

## 1. PREMESSA

La presente relazione è relativa alla progettazione definitiva in seno al procedimento autorizzativo del “Progetto per il rifacimento e potenziamento di un parco eolico” che la **Edison Rinnovabili Spa** intende realizzare nel comune di Orsara di Puglia (FG), nello specifico la proposta progettuale prevede la dismissione dell’ impianto esistente costituito da n. 30 aerogeneratori (modello Enercon E40, diametro 44m, hub 46m e potenza unitaria 600 kW/WTG) per una potenza complessiva di 18 MW, e la realizzazione di un nuovo impianto costituito da n. 7 aerogeneratori di diametro rotore fino a 155m, altezza al mozzo fino a 127,5 m, per una potenza nominale fino a 6,6 MW e complessiva 46,2 MW)

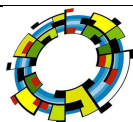
Nome WTG	WGS 84 UTM33	
	Est	Nord
1	517465	4569582
2	517955	4569572
3	518390	4569333
4	518821	4569123
5	519228	4568869
6	519682	4568984
7	518771	4568428

Il presente elaborato ha lo scopo di valutare in maniera tecnica l'eventuale impatto generato dall'evoluzione dell'ombra derivante dalla futura installazione dell’impianto eolico sopra descritto.

## 2. LO SHADOW FLICKERING

Per lo studio dello Shadow Flicker è stata presa in considerazione una SIEMENS-GAMESA che ha le medesime caratteristiche dimensionali dell’aerogeneratore di progetto avente un’altezza al mozzo fino a 127,5 metri ed un diametro del rotore fino a 155 metri.

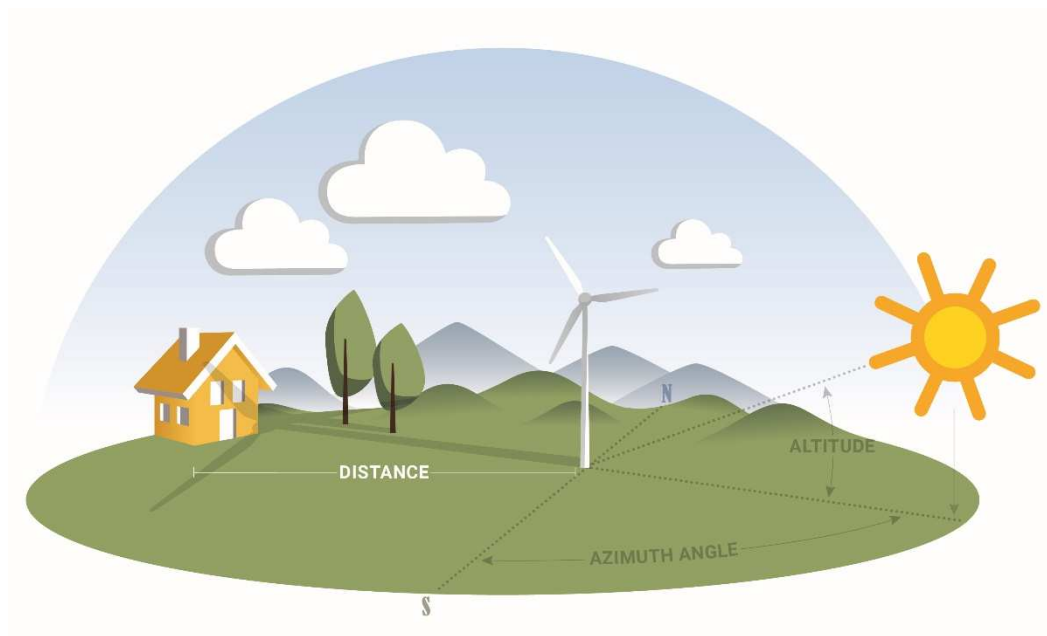
Lo Shadow-Flickering è l’espressione comunemente impiegata in ambito specialistico per descrivere l’effetto stroboscopico delle ombre proiettate dalle pale rotanti degli aerogeneratori eolici quando sussistono le condizioni meteorologiche opportune; infatti la possibilità e la durata di tali effetti dipendono da una serie di condizioni ambientali, tra cui : la posizione del sole, l’ora del giorno, il giorno dell’anno, le condizioni atmosferiche ambientali e la posizione della turbina eolica rispetto ad un recettore sensibile. La valutazione tecnica è eseguita con l'ausilio di un software di simulazione specifico per la progettazione degli impianti eolici WIND PRO®, costituito da un insieme di moduli di elaborazione orientati alla simulazione di una serie



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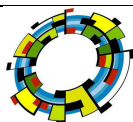
di aspetti che caratterizzano le diverse fasi progettuali. Il modulo SHADOW è quello specifico per la valutazione dell'evoluzione dell'ombra e del flickering. In tale report è riportata:

- *La descrizione del caso studio con le posizioni delle turbine e loro caratteristiche tecniche*
- *Una breve descrizione tecnica del fenomeno di shadow flickering*
- *La descrizione dei recettori soggetti al fenomeno per i quali è stata richiesta questa analisi*
- *Sintesi della metodologia di analisi seguita per lo studio*
- *Sintesi dei risultati ottenuti, con allegati grafici ed analitici di dettaglio che descrivono il fenomeno su ognuno dei recettori e da parte di ognuna delle turbine per tutto l'anno solare.*



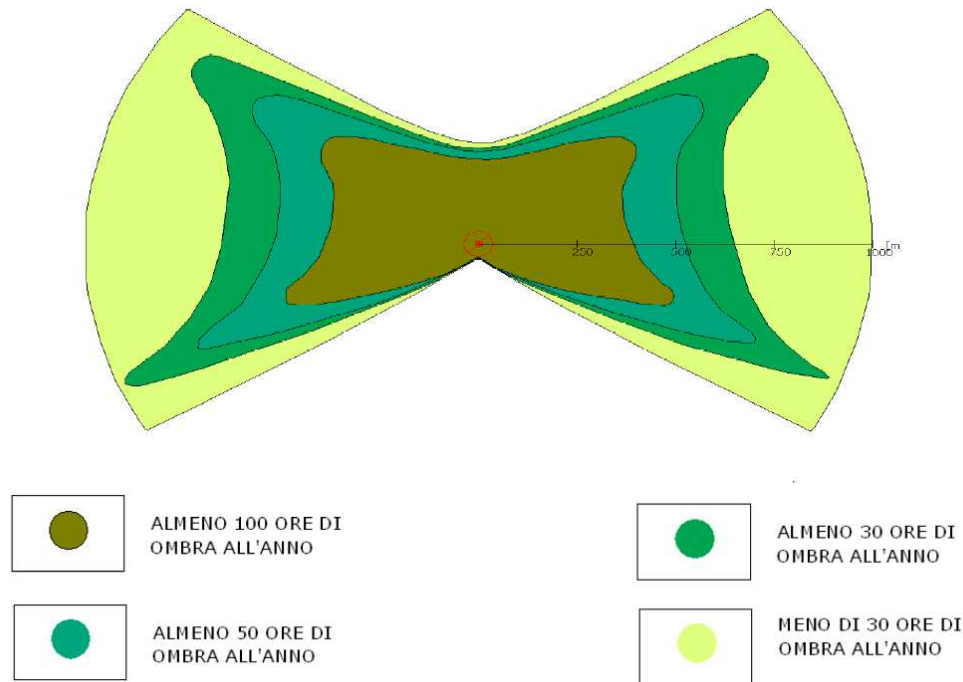
### 3. STUDIO DELL'EVOLUZIONE DELL'OMBRA GIORNALIERA GENERATA DAGLI AEROGENERATORI

Le turbine eoliche, come altre strutture fortemente sviluppate in altezza, proiettano un'ombra sulle aree adiacenti in presenza della luce solare diretta. Per chi vive in tali zone prossime all'insediamento eolico può essere molto fastidioso il cosiddetto fenomeno del "flicker" che consiste in un effetto di lampeggiamento che si verifica quando le pale del rotore in movimento "tagliano" la luce solare in maniera intermittente. Una progettazione attenta a questa problematica permette di evitare questo spiacevole fenomeno semplicemente prevedendo il luogo di incidenza dell'ombra e disponendo le turbine in maniera tale che l'ombra sulle zone sensibili non superi un certo numero di ore all'anno. Il grafico in figura i riporta l'evoluzione annuale dell'ombra di una turbina considerando il caso peggiore di pale sempre in rotazione intorno al mozzo, e orientate sempre ortogonalmente al sole durante la sua evoluzione giornaliera.



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Come è evidente dal grafico e dalla legenda le ore annue di ombra sono sempre minori con l’aumentare della distanza dal pilone secondo una particolare geometria dettata dalla posizione geografica; da osservare che l’ombra arriva a proiettarsi anche sino ad una distanza di 1 km, anche se solo per pochi minuti all’anno.



*Figura 2: Evoluzione annuale tipo dell'ombra di una pala*

Considerati i pochi precedenti esistenti (Germania) e le ipotesi così penalizzanti con cui è stata calcolato tale grafico si è ritenuto opportuno effettuare una sovrapposizione sull'impianto della parte più interna del grafico ovvero dell'area **che supera le 100 ore all'anno di ombra dei punti di installazione, intendendo questo come limite da non superarsi.**

In Italia, così come nella maggior parte dei paesi Europei ed extraeuropei non esiste una normativa specifica in relativa al disturbo generato dal fenomeno di Shadow – Flickering. Esistono delle regolamentazioni locali ma quasi mai comprendono limiti numerici specifici, quanto piuttosto delle raccomandazioni tese a sottolineare che il fenomeno non sia “unreasonable” o “significant”.

#### 4. INDIVIDUAZIONE DEI RECETTORI ED IPOTESI DI CALCOLO

L’analisi di shadow-flickering di cui al presente studio è stata elaborata per specifici 13 recettori che circondano l’impianto; tuttavia, alcune strutture inserite nel modello di simulazione potrebbero essere ruderi

non abitati e sostanzialmente privi di caratteristiche minime di abitabilità o agibilità; il che sarà analizzato nel seguito.

Lo studio, i cui risultati in dettaglio sono riportati nei report allegati alla presente relazione, è stato condotto con uno specifico software (WindPRO).

Nello studio ci si è posti nella condizione più sfavorevole possibile, in quanto si è considerato che:

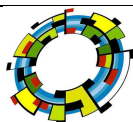
- il sole risplende per tutta la giornata dall'alba al tramonto (cioè si è **sempre** in assenza di copertura nuvolosa);
- il piano di rotazione delle pale è sempre perpendicolare alla linea che passa per il sole e per l'aerogeneratore (l'aerogeneratore “insegue” il sole);
- l'aerogeneratore è sempre operativo.

Allo stesso tempo, si è trascurata la presenza degli alberi e di altri ostacoli che bordano le strade “intercettando” l'ombra degli aerogeneratori riducendo il fenomeno del flickering sui recettori.

Ciò significa che i risultati forniti dal calcolo sono ampiamente cautelativi.

In base alla metodologia descritta nei paragrafi precedenti, sono stati utilizzati i seguenti dati di input per impostare il modello di simulazione per la valutazione del fenomeno di Shadow-Flickering degli aerogeneratori di progetto:

- a) **Il DTM o Modello del terreno digitale** per caratterizzare l'orografia è stato estrapolato dal grid disponibile in download dal SIT della Regione Puglia, georeferenziato, sovrapposto, confrontato e adeguato con le curve di livello presenti sulla cartografia ufficiale CTR 1:5.000 con uno step di 5 m. Il modello digitale ottenuto copre un'area sufficiente ad inglobare l'area del parco eolico di progetto e trova un ottimo riscontro con l'andamento orografico verificato in sito.
- b) **Posizioni geografiche di recettori con dettaglio dimensionale delle aree più esposte.** Sono i ricettori individuati dallo studio acustico e in quello della gittata massima degli elementi rotanti; essi sono classificati secondo la loro abitabilità e destinazione d'uso. Per tutti i ricettori si è ritenuto opportuno usare l'ipotesi di cautela della modalità “green house mode”. Questa scelta è stata operata poiché in talune circostanze anche lo spazio antistante le strutture può essere considerato o adibito a luogo di riposo e relax. La scelta di una singola finestra o di una facciata in alcune condizioni potrebbe risultare riduttiva allo scopo di una vera valutazione d'impatto.
- c) **Posizioni geografiche delle turbine eoliche e loro caratteristiche dimensionali**  
Gli aerogeneratori di progetto con le loro caratteristiche dimensionali e tecnologiche
- d) **Nessun ostacolo naturale o artificiale è stato modellato.**



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Ricettore	Name Windpro		Coordinate		Ore di ombra x anno	Giorni di ombra x anno	Max ore ombra x giorno
	ID	Name	E	N			
R04	1	A	518479	4568932	48:58	62	1:12
R05	2	B	517575	4570092	189:38	86	2:52
R12	3	C	517529	4569836	378:22	160	3:21
R22	4	D	518098	4568416	79:05	146	0:50
R23	5	E	518077	4568384	76:44	136	0:49
R24	6	F	518064	4568350	80:35	126	0:54
R25	7	G	517938	4568384	63:19	140	0:41
R26	8	H	517962	4568352	63:48	130	0:42
R40	9	I	520227	4568502	65:43	100	0:59
R41	10	J	520216	4568489	59:21	96	0:59
R42	11	K	520190	4568481	51:45	91	0:56
R43	12	L	518049	4568395	72:41	140	0:47
R44	13	M	518058	4568396	74:04	140	0:47

Tab. 1 – Coordinate ricettori UTM-WGS84

## 5. I RISULTATI DEL CALCOLO DELL'EVOLUZIONE DELL'OMBRA

Come sopra accennato, nella procedura “Worst case”, (quella di cui ai calcoli effettuati), il fenomeno di shadow/flickering viene calcolato non tenendo conto di una serie di fattori, i cui dati allo stato dell’arte per il sito in questione non sono disponibili. Se fossero considerati tali fattori si potrebbe calcolare il fenomeno di shadow/flickering con la metodologia “real case”, nel qual caso, da quanto riportato nella letteratura specialistica secondo altri casi simili, si avrebbero risultati indicanti una riduzione del fenomeno ad 1/3 dei valori.

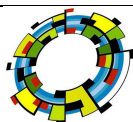
Cautelativamente assumiamo per effetto di tali fattori una riduzione del fenomeno del flickering di 1/2.

Dalle simulazioni effettuate, i cui risultati sono riportati nella **Tab. 1**, si evince che gli aerogeneratori di progetto generano maggiormente il fenomeno di shadow/flickering sui recettori evidenziati, considerando solo quelli di categoria catastale più interessante per il fenomeno (recettori con categoria catastale A e con più di 30 ore/anno nel “Worst Case”:

### NESSUN RICETTORE DI CATEGORIA CATASTALE “A” E’ INTERESSATO DAL FENOMENO

## 6. CONCLUSIONI E RACCOMANDAZIONI

In conclusione, si può affermare che i risultati ottenuti dell’elaborazione evidenziano, pur considerando le condizioni più sfavorevoli, che le turbine di progetto generano effetti di shadow flickering i cui impatti



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**risultano essere nulli per la maggior parte dei recettori individuati, e piuttosto modesti per gli altri e che comunque quelli che interessano ore superiori a 30 ore annui NON APPARTENGONO ALLA CATEGORIA CATASTALE DI TIPO A.**

In ogni caso è comunque da rimarcare l’effetto di sovrastima dovuto al grado di cautela utilizzato per la simulazione che non tiene in conto di tutte le possibili fonti di attenuazione dell’effetto cui ogni recettore è (o può essere) soggetto quali presenza di alberi, ostacoli, siepi e quant’altro possa attenuare il fenomeno dell’evoluzione giornaliera dell’ombra.

## 6. ELENCO ALLEGATI

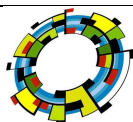
Di seguito vengono riportati i risultati dello Shadow Flicker elaborati con il software *WindPro*

1. Main result: quadro sintetico dei risultati di calcolo;
2. Calendar: analisi giornaliera dell’effetto “flickering” ricevuto da ogni recettore;
3. Calendar, graphical: grafico dell’analisi giornaliera dell’effetto “flickering” ricevuto da ogni recettore;
4. Calendar per WTG: analisi giornaliera dell’effetto “flickering” indotto da ogni aerogeneratore sui recettori;
5. Calendar per WTG, graphical: grafico dell’analisi giornaliera dell’effetto “flickering” indotto da ogni aerogeneratore sui recettori;
6. Map: mappa delle aree soggette ad ombreggiamento.

Foggia, Maggio 2024



Il Tecnico  
Arch. Antonio DEMAIIO



## SHADOW - Main Result

Calculation: Ombra

### Assumptions for shadow calculations

Maximum distance for influence  
Calculate only when more than 20 % of sun is covered by the blade  
Please look in WTG table

Minimum sun height over horizon for influence 3 °  
Day step for calculation 1 days  
Time step for calculation 1 minutes  
The calculated times are "worst case" given by the following assumptions:  
The sun is shining all the day, from sunrise to sunset  
The rotor plane is always perpendicular to the line from the WTG to the sun  
The WTG is always operating

A ZVI (Zones of Visual Influence) calculation is performed before flicker calculation so non visible WTG do not contribute to calculated flicker values. A WTG will be visible if it is visible from any part of the receiver window. The ZVI calculation is based on the following assumptions:  
Height contours used: Elevation Grid Data Object: IR-Orsara\_20km\_EMDGrid  
Obstacles used in calculation  
Receptor grid resolution: 1,0 m

All coordinates are in  
UTM (north)-WGS84 Zone: 33

### WTGs

	Easting	Northing	Z	Row data/Description	WTG type		Type-generator	Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Shadow data	
					Valid	Manufact.					Calculation distance [m]	RPM [RPM]
			[m]									
1	517.465	4.569.582	842,2	Siemens Gamesa SG 6.6-...	Yes	Siemens Gamesa	SG 6.6-155-6.600	6.600	155,0	122,5	2.040	8,8
2	517.955	4.569.572	834,8	Siemens Gamesa SG 6.6-...	Yes	Siemens Gamesa	SG 6.6-155-6.600	6.600	155,0	122,5	2.040	8,8
3	518.390	4.569.333	864,4	Siemens Gamesa SG 6.6-...	Yes	Siemens Gamesa	SG 6.6-155-6.600	6.600	155,0	122,5	2.040	8,8
4	518.821	4.569.123	868,2	Siemens Gamesa SG 6.6-...	Yes	Siemens Gamesa	SG 6.6-155-6.600	6.600	155,0	122,5	2.040	8,8
5	519.228	4.568.869	941,5	Siemens Gamesa SG 6.6-...	Yes	Siemens Gamesa	SG 6.6-155-6.600	6.600	155,0	122,5	2.040	8,8
6	519.682	4.568.983	907,4	Siemens Gamesa SG 6.6-...	Yes	Siemens Gamesa	SG 6.6-145-6.600	6.600	145,0	127,5	2.040	8,8
7	518.771	4.568.428	870,3	Siemens Gamesa SG 6.6-...	Yes	Siemens Gamesa	SG 6.6-155-6.600	6.600	155,0	122,5	2.040	8,8



### Shadow receptor-Input

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Degrees from south cw	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
	[m]	[m]	[m]	[m]	[m]	[m]	[°]	[°]		[m]
A	518.479	4.568.932	826,3	1,0	1,0	1,0	-140,0	90,0	Fixed direction	2,0
B	517.575	4.570.092	761,2	1,0	1,0	1,0	0,0	90,0	Fixed direction	2,0
C	517.529	4.569.836	816,9	1,0	1,0	1,0	0,0	90,0	Fixed direction	2,0
D	518.098	4.568.416	742,9	1,0	1,0	1,0	-90,0	90,0	Fixed direction	2,0
E	518.077	4.568.384	741,0	1,0	1,0	1,0	-90,0	90,0	Fixed direction	2,0
F	518.064	4.568.350	738,1	1,0	1,0	1,0	-90,0	90,0	Fixed direction	2,0
G	517.938	4.568.384	719,6	1,0	1,0	1,0	-90,0	90,0	Fixed direction	2,0
H	517.962	4.568.352	723,6	1,0	1,0	1,0	-90,0	90,0	Fixed direction	2,0
I	520.227	4.568.502	802,7	1,0	1,0	1,0	120,0	90,0	Fixed direction	2,0
J	520.216	4.568.489	802,6	1,0	1,0	1,0	120,0	90,0	Fixed direction	2,0
K	520.190	4.568.481	804,4	1,0	1,0	1,0	120,0	90,0	Fixed direction	2,0
L	518.049	4.568.395	736,4	1,0	1,0	1,0	-90,0	90,0	Fixed direction	2,0
M	518.058	4.568.396	737,7	1,0	1,0	1,0	-90,0	90,0	Fixed direction	2,0

### Calculation Results

#### Shadow receptor

Shadow, worst case

No.	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]
A	48:58	62	1:12
B	189:38	86	2:52
C	378:22	160	3:21
D	79:05	146	0:50

To be continued on next page...

## SHADOW - Main Result

Calculation: Ombra

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Shadow, worst case

No.	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]
E	76:44	136	0:49
F	80:35	126	0:54
G	63:19	140	0:41
H	63:48	130	0:42
I	65:43	100	0:59
J	59:21	96	0:59
K	51:45	91	0:56
L	72:41	140	0:47
M	74:04	140	0:47

Total amount of flickering on the shadow receptors caused by each WTG

No.	Name	Worst case [h/year]
1	Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 122,5 m (TOT: 200,0 m) (1)	274:43
2	Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 122,5 m (TOT: 200,0 m) (2)	164:08
3	Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 122,5 m (TOT: 200,0 m) (3)	65:53
4	Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 122,5 m (TOT: 200,0 m) (4)	65:41
5	Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 122,5 m (TOT: 200,0 m) (5)	92:50
6	Siemens Gamesa SG 6.6-145 6600 145.0 !O! hub: 127,5 m (TOT: 200,0 m) (6)	40:34
7	Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 122,5 m (TOT: 200,0 m) (7)	101:28

Total times in Receptor wise and WTG wise tables can differ, as a WTG can lead to flicker at 2 or more receptors simultaneously and/or receptors may receive flicker from 2 or more WTGs simultaneously.



## SHADOW - Calendar

Calculation: Ombrashadow receptor: A - Shadow Receptor: 1,0 × 1,0 Azimuth: -140,0° Slope: 90,0° (1)

### Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December		
1	07:25 16:41	07:12 17:15	06:36 17:49	06:45 19:24	07:50 (5) 08:27 (5)	05:58 19:56	05:29 20:26	05:30 20:37	05:54 20:17	06:25 19:34	07:09 (6) 08:27 (5)	06:55 18:43	06:30 16:56	07:05 16:32
2	07:26 16:41	07:11 17:16	06:34 17:51	06:43 19:25	07:21 (6) 08:27 (5)	05:57 19:57	05:29 20:26	05:30 20:37	05:55 20:16	06:26 19:32	07:09 (6) 08:26 (5)	06:56 18:42	06:31 16:55	07:06 16:31
3	07:26 16:42	07:10 17:18	06:33 17:52	06:41 19:26	07:18 (6) 08:29 (5)	05:56 19:58	05:28 20:27	05:31 20:36	05:56 20:15	06:27 19:31	07:09 (6) 08:26 (5)	06:57 18:40	06:32 16:54	07:07 16:31
4	07:26 16:43	07:09 17:19	06:31 17:53	06:40 19:27	07:16 (6) 08:29 (5)	05:55 19:59	05:28 20:28	05:31 20:36	05:57 20:14	06:28 19:29	07:09 (6) 08:26 (5)	06:58 18:38	06:33 16:53	07:08 16:31
5	07:26 16:44	07:08 17:20	06:29 17:54	06:38 19:28	07:14 (6) 08:28 (5)	05:53 20:00	05:28 20:29	05:32 20:36	05:58 20:13	06:29 19:28	07:09 (6) 08:26 (5)	06:59 18:37	06:35 16:51	07:09 16:31
6	07:26 16:45	07:07 17:21	06:28 17:55	06:36 19:29	07:13 (6) 08:29 (5)	05:52 20:01	05:27 20:29	05:32 20:36	05:59 20:12	06:30 19:26	07:09 (6) 08:25 (5)	06:59 18:35	06:36 16:50	07:10 16:31
7	07:26 16:46	07:06 17:23	06:26 17:56	06:35 19:30	07:12 (6) 08:29 (5)	05:51 20:02	05:27 20:30	05:33 20:35	06:00 20:11	06:31 19:24	07:10 (6) 08:24 (5)	06:59 18:33	06:37 16:49	07:11 16:30
8	07:25 16:47	07:04 17:24	06:25 17:57	06:33 19:31	07:12 (6) 08:29 (5)	05:50 20:03	05:27 20:30	05:34 20:35	06:01 20:09	06:32 19:22	07:11 (6) 08:24 (5)	06:03 18:32	06:38 16:48	07:12 16:30
9	07:25 16:48	07:03 17:25	06:23 17:59	06:31 19:32	07:11 (6) 08:28 (5)	05:49 20:04	05:27 20:31	05:34 20:35	06:02 20:08	06:33 19:21	07:12 (6) 08:23 (5)	06:04 18:30	06:39 16:47	07:13 16:30
10	07:25 16:49	07:02 17:26	06:21 18:00	06:30 19:33	07:10 (6) 08:27 (5)	05:47 20:05	05:26 20:32	05:35 20:34	06:03 20:07	06:34 19:19	07:14 (6) 08:21 (5)	06:05 18:28	06:41 16:46	07:14 16:30
11	07:25 16:50	07:01 17:28	06:20 18:01	06:28 19:34	07:10 (6) 08:28 (5)	05:46 20:06	05:26 20:32	05:36 20:34	06:04 20:05	06:35 19:17	07:42 (5) 08:19 (5)	06:06 18:27	06:42 16:45	07:14 16:30
12	07:25 16:51	07:00 17:29	06:18 18:02	06:27 19:36	07:10 (6) 08:27 (5)	05:45 20:07	05:26 20:33	05:36 20:33	06:05 20:04	06:36 19:16	07:43 (5) 08:18 (5)	06:07 18:25	06:43 16:44	07:15 16:31
13	07:24 16:52	06:58 17:30	06:16 18:03	06:25 19:37	07:10 (6) 08:26 (5)	05:44 20:08	05:26 20:33	05:37 20:33	06:06 20:03	06:37 19:14	07:44 (5) 08:16 (5)	06:08 18:24	06:44 16:43	07:16 16:31
14	07:24 16:53	06:57 17:31	06:15 18:04	06:23 19:38	07:10 (6) 08:25 (5)	05:43 20:09	05:26 20:34	05:38 20:32	06:07 20:01	06:38 19:12	07:46 (5) 08:14 (5)	06:09 18:22	06:45 16:42	07:17 16:31
15	07:24 16:54	06:56 17:33	06:13 18:05	06:22 19:39	07:10 (6) 08:24 (5)	05:42 20:10	05:26 20:34	05:39 20:32	06:08 20:00	06:39 19:11	07:48 (5) 08:12 (5)	06:10 18:20	06:47 16:41	07:18 16:31
16	07:23 16:56	06:54 17:34	06:11 18:06	06:20 19:40	07:11 (6) 08:24 (5)	05:41 20:11	05:26 20:34	05:40 20:31	06:09 19:59	06:40 19:09	07:50 (5) 08:09 (5)	06:11 18:19	06:48 16:40	07:18 16:31
17	07:23 16:57	06:53 17:35	06:10 18:07	06:19 19:41	07:12 (6) 08:22 (5)	05:40 20:12	05:26 20:35	05:40 20:31	06:10 19:57	06:41 19:07	07:55 (5) 08:03 (5)	06:12 18:17	06:49 16:40	07:19 16:32
18	07:22 16:58	06:52 17:36	06:08 18:09	06:17 19:42	07:13 (6) 08:21 (5)	05:39 20:13	05:26 20:35	05:41 20:30	06:11 19:56	06:42 19:05	08:01 (5) 08:13 (5)	06:13 18:16	06:50 16:39	07:20 16:32
19	07:22 16:59	06:50 17:37	06:06 18:10	06:16 19:43	07:15 (6) 08:19 (5)	05:38 20:14	05:26 20:35	05:42 20:29	06:12 19:54	06:43 19:04	07:57 (5) 08:16 (5)	06:14 18:14	06:51 16:38	07:20 16:32
20	07:21 17:00	06:49 17:39	06:05 18:11	06:14 19:44	07:46 (5) 08:18 (5)	05:37 20:15	05:26 20:36	05:43 20:29	06:13 19:53	06:44 19:02	07:55 (5) 08:18 (5)	06:15 18:13	06:53 16:37	07:21 16:33
21	07:21 17:01	06:48 17:40	06:03 18:12	06:13 19:45	07:47 (5) 08:16 (5)	05:37 20:16	05:26 20:36	05:44 20:28	06:14 19:51	06:45 19:00	07:53 (5) 08:20 (5)	06:16 18:11	06:54 16:37	07:21 16:33
22	07:20 17:03	06:46 17:41	06:01 18:13	06:11 19:46	07:48 (5) 08:15 (5)	05:36 20:17	05:27 20:36	05:45 20:27	06:15 19:50	06:46 18:59	07:51 (5) 08:21 (5)	06:16 18:10	06:55 16:36	07:22 16:34
23	07:19 17:04	06:45 17:42	06:00 18:14	06:10 19:47	07:50 (5) 08:13 (5)	05:35 20:18	05:27 20:36	05:45 20:26	06:16 19:48	06:47 18:57	07:23 (6) 08:22 (5)	06:17 18:08	06:56 16:35	07:23 16:34
24	07:19 17:05	06:43 17:43	05:58 18:15	06:08 19:48	07:52 (5) 08:10 (5)	05:34 20:19	05:27 20:37	05:46 20:25	06:17 19:47	06:48 18:55	07:18 (6) 08:23 (5)	06:18 18:07	06:57 16:35	07:23 16:35
25	07:18 17:06	06:42 17:45	05:56 18:16	06:07 19:49	07:56 (5) 08:06 (5)	05:34 20:20	05:27 20:37	05:47 20:24	06:18 19:45	06:49 18:53	07:16 (6) 08:24 (5)	06:19 18:53	06:58 16:34	07:23 16:35
26	07:17 17:07	06:40 17:46	05:55 18:17	06:05 19:51	07:09 (5) 07:13 (5)	05:33 20:21	05:28 20:37	05:48 20:24	06:19 19:44	06:50 18:52	07:14 (6) 08:25 (5)	06:20 18:52	06:59 16:34	07:24 16:36
27	07:16 17:09	06:39 17:47	05:53 18:18	06:04 19:52	07:03 (5) 07:20 (5)	05:32 20:22	05:28 20:37	05:49 20:23	06:20 19:42	06:51 18:50	07:13 (6) 08:25 (5)	06:21 18:50	07:01 16:33	07:24 16:37
28	07:15 17:10	06:37 17:48	05:51 18:19	06:03 19:53	06:59 (5) 07:22 (5)	05:32 20:22	05:28 20:37	05:50 20:22	06:21 19:41	06:52 18:48	07:12 (6) 08:26 (5)	06:22 18:48	07:02 16:33	07:24 16:37
29	07:15 17:11	06:36 17:49	05:50 18:20	06:01 19:54	07:56 (5) 08:24 (5)	05:31 20:23	05:29 20:37	05:51 20:21	06:22 19:39	06:53 18:47	07:11 (6) 08:26 (5)	06:23 18:47	07:03 16:32	07:25 16:38
30	07:14 17:12	06:35 17:50	05:48 18:21	06:00 19:55	07:53 (5) 08:25 (5)	05:30 20:24	05:29 20:37	05:52 20:20	06:23 19:37	06:54 18:45	07:10 (6) 08:26 (5)	06:24 18:45	07:04 16:32	07:25 16:39
31	07:13 17:14	06:34 17:51	05:46 18:22	05:59 19:56	07:52 (5) 08:27 (5)	05:30 20:25	05:29 20:37	05:53 20:19	06:24 19:36	06:55 18:44	07:10 (6) 08:27 (5)	06:25 18:44	07:05 16:32	07:25 16:40
Potential sun hours	297	297	369	399	449	453	460	428	375	836	345	297	287	
Total, worst case			139	1321				642						

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

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

## SHADOW - Calendar

Calculation: Ombrashadow receptor: B - Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (2)  
Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:  
The sun is shining all the day, from sunrise to sunset  
The rotor plane is always perpendicular to the line from the WTG to the sun  
The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December			
1	07:26 16:41	08:04 (4) 13:25 (1)	07:12 17:15	09:29 (2) 17:49	06:36 19:24	06:45 19:56	05:58 20:26	05:29 20:37	05:54 20:18	06:25 19:34	06:55 18:43	06:30 16:56	07:05 16:32	07:49 (4) 13:08 (1)	
2	07:26 16:41	08:05 (4) 13:25 (1)	07:11 17:16	09:34 (2) 17:51	06:34 19:25	06:43 19:57	05:57 20:26	05:29 20:37	05:55 20:16	06:26 19:33	06:56 18:42	06:31 16:55	07:06 16:31	07:49 (4) 13:08 (1)	
3	07:26 16:42	08:05 (4) 13:25 (1)	07:10 17:18	09:44 (2) 17:51	06:33 19:25	06:41 19:26	05:56 19:58	05:28 20:27	05:31 20:36	06:27 20:15	06:57 19:31	06:32 18:40	07:07 16:54	07:50 (4) 13:09 (1)	
4	07:26 16:43	08:05 (4) 13:25 (1)	07:09 17:19		06:31 19:27	06:40 19:59	05:55 20:28	05:28 20:36	05:31 20:14	06:28 19:29	06:58 18:38	06:33 16:53	07:08 16:31	07:50 (4) 13:10 (1)	
5	07:26 16:44	08:05 (4) 13:25 (1)	07:08 17:20		06:29 19:28	06:38 19:53	05:53 20:29	05:28 20:36	05:32 20:13	06:29 19:28	07:00 18:37	06:35 16:51	07:09 16:31	07:51 (4) 13:11 (1)	
6	07:26 16:45	08:06 (4) 13:26 (1)	07:07 17:21		06:28 19:29	06:36 19:51	05:52 20:29	05:27 20:36	05:32 20:12	06:30 19:26	07:01 18:35	06:36 16:50	07:10 16:31	07:52 (4) 13:12 (1)	
7	07:26 16:46	08:06 (4) 13:26 (1)	07:06 17:23		06:26 19:30	06:35 19:30	05:51 20:02	05:27 20:30	05:33 20:05	06:00 19:24	07:02 18:33	06:37 16:49	07:11 16:30	07:52 (4) 13:12 (1)	
8	07:26 16:47	08:06 (4) 13:26 (1)	07:05 17:24		06:25 19:31	06:33 19:31	05:50 20:03	05:27 20:31	06:01 20:09	06:32 19:23	07:03 18:32	06:38 16:48	07:12 16:30	07:53 (4) 13:13 (1)	
9	07:25 16:48	08:06 (4) 13:25 (1)	07:03 17:25		06:23 19:32	06:31 19:32	05:49 20:04	05:27 20:31	06:02 20:08	06:33 19:21	07:04 18:30	06:39 16:47	09:04 (2) 09:15 (2)	07:13 16:30	07:54 (4) 13:14 (1)
10	07:25 16:49	08:06 (4) 13:25 (1)	07:02 17:26		06:21 19:33	06:30 19:33	05:47 20:05	05:26 20:32	06:03 20:07	06:34 19:19	07:05 18:28	06:41 16:46	09:00 (2) 09:25 (2)	07:14 16:30	07:55 (4) 13:15 (1)
11	07:25 16:50	08:07 (4) 13:26 (1)	07:01 17:28		06:20 19:35	06:28 19:35	05:46 20:06	05:26 20:32	06:04 20:06	06:35 19:17	07:06 18:27	06:42 16:45	08:57 (2) 09:22 (2)	07:15 16:30	07:54 (4) 13:15 (1)
12	07:25 16:51	08:07 (4) 13:25 (1)	07:00 17:29		06:18 19:36	06:27 19:36	05:45 20:07	05:26 20:33	06:05 20:04	06:36 19:16	07:07 18:25	06:43 16:44	08:56 (2) 09:25 (2)	07:15 16:31	07:55 (4) 13:15 (1)
13	07:24 16:52	08:07 (4) 13:25 (1)	06:58 17:30		06:16 19:37	06:25 19:37	05:44 20:09	05:26 20:33	06:06 20:03	06:37 19:14	07:08 18:24	06:44 16:43	08:54 (2) 09:22 (2)	07:16 16:31	07:56 (4) 13:16 (1)
14	07:24 16:53	08:08 (4) 13:25 (1)	06:57 17:31		06:15 19:38	06:23 19:38	05:43 20:10	05:26 20:34	06:07 20:01	06:38 19:12	07:09 18:22	06:45 16:42	08:16 (3) 09:25 (2)	07:17 16:31	07:57 (4) 13:17 (1)
15	07:24 16:54	08:08 (4) 13:24 (1)	06:56 17:33		06:13 19:39	06:22 19:39	05:42 20:11	05:26 20:34	06:08 20:00	06:39 19:11	07:10 18:20	06:47 16:41	08:14 (3) 09:31 (2)	07:18 16:31	07:57 (4) 13:17 (1)
16	07:23 16:56	08:09 (4) 13:23 (1)	06:55 17:34		06:12 19:40	06:20 19:40	05:41 20:12	05:26 20:35	06:09 20:31	06:40 19:09	07:11 18:19	06:48 16:40	07:52 (4) 09:32 (2)	07:18 16:31	07:58 (4) 13:18 (1)
17	07:23 16:57	08:09 (4) 13:22 (1)	06:53 17:35		06:10 19:41	06:19 19:41	05:40 20:12	05:26 20:35	06:10 19:57	06:41 19:07	07:13 18:17	06:49 16:40	07:50 (4) 09:33 (2)	07:19 16:32	07:59 (4) 13:19 (1)
18	07:22 16:58	08:09 (4) 13:21 (1)	06:52 17:36		06:08 19:42	06:17 19:42	05:39 20:13	05:26 20:35	06:11 19:56	06:42 19:05	07:14 18:16	06:50 16:39	07:49 (4) 09:34 (2)	07:20 16:32	07:59 (4) 13:19 (1)
19	07:22 16:59	08:10 (4) 13:20 (1)	06:50 17:37		06:06 19:43	06:16 19:43	05:38 20:14	05:26 20:36	06:12 20:29	06:43 19:04	07:15 18:14	06:51 16:38	07:49 (4) 12:43 (1)	07:20 16:32	08:00 (4) 13:20 (1)
20	07:21 17:00	08:11 (4) 13:18 (1)	06:49 17:39		06:05 19:44	06:14 19:44	05:37 20:15	05:26 20:36	06:13 20:29	06:44 19:02	07:16 18:13	06:53 16:37	07:48 (4) 12:49 (1)	07:21 16:33	08:01 (4) 13:21 (1)
21	07:21 17:01	08:12 (4) 13:17 (1)	06:48 17:40		06:03 19:45	06:13 19:45	05:37 20:16	05:26 20:36	06:14 20:28	06:45 19:51	07:17 18:11	06:54 16:37	07:47 (4) 12:52 (1)	07:22 16:33	08:02 (4) 13:20 (1)
22	07:20 17:03	08:13 (4) 13:14 (1)	06:46 17:41		06:01 19:46	06:11 19:46	05:36 20:17	05:27 20:36	06:15 20:27	06:46 19:50	07:18 18:10	06:55 16:36	07:47 (4) 12:54 (1)	07:22 16:34	08:02 (4) 13:21 (1)
23	07:19 17:04	08:14 (4) 13:08 (1)	06:45 17:42		06:00 19:47	06:10 19:47	05:35 20:18	05:27 20:36	06:16 20:26	06:47 19:48	07:19 18:08	06:56 16:35	07:47 (4) 12:57 (1)	07:23 16:34	08:02 (4) 13:21 (1)
24	07:19 17:05	08:15 (4) 13:00 (2)	06:43 17:43		05:58 19:48	06:08 19:48	05:34 20:19	05:27 20:37	06:17 20:25	06:48 19:47	07:20 18:55	06:57 16:35	07:47 (4) 12:59 (1)	07:23 16:35	08:02 (4) 13:22 (1)
25	07:18 17:06	08:17 (4) 13:00 (2)	06:42 17:45		05:56 19:50	06:07 19:50	05:34 20:20	05:27 20:37	06:18 20:24	06:49 19:45	07:21 18:53	06:58 16:34	07:47 (4) 13:00 (1)	07:23 16:35	08:03 (4) 13:23 (1)
26	07:17 17:08	08:19 (4) 12:59 (2)	06:40 17:46		05:55 19:51	06:05 19:51	05:33 20:21	05:28 20:37	06:19 20:24	06:50 18:52	07:23 17:04	07:00 16:34	07:47 (4) 13:01 (1)	07:24 16:36	08:03 (4) 13:23 (1)
27	07:16 17:09	08:41 (3) 12:58 (2)	06:39 17:47		05:53 19:52	06:04 19:52	05:32 20:22	05:28 20:37	06:20 20:23	06:51 18:50	07:24 17:03	07:01 16:33	07:47 (4) 13:03 (1)	07:24 16:37	08:03 (4) 13:23 (1)
28	07:16 17:10	08:44 (3) 12:57 (2)	06:37 17:48		05:51 19:53	06:03 19:53	05:32 20:23	05:28 20:37	06:21 20:22	06:52 19:41	07:25 17:01	07:02 16:33	07:47 (4) 13:04 (1)	07:25 16:37	08:04 (4) 13:24 (1)
29	07:15 17:11	09:22 (2) 12:55 (2)			06:50 19:54	06:01 19:54	05:31 20:23	05:29 20:37	06:22 20:21	06:53 18:47	07:26 17:00	07:03 16:32	07:48 (4) 13:06 (1)	07:25 16:38	08:04 (4) 13:24 (1)
30	07:14 17:12	09:24 (2) 12:53 (2)			06:48 19:55	06:00 19:55	05:30 20:24	05:29 20:37	06:23 20:20	06:54 18:45	07:27 16:59	07:04 16:32	07:49 (4) 13:07 (1)	07:25 16:39	08:04 (4) 13:24 (1)
31	07:13 17:14	09:26 (2) 12:51 (2)			06:46 19:23		05:30 20:25		06:24 20:19	06:29 19:36	07:28 16:58	07:05 16:40	07:25 16:40	08:04 (4) 13:24 (1)	
Potential sun hours	297	297	297	369	399	449	453	460	428	375	345	297	287	287	
Total, worst case	3959	29										2134		5256	

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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## SHADOW - Calendar

Calculation: OmbraShadow receptor: C - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (3)

### Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	
1	07:26 16:41 121	11:53 (1) 13:54 (1) 17:15 200	07:12 17:15 200	07:39 (4) 14:07 (1) 17:49 114	06:36 17:49 114	07:55 (2) 13:43 (1) 19:24 19:56	05:58 19:56 20:26
2	07:26 16:41 120	11:54 (1) 13:54 (1) 17:16 199	07:11 17:16 199	07:40 (4) 14:07 (1) 17:51 101	06:34 17:51 101	07:55 (2) 13:38 (1) 19:25 19:57	05:57 19:57 20:26
3	07:26 16:42 121	11:54 (1) 13:55 (1) 17:18 200	07:10 17:18 200	07:40 (4) 14:07 (1) 17:52 84	06:33 17:52 84	07:57 (2) 13:33 (1) 19:26 19:58	05:56 19:58 20:27
4	07:26 16:43 121	11:54 (1) 13:55 (1) 17:19 200	07:09 17:19 200	07:40 (4) 14:07 (1) 17:53 50	06:31 17:53 50	07:57 (2) 08:47 (2) 19:27 19:59	05:55 19:59 20:28
5	07:26 16:44 121	11:55 (1) 13:56 (1) 17:20 200	07:08 17:20 200	07:41 (4) 14:07 (1) 17:54 47	06:29 17:54 47	07:58 (2) 08:45 (2) 19:28 20:00	05:53 20:00 20:29
6	07:26 16:45 122	11:55 (1) 13:57 (1) 17:21 200	07:07 17:21 200	07:41 (4) 14:07 (1) 17:55 44	06:28 17:55 44	08:00 (2) 08:44 (2) 19:29 20:01	05:52 20:01 20:29
7	07:26 16:46 122	11:56 (1) 13:58 (1) 17:23 200	07:06 17:23 200	07:41 (4) 14:06 (1) 17:56 40	06:26 17:56 40	08:01 (2) 08:41 (2) 19:30 20:02	05:51 20:02 20:30
8	07:26 16:47 122	11:56 (1) 13:58 (1) 17:24 198	07:05 17:24 198	07:42 (4) 14:06 (1) 17:57 35	06:25 17:57 35	08:04 (2) 08:39 (2) 19:31 20:03	05:50 20:03 20:31
9	07:25 16:48 123	11:55 (1) 13:58 (1) 17:25 197	07:03 17:25 197	07:43 (4) 14:06 (1) 17:59 29	06:23 17:59 29	08:06 (2) 08:35 (2) 19:32 20:04	05:49 20:04 20:31
10	07:25 16:49 123	11:56 (1) 13:59 (1) 17:26 195	07:02 17:26 195	07:45 (4) 14:06 (1) 18:00 22	06:21 18:00 22	08:09 (2) 08:31 (2) 19:33 20:05	05:47 20:05 20:32
11	07:25 16:50 123	11:57 (1) 14:00 (1) 17:28 192	07:01 17:28 192	07:47 (4) 14:06 (1) 18:01 10	06:20 18:01 10	08:15 (2) 08:25 (2) 19:35 20:06	05:46 20:06 20:32
12	07:25 16:51 124	11:56 (1) 14:00 (1) 17:29 190	07:00 17:29 190	07:48 (3) 14:05 (1) 18:02	06:18 18:02	06:27 19:36 20:07	05:45 20:07 20:33
13	07:24 16:52 124	11:57 (1) 14:01 (1) 17:30 188	06:58 17:30 188	07:49 (3) 14:05 (1) 18:03	06:16 18:03	06:25 19:37 20:09	05:44 20:09 20:33
14	07:24 16:53 125	11:57 (1) 14:02 (1) 17:31 187	06:57 17:31 187	07:50 (3) 14:05 (1) 18:04	06:15 18:04	06:23 19:38 20:10	05:43 20:10 20:34
15	07:24 16:54 125	11:57 (1) 14:02 (1) 17:33 182	06:56 17:33 182	07:51 (3) 14:03 (1) 18:05	06:13 18:05	06:22 19:39 20:11	05:42 20:11 20:34
16	07:23 16:56 125	11:58 (1) 14:03 (1) 17:34 181	06:55 17:34 181	07:51 (2) 14:03 (1) 18:06	06:12 18:06	06:20 19:40 20:12	05:41 20:12 20:35
17	07:23 16:57 125	11:58 (1) 14:03 (1) 17:35 180	06:53 17:35 180	07:51 (2) 14:03 (1) 18:08	06:10 18:08	06:19 19:41 20:12	05:40 20:12 20:35
18	07:22 16:58 126	11:57 (1) 14:03 (1) 17:36 176	06:52 17:36 176	07:51 (2) 14:01 (1) 18:09	06:08 18:09	06:17 19:42 20:13	05:39 20:13 20:35
19	07:22 16:59 139	08:15 (2) 14:04 (1) 17:37 175	06:50 17:37 175	07:51 (2) 14:01 (1) 18:10	06:06 18:10	06:16 19:43 20:14	05:38 20:14 20:36
20	07:21 17:00 146	08:12 (2) 14:04 (1) 17:39 170	06:49 17:39 170	07:51 (2) 13:59 (1) 18:11	06:05 18:11	06:14 19:44 20:15	05:37 20:15 20:36
21	07:21 17:01 152	08:10 (2) 14:05 (1) 17:40 168	06:48 17:40 168	07:51 (2) 13:59 (1) 18:12	06:03 18:12	06:13 19:45 20:16	05:37 20:16 20:36
22	07:20 17:03 164	07:58 (3) 14:05 (1) 17:41 164	06:46 17:41 164	07:51 (2) 13:57 (1) 18:13	06:01 18:13	06:11 19:46 20:17	05:36 20:17 20:36
23	07:19 17:04 179	07:46 (4) 14:05 (1) 17:42 159	06:45 17:42 159	07:52 (2) 13:56 (1) 18:14	06:00 18:14	06:10 19:47 20:18	05:35 20:18 20:36
24	07:19 17:05 185	07:43 (4) 14:05 (1) 17:43 155	06:43 17:43 155	07:51 (2) 13:54 (1) 18:15	05:58 18:15	06:08 19:48 20:19	05:34 20:19 20:37
25	07:18 17:06 187	07:43 (4) 14:06 (1) 17:45 148	06:42 17:45 148	07:52 (2) 13:53 (1) 18:16	05:56 18:16	06:07 19:50 20:20	05:34 20:20 20:37
26	07:17 17:08 190	07:42 (4) 14:06 (1) 17:46 141	06:40 17:46 141	07:52 (2) 13:50 (1) 18:17	05:55 18:17	06:05 19:51 20:21	05:33 20:21 20:37
27	07:16 17:09 192	07:41 (4) 14:06 (1) 17:47 134	06:39 17:47 134	07:53 (2) 13:49 (1) 18:18	05:53 18:18	06:04 19:52 20:22	05:32 20:22 20:37
28	07:16 17:10 194	07:41 (4) 14:07 (1) 17:48 126	06:37 17:48 126	07:53 (2) 13:46 (1) 18:19	05:51 18:19	06:03 19:53 20:23	05:32 20:23 20:37
29	07:15 17:11 197	07:40 (4) 14:07 (1) 17:49 119	06:36 17:49 119	07:54 (1) 13:45 (1) 18:20	05:50 18:20	06:02 19:54 20:24	05:31 20:24 20:37
30	07:14 17:13 197	07:40 (4) 14:07 (1) 17:50 117	06:35 17:50 117	07:54 (1) 13:44 (1) 18:21	05:49 18:21	06:00 19:55 20:25	05:30 20:25 20:37
31	07:13 17:14 198	07:40 (4) 14:07 (1) 17:51 115	06:34 17:51 115	07:54 (1) 13:43 (1) 18:22	05:48 18:22	05:59 19:56 20:26	05:29 20:26 20:37
Potential sun hours	297	297	369	399	449	453	
Total, worst case	4533	5005	576				

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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## SHADOW - Calendar

Calculation: OmbraShadow receptor: C - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (3)

### Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	July	August	September	October	November	December			
1	05:30 20:37	05:54 20:18	06:25 19:34	06:55 18:43	06:30 16:56	07:14 (4) 13:36 (1)	07:05 16:32	11:39 (1) 13:42 (1)	
2	05:30 20:37	05:55 20:16	06:26 19:33	06:56 18:42	06:31 16:55	07:13 (4) 13:36 (1)	07:06 16:31	11:39 (1) 13:42 (1)	
3	05:31 20:36	05:56 20:15	06:27 19:31	06:57 18:40	08:49 (2) 09:07 (2)	06:32 16:54	07:12 (4) 13:36 (1)	07:07 16:31	11:40 (1) 13:42 (1)
4	05:31 20:36	05:57 20:14	06:28 19:29	06:58 18:38	08:45 (2) 09:11 (2)	06:33 16:53	07:11 (4) 13:36 (1)	07:08 16:31	11:40 (1) 13:42 (1)
5	05:32 20:36	05:58 20:13	06:29 19:28	07:00 18:37	08:42 (2) 09:14 (2)	06:35 16:51	07:11 (4) 13:37 (1)	07:09 16:31	11:41 (1) 13:43 (1)
6	05:33 20:36	05:59 20:12	06:30 19:26	07:01 18:35	08:39 (2) 09:16 (2)	06:36 16:50	07:10 (4) 13:37 (1)	07:10 16:31	11:41 (1) 13:43 (1)
7	05:33 20:35	06:00 20:11	06:31 19:24	07:02 18:33	08:37 (2) 09:18 (2)	06:37 16:49	07:10 (4) 13:37 (1)	07:11 16:30	11:42 (1) 13:43 (1)
8	05:34 20:35	06:01 20:09	06:32 19:23	07:03 18:32	08:34 (2) 09:20 (2)	06:38 16:48	07:11 (4) 13:38 (1)	07:12 16:30	11:42 (1) 13:44 (1)
9	05:34 20:35	06:02 20:08	06:33 19:21	07:04 18:30	08:33 (2) 09:21 (2)	06:39 16:47	07:10 (4) 13:38 (1)	07:13 16:30	11:43 (1) 13:44 (1)
10	05:35 20:34	06:03 20:07	06:34 19:19	07:05 18:28	08:31 (2) 14:02 (1)	06:41 16:46	07:10 (4) 13:38 (1)	07:14 16:30	11:44 (1) 13:44 (1)
11	05:36 20:34	06:04 20:06	06:35 19:17	07:06 18:27	08:29 (2) 14:09 (1)	06:42 16:45	07:10 (4) 13:38 (1)	07:15 16:30	11:43 (1) 13:44 (1)
12	05:37 20:34	06:05 20:04	06:36 19:16	07:07 18:25	08:28 (2) 14:14 (1)	06:43 16:44	07:12 (4) 13:39 (1)	07:15 16:31	11:44 (1) 13:44 (1)
13	05:37 20:33	06:06 20:03	06:37 19:14	07:08 18:24	08:28 (2) 14:18 (1)	06:44 16:43	07:12 (4) 13:39 (1)	07:16 16:31	11:45 (1) 13:45 (1)
14	05:38 20:32	06:07 20:01	06:38 19:12	07:09 18:22	08:27 (2) 14:20 (1)	06:45 16:42	07:12 (4) 13:39 (1)	07:17 16:31	11:46 (1) 13:45 (1)
15	05:39 20:32	06:08 20:00	06:39 19:11	07:10 18:20	08:26 (2) 14:22 (1)	06:47 16:41	07:14 (4) 13:39 (1)	07:18 16:31	11:46 (1) 13:45 (1)
16	05:40 20:31	06:09 19:59	06:40 19:09	07:11 18:19	08:25 (2) 14:23 (1)	06:48 16:40	07:15 (4) 13:39 (1)	07:18 16:31	11:46 (1) 13:46 (1)
17	05:40 20:31	06:10 19:57	06:41 19:07	07:13 18:17	08:24 (2) 14:25 (1)	06:49 16:40	07:16 (4) 13:39 (1)	07:19 16:32	11:47 (1) 13:47 (1)
18	05:41 20:30	06:11 19:56	06:42 19:05	07:14 18:16	08:23 (2) 14:26 (1)	06:50 16:39	07:17 (4) 13:39 (1)	07:20 16:32	11:47 (1) 13:46 (1)
19	05:42 20:29	06:12 19:54	06:43 19:04	07:15 18:14	08:22 (2) 14:27 (1)	06:51 16:38	07:21 (4) 13:40 (1)	07:20 16:32	11:48 (1) 13:47 (1)
20	05:43 20:29	06:13 19:53	06:44 19:02	07:16 18:13	08:22 (2) 14:29 (1)	06:53 16:37	07:21 (3) 13:40 (1)	07:21 16:33	11:49 (1) 13:48 (1)
21	05:44 20:28	06:14 19:51	06:45 19:00	07:17 18:11	08:22 (2) 14:29 (1)	06:54 16:37	07:45 (2) 13:40 (1)	07:22 16:33	11:49 (1) 13:48 (1)
22	05:45 20:27	06:15 19:50	06:46 18:59	07:18 18:10	08:21 (2) 14:30 (1)	06:55 16:36	07:48 (2) 13:40 (1)	07:22 16:34	11:50 (1) 13:49 (1)
23	05:45 20:26	06:16 19:48	06:47 18:57	07:19 18:08	08:21 (2) 14:31 (1)	06:56 16:35	07:52 (2) 13:41 (1)	07:23 16:34	11:50 (1) 13:49 (1)
24	05:46 20:25	06:17 19:47	06:48 18:55	07:20 18:07	08:21 (2) 14:32 (1)	06:57 16:35	11:35 (1) 13:41 (1)	07:23 16:35	11:50 (1) 13:49 (1)
25	05:47 20:24	06:18 19:45	06:49 18:53	07:22 17:06	07:21 (2) 13:33 (1)	06:58 16:34	11:36 (1) 13:41 (1)	07:23 16:35	11:51 (1) 13:50 (1)
26	05:48 20:24	06:19 19:44	06:50 18:52	07:23 17:04	07:21 (2) 13:33 (1)	07:00 16:34	11:36 (1) 13:41 (1)	07:24 16:36	11:51 (1) 13:50 (1)
27	05:49 20:23	06:20 19:42	06:51 18:50	07:24 17:03	07:20 (3) 13:33 (1)	07:01 16:33	11:36 (1) 13:41 (1)	07:24 16:37	11:51 (1) 13:51 (1)
28	05:50 20:22	06:21 19:41	06:52 18:48	07:25 17:01	07:19 (3) 13:33 (1)	07:02 16:33	11:36 (1) 13:41 (1)	07:25 16:37	11:52 (1) 13:52 (1)
29	05:51 20:21	06:22 19:39	06:53 18:47	07:26 17:00	07:19 (3) 13:35 (1)	07:03 16:32	11:38 (1) 13:42 (1)	07:25 16:38	11:53 (1) 13:52 (1)
30	05:52 20:20	06:23 19:37	06:54 18:45	07:27 16:59	07:18 (3) 13:35 (1)	07:04 16:32	11:38 (1) 13:42 (1)	07:25 16:39	11:53 (1) 13:53 (1)
31	05:53 20:19	06:24 19:36	06:55 18:44	07:28 16:58	07:15 (4) 13:35 (1)	07:05 16:35	07:25 16:40	11:53 (1) 13:53 (1)	
Potential sun hours	460	428	375	345	297	287			
Total, worst case				3673	5188	3727			

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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### SHADOW - Calendar

Calculation: OmbraShadow receptor: D - Shadow Receptor: 1,0 × 1,0 Azimuth: -90,0° Slope: 90,0° (4)

#### Assumptions for shadow calculations

- The calculated times are "worst case" given by the following assumptions:
- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April		May		June			
1	07:25 16:41	07:12 17:15	06:36 17:49	06:45 19:24		05:58 19:56	48	07:31 (7) 08:19 (7)	05:29 20:26	20	06:24 (6) 06:44 (6)
2	07:26 16:41	07:11 17:16	06:34 17:51	06:43 19:25		05:57 19:57	47	07:31 (7) 08:18 (7)	05:29 20:26	19	06:25 (6) 06:44 (6)
3	07:26 16:42	07:10 17:18	06:33 17:52	06:41 19:26		05:56 19:58	47	07:30 (7) 08:17 (7)	05:29 20:27	18	06:25 (6) 06:43 (6)
4	07:26 16:43	07:09 17:19	06:31 17:53	06:40 19:27		05:55 19:59	46	07:31 (7) 08:17 (7)	05:28 20:28	23	06:26 (6) 06:49 (5)
5	07:26 16:44	07:08 17:20	06:29 17:54	06:38 19:28		05:53 20:00	45	07:31 (7) 08:16 (7)	05:28 20:29	24	06:27 (6) 06:51 (5)
6	07:26 16:45	07:07 17:21	06:28 17:55	06:36 19:29		05:52 20:01	44	07:32 (7) 08:16 (7)	05:27 20:29	26	06:26 (6) 06:52 (5)
7	07:26 16:46	07:06 17:23	06:26 17:56	06:35 19:30		05:51 20:02	43	07:32 (7) 08:15 (7)	05:27 20:30	26	06:27 (6) 06:53 (5)
8	07:25 16:47	07:04 17:24	06:25 17:57	06:33 19:31		05:50 20:03	41	07:33 (7) 08:14 (7)	05:27 20:30	26	06:28 (6) 06:54 (5)
9	07:25 16:48	07:03 17:25	06:23 17:59	06:31 19:32		05:49 20:04	39	07:33 (7) 08:12 (7)	05:27 20:31	26	06:29 (6) 06:55 (5)
10	07:25 16:49	07:02 17:26	06:21 18:00	06:30 19:33	14	07:53 (7) 08:07 (7)	38	05:47 20:05	07:34 (7) 08:12 (7)	26	06:29 (6) 06:55 (5)
11	07:25 16:50	07:01 17:28	06:20 18:01	06:28 19:34	22	07:50 (7) 08:12 (7)	37	05:46 20:06	07:34 (7) 08:11 (7)	27	06:29 (6) 06:56 (5)
12	07:25 16:51	07:00 17:29	06:18 18:02	06:27 19:36	28	07:46 (7) 08:14 (7)	34	05:45 20:07	07:35 (7) 08:09 (7)	26	06:30 (6) 06:56 (5)
13	07:24 16:52	06:58 17:30	06:16 18:03	06:25 19:37	31	07:45 (7) 08:16 (7)	32	05:44 20:08	07:36 (7) 08:08 (7)	26	06:31 (6) 06:57 (5)
14	07:24 16:53	06:57 17:31	06:15 18:04	06:23 19:38	35	07:42 (7) 08:17 (7)	30	05:43 20:09	07:37 (7) 08:07 (7)	26	06:31 (6) 06:57 (5)
15	07:24 16:54	06:56 17:33	06:13 18:05	06:22 19:39	37	07:40 (7) 08:17 (7)	36	05:42 20:10	06:28 (6) 08:06 (7)	26	06:32 (6) 06:58 (5)
16	07:23 16:56	06:54 17:34	06:11 18:06	06:20 19:40	40	07:39 (7) 08:19 (7)	36	05:41 20:11	06:27 (6) 08:05 (7)	26	06:32 (6) 06:58 (5)
17	07:23 16:57	06:53 17:35	06:10 18:08	06:19 19:41	42	07:37 (7) 08:19 (7)	35	05:40 20:12	06:26 (6) 08:03 (7)	25	06:33 (6) 06:58 (5)
18	07:22 16:58	06:52 17:36	06:08 18:09	06:17 19:42	44	07:36 (7) 08:20 (7)	33	05:39 20:13	06:25 (6) 08:01 (7)	26	06:33 (6) 06:59 (5)
19	07:22 16:59	06:50 17:37	06:06 18:10	06:16 19:43	45	07:35 (7) 08:20 (7)	29	05:38 20:14	06:24 (6) 07:58 (7)	25	06:35 (6) 07:00 (5)
20	07:21 17:00	06:49 17:39	06:05 18:11	06:14 19:44	46	07:35 (7) 08:21 (7)	19	05:37 20:15	06:23 (6) 06:42 (6)	25	06:35 (6) 07:00 (5)
21	07:21 17:01	06:48 17:40	06:03 18:12	06:13 19:45	47	07:33 (7) 08:20 (7)	19	05:37 20:16	06:23 (6) 06:42 (6)	25	06:35 (6) 07:00 (5)
22	07:20 17:03	06:46 17:41	06:01 18:13	06:11 19:46	48	07:33 (7) 08:21 (7)	20	05:36 20:17	06:23 (6) 06:43 (6)	25	06:35 (6) 07:00 (5)
23	07:19 17:04	06:45 17:42	06:00 18:14	06:10 19:47	48	07:33 (7) 08:21 (7)	20	05:35 20:18	06:23 (6) 06:43 (6)	25	06:35 (6) 07:00 (5)
24	07:19 17:05	06:43 17:43	05:58 18:15	06:08 19:48	49	07:32 (7) 08:21 (7)	21	05:34 20:19	06:22 (6) 06:43 (6)	26	06:35 (6) 07:01 (5)
25	07:18 17:06	06:42 17:45	05:56 18:16	06:07 19:50	49	07:32 (7) 08:21 (7)	21	05:34 20:20	06:23 (6) 06:44 (6)	25	06:35 (6) 07:00 (5)
26	07:17 17:08	06:40 17:46	05:55 18:17	06:05 19:51	49	07:31 (7) 08:20 (7)	21	05:33 20:21	06:23 (6) 06:44 (6)	25	06:35 (6) 07:00 (5)
27	07:16 17:09	06:39 17:47	05:53 18:18	06:04 19:52	49	07:31 (7) 08:20 (7)	20	05:32 20:22	06:23 (6) 06:43 (6)	26	06:35 (6) 07:01 (5)
28	07:16 17:10	06:37 17:48	05:51 18:19	06:03 19:53	49	07:31 (7) 08:20 (7)	21	05:32 20:22	06:23 (6) 06:44 (6)	26	06:35 (6) 07:01 (5)
29	07:15 17:11		06:50 19:21	06:01 19:54	49	07:30 (7) 08:19 (7)	20	05:31 20:23	06:23 (6) 06:43 (6)	26	06:35 (6) 07:01 (5)
30	07:14 17:13		06:48 19:22	06:00 19:55	49	07:30 (7) 08:19 (7)	20	05:30 20:24	06:24 (6) 06:44 (6)	27	06:34 (6) 07:01 (5)
31	07:13 17:14		06:46 19:23			05:30 20:25	19	06:24 (6) 06:43 (6)			
Potential sun hours	297	297	369	399		449	981		453		748
Total, worst case					870						

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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## SHADOW - Calendar

Calculation: OmbraShadow receptor: D - Shadow Receptor: 1,0 × 1,0 Azimuth: -90,0° Slope: 90,0° (4)

### Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	July		August		September		October	November	December
1	05:30	06:35 (6)	05:54	07:46 (7)	06:25	07:49 (7)	06:55	06:30	07:05
	20:37	26	07:01 (5)	20:18	35	08:21 (7)	19:34	18:43	16:56
2	05:30	06:34 (6)	05:55	07:45 (7)	06:26	07:53 (7)	06:56	06:31	07:06
	20:37	26	07:00 (5)	20:16	37	08:22 (7)	19:32	18:42	16:55
3	05:31	06:34 (6)	05:56	07:44 (7)	06:27	08:06 (7)	06:57	06:32	07:07
	20:36	27	07:01 (5)	20:15	38	08:22 (7)	19:31	18:40	16:54
4	05:31	06:33 (6)	05:57	07:43 (7)	06:28		06:58	06:33	07:08
	20:36	27	07:00 (5)	20:14	40	08:23 (7)	19:29	18:38	16:53
5	05:32	06:34 (6)	05:58	07:43 (7)	06:29		06:59	06:35	07:09
	20:36	26	07:00 (5)	20:13	41	08:24 (7)	19:28	18:37	16:51
6	05:33	06:33 (6)	05:59	07:42 (7)	06:30		07:01	06:36	07:10
	20:36	25	06:58 (5)	20:12	43	08:25 (7)	19:26	18:35	16:50
7	05:33	06:33 (6)	06:00	07:41 (7)	06:31		07:02	06:37	07:11
	20:35	25	06:58 (5)	20:11	44	08:25 (7)	19:24	18:33	16:49
8	05:34	06:32 (6)	06:01	07:41 (7)	06:32		07:03	06:38	07:12
	20:35	24	06:56 (5)	20:09	45	08:26 (7)	19:22	18:32	16:48
9	05:34	06:32 (6)	06:02	07:40 (7)	06:33		07:04	06:39	07:13
	20:35	22	06:54 (5)	20:08	47	08:27 (7)	19:21	18:30	16:47
10	05:35	06:33 (6)	06:03	07:40 (7)	06:34		07:05	06:41	07:14
	20:34	18	06:51 (6)	20:07	47	08:27 (7)	19:19	18:28	16:46
11	05:36	06:32 (6)	06:04	07:40 (7)	06:35		07:06	06:42	07:14
	20:34	19	06:51 (6)	20:05	47	08:27 (7)	19:17	18:27	16:45
12	05:37	06:32 (6)	06:05	07:39 (7)	06:36		07:07	06:43	07:15
	20:33	19	06:51 (6)	20:04	49	08:28 (7)	19:16	18:25	16:44
13	05:37	06:32 (6)	06:06	07:39 (7)	06:37		07:08	06:44	07:16
	20:33	20	06:52 (6)	20:03	49	08:28 (7)	19:14	18:24	16:43
14	05:38	06:32 (6)	06:07	07:39 (7)	06:38		07:09	06:45	07:17
	20:32	21	06:53 (6)	20:01	49	08:28 (7)	19:12	18:22	16:42
15	05:39	06:32 (6)	06:08	07:38 (7)	06:39		07:10	06:47	07:18
	20:32	20	06:52 (6)	20:00	49	08:27 (7)	19:11	18:20	16:41
16	05:40	06:32 (6)	06:09	07:37 (7)	06:40		07:11	06:48	07:18
	20:31	21	06:53 (6)	19:59	50	08:27 (7)	19:09	18:19	16:40
17	05:40	06:32 (6)	06:10	07:37 (7)	06:41		07:12	06:49	07:19
	20:31	21	06:53 (6)	19:57	50	08:27 (7)	19:07	18:17	16:40
18	05:41	06:32 (6)	06:11	07:37 (7)	06:42		07:14	06:50	07:20
	20:30	21	06:53 (6)	19:56	50	08:27 (7)	19:05	18:16	16:39
19	05:42	06:33 (6)	06:12	07:37 (7)	06:43		07:15	06:51	07:20
	20:29	21	06:54 (6)	19:54	49	08:26 (7)	19:04	18:14	16:38
20	05:43	06:32 (6)	06:13	07:38 (7)	06:44		07:16	06:53	07:21
	20:29	21	06:53 (6)	19:53	48	08:26 (7)	19:02	18:13	16:37
21	05:44	06:33 (6)	06:14	07:38 (7)	06:45		07:17	06:54	07:21
	20:28	20	06:53 (6)	19:51	48	08:26 (7)	19:00	18:11	16:37
22	05:45	06:33 (6)	06:15	07:38 (7)	06:46		07:18	06:55	07:22
	20:27	20	06:53 (6)	19:50	47	08:25 (7)	18:59	18:10	16:36
23	05:45	06:34 (6)	06:16	07:38 (7)	06:47		07:19	06:56	07:23
	20:26	19	06:53 (6)	19:48	46	08:24 (7)	18:57	18:08	16:35
24	05:46	06:34 (6)	06:17	07:39 (7)	06:48		07:20	06:57	07:23
	20:25	23	08:05 (7)	19:47	45	08:24 (7)	18:55	18:07	16:35
25	05:47	06:35 (6)	06:18	07:39 (7)	06:49		06:22	06:58	07:23
	20:24	31	08:10 (7)	19:45	44	08:23 (7)	18:53	17:06	16:34
26	05:48	06:36 (6)	06:19	07:40 (7)	06:50		06:23	06:59	07:24
	20:24	33	08:12 (7)	19:44	42	08:22 (7)	18:52	17:04	16:34
27	05:49	06:37 (6)	06:20	07:41 (7)	06:51		06:24	07:01	07:24
	20:23	35	08:14 (7)	19:42	40	08:21 (7)	18:50	17:03	16:33
28	05:50	06:38 (6)	06:21	07:42 (7)	06:52		06:25	07:02	07:24
	20:22	35	08:15 (7)	19:41	37	08:19 (7)	18:48	17:01	16:33
29	05:51	06:40 (6)	06:22	07:43 (7)	06:53		06:26	07:03	07:25
	20:21	34	08:17 (7)	19:39	35	08:18 (7)	18:47	17:00	16:32
30	05:52	07:48 (7)	06:23	07:45 (7)	06:54		06:27	07:04	07:25
	20:20	30	08:18 (7)	19:37	31	08:16 (7)	18:45	16:59	16:32
31	05:53	07:46 (7)	06:24	07:46 (7)			06:29		07:25
	20:19	33	08:19 (7)	19:36	27	08:13 (7)	16:58		16:40
Potential sun hours	460		428		375		345	297	287
Total, worst case	763		1349		34				

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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## SHADOW - Calendar

Calculation: OmbraShadow receptor: E - Shadow Receptor: 1,0 × 1,0 Azimuth: -90,0° Slope: 90,0° (5)  
Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December	
1	07:25 16:41	07:12 17:15	06:36 17:49	06:45 19:24	05:58 19:56	07:23 (7) 20:26	05:29 19:57	06:21 (6) 20:37	05:30 20:18	06:30 (6) 20:54	07:34 (7) 19:34	06:25 18:43	06:55 16:32
2	07:26 16:41	07:11 17:16	06:34 17:51	06:43 19:25	05:57 19:57	07:23 (7) 20:26	05:29 19:57	06:22 (6) 20:37	05:30 20:16	06:29 (6) 20:54	07:34 (7) 19:32	06:26 18:42	06:56 16:55
3	07:26 16:42	07:10 17:18	06:33 17:52	06:41 19:26	05:56 19:58	07:22 (7) 20:27	05:29 19:58	06:22 (6) 20:36	05:31 20:15	06:30 (6) 20:56	07:33 (7) 19:31	06:27 18:40	06:57 16:54
4	07:26 16:43	07:09 17:19	06:31 17:53	06:40 19:27	05:55 19:59	07:22 (7) 20:28	05:28 19:59	06:22 (6) 20:36	05:31 20:14	06:29 (6) 20:57	07:33 (7) 19:29	06:28 18:38	06:58 16:53
5	07:26 16:44	07:08 17:20	06:29 17:54	06:38 19:28	05:53 20:00	07:23 (7) 20:29	05:28 20:00	06:23 (6) 20:36	05:32 20:13	06:30 (6) 20:58	07:33 (7) 19:28	06:29 18:37	06:59 16:51
6	07:26 16:45	07:07 17:21	06:28 17:55	06:36 19:29	05:52 20:01	07:23 (7) 20:29	05:27 20:01	06:23 (6) 20:36	05:33 20:12	06:29 (6) 20:59	07:33 (7) 19:26	06:30 18:35	07:01 16:50
7	07:26 16:46	07:06 17:23	06:26 17:56	06:35 19:30	05:51 20:02	07:23 (7) 20:30	05:27 20:02	06:23 (6) 20:35	05:33 20:11	06:29 (6) 20:60	07:32 (7) 19:24	06:31 18:33	07:02 16:49
8	07:25 16:47	07:04 17:24	06:25 17:57	06:33 19:31	05:50 20:03	07:23 (7) 20:30	05:27 20:03	06:24 (6) 20:35	05:34 20:09	06:29 (6) 20:60	07:32 (7) 19:22	06:32 18:32	07:03 16:48
9	07:25 16:48	07:03 17:25	06:23 17:59	06:31 19:32	05:49 20:04	07:23 (7) 20:31	05:27 20:04	06:25 (6) 20:35	05:34 20:08	06:29 (6) 20:60	07:32 (7) 19:21	06:33 18:30	07:04 16:47
10	07:25 16:49	07:02 17:26	06:21 18:00	06:30 19:33	05:47 20:05	07:23 (7) 20:32	05:26 20:05	06:25 (6) 20:36	05:35 20:07	06:29 (6) 20:60	07:32 (7) 19:19	06:03 18:28	07:05 16:46
11	07:25 16:50	07:01 17:28	06:20 18:01	06:28 19:34	05:46 20:06	07:23 (7) 20:33	05:26 20:06	06:25 (6) 20:34	05:36 20:05	06:29 (6) 20:60	07:32 (7) 19:17	06:04 18:27	07:06 16:45
12	07:25 16:51	07:00 17:29	06:18 18:02	06:27 19:36	05:45 20:07	07:24 (7) 20:33	05:26 20:07	06:26 (6) 20:33	05:37 20:04	06:29 (6) 20:60	07:32 (7) 19:16	06:05 18:25	07:07 16:44
13	07:24 16:52	06:58 17:30	06:16 18:03	06:25 19:37	05:44 20:08	07:24 (7) 20:33	05:26 20:08	06:26 (6) 20:33	05:37 20:03	06:29 (6) 20:60	07:32 (7) 19:14	06:06 18:24	07:08 16:43
14	07:24 16:53	06:57 17:31	06:15 18:04	06:23 19:38	05:43 20:09	07:25 (7) 20:34	05:26 20:09	06:26 (6) 20:32	05:38 20:01	06:30 (6) 20:60	07:32 (7) 19:12	06:07 18:22	07:09 16:42
15	07:24 16:54	06:56 17:33	06:13 18:05	06:22 19:39	05:42 20:10	07:25 (7) 20:34	05:26 20:10	06:27 (6) 20:32	05:39 20:00	06:29 (6) 20:60	07:31 (7) 19:11	06:08 18:20	07:10 16:41
16	07:23 16:54	06:54 17:34	06:11 18:06	06:20 19:40	05:41 20:11	07:27 (7) 20:34	05:26 20:11	06:27 (6) 20:31	05:40 20:00	06:30 (6) 20:60	07:31 (7) 19:10	06:09 18:19	07:11 16:40
17	07:23 16:57	06:53 17:35	06:10 18:08	06:19 19:41	05:40 20:12	07:27 (7) 20:35	05:26 20:12	06:27 (6) 20:31	05:40 20:00	06:30 (6) 20:60	07:32 (7) 19:07	06:41 18:17	07:12 16:40
18	07:22 16:58	06:52 17:36	06:08 18:09	06:17 19:42	05:39 20:13	07:27 (7) 20:35	05:26 20:13	06:27 (6) 20:30	05:41 20:00	06:31 (6) 20:56	07:32 (7) 19:05	06:42 18:16	07:14 16:39
19	07:22 16:59	06:50 17:37	06:06 18:10	06:16 19:43	05:38 20:14	07:27 (7) 20:35	05:26 20:14	06:28 (6) 20:29	05:42 20:00	06:31 (6) 20:54	07:33 (7) 19:04	06:43 18:15	07:15 16:38
20	07:21 17:00	06:49 17:39	06:05 18:11	06:14 19:44	05:37 20:15	07:28 (7) 20:36	05:26 20:15	06:29 (6) 20:29	05:43 20:00	06:31 (6) 20:53	07:33 (7) 19:02	06:44 18:13	07:16 16:37
21	07:21 17:01	06:48 17:40	06:03 18:12	06:13 19:45	05:37 20:16	07:29 (7) 20:36	05:26 20:16	06:29 (6) 20:28	05:44 20:00	06:31 (6) 20:51	07:34 (7) 19:00	06:45 18:11	07:17 16:37
22	07:20 17:03	06:46 17:41	06:01 18:13	06:11 19:46	05:36 20:17	07:29 (7) 20:36	05:26 20:17	06:29 (6) 20:27	05:45 20:00	06:32 (6) 20:50	07:35 (7) 18:59	06:46 18:10	07:18 16:36
23	07:19 17:04	06:45 17:42	06:00 18:14	06:10 19:47	05:35 20:18	07:30 (7) 20:36	05:27 20:18	06:29 (6) 20:26	05:45 20:00	06:33 (6) 20:48	07:36 (7) 18:57	06:47 18:08	07:19 16:35
24	07:19 17:05	06:43 17:43	05:58 18:15	06:08 19:48	05:34 20:19	07:30 (7) 20:37	05:27 20:19	06:29 (6) 20:25	05:46 20:00	06:34 (6) 20:47	07:37 (7) 18:55	06:48 18:07	07:20 16:35
25	07:18 17:06	06:42 17:45	05:56 18:16	06:07 19:50	05:34 20:20	07:31 (7) 20:37	05:27 20:20	06:29 (6) 20:24	05:47 20:00	06:35 (6) 20:45	07:38 (7) 18:53	06:49 18:06	07:22 16:34
26	07:17 17:08	06:40 17:46	05:55 18:17	06:05 19:51	05:33 20:21	07:32 (7) 20:37	05:28 20:21	06:29 (6) 20:24	05:48 20:00	06:37 (6) 20:44	07:40 (7) 18:52	06:50 18:04	07:23 16:34
27	07:16 17:09	06:39 17:47	05:53 18:18	06:04 19:52	05:32 20:22	07:33 (7) 20:37	05:28 20:22	06:30 (6) 20:23	05:49 20:00	06:40 (6) 20:42	07:42 (7) 18:50	06:51 18:03	07:24 16:33
28	07:16 17:10	06:37 17:48	05:51 18:19	06:03 19:53	05:32 20:23	07:34 (7) 20:37	05:28 20:23	06:31 (6) 20:22	05:50 20:00	07:36 (7) 19:41	07:46 (7) 18:48	06:52 18:01	07:25 16:33
29	07:15 17:11	06:36 17:49	05:50 18:20	06:01 19:54	05:31 20:24	07:35 (7) 20:37	05:29 20:24	06:32 (6) 20:21	05:51 20:00	07:37 (7) 19:39	07:48 (7) 18:47	06:53 18:00	07:26 16:32
30	07:14 17:13	06:35 17:50	05:49 18:21	06:00 19:55	05:30 20:25	07:36 (7) 20:37	05:29 20:25	06:33 (6) 20:20	05:52 20:00	07:38 (7) 19:37	07:50 (7) 18:45	06:54 18:00	07:27 16:32
31	07:13 17:14	06:34 17:51	05:48 18:22	06:00 19:56	05:30 20:26	07:37 (7) 20:37	05:29 20:26	06:34 (6) 20:19	05:53 20:00	07:39 (7) 19:36	07:52 (7) 18:44	06:55 18:00	07:28 16:40
Potential sun hours	297	297	369	399	449	453	460	482	428	375	345	297	287
Total, worst case				613	1246	650	925	1170					

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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## SHADOW - Calendar

Calculation: Ombrashadow receptor: G - Shadow Receptor: 1,0 × 1,0 Azimuth: -90,0° Slope: 90,0° (7)  
Assumptions for shadow calculations

- The calculated times are "worst case" given by the following assumptions:
- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December	
1	07:25 16:41	07:12 17:15	06:36 17:49	06:45 19:24	05:59 19:56	07:23 (7) 20:26	05:29 20:26	06:29 (6) 20:37	05:54 20:18	07:04 (7) 19:34	06:25 18:43	06:55 16:56	06:30 16:32
2	07:26 16:41	07:11 17:16	06:34 17:51	06:43 19:25	05:57 19:57	07:24 (7) 20:26	05:29 20:26	06:30 (6) 20:37	05:55 20:16	07:04 (7) 19:32	06:26 18:42	06:56 16:55	06:31 16:31
3	07:26 16:42	07:10 17:18	06:33 17:52	06:41 19:26	05:56 19:58	07:23 (7) 20:27	05:29 20:26	06:30 (6) 20:36	05:56 20:15	07:04 (7) 19:31	06:27 18:40	06:57 16:54	06:32 16:31
4	07:26 16:43	07:09 17:19	06:31 17:53	06:40 19:27	05:55 19:59	07:24 (7) 20:28	05:28 20:26	06:32 (6) 20:36	05:57 20:14	07:04 (7) 19:29	06:28 18:38	06:58 16:53	06:33 16:31
5	07:26 16:44	07:08 17:20	06:29 17:54	06:38 19:28	05:53 20:00	07:24 (7) 20:29	05:28 20:29	06:33 (6) 20:36	05:58 20:13	07:04 (7) 19:28	06:29 18:37	06:59 16:51	06:35 16:31
6	07:26 16:45	07:07 17:21	06:28 17:55	06:36 19:29	05:52 20:01	07:25 (7) 20:29	05:27 20:29	06:35 (5) 20:36	05:59 20:12	07:05 (7) 19:26	06:30 18:35	07:01 16:50	06:36 16:31
7	07:26 16:46	07:06 17:23	06:26 17:56	06:35 19:30	05:51 20:02	07:26 (7) 20:30	05:27 20:30	06:35 (5) 20:35	06:00 20:11	07:04 (7) 19:24	06:31 18:33	07:02 16:49	06:37 16:30
8	07:25 16:47	07:04 17:24	06:25 17:57	06:33 19:31	05:50 20:03	07:27 (7) 20:30	05:27 20:30	06:35 (5) 20:35	06:01 20:09	07:04 (7) 19:23	06:32 18:32	07:03 16:48	06:38 16:30
9	07:25 16:48	07:03 17:25	06:23 17:59	06:31 19:32	05:49 20:04	07:27 (7) 20:31	05:27 20:31	06:35 (5) 20:35	06:02 20:08	07:03 (7) 19:21	06:33 18:30	07:04 16:47	06:39 16:30
10	07:25 16:49	07:02 17:26	06:21 18:00	06:30 19:33	05:47 20:05	07:28 (7) 20:32	05:26 20:32	06:36 (5) 20:34	06:03 20:07	07:03 (7) 19:19	06:34 18:28	07:05 16:46	06:41 16:30
11	07:25 16:50	07:01 17:28	06:20 18:01	06:28 19:35	05:46 20:06	07:29 (7) 20:32	05:26 20:32	06:35 (5) 20:34	06:04 20:05	07:02 (7) 19:17	06:35 18:27	07:06 16:45	06:42 16:30
12	07:25 16:51	07:00 17:29	06:18 18:02	06:27 19:36	05:45 20:07	07:30 (7) 20:33	05:26 20:33	06:35 (5) 20:33	06:05 20:04	07:02 (7) 19:16	06:36 18:25	07:07 16:44	06:43 16:31
13	07:24 16:52	06:58 17:30	06:16 18:03	06:25 19:37	05:44 20:08	07:31 (6) 20:33	05:26 20:33	06:35 (5) 20:33	06:06 20:03	07:02 (7) 19:14	06:37 18:24	07:08 16:43	06:44 16:31
14	07:24 16:53	06:57 17:31	06:15 18:04	06:23 19:38	05:43 20:09	07:32 (7) 20:34	05:26 20:34	06:35 (5) 20:32	06:07 20:01	07:03 (7) 19:12	06:38 18:22	07:09 16:42	06:45 16:31
15	07:24 16:54	06:56 17:33	06:13 18:05	06:22 19:39	05:42 20:10	07:33 (7) 20:34	05:26 20:34	06:35 (5) 20:32	06:08 20:00	07:04 (7) 19:11	06:39 18:20	07:10 16:41	06:47 16:31
16	07:23 16:56	06:55 17:34	06:11 18:06	06:20 19:40	05:41 20:11	07:34 (7) 20:34	05:26 20:34	06:35 (5) 20:31	06:09 19:59	07:04 (7) 19:09	06:40 18:19	07:11 16:40	06:48 16:31
17	07:23 16:57	06:53 17:35	06:10 18:08	06:19 19:41	05:40 20:12	07:34 (7) 20:35	05:26 20:35	06:35 (5) 20:31	06:10 19:57	07:03 (7) 19:07	06:41 18:17	06:49 16:40	07:19 16:32
18	07:22 16:58	06:52 17:36	06:08 18:09	06:17 19:42	05:39 20:13	07:35 (7) 20:35	05:26 20:35	06:36 (5) 20:30	06:11 19:56	07:02 (7) 19:05	06:42 18:16	07:14 16:39	07:20 16:32
19	07:22 16:59	06:50 17:37	06:06 18:10	06:16 19:43	05:38 20:14	07:36 (7) 20:35	05:26 20:35	06:36 (5) 20:29	06:12 19:54	07:02 (7) 19:04	06:43 18:15	07:15 16:38	07:21 16:32
20	07:21 17:00	06:49 17:39	06:05 18:11	06:14 19:44	05:37 20:15	07:37 (7) 20:36	05:26 20:36	06:36 (5) 20:29	06:13 19:53	07:02 (7) 19:02	06:44 18:13	07:16 16:37	07:22 16:33
21	07:21 17:01	06:48 17:40	06:03 18:12	06:13 19:45	05:37 20:16	07:38 (7) 20:36	05:26 20:36	06:36 (5) 20:28	06:14 19:51	07:02 (7) 19:00	06:45 18:11	07:17 16:37	07:23 16:33
22	07:20 17:03	06:46 17:41	06:01 18:13	06:11 19:46	05:36 20:17	07:39 (7) 20:36	05:26 20:36	06:36 (5) 20:27	06:15 19:50	07:02 (7) 18:59	06:46 18:10	07:18 16:36	07:24 16:34
23	07:19 17:04	06:45 17:42	06:00 18:14	06:10 19:47	05:35 20:18	07:40 (7) 20:36	05:27 20:36	06:36 (5) 20:26	06:16 19:48	07:02 (7) 18:57	06:47 18:08	07:19 16:35	07:25 16:34
24	07:19 17:05	06:43 17:43	05:58 18:15	06:08 19:48	05:34 20:19	07:41 (7) 20:37	05:27 20:37	06:37 (5) 20:25	06:17 19:47	07:02 (7) 18:55	06:48 18:07	07:20 16:35	07:26 16:35
25	07:18 17:06	06:42 17:45	05:56 18:16	06:07 19:50	05:33 20:20	07:42 (7) 20:37	05:27 20:37	06:37 (5) 20:24	06:18 19:45	07:03 (7) 18:53	06:49 17:06	07:22 16:34	07:27 16:35
26	07:17 17:08	06:40 17:46	05:55 18:17	06:05 19:51	05:32 20:21	07:43 (7) 20:37	05:28 20:37	06:37 (5) 20:24	06:19 19:44	07:04 (7) 18:52	06:50 17:04	07:23 16:34	07:28 16:36
27	07:16 17:09	06:39 17:47	05:53 18:18	06:04 19:52	05:31 20:22	07:44 (7) 20:37	05:28 20:37	06:38 (5) 20:23	06:20 19:42	07:05 (7) 18:50	06:51 17:03	07:24 16:33	07:29 16:37
28	07:16 17:10	06:37 17:48	05:51 18:19	06:03 19:53	05:30 20:22	07:45 (7) 20:37	05:29 20:37	06:38 (5) 20:22	06:21 19:41	07:06 (7) 18:48	06:52 17:01	07:25 16:33	07:30 16:37
29	07:15 17:11	06:35 17:49	05:49 18:20	06:01 19:54	05:29 20:23	07:46 (7) 20:37	05:29 20:37	06:39 (5) 20:21	06:22 19:39	07:07 (7) 18:47	06:53 17:00	07:26 16:32	07:31 16:38
30	07:14 17:13	06:33 17:49	05:47 18:21	06:00 19:55	05:28 20:24	07:47 (7) 20:37	05:29 20:37	06:39 (5) 20:20	06:23 19:37	07:08 (7) 18:45	06:54 16:59	07:27 16:32	07:32 16:39
31	07:13 17:14	06:31 17:50	05:45 18:22	06:00 19:56	05:27 20:25	07:48 (7) 20:37	05:28 20:37	06:40 (5) 20:19	06:24 19:36	07:09 (7) 18:43	06:55 16:58	07:28 16:40	07:33 16:40
Potential sun hours	297	297	369	399	449	453	460	468	482	375	345	297	287
Total, worst case				613	761	752	668	1005					

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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## SHADOW - Calendar

Calculation: OmbraShadow receptor: H - Shadow Receptor: 1,0 × 1,0 Azimuth: -90,0° Slope: 90,0° (8)

### Assumptions for shadow calculations

- The calculated times are "worst case" given by the following assumptions:
- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December	
1	07:25 16:41	07:12 17:15	06:36 17:49	06:45 19:24	05:59 19:56	07:17 (7) 20:26	05:29 19:57	06:23 (6) 20:37	05:54 20:18	07:28 (7) 19:34	06:25 18:43	06:55 16:32	06:30 16:32
2	07:26 16:41	07:11 17:16	06:34 17:51	06:43 19:25	05:57 19:57	07:17 (7) 20:26	05:29 19:57	06:24 (6) 20:37	05:55 20:16	07:28 (7) 19:32	06:26 18:42	06:56 16:55	06:31 16:31
3	07:26 16:42	07:10 17:18	06:33 17:52	06:41 19:26	05:56 19:58	07:16 (7) 20:27	05:29 19:58	06:24 (6) 20:36	05:56 20:15	07:27 (7) 19:31	06:27 18:40	06:57 16:54	06:32 16:31
4	07:26 16:43	07:09 17:19	06:31 17:53	06:40 19:27	05:55 19:59	07:16 (7) 20:28	05:28 19:59	06:24 (6) 20:36	05:57 20:14	07:27 (7) 19:29	06:28 18:38	06:33 16:53	06:33 16:31
5	07:26 16:44	07:08 17:20	06:29 17:54	06:38 19:28	05:53 20:00	07:16 (7) 20:29	05:28 20:00	06:25 (6) 20:36	05:58 20:13	07:27 (7) 19:28	06:29 18:37	06:35 16:51	06:35 16:31
6	07:26 16:45	07:07 17:21	06:28 17:55	06:36 19:29	05:52 20:01	07:17 (7) 20:29	05:27 20:01	06:25 (6) 20:36	05:59 20:12	07:26 (7) 19:26	06:30 18:35	06:36 16:50	06:36 16:31
7	07:26 16:46	07:06 17:23	06:26 17:56	06:35 19:30	05:51 20:02	07:17 (7) 20:30	05:27 20:02	06:26 (6) 20:35	06:00 20:11	07:26 (7) 19:24	06:31 18:33	06:37 16:49	06:37 16:30
8	07:25 16:47	07:04 17:24	06:25 17:57	06:33 19:31	05:50 20:03	07:17 (7) 20:30	05:27 20:03	06:26 (6) 20:35	06:01 20:09	07:26 (7) 19:23	06:32 18:32	06:38 16:48	06:38 16:30
9	07:25 16:48	07:03 17:25	06:23 17:59	06:31 19:32	05:49 20:04	07:16 (7) 20:31	05:27 20:04	06:27 (6) 20:35	06:02 20:08	07:26 (7) 19:21	06:33 18:30	06:39 16:47	06:39 16:30
10	07:25 16:49	07:02 17:26	06:21 18:00	06:30 19:33	05:47 20:05	07:17 (7) 20:32	05:26 20:05	06:28 (6) 20:34	06:03 20:07	07:26 (7) 19:19	06:34 18:28	06:41 16:46	06:41 16:30
11	07:25 16:50	07:01 17:28	06:20 18:01	06:28 19:35	05:46 20:06	07:17 (7) 20:32	05:26 20:06	06:28 (6) 20:34	06:04 20:05	07:26 (7) 19:17	06:35 18:27	06:42 16:45	06:42 16:30
12	07:25 16:51	07:00 17:29	06:18 18:02	06:27 19:36	05:45 20:07	07:18 (7) 20:33	05:26 20:07	06:28 (6) 20:33	06:05 20:04	07:26 (7) 19:16	06:36 18:25	06:43 16:44	06:43 16:31
13	07:24 16:52	06:58 17:30	06:16 18:03	06:25 19:37	05:44 20:08	07:18 (7) 20:33	05:26 20:08	06:29 (6) 20:33	06:06 20:03	07:26 (7) 19:14	06:37 18:24	06:44 16:43	06:44 16:31
14	07:24 16:53	06:57 17:31	06:15 18:04	06:23 19:38	05:43 20:09	07:19 (7) 20:34	05:26 20:09	06:29 (6) 20:32	06:07 20:01	07:26 (7) 19:12	06:38 18:22	06:45 16:42	06:45 16:31
15	07:24 16:54	06:56 17:33	06:13 18:05	06:22 19:39	05:42 20:10	07:19 (7) 20:34	05:26 20:10	06:30 (6) 20:32	06:08 20:00	07:26 (7) 19:11	06:39 18:20	06:47 16:41	06:47 16:31
16	07:23 16:56	06:54 17:34	06:11 18:06	06:20 19:40	05:41 20:11	07:20 (7) 20:34	05:26 20:11	06:31 (6) 20:31	06:09 19:59	07:26 (7) 19:09	06:40 18:19	06:48 16:40	06:48 16:31
17	07:23 16:57	06:53 17:35	06:10 18:08	06:19 19:41	05:40 20:12	07:21 (7) 20:35	05:26 20:12	06:31 (6) 20:31	06:10 19:57	07:27 (7) 19:07	06:41 18:17	06:49 16:40	06:49 16:32
18	07:22 16:58	06:52 17:36	06:08 18:09	06:17 19:42	05:39 20:13	07:22 (7) 20:35	05:26 20:13	06:32 (6) 20:30	06:11 19:56	07:27 (7) 19:05	06:42 18:16	06:50 16:39	06:50 16:32
19	07:22 16:59	06:50 17:37	06:06 18:10	06:16 19:43	05:38 20:14	07:23 (7) 20:35	05:26 20:14	06:33 (6) 20:29	06:12 19:54	07:28 (7) 19:04	06:43 18:15	06:51 16:38	06:51 16:32
20	07:21 17:00	06:49 17:39	06:05 18:11	06:14 19:44	05:37 20:15	07:24 (7) 20:36	05:26 20:15	06:34 (6) 20:29	06:13 19:53	07:29 (7) 19:02	06:44 18:13	06:53 16:37	06:53 16:33
21	07:21 17:01	06:48 17:40	06:03 18:12	06:13 19:45	05:37 20:16	07:25 (7) 20:36	05:26 20:16	06:35 (6) 20:28	06:14 19:51	07:30 (7) 19:00	06:45 18:11	06:54 16:37	06:54 16:33
22	07:20 17:03	06:46 17:41	06:01 18:13	06:11 19:46	05:36 20:17	07:26 (7) 20:36	05:27 20:17	06:36 (6) 20:27	06:15 19:50	07:31 (7) 18:59	06:46 18:10	06:55 16:36	06:55 16:34
23	07:19 17:04	06:45 17:42	06:00 18:14	06:10 19:47	05:35 20:18	07:27 (7) 20:36	05:27 20:18	06:37 (6) 20:26	06:16 19:48	07:33 (7) 18:57	06:47 18:08	06:56 16:35	06:56 16:34
24	07:19 17:05	06:43 17:43	05:58 18:15	06:08 19:48	05:34 20:19	07:28 (7) 20:37	05:27 20:19	06:38 (6) 20:25	06:17 19:47	07:35 (7) 18:55	06:48 18:07	06:57 16:35	06:57 16:35
25	07:18 17:06	06:42 17:45	05:56 18:16	06:07 19:50	05:34 20:20	07:29 (7) 20:37	05:27 20:20	06:39 (6) 20:24	06:18 19:45	07:38 (7) 18:53	06:49 17:06	06:58 16:34	06:58 16:35
26	07:17 17:08	06:40 17:46	05:55 18:17	06:05 19:51	05:33 20:21	07:30 (7) 20:37	05:28 20:21	06:40 (6) 20:24	06:19 19:44	07:40 (7) 18:52	06:50 17:04	06:59 16:34	06:59 16:34
27	07:16 17:09	06:39 17:47	05:53 18:18	06:04 19:52	05:32 20:22	07:31 (7) 20:37	05:28 20:22	06:41 (6) 20:23	06:20 19:42	07:41 (7) 18:50	06:51 17:03	07:01 16:33	07:01 16:37
28	07:16 17:10	06:37 17:48	05:51 18:19	06:03 19:53	05:32 20:23	07:32 (7) 20:37	05:29 20:23	06:42 (6) 20:22	06:21 19:41	07:42 (7) 18:48	06:52 17:01	07:02 16:33	07:02 16:37
29	07:15 17:11	06:35 17:51	05:49 18:20	06:01 19:54	05:31 20:24	07:33 (7) 20:37	05:29 20:24	06:43 (6) 20:21	06:22 19:41	07:43 (7) 18:47	06:53 17:00	07:03 16:32	07:03 16:38
30	07:14 17:13	06:33 17:52	05:47 18:21	06:00 19:55	05:30 20:25	07:34 (7) 20:37	05:29 20:25	06:44 (6) 20:20	06:23 19:41	07:44 (7) 18:45	06:54 16:59	07:04 16:32	07:04 16:39
31	07:13 17:14	06:31 17:53	05:45 18:22	05:59 19:56	05:29 20:26	07:35 (7) 20:37	05:29 20:26	06:45 (6) 20:19	06:24 19:36	07:45 (7) 18:46	06:55 16:58	07:05 16:40	07:05 16:40
Potential sun hours	297	297	369	399	421	449	453	460	428	375	345	297	287
Total, worst case													

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

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

## SHADOW - Calendar

Calculation: OmbraShadow receptor: I - Shadow Receptor: 1,0 × 1,0 Azimuth: 120,0° Slope: 90,0° (9)

### Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June
1	07:25 16:40	07:12 17:15	06:36 17:49	06:44 19:24	18:24 (7) 05:58	05:29 18:52 (5)
2	07:25 16:41	07:11 17:16	06:34 17:50	06:43 19:25	18:44 (7) 05:56	20:26 54 19:52 (4)
3	07:26 16:42	07:10 17:17	06:32 17:52	06:41 19:26	18:24 (7) 05:57	05:29 18:51 (5)
4	07:26 16:43	07:09 17:19	06:31 17:53	06:39 19:27	18:42 (7) 19:57	20:26 56 19:52 (4)
5	07:26 16:44	07:08 17:20	06:29 17:54	06:38 19:28	18:27 (7) 05:56	05:28 18:52 (5)
6	07:26 16:45	07:07 17:21	06:28 17:55	06:36 19:29	18:40 (7) 19:58	20:27 55 19:52 (4)
7	07:25 16:46	07:06 17:22	06:26 17:56	06:35 19:30	18:29 (7) 05:55	05:28 18:52 (5)
8	07:25 16:47	07:04 17:24	06:25 17:57	06:33 19:31	18:37 (7) 19:59	20:28 57 19:53 (4)
9	07:25 16:48	07:03 17:25	06:23 17:58	06:31 19:32	05:53 20:00	05:28 18:51 (5)
10	07:25 16:49	07:02 17:26	06:21 18:00	06:30 19:33	05:52 20:02	20:28 56 19:52 (4)
11	07:25 16:50	07:01 17:27	06:20 18:01	06:28 19:34	05:51 20:04	20:28 56 19:52 (4)
12	07:25 16:51	07:00 17:28	06:18 18:02	06:26 19:35	05:50 20:06	20:28 56 19:52 (4)
13	07:24 16:52	06:58 17:30	06:16 18:03	06:25 19:36	05:49 20:08	05:27 18:51 (5)
14	07:24 16:53	06:57 17:31	06:15 18:04	06:23 19:37	05:48 20:10	05:27 18:52 (5)
15	07:24 16:54	06:56 17:32	06:13 18:05	06:22 19:38	05:47 20:12	05:27 18:52 (5)
16	07:23 16:55	06:54 17:34	06:11 18:06	06:20 19:39	05:46 20:14	05:26 18:51 (5)
17	07:23 16:56	06:53 17:35	06:10 18:07	06:19 19:40	05:45 20:16	05:26 18:52 (5)
18	07:22 16:57	06:52 17:36	06:08 18:08	06:17 19:41	05:44 20:18	05:26 18:53 (5)
19	07:22 16:58	06:50 17:37	06:06 18:09	06:16 19:42	05:43 20:20	05:26 18:54 (5)
20	07:21 17:00	06:49 17:39	06:05 18:11	06:14 19:43	05:42 20:22	05:26 18:54 (5)
21	07:21 17:01	06:47 17:40	06:03 18:12	06:13 19:44	05:41 20:24	05:26 18:54 (5)
22	07:20 17:03	06:46 17:41	06:01 18:13	06:11 19:45	05:40 20:26	05:26 18:54 (5)
23	07:19 17:04	06:45 17:42	06:00 18:14	06:10 19:46	05:39 20:28	05:26 18:54 (5)
24	07:19 17:05	06:43 17:43	05:58 18:15	06:08 19:47	05:38 20:30	05:26 18:55 (5)
25	07:18 17:06	06:42 17:44	05:56 18:16	06:07 19:48	05:37 20:32	05:26 18:55 (5)
26	07:17 17:07	06:40 17:46	05:55 18:17	06:05 19:49	05:36 20:34	05:26 18:55 (5)
27	07:16 17:09	06:39 17:47	05:53 18:18	06:04 19:50	05:35 20:36	05:26 18:55 (5)
28	07:15 17:10	06:37 17:48	05:51 18:19	06:02 19:51	05:34 20:38	05:26 18:55 (5)
29	07:15 17:11		06:50 19:20	06:01 19:52	05:33 20:40	05:26 18:55 (5)
30	07:14 17:12		06:48 19:22	06:00 19:53	05:32 20:42	05:26 18:55 (5)
31	07:13 17:14		06:46 19:23	06:00 19:54	05:31 20:44	05:26 18:55 (5)
Potential sun hours	297	297	369	399	449	453
Total, worst case			238	59	479	1729

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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## SHADOW - Calendar

Calculation: OmbraShadow receptor: I - Shadow Receptor: 1,0 × 1,0 Azimuth: 120,0° Slope: 90,0° (9)

### Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	July	August	September	October	November	December		
1	05:30 20:37	18:56 (5) 19:58 (4)	05:54 20:17	06:25 19:34	06:55 18:43	06:30 16:56	07:05 16:32	
2	05:30 20:36	18:57 (5) 19:58 (4)	05:55 20:16	06:26 19:32	06:56 18:41	06:31 16:55	07:06 16:31	
3	05:31 20:36	18:56 (5) 19:58 (4)	05:56 20:15	06:27 19:31	06:57 18:40	06:32 16:54	07:07 16:31	
4	05:31 20:36	18:57 (5) 19:59 (4)	05:57 20:14	06:28 19:29	06:58 18:38	06:33 16:52	07:08 16:31	
5	05:32 20:36	18:58 (5) 19:59 (4)	05:58 20:13	06:29 19:27	06:59 18:36	06:35 16:51	07:09 16:31	
6	05:32 20:36	18:58 (5) 19:59 (4)	05:59 20:12	06:30 19:26	07:00 18:35	06:36 16:50	07:10 16:30	
7	05:33 20:35	18:58 (5) 20:00 (4)	06:00 20:10	06:31 19:24	07:02 18:33	06:37 16:49	07:11 16:30	
8	05:34 20:35	18:58 (5) 19:59 (4)	06:01 20:09	06:32 19:22	18:23 (7) 18:30 (7)	07:03 18:31	06:38 16:48	07:12 16:30
9	05:34 20:35	18:59 (5) 20:00 (4)	06:02 20:08	06:33 19:21	18:20 (7) 18:33 (7)	07:04 18:30	06:39 16:47	07:13 16:30
10	05:35 20:34	19:00 (5) 20:00 (4)	06:03 20:07	06:34 19:19	18:18 (7) 18:35 (7)	07:05 18:28	06:41 16:46	07:14 16:30
11	05:36 20:34	18:59 (5) 20:00 (4)	06:04 20:05	06:35 19:17	18:16 (7) 18:36 (7)	07:06 18:27	06:42 16:45	07:14 16:30
12	05:36 20:33	19:00 (5) 20:00 (4)	06:05 20:04	06:36 19:16	18:15 (7) 18:36 (7)	07:07 18:25	06:43 16:44	07:15 16:30
13	05:37 20:33	19:01 (5) 20:00 (4)	06:06 20:03	06:37 19:14	18:14 (7) 18:37 (7)	07:08 18:23	06:44 16:43	07:16 16:31
14	05:38 20:32	19:02 (5) 20:00 (4)	06:07 20:01	06:38 19:12	18:13 (7) 18:37 (7)	07:09 18:22	06:45 16:42	07:17 16:31
15	05:39 20:32	19:02 (5) 20:00 (4)	06:08 20:00	06:39 19:10	18:12 (7) 18:36 (7)	07:10 18:20	06:47 16:41	07:18 16:31
16	05:39 20:31	19:03 (5) 20:00 (4)	06:09 19:59	06:40 19:09	18:12 (7) 18:36 (7)	07:11 18:19	06:48 16:40	07:18 16:31
17	05:40 20:31	19:04 (5) 20:00 (4)	06:10 19:57	06:41 19:07	18:12 (7) 18:36 (7)	07:12 18:17	06:49 16:39	07:19 16:32
18	05:41 20:30	19:05 (5) 19:59 (4)	06:11 19:56	06:42 19:05	18:12 (7) 18:35 (7)	07:14 18:16	06:50 16:39	07:20 16:32
19	05:42 20:29	19:05 (5) 19:58 (4)	06:12 19:54	06:43 19:04	18:12 (7) 18:34 (7)	07:15 18:14	06:51 16:38	07:20 16:32
20	05:43 20:28	19:07 (5) 19:58 (4)	06:13 19:53	06:44 19:02	18:12 (7) 18:33 (7)	07:16 18:13	06:52 16:37	07:21 16:33
21	05:44 20:28	19:09 (5) 19:57 (4)	06:14 19:51	06:45 19:00	18:13 (7) 18:31 (7)	07:17 18:11	06:54 16:36	07:21 16:33
22	05:45 20:27	19:11 (5) 19:57 (4)	06:15 19:50	06:46 18:58	18:15 (7) 18:29 (7)	07:18 18:10	06:55 16:36	07:22 16:34
23	05:45 20:26	19:42 (4) 19:56 (4)	06:16 19:48	06:47 18:57	18:17 (7) 18:26 (7)	07:19 18:08	06:56 16:35	07:22 16:34
24	05:46 20:25	19:44 (4) 19:54 (4)	06:17 19:47	06:48 18:55	07:20 18:07	06:57 16:35	07:23 16:35	07:23 16:35
25	05:47 20:24	19:47 (4) 19:52 (4)	06:18 19:45	06:49 18:53	06:21 17:05	06:58 16:34	07:23 16:34	07:23 16:35
26	05:48 20:23	06:19 19:44	06:50 18:52	06:23 17:04	06:59 16:34	07:24 16:36	07:24 16:36	07:24 16:36
27	05:49 20:22	06:20 19:42	06:51 18:50	06:24 17:03	07:01 16:33	07:24 16:37	07:24 16:37	07:24 16:37
28	05:50 20:22	06:21 19:40	06:52 18:48	06:25 17:01	07:02 16:33	07:24 16:37	07:24 16:37	07:24 16:37
29	05:51 20:21	06:22 19:39	06:53 18:47	06:26 17:00	07:03 16:32	07:25 16:38	07:25 16:38	07:25 16:38
30	05:52 20:20	06:23 19:37	06:54 18:45	06:27 16:59	07:04 16:32	07:25 16:39	07:25 16:39	07:25 16:39
31	05:53 20:18	06:24 19:36	06:55 18:44	06:28 16:57	07:05 16:31	07:26 16:38	07:26 16:38	07:26 16:38
Potential sun hours	460	428	375	304	345	297	287	
Total, worst case	1134			304				

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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## SHADOW - Calendar

Calculation: OmbraShadow receptor: J - Shadow Receptor: 1,0 × 1,0 Azimuth: 120,0° Slope: 90,0° (10)

### Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June		
1	07:25 16:40	07:12 17:15	06:36 17:49	06:44 19:24	18:24 (7) 05:58 19:24	05:29 18:57 (5) 20:26	48	19:53 (4)
2	07:25 16:41	07:11 17:16	06:34 17:50	06:43 19:25	18:24 (7) 05:57 18:44 (7)	05:29 18:56 (5) 20:26	50	19:53 (4)
3	07:26 16:42	07:10 17:17	06:32 17:52	06:41 19:26	18:26 (7) 05:56 18:43 (7)	05:28 18:56 (5) 19:58	52	19:54 (4)
4	07:26 16:43	07:09 17:19	06:31 17:53	06:39 19:27	18:27 (7) 05:55 18:41 (7)	05:28 18:56 (5) 19:59	53	19:55 (4)
5	07:26 16:44	07:08 17:20	06:29 17:54	06:38 19:28	18:29 (7) 05:53 18:38 (7)	05:28 18:55 (5) 20:00	54	19:54 (4)
6	07:26 16:45	07:07 17:21	06:28 17:55	06:36 19:29	05:52 20:01	05:27 18:55 (5) 20:29	55	19:55 (4)
7	07:25 16:46	07:06 17:22	06:26 17:56	06:35 19:30	05:51 20:02	05:27 18:55 (5) 20:30	55	19:55 (4)
8	07:25 16:47	07:04 17:24	06:25 17:57	06:33 19:31	05:50 20:03	05:27 18:55 (5) 20:30	56	19:55 (4)
9	07:25 16:48	07:03 17:25	06:23 17:58	06:31 19:32	05:48 20:04	05:27 18:55 (5) 20:31	56	19:56 (4)
10	07:25 16:49	07:02 17:26	06:21 18:00	06:30 19:33	05:47 20:05	05:26 18:55 (5) 20:32	56	19:55 (4)
11	07:25 16:50	07:01 17:27	06:20 18:01	06:28 19:34	05:46 20:06	05:26 18:55 (5) 20:32	57	19:55 (4)
12	07:25 16:51	07:00 17:29	06:18 18:02	06:26 19:35	05:45 20:07	05:26 18:55 (5) 20:33	57	19:56 (4)
13	07:24 16:52	06:58 17:30	06:16 18:03	06:25 19:37	05:44 20:08	05:26 18:55 (5) 20:33	57	19:56 (4)
14	07:24 16:53	06:57 17:31	06:15 18:04	06:23 19:38	05:43 20:09	05:26 18:55 (5) 20:34	58	19:56 (4)
15	07:24 16:54	06:56 17:32	06:13 18:05	06:22 19:39	05:42 20:10	05:26 18:55 (5) 20:34	58	19:56 (4)
16	07:23 16:55	06:54 17:34	06:11 18:06	06:20 19:40	05:41 20:11	05:26 18:55 (5) 20:34	58	19:57 (4)
17	07:23 16:57	06:53 17:35	06:10 18:07	06:19 19:41	05:40 20:12	05:26 18:55 (5) 20:35	58	19:57 (4)
18	07:22 16:58	06:52 17:36	06:08 18:09	06:17 19:42	05:39 20:13	05:26 18:55 (5) 20:35	59	19:57 (4)
19	07:22 16:59	06:50 17:37	06:06 18:10	06:16 19:43	05:38 20:14	05:26 18:56 (5) 20:35	59	19:58 (4)
20	07:21 17:00	06:49 17:39	06:05 18:11	06:14 19:44	05:37 20:15	05:26 18:57 (5) 20:36	58	19:58 (4)
21	07:21 17:01	06:47 17:40	06:03 18:12	06:13 19:45	05:37 20:16	05:26 18:57 (5) 19:36 (4) 19:43 (4)	58	19:58 (4)
22	07:20 17:03	06:46 17:41	06:01 18:13	06:11 19:46	05:36 20:17	05:27 18:57 (5) 19:35 (4) 19:46 (4)	58	19:58 (4)
23	07:19 17:04	06:45 17:42	06:00 18:14	06:10 19:47	05:35 20:18	05:27 18:57 (5) 19:33 (4) 19:48 (4)	58	19:58 (4)
24	07:19 17:05	06:43 17:43	05:58 18:15	06:08 19:48	05:34 20:19	05:27 18:57 (5) 19:32 (4) 19:48 (4)	59	19:59 (4)
25	07:18 17:06	06:42 17:45	05:56 18:16	06:07 19:49	05:33 20:20	05:27 18:57 (5) 19:04 (5) 19:50 (4)	58	19:59 (4)
26	07:17 17:07	06:40 17:46	05:55 18:17	06:05 19:50	05:33 20:21	05:28 18:57 (5) 19:02 (5) 20:37	58	19:59 (4)
27	07:16 17:09	06:39 17:47	05:53 18:18	06:04 19:52	05:32 20:22	05:28 18:58 (5) 19:00 (5) 19:51 (4)	57	19:59 (4)
28	07:15 17:10	06:37 17:48	05:51 18:19	06:02 19:53	05:31 20:22	05:28 18:58 (5) 18:59 (5) 20:37	58	19:59 (4)
29	07:15 17:11		06:50 19:20	06:01 19:54	05:31 20:23	05:29 18:59 (5) 18:58 (5) 20:37	57	20:00 (4)
30	07:14 17:12		06:48 19:22	06:00 19:55	05:30 20:24	05:29 18:59 (5) 18:58 (5) 20:37	57	20:00 (4)
31	07:13 17:14		06:46 19:23	18:24 (7) 18:47 (7)	05:30 20:25	18:57 (5) 19:53 (4)	48	
Potential sun hours	297	297	369	399	449	453		
Total, worst case			220	82	322	1692		

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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## SHADOW - Calendar

Calculation: OmbraShadow receptor: J - Shadow Receptor: 1,0 × 1,0 Azimuth: 120,0° Slope: 90,0° (10)

### Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	July	August	September	October	November	December
1	05:30 20:37	18:59 (5) 20:00 (4)	05:54 20:17	06:25 19:34	06:55 18:43	06:30 16:32
2	05:30 20:36	19:00 (5) 20:00 (4)	05:55 20:16	06:26 19:32	06:56 18:41	06:31 16:31
3	05:31 20:36	18:59 (5) 20:00 (4)	05:56 20:15	06:27 19:31	06:57 18:40	06:32 16:31
4	05:31 20:36	19:00 (5) 20:01 (4)	05:57 20:14	06:28 19:29	06:58 18:38	06:33 16:31
5	05:32 20:36	19:01 (5) 20:01 (4)	05:58 20:13	06:29 19:27	06:59 18:36	06:35 16:31
6	05:32 20:36	19:01 (5) 20:01 (4)	05:59 20:12	06:30 19:26	07:00 18:35	06:36 16:30
7	05:33 20:35	19:02 (5) 20:01 (4)	06:00 20:10	06:31 19:24	18:25 (7) 18:33 (7)	07:02 16:49
8	05:34 20:35	19:02 (5) 20:01 (4)	06:01 20:09	06:32 19:22	18:21 (7) 18:31 (7)	07:03 16:48
9	05:34 20:35	19:03 (5) 20:01 (4)	06:02 20:08	06:33 19:21	18:19 (7) 18:30 (7)	07:04 16:47
10	05:35 20:34	19:04 (5) 20:02 (4)	06:03 20:07	06:34 19:19	18:17 (7) 18:28 (7)	07:05 16:46
11	05:36 20:34	19:04 (5) 20:01 (4)	06:04 20:05	06:35 19:17	18:16 (7) 18:27 (7)	07:06 16:45
12	05:36 20:33	19:05 (5) 20:01 (4)	06:05 20:04	06:36 19:16	18:15 (7) 18:25 (7)	07:07 16:44
13	05:37 20:33	19:06 (5) 20:01 (4)	06:06 20:03	06:37 19:14	18:14 (7) 18:23 (7)	07:08 16:43
14	05:38 20:32	19:07 (5) 20:01 (4)	06:07 20:01	06:38 19:12	18:14 (7) 18:22 (7)	07:09 16:42
15	05:39 20:32	19:07 (5) 20:00 (4)	06:08 20:00	06:39 19:10	18:13 (7) 18:20 (7)	07:10 16:41
16	05:39 20:31	19:09 (5) 20:00 (4)	06:09 19:59	06:40 19:09	18:13 (7) 18:19 (7)	07:11 16:40
17	05:40 20:31	19:10 (5) 20:00 (4)	06:10 19:57	06:41 19:07	18:13 (7) 18:17 (7)	07:12 16:39
18	05:41 20:30	19:12 (5) 20:00 (4)	06:11 19:56	06:42 19:05	18:13 (7) 18:16 (7)	07:14 16:39
19	05:42 20:29	19:15 (5) 19:58 (4)	06:12 19:54	06:43 19:04	18:14 (7) 18:14 (7)	07:15 16:38
20	05:43 20:28	19:15 (5) 19:58 (4)	06:12 19:53	06:43 19:02	18:14 (7) 18:13 (7)	07:15 16:37
21	05:44 20:28	19:44 (4) 19:57 (4)	06:14 19:51	06:45 19:00	18:16 (7) 18:11 (7)	07:17 16:36
22	05:45 20:27	19:46 (4) 19:55 (4)	06:15 19:50	06:46 18:58	18:19 (7) 18:10 (7)	07:18 16:36
23	05:45 20:26	19:49 (4) 19:52 (4)	06:16 19:48	06:47 18:57	18:27 (7) 18:08	07:19 16:35
24	05:46 20:25	19:49 (4) 19:47	06:17 18:55	06:48 18:55	18:07 18:07	07:20 16:35
25	05:47 20:24	19:48 (4) 19:45	06:18 18:53	06:49 18:53	06:21 17:05	07:23 16:34
26	05:48 20:23	19:48 (4) 19:44	06:19 18:52	06:50 18:52	06:23 17:04	07:24 16:34
27	05:49 20:22	19:44 (4) 19:42	06:20 18:50	06:51 18:50	06:24 17:03	07:01 16:33
28	05:50 20:22	19:44 (4) 19:40	06:21 18:48	06:52 18:48	06:25 17:01	07:02 16:33
29	05:51 20:21	19:44 (4) 19:39	06:22 18:47	06:53 18:47	06:26 17:00	07:03 16:32
30	05:52 20:20	19:44 (4) 19:37	06:23 18:45	06:54 18:45	06:27 16:59	07:04 16:32
31	05:53 20:18	19:44 (4) 19:36	06:24 18:45	06:54 18:45	06:29 16:57	07:05 16:39
Potential sun hours	460	428	375	345	297	287
Total, worst case	939		306			

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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## SHADOW - Calendar

Calculation: OmbraShadow receptor: K - Shadow Receptor: 1,0 × 1,0 Azimuth: 120,0° Slope: 90,0° (11)

### Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June			
1	07:25	07:12	06:36	06:44	18:24 (7)	05:58	05:29	19:03 (5)	
	16:40	17:15	17:49	19:24	23 18:47 (7)	19:56	20:26	40 19:55 (4)	
2	07:25	07:11	06:34	06:43	18:24 (7)	05:57	05:29	19:01 (5)	
	16:41	17:16	17:50	19:25	22 18:46 (7)	19:57	20:26	41 19:54 (4)	
3	07:26	07:10	06:32	06:41	18:25 (7)	05:56	05:28	19:01 (5)	
	16:42	17:17	17:52	19:26	20 18:45 (7)	19:58	20:27	44 19:55 (4)	
4	07:26	07:09	06:31	06:40	18:26 (7)	05:55	05:28	19:01 (5)	
	16:43	17:19	17:53	19:27	17 18:43 (7)	19:59	20:28	46 19:56 (4)	
5	07:26	07:08	06:29	06:38	18:27 (7)	05:53	05:28	18:59 (5)	
	16:44	17:20	17:54	19:28	14 18:41 (7)	20:00	20:28	49 19:56 (4)	
6	07:26	07:07	06:28	06:36	18:30 (7)	05:52	05:27	18:59 (5)	
	16:45	17:21	17:55	19:29	8 18:38 (7)	20:01	20:29	49 19:56 (4)	
7	07:26	07:06	06:26	06:35		05:51	05:27	18:59 (5)	
	16:46	17:22	17:56	19:30		20:02	20:30	51 19:57 (4)	
8	07:25	07:04	06:25	06:33		05:50	05:27	18:59 (5)	
	16:47	17:24	17:57	19:31		20:03	20:30	52 19:57 (4)	
9	07:25	07:03	06:23	06:31		05:48	05:27	18:59 (5)	
	16:48	17:25	17:58	19:32		20:04	20:31	52 19:58 (4)	
10	07:25	07:02	06:21	06:30		05:47	05:26	18:58 (5)	
	16:49	17:26	18:00	19:33		20:05	20:32	53 19:57 (4)	
11	07:25	07:01	06:20	06:28		05:46	05:26	18:58 (5)	
	16:50	17:27	18:01	19:34		20:06	20:32	54 19:57 (4)	
12	07:25	07:00	06:18	06:26		05:45	05:26	18:58 (5)	
	16:51	17:29	18:02	19:35		20:07	20:33	55 19:58 (4)	
13	07:24	06:58	06:16	06:25		05:44	05:26	18:58 (5)	
	16:52	17:30	18:03	19:37		20:08	20:33	54 19:58 (4)	
14	07:24	06:57	06:15	06:23		05:43	05:26	18:58 (5)	
	16:53	17:31	18:04	19:38		20:09	20:34	55 19:58 (4)	
15	07:24	06:56	06:13	06:22		05:42	05:26	18:59 (5)	
	16:54	17:32	18:05	19:39		20:10	20:34	55 19:59 (4)	
16	07:23	06:54	06:11	06:20		05:41	05:26	18:59 (5)	
	16:55	17:34	18:06	19:40		20:11	20:34	56 19:59 (4)	
17	07:23	06:53	06:10	06:19		05:40	05:26	18:59 (5)	
	16:57	17:35	18:07	19:41		20:12	20:35	56 19:59 (4)	
18	07:22	06:52	06:08	06:17		05:39	05:26	18:59 (5)	
	16:58	17:36	18:09	19:42		20:13	20:35	56 19:59 (4)	
19	07:22	06:50	06:06	06:16		05:38	05:26	19:00 (5)	
	16:59	17:37	18:10	19:43		20:14	20:35	56 20:00 (4)	
20	07:21	06:49	06:05	06:14		05:37	05:26	19:00 (5)	
	17:00	17:39	18:11	19:44		20:15	20:36	55 20:00 (4)	
21	07:21	06:47	06:03	06:13		05:37	05:26	19:00 (5)	
	17:01	17:40	18:12	19:45		20:16	20:36	55 20:00 (4)	
22	07:20	06:46	06:01	17:33 (7)	06:11	05:36	05:27	19:00 (5)	
	17:03	17:41	18:13	19:46		20:17	20:36	55 20:00 (4)	
23	07:19	06:45	06:00	17:30 (7)	06:10	05:35	19:41 (4)	05:27	19:00 (5)
	17:04	17:42	18:14	17:46 (7)	19:47	20:18	3 19:44 (4)	20:36	55 20:00 (4)
24	07:19	06:43	05:58	17:29 (7)	06:08	05:34	19:37 (4)	05:27	19:01 (5)
	17:05	17:43	18:15	17:48 (7)	19:48	20:19	10 19:47 (4)	20:36	56 20:01 (4)
25	07:18	06:42	05:56	17:27 (7)	06:07	05:33	19:37 (4)	05:27	19:01 (5)
	17:06	17:45	18:16	17:48 (7)	19:49	20:20	12 19:49 (4)	20:37	56 20:01 (4)
26	07:17	06:40	05:55	17:26 (7)	06:05	05:33	19:35 (4)	05:28	19:01 (5)
	17:07	17:46	18:17	17:48 (7)	19:50	20:21	15 19:50 (4)	20:37	56 20:01 (4)
27	07:16	06:39	05:53	17:24 (7)	06:04	05:32	19:34 (4)	05:28	19:02 (5)
	17:09	17:47	18:18	17:48 (7)	19:52	20:22	17 19:51 (4)	20:37	55 20:02 (4)
28	07:15	06:37	05:51	17:24 (7)	06:02	05:31	19:34 (4)	05:28	19:02 (5)
	17:10	17:48	18:19	17:49 (7)	19:53	20:22	18 19:52 (4)	20:37	54 20:01 (4)
29	07:15		06:50	18:24 (7)	06:01	05:31	19:07 (5)	05:29	19:02 (5)
	17:11		19:20	18:49 (7)	19:54	20:23	25 19:52 (4)	20:37	55 20:02 (4)
30	07:14		06:48	18:23 (7)	06:00	05:30	19:05 (5)	05:29	19:02 (5)
	17:12		19:22	18:48 (7)	19:55	20:24	32 19:54 (4)	20:37	54 20:02 (4)
31	07:13		06:46	18:24 (7)		05:30	19:03 (5)		
	17:14		19:23	18:48 (7)		20:25	37 19:54 (4)		
Potential sun hours	297	297	369	399	104	449	169	453	1580
Total, worst case			212						

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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## SHADOW - Calendar

Calculation: OmbraShadow receptor: K - Shadow Receptor: 1,0 × 1,0 Azimuth: 120,0° Slope: 90,0° (11)

### Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	July	August	September	October	November	December
1	05:30 20:37	19:02 (5) 20:02 (4)	05:54 20:17	06:25 19:34	06:55 18:43	06:30 16:32
2	05:30 20:36	19:03 (5) 20:02 (4)	05:55 20:16	06:26 19:32	06:56 18:41	06:31 16:31
3	05:31 20:36	19:03 (5) 20:02 (4)	05:56 20:15	06:27 19:31	06:57 18:40	06:32 16:31
4	05:31 20:36	19:04 (5) 20:02 (4)	05:57 20:14	06:28 19:29	06:58 18:38	06:33 16:31
5	05:32 20:36	19:05 (5) 20:03 (4)	05:58 20:13	06:29 19:27	06:59 18:36	06:35 16:31
6	05:32 20:36	19:05 (5) 20:02 (4)	05:59 20:12	06:30 19:26	18:27 (7) 18:34 (7)	07:00 18:35
7	05:33 20:35	19:06 (5) 20:03 (4)	06:00 20:10	06:31 19:24	18:23 (7) 18:36 (7)	07:02 18:33
8	05:34 20:35	19:06 (5) 20:02 (4)	06:01 20:09	06:32 19:22	18:20 (7) 18:37 (7)	07:03 18:31
9	05:34 20:35	19:08 (5) 20:03 (4)	06:02 20:08	06:33 19:21	18:18 (7) 18:38 (7)	07:04 18:30
10	05:35 20:34	19:09 (5) 20:03 (4)	06:03 20:07	06:34 19:19	18:17 (7) 18:39 (7)	07:05 18:28
11	05:36 20:34	19:09 (5) 20:02 (4)	06:04 20:05	06:35 19:17	18:16 (7) 18:39 (7)	07:06 18:27
12	05:36 20:33	19:11 (5) 20:02 (4)	06:05 20:04	06:36 19:16	18:15 (7) 18:39 (7)	07:07 18:25
13	05:37 20:33	19:13 (5) 20:02 (4)	06:06 20:03	06:37 19:14	18:14 (7) 18:39 (7)	07:08 18:23
14	05:38 20:32	19:15 (5) 20:02 (4)	06:07 20:01	06:38 19:12	18:14 (7) 18:39 (7)	07:09 18:22
15	05:39 20:32	19:42 (4) 20:01 (4)	06:08 20:00	06:39 19:10	18:14 (7) 18:38 (7)	07:10 18:20
16	05:39 20:31	19:43 (4) 20:01 (4)	06:09 19:59	06:40 19:09	18:14 (7) 18:38 (7)	07:11 18:19
17	05:40 20:31	19:44 (4) 20:00 (4)	06:10 19:57	06:41 19:07	18:14 (7) 18:37 (7)	07:12 18:17
18	05:41 20:30	19:45 (4) 19:59 (4)	06:11 19:56	06:42 19:05	18:14 (7) 18:36 (7)	07:14 18:16
19	05:42 20:29	19:46 (4) 19:57 (4)	06:12 19:54	06:43 19:04	18:15 (7) 18:34 (7)	07:15 18:14
20	05:43 20:28	19:48 (4) 19:56 (4)	06:13 19:53	06:44 19:02	18:16 (7) 18:32 (7)	07:16 18:13
21	05:44 20:28	19:56 (4) 19:51	06:14 19:00	06:45 19:00	18:18 (7) 18:30 (7)	07:17 18:11
22	05:45 20:27	19:50 19:50	06:15 18:58	06:46 18:58	07:18 18:10	06:55 16:36
23	05:45 20:26	19:48 19:48	06:16 18:57	06:47 18:57	07:19 18:08	06:56 16:35
24	05:46 20:25	19:47 19:47	06:17 18:55	06:48 18:55	07:20 18:07	06:57 16:35
25	05:47 20:24	19:45 (4) 19:45	06:18 18:53	06:49 18:53	06:21 17:05	06:58 16:34
26	05:48 20:23	19:44 19:44	06:19 18:52	06:50 18:52	06:23 17:04	06:59 16:34
27	05:49 20:22	19:42 19:42	06:20 18:50	06:51 18:50	06:24 17:03	07:01 16:33
28	05:50 20:22	19:40 19:40	06:21 18:48	06:52 18:48	06:25 17:01	07:02 16:33
29	05:51 20:21	19:39 19:39	06:22 18:47	06:53 18:47	06:26 17:00	07:03 16:32
30	05:52 20:20	19:37 19:37	06:23 18:45	06:54 18:45	06:27 16:59	07:04 16:32
31	05:53 20:18	19:36 19:36	06:24 18:44	06:55 18:44	06:29 16:57	07:25 16:39
Potential sun hours	460	428	375	316	345	297
Total, worst case	724					287

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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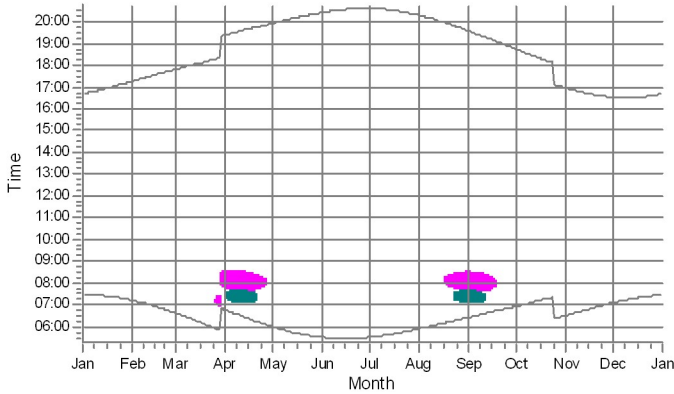




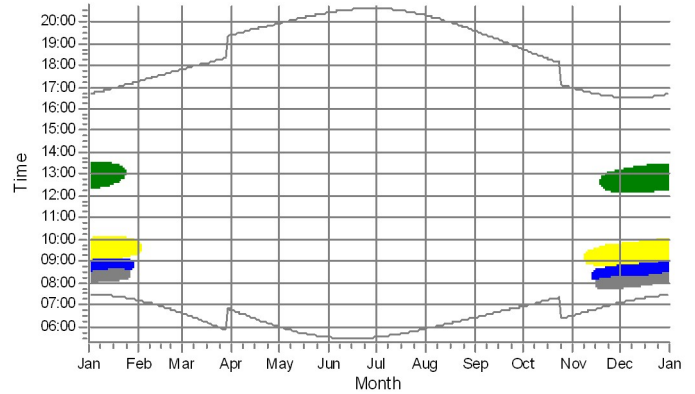
## SHADOW - Calendar, graphical

Calculation: Ombra

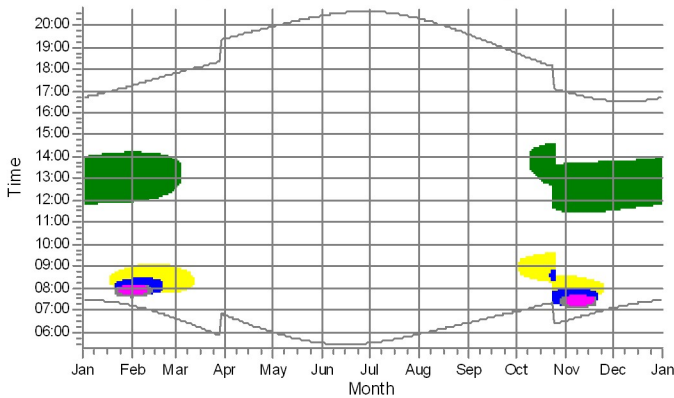
A: Shadow Receptor: 1,0 × 1,0 Azimuth: -140,0° Slope: 90,0° (1)



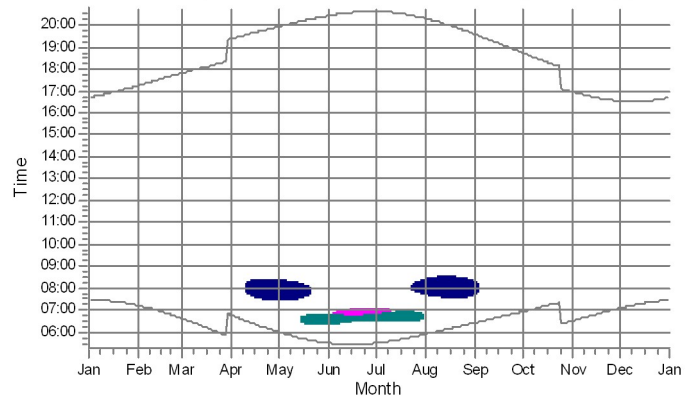
B: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (2)



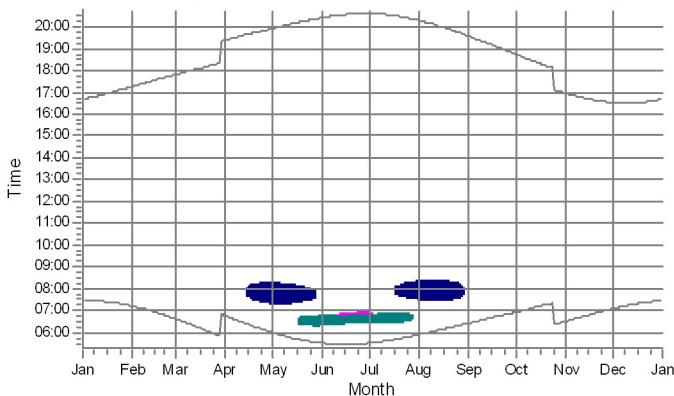
C: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (3)



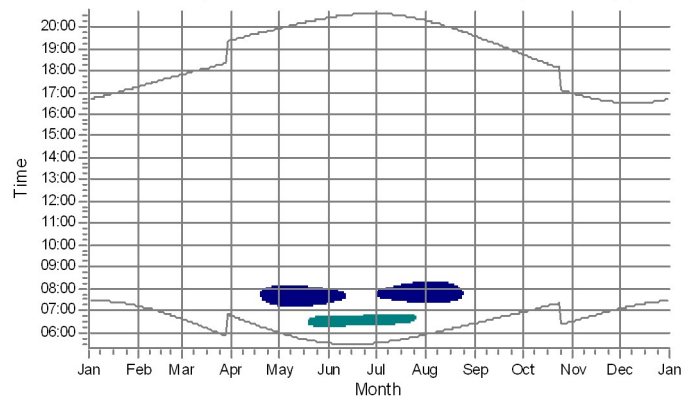
D: Shadow Receptor: 1,0 × 1,0 Azimuth: -90,0° Slope: 90,0° (4)



E: Shadow Receptor: 1,0 × 1,0 Azimuth: -90,0° Slope: 90,0° (5)



F: Shadow Receptor: 1,0 × 1,0 Azimuth: -90,0° Slope: 90,0° (6)



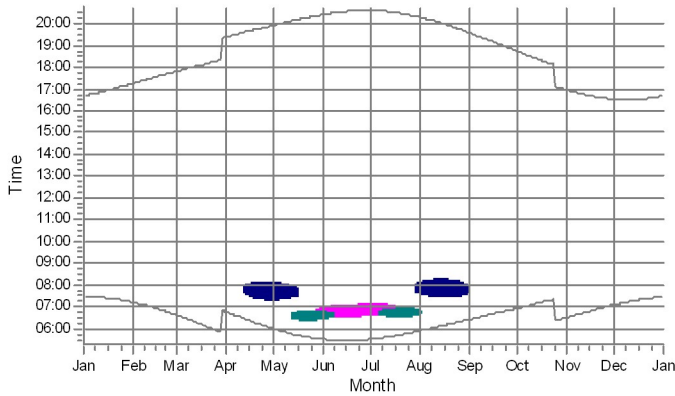
### WTGs

- 1: Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 122,5 m (TOT: 200,0 m) (1)
- 2: Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 122,5 m (TOT: 200,0 m) (2)
- 3: Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 122,5 m (TOT: 200,0 m) (3)
- 4: Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 122,5 m (TOT: 200,0 m) (4)
- 5: Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 122,5 m (TOT: 200,0 m) (5)
- 6: Siemens Gamesa SG 6.6-145 6600 145.0 !O! hub: 127,5 m (TOT: 200,0 m) (6)
- 7: Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 122,5 m (TOT: 200,0 m) (7)

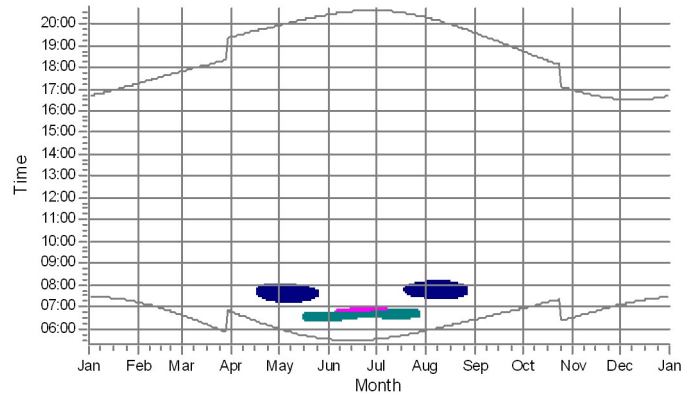
## SHADOW - Calendar, graphical

Calculation: Ombra

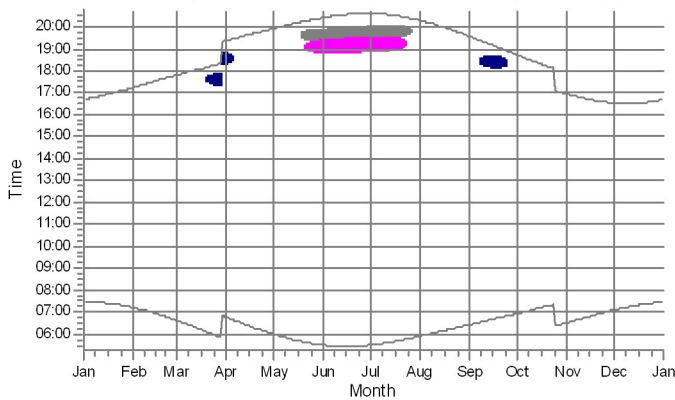
G: Shadow Receptor: 1,0 × 1,0 Azimuth: -90,0° Slope: 90,0° (7)



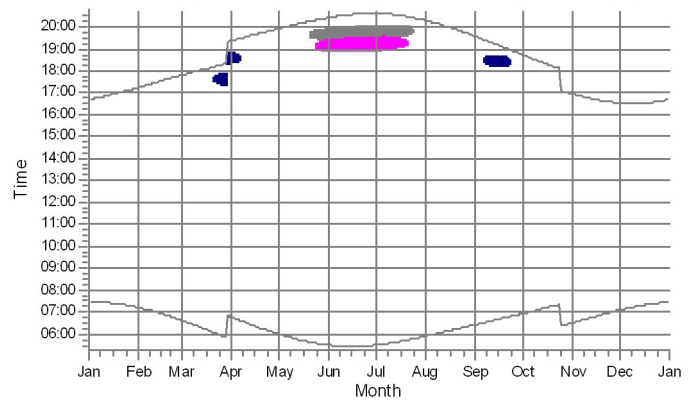
H: Shadow Receptor: 1,0 × 1,0 Azimuth: -90,0° Slope: 90,0° (8)



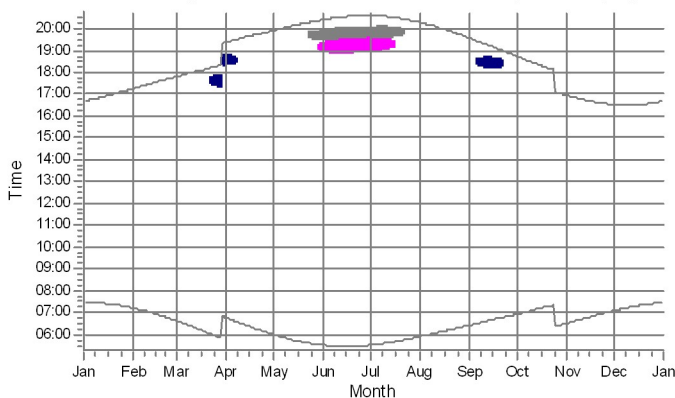
I: Shadow Receptor: 1,0 × 1,0 Azimuth: 120,0° Slope: 90,0° (9)



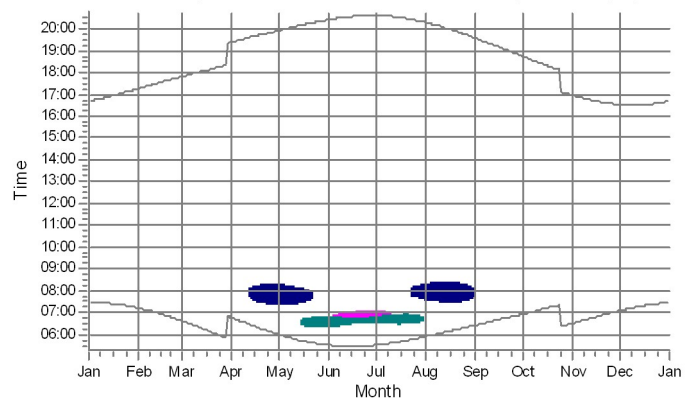
J: Shadow Receptor: 1,0 × 1,0 Azimuth: 120,0° Slope: 90,0° (10)



K: Shadow Receptor: 1,0 × 1,0 Azimuth: 120,0° Slope: 90,0° (11)



L: Shadow Receptor: 1,0 × 1,0 Azimuth: -90,0° Slope: 90,0° (12)

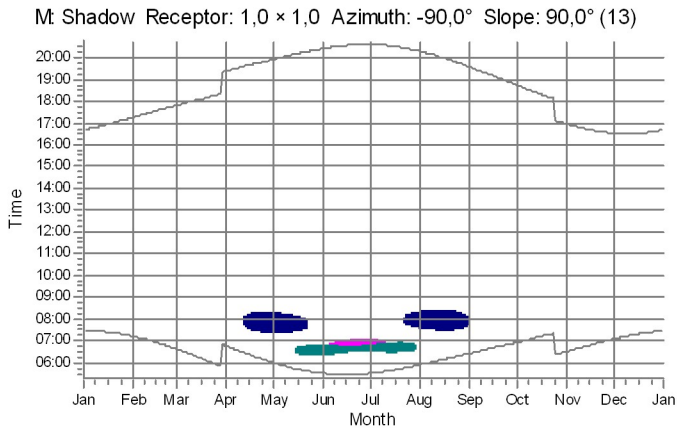


### WTGs




- 4: Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 122,5 m (TOT: 200,0 m) (4)
- 5: Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 122,5 m (TOT: 200,0 m) (5)
- 6: Siemens Gamesa SG 6.6-145 6600 145.0 !O! hub: 127,5 m (TOT: 200,0 m) (6)
- 7: Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 122,5 m (TOT: 200,0 m) (7)

## SHADOW - Calendar, graphical

Calculation: Ombra



### WTGs

-  5: Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 122,5 m (TOT: 200,0 m) (5)
-  6: Siemens Gamesa SG 6.6-145 6600 145.0 !O! hub: 127,5 m (TOT: 200,0 m) (6)
-  7: Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 122,5 m (TOT: 200,0 m) (7)

## SHADOW - Calendar per WTG

Calculation: OmbraWTG: 1 - Siemens Gamesa SG 6.6-155 6600 155.0 IO! hub: 122,5 m (TOT: 200,0 m) (1)

### Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June
1	07:26 11:53-13:54/121 16:41	07:12 12:01-14:07/126 17:15	06:36 12:46-13:43/57 17:49	06:45 19:24	05:59 19:56	05:29 20:26
2	07:26 11:54-13:54/120 16:41	07:11 12:02-14:07/125 17:16	06:34 12:52-13:38/46 17:51	06:43 19:25	05:57 19:57	05:29 20:26
3	07:26 11:54-13:55/121 16:42	07:10 12:02-14:07/125 17:18	06:33 13:01-13:33/32 17:52	06:41 19:26	05:56 19:58	05:29 20:27
4	07:26 11:54-13:55/121 16:43	07:09 12:03-14:07/124 17:19	06:31 17:53	06:40 19:27	05:55 19:59	05:28 20:28
5	07:26 11:55-13:56/121 16:44	07:08 12:03-14:07/124 17:20	06:29 17:54	06:38 19:28	05:53 20:00	05:28 20:29
6	07:26 11:55-13:57/122 16:45	07:07 12:04-14:07/123 17:21	06:28 17:55	06:36 19:29	05:52 20:01	05:27 20:29
7	07:26 11:56-13:58/122 16:46	07:06 12:03-14:06/123 17:23	06:26 17:56	06:35 19:30	05:51 20:02	05:27 20:30
8	07:26 11:56-13:58/122 16:47	07:05 12:04-14:06/122 17:24	06:25 17:57	06:33 19:31	05:50 20:03	05:27 20:31
9	07:25 11:55-13:58/123 16:48	07:03 12:05-14:06/121 17:25	06:23 17:59	06:31 19:32	05:49 20:04	05:27 20:31
10	07:25 11:56-13:59/123 16:49	07:02 12:06-14:06/120 17:26	06:21 18:00	06:30 19:33	05:47 20:05	05:26 20:32
11	07:25 11:57-14:00/123 16:50	07:01 12:07-14:06/119 17:28	06:20 18:01	06:28 19:35	05:46 20:06	05:26 20:32
12	07:25 11:56-14:00/124 16:51	07:00 12:07-14:05/118 17:29	06:18 18:02	06:27 19:36	05:45 20:07	05:26 20:33
13	07:24 11:57-14:01/124 16:52	06:58 12:08-14:05/117 17:30	06:16 18:03	06:25 19:37	05:44 20:09	05:26 20:33
14	07:24 11:57-14:02/125 16:53	06:57 12:09-14:05/116 17:31	06:15 18:04	06:23 19:38	05:43 20:10	05:26 20:34
15	07:24 11:57-14:02/125 16:54	06:56 12:10-14:03/113 17:33	06:13 18:05	06:22 19:39	05:42 20:11	05:26 20:34
16	07:23 11:58-14:03/125 16:56	06:55 12:11-14:03/112 17:34	06:12 18:06	06:20 19:40	05:41 20:12	05:26 20:35
17	07:23 11:58-14:03/125 16:57	06:53 12:13-14:03/110 17:35	06:10 18:08	06:19 19:41	05:40 20:12	05:26 20:35
18	07:22 11:57-14:03/126 16:58	06:52 12:14-14:01/107 17:36	06:08 18:09	06:17 19:42	05:39 20:13	05:26 20:35
19	07:22 11:58-14:04/126 16:59	06:50 12:15-14:01/106 17:37	06:06 18:10	06:16 19:43	05:38 20:14	05:26 20:36
20	07:21 11:58-14:04/126 17:00	06:49 12:17-13:59/102 17:39	06:05 18:11	06:14 19:44	05:37 20:15	05:26 20:36
21	07:21 11:59-14:05/126 17:01	06:48 12:19-13:59/100 17:40	06:03 18:12	06:13 19:45	05:37 20:16	05:26 20:36
22	07:20 11:59-14:05/126 17:03	06:46 12:20-13:57/97 17:41	06:01 18:13	06:11 19:46	05:36 20:17	05:27 20:36
23	07:19 11:59-14:05/126 17:04	06:45 12:23-13:56/93 17:42	06:00 18:14	06:10 19:47	05:35 20:18	05:27 20:36
24	07:19 11:59-14:05/126 17:05	06:43 12:25-13:54/89 17:43	05:58 18:15	06:08 19:48	05:34 20:19	05:27 20:37
25	07:18 12:00-14:06/126 17:06	06:42 12:29-13:53/84 17:45	05:56 18:16	06:07 19:50	05:34 20:20	05:27 20:37
26	07:17 12:00-14:06/126 17:08	06:40 12:32-13:50/78 17:46	05:55 18:17	06:05 19:51	05:33 20:21	05:28 20:37
27	07:16 12:00-14:06/126 17:09	06:39 12:36-13:49/73 17:47	05:53 18:18	06:04 19:52	05:32 20:22	05:28 20:37
28	07:16 12:00-14:07/127 17:10	06:37 12:40-13:46/66 17:48	05:51 18:19	06:03 19:53	05:32 20:23	05:28 20:37
29	07:15 12:00-14:07/127 17:11		06:50 19:21	06:01 19:54	05:31 20:23	05:29 20:37
30	07:14 12:01-14:07/126 17:13		06:48 19:22	06:00 19:55	05:30 20:24	05:29 20:37
31	07:13 12:01-14:07/126 17:14		06:46 19:23		05:30 20:25	
Potential sun hours	297	297	369	399	449	453
Sum of minutes with flicker	3853	3033	135	0	0	0

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-Last time (hh:mm) with flicker/Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker-Last time (hh:mm) with flicker/Minutes with flicker

## SHADOW - Calendar per WTG

Calculation: OmbraWTG: 1 - Siemens Gamesa SG 6.6-155 6600 155.0 IO! hub: 122,5 m (TOT: 200,0 m) (1)

### Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	July	August	September	October	November	December
1	05:30 20:37	05:54 20:18	06:25 19:34	06:55 18:43	06:30 11:36-13:36/120 16:56	07:05 11:39-13:42/123 16:32
2	05:30 20:37	05:55 20:16	06:26 19:33	06:56 18:42	06:31 11:35-13:36/121 16:55	07:06 11:39-13:42/123 16:31
3	05:31 20:36	05:56 20:15	06:27 19:31	06:57 18:40	06:32 11:34-13:36/122 16:54	07:07 11:40-13:42/122 16:31
4	05:31 20:36	05:57 20:14	06:28 19:29	06:58 18:38	06:33 11:33-13:36/123 16:53	07:08 11:40-13:42/122 16:31
5	05:32 20:36	05:58 20:13	06:29 19:28	07:00 18:37	06:35 11:34-13:37/123 16:51	07:09 11:41-13:43/122 16:31
6	05:33 20:36	05:59 20:12	06:30 19:26	07:01 18:35	06:36 11:33-13:37/124 16:50	07:10 11:41-13:43/122 16:31
7	05:33 20:35	06:00 20:11	06:31 19:24	07:02 18:33	06:37 11:32-13:37/125 16:49	07:11 11:42-13:43/121 16:30
8	05:34 20:35	06:01 20:09	06:32 19:23	07:03 18:32	06:38 11:33-13:38/125 16:48	07:12 11:42-13:44/122 16:30
9	05:34 20:35	06:02 20:08	06:33 19:21	07:04 18:30	06:39 11:33-13:38/125 16:47	07:13 11:43-13:44/121 16:30
10	05:35 20:34	06:03 20:07	06:34 19:19	07:05 13:42-14:02/20 18:28	06:41 11:32-13:38/126 16:46	07:14 11:44-13:44/120 16:30
11	05:36 20:34	06:04 20:06	06:35 19:17	07:06 13:30-14:09/39 18:27	06:42 11:32-13:38/126 16:45	07:15 11:43-13:44/121 16:30
12	05:37 20:34	06:05 20:04	06:36 19:16	07:07 13:22-14:14/52 18:25	06:43 11:33-13:39/126 16:44	07:15 11:44-13:44/120 16:31
13	05:37 20:33	06:06 20:03	06:37 19:14	07:08 13:17-14:18/61 18:24	06:44 11:32-13:39/127 16:43	07:16 11:45-13:45/120 16:31
14	05:38 20:32	06:07 20:01	06:38 19:12	07:09 13:12-14:20/68 18:22	06:45 11:32-13:39/127 16:42	07:17 11:46-13:45/119 16:31
15	05:39 20:32	06:08 20:00	06:39 19:11	07:10 13:07-14:22/75 18:20	06:47 11:33-13:39/126 16:41	07:18 11:46-13:45/119 16:31
16	05:40 20:31	06:09 19:59	06:40 19:09	07:11 13:03-14:23/80 18:19	06:48 11:33-13:39/126 16:40	07:18 11:46-13:46/120 16:31
17	05:40 20:31	06:10 19:57	06:41 19:07	07:13 12:59-14:25/86 18:17	06:49 11:33-13:39/126 16:40	07:19 11:47-13:47/120 16:32
18	05:41 20:30	06:11 19:56	06:42 19:05	07:14 12:56-14:26/90 18:16	06:50 11:33-13:39/126 16:39	07:20 11:47-13:46/119 16:32
19	05:42 20:29	06:12 19:54	06:43 19:04	07:15 12:53-14:27/94 18:14	06:51 11:34-13:40/126 16:38	07:20 11:48-13:47/119 16:32
20	05:43 20:29	06:13 19:53	06:44 19:02	07:16 12:51-14:29/98 18:13	06:53 11:34-13:40/126 16:37	07:21 11:49-13:48/119 16:33
21	05:44 20:28	06:14 19:51	06:45 19:00	07:17 12:49-14:29/100 18:11	06:54 11:34-13:40/126 16:37	07:22 11:49-13:48/119 16:33
22	05:45 20:27	06:15 19:50	06:46 18:59	07:18 12:47-14:30/103 18:10	06:55 11:34-13:40/126 16:36	07:22 11:50-13:49/119 16:34
23	05:45 20:26	06:16 19:48	06:47 18:57	07:19 12:45-14:31/106 18:08	06:56 11:35-13:41/126 16:35	07:23 11:50-13:49/119 16:34
24	05:46 20:25	06:17 19:47	06:48 18:55	07:20 12:44-14:32/108 18:07	06:57 11:35-13:41/126 16:35	07:23 11:50-13:49/119 16:35
25	05:47 20:24	06:18 19:45	06:49 18:53	06:22 11:42-13:33/111 17:06	06:58 11:36-13:41/125 16:34	07:23 11:51-13:50/119 16:35
26	05:48 20:24	06:19 19:44	06:50 18:52	06:23 11:41-13:33/112 17:04	07:00 11:36-13:41/125 16:34	07:24 11:51-13:50/119 16:36
27	05:49 20:23	06:20 19:42	06:51 18:50	06:24 11:39-13:33/114 17:03	07:01 11:36-13:41/125 16:33	07:24 11:51-13:51/120 16:37
28	05:50 20:22	06:21 19:41	06:52 18:48	06:25 11:38-13:33/115 17:01	07:02 11:36-13:41/125 16:33	07:25 11:52-13:52/120 16:37
29	05:51 20:21	06:22 19:39	06:53 18:47	06:26 11:38-13:35/117 17:00	07:03 11:38-13:42/124 16:32	07:25 11:53-13:52/119 16:38
30	05:52 20:20	06:23 19:37	06:54 18:45	06:27 11:37-13:35/118 16:59	07:04 11:38-13:42/124 16:32	07:25 11:53-13:53/120 16:39
31	05:53 20:19	06:24 19:36		06:29 11:35-13:35/120 16:58		07:25 11:53-13:53/120 16:40
Potential sun hours	460	428	375	345	297	287
Sum of minutes with flicker	0	0	0	1987	3748	3727

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	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

## SHADOW - Calendar per WTG

Calculation: OmbraWTG: 2 - Siemens Gamesa SG 6.6-155 6600 155.0 IO! hub: 122,5 m (TOT: 200,0 m) (2)

### Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June
1	07:25 09:02-09:59/57 16:41	07:12 07:57-08:53/56 17:15 09:29-09:48/19	06:36 07:55-08:52/57 17:49	06:45 19:24	05:58 19:56	05:29 20:26
2	07:26 09:02-10:00/58 16:41	07:11 07:56-08:54/58 17:16 09:34-09:44/10	06:34 07:55-08:50/55 17:51	06:43 19:25	05:57 19:57	05:29 20:26
3	07:26 09:03-10:00/57 16:42	07:10 07:55-08:55/60 17:18	06:33 07:57-08:49/52 17:52	06:41 19:26	05:56 19:58	05:28 20:27
4	07:26 09:03-10:00/57 16:43	07:09 07:55-08:56/61 17:19	06:31 07:57-08:47/50 17:53	06:40 19:27	05:55 19:59	05:28 20:28
5	07:26 09:04-10:01/57 16:44	07:08 07:54-08:57/63 17:20	06:29 07:58-08:45/47 17:54	06:38 19:28	05:53 20:00	05:28 20:29
6	07:26 09:04-10:01/57 16:45	07:07 07:54-08:58/64 17:21	06:28 08:00-08:44/44 17:55	06:36 19:29	05:52 20:01	05:27 20:29
7	07:26 09:05-10:02/57 16:46	07:06 07:53-08:58/65 17:23	06:26 08:01-08:41/40 17:56	06:35 19:30	05:51 20:02	05:27 20:30
8	07:26 09:06-10:02/56 16:47	07:04 07:53-08:58/65 17:24	06:25 08:04-08:39/35 17:57	06:33 19:31	05:50 20:03	05:27 20:31
9	07:25 09:05-10:02/57 16:48	07:03 07:52-08:59/67 17:25	06:23 08:06-08:35/29 17:59	06:31 19:32	05:49 20:04	05:27 20:31
10	07:25 09:06-10:02/56 16:49	07:02 07:52-09:00/68 17:26	06:21 08:09-08:31/22 18:00	06:30 19:33	05:47 20:05	05:26 20:32
11	07:25 09:07-10:03/56 16:50	07:01 07:52-09:00/68 17:28	06:20 08:15-08:25/10 18:01	06:28 19:35	05:46 20:06	05:26 20:32
12	07:25 09:07-10:02/55 16:51	07:00 07:51-09:00/69 17:29	06:18 18:02	06:27 19:36	05:45 20:07	05:26 20:33
13	07:24 09:08-10:03/55 16:52	06:58 07:51-09:00/69 17:30	06:16 18:03	06:25 19:37	05:44 20:08	05:26 20:33
14	07:24 09:09-10:03/54 16:53	06:57 07:51-09:01/70 17:31	06:15 18:04	06:23 19:38	05:43 20:09	05:26 20:34
15	07:24 09:09-10:03/54 16:54	06:56 07:51-09:00/69 17:33	06:13 18:05	06:22 19:39	05:42 20:10	05:26 20:34
16	07:23 09:10-10:03/53 16:56	06:55 07:51-09:00/69 17:34	06:11 18:06	06:20 19:40	05:41 20:11	05:26 20:35
17	07:23 09:10-10:03/53 16:57	06:53 07:51-09:01/70 17:35	06:10 18:08	06:19 19:41	05:40 20:12	05:26 20:35
18	07:22 09:10-10:02/52 16:58	06:52 07:51-09:00/69 17:36	06:08 18:09	06:17 19:42	05:39 20:13	05:26 20:35
19	07:22 08:15-08:28/13 16:59	06:50 07:51-09:00/69 17:37	06:06 18:10	06:16 19:43	05:38 20:14	05:26 20:36
20	07:21 08:12-08:32/20 17:00	06:49 07:51-08:59/68 17:39	06:05 18:11	06:14 19:44	05:37 20:15	05:26 20:36
21	07:21 08:10-08:36/26 17:01	06:48 07:51-08:59/68 17:40	06:03 18:12	06:13 19:45	05:37 20:16	05:26 20:36
22	07:20 08:08-08:38/30 17:03	06:46 07:51-08:58/67 17:41	06:01 18:13	06:11 19:46	05:36 20:17	05:27 20:36
23	07:19 08:06-08:40/34 17:04	06:45 07:52-08:58/66 17:42	06:00 18:14	06:10 19:47	05:35 20:18	05:27 20:36
24	07:19 08:04-08:42/38 17:05	06:43 07:51-08:57/66 17:43	05:58 18:15	06:08 19:48	05:34 20:19	05:27 20:37
25	07:18 08:04-08:44/40 17:06	06:42 07:52-08:56/64 17:45	05:56 18:16	06:07 19:50	05:34 20:20	05:27 20:37
26	07:17 08:02-08:46/44 17:08	06:40 07:52-08:55/63 17:46	05:55 18:17	06:05 19:51	05:33 20:21	05:28 20:37
27	07:16 08:01-08:47/46 17:09	06:39 07:53-08:54/61 17:47	05:53 18:18	06:04 19:52	05:32 20:22	05:28 20:37
28	07:16 08:00-08:48/48 17:10	06:37 07:53-08:53/60 17:48	05:51 18:19	06:03 19:53	05:32 20:23	05:28 20:37
29	07:15 07:59-08:50/51 17:11		06:50 19:21	06:01 19:54	05:31 20:23	05:29 20:37
30	07:14 07:58-08:51/53 17:12		06:48 19:22	06:00 19:55	05:30 20:24	05:29 20:37
31	07:13 07:57-08:52/55 17:14		06:46 19:23		05:30 20:25	
Potential sun hours	297	297	369	399	449	453
Sum of minutes with flicker	2034	1861	441	0	0	0

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	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker



## SHADOW - Calendar per WTG

Calculation: OmbraWTG: 2 - Siemens Gamesa SG 6.6-155 6600 155.0 IO! hub: 122,5 m (TOT: 200,0 m) (2)

### Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	July	August	September	October	November	December
1	05:30 20:37	05:54 20:18	06:25 19:34	06:55 18:43	06:30 07:22-08:29/67 16:56	07:05 08:49-09:45/56 16:32
2	05:30 20:37	05:55 20:16	06:26 19:32	06:56 18:42	06:31 07:22-08:29/67 16:55	07:06 08:49-09:45/56 16:31
3	05:31 20:36	05:56 20:15	06:27 19:31	06:57 08:49-09:07/18 18:40	06:32 07:22-08:28/66 16:54	07:07 08:49-09:46/57 16:31
4	05:31 20:36	05:57 20:14	06:28 19:29	06:58 08:45-09:11/26 18:38	06:33 07:23-08:27/64 16:53	07:08 08:50-09:46/56 16:31
5	05:32 20:36	05:58 20:13	06:29 19:28	06:59 08:42-09:14/32 18:37	06:35 07:24-08:28/64 16:51	07:09 08:50-09:47/57 16:31
6	05:32 20:36	05:59 20:12	06:30 19:26	07:01 08:39-09:16/37 18:35	06:36 07:24-08:27/63 16:50	07:10 08:50-09:47/57 16:31
7	05:33 20:35	06:00 20:11	06:31 19:24	07:02 08:37-09:18/41 18:33	06:37 07:25-08:26/61 16:49	07:11 08:51-09:48/57 16:30
8	05:34 20:35	06:01 20:09	06:32 19:23	07:03 08:34-09:20/46 18:32	06:38 07:26-08:26/60 16:48	07:12 08:51-09:48/57 16:30
9	05:34 20:35	06:02 20:08	06:33 19:21	07:04 08:33-09:21/48 18:30	06:39 07:27-08:25/58 16:47	07:13 08:52-09:49/57 16:30
10	05:35 20:34	06:03 20:07	06:34 19:19	07:05 08:31-09:22/51 18:28	06:41 07:28-08:24/56 16:46	07:14 08:52-09:50/58 16:30
11	05:36 20:34	06:04 20:05	06:35 19:17	07:06 08:29-09:23/54 18:27	06:42 07:28-08:23/55 16:45	07:15 08:52-09:49/57 16:30
12	05:36 20:33	06:05 20:04	06:36 19:16	07:07 08:28-09:24/56 18:25	06:43 07:30-08:23/53 16:44	07:15 08:52-09:50/58 16:31
13	05:37 20:33	06:06 20:03	06:37 19:14	07:08 08:28-09:26/58 18:24	06:44 07:31-08:22/51 16:43	07:16 08:53-09:50/57 16:31
14	05:38 20:32	06:07 20:01	06:38 19:12	07:09 08:27-09:27/60 18:22	06:45 07:32-08:20/48 16:42	07:17 08:54-09:51/57 16:31
15	05:39 20:32	06:08 20:00	06:39 19:11	07:10 08:26-09:27/61 18:20	06:47 07:34-08:20/46 16:41	07:18 08:54-09:51/57 16:31
16	05:40 20:31	06:09 19:59	06:40 19:09	07:11 08:25-09:28/63 18:19	06:48 07:35-08:19/44 16:40	07:18 08:54-09:52/58 16:31
17	05:40 20:31	06:10 19:57	06:41 19:07	07:13 08:24-09:28/64 18:17	06:49 07:37-08:17/40 16:40	07:19 08:55-09:53/58 16:32
18	05:41 20:30	06:11 19:56	06:42 19:05	07:14 08:23-09:28/65 18:16	06:50 07:38-08:16/38 16:39	07:20 08:55-09:52/57 16:32
19	05:42 20:29	06:12 19:54	06:43 19:04	07:15 08:22-09:29/67 18:14	06:51 07:41-08:15/34 16:38	07:20 08:56-09:53/57 16:32
20	05:43 20:29	06:13 19:53	06:44 19:02	07:16 08:22-09:30/68 18:13	06:53 07:43-08:13/30 16:37	07:21 08:57-09:54/57 16:33
21	05:44 20:28	06:14 19:51	06:45 19:00	07:17 08:22-09:30/68 18:11	06:54 07:45-08:11/26 16:37	07:22 08:57-09:54/57 16:33
22	05:45 20:27	06:15 19:50	06:46 18:59	07:18 08:21-09:30/69 18:10	06:55 07:48-08:08/20 16:36	07:22 08:58-09:55/57 16:34
23	05:45 20:26	06:16 19:48	06:47 18:57	07:19 08:21-09:30/69 18:08	06:56 07:52-08:06/14 16:35	07:23 08:58-09:55/57 16:34
24	05:46 20:25	06:17 19:47	06:48 18:55	07:20 08:21-09:31/70 18:07	06:57 08:48-09:40/52 16:35	07:23 08:58-09:55/57 16:35
25	05:47 20:24	06:18 19:45	06:49 18:53	06:22 07:21-08:30/69 17:06	06:58 08:48-09:41/53 16:34	07:23 08:59-09:56/57 16:35
26	05:48 20:24	06:19 19:44	06:50 18:52	06:23 07:21-08:30/69 17:04	07:00 08:48-09:41/53 16:34	07:24 08:59-09:56/57 16:36
27	05:49 20:23	06:20 19:42	06:51 18:50	06:24 07:20-08:30/70 17:03	07:01 08:48-09:42/54 16:33	07:24 08:59-09:57/58 16:37
28	05:50 20:22	06:21 19:41	06:52 18:48	06:25 07:20-08:29/69 17:01	07:02 08:48-09:42/54 16:33	07:25 09:00-09:58/58 16:37
29	05:51 20:21	06:22 19:39	06:53 18:47	06:26 07:21-08:30/69 17:00	07:03 08:49-09:44/55 16:32	07:25 09:01-09:58/57 16:38
30	05:52 20:20	06:23 19:37	06:54 18:45	06:27 07:21-08:30/69 16:59	07:04 08:49-09:44/55 16:32	07:25 09:01-09:58/57 16:39
31	05:53 20:19	06:24 19:36		06:29 07:21-08:29/68 16:57		07:25 09:01-09:59/58 16:40
Potential sun hours	460	428	375	345	297	287
Sum of minutes with flicker	0	0	0	1674	2067	1771

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

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	First time (hh:mm) with flicker-Last time (hh:mm) with flicker/Minutes with flicker	First time (hh:mm) with flicker-Last time (hh:mm) with flicker/Minutes with flicker
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SHADOW - Calendar per WTG

Calculation: OmbraWTG: 3 - Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 122,5 m (TOT: 200,0 m) (3)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
The rotor plane is always perpendicular to the line from the WTG to the sun
The WTG is always operating

Calendar table with columns for months (January-December) and rows for days, listing sun rise, sun set, and shadow start/end times. Includes summary rows for Potential sun hours and Sum of minutes with flicker.

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

Day in month Sun rise (hh:mm) Sun set (hh:mm) First time (hh:mm) with flicker-Last time (hh:mm) with flicker/Minutes with flicker



## SHADOW - Calendar per WTG

Calculation: OmbraWTG: 4 - Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 122,5 m (TOT: 200,0 m) (4)

### Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June
1	07:25 08:04-08:24/20 16:41	07:12 07:39-08:04/25 17:15	06:36 17:49	06:45 19:24	05:58 19:56	05:29 19:28-19:55/27 20:26
2	07:26 08:05-08:25/20 16:41	07:11 07:40-08:05/25 17:16	06:34 17:51	06:43 19:25	05:57 19:57	05:29 19:27-19:54/27 20:26
3	07:26 08:05-08:25/20 16:42	07:10 07:40-08:05/25 17:17	06:33 17:52	06:41 19:26	05:56 19:58	05:28 19:28-19:55/27 20:27
4	07:26 08:05-08:26/21 16:43	07:09 07:40-08:05/25 17:19	06:31 17:53	06:40 19:27	05:55 19:59	05:28 19:28-19:56/28 20:28
5	07:26 08:05-08:27/22 16:44	07:08 07:41-08:05/24 17:20	06:29 17:54	06:38 19:28	05:53 20:00	05:28 19:28-19:56/28 20:29
6	07:26 08:06-08:28/22 16:45	07:07 07:41-08:05/24 17:21	06:28 17:55	06:36 19:29	05:52 20:01	05:27 19:28-19:56/28 20:29
7	07:26 08:06-08:28/22 16:46	07:06 07:41-08:03/22 17:23	06:26 17:56	06:35 19:30	05:51 20:02	05:27 19:28-19:57/29 20:30
8	07:25 08:06-08:29/23 16:47	07:04 07:42-08:03/21 17:24	06:25 17:57	06:33 19:31	05:50 20:03	05:27 19:29-19:57/28 20:30
9	07:25 08:06-08:29/23 16:48	07:03 07:43-08:02/19 17:25	06:23 17:59	06:31 19:32	05:49 20:04	05:27 19:29-19:58/29 20:31
10	07:25 08:06-08:30/24 16:49	07:02 07:45-08:01/16 17:26	06:21 18:00	06:30 19:33	05:47 20:05	05:26 19:29-19:57/28 20:32
11	07:25 08:07-08:31/24 16:50	07:01 07:47-07:59/12 17:28	06:20 18:01	06:28 19:34	05:46 20:06	05:26 19:29-19:57/28 20:32
12	07:25 08:07-08:30/23 16:51	07:00 07:50-07:55/5 17:29	06:18 18:02	06:27 19:36	05:45 20:07	05:26 19:29-19:58/29 20:33
13	07:24 08:07-08:31/24 16:52	06:58 17:30	06:16 18:03	06:25 19:37	05:44 20:08	05:26 19:30-19:58/28 20:33
14	07:24 08:08-08:32/24 16:53	06:57 17:31	06:15 18:04	06:23 19:38	05:43 20:09	05:26 19:30-19:58/28 20:34
15	07:24 08:08-08:32/24 16:54	06:56 17:33	06:13 18:05	06:22 19:39	05:42 20:10	05:26 19:30-19:59/29 20:34
16	07:23 08:09-08:33/24 16:56	06:54 17:34	06:11 18:06	06:20 19:40	05:41 20:11	05:26 19:30-19:59/29 20:34
17	07:23 08:09-08:32/23 16:57	06:53 17:35	06:10 18:07	06:19 19:41	05:40 20:12	05:26 19:31-19:59/28 20:35
18	07:22 08:09-08:32/23 16:58	06:52 17:36	06:08 18:09	06:17 19:42	05:39 20:13	05:26 19:31-19:59/28 20:35
19	07:22 08:10-08:33/23 16:59	06:50 17:37	06:06 18:10	06:16 19:43	05:38 19:35-19:43/8 20:14	05:26 19:32-20:00/28 20:35
20	07:21 08:11-08:32/21 17:00	06:49 17:39	06:05 18:11	06:14 19:44	05:37 19:32-19:45/13 20:15	05:26 19:32-20:00/28 20:36
21	07:21 08:12-08:33/21 17:01	06:48 17:40	06:03 18:12	06:13 19:45	05:37 19:31-19:46/15 20:16	05:26 19:32-20:00/28 20:36
22	07:20 08:13-08:32/19 17:03	06:46 17:41	06:01 18:13	06:11 19:46	05:36 19:31-19:48/17 20:17	05:27 19:32-20:00/28 20:36
23	07:19 07:46-07:54/8 17:04	06:45 17:42	06:00 18:14	06:10 19:47	05:35 19:30-19:48/18 20:18	05:27 19:32-20:00/28 20:36
24	07:19 07:43-07:56/13 17:05	06:43 17:43	05:58 18:15	06:08 19:48	05:34 19:29-19:49/20 20:19	05:27 19:33-20:01/28 20:37
25	07:18 07:43-07:59/16 17:06	06:42 17:45	05:56 18:16	06:07 19:49	05:34 19:29-19:50/21 20:20	05:27 19:33-20:01/28 20:37
26	07:17 07:42-08:00/18 17:07	06:40 17:46	05:55 18:17	06:05 19:51	05:33 19:28-19:50/22 20:21	05:28 19:33-20:01/28 20:37
27	07:16 07:41-08:01/20 17:09	06:39 17:47	05:53 18:18	06:04 19:52	05:32 19:27-19:51/24 20:22	05:28 19:33-20:02/29 20:37
28	07:15 07:41-08:02/21 17:10	06:37 17:48	05:51 18:19	06:03 19:53	05:32 19:28-19:52/24 20:22	05:28 19:33-20:01/28 20:37
29	07:15 07:40-08:03/23 17:11		06:50 19:21	06:01 19:54	05:31 19:27-19:52/25 20:23	05:29 19:34-20:02/28 20:37
30	07:14 07:40-08:03/23 17:12		06:48 19:22	06:00 19:55	05:30 19:28-19:54/26 20:24	05:29 19:34-20:02/28 20:37
31	07:13 07:40-08:04/24 17:14		06:46 19:23		05:30 19:27-19:54/27 20:25	
Potential sun hours	297	297	369	399	449	453
Sum of minutes with flicker	708	243	0	0	260	843

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	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

## SHADOW - Calendar per WTG

Calculation: OmbraWTG: 4 - Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 122,5 m (TOT: 200,0 m) (4)

### Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	July	August	September	October	November	December
1	05:30 19:33-20:02/29 20:37	05:54 20:17	06:25 19:34	06:55 18:43	06:30 07:14-07:31/17 16:56	07:05 07:49-08:13/24 16:32
2	05:30 19:34-20:02/28 20:37	05:55 20:16	06:26 19:32	06:56 18:42	06:31 07:13-07:32/19 16:55	07:06 07:49-08:13/24 16:31
3	05:31 19:33-20:02/29 20:36	05:56 20:15	06:27 19:31	06:57 18:40	06:32 07:12-07:33/21 16:54	07:07 07:50-08:13/23 16:31
4	05:31 19:34-20:02/28 20:36	05:57 20:14	06:28 19:29	06:58 18:38	06:33 07:11-07:33/22 16:53	07:08 07:50-08:13/23 16:31
5	05:32 19:35-20:03/28 20:36	05:58 20:13	06:29 19:27	06:59 18:36	06:35 07:11-07:35/24 16:51	07:09 07:51-08:13/22 16:31
6	05:32 19:34-20:02/28 20:36	05:59 20:12	06:30 19:26	07:01 18:35	06:36 07:10-07:35/25 16:50	07:10 07:52-08:14/22 16:31
7	05:33 19:35-20:03/28 20:35	06:00 20:11	06:31 19:24	07:02 18:33	06:37 07:10-07:35/25 16:49	07:11 07:52-08:14/22 16:30
8	05:34 19:34-20:02/28 20:35	06:01 20:09	06:32 19:22	07:03 18:32	06:38 07:11-07:36/25 16:48	07:12 07:53-08:14/21 16:30
9	05:34 19:35-20:03/28 20:35	06:02 20:08	06:33 19:21	07:04 18:30	06:39 07:10-07:35/25 16:47	07:13 07:54-08:14/20 16:30
10	05:35 19:35-20:03/28 20:34	06:03 20:07	06:34 19:19	07:05 18:28	06:41 07:10-07:35/25 16:46	07:14 07:55-08:15/20 16:30
11	05:36 19:35-20:02/27 20:34	06:04 20:05	06:35 19:17	07:06 18:27	06:42 07:10-07:35/25 16:45	07:14 07:54-08:14/20 16:30
12	05:36 19:35-20:02/27 20:33	06:05 20:04	06:36 19:16	07:07 18:25	06:43 07:12-07:35/23 16:44	07:15 07:55-08:14/19 16:31
13	05:37 19:36-20:02/26 20:33	06:06 20:03	06:37 19:14	07:08 18:23	06:44 07:12-07:35/23 16:43	07:16 07:56-08:15/19 16:31
14	05:38 19:36-20:02/26 20:32	06:07 20:01	06:38 19:12	07:09 18:22	06:45 07:12-07:34/22 16:42	07:17 07:57-08:15/18 16:31
15	05:39 19:36-20:01/25 20:32	06:08 20:00	06:39 19:11	07:10 18:20	06:47 07:14-07:34/20 16:41	07:18 07:57-08:15/18 16:31
16	05:40 19:37-20:01/24 20:31	06:09 19:59	06:40 19:09	07:11 18:19	06:48 07:15-07:33/18 16:40	07:18 07:58-08:15/17 16:31
17	05:40 19:37-20:00/23 20:31	06:10 19:57	06:41 19:07	07:12 18:17	06:49 07:16-07:32/16 16:39	07:19 07:59-08:16/17 16:32
18	05:41 19:38-20:00/22 20:30	06:11 19:56	06:42 19:05	07:14 18:16	06:50 07:17-07:30/13 16:39	07:20 07:59-08:16/17 16:32
19	05:42 19:38-19:58/20 20:29	06:12 19:54	06:43 19:04	07:15 18:14	06:51 07:21-07:29/8 16:38	07:20 08:00-08:16/16 16:32
20	05:43 19:39-19:58/19 20:29	06:13 19:53	06:44 19:02	07:16 18:13	06:53 07:48-08:07/19 16:37	07:21 08:01-08:17/16 16:33
21	05:44 19:40-19:57/17 20:28	06:14 19:51	06:45 19:00	07:17 18:11	06:54 07:47-08:08/21 16:37	07:21 08:01-08:17/16 16:33
22	05:45 19:41-19:57/16 20:27	06:15 19:50	06:46 18:59	07:18 18:10	06:55 07:47-08:08/21 16:36	07:22 08:02-08:18/16 16:34
23	05:45 19:42-19:56/14 20:26	06:16 19:48	06:47 18:57	07:19 18:08	06:56 07:47-08:10/23 16:35	07:22 08:02-08:18/16 16:34
24	05:46 19:44-19:54/10 20:25	06:17 19:47	06:48 18:55	07:20 18:07	06:57 07:47-08:10/23 16:35	07:23 08:02-08:18/16 16:35
25	05:47 19:47-19:52/5 20:24	06:18 19:45	06:49 18:53	06:22 17:06	06:58 07:47-08:10/23 16:34	07:23 08:03-08:19/16 16:35
26	05:48 20:24	06:19 19:44	06:50 18:52	06:23 17:04	06:59 07:47-08:11/24 16:34	07:24 08:03-08:20/17 16:36
27	05:49 20:23	06:20 19:42	06:51 18:50	06:24 17:03	07:01 07:47-08:11/24 16:33	07:24 08:03-08:20/17 16:37
28	05:50 20:22	06:21 19:41	06:52 18:48	06:25 17:01	07:02 07:47-08:11/24 16:33	07:24 08:04-08:21/17 16:37
29	05:51 20:21	06:22 19:39	06:53 18:47	06:26 17:00	07:03 07:48-08:12/24 16:32	07:25 08:04-08:22/18 16:38
30	05:52 20:20	06:23 19:37	06:54 18:45	06:27 16:59	07:04 07:49-08:13/24 16:32	07:25 08:04-08:22/18 16:39
31	05:53 20:19	06:24 19:36		06:29 16:57	07:15-07:29/14	07:25 08:04-08:23/19 16:39
Potential sun hours	460	428	375	345	297	287
Sum of minutes with flicker	583	0	0	21	699	584

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	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

## SHADOW - Calendar per WTG

Calculation: OmbraWTG: 5 - Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 122,5 m (TOT: 200,0 m) (5)

### Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June
1	07:25 16:41	07:12 07:46-08:05/19 17:15	06:36 17:49	06:45 07:50-08:27/37 19:24	05:58 19:56	05:29 18:52-19:22/30 20:26 06:37-06:54/17
2	07:26 16:41	07:11 07:46-08:05/19 17:16	06:34 17:50	06:43 07:49-08:27/38 19:25	05:57 19:57	05:29 18:51-19:22/31 20:26 06:37-06:55/18
3	07:26 16:42	07:10 07:46-08:05/19 17:17	06:33 17:52	06:41 07:48-08:29/41 19:26	05:56 19:58	05:28 18:52-19:23/31 20:27 06:36-06:56/20
4	07:26 16:43	07:09 07:47-08:05/18 17:19	06:31 17:53	06:40 07:47-08:29/42 19:27	05:55 19:59	05:28 06:36-06:57/21 20:28 18:52-19:24/32
5	07:26 16:44	07:08 07:48-08:05/17 17:20	06:29 17:54	06:38 07:46-08:28/42 19:28	05:53 20:00	05:28 06:36-06:57/21 20:29 18:51-19:24/33
6	07:26 16:45	07:07 07:48-08:05/17 17:21	06:28 17:55	06:36 07:45-08:29/44 19:29	05:52 20:01	05:27 06:35-06:57/22 20:29 18:51-19:25/34
7	07:26 16:46	07:06 07:49-08:03/14 17:23	06:26 17:56	06:35 07:44-08:29/45 19:30	05:51 20:02	05:27 06:35-06:58/23 20:30 18:52-19:25/33
8	07:25 16:47	07:04 07:50-08:02/12 17:24	06:25 17:57	06:33 07:45-08:29/44 19:31	05:50 20:03	05:27 06:35-06:59/24 20:30 18:52-19:26/34
9	07:25 16:48	07:03 07:53-08:00/7 17:25	06:23 17:59	06:31 07:44-08:28/44 19:32	05:49 20:04	05:27 06:35-06:59/24 20:31 18:52-19:26/34
10	07:25 16:49	07:02 07:54-08:00/0 17:26	06:21 18:00	06:30 07:43-08:27/44 19:33	05:47 20:05	05:26 06:35-07:00/25 20:32 18:51-19:26/35
11	07:25 16:50	07:01 07:55-08:00/0 17:28	06:20 18:01	06:28 07:43-08:28/45 19:34	05:46 20:06	05:26 06:34-06:59/25 20:32 18:52-19:27/35
12	07:25 16:51	07:00 07:56-08:00/0 17:29	06:18 18:02	06:27 07:43-08:27/44 19:36	05:45 20:07	05:26 06:34-06:59/25 20:33 18:52-19:27/35
13	07:24 16:52	06:58 07:57-08:00/0 17:30	06:16 18:03	06:25 07:43-08:26/43 19:37	05:44 20:08	05:26 06:34-07:00/26 20:33 18:52-19:27/35
14	07:24 16:53	06:57 07:58-08:00/0 17:31	06:15 18:04	06:23 07:43-08:25/42 19:38	05:43 20:09	05:26 06:34-07:00/26 20:34 18:52-19:28/36
15	07:24 16:54	06:56 07:59-08:00/0 17:32	06:13 18:05	06:22 07:43-08:24/41 19:39	05:42 20:10	05:26 06:34-07:00/26 20:34 18:52-19:28/36
16	07:23 16:56	06:54 07:59-08:00/0 17:34	06:11 18:06	06:20 07:44-08:24/40 19:40	05:41 20:11	05:26 06:34-07:01/27 20:34 18:53-19:29/36
17	07:23 16:57	06:53 07:59-08:00/0 17:35	06:10 18:07	06:19 07:43-08:22/39 19:41	05:40 20:12	05:26 06:34-07:01/27 20:35 18:53-19:29/36
18	07:22 16:58	06:52 07:59-08:00/0 17:36	06:08 18:09	06:17 07:44-08:21/37 19:42	05:39 20:13	05:26 06:35-07:02/27 20:35 18:53-19:29/36
19	07:22 16:59	06:50 07:59-08:00/0 17:37	06:06 18:10	06:16 07:45-08:19/34 19:43	05:38 20:14	05:26 06:35-07:02/27 20:35 18:54-19:30/36
20	07:21 17:00	06:49 07:59-08:00/0 17:39	06:05 18:11	06:14 07:46-08:18/32 19:44	05:37 20:15	05:26 06:35-07:02/27 20:36 18:54-19:30/36
21	07:21 17:01	06:48 07:59-08:00/0 17:40	06:03 18:12	06:13 07:47-08:16/29 19:45	05:37 19:04-19:07/3 20:16	05:26 06:35-07:02/27 20:36 18:54-19:30/36
22	07:20 17:03	06:46 07:59-08:00/0 17:41	06:01 18:13	06:11 07:48-08:15/27 19:46	05:36 19:01-19:12/11 20:17	05:27 06:35-07:02/27 20:36 18:54-19:30/36
23	07:19 17:04	06:45 07:59-08:00/0 17:42	06:00 18:14	06:10 07:50-08:13/23 19:47	05:35 18:58-19:14/16 20:18	05:27 06:35-07:02/27 20:36 18:54-19:30/36
24	07:19 17:05	06:43 07:59-08:00/0 17:43	05:58 18:15	06:08 07:52-08:10/18 19:48	05:34 18:57-19:15/18 20:19	05:27 06:36-07:03/27 20:37 18:55-19:31/36
25	07:18 07:53-07:56/3 17:06	06:42 07:59-08:00/0 17:45	05:56 18:16	06:07 07:56-08:06/10 19:49	05:34 18:56-19:17/21 20:20	05:27 06:36-07:03/27 20:37 18:55-19:31/36
26	07:17 07:50-07:59/9 17:07	06:40 07:59-08:00/0 17:46	05:55 07:09-07:13/4 18:17	06:05 19:51	05:33 18:55-19:18/23 20:21	05:28 06:36-07:03/27 20:37 18:55-19:31/36
27	07:16 07:49-08:01/12 17:09	06:39 07:59-08:00/0 17:47	05:53 07:03-07:20/17 18:18	06:04 19:52	05:32 18:54-19:18/24 20:22	05:28 06:37-07:04/27 20:37 18:55-19:31/36
28	07:15 07:48-08:02/14 17:10	06:37 07:59-08:00/0 17:48	05:51 06:59-07:22/23 18:19	06:02 19:53	05:32 18:54-19:20/26 20:22	05:28 06:37-07:03/26 20:37 18:55-19:31/36
29	07:15 07:47-08:03/16 17:11	06:36 07:59-08:00/0 19:20	06:50 07:56-08:24/28 19:20	06:01 19:54	05:31 18:53-19:20/27 20:23	05:29 06:38-07:04/26 20:37 18:56-19:32/36
30	07:14 07:46-08:04/18 17:12	06:35 07:59-08:00/0 19:21	06:48 07:53-08:25/32 19:22	06:00 19:55	05:30 18:53-19:21/28 20:24	05:29 06:38-07:04/26 20:37 18:56-19:31/35
31	07:13 07:46-08:04/18 17:14	06:34 07:59-08:00/0 19:22	06:46 07:52-08:27/35 19:23	05:29 20:25	05:30 18:52-19:21/29 06:37-06:53/16	20:25
Potential sun hours	297	297	369	399	449	453
Sum of minutes with flicker	90	142	139	925	273	1788

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	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

## SHADOW - Calendar per WTG

Calculation: OmbraWTG: 5 - Siemens Gamesa SG 6.6-155 6600 155.0 IO! hub: 122,5 m (TOT: 200,0 m) (5)

### Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	July	August	September	October	November	December
1	05:30 06:39-07:04/25 20:37 18:56-19:31/35	05:54 20:17	06:25 07:42-08:27/45 19:34	06:55 18:43 16:56	06:30 16:56	07:05 16:32
2	05:30 06:39-07:04/25 20:36 18:57-19:31/34	05:55 20:16	06:26 07:42-08:26/44 19:32	06:56 18:41 16:55	06:31 07:22-07:30/8 16:55	07:06 16:31
3	05:31 06:40-07:04/24 20:36 18:56-19:31/35	05:56 20:15	06:27 07:42-08:26/44 19:31	06:57 18:40 16:54	06:32 07:20-07:32/12 16:54	07:07 16:31
4	05:31 06:40-07:04/24 20:36 18:57-19:31/34	05:57 20:14	06:28 07:42-08:26/44 19:29	06:58 18:38 16:53	06:33 07:18-07:33/15 16:53	07:08 16:31
5	05:32 06:41-07:04/23 20:36 18:58-19:32/34	05:58 20:13	06:29 07:41-08:26/45 19:27	06:59 18:36 16:51	06:35 07:18-07:35/17 16:51	07:09 16:31
6	05:32 06:41-07:03/22 20:36 18:58-19:31/33	05:59 20:12	06:30 07:42-08:25/43 19:26	07:00 18:35 16:50	06:36 07:17-07:35/18 16:50	07:10 16:31
7	05:33 06:42-07:04/22 20:35 18:58-19:31/33	06:00 20:11	06:31 07:42-08:24/42 19:24	07:02 18:33 16:49	06:37 07:17-07:35/18 16:49	07:11 16:30
8	05:34 06:42-07:03/21 20:35 18:58-19:30/32	06:01 20:09	06:32 07:42-08:24/42 19:22	07:03 18:32 16:48	06:38 07:17-07:36/19 16:48	07:12 16:30
9	05:34 06:43-07:03/20 20:35 18:59-19:30/31	06:02 20:08	06:33 07:42-08:23/41 19:21	07:04 18:30 16:47	06:39 07:17-07:36/19 16:47	07:13 16:30
10	05:35 19:00-19:30/30 20:34 06:44-07:03/19	06:03 20:07	06:34 07:42-08:21/39 19:19	07:05 18:28 16:46	06:41 07:17-07:36/19 16:46	07:14 16:30
11	05:36 18:59-19:29/30 20:34 06:44-07:02/18	06:04 20:05	06:35 07:42-08:19/37 19:17	07:06 18:27 16:45	06:42 07:17-07:35/18 16:45	07:14 16:30
12	05:36 19:00-19:30/30 20:33 06:45-07:02/17	06:05 20:04	06:36 07:43-08:18/35 19:16	07:07 18:25 16:44	06:43 07:18-07:36/18 16:44	07:15 16:31
13	05:37 19:01-19:29/28 20:33 06:46-07:01/15	06:06 20:03	06:37 07:44-08:16/32 19:14	07:08 18:23 16:43	06:44 07:19-07:35/16 16:43	07:16 16:31
14	05:38 19:02-19:29/27 20:32 06:48-07:00/12	06:07 20:01	06:38 07:46-08:14/28 19:12	07:09 18:22 16:42	06:45 07:20-07:34/14 16:42	07:17 16:31
15	05:39 19:02-19:28/26 20:32 06:49-06:58/9	06:08 20:00	06:39 07:48-08:12/24 19:11	07:10 18:20 16:41	06:47 07:22-07:34/12 16:41	07:18 16:31
16	05:40 19:03-19:28/25 20:31 06:52-06:56/4	06:09 19:59	06:40 07:50-08:09/19 19:09	07:11 18:19 16:40	06:48 07:23-07:32/9 16:40	07:18 16:31
17	05:40 19:04-19:27/23 20:31	06:10 19:57	06:41 07:55-08:03/8 19:07	07:12 18:17 16:39	06:49 07:26-07:29/3 16:39	07:19 16:32
18	05:41 19:05-19:27/22 20:30	06:11 08:01-08:13/12 19:56	06:42 19:05 18:16	07:14 16:50 16:39	06:50 16:39 16:39	07:20 16:32
19	05:42 19:05-19:25/20 20:29	06:12 07:57-08:16/19 19:54	06:43 19:04 18:14	07:15 16:51 16:38	06:51 16:38 16:38	07:20 16:32
20	05:43 19:07-19:24/17 20:28	06:13 07:55-08:18/23 19:53	06:44 19:02 18:13	07:16 16:53 16:37	06:53 16:37 16:37	07:21 16:33
21	05:44 19:09-19:23/14 20:28	06:14 07:53-08:20/27 19:51	06:45 19:00 18:11	07:17 16:54 16:37	06:54 16:37 16:37	07:21 16:33
22	05:45 19:11-19:20/9 20:27	06:15 07:51-08:21/30 19:50	06:46 18:59 18:10	07:18 16:55 16:36	06:55 16:36 16:36	07:22 16:34
23	05:45 20:26 20:26	06:16 07:50-08:22/32 19:48	06:47 18:57 18:08	07:19 16:56 16:35	06:56 16:35 16:35	07:22 16:34
24	05:46 20:25 20:25	06:17 07:48-08:23/35 19:47	06:48 18:55 18:07	07:20 16:57 16:35	06:57 16:35 16:35	07:23 16:35
25	05:47 20:24 20:24	06:18 07:47-08:24/37 19:45	06:49 18:53 17:05	07:21 16:58 16:34	06:58 16:34 16:34	07:23 16:35
26	05:48 20:23 20:23	06:19 07:46-08:25/39 19:44	06:50 18:52 17:04	07:22 16:59 16:34	06:59 16:34 16:34	07:24 16:36
27	05:49 20:23 20:23	06:20 07:45-08:25/40 19:42	06:51 18:50 17:03	07:23 16:57 16:33	07:01 16:33 16:33	07:24 16:37
28	05:50 20:22 20:22	06:21 07:45-08:26/41 19:40	06:52 18:48 17:01	07:24 16:58 16:33	07:02 16:33 16:33	07:24 16:37
29	05:51 20:21 20:21	06:22 07:44-08:26/42 19:39	06:53 18:47 17:00	07:25 16:59 16:32	07:03 16:32 16:32	07:25 16:38
30	05:52 20:20 20:20	06:23 07:43-08:26/43 19:37	06:54 18:45 16:59	07:26 16:57 16:32	07:04 16:32 16:32	07:25 16:39
31	05:53 20:19 20:19	06:24 07:43-08:27/44 19:36		06:29 16:57 16:57		07:25 16:39
Potential sun hours	460	428	375	345	297	287
Sum of minutes with flicker	902	464	612	0	235	0

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	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

## SHADOW - Calendar per WTG

Calculation: OmbraWTG: 6 - Siemens Gamesa SG 6.6-145 6600 145.0 !O! hub: 127,5 m (TOT: 200,0 m) (6)

### Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June
1	07:25 16:41	07:12 17:15	06:36 17:49	06:45 19:24	05:58 19:56	05:29 06:19-06:44/25 20:26
2	07:26 16:41	07:11 17:16	06:34 17:50	06:43 07:21-07:31/10 19:25	05:57 19:57	05:29 06:19-06:44/25 20:26
3	07:26 16:42	07:10 17:17	06:33 17:52	06:41 07:18-07:34/16 19:26	05:56 19:58	05:28 06:19-06:43/24 20:27
4	07:26 16:43	07:09 17:19	06:31 17:53	06:40 07:16-07:35/19 19:27	05:55 19:59	05:28 06:19-06:43/24 20:28
5	07:26 16:44	07:08 17:20	06:29 17:54	06:38 07:14-07:36/22 19:28	05:53 20:00	05:28 06:20-06:43/23 20:28
6	07:26 16:45	07:07 17:21	06:28 17:55	06:36 07:13-07:37/24 19:29	05:52 20:01	05:27 06:19-06:42/23 20:29
7	07:26 16:46	07:06 17:22	06:26 17:56	06:35 07:12-07:37/25 19:30	05:51 20:02	05:27 06:20-06:42/22 20:30
8	07:25 16:47	07:04 17:24	06:25 17:57	06:33 07:12-07:38/26 19:31	05:50 20:03	05:27 06:20-06:42/22 20:30
9	07:25 16:48	07:03 17:25	06:23 17:59	06:31 07:11-07:38/27 19:32	05:49 20:04	05:27 06:21-06:42/21 20:31
10	07:25 16:49	07:02 17:26	06:21 18:00	06:30 07:10-07:37/27 19:33	05:47 20:05	05:26 06:20-06:41/21 20:32
11	07:25 16:50	07:01 17:28	06:20 18:01	06:28 07:10-07:37/27 19:34	05:46 20:06	05:26 06:21-06:41/20 20:32
12	07:25 16:51	07:00 17:29	06:18 18:02	06:26 07:10-07:37/27 19:35	05:45 20:07	05:26 06:21-06:41/20 20:33
13	07:24 16:52	06:58 17:30	06:16 18:03	06:25 07:10-07:37/27 19:37	05:44 06:31-06:38/7 20:08	05:26 06:21-06:41/20 20:33
14	07:24 16:53	06:57 17:31	06:15 18:04	06:23 07:10-07:35/25 19:38	05:43 06:29-06:39/10 20:09	05:26 06:22-06:41/19 20:34
15	07:24 16:54	06:56 17:32	06:13 18:05	06:22 07:10-07:34/24 19:39	05:42 06:27-06:41/14 20:10	05:26 06:22-06:41/19 20:34
16	07:23 16:56	06:54 17:34	06:11 18:06	06:20 07:11-07:33/22 19:40	05:41 06:27-06:42/15 20:11	05:26 06:22-06:41/19 20:34
17	07:23 16:57	06:53 17:35	06:10 18:07	06:19 07:12-07:31/19 19:41	05:40 06:26-06:43/17 20:12	05:26 06:23-06:41/18 20:35
18	07:22 16:58	06:52 17:36	06:08 18:09	06:17 07:13-07:30/17 19:42	05:39 06:25-06:43/18 20:13	05:26 06:23-06:41/18 20:35
19	07:22 16:59	06:50 17:37	06:06 18:10	06:16 07:15-07:27/12 19:43	05:38 06:24-06:43/19 20:14	05:26 06:24-06:42/18 20:35
20	07:21 17:00	06:49 17:39	06:05 18:11	06:14 19:44	05:37 06:23-06:44/21 20:15	05:26 06:24-06:42/18 20:36
21	07:21 17:01	06:48 17:40	06:03 18:12	06:13 19:45	05:37 06:22-06:43/21 20:16	05:26 06:24-06:42/18 20:36
22	07:20 17:03	06:46 17:41	06:01 18:13	06:11 19:46	05:36 06:22-06:44/22 20:17	05:27 06:24-06:42/18 20:36
23	07:19 17:04	06:45 17:42	06:00 18:14	06:10 19:47	05:35 06:21-06:44/23 20:18	05:27 06:24-06:42/18 20:36
24	07:19 17:05	06:43 17:43	05:58 18:15	06:08 19:48	05:34 06:20-06:44/24 20:19	05:27 06:25-06:43/18 20:36
25	07:18 17:06	06:42 17:45	05:56 18:16	06:07 19:49	05:33 06:20-06:44/24 20:20	05:27 06:25-06:43/18 20:37
26	07:17 17:07	06:40 17:46	05:55 18:17	06:05 19:51	05:33 06:19-06:44/25 20:21	05:28 06:24-06:43/19 20:37
27	07:16 17:09	06:39 17:47	05:53 18:18	06:04 19:52	05:32 06:19-06:43/24 20:22	05:28 06:25-06:44/19 20:37
28	07:15 17:10	06:37 17:48	05:51 18:19	06:02 19:53	05:31 06:19-06:44/25 20:22	05:28 06:25-06:44/19 20:37
29	07:15 17:11		06:50 19:20	06:01 19:54	05:31 06:18-06:43/25 20:23	05:29 06:26-06:45/19 20:37
30	07:14 17:12		06:48 19:22	06:00 19:55	05:30 06:19-06:44/25 20:24	05:29 06:25-06:45/20 20:37
31	07:13 17:14		06:46 19:23		05:30 06:18-06:43/25 20:25	
Potential sun hours	297	297	369	399	449	453
Sum of minutes with flicker	0	0	0	396	384	605

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

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	First time (hh:mm) with flicker-Last time (hh:mm) with flicker/Minutes with flicker	First time (hh:mm) with flicker-Last time (hh:mm) with flicker/Minutes with flicker
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## SHADOW - Calendar per WTG

Calculation: OmbraWTG: 6 - Siemens Gamesa SG 6.6-145 6600 145.0 IO! hub: 127,5 m (TOT: 200,0 m) (6)

### Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	July	August	September	October	November	December
1	05:30 06:26-06:46/20 20:37	05:54 20:17	06:25 07:09-07:36/27 19:34	06:55 18:43	06:30 16:56	07:05 16:32
2	05:30 06:25-06:46/21 20:36	05:55 20:16	06:26 07:09-07:36/27 19:32	06:56 18:41	06:31 16:55	07:06 16:31
3	05:31 06:26-06:47/21 20:36	05:56 20:15	06:27 07:09-07:36/27 19:31	06:57 18:40	06:32 16:54	07:07 16:31
4	05:31 06:26-06:47/21 20:36	05:57 20:14	06:28 07:09-07:35/26 19:29	06:58 18:38	06:33 16:53	07:08 16:31
5	05:32 06:26-06:48/22 20:36	05:58 20:13	06:29 07:09-07:34/25 19:27	06:59 18:36	06:35 16:51	07:09 16:31
6	05:32 06:26-06:48/22 20:36	05:59 20:12	06:30 07:09-07:33/24 19:26	07:00 18:35	06:36 16:50	07:10 16:30
7	05:33 06:26-06:49/23 20:35	06:00 20:10	06:31 07:10-07:32/22 19:24	07:02 18:33	06:37 16:49	07:11 16:30
8	05:34 06:26-06:49/23 20:35	06:01 20:09	06:32 07:11-07:31/20 19:22	07:03 18:32	06:38 16:48	07:12 16:30
9	05:34 06:26-06:50/24 20:35	06:02 20:08	06:33 07:12-07:28/16 19:21	07:04 18:30	06:39 16:47	07:13 16:30
10	05:35 06:27-06:51/24 20:34	06:03 20:07	06:34 07:14-07:24/10 19:19	07:05 18:28	06:41 16:46	07:14 16:30
11	05:36 06:26-06:51/25 20:34	06:04 20:05	06:35 19:17	07:06 18:27	06:42 16:45	07:14 16:30
12	05:36 06:27-06:51/24 20:33	06:05 20:04	06:36 19:16	07:07 18:25	06:43 16:44	07:15 16:30
13	05:37 06:27-06:52/25 20:33	06:06 20:03	06:37 19:14	07:08 18:23	06:44 16:43	07:16 16:31
14	05:38 06:28-06:53/25 20:32	06:07 20:01	06:38 19:12	07:09 18:22	06:45 16:42	07:17 16:31
15	05:39 06:27-06:52/25 20:32	06:08 20:00	06:39 19:11	07:10 18:20	06:47 16:41	07:18 16:31
16	05:39 06:28-06:53/25 20:31	06:09 19:59	06:40 19:09	07:11 18:19	06:48 16:40	07:18 16:31
17	05:40 06:28-06:53/25 20:31	06:10 19:57	06:41 19:07	07:12 18:17	06:49 16:39	07:19 16:32
18	05:41 06:29-06:54/25 20:30	06:11 19:56	06:42 19:05	07:14 18:16	06:50 16:39	07:20 16:32
19	05:42 06:30-06:54/24 20:29	06:12 19:54	06:43 19:04	07:15 18:14	06:51 16:38	07:20 16:32
20	05:43 06:30-06:53/23 20:28	06:13 19:53	06:44 19:02	07:16 18:13	06:53 16:37	07:21 16:33
21	05:44 06:31-06:54/23 20:28	06:14 19:51	06:45 19:00	07:17 18:11	06:54 16:36	07:21 16:33
22	05:45 06:32-06:54/22 20:27	06:15 19:50	06:46 18:59	07:18 18:10	06:55 16:36	07:22 16:34
23	05:45 06:33-06:54/21 20:26	06:16 07:23-07:27/4 19:48	06:47 18:57	07:19 18:08	06:56 16:35	07:22 16:34
24	05:46 06:34-06:54/20 20:25	06:17 07:18-07:31/13 19:47	06:48 18:55	07:20 18:07	06:57 16:35	07:23 16:35
25	05:47 06:35-06:54/19 20:24	06:18 07:16-07:33/17 19:45	06:49 18:53	06:22 17:05	06:58 16:34	07:23 16:35
26	05:48 06:36-06:54/18 20:23	06:19 07:14-07:34/20 19:44	06:50 18:52	06:23 17:04	06:59 16:34	07:24 16:36
27	05:49 06:37-06:53/16 20:23	06:20 07:13-07:35/22 19:42	06:51 18:50	06:24 17:03	07:01 16:33	07:24 16:37
28	05:50 06:37-06:52/15 20:22	06:21 07:12-07:36/24 19:40	06:52 18:48	06:25 17:01	07:02 16:33	07:24 16:37
29	05:51 06:38-06:51/13 20:21	06:22 07:11-07:36/25 19:39	06:53 18:47	06:26 17:00	07:03 16:32	07:25 16:38
30	05:52 06:40-06:49/9 20:20	06:23 07:10-07:36/26 19:37	06:54 18:45	06:27 16:59	07:04 16:32	07:25 16:39
31	05:53 06:43-06:47/4 20:19	06:24 07:10-07:37/27 19:36		06:29 16:57		07:25 16:39
Potential sun hours	460	428	375	345	297	287
Sum of minutes with flicker	647	178	224	0	0	0

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	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker



## SHADOW - Calendar per WTG

Calculation: OmbraWTG: 7 - Siemens Gamesa SG 6.6-155 6600 155.0 IO! hub: 122,5 m (TOT: 200,0 m) (7)

### Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June
1	07:25 16:41	07:12 17:15	06:36 17:49	06:45 19:24	18:24-18:47/23 19:56	05:58 07:17-08:19/62 20:26
2	07:26 16:41	07:11 17:16	06:34 17:51	06:43 19:25	18:24-18:46/22 19:57	05:59 07:17-08:18/61 20:26
3	07:26 16:42	07:10 17:18	06:33 17:52	06:41 19:26	18:25-18:45/20 19:58	05:58 07:16-08:17/61 20:27
4	07:26 16:43	07:09 17:19	06:31 17:53	06:40 19:27	18:26-18:43/17 19:59	05:58 07:16-08:17/61 20:28
5	07:26 16:44	07:08 17:20	06:29 17:54	06:38 19:28	18:27-18:41/14 20:00	05:58 07:16-08:16/60 20:29
6	07:26 16:45	07:07 17:21	06:28 17:55	06:36 19:29	18:30-18:38/8 20:01	05:57 07:16-08:16/60 20:29
7	07:26 16:46	07:06 17:23	06:26 17:56	06:35 19:30	05:51 07:16-08:15/59 20:02	05:27 07:32-07:47/15 20:30
8	07:25 16:47	07:04 17:24	06:25 17:57	06:33 19:31	05:50 07:16-08:14/58 20:03	05:27 07:34-07:47/13 20:30
9	07:25 16:48	07:03 17:25	06:23 17:59	06:31 19:32	05:49 07:15-08:12/57 20:04	05:27 07:35-07:46/11 20:31
10	07:25 16:49	07:02 17:26	06:21 18:00	06:30 19:33	07:53-08:07/14 20:05	05:26 07:36-07:43/7 20:32
11	07:25 16:50	07:01 17:28	06:20 18:01	06:28 19:34	07:50-08:12/22 20:06	05:26 07:15-08:11/56 20:32
12	07:25 16:51	07:00 17:29	06:18 18:02	06:27 19:36	07:46-08:14/28 20:07	05:26 07:15-08:09/54 20:33
13	07:24 16:52	06:58 17:30	06:16 18:03	06:25 19:37	07:43-08:16/33 20:08	05:26 07:15-08:08/53 20:33
14	07:24 16:53	06:57 17:31	06:15 18:04	06:23 19:38	07:38-08:17/39 20:09	05:26 07:15-08:07/52 20:34
15	07:24 16:54	06:56 17:33	06:13 18:05	06:22 19:39	07:35-08:17/42 20:10	05:26 07:15-08:06/51 20:34
16	07:23 16:56	06:54 17:34	06:11 18:06	06:20 19:40	07:33-08:19/46 20:11	05:26 07:16-08:05/49 20:34
17	07:23 16:57	06:53 17:35	06:10 18:07	06:19 19:41	07:31-08:19/48 20:12	05:26 07:17-08:03/46 20:35
18	07:22 16:58	06:52 17:36	06:08 18:09	06:17 19:42	07:30-08:20/50 20:13	05:26 07:17-08:02/45 20:35
19	07:22 16:59	06:50 17:37	06:06 18:10	06:16 19:43	07:28-08:20/52 20:14	05:26 07:17-08:01/44 20:35
20	07:21 17:00	06:49 17:39	06:05 18:11	06:14 19:44	07:28-08:21/53 20:15	05:26 07:17-08:00/43 20:36
21	07:21 17:01	06:48 17:40	06:03 18:12	06:13 19:45	07:26-08:20/54 20:16	05:26 07:18-07:59/41 20:36
22	07:20 17:03	06:46 17:41	06:01 18:13	06:11 19:46	07:25-08:21/56 20:17	05:27 07:19-07:59/40 20:36
23	07:19 17:04	06:45 17:42	06:00 18:14	06:10 19:47	07:24-08:21/57 20:18	05:27 07:19-07:58/39 20:36
24	07:19 17:05	06:43 17:43	05:58 18:15	06:08 19:48	07:22-08:21/59 20:19	05:27 07:19-07:57/38 20:37
25	07:18 17:06	06:42 17:45	05:56 18:16	06:07 19:49	07:21-08:21/60 20:20	05:27 07:21-07:57/36 20:37
26	07:17 17:07	06:40 17:46	05:55 18:17	06:05 19:51	07:20-08:20/60 20:21	05:28 07:21-07:56/35 20:37
27	07:16 17:09	06:39 17:47	05:53 18:18	06:04 19:52	07:19-08:20/61 20:22	05:28 07:21-07:55/34 20:37
28	07:15 17:10	06:37 17:48	05:51 18:19	06:03 19:53	07:19-08:20/61 20:22	05:28 07:22-07:55/33 20:37
29	07:15 17:11		06:50 19:21	06:01 19:54	07:18-08:19/61 20:23	05:29 07:23-07:54/31 20:37
30	07:14 17:12		06:48 19:22	06:00 19:55	07:17-08:19/62 20:24	05:29 07:24-07:54/30 20:37
31	07:13 17:14		06:46 19:23		07:24-07:53/29 20:25	
Potential sun hours	297	297	369	399	449	453
Sum of minutes with flicker	0	0	253	1122	1475	179

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	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

## SHADOW - Calendar per WTG

Calculation: OmbraWTG: 7 - Siemens Gamesa SG 6.6-155 6600 155.0 IO! hub: 122,5 m (TOT: 200,0 m) (7)

### Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	July	August	September	October	November	December
1	05:30 20:37	05:54 07:25-08:21/56 20:17	06:25 07:49-08:10/21 19:34	06:55 18:43	06:30 16:56	07:05 16:32
2	05:30 07:43-07:47/4 20:37	05:55 07:25-08:22/57 20:16	06:26 07:53-08:06/13 19:32	06:56 18:42	06:31 16:55	07:06 16:31
3	05:31 07:41-07:50/9 20:36	05:56 07:25-08:22/57 20:15	06:27 19:31	06:57 18:40	06:32 16:54	07:07 16:31
4	05:31 07:39-07:51/12 20:36	05:57 07:25-08:23/58 20:14	06:28 19:29	06:58 18:38	06:33 16:53	07:08 16:31
5	05:32 07:39-07:53/14 20:36	05:58 07:25-08:24/59 20:13	06:29 19:27	06:59 18:37	06:35 16:51	07:09 16:31
6	05:32 07:37-07:54/17 20:36	05:59 07:26-08:25/59 20:12	06:30 18:27-18:34/7 19:26	07:01 18:35	06:36 16:50	07:10 16:31
7	05:33 07:37-07:55/18 20:35	06:00 07:26-08:25/59 20:11	06:31 18:23-18:36/13 19:24	07:02 18:33	06:37 16:49	07:11 16:30
8	05:34 07:35-07:56/21 20:35	06:01 07:26-08:26/60 20:09	06:32 18:20-18:37/17 19:22	07:03 18:32	06:38 16:48	07:12 16:30
9	05:34 07:35-07:57/22 20:35	06:02 07:26-08:27/61 20:08	06:33 18:18-18:38/20 19:21	07:04 18:30	06:39 16:47	07:13 16:30
10	05:35 07:35-07:59/24 20:34	06:03 07:26-08:27/61 20:07	06:34 18:17-18:39/22 19:19	07:05 18:28	06:41 16:46	07:14 16:30
11	05:36 07:33-07:59/26 20:34	06:04 07:26-08:27/61 20:05	06:35 18:16-18:39/23 19:17	07:06 18:27	06:42 16:45	07:14 16:30
12	05:36 07:33-08:00/27 20:33	06:05 07:26-08:28/62 20:04	06:36 18:15-18:39/24 19:16	07:07 18:25	06:43 16:44	07:15 16:31
13	05:37 07:33-08:02/29 20:33	06:06 07:26-08:28/62 20:03	06:37 18:14-18:39/25 19:14	07:08 18:23	06:44 16:43	07:16 16:31
14	05:38 07:32-08:03/31 20:32	06:07 07:26-08:28/62 20:01	06:38 18:13-18:39/26 19:12	07:09 18:22	06:45 16:42	07:17 16:31
15	05:39 07:31-08:03/32 20:32	06:08 07:26-08:27/61 20:00	06:39 18:12-18:38/26 19:11	07:10 18:20	06:47 16:41	07:18 16:31
16	05:40 07:31-08:04/33 20:31	06:09 07:26-08:27/61 19:59	06:40 18:12-18:38/26 19:09	07:11 18:19	06:48 16:40	07:18 16:31
17	05:40 07:31-08:05/34 20:31	06:10 07:27-08:27/60 19:57	06:41 18:12-18:37/25 19:07	07:12 18:17	06:49 16:40	07:19 16:32
18	05:41 07:30-08:06/36 20:30	06:11 07:27-08:27/60 19:56	06:42 18:12-18:36/24 19:05	07:14 18:16	06:50 16:39	07:20 16:32
19	05:42 07:30-08:07/37 20:29	06:12 07:28-08:26/58 19:54	06:43 18:12-18:34/22 19:04	07:15 18:14	06:51 16:38	07:20 16:32
20	05:43 07:29-08:07/38 20:28	06:13 07:29-08:26/57 19:53	06:44 18:12-18:33/21 19:02	07:16 18:13	06:53 16:37	07:21 16:33
21	05:44 07:28-08:08/40 20:28	06:14 07:30-08:26/56 19:51	06:45 18:13-18:31/18 19:00	07:17 18:11	06:54 16:37	07:21 16:33
22	05:45 07:28-08:09/41 20:27	06:15 07:31-08:25/54 19:50	06:46 18:15-18:29/14 18:59	07:18 18:10	06:55 16:36	07:22 16:34
23	05:45 07:28-08:10/42 20:26	06:16 07:32-08:24/52 19:48	06:47 18:17-18:26/9 18:57	07:19 18:08	06:56 16:35	07:22 16:34
24	05:46 07:28-08:11/43 20:25	06:17 07:32-08:24/52 19:47	06:48 18:55	07:20 18:07	06:57 16:35	07:23 16:35
25	05:47 07:27-08:12/45 20:24	06:18 07:33-08:23/50 19:45	06:49 18:53	06:22 17:06	06:58 16:34	07:23 16:35
26	05:48 07:27-08:13/46 20:23	06:19 07:34-08:22/48 19:44	06:50 18:52	06:23 17:04	06:59 16:34	07:24 16:36
27	05:49 07:27-08:14/47 20:23	06:20 07:35-08:21/46 19:42	06:51 18:50	06:24 17:03	07:01 16:33	07:24 16:37
28	05:50 07:26-08:15/49 20:22	06:21 07:37-08:19/42 19:41	06:52 18:48	06:25 17:01	07:02 16:33	07:24 16:37
29	05:51 07:26-08:17/51 20:21	06:22 07:39-08:18/39 19:39	06:53 18:47	06:26 17:00	07:03 16:32	07:25 16:38
30	05:52 07:26-08:18/52 20:20	06:23 07:43-08:16/33 19:37	06:54 18:45	06:27 16:59	07:04 16:32	07:25 16:39
31	05:53 07:26-08:19/53 20:19	06:24 07:46-08:13/27 19:36		06:29 16:57		07:25 16:40
Potential sun hours	460	428	375	345	297	287
Sum of minutes with flicker	973	1690	396	0	0	0

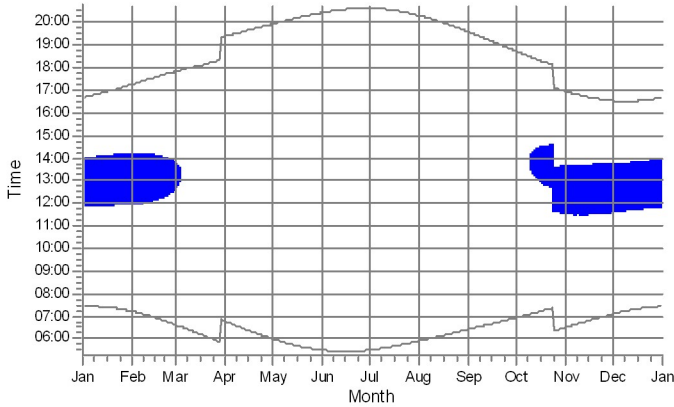
Table layout: For each day in each month the following matrix apply

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

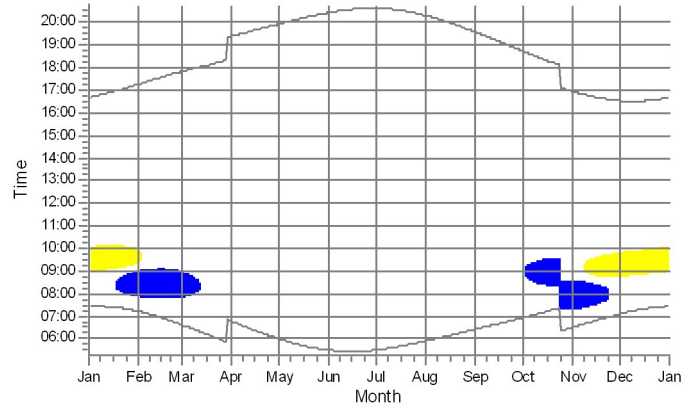
## SHADOW - Calendar per WTG, graphical

Calculation: Ombra

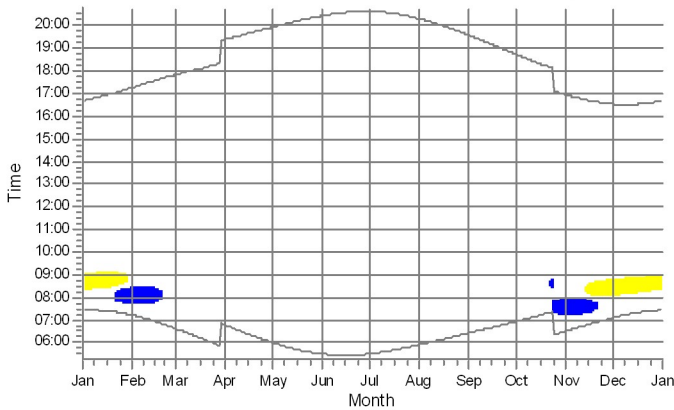
1: Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 122,5 m (TOT: 200,0



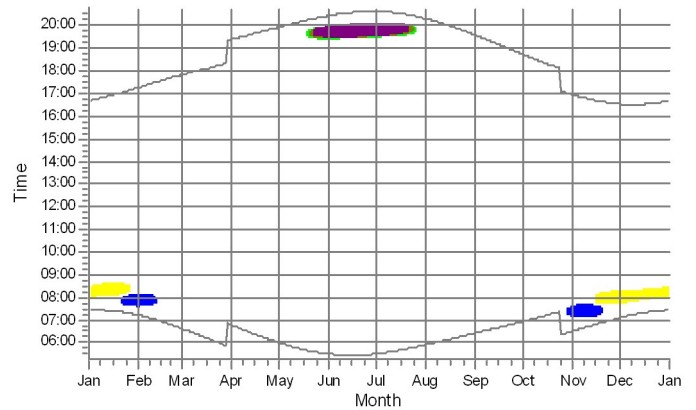
2: Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 122,5 m (TOT: 200,0



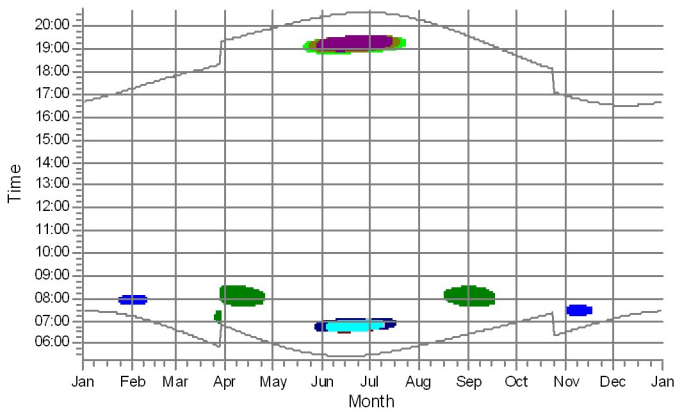
3: Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 122,5 m (TOT: 200,0



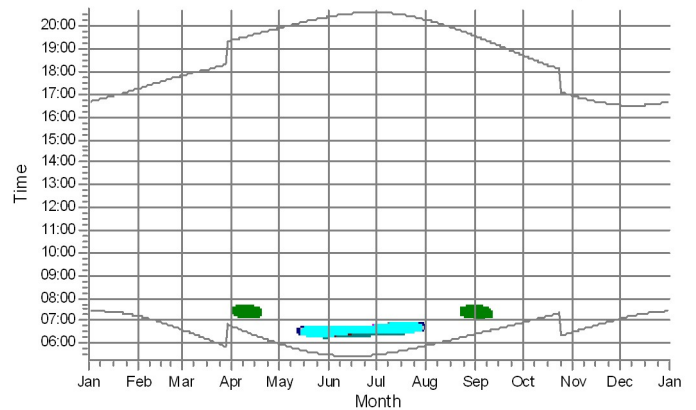
4: Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 122,5 m (TOT: 200,0








5: Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 122,5 m (TOT: 200,0









6: Siemens Gamesa SG 6.6-145 6600 145.0 !O! hub: 127,5 m (TOT: 200,0



### Shadow receptors

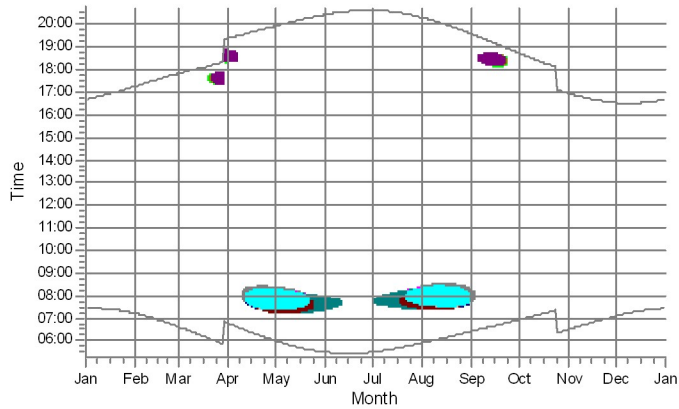
	A: Shadow Receptor: 1,0 × 1,0 Azimuth: -140,0° Slope: 90,0° (1)
	B: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (2)
	C: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (3)
	D: Shadow Receptor: 1,0 × 1,0 Azimuth: -90,0° Slope: 90,0° (4)
	E: Shadow Receptor: 1,0 × 1,0 Azimuth: -90,0° Slope: 90,0° (5)
	F: Shadow Receptor: 1,0 × 1,0 Azimuth: -90,0° Slope: 90,0° (6)
	G: Shadow Receptor: 1,0 × 1,0 Azimuth: -90,0° Slope: 90,0° (7)

	H: Shadow Receptor: 1,0 × 1,0 Azimuth: -90,0° Slope: 90,0° (8)
	I: Shadow Receptor: 1,0 × 1,0 Azimuth: 120,0° Slope: 90,0° (9)
	J: Shadow Receptor: 1,0 × 1,0 Azimuth: 120,0° Slope: 90,0° (10)
	K: Shadow Receptor: 1,0 × 1,0 Azimuth: 120,0° Slope: 90,0° (11)
	L: Shadow Receptor: 1,0 × 1,0 Azimuth: -90,0° Slope: 90,0° (12)
	M: Shadow Receptor: 1,0 × 1,0 Azimuth: -90,0° Slope: 90,0° (13)











## SHADOW - Calendar per WTG, graphical

Calculation: Ombra

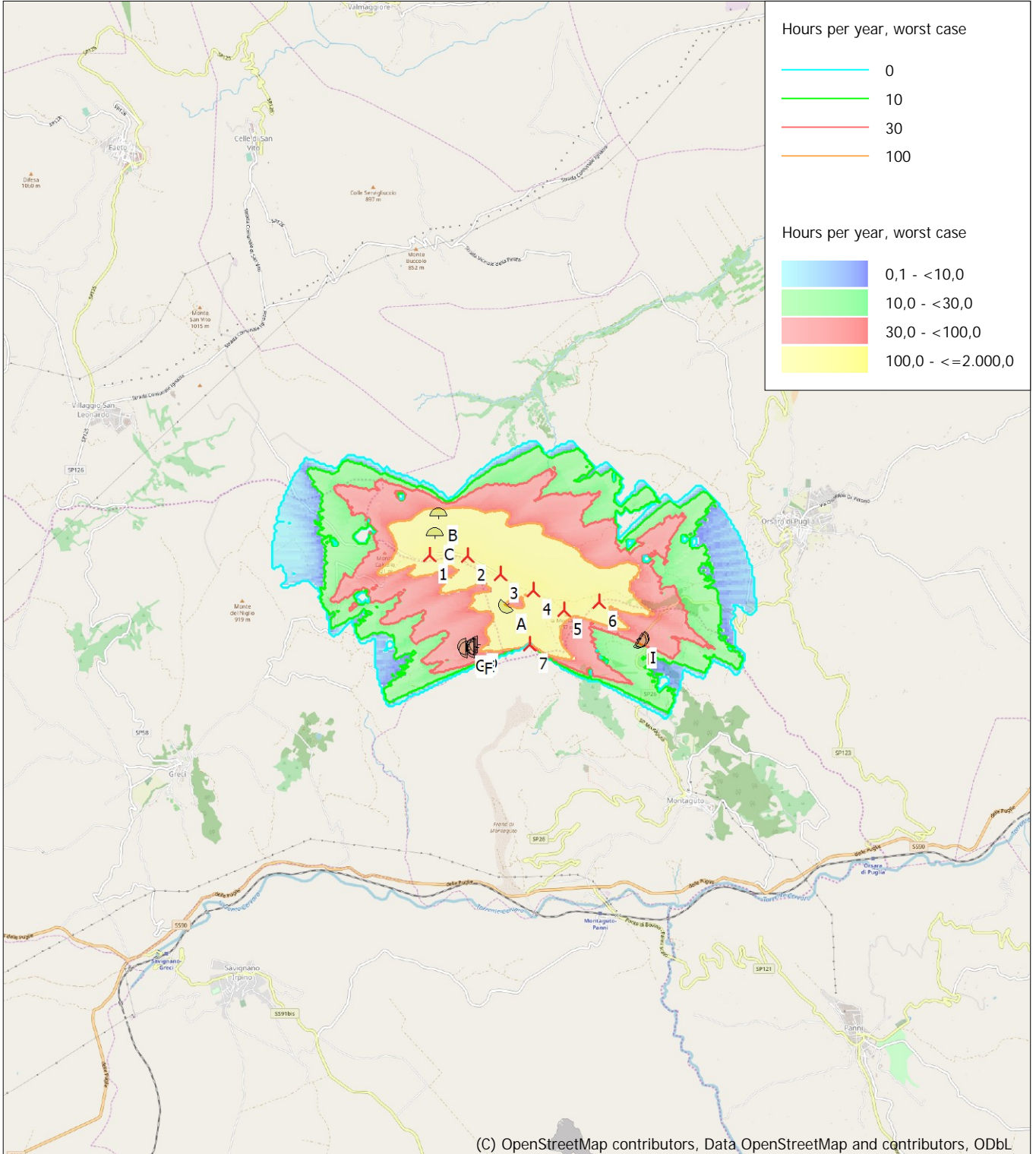
7: Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 122,5 m (TOT: 200,0



### Shadow receptors

	D: Shadow Receptor: 1,0 × 1,0 Azimuth: -90,0° Slope: 90,0° (4)		I: Shadow Receptor: 1,0 × 1,0 Azimuth: 120,0° Slope: 90,0° (9)
	E: Shadow Receptor: 1,0 × 1,0 Azimuth: -90,0° Slope: 90,0° (5)		J: Shadow Receptor: 1,0 × 1,0 Azimuth: 120,0° Slope: 90,0° (10)
	F: Shadow Receptor: 1,0 × 1,0 Azimuth: -90,0° Slope: 90,0° (6)		K: Shadow Receptor: 1,0 × 1,0 Azimuth: 120,0° Slope: 90,0° (11)
	G: Shadow Receptor: 1,0 × 1,0 Azimuth: -90,0° Slope: 90,0° (7)		L: Shadow Receptor: 1,0 × 1,0 Azimuth: -90,0° Slope: 90,0° (12)
	H: Shadow Receptor: 1,0 × 1,0 Azimuth: -90,0° Slope: 90,0° (8)		M: Shadow Receptor: 1,0 × 1,0 Azimuth: -90,0° Slope: 90,0° (13)

**SHADOW - Map**  
Calculation: Ombra



Map: EMD OpenStreetMap , Print scale 1:75.000, Map center UTM (north)-WGS84 Zone: 33 East: 518.580 North: 4.569.240

New WTG

Shadow receptor

Flicker map level: Elevation Grid Data Object: IR-Orsara\_20km\_EMDGrid\_0.wpg (1)

Time step: 4 minutes, Day step: 14 days, Map resolution: 30 m, Visibility resolution: 15 m, Eye height: 1,5 m