06:54 (2) - 07:14 (2)	05:36 - 21:37 (24)	06:09 (1) - 06:33 (1) - 05:20 - 22:04 (21)	06:16 (1) - 06:37 (1) - 05:47 - 21:44 (22)	06:20 (1) - 06:42 (1) - 06:35 - 20:49 (15)	07:02 (2) - 07:17 (2)	07:26 - 19:38	08:17 - 18:31	08:11 - 16:40	08:46 - 16:31
24	08:32 - 17:12	07:38 - 18:09	06:35 - 18:58	06:26 - 20:51 (20) - 06:54 (2) - 07:14 (2)	05:35 - 21:39 (25)	06:09 (1) - 06:34 (1) - 05:20 - 22:04 (20)	06:17 (1) - 06:37 (1) - 05:48 - 21:43 (22)	06:21 (1) - 06:43 (1) - 06:37 - 20:46 (12)	07:04 (2) - 07:16 (2)	07:27 - 19:35	08:18 - 18:29	08:13 - 16:39	08:46 - 16:31
25	08:31 - 17:13	07:36 - 18:11	06:33 - 19:00	06:24 - 20:53 (20) - 06:54 (2) - 07:14 (2)	05:34 - 21:40 (25)	06:09 (1) - 06:34 (1) - 05:20 - 22:04 (20)	06:17 (1) - 06:37 (1) - 05:50 - 21:42 (20)	06:22 (1) - 06:42 (1) - 06:38 - 20:44 (8)	07:05 (2) - 07:13 (2)	07:29 - 19:33	08:15 - 17:27	08:07 - 16:38	08:47 - 16:32
26	08:30 - 17:15	07:34 - 18:12	06:31 - 19:02	06:22 - 20:55 (19) - 06:54 (2) - 07:13 (2)	05:32 - 21:42 (26)	06:09 (1) - 06:35 (1) - 05:21 - 22:04 (21)	06:16 (1) - 06:37 (1) - 05:51 - 21:40 (19)	06:22 (1) - 06:41 (1) - 06:40 - 20:42 (3)	07:07 (2) - 07:10 (2)	07:31 - 19:31	08:22 - 17:25	08:16 - 16:37	08:47 - 16:33
27	08:28 - 17:17	07:32 - 18:14	06:28 - 19:03	06:20 - 20:56 (18) - 06:54 (2) - 07:12 (2)	05:31 - 21:43 (26)	06:09 (1) - 06:35 (1) - 05:21 - 22:04 (21)	06:17 (1) - 06:38 (1) - 05:52 - 21:39 (16)	06:24 (1) - 06:40 (1) - 06:42 - 20:40	07:32 - 19:28	07:24 - 17:23	08:18 - 16:36	08:47 - 16:33
28	08:27 - 17:19	07:30 - 18:16	06:26 - 19:05	06:18 - 20:58 (17) - 06:54 (2) - 07:11 (2)	05:30 - 21:44 (26)	06:09 (1) - 06:35 (1) - 05:22 - 22:04 (21)	06:17 (1) - 06:38 (1) - 05:54 - 21:37 (13)	06:25 (1) - 06:43 (1) - 06:38 (1) - 20:38	07:34 - 19:26	07:26 - 17:21	08:19 - 16:35	08:48 - 16:34
29	08:25 - 17:21		07:24 - 20:07	06:16 - 21:00 (15) - 06:55 (2) - 07:10 (2)	05:29 - 21:45 (26)	06:09 (1) - 06:35 (1) - 05:22 - 22:03 (22)	06:17 (1) - 06:39 (1) - 05:55 - 21:36 (9)	06:28 (1) - 06:45 - 20:36	07:36 - 19:24	07:27 - 17:19	08:21 - 16:34	08:48 - 16:35
30	08:24 - 17:22		07:21 - 20:09	06:14 - 21:01 (12) - 06:56 (2) - 07:08 (2)	05:28 - 21:47 (26)	06:10 (1) - 06:36 (1) - 05:23 - 22:03 (22)	06:18 (1) - 06:40 (1) - 05:57 - 21:34	06:37 (1) - 06:47 - 20:33	07:37 - 19:22	07:29 - 17:17	08:22 - 16:33	08:48 - 16:36
31	08:22 - 17:24		07:19 - 20:10		05:27 - 21:48 (27)	06:09 (1) - 06:36 (1)	05:58 - 21:33	06:48 - 20:31		07:31 - 17:15		08:48 - 16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case				218	394	669	667	229				
Sun reduction				0,42	0,43	0,39	0,41	0,42				
Oper. time red.				0,95	0,95	0,95	0,95	0,95				
Wind dir. red.				0,63	0,67	0,67	0,67	0,63				
Total reduction				0,25	0,27	0,25	0,26	0,25				
Total, real				55	107	166	172	57				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
20-12-2018 09:08/3.2.737

SHADOW - Calendar

Calculation: Copy of V150@166Shadow receptor: R - 3998JD92

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	06:45 (2)	05:26	06:00 (1)	05:23	06:04 (1)	06:00		06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03	20 07:05 (2)	21:49	23 06:23 (1)	22:03	27 06:31 (1)	21:31		20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	06:45 (2)	05:26	05:59 (1)	05:24	06:05 (1)	06:01		06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05	19 07:04 (2)	21:50	24 06:23 (1)	22:03	26 06:31 (1)	21:29		20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08	06:47 (2)	05:25	06:00 (1)	05:25	06:05 (1)	06:03		06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06	17 07:04 (2)	21:51	25 06:25 (1)	22:02	27 06:32 (1)	21:28		20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06	06:47 (2)	05:24	05:59 (1)	05:26	06:05 (1)	06:05		06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08	16 07:03 (2)	21:52	26 06:25 (1)	22:02	26 06:31 (1)	21:26		20:22	19:12	17:07	16:31
5	08:47	08:14	07:19	07:08	06:04	06:48 (2)	05:23	06:00 (1)	05:26	06:05 (1)	06:06		06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10	13 07:01 (2)	21:53	25 06:25 (1)	22:01	26 06:31 (1)	21:24		20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02	06:49 (2)	05:23	06:00 (1)	05:27	06:06 (1)	06:08	07:01 (2)	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11	10 06:59 (2)	21:54	25 06:25 (1)	22:01	26 06:32 (1)	21:22	6 07:07 (2)	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01	06:53 (2)	05:22	06:00 (1)	05:28	06:06 (1)	06:09	06:59 (2)	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13	4 06:57 (2)	21:55	26 06:26 (1)	22:00	26 06:32 (1)	21:21	11 07:10 (2)	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59		05:22	06:00 (1)	05:29	06:07 (1)	06:11	06:57 (2)	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15		21:56	26 06:26 (1)	22:00	25 06:32 (1)	21:19	14 07:11 (2)	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57		05:21	06:00 (1)	05:30	06:07 (1)	06:12	06:56 (2)	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16		21:57	27 06:27 (1)	21:59	25 06:32 (1)	21:17	17 07:13 (2)	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55		05:21	05:59 (1)	05:31	06:07 (1)	06:14	06:55 (2)	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18		21:58	27 06:26 (1)	21:58	24 06:31 (1)	21:15	18 07:13 (2)	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54		05:20	06:00 (1)	05:32	06:07 (1)	06:16	06:55 (2)	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19		21:58	27 06:27 (1)	21:57	24 06:31 (1)	21:13	19 07:14 (2)	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52		05:20	06:00 (1)	05:33	06:08 (1)	06:17	06:53 (2)	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21		21:59	27 06:27 (1)	21:57	23 06:31 (1)	21:11	21 07:14 (2)	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50		05:20	06:01 (1)	05:34	06:09 (1)	06:19	06:54 (2)	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23		22:00	27 06:28 (1)	21:56	22 06:31 (1)	21:09	20 07:14 (2)	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49		05:19	06:01 (1)	05:35	06:10 (1)	06:21	06:53 (2)	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24		22:00	27 06:28 (1)	21:55	21 06:31 (1)	21:07	21 07:14 (2)	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47		05:19	06:00 (1)	05:36	06:10 (1)	06:22	06:53 (2)	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26		22:01	27 06:27 (1)	21:54	20 06:30 (1)	21:05	21 07:14 (2)	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46		05:19	06:00 (1)	05:38	06:11 (1)	06:24	06:53 (2)	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27		22:01	28 06:28 (1)	21:53	19 06:30 (1)	21:03	20 07:13 (2)	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44		05:19	06:01 (1)	05:39	06:12 (1)	06:25	06:53 (2)	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29		22:02	27 06:28 (1)	21:52	17 06:29 (1)	21:01	20 07:13 (2)	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43		05:19	06:01 (1)	05:40	06:13 (1)	06:27	06:54 (2)	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30		22:02	27 06:28 (1)	21:51	15 06:28 (1)	20:59	17 07:11 (2)	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41		05:19	06:02 (1)	05:41	06:14 (1)	06:29	06:56 (2)	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32		22:03	27 06:29 (1)	21:49	12 06:26 (1)	20:57	15 07:11 (2)	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40		05:19	06:02 (1)	05:43	06:17 (1)	06:30	06:57 (2)	07:21	08:11	08:06	08:44
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21	08:36	07:44	06:42	06:32	06:56 (2)	05:39	05:19	06:02 (1)	05:44		06:32	06:59 (2)	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	3 06:59 (2)	21:35	22:03	27 06:29 (1)	21:47		20:53	8 07:07 (2)	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	06:54 (2)	05:37	05:19	06:02 (1)	05:45		06:34		07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	9 07:03 (2)	21:36	22:03	27 06:29 (1)	21:46		20:51		19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	06:52 (2)	05:36	06:07 (1)	05:20	06:02 (1)	05:47		06:35		07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	12 07:04 (2)	21:37	7 06:14 (1)	22:04	27 06:29 (1)	21:44		20:49		19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	06:50 (2)	05:35	06:05 (1)	05:20	06:03 (1)	05:48		06:37		07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	15 07:05 (2)	21:39	11 06:16 (1)	22:04	27 06:30 (1)	21:43		20:46		19:35	18:29	16:39	16:31
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	17:15	18:12	19:02	20:55	19 07:06 (2)	21:42	16 06:19 (1)	22:04	27 06:30 (1)	21:40		20:42		19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	06:46 (2)	05:31	06:02 (1)	05:21	06:03 (1)	05:52		06:42		07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	20 07:06 (2)	21:43	18 06:20 (1)	22:04	27 06:30 (1)	21:39		20:40		19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	06:46 (2)	05:30	06:01 (1)	05:22	06:03 (1)	05:54		06:43		07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	20 07:06 (2)	21:44	20 06:21 (1)	22:04	27 06:30 (1)	21:37		20:38		19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	06:45 (2)	05:29	06:01 (1)	05:22	06:04 (1)	05:55		06:45		07:36	07:27	08:21	08:48
	17:21		20:07	21:00	21 07:06 (2)	21:45	20 06:21 (1)	22:03	27 06:31 (1)	21:36		20:36		19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	06:45 (2)	05:28	06:01 (1)	05:23	06:04 (1)	05:57		06:47		07:37	07:29	08:22	08:48
	17:22		20:08	21:01	21 07:06 (2)	21:47	22 06:23 (1)	22:03	27 06:31 (1)	21:34		20:33		19:22	17:17	16:33	16:36
31	08:22		07:19			05:27	06:00 (1)			05:58		06:48			07:31		08:48
	17:24		20:10			21:48	23 06:23 (1)			21:33		20:31			17:15		16:37
Potential sun hours	259	277	367	416	485		499		502		454		381	331	266	243
Total, worst case				158		250		795		440		260				
Sun reduction				0,42		0,43		0,39		0,41		0,42				
Oper. time red.				0,95		0,95		0,95		0,95		0,95				
Wind dir. red.				0,64		0,66		0,67		0,67		0,64				
Total reduction				0,25		0,27		0,25		0,26		0,25				
Total, real				40		67		198		114		66				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
20-12-2018 09:08/3.2.737

SHADOW - Calendar

Calculation: Copy of V150@166Shadow receptor: S - 3998NA1

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 - 16:38	08:21 - 17:26	07:27 - 18:18	07:17 - 20:12	06:12 - 21:03 (22)	06:47 (2) - 07:09 (2) - 21:49 (19)	05:26 - 06:01 (1) - 06:20 (1)	05:23 - 06:03 (1) - 06:30 (1)	06:00 - 21:31	06:50 - 20:29	07:39 - 19:19	07:33 - 17:13	08:24 - 16:32
2	08:48 - 16:39	08:19 - 17:28	07:25 - 18:20	07:14 - 20:14	06:10 - 21:05 (21)	06:47 (2) - 07:08 (2) - 21:50 (21)	05:26 - 06:00 (1) - 06:21 (1)	05:24 - 06:03 (1) - 06:30 (1)	06:01 - 21:29	06:51 - 20:27	07:41 - 19:17	07:35 - 17:11	08:25 - 16:32
3	08:48 - 16:40	08:18 - 17:30	07:23 - 18:21	07:12 - 20:15	06:08 - 21:06 (20)	06:48 (2) - 07:08 (2) - 21:51 (22)	05:25 - 06:00 (1) - 06:22 (1)	05:25 - 06:04 (1) - 06:30 (1)	06:03 - 21:28	06:53 - 20:24	07:42 - 19:15	07:36 - 17:09	08:27 - 16:31
4	08:47 - 16:41	08:16 - 17:32	07:21 - 18:23	07:10 - 20:17	06:06 - 21:08 (18)	06:49 (2) - 07:07 (2) - 21:52 (22)	05:24 - 06:00 (1) - 06:22 (1)	05:26 - 06:04 (1) - 06:30 (1)	06:05 - 21:26	06:55 - 20:22	07:44 - 19:12	07:38 - 17:07	08:28 - 16:31
5	08:47 - 16:43	08:14 - 17:33	07:19 - 18:25	07:08 - 20:19	06:04 - 21:10 (17)	06:49 (2) - 07:06 (2) - 21:53 (23)	05:23 - 05:59 (1) - 06:22 (1)	05:26 - 06:05 (1) - 06:30 (1)	06:06 - 21:24 (7)	07:04 (2) - 07:11 (2) - 20:20	06:56 - 19:10	07:46 - 17:06	07:40 - 16:30	08:29
6	08:47 - 16:44	08:13 - 17:35	07:16 - 18:27	07:05 - 20:20	06:02 - 21:11 (14)	06:50 (2) - 07:04 (2) - 21:54 (24)	05:23 - 05:59 (1) - 06:23 (1)	05:27 - 06:05 (1) - 06:30 (1)	06:08 - 21:22 (12)	07:01 (2) - 07:13 (2) - 20:17	06:58 - 19:08	07:47 - 17:04	07:42 - 16:30	08:31
7	08:46 - 16:45	08:11 - 17:37	07:14 - 18:29	07:03 - 20:22	06:01 - 21:13 (10)	06:53 (2) - 07:03 (2) - 21:55 (25)	05:22 - 05:58 (1) - 06:23 (1)	05:28 - 06:06 (1) - 06:30 (1)	06:09 - 21:21 (15)	07:00 (2) - 07:15 (2) - 20:15	07:00 - 19:05	07:49 - 17:02	07:44 - 16:29	08:32
8	08:46 - 16:46	08:09 - 17:39	07:12 - 18:30	07:01 - 20:24	05:59 - 21:15 (3)	06:56 (2) - 07:03 (2) - 21:56 (25)	05:22 - 05:59 (1) - 06:24 (1)	05:29 - 06:07 (1) - 06:30 (1)	06:11 - 21:19 (16)	06:59 (2) - 07:15 (2) - 20:13	07:01 - 19:03	07:51 - 17:01	07:45 - 16:29	08:33
9	08:46 - 16:48	08:08 - 17:41	07:10 - 18:32	06:58 - 20:26	05:57 - 21:16	05:21 - 21:57 (26)	05:59 (1) - 06:25 (1)	05:30 - 06:07 (1) - 06:29 (1)	06:12 - 21:17 (19)	06:58 (2) - 07:17 (2) - 20:11	07:03 - 19:01	07:52 - 16:59	07:47 - 16:29	08:34
10	08:45 - 16:49	08:06 - 17:43	07:07 - 18:34	06:56 - 20:27	05:55 - 21:18	05:21 - 21:58 (27)	05:58 (1) - 06:25 (1)	05:31 - 06:07 (1) - 06:28 (1)	06:14 - 21:15 (20)	06:57 (2) - 07:17 (2) - 20:08	07:04 - 18:59	07:54 - 16:57	07:49 - 16:28	08:36
11	08:44 - 16:51	08:04 - 17:45	07:05 - 18:36	06:54 - 20:29	05:54 - 21:19	05:20 - 21:58 (26)	05:59 (1) - 06:25 (1)	05:32 - 06:08 (1) - 06:28 (1)	06:16 - 21:13 (21)	06:57 (2) - 07:18 (2) - 20:06	07:06 - 18:56	07:56 - 16:56	07:51 - 16:28	08:37
12	08:44 - 16:52	08:02 - 17:47	07:03 - 18:37	06:52 - 20:31	05:52 - 21:21	05:20 - 21:59 (27)	05:59 (1) - 06:26 (1)	05:33 - 06:09 (1) - 06:27 (1)	06:17 - 21:11 (22)	06:56 (2) - 07:18 (2) - 20:04	07:08 - 18:54	07:58 - 16:54	07:53 - 16:28	08:38
13	08:43 - 16:54	08:00 - 17:48	07:01 - 18:39	06:49 - 20:32	05:50 - 21:23	05:20 - 22:00 (27)	05:59 (1) - 06:26 (1)	05:34 - 06:11 (1) - 06:27 (1)	06:19 - 21:09 (22)	06:56 (2) - 07:18 (2) - 20:01	07:09 - 18:52	07:59 - 16:53	07:54 - 16:28	08:39
14	08:42 - 16:55	07:58 - 17:50	06:58 - 18:41	06:47 - 20:34	05:49 - 21:24	05:19 - 22:00 (28)	05:58 (1) - 06:26 (1)	05:35 - 06:12 (1) - 06:27 (1)	06:21 - 21:07 (23)	06:55 (2) - 07:18 (2) - 19:59	07:11 - 18:50	08:01 - 16:51	07:56 - 16:28	08:40
15	08:41 - 16:57	07:56 - 17:52	06:56 - 18:43	06:45 - 20:36	05:47 - 21:26	05:19 - 22:01 (27)	05:59 (1) - 06:26 (1)	05:36 - 06:13 (1) - 06:25 (1)	06:22 - 21:05 (23)	06:55 (2) - 07:18 (2) - 19:57	07:13 - 18:48	08:03 - 16:50	07:58 - 16:28	08:41
16	08:41 - 16:58	07:54 - 17:54	06:54 - 18:44	06:43 - 20:38	05:46 - 21:27	05:19 - 22:01 (28)	05:59 (1) - 06:27 (1)	05:38 - 06:15 (1) - 06:23 (1)	06:24 - 21:03 (22)	06:55 (2) - 07:17 (2) - 19:54	07:14 - 18:45	08:04 - 16:48	08:00 - 16:28	08:41
17	08:40 - 17:00	07:52 - 17:56	06:51 - 18:46	06:41 - 20:39	05:44 - 21:29	05:19 - 22:02 (28)	05:59 (1) - 06:27 (1)	05:39 - 06:25	06:26 - 21:01 (21)	06:56 (2) - 07:17 (2) - 19:52	07:16 - 18:43	08:06 - 16:47	08:01 - 16:28	08:42
18	08:39 - 17:01	07:50 - 17:58	06:49 - 18:48	06:39 - 20:41	05:43 - 21:30	05:19 - 22:02 (28)	05:59 (1) - 06:27 (1)	05:40 - 06:27	06:55 (2) - 07:17 (2) - 19:47	07:17 - 18:41	08:08 - 16:46	08:03 - 16:29	08:43
19	08:38 - 17:03	07:48 - 18:00	06:47 - 18:50	06:36 - 20:43	05:41 - 21:32	05:19 - 22:03 (28)	05:59 (1) - 06:27 (1)	05:41 - 06:29	06:57 (2) - 07:15 (2) - 19:47	07:19 - 18:39	08:10 - 16:44	08:05 - 16:29	08:44
20	08:37 - 17:05	07:46 - 18:01	06:44 - 18:51	06:34 - 20:44	05:40 - 21:33	05:19 - 22:03 (28)	05:43 - 06:00 (1) - 06:28 (1)	05:43 - 06:30	06:57 (2) - 07:13 (2) - 19:45	07:21 - 18:37	08:11 - 16:43	08:06 - 16:29	08:44
21	08:36 - 17:06	07:44 - 18:03	06:42 - 18:53	06:32 - 20:46 (8)	06:57 (2) - 07:05 (2) - 05:39 - 21:35	05:19 - 22:03 (28)	05:48 - 06:00 (1) - 06:28 (1)	05:44 - 06:32	06:59 (2) - 07:12 (2) - 20:53 (13)	07:22 - 19:42	08:13 - 18:35	08:08 - 16:42	08:45 - 16:30	08:45
22	08:35 - 17:08	07:42 - 18:05	06:40 - 18:55	06:30 - 20:48 (13)	06:54 (2) - 07:07 (2) - 05:37 - 21:36	05:19 - 22:03 (28)	05:45 - 06:00 (1) - 06:28 (1)	05:45 - 06:33	07:01 (2) - 07:08 (2) - 20:51 (7)	07:24 - 19:40	08:15 - 18:33	08:10 - 16:41	08:45 - 16:30	08:45
23	08:33 - 17:10	07:40 - 18:07	06:38 - 18:56	06:28 - 20:49 (17)	06:52 (2) - 07:09 (2) - 05:36 - 21:37	05:20 - 22:04 (28)	05:47 - 06:00 (1) - 06:28 (1)	05:47 - 06:35	07:26 - 19:38	08:17 - 18:31	08:11 - 16:40	08:06 - 16:31	08:46	08:44
24	08:32 - 17:12	07:38 - 18:09	06:35 - 18:58	06:26 - 20:51 (18)	06:51 (2) - 07:09 (2) - 05:35 - 21:39	05:20 - 22:04 (28)	05:48 - 06:01 (1) - 06:29 (1)	05:48 - 06:37	07:27 - 19:35	08:18 - 18:29	08:13 - 16:39	08:46 - 16:31	08:46	08:43
25	08:31 - 17:13	07:36 - 18:11	06:33 - 19:00	06:24 - 20:53 (20)	06:50 (2) - 07:10 (2) - 05:34 - 21:40	05:20 - 22:04 (28)	05:50 - 06:01 (1) - 06:29 (1)	05:50 - 06:38	07:29 - 19:33	08:15 - 17:27	08:47 - 16:38	08:47 - 16:32	08:47	08:42
26	08:30 - 17:15	07:34 - 18:12	06:31 - 19:02	06:22 - 20:55 (21)	06:49 (2) - 07:10 (2) - 05:32 - 21:42	05:21 - 22:04 (28)	05:51 - 06:01 (1) - 06:29 (1)	05:51 - 06:40	07:31 - 19:31	08:16 - 17:25	08:47 - 16:37	08:47 - 16:33	08:47	08:41
27	08:28 - 17:17	07:32 - 18:14	06:28 - 19:03	06:20 - 20:56 (22)	06:48 (2) - 07:10 (2) - 05:31 - 21:43 (5)	06:07 (1) - 06:12 (1) - 22:04 (28)	05:52 - 06:02 (1) - 06:30 (1)	05:52 - 06:42	07:32 - 19:28	08:18 - 17:23	08:47 - 16:36	08:47 - 16:33	08:47	08:40
28	08:27 - 17:19	07:30 - 18:16	06:26 - 19:05	06:18 - 20:58 (22)	06:48 (2) - 07:10 (2) - 05:30 - 21:44 (10)	06:05 (1) - 06:15 (1) - 22:04 (28)	05:54 - 06:01 (1) - 06:29 (1)	05:54 - 06:43	07:34 - 19:26	08:19 - 17:21	08:48 - 16:35	08:48 - 16:34	08:48	08:39
29	08:25 - 17:21		07:24 - 20:07	06:16 - 21:00 (23)	06:47 (2) - 07:10 (2) - 05:29 - 21:45 (13)	06:03 (1) - 06:16 (1) - 22:03 (28)	05:55 - 06:02 (1) - 06:30 (1)	05:55 - 06:45	07:36 - 19:24	08:27 - 17:19	08:21 - 16:34	08:48 - 16:35	08:48	08:38
30	08:24 - 17:22		07:21 - 20:08	06:14 - 21:01 (23)	06:47 (2) - 07:10 (2) - 05:28 - 21:47 (16)	06:03 (1) - 06:19 (1) - 22:03 (27)	05:57 - 06:03 (1) - 06:30 (1)	05:57 - 06:47	07:37 - 19:22	08:29 - 17:17	08:22 - 16:33	08:48 - 16:36	08:48	08:37
31	08:22 - 17:24		07:19 - 20:10		05:27 - 21:48 (17)	06:02 (1) - 06:19 (1)	05:58 - 21:33	06:48 - 20:31	07:31 - 17:15	08:48 - 16:37	08:48	08:37	08:36
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243	8.297
Total, worst case				187	186	788	335	317					1.813
Sun reduction				0,42	0,43	0,39	0,41	0,42					0,41
Oper. time red.				0,95	0,95	0,95	0,95	0,95					0,95
Wind dir. red.				0,64	0,65	0,67	0,67	0,64					0,65
Total reduction				0,25	0,26	0,25	0,26	0,25					0,25
Total, real				47	49	196	87	80					1.360

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
20-12-2018 09:08/3.2.737

SHADOW - Calendar

Calculation: Copy of V150@166Shadow receptor: T - 3997MR17

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March	April	May	June	July	August	September	October	November		December		
1	08:48	09:39 (4)	08:21	14:39 (1)	07:27	07:17	06:12	05:26	05:23	06:00	06:50	07:39	07:33	14:27 (1)	08:24		09:29 (4)
	16:38	120 15:14 (1)	17:26	45 15:24 (1)	18:18	20:12	21:03	21:49	22:03	21:31	20:29	19:19	17:13	14 14:41 (1)	16:32	66	15:02 (1)
2	08:48	09:40 (4)	08:19	14:40 (1)	07:25	07:14	06:10	05:25	05:24	06:01	06:51	07:41	07:35	14:23 (1)	08:25		09:29 (4)
	16:39	116 15:14 (1)	17:28	43 15:23 (1)	18:20	20:14	21:05	21:50	22:03	21:29	20:26	19:17	17:11	22 14:45 (1)	16:32	67	15:03 (1)
3	08:48	09:41 (4)	08:18	14:42 (1)	07:23	07:12	06:08	05:25	05:25	06:03	06:53	07:42	07:36	14:20 (1)	08:27		09:28 (4)
	16:40	113 15:15 (1)	17:30	41 15:23 (1)	18:21	20:15	21:06	21:51	22:02	21:28	20:24	19:14	17:09	27 14:47 (1)	16:31	79	15:03 (1)
4	08:47	09:41 (4)	08:16	14:43 (1)	07:21	07:10	06:06	05:24	05:25	06:04	06:55	07:44	07:38	14:17 (1)	08:28		09:29 (4)
	16:41	111 15:15 (1)	17:31	39 15:22 (1)	18:23	20:17	21:08	21:52	22:02	21:26	20:22	19:12	17:07	31 14:48 (1)	16:30	89	15:03 (1)
5	08:47	09:42 (4)	08:14	14:44 (1)	07:19	07:07	06:04	05:23	05:26	06:06	06:56	07:46	07:40	14:15 (1)	08:29		09:28 (4)
	16:43	108 15:17 (1)	17:33	37 15:21 (1)	18:25	20:19	21:10	21:53	22:01	21:24	20:20	19:10	17:06	35 14:50 (1)	16:30	99	15:03 (1)
6	08:47	09:42 (4)	08:13	14:46 (1)	07:16	07:05	06:02	05:23	05:27	06:08	06:58	07:47	07:42	14:14 (1)	08:31		09:28 (4)
	16:44	104 15:17 (1)	17:35	34 15:20 (1)	18:27	20:20	21:11	21:54	22:01	21:22	20:17	19:08	17:04	37 14:51 (1)	16:30	104	15:03 (1)
7	08:46	09:43 (4)	08:11	14:48 (1)	07:14	07:03	06:00	05:22	05:28	06:09	06:59	07:49	07:44	14:13 (1)	08:32		09:29 (4)
	16:45	99 15:18 (1)	17:37	30 15:18 (1)	18:28	20:22	21:13	21:55	22:00	21:20	20:15	19:05	17:02	39 14:52 (1)	16:29	108	15:04 (1)
8	08:46	09:44 (4)	08:09	14:51 (1)	07:12	07:01	05:59	05:21	05:29	06:11	07:01	07:51	07:45	14:12 (1)	08:33		09:29 (4)
	16:46	89 15:18 (1)	17:39	26 15:17 (1)	18:30	20:24	21:15	21:56	22:00	21:19	20:13	19:03	17:00	41 14:53 (1)	16:29	112	15:04 (1)
9	08:45	09:45 (4)	08:08	14:54 (1)	07:10	06:58	05:57	05:21	05:30	06:12	07:03	07:52	07:47	14:11 (1)	08:34		09:29 (4)
	16:48	80 15:19 (1)	17:41	21 15:15 (1)	18:32	20:26	21:16	21:57	21:59	21:17	20:10	19:01	16:59	43 14:54 (1)	16:28	114	15:04 (1)
10	08:45	09:46 (4)	08:06	14:59 (1)	07:07	06:56	05:55	05:20	05:31	06:14	07:04	07:54	07:49	14:10 (1)	08:35		09:29 (4)
	16:49	67 15:20 (1)	17:43	12 15:11 (1)	18:34	20:27	21:18	21:58	21:58	21:15	20:08	18:59	16:57	45 14:55 (1)	16:28	116	15:04 (1)
11	08:44	09:46 (4)	08:04		07:05	06:54	05:54	05:20	05:32	06:16	07:06	07:56	07:51	14:09 (1)	08:37		09:29 (4)
	16:51	67 15:20 (1)	17:45		18:36	20:29	21:19	21:58	21:57	21:13	20:06	18:56	16:56	47 14:56 (1)	16:28	120	15:04 (1)
12	08:44	09:47 (4)	08:02		07:03	06:52	05:52	05:20	05:33	06:17	07:08	07:57	07:53	14:09 (1)	08:38		09:30 (4)
	16:52	66 15:21 (1)	17:46		18:37	20:31	21:21	21:59	21:56	21:11	20:03	18:54	16:54	47 14:56 (1)	16:28	121	15:05 (1)
13	08:43	09:49 (4)	08:00		07:00	06:49	05:50	05:19	05:34	06:19	07:09	07:59	07:54	14:09 (1)	08:39		09:31 (4)
	16:53	63 15:21 (1)	17:48		18:39	20:32	21:23	22:00	21:56	21:09	20:01	18:52	16:53	48 14:57 (1)	16:28	123	15:05 (1)
14	08:42	09:50 (4)	07:58		06:58	06:47	05:49	05:19	05:35	06:20	07:11	08:01	07:56	14:08 (1)	08:40		09:31 (4)
	16:55	61 15:22 (1)	17:50		18:41	20:34	21:24	22:00	21:55	21:07	19:59	18:50	16:51	50 14:58 (1)	16:28	122	15:05 (1)
15	08:41	09:54 (4)	07:56		06:56	06:45	05:47	05:19	05:36	06:22	07:13	08:03	07:58	14:08 (1)	08:40		09:31 (4)
	16:57	56 15:23 (1)	17:52		18:43	20:36	21:26	22:01	21:54	21:05	19:56	18:47	16:50	50 14:58 (1)	16:28	122	15:05 (1)
16	08:41	14:31 (1)	07:54		06:54	06:43	05:46	05:19	05:38	06:24	07:14	08:04	08:00	14:08 (1)	08:41		09:31 (4)
	16:58	52 15:23 (1)	17:54		18:44	20:37	21:27	22:01	21:53	21:03	19:54	18:45	16:48	51 14:59 (1)	16:28	125	15:05 (1)
17	08:40	14:31 (1)	07:52		06:51	06:41	05:44	05:19	05:39	06:25	07:16	08:06	08:01	14:08 (1)	08:42		09:32 (4)
	17:00	52 15:23 (1)	17:56		18:46	20:39	21:29	22:02	21:52	21:01	19:52	18:43	16:47	51 14:59 (1)	16:28	124	15:06 (1)
18	08:39	14:32 (1)	07:50		06:49	06:38	05:43	05:19	05:40	06:27	07:17	08:08	08:03	14:08 (1)	08:43		09:33 (4)
	17:01	52 15:24 (1)	17:58		18:48	20:41	21:30	22:02	21:51	20:59	19:49	18:41	16:46	52 15:00 (1)	16:29	125	15:06 (1)
19	08:38	14:32 (1)	07:48		06:47	06:36	05:41	05:19	05:41	06:28	07:19	08:10	08:05	14:08 (1)	08:44		09:32 (4)
	17:03	52 15:24 (1)	17:59		18:50	20:43	21:32	22:03	21:49	20:57	19:47	18:39	16:44	51 14:59 (1)	16:29	126	15:06 (1)
20	08:37	14:33 (1)	07:46		06:44	06:34	05:40	05:19	05:43	06:30	07:21	08:11	08:06	14:08 (1)	08:44		09:33 (4)
	17:05	52 15:25 (1)	18:01		18:51	20:44	21:33	22:03	21:48	20:55	19:45	18:37	16:43	52 15:00 (1)	16:29	126	15:07 (1)
21	08:36	14:33 (1)	07:44		06:42	06:32	05:38	05:19	05:44	06:32	07:22	08:13	08:08	14:08 (1)	08:45		09:34 (4)
	17:06	52 15:25 (1)	18:03		18:53	20:46	21:35	22:03	21:47	20:53	19:42	18:35	16:42	52 15:00 (1)	16:30	126	15:08 (1)
22	08:34	14:33 (1)	07:42		06:40	06:30	05:37	05:19	05:45	06:33	07:24	08:15	08:10	14:09 (1)	08:45		09:34 (4)
	17:08	52 15:25 (1)	18:05		18:55	20:48	21:36	22:03	21:46	20:51	19:40	18:33	16:41	52 15:01 (1)	16:30	126	15:08 (1)
23	08:33	14:34 (1)	07:40		06:37	06:28	05:36	05:20	05:47	06:35	07:26	08:17	08:11	14:09 (1)	08:46		09:34 (4)
	17:10	51 15:25 (1)	18:07		18:56	20:49	21:37	22:04	21:44	20:49	19:38	18:31	16:40	52 15:01 (1)	16:31	126	15:08 (1)
24	08:32	14:34 (1)	07:38		06:35	06:26	05:35	05:20	05:48	06:37	07:27	08:18	08:13	14:09 (1)	08:46		09:35 (4)
	17:12	52 15:26 (1)	18:09		18:58	20:51	21:39	22:04	21:43	20:46	19:35	18:28	16:38	52 15:01 (1)	16:31	126	15:09 (1)
25	08:31	14:34 (1)	07:36		06:33	06:24	05:33	05:20	05:49	06:38	07:29	07:20	08:15	14:09 (1)	08:47		09:35 (4)
	17:13	51 15:25 (1)	18:10		19:00	20:53	21:40	22:04	21:42	20:44	19:33	17:26	16:37	52 15:01 (1)	16:32	126	15:09 (1)
26	08:30	14:35 (1)	07:34		06:30	06:22	05:32	05:21	05:51	06:40	07:31	07:22	08:16	14:10 (1)	08:47		09:36 (4)
	17:15	51 15:26 (1)	18:12		19:02	20:54	21:41	22:04	21:40	20:42	19:31	17:24	16:36	52 15:02 (1)	16:32	125	15:10 (1)
27	08:28	14:35 (1)	07:32		06:28	06:20	05:31	05:21	05:52	06:42	07:32	07:24	08:18	09:33 (4)	08:47		09:37 (4)
	17:17	50 15:25 (1)	18:14		19:03	20:56	21:43	22:04	21:39	20:40	19:28	17:22	16:36	56 15:02 (1)	16:33	125	15:11 (1)
28	08:27	14:37 (1)	07:30		06:26	06:18	05:30	05:21	05:54	06:43	07:34	07:26	08:19	09:30 (4)	08:48		09:37 (4)
	17:19	49 15:26 (1)	18:16		19:05	20:58	21:44	22:03	21:37	20:38	19:26	17:20	16:35	61 15:02 (1)	16:34	122	15:11 (1)
29	08:25	14:37 (1)			07:24	06:16	05:29	05:22	05:55	06:45	07:35	07:27	08:21	09:30 (4)	08:48		09:38 (4)
	17:20	48 15:25 (1)			20:07	21:00	21:45	22:03	21:36	20:35	19:24	17:19	16:34	62 15:02 (1)	16:35	122	15:12 (1)
30	08:24	14:37 (1)			07:21	06:14	05:28	05:23	05:57	06:46	07:37	07:29	08:22	09:29 (4)	08:48		09:38 (4)
	17:22	48 15:25 (1)			20:08	21:01	21:47	22:03	21:34	20:33	19:21	17:17	16:33	66 15:03 (1)	16:36	123	15:13 (1)
31	08:22	14:39 (1)			07:19		05:27		05:58	06:48		07:31			08:48		09:38 (4)
	17:24	46 15:25 (1)			20:10		21:48		21:33	20:31		17:15			16:37	120	15:12 (1)
Potential sun hours	259		277		367	416	485	499	502	454	381	331	266		243		
Total, worst case		2130		328										1390		3555	
Sun reduction		0,24		0,30										0,24		0,20	
Oper. time red.		0,95		0,95										0,95		0,95	
Wind dir. red.		0,67		0,70										0,69		0,65	
Total reduction		0,15		0,20										0,15		0,13	
Total, real		325		65										215		447	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
20-12-2018 09:08/3.2.737

SHADOW - Calendar

Calculation: Copy of V150@166Shadow receptor: U - 3945LA4

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December		
1	08:48		13:47 (3)	08:21		16:13 (2)	07:27		17:36 (1)	07:17	06:12	05:26	05:23	06:00	06:50		07:39		18:05 (1)	07:33		15:39 (2)	08:24		13:38 (3)
	16:38	39	14:26 (3)	17:26	27	16:40 (2)	18:18	10	17:46 (1)	20:12	21:03	21:49	22:03	21:31	20:29		19:19	26	18:31 (1)	17:13	37	16:16 (2)	16:32	30	14:08 (3)
2	08:48		13:47 (3)	08:19		16:12 (2)	07:25		17:33 (1)	07:14	06:10	05:25	05:24	06:01	06:51		07:40		18:05 (1)	07:35		15:39 (2)	08:25		13:38 (3)
	16:39	39	14:26 (3)	17:28	29	16:41 (2)	18:19	16	17:49 (1)	20:13	21:05	21:50	22:02	21:29	20:26		19:17	26	18:31 (1)	17:11	37	16:16 (2)	16:32	32	14:10 (3)
3	08:48		13:49 (3)	08:18		16:12 (2)	07:23		17:31 (1)	07:12	06:08	05:25	05:25	06:03	06:53		07:42		18:03 (1)	07:36		15:38 (2)	08:27		13:37 (3)
	16:40	38	14:27 (3)	17:30	31	16:43 (2)	18:21	19	17:50 (1)	20:15	21:06	21:51	22:02	21:27	20:24		19:14	28	18:31 (1)	17:09	37	16:15 (2)	16:31	33	14:10 (3)
4	08:47		13:49 (3)	08:16		16:11 (2)	07:21		17:29 (1)	07:10	06:06	05:24	05:25	06:04	06:55		07:44		18:03 (1)	07:38		15:39 (2)	08:28		13:37 (3)
	16:41	37	14:26 (3)	17:31	32	16:43 (2)	18:23	23	17:52 (1)	20:17	21:08	21:52	22:02	21:26	20:22		19:12	28	18:31 (1)	17:07	36	16:15 (2)	16:30	35	14:12 (3)
5	08:47		13:50 (3)	08:14		16:10 (2)	07:18		17:28 (1)	07:07	06:04	05:23	05:26	06:06	06:56		07:45		18:03 (1)	07:40		15:39 (2)	08:29		13:37 (3)
	16:42	37	14:27 (3)	17:33	34	16:44 (2)	18:25	25	17:53 (1)	20:19	21:10	21:53	22:01	21:24	20:20		19:10	28	18:31 (1)	17:06	35	16:14 (2)	16:30	35	14:12 (3)
6	08:47		13:50 (3)	08:13		16:10 (2)	07:16		17:27 (1)	07:05	06:02	05:23	05:27	06:08	06:58		07:47		18:02 (1)	07:42		15:40 (2)	08:31		13:36 (3)
	16:44	36	14:26 (3)	17:35	34	16:44 (2)	18:27	26	17:53 (1)	20:20	21:11	21:54	22:01	21:22	20:17		19:08	27	18:29 (1)	17:04	34	16:14 (2)	16:29	37	14:13 (3)
7	08:46		13:52 (3)	08:11		16:09 (2)	07:14		17:26 (1)	07:03	06:00	05:22	05:28	06:09	06:59		07:49		18:03 (1)	07:44		15:41 (2)	08:32		13:37 (3)
	16:45	35	14:27 (3)	17:37	36	16:45 (2)	18:28	27	17:53 (1)	20:22	21:13	21:55	22:00	21:20	20:15		19:05	26	18:29 (1)	17:02	32	16:13 (2)	16:29	37	14:14 (3)
8	08:46		13:52 (3)	08:09		16:10 (2)	07:12		17:26 (1)	07:01	05:59	05:21	05:29	06:11	07:01		07:51		18:03 (1)	07:45		15:42 (2)	08:33		13:37 (3)
	16:46	35	14:27 (3)	17:39	36	16:46 (2)	18:30	28	17:54 (1)	20:24	21:14	21:56	21:59	21:19	20:13		19:03	25	18:28 (1)	17:00	30	16:12 (2)	16:29	37	14:14 (3)
9	08:45		13:54 (3)	08:07		16:09 (2)	07:10		17:26 (1)	06:58	05:57	05:21	05:30	06:12	07:03		07:52		18:04 (1)	07:47		15:43 (2)	08:34		13:37 (3)
	16:48	33	14:27 (3)	17:41	38	16:47 (2)	18:32	28	17:54 (1)	20:25	21:16	21:57	21:59	21:17	20:10		19:01	23	18:27 (1)	16:59	28	16:11 (2)	16:28	38	14:15 (3)
10	08:45		13:55 (3)	08:06		16:09 (2)	07:07		17:25 (1)	06:56	05:55	05:20	05:31	06:14	07:04		07:54		18:04 (1)	07:49		15:44 (2)	08:35		13:37 (3)
	16:49	32	14:27 (3)	17:43	38	16:47 (2)	18:34	28	17:53 (1)	20:27	21:18	21:57	21:58	21:15	20:08		18:59	21	18:25 (1)	16:57	26	16:10 (2)	16:28	38	14:15 (3)
11	08:44		13:55 (3)	08:04		16:09 (2)	07:05		17:26 (1)	06:54	05:53	05:20	05:32	06:16	07:06		07:56		18:05 (1)	07:51		15:45 (2)	08:37		13:37 (3)
	16:50	31	14:26 (3)	17:45	38	16:47 (2)	18:35	27	17:53 (1)	20:29	21:19	21:58	21:57	21:13	20:06		18:56	18	18:23 (1)	16:56	24	16:09 (2)	16:28	39	14:16 (3)
12	08:44		13:57 (3)	08:02		16:09 (2)	07:03		17:26 (1)	06:52	05:52	05:20	05:33	06:17	07:08		07:57		18:07 (1)	07:52		15:47 (2)	08:38		13:37 (3)
	16:52	29	14:26 (3)	17:46	38	16:47 (2)	18:37	26	17:52 (1)	20:31	21:21	21:59	21:56	21:11	20:03		18:54	14	18:21 (1)	16:54	20	16:07 (2)	16:28	39	14:16 (3)
13	08:43		13:58 (3)	08:00		16:09 (2)	07:00		17:26 (1)	06:49	05:50	05:19	05:34	06:19	07:09		07:59		18:11 (1)	07:54		15:49 (2)	08:39		13:38 (3)
	16:53	27	14:25 (3)	17:48	38	16:47 (2)	18:39	25	17:51 (1)	20:32	21:22	22:00	21:56	21:09	20:01		18:52	6	18:17 (1)	16:52	17	16:06 (2)	16:28	40	14:18 (3)
14	08:42		13:59 (3)	07:58		16:10 (2)	06:58		17:27 (1)	06:47	05:49	05:19	05:35	06:20	07:11		08:01			07:56		15:52 (2)	08:40		13:37 (3)
	16:55	25	14:24 (3)	17:50	36	16:46 (2)	18:41	23	17:50 (1)	20:34	21:24	22:00	21:55	21:07	19:59		18:50			16:51	11	16:03 (2)	16:28	41	14:18 (3)
15	08:41		14:01 (3)	07:56		16:10 (2)	06:56		17:28 (1)	06:45	05:47	05:19	05:36	06:22	07:12		08:03			07:58			08:40		13:38 (3)
	16:56	22	14:23 (3)	17:52	36	16:46 (2)	18:43	21	17:49 (1)	20:36	21:26	22:01	21:54	21:05	19:56		18:47			16:50			16:28	40	14:18 (3)
16	08:41		14:03 (3)	07:54		16:11 (2)	06:54		17:29 (1)	06:43	05:46	05:19	05:37	06:24	07:14		08:04			08:00			08:41		13:38 (3)
	16:58	19	14:22 (3)	17:54	35	16:46 (2)	18:44	17	17:46 (1)	20:37	21:27	22:01	21:53	21:03	19:54		18:45			16:48			16:28	41	14:19 (3)
17	08:40		14:07 (3)	07:52		16:11 (2)	06:51		17:32 (1)	06:41	05:44	05:19	05:39	06:25	07:16		08:06			08:01			08:42		13:39 (3)
	17:00	13	14:20 (3)	17:56	34	16:45 (2)	18:46	12	17:44 (1)	20:39	21:29	22:02	21:52	21:01	19:52		18:43			16:47			16:28	41	14:20 (3)
18	08:39		14:12 (3)	07:50		16:12 (2)	06:49			06:38	05:43	05:19	05:40	06:27	07:17		08:08		16:55 (2)	08:03			08:43		13:40 (3)
	17:01	5	14:17 (3)	17:58	32	16:44 (2)	18:48			20:41	21:30	22:02	21:50	20:59	19:49		18:41	10	17:05 (2)	16:45			16:28	41	14:21 (3)
19	08:38			07:48		16:13 (2)	06:47			06:36	05:41	05:19	05:41	06:28	07:19		08:10		16:51 (2)	08:05			08:44		13:39 (3)
	17:03			17:59	30	16:43 (2)	18:49			20:43	21:32	22:02	21:49	20:57	19:47		18:39	17	17:08 (2)	16:44			16:29	41	14:20 (3)
20	08:37			07:46		16:14 (2)	06:44			06:34	05:40	05:19	05:43	06:30	07:21		08:11		16:49 (2)	08:06			08:44		13:40 (3)
	17:05			18:01	27	16:41 (2)	18:51			20:44	21:33	22:03	21:48	20:55	19:45		18:37	21	17:10 (2)	16:43			16:29	41	14:21 (3)
21	08:36			07:44		16:16 (2)	06:42			06:32	05:38	05:19	05:44	06:32	07:22		08:13		16:46 (2)	08:08			08:45		13:41 (3)
	17:06			18:03	24	16:40 (2)	18:53			20:46	21:35	22:03	21:47	20:53	19:42		18:35	26	17:12 (2)	16:42			16:30	41	14:22 (3)
22	08:34			07:42		16:18 (2)	06:40			06:30	05:37	05:19	05:45	06:33	07:24		08:15		16:44 (2)	08:10			08:45		13:41 (3)
	17:08			18:05	20	16:38 (2)	18:55			20:48	21:36	22:03	21:46	20:51	19:40		18:33	28	17:12 (2)	16:41			16:30	41	14:22 (3)
23	08:33			07:40		16:21 (2)	06:37			06:28	05:36	05:19	05:47	06:35	07:26		08:17		16:43 (2)	08:11			08:46		13:41 (3)
	17:10			18:07	15	16:36 (2)	18:56			20:49	21:37	22:03	21:44	20:48	19:38		18:30	30	17:13 (2)	16:39			16:31	41	14:22 (3)
24	08:32			07:38		16:26 (2)	06:35			06:26	05:35	05:20	05:48	06:37	07:27		08:18		16:41 (2)	08:13		13:49 (3)	08:46		13:42 (3)
	17:11			18:09	5	16:31 (2)	18:58			20:51	21:39	22:04	21:43	20:46	19:35		18:28	33	17:14 (2)	16:38	5	13:54 (3)	16:31	41	14:23 (3)
25	08:31			07:36			06:33			06:24	05:33	05:20	05:49	06:38	07:29		07:20		15:41 (2)	08:15		13:45 (3)	08:47		13:42 (3)
	17:13			18:10			19:00			20:53	21:40	22:04	21:42	20:44	19:33		17:26	34	16:15 (2)	16:37	13	13:58 (3)	16:32	41	14:23 (3)
26	08:29			07:34			06:30			06:22	05:32	05:20	05:51	06:40	07:30		18:16 (1)		15:40 (2)	08:16		13:43 (3)	08:47		13:43 (3)
	17:15			18:12			19:02			20:54	21:41	22:04	21:40	20:42	19:31	10	18:26 (1)		17:24	35	16:15 (2)	16:36	18	14:01 (3)	16:32	41	14:24 (3)
27	08:28			07:32			06:28			06:20	05:31	05:21	05:52	06:41	07:32		18:12 (1)		07:24		15:39 (2)	08:18		13:41 (3)	08:47		13:43 (3)
	17:17			18:14			19:03			20:56	21:43	22:04	21:39	20:40	19:28	15	18:27 (1)		17:22	37	16:16 (2)	16:35	22	14:03 (3)	16:33	41	14:24 (3)
28	08:27		16:20 (2)	07:29			06:26			06:18	05:30	05:21	05:54	06:43	07:34		18:10 (1)		07:26		15:39 (2)	08:19		13:39 (3)	08:47		13:45 (3)
	17:19	11	16:31 (2)	18:16			19:05			20:58	21:44	22:03	21:37	20:38	19:26	19	18:29 (1)		17:20	37	16:16 (2)	16:35	25	14:04 (3)	16:34	40	14:25 (3)
29	08:25		16:17 (2)				07:23			06:16	05:29	05:22	05:55	06:45	07:35		18:08 (1)		07:27		15:39 (2)	08:21		13:39 (3)	08:48		13:45 (3)
	17:20	17	16:34 (2)				20:07			20:59	21:45	22:03	21:36	20:35	19:24	22	18:30 (1)		17:18	37	16:16 (2)	16:34	27	14:06 (3)	16:35	40	14:25 (3)
30	08:24		16:15 (2)				07:21			06:14	05:28	05:23	05:57	06:46	07:37		18:06 (1)		07:29		15:39 (2)	08:22		13:38 (3)	08:48		13:46 (3)
	17:22	21	16:36 (2)				20:08			21:01	21:46	22:03	21:34	20:33	19:21	24	18:30 (1)		17:17	37	16:16 (2)	16:33	29	14:07 (3)	16:36	40	14:26 (3)
31	08:22		16:14 (2)				07:19				05:27		05:58	06:48					07:31		15:39 (2)				08:48		13:46 (3)
	17:24	24	16:38 (2)				20:10				21:48		21:32	20:31					17:15	37	16:16 (2)				16:37	39	14:25 (3)
Potential sun hours	259			277			367			416	485	499	502	454	381				331			266			243		
Total, worst case		605			743			381								90				715			543			1202	
Sun reduction		0,24			0,30			0,33								0,36				0,34			0,24			0,20	
Oper. time red.		0,95			0,95			0,95								0,95				0,95			0,95			0,95	
Wind dir. red.		0,68			0,67			0,64								0,64				0,66			0,68			0,68	
Total reduction		0,16			0,19			0,20								0,22				0,21			0,15			0,13	
Total, real		94			144			76								20				151			83			159	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
20-12-2018 09:08/3.2.737

SHADOW - Calendar

Calculation: Copy of V150@166Shadow receptor: V - 3998JD90

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	06:49 (2)	05:26	06:03 (1)	05:23	06:08 (1)	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03	18 07:07 (2)	21:49	26 06:29 (1)	22:03	27 06:35 (1)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	06:50 (2)	05:26	06:03 (1)	05:24	06:09 (1)	06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05	15 07:05 (2)	21:50	26 06:29 (1)	22:03	27 06:36 (1)	21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08	06:52 (2)	05:25	06:03 (1)	05:25	06:09 (1)	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06	12 07:04 (2)	21:51	27 06:30 (1)	22:02	27 06:36 (1)	21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06	06:53 (2)	05:24	06:03 (1)	05:26	06:09 (1)	06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08	9 07:02 (2)	21:52	27 06:30 (1)	22:02	27 06:36 (1)	21:26	20:22	19:12	17:07	16:31
5	08:47	08:14	07:19	07:08	06:04	05:23	06:04 (1)	05:26	06:09 (1)	06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10	21:53	27 06:31 (1)	22:01	27 06:36 (1)	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02	05:23	06:03 (1)	05:27	06:10 (1)	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11	21:54	27 06:30 (1)	22:01	27 06:37 (1)	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01	05:22	06:04 (1)	05:28	06:10 (1)	06:09	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13	21:55	27 06:31 (1)	22:00	27 06:37 (1)	21:21	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59	05:22	06:04 (1)	05:29	06:10 (1)	06:11	07:05 (2)	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15	21:56	27 06:31 (1)	22:00	27 06:37 (1)	21:19	4 07:09 (2)	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57	05:21	06:04 (1)	05:30	06:11 (1)	06:12	07:02 (2)	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16	21:57	27 06:31 (1)	21:59	26 06:37 (1)	21:17	10 07:12 (2)	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55	05:21	06:04 (1)	05:31	06:10 (1)	06:14	07:00 (2)	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18	21:58	27 06:31 (1)	21:58	26 06:36 (1)	21:15	13 07:13 (2)	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54	05:20	06:04 (1)	05:32	06:10 (1)	06:16	06:59 (2)	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19	21:58	27 06:31 (1)	21:57	26 06:36 (1)	21:13	16 07:15 (2)	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52	05:20	06:05 (1)	05:33	06:11 (1)	06:17	06:58 (2)	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21	21:59	26 06:31 (1)	21:57	25 06:36 (1)	21:11	17 07:15 (2)	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50	05:20	06:05 (1)	05:34	06:12 (1)	06:19	06:57 (2)	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23	22:00	27 06:32 (1)	21:56	25 06:37 (1)	21:09	19 07:16 (2)	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49	05:19	06:05 (1)	05:35	06:12 (1)	06:21	06:56 (2)	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24	22:00	27 06:32 (1)	21:55	25 06:37 (1)	21:07	20 07:16 (2)	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47	05:19	06:05 (1)	05:36	06:13 (1)	06:22	06:56 (2)	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26	22:01	26 06:31 (1)	21:54	24 06:37 (1)	21:05	21 07:17 (2)	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46	05:19	06:05 (1)	05:38	06:13 (1)	06:24	06:55 (2)	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27	22:01	27 06:32 (1)	21:53	23 06:36 (1)	21:03	21 07:16 (2)	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44	05:19	06:05 (1)	05:39	06:13 (1)	06:25	06:56 (2)	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29	22:02	27 06:32 (1)	21:52	23 06:36 (1)	21:01	20 07:16 (2)	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43	05:19	06:06 (1)	05:40	06:14 (1)	06:27	06:55 (2)	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30	22:02	26 06:32 (1)	21:51	21 06:35 (1)	20:59	20 07:15 (2)	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41	06:13 (1)	05:19	06:07 (1)	05:41	06:14 (1)	06:29	06:56 (2)	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32	4 06:17 (1)	22:03	26 06:33 (1)	21:49	21 06:35 (1)	20:57	19 07:15 (2)	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	06:58 (2)	05:40	06:10 (1)	05:19	06:07 (1)	05:43	06:16 (1)	06:30	06:57 (2)	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	8 07:06 (2)	21:33	10 06:20 (1)	22:03	26 06:33 (1)	21:48	19 06:35 (1)	20:55	17 07:14 (2)	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	06:56 (2)	05:39	06:09 (1)	05:19	06:07 (1)	05:44	06:17 (1)	06:32	06:59 (2)	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	11 07:07 (2)	21:35	13 06:22 (1)	22:03	26 06:33 (1)	21:47	17 06:34 (1)	20:53	14 07:13 (2)	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	06:54 (2)	05:37	06:07 (1)	05:19	06:07 (1)	05:45	06:18 (1)	06:34	07:00 (2)	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	14 07:08 (2)	21:36	16 06:23 (1)	22:03	26 06:33 (1)	21:46	15 06:33 (1)	20:51	11 07:11 (2)	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	06:52 (2)	05:36	06:06 (1)	05:20	06:07 (1)	05:47	06:19 (1)	06:35	07:02 (2)	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	17 07:09 (2)	21:37	18 06:24 (1)	22:04	26 06:33 (1)	21:44	12 06:31 (1)	20:49	7 07:09 (2)	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	06:50 (2)	05:35	06:05 (1)	05:20	06:08 (1)	05:48	06:22 (1)	06:37		07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	20 07:10 (2)	21:39	20 06:25 (1)	22:04	26 06:34 (1)	21:43	8 06:30 (1)	20:46		19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	06:50 (2)	05:34	06:05 (1)	05:20	06:07 (1)	05:50		06:38		07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	20 07:10 (2)	21:40	21 06:26 (1)	22:04	27 06:34 (1)	21:42		20:44		19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	06:49 (2)	05:32	06:04 (1)	05:21	06:07 (1)	05:51		06:40		07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	21 07:10 (2)	21:42	22 06:26 (1)	22:04	27 06:34 (1)	21:40		20:42		19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	06:49 (2)	05:31	06:04 (1)	05:21	06:08 (1)	05:52		06:42		07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21 07:10 (2)	21:43	23 06:27 (1)	22:04	27 06:35 (1)	21:39		20:40		19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	06:49 (2)	05:30	06:03 (1)	05:22	06:08 (1)	05:54		06:43		07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	20 07:09 (2)	21:44	24 06:27 (1)	22:04	26 06:34 (1)	21:37		20:38		19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	06:49 (2)	05:29	06:03 (1)	05:22	06:08 (1)	05:55		06:45		07:36	07:27	08:21	08:48
	17:21		20:07	21:00	19 07:08 (2)	21:45	25 06:28 (1)	22:03	27 06:35 (1)	21:36		20:36		19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	06:49 (2)	05:28	06:04 (1)	05:23	06:09 (1)	05:57		06:47		07:37	07:29	08:22	08:48
	17:22		20:09	21:01	19 07:08 (2)	21:47	25 06:29 (1)	22:03	27 06:36 (1)	21:34		20:33		19:22	17:17	16:33	16:36
31	08:22		07:19			05:27	06:03 (1)			05:58		06:48			07:31		08:48
	17:24		20:10			21:48	26 06:29 (1)			21:33		20:31			17:15		16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case				190	301	798	552	249				
Sun reduction				0,42	0,43	0,39	0,41	0,42				
Oper. time red.				0,95	0,95	0,95	0,95	0,95				
Wind dir. red.				0,64	0,66	0,67	0,67	0,64				
Total reduction				0,25	0,27	0,25	0,26	0,25				
Total, real				48	81	198	143	63				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
20-12-2018 09:08/3.2.737

SHADOW - Calendar

Calculation: Copy of V150@166Shadow receptor: W - 3998JD93

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	06:45 (2)	05:26	06:00 (1)	05:23	06:04 (1)	06:00		06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03	20 07:05 (2)	21:49	23 06:23 (1)	22:03	27 06:31 (1)	21:31		20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	06:45 (2)	05:26	05:59 (1)	05:24	06:05 (1)	06:01		06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05	19 07:04 (2)	21:50	24 06:23 (1)	22:03	26 06:31 (1)	21:29		20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08	06:47 (2)	05:25	06:00 (1)	05:25	06:05 (1)	06:03		06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06	17 07:04 (2)	21:51	25 06:25 (1)	22:02	27 06:32 (1)	21:28		20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06	06:47 (2)	05:24	05:59 (1)	05:26	06:05 (1)	06:05		06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08	16 07:03 (2)	21:52	26 06:25 (1)	22:02	26 06:31 (1)	21:26		20:22	19:12	17:07	16:31
5	08:47	08:14	07:19	07:08	06:04	06:48 (2)	05:23	06:00 (1)	05:26	06:05 (1)	06:06		06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10	13 07:01 (2)	21:53	25 06:25 (1)	22:01	26 06:31 (1)	21:24		20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02	06:49 (2)	05:23	06:00 (1)	05:27	06:06 (1)	06:08	07:01 (2)	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11	10 06:59 (2)	21:54	25 06:25 (1)	22:01	26 06:32 (1)	21:22	6 07:07 (2)	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01	06:53 (2)	05:22	06:00 (1)	05:28	06:06 (1)	06:09	06:59 (2)	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13	4 06:57 (2)	21:55	26 06:26 (1)	22:00	26 06:32 (1)	21:21	11 07:10 (2)	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59		05:22	06:00 (1)	05:29	06:07 (1)	06:11	06:57 (2)	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15		21:56	26 06:26 (1)	22:00	25 06:32 (1)	21:19	14 07:11 (2)	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57		05:21	06:00 (1)	05:30	06:07 (1)	06:12	06:56 (2)	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16		21:57	27 06:27 (1)	21:59	25 06:32 (1)	21:17	17 07:13 (2)	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55		05:21	05:59 (1)	05:31	06:07 (1)	06:14	06:55 (2)	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18		21:58	27 06:26 (1)	21:58	24 06:31 (1)	21:15	18 07:13 (2)	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54		05:20	06:00 (1)	05:32	06:07 (1)	06:16	06:55 (2)	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19		21:58	27 06:27 (1)	21:57	24 06:31 (1)	21:13	19 07:14 (2)	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52		05:20	06:00 (1)	05:33	06:08 (1)	06:17	06:53 (2)	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21		21:59	27 06:27 (1)	21:57	23 06:31 (1)	21:11	21 07:14 (2)	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50		05:20	06:01 (1)	05:34	06:09 (1)	06:19	06:54 (2)	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23		22:00	27 06:28 (1)	21:56	22 06:31 (1)	21:09	20 07:14 (2)	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49		05:19	06:01 (1)	05:35	06:10 (1)	06:21	06:53 (2)	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24		22:00	27 06:28 (1)	21:55	21 06:31 (1)	21:07	21 07:14 (2)	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47		05:19	06:00 (1)	05:36	06:10 (1)	06:22	06:53 (2)	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26		22:01	27 06:27 (1)	21:54	20 06:30 (1)	21:05	21 07:14 (2)	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46		05:19	06:00 (1)	05:38	06:11 (1)	06:24	06:53 (2)	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27		22:01	28 06:28 (1)	21:53	19 06:30 (1)	21:03	20 07:13 (2)	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44		05:19	06:01 (1)	05:39	06:12 (1)	06:25	06:53 (2)	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29		22:02	27 06:28 (1)	21:52	17 06:29 (1)	21:01	20 07:13 (2)	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43		05:19	06:01 (1)	05:40	06:13 (1)	06:27	06:54 (2)	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30		22:02	27 06:28 (1)	21:51	15 06:28 (1)	20:59	17 07:11 (2)	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41		05:19	06:02 (1)	05:41	06:14 (1)	06:29	06:56 (2)	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32		22:03	27 06:29 (1)	21:49	12 06:26 (1)	20:57	15 07:11 (2)	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40		05:19	06:02 (1)	05:43	06:17 (1)	06:30	06:57 (2)	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33		22:03	27 06:29 (1)	21:48	9 06:26 (1)	20:55	12 07:09 (2)	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	06:56 (2)	05:39	05:19	06:02 (1)	05:44		06:32	06:59 (2)	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	3 06:59 (2)	21:35	22:03	27 06:29 (1)	21:47		20:53	8 07:07 (2)	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	06:54 (2)	05:37	05:19	06:02 (1)	05:45		06:34		07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	9 07:03 (2)	21:36	22:03	27 06:29 (1)	21:46		20:51		19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	06:52 (2)	05:36	06:07 (1)	05:20	06:02 (1)	05:47	06:35		07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	12 07:04 (2)	21:37	7 06:14 (1)	22:04	27 06:29 (1)	21:44	20:49		19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	06:50 (2)	05:35	06:05 (1)	05:20	06:03 (1)	05:48	06:37		07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	15 07:05 (2)	21:39	11 06:16 (1)	22:04	27 06:30 (1)	21:43	20:46		19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	06:48 (2)	05:34	06:04 (1)	05:20	06:03 (1)	05:50	06:38		07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	18 07:06 (2)	21:40	14 06:18 (1)	22:04	27 06:30 (1)	21:42	20:44		19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	06:47 (2)	05:32	06:03 (1)	05:21	06:03 (1)	05:51	06:40		07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	19 07:06 (2)	21:42	16 06:19 (1)	22:04	27 06:30 (1)	21:40	20:42		19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	06:46 (2)	05:31	06:02 (1)	05:21	06:03 (1)	05:52	06:42		07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	20 07:06 (2)	21:43	18 06:20 (1)	22:04	27 06:30 (1)	21:39	20:40		19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	06:46 (2)	05:30	06:01 (1)	05:22	06:03 (1)	05:54	06:43		07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	20 07:06 (2)	21:44	20 06:21 (1)	22:04	27 06:30 (1)	21:37	20:38		19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	06:45 (2)	05:29	06:01 (1)	05:22	06:04 (1)	05:55	06:45		07:36	07:27	08:21	08:48
	17:21		20:07	21:00	21 07:06 (2)	21:45	20 06:21 (1)	22:03	27 06:31 (1)	21:36	20:36		19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	06:45 (2)	05:28	06:01 (1)	05:23	06:04 (1)	05:57	06:47		07:37	07:29	08:22	08:48
	17:22		20:08	21:01	21 07:06 (2)	21:47	22 06:23 (1)	22:03	27 06:31 (1)	21:34	20:33		19:22	17:17	16:33	16:36
31	08:22		07:19			05:27	06:00 (1)			05:58	06:48			07:31		08:48
	17:24		20:10			21:48	23 06:23 (1)			21:33	20:31			17:15		16:37
Potential sun hours	259	277	367	416	485		499		502		454		381	331	266	243
Total, worst case				158	250		795		440		260					
Sun reduction				0,42	0,43		0,39		0,41		0,42					
Oper. time red.				0,95	0,95		0,95		0,95		0,95					
Wind dir. red.				0,64	0,66		0,67		0,67		0,64					
Total reduction				0,25	0,27		0,25		0,26		0,25					
Total, real				40	67		198		114		66					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
20-12-2018 09:08/3.2.737

SHADOW - Calendar

Calculation: Copy of V150@166Shadow receptor: X - 3961ME2

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May		June		July		August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12		05:26	20:27 (3)	05:23	20:30 (3)	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03		21:49 36	21:03 (2)	22:03 38	21:08 (2)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10		05:25	20:27 (3)	05:24	20:30 (3)	06:01	06:51	07:40	07:34	08:25
	16:39	17:28	18:19	20:13	21:04		21:50 36	21:03 (2)	22:02 39	21:09 (2)	21:29	20:26	19:17	17:11	16:32
3	08:47	08:18	07:23	07:12	06:08		05:25	20:27 (3)	05:25	20:30 (3)	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06		21:51 37	21:04 (2)	22:02 38	21:08 (2)	21:27	20:24	19:14	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06		05:24	20:26 (3)	05:25	20:31 (3)	06:04	06:55	07:44	07:38	08:28
	16:41	17:31	18:23	20:17	21:08		21:52 37	21:03 (2)	22:02 38	21:09 (2)	21:26	20:22	19:12	17:07	16:30
5	08:47	08:14	07:18	07:07	06:04		05:23	20:26 (3)	05:26	20:31 (3)	06:06	06:56	07:45	07:40	08:29
	16:43	17:33	18:25	20:19	21:09		21:53 37	21:03 (2)	22:01 38	21:09 (2)	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02		05:23	20:26 (3)	05:27	20:32 (3)	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11		21:54 38	21:04 (2)	22:01 38	21:10 (2)	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:00		05:22	20:25 (3)	05:28	20:33 (3)	06:09	06:59	07:49	07:43	08:32
	16:45	17:37	18:28	20:22	21:13		21:55 38	21:03 (2)	22:00 37	21:10 (2)	21:20	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59		05:21	20:26 (3)	05:29	20:32 (3)	06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:14		21:56 38	21:04 (2)	21:59 38	21:10 (2)	21:19	20:13	19:03	17:00	16:29
9	08:45	08:07	07:09	06:58	05:57		05:21	20:26 (3)	05:30	20:33 (3)	06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:25	21:16		21:57 38	21:04 (2)	21:59 37	21:10 (2)	21:17	20:10	19:01	16:59	16:28
10	08:45	08:06	07:07	06:56	05:55		05:20	20:25 (3)	05:31	20:34 (3)	06:14	07:04	07:54	07:49	08:35
	16:49	17:43	18:34	20:27	21:18		21:57 39	21:04 (2)	21:58 36	21:10 (2)	21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54		05:20	20:26 (3)	05:32	20:34 (3)	06:16	07:06	07:56	07:51	08:36
	16:50	17:45	18:35	20:29	21:19		21:58 38	21:04 (2)	21:57 37	21:11 (2)	21:13	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52		05:20	20:26 (3)	05:33	20:35 (3)	06:17	07:08	07:57	07:52	08:37
	16:52	17:46	18:37	20:31	21:21		21:59 38	21:04 (2)	21:56 36	21:11 (2)	21:11	20:03	18:54	16:54	16:28
13	08:43	08:00	07:00	06:49	05:50		05:19	20:25 (3)	05:34	20:36 (3)	06:19	07:09	07:59	07:54	08:38
	16:53	17:48	18:39	20:32	21:22		21:59 39	21:04 (2)	21:55 35	21:11 (2)	21:09	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49		05:19	20:25 (3)	05:35	20:37 (3)	06:20	07:11	08:01	07:56	08:39
	16:55	17:50	18:41	20:34	21:24		22:00 39	21:04 (2)	21:55 34	21:11 (2)	21:07	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47	20:44 (2)	05:19	20:25 (3)	05:36	20:39 (3)	06:22	07:12	08:03	07:58	08:40
	16:57	17:52	18:42	20:36	21:26 7	20:51 (2)	22:01 39	21:04 (2)	21:54 33	21:12 (2)	21:05	19:56	18:47	16:50	16:28
16	08:40	07:54	06:54	06:43	05:46	20:42 (2)	05:19	20:26 (3)	05:38	20:40 (3)	06:24	07:14	08:04	07:59	08:41
	16:58	17:54	18:44	20:37	21:27 12	20:54 (2)	22:01 39	21:05 (3)	21:53 32	21:12 (2)	21:03	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44	20:41 (2)	05:19	20:26 (3)	05:39	20:41 (3)	06:25	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29 15	20:56 (2)	22:02 39	21:05 (3)	21:51 30	21:11 (2)	21:01	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:38	05:43	20:39 (2)	05:19	20:26 (3)	05:40	20:42 (3)	06:27	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30 17	20:56 (2)	22:02 39	21:05 (3)	21:50 29	21:11 (2)	20:59	19:49	18:41	16:45	16:29
19	08:38	07:48	06:47	06:36	05:41	20:38 (2)	05:19	20:26 (3)	05:41	20:44 (3)	06:28	07:19	08:09	08:05	08:43
	17:03	17:59	18:49	20:42	21:32 20	20:58 (2)	22:02 40	21:06 (3)	21:49 27	21:11 (2)	20:57	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40	20:38 (2)	05:19	20:26 (3)	05:43	20:45 (2)	06:30	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33 21	20:59 (2)	22:03 40	21:06 (3)	21:48 25	21:10 (2)	20:55	19:45	18:37	16:43	16:29
21	08:35	07:44	06:42	06:32	05:38	20:36 (2)	05:19	20:27 (3)	05:44	20:46 (2)	06:32	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:34 23	20:59 (2)	22:03 40	21:07 (3)	21:47 25	21:11 (2)	20:53	19:42	18:35	16:42	16:30
22	08:34	07:42	06:40	06:30	05:37	20:36 (2)	05:19	20:27 (3)	05:45	20:47 (2)	06:33	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36 24	21:00 (2)	22:03 40	21:07 (3)	21:46 23	21:10 (2)	20:51	19:40	18:33	16:41	16:30
23	08:33	07:40	06:37	06:28	05:36	20:36 (2)	05:20	20:27 (3)	05:47	20:47 (2)	06:35	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	21:37 24	21:00 (2)	22:03 40	21:07 (3)	21:44 22	21:09 (2)	20:48	19:38	18:30	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35	20:36 (2)	05:20	20:28 (3)	05:48	20:48 (2)	06:37	07:27	08:18	08:13	08:46
	17:11	18:09	18:58	20:51	21:39 25	21:01 (2)	22:03 39	21:07 (3)	21:43 21	21:09 (2)	20:46	19:35	18:28	16:38	16:31
25	08:31	07:36	06:33	06:24	05:33	20:34 (3)	05:20	20:28 (3)	05:49	20:49 (2)	06:38	07:29	07:20	08:15	08:47
	17:13	18:10	19:00	20:53	21:40 27	21:01 (2)	22:03 39	21:07 (3)	21:41 19	21:08 (2)	20:44	19:33	17:26	16:37	16:32
26	08:29	07:34	06:30	06:22	05:32	20:32 (3)	05:21	20:28 (3)	05:51	20:50 (2)	06:40	07:30	07:22	08:16	08:47
	17:15	18:12	19:01	20:54	21:41 30	21:02 (2)	22:03 39	21:07 (3)	21:40 16	21:06 (2)	20:42	19:31	17:24	16:36	16:32
27	08:28	07:32	06:28	06:20	05:31	20:31 (3)	05:21	20:29 (3)	05:52	20:52 (2)	06:41	07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21:43 31	21:02 (2)	22:03 39	21:08 (3)	21:39 13	21:05 (2)	20:40	19:28	17:22	16:36	16:33
28	08:27	07:29	06:26	06:18	05:30	20:30 (3)	05:21	20:28 (3)	05:54	20:53 (2)	06:43	07:34	07:25	08:19	08:47
	17:19	18:16	19:05	20:58	21:44 32	21:02 (2)	22:03 39	21:07 (2)	21:37 10	21:03 (2)	20:38	19:26	17:20	16:35	16:34
29	08:25		07:23	06:16	05:29	20:29 (3)	05:22	20:29 (3)	05:55	20:57 (2)	06:45	07:35	07:27	08:21	08:48
	17:20		20:07	20:59	21:45 33	21:02 (2)	22:03 39	21:08 (2)	21:36 2	20:59 (2)	20:35	19:24	17:18	16:34	16:35
30	08:24		07:21	06:14	05:28	20:28 (3)	05:23	20:29 (3)	05:57		06:46	07:37	07:29	08:22	08:48
	17:22		20:08	21:01	21:46 34	21:02 (2)	22:03 38	21:07 (2)	21:34		20:33	19:21	17:17	16:33	16:36
31	08:22		07:19		05:27	20:28 (3)			05:58		06:48		07:31		08:48
	17:24		20:10		21:48 35	21:03 (2)			21:32		20:31		17:15		16:37
Potential sun hours	259	277	367	416	485		499		502		454	381	331	266	243
Total, worst case					410		1156		846						
Sun reduction					0,43		0,39		0,41						
Oper. time red.					0,95		0,95		0,95						
Wind dir. red.					0,58		0,59		0,59						
Total reduction					0,24		0,22		0,23						
Total, real					97		250		191						

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
20-12-2018 09:08/3.2.737

SHADOW - Calendar

Calculation: Copy of V150@166Shadow receptor: Y - 3998JD86

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 16:38	08:21 17:26	07:27 18:18	07:17 20:12	06:12 21:03 11	06:55 (2) 07:06 (2)	05:26 21:49 26	06:08 (1) 06:34 (1)	05:23 22:03 24	06:15 (1) 06:39 (1)	06:00 21:31	06:50 20:29	07:39 19:19	07:33 17:13	08:24 16:32
2	08:48 16:39	08:19 17:28	07:25 18:20	07:14 20:14	06:10 21:05 7	06:57 (2) 07:04 (2)	05:26 21:50 26	06:08 (1) 06:34 (1)	05:24 22:03 24	06:15 (1) 06:39 (1)	06:01 21:29	06:51 20:27	07:41 19:17	07:35 17:11	08:25 16:32
3	08:48 16:40	08:18 17:30	07:23 18:21	07:12 20:15	06:08 21:06		05:25 21:51 26	06:09 (1) 06:35 (1)	05:25 22:02 24	06:16 (1) 06:40 (1)	06:03 21:28	06:53 20:24	07:42 19:15	07:36 17:09	08:27 16:31
4	08:47 16:41	08:16 17:32	07:21 18:23	07:10 20:17	06:06 21:08		05:24 21:52 26	06:08 (1) 06:34 (1)	05:26 22:02 25	06:15 (1) 06:40 (1)	06:05 21:26	06:55 20:22	07:44 19:12	07:38 17:07	08:28 16:31
5	08:47 16:43	08:15 17:33	07:19 18:25	07:08 20:19	06:04 21:10		05:23 21:53 26	06:09 (1) 06:35 (1)	05:26 22:01 25	06:15 (1) 06:40 (1)	06:06 21:24	06:56 20:20	07:46 19:10	07:40 17:06	08:29 16:30
6	08:47 16:44	08:13 17:35	07:16 18:27	07:05 20:20	06:02 21:11		05:23 21:54 25	06:09 (1) 06:34 (1)	05:27 22:01 26	06:15 (1) 06:41 (1)	06:08 21:22	06:58 20:17	07:47 19:08	07:42 17:04	08:31 16:30
7	08:46 16:45	08:11 17:37	07:14 18:29	07:03 20:22	06:01 21:13		05:22 21:55 25	06:10 (1) 06:35 (1)	05:28 22:00 25	06:16 (1) 06:41 (1)	06:09 21:21	07:00 20:15	07:49 19:05	07:44 17:02	08:32 16:29
8	08:46 16:46	08:09 17:39	07:12 18:30	07:01 20:24	05:59 21:15		05:22 21:56 24	06:10 (1) 06:34 (1)	05:29 22:00 26	06:16 (1) 06:42 (1)	06:11 21:19	07:01 20:13	07:51 19:03	07:45 17:01	08:33 16:29
9	08:46 16:48	08:08 17:41	07:10 18:32	06:58 20:26	05:57 21:16		05:21 21:57 25	06:10 (1) 06:35 (1)	05:30 21:59 26	06:16 (1) 06:42 (1)	06:12 21:17	07:03 20:11	07:52 19:01	07:47 16:59	08:34 16:29
10	08:45 16:49	08:06 17:43	07:07 18:34	06:56 20:27	05:55 21:18		05:21 21:58 24	06:10 (1) 06:34 (1)	05:31 21:58 26	06:15 (1) 06:41 (1)	06:14 21:15	07:04 20:08	07:54 18:59	07:49 16:57	08:36 16:28
11	08:44 16:51	08:04 17:45	07:05 18:36	06:54 20:29	05:54 21:19		05:20 21:58 24	06:11 (1) 06:35 (1)	05:32 21:57 26	06:15 (1) 06:41 (1)	06:16 21:13 8	07:06 (2) 07:14 (2)	07:56 20:06	07:51 18:56	08:37 16:28
12	08:44 16:52	08:02 17:47	07:03 18:37	06:52 20:31	05:52 21:21		05:20 21:59 24	06:11 (1) 06:35 (1)	05:33 21:57 27	06:15 (1) 06:42 (1)	06:17 21:11 12	07:03 (2) 07:15 (2)	07:58 20:04	07:53 18:54	08:38 16:28
13	08:43 16:54	08:00 17:48	07:01 18:39	06:49 20:32	05:50 21:23		05:20 22:00 23	06:12 (1) 06:35 (1)	05:34 21:56 27	06:16 (1) 06:43 (1)	06:19 21:09 15	07:02 (2) 07:17 (2)	07:59 20:01	07:54 18:52	08:39 16:53	08:28
14	08:42 16:55	07:58 17:50	06:58 18:41	06:47 20:34	05:49 21:24		05:19 22:00 23	06:12 (1) 06:35 (1)	05:35 21:55 27	06:16 (1) 06:43 (1)	06:21 21:07 17	07:01 (2) 07:18 (2)	08:01 19:59	07:56 18:50	08:40 16:51	08:28
15	08:42 16:57	07:56 17:52	06:56 18:43	06:45 20:36	05:47 21:26 3	06:18 (1) 06:21 (1)	05:19 22:01 24	06:11 (1) 06:35 (1)	05:36 21:54 26	06:17 (1) 06:43 (1)	06:22 21:05 19	07:00 (2) 07:19 (2)	08:03 19:57	07:58 18:48	08:41 16:50	08:28
16	08:41 16:58	07:54 17:54	06:54 18:44	06:43 20:38	05:46 21:27 10	06:15 (1) 06:25 (1)	05:19 22:01 23	06:12 (1) 06:35 (1)	05:38 21:53 26	06:17 (1) 06:43 (1)	06:24 21:03 20	06:59 (2) 07:19 (2)	07:14 19:54	08:04 18:45	08:00 16:48	08:41 16:28
17	08:40 17:00	07:52 17:56	06:51 18:46	06:41 20:39	05:44 21:29 14	06:13 (1) 06:27 (1)	05:19 22:02 23	06:12 (1) 06:35 (1)	05:39 21:52 25	06:17 (1) 06:42 (1)	06:25 21:01 20	06:59 (2) 07:19 (2)	07:16 19:52	08:06 18:43	08:01 16:47	08:42 16:28
18	08:39 17:01	07:50 17:58	06:49 18:48	06:39 20:41 6	07:02 (2) 07:08 (2)	05:43 21:30 17	06:11 (1) 06:28 (1)	05:19 22:02 23	06:12 (1) 06:35 (1)	05:40 21:51 25	06:17 (1) 06:42 (1)	06:27 20:59 21	06:58 (2) 07:19 (2)	07:17 19:50	08:08 18:41	08:03 16:46	08:43 16:29
19	08:38 17:03	07:48 18:00	06:47 18:50	06:36 20:43 10	07:00 (2) 07:10 (2)	05:41 21:32 18	06:11 (1) 06:29 (1)	05:19 22:03 22	06:14 (1) 06:36 (1)	05:41 21:49 25	06:17 (1) 06:42 (1)	06:29 20:57 20	06:59 (2) 07:19 (2)	07:19 19:47	08:10 18:39	08:05 16:44	08:44 16:29
20	08:37 17:05	07:46 18:01	06:44 18:51	06:34 20:44 14	06:58 (2) 07:12 (2)	05:40 21:33 20	06:10 (1) 06:30 (1)	05:19 22:03 22	06:14 (1) 06:36 (1)	05:43 21:48 24	06:18 (1) 06:42 (1)	06:30 20:55 20	06:58 (2) 07:18 (2)	07:21 19:45	08:11 18:37	08:06 16:43	08:44 16:29
21	08:36 17:06	07:44 18:03	06:42 18:53	06:32 20:46 16	06:56 (2) 07:12 (2)	05:39 21:35 21	06:10 (1) 06:31 (1)	05:19 22:03 22	06:14 (1) 06:36 (1)	05:44 21:47 23	06:19 (1) 06:42 (1)	06:32 20:53 18	06:59 (2) 07:17 (2)	07:22 19:43	08:13 18:35	08:08 16:42	08:45 16:30
22	08:35 17:08	07:42 18:05	06:40 18:55	06:30 20:48 19	06:54 (2) 07:13 (2)	05:37 21:36 23	06:08 (1) 06:31 (1)	05:19 22:03 22	06:14 (1) 06:36 (1)	05:45 21:46 22	06:19 (1) 06:41 (1)	06:34 20:51 16	07:00 (2) 07:16 (2)	07:24 19:40	08:15 18:33	08:10 16:41	08:45 16:30
23	08:33 17:10	07:40 18:07	06:38 18:56	06:28 20:49 20	06:53 (2) 07:13 (2)	05:36 21:37 24	06:08 (1) 06:32 (1)	05:20 22:04 22	06:14 (1) 06:36 (1)	05:47 21:44 21	06:19 (1) 06:40 (1)	06:35 20:49 13	07:02 (2) 07:15 (2)	07:26 19:38	08:17 18:31	08:11 16:40	08:46 16:31
24	08:32 17:12	07:38 18:09	06:35 18:58	06:26 20:51 20	06:53 (2) 07:13 (2)	05:35 21:39 24	06:08 (1) 06:32 (1)	05:20 22:04 23	06:14 (1) 06:37 (1)	05:48 21:43 19	06:21 (1) 06:40 (1)	06:37 20:46 10	07:04 (2) 07:14 (2)	07:27 19:35	08:18 18:29	08:13 16:39	08:46 16:31
25	08:31 17:13	07:36 18:11	06:33 19:00	06:24 20:53 20	06:53 (2) 07:13 (2)	05:34 21:40 25	06:07 (1) 06:32 (1)	05:20 22:04 23	06:14 (1) 06:37 (1)	05:50 21:42 17	06:22 (1) 06:39 (1)	06:38 20:44 6	07:05 (2) 07:11 (2)	07:29 19:33	08:20 17:27	08:15 16:38	08:47 16:32
26	08:30 17:15	07:34 18:12	06:31 19:02	06:22 20:55 19	06:53 (2) 07:12 (2)	05:32 21:42 26	06:07 (1) 06:33 (1)	05:21 22:04 23	06:14 (1) 06:37 (1)	05:51 21:40 16	06:22 (1) 06:38 (1)	06:40 20:42		07:31 19:31	07:22 17:25	08:16 16:37	08:47 16:33
27	08:28 17:17	07:32 18:14	06:28 19:03	06:20 20:56 19	06:53 (2) 07:12 (2)	05:31 21:43 26	06:07 (1) 06:33 (1)	05:21 22:04 23	06:15 (1) 06:38 (1)	05:52 21:39 12	06:25 (1) 06:37 (1)	06:42 20:40		07:32 19:28	07:24 17:23	08:18 16:36	08:47 16:33
28	08:27 17:19	07:30 18:16	06:26 19:05	06:18 20:58 18	06:53 (2) 07:11 (2)	05:30 21:44 26	06:07 (1) 06:33 (1)	05:22 22:04 23	06:14 (1) 06:37 (1)	05:54 21:37 9	06:26 (1) 06:35 (1)	06:43 20:38		07:34 19:26	07:26 17:21	08:19 16:35	08:48 16:34
29	08:25 17:21		07:24 20:07	06:16 21:00 17	06:53 (2) 07:10 (2)	05:29 21:45 26	06:07 (1) 06:33 (1)	05:22 22:03 23	06:15 (1) 06:38 (1)	05:55 21:36		06:45 20:36		07:36 19:24	07:27 17:19	08:21 16:34	08:48 16:35
30	08:24 17:22		07:21 20:09	06:14 21:01 14	06:54 (2) 07:08 (2)	05:28 21:47 26	06:08 (1) 06:34 (1)	05:23 22:03 24	06:15 (1) 06:39 (1)	05:57 21:34		06:47 20:33		07:37 19:22	07:29 17:17	08:22 16:33	08:48 16:36
31	08:22 17:24		07:19 20:10			05:27 21:48 26	06:08 (1) 06:34 (1)			05:58 21:33		06:48 20:31			07:31 17:15		08:48 16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case				212	373	712	648	235				
Sun reduction				0,42	0,43	0,39	0,41	0,42				
Oper. time red.				0,95	0,95	0,95	0,95	0,95				
Wind dir. red.				0,63	0,67	0,67	0,67	0,63				
Total reduction				0,25	0,27	0,25	0,26	0,25				
Total, real				53	101	176	167	59				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
20-12-2018 09:08/3.2.737

SHADOW - Calendar

Calculation: Copy of V150@166Shadow receptor: Z - 3998JK68

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	06:44 (2)	05:26	06:00 (1)	05:23	06:02 (1)	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03	22 07:06 (2)	21:49	19 06:19 (1)	22:03	26 06:28 (1)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	06:44 (2)	05:26	05:59 (1)	05:24	06:02 (1)	06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05	21 07:05 (2)	21:50	20 06:19 (1)	22:03	26 06:28 (1)	21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08	06:46 (2)	05:25	05:59 (1)	05:25	06:03 (1)	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06	20 07:06 (2)	21:51	21 06:20 (1)	22:02	26 06:29 (1)	21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06	06:46 (2)	05:24	05:58 (1)	05:26	06:03 (1)	06:05	07:04 (2)	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08	19 07:05 (2)	21:52	23 06:21 (1)	22:02	25 06:28 (1)	21:26	1 07:05 (2)	20:22	19:12	17:07	16:31
5	08:47	08:14	07:19	07:08	06:04	06:46 (2)	05:23	05:58 (1)	05:26	06:03 (1)	06:06	07:00 (2)	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10	17 07:03 (2)	21:53	23 06:21 (1)	22:01	25 06:28 (1)	21:24	9 07:09 (2)	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02	06:47 (2)	05:23	05:58 (1)	05:27	06:04 (1)	06:08	06:58 (2)	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11	15 07:02 (2)	21:54	24 06:22 (1)	22:01	24 06:28 (1)	21:22	13 07:11 (2)	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01	06:49 (2)	05:22	05:58 (1)	05:28	06:05 (1)	06:09	06:57 (2)	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13	12 07:01 (2)	21:55	25 06:23 (1)	22:00	23 06:28 (1)	21:21	16 07:13 (2)	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59	06:51 (2)	05:22	05:58 (1)	05:29	06:05 (1)	06:11	06:55 (2)	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15	7 06:58 (2)	21:56	25 06:23 (1)	22:00	23 06:28 (1)	21:19	18 07:13 (2)	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57		05:21	05:58 (1)	05:30	06:06 (1)	06:12	06:55 (2)	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16		21:57	25 06:23 (1)	21:59	22 06:28 (1)	21:17	19 07:14 (2)	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55		05:21	05:57 (1)	05:31	06:06 (1)	06:14	06:54 (2)	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18		21:58	26 06:23 (1)	21:58	21 06:27 (1)	21:15	20 07:14 (2)	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54		05:20	05:58 (1)	05:32	06:07 (1)	06:16	06:54 (2)	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19		21:58	26 06:24 (1)	21:57	19 06:26 (1)	21:13	21 07:15 (2)	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52		05:20	05:58 (1)	05:33	06:08 (1)	06:17	06:53 (2)	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21		21:59	26 06:24 (1)	21:57	18 06:26 (1)	21:11	22 07:15 (2)	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50		05:20	05:58 (1)	05:34	06:10 (1)	06:19	06:53 (2)	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23		22:00	27 06:25 (1)	21:56	16 06:26 (1)	21:09	22 07:15 (2)	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49		05:19	05:58 (1)	05:35	06:11 (1)	06:21	06:53 (2)	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24		22:00	27 06:25 (1)	21:55	14 06:25 (1)	21:07	21 07:14 (2)	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47		05:19	05:58 (1)	05:36	06:12 (1)	06:22	06:53 (2)	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26		22:01	27 06:25 (1)	21:54	12 06:24 (1)	21:05	21 07:14 (2)	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46		05:19	05:58 (1)	05:38	06:13 (1)	06:24	06:53 (2)	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27		22:01	27 06:25 (1)	21:53	10 06:23 (1)	21:03	20 07:13 (2)	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44		05:19	05:58 (1)	05:39	06:16 (1)	06:25	06:54 (2)	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29		22:02	27 06:25 (1)	21:52	3 06:19 (1)	21:01	19 07:13 (2)	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43		05:19	05:58 (1)	05:40		06:27	06:54 (2)	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30		22:02	27 06:25 (1)	21:51		20:59	17 07:11 (2)	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41		05:19	05:59 (1)	05:41		06:29	06:56 (2)	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32		22:03	28 06:27 (1)	21:49		20:57	15 07:11 (2)	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40		05:19	05:59 (1)	05:43		06:30	06:57 (2)	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33		22:03	28 06:27 (1)	21:48		20:55	11 07:08 (2)	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	05:39		05:19	05:59 (1)	05:44		06:32	06:59 (2)	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:35		22:03	28 06:27 (1)	21:47		20:53	7 07:06 (2)	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	06:54 (2)	05:37	05:19	05:59 (1)	05:45		06:33		07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	8 07:02 (2)	21:36	22:03	28 06:27 (1)	21:46		20:51		19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	06:52 (2)	05:36	05:20	05:59 (1)	05:47		06:35		07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	12 07:04 (2)	21:37	22:04	28 06:27 (1)	21:44		20:49		19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	06:50 (2)	05:35	05:20	06:00 (1)	05:48		06:37		07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	15 07:05 (2)	21:39	22:04	28 06:28 (1)	21:43		20:46		19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	06:48 (2)	05:34	05:20	06:00 (1)	05:50		06:38		07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	18 07:06 (2)	21:40	22:04	27 06:27 (1)	21:42		20:44		19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	06:47 (2)	05:32	05:21	06:00 (1)	05:51		06:40		07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	20 07:07 (2)	21:42	22:04	27 06:27 (1)	21:40		20:42		19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	06:46 (2)	05:31	06:05 (1)	05:21	06:01 (1)	05:52		06:42		07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21 07:07 (2)	21:43	7 06:12 (1)	22:04	27 06:28 (1)	21:39		20:40		19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	06:45 (2)	05:30	06:03 (1)	05:22	06:01 (1)	05:54		06:43		07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	22 07:07 (2)	21:44	11 06:14 (1)	22:04	26 06:27 (1)	21:37		20:38		19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	06:45 (2)	05:29	06:02 (1)	05:22	06:01 (1)	05:55		06:45		07:36	07:27	08:21	08:48
	17:21		20:07	21:00	22 07:07 (2)	21:45	13 06:15 (1)	22:03	27 06:28 (1)	21:36		20:35		19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	06:45 (2)	05:28	06:02 (1)	05:23	06:02 (1)	05:57		06:47		07:37	07:29	08:22	08:48
	17:22		20:08	21:01	22 07:07 (2)	21:47	15 06:17 (1)	22:03	27 06:29 (1)	21:34		20:33		19:22	17:17	16:33	16:36
31	08:22		07:19			05:27	06:01 (1)			05:58		06:48			07:31		08:48
	17:24		20:10			21:48	17 06:18 (1)			21:33		20:31			17:15		16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case				160	196	774	333	292				
Sun reduction				0,42	0,43	0,39	0,41	0,42				
Oper. time red.				0,95	0,95	0,95	0,95	0,95				
Wind dir. red.				0,64	0,65	0,67	0,67	0,64				
Total reduction				0,25	0,26	0,25	0,26	0,25				
Total, real				41	52	193	86	74				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
20-12-2018 09:08/3.2.737

SHADOW - Calendar

Calculation: Copy of V150@166Shadow receptor: AA - 3997MP20

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December		
1	08:48	09:31 (4)	08:21	10:53 (3)	07:27	16:50 (1)	07:17	06:12	05:26	05:23	06:00	06:50		07:39		17:16 (1)	07:33	12:53 (2)	08:24	09:15 (4)	
	16:38	138 14:15 (2)	17:26	81 14:30 (2)	18:18	31 17:21 (1)	20:12	21:03	21:49	22:03	21:31	20:29		19:19	54	18:10 (1)	17:13	64 13:57 (2)	16:32	148 14:04 (2)	
2	08:48	09:32 (4)	08:19	13:17 (2)	07:25	16:49 (1)	07:14	06:10	05:25	05:24	06:01	06:51		07:40		17:17 (1)	07:35	12:52 (2)	08:25	09:16 (4)	
	16:39	137 14:16 (2)	17:28	73 14:30 (2)	18:19	34 17:23 (1)	20:14	21:05	21:50	22:03	21:29	20:26		19:17	52	18:09 (1)	17:11	66 13:58 (2)	16:32	147 14:04 (2)	
3	08:48	09:32 (4)	08:18	13:18 (2)	07:23	16:46 (1)	07:12	06:08	05:25	05:25	06:03	06:53		07:42		17:16 (1)	07:36	12:50 (2)	08:27	09:16 (4)	
	16:40	140 14:17 (2)	17:30	73 14:31 (2)	18:21	38 17:24 (1)	20:15	21:06	21:51	22:02	21:28	20:24		19:14	52	18:08 (1)	17:09	68 13:58 (2)	16:31	147 14:04 (2)	
4	08:47	09:32 (4)	08:16	13:19 (2)	07:21	16:45 (1)	07:10	06:06	05:24	05:25	06:04	06:55		07:44		17:16 (1)	07:38	12:50 (2)	08:28	09:17 (4)	
	16:41	141 14:17 (2)	17:31	71 14:30 (2)	18:23	41 17:26 (1)	20:17	21:08	21:52	22:02	21:26	20:22		19:12	51	18:07 (1)	17:07	68 13:58 (2)	16:30	145 14:05 (2)	
5	08:47	09:32 (4)	08:14	13:19 (2)	07:19	16:44 (1)	07:07	06:04	05:23	05:26	06:06	06:56		07:46		17:17 (1)	07:40	12:49 (2)	08:29	09:18 (4)	
	16:43	143 14:18 (2)	17:33	71 14:30 (2)	18:25	43 17:27 (1)	20:19	21:10	21:53	22:01	21:24	20:20		19:10	50	18:07 (1)	17:06	70 13:59 (2)	16:30	143 14:04 (2)	
6	08:47	09:32 (4)	08:13	13:19 (2)	07:16	16:43 (1)	07:05	06:02	05:23	05:27	06:08	06:58		07:47		17:17 (1)	07:42	12:49 (2)	08:31	09:18 (4)	
	16:44	143 14:18 (2)	17:35	70 14:29 (2)	18:27	45 17:28 (1)	20:20	21:11	21:54	22:01	21:22	20:17		19:08	49	18:06 (1)	17:04	70 13:59 (2)	16:30	143 14:04 (2)	
7	08:46	09:33 (4)	08:11	13:20 (2)	07:14	16:41 (1)	07:03	06:00	05:22	05:28	06:09	06:59		07:49		17:17 (1)	07:44	12:48 (2)	08:32	09:19 (4)	
	16:45	142 14:19 (2)	17:37	69 14:29 (2)	18:28	47 17:28 (1)	20:22	21:13	21:55	22:00	21:20	20:15		19:05	47	18:04 (1)	17:02	72 14:00 (2)	16:29	142 14:05 (2)	
8	08:46	09:32 (4)	08:09	13:22 (2)	07:12	16:40 (1)	07:01	05:59	05:21	05:29	06:11	07:01		07:51		17:18 (1)	07:45	12:48 (2)	08:33	09:20 (4)	
	16:46	144 14:20 (2)	17:39	67 14:29 (2)	18:30	49 17:29 (1)	20:24	21:14	21:56	21:59	21:19	20:13		19:03	45	18:03 (1)	17:00	72 14:00 (2)	16:29	141 14:05 (2)	
9	08:45	09:33 (4)	08:07	13:22 (2)	07:10	16:40 (1)	06:58	05:57	05:21	05:30	06:12	07:03		07:52		17:19 (1)	07:47	12:48 (2)	08:34	09:20 (4)	
	16:48	147 14:21 (2)	17:41	66 14:28 (2)	18:32	50 17:30 (1)	20:26	21:16	21:57	21:59	21:17	20:10		19:01	43	18:02 (1)	16:59	73 14:01 (2)	16:28	141 14:05 (2)	
10	08:45	09:33 (4)	08:06	13:23 (2)	07:07	16:38 (1)	06:56	05:55	05:20	05:31	06:14	07:04		07:54		17:20 (1)	07:49	10:23 (3)	08:35	09:21 (4)	
	16:49	147 14:21 (2)	17:43	65 14:28 (2)	18:34	52 17:30 (1)	20:27	21:18	21:57	21:58	21:15	20:08		18:59	40	18:00 (1)	16:57	82 14:01 (2)	16:28	138 14:05 (2)	
11	08:44	09:33 (4)	08:04	13:24 (2)	07:05	16:38 (1)	06:54	05:54	05:20	05:32	06:16	07:06		07:56		17:21 (1)	07:51	09:21 (4)	08:37	09:21 (4)	
	16:51	148 14:22 (2)	17:45	63 14:27 (2)	18:36	52 17:30 (1)	20:29	21:19	21:58	21:57	21:13	20:06		18:56	36	17:57 (1)	16:56	99 14:02 (2)	16:28	138 14:05 (2)	
12	08:44	09:33 (4)	08:02	13:25 (2)	07:03	16:38 (1)	06:52	05:52	05:20	05:33	06:17	07:08	17:45 (1)	07:57		17:23 (1)	07:52	09:18 (4)	08:38	09:23 (4)	
	16:52	148 14:22 (2)	17:46	61 14:26 (2)	18:37	53 17:31 (1)	20:31	21:21	21:59	21:56	21:11	20:03	14 17:59 (1)	18:54	32	17:55 (1)	16:54	110 14:02 (2)	16:28	137 14:06 (2)	
13	08:43	09:33 (4)	08:00	13:27 (2)	07:00	16:36 (1)	06:49	05:50	05:19	05:34	06:19	07:09	17:41 (1)	07:59		17:25 (1)	07:54	09:16 (4)	08:39	09:24 (4)	
	16:53	149 14:23 (2)	17:48	58 14:25 (2)	18:39	54 17:30 (1)	20:32	21:23	22:00	21:56	21:09	20:01	22 18:03 (1)	18:52	28	17:53 (1)	16:53	120 14:02 (2)	16:28	134 14:06 (2)	
14	08:42	09:33 (4)	07:58	13:28 (2)	06:58	16:36 (1)	06:47	05:49	05:19	05:35	06:20	07:11	17:37 (1)	08:01		17:27 (1)	07:56	09:15 (4)	08:40	09:23 (4)	
	16:55	149 14:23 (2)	17:50	56 14:24 (2)	18:41	54 17:30 (1)	20:34	21:24	22:00	21:55	21:07	19:59	28 18:05 (1)	18:50	23	17:50 (1)	16:51	126 14:02 (2)	16:28	135 14:05 (2)	
15	08:41	09:34 (4)	07:56	13:30 (2)	06:56	16:36 (1)	06:45	05:47	05:19	05:36	06:22	07:12	17:35 (1)	08:03		17:30 (1)	07:58	09:14 (4)	08:40	09:24 (4)	
	16:57	149 14:24 (2)	17:52	52 14:22 (2)	18:43	54 17:30 (1)	20:36	21:26	22:01	21:54	21:05	19:56	32 18:07 (1)	18:47	16	17:46 (1)	16:50	131 14:03 (2)	16:28	134 14:06 (2)	
16	08:41	09:34 (4)	07:54	13:32 (2)	06:54	16:36 (1)	06:43	05:46	05:19	05:38	06:24	07:14	17:32 (1)	08:04			08:00	09:14 (4)	08:41	09:25 (4)	
	16:58	149 14:25 (2)	17:54	49 14:21 (2)	18:44	54 17:30 (1)	20:37	21:27	22:01	21:53	21:03	19:54	35 18:07 (1)	18:45			16:48	135 14:03 (2)	16:28	132 14:06 (2)	
17	08:40	09:34 (4)	07:52	13:34 (2)	06:51	16:36 (1)	06:41	05:44	05:19	05:39	06:25	07:16	17:30 (1)	08:06			08:01	09:13 (4)	08:42	09:26 (4)	
	17:00	149 14:25 (2)	17:56	45 14:19 (2)	18:46	53 17:29 (1)	20:39	21:29	22:02	21:52	21:01	19:52	39 18:09 (1)	18:43			16:47	138 14:03 (2)	16:28	131 14:07 (2)	
18	08:39	09:35 (4)	07:50	13:37 (2)	06:49	16:36 (1)	06:38	05:43	05:19	05:40	06:27	07:17	17:29 (1)	08:08			08:03	09:13 (4)	08:43	09:27 (4)	
	17:01	149 14:26 (2)	17:58	40 14:17 (2)	18:48	53 17:29 (1)	20:41	21:30	22:02	21:50	20:59	19:49	41 18:10 (1)	18:41			16:46	142 14:03 (2)	16:29	131 14:07 (2)	
19	08:38	09:36 (4)	07:48	13:40 (2)	06:47	16:36 (1)	06:36	05:41	05:19	05:41	06:28	07:19	17:26 (1)	08:10			08:05	09:12 (4)	08:44	09:27 (4)	
	17:03	148 14:27 (2)	17:59	34 14:14 (2)	18:49	52 17:28 (1)	20:43	21:32	22:03	21:49	20:57	19:47	44 18:10 (1)	18:39			16:44	144 14:03 (2)	16:29	131 14:07 (2)	
20	08:37	09:36 (4)	07:46	13:44 (2)	06:44	16:37 (1)	06:34	05:40	05:19	05:43	06:30	07:21	17:25 (1)	08:11			08:06	09:12 (4)	08:44	09:28 (4)	
	17:05	148 14:27 (2)	18:01	25 14:09 (2)	18:51	51 17:28 (1)	20:44	21:33	22:03	21:48	20:55	19:45	46 18:11 (1)	18:37			16:43	145 14:03 (2)	16:29	131 14:08 (2)	
21	08:36	09:37 (4)	07:44	13:53 (2)	06:42	16:37 (1)	06:32	05:38	05:19	05:44	06:32	07:22	17:23 (1)	08:13		14:21 (2)	08:08	09:12 (4)	08:45	09:28 (4)	
	17:06	146 14:28 (2)	18:03	10 14:03 (2)	18:53	50 17:27 (1)	20:46	21:35	22:03	21:47	20:53	19:42	48 18:11 (1)	18:35	16	14:37 (2)	16:42	146 14:03 (2)	16:30	131 14:09 (2)	
22	08:34	09:37 (4)	07:42		06:40	16:37 (1)	06:30	05:37	05:19	05:45	06:33	07:24	17:22 (1)	08:15		14:13 (2)	08:10	09:12 (4)	08:45	09:28 (4)	
	17:08	145 14:28 (2)	18:05		18:55	49 17:26 (1)	20:48	21:36	22:03	21:46	20:51	19:40	50 18:12 (1)	18:33	28	14:41 (2)	16:41	149 14:04 (2)	16:30	131 14:09 (2)	
23	08:33	09:38 (4)	07:40		06:37	16:38 (1)	06:28	05:36	05:20	05:47	06:35	07:26	17:21 (1)	08:17		14:09 (2)	08:11	09:13 (4)	08:46	09:29 (4)	
	17:10	144 14:29 (2)	18:07		18:56	47 17:25 (1)	20:49	21:37	22:03	21:44	20:49	19:38	51 18:12 (1)	18:30	35	14:44 (2)	16:40	148 14:04 (2)	16:31	131 14:09 (2)	
24	08:32	09:39 (4)	07:38		06:35	16:39 (1)	06:26	05:35	05:20	05:48	06:37	07:27	17:20 (1)	08:18		14:05 (2)	08:13	09:12 (4)	08:46	09:30 (4)	
	17:12	143 14:30 (2)	18:09		18:58	45 17:24 (1)	20:51	21:39	22:04	21:43	20:46	19:35	52 18:12 (1)	18:28	42	14:47 (2)	16:38	149 14:03 (2)	16:31	131 14:10 (2)	
25	08:31	09:39 (4)	07:36		06:33	16:40 (1)	06:24	05:33	05:20	05:49	06:38	07:29	17:19 (1)	07:20		13:03 (2)	08:15	09:12 (4)	08:47	09:30 (4)	
	17:13	138 14:29 (2)	18:10		19:00	42 17:22 (1)	20:53	21:40	22:04	21:42	20:44	19:33	53 18:12 (1)	17:26	46	13:49 (2)	16:37	150 14:03 (2)	16:32	131 14:10 (2)	
26	08:29	09:41 (4)	07:34	17:01 (1)	06:30	16:41 (1)	06:22	05:32	05:21	05:51	06:40	07:31	17:19 (1)	07:22		13:01 (2)	08:16	09:13 (4)	08:47	09:30 (4)	
	17:15	135 14:30 (2)	18:12	9 17:10 (1)	19:02	40 17:21 (1)	20:54	21:41	22:04	21:40	20:42	19:31	53 18:12 (1)	17:24	50	13:51 (2)	16:36	149 14:04 (2)	16:32	132 14:11 (2)	
27	08:28	09:41 (4)	07:32	16:56 (1)	06:28	16:43 (1)	06:20	05:31	05:21	05:52	06:42	07:32	17:17 (1)	07:24		12:59 (2)	08:18	09:14 (4)	08:47	09:30 (4)	
	17:17	131 14:30 (2)	18:14	19 17:15 (1)	19:03	36 17:19 (1)	20:56	21:43	22:04	21:39	20:40	19:28	54 18:11 (1)	17:22	53	13:52 (2)	16:36	149 14:04 (2)	16:33	133 14:11 (2)	
28	08:27	09:43 (4)	07:30	16:53 (1)	06:26	16:44 (1)	06:18	05:30	05:21	05:54	06:43	07:34	17:17 (1)	07:26		12:57 (2)	08:19	09:13 (4)	08:48	09:31 (4)	
	17:19	127 14:31 (2)	18:16	25 17:18 (1)	19:05	33 17:17 (1)	20:58	21:44	22:03	21:37	20:38	19:26	54 18:11 (1)	17:20	57	13:54 (2)	16:35	150 14:04 (2)	16:34	133 14:13 (2)	
29	08:25	09:44 (4)			07:24	17:47 (1)	06:16	05:29	05:22	05:55	06:45	07:35	17:17 (1)	07:27		12:56 (2)	08:21	09:14 (4)	08:48	09:31 (4)	
	17:20	119 14:30 (2)			20:07	28 18:15 (1)	21:00	21:45	22:03	21:36	20:35	19:24	54 18:11 (1)	17:19	59	13:55 (2)	16:34	149 14:04 (2)	16:35	134 14:13 (2)	
30	08:24	09:46 (4)			07:21	17:49 (1)	06:14	05:28	05:23	05:57	06:46	07:37	17:16 (1)	07:29		12:55 (2)	08:22	09:15 (4)	08:48	09:32 (4)	
	17:22	110 14:30 (2)			20:08	23 18:12 (1)	21:01	21:46	22:03	21:34	20:33	19:21	54 18:10 (1)	17:17	61	13:56 (2)	16:33	148 14:04 (2)	16:36	135 14:14 (2)	
31	08:22	09:50 (4)			07:19	17:53 (1)		05:27		05:58	06:48			07:31		12:54 (2)			08:48	09:31 (4)	
	17:24	98 14:31 (2)			20:10	16 18:09 (1)		21:48		21:33	20:31			17:15	63	13:57 (2)			16:37	136 14:14 (2)	
Potential sun hours	259		277		367		416	485	499	502	454	381		331			266		243		
Total, worst case		4344		1252		1369							824		1128		3482		4227		
Sun reduction		0,24		0,30		0,33							0,36		0,34		0,24		0,20		
Oper. time red.		0,95		0,95		0,95							0,95		0,95		0,95		0,95		
Wind dir. red.		0,64		0,68		0,66							0,66		0,67		0,65		0,64		
Total reduction		0,15		0,19		0,20							0,23		0,21		0,15		0,12		
Total, real		632		242		281							186		240		507		521		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
20-12-2018 09:08/3.2.737

SHADOW - Calendar

Calculation: Copy of V150@166Shadow receptor: AB - 3945LA1b

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December		
1	08:48		14:02 (4)	08:21		16:06 (3)	07:27		17:25 (2)	07:17	06:12	05:26	05:23	06:00	06:50			07:39		18:06 (2)	07:33		15:36 (3)	08:24		13:55 (4)
	16:38	34	14:36 (4)	17:26	32	16:38 (3)	18:18	22	17:47 (2)	20:12	21:03	21:49	22:03	21:31	20:29			19:19	15	18:21 (2)	17:13	34	16:10 (3)	16:32	22	14:17 (4)
2	08:48		14:03 (4)	08:19		16:05 (3)	07:25		17:25 (2)	07:14	06:10	05:25	05:24	06:01	06:51			07:40		18:04 (2)	07:34		15:35 (3)	08:25		13:54 (4)
	16:39	33	14:36 (4)	17:28	33	16:38 (3)	18:19	23	17:48 (2)	20:13	21:04	21:50	22:02	21:29	20:26			19:17	18	18:22 (2)	17:11	34	16:09 (3)	16:32	25	14:19 (4)
3	08:47		14:04 (4)	08:18		16:06 (3)	07:23		17:23 (2)	07:12	06:08	05:25	05:25	06:03	06:53			07:42		18:02 (2)	07:36		15:35 (3)	08:27		13:53 (4)
	16:40	33	14:37 (4)	17:30	34	16:40 (3)	18:21	25	17:48 (2)	20:15	21:06	21:51	22:02	21:27	20:24			19:14	21	18:23 (2)	17:09	34	16:09 (3)	16:31	26	14:19 (4)
4	08:47		14:04 (4)	08:16		16:05 (3)	07:21		17:23 (2)	07:10	06:06	05:24	05:25	06:04	06:55			07:44		18:01 (2)	07:38		15:35 (3)	08:28		13:53 (4)
	16:41	32	14:36 (4)	17:31	35	16:40 (3)	18:23	26	17:49 (2)	20:17	21:08	21:52	22:02	21:26	20:22			19:12	23	18:24 (2)	17:07	35	16:10 (3)	16:30	27	14:20 (4)
5	08:47		14:06 (4)	08:14		16:05 (3)	07:18		17:23 (2)	07:07	06:04	05:23	05:26	06:06	06:56			07:45		18:00 (2)	07:40		15:35 (3)	08:29		13:53 (4)
	16:42	31	14:37 (4)	17:33	35	16:40 (3)	18:25	26	17:49 (2)	20:19	21:09	21:53	22:01	21:24	20:20			19:10	24	18:24 (2)	17:06	35	16:10 (3)	16:30	29	14:22 (4)
6	08:47		14:06 (4)	08:13		16:05 (3)	07:16		17:22 (2)	07:05	06:02	05:22	05:27	06:08	06:58			07:47		17:58 (2)	07:42		15:35 (3)	08:31		13:52 (4)
	16:44	30	14:36 (4)	17:35	35	16:40 (3)	18:27	26	17:48 (2)	20:20	21:11	21:54	22:01	21:22	20:17			19:08	26	18:24 (2)	17:04	35	16:10 (3)	16:29	30	14:22 (4)
7	08:46		14:08 (4)	08:11		16:05 (3)	07:14		17:22 (2)	07:03	06:00	05:22	05:28	06:09	06:59			07:49		17:58 (2)	07:43		15:35 (3)	08:32		13:53 (4)
	16:45	29	14:37 (4)	17:37	35	16:40 (3)	18:28	26	17:48 (2)	20:22	21:13	21:55	22:00	21:20	20:15			19:05	26	18:24 (2)	17:02	34	16:09 (3)	16:29	31	14:24 (4)
8	08:46		14:08 (4)	08:09		16:06 (3)	07:12		17:22 (2)	07:01	05:59	05:21	05:29	06:11	07:01			07:51		17:58 (2)	07:45		15:36 (3)	08:33		13:53 (4)
	16:46	28	14:36 (4)	17:39	35	16:41 (3)	18:30	25	17:47 (2)	20:24	21:14	21:56	21:59	21:19	20:13			19:03	26	18:24 (2)	17:00	33	16:09 (3)	16:29	31	14:24 (4)
9	08:45		14:10 (4)	08:07		16:06 (3)	07:10		17:23 (2)	06:58	05:57	05:21	05:30	06:12	07:03			07:52		17:58 (2)	07:47		15:36 (3)	08:34		13:52 (4)
	16:48	26	14:36 (4)	17:41	34	16:40 (3)	18:32	24	17:47 (2)	20:25	21:16	21:57	21:59	21:17	20:10			19:01	26	18:24 (2)	16:59	33	16:09 (3)	16:28	33	14:25 (4)
10	08:45		14:11 (4)	08:06		16:06 (3)	07:07		17:23 (2)	06:56	05:55	05:20	05:31	06:14	07:04			07:54		17:57 (2)	07:49		15:37 (3)	08:35		13:52 (4)
	16:49	25	14:36 (4)	17:43	34	16:40 (3)	18:34	22	17:45 (2)	20:27	21:18	21:57	21:58	21:15	20:08			18:58	25	18:22 (2)	16:57	32	16:09 (3)	16:28	33	14:25 (4)
11	08:44		14:13 (4)	08:04		16:07 (3)	07:05		17:25 (2)	06:54	05:53	05:20	05:32	06:15	07:06			07:56		17:57 (2)	07:51		15:37 (3)	08:36		13:52 (4)
	16:50	22	14:35 (4)	17:44	33	16:40 (3)	18:35	19	17:44 (2)	20:29	21:19	21:58	21:57	21:13	20:06			18:56	25	18:22 (2)	16:56	31	16:08 (3)	16:28	34	14:26 (4)
12	08:44		14:14 (4)	08:02		16:08 (3)	07:03		17:27 (2)	06:52	05:52	05:20	05:33	06:17	07:08			07:57		17:58 (2)	07:52		15:38 (3)	08:38		13:52 (4)
	16:52	20	14:34 (4)	17:46	31	16:39 (3)	18:37	16	17:43 (2)	20:31	21:21	21:59	21:56	21:11	20:03			18:54	23	18:21 (2)	16:54	30	16:08 (3)	16:28	35	14:27 (4)
13	08:43		14:16 (4)	08:00		16:08 (3)	07:00		17:28 (2)	06:49	05:50	05:19	05:34	06:19	07:09			07:59		17:59 (2)	07:54		15:39 (3)	08:39		13:53 (4)
	16:53	17	14:33 (4)	17:48	30	16:38 (3)	18:39	11	17:39 (2)	20:32	21:22	22:00	21:56	21:09	20:01			18:52	21	18:20 (2)	16:52	28	16:07 (3)	16:28	34	14:27 (4)
14	08:42		14:19 (4)	07:58		16:09 (3)	06:58		18:11 (1)	06:47	05:49	05:19	05:35	06:20	07:11			08:01		18:00 (2)	07:56		15:40 (3)	08:39		13:53 (4)
	16:55	12	14:31 (4)	17:50	29	16:38 (3)	18:41	4	18:15 (1)	20:34	21:24	22:00	21:55	21:07	19:59			18:50	18	18:18 (2)	16:51	26	16:06 (3)	16:28	35	14:28 (4)
15	08:41		14:23 (4)	07:56		16:11 (3)	06:56		18:08 (1)	06:45	05:47	05:19	05:36	06:22	07:12			08:03		18:01 (2)	07:58		15:42 (3)	08:40		13:53 (4)
	16:56	5	14:28 (4)	17:52	25	16:36 (3)	18:42	9	18:17 (1)	20:36	21:26	22:01	21:54	21:05	19:56			18:47	14	18:15 (2)	16:50	23	16:05 (3)	16:28	36	14:29 (4)
16	08:41			07:54		16:12 (3)	06:54		18:05 (1)	06:43	05:45	05:19	05:37	06:24	07:14			08:04		18:04 (2)	07:59		15:43 (3)	08:41		13:54 (4)
	16:58			17:54	23	16:35 (3)	18:44	13	18:18 (1)	20:37	21:27	22:01	21:53	21:03	19:54			18:45	9	18:13 (2)	16:48	21	16:04 (3)	16:28	35	14:29 (4)
17	08:40			07:52		16:15 (3)	06:51		18:04 (1)	06:40	05:44	05:19	05:39	06:25	07:16		18:56 (1)	08:06			08:01		15:45 (3)	08:42		13:54 (4)
	17:00			17:56	18	16:33 (3)	18:46	17	18:21 (1)	20:39	21:29	22:02	21:52	21:01	19:52	6	19:02 (1)	18:43			16:47	18	16:03 (3)	16:28	36	14:30 (4)
18	08:39			07:50		16:17 (3)	06:49		18:04 (1)	06:38	05:43	05:19	05:40	06:27	07:17		18:53 (1)	08:08			08:03		15:46 (3)	08:43		13:55 (4)
	17:01			17:58	14	16:31 (3)	18:48	19	18:23 (1)	20:41	21:30	22:02	21:50	20:59	19:49	12	19:05 (1)	18:41			16:45	14	16:00 (3)	16:28	36	14:31 (4)
19	08:38			07:48			06:47		18:02 (1)	06:36	05:41	05:19	05:41	06:28	07:19		18:50 (1)	08:09			08:05		15:49 (3)	08:44		13:55 (4)
	17:03			17:59			18:49	20	18:22 (1)	20:42	21:32	22:02	21:49	20:57	19:47	16	19:06 (1)	18:39			16:44	9	15:58 (3)	16:29	36	14:31 (4)
20	08:37			07:46			06:44		18:02 (1)	06:34	05:40	05:19	05:43	06:30	07:21		18:49 (1)	08:11			08:06			08:44		13:55 (4)
	17:05			18:01			18:51	20	18:22 (1)	20:44	21:33	22:03	21:48	20:55	19:45	18	19:07 (1)	18:37			16:43			16:29	37	14:32 (4)
21	08:36			07:44			06:42		18:02 (1)	06:32	05:38	05:19	05:44	06:32	07:22		18:47 (1)	08:13			08:08			08:45		13:55 (4)
	17:06			18:03			18:53	20	18:22 (1)	20:46	21:35	22:03	21:47	20:53	19:42	19	19:06 (1)	18:35			16:42			16:30	37	14:32 (4)
22	08:34			07:42			06:40		18:02 (1)	06:30	05:37	05:19	05:45	06:33	07:24		18:47 (1)	08:15			08:10			08:45		13:56 (4)
	17:08			18:05			18:55	19	18:21 (1)	20:48	21:36	22:03	21:46	20:51	19:40	20	19:07 (1)	18:32			16:41			16:30	36	14:32 (4)
23	08:33		16:15 (3)	07:40			06:37		18:02 (1)	06:28	05:36	05:19	05:47	06:35	07:25		18:47 (1)	08:17		16:50 (3)	08:11			08:46		13:56 (4)
	17:10	9	16:24 (3)	18:07			18:56	18	18:20 (1)	20:49	21:37	22:03	21:44	20:48	19:38	20	19:07 (1)	18:30	7	16:57 (3)	16:39			16:31	37	14:33 (4)
24	08:32		16:12 (3)	07:38			06:35		18:04 (1)	06:26	05:35	05:20	05:48	06:37	07:27		18:46 (1)	08:18		16:46 (3)	08:13			08:46		13:58 (4)
	17:11	14	16:26 (3)	18:09			18:58	15	18:19 (1)	20:51	21:39	22:04	21:43	20:46	19:35	20	19:06 (1)	18:28	15	17:01 (3)	16:38			16:31	36	14:34 (4)
25	08:31		16:11 (3)	07:36			06:33		18:04 (1)	06:24	05:33	05:20	05:49	06:38	07:29		18:46 (1)	07:20		15:44 (3)	08:15			08:47		13:58 (4)
	17:13	18	16:29 (3)	18:10			19:00	13	18:17 (1)	20:53	21:40	22:04	21:42	20:44	19:33	19	19:05 (1)	17:26	19	16:03 (3)	16:37			16:32	36	14:34 (4)
26	08:29		16:10 (3)	07:34		17:30 (2)	06:30		18:07 (1)	06:22	05:32	05:20	05:51	06:40	07:30		18:47 (1)	07:22		15:41 (3)	08:16			08:47		13:58 (4)
	17:15	21	16:31 (3)	18:12	12	17:42 (2)	19:01	8	18:15 (1)	20:54	21:41	22:04	21:40	20:42	19:31	17	19:04 (1)	17:24	24	16:05 (3)	16:36			16:32	36	14:34 (4)
27	08:28		16:09 (3)	07:32		17:28 (2)	06:28			06:19	05:31	05:21	05:52	06:41	07:32		18:47 (1)	07:24		15:40 (3)	08:18		14:03 (4)	08:47		13:59 (4)
	17:17	23	16:32 (3)	18:14	16	17:44 (2)	19:03			20:56	21:43	22:03	21:39	20:40	19:28	14	19:01 (1)	17:22	26	16:06 (3)	16:35	5	14:08 (4)	16:33	35	14:34 (4)
28	08:27		16:08 (3)	07:29		17:26 (2)	06:26			06:17	05:30	05:21	05:54	06:43	07:34		18:48 (1)	07:25		15:39 (3)	08:19		13:59 (4)	08:47		13:59 (4)
	17:19	26	16:34 (3)	18:16	20	17:46 (2)	19:05			20:58	21:44	22:03	21:37	20:38	19:26	11	18:59 (1)	17:20	28	16:07 (3)	16:35	12	14:11 (4)	16:34	35	14:34 (4)
29	08:25		16:07 (3)				07:23			06:15	05:29	05:22	05:55	06:45	07:35		18:50 (1)	07:27		15:38 (3)	08:21		13:57 (4)	08:48		14:01 (4)
	17:20	28	16:35 (3)				20:07			20:59	21:45	22:03	21:36	20:35	19:24	7	18:57 (1)	17:18	30	16:08 (3)	16:34	17	14:14 (4)	16:35	35	14:36 (4)
30	08:24		16:06 (3)				07:21			06:14	05:28	05:23	05:57	06:46	07:37		18:09 (2)	07:29		15:37 (3)	08:22		13:55 (4)	08:48		14:00 (4)
	17:22	30	16:36 (3)				20:08			21:01	21:46	22:03	21:34	20:33	19:21	9	18:18 (2)	17:17	32	16:09 (3)	16:33	20	14:15 (4)	16:36	35	14:35 (4)
31	08:22		16:07 (3)				07:19				05:27		05:58	06:48				07:31		15:36 (3)				08:48		14:01 (4)
	17:24	30	16:37 (3)				20:10				21:48		21:32	20:31				17:15	33	16:09 (3)				16:37	34	14:35 (4)
Potential sun hours	259			277			367		416	485	499	502	454	381				331			266			243		
Total, worst case		576			593			486							208				554			593			1033	
Sun reduction		0,24			0,30			0,33							0,36				0,34			0,24			0,20	
Oper. time red.		0,95			0,95			0,95							0,95				0,95			0,95			0,95	
Wind dir. red.		0,68			0,67			0,64							0,63				0,66			0,67			0,69	
Total reduction		0,16			0,19			0,20							0,22				0,21			0,15			0,13	
Total, real		90			114			97							45				117			90			138	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
20-12-2018 09:08/3.2.737

SHADOW - Calendar

Calculation: Copy of V150@166Shadow receptor: AC - 3997MP25

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April		May	June	July	August	September		October		November		December	
1	08:48		09:52 (3)	08:21		09:20 (4)	07:27		16:27 (1)	07:17		17:17 (1)	06:12	05:26	05:23	06:00	06:50		07:39		16:51 (1)	07:33		11:39 (2)	08:24		09:03 (4)
	16:38	105	13:10 (2)	17:26	143	13:26 (2)	18:18	39	17:06 (1)	20:12	48	18:05 (1)	21:03	21:49	22:03	21:31	20:29		19:19	66	17:57 (1)	17:13	75	12:54 (2)	16:32	129	12:59 (2)
2	08:48		09:52 (3)	08:19		09:21 (4)	07:25		16:25 (1)	07:14		17:19 (1)	06:10	05:25	05:24	06:01	06:51		07:40		16:52 (1)	07:35		09:47 (3)	08:25		09:05 (4)
	16:39	106	13:11 (2)	17:28	139	13:26 (2)	18:20	43	17:08 (1)	20:14	45	18:04 (1)	21:05	21:50	22:03	21:29	20:26		19:17	64	17:56 (1)	17:11	80	12:54 (2)	16:32	124	12:59 (2)
3	08:48		09:52 (3)	08:18		09:23 (4)	07:23		16:22 (1)	07:12		17:21 (1)	06:08	05:25	05:25	06:03	06:53		07:42		16:51 (1)	07:36		09:42 (3)	08:27		09:07 (4)
	16:40	107	13:12 (2)	17:30	134	13:26 (2)	18:21	47	17:09 (1)	20:15	42	18:03 (1)	21:06	21:51	22:02	21:28	20:24		19:14	63	17:54 (1)	17:09	92	12:55 (2)	16:31	120	12:59 (2)
4	08:47		09:52 (3)	08:16		09:24 (4)	07:21		16:21 (1)	07:10		17:22 (1)	06:06	05:24	05:25	06:04	06:55		07:44		16:52 (1)	07:38		09:38 (3)	08:28		09:37 (3)
	16:41	109	13:12 (2)	17:31	129	13:26 (2)	18:23	50	17:11 (1)	20:17	38	18:00 (1)	21:08	21:52	22:02	21:26	20:22	6	17:42 (1)	62	17:54 (1)	17:07	98	12:54 (2)	16:31	114	13:00 (2)
5	08:47		09:52 (3)	08:14		09:25 (4)	07:19		16:20 (1)	07:07		17:25 (1)	06:04	05:23	05:26	06:06	06:56		07:46		16:53 (1)	07:40		08:57 (4)	08:29		09:38 (3)
	16:43	110	13:13 (2)	17:33	123	13:26 (2)	18:25	53	17:13 (1)	20:19	33	17:58 (1)	21:10	21:53	22:01	21:24	20:20	20	17:48 (1)	60	17:53 (1)	17:06	114	12:55 (2)	16:30	111	12:59 (2)
6	08:47		09:52 (3)	08:13		09:28 (4)	07:16		16:19 (1)	07:05		17:28 (1)	06:02	05:23	05:27	06:08	06:58		07:47		16:54 (1)	07:42		08:55 (4)	08:31		09:38 (3)
	16:44	110	13:13 (2)	17:35	112	13:25 (2)	18:27	55	17:14 (1)	20:20	27	17:55 (1)	21:11	21:54	22:01	21:22	20:17	27	17:51 (1)	58	17:52 (1)	17:04	122	12:55 (2)	16:30	110	12:59 (2)
7	08:46		09:53 (3)	08:11		10:09 (3)	07:14		16:17 (1)	07:03		17:32 (1)	06:00	05:22	05:28	06:09	06:59		17:20 (1)	07:49		16:53 (1)	07:44		08:53 (4)	08:32		09:40 (3)
	16:45	111	13:14 (2)	17:37	98	13:25 (2)	18:28	57	17:14 (1)	20:22	20	17:52 (1)	21:13	21:55	22:00	21:20	20:15	33	17:53 (1)	57	17:50 (1)	17:02	131	12:56 (2)	16:29	109	13:00 (2)
8	08:46		09:52 (3)	08:09		10:12 (3)	07:12		16:16 (1)	07:01		17:38 (1)	05:59	05:21	05:29	06:11	07:01		17:18 (1)	07:51		16:54 (1)	07:45		08:52 (4)	08:33		09:40 (3)
	16:46	113	13:15 (2)	17:39	91	13:25 (2)	18:30	59	17:15 (1)	20:24	6	17:44 (1)	21:14	21:56	21:59	21:19	20:13	37	17:55 (1)	54	17:48 (1)	17:00	136	12:56 (2)	16:29	109	13:00 (2)
9	08:45		09:24 (4)	08:07		12:09 (2)	07:10		16:15 (1)	06:58			05:57	05:21	05:30	06:12	07:03		17:15 (1)	07:52		16:56 (1)	07:47		08:52 (4)	08:34		09:40 (3)
	16:48	120	13:16 (2)	17:41	76	13:25 (2)	18:32	61	17:16 (1)	20:26			21:16	21:57	21:59	21:17	20:10	41	17:56 (1)	51	17:47 (1)	16:59	139	12:56 (2)	16:29	108	13:00 (2)
10	08:45		09:22 (4)	08:06		12:10 (2)	07:07		16:14 (1)	06:56			05:55	05:20	05:31	06:14	07:04		17:12 (1)	07:54		16:57 (1)	07:49		08:51 (4)	08:35		09:41 (3)
	16:49	124	13:16 (2)	17:43	74	13:24 (2)	18:34	62	17:16 (1)	20:27			21:18	21:57	21:58	21:15	20:08	45	17:57 (1)	48	17:45 (1)	16:57	144	12:57 (2)	16:28	107	13:00 (2)
11	08:44		09:21 (4)	08:04		12:11 (2)	07:05		16:13 (1)	06:54			05:54	05:20	05:32	06:16	07:06		17:10 (1)	07:56		16:57 (1)	07:51		08:51 (4)	08:37		09:42 (3)
	16:51	130	13:17 (2)	17:45	72	13:23 (2)	18:36	64	17:17 (1)	20:29			21:19	21:58	21:57	21:13	20:06	47	17:57 (1)	46	17:43 (1)	16:56	146	12:57 (2)	16:28	105	13:00 (2)
12	08:44		09:20 (4)	08:02		12:11 (2)	07:03		16:13 (1)	06:52			05:52	05:20	05:33	06:17	07:08		17:08 (1)	07:57		16:59 (1)	07:53		08:50 (4)	08:38		09:43 (3)
	16:52	132	13:17 (2)	17:46	71	13:22 (2)	18:37	64	17:17 (1)	20:31			21:21	21:59	21:56	21:11	20:03	51	17:59 (1)	41	17:40 (1)	16:54	149	12:57 (2)	16:28	104	13:01 (2)
13	08:43		09:19 (4)	08:00		12:12 (2)	07:00		16:11 (1)	06:49			05:50	05:19	05:34	06:19	07:09		17:06 (1)	07:59		17:01 (1)	07:54		08:50 (4)	08:39		09:44 (3)
	16:53	136	13:18 (2)	17:48	70	13:22 (2)	18:39	66	17:17 (1)	20:32			21:23	22:00	21:56	21:09	20:01	54	18:00 (1)	37	17:38 (1)	16:53	150	12:57 (2)	16:28	103	13:01 (2)
14	08:42		09:18 (4)	07:58		12:13 (2)	06:58		16:11 (1)	06:47			05:49	05:19	05:35	06:20	07:11		17:04 (1)	08:01		17:03 (1)	07:56		08:50 (4)	08:40		09:45 (3)
	16:55	138	13:18 (2)	17:50	68	13:21 (2)	18:41	67	17:18 (1)	20:34			21:24	22:00	21:55	21:07	19:59	56	18:00 (1)	33	17:36 (1)	16:51	153	12:58 (2)	16:28	101	13:01 (2)
15	08:41		09:17 (4)	07:56		12:14 (2)	06:56		16:11 (1)	06:45			05:47	05:19	05:36	06:22	07:13		17:03 (1)	08:03		17:05 (1)	07:58		08:50 (4)	08:40		09:44 (3)
	16:57	143	13:19 (2)	17:52	65	13:19 (2)	18:43	67	17:18 (1)	20:36			21:26	22:01	21:54	21:05	19:56	58	18:01 (1)	27	17:32 (1)	16:50	153	12:58 (2)	16:28	102	13:01 (2)
16	08:41		09:17 (4)	07:54		12:16 (2)	06:54		16:10 (1)	06:43			05:46	05:19	05:38	06:24	07:14		17:01 (1)	08:04		17:09 (1)	08:00		08:50 (4)	08:41		09:45 (3)
	16:58	144	13:20 (2)	17:54	62	13:18 (2)	18:44	67	17:17 (1)	20:37			21:27	22:01	21:53	21:03	19:54	59	18:00 (1)	19	17:28 (1)	16:48	154	12:58 (2)	16:28	101	13:01 (2)
17	08:40		09:17 (4)	07:52		12:17 (2)	06:51		16:10 (1)	06:41			05:44	05:19	05:39	06:25	07:16		17:00 (1)	08:06			08:01		08:51 (4)	08:42		09:46 (3)
	17:00	146	13:20 (2)	17:56	60	13:17 (2)	18:46	67	17:17 (1)	20:39			21:29	22:02	21:52	21:01	19:52	61	18:01 (1)	18:43			16:47	153	12:58 (2)	16:28	100	13:02 (2)
18	08:39		09:17 (4)	07:50		12:19 (2)	06:49		16:10 (1)	06:38			05:43	05:19	05:40	06:27	07:17		16:59 (1)	08:08			08:03		08:51 (4)	08:43		09:47 (3)
	17:01	147	13:21 (2)	17:58	56	13:15 (2)	18:48	68	17:18 (1)	20:41			21:30	22:02	21:51	20:59	19:49	63	18:02 (1)	18:41			16:46	155	12:59 (2)	16:29	99	13:02 (2)
19	08:38		09:17 (4)	07:48		12:21 (2)	06:47		16:09 (1)	06:36			05:41	05:19	05:41	06:28	07:19		16:57 (1)	08:10		13:04 (2)	08:05		08:51 (4)	08:44		09:47 (3)
	17:03	150	13:22 (2)	17:59	52	13:13 (2)	18:49	68	17:17 (1)	20:43			21:32	22:03	21:49	20:57	19:47	64	18:01 (1)	18:39	27	13:31 (2)	16:44	153	12:58 (2)	16:29	99	13:02 (2)
20	08:37		09:17 (4)	07:46		12:22 (2)	06:44		16:10 (1)	06:34			05:40	05:19	05:43	06:30	07:21		16:57 (1)	08:11		12:59 (2)	08:06		08:51 (4)	08:44		09:48 (3)
	17:05	150	13:23 (2)	18:01	47	13:09 (2)	18:51	67	17:17 (1)	20:44			21:33	22:03	21:48	20:55	19:45	65	18:02 (1)	18:37	36	13:35 (2)	16:43	153	12:58 (2)	16:29	99	13:03 (2)
21	08:36		09:17 (4)	07:44		12:25 (2)	06:42		16:10 (1)	06:32			05:38	05:19	05:44	06:32	07:22		16:55 (1)	08:13		12:56 (2)	08:08		08:52 (4)	08:45		09:49 (3)
	17:06	151	13:23 (2)	18:03	42	13:07 (2)	18:53	67	17:17 (1)	20:46			21:35	22:03	21:47	20:53	19:42	66	18:01 (1)	18:35	43	13:39 (2)	16:42	151	12:58 (2)	16:30	98	13:04 (2)
22	08:34		09:16 (4)	07:42		12:29 (2)	06:40		16:09 (1)	06:30			05:37	05:19	05:45	06:33	07:24		16:55 (1)	08:15		12:52 (2)	08:10		08:53 (4)	08:45		09:49 (3)
	17:08	153	13:23 (2)	18:05	34	13:03 (2)	18:55	66	17:15 (1)	20:48			21:36	22:03	21:46	20:51	19:40	66	18:01 (1)	18:33	49	13:41 (2)	16:41	151	12:59 (2)	16:30	98	13:04 (2)
23	08:33		09:17 (4)	07:40		12:35 (2)	06:37		16:10 (1)	06:28			05:36	05:20	05:47	06:35	07:26		16:54 (1)	08:17		12:50 (2)	08:11		08:54 (4)	08:46		09:49 (3)
	17:10	153	13:24 (2)	18:07	22	12:57 (2)	18:56	65	17:15 (1)	20:49			21:37	22:03	21:44	20:49	19:38	67	18:01 (1)	18:31	53	13:43 (2)	16:40	150	12:59 (2)	16:31	98	13:04 (2)
24	08:32		09:17 (4)	07:38			06:35		16:11 (1)	06:26			05:35	05:20	05:48	06:37	07:27		16:53 (1)	08:18		12:48 (2)	08:13		08:54 (4)	08:46		09:50 (3)
	17:12	155	13:25 (2)	18:09			18:58	64	17:15 (1)	20:51			21:39	22:04	21:43	20:46	19:35	67	18:00 (1)	18:28	57	13:45 (2)	16:38	148	12:58 (2)	16:31	99	13:05 (2)
25	08:31		09:17 (4)	07:36		16:42 (1)	06:33		16:10 (1)	06:24			05:33	05:20	05:49	06:38	07:29		16:53 (1)	07:20		11:46 (2)	08:15		08:55 (4)	08:47		09:50 (3)
	17:13	153	13:24 (2)	18:10	11	16:53 (1)	19:00	63	17:13 (1)	20:53			21:40	22:04	21:42	20:44	19:33	67	18:00 (1)	17:26	60	12:46 (2)	16:37	146	12:58 (2)	16:32	99	13:05 (2)
26	08:29		09:17 (4)	07:34		16:36 (1)	06:30		16:11 (1)	06:22			05:32	05:21	05:51	06:40	07:31		16:53 (1)	07:22		11:45 (2)	08:16		08:56 (4)	08:47		09:50 (3)
	17:15	153	13:25 (2)	18:12	22	16:58 (1)	19:02	62	17:13 (1)	20:54			21:41	22:04	21:40	20:42	19:31	67	18:00 (1)	17:24	63	12:48 (2)	16:36	144	12:59 (2)	16:32	100	13:06 (2)
27	08:28		09:17 (4)	07:32		16:32 (1)	06:28		16:12 (1)	06:20			05:31	05:21	05:52	06:42	07:32		16:52 (1)	07:24		11:44 (2)	08:18		08:57 (4)	08:47		09:50 (3)
	17:17	153	13:25 (2)	18:14	29	17:01 (1)	19:03	60	17:12 (1)	20:56			21:43	22:04	21:39	20:40	19:28	67	17:59 (1)	17:22	65	12:49 (2)	16:36	142	12:59 (2)	16:33	101	13:06 (2)
28	08:27		09:18 (4)	07:30		16:29 (1)	06:26		16:12 (1)	06:18			05:30	05:21	05:54	06:43	07:34		16:52 (1)	07:26		11:43 (2)	08:19		08:58 (4)	08:48		09:51 (3)
	17:19	153	13:26 (2)	18:16	35	17:04 (1)	19:05	58	17:10 (1)	20:58			21:44	22:03	21:37	20:38	19:26	67	17:59 (1)	17:20	67	12:50 (2)	16:35	140	12:59 (2)	16:34	102	13:08 (2)
29	08:25		09:18 (4)				07:24		17:14 (1)	06:16			05:29	05:22	05:55	06:45	07:35		16:52 (1)	07:27		11:42 (2)	08:21		09:00 (4)	08:48		09:52 (3)
	17:20	151	13:26 (2)				20:07	56	18:10 (1)	21:00			21:45	22:03	21:36	20:35	19:24	66	17:58 (1)	17:19	69	12:51 (2)	16:34	136	12:59 (2)	16:35	101	13:08 (2)
30	08:24		09:18 (4)				07:21		17:15 (1)	06:14			05:28	05:23	05:57	06:46	07:37		16:51 (1)	07:29		11:41 (2)	08:22		09:02 (4)	08:48		09:52 (3)
	17:22	148	13:25 (2)				20:08	54	18:09 (1)	21:01			21:47	22:03	21:34	20:33	19:21	66	17:57 (1)	17:17	71	12:52 (2)	16:33	132	12:59 (2)	16:36	103	13:09 (2)
31	08:22		09:20 (4)				07:19		17:16 (1)				05:27		05:58	06:48						07:31			11:40 (2)			08:48		09:51 (3)
	17:24	145	13:26 (2)				20:10	52	18:08 (1)				21:48		21:33	20:31						17:15	73	12:53 (2)				16:37	104	13:09 (2)
Potential sun hours	259			277			367		416			485	499	502	454	381				331			266			243		
Total, worst case		4199			1937			1858		259								1453			1519			4090			3257	
Sun reduction		0,24			0,30			0,33		0,42								0,36			0,34			0,24			0,20	
Oper. time red.		0,95			0,95			0,95		0,95								0,95			0,95			0,95			0,95	
Wind dir. red.		0,64			0,66			0,67		0,67								0,67			0,67			0,64			0,64	
Total reduction		0,14			0,19			0,21		0,26								0,23			0,21			0,14			0,12	
Total, real		604			363			384		68								331			322			581			404	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
20-12-2018 09:08/3.2.737

SHADOW - Calendar

Calculation: Copy of V150@166Shadow receptor: AD - 3945LA9

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December		
1	08:48		10:54 (4)		08:21		15:54 (2)	07:27	16:05 (2)	07:17	06:12	05:26	05:23	06:00	06:50		07:39		18:06 (1)	07:33		15:19 (2)	08:24		12:38 (3)
	16:38	76	13:38 (3)	33	16:27 (2)		18:18	16 16:21 (2)	20:12	21:03	21:49	22:03	21:31	20:29			19:19	32	18:38 (1)	17:13	46	16:05 (2)	16:32	43	13:21 (3)
2	08:48		10:56 (4)		08:19		15:53 (2)	07:25		07:14	06:10	05:25	05:24	06:01	06:51		07:40		18:07 (1)	07:35		15:19 (2)	08:25		12:38 (3)
	16:39	73	13:38 (3)	36	16:29 (2)		18:19		20:14	21:05	21:50	22:02	21:29	20:26			19:17	30	18:37 (1)	17:11	46	16:05 (2)	16:32	45	13:23 (3)
3	08:48		10:57 (4)		08:18		15:53 (2)	07:23		07:12	06:08	05:25	05:25	06:03	06:53		07:42		18:07 (1)	07:36		15:19 (2)	08:27		10:50 (4)
	16:40	72	13:39 (3)	38	16:31 (2)		18:21		20:15	21:06	21:51	22:02	21:28	20:24			19:14	28	18:35 (1)	17:09	45	16:04 (2)	16:31	54	13:23 (3)
4	08:47		10:57 (4)		08:16		15:52 (2)	07:21		07:10	06:06	05:24	05:25	06:04	06:55		07:44		18:08 (1)	07:38		15:19 (2)	08:28		10:48 (4)
	16:41	71	13:39 (3)	39	16:31 (2)		18:23		20:17	21:08	21:52	22:02	21:26	20:22			19:12	26	18:34 (1)	17:07	44	16:03 (2)	16:30	59	13:24 (3)
5	08:47		10:59 (4)		08:14		15:51 (2)	07:19		07:07	06:04	05:23	05:26	06:06	06:56		07:46		18:09 (1)	07:40		15:20 (2)	08:29		10:47 (4)
	16:42	69	13:39 (3)	41	16:32 (2)		18:25		20:19	21:10	21:53	22:01	21:24	20:20			19:10	24	18:33 (1)	17:06	43	16:03 (2)	16:30	63	13:25 (3)
6	08:47		11:00 (4)		08:13		15:50 (2)	07:16	17:37 (1)	07:05	06:02	05:23	05:27	06:08	06:58		07:47		18:10 (1)	07:42		15:21 (2)	08:31		10:46 (4)
	16:44	66	13:39 (3)	43	16:33 (2)		18:27	13 17:50 (1)	20:20	21:11	21:54	22:01	21:22	20:17			19:08	20	18:30 (1)	17:04	41	16:02 (2)	16:29	66	13:25 (3)
7	08:46		11:02 (4)		08:11		15:50 (2)	07:14	17:35 (1)	07:03	06:00	05:22	05:28	06:09	06:59		07:49		18:12 (1)	07:44		15:22 (2)	08:32		10:46 (4)
	16:45	63	13:39 (3)	44	16:34 (2)		18:28	18 17:53 (1)	20:22	21:13	21:55	22:00	21:20	20:15			19:05	15	18:27 (1)	17:02	39	16:01 (2)	16:29	68	13:26 (3)
8	08:46		11:03 (4)		08:09		15:50 (2)	07:12	17:33 (1)	07:01	05:59	05:21	05:29	06:11	07:01		07:51		18:16 (1)	07:45		15:23 (2)	08:33		10:45 (4)
	16:46	59	13:39 (3)	45	16:35 (2)		18:30	22 17:55 (1)	20:24	21:14	21:56	21:59	21:19	20:13			19:03	7	18:23 (1)	17:00	37	16:00 (2)	16:29	71	13:27 (3)
9	08:45		11:06 (4)		08:07		15:50 (2)	07:10	17:31 (1)	06:58	05:57	05:21	05:30	06:12	07:03		07:52			07:47		15:24 (2)	08:34		10:45 (4)
	16:48	55	13:40 (3)	46	16:36 (2)		18:32	25 17:56 (1)	20:25	21:16	21:57	21:59	21:17	20:10			19:01			16:59	35	15:59 (2)	16:28	72	13:27 (3)
10	08:45		12:55 (3)		08:06		15:49 (2)	07:07	17:29 (1)	06:56	05:55	05:20	05:31	06:14	07:04		07:54			07:49		15:25 (2)	08:35		10:45 (4)
	16:49	45	13:40 (3)	47	16:36 (2)		18:34	28 17:57 (1)	20:27	21:18	21:57	21:58	21:15	20:08			18:59			16:57	33	15:58 (2)	16:28	73	13:27 (3)
11	08:44		12:56 (3)		08:04		15:49 (2)	07:05	17:28 (1)	06:54	05:54	05:20	05:32	06:16	07:06		07:56			07:51		15:27 (2)	08:37		10:45 (4)
	16:50	43	13:39 (3)	47	16:36 (2)		18:36	30 17:58 (1)	20:29	21:19	21:58	21:57	21:13	20:06			18:56			16:56	30	15:57 (2)	16:28	75	13:28 (3)
12	08:44		12:56 (3)		08:02		15:49 (2)	07:03	17:28 (1)	06:52	05:52	05:20	05:33	06:17	07:08		07:57		16:42 (2)	07:52		15:28 (2)	08:38		10:45 (4)
	16:52	43	13:39 (3)	47	16:36 (2)		18:37	31 17:59 (1)	20:31	21:21	21:59	21:56	21:11	20:03			18:54	9	16:51 (2)	16:54	27	15:55 (2)	16:28	76	13:28 (3)
13	08:43		12:57 (3)		08:00		15:49 (2)	07:00	17:26 (1)	06:49	05:50	05:19	05:34	06:19	07:09		07:59		16:37 (2)	07:54		15:30 (2)	08:39		10:46 (4)
	16:53	42	13:39 (3)	48	16:37 (2)		18:39	32 17:58 (1)	20:32	21:22	22:00	21:56	21:09	20:01			18:52	18	16:55 (2)	16:53	23	15:53 (2)	16:28	77	13:30 (3)
14	08:42		12:58 (3)		07:58		15:49 (2)	06:58	17:26 (1)	06:47	05:49	05:19	05:35	06:20	07:11		08:01		16:34 (2)	07:56		15:33 (2)	08:40		10:45 (4)
	16:55	40	13:38 (3)	48	16:37 (2)		18:41	33 17:59 (1)	20:34	21:24	22:00	21:55	21:07	19:59			18:50	24	16:58 (2)	16:51	19	15:52 (2)	16:28	78	13:29 (3)
15	08:41		12:59 (3)		07:56		15:49 (2)	06:56	17:26 (1)	06:45	05:47	05:19	05:36	06:22	07:12		08:03		16:30 (2)	07:58		15:36 (2)	08:40		10:45 (4)
	16:56	39	13:38 (3)	48	16:37 (2)		18:43	33 17:59 (1)	20:36	21:26	22:01	21:54	21:05	19:56			18:47	29	16:59 (2)	16:50	13	15:49 (2)	16:28	78	13:30 (3)
16	08:41		13:01 (3)		07:54		15:49 (2)	06:54	17:25 (1)	06:43	05:46	05:19	05:38	06:24	07:14		08:04		16:28 (2)	08:00			08:41		10:45 (4)
	16:58	36	13:37 (3)	48	16:37 (2)		18:44	33 17:58 (1)	20:37	21:27	22:01	21:53	21:03	19:54			18:45	33	17:01 (2)	16:48			16:28	80	13:31 (3)
17	08:40		13:02 (3)		07:52		15:49 (2)	06:51	17:25 (1)	06:41	05:44	05:19	05:39	06:25	07:16		08:06		16:26 (2)	08:01			08:42		10:46 (4)
	17:00	35	13:37 (3)	47	16:36 (2)		18:46	33 17:58 (1)	20:39	21:29	22:02	21:52	21:01	19:52			18:43	36	17:02 (2)	16:47			16:28	80	13:32 (3)
18	08:39		13:04 (3)		07:50		15:50 (2)	06:49	17:26 (1)	06:38	05:43	05:19	05:40	06:27	07:17	18:21 (1)	08:08		16:25 (2)	08:03			08:43		10:47 (4)
	17:01	32	13:36 (3)	46	16:36 (2)		18:48	32 17:58 (1)	20:41	21:30	22:02	21:50	20:59	19:49	13 18:34 (1)		18:41	38	17:03 (2)	16:45			16:28	80	13:32 (3)
19	08:38		13:06 (3)		07:48		15:50 (2)	06:47	17:25 (1)	06:36	05:41	05:19	05:41	06:28	07:19	18:18 (1)	08:10		16:24 (2)	08:05			08:44		10:46 (4)
	17:03	29	13:35 (3)	46	16:36 (2)		18:49	31 17:56 (1)	20:43	21:32	22:03	21:49	20:57	19:47	18 18:36 (1)		18:39	40	17:04 (2)	16:44			16:29	81	13:32 (3)
20	08:37		13:08 (3)		07:46		15:50 (2)	06:44	17:26 (1)	06:34	05:40	05:19	05:43	06:30	07:21	18:16 (1)	08:11		16:23 (2)	08:06		12:49 (3)	08:44		10:47 (4)
	17:05	26	13:34 (3)	44	16:34 (2)		18:51	30 17:56 (1)	20:44	21:33	22:03	21:48	20:55	19:45	22 18:38 (1)		18:37	42	17:05 (2)	16:43	15	13:04 (3)	16:29	81	13:33 (3)
21	08:36		13:11 (3)		07:44		15:51 (2)	06:42	17:27 (1)	06:32	05:38	05:19	05:44	06:32	07:22	18:13 (1)	08:13		16:22 (2)	08:08		12:46 (3)	08:45		10:48 (4)
	17:06	21	13:32 (3)	43	16:34 (2)		18:53	28 17:55 (1)	20:46	21:35	22:03	21:47	20:53	19:42	25 18:38 (1)		18:35	43	17:05 (2)	16:42	21	13:07 (3)	16:30	81	13:34 (3)
22	08:34		13:14 (3)		07:42		15:52 (2)	06:40	17:27 (1)	06:30	05:37	05:19	05:45	06:33	07:24	18:12 (1)	08:15		16:20 (2)	08:10		12:44 (3)	08:45		10:48 (4)
	17:08	15	13:29 (3)		18:05	41	16:33 (2)	18:55	26 17:53 (1)	20:48	21:36	22:03	21:46	20:51	19:40	27 18:39 (1)	18:33	45	17:05 (2)	16:41	26	13:10 (3)	16:30	81	13:34 (3)
23	08:33				07:40		15:53 (2)	06:37	17:29 (1)	06:28	05:36	05:19	05:47	06:35	07:26	18:11 (1)	08:17		16:19 (2)	08:11		12:43 (3)	08:46		10:48 (4)
	17:10				18:07	39	16:32 (2)	18:56	23 17:52 (1)	20:49	21:37	22:03	21:44	20:48	19:38	29 18:40 (1)	18:30	46	17:05 (2)	16:39	29	13:12 (3)	16:31	81	13:34 (3)
24	08:32				07:38		15:54 (2)	06:35	17:31 (1)	06:26	05:35	05:20	05:48	06:37	07:27	18:09 (1)	08:18		16:19 (2)	08:13		12:41 (3)	08:46		10:49 (4)
	17:11				18:09	37	16:31 (2)	18:58	19 17:50 (1)	20:51	21:39	22:04	21:43	20:46	19:35	31 18:40 (1)	18:28	47	17:06 (2)	16:38	32	13:13 (3)	16:31	81	13:35 (3)
25	08:31				07:36		15:56 (2)	06:33	17:32 (1)	06:24	05:33	05:20	05:49	06:38	07:29	18:08 (1)	07:20		15:19 (2)	08:15		12:40 (3)	08:47		10:49 (4)
	17:13				18:10	34	16:30 (2)	19:00	15 17:47 (1)	20:53	21:40	22:04	21:42	20:44	19:33	32 18:40 (1)	17:26	47	16:06 (2)	16:37	35	13:15 (3)	16:32	81	13:35 (3)
26	08:29				07:34		15:57 (2)	06:30	17:37 (1)	06:22	05:32	05:21	05:51	06:40	07:30	18:08 (1)	07:22		15:18 (2)	08:16		12:40 (3)	08:47		10:50 (4)
	17:15				18:12	31	16:28 (2)	19:02	5 17:42 (1)	20:54	21:41	22:04	21:40	20:42	19:31	33 18:41 (1)	17:24	48	16:06 (2)	16:36	36	13:16 (3)	16:32	79	13:35 (3)
27	08:28		16:03 (2)		07:32		15:59 (2)	06:28		06:20	05:31	05:21	05:52	06:42	07:32	18:07 (1)	07:24		15:18 (2)	08:18		12:39 (3)	08:47		10:50 (4)
	17:17	13	16:16 (2)		18:14	27	16:26 (2)	19:03		20:56	21:43	22:04	21:39	20:40	19:28	33 18:40 (1)	17:22	48	16:06 (2)	16:36	39	13:18 (3)	16:33	80	13:36 (3)
28	08:27		16:01 (2)		07:29		16:02 (2)	06:26		06:18	05:30	05:21	05:54	06:43	07:34	18:07 (1)	07:26		15:18 (2)	08:19		12:38 (3)	08:47		10:52 (4)
	17:19	19	16:20 (2)		18:16	22	16:24 (2)	19:05		20:58	21:44	22:03	21:37	20:38	19:26	33 18:40 (1)	17:20	48	16:06 (2)	16:35	40	13:18 (3)	16:34	79	13:37 (3)
29	08:25		15:58 (2)					07:23		06:16	05:29	05:22	05:55	06:45	07:35	18:07 (1)	07:27		15:18 (2)	08:21		12:38 (3)	08:48		10:53 (4)
	17:20	24	16:22 (2)					20:07		21:00	21:45	22:03	21:36	20:35	19:24	33 18:40 (1)	17:18	48	16:06 (2)	16:34	42	13:20 (3)	16:35	77	13:37 (3)
30	08:24		15:56 (2)					07:21		06:14	05:28	05:23	05:57	06:46	07:37	18:06 (1)	07:29		15:18 (2)	08:22		12:37 (3)	08:48		10:53 (4)
	17:22	27	16:23 (2)					20:08		21:01	21:46	22:03	21:34	20:33	19:21	32 18:38 (1)	17:17	48	16:06 (2)	16:33	43	13:20 (3)	16:36	79	13:38 (3)
31	08:22		15:56 (2)					07:19			05:27		05:58	06:48			07:31		15:19 (2)				08:48		10:53 (4)
	17:24	30	16:26 (2)					20:10			21:48		21:32	20:31			17:15	47	16:06 (2)				16:37	77	13:37 (3)
Potential sun hours	259			277			367		416	485	499	502	454	381			331			266			243		
Total, worst case		1163			1155			556							361			966			879			2276
Sun reduction		0,24			0,30			0,33							0,36			0,34			0,24			0,20
Oper. time red.		0,95			0,95			0,95							0,95			0,95			0,95			0,95
Wind dir. red.		0,67			0,67			0,63							0,63			0,66			0,67			0,66
Total reduction		0,15			0,19			0,20							0,22			0,21			0,15			0,13
Total, real		178			222			110							78			205			133			292

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
20-12-2018 09:08/3.2.737

SHADOW - Calendar

Calculation: Copy of V150@166Shadow receptor: AE - 3945LA1a

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December		
1	08:48		15:45 (4)	08:21		15:50 (4)	07:27		07:16	06:12	05:26	05:23	06:00	06:50		07:39		18:25 (2)	07:33		08:24		15:24 (4)
	16:38	9	15:54 (4)	17:26	21	16:11 (4)	18:18		20:12	21:03	21:49	22:03	21:31	20:29		19:19	17	18:42 (2)	17:13		16:32	24	15:48 (4)
2	08:48		15:44 (4)	08:19		15:51 (4)	07:25		07:14	06:10	05:25	05:24	06:01	06:51		07:40		18:24 (2)	07:34		08:25		15:25 (4)
	16:39	12	15:56 (4)	17:28	19	16:10 (4)	18:19		20:13	21:04	21:50	22:02	21:29	20:26		19:17	18	18:42 (2)	17:11		16:32	24	15:49 (4)
3	08:47		15:44 (4)	08:18		15:54 (4)	07:23		07:12	06:08	05:25	05:25	06:03	06:53		07:42		18:22 (2)	07:36		08:27		15:26 (4)
	16:40	13	15:57 (4)	17:30	15	16:09 (4)	18:21		20:15	21:06	21:51	22:02	21:27	20:24		19:14	20	18:42 (2)	17:09		16:31	22	15:48 (4)
4	08:47		15:43 (4)	08:16		15:57 (4)	07:21	17:51 (2)	07:10	06:06	05:24	05:25	06:04	06:54		07:44		18:22 (2)	07:38		08:28		15:26 (4)
	16:41	15	15:58 (4)	17:31	9	16:06 (4)	18:23	6 17:57 (2)	20:17	21:08	21:52	22:02	21:26	20:22		19:12	20	18:42 (2)	17:07		16:30	21	15:47 (4)
5	08:47		15:43 (4)	08:14			07:18	17:49 (2)	07:07	06:04	05:23	05:26	06:06	06:56		07:45		18:22 (2)	07:40		08:29		15:28 (4)
	16:42	17	16:00 (4)	17:33			18:25	10 17:59 (2)	20:19	21:09	21:53	22:01	21:24	20:20		19:10	20	18:42 (2)	17:05		16:30	19	15:47 (4)
6	08:47		15:42 (4)	08:13			07:16	17:47 (2)	07:05	06:02	05:22	05:27	06:07	06:58		07:47		18:22 (2)	07:42		08:31		15:28 (4)
	16:44	19	16:01 (4)	17:35			18:27	13 18:00 (2)	20:20	21:11	21:54	22:01	21:22	20:17		19:08	17	18:39 (2)	17:04		16:29	19	15:47 (4)
7	08:46		15:43 (4)	08:11			07:14	17:46 (2)	07:03	06:00	05:22	05:28	06:09	06:59		07:49		18:22 (2)	07:43	15:26 (4)	08:32		15:30 (4)
	16:45	19	16:02 (4)	17:37			18:28	16 18:02 (2)	20:22	21:13	21:55	22:00	21:20	20:15		19:05	15	18:37 (2)	17:02	10 15:36 (4)	16:29	17	15:47 (4)
8	08:46		15:42 (4)	08:09			07:12	17:46 (2)	07:00	05:59	05:21	05:29	06:11	07:01		07:51		18:24 (2)	07:45	15:24 (4)	08:33		15:31 (4)
	16:46	21	16:03 (4)	17:39			18:30	18 18:04 (2)	20:24	21:14	21:56	21:59	21:19	20:13		19:03	11	18:35 (2)	17:00	15 15:39 (4)	16:29	15	15:46 (4)
9	08:45		15:42 (4)	08:07			07:09	17:45 (2)	06:58	05:57	05:21	05:30	06:12	07:03		07:52		18:25 (2)	07:47	15:22 (4)	08:34		15:32 (4)
	16:48	22	16:04 (4)	17:41			18:32	20 18:05 (2)	20:25	21:16	21:57	21:59	21:17	20:10		19:01	8	18:33 (2)	16:59	19 15:41 (4)	16:28	14	15:46 (4)
10	08:45		15:42 (4)	08:06			07:07	17:44 (2)	06:56	05:55	05:20	05:31	06:14	07:04		07:54		18:27 (2)	07:49	15:21 (4)	08:35		15:33 (4)
	16:49	23	16:05 (4)	17:43			18:34	20 18:04 (2)	20:27	21:18	21:57	21:58	21:15	20:08		18:58	3	18:30 (2)	16:57	21 15:42 (4)	16:28	12	15:45 (4)
11	08:44		15:42 (4)	08:04			07:05	17:45 (2)	06:54	05:53	05:20	05:32	06:15	07:06		07:56			07:51	15:20 (4)	08:36		15:34 (4)
	16:50	24	16:06 (4)	17:44			18:35	19 18:04 (2)	20:29	21:19	21:58	21:57	21:13	20:06		18:56			16:56	23 15:43 (4)	16:28	10	15:44 (4)
12	08:44		15:42 (4)	08:02		17:06 (3)	07:03	17:45 (2)	06:51	05:52	05:20	05:33	06:17	07:08		07:57			07:52	15:19 (4)	08:38		15:36 (4)
	16:52	25	16:07 (4)	17:46	10	17:16 (3)	18:37	18 18:03 (2)	20:31	21:21	21:59	21:56	21:11	20:03		18:54			16:54	25 15:44 (4)	16:28	8	15:44 (4)
13	08:43		15:41 (4)	08:00		17:04 (3)	07:00	17:45 (2)	06:49	05:50	05:19	05:34	06:19	07:09		07:59			07:54	15:18 (4)	08:39		15:38 (4)
	16:53	27	16:08 (4)	17:48	14	17:18 (3)	18:39	16 18:01 (2)	20:32	21:22	21:59	21:55	21:09	20:01		18:52			16:52	27 15:45 (4)	16:28	4	15:42 (4)
14	08:42		15:41 (4)	07:58		17:02 (3)	06:58	17:47 (2)	06:47	05:49	05:19	05:35	06:20	07:11		08:01		17:40 (3)	07:56	15:18 (4)	08:39		
	16:55	28	16:09 (4)	17:50	18	17:20 (3)	18:41	13 18:00 (2)	20:34	21:24	22:00	21:55	21:07	19:59		18:50	8	17:48 (3)	16:51	28 15:46 (4)	16:28		
15	08:41		15:41 (4)	07:56		17:01 (3)	06:56	17:49 (2)	06:45	05:47	05:19	05:36	06:22	07:12		08:03		17:36 (3)	07:58	15:18 (4)	08:40		
	16:56	28	16:09 (4)	17:52	20	17:21 (3)	18:42	9 17:58 (2)	20:36	21:26	22:01	21:54	21:05	19:56		18:47	13	17:49 (3)	16:50	29 15:47 (4)	16:28		
16	08:40		15:41 (4)	07:54		17:00 (3)	06:54		06:43	05:45	05:19	05:37	06:24	07:14		08:04		17:34 (3)	07:59	15:18 (4)	08:41		
	16:58	29	16:10 (4)	17:54	22	17:22 (3)	18:44		20:37	21:27	22:01	21:53	21:03	19:54		18:45	17	17:51 (3)	16:48	29 15:47 (4)	16:28		
17	08:40		15:41 (4)	07:52		17:00 (3)	06:51		06:40	05:44	05:19	05:39	06:25	07:16		08:06		17:32 (3)	08:01	15:18 (4)	08:42		
	17:00	30	16:11 (4)	17:56	23	17:23 (3)	18:46		20:39	21:29	22:02	21:52	21:01	19:52		18:43	20	17:52 (3)	16:47	30 15:48 (4)	16:28		
18	08:39		15:42 (4)	07:50		16:59 (3)	06:49		06:38	05:42	05:19	05:40	06:27	07:17		08:08		17:31 (3)	08:03	15:17 (4)	08:43		
	17:01	29	16:11 (4)	17:57	25	17:24 (3)	18:48		20:41	21:30	22:02	21:50	20:59	19:49		18:41	22	17:53 (3)	16:45	30 15:47 (4)	16:28		
19	08:38		15:42 (4)	07:48		16:58 (3)	06:47		06:36	05:41	05:19	05:41	06:28	07:19		08:09		17:30 (3)	08:05	15:17 (4)	08:43		
	17:03	30	16:12 (4)	17:59	25	17:23 (3)	18:49		20:42	21:32	22:02	21:49	20:57	19:47		18:39	24	17:54 (3)	16:44	31 15:48 (4)	16:29		
20	08:37		15:42 (4)	07:46		16:58 (3)	06:44		06:34	05:40	05:19	05:42	06:30	07:21		08:11		17:30 (3)	08:06	15:17 (4)	08:44		
	17:05	31	16:13 (4)	18:01	25	17:23 (3)	18:51		20:44	21:33	22:03	21:48	20:55	19:45		18:37	24	17:54 (3)	16:43	31 15:48 (4)	16:29		
21	08:35		15:42 (4)	07:44		16:58 (3)	06:42		06:32	05:38	05:19	05:44	06:32	07:22		08:13		17:29 (3)	08:08	15:18 (4)	08:45		
	17:06	31	16:13 (4)	18:03	25	17:23 (3)	18:53		20:46	21:34	22:03	21:47	20:53	19:42		18:35	24	17:53 (3)	16:42	31 15:49 (4)	16:29		
22	08:34		15:42 (4)	07:42		16:59 (3)	06:40		06:30	05:37	05:19	05:45	06:33	07:24		08:15		17:29 (3)	08:10	15:18 (4)	08:45		
	17:08	31	16:13 (4)	18:05	24	17:23 (3)	18:55		20:48	21:36	22:03	21:46	20:51	19:40		18:32	24	17:53 (3)	16:41	31 15:49 (4)	16:30		
23	08:33		15:43 (4)	07:40		16:59 (3)	06:37		06:28	05:36	05:19	05:47	06:35	07:25		08:17		17:29 (3)	08:11	15:19 (4)	08:46		
	17:10	31	16:14 (4)	18:07	23	17:22 (3)	18:56		20:49	21:37	22:03	21:44	20:48	19:38		18:30	24	17:53 (3)	16:39	30 15:49 (4)	16:30		
24	08:32		15:43 (4)	07:38		17:00 (3)	06:35		06:26	05:34	05:20	05:48	06:37	07:27		08:18		17:29 (3)	08:13	15:19 (4)	08:46		
	17:11	30	16:13 (4)	18:09	22	17:22 (3)	18:58		20:51	21:39	22:03	21:43	20:46	19:35		18:28	24	17:53 (3)	16:38	30 15:49 (4)	16:31		
25	08:31		15:44 (4)	07:36		17:02 (3)	06:33		06:24	05:33	05:20	05:49	06:38	07:29		07:20		16:29 (3)	08:15	15:20 (4)	08:47		
	17:13	30	16:14 (4)	18:10	19	17:21 (3)	19:00		20:53	21:40	22:04	21:41	20:44	19:33		17:26	23	16:52 (3)	16:37	29 15:49 (4)	16:32		
26	08:29		15:45 (4)	07:34		17:02 (3)	06:30		06:21	05:32	05:20	05:51	06:40	07:30		07:22		16:30 (3)	08:16	15:20 (4)	08:47		
	17:15	29	16:14 (4)	18:12	16	17:18 (3)	19:01		20:54	21:41	22:04	21:40	20:42	19:31		17:24	22	16:52 (3)	16:36	29 15:49 (4)	16:32		
27	08:28		15:45 (4)	07:32		17:05 (3)	06:28		06:19	05:31	05:21	05:52	06:41	07:32		07:24		16:31 (3)	08:18	15:21 (4)	08:47		
	17:17	29	16:14 (4)	18:14	11	17:16 (3)	19:03		20:56	21:43	22:03	21:39	20:40	19:28		17:22	20	16:51 (3)	16:35	28 15:49 (4)	16:33		
28	08:27		15:46 (4)	07:29		17:10 (3)	06:26		06:17	05:30	05:21	05:54	06:43	07:34	18:31 (2)	07:25		16:32 (3)	08:19	15:21 (4)	08:47		
	17:19	28	16:14 (4)	18:16	2	17:12 (3)	19:05		20:58	21:44	22:03	21:37	20:38	19:26	7 18:38 (2)	17:20	17	16:49 (3)	16:35	28 15:49 (4)	16:34		
29	08:25		15:46 (4)				07:23		06:15	05:29	05:22	05:55	06:45	07:35	18:29 (2)	07:27		16:34 (3)	08:21	15:22 (4)	08:48		
	17:20	27	16:13 (4)				20:07		20:59	21:45	22:03	21:36	20:35	19:24	11 18:40 (2)	17:18	14	16:48 (3)	16:34	27 15:49 (4)	16:35		
30	08:24		15:47 (4)				07:21		06:13	05:28	05:22	05:57	06:46	07:37	18:26 (2)	07:29		16:36 (3)	08:22	15:23 (4)	08:48		15:46 (4)
	17:22	25	16:12 (4)				20:08		21:01	21:46	22:03	21:34	20:33	19:21	15 18:41 (2)	17:16	9	16:45 (3)	16:33	25 15:48 (4)	16:36	3	15:49 (4)
31	08:22		15:49 (4)				07:19			05:27		05:58	06:48			07:31					08:48		15:45 (4)
	17:24	23	16:12 (4)				20:10			21:48		21:32	20:31			17:15					16:37	7	15:52 (4)
Potential sun hours	259			277			367		416	485	499	502	454	381		331			266		243		
Total, worst case		765			388			178							33		478			636			219
Sun reduction		0,24			0,30			0,33							0,36		0,34			0,24			0,20
Oper. time red.		0,95			0,95			0,95							0,95		0,95			0,95			0,95
Wind dir. red.		0,67			0,67			0,63							0,63		0,66			0,67			0,67
Total reduction		0,15			0,19			0,20							0,22		0,21			0,15			0,13
Total, real		117			75			35							7		100			96			29

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
20-12-2018 09:08/3.2.737

SHADOW - Calendar

Calculation: Copy of V150@166Shadow receptor: AF - 3945LA7

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December		
1	08:48		11:42 (4)	08:21			07:27	16:30 (2)	07:17	06:12	05:26	05:23	06:00	06:50		07:39		18:28 (1)	07:33	16:15 (2)	08:24	13:36 (3)
	16:38	69	14:42 (3)	17:26			18:18	37 17:07 (2)	20:12	21:03	21:49	22:03	21:31	20:29		19:19	18	18:46 (1)	17:13	7 16:22 (2)	16:32	52 14:28 (3)
2	08:48		11:44 (4)	08:19			07:25	16:31 (2)	07:14	06:10	05:25	05:24	06:01	06:51		07:40		18:30 (1)	07:35		08:25	13:37 (3)
	16:39	67	14:42 (3)	17:28			18:19	36 17:07 (2)	20:13	21:05	21:50	22:02	21:29	20:26		19:17	14	18:44 (1)	17:11		16:32	52 14:29 (3)
3	08:48		11:46 (4)	08:18			07:23	16:31 (2)	07:12	06:08	05:25	05:25	06:03	06:53		07:42		18:32 (1)	07:36		08:27	13:37 (3)
	16:40	64	14:43 (3)	17:30			18:21	34 17:05 (2)	20:15	21:06	21:51	22:02	21:27	20:24		19:14	7	18:39 (1)	17:09		16:31	51 14:28 (3)
4	08:47		11:48 (4)	08:16			07:21	16:33 (2)	07:10	06:06	05:24	05:25	06:04	06:55		07:44			07:38		08:28	13:38 (3)
	16:41	59	14:43 (3)	17:31			18:23	31 17:04 (2)	20:17	21:08	21:52	22:02	21:26	20:22		19:12			17:07		16:30	52 14:30 (3)
5	08:47		13:52 (3)	08:14			07:18	16:34 (2)	07:07	06:04	05:23	05:26	06:06	06:56		07:45		17:21 (2)	07:40		08:29	13:38 (3)
	16:42	52	14:44 (3)	17:33			18:25	29 17:03 (2)	20:19	21:10	21:53	22:01	21:24	20:20		19:10	9	17:30 (2)	17:06		16:30	52 14:30 (3)
6	08:47		13:52 (3)	08:13			07:16	16:35 (2)	07:05	06:02	05:23	05:27	06:08	06:58		07:47		17:15 (2)	07:42		08:31	13:38 (3)
	16:44	52	14:44 (3)	17:35			18:27	25 17:00 (2)	20:20	21:11	21:54	22:01	21:22	20:17		19:08	18	17:33 (2)	17:04		16:29	52 14:30 (3)
7	08:46		13:53 (3)	08:11			07:14	16:38 (2)	07:03	06:00	05:22	05:28	06:09	06:59		07:49		17:13 (2)	07:44		08:32	13:39 (3)
	16:45	51	14:44 (3)	17:37			18:29	20 16:58 (2)	20:22	21:13	21:55	22:00	21:20	20:15		19:05	22	17:35 (2)	17:02		16:29	52 14:31 (3)
8	08:46		13:53 (3)	08:09			07:12	16:41 (2)	07:01	05:59	05:21	05:29	06:11	07:01		07:51		17:10 (2)	07:45		08:33	11:37 (4)
	16:46	51	14:44 (3)	17:39			18:30	14 16:55 (2)	20:24	21:14	21:56	21:59	21:19	20:13		19:03	27	17:37 (2)	17:00		16:29	57 14:31 (3)
9	08:45		13:54 (3)	08:07			07:10		06:58	05:57	05:21	05:30	06:12	07:03		07:52		17:09 (2)	07:47		08:34	11:34 (4)
	16:48	51	14:45 (3)	17:41			18:32		20:25	21:16	21:57	21:59	21:17	20:10		19:01	29	17:38 (2)	16:59		16:28	64 14:31 (3)
10	08:45		13:54 (3)	08:06	16:45 (2)		07:07		06:56	05:55	05:20	05:31	06:14	07:04		07:54		17:06 (2)	07:49		08:35	11:33 (4)
	16:49	51	14:45 (3)	17:43	9 16:54 (2)		18:34		20:27	21:18	21:57	21:58	21:15	20:08		18:59	32	17:38 (2)	16:57		16:28	67 14:31 (3)
11	08:44		13:54 (3)	08:04	16:41 (2)		07:05	17:52 (1)	06:54	05:54	05:20	05:32	06:16	07:06		07:56		17:05 (2)	07:51	13:51 (3)	08:37	11:33 (4)
	16:50	51	14:45 (3)	17:45	16 16:57 (2)		18:35	12 18:04 (1)	20:29	21:19	21:58	21:57	21:13	20:06		18:56	34	17:39 (2)	16:56	15 14:06 (3)	16:28	68 14:32 (3)
12	08:44		13:55 (3)	08:02	16:38 (2)		07:03	17:49 (1)	06:52	05:52	05:20	05:33	06:17	07:08		07:57		17:04 (2)	07:52	13:47 (3)	08:38	11:32 (4)
	16:52	51	14:46 (3)	17:46	22 17:00 (2)		18:37	17 18:06 (1)	20:31	21:21	21:59	21:56	21:11	20:03		18:54	36	17:40 (2)	16:54	22 14:09 (3)	16:28	71 14:32 (3)
13	08:43		13:55 (3)	08:00	16:37 (2)		07:00	17:47 (1)	06:49	05:50	05:19	05:34	06:19	07:09		07:59		17:03 (2)	07:54		13:45 (3)	08:39 11:32 (4)
	16:53	51	14:46 (3)	17:48	25 17:02 (2)		18:39	20 18:07 (1)	20:32	21:22	22:00	21:56	21:09	20:01		18:52	38	17:41 (2)	16:53	27 14:12 (3)	16:28	72 14:32 (3)
14	08:42		13:56 (3)	07:58	16:35 (2)		06:58	17:46 (1)	06:47	05:49	05:19	05:35	06:20	07:11		08:01		17:02 (2)	07:56		13:43 (3)	08:40 11:32 (4)
	16:55	50	14:46 (3)	17:50	29 17:04 (2)		18:41	23 18:09 (1)	20:34	21:24	22:00	21:55	21:07	19:59		18:50	39	17:41 (2)	16:51	31 14:14 (3)	16:28	73 14:33 (3)
15	08:41		13:56 (3)	07:56	16:34 (2)		06:56	17:45 (1)	06:45	05:47	05:19	05:36	06:22	07:12	18:43 (1)	08:03		17:01 (2)	07:58		13:42 (3)	08:40 11:32 (4)
	16:56	50	14:46 (3)	17:52	31 17:05 (2)		18:43	25 18:10 (1)	20:36	21:26	22:01	21:54	21:05	19:56	2 18:45 (1)	18:47	40	17:41 (2)	16:50	33 14:15 (3)	16:28	74 14:33 (3)
16	08:41		13:57 (3)	07:54	16:33 (2)		06:54	17:43 (1)	06:43	05:46	05:19	05:37	06:24	07:14	18:36 (1)	08:04		17:00 (2)	07:59		13:41 (3)	08:41 11:32 (4)
	16:58	49	14:46 (3)	17:54	33 17:06 (2)		18:44	27 18:10 (1)	20:37	21:27	22:01	21:53	21:03	19:54	13 18:49 (1)	18:45	41	17:41 (2)	16:48	36 14:17 (3)	16:28	75 14:34 (3)
17	08:40		13:58 (3)	07:52	16:32 (2)		06:51	17:43 (1)	06:41	05:44	05:19	05:39	06:25	07:16	18:34 (1)	08:06		17:00 (2)	08:01		13:40 (3)	08:42 11:32 (4)
	17:00	48	14:46 (3)	17:56	35 17:07 (2)		18:46	27 18:10 (1)	20:39	21:29	22:02	21:52	21:01	19:52	17 18:51 (1)	18:43	41	17:41 (2)	16:47	38 14:18 (3)	16:28	76 14:35 (3)
18	08:39		13:59 (3)	07:50	16:31 (2)		06:49	17:42 (1)	06:38	05:43	05:19	05:40	06:27	07:17	18:32 (1)	08:08		17:00 (2)	08:03		13:38 (3)	08:43 11:33 (4)
	17:01	47	14:46 (3)	17:58	37 17:08 (2)		18:48	29 18:11 (1)	20:41	21:30	22:02	21:50	20:59	19:49	21 18:53 (1)	18:41	41	17:41 (2)	16:45	40 14:18 (3)	16:28	75 14:35 (3)
19	08:38		14:00 (3)	07:48	16:31 (2)		06:47	17:41 (1)	06:36	05:41	05:19	05:41	06:28	07:19	18:30 (1)	08:10		17:00 (2)	08:05		13:38 (3)	08:44 11:33 (4)
	17:03	46	14:46 (3)	17:59	38 17:09 (2)		18:49	29 18:10 (1)	20:43	21:32	22:02	21:49	20:57	19:47	23 18:53 (1)	18:39	41	17:41 (2)	16:44	41 14:19 (3)	16:29	76 14:35 (3)
20	08:37		14:01 (3)	07:46	16:29 (2)		06:44	17:41 (1)	06:34	05:40	05:19	05:43	06:30	07:21	18:29 (1)	08:11		17:00 (2)	08:06		13:37 (3)	08:44 11:33 (4)
	17:05	45	14:46 (3)	18:01	39 17:08 (2)		18:51	29 18:10 (1)	20:44	21:33	22:03	21:48	20:55	19:45	25 18:54 (1)	18:37	41	17:41 (2)	16:43	43 14:20 (3)	16:29	77 14:36 (3)
21	08:36		14:02 (3)	07:44	16:29 (2)		06:42	17:42 (1)	06:32	05:38	05:19	05:44	06:32	07:22	18:27 (1)	08:13		17:00 (2)	08:08		13:37 (3)	08:45 11:34 (4)
	17:06	44	14:46 (3)	18:03	40 17:09 (2)		18:53	28 18:10 (1)	20:46	21:35	22:03	21:47	20:53	19:42	27 18:54 (1)	18:35	40	17:40 (2)	16:42	44 14:21 (3)	16:30	77 14:37 (3)
22	08:34		14:02 (3)	07:42	16:29 (2)		06:40	17:41 (1)	06:30	05:37	05:19	05:45	06:33	07:24	18:26 (1)	08:15		17:00 (2)	08:10		13:37 (3)	08:45 11:34 (4)
	17:08	43	14:45 (3)	18:05	40 17:09 (2)		18:55	27 18:08 (1)	20:48	21:36	22:03	21:46	20:51	19:40	28 18:54 (1)	18:33	39	17:39 (2)	16:41	45 14:22 (3)	16:30	77 14:37 (3)
23	08:33		14:04 (3)	07:40	16:29 (2)		06:37	17:42 (1)	06:28	05:36	05:19	05:47	06:35	07:26	18:26 (1)	08:17		17:00 (2)	08:11		13:37 (3)	08:46 11:34 (4)
	17:10	41	14:45 (3)	18:07	41 17:10 (2)		18:56	26 18:08 (1)	20:49	21:37	22:03	21:44	20:48	19:38	29 18:55 (1)	18:30	38	17:38 (2)	16:39	46 14:23 (3)	16:31	77 14:37 (3)
24	08:32		14:04 (3)	07:38	16:29 (2)		06:35	17:43 (1)	06:26	05:35	05:20	05:48	06:37	07:27	18:25 (1)	08:18		17:01 (2)	08:13		13:36 (3)	08:46 11:35 (4)
	17:11	40	14:44 (3)	18:09	41 17:10 (2)		18:58	24 18:07 (1)	20:51	21:39	22:04	21:43	20:46	19:35	29 18:54 (1)	18:28	36	17:37 (2)	16:38	47 14:23 (3)	16:31	77 14:38 (3)
25	08:31		14:06 (3)	07:36	16:29 (2)		06:33	17:43 (1)	06:24	05:33	05:20	05:49	06:38	07:29	18:25 (1)	07:20		16:02 (2)	08:15		13:36 (3)	08:47 11:36 (4)
	17:13	38	14:44 (3)	18:10	41 17:10 (2)		19:00	22 18:05 (1)	20:53	21:40	22:04	21:42	20:44	19:33	29 18:54 (1)	17:26	35	16:37 (2)	16:37	48 14:24 (3)	16:32	76 14:38 (3)
26	08:29		14:08 (3)	07:34	16:28 (2)		06:30	17:45 (1)	06:22	05:32	05:21	05:51	06:40	07:30	18:25 (1)	07:22		16:03 (2)	08:16		13:36 (3)	08:47 11:36 (4)
	17:15	36	14:44 (3)	18:12	41 17:09 (2)		19:02	18 18:03 (1)	20:54	21:41	22:04	21:40	20:42	19:31	28 18:53 (1)	17:24	33	16:36 (2)	16:36	49 14:25 (3)	16:32	76 14:39 (3)
27	08:28		14:09 (3)	07:32	16:29 (2)		06:28	17:47 (1)	06:20	05:31	05:21	05:52	06:41	07:32	18:25 (1)	07:24		16:04 (2)	08:18		13:36 (3)	08:47 11:37 (4)
	17:17	33	14:42 (3)	18:14	39 17:08 (2)		19:03	14 18:01 (1)	20:56	21:43	22:04	21:39	20:40	19:28	27 18:52 (1)	17:22	30	16:34 (2)	16:36	50 14:26 (3)	16:33	75 14:39 (3)
28	08:27		14:11 (3)	07:29	16:29 (2)		06:26	17:50 (1)	06:18	05:30	05:21	05:54	06:43	07:34	18:25 (1)	07:26		16:05 (2)	08:19		13:36 (3)	08:47 11:39 (4)
	17:19	31	14:42 (3)	18:16	39 17:08 (2)		19:05	6 17:56 (1)	20:58	21:44	22:03	21:37	20:38	19:26	26 18:51 (1)	17:20	28	16:33 (2)	16:35	50 14:26 (3)	16:34	74 14:40 (3)
29	08:25		14:13 (3)				07:23		06:16	05:29	05:22	05:55	06:45	07:35	18:26 (1)	07:27		16:06 (2)	08:21		13:36 (3)	08:48 11:39 (4)
	17:20	27	14:40 (3)				20:07		20:59	21:45	22:03	21:36	20:35	19:24	24 18:50 (1)	17:18	25	16:31 (2)	16:34	51 14:27 (3)	16:35	74 14:41 (3)
30	08:24		14:16 (3)				07:21		06:14	05:28	05:23	05:57	06:46	07:37	18:26 (1)	07:29		16:08 (2)	08:22		13:36 (3)	08:48 11:40 (4)
	17:22	21	14:37 (3)				20:08		21:01	21:46	22:03	21:34	20:33	19:21	22 18:48 (1)	17:17	21	16:29 (2)	16:33	51 14:27 (3)	16:36	73 14:41 (3)
31	08:22		14:21 (3)				07:19			05:27		05:58	06:48			07:31		16:11 (2)			08:48	11:41 (4)
	17:24	14	14:35 (3)				20:10			21:48		21:32	20:31			17:15	16	16:27 (2)			16:37	71 14:41 (3)
Potential sun hours	259			277			367		416	485	499	502	454	381		331			266		243	
Total, worst case		1423			636			629							370		909			814		2115
Sun reduction		0,24			0,30			0,33							0,36		0,34			0,24		0,20
Oper. time red.		0,95			0,95			0,95							0,95		0,95			0,95		0,95
Wind dir. red.		0,69			0,67			0,64							0,63		0,67			0,69		0,68
Total reduction		0,16			0,19			0,20							0,22		0,21			0,15		0,13
Total, real		223			123			127							80		195			126		277

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
20-12-2018 09:08/3.2.737

SHADOW - Calendar

Calculation: Copy of V150@166Shadow receptor: AG - 3998NA6

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 16:38	08:21 17:26	07:27 18:18 22	07:56 (4) 08:18 (4) 20:12 46	07:17 08:20 (2) 09:06 (2) 21:03 50	06:12 08:08 (2) 08:58 (2) 21:49	05:26 05:23 22:03	06:00 21:31 9	08:37 (2) 08:46 (2) 20:29 64	06:50 08:07 (2) 09:11 (2) 19:19 33	07:39 08:23 (3) 08:56 (3) 17:13	07:33 08:24 16:32
2	08:48 16:39	08:19 17:28	07:25 18:20 23	07:55 (4) 08:18 (4) 20:14 50	07:14 08:18 (2) 09:08 (2) 21:05 48	06:10 08:08 (2) 08:56 (2) 21:50	05:25 05:24 22:03	06:01 21:29 18	06:51 08:32 (2) 08:50 (2) 20:26 64	07:41 08:06 (2) 09:10 (2) 19:17 33	08:23 (3) 08:56 (3) 17:11	08:25 16:32
3	08:48 16:40	08:18 17:30	07:23 18:21 23	07:54 (4) 08:17 (4) 20:15 52	07:12 08:17 (2) 09:09 (2) 21:06 45	06:08 08:10 (2) 08:55 (2) 21:51	05:25 05:25 22:02	06:03 21:28 24	06:53 08:29 (2) 08:53 (2) 20:24 62	07:42 08:07 (2) 09:09 (2) 19:15 33	08:22 (3) 08:55 (3) 17:09	08:27 16:31
4	08:47 16:41	08:16 17:32	07:21 18:23 23	07:54 (4) 07:10 08:17 (4) 20:17 55	08:14 (2) 08:06 09:09 (2) 21:08 43	08:11 (2) 05:24 08:54 (2) 21:52	05:25 06:05 22:02	08:27 (2) 21:26 28	06:55 08:08 (2) 08:55 (2) 20:22 61	07:44 09:09 (2) 19:12 31	08:23 (3) 08:54 (3) 17:07	07:38 08:28 16:31
5	08:47 16:43	08:14 17:33	07:19 18:25 24	07:53 (3) 07:07 08:17 (4) 20:19 57	08:13 (2) 06:04 09:10 (2) 21:10 41	08:11 (2) 05:23 08:52 (2) 21:53	05:26 06:06 22:01	08:25 (2) 21:24 33	06:56 08:07 (2) 08:58 (2) 20:20 60	07:46 09:07 (2) 19:10 29	08:24 (3) 07:40 08:53 (3) 17:06	08:29 16:30
6	08:47 16:44	08:13 17:35	07:16 18:27 26	07:51 (3) 07:05 08:17 (4) 20:20 59	08:12 (2) 06:02 09:11 (2) 21:11 38	08:12 (2) 05:23 08:50 (2) 21:54	05:27 06:08 22:01	08:23 (2) 21:22 36	06:58 08:08 (2) 08:59 (2) 20:17 59	07:47 09:07 (2) 19:08 27	08:25 (3) 07:42 08:52 (3) 17:04	08:31 16:30
7	08:46 16:45	08:11 17:37	07:14 18:28 26	07:49 (3) 07:03 08:15 (4) 20:22 60	08:11 (2) 06:01 09:11 (2) 21:13 35	08:14 (2) 05:22 08:49 (2) 21:55	05:28 06:09 22:00	08:21 (2) 21:20 39	07:00 08:21 (2) 09:00 (2) 20:15 57	07:49 08:08 (2) 09:05 (2) 19:05 26	08:25 (3) 07:44 08:51 (4) 17:02	08:32 16:29
8	08:46 16:46	08:09 17:39	07:12 18:30 29	07:47 (3) 07:01 08:16 (3) 20:24 61	08:10 (2) 05:59 09:11 (2) 21:15 30	08:16 (2) 05:21 08:46 (2) 21:56	05:29 06:11 22:00	08:21 (2) 21:19 41	07:01 08:09 (2) 09:02 (2) 20:13 55	07:51 09:04 (2) 19:03 25	08:27 (3) 07:45 08:52 (4) 17:01	08:33 16:29
9	08:45 16:48	08:08 17:41	07:10 18:32 31	07:46 (3) 06:58 08:17 (3) 20:26 62	08:09 (2) 05:57 09:11 (2) 21:16 27	08:17 (2) 05:21 08:44 (2) 21:57	05:30 06:12 21:59	08:19 (2) 21:17 44	07:03 09:03 (2) 20:10 52	08:10 (2) 07:52 09:02 (2) 19:01 23	08:29 (4) 07:47 08:52 (4) 16:59	08:34 16:29
10	08:45 16:49	08:06 17:43	07:07 18:34 32	07:45 (3) 06:56 08:17 (3) 20:27 64	08:08 (2) 05:55 09:12 (2) 21:18 22	08:20 (2) 05:21 08:42 (2) 21:57	05:31 06:14 21:58	08:18 (2) 21:15 46	07:04 09:04 (2) 20:08 50	08:11 (2) 07:54 09:01 (2) 18:59 24	08:29 (4) 07:49 08:53 (4) 16:57	08:35 16:28
11	08:44 16:51	08:04 17:45	07:05 18:36 33	07:44 (3) 06:54 08:17 (3) 20:29 64	08:08 (2) 05:54 09:12 (2) 21:19 15	08:23 (2) 05:20 08:38 (2) 21:58	05:32 06:16 21:57	08:16 (2) 21:13 49	07:06 09:05 (2) 20:06 47	08:13 (2) 07:56 09:00 (2) 18:56 24	08:28 (4) 07:51 08:52 (4) 16:56	08:37 16:28
12	08:44 16:52	08:02 17:46	07:03 18:37 34	07:44 (3) 06:52 08:18 (3) 20:31 65	08:07 (2) 05:52 09:12 (2) 21:21	05:20 05:33 21:59	06:17 21:56	08:16 (2) 21:11 51	07:08 09:07 (2) 20:03 43	08:14 (2) 07:57 08:57 (2) 18:54 23	08:28 (4) 07:53 08:51 (4) 16:54	08:38 16:28
13	08:43 16:54	08:00 17:48	07:01 18:39 34	07:43 (3) 06:49 08:17 (3) 20:32 65	08:06 (2) 05:50 09:11 (2) 21:23	05:20 05:34 22:00	06:19 21:56	08:15 (2) 21:09 53	07:09 09:08 (2) 20:01 40	08:16 (2) 07:59 08:56 (2) 18:52 22	08:29 (4) 07:54 08:51 (4) 16:53	08:39 16:28
14	08:42 16:55	07:58 17:50	06:58 18:41 34	07:43 (3) 06:47 08:17 (3) 20:34 66	08:05 (2) 05:49 09:11 (2) 21:24	05:19 05:35 22:00	06:20 21:55	08:14 (2) 21:07 55	07:11 09:09 (2) 19:59 36	08:17 (2) 08:01 08:53 (2) 18:50 20	08:30 (4) 07:56 08:50 (4) 16:51	08:40 16:28
15	08:41 16:57	07:56 17:52	06:56 18:43 34	07:43 (3) 06:45 08:17 (3) 20:36 66	08:05 (2) 05:47 09:11 (2) 21:26	05:19 05:36 22:01	06:22 21:54	08:14 (2) 21:05 56	07:13 09:10 (2) 19:56 30	08:20 (2) 08:03 08:50 (2) 18:48 18	08:31 (4) 07:58 08:49 (4) 16:50	08:40 16:28
16	08:41 16:58	07:54 17:54	06:54 18:44 34	07:42 (3) 06:43 08:16 (3) 20:37 66	08:05 (2) 05:46 09:11 (2) 21:27	05:19 05:38 22:01	06:24 21:53	08:12 (2) 21:03 58	07:14 09:10 (2) 19:54 24	08:22 (2) 08:04 08:46 (2) 18:45 16	08:31 (4) 08:00 08:47 (4) 16:48	08:41 16:28
17	08:40 17:00	07:52 17:56	06:51 18:46 33	07:42 (3) 06:41 08:15 (3) 20:39 66	08:05 (2) 05:44 09:11 (2) 21:29	05:19 05:39 22:02	06:25 21:52	08:12 (2) 21:01 59	07:16 09:11 (2) 19:52 14	08:27 (2) 08:06 08:41 (2) 18:43 12	08:33 (4) 08:01 08:45 (4) 16:47	08:42 16:28
18	08:39 17:01	07:50 17:58	06:49 18:48 31	07:43 (3) 06:38 08:14 (3) 20:41 65	08:05 (2) 05:43 09:10 (2) 21:30	05:19 05:40 22:02	06:27 21:51	08:11 (2) 20:59 60	07:17 09:11 (2) 19:49	08:08 18:41 3	08:37 (4) 08:40 (4) 16:46	08:03 08:43 16:29
19	08:38 17:03	07:48 17:59	06:47 18:50 30	07:43 (3) 06:36 08:13 (3) 20:43 66	08:04 (2) 05:41 09:10 (2) 21:32	05:19 05:41 22:03	06:29 21:49	08:10 (2) 20:57 62	07:19 09:12 (2) 19:47 9	08:38 (3) 08:10 08:47 (3) 18:39	08:05 16:44	08:44 16:29
20	08:37 17:05	07:46 18:01	06:44 18:51 28	07:44 (3) 06:34 08:12 (3) 20:44 65	08:04 (2) 05:40 09:09 (2) 21:33	05:19 05:43 22:03	06:30 21:48	08:09 (2) 20:55 63	07:21 09:12 (2) 19:45 16	08:35 (3) 08:11 08:51 (3) 18:37	08:06 16:43	08:44 16:29
21	08:36 17:06	07:44 18:03	06:42 18:53 25	07:45 (3) 06:32 08:10 (3) 20:46 65	08:03 (2) 05:38 09:08 (2) 21:35	05:19 05:44 22:03	06:32 21:47	08:09 (2) 20:53 64	07:22 09:13 (2) 19:42 20	08:32 (3) 08:13 08:52 (3) 18:35	08:08 16:42	08:45 16:30
22	08:34 17:08	07:42 18:05	06:40 18:55 21	07:46 (3) 06:30 08:07 (3) 20:48 63	08:04 (2) 05:37 09:07 (2) 21:36	05:19 05:45 22:03	06:33 21:46	08:08 (2) 20:51 64	07:24 09:12 (2) 19:40 24	08:30 (3) 08:15 08:54 (3) 18:33	08:10 16:41	08:45 16:30
23	08:33 17:10	07:40 18:07	06:37 18:56 17	07:48 (3) 06:28 08:05 (3) 20:49 62	08:04 (2) 05:36 09:06 (2) 21:37	05:20 05:47 22:03	06:35 21:44	08:08 (2) 20:49 65	07:26 09:13 (2) 19:38 27	08:29 (3) 08:17 08:56 (3) 18:31	08:11 16:40	08:46 16:31
24	08:32 17:12	07:38 18:09 7	08:04 (4) 06:35 08:11 (4) 18:58 11	07:51 (3) 06:26 08:02 (3) 20:51 61	08:04 (2) 05:35 09:05 (2) 21:39	05:20 05:48 22:04	06:37 21:43	08:07 (2) 20:46 66	07:27 09:13 (2) 19:35 29	08:27 (3) 08:18 08:56 (3) 18:28	08:13 16:39	08:46 16:31
25	08:31 17:13	07:36 18:10 13	08:01 (4) 06:33 08:14 (4) 19:00	06:24 20:53 60	08:04 (2) 05:33 09:04 (2) 21:40	05:20 05:50 22:04	06:38 21:42	08:07 (2) 20:44 66	07:29 09:13 (2) 19:33 31	08:26 (3) 07:20 08:57 (3) 17:26	08:15 16:37	08:47 16:32
26	08:30 17:15	07:34 18:12 17	07:59 (4) 06:30 08:16 (4) 19:02 11	07:40 (2) 06:22 07:51 (2) 20:54 59	08:05 (2) 05:32 09:04 (2) 21:41	05:21 05:51 22:04	06:40 21:40	08:08 (2) 20:42 65	07:31 09:13 (2) 19:31 33	08:25 (3) 07:22 08:58 (3) 17:24	08:16 16:37	08:47 16:33
27	08:28 17:17	07:32 18:14 19	07:57 (4) 06:28 08:16 (4) 19:03 23	07:34 (2) 06:20 07:57 (2) 20:56 57	08:06 (2) 05:31 09:03 (2) 21:43	05:21 05:52 22:04	06:42 21:39	08:07 (2) 20:40 66	07:32 09:13 (2) 19:28 33	08:24 (3) 07:24 08:57 (3) 17:22	08:18 16:36	08:47 16:33
28	08:27 17:19	07:30 18:16 21	07:56 (4) 06:26 08:17 (4) 19:05 29	07:30 (2) 06:18 07:59 (2) 20:58 56	08:06 (2) 05:30 09:02 (2) 21:44	05:22 05:54 22:03	06:43 21:37	08:07 (2) 20:38 66	07:34 09:13 (2) 19:26 33	08:24 (3) 07:26 08:57 (3) 17:21	08:19 16:35	08:48 16:34
29	08:25 17:20		07:24 20:07 35	08:27 (2) 06:16 09:02 (2) 21:00 54	08:07 (2) 05:29 09:01 (2) 21:45	05:22 05:55 22:03	06:45 21:36	08:06 (2) 20:35 66	07:36 09:12 (2) 19:24 35	08:23 (3) 07:27 08:58 (3) 17:19	08:21 16:34	08:48 16:35
30	08:24 17:22		07:21 20:08 39	08:25 (2) 06:14 09:04 (2) 21:01 52	08:07 (2) 05:28 08:59 (2) 21:47	05:23 05:57 22:03	06:46 21:34	08:07 (2) 20:33 65	07:37 09:12 (2) 19:21 35	08:22 (3) 07:29 08:57 (3) 17:17	08:22 16:33	08:48 16:36
31	08:22 17:24		07:19 20:10 43	08:23 (2) 09:06 (2)	05:27 21:48	05:58 21:33	06:48 20:31 65	08:06 (2) 09:11 (2)		07:31 17:15		08:48 16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case		77	838	1809	394			1602	1143	422		
Sun reduction		0,30	0,33	0,42	0,43			0,42	0,36	0,34		
Oper. time red.		0,95	0,95	0,95	0,95			0,95	0,95	0,95		
Wind dir. red.		0,57	0,58	0,61	0,61			0,61	0,60	0,57		
Total reduction		0,16	0,18	0,24	0,25			0,24	0,20	0,18		
Total, real		13	151	435	97			384	234	77		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
20-12-2018 09:08/3.2.737

SHADOW - Calendar

Calculation: Copy of V150@166Shadow receptor: AH - 3998JK68

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	06:49 (2)	05:26	06:02 (1)	05:23	06:05 (1)	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03	20 07:09 (2)	21:49	24 06:26 (1)	22:03	29 06:34 (1)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	06:50 (2)	05:26	06:01 (1)	05:24	06:06 (1)	06:01	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05	18 07:08 (2)	21:50	25 06:26 (1)	22:03	28 06:34 (1)	21:29	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08	06:51 (2)	05:25	06:02 (1)	05:25	06:07 (1)	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06	16 07:07 (2)	21:51	25 06:27 (1)	22:02	28 06:35 (1)	21:28	20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06	06:52 (2)	05:24	06:01 (1)	05:26	06:06 (1)	06:05	06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08	14 07:06 (2)	21:52	26 06:27 (1)	22:02	28 06:34 (1)	21:26	20:22	19:12	17:07	16:31
5	08:47	08:14	07:19	07:08	06:04	06:53 (2)	05:23	06:01 (1)	05:26	06:07 (1)	06:06	06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10	11 07:04 (2)	21:53	26 06:27 (1)	22:01	27 06:34 (1)	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02	06:56 (2)	05:23	06:01 (1)	05:27	06:07 (1)	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11	4 07:00 (2)	21:54	27 06:28 (1)	22:01	28 06:35 (1)	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01		05:22	06:02 (1)	05:28	06:08 (1)	06:09	07:05 (2)	07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13		21:55	27 06:29 (1)	22:00	27 06:35 (1)	21:21	7 07:12 (2)	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59		05:22	06:01 (1)	05:29	06:08 (1)	06:11	07:02 (2)	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:15		21:56	28 06:29 (1)	22:00	27 06:35 (1)	21:19	12 07:14 (2)	20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57		05:21	06:01 (1)	05:30	06:09 (1)	06:12	07:01 (2)	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16		21:57	29 06:30 (1)	21:59	26 06:35 (1)	21:17	15 07:16 (2)	20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55		05:21	06:01 (1)	05:31	06:08 (1)	06:14	06:59 (2)	07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18		21:58	28 06:29 (1)	21:58	26 06:34 (1)	21:15	17 07:16 (2)	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54		05:20	06:01 (1)	05:32	06:09 (1)	06:16	06:59 (2)	07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19		21:58	29 06:30 (1)	21:57	25 06:34 (1)	21:13	19 07:18 (2)	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52		05:20	06:02 (1)	05:33	06:09 (1)	06:17	06:58 (2)	07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21		21:59	28 06:30 (1)	21:57	24 06:33 (1)	21:11	20 07:18 (2)	20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50		05:20	06:02 (1)	05:34	06:11 (1)	06:19	06:57 (2)	07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23		22:00	29 06:31 (1)	21:56	23 06:34 (1)	21:09	21 07:18 (2)	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49		05:19	06:02 (1)	05:35	06:12 (1)	06:21	06:56 (2)	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24		22:00	29 06:31 (1)	21:55	22 06:34 (1)	21:07	22 07:18 (2)	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47		05:19	06:02 (1)	05:36	06:12 (1)	06:22	06:57 (2)	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26		22:01	28 06:30 (1)	21:54	21 06:33 (1)	21:05	22 07:19 (2)	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	05:46		05:19	06:02 (1)	05:38	06:13 (1)	06:24	06:56 (2)	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	21:27		22:01	29 06:31 (1)	21:53	19 06:32 (1)	21:03	22 07:18 (2)	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44		05:19	06:02 (1)	05:39	06:14 (1)	06:25	06:56 (2)	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29		22:02	29 06:31 (1)	21:52	18 06:32 (1)	21:01	22 07:18 (2)	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	05:43		05:19	06:02 (1)	05:40	06:15 (1)	06:27	06:56 (2)	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30		22:02	29 06:31 (1)	21:51	16 06:31 (1)	20:59	21 07:17 (2)	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41		05:19	06:03 (1)	05:41	06:16 (1)	06:29	06:57 (2)	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	21:32		22:03	29 06:32 (1)	21:49	13 06:29 (1)	20:57	20 07:17 (2)	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	06:58 (2)	05:40	05:19	06:03 (1)	05:43	06:19 (1)	06:30	06:57 (2)	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	8 07:06 (2)	21:33	22:03	29 06:32 (1)	21:48	9 06:28 (1)	20:55	18 07:15 (2)	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	06:56 (2)	05:39	05:19	06:03 (1)	05:44	06:22 (1)	06:32	06:59 (2)	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	12 07:08 (2)	21:35	22:03	29 06:32 (1)	21:47	3 06:25 (1)	20:53	15 07:14 (2)	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	06:54 (2)	05:37	05:19	06:03 (1)	05:45		06:33	07:00 (2)	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	16 07:10 (2)	21:36	22:03	29 06:32 (1)	21:46		20:51	12 07:12 (2)	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	06:52 (2)	05:36	06:09 (1)	05:20	06:03 (1)	05:47		06:35	07:02 (2)	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	18 07:10 (2)	21:37	7 06:16 (1)	22:04	29 06:32 (1)	21:44		20:49	8 07:10 (2)	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	06:51 (2)	05:35	06:07 (1)	05:20	06:04 (1)	05:48		06:37		07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	20 07:11 (2)	21:39	12 06:19 (1)	22:04	29 06:33 (1)	21:43		20:46		19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	06:50 (2)	05:34	06:06 (1)	05:20	06:04 (1)	05:50		06:38		07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	21 07:11 (2)	21:40	14 06:20 (1)	22:04	29 06:33 (1)	21:42		20:44		19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	06:50 (2)	05:32	06:05 (1)	05:21	06:04 (1)	05:51		06:40		07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	21 07:11 (2)	21:42	17 06:22 (1)	22:04	29 06:33 (1)	21:40		20:42		19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	06:49 (2)	05:31	06:04 (1)	05:21	06:05 (1)	05:52		06:42		07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	22 07:11 (2)	21:43	19 06:23 (1)	22:04	29 06:34 (1)	21:39		20:40		19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	06:49 (2)	05:30	06:03 (1)	05:22	06:04 (1)	05:54		06:43		07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	22 07:11 (2)	21:44	20 06:23 (1)	22:04	29 06:33 (1)	21:37		20:38		19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	06:49 (2)	05:29	06:02 (1)	05:22	06:05 (1)	05:55		06:45		07:36	07:27	08:21	08:48
	17:21		20:07	21:00	21 07:10 (2)	21:45	22 06:24 (1)	22:03	29 06:34 (1)	21:36		20:35		19:24	17:19	16:34	16:35
30	08:24		07:21	06:14	06:49 (2)	05:28	06:03 (1)	05:23	06:06 (1)	05:57		06:47		07:37	07:29	08:22	08:48
	17:22		20:08	21:01	21 07:10 (2)	21:47	22 06:25 (1)	22:03	28 06:34 (1)	21:34		20:33		19:22	17:17	16:33	16:36
31	08:22		07:19			05:27	06:02 (1)			05:58		06:48			07:31		08:48
	17:24		20:10			21:48	24 06:26 (1)			21:33		20:31			17:15		16:37
Potential sun hours	259	277	367	416	485		499		502		454		381	331	266	243
Total, worst case				202		240		842		467		293					
Sun reduction				0,42		0,43		0,39		0,41		0,42					
Oper. time red.				0,95		0,95		0,95		0,95		0,95					
Wind dir. red.				0,64		0,66		0,67		0,67		0,64					
Total reduction				0,25		0,27		0,25		0,26		0,25					
Total, real				51		64		209		121		74					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
20-12-2018 09:08/3.2.737

SHADOW - Calendar

Calculation: Copy of V150@166Shadow receptor: AI - 3945LA2

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December		
1	08:48		14:32 (3)	08:21			07:27		07:17	06:12	05:26	05:23	06:00	06:50		07:39		18:16 (1)	07:33		16:10 (2)	08:24		14:19 (3)
	16:38	41	15:13 (3)	17:26			18:18		20:12	21:03	21:49	22:03	21:31	20:29		19:19	24	18:40 (1)	17:13	23	16:33 (2)	16:32	39	14:58 (3)
2	08:48		14:32 (3)	08:19			07:25		07:14	06:10	05:25	05:24	06:01	06:51		07:40		18:16 (1)	07:34		16:10 (2)	08:25		14:20 (3)
	16:39	41	15:13 (3)	17:28			18:19		20:13	21:05	21:50	22:02	21:29	20:26		19:17	24	18:40 (1)	17:11	21	16:31 (2)	16:32	39	14:59 (3)
3	08:48		14:33 (3)	08:18			07:23		07:12	06:08	05:25	05:25	06:03	06:53		07:42		18:15 (1)	07:36		16:12 (2)	08:27		14:19 (3)
	16:40	41	15:14 (3)	17:30			18:21		20:15	21:06	21:51	22:02	21:27	20:24		19:14	24	18:39 (1)	17:09	17	16:29 (2)	16:31	40	14:59 (3)
4	08:47		14:33 (3)	08:16			07:21	17:46 (1)	07:10	06:06	05:24	05:25	06:04	06:55		07:44		18:15 (1)	07:38		16:14 (2)	08:28		14:20 (3)
	16:41	41	15:14 (3)	17:31			18:23	9 17:55 (1)	20:17	21:08	21:52	22:02	21:26	20:22		19:12	24	18:39 (1)	17:07	13	16:27 (2)	16:30	40	15:00 (3)
5	08:47		14:34 (3)	08:14			07:18	17:43 (1)	07:07	06:04	05:23	05:26	06:06	06:56		07:45		18:15 (1)	07:40		16:19 (2)	08:29		14:20 (3)
	16:42	41	15:15 (3)	17:33			18:25	14 17:57 (1)	20:19	21:10	21:53	22:01	21:24	20:20		19:10	23	18:38 (1)	17:06	3	16:22 (2)	16:30	40	15:00 (3)
6	08:47		14:34 (3)	08:13	16:48 (2)		07:16	17:41 (1)	07:05	06:02	05:22	05:27	06:08	06:58		07:47		18:15 (1)	07:42			08:31		14:20 (3)
	16:44	40	15:14 (3)	17:35	6 16:54 (2)		18:27	17 17:58 (1)	20:20	21:11	21:54	22:01	21:22	20:17		19:08	21	18:36 (1)	17:04			16:29	41	15:01 (3)
7	08:46		14:35 (3)	08:11	16:44 (2)		07:14	17:40 (1)	07:03	06:00	05:22	05:28	06:09	06:59		07:49		18:16 (1)	07:44			08:32		14:21 (3)
	16:45	40	15:15 (3)	17:37	13 16:57 (2)		18:28	20 18:00 (1)	20:22	21:13	21:55	22:00	21:20	20:15		19:05	19	18:35 (1)	17:02			16:29	41	15:02 (3)
8	08:46		14:35 (3)	08:09	16:43 (2)		07:12	17:39 (1)	07:01	05:59	05:21	05:29	06:11	07:01		07:51		18:17 (1)	07:45			08:33		14:21 (3)
	16:46	40	15:15 (3)	17:39	18 17:01 (2)		18:30	22 18:01 (1)	20:24	21:14	21:56	21:59	21:19	20:13		19:03	17	18:34 (1)	17:00			16:29	41	15:02 (3)
9	08:45		14:36 (3)	08:07	16:41 (2)		07:10	17:38 (1)	06:58	05:57	05:21	05:30	06:12	07:03		07:52		18:19 (1)	07:47			08:34		14:21 (3)
	16:48	40	15:16 (3)	17:41	22 17:03 (2)		18:32	24 18:02 (1)	20:25	21:16	21:57	21:59	21:17	20:10		19:01	12	18:31 (1)	16:59			16:28	41	15:02 (3)
10	08:45		14:37 (3)	08:06	16:40 (2)		07:07	17:37 (1)	06:56	05:55	05:20	05:31	06:14	07:04		07:54		18:22 (1)	07:49			08:35		14:21 (3)
	16:49	39	15:16 (3)	17:43	24 17:04 (2)		18:34	24 18:01 (1)	20:27	21:18	21:57	21:58	21:15	20:08		18:59	4	18:26 (1)	16:57			16:28	41	15:02 (3)
11	08:44		14:37 (3)	08:04	16:39 (2)		07:05	17:37 (1)	06:54	05:53	05:20	05:32	06:15	07:06		07:56			07:51			08:37		14:22 (3)
	16:50	39	15:16 (3)	17:44	26 17:05 (2)		18:35	24 18:01 (1)	20:29	21:19	21:58	21:57	21:13	20:06		18:56			16:56			16:28	41	15:03 (3)
12	08:44		14:37 (3)	08:02	16:38 (2)		07:03	17:37 (1)	06:52	05:52	05:20	05:33	06:17	07:08		07:57			07:52			08:38		14:22 (3)
	16:52	39	15:16 (3)	17:46	28 17:06 (2)		18:37	24 18:01 (1)	20:31	21:21	21:59	21:56	21:11	20:03		18:54			16:54			16:28	41	15:03 (3)
13	08:43		14:38 (3)	08:00	16:37 (2)		07:00	17:36 (1)	06:49	05:50	05:19	05:34	06:19	07:09		07:59			07:54			08:39		14:23 (3)
	16:53	38	15:16 (3)	17:48	30 17:07 (2)		18:39	24 18:00 (1)	20:32	21:22	22:00	21:56	21:09	20:01		18:52			16:52			16:28	41	15:04 (3)
14	08:42		14:39 (3)	07:58	16:37 (2)		06:58	17:37 (1)	06:47	05:49	05:19	05:35	06:20	07:11		08:01		17:19 (2)	07:56			08:40		14:23 (3)
	16:55	37	15:16 (3)	17:50	30 17:07 (2)		18:41	23 18:00 (1)	20:34	21:24	22:00	21:55	21:07	19:59		18:50	12	17:31 (2)	16:51			16:28	41	15:04 (3)
15	08:41		14:39 (3)	07:56	16:36 (2)		06:56	17:38 (1)	06:45	05:47	05:19	05:36	06:22	07:12		08:03		17:15 (2)	07:58		14:35 (3)	08:40		14:24 (3)
	16:56	37	15:16 (3)	17:52	32 17:08 (2)		18:42	21 17:59 (1)	20:36	21:26	22:01	21:54	21:05	19:56		18:47	17	17:32 (2)	16:50	2	14:37 (3)	16:28	41	15:05 (3)
16	08:41		14:40 (3)	07:54	16:36 (2)		06:54	17:38 (1)	06:43	05:45	05:19	05:37	06:24	07:14		08:04		17:13 (2)	07:59		14:29 (3)	08:41		14:24 (3)
	16:58	36	15:16 (3)	17:54	32 17:08 (2)		18:44	19 17:57 (1)	20:37	21:27	22:01	21:53	21:03	19:54		18:45	21	17:34 (2)	16:48	13	14:42 (3)	16:28	41	15:05 (3)
17	08:40		14:41 (3)	07:52	16:36 (2)		06:51	17:40 (1)	06:41	05:44	05:19	05:39	06:25	07:16		08:06		17:11 (2)	08:01		14:27 (3)	08:42		14:25 (3)
	17:00	35	15:16 (3)	17:56	32 17:08 (2)		18:46	16 17:56 (1)	20:39	21:29	22:02	21:52	21:01	19:52		18:43	24	17:35 (2)	16:47	18	14:45 (3)	16:28	41	15:06 (3)
18	08:39		14:42 (3)	07:50	16:36 (2)		06:49	17:42 (1)	06:38	05:43	05:19	05:40	06:27	07:17		08:08		17:10 (2)	08:03		14:24 (3)	08:43		14:26 (3)
	17:01	34	15:16 (3)	17:58	32 17:08 (2)		18:48	11 17:53 (1)	20:41	21:30	22:02	21:50	20:59	19:49		18:41	26	17:36 (2)	16:45	22	14:46 (3)	16:28	40	15:06 (3)
19	08:38		14:43 (3)	07:48	16:36 (2)		06:47		06:36	05:41	05:19	05:41	06:28	07:19		08:10		17:09 (2)	08:05		14:23 (3)	08:44		14:25 (3)
	17:03	33	15:16 (3)	17:59	32 17:08 (2)		18:49		20:43	21:32	22:02	21:49	20:57	19:47		18:39	28	17:37 (2)	16:44	25	14:48 (3)	16:29	41	15:06 (3)
20	08:37		14:45 (3)	07:46	16:35 (2)		06:44		06:34	05:40	05:19	05:43	06:30	07:21		08:11		17:08 (2)	08:06		14:22 (3)	08:44		14:26 (3)
	17:05	31	15:16 (3)	18:01	32 17:07 (2)		18:51		20:44	21:33	22:03	21:48	20:55	19:45		18:37	30	17:38 (2)	16:43	27	14:49 (3)	16:29	41	15:07 (3)
21	08:36		14:46 (3)	07:44	16:36 (2)		06:42		06:32	05:38	05:19	05:44	06:32	07:22		08:13		17:06 (2)	08:08		14:21 (3)	08:45		14:27 (3)
	17:06	30	15:16 (3)	18:03	31 17:07 (2)		18:53		20:46	21:35	22:03	21:47	20:53	19:42		18:35	31	17:37 (2)	16:42	30	14:51 (3)	16:30	41	15:08 (3)
22	08:34		14:47 (3)	07:42	16:37 (2)		06:40		06:30	05:37	05:19	05:45	06:33	07:24		08:15		17:06 (2)	08:10		14:21 (3)	08:45		14:27 (3)
	17:08	27	15:14 (3)	18:05	29 17:06 (2)		18:55		20:48	21:36	22:03	21:46	20:51	19:40		18:33	32	17:38 (2)	16:41	31	14:52 (3)	16:30	41	15:08 (3)
23	08:33		14:49 (3)	07:40	16:38 (2)		06:37		06:28	05:36	05:19	05:47	06:35	07:26		08:17		17:05 (2)	08:11		14:20 (3)	08:46		14:27 (3)
	17:10	25	15:14 (3)	18:07	28 17:06 (2)		18:56		20:49	21:37	22:03	21:44	20:48	19:38		18:30	33	17:38 (2)	16:39	33	14:53 (3)	16:31	41	15:08 (3)
24	08:32		14:50 (3)	07:38	16:39 (2)		06:35		06:26	05:35	05:20	05:48	06:37	07:27		08:18		17:05 (2)	08:13		14:19 (3)	08:46		14:28 (3)
	17:11	22	15:12 (3)	18:09	26 17:05 (2)		18:58		20:51	21:39	22:04	21:43	20:46	19:35		18:28	33	17:38 (2)	16:38	34	14:53 (3)	16:31	41	15:09 (3)
25	08:31		14:53 (3)	07:36	16:40 (2)		06:33		06:24	05:33	05:20	05:49	06:38	07:29	18:26 (1)	07:20		16:05 (2)	08:15		14:19 (3)	08:47		14:29 (3)
	17:13	18	15:11 (3)	18:10	24 17:04 (2)		19:00		20:53	21:40	22:04	21:42	20:44	19:33	9 18:35 (1)	17:26	33	16:38 (2)	16:37	35	14:54 (3)	16:32	40	15:09 (3)
26	08:29		14:57 (3)	07:34	16:41 (2)		06:30		06:22	05:32	05:20	05:51	06:40	07:30	18:23 (1)	07:22		16:06 (2)	08:16		14:19 (3)	08:47		14:29 (3)
	17:15	12	15:09 (3)	18:12	20 17:01 (2)		19:01		20:54	21:41	22:04	21:40	20:42	19:31	15 18:38 (1)	17:24	32	16:38 (2)	16:36	36	14:55 (3)	16:32	41	15:10 (3)
27	08:28			07:32	16:44 (2)		06:28		06:20	05:31	05:21	05:52	06:41	07:32	18:20 (1)	07:24		16:06 (2)	08:18		14:19 (3)	08:47		14:29 (3)
	17:17			18:14	15 16:59 (2)		19:03		20:56	21:43	22:04	21:39	20:40	19:28	18 18:38 (1)	17:22	31	16:37 (2)	16:35	37	14:56 (3)	16:33	41	15:10 (3)
28	08:27			07:29	16:47 (2)		06:26		06:17	05:30	05:21	05:54	06:43	07:34	18:19 (1)	07:25		16:06 (2)	08:19		14:19 (3)	08:47		14:30 (3)
	17:19			18:16	9 16:56 (2)		19:05		20:58	21:44	22:03	21:37	20:38	19:26	20 18:39 (1)	17:20	31	16:37 (2)	16:35	37	14:56 (3)	16:34	41	15:11 (3)
29	08:25						07:23		06:16	05:29	05:22	05:55	06:45	07:35	18:18 (1)	07:27		16:07 (2)	08:21		14:19 (3)	08:48		14:31 (3)
	17:20						20:07		20:59	21:45	22:03	21:36	20:35	19:24	22 18:40 (1)	17:18	29	16:36 (2)	16:34	38	14:57 (3)	16:35	41	15:12 (3)
30	08:24						07:21		06:14	05:28	05:23	05:57	06:46	07:37	18:16 (1)	07:29		16:08 (2)	08:22		14:18 (3)	08:48		14:31 (3)
	17:22						20:08		21:01	21:46	22:03	21:34	20:33	19:21	24 18:40 (1)	17:17	27	16:35 (2)	16:33	39	14:57 (3)	16:36	41	15:12 (3)
31	08:22						07:19			05:27		05:58	06:48			07:31		16:09 (2)				08:48		14:31 (3)
	17:24						20:10			21:48		21:32	20:31			17:15	26	16:35 (2)				16:37	41	15:12 (3)
Potential sun hours	259			277			367		416	485	499	502	454	381		331			266			243		
Total, worst case		897			571			292							108		688			534			1262
Sun reduction		0,24			0,30			0,33							0,36		0,34			0,24			0,20
Oper. time red.		0,95			0,95			0,95							0,95		0,95			0,95			0,95
Wind dir. red.		0,70			0,67			0,63							0,63		0,66			0,69			0,70
Total reduction		0,16			0,19			0,20							0,22		0,21			0,16			0,13
Total, real		142			111			58							24		146			83			170

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
20-12-2018 09:08/3.2.737

SHADOW - Calendar

Calculation: Copy of V150@166Shadow receptor: AJ - 3997MR15

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January			February			March	April	May	June	July	August	September	October	November			December		
1	08:48		09:43 (4)	08:21		14:37 (1)	07:27	07:17	06:12	05:26	05:23	06:00	06:50	07:39	07:33			08:24		09:37 (4)
	16:38	75	14:59 (1)	17:26	18	14:55 (1)	18:18	20:12	21:03	21:49	22:03	21:31	20:29	19:19	17:13			16:32	54	14:45 (1)
2	08:48		09:44 (4)	08:19		14:42 (1)	07:25	07:14	06:10	05:25	05:24	06:01	06:51	07:41	07:35			08:25		09:35 (4)
	16:39	68	14:59 (1)	17:28	8	14:50 (1)	18:20	20:14	21:05	21:50	22:03	21:29	20:26	19:17	17:11			16:32	59	14:46 (1)
3	08:48		09:45 (4)	08:18			07:23	07:12	06:08	05:25	05:25	06:03	06:53	07:42	07:36			08:27		09:34 (4)
	16:40	68	15:00 (1)	17:30			18:21	20:15	21:06	21:51	22:02	21:28	20:24	19:14	17:09			16:31	62	14:46 (1)
4	08:47		09:45 (4)	08:16			07:21	07:10	06:06	05:24	05:25	06:04	06:55	07:44	07:38			08:28		09:34 (4)
	16:41	67	15:00 (1)	17:31			18:23	20:17	21:08	21:52	22:02	21:26	20:22	19:12	17:07			16:30	64	14:47 (1)
5	08:47		09:47 (4)	08:14			07:19	07:07	06:04	05:23	05:26	06:06	06:56	07:46	07:40			08:29		09:34 (4)
	16:43	67	15:01 (1)	17:33			18:25	20:19	21:10	21:53	22:01	21:24	20:20	19:10	17:06			16:30	65	14:47 (1)
6	08:47		09:47 (4)	08:13			07:16	07:05	06:02	05:23	05:27	06:08	06:58	07:47	07:42			08:31		09:33 (4)
	16:44	66	15:01 (1)	17:35			18:27	20:20	21:11	21:54	22:01	21:22	20:17	19:08	17:04			16:30	66	14:47 (1)
7	08:46		09:48 (4)	08:11			07:14	07:03	06:00	05:22	05:28	06:09	06:59	07:49	07:44			08:32		09:34 (4)
	16:45	66	15:02 (1)	17:37			18:28	20:22	21:13	21:55	22:00	21:20	20:15	19:05	17:02			16:29	66	14:48 (1)
8	08:46		09:49 (4)	08:09			07:12	07:01	05:59	05:21	05:29	06:11	07:01	07:51	07:45			08:33		09:33 (4)
	16:46	64	15:02 (1)	17:39			18:30	20:24	21:15	21:56	22:00	21:19	20:13	19:03	17:00			16:29	67	14:48 (1)
9	08:46		09:51 (4)	08:08			07:10	06:58	05:57	05:21	05:30	06:12	07:03	07:52	07:47		14:12 (1)	08:34		09:33 (4)
	16:48	62	15:03 (1)	17:41			18:32	20:26	21:16	21:57	21:59	21:17	20:10	19:01	16:59	10	14:22 (1)	16:28	68	14:48 (1)
10	08:45		09:52 (4)	08:06			07:07	06:56	05:55	05:20	05:31	06:14	07:04	07:54	07:49		14:08 (1)	08:35		09:33 (4)
	16:49	59	15:03 (1)	17:43			18:34	20:27	21:18	21:58	21:58	21:15	20:08	18:59	16:57	18	14:26 (1)	16:28	69	14:48 (1)
11	08:44		09:54 (4)	08:04			07:05	06:54	05:54	05:20	05:32	06:16	07:06	07:56	07:51		14:05 (1)	08:37		09:33 (4)
	16:51	55	15:03 (1)	17:45			18:36	20:29	21:19	21:58	21:57	21:13	20:06	18:56	16:56	23	14:28 (1)	16:28	74	14:49 (1)
12	08:44		14:14 (1)	08:02			07:03	06:52	05:52	05:20	05:33	06:17	07:08	07:57	07:53		14:03 (1)	08:38		09:35 (4)
	16:52	49	15:03 (1)	17:46			18:37	20:31	21:21	21:59	21:56	21:11	20:03	18:54	16:54	28	14:31 (1)	16:28	77	14:50 (1)
13	08:43		14:14 (1)	08:00			07:00	06:49	05:50	05:19	05:34	06:19	07:09	07:59	07:54		14:01 (1)	08:39		09:35 (4)
	16:53	49	15:03 (1)	17:48			18:39	20:32	21:23	22:00	21:56	21:09	20:01	18:52	16:53	31	14:32 (1)	16:28	84	14:50 (1)
14	08:42		14:16 (1)	07:58			06:58	06:47	05:49	05:19	05:35	06:20	07:11	08:01	07:56		14:00 (1)	08:40		09:35 (4)
	16:55	49	15:05 (1)	17:50			18:41	20:34	21:24	22:00	21:55	21:07	19:59	18:50	16:51	34	14:34 (1)	16:28	91	14:51 (1)
15	08:41		14:16 (1)	07:56			06:56	06:45	05:47	05:19	05:36	06:22	07:13	08:03	07:58		13:59 (1)	08:41		09:35 (4)
	16:57	49	15:05 (1)	17:52			18:43	20:36	21:26	22:01	21:54	21:05	19:56	18:47	16:50	36	14:35 (1)	16:28	94	14:50 (1)
16	08:41		14:16 (1)	07:54			06:54	06:43	05:46	05:19	05:38	06:24	07:14	08:04	08:00		13:58 (1)	08:41		09:35 (4)
	16:58	48	15:04 (1)	17:54			18:44	20:37	21:27	22:01	21:53	21:03	19:54	18:45	16:48	38	14:36 (1)	16:28	98	14:51 (1)
17	08:40		14:17 (1)	07:52			06:51	06:41	05:44	05:19	05:39	06:25	07:16	08:06	08:01		13:57 (1)	08:42		09:36 (4)
	17:00	47	15:04 (1)	17:56			18:46	20:39	21:29	22:02	21:52	21:01	19:52	18:43	16:47	40	14:37 (1)	16:28	98	14:51 (1)
18	08:39		14:17 (1)	07:50			06:49	06:38	05:43	05:19	05:40	06:27	07:17	08:08	08:03		13:57 (1)	08:43		09:36 (4)
	17:01	47	15:04 (1)	17:58			18:48	20:41	21:30	22:02	21:51	20:59	19:49	18:41	16:46	41	14:38 (1)	16:29	101	14:52 (1)
19	08:38		14:18 (1)	07:48			06:47	06:36	05:41	05:19	05:41	06:28	07:19	08:10	08:05		13:56 (1)	08:44		09:36 (4)
	17:03	47	15:05 (1)	17:59			18:50	20:43	21:32	22:03	21:49	20:57	19:47	18:39	16:44	42	14:38 (1)	16:29	101	14:52 (1)
20	08:37		14:19 (1)	07:46			06:44	06:34	05:40	05:19	05:43	06:30	07:21	08:11	08:06		13:55 (1)	08:44		09:37 (4)
	17:05	46	15:05 (1)	18:01			18:51	20:44	21:33	22:03	21:48	20:55	19:45	18:37	16:43	44	14:39 (1)	16:29	101	14:53 (1)
21	08:36		14:20 (1)	07:44			06:42	06:32	05:38	05:19	05:44	06:32	07:22	08:13	08:08		13:55 (1)	08:45		09:38 (4)
	17:06	45	15:05 (1)	18:03			18:53	20:46	21:35	22:03	21:47	20:53	19:42	18:35	16:42	45	14:40 (1)	16:30	103	14:54 (1)
22	08:34		14:20 (1)	07:42			06:40	06:30	05:37	05:19	05:45	06:33	07:24	08:15	08:10		13:55 (1)	08:45		09:38 (4)
	17:08	44	15:04 (1)	18:05			18:55	20:48	21:36	22:03	21:46	20:51	19:40	18:33	16:41	46	14:41 (1)	16:30	103	14:54 (1)
23	08:33		14:22 (1)	07:40			06:37	06:28	05:36	05:20	05:47	06:35	07:26	08:17	08:11		13:55 (1)	08:46		09:39 (4)
	17:10	42	15:04 (1)	18:07			18:56	20:49	21:37	22:04	21:44	20:49	19:38	18:31	16:40	47	14:42 (1)	16:31	102	14:55 (1)
24	08:32		14:23 (1)	07:38			06:35	06:26	05:35	05:20	05:48	06:37	07:27	08:18	08:13		13:54 (1)	08:46		09:39 (4)
	17:12	41	15:04 (1)	18:09			18:58	20:51	21:39	22:04	21:43	20:46	19:35	18:28	16:38	47	14:41 (1)	16:31	102	14:55 (1)
25	08:31		14:23 (1)	07:36			06:33	06:24	05:33	05:20	05:49	06:38	07:29	07:20	08:15		13:55 (1)	08:47		09:39 (4)
	17:13	40	15:03 (1)	18:10			19:00	20:53	21:40	22:04	21:42	20:44	19:33	17:26	16:37	47	14:42 (1)	16:32	101	14:55 (1)
26	08:30		14:25 (1)	07:34			06:30	06:22	05:32	05:21	05:51	06:40	07:31	07:22	08:16		13:55 (1)	08:47		09:40 (4)
	17:15	38	15:03 (1)	18:12			19:02	20:54	21:41	22:04	21:40	20:42	19:31	17:24	16:36	48	14:43 (1)	16:32	99	14:55 (1)
27	08:28		14:26 (1)	07:32			06:28	06:20	05:31	05:21	05:52	06:42	07:32	07:24	08:18		13:55 (1)	08:47		09:41 (4)
	17:17	36	15:02 (1)	18:14			19:03	20:56	21:43	22:04	21:39	20:40	19:28	17:22	16:36	49	14:44 (1)	16:33	98	14:57 (1)
28	08:27		14:28 (1)	07:30			06:26	06:18	05:30	05:21	05:54	06:43	07:34	07:26	08:19		13:55 (1)	08:48		09:41 (4)
	17:19	34	15:02 (1)	18:16			19:05	20:58	21:44	22:03	21:37	20:38	19:26	17:20	16:35	49	14:44 (1)	16:34	95	14:57 (1)
29	08:25		14:29 (1)				07:24	06:16	05:29	05:22	05:55	06:45	07:36	07:27	08:21		13:55 (1)	08:48		09:42 (4)
	17:20	31	15:00 (1)				20:07	21:00	21:45	22:03	21:36	20:35	19:24	17:19	16:34	49	14:44 (1)	16:35	92	14:58 (1)
30	08:24		14:31 (1)				07:21	06:14	05:28	05:23	05:57	06:46	07:37	07:29	08:22		13:56 (1)	08:48		09:43 (4)
	17:22	28	14:59 (1)				20:08	21:01	21:47	22:03	21:34	20:33	19:21	17:17	16:33	49	14:45 (1)	16:36	87	14:58 (1)
31	08:22		14:34 (1)				07:19		05:27		05:58	06:48		07:31				08:48		09:42 (4)
	17:24	23	14:57 (1)				20:10		21:48		21:33	20:31		17:15				16:37	78	14:58 (1)
Potential sun hours	259			277			367	416	485	499	502	454	381	331	266			243		
Total, worst case		1550			26											861			2619	
Sun reduction		0,24			0,30											0,24			0,20	
Oper. time red.		0,95			0,95											0,95			0,95	
Wind dir. red.		0,68			0,69											0,69			0,66	
Total reduction		0,15			0,20											0,16			0,13	
Total, real		240			5											134			333	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
20-12-2018 09:08/3.2.737

SHADOW - Calendar

Calculation: Copy of V150@166Shadow receptor: AK - 3998JD84

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	05:26	06:17 (1)	05:23	06:27 (1)	06:00	06:31 (1)	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03	21:49	21 06:38 (1)	22:03	12 06:39 (1)	21:31	13 06:44 (1)	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	05:26	06:17 (1)	05:24	06:27 (1)	06:01	06:32 (1)	06:51	07:41	07:35	08:25
	16:39	17:28	18:20	20:14	21:05	21:50	21 06:38 (1)	22:03	13 06:40 (1)	21:29	9 06:41 (1)	20:27	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	06:08	05:25	06:18 (1)	05:25	06:27 (1)	06:03		06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06	21:51	20 06:38 (1)	22:02	14 06:41 (1)	21:28		20:24	19:15	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06	05:24	06:18 (1)	05:26	06:26 (1)	06:05		06:55	07:44	07:38	08:28
	16:41	17:32	18:23	20:17	21:08	21:52	19 06:37 (1)	22:02	15 06:41 (1)	21:26		20:22	19:12	17:07	16:31
5	08:47	08:15	07:19	07:08	06:04	05:23	06:19 (1)	05:26	06:26 (1)	06:06		06:56	07:46	07:40	08:29
	16:43	17:33	18:25	20:19	21:10	21:53	18 06:37 (1)	22:01	16 06:42 (1)	21:24		20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02	05:23	06:19 (1)	05:27	06:26 (1)	06:08		06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11	21:54	18 06:37 (1)	22:01	17 06:43 (1)	21:22		20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:01	05:22	06:21 (1)	05:28	06:26 (1)	06:09		07:00	07:49	07:44	08:32
	16:45	17:37	18:29	20:22	21:13	21:55	16 06:37 (1)	22:00	18 06:44 (1)	21:21		20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59	05:22	06:21 (1)	05:29	06:26 (1)	06:11		07:01	07:51	07:45	08:33
	16:47	17:39	18:30	20:24	21:15	21:56	15 06:36 (1)	22:00	18 06:44 (1)	21:19		20:13	19:03	17:01	16:29
9	08:46	08:08	07:10	06:58	05:57	05:21	06:22 (1)	05:30	06:26 (1)	06:12		07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:26	21:16	21:57	14 06:36 (1)	21:59	19 06:45 (1)	21:17		20:11	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55	06:25 (1)	05:21	06:22 (1)	05:31	06:24 (1)	06:14		07:04	07:54	07:49	08:36
	16:49	17:43	18:34	20:27	21:18	4 06:29 (1)	21:58	13 06:35 (1)	21:58	21 06:45 (1)	21:15		20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54	06:21 (1)	05:20	06:23 (1)	05:32	06:24 (1)	06:16		07:06	07:56	07:51	08:37
	16:51	17:45	18:36	20:29	21:19	11 06:32 (1)	21:58	12 06:35 (1)	21:57	21 06:45 (1)	21:13		20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52	06:20 (1)	05:20	06:24 (1)	05:33	06:24 (1)	06:17		07:08	07:58	07:53	08:38
	16:52	17:47	18:37	20:31	21:21	14 06:34 (1)	21:59	11 06:35 (1)	21:57	22 06:46 (1)	21:11		20:04	18:54	16:54	16:28
13	08:43	08:00	07:01	06:49	05:50	06:18 (1)	05:20	06:25 (1)	05:34	06:25 (1)	06:19		07:09	07:59	07:54	08:39
	16:54	17:48	18:39	20:32	21:23	17 06:35 (1)	22:00	10 06:35 (1)	21:56	22 06:47 (1)	21:09		20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49	06:17 (1)	05:19	06:25 (1)	05:35	06:24 (1)	06:21	07:10 (2)	07:11	08:01	07:56	08:40
	16:55	17:50	18:41	20:34	21:24	19 06:36 (1)	22:00	9 06:34 (1)	21:55	24 06:48 (1)	21:07	6 07:16 (2)	19:59	18:50	16:51	16:28
15	08:42	07:56	06:56	06:45	05:47	06:16 (1)	05:19	06:25 (1)	05:36	06:24 (1)	06:22	07:08 (2)	07:13	08:03	07:58	08:41
	16:57	17:52	18:43	20:36	21:26	20 06:36 (1)	22:01	8 06:33 (1)	21:54	24 06:48 (1)	21:05	11 07:19 (2)	19:57	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43	07:06 (2)	05:46	06:15 (1)	05:19	06:26 (1)	05:38	06:24 (1)	06:24	07:05 (2)	07:14	08:04	08:00	08:41
	16:58	17:54	18:44	20:38	7 07:13 (2)	21:27	22 06:37 (1)	22:01	7 06:33 (1)	21:53	24 06:48 (1)	21:03	15 07:20 (2)	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	07:04 (2)	05:44	06:15 (1)	05:19	06:27 (1)	05:39	06:24 (1)	06:25	07:05 (2)	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	11 07:15 (2)	21:29	23 06:38 (1)	22:02	6 06:33 (1)	21:52	24 06:48 (1)	21:01	16 07:21 (2)	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:39	07:02 (2)	05:43	06:14 (1)	05:19	06:27 (1)	05:40	06:24 (1)	06:27	07:03 (2)	07:18	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	14 07:16 (2)	21:30	24 06:38 (1)	22:02	5 06:32 (1)	21:51	24 06:48 (1)	20:59	18 07:21 (2)	19:50	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	07:00 (2)	05:41	06:14 (1)	05:19	06:29 (1)	05:41	06:23 (1)	06:29	07:03 (2)	07:19	08:10	08:05	08:44
	17:03	18:00	18:50	20:43	17 07:17 (2)	21:32	24 06:38 (1)	22:03	4 06:33 (1)	21:49	25 06:48 (1)	20:57	19 07:22 (2)	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	06:58 (2)	05:40	06:14 (1)	05:19	06:29 (1)	05:43	06:24 (1)	06:30	07:02 (2)	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	19 07:17 (2)	21:33	25 06:39 (1)	22:03	4 06:33 (1)	21:48	25 06:49 (1)	20:55	19 07:21 (2)	19:45	18:37	16:43	16:29
21	08:36	07:44	06:42	06:32	06:58 (2)	05:39	06:14 (1)	05:19	06:30 (1)	05:44	06:24 (1)	06:32	07:02 (2)	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	19 07:17 (2)	21:35	25 06:39 (1)	22:03	3 06:33 (1)	21:47	25 06:49 (1)	20:53	20 07:22 (2)	19:43	18:35	16:42	16:30
22	08:35	07:42	06:40	06:30	06:57 (2)	05:37	06:13 (1)	05:19	06:30 (1)	05:45	06:24 (1)	06:34	07:01 (2)	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	20 07:17 (2)	21:36	26 06:39 (1)	22:03	3 06:33 (1)	21:46	25 06:49 (1)	20:51	20 07:21 (2)	19:40	18:33	16:41	16:30
23	08:33	07:40	06:38	06:28	06:57 (2)	05:36	06:13 (1)	05:20	06:29 (1)	05:47	06:24 (1)	06:35	07:02 (2)	07:26	08:17	08:12	08:46
	17:10	18:07	18:57	20:49	20 07:17 (2)	21:37	26 06:39 (1)	22:04	4 06:33 (1)	21:44	25 06:49 (1)	20:49	19 07:21 (2)	19:38	18:31	16:40	16:31
24	08:32	07:38	06:35	06:26	06:57 (2)	05:35	06:14 (1)	05:20	06:30 (1)	05:48	06:25 (1)	06:37	07:04 (2)	07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	19 07:16 (2)	21:39	25 06:39 (1)	22:04	4 06:34 (1)	21:43	24 06:49 (1)	20:46	16 07:20 (2)	19:35	18:29	16:39	16:31
25	08:31	07:36	06:33	06:24	06:58 (2)	05:34	06:14 (1)	05:20	06:29 (1)	05:50	06:25 (1)	06:38	07:05 (2)	07:29	07:20	08:15	08:47
	17:13	18:11	19:00	20:53	17 07:15 (2)	21:40	25 06:39 (1)	22:04	5 06:34 (1)	21:42	24 06:49 (1)	20:44	14 07:19 (2)	19:33	17:27	16:38	16:32
26	08:30	07:34	06:31	06:22	06:58 (2)	05:32	06:14 (1)	05:21	06:28 (1)	05:51	06:25 (1)	06:40	07:07 (2)	07:31	07:22	08:16	08:47
	17:15	18:12	19:02	20:55	16 07:14 (2)	21:42	25 06:39 (1)	22:04	7 06:35 (1)	21:40	23 06:48 (1)	20:42	11 07:18 (2)	19:31	17:25	16:37	16:33
27	08:28	07:32	06:28	06:20	06:59 (2)	05:31	06:14 (1)	05:21	06:29 (1)	05:52	06:26 (1)	06:42	07:08 (2)	07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	14 07:13 (2)	21:43	25 06:39 (1)	22:04	7 06:36 (1)	21:39	22 06:48 (1)	20:40	7 07:15 (2)	19:28	17:23	16:36	16:33
28	08:27	07:30	06:26	06:18	07:00 (2)	05:30	06:15 (1)	05:22	06:28 (1)	05:54	06:26 (1)	06:43		07:34	07:26	08:19	08:48
	17:19	18:16	19:05	20:58	11 07:11 (2)	21:44	24 06:39 (1)	22:04	8 06:36 (1)	21:37	21 06:47 (1)	20:38		19:26	17:21	16:35	16:34
29	08:25		07:24	06:16	07:03 (2)	05:29	06:15 (1)	05:22	06:28 (1)	05:55	06:27 (1)	06:45		07:36	07:27	08:21	08:48
	17:21		20:07	21:00	4 07:07 (2)	21:45	23 06:38 (1)	22:03	10 06:38 (1)	21:36	20 06:47 (1)	20:36		19:24	17:19	16:34	16:35
30	08:24		07:21	06:14		05:28	06:16 (1)	05:23	06:28 (1)	05:57	06:28 (1)	06:47		07:37	07:29	08:22	08:48
	17:22		20:09	21:01		21:47	23 06:39 (1)	22:03	11 06:39 (1)	21:34	18 06:46 (1)	20:33		19:22	17:17	16:33	16:36
31	08:22		07:19			05:27	06:16 (1)			05:58	06:29 (1)	06:48			07:31		08:48
	17:24		20:10			21:48	23 06:39 (1)			21:33	16 06:45 (1)	20:31			17:15		16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case				208	473	313	641	233				
Sun reduction				0,42	0,43	0,39	0,41	0,42				
Oper. time red.				0,95	0,95	0,95	0,95	0,95				
Wind dir. red.				0,63	0,67	0,67	0,67	0,63				
Total reduction				0,25	0,27	0,25	0,26	0,25				
Total, real				52	128	77	165	58				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
20-12-2018 09:08/3.2.737

SHADOW - Calendar

Calculation: Copy of V150@166Shadow receptor: AL - 3997MR19

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January			February			March	April	May	June	July	August	September	October			November			December		
1	08:48		09:32 (4)	08:21		14:45 (1)	07:27	07:17	06:12	05:26	05:23	06:00	06:50	07:39			07:33		14:20 (1)	08:24		09:19 (4)
	16:38	132	15:18 (1)	17:26	56	15:41 (1)	18:18	20:12	21:03	21:49	22:03	21:31	20:29	19:19			17:13	48	15:08 (1)	16:32	124	15:10 (1)
2	08:48		09:32 (4)	08:19		14:45 (1)	07:25	07:14	06:10	05:25	05:24	06:01	06:51	07:41			07:35		14:19 (1)	08:25		09:19 (4)
	16:39	133	15:19 (1)	17:28	55	15:40 (1)	18:20	20:14	21:05	21:50	22:03	21:29	20:26	19:17			17:11	50	15:09 (1)	16:32	128	15:11 (1)
3	08:48		09:33 (4)	08:18		14:46 (1)	07:23	07:12	06:08	05:25	05:25	06:03	06:53	07:42			07:36		14:19 (1)	08:27		09:19 (4)
	16:40	133	15:21 (1)	17:30	55	15:41 (1)	18:21	20:15	21:06	21:51	22:02	21:28	20:24	19:14			17:09	50	15:09 (1)	16:31	129	15:10 (1)
4	08:47		09:33 (4)	08:16		14:46 (1)	07:21	07:10	06:06	05:24	05:25	06:04	06:55	07:44			07:38		14:17 (1)	08:28		09:20 (4)
	16:41	132	15:21 (1)	17:31	55	15:41 (1)	18:23	20:17	21:08	21:52	22:02	21:26	20:22	19:12			17:07	52	15:09 (1)	16:30	129	15:10 (1)
5	08:47		09:34 (4)	08:14		14:46 (1)	07:19	07:07	06:04	05:23	05:26	06:06	06:56	07:46			07:40		14:16 (1)	08:29		09:20 (4)
	16:43	131	15:22 (1)	17:33	54	15:40 (1)	18:25	20:19	21:10	21:53	22:01	21:24	20:20	19:10			17:06	53	15:09 (1)	16:30	131	15:10 (1)
6	08:47		09:34 (4)	08:13		14:47 (1)	07:16	07:05	06:02	05:23	05:27	06:08	06:58	07:47			07:42		14:16 (1)	08:31		09:20 (4)
	16:44	131	15:23 (1)	17:35	53	15:40 (1)	18:27	20:20	21:11	21:54	22:01	21:22	20:17	19:08			17:04	54	15:10 (1)	16:30	131	15:09 (1)
7	08:46		09:35 (4)	08:11		14:47 (1)	07:14	07:03	06:00	05:22	05:28	06:09	06:59	07:49			07:44		14:16 (1)	08:32		09:21 (4)
	16:45	131	15:25 (1)	17:37	52	15:39 (1)	18:28	20:22	21:13	21:55	22:00	21:20	20:15	19:05			17:02	54	15:10 (1)	16:29	131	15:10 (1)
8	08:46		09:35 (4)	08:09		14:49 (1)	07:12	07:01	05:59	05:21	05:29	06:11	07:01	07:51			07:45		14:16 (1)	08:33		09:21 (4)
	16:46	129	15:25 (1)	17:39	50	15:39 (1)	18:30	20:24	21:15	21:56	22:00	21:19	20:13	19:03			17:00	55	15:11 (1)	16:29	132	15:09 (1)
9	08:45		09:36 (4)	08:08		14:50 (1)	07:10	06:58	05:57	05:21	05:30	06:12	07:03	07:52			07:47		14:15 (1)	08:34		09:21 (4)
	16:48	129	15:27 (1)	17:41	49	15:39 (1)	18:32	20:26	21:16	21:57	21:59	21:17	20:10	19:01			16:59	56	15:11 (1)	16:28	134	15:09 (1)
10	08:45		09:36 (4)	08:06		14:51 (1)	07:07	06:56	05:55	05:20	05:31	06:14	07:04	07:54			07:49		14:15 (1)	08:35		09:21 (4)
	16:49	127	15:28 (1)	17:43	47	15:38 (1)	18:34	20:27	21:18	21:58	21:58	21:15	20:08	18:59			16:57	56	15:11 (1)	16:28	133	15:08 (1)
11	08:44		09:37 (4)	08:04		14:52 (1)	07:05	06:54	05:54	05:20	05:32	06:16	07:06	07:56			07:51		14:15 (1)	08:37		09:22 (4)
	16:51	124	15:28 (1)	17:45	45	15:37 (1)	18:36	20:29	21:19	21:58	21:57	21:13	20:06	18:56			16:56	57	15:12 (1)	16:28	131	15:08 (1)
12	08:44		09:37 (4)	08:02		14:53 (1)	07:03	06:52	05:52	05:20	05:33	06:17	07:08	07:57			07:53		14:16 (1)	08:38		09:23 (4)
	16:52	120	15:29 (1)	17:46	43	15:36 (1)	18:37	20:31	21:21	21:59	21:56	21:11	20:03	18:54			16:54	56	15:12 (1)	16:28	131	15:09 (1)
13	08:43		09:38 (4)	08:00		14:54 (1)	07:00	06:49	05:50	05:19	05:34	06:19	07:09	07:59			07:54		14:16 (1)	08:39		09:24 (4)
	16:53	117	15:30 (1)	17:48	41	15:35 (1)	18:39	20:32	21:23	22:00	21:56	21:09	20:01	18:52			16:53	56	15:12 (1)	16:28	130	15:09 (1)
14	08:42		09:39 (4)	07:58		14:56 (1)	06:58	06:47	05:49	05:19	05:35	06:20	07:11	08:01			07:56		14:16 (1)	08:40		09:24 (4)
	16:55	111	15:31 (1)	17:50	38	15:34 (1)	18:41	20:34	21:24	22:00	21:55	21:07	19:59	18:50			16:51	56	15:12 (1)	16:28	131	15:09 (1)
15	08:41		09:40 (4)	07:56		14:58 (1)	06:56	06:45	05:47	05:19	05:36	06:22	07:13	08:03			07:58		14:16 (1)	08:40		09:24 (4)
	16:57	107	15:33 (1)	17:52	34	15:32 (1)	18:43	20:36	21:26	22:01	21:54	21:05	19:56	18:47			16:50	56	15:12 (1)	16:28	131	15:08 (1)
16	08:41		09:40 (4)	07:54		15:01 (1)	06:54	06:43	05:46	05:19	05:38	06:24	07:14	08:04			08:00		14:17 (1)	08:41		09:24 (4)
	16:58	94	15:32 (1)	17:54	29	15:30 (1)	18:44	20:37	21:27	22:01	21:53	21:03	19:54	18:45			16:48	55	15:12 (1)	16:28	130	15:08 (1)
17	08:40		09:42 (4)	07:52		15:04 (1)	06:51	06:41	05:44	05:19	05:39	06:25	07:16	08:06			08:01		14:17 (1)	08:42		09:25 (4)
	17:00	84	15:33 (1)	17:56	24	15:28 (1)	18:46	20:39	21:29	22:02	21:52	21:01	19:52	18:43			16:47	56	15:13 (1)	16:28	131	15:09 (1)
18	08:39		09:43 (4)	07:50		15:08 (1)	06:49	06:38	05:43	05:19	05:40	06:27	07:17	08:08			08:03		14:18 (1)	08:43		09:26 (4)
	17:01	77	15:34 (1)	17:58	16	15:24 (1)	18:48	20:41	21:30	22:02	21:51	20:59	19:49	18:41			16:46	55	15:13 (1)	16:29	130	15:09 (1)
19	08:38		09:45 (4)	07:48			06:47	06:36	05:41	05:19	05:41	06:28	07:19	08:10			08:05		14:17 (1)	08:44		09:26 (4)
	17:03	63	15:35 (1)	17:59			18:50	20:43	21:32	22:03	21:49	20:57	19:47	18:39			16:44	55	15:12 (1)	16:29	129	15:09 (1)
20	08:37		09:48 (4)	07:46			06:44	06:34	05:40	05:19	05:43	06:30	07:21	08:11			08:06		14:18 (1)	08:44		09:26 (4)
	17:05	58	15:36 (1)	18:01			18:51	20:44	21:33	22:03	21:48	20:55	19:45	18:37			16:43	54	15:12 (1)	16:29	129	15:09 (1)
21	08:36		14:44 (1)	07:44			06:42	06:32	05:38	05:19	05:44	06:32	07:22	08:13			08:08		14:19 (1)	08:45		09:27 (4)
	17:06	53	15:37 (1)	18:03			18:53	20:46	21:35	22:03	21:47	20:53	19:42	18:35			16:42	53	15:12 (1)	16:30	129	15:10 (1)
22	08:34		14:43 (1)	07:42			06:40	06:30	05:37	05:19	05:45	06:33	07:24	08:15			08:10		09:24 (4)	08:45		09:27 (4)
	17:08	54	15:37 (1)	18:05			18:55	20:48	21:36	22:03	21:46	20:51	19:40	18:33			16:41	58	15:12 (1)	16:30	129	15:10 (1)
23	08:33		14:43 (1)	07:40			06:37	06:28	05:36	05:20	05:47	06:35	07:26	08:17		15:43 (1)	08:11		09:22 (4)	08:46		09:27 (4)
	17:10	55	15:38 (1)	18:07			18:56	20:49	21:37	22:03	21:44	20:49	19:38	18:31	6	15:49 (1)	16:40	63	15:12 (1)	16:31	129	15:10 (1)
24	08:32		14:44 (1)	07:38			06:35	06:26	05:35	05:20	05:48	06:37	07:27	08:18		15:36 (1)	08:13		09:20 (4)	08:46		09:28 (4)
	17:12	55	15:39 (1)	18:09			18:58	20:51	21:39	22:04	21:43	20:46	19:35	18:28	19	15:55 (1)	16:38	76	15:11 (1)	16:31	129	15:11 (1)
25	08:31		14:43 (1)	07:36			06:33	06:24	05:33	05:20	05:49	06:38	07:29	07:20		14:33 (1)	08:15		09:20 (4)	08:47		09:29 (4)
	17:13	56	15:39 (1)	18:10			19:00	20:53	21:40	22:04	21:42	20:44	19:33	17:26	25	14:58 (1)	16:37	84	15:11 (1)	16:32	130	15:12 (1)
26	08:30		14:44 (1)	07:34			06:30	06:22	05:32	05:21	05:51	06:40	07:31	07:22		14:30 (1)	08:16		09:20 (4)	08:47		09:29 (4)
	17:15	56	15:40 (1)	18:12			19:02	20:54	21:41	22:04	21:40	20:42	19:31	17:24	30	15:00 (1)	16:36	91	15:11 (1)	16:32	130	15:12 (1)
27	08:28		14:43 (1)	07:32			06:28	06:20	05:31	05:21	05:52	06:42	07:32	07:24		14:27 (1)	08:18		09:20 (4)	08:47		09:30 (4)
	17:17	56	15:39 (1)	18:14			19:03	20:56	21:43	22:04	21:39	20:40	19:28	17:22	35	15:02 (1)	16:36	105	15:12 (1)	16:33	130	15:14 (1)
28	08:27		14:44 (1)	07:30			06:26	06:18	05:30	05:21	05:54	06:43	07:34	07:26		14:25 (1)	08:19		09:19 (4)	08:48		09:30 (4)
	17:19	56	15:40 (1)	18:16			19:05	20:58	21:44	22:03	21:37	20:38	19:26	17:20	39	15:04 (1)	16:35	111	15:11 (1)	16:34	132	15:15 (1)
29	08:25		14:44 (1)				07:24	06:16	05:29	05:22	05:55	06:45	07:35	07:27		14:24 (1)	08:21		09:19 (4)	08:48		09:31 (4)
	17:20	56	15:40 (1)				20:07	21:00	21:45	22:03	21:36	20:35	19:24	17:19	41	15:05 (1)	16:34	117	15:11 (1)	16:35	132	15:16 (1)
30	08:24		14:44 (1)				07:21	06:14	05:28	05:23	05:57	06:46	07:37	07:29		14:22 (1)	08:22		09:19 (4)	08:48		09:31 (4)
	17:22	56	15:40 (1)				20:08	21:01	21:47	22:03	21:34	20:33	19:21	17:17	44	15:06 (1)	16:33	120	15:11 (1)	16:36	132	15:17 (1)
31	08:22		14:45 (1)				07:19		05:27		05:58	06:48		07:31		14:21 (1)				08:48		09:31 (4)
	17:24	56	15:41 (1)				20:10		21:48		21:33	20:31		17:15	46	15:07 (1)				16:37	132	15:17 (1)
Potential sun hours	259			277			367	416	485	499	502	454	381	331			266			243		
Total, worst case		2872			796										285			1962			4039	
Sun reduction		0,24			0,30										0,34			0,24			0,20	
Oper. time red.		0,95			0,95										0,95			0,95			0,95	
Wind dir. red.		0,66			0,69										0,69			0,68			0,64	
Total reduction		0,15			0,20										0,22			0,15			0,12	
Total, real		428			158										63			298			498	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
20-12-2018 09:08/3.2.737

SHADOW - Calendar

Calculation: Copy of V150@166Shadow receptor: AM - 3945LA6

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March		April	May	June	July	August	September		October		November		December		
1	08:48		09:38 (4)		08:21		13:48 (2)	07:27	17:09 (1)	07:17	06:12	05:26	05:23	06:00	06:50		07:39		17:29 (1)	07:33		13:22 (2)	08:24		09:23 (4)
	16:38	135	14:40 (2)	71	14:59 (2)	14	18:18	17:23 (1)	20:12	21:03	21:49	22:03	21:31	20:29			19:19	49	18:18 (1)	17:13	66	14:28 (2)	16:32	143	14:30 (2)
2	08:48		09:39 (4)		08:19		13:48 (2)	07:25	17:06 (1)	07:14	06:10	05:25	05:24	06:01	06:51		07:40		17:30 (1)	07:35		13:22 (2)	08:25		09:24 (4)
	16:39	136	14:41 (2)	71	14:59 (2)	21	18:19	17:27 (1)	20:14	21:05	21:50	22:02	21:29	20:26			19:17	47	18:17 (1)	17:11	66	14:28 (2)	16:32	144	14:31 (2)
3	08:48		09:39 (4)		08:18		13:49 (2)	07:23	17:02 (1)	07:12	06:08	05:25	05:25	06:03	06:53		07:42		17:29 (1)	07:36		13:20 (2)	08:27		09:24 (4)
	16:40	137	14:42 (2)	71	15:00 (2)	27	18:21	17:29 (1)	20:15	21:06	21:51	22:02	21:28	20:24			19:14	47	18:16 (1)	17:09	68	14:28 (2)	16:31	143	14:30 (2)
4	08:47		09:39 (4)		08:16		13:49 (2)	07:21	17:00 (1)	07:10	06:06	05:24	05:25	06:04	06:55		07:44		17:30 (1)	07:38		13:20 (2)	08:28		09:25 (4)
	16:41	137	14:42 (2)	71	15:00 (2)	31	18:23	17:31 (1)	20:17	21:08	21:52	22:02	21:26	20:22			19:12	45	18:15 (1)	17:07	68	14:28 (2)	16:30	141	14:31 (2)
5	08:47		09:40 (4)		08:14		13:49 (2)	07:19	16:59 (1)	07:07	06:04	05:23	05:26	06:06	06:56		07:46		17:31 (1)	07:40		13:19 (2)	08:29		09:25 (4)
	16:43	137	14:43 (2)	70	14:59 (2)	34	18:25	17:33 (1)	20:19	21:10	21:53	22:01	21:24	20:20			19:10	43	18:14 (1)	17:06	70	14:29 (2)	16:30	140	14:30 (2)
6	08:47		09:39 (4)		08:13		13:50 (2)	07:16	16:57 (1)	07:05	06:02	05:23	05:27	06:08	06:58		07:47		17:32 (1)	07:42		13:19 (2)	08:31		09:25 (4)
	16:44	140	14:44 (2)	69	14:59 (2)	38	18:27	17:35 (1)	20:20	21:11	21:54	22:01	21:22	20:17			19:08	41	18:13 (1)	17:04	70	14:29 (2)	16:30	140	14:30 (2)
7	08:46		09:40 (4)		08:11		13:50 (2)	07:14	16:55 (1)	07:03	06:00	05:22	05:28	06:09	06:59		07:49		17:32 (1)	07:44		13:19 (2)	08:32		09:27 (4)
	16:45	140	14:45 (2)	69	14:59 (2)	40	18:28	17:35 (1)	20:22	21:13	21:55	22:00	21:20	20:15			19:05	38	18:10 (1)	17:02	70	14:29 (2)	16:29	137	14:30 (2)
8	08:46		09:40 (4)		08:09		13:51 (2)	07:12	16:54 (1)	07:01	05:59	05:21	05:29	06:11	07:01		07:51		17:33 (1)	07:45		13:19 (2)	08:33		09:27 (4)
	16:46	140	14:45 (2)	68	14:59 (2)	42	18:30	17:36 (1)	20:24	21:14	21:56	21:59	21:19	20:13			19:03	36	18:09 (1)	17:00	71	14:30 (2)	16:29	138	14:30 (2)
9	08:45		09:41 (4)		08:07		13:52 (2)	07:10	16:53 (1)	06:58	05:57	05:21	05:30	06:12	07:03		07:52		17:34 (1)	07:47		13:19 (2)	08:34		09:27 (4)
	16:48	143	14:47 (2)	67	14:59 (2)	44	18:32	17:37 (1)	20:25	21:16	21:57	21:59	21:17	20:10			19:01	33	18:07 (1)	16:59	71	14:30 (2)	16:28	137	14:30 (2)
10	08:45		09:41 (4)		08:06		13:53 (2)	07:07	16:52 (1)	06:56	05:55	05:20	05:31	06:14	07:04		07:54		17:36 (1)	07:49		13:19 (2)	08:35		09:28 (4)
	16:49	144	14:48 (2)	65	14:58 (2)	45	18:34	17:37 (1)	20:27	21:18	21:57	21:58	21:15	20:08			18:59	29	18:05 (1)	16:57	71	14:30 (2)	16:28	136	14:30 (2)
11	08:44		09:41 (4)		08:04		13:53 (2)	07:05	16:51 (1)	06:54	05:54	05:20	05:32	06:16	07:06		07:56		17:37 (1)	07:51		13:19 (2)	08:37		09:28 (4)
	16:51	144	14:48 (2)	65	14:58 (2)	47	18:36	17:38 (1)	20:29	21:19	21:58	21:57	21:13	20:06			18:56	25	18:02 (1)	16:56	71	14:30 (2)	16:28	135	14:30 (2)
12	08:44		09:41 (4)		08:02		13:54 (2)	07:03	16:51 (1)	06:52	05:52	05:20	05:33	06:17	07:08	17:57 (1)	07:57		17:40 (1)	07:52		10:42 (3)	08:38		09:30 (4)
	16:52	144	14:49 (2)	63	14:57 (2)	48	18:37	17:39 (1)	20:31	21:21	21:59	21:56	21:11	20:03	11	18:08 (1)	18:54	19	17:59 (1)	16:54	82	14:31 (2)	16:28	134	14:31 (2)
13	08:43		09:42 (4)		08:00		13:55 (2)	07:00	16:49 (1)	06:49	05:50	05:19	05:34	06:19	07:09		17:53 (1)	07:59		17:45 (1)	07:54			09:31 (4)	08:39		09:30 (4)
	16:53	144	14:49 (2)	61	14:56 (2)	49	18:39	17:38 (1)	20:32	21:23	22:00	21:56	21:09	20:01	19	18:12 (1)	18:52	9	17:54 (1)	16:53	97	14:31 (2)	16:28	133	14:31 (2)
14	08:42		09:42 (4)		07:58		13:56 (2)	06:58	16:49 (1)	06:47	05:49	05:19	05:35	06:20	07:11		17:49 (1)	08:01			07:56			09:28 (4)	08:40		09:30 (4)
	16:55	145	14:50 (2)	59	14:55 (2)	49	18:41	17:38 (1)	20:34	21:24	22:00	21:55	21:07	19:59	25	18:14 (1)	18:50			16:51	108	14:31 (2)	16:28	132	14:30 (2)
15	08:41		09:43 (4)		07:56		13:58 (2)	06:56	16:49 (1)	06:45	05:47	05:19	05:36	06:22	07:12		17:47 (1)	08:03			07:58			09:26 (4)	08:40		09:31 (4)
	16:57	144	14:51 (2)	56	14:54 (2)	50	18:43	17:39 (1)	20:36	21:26	22:01	21:54	21:05	19:56	29	18:16 (1)	18:47			16:50	117	14:31 (2)	16:28	132	14:31 (2)
16	08:41		09:43 (4)		07:54		13:59 (2)	06:54	16:48 (1)	06:43	05:46	05:19	05:38	06:24	07:14		17:43 (1)	08:04			08:00			09:25 (4)	08:41		09:31 (4)
	16:58	145	14:52 (2)	54	14:53 (2)	50	18:44	17:38 (1)	20:37	21:27	22:01	21:53	21:03	19:54	33	18:16 (1)	18:45			16:48	123	14:31 (2)	16:28	131	14:31 (2)
17	08:40		09:44 (4)		07:52		14:01 (2)	06:51	16:48 (1)	06:41	05:44	05:19	05:39	06:25	07:16		17:42 (1)	08:06			08:01			09:24 (4)	08:42		09:32 (4)
	17:00	143	14:52 (2)	51	14:52 (2)	50	18:46	17:38 (1)	20:39	21:29	22:02	21:52	21:01	19:52	36	18:18 (1)	18:43			16:47	127	14:31 (2)	16:28	130	14:31 (2)
18	08:39		09:44 (4)		07:50		14:03 (2)	06:49	16:49 (1)	06:38	05:43	05:19	05:40	06:27	07:17		17:40 (1)	08:08			08:03			09:24 (4)	08:43		09:33 (4)
	17:01	143	14:53 (2)	48	14:51 (2)	49	18:48	17:38 (1)	20:41	21:30	22:02	21:50	20:59	19:49	39	18:19 (1)	18:41			16:46	133	14:32 (2)	16:29	130	14:32 (2)
19	08:38		09:45 (4)		07:48		14:05 (2)	06:47	16:48 (1)	06:36	05:41	05:19	05:41	06:28	07:19		17:38 (1)	08:10	14:50 (2)	08:05		09:22 (4)	08:44		09:33 (4)
	17:03	142	14:54 (2)	44	14:49 (2)	49	18:49	17:37 (1)	20:43	21:32	22:03	21:49	20:57	19:47	41	18:19 (1)	18:39	19	15:09 (2)	16:44	135	14:31 (2)	16:29	130	14:32 (2)
20	08:37		09:46 (4)		07:46		14:07 (2)	06:44	16:49 (1)	06:34	05:40	05:19	05:43	06:30	07:21		17:37 (1)	08:11	14:45 (2)	08:06		09:22 (4)	08:44		09:34 (4)
	17:05	141	14:55 (2)	39	14:46 (2)	47	18:51	17:36 (1)	20:44	21:33	22:03	21:48	20:55	19:45	43	18:20 (1)	18:37	28	15:13 (2)	16:43	137	14:31 (2)	16:29	129	14:32 (2)
21	08:36		09:47 (4)		07:44		14:10 (2)	06:42	16:49 (1)	06:32	05:38	05:19	05:44	06:32	07:22		17:35 (1)	08:13	14:40 (2)	08:08		09:22 (4)	08:45		09:35 (4)
	17:06	140	14:56 (2)	34	14:44 (2)	47	18:53	17:36 (1)	20:46	21:35	22:03	21:47	20:53	19:42	45	18:20 (1)	18:35	36	15:16 (2)	16:42	140	14:31 (2)	16:30	129	14:33 (2)
22	08:34		09:47 (4)		07:42		14:15 (2)	06:40	16:49 (1)	06:30	05:37	05:19	05:45	06:33	07:24		17:34 (1)	08:15	14:36 (2)	08:10		09:22 (4)	08:45		09:35 (4)
	17:08	137	14:56 (2)	25	14:40 (2)	45	18:55	17:34 (1)	20:48	21:36	22:03	21:46	20:51	19:40	46	18:20 (1)	18:33	41	15:17 (2)	16:41	141	14:31 (2)	16:30	129	14:33 (2)
23	08:33		09:48 (4)		07:40		14:21 (2)	06:37	16:50 (1)	06:28	05:36	05:20	05:47	06:35	07:26		17:33 (1)	08:17	14:34 (2)	08:11		09:22 (4)	08:46		09:35 (4)
	17:10	135	14:57 (2)	14	14:35 (2)	44	18:56	17:34 (1)	20:49	21:37	22:03	21:44	20:49	19:38	48	18:21 (1)	18:30	45	15:19 (2)	16:40	142	14:31 (2)	16:31	129	14:33 (2)
24	08:32		09:50 (4)		07:38			06:35	16:51 (1)	06:26	05:35	05:20	05:48	06:37	07:27		17:32 (1)	08:18	14:32 (2)	08:13		09:21 (4)	08:46		09:36 (4)
	17:12	133	14:58 (2)	18:09				18:58	42	17:33 (1)	20:51	21:39	22:04	21:43	20:46	19:35	48	18:20 (1)	18:28	49	15:21 (2)	16:38	143	14:30 (2)	16:31	130	14:35 (2)
25	08:31		09:50 (4)		07:36			06:33	16:51 (1)	06:24	05:33	05:20	05:49	06:38	07:29		17:31 (1)	07:20	13:30 (2)	08:15		09:22 (4)	08:47		09:36 (4)
	17:13	127	14:57 (2)	18:10				19:00	40	17:31 (1)	20:53	21:40	22:04	21:42	20:44	19:33	49	18:20 (1)	17:26	52	14:22 (2)	16:37	144	14:31 (2)	16:32	129	14:35 (2)
26	08:29		09:52 (4)		07:34			06:30	16:53 (1)	06:22	05:32	05:21	05:51	06:40	07:31		17:31 (1)	07:22	13:28 (2)	08:16		09:22 (4)	08:47		09:36 (4)
	17:15	122	14:58 (2)	18:12				19:02	37	17:30 (1)	20:54	21:41	22:04	21:40	20:42	19:31	50	18:21 (1)	17:24	55	14:23 (2)	16:36	145	14:31 (2)	16:32	130	14:35 (2)
27	08:28		09:53 (4)		07:32			06:28	16:55 (1)	06:20	05:31	05:21	05:52	06:42	07:32		17:30 (1)	07:24	13:27 (2)	08:18		09:23 (4)	08:47		09:36 (4)
	17:17	117	14:58 (2)	18:14				19:03	33	17:28 (1)	20:56	21:43	22:04	21:39	20:40	19:28	50	18:20 (1)	17:22	57	14:24 (2)	16:36	144	14:31 (2)	16:33	131	14:36 (2)
28	08:27		09:56 (4)		07:30			06:26	16:56 (1)	06:18	05:30	05:21	05:54	06:43	07:34		17:30 (1)	07:26	13:26 (2)	08:19		09:22 (4)	08:48		09:37 (4)
	17:19	108	14:59 (2)	18:16				19:05	33	17:26 (1)	20:58	21:44	22:03	21:37	20:38	19:26	50	18:20 (1)	17:20	59	14:25 (2)	16:35	145	14:30 (2)	16:34	132	14:37 (2)
29	08:25		09:59 (4)					07:23	17:58 (1)	06:16	05:29	05:22	05:55	06:45	07:35		17:30 (1)	07:27	13:25 (2)	08:21		09:23 (4)	08:48		09:38 (4)
	17:20	96	14:59 (2)					20:07	26	18:24 (1)	21:00	21:45	22:03	21:36	20:35	19:24	49	18:19 (1)	17:19	61	14:26 (2)	16:34	145	14:31 (2)	16:35	133	14:38 (2)
30	08:24		11:10 (3)					07:21	18:01 (1)	06:14	05:28	05:23	05:57	06:46	07:37		17:29 (1)	07:29	13:24 (2)	08:22		09:24 (4)	08:48		09:38 (4)
	17:22	81	14:59 (2)					20:08	20	18:21 (1)	21:01	21:46	22:03	21:34	20:33	19:21	49	18:18 (1)	17:17	63	14:27 (2)	16:33	143	14:31 (2)	16:36	134	14:39 (2)
31	08:22		13:48 (2)					07:19	18:04 (1)		05:27		05:58	06:48					17:31	13:23 (2)					08:48		09:38 (4)
	17:24	72	15:00 (2)					20:10	12	18:16 (1)		21:48		21:33	20:31				17:15	64	14:27 (2)				16:37	133	14:39 (2)
Potential sun hours	259			277			367		416		485	499	502	454		381			331			266			243		
Total, worst case		4092			1305			1200									760			1090			3253			4154	
Sun reduction		0,24			0,30			0,33									0,36			0,34			0,24			0,20	
Oper. time red.		0,95			0,95			0,95									0,95			0,95			0,95			0,95	
Wind dir. red.		0,65			0,69			0,65									0,65			0,67			0,66			0,64	
Total reduction		0,15			0,20			0,20									0,22			0,21			0,15			0,12	
Total, real		603			258			244									170			234			482			515	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
20-12-2018 09:08/3.2.737

SHADOW - Calendar

Calculation: Copy of V150@166Shadow receptor: AN - 3997ML142

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March	April	May	June	July	August	September	October		November		December	
1	08:48	09:59 (1)	08:21	09:00 (3)	07:27	07:17	06:12	05:26	05:23	06:00	06:50	07:39		07:33	09:46 (1)	08:24	09:05 (2)
	16:38 39	10:38 (1)	17:26 94	10:52 (1)	18:18	20:12	21:03	21:49	22:03	21:31	20:29	19:19		17:13 25	10:11 (1)	16:32 57	10:28 (1)
2	08:48	10:00 (1)	08:19	09:00 (3)	07:25	07:14	06:10	05:25	05:24	06:01	06:51	07:41		07:35	09:44 (1)	08:25	09:08 (2)
	16:39 39	10:39 (1)	17:28 93	10:51 (1)	18:20	20:14	21:05	21:50	22:03	21:29	20:27	19:17		17:11 29	10:13 (1)	16:32 52	10:28 (1)
3	08:48	10:00 (1)	08:18	09:01 (3)	07:23	07:12	06:08	05:25	05:25	06:03	06:53	07:42		07:36	08:59 (2)	08:27	09:44 (1)
	16:40 40	10:40 (1)	17:30 89	10:51 (1)	18:21	20:15	21:06	21:51	22:02	21:28	20:24	19:15		17:09 44	10:15 (1)	16:31 44	10:28 (1)
4	08:47	09:59 (1)	08:16	09:02 (3)	07:21	07:10	06:06	05:24	05:25	06:05	06:55	07:44		07:38	08:37 (3)	08:28	09:45 (1)
	16:41 41	10:40 (1)	17:32 84	10:50 (1)	18:23	20:17	21:08	21:52	22:02	21:26	20:22	19:12		17:07 58	10:17 (1)	16:31 43	10:28 (1)
5	08:47	10:00 (1)	08:14	09:03 (3)	07:19	07:07	06:04	05:23	05:26	06:06	06:56	07:46		07:40	08:34 (3)	08:29	09:45 (1)
	16:43 41	10:41 (1)	17:33 77	10:49 (1)	18:25	20:19	21:10	21:53	22:01	21:24	20:20	19:10		17:06 71	10:18 (1)	16:30 43	10:28 (1)
6	08:47	10:00 (1)	08:13	09:04 (3)	07:16	07:05	06:02	05:23	05:27	06:08	06:58	07:47		07:42	08:33 (3)	08:31	09:46 (1)
	16:44 42	10:42 (1)	17:35 70	10:48 (1)	18:27	20:20	21:11	21:54	22:01	21:22	20:17	19:08		17:04 78	10:19 (1)	16:30 42	10:28 (1)
7	08:46	10:00 (1)	08:11	09:08 (3)	07:14	07:03	06:01	05:22	05:28	06:09	07:00	07:49		07:44	08:32 (3)	08:32	09:47 (1)
	16:45 43	10:43 (1)	17:37 56	10:47 (1)	18:29	20:22	21:13	21:55	22:00	21:21	20:15	19:05		17:02 84	10:20 (1)	16:29 42	10:29 (1)
8	08:46	10:00 (1)	08:09	09:30 (2)	07:12	07:01	05:59	05:21	05:29	06:11	07:01	07:51		07:45	08:31 (3)	08:33	09:48 (1)
	16:46 43	10:43 (1)	17:39 42	10:46 (1)	18:30	20:24	21:15	21:56	22:00	21:19	20:13	19:03		17:01 90	10:21 (1)	16:29 40	10:28 (1)
9	08:46	10:01 (1)	08:08	10:15 (1)	07:10	06:58	05:57	05:21	05:30	06:12	07:03	07:52		07:47	08:31 (3)	08:34	09:48 (1)
	16:48 44	10:45 (1)	17:41 28	10:43 (1)	18:32	20:26	21:16	21:57	21:59	21:17	20:10	19:01		16:59 92	10:22 (1)	16:29 40	10:28 (1)
10	08:45	09:25 (2)	08:06	10:17 (1)	07:07	06:56	05:55	05:21	05:31	06:14	07:04	07:54		07:49	08:30 (3)	08:36	09:49 (1)
	16:49 51	10:45 (1)	17:43 24	10:41 (1)	18:34	20:27	21:18	21:58	21:58	21:15	20:08	18:59		16:57 96	10:23 (1)	16:28 39	10:28 (1)
11	08:44	09:23 (2)	08:04	10:19 (1)	07:05	06:54	05:54	05:20	05:32	06:16	07:06	07:56		07:51	08:30 (3)	08:37	09:50 (1)
	16:51 57	10:46 (1)	17:45 18	10:37 (1)	18:36	20:29	21:19	21:58	21:57	21:13	20:06	18:56		16:56 97	10:23 (1)	16:28 39	10:29 (1)
12	08:44	09:22 (2)	08:02	10:24 (1)	07:03	06:52	05:52	05:20	05:33	06:17	07:08	07:57		07:53	08:30 (3)	08:38	09:51 (1)
	16:52 60	10:46 (1)	17:46 8	10:32 (1)	18:37	20:31	21:21	21:59	21:57	21:11	20:04	18:54		16:54 98	10:24 (1)	16:28 38	10:29 (1)
13	08:43	09:21 (2)	08:00		07:01	06:49	05:50	05:20	05:34	06:19	07:09	07:59		07:54	08:31 (3)	08:39	09:52 (1)
	16:54 63	10:47 (1)	17:48		18:39	20:32	21:23	22:00	21:56	21:09	20:01	18:52		16:53 98	10:24 (1)	16:28 37	10:29 (1)
14	08:42	09:21 (2)	07:58		06:58	06:47	05:49	05:19	05:35	06:20	07:11	08:01		07:56	08:31 (3)	08:40	09:52 (1)
	16:55 65	10:48 (1)	17:50		18:41	20:34	21:24	22:00	21:55	21:07	19:59	18:50		16:51 99	10:25 (1)	16:28 38	10:30 (1)
15	08:42	09:20 (2)	07:56		06:56	06:45	05:47	05:19	05:36	06:22	07:13	08:03		07:58	08:32 (3)	08:41	09:52 (1)
	16:57 69	10:49 (1)	17:52		18:43	20:36	21:26	22:01	21:54	21:05	19:57	18:48		16:50 98	10:25 (1)	16:28 37	10:29 (1)
16	08:41	09:20 (2)	07:54		06:54	06:43	05:46	05:19	05:38	06:24	07:14	08:04		08:00	08:32 (3)	08:41	09:53 (1)
	16:58 70	10:49 (1)	17:54		18:44	20:38	21:27	22:01	21:53	21:03	19:54	18:45		16:48 100	10:26 (1)	16:28 36	10:29 (1)
17	08:40	09:18 (2)	07:52		06:51	06:41	05:44	05:19	05:39	06:25	07:16	08:06		08:01	08:33 (3)	08:42	09:54 (1)
	17:00 73	10:49 (1)	17:56		18:46	20:39	21:29	22:02	21:52	21:01	19:52	18:43		16:47 99	10:26 (1)	16:28 36	10:30 (1)
18	08:39	09:18 (2)	07:50		06:49	06:38	05:43	05:19	05:40	06:27	07:17	08:08		08:03	08:34 (3)	08:43	09:55 (1)
	17:01 74	10:50 (1)	17:58		18:48	20:41	21:30	22:02	21:51	20:59	19:49	18:41		16:46 98	10:27 (1)	16:29 36	10:31 (1)
19	08:38	09:18 (2)	07:48		06:47	06:36	05:41	05:19	05:41	06:29	07:19	08:10		08:05	08:35 (3)	08:44	09:56 (1)
	17:03 75	10:50 (1)	17:59		18:50	20:43	21:32	22:03	21:49	20:57	19:47	18:39		16:44 96	10:26 (1)	16:29 35	10:31 (1)
20	08:37	09:05 (3)	07:46		06:44	06:34	05:40	05:19	05:43	06:30	07:21	08:11		08:06	08:37 (3)	08:44	09:56 (1)
	17:05 84	10:51 (1)	18:01		18:51	20:44	21:33	22:03	21:48	20:55	19:45	18:37		16:43 92	10:26 (1)	16:29 35	10:31 (1)
21	08:36	09:04 (3)	07:44		06:42	06:32	05:38	05:19	05:44	06:32	07:22	08:13		08:08	08:39 (3)	08:45	09:57 (1)
	17:06 88	10:52 (1)	18:03		18:53	20:46	21:35	22:03	21:47	20:53	19:42	18:35		16:42 88	10:27 (1)	16:30 35	10:32 (1)
22	08:35	09:02 (3)	07:42		06:40	06:30	05:37	05:19	05:45	06:33	07:24	08:15		08:10	08:41 (3)	08:45	09:57 (1)
	17:08 92	10:51 (1)	18:05		18:55	20:48	21:36	22:03	21:46	20:51	19:40	18:33		16:41 84	10:27 (1)	16:30 35	10:32 (1)
23	08:33	09:01 (3)	07:40		06:37	06:28	05:36	05:20	05:47	06:35	07:26	08:17		08:11	08:55 (2)	08:46	09:58 (1)
	17:10 96	10:52 (1)	18:07		18:56	20:49	21:37	22:04	21:44	20:49	19:38	18:31		16:40 75	10:27 (1)	16:31 35	10:33 (1)
24	08:32	09:00 (3)	07:38		06:35	06:26	05:35	05:20	05:48	06:37	07:27	08:18		08:13	08:56 (2)	08:46	09:58 (1)
	17:12 98	10:53 (1)	18:09		18:58	20:51	21:39	22:04	21:43	20:46	19:35	18:29		16:39 74	10:28 (1)	16:31 35	10:33 (1)
25	08:31	08:59 (3)	07:36		06:33	06:24	05:33	05:20	05:49	06:38	07:29	07:20		08:15	08:56 (2)	08:47	09:58 (1)
	17:13 99	10:52 (1)	18:10		19:00	20:53	21:40	22:04	21:42	20:44	19:33	17:26		16:37 73	10:27 (1)	16:32 35	10:33 (1)
26	08:30	08:59 (3)	07:34		06:31	06:22	05:32	05:21	05:51	06:40	07:31	07:22		08:16	08:58 (2)	08:47	09:58 (1)
	17:15 100	10:53 (1)	18:12		19:02	20:55	21:42	22:04	21:40	20:42	19:31	17:24		16:37 71	10:28 (1)	16:33 36	10:34 (1)
27	08:28	08:59 (3)	07:32		06:28	06:20	05:31	05:21	05:52	06:42	07:32	07:24		08:18	08:59 (2)	08:47	09:59 (1)
	17:17 100	10:53 (1)	18:14		19:03	20:56	21:43	22:04	21:39	20:40	19:28	17:22		16:36 69	10:28 (1)	16:33 36	10:35 (1)
28	08:27	08:59 (3)	07:30		06:26	06:18	05:30	05:22	05:54	06:43	07:34	07:26		08:19	09:00 (2)	08:48	09:59 (1)
	17:19 99	10:53 (1)	18:16		19:05	20:58	21:44	22:04	21:37	20:38	19:26	17:21		16:35 66	10:27 (1)	16:34 37	10:36 (1)
29	08:25	08:59 (3)			07:24	06:16	05:29	05:22	05:55	06:45	07:36	07:27		08:21	09:02 (2)	08:48	09:59 (1)
	17:20 99	10:53 (1)			20:07	21:00	21:45	22:03	21:36	20:35	19:24	17:19		16:34 63	10:28 (1)	16:35 37	10:36 (1)
30	08:24	08:59 (3)			07:21	06:14	05:28	05:23	05:57	06:46	07:37	07:29	09:52 (1)	08:22	09:04 (2)	08:48	10:00 (1)
	17:22 97	10:52 (1)			20:08	21:01	21:47	22:03	21:34	20:33	19:21	17:17 11	10:03 (1)	16:33 60	10:28 (1)	16:36 37	10:37 (1)
31	08:22	08:59 (3)			07:19		05:27		05:58	06:48		07:31	09:48 (1)			08:48	10:00 (1)
	17:24 97	10:52 (1)			20:10		21:48		21:33	20:31		17:15 20	10:08 (1)			16:37 38	10:38 (1)
Potential sun hours	259		277		367	416	485	499	502	454	381	331		266		243	
Total, worst case	2178		683									31		2365		1205	
Sun reduction	0,24		0,30									0,34		0,24		0,20	
Oper. time red.	0,95		0,95									0,95		0,95		0,95	
Wind dir. red.	0,60		0,59									0,60		0,59		0,60	
Total reduction	0,14		0,17									0,19		0,13		0,12	
Total, real	295		117									6		315		141	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
20-12-2018 09:08/3.2.737

SHADOW - Calendar

Calculation: Copy of V150@166Shadow receptor: AO - 3997ML144

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January		February		March	April	May	June	July	August	September	October	November	December
1	08:48	10:03 (1)	08:21	09:01 (3)	07:27	07:17	06:12	05:26	05:23	06:00	06:50	07:39	07:33 09:53 (1)	08:24 09:05 (2)
	16:38 42	10:45 (1)	17:26 95	10:57 (1)	18:18	20:12	21:03	21:49	22:03	21:31	20:29	19:19	17:13 21 10:14 (1)	16:32 63 10:34 (1)
2	08:48	10:04 (1)	08:19	09:02 (3)	07:25	07:14	06:10	05:25	05:24	06:01	06:51	07:41	07:35 09:51 (1)	08:25 09:07 (2)
	16:39 42	10:46 (1)	17:28 90	10:56 (1)	18:20	20:14	21:05	21:50	22:03	21:29	20:27	19:17	17:11 26 10:17 (1)	16:32 61 10:35 (1)
3	08:48	10:04 (1)	08:18	09:03 (3)	07:23	07:12	06:08	05:25	05:25	06:03	06:53	07:42	07:36 09:05 (2)	08:27 09:09 (2)
	16:40 43	10:47 (1)	17:30 87	10:56 (1)	18:21	20:15	21:06	21:51	22:02	21:28	20:24	19:15	17:09 35 10:20 (1)	16:31 58 10:35 (1)
4	08:47	10:04 (1)	08:16	09:04 (3)	07:21	07:10	06:06	05:24	05:25	06:04	06:55	07:44	07:38 09:01 (2)	08:28 09:12 (2)
	16:41 43	10:47 (1)	17:32 80	10:55 (1)	18:23	20:17	21:08	21:52	22:02	21:26	20:22	19:12	17:07 47 10:22 (1)	16:31 53 10:35 (1)
5	08:47	10:04 (1)	08:14	09:05 (3)	07:19	07:07	06:04	05:23	05:26	06:06	06:56	07:46	07:40 08:37 (3)	08:29 09:50 (1)
	16:43 44	10:48 (1)	17:33 73	10:54 (1)	18:25	20:19	21:10	21:53	22:01	21:24	20:20	19:10	17:06 62 10:22 (1)	16:30 45 10:35 (1)
6	08:47	10:04 (1)	08:13	09:07 (3)	07:16	07:05	06:02	05:23	05:27	06:08	06:58	07:47	07:42 08:35 (3)	08:31 09:50 (1)
	16:44 45	10:49 (1)	17:35 62	10:52 (1)	18:27	20:20	21:11	21:54	22:01	21:22	20:17	19:08	17:04 74 10:24 (1)	16:30 45 10:35 (1)
7	08:46	10:04 (1)	08:11	09:32 (2)	07:14	07:03	06:01	05:22	05:28	06:09	07:00	07:49	07:44 08:34 (3)	08:32 09:51 (1)
	16:45 46	10:50 (1)	17:37 45	10:52 (1)	18:29	20:22	21:13	21:55	22:00	21:21	20:15	19:05	17:02 81 10:25 (1)	16:29 45 10:36 (1)
8	08:46	09:27 (2)	08:09	10:20 (1)	07:12	07:01	05:59	05:21	05:29	06:11	07:01	07:51	07:45 08:33 (3)	08:33 09:52 (1)
	16:46 52	10:50 (1)	17:39 30	10:50 (1)	18:30	20:24	21:15	21:56	22:00	21:19	20:13	19:03	17:01 86 10:26 (1)	16:29 43 10:35 (1)
9	08:46	09:26 (2)	08:08	10:22 (1)	07:10	06:58	05:57	05:21	05:30	06:12	07:03	07:52	07:47 08:33 (3)	08:34 09:52 (1)
	16:48 56	10:51 (1)	17:41 25	10:47 (1)	18:32	20:26	21:16	21:57	21:59	21:17	20:10	19:01	16:59 90 10:27 (1)	16:29 43 10:35 (1)
10	08:45	09:24 (2)	08:06	10:24 (1)	07:07	06:56	05:55	05:21	05:31	06:14	07:04	07:54	07:49 08:32 (3)	08:36 09:53 (1)
	16:49 61	10:52 (1)	17:43 20	10:44 (1)	18:34	20:27	21:18	21:58	21:58	21:15	20:08	18:59	16:57 95 10:28 (1)	16:28 42 10:35 (1)
11	08:44	09:23 (2)	08:04	10:28 (1)	07:05	06:54	05:54	05:20	05:32	06:16	07:06	07:56	07:51 08:32 (3)	08:37 09:54 (1)
	16:51 63	10:52 (1)	17:45 11	10:39 (1)	18:36	20:29	21:19	21:58	21:57	21:13	20:06	18:56	16:56 97 10:29 (1)	16:28 42 10:36 (1)
12	08:44	09:22 (2)	08:02		07:03	06:52	05:52	05:20	05:33	06:17	07:08	07:57	07:53 08:32 (3)	08:38 09:55 (1)
	16:52 67	10:53 (1)	17:46		18:37	20:31	21:21	21:59	21:57	21:11	20:04	18:54	16:54 98 10:29 (1)	16:28 42 10:37 (1)
13	08:43	09:22 (2)	08:00		07:01	06:49	05:50	05:20	05:34	06:19	07:09	07:59	07:54 08:32 (3)	08:39 09:56 (1)
	16:53 68	10:53 (1)	17:48		18:39	20:32	21:23	22:00	21:56	21:09	20:01	18:52	16:53 101 10:30 (1)	16:28 41 10:37 (1)
14	08:42	09:22 (2)	07:58		06:58	06:47	05:49	05:19	05:35	06:20	07:11	08:01	07:56 08:33 (3)	08:40 09:56 (1)
	16:55 71	10:55 (1)	17:50		18:41	20:34	21:24	22:00	21:55	21:07	19:59	18:50	16:51 101 10:31 (1)	16:28 41 10:37 (1)
15	08:42	09:22 (2)	07:56		06:56	06:45	05:47	05:19	05:36	06:22	07:13	08:03	07:58 08:33 (3)	08:41 09:56 (1)
	16:57 72	10:55 (1)	17:52		18:43	20:36	21:26	22:01	21:54	21:05	19:57	18:48	16:50 101 10:31 (1)	16:28 40 10:36 (1)
16	08:41	09:21 (2)	07:54		06:54	06:43	05:46	05:19	05:38	06:24	07:14	08:04	08:00 08:34 (3)	08:41 09:57 (1)
	16:58 75	10:56 (1)	17:54		18:44	20:38	21:27	22:01	21:53	21:03	19:54	18:45	16:48 102 10:32 (1)	16:28 40 10:37 (1)
17	08:40	09:20 (2)	07:52		06:51	06:41	05:44	05:19	05:39	06:25	07:16	08:06	08:01 08:34 (3)	08:42 09:58 (1)
	17:00 76	10:55 (1)	17:56		18:46	20:39	21:29	22:02	21:52	21:01	19:52	18:43	16:47 101 10:32 (1)	16:28 39 10:37 (1)
18	08:39	09:20 (2)	07:50		06:49	06:38	05:43	05:19	05:40	06:27	07:17	08:08	08:03 08:35 (3)	08:43 09:58 (1)
	17:01 77	10:56 (1)	17:58		18:48	20:41	21:30	22:02	21:51	20:59	19:49	18:41	16:46 101 10:33 (1)	16:29 40 10:38 (1)
19	08:38	09:06 (3)	07:48		06:47	06:36	05:41	05:19	05:41	06:29	07:19	08:10	08:05 08:35 (3)	08:44 09:59 (1)
	17:03 86	10:57 (1)	17:59		18:50	20:43	21:32	22:03	21:49	20:57	19:47	18:39	16:44 99 10:32 (1)	16:29 40 10:39 (1)
20	08:37	09:05 (3)	07:46		06:44	06:34	05:40	05:19	05:43	06:30	07:21	08:11	08:06 08:37 (3)	08:44 09:59 (1)
	17:05 90	10:57 (1)	18:01		18:51	20:44	21:33	22:03	21:48	20:55	19:45	18:37	16:43 99 10:33 (1)	16:29 39 10:38 (1)
21	08:36	09:04 (3)	07:44		06:42	06:32	05:38	05:19	05:44	06:32	07:22	08:13	08:08 08:39 (3)	08:45 10:00 (1)
	17:06 94	10:58 (1)	18:03		18:53	20:46	21:35	22:03	21:47	20:53	19:42	18:35	16:42 94 10:33 (1)	16:30 39 10:39 (1)
22	08:35	09:02 (3)	07:42		06:40	06:30	05:37	05:19	05:45	06:33	07:24	08:15	08:10 08:41 (3)	08:45 10:00 (1)
	17:08 99	10:58 (1)	18:05		18:55	20:48	21:36	22:03	21:46	20:51	19:40	18:33	16:41 90 10:33 (1)	16:30 39 10:39 (1)
23	08:33	09:01 (3)	07:40		06:37	06:28	05:36	05:20	05:47	06:35	07:26	08:17	08:11 08:43 (3)	08:46 10:01 (1)
	17:10 99	10:58 (1)	18:07		18:56	20:49	21:37	22:04	21:44	20:49	19:38	18:31	16:40 86 10:34 (1)	16:31 39 10:40 (1)
24	08:32	09:01 (3)	07:38		06:35	06:26	05:35	05:20	05:48	06:37	07:27	08:18	08:13 08:46 (3)	08:46 10:01 (1)
	17:12 101	10:59 (1)	18:09		18:58	20:51	21:39	22:04	21:43	20:46	19:35	18:29	16:39 78 10:34 (1)	16:31 40 10:41 (1)
25	08:31	09:00 (3)	07:36		06:33	06:24	05:33	05:20	05:49	06:38	07:29	07:20	08:15 08:58 (2)	08:47 10:01 (1)
	17:13 101	10:58 (1)	18:10		19:00	20:53	21:40	22:04	21:42	20:44	19:33	17:26	16:37 77 10:34 (1)	16:32 40 10:41 (1)
26	08:30	09:01 (3)	07:34		06:31	06:22	05:32	05:21	05:51	06:40	07:31	07:22	08:16 08:59 (2)	08:47 10:02 (1)
	17:15 102	10:59 (1)	18:12		19:02	20:55	21:42	22:04	21:40	20:42	19:31	17:24	16:37 75 10:34 (1)	16:33 39 10:41 (1)
27	08:28	09:00 (3)	07:32		06:28	06:20	05:31	05:21	05:52	06:42	07:32	07:24	08:18 09:01 (2)	08:47 10:03 (1)
	17:17 102	10:58 (1)	18:14		19:03	20:56	21:43	22:04	21:39	20:40	19:28	17:22	16:36 72 10:34 (1)	16:33 40 10:43 (1)
28	08:27	09:01 (3)	07:30		06:26	06:18	05:30	05:22	05:54	06:43	07:34	07:26	08:19 09:01 (2)	08:48 10:03 (1)
	17:19 101	10:59 (1)	18:16		19:05	20:58	21:44	22:04	21:37	20:38	19:26	17:21	16:35 71 10:34 (1)	16:34 40 10:43 (1)
29	08:25	09:00 (3)			07:24	06:16	05:29	05:22	05:55	06:45	07:36	07:27	08:21 09:03 (2)	08:48 10:03 (1)
	17:20 100	10:58 (1)			20:07	21:00	21:45	22:03	21:36	20:35	19:24	17:19	16:34 68 10:34 (1)	16:35 41 10:44 (1)
30	08:24	09:00 (3)			07:21	06:14	05:28	05:23	05:57	06:46	07:37	07:29	08:22 09:04 (2)	08:48 10:03 (1)
	17:22 98	10:57 (1)			20:08	21:01	21:47	22:03	21:34	20:33	19:21	17:17	16:33 67 10:35 (1)	16:36 41 10:44 (1)
31	08:22	09:01 (3)			07:19		05:27		05:58	06:48		07:31 09:57 (1)		08:48 10:04 (1)
	17:24 98	10:58 (1)			20:10		21:48		21:33	20:31		17:15 13 10:10 (1)		16:37 41 10:45 (1)
Potential sun hours	259		277		367	416	485	499	502	454	381	331	266	243
Total, worst case	2314		618									13	2395	1341
Sun reduction	0,24		0,30									0,34	0,24	0,20
Oper. time red.	0,95		0,95									0,95	0,95	0,95
Wind dir. red.	0,60		0,60									0,61	0,60	0,61
Total reduction	0,14		0,17									0,19	0,13	0,12
Total, real	314		106									3	320	157

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
20-12-2018 09:08/3.2.737

SHADOW - Calendar

Calculation: Copy of V150@166Shadow receptor: AP - 3998NL69

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	08:12 (4)	06:12	07:24 (3)	05:26	07:09 (3)	05:23	07:15 (3)	06:00	07:23 (3)	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12 36	08:48 (4)	21:03 47	08:11 (3)	21:49 74	08:23 (3)	22:03 73	08:28 (3)	21:31 67	08:30 (3)	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	08:12 (4)	06:10	07:22 (3)	05:25	07:09 (3)	05:24	07:15 (3)	06:01	07:23 (3)	06:51	07:40	07:35	08:25
	16:39	17:28	18:20	20:14 35	08:47 (4)	21:05 50	08:12 (3)	21:50 74	08:23 (3)	22:02 74	08:29 (3)	21:29 66	08:29 (3)	20:26	19:17	17:11	16:32
3	08:48	08:18	07:23	07:12	08:13 (4)	06:08	07:20 (3)	05:25	07:09 (3)	05:25	07:15 (3)	06:03	07:24 (3)	06:53	08:18 (4)	07:42	07:36	08:27
	16:40	17:30	18:21	20:15 33	08:46 (4)	21:06 53	08:13 (3)	21:51 75	08:24 (3)	22:02 73	08:28 (3)	21:28 65	08:29 (3)	20:24 13	08:31 (4)	19:14	17:09	16:31
4	08:47	08:16	07:21	07:10	08:13 (4)	06:06	07:19 (3)	05:24	07:09 (3)	05:25	07:15 (3)	06:04	07:24 (3)	06:55	08:16 (4)	07:44	07:38	08:28
	16:41	17:32	18:23	20:17 31	08:44 (4)	21:08 56	08:15 (3)	21:52 74	08:23 (3)	22:02 74	08:29 (3)	21:26 64	08:28 (3)	20:22 18	08:34 (4)	19:12	17:07	16:31
5	08:47	08:14	07:19	07:07	08:14 (4)	06:04	07:18 (3)	05:23	07:09 (3)	05:26	07:16 (3)	06:06	07:24 (3)	06:56	08:13 (4)	07:46	07:40	08:29
	16:43	17:33	18:25	20:19 29	08:43 (4)	21:10 57	08:15 (3)	21:53 74	08:23 (3)	22:01 73	08:29 (3)	21:24 63	08:27 (3)	20:20 22	08:35 (4)	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	08:15 (4)	06:02	07:16 (3)	05:23	07:10 (3)	05:27	07:16 (3)	06:08	07:26 (3)	06:58	08:11 (4)	07:47	07:42	08:31
	16:44	17:35	18:27	20:20 26	08:41 (4)	21:11 60	08:16 (3)	21:54 74	08:24 (3)	22:01 74	08:30 (3)	21:22 61	08:27 (3)	20:17 26	08:37 (4)	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	08:17 (4)	06:01	07:16 (3)	05:22	07:09 (3)	05:28	07:16 (3)	06:09	07:26 (3)	06:59	08:09 (4)	07:49	07:44	08:32
	16:45	17:37	18:28	20:22 22	08:39 (4)	21:13 61	08:17 (3)	21:55 74	08:23 (3)	22:00 74	08:30 (3)	21:20 59	08:25 (3)	20:15 29	08:38 (4)	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	08:18 (4)	05:59	07:15 (3)	05:21	07:10 (3)	05:29	07:16 (3)	06:11	07:28 (3)	07:01	08:08 (4)	07:51	07:45	08:33
	16:46	17:39	18:30	20:24 18	08:36 (4)	21:14 63	08:18 (3)	21:56 74	08:24 (3)	21:59 74	08:30 (3)	21:19 57	08:25 (3)	20:13 31	08:39 (4)	19:03	17:00	16:29
9	08:45	08:07	07:10	06:58	08:20 (4)	05:57	07:13 (3)	05:21	07:11 (3)	05:30	07:16 (3)	06:12	07:28 (3)	07:03	08:06 (4)	07:52	07:47	08:34
	16:48	17:41	18:32	20:25 13	08:33 (4)	21:16 65	08:18 (3)	21:57 73	08:24 (3)	21:59 74	08:30 (3)	21:17 55	08:23 (3)	20:10 34	08:40 (4)	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56		05:55	07:13 (3)	05:21	07:10 (3)	05:31	07:16 (3)	06:14	07:30 (3)	07:04	08:06 (4)	07:54	07:49	08:35
	16:49	17:43	18:34	20:27		21:18 66	08:19 (3)	21:57 74	08:24 (3)	21:58 74	08:30 (3)	21:15 52	08:22 (3)	20:08 34	08:40 (4)	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54		05:54	07:12 (3)	05:20	07:11 (3)	05:32	07:16 (3)	06:16	07:31 (3)	07:06	08:04 (4)	07:56	07:51	08:37
	16:51	17:45	18:36	20:29		21:19 67	08:19 (3)	21:58 73	08:24 (3)	21:57 75	08:31 (3)	21:13 49	08:20 (3)	20:06 36	08:40 (4)	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52		05:52	07:12 (3)	05:20	07:11 (3)	05:33	07:16 (3)	06:17	07:33 (3)	07:08	08:04 (4)	07:57	07:52	08:38
	16:52	17:46	18:37	20:31		21:21 68	08:20 (3)	21:59 73	08:24 (3)	21:56 75	08:31 (3)	21:11 46	08:19 (3)	20:03 37	08:41 (4)	18:54	16:54	16:28
13	08:43	08:00	07:00	06:49		05:50	07:11 (3)	05:20	07:12 (3)	05:34	07:16 (3)	06:19	07:34 (3)	07:09	08:04 (4)	07:59	07:54	08:39
	16:53	17:48	18:39	20:32		21:22 69	08:20 (3)	22:00 73	08:25 (3)	21:56 75	08:31 (3)	21:09 43	08:17 (3)	20:01 37	08:41 (4)	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47		05:49	07:11 (3)	05:19	07:11 (3)	05:35	07:17 (3)	06:20	07:36 (3)	07:11	08:02 (4)	08:01	07:56	08:40
	16:55	17:50	18:41	20:34		21:24 70	08:21 (3)	22:00 73	08:24 (3)	21:55 74	08:31 (3)	21:07 40	08:16 (3)	19:59 38	08:40 (4)	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45		05:47	07:10 (3)	05:19	07:11 (3)	05:36	07:18 (3)	06:22	07:38 (3)	07:13	08:03 (4)	08:03	07:58	08:40
	16:57	17:52	18:43	20:36		21:26 71	08:21 (3)	22:01 73	08:24 (3)	21:54 74	08:32 (3)	21:05 36	08:14 (3)	19:56 37	08:40 (4)	18:48	16:50	16:28
16	08:41	07:54	06:54	06:43		05:46	07:10 (3)	05:19	07:12 (3)	05:38	07:18 (3)	06:24	07:40 (3)	07:14	08:02 (4)	08:04	08:00	08:41
	16:58	17:54	18:44	20:37		21:27 71	08:21 (3)	22:01 72	08:24 (3)	21:53 74	08:32 (3)	21:03 31	08:11 (3)	19:54 37	08:39 (4)	18:45	16:48	16:28
17	08:40	07:52	06:51	07:31 (4)	06:41	05:44	07:10 (3)	05:19	07:12 (3)	05:39	07:18 (3)	06:25	07:43 (3)	07:16	08:02 (4)	08:06	08:01	08:42
	17:00	17:56	18:46 9	07:40 (4)	20:39	21:29 72	08:22 (3)	22:02 73	08:25 (3)	21:52 74	08:32 (3)	21:01 25	08:08 (3)	19:52 37	08:39 (4)	18:43	16:47	16:28
18	08:39	07:50	06:49	07:27 (4)	06:38	05:43	07:09 (3)	05:19	07:12 (3)	05:40	07:18 (3)	06:27	07:47 (3)	07:17	08:02 (4)	08:08	08:03	08:43
	17:01	17:58	18:48 17	07:44 (4)	20:41	21:30 73	08:22 (3)	22:02 73	08:25 (3)	21:50 74	08:32 (3)	20:59 15	08:02 (3)	19:49 37	08:39 (4)	18:41	16:46	16:29
19	08:38	07:48	06:47	07:23 (4)	06:36	05:41	07:09 (3)	05:19	07:12 (3)	05:41	07:18 (3)	06:29		07:19	08:02 (4)	08:10	08:05	08:44
	17:03	17:59	18:49 23	07:46 (4)	20:43	21:32 73	08:22 (3)	22:02 73	08:25 (3)	21:49 74	08:32 (3)	20:57		19:47 35	08:37 (4)	18:39	16:44	16:29
20	08:37	07:46	06:44	07:21 (4)	06:34	05:40	07:09 (3)	05:19	07:13 (3)	05:43	07:19 (3)	06:30		07:21	08:03 (4)	08:11	08:06	08:44
	17:05	18:01	18:51 26	07:47 (4)	20:44	21:33 73	08:22 (3)	22:03 73	08:26 (3)	21:48 74	08:33 (3)	20:55		19:45 34	08:37 (4)	18:37	16:43	16:29
21	08:36	07:44	06:42	07:20 (4)	06:32	05:38	07:09 (3)	05:19	07:13 (3)	05:44	07:19 (3)	06:32		07:22	08:03 (4)	08:13	08:08	08:45
	17:06	18:03	18:53 29	07:49 (4)	20:46	21:35 74	08:23 (3)	22:03 73	08:26 (3)	21:47 74	08:33 (3)	20:53		19:42 32	08:35 (4)	18:35	16:42	16:30
22	08:34	07:42	06:40	07:18 (4)	06:30	05:37	07:08 (3)	05:19	07:13 (3)	05:45	07:19 (3)	06:33		07:24	08:04 (4)	08:15	08:10	08:45
	17:08	18:05	18:55 31	07:49 (4)	20:48	21:36 74	08:22 (3)	22:03 73	08:26 (3)	21:46 73	08:32 (3)	20:51		19:40 30	08:34 (4)	18:33	16:41	16:30
23	08:33	07:40	06:37	07:17 (4)	06:28	05:36	07:08 (3)	05:20	07:13 (3)	05:47	07:19 (3)	06:35		07:26	08:06 (4)	08:17	08:11	08:46
	17:10	18:07	18:56 33	07:50 (4)	20:49	21:37 74	08:22 (3)	22:03 73	08:26 (3)	21:44 73	08:32 (3)	20:49		19:38 26	08:32 (4)	18:31	16:40	16:31
24	08:32	07:38	06:35	07:16 (4)	06:26	05:35	07:08 (3)	05:20	07:14 (3)	05:48	07:20 (3)	06:37		07:27	08:06 (4)	08:18	08:13	08:46
	17:12	18:09	18:58 35	07:51 (4)	20:51	21:39 75	08:23 (3)	22:04 73	08:27 (3)	21:43 73	08:33 (3)	20:46		19:35 24	08:30 (4)	18:28	16:38	16:31
25	08:31	07:36	06:33	07:14 (4)	06:24 07:39 (3)	05:33	07:08 (3)	05:20	07:14 (3)	05:49	07:20 (3)	06:38		07:29	08:09 (4)	07:20	08:15	08:47
	17:13	18:10	19:00 36	07:50 (4)	20:53 18 07:57 (3)	21:40 75	08:23 (3)	22:04 73	08:27 (3)	21:42 72	08:32 (3)	20:44		19:33 19	08:28 (4)	17:26	16:37	16:32
26	08:29	07:34	06:30	07:14 (4)	06:22 07:35 (3)	05:32	07:08 (3)	05:21	07:14 (3)	05:51	07:19 (3)	06:40		07:31	08:12 (4)	07:22	08:16	08:47
	17:15	18:12	19:02 37	07:51 (4)	20:54 26 08:01 (3)	21:41 75	08:23 (3)	22:04 72	08:26 (3)	21:40 73	08:32 (3)	20:42		19:31 13	08:25 (4)	17:24	16:37	16:33
27	08:28	07:32	06:28	07:13 (4)	06:20 07:33 (3)	05:31	07:08 (3)	05:21	07:14 (3)	05:52	07:20 (3)	06:42		07:32		07:24	08:18	08:47
	17:17	18:14	19:03 38	07:51 (4)	20:56 32 08:05 (3)	21:43 75	08:23 (3)	22:04 73	08:27 (3)	21:39 72	08:32 (3)	20:40		19:28		17:22	16:36	16:33
28	08:27	07:30	06:26	07:12 (4)	06:18 07:30 (3)	05:30	07:08 (3)	05:22	07:14 (3)	05:54	07:20 (3)	06:43		07:34		07:26	08:19	08:47
	17:19	18:16	19:05 38	07:50 (4)	20:58 37 08:07 (3)	21:44 75	08:23 (3)	22:03 73	08:27 (3)	21:37 72	08:32 (3)	20:38		19:26		17:20	16:35	16:34
29	08:25		07:24	08:12 (4)	06:16 07:28 (3)	05:29	07:08 (3)	05:22	07:15 (3)	05:55	07:20 (3)	06:45		07:35		07:27	08:21	08:48
	17:20		20:07 38	08:50 (4)	21:00 41 08:09 (3)	21:45 75	08:23 (3)	22:03 73	08:28 (3)	21:36 71	08:31 (3)	20:35		19:24		17:19	16:34	16:35
30	08:24		07:21	08:12 (4)	06:14 07:26 (3)	05:28	07:08 (3)	05:23	07:14 (3)	05:57	07:22 (3)	06:46		07:37		07:29	08:22	08:48
	17:22		20:08 38	08:50 (4)	21:01 44 08:10 (3)	21:46 75	08:23 (3)	22:03 74	08:28 (3)	21:34 69	08:31 (3)	20:33		19:21		17:17	16:33	16:36
31	08:22		07:19	08:12 (4)		05:27	07:09 (3)			05:58	07:22 (3)	06:48				07:31		08:48
	17:24		20:10 37	08:49 (4)		21:48 75	08:24 (3)			21:32 68	08:30 (3)	20:31				17:15		16:37
Potential sun hours	259	277	367	416		485		499		502		454		381		331	266	243
Total, worst case			465	441		2107		2199		2270		894		716				
Sun reduction			0,33	0,42		0,43		0,39		0,41		0,42		0,36				
Oper. time red.			0,95	0,95		0,95		0,95		0,95		0,95		0,95				
Wind dir. red.			0,60	0,61		0,63		0,63		0,63		0,63		0,60				
Total reduction			0,19	0,24		0,25		0,23		0,24		0,25		0,21				
Total, real			87	107		536		511		550		222		148				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
20-12-2018 09:08/3.2.737

SHADOW - Calendar

Calculation: Copy of V150@166Shadow receptor: AQ - 3998JK67

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 - 16:38	08:21 - 17:26	07:27 - 18:18	07:17 - 20:12	06:12 - 21:03 (10)	06:58 (2) - 07:08 (2)	05:26 - 21:49 (28)	06:08 (1) - 06:36 (1)	05:23 - 22:03 (26)	06:15 (1) - 06:41 (1)	06:00 - 21:31	06:50 - 20:29	07:39 - 19:19	07:33 - 17:13	08:24 - 16:32
2	08:48 - 16:39	08:19 - 17:28	07:25 - 18:20	07:14 - 20:14	06:10 - 21:05 (2)	07:02 (2) - 07:04 (2)	05:26 - 21:50 (28)	06:08 (1) - 06:36 (1)	05:24 - 22:03 (27)	06:15 (1) - 06:42 (1)	06:01 - 21:29	06:51 - 20:27	07:41 - 19:17	07:35 - 17:11	08:25 - 16:32
3	08:48 - 16:40	08:18 - 17:30	07:23 - 18:21	07:12 - 20:15	06:08 - 21:06	05:25 - 21:51 (27)	06:09 (1) - 06:36 (1)	05:25 - 22:02 (26)	06:16 (1) - 06:42 (1)	06:03 - 21:28	06:53 - 20:24	07:42 - 19:15	07:36 - 17:09	08:27 - 16:31
4	08:47 - 16:41	08:16 - 17:32	07:21 - 18:23	07:10 - 20:17	06:06 - 21:08	05:24 - 21:52 (27)	06:09 (1) - 06:36 (1)	05:26 - 22:02 (27)	06:15 (1) - 06:42 (1)	06:05 - 21:26	06:55 - 20:22	07:44 - 19:12	07:38 - 17:07	08:28 - 16:31
5	08:47 - 16:43	08:14 - 17:33	07:19 - 18:25	07:08 - 20:19	06:04 - 21:10	05:23 - 21:53 (28)	06:09 (1) - 06:37 (1)	05:26 - 22:01 (27)	06:15 (1) - 06:42 (1)	06:06 - 21:24	06:56 - 20:20	07:46 - 19:10	07:40 - 17:06	08:29 - 16:30
6	08:47 - 16:44	08:13 - 17:35	07:16 - 18:27	07:05 - 20:20	06:02 - 21:11	05:23 - 21:54 (27)	06:09 (1) - 06:36 (1)	05:27 - 22:01 (27)	06:16 (1) - 06:43 (1)	06:08 - 21:22	06:58 - 20:17	07:47 - 19:08	07:42 - 17:04	08:31 - 16:30
7	08:46 - 16:45	08:11 - 17:37	07:14 - 18:29	07:03 - 20:22	06:01 - 21:13	05:22 - 21:55 (27)	06:10 (1) - 06:37 (1)	05:28 - 22:00 (27)	06:16 (1) - 06:43 (1)	06:09 - 21:21	07:00 - 20:15	07:49 - 19:05	07:44 - 17:02	08:32 - 16:29
8	08:46 - 16:46	08:09 - 17:39	07:12 - 18:30	07:01 - 20:24	05:59 - 21:15	05:22 - 21:56 (26)	06:10 (1) - 06:36 (1)	05:29 - 22:00 (27)	06:16 (1) - 06:43 (1)	06:11 - 21:19	07:01 - 20:13	07:51 - 19:03	07:45 - 17:01	08:33 - 16:29
9	08:46 - 16:48	08:08 - 17:41	07:10 - 18:32	06:58 - 20:26	05:57 - 21:16	05:21 - 21:57 (27)	06:10 (1) - 06:37 (1)	05:30 - 21:59 (28)	06:16 (1) - 06:44 (1)	06:12 - 21:17	07:03 - 20:11	07:52 - 19:01	07:47 - 16:59	08:34 - 16:29
10	08:45 - 16:49	08:06 - 17:43	07:07 - 18:34	06:56 - 20:27	05:55 - 21:18	05:21 - 21:58 (26)	06:10 (1) - 06:36 (1)	05:31 - 21:58 (28)	06:15 (1) - 06:43 (1)	06:14 - 21:15	07:04 - 20:08	07:54 - 18:59	07:49 - 16:57	08:36 - 16:28
11	08:44 - 16:51	08:04 - 17:45	07:05 - 18:36	06:54 - 20:29	05:54 - 21:19	05:20 - 21:58 (26)	06:11 (1) - 06:37 (1)	05:32 - 21:57 (27)	06:16 (1) - 06:43 (1)	06:16 - 21:13 (6)	07:09 (2) - 07:15 (2)	07:06 - 20:06	07:56 - 18:56	07:51 - 16:56	08:37 - 16:28
12	08:44 - 16:52	08:02 - 17:47	07:03 - 18:37	06:52 - 20:31	05:52 - 21:21	05:20 - 21:59 (26)	06:11 (1) - 06:37 (1)	05:33 - 21:57 (27)	06:16 (1) - 06:43 (1)	06:17 - 21:11 (11)	07:06 (2) - 07:17 (2)	07:08 - 20:04	07:58 - 18:54	07:53 - 16:54	08:38 - 16:28
13	08:43 - 16:54	08:00 - 17:48	07:01 - 18:39	06:49 - 20:32	05:50 - 21:23	05:20 - 22:00 (25)	06:12 (1) - 06:37 (1)	05:34 - 21:56 (27)	06:17 (1) - 06:44 (1)	06:19 - 21:09 (14)	07:05 (2) - 07:19 (2)	07:09 - 20:01	07:59 - 18:52	07:54 - 16:53	08:39 - 16:28
14	08:42 - 16:55	07:58 - 17:50	06:58 - 18:41	06:47 - 20:34	05:49 - 21:24	05:19 - 22:00 (26)	06:12 (1) - 06:38 (1)	05:35 - 21:55 (27)	06:17 (1) - 06:44 (1)	06:21 - 21:07 (17)	07:03 (2) - 07:20 (2)	07:11 - 19:59	08:01 - 18:50	07:56 - 16:51	08:40 - 16:28
15	08:41 - 16:57	07:56 - 17:52	06:56 - 18:43	06:45 - 20:36	05:47 - 21:26	05:19 - 22:01 (26)	06:11 (1) - 06:37 (1)	05:36 - 21:54 (27)	06:17 (1) - 06:44 (1)	06:22 - 21:05 (18)	07:03 (2) - 07:21 (2)	07:13 - 19:57	08:03 - 18:48	07:58 - 16:50	08:41 - 16:28
16	08:41 - 16:58	07:54 - 17:54	06:54 - 18:44	06:43 - 20:38	05:46 - 21:27 (10)	06:16 (1) - 06:26 (1)	05:19 - 22:01 (25)	06:12 (1) - 06:37 (1)	05:38 - 21:53 (27)	06:17 (1) - 06:44 (1)	07:01 (2) - 07:21 (2)	07:14 - 19:54	08:04 - 18:45	08:00 - 16:48	08:41 - 16:28
17	08:40 - 17:00	07:52 - 17:56	06:51 - 18:46	06:41 - 20:39 (6)	07:04 (2) - 07:10 (2) (13)	05:44 - 06:28 (1)	06:15 (1) - 06:28 (1) (13)	05:19 - 22:02 (25)	06:12 (1) - 06:37 (1)	05:39 - 21:52 (27)	06:17 (1) - 06:44 (1)	06:25 - 21:01 (21)	07:01 (2) - 07:22 (2)	07:16 - 19:52	08:42 - 16:28
18	08:39 - 17:01	07:50 - 17:58	06:49 - 18:48	06:39 - 20:41 (11)	07:02 (2) - 07:13 (2) (16)	05:43 - 06:29 (1)	06:13 (1) - 06:29 (1) (25)	05:19 - 22:02 (25)	06:12 (1) - 06:37 (1)	05:40 - 21:51 (26)	06:18 (1) - 06:44 (1)	06:27 - 20:59 (21)	07:00 (2) - 07:17 (2)	07:17 - 19:47	08:43 - 16:29
19	08:38 - 17:03	07:48 - 18:00	06:47 - 18:50	06:36 - 20:43 (14)	07:00 (2) - 07:14 (2) (18)	05:41 - 06:30 (1)	06:12 (1) - 06:30 (1) (25)	05:19 - 22:03 (25)	06:13 (1) - 06:38 (1)	05:41 - 21:49 (25)	06:18 (1) - 06:43 (1)	06:29 - 20:57 (21)	07:00 (2) - 07:21 (2)	07:19 - 19:47	08:08 - 16:29
20	08:37 - 17:05	07:46 - 18:01	06:44 - 18:51	06:34 - 20:44 (17)	06:58 (2) - 07:15 (2) (20)	05:40 - 06:31 (1)	06:11 (1) - 06:31 (1) (24)	05:19 - 22:03 (24)	06:14 (1) - 06:38 (1)	05:43 - 21:48 (25)	06:19 (1) - 06:44 (1)	06:30 - 20:55 (21)	07:00 (2) - 07:21 (2)	07:21 - 19:45	08:10 - 16:29
21	08:36 - 17:06	07:44 - 18:03	06:42 - 18:53	06:32 - 20:46 (20)	06:56 (2) - 07:16 (2) (22)	05:39 - 06:32 (1)	06:10 (1) - 06:32 (1) (24)	05:19 - 22:03 (24)	06:14 (1) - 06:38 (1)	05:44 - 21:47 (24)	06:19 (1) - 06:43 (1)	06:32 - 20:53 (21)	07:00 (2) - 07:21 (2)	07:22 - 19:43	08:06 - 16:29
22	08:35 - 17:08	07:42 - 18:05	06:40 - 18:55	06:30 - 20:48 (20)	06:56 (2) - 07:16 (2) (23)	05:37 - 06:32 (1)	06:09 (1) - 06:32 (1) (24)	05:19 - 22:03 (24)	06:14 (1) - 06:38 (1)	05:45 - 21:46 (22)	06:20 (1) - 06:42 (1)	06:34 - 20:51 (19)	07:00 (2) - 07:19 (2)	07:24 - 19:40	08:08 - 16:29
23	08:33 - 17:10	07:40 - 18:07	06:38 - 18:56	06:28 - 20:49 (21)	06:55 (2) - 07:16 (2) (24)	05:36 - 06:33 (1)	06:09 (1) - 06:33 (1) (24)	05:20 - 22:04 (25)	06:13 (1) - 06:38 (1)	05:47 - 21:44 (21)	06:20 (1) - 06:41 (1)	06:35 - 20:49 (17)	07:02 (2) - 07:19 (2)	07:26 - 19:38	08:16 - 16:30
24	08:32 - 17:12	07:38 - 18:09	06:35 - 18:58	06:26 - 20:51 (21)	06:55 (2) - 07:16 (2) (25)	05:35 - 06:33 (1)	06:08 (1) - 06:33 (1) (25)	05:20 - 22:04 (25)	06:14 (1) - 06:39 (1)	05:48 - 21:43 (19)	06:22 (1) - 06:41 (1)	06:37 - 20:46 (14)	07:03 (2) - 07:17 (2)	07:27 - 19:35	08:18 - 16:31
25	08:31 - 17:13	07:36 - 18:11	06:33 - 19:00	06:24 - 20:53 (20)	06:55 (2) - 07:15 (2) (26)	05:34 - 06:34 (1)	06:08 (1) - 06:34 (1) (25)	05:20 - 22:04 (25)	06:14 (1) - 06:39 (1)	05:50 - 21:42 (17)	06:23 (1) - 06:40 (1)	06:38 - 20:44 (10)	07:05 (2) - 07:15 (2)	07:29 - 19:33	08:15 - 16:32
26	08:30 - 17:15	07:34 - 18:12	06:31 - 19:02	06:22 - 20:55 (20)	06:55 (2) - 07:15 (2) (26)	05:32 - 06:34 (1)	06:08 (1) - 06:34 (1) (25)	05:21 - 22:04 (25)	06:14 (1) - 06:39 (1)	05:51 - 21:40 (15)	06:24 (1) - 06:39 (1)	06:40 - 20:42 (6)	07:07 (2) - 07:13 (2)	07:31 - 19:31	08:47 - 16:33
27	08:28 - 17:17	07:32 - 18:14	06:28 - 19:03	06:20 - 20:56 (19)	06:55 (2) - 07:14 (2) (27)	05:31 - 06:35 (1)	06:08 (1) - 06:35 (1) (25)	05:21 - 22:04 (25)	06:15 (1) - 06:40 (1)	05:52 - 21:39 (12)	06:26 (1) - 06:38 (1)	06:42 - 20:40	07:32 - 19:28	07:24 - 17:23	08:18 - 16:36	08:47 - 16:33
28	08:27 - 17:19	07:30 - 18:16	06:26 - 19:05	06:18 - 20:58 (18)	06:55 (2) - 07:13 (2) (27)	05:30 - 06:35 (1)	06:08 (1) - 06:35 (1) (26)	05:22 - 22:04 (25)	06:14 (1) - 06:40 (1)	05:54 - 21:37 (7)	06:28 (1) - 06:35 (1)	06:43 - 20:38	07:34 - 19:26	07:26 - 17:21	08:19 - 16:35	08:48 - 16:34
29	08:25 - 17:21		07:24 - 20:07	06:16 - 21:00 (16)	06:56 (2) - 07:12 (2) (27)	05:29 - 06:35 (1) (27)	06:08 (1) - 06:35 (1) (25)	05:22 - 22:03 (25)	06:15 (1) - 06:40 (1)	05:55 - 21:36		06:45 - 20:36	07:36 - 19:24	07:27 - 17:19	08:21 - 16:34	08:48 - 16:35
30	08:24 - 17:22		07:21 - 20:08	06:14 - 21:01 (13)	06:57 (2) - 07:10 (2) (28)	05:28 - 06:36 (1) (28)	06:08 (1) - 06:36 (1) (26)	05:23 - 22:03 (26)	06:15 (1) - 06:41 (1)	05:57 - 21:34		06:47 - 20:33	07:37 - 19:22	07:29 - 17:17	08:22 - 16:33	08:48 - 16:36
31	08:22 - 17:24		07:19 - 20:10		05:27 - 21:48 (28)	06:08 (1) - 06:36 (1)				05:58 - 21:33		06:48 - 20:31		07:31 - 17:15		08:48 - 16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case				236	372	774	672	257				
Sun reduction				0,42	0,43	0,39	0,41	0,42				
Oper. time red.				0,95	0,95	0,95	0,95	0,95				
Wind dir. red.				0,63	0,67	0,67	0,67	0,63				
Total reduction				0,25	0,27	0,25	0,26	0,25				
Total, real				59	101	192	174	64				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
20-12-2018 09:08/3.2.737

SHADOW - Calendar

Calculation: Copy of V150@166Shadow receptor: AR - 3945LA1

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 - 16:38 (8)	08:21 - 15:54 (4) 17:26 - 18:19 (24)	07:27 - 17:30 (20)	07:16 - 20:12 (13)	06:12 - 21:03 (15)	05:26 - 21:49 (16)	05:23 - 22:03 (16)	06:00 - 21:31 (15)	06:50 - 20:29 (13)	07:39 - 19:19 (12)	18:26 (2) - 18:43 (2) (17)	07:33 - 16:32 (9)	08:24 - 15:32 (4) 15:51 (4) (19)
2	08:48 - 16:39 (8)	08:19 - 15:55 (4) 17:28 - 18:19 (22)	07:25 - 17:28 (22)	07:14 - 20:13 (13)	06:10 - 21:04 (15)	05:25 - 21:50 (16)	05:24 - 22:02 (16)	06:01 - 21:29 (15)	06:51 - 20:26 (13)	07:40 - 19:17 (12)	18:25 (2) - 18:44 (2) (19)	07:34 - 17:11 (18)	08:25 - 15:33 (4) 15:51 (4) (18)
3	08:47 - 16:40 (8)	08:18 - 15:57 (4) 17:30 - 18:21 (20)	07:23 - 20:15 (13)	07:12 - 21:06 (15)	06:08 - 21:51 (16)	05:25 - 22:02 (16)	05:25 - 21:27 (16)	06:03 - 21:27 (15)	06:53 - 20:24 (13)	07:42 - 19:14 (12)	18:24 (2) - 18:43 (2) (19)	07:36 - 17:09 (16)	08:27 - 15:34 (4) 15:50 (4) (16)
4	08:47 - 16:41 (8)	08:16 - 15:59 (4) 17:31 - 18:23 (16)	07:21 - 17:57 (2) 20:17 (3)	07:10 - 21:08 (15)	06:06 - 21:52 (16)	05:24 - 22:02 (16)	05:25 - 21:26 (16)	06:04 - 21:26 (15)	06:54 - 20:22 (13)	07:44 - 19:12 (12)	18:24 (2) - 18:43 (2) (19)	07:38 - 17:07 (16)	08:28 - 15:35 (4) 16:30 (14) 15:49 (4)
5	08:47 - 16:42 (8)	15:55 (4) 15:59 (4) (4) 08:14 - 17:33 (11)	16:01 (4) 16:12 (4) (4) 07:18 - 18:25 (8)	17:51 (2) - 17:59 (2) 20:19 (3)	07:07 - 21:09 (15)	06:04 - 21:53 (16)	05:23 - 22:01 (16)	05:26 - 21:24 (16)	06:06 - 20:20 (13)	06:56 - 19:10 (12)	18:24 (2) - 18:42 (2) (18)	07:40 - 17:05 (3)	15:35 (4) 15:38 (4) (3) 08:29 - 16:30 (11) 15:37 (4) 15:48 (4)
6	08:47 - 16:44 (8)	15:53 (4) 16:01 (4) (4) 08:13 - 17:35 (11)	07:16 - 18:27 (11)	17:49 (2) - 18:00 (2) 20:20 (3)	07:05 - 21:11 (15)	06:02 - 21:54 (16)	05:22 - 22:01 (16)	05:27 - 21:22 (16)	06:07 - 20:17 (13)	06:58 - 19:08 (12)	18:23 (2) - 18:39 (2) (16)	07:42 - 17:04 (12)	15:31 (4) 08:31 - 15:43 (4) 16:29 (8) 15:39 (4) 15:47 (4)
7	08:46 - 16:45 (8)	15:52 (4) 16:03 (4) (4) 08:11 - 17:37 (11)	07:14 - 18:28 (14)	17:48 (2) - 18:02 (2) 20:22 (3)	07:03 - 21:13 (15)	06:00 - 21:55 (16)	05:22 - 22:00 (16)	05:28 - 21:20 (16)	06:09 - 20:15 (13)	06:59 - 19:05 (13)	18:24 (2) - 18:37 (2) (17)	07:43 - 17:02 (17)	15:28 (4) 08:32 - 15:45 (4) 16:29 (4) 15:42 (4) 15:46 (4)
8	08:46 - 16:46 (8)	15:51 (4) 16:04 (4) (4) 08:09 - 17:39 (11)	07:12 - 18:30 (18)	17:47 (2) - 18:05 (2) 20:24 (3)	07:00 - 21:14 (15)	05:59 - 21:56 (16)	05:21 - 21:59 (16)	05:29 - 21:19 (16)	06:11 - 20:13 (13)	07:01 - 19:03 (10)	18:25 (2) - 18:35 (2) (10)	07:45 - 17:00 (19)	15:27 (4) 08:33 - 15:46 (4) 16:29
9	08:45 - 16:48 (8)	15:50 (4) 16:06 (4) (4) 08:07 - 17:41 (11)	07:09 - 18:32 (19)	17:47 (2) - 18:06 (2) 20:25 (3)	06:58 - 21:16 (15)	05:57 - 21:57 (16)	05:21 - 21:59 (16)	05:30 - 21:17 (16)	06:12 - 20:10 (13)	07:03 - 19:01 (6)	18:27 (2) - 18:33 (2) (6)	07:47 - 16:59 (23)	15:25 (4) 08:34 - 15:48 (4) 16:28
10	08:45 - 16:49 (8)	15:50 (4) 16:08 (4) (4) 08:06 - 17:43 (11)	07:07 - 18:34 (19)	17:46 (2) - 18:05 (2) 20:27 (3)	06:56 - 21:18 (15)	05:55 - 21:57 (16)	05:20 - 21:58 (16)	05:31 - 21:15 (16)	06:14 - 20:08 (13)	07:04 - 18:58 (0)		07:49 - 16:57 (25)	15:24 (4) 08:35 - 15:49 (4) 16:28
11	08:44 - 16:50 (8)	15:50 (4) 16:09 (4) (4) 08:04 - 17:44 (11)	07:05 - 18:35 (19)	17:46 (2) - 18:05 (2) 20:29 (3)	06:54 - 21:19 (15)	05:53 - 21:58 (16)	05:20 - 21:57 (16)	05:32 - 21:13 (16)	06:15 - 20:06 (13)	07:06 - 18:56 (0)		07:51 - 16:56 (26)	15:24 (4) 08:36 - 15:50 (4) 16:28
12	08:44 - 16:52 (8)	15:49 (4) 16:10 (4) (4) 08:02 - 17:46 (11)	07:03 - 18:37 (17)	17:47 (2) - 18:04 (2) 20:31 (3)	06:51 - 21:21 (15)	05:52 - 21:59 (16)	05:20 - 21:56 (16)	05:33 - 21:11 (16)	06:17 - 20:03 (13)	07:08 - 18:54 (0)		07:57 - 16:54 (27)	15:23 (4) 08:38 - 15:50 (4) 16:28
13	08:43 - 16:53 (8)	15:49 (4) 16:11 (4) (4) 08:00 - 17:48 (10)	17:09 (3) 17:19 (3) (24) 07:00 - 18:39 (16)	17:47 (2) - 18:03 (2) 20:32 (3)	06:49 - 21:22 (15)	05:50 - 21:59 (16)	05:19 - 21:55 (16)	05:34 - 21:09 (16)	06:19 - 20:01 (13)	07:09 - 18:52 (1)	17:46 (3) - 17:47 (3) (1) 16:52 (28)	07:54 - 16:48 (30)	15:23 (4) 08:39 - 15:51 (4) 16:28
14	08:42 - 16:55 (8)	15:48 (4) 16:12 (4) (4) 07:58 - 17:50 (14)	17:07 (3) 17:21 (3) (24) 06:58 - 18:41 (14)	17:48 (2) - 18:02 (2) 20:34 (3)	06:47 - 21:24 (15)	05:49 - 22:00 (16)	05:19 - 21:55 (16)	05:35 - 21:07 (16)	06:20 - 19:59 (13)	07:11 - 18:50 (11)	17:41 (3) - 17:52 (3) (11) 16:51 (29)	07:56 - 16:52 (29)	15:23 (4) 08:39 - 15:52 (4) 16:28
15	08:41 - 16:56 (8)	15:48 (4) 16:13 (4) (4) 07:56 - 17:52 (18)	17:05 (3) 17:23 (3) (24) 06:56 - 18:42 (10)	17:50 (2) - 18:00 (2) 20:36 (3)	06:45 - 21:26 (15)	05:47 - 22:01 (16)	05:19 - 21:54 (16)	05:36 - 21:05 (16)	06:22 - 19:56 (13)	07:12 - 18:47 (16)	17:37 (3) - 17:53 (3) (16) 16:50 (29)	07:58 - 16:52 (29)	15:23 (4) 08:40 - 15:52 (4) 16:28
16	08:40 - 16:58 (8)	15:48 (4) 16:14 (4) (4) 07:54 - 17:54 (20)	17:04 (3) 17:24 (3) (24) 06:53 - 18:44 (12)	06:43 - 20:37 (13)	05:45 - 21:27 (15)	05:19 - 22:01 (16)	05:37 - 21:53 (16)	06:24 - 21:03 (16)	07:14 - 19:54 (13)	07:14 - 18:45 (18)	17:36 (3) - 17:54 (3) (18) 16:48 (30)	07:59 - 16:47 (30)	15:23 (4) 08:41 - 15:53 (4) 16:28
17	08:40 - 17:00 (8)	15:48 (4) 16:15 (4) (4) 07:52 - 17:56 (22)	17:03 (3) 17:25 (3) (24) 06:51 - 18:46 (12)	06:40 - 20:39 (13)	05:44 - 21:29 (15)	05:19 - 22:02 (16)	05:39 - 21:51 (16)	06:25 - 21:01 (16)	07:16 - 19:52 (13)	07:17 - 18:43 (20)	17:35 (3) - 17:55 (3) (20) 16:47 (30)	08:01 - 16:48 (30)	15:23 (4) 08:42 - 15:53 (4) 16:28
18	08:39 - 17:01 (8)	15:48 (4) 16:16 (4) (4) 07:50 - 17:57 (23)	17:03 (3) 17:26 (3) (24) 06:49 - 18:48 (12)	06:38 - 20:41 (13)	05:42 - 21:30 (15)	05:19 - 22:02 (16)	05:40 - 21:50 (16)	06:27 - 20:59 (16)	07:17 - 19:49 (13)	07:08 - 18:41 (22)	17:34 (3) - 17:56 (3) (22) 16:45 (30)	08:03 - 16:49 (30)	15:22 (4) 08:43 - 15:52 (4) 16:28
19	08:38 - 17:03 (8)	15:48 (4) 16:17 (4) (4) 07:48 - 17:59 (24)	17:01 (3) 17:25 (3) (24) 06:47 - 18:49 (12)	06:36 - 20:42 (13)	05:41 - 21:32 (15)	05:19 - 22:02 (16)	05:41 - 21:49 (16)	06:28 - 20:57 (16)	07:19 - 19:47 (13)	08:09 - 18:39 (24)	17:33 (3) - 17:57 (3) (24) 16:44 (30)	08:05 - 16:49 (30)	15:23 (4) 08:43 - 15:53 (4) 16:29
20	08:37 - 17:05 (8)	15:49 (4) 16:17 (4) (4) 07:46 - 18:01 (24)	17:01 (3) 17:25 (3) (24) 06:44 - 18:51 (12)	06:34 - 20:44 (13)	05:40 - 21:33 (15)	05:19 - 22:03 (16)	05:42 - 21:48 (16)	06:30 - 20:55 (16)	07:21 - 19:45 (13)	08:11 - 18:37 (24)	17:33 (3) - 17:57 (3) (24) 16:43 (30)	08:06 - 16:48 (30)	15:23 (4) 08:44 - 15:53 (4) 16:29
21	08:35 - 17:06 (8)	15:48 (4) 16:17 (4) (4) 07:44 - 18:03 (24)	17:01 (3) 17:25 (3) (24) 06:42 - 18:53 (12)	06:32 - 20:46 (13)	05:38 - 21:34 (15)	05:19 - 22:03 (16)	05:44 - 21:47 (16)	06:32 - 20:53 (16)	07:22 - 19:42 (13)	08:13 - 18:35 (24)	17:32 (3) - 17:56 (3) (24) 16:42 (29)	08:08 - 16:49 (30)	15:24 (4) 08:45 - 15:53 (4) 16:29
22	08:34 - 17:08 (8)	15:48 (4) 16:18 (4) (4) 07:42 - 18:05 (23)	17:02 (3) 17:25 (3) (24) 06:40 - 18:55 (12)	06:30 - 20:48 (13)	05:37 - 21:36 (15)	05:19 - 22:03 (16)	05:45 - 21:46 (16)	06:33 - 20:51 (16)	07:24 - 19:40 (13)	08:15 - 18:32 (24)	17:32 (3) - 17:56 (3) (24) 16:41 (28)	08:10 - 16:49 (30)	15:25 (4) 08:45 - 15:53 (4) 16:30
23	08:33 - 17:10 (8)	15:49 (4) 16:19 (4) (4) 07:40 - 18:07 (23)	17:02 (3) 17:25 (3) (24) 06:37 - 18:56 (12)	06:28 - 20:49 (13)	05:36 - 21:37 (15)	05:19 - 22:03 (16)	05:47 - 21:44 (16)	06:35 - 20:48 (16)	07:25 - 19:38 (13)	08:17 - 18:30 (23)	17:32 (3) - 17:55 (3) (23) 16:39 (29)	08:11 - 16:54 (29)	15:25 (4) 08:46 - 15:54 (4) 16:30
24	08:32 - 17:11 (8)	15:48 (4) 16:18 (4) (4) 07:38 - 18:09 (22)	17:03 (3) 17:25 (3) (24) 06:35 - 18:58 (12)	06:26 - 20:51 (13)	05:34 - 21:39 (15)	05:20 - 22:03 (16)	05:48 - 21:43 (16)	06:37 - 20:46 (16)	07:27 - 19:35 (13)	08:18 - 18:28 (23)	17:32 (3) - 17:55 (3) (23) 16:38 (28)	08:13 - 16:53 (28)	15:25 (4) 08:46 - 15:53 (4) 16:31
25	08:31 - 17:13 (8)	15:49 (4) 16:19 (4) (4) 07:36 - 18:10 (20)	17:04 (3) 17:24 (3) (24) 06:33 - 19:00 (12)	06:24 - 20:53 (13)	05:33 - 21:40 (15)	05:20 - 22:04 (16)	05:49 - 21:41 (16)	06:38 - 20:44 (16)	07:29 - 19:33 (13)	07:20 - 17:26 (21)	16:33 (3) - 16:54 (3) (21) 16:37 (27)	08:15 - 16:54 (27)	15:26 (4) 08:47 - 15:53 (4) 16:32
26	08:29 - 17:15 (8)	15:50 (4) 16:20 (4) (4) 07:34 - 18:12 (18)	17:04 (3) 17:22 (3) (24) 06:30 - 19:01 (12)	06:21 - 20:54 (13)	05:32 - 21:41 (15)	05:20 - 22:04 (16)	05:51 - 21:40 (16)	06:40 - 20:42 (16)	07:30 - 19:31 (13)	07:22 - 17:24 (19)	16:34 (3) - 16:53 (3) (19) 16:36 (26)	08:16 - 16:53 (26)	15:27 (4) 08:47 - 15:53 (4) 16:32
27	08:28 - 17:17 (8)	15:50 (4) 16:19 (4) (4) 07:32 - 18:14 (14)	17:06 (3) 17:20 (3) (24) 06:28 - 19:03 (12)	06:19 - 20:56 (13)	05:31 - 21:43 (15)	05:21 - 22:03 (16)	05:52 - 21:39 (16)	06:41 - 20:40 (16)	07:32 - 19:28 (13)	07:24 - 17:22 (17)	16:35 (3) - 16:52 (3) (17) 16:35 (25)	08:18 - 16:53 (25)	15:28 (4) 08:47 - 15:53 (4) 16:33
28	08:27 - 17:19 (8)	15:51 (4) 16:20 (4) (4) 07:29 - 18:16 (9)	17:09 (3) 17:18 (3) (24) 06:26 - 19:05 (12)	06:17 - 20:58 (13)	05:30 - 21:44 (15)	05:21 - 22:03 (16)	05:54 - 21:37 (16)	06:43 - 20:38 (16)	07:34 - 18:32 (2) 19:26 - 18:39 (2) (7)	07:25 - 17:20 (13)	16:37 (3) - 16:50 (3) (13) 16:35 (24)	08:19 - 16:54 (24)	15:28 (4) 08:47 - 15:52 (4) 16:34
29	08:25 - 17:20 (8)	15:51 (4) 16:19 (4) (4)	07:23 - 20:07 (12)	06:15 - 20:59 (13)	05:29 - 21:45 (15)	05:22 - 22:03 (16)	05:55 - 21:36 (16)	06:45 - 20:35 (16)	07:35 - 19:24 (12) 18:30 (2) - 18:42 (2)	07:27 - 17:18 (9)	16:39 (3) - 16:48 (3) (9) 16:34 (22)	08:21 - 16:54 (22)	15:30 (4) 08:48 - 15:52 (4) 16:35
30	08:24 - 17:22 (8)	15:52 (4) 16:19 (4) (4)	07:21 - 20:08 (12)	06:13 - 21:01 (13)	05:28 - 21:46 (15)	05:22 - 22:03 (16)	05:57 - 21:34 (16)	06:46 - 20:33 (16)	07:37 - 19:21 (15) 18:27 (2) - 18:42 (2)	07:29 - 17:16 (9)	16:33 (21)	08:22 - 15:51 (4) 16:33 (21)	15:30 (4) 08:48 - 15:51 (4) 16:36
31	08:22 - 17:24 (8)	15:53 (4) 16:19 (4) (4)	07:19 - 20:10 (12)	21:01 (13)	21:48 (15)		21:32 (16)	20:31 (16)		07:31 - 17:15 (9)			08:48 - 16:37 (8)
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243	
Total, worst case	637	401	168						34	446	647	90	
Sun reduction	0,24	0,30	0,33						0,36	0,34	0,24	0,20	
Oper. time red.	0,95	0,95	0,95						0,95	0,95	0,95	0,95	
Wind dir. red.	0,67	0,67	0,63						0,63	0,65	0,67	0,67	
Total reduction	0,15	0,19	0,20						0,22	0,21	0,15	0,13	
Total, real	97	77	33						7	93	97	12	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
20-12-2018 09:08/3.2.737

SHADOW - Calendar

Calculation: Copy of V150@166Shadow receptor: AS - 3998NM3

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	05:26	21:02 (1)	05:23	21:06 (1)	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03	21:49	14 21:16 (1)	22:03	21 21:27 (1)	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	05:25	21:01 (1)	05:24	21:07 (1)	06:01	06:51	07:40	07:34	08:25
	16:39	17:28	18:19	20:13	21:04	21:50	16 21:17 (1)	22:02	20 21:27 (1)	21:29	20:26	19:17	17:11	16:32
3	08:47	08:18	07:23	07:12	06:08	05:25	21:02 (1)	05:25	21:06 (1)	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06	21:51	17 21:19 (1)	22:02	21 21:27 (1)	21:27	20:24	19:14	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06	05:24	21:01 (1)	05:25	21:07 (1)	06:04	06:55	07:44	07:38	08:28
	16:41	17:31	18:23	20:17	21:08	21:52	18 21:19 (1)	22:02	20 21:27 (1)	21:26	20:22	19:12	17:07	16:30
5	08:47	08:14	07:18	07:07	06:04	05:23	21:01 (1)	05:26	21:07 (1)	06:06	06:56	07:45	07:40	08:29
	16:43	17:33	18:25	20:19	21:09	21:53	19 21:20 (1)	22:01	20 21:27 (1)	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02	05:23	21:01 (1)	05:27	21:08 (1)	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11	21:54	20 21:21 (1)	22:01	20 21:28 (1)	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:00	05:22	21:01 (1)	05:28	21:08 (1)	06:09	06:59	07:49	07:43	08:32
	16:45	17:37	18:28	20:22	21:13	21:55	20 21:21 (1)	22:00	19 21:27 (1)	21:20	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59	05:21	21:01 (1)	05:29	21:08 (1)	06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:14	21:56	21 21:22 (1)	21:59	18 21:26 (1)	21:19	20:13	19:03	17:00	16:29
9	08:45	08:07	07:10	06:58	05:57	05:21	21:02 (1)	05:30	21:08 (1)	06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:25	21:16	21:57	20 21:22 (1)	21:59	17 21:25 (1)	21:17	20:10	19:01	16:59	16:28
10	08:45	08:06	07:07	06:56	05:55	05:20	21:01 (1)	05:31	21:09 (1)	06:14	07:04	07:54	07:49	08:35
	16:49	17:43	18:34	20:27	21:18	21:57	21 21:22 (1)	21:58	16 21:25 (1)	21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54	05:20	21:02 (1)	05:32	21:09 (1)	06:16	07:06	07:56	07:51	08:36
	16:51	17:45	18:35	20:29	21:19	21:58	21 21:23 (1)	21:57	15 21:24 (1)	21:13	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52	05:20	21:02 (1)	05:33	21:10 (1)	06:17	07:08	07:57	07:52	08:37
	16:52	17:46	18:37	20:31	21:21	21:59	21 21:23 (1)	21:56	13 21:23 (1)	21:11	20:03	18:54	16:54	16:28
13	08:43	08:00	07:00	06:49	05:50	05:19	21:02 (1)	05:34	21:10 (1)	06:19	07:09	07:59	07:54	08:38
	16:53	17:48	18:39	20:32	21:22	21:59	20 21:22 (1)	21:55	13 21:23 (1)	21:09	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49	05:19	21:02 (1)	05:35	21:11 (1)	06:20	07:11	08:01	07:56	08:39
	16:55	17:50	18:41	20:34	21:24	22:00	21 21:23 (1)	21:55	11 21:22 (1)	21:07	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47	05:19	21:02 (1)	05:36	21:13 (1)	06:22	07:12	08:03	07:58	08:40
	16:57	17:52	18:42	20:36	21:26	22:01	21 21:23 (1)	21:54	9 21:22 (1)	21:05	19:56	18:47	16:50	16:28
16	08:40	07:54	06:54	06:43	05:46	05:19	21:02 (1)	05:38	21:13 (1)	06:24	07:14	08:04	07:59	08:41
	16:58	17:54	18:44	20:37	21:27	22:01	21 21:23 (2)	21:53	8 21:21 (1)	21:03	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44	05:19	21:03 (1)	05:39	21:15 (1)	06:25	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29	22:02	21 21:24 (1)	21:51	5 21:20 (1)	21:01	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:38	05:43	05:19	21:03 (1)	05:40	21:17 (1)	06:27	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30	22:02	21 21:24 (2)	21:50	2 21:19 (1)	20:59	19:49	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41	05:19	21:03 (1)	05:41		06:28	07:19	08:09	08:05	08:43
	17:03	17:59	18:49	20:42	21:32	22:02	21 21:24 (2)	21:49		20:57	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40	05:19	21:03 (1)	05:43		06:30	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33	22:03	21 21:24 (2)	21:48		20:55	19:45	18:37	16:43	16:29
21	08:35	07:44	06:42	06:32	05:38	05:19	21:04 (1)	05:44		06:32	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:34	22:03	21 21:25 (2)	21:47		20:53	19:42	18:35	16:42	16:30
22	08:34	07:42	06:40	06:30	05:37	05:19	21:04 (1)	05:45		06:33	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36	22:03	21 21:25 (2)	21:46		20:51	19:40	18:33	16:41	16:30
23	08:33	07:40	06:37	06:28	05:36	05:20	21:04 (1)	05:47		06:35	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	21:37	22:03	21 21:25 (2)	21:44		20:48	19:38	18:30	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35	05:20	21:05 (1)	05:48		06:37	07:27	08:18	08:13	08:46
	17:11	18:09	18:58	20:51	21:39	22:03	21 21:26 (2)	21:43		20:46	19:35	18:28	16:38	16:31
25	08:31	07:36	06:33	06:24	05:33	05:20	21:05 (1)	05:49		06:38	07:29	07:20	08:15	08:47
	17:13	18:10	19:00	20:53	21:40	22:04	21 21:26 (1)	21:41		20:44	19:33	17:26	16:37	16:32
26	08:29	07:34	06:30	06:22	05:32	21:06 (1)	05:21	21:05 (1)	05:51	06:40	07:30	07:22	08:16	08:47
	17:15	18:12	19:01	20:54	21:41	4 21:10 (1)	22:04	21 21:26 (1)	21:40	20:42	19:31	17:24	16:36	16:32
27	08:28	07:32	06:28	06:20	05:31	21:05 (1)	05:21	21:05 (1)	05:52	06:42	07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21:43	6 21:11 (1)	22:03	21 21:26 (1)	21:39	20:40	19:28	17:22	16:36	16:33
28	08:27	07:29	06:26	06:18	05:30	21:03 (1)	05:21	21:05 (1)	05:54	06:43	07:34	07:25	08:19	08:47
	17:19	18:16	19:05	20:58	21:44	9 21:12 (1)	22:03	21 21:26 (1)	21:37	20:38	19:26	17:20	16:35	16:34
29	08:25		07:23	06:16	05:29	21:03 (1)	05:22	21:06 (1)	05:55	06:45	07:35	07:27	08:21	08:48
	17:20		20:07	20:59	21:45	10 21:13 (1)	22:03	21 21:27 (1)	21:36	20:35	19:24	17:18	16:34	16:35
30	08:24		07:21	06:14	05:28	21:02 (1)	05:23	21:05 (1)	05:57	06:46	07:37	07:29	08:22	08:48
	17:22		20:08	21:01	21:46	12 21:14 (1)	22:03	21 21:26 (1)	21:34	20:33	19:21	17:17	16:33	16:36
31	08:22		07:19		05:27	21:02 (1)			05:58	06:48		07:31		08:48
	17:24		20:10		21:48	14 21:16 (1)			21:32	20:31		17:15		16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case					55	605	268					
Sun reduction					0,43	0,39	0,41					
Oper. time red.					0,95	0,95	0,95					
Wind dir. red.					0,59	0,59	0,59					
Total reduction					0,24	0,22	0,23					
Total, real					13	131	61					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
20-12-2018 09:08/3.2.737

SHADOW - Calendar

Calculation: Copy of V150@166Shadow receptor: AT - 3998NM1

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:17	06:12	05:26	05:23	06:00	06:50	07:39	07:33	08:24
	16:38	17:26	18:18	20:12	21:03	21:49	22:03	21:31	20:29	19:19	17:13	16:32
2	08:48	08:19	07:25	07:14	06:10	05:25	05:24	06:01	06:51	07:40	07:34	08:25
	16:39	17:28	18:19	20:13	21:04	21:50	22:02	21:29	20:26	19:17	17:11	16:32
3	08:47	08:18	07:23	07:12	06:08	05:25	05:25	06:03	06:53	07:42	07:36	08:27
	16:40	17:30	18:21	20:15	21:06	21:51	22:02	21:27	20:24	19:14	17:09	16:31
4	08:47	08:16	07:21	07:10	06:06	05:24	05:25	06:04	06:55	07:44	07:38	08:28
	16:41	17:31	18:23	20:17	21:08	21:52	22:02	21:26	20:22	19:12	17:07	16:31
5	08:47	08:14	07:18	07:07	06:04	05:23	05:26	06:06	06:56	07:45	07:40	08:29
	16:43	17:33	18:25	20:19	21:09	21:53	22:01	21:24	20:20	19:10	17:06	16:30
6	08:47	08:13	07:16	07:05	06:02	05:23	05:27	06:08	06:58	07:47	07:42	08:31
	16:44	17:35	18:27	20:20	21:11	21:54	22:01	21:22	20:17	19:08	17:04	16:30
7	08:46	08:11	07:14	07:03	06:00	05:22	05:28	06:09	06:59	07:49	07:43	08:32
	16:45	17:37	18:28	20:22	21:13	21:55	22:00	21:20	20:15	19:05	17:02	16:29
8	08:46	08:09	07:12	07:01	05:59	05:21	05:29	06:11	07:01	07:51	07:45	08:33
	16:46	17:39	18:30	20:24	21:14	21:56	21:59	21:19	20:13	19:03	17:00	16:29
9	08:45	08:07	07:10	06:58	05:57	05:21	05:30	06:12	07:03	07:52	07:47	08:34
	16:48	17:41	18:32	20:25	21:16	21:57	21:59	21:17	20:10	19:01	16:59	16:29
10	08:45	08:06	07:07	06:56	05:55	05:21	05:31	06:14	07:04	07:54	07:49	08:35
	16:49	17:43	18:34	20:27	21:18	21:57	21:58	21:15	20:08	18:59	16:57	16:28
11	08:44	08:04	07:05	06:54	05:54	05:20	05:32	06:16	07:06	07:56	07:51	08:36
	16:51	17:45	18:35	20:29	21:19	21:58	21:57	21:13	20:06	18:56	16:56	16:28
12	08:44	08:02	07:03	06:52	05:52	05:20	05:33	06:17	07:08	07:57	07:52	08:37
	16:52	17:46	18:37	20:31	21:21	21:59	21:56	21:11	20:03	18:54	16:54	16:28
13	08:43	08:00	07:00	06:49	05:50	05:19	05:34	06:19	07:09	07:59	07:54	08:38
	16:53	17:48	18:39	20:32	21:22	21:59	21:55	21:09	20:01	18:52	16:53	16:28
14	08:42	07:58	06:58	06:47	05:49	05:19	05:35	06:20	07:11	08:01	07:56	08:39
	16:55	17:50	18:41	20:34	21:24	22:00	21:55	21:07	19:59	18:50	16:51	16:28
15	08:41	07:56	06:56	06:45	05:47	05:19	05:36	06:22	07:12	08:03	07:58	08:40
	16:57	17:52	18:42	20:36	21:26	22:01	21:54	21:05	19:56	18:47	16:50	16:28
16	08:40	07:54	06:54	06:43	05:46	05:19	05:38	06:24	07:14	08:04	07:59	08:41
	16:58	17:54	18:44	20:37	21:27	22:01	21:53	21:03	19:54	18:45	16:48	16:28
17	08:40	07:52	06:51	06:41	05:44	05:19	05:39	06:25	07:16	08:06	08:01	08:42
	17:00	17:56	18:46	20:39	21:29	22:02	21:51	21:01	19:52	18:43	16:47	16:28
18	08:39	07:50	06:49	06:38	05:43	05:19	05:40	06:27	07:17	08:08	08:03	08:43
	17:01	17:58	18:48	20:41	21:30	22:02	21:50	20:59	19:49	18:41	16:46	16:29
19	08:38	07:48	06:47	06:36	05:41	05:19	05:41	06:28	07:19	08:09	08:05	08:43
	17:03	17:59	18:49	20:42	21:32	22:02	21:49	20:57	19:47	18:39	16:44	16:29
20	08:37	07:46	06:44	06:34	05:40	05:19	05:43	06:30	07:21	08:11	08:06	08:44
	17:05	18:01	18:51	20:44	21:33	22:03	21:48	20:55	19:45	18:37	16:43	16:29
21	08:35	07:44	06:42	06:32	05:38	05:19	05:44	06:32	07:22	08:13	08:08	08:45
	17:06	18:03	18:53	20:46	21:34	22:03	21:47	20:53	19:42	18:35	16:42	16:30
22	08:34	07:42	06:40	06:30	05:37	05:19	05:45	06:33	07:24	08:15	08:10	08:45
	17:08	18:05	18:55	20:48	21:36	22:03	21:46	20:51	19:40	18:33	16:41	16:30
23	08:33	07:40	06:37	06:28	05:36	05:20	05:47	06:35	07:26	08:17	08:11	08:46
	17:10	18:07	18:56	20:49	21:37	22:03	21:44	20:48	19:38	18:30	16:40	16:31
24	08:32	07:38	06:35	06:26	05:35	05:20	05:48	06:37	07:27	08:18	08:13	08:46
	17:12	18:09	18:58	20:51	21:39	22:03	21:43	20:46	19:35	18:28	16:38	16:31
25	08:31	07:36	06:33	06:24	05:33	05:20	05:49	06:38	07:29	07:20	08:15	08:47
	17:13	18:10	19:00	20:53	21:40	22:03	21:41	20:44	19:33	17:26	16:37	16:32
26	08:29	07:34	06:30	06:22	05:32	05:21	05:51	06:40	07:30	07:22	08:16	08:47
	17:15	18:12	19:01	20:54	21:41	22:03	21:40	20:42	19:31	17:24	16:36	16:32
27	08:28	07:32	06:28	06:20	05:31	05:21	05:52	06:42	07:32	07:24	08:18	08:47
	17:17	18:14	19:03	20:56	21:43	22:03	21:39	20:40	19:28	17:22	16:36	16:33
28	08:27	07:29	06:26	06:18	05:30	05:21	05:54	06:43	07:34	07:25	08:19	08:47
	17:19	18:16	19:05	20:58	21:44	22:03	21:37	20:38	19:26	17:20	16:35	16:34
29	08:25		07:23	06:16	05:29	05:22	05:55	06:45	07:35	07:27	08:21	08:48
	17:20		20:07	20:59	21:45	22:03	21:36	20:35	19:24	17:18	16:34	16:35
30	08:24		07:21	06:14	05:28	05:23	05:57	06:46	07:37	07:29	08:22	08:48
	17:22		20:08	21:01	21:46	22:03	21:34	20:33	19:21	17:17	16:33	16:36
31	08:22		07:19		05:27		05:58	06:48		07:31		08:48
	17:24		20:10		21:48		21:32	20:31		17:15		16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
LBP SIGHT
Kelvinbaan 40, PO box 1475
NL-3430BL Nieuwegein
+31 3023 11377
David Vrolijk / dv@lbpsight.nl
Calculated:
20-12-2018 09:08/3.2.737

SHADOW - Calendar

Calculation: Copy of V150@166Shadow receptor: AU - 3961MN33

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,00	3,00	3,90	5,80	6,70	6,50	6,60	6,10	4,60	3,60	2,10	1,60

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
366	637	526	516	436	729	819	1.192	1.173	804	576	523	8.297

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:21	07:27	07:16	19:09 (3)	06:12	05:26	05:23	06:00	06:50	07:39	18:04 (4)	07:33	08:24
	16:38	17:26	18:18	20:12	20 19:29 (3)	21:03	21:49	22:03	21:31	20:29	19:19	31 18:35 (4)	17:13	16:32
2	08:48	08:19	07:25	07:14	19:11 (3)	06:10	05:25	05:24	06:01	06:51	07:40	18:04 (4)	07:34	08:25
	16:39	17:28	18:19	20:13	17 19:28 (3)	21:04	21:50	22:02	21:29	20:26	19:17	31 18:35 (4)	17:11	16:32
3	08:47	08:18	07:23	07:12	19:12 (3)	06:08	05:25	05:25	06:03	06:53	07:42	18:03 (4)	07:36	08:27
	16:40	17:30	18:21	20:15	14 19:26 (3)	21:06	21:51	22:02	21:27	20:24	19:14	31 18:34 (4)	17:09	16:31
4	08:47	08:16	07:21	17:36 (4)	07:10 19:14 (3)	06:06	05:24	05:25	06:04	06:54	07:44	18:04 (4)	07:38	08:28
	16:41	17:31	18:23	12 17:48 (4)	20:17 8 19:22 (3)	21:08	21:52	22:02	21:26	20:22	19:12	29 18:33 (4)	17:07	16:30
5	08:47	08:14	07:18	17:33 (4)	07:07	06:04	05:23	05:26	06:06	06:56	07:45	18:04 (4)	07:40	08:29
	16:42	17:33	18:25	18 17:51 (4)	20:19	21:09	21:53	22:01	21:24	20:19	19:10	28 18:32 (4)	17:05	16:30
6	08:47	08:13	07:16	17:30 (4)	07:05	06:02	05:22	05:27	06:08	06:58	07:47	18:04 (4)	07:42	08:31
	16:44	17:35	18:27	22 17:52 (4)	20:20	21:11	21:54	22:01	21:22	20:17	19:08	26 18:30 (4)	17:04	16:29
7	08:46	08:11	07:14	17:29 (4)	07:03	06:00	05:22	05:28	06:09	06:59	07:49	18:06 (4)	07:43	08:32
	16:45	17:37	18:28	24 17:53 (4)	20:22	21:13	21:55	22:00	21:20	20:15	19:05	23 18:29 (4)	17:02	16:29
8	08:46	08:09	07:12	17:28 (4)	07:00	05:59	05:21	05:29	06:11	07:01	19:10 (3)	07:50	18:07 (4)	07:45	08:33
	16:46	17:39	18:30	27 17:55 (4)	20:24	21:14	21:56	21:59	21:19	20:13	7 19:17 (3)	19:03	20 18:27 (4)	17:00	16:29
9	08:45	08:07	07:09	17:27 (4)	06:58	05:57	05:21	05:30	06:12	07:03	19:06 (3)	07:52	18:09 (4)	07:47	08:34
	16:48	17:41	18:32	29 17:56 (4)	20:25	21:16	21:57	21:59	21:17	20:10	13 19:19 (3)	19:01	15 18:24 (4)	16:59	16:28
10	08:45	08:06	07:07	17:26 (4)	06:56	05:55	05:20	05:31	06:14	07:04	19:04 (3)	07:54	18:12 (4)	07:49	08:35
	16:49	17:43	18:34	30 17:56 (4)	20:27	21:18	21:57	21:58	21:15	20:08	17 19:21 (3)	18:58	8 18:20 (4)	16:57	16:28
11	08:44	08:04	07:05	17:25 (4)	06:54	05:53	05:20	05:32	06:15	07:06	19:02 (3)	07:56		07:51	08:36
	16:50	17:44	18:35	31 17:56 (4)	20:29	21:19	21:58	21:57	21:13	20:06	19 19:21 (3)	18:56		16:56	16:28
12	08:44	08:02	07:03	17:25 (4)	06:51	05:52	05:20	05:33	06:17	07:08	19:01 (3)	07:57		07:52	08:37
	16:52	17:46	18:37	31 17:56 (4)	20:31	21:21	21:59	21:56	21:11	20:03	21 19:22 (3)	18:54		16:54	16:28
13	08:43	08:00	07:00	17:24 (4)	06:49	05:50	05:19	05:34	06:19	07:09	19:00 (3)	07:59		07:54	08:38
	16:53	17:48	18:39	32 17:56 (4)	20:32	21:22	21:59	21:55	21:09	20:01	22 19:22 (3)	18:52		16:52	16:28
14	08:42	07:58	06:58	17:24 (4)	06:47	05:49	05:19	05:35	06:20	07:11	18:59 (3)	08:01		07:56	08:39
	16:55	17:50	18:41	32 17:56 (4)	20:34	21:24	22:00	21:55	21:07	19:59	23 19:22 (3)	18:50		16:51	16:28
15	08:41	07:56	06:56	17:24 (4)	06:45	05:47	05:19	05:36	06:22	07:12	18:59 (3)	08:02		07:58	08:40
	16:56	17:52	18:42	32 17:56 (4)	20:36	21:25	22:01	21:54	21:05	19:56	23 19:22 (3)	18:47		16:50	16:28
16	08:40	07:54	06:53	17:24 (4)	06:43	05:45	05:19	05:37	06:24	07:14	18:58 (3)	08:04		07:59	08:41
	16:58	17:54	18:44	30 17:54 (4)	20:37	21:27	22:01	21:53	21:03	19:54	23 19:21 (3)	18:45		16:48	16:28
17	08:40	07:52	06:51	17:24 (4)	06:40	05:44	05:19	05:39	06:25	07:16	18:58 (3)	08:06		08:01	08:42
	17:00	17:56	18:46	30 17:54 (4)	20:39	21:29	22:02	21:51	21:01	19:52	23 19:21 (3)	18:43		16:47	16:28
18	08:39	07:50	06:49	17:25 (4)	06:38	05:42	05:19	05:40	06:27	07:17	18:58 (3)	08:08		08:03	08:43
	17:01	17:57	18:48	28 17:53 (4)	20:41	21:30	22:02	21:50	20:59	19:49	22 19:20 (3)	18:41		16:45	16:28
19	08:38	07:48	06:47	17:25 (4)	06:36	05:41	05:19	05:41	06:28	07:19	18:58 (3)	08:09		08:05	08:43
	17:03	17:59	18:49	26 17:51 (4)	20:42	21:32	22:02	21:49	20:57	19:47	20 19:18 (3)	18:39		16:44	16:29
20	08:37	07:46	06:44	17:27 (4)	06:34	05:40	05:19	05:43	06:30	07:21	18:22 (4)	08:11		08:06	08:44
	17:05	18:01	18:51	23 17:50 (4)	20:44	21:33	22:03	21:48	20:55	19:45	22 19:17 (3)	18:37		16:43	16:29
21	08:35	07:44	06:42	17:29 (4)	06:32	05:38	05:19	05:44	06:32	07:22	18:16 (4)	08:13		08:08	08:45
	17:06	18:03	18:53	27 18:26 (3)	20:46	21:34	22:03	21:47	20:53	19:42	28 19:14 (3)	18:35		16:42	16:29
22	08:34	07:42	06:40	17:30 (4)	06:30	05:37	05:19	05:45	06:33	07:24	18:14 (4)	08:15		08:10	08:45
	17:08	18:05	18:55	28 18:28 (3)	20:48	21:36	22:03	21:46	20:51	19:40	29 19:12 (3)	18:32		16:41	16:30
23	08:33	07:40	06:37	17:34 (4)	06:28	05:36	05:19	05:47	06:35	07:25	18:12 (4)	08:16		08:11	08:46
	17:10	18:07	18:56	25 18:30 (3)	20:49	21:37	22:03	21:44	20:48	19:38	22 18:34 (4)	18:30		16:39	16:30
24	08:32	07:38	06:35	18:12 (3)	06:26	05:34	05:20	05:48	06:37	07:27	18:09 (4)	08:18		08:13	08:46
	17:11	18:09	18:58	20 18:32 (3)	20:51	21:39	22:03	21:43	20:46	19:35	26 18:35 (4)	18:28		16:38	16:31
25	08:31	07:36	06:33	18:10 (3)	06:24	05:33	05:20	05:49	06:38	07:29	18:08 (4)	07:20		08:15	08:47
	17:13	18:10	19:00	21 18:31 (3)	20:53	21:40	22:03	21:41	20:44	19:33	28 18:36 (4)	17:26		16:37	16:32
26	08:29	07:34	06:30	18:10 (3)	06:21	05:32	05:20	05:51	06:40	07:30	18:07 (4)	07:22		08:16	08:47
	17:15	18:12	19:01	22 18:32 (3)	20:54	21:41	22:03	21:40	20:42	19:31	29 18:36 (4)	17:24		16:36	16:32
27	08:28	07:32	06:28	18:09 (3)	06:19	05:31	05:21	05:52	06:41	07:32	18:06 (4)	07:24		08:18	08:47
	17:17	18:14	19:03	23 18:32 (3)	20:56	21:43	22:03	21:39	20:40	19:28	30 18:36 (4)	17:22		16:35	16:33
28	08:27	07:29	06:26	18:08 (3)	06:17	05:30	05:21	05:54	06:43	07:34	18:05 (4)	07:25		08:19	08:47
	17:19	18:16	19:05	24 18:32 (3)	20:58	21:44	22:03	21:37	20:38	19:26	31 18:36 (4)	17:20		16:35	16:34
29	08:25		07:23	19:08 (3)	06:15	05:29	05:22	05:55	06:45	07:35	18:04 (4)	07:27		08:21	08:48
	17:20		20:07	24 19:32 (3)	20:59	21:45	22:03	21:36	20:35	19:24	31 18:35 (4)	17:18		16:34	16:35
30	08:24		07:21	19:09 (3)	06:13	05:28	05:23	05:57	06:46	07:37	18:04 (4)	07:29		08:22	08:48
	17:22		20:08	22 19:31 (3)	21:01	21:46	22:03	21:34	20:33	19:21	32 18:36 (4)	17:16		16:33	16:36
31	08:22		07:19	19:08 (3)		05:27		05:58	06:48			07:31			08:48
	17:24		20:10	22 19:30 (3)		21:48		21:32	20:31			17:15			16:37
Potential sun hours	259	277	367	416	485	499	502	454	381	331	266	243
Total, worst case			715	59					541	242		
Sun reduction			0,33	0,42					0,36	0,34		
Oper. time red.			0,95	0,95					0,95	0,95		
Wind dir. red.			0,63	0,62					0,63	0,64		
Total reduction			0,20	0,25					0,22	0,20		
Total, real			141	15					117	49		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Bijlage III Cumulatie geluid met andere bronnen, scheepvaart als wegverkeer

Toetspunt	Lcum Bestaand	N131 Lcum Nieuw	N149 Lcum Nieuw	3,7M140 Lcum Nieuw	4,2M148 Lcum Nieuw	V136 Lcum Nieuw	V150 Lcum Nieuw
3997ML144_ - Beusichemseweg 144	55	55	55	55	55	55	55
3998NL69_A - Beusichemseweg 69	48	58	58	58	58	58	58
3998NL71_A - Beusichemseweg 71	50	58	58	58	58	58	58
3998NL146_ - BW - Beusichemseweg 146	50	60	60	60	60	60	60
3998NA6_A - BW - Zuwedijk 6	56	62	61	62	62	62	61
3998NM1_A - Hoeksedijk 1	47	53	53	52	53	53	53
3961ME2_A - Hoeksedijk 2	46	57	57	56	56	57	56
3998NM3_A - Hoeksedijk 3	44	57	57	56	56	57	56
3945LA11_A - Kapelleweg 11	54	56	56	56	56	56	56
3945LA1b_A - Kapelleweg 1b	56	56	56	56	56	56	56
3997MP20_A - Kapelleweg 20	57	59	59	59	59	59	59
3997MP25_A - Kapelleweg 25	56	58	58	58	58	58	58
3997MP25a_ - Kapelleweg 25a	56	58	58	58	58	58	58
3945LA3_A - Kapelleweg 3	56	56	56	56	56	56	56
3945LA5_A - Kapelleweg 5	55	55	55	55	55	55	55
3945LA6_A - Kapelleweg 6	60	61	61	61	61	61	61
3945LA7_A - Kapelleweg 7	46	50	50	50	50	50	50
3945LA9_A - Kapelleweg 9	55	56	56	56	56	56	56
3998NH4_A - Lekdijk 4	53	55	55	56	56	56	56
3961MD52_A - Lekdijk West 52	51	52	52	52	52	52	52
3961MD53_A - Lekdijk West 53	52	54	54	54	54	54	54
3997MR19_A - Nachtdijk 19	52	53	53	53	53	53	53
3997MR25_A - Nachtdijk 25	58	61	61	61	61	61	61
3961MN 33_ - Wijkersloot 33	40	43	44	43	43	43	43
3998NA2_A - Zuwedijk 2	56	57	57	57	57	57	57