

PROGETTO PER LA REALIZZAZIONE DI UN IMPIANTO PER LA
PRODUZIONE DI ENERGIA MEDIANTE LO SFRUTTAMENTO DEL VENTO
NEL TERRITORIO COMUNALE DI MESAGNE, BRINDISI E
CELLINO SAN MARCO IN LOC. LO SPECCHIONE (BR)
POTENZA NOMINALE 79,2 MW

PROGETTO DEFINITIVO - SIA

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REV. DATA DESCRIZIONE

ES.6 **Analisi dell'evoluzione dell'ombra indotta
dagli aereogeneratori - Shadow flickering**

REV.	DATA	DESCRIZIONE



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1. INTRODUZIONE

Il presente elaborato ha lo scopo di valutare in maniera tecnica l'eventuale impatto generato dall'evoluzione dell'ombra derivante dalla futura installazione di un impianto di produzione di energia da fonte eolica in territorio extra urbano dei comuni di Mesagne, Brindisi e Cellino San Marco (BR). Il progetto è composto da n°11 aerogeneratori del tipo IEC S - 150, con potenza unitaria pari a 7.2 MW, altezza al mozzo pari a 150 e diametro rotorico pari a 172.

In particolare, la posizione degli aerogeneratori è la seguente:

WTG	Coordinate WGS84 fuso 33N	
	Est	Nord
MES2	743.916,91	4.489.736,98
BRN6	744.670,66	4.487.711,31
BRN4	744.382,94	4.487.266,56
BRN3	746.965,37	4.488.721,47
CLN1	748.802,05	4.488.007,21
BRN7	745.939,00	4.488.741,82
BRN5	745.964,20	4.487.927,37
CLN2	748.307,84	4.488.218,72
BRN1	747.545,25	4.488.428,60
BRN2	748.002,29	4.489.032,21
MES1	743.405,82	4.490.367,78

Tab. 1 – Coordinate aerogeneratori



Figura 1: Planimetria dell'impianto

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 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.*

2. 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 2 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.

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.



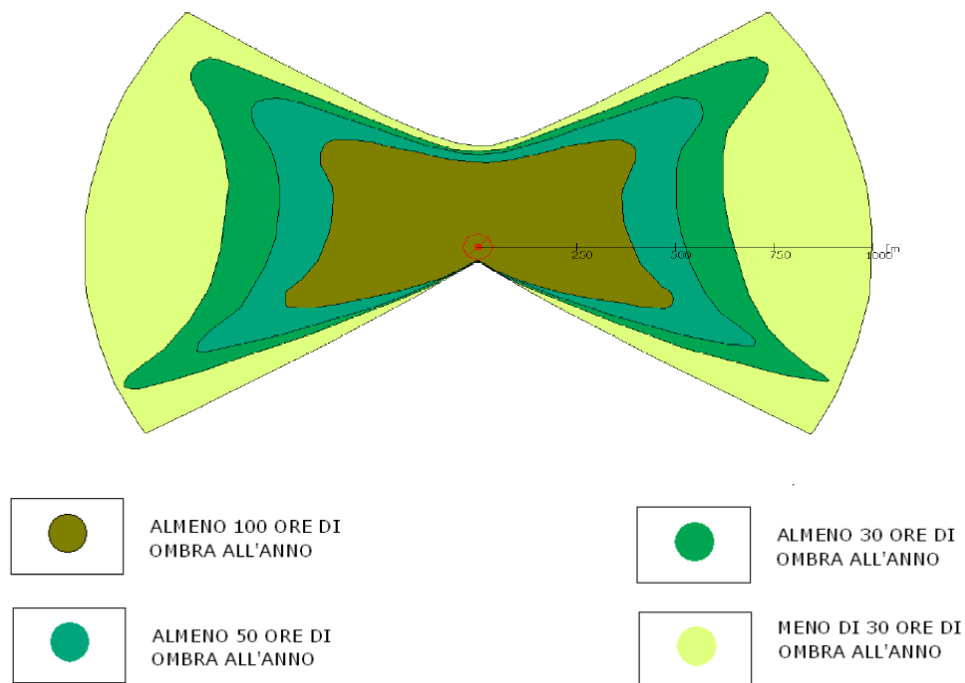


Figura 2: Evoluzione annuale tipo dell'ombra di una pala

Considerati i pochi precedenti esistenti (Germania) e le ipotesi così penalizzanti con cui è stato 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 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”.

3. INDIVIDUAZIONE DEI RECETTORI ED IPOTESI DI CALCOLO

3.1 Individuazione dei recettori

Il progetto in esame nei comuni di Mesagne, Brindisi e Cellino San Marco (BR) prevede l'installazione di 11 aerogeneratori.

L'analisi di shadow-flickering di cui al presente studio è scaturita da una attività di censimento nell'area del parco eolico in progetto così come descritto nell'elaborato ES.8.1 Individuazione recettori.

Da tale studio ne è derivato che i recettori da considerare effettivamente sensibili sono esterni all'intorno di 500 m (distanza pari a 2,5 volte l'altezza complessiva) dall'asse di ciascun aerogeneratore. Ad ogni modo si è ritenuto opportuno procedere con l'analisi.

L'analisi è stata elaborata per specifici 13 recettori che circondano l'impianto per i quali è stata stabilita l'abitabilità.



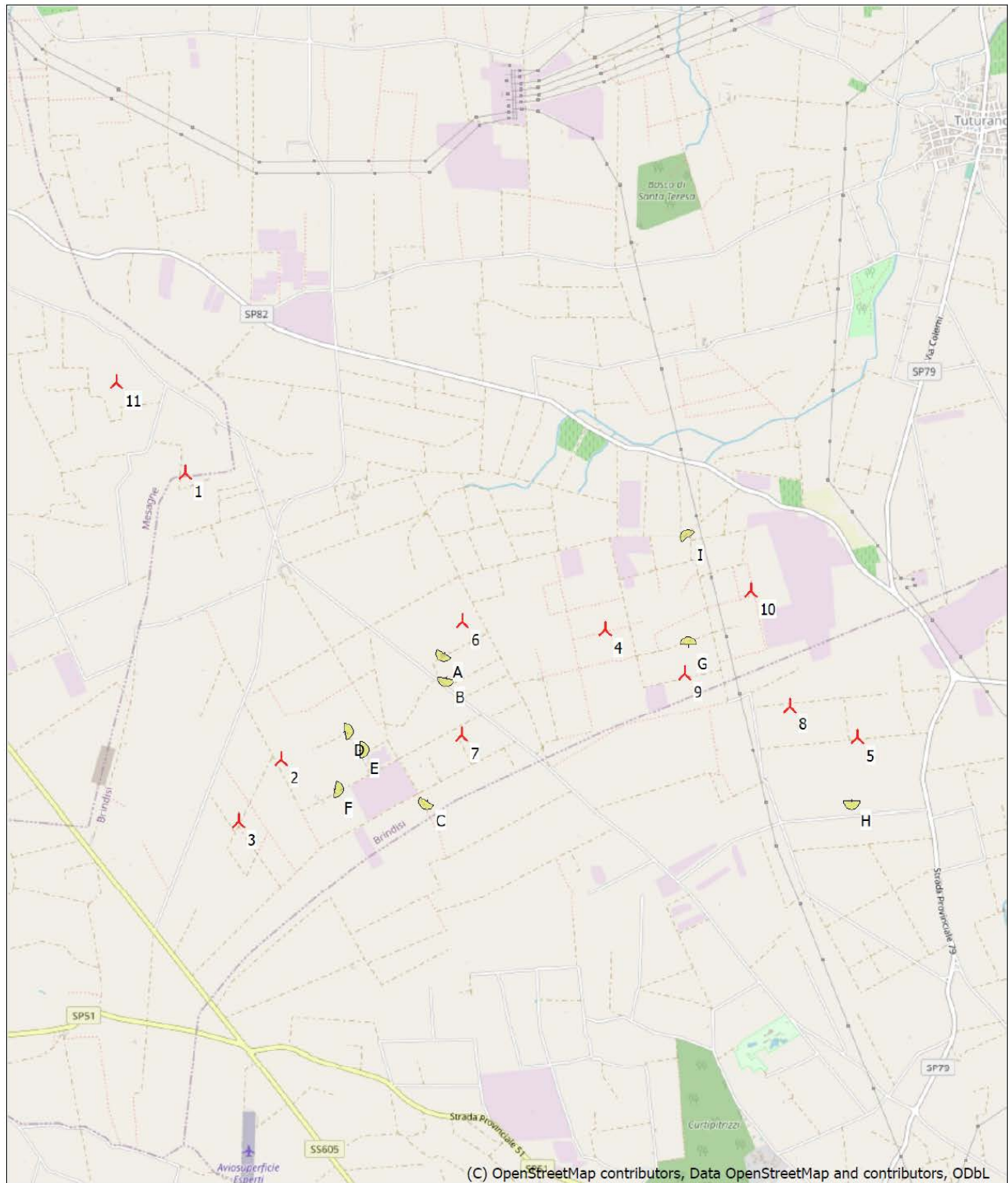
CODIFICA	ID	Coordinate geografiche UTM WGS84 33N		Z
		Est	Nord	
A	11	745818	4488512	65.8
B	12	745838	4488335	65.9
C	21	745729	4487448	67
D	23	745125	4487925	68.4
E	25	745244	4487793	67.8
F	28	745066	4487510	68.9
G	31	747564	4488632	62.5
H	42	748775	4487545	60.8
I	43	747540	4489397	60.5

Tab. 2 – Coordinate recettori



SHADOW - Map

Calculation: WON026_ShadowFlickering



Map: EMD OpenStreetMap , Print scale 1:40,000, Map center UTM (north)-WGS84 Zone: 33 East: 746,104 North: 4,488,817
 ▲ New WTG ◐ Shadow receptor

Figura 3 -Indicazione dei recettori

Nella tabella a seguire sono riportate le distanze minime intercorrenti tra recettori in oggetto e l'aerogeneratore più prossimo.



CODIFICA	ID	WTG più vicina	CODIFICA WTG	Distanza WTG più vicina [m]
A	11	BRN7	6	259
B	12	BRN7	6	419
C	21	BRN5	7	533
D	23	BRN6	2	502
E	25	BRN6	2	578
F	28	BRN6	2	443
G	31	BRN1	9	204
H	42	CLN1	5	462
I	43	BRN2	10	588

Tab. 3 –Distanze delle turbine dai recettori più prossimi

In relazione a ciò, si fa presente che già in fase di scelta delle aree sulle quali ubicare l'impianto si è cercato di allontanarsi il più possibile dall'area urbana e dalle abitazioni ed edifici ritenuti sensibili.

Tale fascia è stata definita in fase di progetto al fine di garantire il rispetto dei limiti in merito non solo all'ombreggiamento ma anche agli impatti acustici, elettromagnetici e in termini di calcolo della gittata.

Lo studio, i cui risultati in dettaglio sono riportati di seguito, 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 fastidio del flickering.

Ciò significa che i risultati ai quali si perverrà sono ampiamente cautelativi.

3.2 Base dati e parametri di calcolo

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:

- 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 buon riscontro con l'andamento orografico verificato in sito.
- Posizioni geografiche di recettori con dettaglio dimensionale delle aree più esposte.** Sono i ricettori individuati dallo studio acustico e 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.

4. I RISULTATI DEL CALCOLO DELL'EVOLUZIONE DELL'OMBRA

Nella procedura "Worst case" il fenomeno di shadow/flickering viene calcolato non tenendo conto delle condizioni di soleggiamento del sito e del vento, dati che allo stato dell'arte per il sito in questione non sono disponibili. Invece se avessimo di dati di cui sopra potremmo calcolare il fenomeno di shadow/flickering con la metodologia ("real case"), che secondo altri casi simili comporterebbe la riduzione del fenomeno ad 1/3 dei valori, il quale seppur più realistico, è comunque sovrastimato poiché non tiene conto della presenza di nubi e di vegetazione ad alto fusto. Dalle simulazioni effettuate, si evince che gli aerogeneratori di progetto generano maggiormente il fenomeno di shadow/flickering sul recettore "k" individuato nell'analisi che, nelle ipotesi di "Worst case", subisce il fenomeno per un periodo che si avvicina o supera di poco le 100 ore/anno, per tutti gli altri rimanenti recettori considerati invece, l'effetto calcolato è più modesto e/o comunque meno rilevante fino a divenire irrilevante e in alcuni casi nullo.

Con le considerazioni di cui sopra, ovvero prevedendo la riduzione ad 1/3 si avranno valori sicuramente più ridotti per i ricettori con $k=33$ ore/anno e comunque sono abitati meno di 4 ore giorno e quindi la probabilità di accadimento si riduce quasi al nulla.

È stato elaborato un calendario dell'ombra riportato in appendice (rif. Appendice Calendar), che riporta in maniera grafica giorno per giorno, per tutto l'anno, la durata giornaliera del fenomeno, l'orario di inizio e di fine del fenomeno, nelle condizioni di caso reale. Dalla lettura del "Calendar" si legge che il fenomeno dell'ombreggiamento, si esplica sui recettori con intensità maggiore nel periodo compreso tra Gennaio, Marzo, Aprile, Settembre, Novembre e Dicembre nelle prime ore della giornata, oppure al primo pomeriggio. Nella figura che segue è riportato a titolo di esempio il grafico "calendar" di un recettore: le macchie individuano i momenti di shadow, la posizione nel grafico individua tempo e durata del fenomeno, il colore della macchia individua la turbina che causa il fenomeno.

L'allegato 2 riporta il dettaglio analitico di quanto espresso dal grafico precedente con gli specifici orari di inizio e di fine del fenomeno. A seguire è altresì riportata la sintesi grafica annuale (come mostra l'immagine precedente) dell'apporto di ombreggiamento a carico di ogni recettore ed il/gli aerogeneratore/i responsabile/i del fenomeno.

È stata inoltre elaborata una mappa (report Map, Allegato 3) in cui vengono riportate, con diverse gradazioni di colore, le zone soggette ad una determinata durata del fenomeno dell'ombreggiamento oltre all'estensione areale nella quale il fenomeno risulta significativo.

Il fenomeno dell'ombreggiamento interessa marginalmente tratti di strade comunali e/o private per un numero di ore all'anno del tutto irrilevanti e cioè pari ad un massimo di 30 ore/anno, ma solo in alcuni tratti. Preme



tuttavia evidenziare che nelle simulazioni non si è tenuto conto della possibile presenza di vegetazione capace di offrire un effetto “barriera” ai recettori e/o alle strade limitrofe. Inoltre, la percezione dell’impianto dalla strada risulterebbe essere “in movimento” e quindi legata alla breve permanenza delle automobili in transito, per cui il fastidio indotto sarebbe temporalmente limitato. A questo si aggiunge che le simulazioni sono state effettuate assumendo le “condizioni peggiori”, sovrastimando pertanto l’effetto di flickering.

5. 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 risultano essere nulli per molte strutture, e piuttosto modesti (o non particolarmente problematici) per altre.**

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

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 dei recettori.



SHADOW - Main Result

Calculation: WON026_ShadowFlickering
Assumptions for shadow calculations

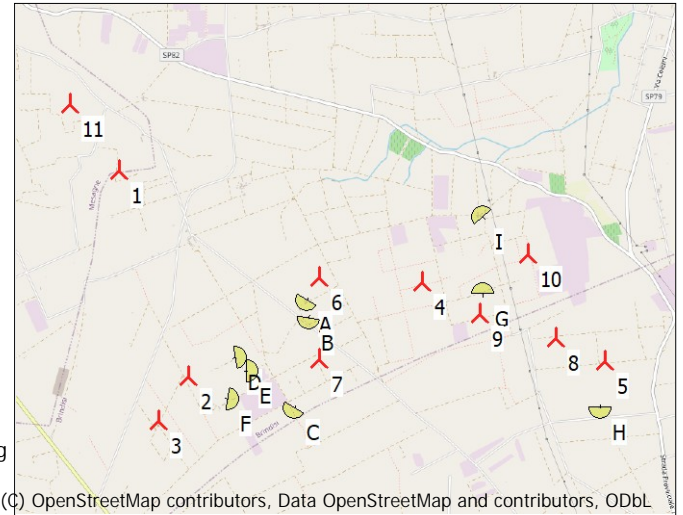
Maximum distance for influence
Calculate only when more than 20 % of sun is covered by the blade
Please look in WTG table

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: WON026_EMDGrid_0.wpg
Receptor grid resolution: 1.0 m

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

WTGs



(C) OpenStreetMap contributors, Data OpenStreetMap and contributors, ODbL

Scale 1:75,000
New WTG Shadow receptor

Easting	Northing	Z	Row data/Description	WTG type			Shadow data				
				Valid	Manufact.	Type-generator	Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Calculation distance [m]	RPM [RPM]
1	743,917	4,489,737	68.8 VESTAS V172-7.2 7200 172.0 !O! h... Yes	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	150.0	2,039	12.1
2	744,671	4,487,711	69.9 VESTAS V172-7.2 7200 172.0 !O! h... Yes	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	150.0	2,039	12.1
3	744,383	4,487,267	72.9 VESTAS V172-7.2 7200 172.0 !O! h... Yes	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	150.0	2,039	12.1
4	746,965	4,488,721	63.0 VESTAS V172-7.2 7200 172.0 !O! h... Yes	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	150.0	2,039	12.1
5	748,802	4,488,007	58.8 VESTAS V172-7.2 7200 172.0 !O! h... Yes	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	150.0	2,039	12.1
6	745,939	4,488,742	65.5 VESTAS V172-7.2 7200 172.0 !O! h... Yes	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	150.0	2,039	12.1
7	745,964	4,487,927	66.0 VESTAS V172-7.2 7200 172.0 !O! h... Yes	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	150.0	2,039	12.1
8	748,308	4,488,219	60.4 VESTAS V172-7.2 7200 172.0 !O! h... Yes	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	150.0	2,039	12.1
9	747,545	4,488,429	62.8 VESTAS V172-7.2 7200 172.0 !O! h... Yes	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	150.0	2,039	12.1
10	748,002	4,489,032	60.8 VESTAS V172-7.2 7200 172.0 !O! h... Yes	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	150.0	2,039	12.1
11	743,406	4,490,368	68.1 VESTAS V172-7.2 7200 172.0 !O! h... Yes	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	150.0	2,039	12.1

Shadow receptor-Input

No.	Easting	Northing	Z	Width	Height	Elevation	Degrees from	Slope of	Direction mode	Eye height
			[m]	[m]	[m]	a.g.l. [m]	south cw [°]	window [°]		(ZVI) a.g.l. [m]
A	745,818	4,488,512	65.8	1.0	1.0	1.0	-150.0	90.0	Fixed direction	2.0
B	745,838	4,488,335	65.9	1.0	1.0	1.0	-170.0	90.0	Fixed direction	2.0
C	745,729	4,487,448	67.0	1.0	1.0	1.0	-150.0	90.0	Fixed direction	2.0
D	745,125	4,487,925	68.4	1.0	1.0	1.0	80.0	90.0	Fixed direction	2.0
E	745,244	4,487,793	67.8	1.0	1.0	1.0	90.0	90.0	Fixed direction	2.0
F	745,066	4,487,510	68.9	1.0	1.0	1.0	100.0	90.0	Fixed direction	2.0
G	747,564	4,488,632	62.5	1.0	1.0	1.0	0.0	90.0	Fixed direction	2.0
H	748,775	4,487,545	60.8	1.0	1.0	1.0	180.0	90.0	Fixed direction	2.0
I	747,540	4,489,397	60.5	1.0	1.0	1.0	-40.0	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	29:32	78	0:34
B	37:32	97	0:35
C	0:00	0	0:00
D	147:26	179	1:15
E	109:25	154	1:06

To be continued on next page...

SHADOW - Main Result

Calculation: WON026_ShadowFlickering

...continued from previous page

Shadow, worst case

No.	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]
F	55:02	90	0:54
G	502:37	181	3:47
H	0:00	0	0:00
I	147:48	124	1:36

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

No.	Name	Worst case [h/year]
1	VESTAS V172-7.2 7200 172.0 !O! hub: 150.0 m (TOT: 236.0 m) (1)	0:00
2	VESTAS V172-7.2 7200 172.0 !O! hub: 150.0 m (TOT: 236.0 m) (2)	176:16
3	VESTAS V172-7.2 7200 172.0 !O! hub: 150.0 m (TOT: 236.0 m) (3)	133:45
4	VESTAS V172-7.2 7200 172.0 !O! hub: 150.0 m (TOT: 236.0 m) (4)	78:11
5	VESTAS V172-7.2 7200 172.0 !O! hub: 150.0 m (TOT: 236.0 m) (5)	19:14
6	VESTAS V172-7.2 7200 172.0 !O! hub: 150.0 m (TOT: 236.0 m) (6)	0:00
7	VESTAS V172-7.2 7200 172.0 !O! hub: 150.0 m (TOT: 236.0 m) (7)	8:58
8	VESTAS V172-7.2 7200 172.0 !O! hub: 150.0 m (TOT: 236.0 m) (8)	50:17
9	VESTAS V172-7.2 7200 172.0 !O! hub: 150.0 m (TOT: 236.0 m) (9)	453:07
10	VESTAS V172-7.2 7200 172.0 !O! hub: 150.0 m (TOT: 236.0 m) (10)	121:00
11	VESTAS V172-7.2 7200 172.0 !O! hub: 150.0 m (TOT: 236.0 m) (11)	0:00

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: WON026_ShadowFlickering Shadow receptor: A - Shadow Receptor: 1.0 × 1.0 Azimuth: -150.0° 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	
1	07:12 16:32	07:00 17:06	06:24 17:39		06:34 19:13		05:49 19:44	10	06:39 (4) 06:49 (4)	05:21 20:13
2	07:12 16:33	06:59 17:07	06:23 17:40		06:33 19:14		05:48 19:45			05:21 20:13
3	07:13 16:34	06:58 17:08	06:21 17:42		06:31 19:15		05:47 19:46			05:20 20:14
4	07:13 16:35	06:57 17:10	06:20 17:43		06:29 19:16		05:45 19:47			05:20 20:15
5	07:13 16:36	06:56 17:11	06:18 17:44		06:28 19:17		05:44 19:48			05:19 20:15
6	07:13 16:37	06:54 17:12	06:17 17:45		06:26 19:18		05:43 19:49			05:19 20:16
7	07:13 16:38	06:53 17:13	06:15 17:46		06:25 19:19		05:42 19:50			05:19 20:17
8	07:12 16:39	06:52 17:14	06:13 17:47		06:23 19:20		06:43 (4) 06:57 (4)			05:19 20:17
9	07:12 16:39	06:51 17:16	06:12 17:48		06:21 19:21	14	06:40 (4) 07:00 (4)			05:18 20:18
10	07:12 16:41	06:50 17:17	06:10 17:49		06:20 19:22	20	06:38 (4) 07:01 (4)			05:18 20:18
11	07:12 16:42	06:49 17:18	06:09 17:50		06:18 19:23	26	06:37 (4) 07:03 (4)			05:18 20:19
12	07:12 16:43	06:48 17:19	06:07 17:51		06:17 19:24	28	06:35 (4) 07:03 (4)			05:18 20:19
13	07:11 16:44	06:46 17:21	06:05 17:53	6	06:15 19:25	30	06:34 (4) 07:04 (4)			05:18 20:20
14	07:11 16:45	06:45 17:22	06:04 17:54	10	06:22 (9) 06:32 (9)	31	06:14 07:04 (4)			05:18 20:20
15	07:11 16:46	06:44 17:23	06:02 17:55	13	06:21 (9) 06:34 (9)	33	06:12 07:04 (4)			05:18 20:21
16	07:10 16:47	06:43 17:24	06:01 17:56	15	06:19 (9) 06:34 (9)	33	06:11 07:04 (4)			05:18 20:21
17	07:10 16:48	06:41 17:25	05:59 17:57	17	06:17 (9) 06:34 (9)	34	06:09 07:04 (4)			05:18 20:22
18	07:10 16:49	06:40 17:27	05:57 17:58	19	06:16 (9) 06:35 (9)	34	06:07 07:04 (4)			05:18 20:22
19	07:09 16:50	06:39 17:28	05:56 17:59	20	06:14 (9) 06:34 (9)	34	06:06 07:04 (4)			05:18 20:22
20	07:08 16:51	06:37 17:29	05:54 18:00	22	06:12 (9) 06:34 (9)	34	06:05 07:04 (4)			05:18 20:22
21	07:08 16:53	06:36 17:30	05:52 18:01	22	06:12 (9) 06:34 (9)	34	06:03 07:04 (4)			05:18 20:23
22	07:07 16:54	06:34 17:31	05:51 18:02	22	06:11 (9) 06:33 (9)	32	06:02 07:02 (4)			05:18 20:23
23	07:07 16:55	06:33 17:32	05:49 18:03	20	06:11 (9) 06:31 (9)	32	06:00 07:02 (4)			05:19 20:23
24	07:06 16:56	06:32 17:34	05:47 18:04	17	06:13 (9) 06:30 (9)	31	05:59 07:01 (4)			05:19 20:23
25	07:05 16:57	06:30 17:35	05:46 18:05	14	06:14 (9) 06:28 (9)	29	05:57 07:00 (4)			05:19 20:23
26	07:05 16:59	06:29 17:36	05:44 18:06	9	06:17 (9) 06:26 (9)	27	05:56 06:59 (4)			05:20 20:23
27	07:04 17:00	06:27 17:37	05:43 18:07		05:55 19:40	25	06:32 (4) 06:57 (4)			05:20 20:24
28	07:03 17:01	06:26 17:38	05:41 18:08		05:53 19:41	23	06:33 (4) 06:56 (4)			05:20 20:24
29	07:02 17:02		06:39 19:09		05:52 19:42	20	06:35 (4) 06:55 (4)			05:21 20:24
30	07:01 17:03		06:38 19:10		05:51 19:43	16	06:37 (4) 06:53 (4)			05:21 20:23
31	07:00 17:05		06:36 19:12				05:21 20:12			
Potential sun hours	299	298	370		398	643	447	10		450
Total, worst case				226						

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: WON026_ShadowFlickering Shadow receptor: A - Shadow Receptor: 1.0 × 1.0 Azimuth: -150.0° 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

	July	August	September	October	November	December
1	05:22 20:23	05:45 20:05	06:15 19:23	06:36 (4) 07:01 (4)	06:44 18:33	07:04 (9) 16:47
2	05:22 20:23	05:46 20:04	06:16 19:21	06:37 (4) 07:00 (4)	06:45 18:31	06:19 16:46
3	05:23 20:23	05:47 20:03	06:17 19:19	06:38 (4) 06:58 (4)	06:46 18:29	06:20 16:44
4	05:23 20:23	05:48 20:02	06:18 19:18	06:40 (4) 06:54 (4)	06:47 18:28	06:21 16:43
5	05:24 20:23	05:49 20:00	06:19 19:16	06:45 (4) 06:48 (4)	06:48 18:26	06:22 16:42
6	05:24 20:23	05:50 19:59	06:20 19:14	06:49 18:25	06:49 18:25	06:24 16:41
7	05:25 20:22	05:51 19:58	06:21 19:13	06:50 18:23	06:50 18:23	06:25 16:40
8	05:25 20:22	05:52 19:57	06:22 19:11	06:51 18:21	06:51 18:21	06:26 16:39
9	05:26 20:22	05:53 19:56	06:23 19:10	06:52 18:20	06:52 18:20	06:27 16:38
10	05:27 20:21	05:54 19:54	06:24 19:08	06:54 18:18	06:54 18:18	06:28 16:37
11	05:27 20:21	05:55 19:53	06:25 19:06	06:55 18:17	06:55 18:17	06:29 16:36
12	05:28 20:20	05:56 19:52	06:26 19:05	06:56 18:15	06:56 18:15	06:31 16:35
13	05:29 20:20	05:57 19:51	06:27 19:03	06:57 18:13	06:57 18:13	06:32 16:34
14	05:30 20:19	05:58 19:49	06:28 19:01	06:58 18:12	06:58 18:12	06:33 16:33
15	05:30 20:19	05:59 19:48	06:29 19:00	06:59 18:10	06:59 18:10	06:34 16:32
16	05:31 20:18	06:00 19:46	06:30 18:58	07:00 18:09	07:00 18:09	06:35 16:31
17	05:32 20:18	06:00 19:45	06:31 18:56	07:06 (9) 07:14 (9)	07:01 18:07	06:36 16:31
18	05:33 20:17	06:01 19:44	06:32 18:54	07:03 (9) 07:16 (9)	07:02 18:06	06:38 16:30
19	05:34 20:16	06:02 19:42	06:33 18:53	07:00 (9) 07:16 (9)	07:03 18:04	06:39 16:29
20	05:34 20:16	06:03 19:41	06:34 18:51	06:58 (9) 07:17 (9)	07:04 18:03	06:40 16:28
21	05:35 20:15	06:04 19:39	06:34 18:49	06:57 (9) 07:18 (9)	07:05 18:01	06:41 16:28
22	05:36 20:14	06:05 19:38	06:35 18:48	06:56 (9) 07:18 (9)	07:06 18:00	06:42 16:27
23	05:37 20:13	06:06 19:36	06:36 18:46	06:56 (9) 07:18 (9)	07:08 17:59	06:43 16:27
24	05:38 20:12	06:07 19:35	06:37 18:44	06:57 (9) 07:18 (9)	07:09 17:57	06:44 16:26
25	05:39 20:12	06:08 19:33	06:38 18:43	06:58 (9) 07:17 (9)	06:10 16:56	06:46 16:25
26	05:40 20:11	06:09 19:32	06:39 18:41	06:59 (9) 07:17 (9)	06:11 16:55	06:47 16:25
27	05:40 20:10	06:10 19:30	06:40 18:39	07:00 (9) 07:16 (9)	06:12 16:53	06:48 16:25
28	05:41 20:09	06:11 19:29	06:41 18:38	07:01 (9) 07:14 (9)	06:13 16:52	06:49 16:24
29	05:42 20:08	06:12 19:27	06:42 18:36	07:02 (9) 07:13 (9)	06:14 16:51	06:50 16:24
30	05:43 20:07	06:13 19:26	06:43 18:34	07:03 (9) 07:11 (9)	06:15 16:49	06:51 16:23
31	05:44 20:06	06:14 19:24	06:35 (4) 07:03 (4)	06:17 16:48	06:17 16:48	07:12 16:31
Potential sun hours	457	427	375	346	346	290
Total, worst case		578	312	3		299

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: WON026_ShadowFlickering Shadow receptor: B - Shadow Receptor: 1.0 × 1.0 Azimuth: -170.0° 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	
1	07:12	06:59	06:24		06:34		06:53 (9)	05:49	06:08 (4)	05:21
	16:32	17:06	17:39		19:13	23	07:16 (9)	19:44	06:35 (4)	20:13
2	07:12	06:59	06:23		06:33		06:52 (9)	05:48	06:07 (4)	05:21
	16:33	17:07	17:40		19:14	23	07:15 (9)	19:45	06:36 (4)	20:13
3	07:13	06:58	06:21		06:31		06:52 (9)	05:47	06:06 (4)	05:20
	16:34	17:08	17:42		19:15	21	07:13 (9)	19:46	06:37 (4)	20:14
4	07:13	06:57	06:20		06:29		06:53 (9)	05:45	06:05 (4)	05:20
	16:35	17:10	17:43		19:16	20	07:13 (9)	19:47	06:37 (4)	20:15
5	07:13	06:56	06:18		06:28		06:54 (9)	05:44	06:05 (4)	05:19
	16:36	17:11	17:44		19:17	17	07:11 (9)	19:48	06:38 (4)	20:15
6	07:13	06:54	06:17		06:26		06:56 (9)	05:43	06:04 (4)	05:19
	16:37	17:12	17:45		19:18	13	07:09 (9)	19:49	06:37 (4)	20:16
7	07:13	06:53	06:15		06:25		06:58 (9)	05:42	06:04 (4)	05:19
	16:38	17:13	17:46		19:19	8	07:06 (9)	19:50	06:38 (4)	20:17
8	07:12	06:52	06:13		06:23			05:41	06:03 (4)	05:19
	16:39	17:14	17:47		19:20			19:51	06:38 (4)	20:17
9	07:12	06:51	06:12		06:21			05:40	06:03 (4)	05:18
	16:39	17:16	17:48		19:21			19:52	06:38 (4)	20:18
10	07:12	06:50	06:10		06:20			05:39	06:03 (4)	05:18
	16:41	17:17	17:49		19:22			19:53	06:38 (4)	20:18
11	07:12	06:49	06:09		06:18			05:37	06:03 (4)	05:18
	16:42	17:18	17:50		19:23			19:54	06:38 (4)	20:19
12	07:12	06:48	06:07		06:17			05:36	06:03 (4)	05:18
	16:43	17:19	17:51		19:24			19:55	06:37 (4)	20:19
13	07:11	06:46	06:05		06:15			05:35	06:04 (4)	05:18
	16:44	17:21	17:53		19:25			19:56	06:37 (4)	20:20
14	07:11	06:45	06:04		06:14			05:34	06:04 (4)	05:18
	16:45	17:22	17:54		19:26			19:57	06:37 (4)	20:20
15	07:11	06:44	06:02		06:12			05:33	06:04 (4)	05:18
	16:46	17:23	17:55		19:27			19:58	06:36 (4)	20:21
16	07:10	06:43	06:01		06:11			05:32	06:04 (4)	05:18
	16:47	17:24	17:56		19:28			19:59	06:36 (4)	20:21
17	07:10	06:41	05:59		06:09			05:31	06:06 (4)	05:18
	16:48	17:25	17:57		19:29			20:00	06:36 (4)	20:22
18	07:10	06:40	05:57		06:07			05:31	06:06 (4)	05:18
	16:49	17:27	17:58		19:30			20:01	06:36 (4)	20:22
19	07:09	06:39	05:56		06:06			05:30	06:06 (4)	05:18
	16:50	17:28	17:59		19:31			20:02	06:35 (4)	20:22
20	07:08	06:37	05:54		06:05			05:29	06:07 (4)	05:18
	16:51	17:29	18:00		19:32			20:02	06:34 (4)	20:22
21	07:08	06:36	05:52		06:03			05:28	06:07 (4)	05:18
	16:53	17:30	18:01		19:33			20:03	06:33 (4)	20:23
22	07:07	06:34	05:51		06:02			05:27	06:09 (4)	05:18
	16:54	17:31	18:02		19:34			20:04	06:33 (4)	20:23
23	07:07	06:33	05:49		06:00			05:26	06:10 (4)	05:19
	16:55	17:32	18:03		19:35			20:05	06:32 (4)	20:23
24	07:06	06:32	05:47		06:06 (9)			05:26	06:10 (4)	05:19
	16:56	17:34	18:04	5	06:11 (9)			20:06	06:31 (4)	20:23
25	07:05	06:30	05:46		06:04 (9)			05:25	06:12 (4)	05:19
	16:57	17:35	18:05	9	06:13 (9)			20:07	06:30 (4)	20:23
26	07:05	06:29	05:44		06:03 (9)			05:24	06:13 (4)	05:20
	16:59	17:36	18:06	12	06:15 (9)			06:28 (4)	06:29 (4)	20:23
27	07:04	06:27	05:43		06:01 (9)			05:24	06:15 (4)	05:20
	17:00	17:37	18:07	14	06:15 (9)			06:30 (4)	06:28 (4)	20:24
28	07:03	06:26	05:41		05:59 (9)			06:12 (4)	06:17 (4)	05:20
	17:01	17:38	18:08	17	06:16 (9)			06:32 (4)	06:25 (4)	20:24
29	07:02		06:39		06:58 (9)			06:11 (4)		05:21
	17:02		19:09	18	07:16 (9)			06:34 (4)		20:24
30	07:01		06:38		06:56 (9)			06:10 (4)		05:21
	17:03		19:10	20	07:16 (9)			06:35 (4)		20:23
31	07:00		06:36		06:54 (9)			05:21		
	17:05		19:12	21	07:15 (9)			20:12		
Potential sun hours	299	298	370		398			447		450
Total, worst case			116		219			787		

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: WON026_ShadowFlickering Shadow receptor: B - Shadow Receptor: 1.0 × 1.0 Azimuth: -170.0° 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

	July	August	September	October	November	December	
1	05:22 20:23	05:45 20:05	06:14 (4) 06:15	06:15 19:23	06:44 18:33	06:18 16:47	06:52 16:23
2	05:22 20:23	05:46 20:04	06:14 (4) 06:16	06:16 19:21	06:45 18:31	06:19 16:46	06:53 16:23
3	05:23 20:23	05:47 20:03	06:14 (4) 06:17	06:17 19:19	06:46 18:29	06:20 16:44	06:54 16:23
4	05:23 20:23	05:48 20:02	06:14 (4) 06:18	06:18 19:18	06:47 18:28	06:21 16:43	06:55 16:22
5	05:24 20:23	05:49 20:00	06:14 (4) 06:19	06:19 19:16	06:54 (9) 07:02 (9)	06:22 16:42	06:56 16:22
6	05:24 20:23	05:50 19:59	06:14 (4) 06:20	06:20 19:14	06:51 (9) 07:04 (9)	06:49 16:41	06:57 16:22
7	05:25 20:22	05:51 19:58	06:14 (4) 06:21	06:21 19:13	06:49 (9) 07:06 (9)	06:50 18:23	06:58 16:40
8	05:25 20:22	05:52 19:57	06:14 (4) 06:22	06:22 19:11	06:48 (9) 07:07 (9)	06:51 18:21	06:59 16:39
9	05:26 20:22	05:53 19:56	06:14 (4) 06:23	06:23 19:10	06:46 (9) 07:07 (9)	06:52 18:20	06:27 16:38
10	05:27 20:21	05:54 19:54	06:15 (4) 06:24	06:24 19:08	06:46 (9) 07:08 (9)	06:54 18:18	06:28 16:37
11	05:27 20:21	05:55 19:53	06:16 (4) 06:25	06:25 19:06	06:45 (9) 07:08 (9)	06:55 18:17	06:29 16:36
12	05:28 20:20	05:56 19:52	06:17 (4) 06:26	06:26 19:05	06:46 (9) 07:08 (9)	06:56 18:15	06:31 16:35
13	05:29 20:20	05:57 19:51	06:18 (4) 06:27	06:27 19:03	06:47 (9) 07:07 (9)	06:57 18:13	06:32 16:34
14	05:30 20:19	05:58 19:49	06:19 (4) 06:28	06:28 19:01	06:48 (9) 07:07 (9)	06:58 18:12	06:33 16:33
15	05:30 20:19	06:29 (4) 06:32 (4)	05:59 19:48	06:29 19:00	06:49 (9) 07:06 (9)	06:59 18:10	06:34 16:32
16	05:31 20:18	06:25 (4) 06:35 (4)	06:00 19:46	06:22 (4) 18:58	06:50 (9) 07:05 (9)	07:00 18:09	06:35 16:31
17	05:32 20:18	06:23 (4) 06:37 (4)	06:00 19:45	06:25 (4) 06:33 (4)	06:51 (9) 07:03 (9)	07:01 18:07	06:36 16:23
18	05:33 20:17	06:22 (4) 06:39 (4)	06:01 19:44	06:32 18:54	06:52 (9) 07:02 (9)	07:02 18:06	06:38 16:30
19	05:34 20:16	06:21 (4) 06:40 (4)	06:02 19:42	06:32 18:53	06:52 (9) 06:58 (9)	07:03 18:04	06:39 16:29
20	05:34 20:16	06:20 (4) 06:42 (4)	06:03 19:41	06:33 18:51	07:04 18:03	06:40 16:28	07:08 16:24
21	05:35 20:15	06:19 (4) 06:42 (4)	06:04 19:39	06:34 18:49	07:05 18:02	06:41 16:28	07:08 16:25
22	05:36 20:14	06:18 (4) 06:43 (4)	06:05 19:38	06:35 18:48	07:06 18:00	06:42 16:27	07:09 16:25
23	05:37 20:13	06:18 (4) 06:44 (4)	06:06 19:36	06:36 18:46	07:08 17:59	06:43 16:27	07:09 16:26
24	05:38 20:12	06:17 (4) 06:45 (4)	06:07 19:35	06:37 18:44	07:09 17:57	06:44 16:26	07:10 16:26
25	05:39 20:12	06:17 (4) 06:46 (4)	06:08 19:33	06:38 18:43	06:10 16:56	06:46 16:25	07:10 16:27
26	05:40 20:11	06:16 (4) 06:46 (4)	06:09 19:32	06:39 18:41	06:11 16:55	06:47 16:25	07:11 16:28
27	05:40 20:10	06:15 (4) 06:46 (4)	06:10 19:30	06:40 18:39	06:12 16:53	06:48 16:25	07:11 16:28
28	05:41 20:09	06:15 (4) 06:47 (4)	06:11 19:29	06:41 18:38	06:13 16:52	06:49 16:24	07:11 16:29
29	05:42 20:08	06:15 (4) 06:47 (4)	06:12 19:27	06:42 18:36	06:14 16:51	06:50 16:24	07:12 16:30
30	05:43 20:07	06:14 (4) 06:48 (4)	06:13 19:26	06:43 18:34	06:15 16:49	06:51 16:23	07:12 16:30
31	05:44 20:06	06:14 (4) 06:48 (4)	06:14 19:24		06:17 16:48		07:12 16:31
Potential sun hours	457	427	375	244	346	299	290
Total, worst case	409	477					

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: WON026_ShadowFlickering Shadow receptor: C - Shadow Receptor: 1.0 × 1.0 Azimuth: -150.0° 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	July	August	September	October	November	December
1	07:12 16:32	06:59 17:06	06:24 17:39	06:34 19:13	05:49 19:44	05:21 20:13	05:22 20:23	05:45 20:05	06:15 19:23	06:44 18:33	06:18 16:47	06:52 16:23
2	07:12 16:33	06:59 17:07	06:23 17:40	06:33 19:14	05:48 19:45	05:21 20:13	05:22 20:23	05:46 20:04	06:16 19:21	06:45 18:31	06:19 16:46	06:53 16:23
3	07:13 16:34	06:58 17:08	06:21 17:42	06:31 19:15	05:47 19:46	05:20 20:14	05:23 20:23	05:47 20:03	06:17 19:19	06:46 18:29	06:20 16:44	06:54 16:23
4	07:13 16:35	06:57 17:10	06:20 17:43	06:29 19:16	05:46 19:47	05:20 20:15	05:23 20:23	05:48 20:02	06:18 19:18	06:47 18:28	06:21 16:43	06:55 16:22
5	07:13 16:36	06:56 17:11	06:18 17:44	06:28 19:17	05:44 19:48	05:19 20:15	05:24 20:23	05:49 20:00	06:19 19:16	06:48 18:26	06:22 16:42	06:56 16:22
6	07:13 16:37	06:54 17:12	06:17 17:45	06:26 19:18	05:43 19:49	05:19 20:16	05:24 20:22	05:50 19:59	06:20 19:14	06:49 18:25	06:24 16:41	06:57 16:22
7	07:13 16:38	06:53 17:13	06:15 17:46	06:25 19:19	05:42 19:50	05:19 20:17	05:25 20:22	05:51 19:58	06:21 19:13	06:50 18:23	06:25 16:40	06:58 16:22
8	07:12 16:39	06:52 17:15	06:13 17:47	06:23 19:20	05:41 19:51	05:19 20:17	05:25 20:22	05:52 19:57	06:22 19:11	06:51 18:21	06:26 16:39	06:59 16:22
9	07:12 16:40	06:51 17:16	06:12 17:48	06:21 19:21	05:40 19:52	05:18 20:18	05:26 20:22	05:53 19:56	06:23 19:10	06:52 18:20	06:27 16:38	07:00 16:22
10	07:12 16:41	06:50 17:17	06:10 17:49	06:20 19:22	05:39 19:53	05:18 20:18	05:27 20:21	05:54 19:54	06:24 19:08	06:54 18:18	06:28 16:37	07:01 16:22
11	07:12 16:42	06:49 17:18	06:09 17:50	06:18 19:23	05:37 19:54	05:18 20:19	05:27 20:21	05:55 19:53	06:25 19:06	06:55 18:17	06:29 16:36	07:01 16:22
12	07:12 16:43	06:48 17:19	06:07 17:51	06:17 19:24	05:36 19:55	05:18 20:19	05:28 20:20	05:56 19:52	06:26 19:05	06:56 18:15	06:31 16:35	07:02 16:22
13	07:11 16:44	06:46 17:21	06:05 17:53	06:15 19:25	05:35 19:56	05:18 20:20	05:29 20:20	05:57 19:51	06:27 19:03	06:57 18:13	06:32 16:34	07:03 16:22
14	07:11 16:45	06:45 17:22	06:04 17:54	06:14 19:26	05:34 19:57	05:18 20:20	05:30 20:19	05:58 19:49	06:28 19:01	06:58 18:12	06:33 16:33	07:04 16:23
15	07:11 16:46	06:44 17:23	06:02 17:55	06:12 19:27	05:33 19:58	05:18 20:21	05:30 20:19	05:59 19:48	06:29 19:00	06:59 18:10	06:34 16:32	07:04 16:23
16	07:10 16:47	06:43 17:24	06:01 17:56	06:11 19:28	05:32 19:59	05:18 20:21	05:31 20:18	06:00 19:46	06:30 18:58	07:00 18:09	06:35 16:31	07:05 16:23
17	07:10 16:48	06:41 17:25	05:59 17:57	06:09 19:29	05:31 20:00	05:18 20:22	05:32 20:18	06:01 19:45	06:31 18:56	07:01 18:07	06:36 16:31	07:06 16:23
18	07:09 16:49	06:40 17:27	05:57 17:58	06:08 19:30	05:31 20:01	05:18 20:22	05:33 20:17	06:02 19:44	06:32 18:54	07:02 18:06	06:38 16:30	07:07 16:24
19	07:09 16:50	06:39 17:28	05:56 17:59	06:06 19:31	05:30 20:02	05:18 20:22	05:34 20:16	06:03 19:42	06:33 18:53	07:03 18:04	06:39 16:29	07:07 16:24
20	07:08 16:52	06:37 17:29	05:54 18:00	06:05 19:32	05:29 20:02	05:18 20:22	05:34 20:16	06:03 19:41	06:33 18:51	07:04 18:03	06:40 16:28	07:08 16:24
21	07:08 16:53	06:36 17:30	05:52 18:01	06:03 19:33	05:28 20:03	05:18 20:23	05:35 20:15	06:04 19:39	06:34 18:49	07:05 18:02	06:41 16:28	07:08 16:25
22	07:07 16:54	06:34 17:31	05:51 18:02	06:02 19:34	05:27 20:04	05:19 20:23	05:36 20:14	06:05 19:38	06:35 18:48	07:06 18:00	06:42 16:27	07:09 16:25
23	07:07 16:55	06:33 17:32	05:49 18:03	06:00 19:35	05:26 20:05	05:19 20:23	05:37 20:13	06:06 19:36	06:36 18:46	07:08 17:59	06:43 16:27	07:09 16:26
24	07:06 16:56	06:32 17:34	05:47 18:04	05:59 19:36	05:25 20:06	05:19 20:23	05:38 20:12	06:07 19:35	06:37 18:44	07:09 17:57	06:44 16:26	07:10 16:26
25	07:05 16:57	06:30 17:35	05:46 18:05	05:57 19:37	05:25 20:07	05:19 20:23	05:39 20:12	06:08 19:33	06:38 18:43	06:10 16:56	06:46 16:25	07:10 16:27
26	07:05 16:59	06:29 17:36	05:44 18:06	05:56 19:38	05:24 20:08	05:20 20:23	05:40 20:11	06:09 19:32	06:39 18:41	06:11 16:55	06:47 16:25	07:11 16:28
27	07:04 17:00	06:27 17:37	05:43 18:07	05:55 19:40	05:24 20:09	05:20 20:23	05:40 20:10	06:10 19:30	06:40 18:39	06:12 16:53	06:48 16:25	07:11 16:28
28	07:03 17:01	06:26 17:38	05:41 18:08	05:53 19:41	05:23 20:09	05:20 20:24	05:41 20:09	06:11 19:29	06:41 18:38	06:13 16:52	06:49 16:24	07:11 16:29
29	07:02 17:02		06:39 19:09	05:52 19:42	05:23 20:10	05:21 20:23	05:42 20:08	06:12 19:27	06:42 18:36	06:14 16:51	06:50 16:24	07:12 16:30
30	07:01 17:03		06:38 19:10	05:51 19:43	05:22 20:11	05:21 20:23	05:43 20:07	06:13 19:26	06:43 18:34	06:15 16:49	06:51 16:23	07:12 16:30
31	07:00 17:05		06:36 19:12		05:22 20:12		05:44 20:06	06:14 19:24		06:17 16:48		07:12 16:31
Potential sun hours Total, worst case	299	298	370	398	447	450	457	427	375	346	299	290

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: WON026_ShadowFlickering Shadow receptor: D - Shadow Receptor: 1.0 x 1.0 Azimuth: 80.0° 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	07:12	15:11 (3)	07:00	06:24	15:33 (2)	06:34	05:49	05:21	
	16:32	43 15:54 (3)	17:06	17:39	74 16:47 (2)	19:13	19:44	20:13	
2	07:13	15:12 (3)	06:59	06:23	15:33 (2)	06:33	05:48	05:21	
	16:33	42 15:54 (3)	17:07	17:40	75 16:48 (2)	19:14	19:45	20:13	
3	07:13	15:12 (3)	06:58	06:21	15:32 (2)	06:31	05:47	05:20	
	16:34	43 15:55 (3)	17:08	17:42	75 16:47 (2)	19:15	19:46	20:14	
4	07:13	15:13 (3)	06:57	06:20	15:32 (2)	06:29	05:46	05:20	
	16:35	42 15:55 (3)	17:10	17:43	75 16:47 (2)	19:16	19:47	20:15	
5	07:13	15:13 (3)	06:56	06:18	15:32 (2)	06:28	05:44	05:19	
	16:36	43 15:56 (3)	17:11	17:44	75 16:47 (2)	19:17	19:48	20:15	
6	07:13	15:13 (3)	06:55	06:17	15:32 (2)	06:26	05:43	05:19	
	16:37	42 15:55 (3)	17:12	17:45	74 16:46 (2)	19:18	19:49	20:16	
7	07:13	15:13 (3)	06:53	06:15	15:32 (2)	06:25	05:42	05:19	
	16:38	43 15:56 (3)	17:13	17:46	75 16:47 (2)	19:19	19:50	20:17	
8	07:13	15:14 (3)	06:52	16:01 (2)	06:13	15:32 (2)	06:23	05:41	05:19
	16:39	42 15:56 (3)	17:15	16:21 (2)	17:47	74 16:46 (2)	19:20	19:51	20:17
9	07:12	15:15 (3)	06:51	15:57 (2)	06:12	15:33 (2)	06:21	05:40	05:18
	16:40	42 15:57 (3)	17:16	16:25 (2)	17:48	73 16:46 (2)	19:21	19:52	20:18
10	07:12	15:15 (3)	06:50	15:53 (2)	06:10	15:33 (2)	06:20	05:39	05:18
	16:41	43 15:58 (3)	17:17	16:27 (2)	17:49	72 16:45 (2)	19:22	19:53	20:18
11	07:12	15:15 (3)	06:49	15:51 (2)	06:09	15:33 (2)	06:18	05:37	05:18
	16:42	42 15:57 (3)	17:18	16:30 (2)	17:50	71 16:44 (2)	19:23	19:54	20:19
12	07:12	15:16 (3)	06:48	15:49 (2)	06:07	15:34 (2)	06:17	05:36	05:18
	16:43	42 15:58 (3)	17:19	16:32 (2)	17:52	70 16:44 (2)	19:24	19:55	20:19
13	07:11	15:17 (3)	06:46	15:48 (2)	06:06	15:34 (2)	06:15	05:35	05:18
	16:44	41 15:58 (3)	17:21	16:35 (2)	17:53	69 16:43 (2)	19:25	19:56	20:20
14	07:11	15:17 (3)	06:45	15:45 (2)	06:04	15:34 (2)	06:14	05:34	05:18
	16:45	41 15:58 (3)	17:22	16:36 (2)	17:54	68 16:42 (2)	19:26	19:57	20:20
15	07:11	15:18 (3)	06:44	15:44 (2)	06:02	15:35 (2)	06:12	05:33	05:18
	16:46	41 15:59 (3)	17:23	16:37 (2)	17:55	67 16:42 (2)	19:27	19:58	20:21
16	07:10	15:18 (3)	06:43	15:43 (2)	06:01	15:35 (2)	06:11	05:32	05:18
	16:47	40 15:58 (3)	17:24	16:39 (2)	17:56	65 16:40 (2)	19:28	19:59	20:21
17	07:10	15:19 (3)	06:41	15:41 (2)	05:59	15:36 (2)	06:09	05:32	05:18
	16:48	40 15:59 (3)	17:25	16:40 (2)	17:57	63 16:39 (2)	19:29	20:00	20:22
18	07:10	15:19 (3)	06:40	15:40 (2)	05:57	15:37 (2)	06:08	05:31	05:18
	16:49	39 15:58 (3)	17:27	16:41 (2)	17:58	61 16:38 (2)	19:30	20:01	20:22
19	07:09	15:21 (3)	06:39	15:40 (2)	05:56	15:38 (2)	06:06	05:30	05:18
	16:50	38 15:59 (3)	17:28	16:42 (2)	17:59	59 16:37 (2)	19:31	20:02	20:22
20	07:09	15:21 (3)	06:37	15:38 (2)	05:54	15:39 (2)	06:05	05:29	05:18
	16:52	37 15:58 (3)	17:29	16:43 (2)	18:00	56 16:35 (2)	19:32	20:02	20:22
21	07:08	15:22 (3)	06:36	15:38 (2)	05:52	15:41 (2)	06:03	05:28	05:18
	16:53	36 15:58 (3)	17:30	16:44 (2)	18:01	53 16:34 (2)	19:33	20:03	20:23
22	07:07	15:23 (3)	06:35	15:37 (2)	05:51	15:42 (2)	06:02	05:27	05:19
	16:54	35 15:58 (3)	17:31	16:45 (2)	18:02	50 16:32 (2)	19:34	20:04	20:23
23	07:07	15:24 (3)	06:33	15:36 (2)	05:49	15:44 (2)	06:00	05:27	05:19
	16:55	33 15:57 (3)	17:32	16:45 (2)	18:03	47 16:31 (2)	19:35	20:05	20:23
24	07:06	15:25 (3)	06:32	15:36 (2)	05:47	15:45 (2)	05:59	05:26	05:19
	16:56	32 15:57 (3)	17:34	16:46 (2)	18:04	43 16:28 (2)	19:36	20:06	20:23
25	07:05	15:27 (3)	06:30	15:35 (2)	05:46	15:47 (2)	05:57	05:25	05:19
	16:57	30 15:57 (3)	17:35	16:46 (2)	18:05	39 16:26 (2)	19:37	20:07	20:23
26	07:05	15:28 (3)	06:29	15:34 (2)	05:44	15:50 (2)	05:56	05:24	05:20
	16:59	28 15:56 (3)	17:36	16:47 (2)	18:06	34 16:24 (2)	19:39	20:08	20:23
27	07:04	15:30 (3)	06:27	15:33 (2)	05:43	15:53 (2)	05:55	05:24	05:20
	17:00	24 15:54 (3)	17:37	16:47 (2)	18:07	27 16:20 (2)	19:40	20:09	20:24
28	07:03	15:31 (3)	06:26	15:34 (2)	05:41	15:56 (2)	05:53	05:23	05:20
	17:01	22 15:53 (3)	17:38	16:47 (2)	18:08	19 16:15 (2)	19:41	20:09	20:24
29	07:02	15:34 (3)			06:39		05:52	05:23	05:21
	17:02	17 15:51 (3)			19:09		19:42	20:10	20:24
30	07:01	15:37 (3)			06:38		05:51	05:22	05:21
	17:04	11 15:48 (3)			19:11		19:43	20:11	20:23
31	07:00				06:36			05:22	
	17:05				19:12		20:12		
Potential sun hours	299		298		370		398	447	450
Total, worst case	1094		1182		1703				

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: WON026_ShadowFlickering Shadow receptor: D - Shadow Receptor: 1.0 x 1.0 Azimuth: 80.0° 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	05:22 20:23	05:45 20:05	06:15 19:23	06:44 18:33	16:12 (2) 17:23 (2)	06:18 16:47	15:24 (2) 16:23	06:52 16:23	14:57 (3) 15:39 (3)
2	05:22 20:23	05:46 20:04	06:16 19:21	06:45 18:31	16:11 (2) 17:23 (2)	06:19 16:46	15:27 (2) 16:23	06:53 16:23	14:57 (3) 15:40 (3)
3	05:23 20:23	05:47 20:03	06:17 19:19	06:46 18:29	16:10 (2) 17:23 (2)	06:20 16:44	15:32 (2) 15:50 (2)	06:54 16:23	14:58 (3) 15:40 (3)
4	05:23 20:23	05:48 20:02	06:18 19:18	06:47 18:28	16:10 (2) 17:23 (2)	06:21 16:43		06:55 16:22	14:58 (3) 15:40 (3)
5	05:24 20:23	05:49 20:01	06:19 19:16	06:48 18:26	16:09 (2) 17:22 (2)	06:22 16:42		06:56 16:22	14:58 (3) 15:41 (3)
6	05:24 20:23	05:50 19:59	06:20 19:14	06:49 18:25	16:08 (2) 17:22 (2)	06:24 16:41		06:57 16:22	14:59 (3) 15:41 (3)
7	05:25 20:22	05:51 19:58	06:21 19:13	06:50 18:23	16:08 (2) 17:22 (2)	06:25 16:40		06:58 16:22	14:59 (3) 15:42 (3)
8	05:26 20:22	05:52 19:57	06:22 19:11	06:51 18:21	16:07 (2) 17:22 (2)	06:26 16:39		06:59 16:22	15:00 (3) 15:42 (3)
9	05:26 20:22	05:53 19:56	06:23 19:10	06:53 18:20	16:07 (2) 17:22 (2)	06:27 16:38		07:00 16:22	15:00 (3) 15:43 (3)
10	05:27 20:21	05:54 19:54	06:24 19:08	06:54 18:18	16:07 (2) 17:22 (2)	06:28 16:37		07:01 16:22	15:01 (3) 15:43 (3)
11	05:27 20:21	05:55 19:53	06:25 19:06	06:55 18:17	16:07 (2) 17:21 (2)	06:29 16:36		07:01 16:22	15:01 (3) 15:44 (3)
12	05:28 20:20	05:56 19:52	06:26 19:05	06:56 18:15	16:06 (2) 17:21 (2)	06:31 16:35	15:09 (3) 15:20 (3)	07:02 16:22	15:02 (3) 15:45 (3)
13	05:29 20:20	05:57 19:51	06:27 19:03	06:57 18:13	16:06 (2) 17:20 (2)	06:32 16:34	15:06 (3) 15:23 (3)	07:03 16:22	15:02 (3) 15:44 (3)
14	05:30 20:19	05:58 19:49	06:28 19:01	06:58 18:12	16:06 (2) 17:20 (2)	06:33 16:33	15:03 (3) 15:25 (3)	07:04 16:23	15:03 (3) 15:45 (3)
15	05:30 20:19	05:59 19:48	06:29 19:00	06:59 18:10	16:06 (2) 17:19 (2)	06:34 16:32	15:03 (3) 15:27 (3)	07:05 16:23	15:03 (3) 15:45 (3)
16	05:31 20:18	06:00 19:47	06:30 18:58	07:00 18:09	16:06 (2) 17:18 (2)	06:35 16:31	15:01 (3) 15:29 (3)	07:05 16:23	15:04 (3) 15:46 (3)
17	05:32 20:18	06:01 19:45	06:31 18:56	07:01 18:07	16:06 (2) 17:17 (2)	06:36 16:31	15:00 (3) 15:30 (3)	07:06 16:23	15:04 (3) 15:46 (3)
18	05:33 20:17	06:02 19:44	06:32 18:55	07:02 18:06	16:06 (2) 17:16 (2)	06:38 16:30	14:59 (3) 15:31 (3)	07:07 16:24	15:05 (3) 15:47 (3)
19	05:34 20:16	06:02 19:42	06:33 18:53	07:03 18:04	16:08 (2) 17:16 (2)	06:39 16:29	14:59 (3) 15:32 (3)	07:07 16:24	15:05 (3) 15:47 (3)
20	05:34 20:16	06:03 19:41	06:33 18:51	07:04 18:03	16:08 (2) 17:15 (2)	06:40 16:28	14:58 (3) 15:33 (3)	07:08 16:24	15:06 (3) 15:48 (3)
21	05:35 20:15	06:04 19:39	06:34 18:49	07:05 18:02	16:08 (2) 17:14 (2)	06:41 16:28	14:58 (3) 15:34 (3)	07:08 16:25	15:06 (3) 15:48 (3)
22	05:36 20:14	06:05 19:38	06:35 18:48	07:06 18:00	16:09 (2) 17:13 (2)	06:42 16:27	14:57 (3) 15:34 (3)	07:09 16:25	15:07 (3) 15:49 (3)
23	05:37 20:13	06:06 19:36	06:36 18:46	07:08 18:00	16:10 (2) 17:12 (2)	06:43 16:27	14:57 (3) 15:35 (3)	07:09 16:26	15:07 (3) 15:49 (3)
24	05:38 20:13	06:07 19:35	06:37 18:44	07:09 18:00	16:10 (2) 17:10 (2)	06:44 16:26	14:57 (3) 15:36 (3)	07:10 16:26	15:08 (3) 15:50 (3)
25	05:39 20:12	06:08 19:33	06:38 18:43	07:10 18:00	16:10 (2) 17:10 (2)	06:46 16:26	14:57 (3) 15:37 (3)	07:10 16:27	15:08 (3) 15:50 (3)
26	05:40 20:11	06:09 19:32	06:39 18:41	07:11 18:00	15:13 (2) 16:08 (2)	06:47 16:25	14:57 (3) 15:37 (3)	07:11 16:28	15:08 (3) 15:50 (3)
27	05:40 20:10	06:10 19:30	06:40 18:39	07:12 18:00	15:14 (2) 16:07 (2)	06:48 16:25	14:57 (3) 15:38 (3)	07:11 16:28	15:09 (3) 15:51 (3)
28	05:41 20:09	06:11 19:29	06:41 18:38	07:13 18:00	15:15 (2) 16:05 (2)	06:49 16:24	14:57 (3) 15:38 (3)	07:11 16:29	15:09 (3) 15:51 (3)
29	05:42 20:08	06:12 19:27	06:42 18:36	07:14 18:00	15:17 (2) 16:03 (2)	06:50 16:24	14:57 (3) 15:39 (3)	07:12 16:30	15:09 (3) 15:52 (3)
30	05:43 20:07	06:13 19:26	06:43 18:34	07:15 18:00	15:20 (2) 16:02 (2)	06:51 16:23	14:57 (3) 15:39 (3)	07:12 16:30	15:10 (3) 15:52 (3)
31	05:44 20:06	06:14 19:24		07:16 18:00	15:21 (2) 16:02 (2)			07:12 16:31	15:10 (3) 15:52 (3)
Potential sun hours	457	427	375	346	299	290			
Total, worst case			806	2047	705	1309			

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: WON026_ShadowFlickering Shadow 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			
1	07:12 16:32	07:00 17:06	15:55 (3) 16:34 (3)	06:24 17:39	06:34 19:13	17:20 (2) 18:25 (2)	05:49 19:44	05:21 20:13	
2	07:13 16:33	06:59 17:07	15:55 (3) 16:34 (3)	06:23 17:40	06:33 19:14	17:19 (2) 18:25 (2)	05:48 19:45	05:21 20:13	
3	07:13 16:34	06:58 17:08	15:55 (3) 16:35 (3)	06:21 17:42	06:31 19:15	17:19 (2) 18:24 (2)	05:47 19:46	05:20 20:14	
4	07:13 16:35	06:57 17:10	15:55 (3) 16:35 (3)	06:20 17:43	06:29 19:16	17:19 (2) 18:24 (2)	05:46 19:47	05:20 20:15	
5	07:13 16:36	06:56 17:11	15:55 (3) 16:35 (3)	06:18 17:44	06:28 19:17	17:19 (2) 18:23 (2)	05:44 19:48	05:19 20:15	
6	07:13 16:37	06:55 17:12	15:55 (3) 16:35 (3)	06:17 17:45	06:26 19:18	17:20 (2) 18:23 (2)	05:43 19:49	05:19 20:16	
7	07:13 16:38	06:53 17:13	15:56 (3) 16:35 (3)	06:15 17:46	06:25 19:19	17:20 (2) 18:22 (2)	05:42 19:50	05:19 20:17	
8	07:13 16:39	06:52 17:15	15:56 (3) 16:35 (3)	06:13 17:47	06:23 19:20	17:19 (2) 18:21 (2)	05:41 19:51	05:19 20:17	
9	07:12 16:40	06:51 17:16	15:57 (3) 16:35 (3)	06:12 17:48	06:21 19:21	17:20 (2) 18:21 (2)	05:40 19:52	05:18 20:18	
10	07:12 16:41	06:50 17:17	15:56 (3) 16:34 (3)	06:10 17:49	06:20 19:22	17:20 (2) 18:20 (2)	05:39 19:53	05:18 20:18	
11	07:12 16:42	06:49 17:18	15:57 (3) 16:34 (3)	06:09 17:50	06:18 19:23	17:21 (2) 18:20 (2)	05:37 19:54	05:18 20:19	
12	07:12 16:43	06:48 17:19	15:58 (3) 16:34 (3)	06:07 17:52	16:52 (2) 17:05 (2)	06:17 19:24	17:22 (2) 18:18 (2)	05:36 19:55	05:18 20:19
13	07:11 16:44	06:46 17:21	15:59 (3) 16:33 (3)	06:06 17:53	16:46 (2) 17:09 (2)	06:15 19:25	17:23 (2) 18:18 (2)	05:35 19:56	05:18 20:20
14	07:11 16:45	06:45 17:22	16:00 (3) 16:32 (3)	06:04 17:54	16:41 (2) 17:12 (2)	06:14 19:26	17:23 (2) 18:16 (2)	05:34 19:57	05:18 20:20
15	07:11 16:46	06:44 17:23	16:01 (3) 16:31 (3)	06:02 17:55	16:39 (2) 17:15 (2)	06:12 19:27	17:25 (2) 18:15 (2)	05:33 19:58	05:18 20:21
16	07:10 16:47	06:43 17:24	16:03 (3) 16:30 (3)	06:01 17:56	16:36 (2) 17:17 (2)	06:11 19:28	17:25 (2) 18:13 (2)	05:32 19:59	05:18 20:21
17	07:10 16:48	06:41 17:25	16:04 (3) 16:27 (3)	05:59 17:57	16:34 (2) 17:18 (2)	06:09 19:29	17:27 (2) 18:12 (2)	05:31 20:00	05:18 20:22
18	07:10 16:49	16:05 (3) 17:27	06:40 16:25 (3)	05:57 17:58	16:33 (2) 17:20 (2)	06:08 19:30	17:27 (2) 18:10 (2)	05:31 20:01	05:18 20:22
19	07:09 16:50	16:04 (3) 16:19 (3)	06:39 17:28	05:56 17:59	16:30 (2) 17:21 (2)	06:06 19:31	17:29 (2) 18:09 (2)	05:30 20:02	05:18 20:22
20	07:08 16:52	16:02 (3) 16:21 (3)	06:37 17:29	05:54 18:00	16:29 (2) 17:22 (2)	06:05 19:32	17:30 (2) 18:06 (2)	05:29 20:02	05:18 20:22
21	07:08 16:53	16:00 (3) 16:23 (3)	06:36 17:30	05:52 18:01	16:28 (2) 17:23 (2)	06:03 19:33	17:33 (2) 18:04 (2)	05:28 20:03	05:18 20:23
22	07:07 16:54	16:00 (3) 16:25 (3)	06:35 17:31	05:51 18:02	16:26 (2) 17:23 (2)	06:02 19:34	17:35 (2) 18:01 (2)	05:27 20:04	05:19 20:23
23	07:07 16:55	15:59 (3) 16:26 (3)	06:33 17:32	05:49 18:03	16:26 (2) 17:25 (2)	06:00 19:35	17:38 (2) 17:58 (2)	05:27 20:05	05:19 20:23
24	07:06 16:56	15:58 (3) 16:27 (3)	06:32 17:34	05:47 18:04	16:24 (2) 17:25 (2)	05:59 19:36	17:43 (2) 17:53 (2)	05:26 20:06	05:19 20:23
25	07:05 16:57	15:58 (3) 16:29 (3)	06:30 17:35	05:46 18:05	16:23 (2) 17:25 (2)	05:57 19:37	05:25 20:07	05:19 20:23	05:19 20:23
26	07:05 16:59	15:57 (3) 16:30 (3)	06:29 17:36	05:44 18:06	16:23 (2) 17:26 (2)	05:56 19:38	05:24 20:08	05:20 20:23	05:20 20:23
27	07:04 17:00	15:56 (3) 16:31 (3)	06:27 17:37	05:43 18:07	16:22 (2) 17:26 (2)	05:55 19:40	05:24 20:09	05:20 20:24	05:20 20:24
28	07:03 17:01	15:56 (3) 16:31 (3)	06:26 17:38	05:41 18:08	16:21 (2) 17:25 (2)	05:53 19:41	05:23 20:09	05:20 20:24	05:20 20:24
29	07:02 17:02	15:55 (3)	06:25	05:39 18:09	17:21 (2)	05:52	05:23	05:21	05:21
30	07:01 17:03	16:32 (3)	06:24	05:38 19:09	17:20 (2)	05:51	05:22	05:21	05:21
31	07:00 17:05	16:33 (3)	06:23	05:36 19:10	17:20 (2)	05:50	05:22	05:21	05:21
Potential sun hours	299	16:33 (3)	298	370	398	1205	447	450	
Total, worst case	396		642	1020					

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: WON026_ShadowFlickering Shadow 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

	July	August	September	October	November	December
1	05:22 20:23	05:45 20:05	06:15 19:23	17:20 (2) 18:19 (2)	06:44 18:33	17:28 (2) 16:47
2	05:22 20:23	05:46 20:04	06:16 19:21	17:19 (2) 18:19 (2)	06:45 18:31	17:46 (2) 16:19
3	05:23 20:23	05:47 20:03	06:17 19:19	17:18 (2) 18:19 (2)	06:46 18:29	16:46 16:04 (3)
4	05:23 20:23	05:48 20:02	06:18 19:18	17:17 (2) 18:19 (2)	06:47 18:28	16:44 16:05 (3)
5	05:24 20:23	05:49 20:00	06:19 19:16	17:16 (2) 18:18 (2)	06:48 18:26	16:42 16:05 (3)
6	05:24 20:23	05:50 19:59	06:20 19:14	17:15 (2) 18:19 (2)	06:49 18:25	16:41 16:05 (3)
7	05:25 20:22	05:51 19:58	06:21 19:13	17:14 (2) 18:18 (2)	06:50 18:23	16:40 16:06 (3)
8	05:26 20:22	05:52 19:57	06:22 19:11	17:14 (2) 18:18 (2)	06:51 18:21	16:39 16:05 (3)
9	05:26 20:22	05:53 19:56	06:23 19:10	17:13 (2) 18:18 (2)	06:53 18:20	16:38 16:05 (3)
10	05:27 20:21	05:54 19:54	06:24 19:08	17:13 (2) 18:18 (2)	06:54 18:18	16:37 16:05 (3)
11	05:27 20:21	05:55 19:53	06:25 19:06	17:12 (2) 18:18 (2)	06:55 18:17	16:36 16:05 (3)
12	05:28 20:20	05:56 19:52	06:26 19:05	17:12 (2) 18:17 (2)	06:56 18:15	16:35 16:05 (3)
13	05:29 20:20	05:57 19:51	06:27 19:03	17:12 (2) 18:17 (2)	06:57 18:13	16:34 16:04 (3)
14	05:30 20:19	05:58 19:49	06:28 19:01	17:11 (2) 18:16 (2)	06:58 18:12	16:33 16:03 (3)
15	05:30 20:19	05:59 19:48	06:29 19:00	17:11 (2) 18:16 (2)	06:59 18:10	16:32 16:04 (3)
16	05:31 20:18	06:00 19:47	06:30 18:58	17:11 (2) 18:15 (2)	07:00 18:09	16:31 16:03 (3)
17	05:32 20:18	06:01 19:45	06:31 18:56	17:11 (2) 18:14 (2)	07:01 18:07	16:30 16:02 (3)
18	05:33 20:17	06:02 19:44	06:32 18:55	17:11 (2) 18:13 (2)	07:02 18:06	16:29 16:01 (3)
19	05:34 20:16	06:02 19:42	17:48 (2) 18:53	06:33 18:53	17:12 (2) 18:04	16:29 16:01 (3)
20	05:34 20:16	06:03 19:41	17:43 (2) 18:05 (2)	06:33 18:51	17:11 (2) 18:03	16:28 16:00 (3)
21	05:35 20:15	06:04 19:39	17:40 (2) 18:07 (2)	06:34 18:49	17:11 (2) 18:02	16:28 15:59 (3)
22	05:36 20:14	06:05 19:38	17:36 (2) 18:09 (2)	06:35 18:48	17:12 (2) 18:00	16:27 15:58 (3)
23	05:37 20:13	06:06 19:36	17:34 (2) 18:10 (2)	06:36 18:46	17:13 (2) 17:59	16:27 16:27
24	05:38 20:12	06:07 19:35	17:32 (2) 18:12 (2)	06:37 18:44	17:13 (2) 17:57	16:26 16:26
25	05:39 20:12	06:08 19:33	17:30 (2) 18:13 (2)	06:38 18:43	17:14 (2) 18:03 (2)	16:26 16:26
26	05:40 20:11	06:09 19:32	17:28 (2) 18:14 (2)	06:39 18:41	17:16 (2) 16:55	16:26 16:26
27	05:40 20:10	06:10 19:30	17:27 (2) 18:15 (2)	06:40 18:39	17:17 (2) 16:53	16:25 16:25
28	05:41 20:09	06:11 19:29	17:25 (2) 18:16 (2)	06:41 18:38	17:19 (2) 16:52	16:25 16:24
29	05:42 20:08	06:12 19:27	17:24 (2) 18:17 (2)	06:42 18:36	17:21 (2) 16:51	16:24 16:24
30	05:43 20:07	06:13 19:26	17:23 (2) 18:18 (2)	06:43 18:34	17:24 (2) 16:51	16:24 16:24
31	05:44 20:06	06:14 19:24	17:21 (2) 18:18 (2)	06:44 18:34	17:25 (2) 16:49	16:23 16:23
Potential sun hours	457	427	375	346	299	290
Total, worst case		523	1712	275	792	

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: WON026_ShadowFlickering Shadow receptor: F - Shadow Receptor: 1.0 × 1.0 Azimuth: 100.0° Slope: 90.0° (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	07:12 16:32	07:00 17:06	06:24 17:39	16:13 (3) 17:04 (3)	06:34 19:13	05:49 19:44
2	07:13 16:33	06:59 17:07	06:23 17:40	16:13 (3) 17:05 (3)	06:33 19:14	05:48 19:45
3	07:13 16:34	06:58 17:08	06:21 17:42	16:12 (3) 17:04 (3)	06:31 19:15	05:47 19:46
4	07:13 16:35	06:57 17:10	06:20 17:43	16:11 (3) 17:04 (3)	06:29 19:16	05:46 19:47
5	07:13 16:36	06:56 17:11	06:18 17:44	16:11 (3) 17:05 (3)	06:28 19:17	05:44 19:48
6	07:13 16:37	06:55 17:12	06:17 17:45	16:11 (3) 17:04 (3)	06:26 19:18	05:43 19:49
7	07:13 16:38	06:53 17:13	06:15 17:46	16:11 (3) 17:04 (3)	06:25 19:19	05:42 19:50
8	07:13 16:39	06:52 17:15	06:13 17:47	16:11 (3) 17:04 (3)	06:23 19:20	05:41 19:51
9	07:12 16:40	06:51 17:16	06:12 17:48	16:11 (3) 17:04 (3)	06:21 19:21	05:40 19:52
10	07:12 16:41	06:50 17:17	06:10 17:49	16:11 (3) 17:03 (3)	06:20 19:22	05:39 19:53
11	07:12 16:42	06:49 17:18	06:09 17:50	16:11 (3) 17:02 (3)	06:18 19:23	05:37 19:54
12	07:12 16:43	06:48 17:19	06:07 17:52	16:12 (3) 17:02 (3)	06:17 19:24	05:36 19:55
13	07:11 16:44	06:46 17:21	06:06 17:53	16:12 (3) 17:01 (3)	06:15 19:25	05:35 19:56
14	07:11 16:45	06:45 17:22	06:04 17:54	16:12 (3) 16:59 (3)	06:14 19:26	05:34 19:57
15	07:11 16:46	06:44 17:23	06:02 17:55	16:13 (3) 16:59 (3)	06:12 19:27	05:33 19:58
16	07:10 16:47	06:43 17:24	06:01 17:56	16:14 (3) 16:57 (3)	06:11 19:28	05:32 19:59
17	07:10 16:48	06:41 17:25	05:59 16:36 (3) 17:57	16:14 (3) 16:56 (3)	06:09 19:29	05:32 20:00
18	07:10 16:49	06:40 17:27	05:57 16:30 (3) 17:58	16:16 (3) 16:55 (3)	06:08 19:30	05:31 20:01
19	07:09 16:50	06:39 17:28	05:56 16:27 (3) 17:59	16:17 (3) 16:53 (3)	06:06 19:31	05:30 20:02
20	07:08 16:52	06:37 17:29	05:54 16:24 (3) 18:00	16:18 (3) 16:50 (3)	06:05 19:32	05:29 20:02
21	07:08 16:53	06:36 17:30	05:52 16:23 (3) 18:01	16:21 (3) 16:48 (3)	06:03 19:33	05:28 20:03
22	07:07 16:54	06:35 17:31	05:51 16:21 (3) 18:02	16:23 (3) 16:45 (3)	06:02 19:34	05:27 20:04
23	07:07 16:55	06:33 17:32	05:49 16:19 (3) 18:03	16:28 (3) 16:41 (3)	06:00 19:35	05:27 20:05
24	07:06 16:56	06:32 17:34	05:47 16:18 (3) 18:04	05:59 19:36	05:59 20:06	05:19 20:23
25	07:05 16:57	06:30 17:35	05:46 16:17 (3) 18:05	05:57 19:37	05:57 20:07	05:19 20:23
26	07:05 16:59	06:29 17:36	05:44 16:16 (3) 18:06	05:56 19:38	05:56 20:08	05:20 20:23
27	07:04 17:00	06:27 17:37	05:43 16:15 (3) 18:07	05:55 19:40	05:55 20:09	05:20 20:24
28	07:03 17:01	06:26 17:38	05:41 16:14 (3) 18:08	05:53 19:41	05:53 20:09	05:20 20:24
29	07:02 17:02	06:25 17:39	05:40 16:13 (3) 18:09	05:52 19:42	05:52 20:10	05:21 20:24
30	07:01 17:04	06:24 17:40	05:39 16:12 (3) 18:10	05:51 19:43	05:51 20:11	05:21 20:23
31	07:00 17:05	06:23 17:41	05:38 16:11 (3) 18:11	05:50 19:44	05:50 20:12	05:21 20:23
Potential sun hours	299	298	370	398	447	450
Total, worst case		423	1023			388

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: WON026_ShadowFlickering Shadow receptor: F - Shadow Receptor: 1.0 × 1.0 Azimuth: 100.0° Slope: 90.0° (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	05:22 20:23	19:02 (2) 19:09 (2)	05:45 20:05	06:15 19:23	06:44 18:33	16:51 (3) 17:40 (3)	06:18 16:47	06:52 16:23
2	05:22 20:23	05:46 20:04	06:16 19:21	06:45 18:31	49 50	16:50 (3) 17:40 (3)	06:19 16:46	06:53 16:23
3	05:23 20:23	05:47 20:03	06:17 19:19	06:46 18:29	50 51	16:49 (3) 17:40 (3)	06:20 16:44	06:54 16:23
4	05:23 20:23	05:48 20:02	06:18 19:18	06:47 18:28	51 52	16:48 (3) 17:40 (3)	06:21 16:43	06:55 16:22
5	05:24 20:23	05:49 20:01	06:19 19:16	06:48 18:26	52 53	16:47 (3) 17:40 (3)	06:22 16:42	06:56 16:22
6	05:24 20:23	05:50 19:59	06:20 19:14	06:49 18:25	53 53	16:47 (3) 17:40 (3)	06:24 16:41	06:57 16:22
7	05:25 20:22	05:51 19:58	06:21 19:13	06:50 18:23	54 54	16:46 (3) 17:40 (3)	06:25 16:40	06:58 16:22
8	05:26 20:22	05:52 19:57	06:22 19:11	06:51 18:21	55 53	16:46 (3) 17:39 (3)	06:26 16:39	06:59 16:22
9	05:26 20:22	05:53 19:56	06:23 19:10	06:53 18:20	56 53	16:47 (3) 17:40 (3)	06:27 16:38	07:00 16:22
10	05:27 20:21	05:54 19:54	06:24 19:08	06:54 18:18	57 52	16:47 (3) 17:39 (3)	06:28 16:37	07:01 16:22
11	05:28 20:21	05:55 19:53	06:25 19:06	06:55 18:17	58 52	16:47 (3) 17:39 (3)	06:29 16:36	07:01 16:22
12	05:28 20:20	05:56 19:52	06:26 19:05	06:56 18:15	59 51	16:47 (3) 17:38 (3)	06:31 16:35	07:02 16:22
13	05:29 20:20	05:57 19:51	06:27 19:03	06:57 18:14	60 50	16:47 (3) 17:37 (3)	06:32 16:34	07:03 16:22
14	05:30 20:19	05:58 19:49	06:28 19:01	06:58 18:12	61 49	16:47 (3) 17:36 (3)	06:33 16:33	07:04 16:23
15	05:30 20:19	05:59 19:48	06:29 19:00	06:59 18:10	62 48	16:47 (3) 17:35 (3)	06:34 16:32	07:05 16:23
16	05:31 20:18	06:00 19:47	06:30 18:58	07:00 18:09	63 46	16:48 (3) 17:34 (3)	06:35 16:31	07:05 16:23
17	05:32 20:18	06:01 19:45	06:31 18:56	07:01 18:07	64 44	16:48 (3) 17:32 (3)	06:36 16:31	07:06 16:23
18	05:33 20:17	06:02 19:44	06:32 18:55	07:02 18:06	65 42	16:49 (3) 17:31 (3)	06:38 16:30	07:07 16:24
19	05:34 20:16	06:02 19:42	06:33 18:53	07:03 18:04	66 39	16:51 (3) 17:30 (3)	06:39 16:29	07:07 16:24
20	05:34 20:16	06:03 19:41	06:33 18:51	17:15 (3) 17:25 (3)	07:04 18:03	16:52 (3) 17:29 (3)	06:40 16:28	07:08 16:24
21	05:35 20:15	06:04 19:39	06:34 18:49	17:10 (3) 17:29 (3)	07:05 18:02	16:54 (3) 17:27 (3)	06:41 16:28	07:08 16:25
22	05:36 20:14	06:05 19:38	06:35 18:48	17:06 (3) 17:32 (3)	07:06 18:00	16:55 (3) 17:24 (3)	06:42 16:27	07:09 16:25
23	05:37 20:13	06:06 19:36	06:36 18:46	17:03 (3) 17:34 (3)	07:08 17:59	16:58 (3) 17:21 (3)	06:43 16:27	07:09 16:26
24	05:38 20:12	06:07 19:35	06:37 18:44	17:01 (3) 17:35 (3)	07:09 17:57	17:01 (3) 17:17 (3)	06:44 16:26	07:10 16:26
25	05:39 20:12	06:08 19:33	06:38 18:43	16:59 (3) 17:37 (3)	06:10 16:56	06:46 16:26	07:10 16:26	07:10 16:27
26	05:40 20:11	06:09 19:32	06:39 18:41	16:57 (3) 17:38 (3)	06:11 16:55	06:47 16:25	07:11 16:28	07:11 16:28
27	05:40 20:10	06:10 19:30	06:40 18:39	16:56 (3) 17:39 (3)	06:12 16:53	06:48 16:25	07:11 16:28	07:11 16:28
28	05:41 20:09	06:11 19:29	06:41 18:38	16:54 (3) 17:39 (3)	06:13 16:52	06:49 16:24	07:11 16:29	07:11 16:29
29	05:42 20:08	06:12 19:27	06:42 18:36	16:53 (3) 17:40 (3)	06:14 16:51	06:50 16:24	07:12 16:30	07:12 16:30
30	05:43 20:07	06:13 19:26	06:43 18:34	16:52 (3) 17:40 (3)	06:15 16:49	06:51 16:23	07:12 16:30	07:12 16:30
31	05:44 20:06	06:14 19:24		06:17 16:48			07:12 16:31	07:12 16:31
Potential sun hours	457	427	375	346	299	290		
Total, worst case	7		382	1079				

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: WON026_ShadowFlickering Shadow receptor: G - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° 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		
1	07:12 16:32 139	11:05 (9) 13:24 (9)	06:59 17:06 214	07:22 (5) 13:43 (9)	06:24 17:39 156	11:06 (9) 13:42 (9)	05:49 19:12	05:21 19:44
2	07:12 16:33 139	11:06 (9) 13:25 (9)	06:58 17:07 214	07:22 (5) 13:43 (9)	06:23 17:40 155	11:06 (9) 13:41 (9)	06:33 19:14	05:48 19:45
3	07:13 16:34 139	11:06 (9) 13:25 (9)	06:57 17:08 215	07:23 (5) 13:44 (9)	06:21 17:41 154	11:07 (9) 13:41 (9)	06:31 19:15	05:47 19:46
4	07:13 16:35 140	11:06 (9) 13:26 (9)	06:56 17:10 215	07:23 (5) 13:44 (9)	06:20 17:43 153	11:07 (9) 13:40 (9)	06:29 19:16	05:45 19:47
5	07:13 16:36 141	11:05 (9) 13:26 (9)	06:55 17:11 215	07:24 (5) 13:45 (9)	06:18 17:44 151	11:09 (9) 13:40 (9)	06:28 19:17	05:44 19:48
6	07:13 16:36 141	11:05 (9) 13:26 (9)	06:54 17:12 221	07:24 (5) 16:49 (7)	06:17 17:45 150	11:09 (9) 13:39 (9)	06:26 19:18	05:43 19:49
7	07:13 16:37 141	11:06 (9) 13:27 (9)	06:53 17:13 223	07:25 (5) 16:50 (7)	06:15 17:46 148	11:10 (9) 13:38 (9)	06:25 19:19	05:42 19:50
8	07:12 16:38 142	11:06 (9) 13:28 (9)	06:52 17:14 225	07:27 (5) 16:52 (7)	06:13 17:47 146	11:11 (9) 13:37 (9)	06:23 19:20	05:41 19:51
9	07:12 16:39 143	11:06 (9) 13:29 (9)	06:51 17:16 226	07:28 (5) 16:53 (7)	06:12 17:48 143	11:12 (9) 13:35 (9)	06:21 19:21	05:40 19:52
10	07:12 16:40 143	11:07 (9) 13:30 (9)	06:50 17:17 227	07:29 (5) 16:54 (7)	06:10 17:49 141	11:14 (9) 13:35 (9)	06:20 19:22	05:38 19:53
11	07:12 16:41 144	11:06 (9) 13:30 (9)	06:49 17:18 226	07:31 (5) 16:55 (7)	06:09 17:50 138	11:15 (9) 13:33 (9)	06:18 19:23	05:37 19:54
12	07:12 16:42 152	07:46 (8) 13:31 (9)	06:48 17:19 225	07:34 (8) 16:57 (7)	06:07 17:51 136	11:17 (9) 13:33 (9)	06:17 19:24	05:36 19:55
13	07:11 16:44 159	07:43 (8) 13:32 (9)	06:46 17:20 225	07:35 (8) 16:58 (7)	06:05 17:52 132	11:19 (9) 13:31 (9)	06:15 19:25	05:35 19:56
14	07:11 16:45 164	07:41 (8) 13:32 (9)	06:45 17:22 224	07:35 (8) 16:59 (7)	06:04 17:54 127	11:22 (9) 13:29 (9)	06:13 19:26	05:34 19:57
15	07:11 16:46 167	07:40 (8) 13:33 (9)	06:44 17:23 223	07:36 (8) 17:00 (7)	06:02 17:55 122	11:26 (9) 13:28 (9)	06:12 19:27	05:33 19:58
16	07:10 16:47 172	07:38 (8) 13:34 (9)	06:43 17:24 221	07:38 (8) 17:00 (7)	06:01 17:56 115	11:30 (9) 13:25 (9)	06:10 19:28	05:32 19:59
17	07:10 16:48 175	07:38 (8) 13:35 (9)	06:41 17:25 216	07:38 (8) 16:59 (7)	05:59 17:57 105	11:37 (9) 13:22 (9)	06:09 19:29	05:31 20:00
18	07:09 16:49 185	07:30 (5) 13:35 (9)	06:40 17:26 211	07:40 (8) 16:58 (7)	05:57 17:58 93	11:47 (9) 13:20 (9)	06:07 19:30	05:30 20:01
19	07:09 16:50 187	07:30 (5) 13:36 (9)	06:39 17:28 204	07:43 (8) 16:58 (7)	05:56 17:59 77	12:00 (9) 13:17 (9)	06:06 19:31	05:30 20:01
20	07:08 16:51 191	07:29 (5) 13:37 (9)	06:37 17:29 198	07:44 (8) 16:56 (7)	05:54 18:00 56	12:16 (9) 13:12 (9)	06:04 19:32	05:29 20:02
21	07:08 16:53 192	07:28 (5) 13:37 (9)	06:36 17:30 186	07:48 (8) 16:54 (7)	05:52 18:01 32	12:34 (9) 13:06 (9)	06:03 19:33	05:28 20:03
22	07:07 16:54 195	07:28 (5) 13:38 (9)	06:34 17:31 161	11:04 (9) 13:45 (9)	05:51 18:02	06:02 19:34	05:27 20:04	05:18 20:23
23	07:07 16:55 197	07:27 (5) 13:38 (9)	06:33 17:32 160	11:05 (9) 13:45 (9)	05:49 18:03	06:00 19:35	05:26 20:05	05:19 20:23
24	07:06 16:56 200	07:26 (5) 13:39 (9)	06:32 17:33 160	11:05 (9) 13:45 (9)	05:47 18:04	05:59 19:36	05:26 20:06	05:19 20:23
25	07:05 16:57 202	07:26 (5) 13:40 (9)	06:30 17:35 159	11:05 (9) 13:44 (9)	05:46 18:05	05:57 19:37	05:25 20:07	05:19 20:23
26	07:04 16:59 204	07:25 (5) 13:40 (9)	06:29 17:36 158	11:06 (9) 13:44 (9)	05:44 18:06	05:56 19:38	05:24 20:08	05:19 20:23
27	07:04 17:00 207	07:24 (5) 13:41 (9)	06:27 17:37 157	11:06 (9) 13:43 (9)	05:42 18:07	05:54 19:39	05:24 20:09	05:20 20:23
28	07:03 17:01 208	07:23 (5) 13:41 (9)	06:26 17:38 157	11:06 (9) 13:43 (9)	05:41 18:08	05:53 19:40	05:23 20:09	05:20 20:23
29	07:02 17:02 212	07:22 (5) 13:42 (9)			06:39 19:09	05:52 19:42	05:22 20:10	05:21 20:23
30	07:01 17:03 212	07:22 (5) 13:42 (9)			06:37 19:10	05:50 19:43	05:22 20:11	05:21 20:23
31	07:00 17:05 213	07:22 (5) 13:42 (9)			06:36 19:11		05:21 20:12	
Potential sun hours	299		298		370	398	447	450
Total, worst case	5346		5666		2630			

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: WON026_ShadowFlickering Shadow receptor: G - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° 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

	July	August	September	October	November	December		
1	05:22 20:23	05:45 20:05	06:15 19:22	06:44 18:33	11:57 (9) 14:11 (9)	06:18 16:23 (7)	06:52 16:23	10:48 (9) 13:12 (9)
2	05:22 20:23	05:46 20:04	06:16 19:21	06:45 18:31	11:54 (9) 14:11 (9)	06:19 16:46	06:53 (5) 16:22 (7)	10:49 (9) 13:12 (9)
3	05:22 20:23	05:47 20:03	06:17 19:19	06:46 18:29	11:52 (9) 14:12 (9)	06:20 16:44	06:54 (5) 16:21 (7)	10:49 (9) 13:12 (9)
4	05:23 20:23	05:48 20:02	06:18 19:18	06:47 18:28	11:50 (9) 14:13 (9)	06:21 16:43	06:55 (5) 16:20 (7)	10:50 (9) 13:12 (9)
5	05:24 20:23	05:49 20:00	06:19 19:16	06:48 18:26	11:48 (9) 14:13 (9)	06:22 16:42	06:54 (5) 16:18 (7)	10:51 (9) 13:12 (9)
6	05:24 20:22	05:50 19:59	06:20 19:14	06:49 18:24	11:47 (9) 14:14 (9)	06:23 16:41	06:53 (5) 13:14 (9)	10:51 (9) 13:13 (9)
7	05:25 20:22	05:51 19:58	06:21 19:13	06:50 18:23	11:45 (9) 14:14 (9)	06:25 16:40	06:54 (5) 13:15 (9)	10:52 (9) 13:13 (9)
8	05:25 20:22	05:52 19:57	06:22 19:11	06:51 18:21	11:44 (9) 14:14 (9)	06:26 16:39	06:53 (5) 13:15 (9)	10:53 (9) 13:13 (9)
9	05:26 20:22	05:53 19:56	06:23 19:09	06:52 18:20	11:43 (9) 14:14 (9)	06:27 16:38	06:53 (5) 13:14 (9)	10:54 (9) 13:13 (9)
10	05:27 20:21	05:54 19:54	06:24 19:08	06:53 18:18	11:41 (9) 14:15 (9)	06:28 16:37	06:53 (5) 13:14 (9)	10:55 (9) 13:14 (9)
11	05:27 20:21	05:55 19:53	06:25 19:06	06:54 18:16	11:41 (9) 14:16 (9)	06:29 16:36	06:54 (5) 13:14 (9)	10:55 (9) 13:14 (9)
12	05:28 20:20	05:56 19:52	06:26 19:04	06:56 18:15	11:40 (9) 14:16 (9)	06:31 16:35	06:54 (5) 13:14 (9)	10:56 (9) 13:14 (9)
13	05:29 20:20	05:57 19:50	06:27 19:03	06:57 18:13	11:39 (9) 14:16 (9)	06:32 16:34	06:54 (5) 13:14 (9)	10:56 (9) 13:14 (9)
14	05:30 20:19	05:57 19:49	06:28 19:01	06:58 18:12	11:39 (9) 14:16 (9)	06:33 16:33	06:55 (5) 13:13 (9)	10:57 (9) 13:15 (9)
15	05:30 20:19	05:58 19:48	06:29 18:59	06:59 18:10	11:38 (9) 14:16 (9)	06:34 16:32	06:57 (5) 13:14 (9)	10:58 (9) 13:15 (9)
16	05:31 20:18	05:59 19:46	06:30 18:58	07:00 18:09	11:37 (9) 14:16 (9)	06:35 16:31	06:58 (5) 13:13 (9)	10:58 (9) 13:15 (9)
17	05:32 20:18	06:00 19:45	06:30 18:56	07:01 18:07	11:36 (9) 14:16 (9)	06:36 16:31	06:59 (5) 13:13 (9)	10:59 (9) 13:15 (9)
18	05:33 20:17	06:01 19:44	06:31 18:54	07:02 18:06	11:36 (9) 14:16 (9)	06:38 16:30	07:00 (5) 13:13 (9)	11:00 (9) 13:16 (9)
19	05:33 20:16	06:02 19:42	06:32 18:53	07:03 18:04	11:35 (9) 14:16 (9)	06:39 16:29	07:01 (5) 13:12 (9)	10:59 (9) 13:16 (9)
20	05:34 20:16	06:03 19:41	06:33 18:51	07:04 18:03	08:24 (8) 17:22 (7)	06:40 16:28	07:03 (5) 13:13 (9)	11:00 (9) 13:17 (9)
21	05:35 20:15	06:04 19:39	06:34 18:49	07:05 18:01	08:17 (8) 17:25 (7)	06:41 16:28	07:04 (5) 13:13 (9)	11:00 (9) 13:17 (9)
22	05:36 20:14	06:05 19:38	06:35 18:48	07:06 18:00	08:14 (8) 17:27 (7)	06:42 16:27	07:05 (5) 13:13 (9)	11:01 (9) 13:18 (9)
23	05:37 20:13	06:06 19:36	06:36 18:46	07:07 17:59	08:12 (8) 17:28 (7)	06:43 16:26	07:06 (5) 13:12 (9)	11:01 (9) 13:18 (9)
24	05:38 20:12	06:07 19:35	06:37 18:44	07:09 17:57	08:09 (8) 17:28 (7)	06:44 16:26	07:07 (5) 13:12 (9)	11:02 (9) 13:19 (9)
25	05:39 20:11	06:08 19:32	06:38 18:43	07:10 17:56	07:09 (8) 16:30 (7)	06:45 16:25	07:16 (8) 13:13 (9)	11:03 (9) 13:19 (9)
26	05:39 20:11	06:09 19:32	06:39 18:41	07:11 17:55	07:07 (8) 16:30 (7)	06:47 16:25	07:17 (8) 13:13 (9)	11:03 (9) 13:19 (9)
27	05:40 20:10	06:10 19:30	06:40 18:39	07:12 17:54	07:06 (8) 16:30 (7)	06:48 16:24	07:19 (8) 13:12 (9)	11:04 (9) 13:21 (9)
28	05:41 20:09	06:11 19:29	06:41 18:38	07:13 17:53	07:05 (8) 16:28 (7)	06:49 16:24	07:21 (8) 13:12 (9)	11:04 (9) 13:21 (9)
29	05:42 20:08	06:12 19:27	06:42 18:36	07:14 17:52	07:04 (8) 16:27 (7)	06:50 16:24	07:23 (8) 13:12 (9)	11:04 (9) 13:21 (9)
30	05:43 20:07	06:13 19:26	06:43 18:34	07:15 17:51	07:04 (5) 16:26 (7)	06:51 16:23	07:27 (8) 13:12 (9)	11:04 (9) 13:22 (9)
31	05:44 20:06	06:14 19:24		07:16 16:48	07:00 (5) 16:25 (7)		07:12 16:31	11:04 (9) 13:22 (9)
Potential sun hours	457	427	375	346	299	290		
Total, worst case			821	5415	5985	4294		

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: WON026_ShadowFlickering Shadow receptor: H - Shadow Receptor: 1.0 × 1.0 Azimuth: -180.0° 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	07:12 16:32	06:59 17:06	06:24 17:39	06:34 19:12	05:49 19:43	05:21 20:12	05:21 20:23	05:45 20:05	06:15 19:22	06:44 18:33	06:18 16:47	06:52 16:23
2	07:12 16:33	06:58 17:07	06:23 17:40	06:33 19:13	05:48 19:45	05:20 20:13	05:22 20:23	05:46 20:04	06:16 19:21	06:45 18:31	06:19 16:46	06:53 16:23
3	07:12 16:34	06:57 17:08	06:21 17:41	06:31 19:14	05:47 19:46	05:20 20:14	05:22 20:23	05:47 20:03	06:17 19:19	06:46 18:29	06:20 16:44	06:54 16:22
4	07:12 16:35	06:56 17:09	06:20 17:43	06:29 19:16	05:45 19:47	05:20 20:15	05:23 20:23	05:48 20:01	06:18 19:18	06:47 18:28	06:21 16:43	06:55 16:22
5	07:12 16:36	06:55 17:11	06:18 17:44	06:28 19:17	05:44 19:48	05:19 20:15	05:24 20:23	05:49 20:00	06:19 19:16	06:48 18:26	06:22 16:42	06:56 16:22
6	07:12 16:36	06:54 17:12	06:16 17:45	06:26 19:18	05:43 19:49	05:19 20:16	05:24 20:22	05:50 19:59	06:20 19:14	06:49 18:24	06:23 16:41	06:57 16:22
7	07:12 16:37	06:53 17:13	06:15 17:46	06:24 19:19	05:42 19:50	05:19 20:16	05:25 20:22	05:51 19:58	06:21 19:13	06:50 18:23	06:25 16:40	06:58 16:22
8	07:12 16:38	06:52 17:14	06:13 17:47	06:23 19:20	05:41 19:51	05:18 20:17	05:25 20:22	05:52 19:57	06:22 19:11	06:51 18:21	06:26 16:39	06:59 16:22
9	07:12 16:39	06:51 17:16	06:12 17:48	06:21 19:21	05:39 19:52	05:18 20:18	05:26 20:21	05:53 19:56	06:23 19:09	06:52 18:20	06:27 16:38	07:00 16:22
10	07:12 16:40	06:50 17:17	06:10 17:49	06:20 19:22	05:38 19:53	05:18 20:18	05:27 20:21	05:54 19:54	06:24 19:08	06:53 18:18	06:28 16:37	07:00 16:22
11	07:12 16:41	06:49 17:18	06:09 17:50	06:18 19:23	05:37 19:54	05:18 20:19	05:27 20:21	05:55 19:53	06:25 19:06	06:54 18:16	06:29 16:36	07:01 16:22
12	07:12 16:42	06:47 17:19	06:07 17:51	06:17 19:24	05:36 19:55	05:18 20:19	05:28 20:20	05:55 19:52	06:26 19:04	06:55 18:15	06:30 16:35	07:02 16:22
13	07:11 16:44	06:46 17:20	06:05 17:52	06:15 19:25	05:35 19:56	05:18 20:20	05:29 20:20	05:56 19:50	06:27 19:03	06:57 18:13	06:32 16:34	07:03 16:22
14	07:11 16:45	06:45 17:22	06:04 17:54	06:13 19:26	05:34 19:57	05:18 20:20	05:29 20:19	05:57 19:49	06:28 19:01	06:58 18:12	06:33 16:33	07:04 16:22
15	07:11 16:46	06:44 17:23	06:02 17:55	06:12 19:27	05:33 19:58	05:18 20:21	05:30 20:19	05:58 19:48	06:28 18:59	06:59 18:10	06:34 16:32	07:04 16:23
16	07:10 16:47	06:42 17:24	06:00 17:56	06:10 19:28	05:32 19:59	05:18 20:21	05:31 20:18	05:59 19:46	06:29 18:58	07:00 18:09	06:35 16:31	07:05 16:23
17	07:10 16:48	06:41 17:25	05:59 17:57	06:09 19:29	05:31 20:00	05:18 20:21	05:32 20:17	06:00 19:45	06:30 18:56	07:01 18:07	06:36 16:31	07:06 16:23
18	07:09 16:49	06:40 17:26	05:57 17:58	06:07 19:30	05:30 20:00	05:18 20:22	05:33 20:17	06:01 19:44	06:31 18:54	07:02 18:06	06:37 16:30	07:06 16:24
19	07:09 16:50	06:38 17:28	05:56 17:59	06:06 19:31	05:30 20:01	05:18 20:22	05:33 20:16	06:02 19:42	06:32 18:53	07:03 18:04	06:39 16:29	07:07 16:24
20	07:08 16:51	06:37 17:29	05:54 18:00	06:04 19:32	05:29 20:02	05:18 20:22	05:34 20:15	06:03 19:41	06:33 18:51	07:04 18:03	06:40 16:28	07:08 16:24
21	07:08 16:53	06:36 17:30	05:52 18:01	06:03 19:33	05:28 20:03	05:18 20:23	05:35 20:15	06:04 19:39	06:34 18:49	07:05 18:01	06:41 16:28	07:08 16:25
22	07:07 16:54	06:34 17:31	05:51 18:02	06:01 19:34	05:27 20:04	05:18 20:23	05:36 20:14	06:05 19:38	06:35 18:48	07:06 18:00	06:42 16:27	07:09 16:25
23	07:07 16:55	06:33 17:32	05:49 18:03	06:00 19:35	05:26 20:05	05:19 20:23	05:37 20:13	06:06 19:36	06:36 18:46	07:07 17:59	06:43 16:26	07:09 16:26
24	07:06 16:56	06:31 17:33	05:47 18:04	05:59 19:36	05:26 20:06	05:19 20:23	05:38 20:12	06:07 19:35	06:37 18:44	07:08 17:57	06:44 16:26	07:10 16:26
25	07:05 16:57	06:30 17:35	05:46 18:05	05:57 19:37	05:25 20:07	05:19 20:23	05:39 20:11	06:08 19:33	06:38 18:43	06:10 16:56	06:45 16:25	07:10 16:27
26	07:04 16:58	06:29 17:36	05:44 18:06	05:56 19:38	05:24 20:08	05:19 20:23	05:39 20:11	06:09 19:32	06:39 18:41	06:11 16:54	06:47 16:25	07:10 16:28
27	07:04 17:00	06:27 17:37	05:42 18:07	05:54 19:39	05:24 20:08	05:20 20:23	05:40 20:10	06:10 19:30	06:40 18:39	06:12 16:53	06:48 16:24	07:11 16:28
28	07:03 17:01	06:26 17:38	05:41 18:08	05:53 19:40	05:23 20:09	05:20 20:23	05:41 20:09	06:11 19:29	06:41 18:38	06:13 16:52	06:49 16:24	07:11 16:29
29	07:02 17:02		06:39 19:09	05:52 19:41	05:22 20:10	05:21 20:23	05:42 20:08	06:12 19:27	06:42 18:36	06:14 16:50	06:50 16:24	07:11 16:30
30	07:01 17:03		06:37 19:10	05:50 19:42	05:22 20:11	05:21 20:23	05:43 20:07	06:13 19:26	06:43 18:34	06:15 16:49	06:51 16:23	07:12 16:30
31	07:00 17:05		06:36 19:11		05:21 20:12		05:44 20:06	06:14 19:24		06:16 16:48		07:12 16:31
Potential sun hours Total, worst case	299	298	370	398	447	450	457	427	375	346	299	290

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: WON026_ShadowFlickering Shadow receptor: I - Shadow Receptor: 1.0 × 1.0 Azimuth: -40.0° 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	07:12	07:57 (10)	06:59	08:01 (10)	06:24	06:34	05:49	05:21
	16:32	15:21 (4)	17:06	09:08 (10)	17:39	19:12	19:44	20:12
2	07:12	07:57 (10)	06:58	08:02 (10)	06:23	06:33	05:48	05:20
	16:33	15:21 (4)	17:07	09:08 (10)	17:40	19:14	19:45	20:13
3	07:13	07:57 (10)	06:58	08:02 (10)	06:21	06:31	05:47	05:20
	16:34	15:21 (4)	17:08	09:08 (10)	17:41	19:15	19:46	20:14
4	07:13	07:57 (10)	06:57	08:03 (10)	06:20	06:29	05:45	05:20
	16:35	15:21 (4)	17:09	09:07 (10)	17:43	19:16	19:47	20:15
5	07:13	07:57 (10)	06:55	08:03 (10)	06:18	06:28	05:44	05:19
	16:36	15:21 (4)	17:11	09:07 (10)	17:44	19:17	19:48	20:15
6	07:13	07:57 (10)	06:54	08:04 (10)	06:17	06:26	05:43	05:19
	16:36	15:21 (4)	17:12	09:07 (10)	17:45	19:18	19:49	20:16
7	07:13	07:57 (10)	06:53	08:05 (10)	06:15	06:24	05:42	05:19
	16:37	15:20 (4)	17:13	09:06 (10)	17:46	19:19	19:50	20:17
8	07:12	07:57 (10)	06:52	08:06 (10)	06:13	06:23	05:41	05:18
	16:38	15:20 (4)	17:14	09:06 (10)	17:47	19:20	19:51	20:17
9	07:12	07:58 (10)	06:51	08:06 (10)	06:12	06:21	05:40	05:18
	16:39	15:20 (4)	17:16	09:05 (10)	17:48	19:21	19:52	20:18
10	07:12	07:58 (10)	06:50	08:07 (10)	06:10	06:20	05:38	05:18
	16:40	15:20 (4)	17:17	09:03 (10)	17:49	19:22	19:53	20:18
11	07:12	07:58 (10)	06:49	08:08 (10)	06:09	06:18	05:37	05:18
	16:41	15:19 (4)	17:18	09:03 (10)	17:50	19:23	19:54	20:19
12	07:12	07:58 (10)	06:48	08:09 (10)	06:07	06:17	05:36	05:18
	16:42	15:18 (4)	17:19	09:02 (10)	17:51	19:24	19:55	20:19
13	07:11	07:58 (10)	06:46	08:10 (10)	06:05	06:15	05:35	05:18
	16:44	15:17 (4)	17:20	09:01 (10)	17:52	19:25	19:56	20:20
14	07:11	07:58 (10)	06:45	08:11 (10)	06:04	06:13	05:34	05:18
	16:45	15:15 (4)	17:22	08:59 (10)	17:54	19:26	19:57	20:20
15	07:11	07:58 (10)	06:44	08:12 (10)	06:02	06:12	05:33	05:18
	16:46	15:13 (4)	17:23	08:57 (10)	17:55	19:27	19:58	20:21
16	07:10	07:58 (10)	06:43	08:14 (10)	06:01	06:10	05:32	05:18
	16:47	09:04 (10)	17:24	08:56 (10)	17:56	19:28	19:59	20:21
17	07:10	07:59 (10)	06:41	08:15 (10)	05:59	06:09	05:31	05:18
	16:48	09:05 (10)	17:25	08:53 (10)	17:57	19:29	20:00	20:21
18	07:09	07:58 (10)	06:40	08:18 (10)	05:57	06:07	05:30	05:18
	16:49	09:05 (10)	17:26	08:51 (10)	17:58	19:30	20:01	20:22
19	07:09	07:59 (10)	06:39	08:21 (10)	05:56	06:06	05:30	05:18
	16:50	09:06 (10)	17:28	08:48 (10)	17:59	19:31	20:01	20:22
20	07:08	07:59 (10)	06:37	08:23 (10)	05:54	06:04	05:29	05:18
	16:51	09:06 (10)	17:29	08:44 (10)	18:00	19:32	20:02	20:22
21	07:08	07:59 (10)	06:36	08:30 (10)	05:52	06:03	05:28	05:18
	16:53	09:06 (10)	17:30	08:38 (10)	18:01	19:33	20:03	20:23
22	07:07	07:59 (10)	06:34		05:51	06:02	05:27	05:18
	16:54	09:07 (10)	17:31		18:02	19:34	20:04	20:23
23	07:07	07:59 (10)	06:33		05:49	06:00	05:26	05:19
	16:55	09:08 (10)	17:32		18:03	19:35	20:05	20:23
24	07:06	07:59 (10)	06:32		05:47	05:59	05:26	05:19
	16:56	09:08 (10)	17:33		18:04	19:36	20:06	20:23
25	07:05	08:00 (10)	06:30		05:46	05:57	05:25	05:19
	16:57	09:09 (10)	17:35		18:05	19:37	20:07	20:23
26	07:04	08:00 (10)	06:29		05:44	05:56	05:24	05:19
	16:58	09:09 (10)	17:36		18:06	19:38	20:08	20:23
27	07:04	08:00 (10)	06:27		05:42	05:54	05:24	05:20
	17:00	09:09 (10)	17:37		18:07	19:39	20:09	20:23
28	07:03	08:00 (10)	06:26		05:41	05:53	05:23	05:20
	17:01	09:09 (10)	17:38		18:08	19:40	20:09	20:23
29	07:02	08:00 (10)			06:39	05:52	05:22	05:21
	17:02	09:09 (10)			19:09	19:42	20:10	20:23
30	07:01	08:01 (10)			06:37	05:50	05:22	05:21
	17:03	09:08 (10)			19:10	19:43	20:11	20:23
31	07:00	08:01 (10)			06:36		05:21	
	17:05	09:08 (10)			19:11		20:12	
Potential sun hours	299	298		370	398	447		451
Total, worst case	2425	1047						

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: WON026_ShadowFlickering Shadow receptor: I - Shadow Receptor: 1.0 × 1.0 Azimuth: -40.0° 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	05:21 20:23	05:45 20:05	06:15 19:22	06:44 18:33	06:18 16:47	07:36 (10) 08:33 (10)
2	05:22 20:23	05:46 20:04	06:16 19:21	06:45 18:31	06:19 16:46	07:35 (10) 08:34 (10)
3	05:22 20:23	05:47 20:03	06:17 19:19	06:46 18:29	06:20 16:44	07:35 (10) 08:36 (10)
4	05:23 20:23	05:48 20:02	06:18 19:18	06:47 18:28	06:21 16:43	07:34 (10) 08:36 (10)
5	05:24 20:23	05:49 20:00	06:19 19:16	06:48 18:26	06:22 16:42	07:34 (10) 08:37 (10)
6	05:24 20:22	05:50 19:59	06:20 19:14	06:49 18:24	06:24 16:41	07:33 (10) 08:37 (10)
7	05:25 20:22	05:51 19:58	06:21 19:13	06:50 18:23	06:25 16:40	07:34 (10) 08:38 (10)
8	05:25 20:22	05:52 19:57	06:22 19:11	06:51 18:21	06:26 16:39	07:33 (10) 08:39 (10)
9	05:26 20:22	05:53 19:56	06:23 19:09	06:52 18:20	06:27 16:38	07:33 (10) 08:39 (10)
10	05:27 20:21	05:54 19:54	06:24 19:08	06:53 18:18	06:28 16:37	07:32 (10) 08:39 (10)
11	05:27 20:21	05:55 19:53	06:25 19:06	06:54 18:16	06:29 16:36	07:33 (10) 08:40 (10)
12	05:28 20:20	05:56 19:52	06:26 19:04	06:56 18:15	06:31 16:35	07:33 (10) 08:40 (10)
13	05:29 20:20	05:56 19:50	06:27 19:03	06:57 18:13	06:32 16:34	07:32 (10) 08:41 (10)
14	05:29 20:19	05:57 19:49	06:28 19:01	06:58 18:12	06:33 16:33	07:32 (10) 08:41 (10)
15	05:30 20:19	05:58 19:48	06:29 18:59	06:59 18:10	06:34 16:32	07:33 (10) 08:42 (10)
16	05:31 20:18	05:59 19:46	06:29 18:58	07:00 18:09	06:35 16:31	07:33 (10) 08:42 (10)
17	05:32 20:18	06:00 19:45	06:30 18:56	07:01 18:07	06:36 16:31	07:33 (10) 08:42 (10)
18	05:33 20:17	06:01 19:44	06:31 18:54	07:02 18:06	06:38 16:30	07:33 (10) 08:42 (10)
19	05:33 20:16	06:02 19:42	06:32 18:52	07:03 18:04	06:39 16:29	07:33 (10) 08:42 (10)
20	05:34 20:16	06:03 19:41	06:33 18:51	07:04 18:03	06:40 16:28	07:34 (10) 08:42 (10)
21	05:35 20:15	06:04 19:39	06:34 18:49	07:05 18:01	06:41 16:28	07:35 (10) 08:42 (10)
22	05:36 20:14	06:05 19:38	06:35 18:48	07:06 18:00	06:42 16:27	07:35 (10) 08:42 (10)
23	05:37 20:13	06:06 19:36	06:36 18:46	07:07 17:59	06:43 16:26	07:35 (10) 08:42 (10)
24	05:38 20:12	06:07 19:35	06:37 18:44	07:09 17:57	06:44 16:26	07:35 (10) 08:42 (10)
25	05:39 20:12	06:08 19:33	06:38 18:43	07:10 16:56	06:46 16:25	07:37 (10) 08:43 (10)
26	05:39 20:11	06:09 19:32	06:39 18:41	07:11 16:54	06:47 16:25	07:37 (10) 08:43 (10)
27	05:40 20:10	06:10 19:30	06:40 18:39	07:12 16:53	06:48 16:24	07:37 (10) 14:52 (4)
28	05:41 20:09	06:11 19:29	06:41 18:38	07:13 16:52	06:49 16:24	07:38 (10) 14:55 (4)
29	05:42 20:08	06:12 19:27	06:42 18:36	07:14 16:51	06:50 16:24	07:38 (10) 14:57 (4)
30	05:43 20:07	06:13 19:26	06:43 18:34	07:15 16:49	06:51 16:23	07:39 (10) 14:59 (4)
31	05:44 20:06	06:14 19:24		07:16 16:48	07:37 (10)	07:12 16:31
Potential sun hours	457	427	375	346	299	290
Total, worst case				437	2036	2923

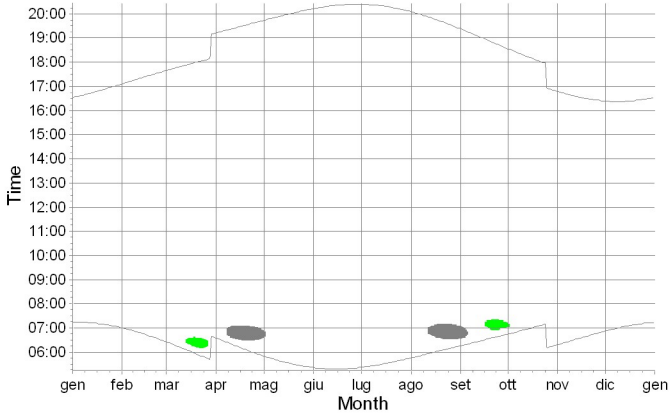
Table layout: For each day in each month the following matrix apply

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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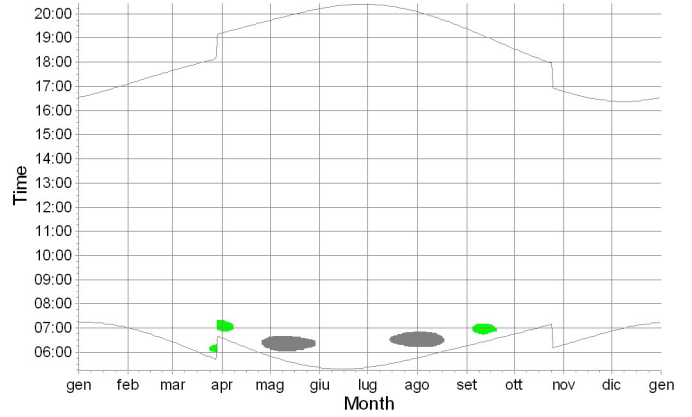
SHADOW - Calendar, graphical

Calculation: WON026_ShadowFlickering

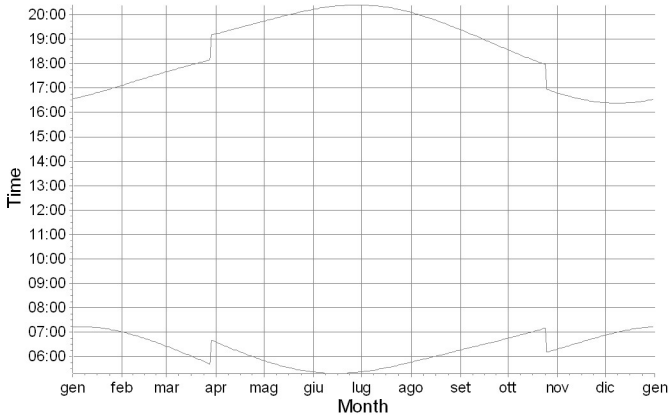
A: Shadow Receptor: 1.0 × 1.0 Azimuth: -150.0° Slope: 90.0° (1)



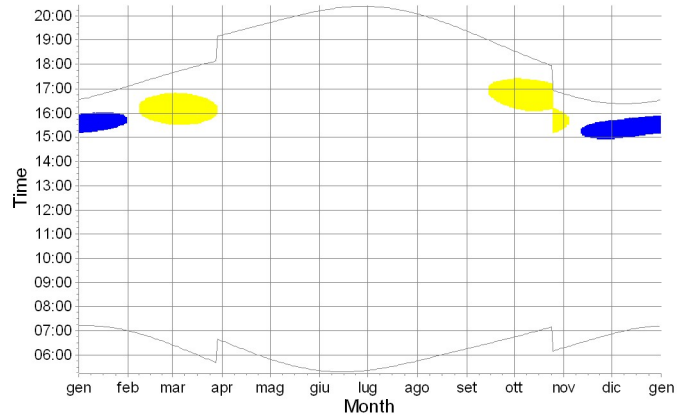
B: Shadow Receptor: 1.0 × 1.0 Azimuth: -170.0° Slope: 90.0° (2)



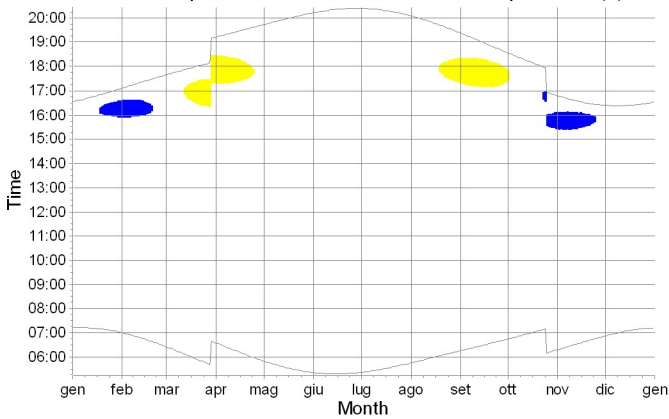
C: Shadow Receptor: 1.0 × 1.0 Azimuth: -150.0° Slope: 90.0° (3)



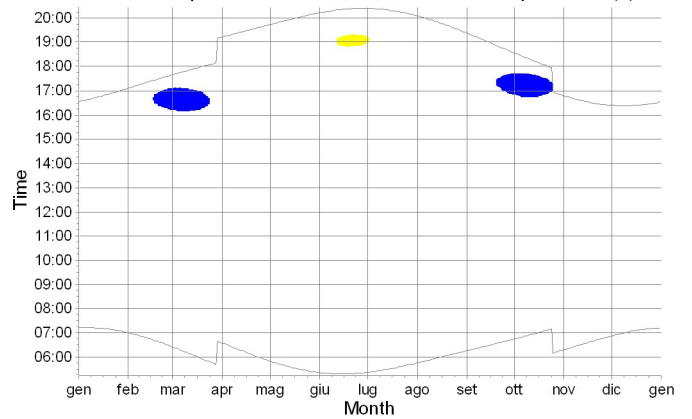
D: Shadow Receptor: 1.0 × 1.0 Azimuth: 80.0° Slope: 90.0° (4)



E: Shadow Receptor: 1.0 × 1.0 Azimuth: 90.0° Slope: 90.0° (5)



F: Shadow Receptor: 1.0 × 1.0 Azimuth: 100.0° Slope: 90.0° (6)



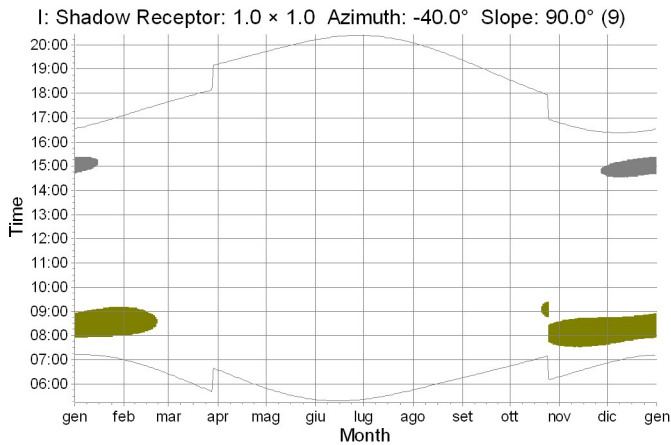
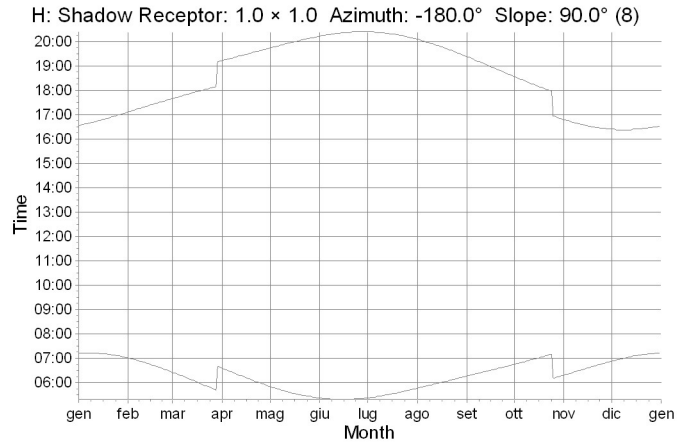
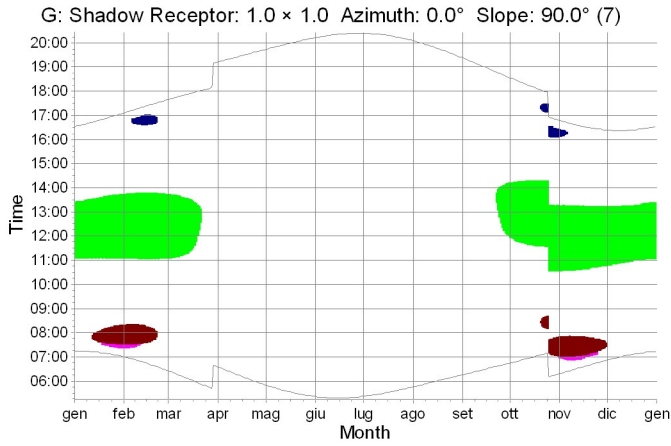
WTGs

2: VESTAS V172-7.2 7200 172.0 !O! hub: 150.0 m (TOT: 236.0 m) (2)
 3: VESTAS V172-7.2 7200 172.0 !O! hub: 150.0 m (TOT: 236.0 m) (3)

4: VESTAS V172-7.2 7200 172.0 !O! hub: 150.0 m (TOT: 236.0 m) (4)
 9: VESTAS V172-7.2 7200 172.0 !O! hub: 150.0 m (TOT: 236.0 m) (9)

SHADOW - Calendar, graphical

Calculation: WON026_ShadowFlickering



WTGs

4: VESTAS V172-7.2 7200 172.0 !O! hub: 150.0 m (TOT: 236.0 m) (4)
5: VESTAS V172-7.2 7200 172.0 !O! hub: 150.0 m (TOT: 236.0 m) (5)
7: VESTAS V172-7.2 7200 172.0 !O! hub: 150.0 m (TOT: 236.0 m) (7)

8: VESTAS V172-7.2 7200 172.0 !O! hub: 150.0 m (TOT: 236.0 m) (8)
9: VESTAS V172-7.2 7200 172.0 !O! hub: 150.0 m (TOT: 236.0 m) (9)
10: VESTAS V172-7.2 7200 172.0 !O! hub: 150.0 m (TOT: 236.0 m) (10)

SHADOW - Calendar per WTG

Calculation: WON026_ShadowFlickering WTG: 1 - VESTAS V172-7.2 7200 172.0 IO! hub: 150.0 m (TOT: 236.0 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	July	August	September	October	November	December
1	07:12 16:32	07:00 17:06	06:24 17:39	06:34 19:13	05:49 19:44	05:21 20:13	05:22 20:24	05:45 20:05	06:15 19:23	06:44 18:33	06:18 16:47	06:52 16:23
2	07:13 16:33	06:59 17:07	06:23 17:41	06:33 19:14	05:48 19:45	05:21 20:13	05:22 20:23	05:46 20:04	06:16 19:21	06:45 18:31	06:19 16:46	06:53 16:23
3	07:13 16:34	06:58 17:08	06:21 17:42	06:31 19:15	05:47 19:46	05:20 20:14	05:23 20:23	05:47 20:03	06:17 19:19	06:46 18:30	06:20 16:45	06:54 16:23
4	07:13 16:35	06:57 17:10	06:20 17:43	06:30 19:16	05:46 19:47	05:20 20:15	05:23 20:23	05:48 20:02	06:18 19:18	06:47 18:28	06:21 16:43	06:55 16:22
5	07:13 16:36	06:56 17:11	06:18 17:44	06:28 19:17	05:44 19:48	05:19 20:15	05:24 20:23	05:49 20:01	06:19 19:16	06:48 18:26	06:23 16:42	06:56 16:22
6	07:12 16:37	06:55 17:12	06:17 17:45	06:26 19:18	05:43 19:49	05:19 20:16	05:24 20:23	05:50 19:59	06:20 19:15	06:49 18:25	06:24 16:41	06:57 16:22
7	07:13 16:38	06:54 17:13	06:15 17:46	06:25 19:19	05:42 19:50	05:19 20:17	05:25 20:22	05:51 19:58	06:21 19:13	06:51 18:23	06:25 16:40	06:58 16:22
8	07:13 16:39	06:52 17:15	06:14 17:47	06:23 19:20	05:41 19:51	05:19 20:17	05:26 20:22	05:52 19:57	06:22 19:11	06:52 18:21	06:26 16:39	06:59 16:22
9	07:12 16:40	06:51 17:16	06:12 17:48	06:21 19:21	05:40 19:52	05:18 20:18	05:26 20:22	05:53 19:56	06:23 19:10	06:53 18:20	06:27 16:38	07:00 16:22
10	07:12 16:41	06:50 17:17	06:10 17:49	06:20 19:22	05:39 19:53	05:18 20:19	05:27 20:21	05:54 19:55	06:24 19:08	06:54 18:18	06:28 16:37	07:01 16:22
11	07:12 16:42	06:49 17:18	06:09 17:50	06:18 19:23	05:37 19:54	05:18 20:19	05:27 20:21	05:55 19:53	06:25 19:06	06:55 18:17	06:30 16:36	07:02 16:22
12	07:12 16:43	06:48 17:19	06:07 17:52	06:17 19:24	05:36 19:55	05:18 20:20	05:28 20:20	05:56 19:52	06:26 19:05	06:56 18:15	06:31 16:35	07:02 16:22
13	07:12 16:44	06:47 17:21	06:06 17:53	06:15 19:25	05:35 19:56	05:18 20:20	05:29 20:20	05:57 19:51	06:27 19:03	06:57 18:14	06:32 16:34	07:03 16:22
14	07:11 16:45	06:45 17:22	06:04 17:54	06:14 19:26	05:34 19:57	05:18 20:20	05:30 20:19	05:58 19:49	06:28 19:01	06:58 18:12	06:33 16:33	07:04 16:23
15	07:11 16:46	06:44 17:23	06:02 17:55	06:12 19:27	05:33 19:58	05:18 20:21	05:30 20:19	05:59 19:48	06:29 19:00	06:59 18:10	06:34 16:32	07:05 16:23
16	07:11 16:47	06:43 17:24	06:01 17:56	06:11 19:28	05:32 19:59	05:18 20:21	05:31 20:18	06:00 19:47	06:30 18:58	07:00 18:09	06:35 16:31	07:05 16:23
17	07:10 16:48	06:41 17:25	05:59 17:57	06:09 19:29	05:32 20:00	05:18 20:22	05:32 20:18	06:01 19:45	06:31 18:56	07:01 18:07	06:37 16:31	07:06 16:23
18	07:10 16:49	06:40 17:27	05:57 17:58	06:08 19:30	05:31 20:01	05:18 20:22	05:33 20:17	06:02 19:44	06:32 18:55	07:02 18:06	06:38 16:30	07:07 16:24
19	07:09 16:50	06:39 17:28	05:56 17:59	06:06 19:31	05:30 20:02	05:18 20:22	05:34 20:16	06:03 19:42	06:33 18:53	07:03 18:04	06:39 16:29	07:07 16:24
20	07:09 16:52	06:37 17:29	05:54 18:00	06:05 19:32	05:29 20:03	05:18 20:23	05:34 20:16	06:03 19:41	06:34 18:51	07:04 18:03	06:40 16:28	07:08 16:24
21	07:08 16:53	06:36 17:30	05:52 18:01	06:03 19:33	05:28 20:04	05:18 20:23	05:35 20:15	06:04 19:39	06:35 18:50	07:05 18:02	06:41 16:28	07:08 16:25
22	07:07 16:54	06:35 17:31	05:51 18:02	06:02 19:34	05:27 20:04	05:19 20:23	05:36 20:14	06:05 19:38	06:35 18:48	07:07 18:00	06:42 16:27	07:09 16:25
23	07:07 16:55	06:33 17:32	05:49 18:03	06:00 19:35	05:27 20:05	05:19 20:23	05:37 20:13	06:06 19:37	06:36 18:46	07:08 17:59	06:43 16:27	07:09 16:26
24	07:06 16:56	06:32 17:34	05:48 18:04	05:59 19:37	05:26 20:06	05:19 20:23	05:38 20:13	06:07 19:35	06:37 18:44	07:09 17:57	06:45 16:26	07:10 16:26
25	07:05 16:57	06:30 17:35	05:46 18:05	05:57 19:38	05:25 20:07	05:19 20:23	05:39 20:12	06:08 19:34	06:38 18:43	07:10 18:43	06:46 16:56	07:10 16:27
26	07:05 16:59	06:29 17:36	05:44 18:06	05:56 19:39	05:24 20:08	05:20 20:24	05:40 20:11	06:09 19:32	06:39 18:41	07:11 16:55	06:47 16:25	07:11 16:28
27	07:04 17:00	06:27 17:37	05:43 18:07	05:55 19:40	05:24 20:09	05:20 20:24	05:40 20:10	06:10 19:30	06:40 18:39	07:12 16:53	06:48 16:25	07:11 16:28
28	07:03 17:01	06:26 17:38	05:41 18:08	05:53 19:41	05:23 20:10	05:20 20:24	05:41 20:09	06:11 19:29	06:41 18:38	07:13 16:52	06:49 16:24	07:11 16:29
29	07:02 17:02		06:39 19:10	05:52 19:42	05:23 20:10	05:21 20:24	05:42 20:08	06:12 19:27	06:42 18:36	07:14 16:51	06:50 16:24	07:12 16:30
30	07:01 17:04		06:38 19:11	05:51 19:43	05:22 20:11	05:21 20:24	05:43 20:07	06:13 19:26	06:43 18:34	07:15 16:49	06:51 16:23	07:12 16:30
31	07:01 17:05		06:36 19:12		05:22 20:12		05:44 20:06	06:14 19:24		06:17 16:48		07:12 16:31
Potential sun hours	299	298	370	398	447	451	457	427	375	346	299	289
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	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: WON026_ShadowFlickering WTG: 2 - VESTAS V172-7.2 7200 172.0 IO! hub: 150.0 m (TOT: 236.0 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	07:12 16:32	07:00 17:06	06:24 15:33-16:47/74 17:39	06:34 17:20-18:25/65 19:13	05:49 19:44	05:21 20:13
2	07:13 16:33	06:59 17:07	06:23 15:33-16:48/75 17:40	06:33 17:19-18:25/66 19:14	05:48 19:45	05:21 20:13
3	07:13 16:34	06:58 17:08	06:21 15:32-16:47/75 17:42	06:31 17:19-18:24/65 19:15	05:47 19:46	05:20 20:14
4	07:13 16:35	06:57 17:10	06:20 15:32-16:47/75 17:43	06:29 17:19-18:24/65 19:16	05:46 19:47	05:20 20:15
5	07:13 16:36	06:56 17:11	06:18 15:32-16:47/75 17:44	06:28 17:19-18:23/64 19:17	05:44 19:48	05:20 20:15
6	07:13 16:37	06:55 17:12	06:17 15:32-16:46/74 17:45	06:26 17:20-18:23/63 19:18	05:43 19:49	05:19 20:16
7	07:13 16:38	06:53 17:13	06:15 15:32-16:47/75 17:46	06:25 17:20-18:22/62 19:19	05:42 19:50	05:19 20:17
8	07:13 16:39	06:52 16:01-16:21/20 17:15	06:14 15:32-16:46/74 17:47	06:23 17:19-18:21/62 19:20	05:41 19:51	05:19 20:17
9	07:12 16:40	06:51 15:57-16:25/28 17:16	06:12 15:33-16:46/73 17:48	06:21 17:20-18:21/61 19:21	05:40 19:52	05:18 20:18
10	07:12 16:41	06:50 15:53-16:27/34 17:17	06:10 15:33-16:45/72 17:49	06:20 17:20-18:20/60 19:22	05:39 19:53	05:18 20:18
11	07:12 16:42	06:49 15:51-16:30/39 17:18	06:09 15:33-16:44/71 17:50	06:18 17:21-18:20/59 19:23	05:37 19:54	05:18 20:19
12	07:12 16:43	06:48 15:49-16:32/43 17:19	06:07 16:52-17:05/13 17:52 15:34-16:44/70	06:17 17:22-18:18/56 19:24	05:36 19:55	05:18 18:57-19:07/10 20:19
13	07:12 16:44	06:46 15:48-16:35/47 17:21	06:06 16:46-17:09/23 17:53 15:34-16:43/69	06:15 17:23-18:18/55 19:25	05:35 19:56	05:18 18:55-19:09/14 20:20
14	07:11 16:45	06:45 15:45-16:36/51 17:22	06:04 15:34-17:12/98 17:54	06:14 17:23-18:16/53 19:26	05:34 19:57	05:18 18:53-19:11/18 20:20
15	07:11 16:46	06:44 15:44-16:37/53 17:23	06:02 15:35-17:15/100 17:55	06:12 17:25-18:15/50 19:27	05:33 19:58	05:18 18:53-19:12/19 20:21
16	07:10 16:47	06:43 15:43-16:39/56 17:24	06:01 15:35-17:17/102 17:56	06:11 17:25-18:13/48 19:28	05:32 19:59	05:18 18:52-19:13/21 20:21
17	07:10 16:48	06:41 15:41-16:40/59 17:25	05:59 15:36-17:18/102 17:57	06:09 17:27-18:12/45 19:29	05:32 20:00	05:18 18:51-19:14/23 20:22
18	07:10 16:49	06:40 15:40-16:41/61 17:27	05:57 15:37-17:20/103 17:58	06:08 17:27-18:10/43 19:30	05:31 20:01	05:18 18:51-19:15/24 20:22
19	07:09 16:50	06:39 15:40-16:42/62 17:28	05:56 15:38-17:21/103 17:59	06:06 17:29-18:09/40 19:31	05:30 20:02	05:18 18:51-19:15/24 20:22
20	07:09 16:52	06:37 15:38-16:43/65 17:29	05:54 15:39-17:22/103 18:00	06:05 17:30-18:06/36 19:32	05:29 20:03	05:18 18:51-19:15/24 20:22
21	07:08 16:53	06:36 15:38-16:44/66 17:30	05:52 15:41-17:23/102 18:01	06:03 17:33-18:04/31 19:33	05:28 20:03	05:18 18:52-19:17/25 20:23
22	07:07 16:54	06:35 15:37-16:45/68 17:31	05:51 15:42-17:23/101 18:02	06:02 17:35-18:01/26 19:34	05:27 20:04	05:19 18:52-19:17/25 20:23
23	07:07 16:55	06:33 15:36-16:45/69 17:32	05:49 15:44-17:25/101 18:03	06:00 17:38-17:58/20 19:35	05:27 20:05	05:19 18:52-19:16/24 20:23
24	07:06 16:56	06:32 15:36-16:46/70 17:34	05:48 15:45-17:25/100 18:04	05:59 17:43-17:53/10 19:36	05:26 20:06	05:19 18:52-19:16/24 20:23
25	07:05 16:57	06:30 15:35-16:46/71 17:35	05:46 15:47-17:25/98 18:05	05:57 19:37	05:25 20:07	05:19 18:53-19:16/23 20:23
26	07:05 16:59	06:29 15:34-16:47/73 17:36	05:44 15:50-17:26/96 18:06	05:56 19:39	05:24 20:08	05:20 18:54-19:16/22 20:23
27	07:04 17:00	06:27 15:33-16:47/74 17:37	05:43 16:22-17:26/64 18:07 15:53-16:20/27	05:55 19:40	05:24 20:09	05:20 18:54-19:15/21 20:24
28	07:03 17:01	06:26 15:34-16:47/73 17:38	05:41 16:21-17:25/64 18:08 15:56-16:15/19	05:53 19:41	05:23 20:09	05:20 18:56-19:15/19 20:24
29	07:02 17:02		06:39 17:21-18:26/65 19:09	05:52 19:42	05:23 20:10	05:21 18:57-19:13/16 20:24
30	07:01 17:04		06:38 17:20-18:26/66 19:11	05:51 19:43	05:22 20:11	05:21 19:00-19:12/12 20:24
31	07:00 17:05		06:36 17:20-18:25/65 19:12		05:22 20:12	
Potential sun hours	299	298	370	398	447	450
Sum of minutes with flicker	0	1182	2667	1205	0	388

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: WON026_ShadowFlickering WTG: 2 - VESTAS V172-7.2 7200 172.0 !O! hub: 150.0 m (TOT: 236.0 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	05:22 19:02-19:09/7 20:23	05:45 20:05	06:15 17:20-18:19/59 19:23	06:44 17:28-17:46/18 18:33 16:12-17:23/71	06:18 15:24-15:57/33 16:47	06:52 16:23
2	05:22 20:23	05:46 20:04	06:16 17:19-18:19/60 19:21	06:45 16:11-17:23/72 18:31	06:19 15:27-15:53/26 16:46	06:53 16:23
3	05:23 20:23	05:47 20:03	06:17 17:18-18:19/61 19:19	06:46 16:10-17:23/73 18:30	06:20 15:32-15:50/18 16:45	06:54 16:23
4	05:23 20:23	05:48 20:02	06:18 17:17-18:19/62 19:18	06:47 16:10-17:23/73 18:28	06:21 16:43	06:55 16:22
5	05:24 20:23	05:49 20:01	06:19 17:16-18:18/62 19:16	06:48 16:09-17:22/73 18:26	06:22 16:42	06:56 16:22
6	05:24 20:23	05:50 19:59	06:20 17:15-18:19/64 19:15	06:49 16:08-17:22/74 18:25	06:24 16:41	06:57 16:22
7	05:25 20:22	05:51 19:58	06:21 17:14-18:18/64 19:13	06:50 16:08-17:22/74 18:23	06:25 16:40	06:58 16:22
8	05:26 20:22	05:52 19:57	06:22 17:14-18:18/64 19:11	06:52 16:07-17:22/75 18:21	06:26 16:39	06:59 16:22
9	05:26 20:22	05:53 19:56	06:23 17:13-18:18/65 19:10	06:53 16:07-17:22/75 18:20	06:27 16:38	07:00 16:22
10	05:27 20:21	05:54 19:54	06:24 17:13-18:18/65 19:08	06:54 16:07-17:22/75 18:18	06:28 16:37	07:01 16:22
11	05:28 20:21	05:55 19:53	06:25 17:12-18:18/66 19:06	06:55 16:07-17:21/74 18:17	06:29 16:36	07:01 16:22
12	05:28 20:20	05:56 19:52	06:26 17:12-18:17/65 19:05	06:56 16:06-17:21/75 18:15	06:31 16:35	07:02 16:22
13	05:29 20:20	05:57 19:51	06:27 17:12-18:17/65 19:03	06:57 16:06-17:20/74 18:14	06:32 16:34	07:03 16:22
14	05:30 20:19	05:58 19:49	06:28 17:11-18:16/65 19:01	06:58 16:06-17:20/74 18:12	06:33 16:33	07:04 16:23
15	05:30 20:19	05:59 19:48	06:29 17:11-18:16/65 19:00	06:59 16:06-17:19/73 18:10	06:34 16:32	07:05 16:23
16	05:31 20:18	06:00 19:47	06:30 17:11-18:15/64 18:58 16:43-17:09/26	07:00 16:06-17:18/72 18:09	06:35 16:31	07:05 16:23
17	05:32 20:18	06:01 19:45	06:31 16:39-18:14/95 18:56	07:01 16:06-17:17/71 18:07	06:36 16:31	07:06 16:23
18	05:33 20:17	06:02 19:44	06:32 16:36-18:13/97 18:55	07:02 16:06-17:16/70 18:06	06:38 16:30	07:07 16:24
19	05:34 20:16	06:03 17:48-18:00/12 19:42	06:33 16:33-18:12/99 18:53	07:03 16:08-17:16/68 18:04	06:39 16:29	07:07 16:24
20	05:34 20:16	06:03 17:43-18:05/22 19:41	06:34 16:30-18:10/100 18:51	07:04 16:08-17:15/67 18:03	06:40 16:29	07:08 16:25
21	05:35 20:15	06:04 17:40-18:07/27 19:39	06:34 16:27-18:09/102 18:49	07:05 16:08-17:14/66 18:02	06:41 16:28	07:08 16:25
22	05:36 20:14	06:05 17:36-18:09/33 19:38	06:35 16:25-18:08/103 18:48	07:06 16:09-17:13/64 18:00	06:42 16:27	07:09 16:25
23	05:37 20:13	06:06 17:34-18:10/36 19:36	06:36 16:24-18:06/102 18:46	07:08 16:10-17:12/62 17:59	06:43 16:27	07:09 16:26
24	05:38 20:13	06:07 17:32-18:12/40 19:35	06:37 16:22-18:05/103 18:44	07:09 16:10-17:10/60 17:57	06:44 16:26	07:10 16:26
25	05:39 20:12	06:08 17:30-18:13/43 19:33	06:38 16:20-18:03/103 18:43	06:10 15:12-16:10/58 16:56	06:46 16:26	07:10 16:27
26	05:40 20:11	06:09 17:28-18:14/46 19:32	06:39 16:19-18:01/102 18:41	06:11 15:13-16:08/55 16:55	06:47 16:25	07:11 16:28
27	05:40 20:10	06:10 17:27-18:15/48 19:30	06:40 16:17-17:59/102 18:39	06:12 15:14-16:07/53 16:53	06:48 16:25	07:11 16:28
28	05:41 20:09	06:11 17:25-18:16/51 19:29	06:41 16:16-17:57/101 18:38	06:13 15:15-16:05/50 16:52	06:49 16:24	07:11 16:29
29	05:42 20:08	06:12 17:24-18:17/53 19:27	06:42 16:15-17:54/99 18:36	06:14 15:17-16:03/46 16:51	06:50 16:24	07:12 16:30
30	05:43 20:07	06:13 17:23-18:18/55 19:26	06:43 17:24-17:50/26 18:34	06:15 15:20-16:02/42 16:49	06:51 16:23	07:12 16:30
31	05:44 20:06	06:14 17:21-18:18/57 19:24		06:17 15:21-15:59/38 16:48		07:12 16:31
Potential sun hours	457	427	375	346	299	290
Sum of minutes with flicker	7	523	2462	2065	77	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: WON026_ShadowFlickering WTG: 3 - VESTAS V172-7.2 7200 172.0 IO! hub: 150.0 m (TOT: 236.0 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

	January	February	March	April	May	June
1	07:12 15:11-15:54/43 16:32	07:00 15:55-16:34/39 17:06	06:24 16:13-17:04/51 17:39	06:34 19:13	05:49 19:44	05:21 20:13
2	07:13 15:12-15:54/42 16:33	06:59 15:55-16:34/39 17:07	06:23 16:13-17:05/52 17:41	06:33 19:14	05:48 19:45	05:21 20:13
3	07:13 15:12-15:55/43 16:34	06:58 15:55-16:35/40 17:08	06:21 16:12-17:04/52 17:42	06:31 19:15	05:47 19:46	05:20 20:14
4	07:13 15:13-15:55/42 16:35	06:57 15:55-16:35/40 17:10	06:20 16:11-17:04/53 17:43	06:29 19:16	05:46 19:47	05:20 20:15
5	07:13 15:13-15:56/43 16:36	06:56 15:55-16:35/40 17:11	06:18 16:11-17:05/54 17:44	06:28 19:17	05:44 19:48	05:20 20:15
6	07:13 15:13-15:55/42 16:37	06:55 15:55-16:35/40 17:12	06:17 16:11-17:04/53 17:45	06:26 19:18	05:43 19:49	05:19 20:16
7	07:13 15:13-15:56/43 16:38	06:53 15:56-16:35/39 17:13	06:15 16:11-17:04/53 17:46	06:25 19:19	05:42 19:50	05:19 20:17
8	07:13 15:14-15:56/42 16:39	06:52 15:56-16:35/39 17:15	06:14 16:11-17:04/53 17:47	06:23 19:20	05:41 19:51	05:19 20:17
9	07:12 15:15-15:57/42 16:40	06:51 15:57-16:35/38 17:16	06:12 16:11-17:04/53 17:48	06:21 19:21	05:40 19:52	05:18 20:18
10	07:12 15:15-15:58/43 16:41	06:50 15:56-16:34/38 17:17	06:10 16:11-17:03/52 17:49	06:20 19:22	05:39 19:53	05:18 20:18
11	07:12 15:15-15:57/42 16:42	06:49 15:57-16:34/37 17:18	06:09 16:11-17:02/51 17:50	06:18 19:23	05:38 19:54	05:18 20:19
12	07:12 15:16-15:58/42 16:43	06:48 15:58-16:34/36 17:19	06:07 16:12-17:02/50 17:52	06:17 19:24	05:36 19:55	05:18 20:19
13	07:12 15:17-15:58/41 16:44	06:46 15:59-16:33/34 17:21	06:06 16:12-17:01/49 17:53	06:15 19:25	05:35 19:56	05:18 20:20
14	07:11 15:17-15:58/41 16:45	06:45 16:00-16:32/32 17:22	06:04 16:12-16:59/47 17:54	06:14 19:26	05:34 19:57	05:18 20:20
15	07:11 15:18-15:59/41 16:46	06:44 16:01-16:31/30 17:23	06:02 16:13-16:59/46 17:55	06:12 19:27	05:33 19:58	05:18 20:21
16	07:10 15:18-15:58/40 16:47	06:43 16:03-16:30/27 17:24	06:01 16:14-16:57/43 17:56	06:11 19:28	05:32 19:59	05:18 20:21
17	07:10 15:19-15:59/40 16:48	06:41 16:36-16:43/7 17:25	05:59 16:14-16:56/42 17:57	06:09 19:29	05:32 20:00	05:18 20:22
18	07:10 16:05-16:16/11 16:49	06:40 16:30-16:49/19 17:27	05:57 16:16-16:55/39 17:58	06:08 19:30	05:31 20:01	05:18 20:22
19	07:09 16:04-16:19/15 16:50	06:39 16:27-16:52/25 17:28	05:56 16:17-16:53/36 17:59	06:06 19:31	05:30 20:02	05:18 20:22
20	07:09 16:02-16:21/19 16:52	06:37 16:24-16:54/30 17:29	05:54 16:18-16:50/32 18:00	06:05 19:32	05:29 20:03	05:18 20:22
21	07:08 16:00-16:23/23 16:53	06:36 16:23-16:56/33 17:30	05:52 16:21-16:48/27 18:01	06:03 19:33	05:28 20:03	05:18 20:23
22	07:07 16:00-16:25/25 16:54	06:35 16:21-16:58/37 17:31	05:51 16:23-16:45/22 18:02	06:02 19:34	05:27 20:04	05:19 20:23
23	07:07 15:59-16:26/27 16:55	06:33 16:19-16:59/40 17:33	05:49 16:28-16:41/13 18:03	06:00 19:35	05:27 20:05	05:19 20:23
24	07:06 15:58-16:27/29 16:56	06:32 16:18-17:01/43 17:34	05:48 18:04	05:59 19:36	05:26 20:06	05:19 20:23
25	07:05 15:58-16:29/31 16:57	06:30 16:17-17:01/44 17:35	05:46 18:05	05:57 19:37	05:25 20:07	05:19 20:23
26	07:05 15:57-16:30/33 16:59	06:29 16:16-17:03/47 17:36	05:44 18:06	05:56 19:39	05:24 20:08	05:20 20:23
27	07:04 15:56-16:31/35 17:00	06:27 16:15-17:03/48 17:37	05:43 18:07	05:55 19:40	05:24 20:09	05:20 20:24
28	07:03 15:56-16:31/35 17:01	06:26 16:14-17:04/50 17:38	05:41 18:08	05:53 19:41	05:23 20:09	05:20 20:24
29	07:02 15:55-16:32/37 17:02		06:39 19:09	05:52 19:42	05:23 20:10	05:21 20:24
30	07:01 15:55-16:33/38 17:04		06:38 19:11	05:51 19:43	05:22 20:11	05:21 20:24
31	07:00 15:55-16:33/38 17:05		06:36 19:12		05:22 20:12	
Potential sun hours	299	298	370	398	447	450
Sum of minutes with flicker	1490	1065	1023	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: WON026_ShadowFlickering WTG: 3 - VESTAS V172-7.2 7200 172.0 IO! hub: 150.0 m (TOT: 236.0 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

	July	August	September	October	November	December	
1	05:22 20:23	05:45 20:05	06:15 19:23	06:44 18:33	16:51-17:40/49 18:33	06:18 16:47	15:26-16:04/38 16:23
2	05:22 20:23	05:46 20:04	06:16 19:21	06:45 18:31	16:50-17:40/50 18:31	06:19 16:46	15:25-16:04/39 16:23
3	05:23 20:23	05:47 20:03	06:17 19:19	06:46 18:30	16:49-17:40/51 18:30	06:20 16:45	15:26-16:05/39 16:23
4	05:23 20:23	05:48 20:02	06:18 19:18	06:47 18:28	16:48-17:40/52 18:28	06:21 16:43	15:25-16:05/40 16:22
5	05:24 20:23	05:49 20:01	06:19 19:16	06:48 18:26	16:47-17:40/53 18:26	06:22 16:42	15:25-16:05/40 16:22
6	05:24 20:23	05:50 19:59	06:20 19:15	06:49 18:25	16:47-17:40/53 18:25	06:24 16:41	15:25-16:05/40 16:22
7	05:25 20:22	05:51 19:58	06:21 19:13	06:50 18:23	16:46-17:40/54 18:23	06:25 16:40	15:26-16:06/40 16:22
8	05:26 20:22	05:52 19:57	06:22 19:11	06:52 18:21	16:46-17:39/53 18:21	06:26 16:39	15:25-16:05/40 16:22
9	05:26 20:22	05:53 19:56	06:23 19:10	06:53 18:20	16:47-17:40/53 18:20	06:27 16:38	15:25-16:05/40 16:22
10	05:27 20:21	05:54 19:54	06:24 19:08	06:54 18:18	16:47-17:39/52 18:18	06:28 16:37	15:26-16:05/39 16:22
11	05:28 20:21	05:55 19:53	06:25 19:06	06:55 18:17	16:47-17:39/52 18:17	06:29 16:36	15:27-16:05/38 16:22
12	05:28 20:20	05:56 19:52	06:26 19:05	06:56 18:15	16:47-17:38/51 18:15	06:31 16:35	15:27-16:05/38 15:09-15:20/11 16:22
13	05:29 20:20	05:57 19:51	06:27 19:03	06:57 18:14	16:47-17:37/50 18:14	06:32 16:34	15:27-16:04/37 15:06-15:23/17 16:22
14	05:30 20:19	05:58 19:49	06:28 19:01	06:58 18:12	16:47-17:36/49 18:12	06:33 16:33	15:28-16:03/35 15:03-15:25/22 16:23
15	05:30 20:19	05:59 19:48	06:29 19:00	06:59 18:10	16:47-17:35/48 18:10	06:34 16:32	15:29-16:04/35 15:03-15:27/24 16:23
16	05:31 20:18	06:00 19:47	06:30 18:58	07:00 18:09	16:48-17:34/46 18:09	06:35 16:32	15:30-16:03/33 15:01-15:29/28 16:23
17	05:32 20:18	06:01 19:45	06:31 18:56	07:01 18:07	16:48-17:32/44 18:07	06:36 16:31	15:31-16:02/31 15:00-15:30/30 16:23
18	05:33 20:17	06:02 19:44	06:32 18:55	07:02 18:06	16:49-17:31/42 18:06	06:38 16:30	15:32-16:01/29 14:59-15:31/32 16:24
19	05:34 20:16	06:03 19:42	06:33 18:53	07:03 18:04	16:51-17:30/39 18:04	06:39 16:29	15:34-16:01/27 14:59-15:32/33 16:24
20	05:34 20:16	06:04 19:41	06:34 18:51	07:04 18:03	16:52-17:29/37 18:03	06:40 16:29	15:35-16:00/25 14:58-15:33/35 16:25
21	05:35 20:15	06:04 19:39	06:35 18:50	07:05 18:02	16:54-17:27/33 18:02	06:41 16:28	15:36-15:59/23 14:58-15:34/36 16:25
22	05:36 20:14	06:05 19:38	06:35 18:48	07:06 18:00	16:55-17:24/29 18:00	06:42 16:27	15:38-15:57/19 14:57-15:34/37 16:25
23	05:37 20:13	06:06 19:36	06:36 18:46	07:08 17:59	16:58-17:21/23 16:58-17:21/23 17:59	06:43 16:27	15:40-15:56/16 14:57-15:35/38 16:26
24	05:38 20:13	06:07 19:35	06:37 18:44	07:09 17:57	17:01-17:17/16 16:35-16:56/21	06:45 16:26	15:43-15:54/11 14:57-15:36/39 16:27
25	05:39 20:12	06:08 19:33	06:38 18:43	06:10 16:56	15:34-15:58/24 16:56	06:46 16:26	14:57-15:37/40 16:27
26	05:40 20:11	06:09 19:32	06:39 18:41	06:11 16:55	15:32-16:00/28 16:55	06:47 16:25	14:57-15:37/40 16:25
27	05:41 20:10	06:10 19:30	06:40 18:39	06:12 16:53	15:30-16:01/31 16:53	06:48 16:25	14:57-15:38/41 16:25
28	05:41 20:09	06:11 19:29	06:41 18:38	06:13 16:52	15:29-16:01/32 16:52	06:49 16:24	14:57-15:38/41 16:24
29	05:42 20:08	06:12 19:27	06:42 18:36	06:14 16:51	15:28-16:02/34 16:51	06:50 16:24	14:57-15:39/42 16:24
30	05:43 20:07	06:13 19:26	06:43 18:34	06:16 16:49	15:28-16:04/36 16:49	06:51 16:23	14:57-15:39/42 16:23
31	05:44 20:06	06:14 19:24		06:17 16:48	15:27-16:04/37 16:48		16:23
Potential sun hours	457	427	375	346	299	290	
Sum of minutes with flicker	0	0	382	1336	1420	1309	

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: WON026_ShadowFlickering WTG: 4 - VESTAS V172-7.2 7200 172.0 !O! hub: 150.0 m (TOT: 236.0 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	07:12 14:44-15:21/37 16:32	06:59 17:06	06:24 17:39	06:34 19:12	05:49 06:08-06:35/27 19:44 06:39-06:49/10	05:21 20:13
2	07:12 14:45-15:21/36 16:33	06:59 17:07	06:23 17:40	06:33 19:14	05:48 06:07-06:36/29 19:45	05:21 20:13
3	07:13 14:46-15:21/35 16:34	06:58 17:08	06:21 17:42	06:31 19:15	05:47 06:06-06:37/31 19:46	05:20 20:14
4	07:13 14:47-15:21/34 16:35	06:57 17:10	06:20 17:43	06:29 19:16	05:45 06:05-06:37/32 19:47	05:20 20:15
5	07:13 14:47-15:21/34 16:36	06:55 17:11	06:18 17:44	06:28 19:17	05:44 06:05-06:38/33 19:48	05:19 20:15
6	07:13 14:48-15:21/33 16:37	06:54 17:12	06:17 17:45	06:26 19:18	05:43 06:04-06:37/33 19:49	05:19 20:16
7	07:13 14:49-15:20/31 16:37	06:53 17:13	06:15 17:46	06:25 19:19	05:42 06:04-06:38/34 19:50	05:19 20:17
8	07:12 14:50-15:20/30 16:38	06:52 17:14	06:13 17:47	06:23 06:43-06:57/14 19:20	05:41 06:03-06:38/35 19:51	05:19 20:17
9	07:12 14:52-15:20/28 16:39	06:51 17:16	06:12 17:48	06:21 06:40-07:00/20 19:21	05:40 06:03-06:38/35 19:52	05:18 20:18
10	07:12 14:53-15:20/27 16:40	06:50 17:17	06:10 17:49	06:20 06:38-07:01/23 19:22	05:38 06:03-06:38/35 19:53	05:18 20:18
11	07:12 14:54-15:19/25 16:41	06:49 17:18	06:09 17:50	06:18 06:37-07:03/26 19:23	05:37 06:03-06:38/35 19:54	05:18 20:19
12	07:12 14:56-15:18/22 16:43	06:48 17:19	06:07 17:51	06:17 06:35-07:03/28 19:24	05:36 06:03-06:37/34 19:55	05:18 20:19
13	07:11 14:59-15:17/18 16:44	06:46 17:21	06:05 17:53	06:15 06:34-07:04/30 19:25	05:35 06:04-06:37/33 19:56	05:18 20:20
14	07:11 15:00-15:15/15 16:45	06:45 17:22	06:04 17:54	06:14 06:33-07:04/31 19:26	05:34 06:04-06:37/33 19:57	05:18 20:20
15	07:11 15:04-15:13/9 16:46	06:44 17:23	06:02 17:55	06:12 06:31-07:04/33 19:27	05:33 06:04-06:36/32 19:58	05:18 20:21
16	07:10 16:47	06:43 17:24	06:01 17:56	06:10 06:31-07:04/33 19:28	05:32 06:04-06:36/32 19:59	05:18 20:21
17	07:10 16:48	06:41 17:25	05:59 17:57	06:09 06:30-07:04/34 19:29	05:31 06:06-06:36/30 20:00	05:18 20:21
18	07:09 16:49	06:40 17:26	05:57 17:58	06:07 06:30-07:04/34 19:30	05:30 06:06-06:36/30 20:01	05:18 20:22
19	07:09 16:50	06:39 17:28	05:56 17:59	06:06 06:30-07:04/34 19:31	05:30 06:06-06:35/29 20:01	05:18 20:22
20	07:08 16:51	06:37 17:29	05:54 18:00	06:04 06:30-07:04/34 19:32	05:29 06:07-06:34/27 20:02	05:18 20:22
21	07:08 16:53	06:36 17:30	05:52 18:01	06:03 06:30-07:04/34 19:33	05:28 06:07-06:33/26 20:03	05:18 20:23
22	07:07 16:54	06:34 17:31	05:51 18:02	06:02 06:30-07:02/32 19:34	05:27 06:09-06:33/24 20:04	05:18 20:23
23	07:07 16:55	06:33 17:32	05:49 18:03	06:00 06:30-07:02/32 19:35	05:26 06:10-06:32/22 20:05	05:19 20:23
24	07:06 16:56	06:32 17:34	05:47 18:04	05:59 06:30-07:01/31 19:36	05:26 06:10-06:31/21 20:06	05:19 20:23
25	07:05 16:57	06:30 17:35	05:46 18:05	05:57 06:31-07:00/29 19:37	05:25 06:12-06:30/18 20:07	05:19 20:23
26	07:05 16:59	06:29 17:36	05:44 18:06	05:56 06:18-06:28/10 19:38	05:24 06:13-06:29/16 20:08	05:20 20:23
27	07:04 17:00	06:27 17:37	05:42 18:07	05:55 06:14-06:30/16 19:39	05:24 06:15-06:28/13 20:09	05:20 20:23
28	07:03 17:01	06:26 17:38	05:41 18:08	05:53 06:12-06:32/20 19:40	05:23 06:17-06:25/8 20:09	05:20 20:23
29	07:02 17:02		06:39 19:09	05:52 06:11-06:34/23 19:42	05:22 06:10-06:35/20 20:10	05:21 20:23
30	07:01 17:03		06:38 19:10	05:51 06:10-06:35/25 19:43	05:22 06:10-06:35/25 20:11	05:21 20:23
31	07:00 17:05		06:36 19:11		05:21 20:12	
Potential sun hours	299	298	370	398	447	450
Sum of minutes with flicker	414	0	0	737	797	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: WON026_ShadowFlickering WTG: 4 - VESTAS V172-7.2 7200 172.0 !O! hub: 150.0 m (TOT: 236.0 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	05:22 20:23	05:45 06:14-06:48/34 20:05	06:15 06:36-07:01/25 19:22	06:44 18:33	06:18 16:47	06:52 14:36-15:01/25 16:23
2	05:22 20:23	05:46 06:14-06:48/34 20:04	06:16 06:37-07:00/23 19:21	06:45 18:31	06:19 16:46	06:53 14:36-15:02/26 16:23
3	05:23 20:23	05:47 06:14-06:48/34 20:03	06:17 06:38-06:58/20 19:19	06:46 18:29	06:20 16:44	06:54 14:35-15:03/28 16:23
4	05:23 20:23	05:48 06:14-06:48/34 20:02	06:18 06:40-06:54/14 19:18	06:47 18:28	06:21 16:43	06:55 14:35-15:04/29 16:22
5	05:24 20:23	05:49 06:14-06:48/34 20:00	06:19 06:45-06:48/3 19:16	06:48 18:26	06:22 16:42	06:56 14:34-15:05/31 16:22
6	05:24 20:22	05:50 06:14-06:48/34 19:59	06:20 19:14	06:49 18:25	06:24 16:41	06:57 14:34-15:07/33 16:22
7	05:25 20:22	05:51 06:14-06:47/33 19:58	06:21 19:13	06:50 18:23	06:25 16:40	06:58 14:34-15:08/34 16:22
8	05:25 20:22	05:52 06:14-06:47/33 19:57	06:22 19:11	06:51 18:21	06:26 16:39	06:59 14:34-15:08/34 16:22
9	05:26 20:22	05:53 06:14-06:46/32 19:56	06:23 19:09	06:52 18:20	06:27 16:38	07:00 14:34-15:09/35 16:22
10	05:27 20:21	05:54 06:15-06:45/30 19:54	06:24 19:08	06:53 18:18	06:28 16:37	07:01 14:34-15:10/36 16:22
11	05:27 20:21	05:55 06:16-06:45/29 19:53	06:25 19:06	06:55 18:17	06:29 16:36	07:01 14:34-15:11/37 16:22
12	05:28 20:20	05:56 06:17-06:44/27 19:52	06:26 19:04	06:56 18:15	06:31 16:35	07:02 14:35-15:12/37 16:22
13	05:29 20:20	05:57 06:18-06:43/25 19:51	06:27 19:03	06:57 18:13	06:32 16:34	07:03 14:34-15:12/38 16:22
14	05:30 20:19	05:58 06:19-06:41/22 19:49	06:28 19:01	06:58 18:12	06:33 16:33	07:04 14:35-15:13/38 16:22
15	05:30 06:29-06:32/3 20:19	05:58 06:20-06:39/19 19:48	06:29 18:59	06:59 18:10	06:34 16:32	07:04 14:35-15:14/39 16:23
16	05:31 06:25-06:35/10 20:18	05:59 06:22-06:37/15 19:46	06:30 18:58	07:00 18:09	06:35 16:31	07:05 14:35-15:14/39 16:23
17	05:32 06:23-06:37/14 20:18	06:00 06:25-06:33/8 19:45	06:30 18:56	07:01 18:07	06:36 16:31	07:06 14:35-15:15/40 16:23
18	05:33 06:22-06:39/17 20:17	06:01 06:37-07:07/30 19:44	06:31 18:54	07:02 18:06	06:38 16:30	07:07 14:36-15:16/40 16:24
19	05:33 06:21-06:40/19 20:16	06:02 06:37-07:08/31 19:42	06:32 18:53	07:03 18:04	06:39 16:29	07:07 14:36-15:16/40 16:24
20	05:34 06:20-06:42/22 20:16	06:03 06:36-07:08/32 19:41	06:33 18:51	07:04 18:03	06:40 16:28	07:08 14:37-15:17/40 16:24
21	05:35 06:19-06:42/23 20:15	06:04 06:34-07:07/33 19:39	06:34 18:49	07:05 18:01	06:41 16:28	07:08 14:37-15:17/40 16:25
22	05:36 06:18-06:43/25 20:14	06:05 06:34-07:07/33 19:38	06:35 18:48	07:06 18:00	06:42 16:27	07:09 14:38-15:18/40 16:25
23	05:37 06:18-06:44/26 20:13	06:06 06:33-07:07/34 19:36	06:36 18:46	07:07 17:59	06:43 16:26	07:09 14:38-15:18/40 16:26
24	05:38 06:17-06:45/28 20:12	06:07 06:33-07:07/34 19:35	06:37 18:44	07:09 17:57	06:44 16:26	07:10 14:39-15:19/40 16:26
25	05:39 06:17-06:46/29 20:12	06:08 06:33-07:07/34 19:33	06:38 18:43	07:10 16:56	06:46 16:25	07:10 14:39-15:19/40 16:27
26	05:39 06:16-06:46/30 20:11	06:09 06:33-07:07/34 19:32	06:39 18:41	07:11 16:54	06:47 16:25	07:11 14:39-15:19/40 16:28
27	05:40 06:15-06:46/31 20:10	06:10 06:33-07:06/33 19:30	06:40 18:39	07:12 16:53	06:48 14:44-14:52/8 16:24	07:11 14:41-15:20/39 16:28
28	05:41 06:15-06:47/32 20:09	06:11 06:33-07:06/33 19:29	06:41 18:38	07:13 16:52	06:49 14:41-14:55/14 16:24	07:11 14:41-15:20/39 16:29
29	05:42 06:15-06:47/32 20:08	06:12 06:33-07:05/32 19:27	06:42 18:36	07:14 16:51	06:50 14:39-14:57/18 16:24	07:12 14:41-15:20/39 16:30
30	05:43 06:14-06:48/34 20:07	06:13 06:34-07:04/30 19:26	06:43 18:34	07:15 16:49	06:51 14:37-14:59/22 16:23	07:12 14:42-15:20/38 16:30
31	05:44 06:14-06:48/34 20:06	06:14 06:35-07:03/28 19:24	 	07:16 16:48	 	07:12 14:42-15:20/38 16:31
Potential sun hours	457	427	375	346	299	290
Sum of minutes with flicker	409	1055	85	0	62	1132

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: WON026_ShadowFlickering WTG: 5 - VESTAS V172-7.2 7200 172.0 IO! hub: 150.0 m (TOT: 236.0 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	July	August	September	October	November	December
1	07:12 16:32	06:59 07:22-07:52/30 17:06	06:24 17:39	06:34 19:12	05:49 19:44	05:21 20:12	05:21 20:23	05:45 20:05	06:15 19:22	06:44 18:33	06:18 06:58-07:17/19 16:47	06:52 16:23
2	07:12 16:33	06:58 07:22-07:52/30 17:07	06:23 17:40	06:33 19:13	05:48 19:45	05:20 20:13	05:22 20:23	05:46 20:04	06:16 19:21	06:45 18:31	06:19 06:57-07:18/21 16:45	06:53 16:23
3	07:12 16:34	06:57 07:23-07:52/29 17:08	06:21 17:41	06:31 19:14	05:47 19:46	05:20 20:14	05:22 20:23	05:47 20:03	06:17 19:19	06:46 18:29	06:20 06:56-07:20/24 16:44	06:54 16:22
4	07:12 16:35	06:56 07:23-07:52/29 17:09	06:20 17:43	06:29 19:16	05:45 19:47	05:20 20:15	05:23 20:23	05:48 20:01	06:18 19:18	06:47 18:28	06:21 06:55-07:20/25 16:43	06:55 16:22
5	07:13 16:36	06:55 07:24-07:51/27 17:11	06:18 17:44	06:28 19:17	05:44 19:48	05:19 20:15	05:24 20:23	05:49 20:00	06:19 19:16	06:48 18:26	06:22 06:54-07:21/27 16:42	06:56 16:22
6	07:12 16:36	06:54 07:24-07:51/27 17:12	06:16 17:45	06:26 19:18	05:43 19:49	05:19 20:16	05:24 20:22	05:50 19:59	06:20 19:14	06:49 18:24	06:23 06:53-07:21/28 16:41	06:57 16:22
7	07:12 16:37	06:53 07:25-07:50/25 17:13	06:15 17:46	06:24 19:19	05:42 19:50	05:19 20:16	05:25 20:22	05:51 19:58	06:21 19:13	06:50 18:23	06:25 06:54-07:22/28 16:40	06:58 16:22
8	07:12 16:38	06:52 07:27-07:50/23 17:14	06:13 17:47	06:23 19:20	05:41 19:51	05:18 20:17	05:25 20:22	05:52 19:57	06:22 19:11	06:51 18:21	06:26 06:53-07:23/30 16:39	06:59 16:22
9	07:12 16:39	06:51 07:28-07:49/21 17:16	06:12 17:48	06:21 19:21	05:39 19:52	05:18 20:18	05:26 20:21	05:53 19:56	06:23 19:09	06:52 18:20	06:27 06:53-07:23/30 16:38	07:00 16:22
10	07:12 16:40	06:50 07:29-07:46/17 17:17	06:10 17:49	06:20 19:22	05:38 19:53	05:18 20:18	05:27 20:21	05:54 19:54	06:24 19:08	06:53 18:18	06:28 06:53-07:23/30 16:37	07:00 16:22
11	07:12 16:41	06:49 07:31-07:44/13 17:18	06:09 17:50	06:18 19:23	05:37 19:54	05:18 20:19	05:27 20:21	05:55 19:53	06:25 19:06	06:54 18:16	06:29 06:54-07:23/29 16:36	07:01 16:22
12	07:12 16:42	06:47 07:35-07:41/6 17:19	06:07 17:51	06:17 19:24	05:36 19:55	05:18 20:19	05:28 20:20	05:55 19:52	06:26 19:04	06:55 18:15	06:30 06:54-07:23/29 16:35	07:02 16:22
13	07:11 16:44	06:46 17:20	06:05 17:52	06:15 19:25	05:35 19:56	05:18 20:20	05:29 20:20	05:56 19:50	06:27 19:03	06:57 18:13	06:32 06:54-07:23/29 16:34	07:03 16:22
14	07:11 16:45	06:45 17:22	06:04 17:54	06:13 19:26	05:34 19:57	05:18 20:20	05:29 20:19	05:57 19:49	06:28 19:01	06:58 18:12	06:33 06:55-07:22/27 19:01	07:04 16:22
15	07:11 16:46	06:44 17:23	06:02 17:55	06:12 19:27	05:33 19:58	05:18 20:21	05:30 20:19	05:58 19:48	06:28 18:59	06:59 18:10	06:34 06:57-07:23/26 16:32	07:04 16:23
16	07:10 16:47	06:42 17:24	06:00 17:56	06:10 19:28	05:32 19:59	05:18 20:21	05:31 20:18	05:59 19:46	06:29 18:58	07:00 18:09	06:35 06:58-07:23/25 16:31	07:05 16:23
17	07:10 16:48	06:41 17:25	05:59 17:57	06:09 19:29	05:31 20:00	05:18 20:21	05:32 20:17	06:00 19:45	06:30 18:56	07:01 18:07	06:36 06:59-07:22/23 16:31	07:06 16:23
18	07:09 16:49	07:30-07:38/8 17:26	06:40 17:58	06:07 19:30	05:30 20:00	05:18 20:22	05:33 20:17	06:01 19:44	06:31 18:54	07:02 18:06	06:37 07:00-07:21/21 16:30	07:06 16:24
19	07:09 16:50	07:30-07:41/11 17:28	06:38 17:59	06:06 19:31	05:30 20:01	05:18 20:22	05:33 20:16	06:02 19:42	06:32 18:53	07:03 18:04	06:39 07:01-07:21/20 16:29	07:07 16:24
20	07:08 16:51	07:29-07:42/13 17:29	06:37 18:00	06:04 19:32	05:29 20:02	05:18 20:22	05:34 20:15	06:03 19:41	06:33 18:51	07:04 18:03	06:40 07:03-07:21/18 16:28	07:08 16:24
21	07:08 16:53	07:28-07:44/16 17:30	06:36 18:01	06:03 19:33	05:28 20:03	05:18 20:23	05:35 20:15	06:04 19:39	06:34 18:49	07:05 18:01	06:41 07:04-07:20/16 16:28	07:08 16:25
22	07:07 16:54	07:28-07:46/18 17:31	06:34 18:02	06:01 19:34	05:27 20:04	05:18 20:23	05:36 20:14	06:05 19:38	06:35 18:48	07:06 18:00	06:42 07:05-07:19/14 16:27	07:09 16:25
23	07:07 16:55	07:27-07:47/20 17:32	06:33 18:03	06:00 19:35	05:26 20:05	05:19 20:23	05:37 20:13	06:06 19:36	06:36 18:46	07:07 17:59	06:43 07:06-07:17/11 16:26	07:09 16:26
24	07:06 16:56	07:26-07:47/21 17:33	06:31 18:04	05:59 19:36	05:26 20:06	05:19 20:23	05:38 20:12	06:07 19:35	06:37 18:44	07:08 17:57	06:44 07:07-07:15/8 16:26	07:10 16:26
25	07:05 16:57	07:26-07:49/23 17:35	06:30 18:05	05:57 19:37	05:25 20:07	05:19 20:23	05:39 20:11	06:08 19:33	06:38 18:43	07:09 16:56	06:45 16:25	07:10 16:27
26	07:04 16:58	07:25-07:50/25 17:36	06:29 18:06	05:56 19:38	05:24 20:08	05:19 20:23	05:39 20:11	06:09 19:32	06:39 18:41	07:10 16:54	06:47 16:25	07:10 16:27
27	07:04 17:00	07:24-07:50/26 17:37	06:27 18:07	05:54 19:39	05:24 20:08	05:20 20:23	05:40 20:10	06:10 19:30	06:40 18:39	07:11 16:53	06:48 16:24	07:11 16:28
28	07:03 17:01	07:23-07:51/28 17:38	06:26 18:08	05:53 19:40	05:23 20:09	05:20 20:23	05:41 20:09	06:11 19:29	06:41 18:38	07:12 16:52	06:49 16:24	07:11 16:29
29	07:02 17:02	07:22-07:51/29 17:39	06:25 18:09	05:52 19:41	05:22 20:10	05:21 20:23	05:42 20:08	06:12 19:27	06:42 18:36	07:13 16:50	06:50 16:24	07:11 16:30
30	07:01 17:03	07:22-07:51/29 17:40	06:24 18:10	05:51 19:42	05:22 20:11	05:21 20:23	05:43 20:07	06:13 19:26	06:43 18:34	07:14 16:49	06:51 07:04-07:12/8 16:23	07:12 16:30
31	07:00 17:05	07:22-07:51/29 17:41	06:23 18:11	05:50 19:43	05:21 20:12	05:20 20:24	05:44 20:06	06:14 19:24	06:44 18:34	07:15 16:48	06:16 07:00-07:15/15 16:48	07:12 16:31
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Sum of minutes with flicker	296	277	0	0	0	0	0	0	0	23	558	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: WON026_ShadowFlickering WTG: 6 - VESTAS V172-7.2 7200 172.0 IO! hub: 150.0 m (TOT: 236.0 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	July	August	September	October	November	December
1	07:12 16:32	06:59 17:06	06:24 17:39	06:34 19:13	05:49 19:44	05:21 20:13	05:22 20:23	05:45 20:05	06:15 19:23	06:44 18:33	06:18 16:47	06:52 16:23
2	07:12 16:33	06:59 17:07	06:23 17:40	06:33 19:14	05:48 19:45	05:21 20:13	05:22 20:23	05:46 20:04	06:16 19:21	06:45 18:31	06:19 16:46	06:53 16:23
3	07:13 16:34	06:58 17:08	06:21 17:42	06:31 19:15	05:47 19:46	05:20 20:14	05:23 20:23	05:47 20:03	06:17 19:19	06:46 18:29	06:20 16:44	06:54 16:23
4	07:13 16:35	06:57 17:10	06:20 17:43	06:29 19:16	05:45 19:47	05:20 20:15	05:23 20:23	05:48 20:02	06:18 19:18	06:47 18:28	06:21 16:43	06:55 16:22
5	07:13 16:36	06:56 17:11	06:18 17:44	06:28 19:17	05:44 19:48	05:19 20:15	05:24 20:23	05:49 20:00	06:19 19:16	06:48 18:26	06:22 16:42	06:56 16:22
6	07:13 16:37	06:54 17:12	06:17 17:45	06:26 19:18	05:43 19:49	05:19 20:16	05:24 20:23	05:50 19:59	06:20 19:14	06:49 18:25	06:24 16:41	06:57 16:22
7	07:13 16:38	06:53 17:13	06:15 17:46	06:25 19:19	05:42 19:50	05:19 20:17	05:25 20:22	05:51 19:58	06:21 19:13	06:50 18:23	06:25 16:40	06:58 16:22
8	07:12 16:38	06:52 17:14	06:13 17:47	06:23 19:20	05:41 19:51	05:19 20:17	05:25 20:22	05:52 19:57	06:22 19:11	06:51 18:21	06:26 16:39	06:59 16:22
9	07:12 16:39	06:51 17:16	06:12 17:48	06:21 19:21	05:40 19:52	05:18 20:18	05:26 20:22	05:53 19:56	06:23 19:10	06:52 18:20	06:27 16:38	07:00 16:22
10	07:12 16:40	06:50 17:17	06:10 17:49	06:20 19:22	05:38 19:53	05:18 20:18	05:27 20:21	05:54 19:54	06:24 19:08	06:54 18:18	06:28 16:37	07:01 16:22
11	07:12 16:42	06:49 17:18	06:09 17:50	06:18 19:23	05:37 19:54	05:18 20:19	05:27 20:21	05:55 19:53	06:25 19:06	06:55 18:17	06:29 16:36	07:01 16:22
12	07:12 16:43	06:48 17:19	06:07 17:51	06:17 19:24	05:36 19:55	05:18 20:19	05:28 20:20	05:56 19:52	06:26 19:05	06:56 18:15	06:31 16:35	07:02 16:22
13	07:11 16:44	06:46 17:21	06:05 17:53	06:15 19:25	05:35 19:56	05:18 20:20	05:29 20:20	05:57 19:51	06:27 19:03	06:57 18:13	06:32 16:34	07:03 16:22
14	07:11 16:45	06:45 17:22	06:04 17:54	06:14 19:26	05:34 19:57	05:18 20:20	05:30 20:19	05:58 19:49	06:28 19:01	06:58 18:12	06:33 16:33	07:04 16:23
15	07:11 16:46	06:44 17:23	06:02 17:55	06:12 19:27	05:33 19:58	05:18 20:21	05:30 20:19	05:59 19:48	06:29 19:00	06:59 18:10	06:34 16:32	07:05 16:23
16	07:10 16:47	06:43 17:24	06:01 17:56	06:10 19:28	05:32 19:59	05:18 20:21	05:31 20:18	06:00 19:46	06:30 18:58	07:00 18:09	06:35 16:31	07:05 16:23
17	07:10 16:48	06:41 17:25	05:59 17:57	06:09 19:29	05:31 20:00	05:18 20:22	05:32 20:18	06:00 19:45	06:31 18:56	07:01 18:07	06:36 16:31	07:06 16:23
18	07:10 16:49	06:40 17:27	05:57 17:58	06:07 19:30	05:31 20:01	05:18 20:22	05:33 20:17	06:01 19:44	06:32 18:54	07:02 18:06	06:38 16:30	07:07 16:24
19	07:09 16:50	06:39 17:28	05:56 17:59	06:06 19:31	05:30 20:02	05:18 20:22	05:33 20:16	06:02 19:42	06:32 18:53	07:03 18:04	06:39 16:29	07:07 16:24
20	07:08 16:51	06:37 17:29	05:54 18:00	06:05 19:32	05:29 20:02	05:18 20:22	05:34 20:16	06:03 19:41	06:33 18:51	07:04 18:03	06:40 16:28	07:08 16:24
21	07:08 16:53	06:36 17:30	05:52 18:01	06:03 19:33	05:28 20:03	05:18 20:23	05:35 20:15	06:04 19:39	06:34 18:49	07:05 18:01	06:41 16:28	07:08 16:25
22	07:07 16:54	06:34 17:31	05:51 18:02	06:02 19:34	05:27 20:04	05:18 20:23	05:36 20:14	06:05 19:38	06:35 18:48	07:06 18:00	06:42 16:27	07:09 16:25
23	07:07 16:55	06:33 17:32	05:49 18:03	06:00 19:35	05:26 20:05	05:19 20:23	05:37 20:13	06:06 19:36	06:36 18:46	07:08 17:59	06:43 16:27	07:09 16:26
24	07:06 16:56	06:32 17:34	05:47 18:04	05:59 19:36	05:26 20:06	05:19 20:23	05:38 20:12	06:07 19:35	06:37 18:44	07:09 17:57	06:44 16:26	07:10 16:26
25	07:05 16:57	06:30 17:35	05:46 18:05	05:57 19:37	05:25 20:07	05:19 20:23	05:39 20:12	06:08 19:33	06:38 18:43	07:10 18:43	06:46 16:25	07:10 16:27
26	07:05 16:59	06:29 17:36	05:44 18:06	05:56 19:38	05:24 20:08	05:20 20:23	05:40 20:11	06:09 19:32	06:39 18:41	07:11 16:55	06:47 16:25	07:11 16:28
27	07:04 17:00	06:27 17:37	05:43 18:07	05:55 19:40	05:24 20:09	05:20 20:24	05:40 20:10	06:10 19:30	06:40 18:39	07:12 16:53	06:48 16:25	07:11 16:28
28	07:03 17:01	06:26 17:38	05:41 18:08	05:53 19:41	05:23 20:09	05:20 20:24	05:41 20:09	06:11 19:29	06:41 18:38	07:13 16:52	06:49 16:24	07:11 16:29
29	07:02 17:02		06:39 19:09	05:52 19:42	05:23 20:10	05:21 20:24	05:42 20:08	06:12 19:27	06:42 18:36	07:14 16:51	06:50 16:24	07:12 16:30
30	07:01 17:03		06:38 19:10	05:51 19:43	05:22 20:11	05:21 20:23	05:43 20:07	06:13 19:26	06:43 18:34	07:15 16:49	06:51 16:23	07:12 16:30
31	07:00 17:05		06:36 19:12		05:21 20:12		05:44 20:06	06:14 19:24		06:17 16:48		07:12 16:31
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	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: WON026_ShadowFlickering WTG: 7 - VESTAS V172-7.2 7200 172.0 !O! hub: 150.0 m (TOT: 236.0 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	July	August	September	October	November	December
1	07:12 16:32	06:59 17:06	06:24 17:39	06:34 19:13	05:49 19:44	05:21 20:13	05:22 20:23	05:45 20:05	06:15 19:23	06:44 18:33	06:18 16:08-16:23/15 16:47	06:52 16:23
2	07:12 16:33	06:59 17:07	06:23 17:40	06:33 19:14	05:48 19:45	05:21 20:13	05:22 20:23	05:46 20:04	06:16 19:21	06:45 18:31	06:19 16:08-16:22/14 16:46	06:53 16:23
3	07:13 16:34	06:58 17:08	06:21 17:42	06:31 19:15	05:47 19:46	05:20 20:14	05:23 20:23	05:47 20:03	06:17 19:19	06:46 18:29	06:20 16:10-16:21/11 16:44	06:54 16:23
4	07:13 16:35	06:57 17:10	06:20 17:43	06:29 19:16	05:45 19:47	05:20 20:15	05:23 20:23	05:48 20:02	06:18 19:18	06:47 18:28	06:21 16:12-16:20/8 16:43	06:55 16:22
5	07:13 16:36	06:56 17:11	06:18 17:44	06:28 19:17	05:44 19:48	05:19 20:15	05:24 20:23	05:49 20:00	06:19 19:16	06:48 18:26	06:22 16:14-16:18/4 16:42	06:56 16:22
6	07:13 16:37	06:54 17:12	06:17 17:45	06:26 19:18	05:43 19:49	05:19 20:16	05:24 20:22	05:50 19:59	06:20 19:14	06:49 18:25	06:24 16:41	06:57 16:22
7	07:13 16:38	06:53 17:13	06:15 17:46	06:25 19:19	05:42 19:50	05:19 20:17	05:25 20:22	05:51 19:58	06:21 19:13	06:50 18:23	06:25 16:40	06:58 16:22
8	07:12 16:39	06:52 17:14	06:13 17:47	06:23 19:20	05:41 19:51	05:19 20:17	05:25 20:22	05:52 19:57	06:22 19:11	06:51 18:21	06:26 16:39	06:59 16:22
9	07:12 16:40	06:51 17:16	06:12 17:48	06:21 19:21	05:40 19:52	05:18 20:18	05:26 20:22	05:53 19:56	06:23 19:10	06:52 18:20	06:27 16:38	07:00 16:22
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12	07:12 16:43	06:48 17:19	06:07 17:51	06:17 19:24	05:36 19:55	05:18 20:19	05:28 20:20	05:56 19:52	06:26 19:05	06:56 18:15	06:31 16:35	07:02 16:22
13	07:11 16:44	06:46 17:21	06:05 17:53	06:15 19:25	05:35 19:56	05:18 20:20	05:29 20:20	05:57 19:51	06:27 19:03	06:57 18:13	06:32 16:34	07:03 16:22
14	07:11 16:45	06:45 17:22	06:04 17:54	06:14 19:26	05:34 19:57	05:18 20:20	05:30 20:19	05:58 19:49	06:28 19:01	06:58 18:12	06:33 16:33	07:04 16:23
15	07:11 16:46	06:44 17:23	06:02 17:55	06:12 19:27	05:33 19:58	05:18 20:21	05:30 20:19	05:59 19:48	06:29 19:00	06:59 18:10	06:34 16:32	07:04 16:23
16	07:10 16:47	06:43 17:24	06:01 17:56	06:11 19:28	05:32 19:59	05:18 20:21	05:31 20:18	06:00 19:46	06:30 18:58	07:00 18:09	06:35 16:31	07:05 16:23
17	07:10 16:48	06:41 17:25	05:59 17:57	06:09 19:29	05:31 20:00	05:18 20:22	05:32 20:18	06:00 19:45	06:31 18:56	07:01 18:07	06:36 16:31	07:06 16:23
18	07:09 16:49	06:40 17:27	05:57 17:58	06:07 19:30	05:31 20:01	05:18 20:22	05:33 20:17	06:01 19:44	06:32 18:54	07:02 18:06	06:38 16:30	07:07 16:24
19	07:09 16:50	06:39 17:28	05:56 17:59	06:06 19:31	05:30 20:02	05:18 20:22	05:34 20:16	06:02 19:42	06:32 18:53	07:03 18:04	06:39 16:29	07:07 16:24
20	07:08 16:51	06:37 17:29	05:54 18:00	06:05 19:32	05:29 20:02	05:18 20:22	05:34 20:16	06:03 19:41	06:33 18:51	07:04 18:03	06:40 16:28	07:08 16:24
21	07:08 16:53	06:36 17:30	05:52 18:01	06:03 19:33	05:28 20:03	05:18 20:23	05:35 20:15	06:04 19:39	06:34 18:49	07:05 18:01	06:41 16:28	07:08 16:25
22	07:07 16:54	06:34 17:31	05:51 18:02	06:02 19:34	05:27 20:04	05:18 20:23	05:36 20:14	06:05 19:38	06:35 18:48	07:06 18:00	06:42 16:27	07:09 16:25
23	07:07 16:55	06:33 17:32	05:49 18:03	06:00 19:35	05:26 20:05	05:19 20:23	05:37 20:13	06:06 19:36	06:36 18:46	07:08 17:59	06:43 16:27	07:09 16:26
24	07:06 16:56	06:32 17:34	05:47 18:04	05:59 19:36	05:26 20:06	05:19 20:23	05:38 20:12	06:07 19:35	06:37 18:44	07:09 17:57	06:44 16:26	07:10 16:26
25	07:05 16:57	06:30 17:35	05:46 18:05	05:57 19:37	05:25 20:07	05:19 20:23	05:39 20:12	06:08 19:33	06:38 18:43	06:10 16:56	16:08-16:30/22 16:25	07:10 16:27
26	07:05 16:59	06:29 17:36	05:44 18:06	05:56 19:38	05:24 20:08	05:20 20:23	05:40 20:11	06:09 19:32	06:39 18:41	06:11 16:55	16:07-16:30/23 16:25	07:11 16:28
27	07:04 17:00	06:27 17:37	05:43 18:07	05:55 19:39	05:24 20:09	05:20 20:23	05:40 20:10	06:10 19:30	06:40 18:39	06:12 16:53	16:07-16:30/23 16:25	07:11 16:28
28	07:03 17:01	06:26 17:38	05:41 18:08	05:53 19:41	05:23 20:09	05:20 20:24	05:41 20:09	06:11 19:29	06:41 18:38	06:13 16:52	16:06-16:28/22 16:24	07:11 16:29
29	07:02 17:02	06:25 17:39	05:39 18:09	05:52 19:42	05:23 20:10	05:21 20:23	05:42 20:08	06:12 19:27	06:42 18:36	06:14 16:51	16:06-16:27/21 16:24	07:12 16:30
30	07:01 17:03	06:24 17:40	05:38 19:10	05:51 19:43	05:22 20:11	05:21 20:23	05:43 20:07	06:13 19:26	06:43 18:34	06:15 16:49	16:07-16:26/19 16:23	07:12 16:30
31	07:00 17:05	06:23 17:41	06:36 19:12	05:50 19:44	05:21 20:12	05:20 20:24	05:44 20:06	06:14 19:24	06:17 16:48	06:17 16:25/18	16:07-16:25/18 16:24	07:12 16:31
	Potential sun hours	299	298	370	398	447	450	457	427	375	346	290
	Sum of minutes with flicker	0	266	0	0	0	0	0	0	0	220	52

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

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	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: WON026_ShadowFlickering WTG: 8 - VESTAS V172-7.2 7200 172.0 !O! hub: 150.0 m (TOT: 236.0 m) (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	07:12 16:32	06:59 07:31-08:18/47 17:06	06:24 17:39	06:34 19:12	05:49 19:44	05:21 20:12	05:21 20:23	05:45 20:05	06:15 19:22	06:44 18:33	06:18 07:02-07:48/46 16:47	06:52 16:23
2	07:12 16:33	06:58 07:31-08:18/47 17:07	06:23 17:40	06:33 19:13	05:48 19:45	05:20 20:13	05:22 20:23	05:46 20:04	06:16 19:21	06:45 18:31	06:19 07:02-07:48/46 16:46	06:53 16:23
3	07:12 16:34	06:57 07:31-08:19/48 17:08	06:21 17:41	06:31 19:15	05:47 19:46	05:20 20:14	05:22 20:23	05:47 20:03	06:17 19:19	06:46 18:29	06:20 07:02-07:49/47 16:44	06:54 16:22
4	07:13 16:35	06:56 07:31-08:19/48 17:09	06:20 17:43	06:29 19:16	05:45 19:47	05:20 20:15	05:23 20:23	05:48 20:02	06:18 19:18	06:47 18:28	06:21 07:02-07:49/47 16:43	06:55 16:22
5	07:13 16:36	06:55 07:31-08:19/48 17:11	06:18 17:44	06:28 19:17	05:44 19:48	05:19 20:15	05:24 20:23	05:49 20:00	06:19 19:16	06:48 18:26	06:22 07:01-07:49/48 16:42	06:56 16:22
6	07:13 16:36	06:54 07:32-08:19/47 17:12	06:16 17:45	06:26 19:18	05:43 19:49	05:19 20:16	05:24 20:22	05:50 19:59	06:20 19:14	06:49 18:24	06:23 07:01-07:49/48 16:41	06:57 16:22
7	07:12 16:37	06:53 07:32-08:19/47 17:13	06:15 17:46	06:24 19:19	05:42 19:50	05:19 20:17	05:25 20:22	05:51 19:58	06:21 19:13	06:50 18:23	06:25 07:02-07:50/48 16:40	06:58 16:22
8	07:12 16:38	06:52 07:32-08:19/47 17:14	06:13 17:47	06:23 19:20	05:41 19:51	05:18 20:17	05:25 20:22	05:52 19:57	06:22 19:11	06:51 18:21	06:26 07:02-07:49/47 16:39	06:59 16:22
9	07:12 16:39	06:51 07:33-08:19/46 17:16	06:12 17:48	06:21 19:21	05:40 19:52	05:18 20:18	05:26 20:21	05:53 19:56	06:23 19:09	06:52 18:20	06:27 07:02-07:49/47 16:38	07:00 16:22
10	07:12 16:40	06:50 07:33-08:18/45 17:17	06:10 17:49	06:20 19:22	05:38 19:53	05:18 20:18	05:27 20:21	05:54 19:54	06:24 19:08	06:53 18:18	06:28 07:02-07:49/47 16:37	07:00 16:22
11	07:12 16:41	06:49 07:33-08:18/45 17:18	06:09 17:50	06:18 19:23	05:37 19:54	05:18 20:19	05:27 20:21	05:55 19:53	06:25 19:06	06:54 18:16	06:29 07:03-07:49/46 16:36	07:01 16:22
12	07:12 07:46-07:53/7 16:42	06:48 07:34-08:17/43 17:19	06:07 17:51	06:17 19:24	05:36 19:55	05:18 20:19	05:28 20:20	05:56 19:52	06:26 19:04	06:56 18:15	06:30 07:03-07:49/46 16:35	07:02 16:22
13	07:11 07:43-07:57/14 16:44	06:46 07:35-08:17/42 17:20	06:05 17:52	06:15 19:25	05:35 19:56	05:18 20:20	05:29 20:20	05:56 19:50	06:27 19:03	06:57 18:13	06:32 07:04-07:49/45 16:34	07:03 16:22
14	07:11 07:41-07:59/18 16:45	06:45 07:35-08:15/40 17:22	06:04 17:54	06:13 19:26	05:34 19:57	05:18 20:20	05:29 20:19	05:57 19:49	06:28 19:01	06:58 18:12	06:33 07:04-07:48/44 16:33	07:04 16:22
15	07:11 07:40-08:01/21 16:46	06:44 07:36-08:14/38 17:23	06:02 17:55	06:12 19:27	05:33 19:58	05:18 20:21	05:30 20:19	05:58 19:48	06:29 18:59	06:59 18:10	06:34 07:05-07:49/44 16:32	07:04 16:23
16	07:10 07:38-08:02/24 16:47	06:42 07:38-08:14/36 17:24	06:00 17:56	06:10 19:28	05:32 19:59	05:18 20:21	05:31 20:18	05:59 19:46	06:29 18:58	07:00 18:09	06:35 07:06-07:48/42 16:31	07:05 16:23
17	07:10 07:38-08:05/27 16:48	06:41 07:38-08:11/33 17:25	05:59 17:57	06:09 19:29	05:31 20:00	05:18 20:21	05:32 20:17	06:00 19:45	06:30 18:56	07:01 18:07	06:36 07:06-07:47/41 16:31	07:06 16:23
18	07:09 07:37-08:06/29 16:49	06:40 07:40-08:10/30 17:26	05:57 17:58	06:07 19:30	05:30 20:00	05:18 20:22	05:33 20:17	06:01 19:44	06:31 18:54	07:02 18:06	06:37 07:07-07:47/40 16:30	07:06 16:24
19	07:09 07:36-08:08/32 16:50	06:39 07:43-08:08/25 17:28	05:56 17:59	06:06 19:31	05:30 20:01	05:18 20:22	05:33 20:16	06:02 19:42	06:32 18:53	07:03 18:04	06:39 07:08-07:46/38 16:29	07:07 16:24
20	07:08 07:35-08:09/34 16:51	06:37 07:44-08:05/21 17:29	05:54 18:00	06:04 19:32	05:29 20:02	05:18 20:22	05:34 20:15	06:03 19:41	06:33 18:51	07:04 08:24-08:27/3 18:03	06:40 07:09-07:46/37 16:28	07:08 16:24
21	07:08 07:34-08:09/35 16:53	06:36 07:48-08:02/14 17:30	05:52 18:01	06:03 19:33	05:28 20:03	05:18 20:23	05:35 20:15	06:04 19:39	06:34 18:49	07:05 08:17-08:34/17 18:01	06:41 07:10-07:45/35 16:28	07:08 16:25
22	07:07 07:34-08:11/37 16:54	06:34 17:31	05:51 18:02	06:01 19:34	05:27 20:04	05:18 20:23	05:36 20:14	06:05 19:38	06:35 18:48	07:06 08:14-08:37/23 18:00	06:42 07:11-07:45/34 16:27	07:09 16:25
23	07:07 07:34-08:12/38 16:55	06:33 17:32	05:49 18:03	06:00 19:35	05:26 20:05	05:19 20:23	05:37 20:13	06:06 19:36	06:36 18:46	07:07 08:12-08:39/27 17:59	06:43 07:12-07:44/32 16:26	07:09 16:26
24	07:06 07:33-08:13/40 16:56	06:32 17:33	05:47 18:04	05:59 19:36	05:26 20:06	05:19 20:23	05:38 20:12	06:07 19:35	06:37 18:44	07:09 08:09-08:40/31 17:57	06:44 07:13-07:43/30 16:26	07:10 16:26
25	07:05 07:33-08:14/41 16:57	06:30 17:35	05:46 18:05	05:57 19:37	05:25 20:07	05:19 20:23	05:39 20:12	06:08 19:33	06:38 18:43	06:10 07:09-07:42/33 16:56	06:45 07:16-07:43/27 16:25	07:10 16:27
26	07:04 07:33-08:15/42 16:58	06:29 17:36	05:44 18:06	05:56 19:38	05:24 20:08	05:19 20:23	05:39 20:11	06:09 19:32	06:39 18:41	06:11 07:07-07:44/37 16:54	06:47 07:17-07:42/25 16:25	07:11 16:28
27	07:04 07:32-08:16/44 17:00	06:27 17:37	05:42 18:07	05:54 19:39	05:24 20:08	05:20 20:23	05:40 20:10	06:10 19:30	06:40 18:39	06:12 07:06-07:44/38 16:53	06:48 07:19-07:40/21 16:24	07:11 16:28
28	07:03 07:32-08:16/44 17:01	06:26 17:38	05:41 18:08	05:53 19:40	05:23 20:09	05:20 20:23	05:41 20:09	06:11 19:38	06:41 18:38	06:13 07:05-07:45/40 16:52	06:49 07:21-07:39/18 16:24	07:11 16:29
29	07:02 07:32-08:17/45 17:02	06:25 17:39	05:40 18:09	05:52 19:41	05:22 20:10	05:21 20:23	05:42 20:08	06:12 19:27	06:42 18:36	06:14 07:04-07:46/42 16:50	06:50 07:23-07:37/14 16:24	07:12 16:30
30	07:01 07:31-08:17/46 17:03	06:24 17:40	05:39 19:10	05:51 19:42	05:22 20:11	05:21 20:23	05:43 20:07	06:13 19:26	06:43 18:34	06:15 07:04-07:47/43 16:49	06:51 07:27-07:34/7 16:23	07:12 16:30
31	07:00 07:31-08:18/47 17:05	06:23 17:41	05:38 19:11	05:50 20:12	05:23 20:12	05:20 20:23	05:44 20:06	06:14 19:24	06:44 16:48	06:16 07:03-07:47/44 16:48	06:52 07:28-07:41/1 16:23	07:12 16:31
Potential sun hours	299	298	370	398	447	450	457	427	375	346	299	290
Sum of minutes with flicker	665	837	0	0	0	0	0	0	0	378	1137	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: WON026_ShadowFlickering WTG: 9 - VESTAS V172-7.2 7200 172.0 IO! hub: 150.0 m (TOT: 236.0 m) (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	07:12 11:05-13:24/139 16:32	06:59 11:05-13:43/158 17:06	06:24 11:06-13:42/156 17:39	06:34 06:53-07:16/23 19:12	05:49 19:44	05:21 20:12
2	07:12 11:06-13:25/139 16:33	06:58 11:05-13:43/158 17:07	06:23 11:06-13:41/155 17:40	06:33 06:52-07:15/23 19:14	05:48 19:45	05:20 20:13
3	07:13 11:06-13:25/139 16:34	06:57 11:05-13:44/159 17:08	06:21 11:07-13:41/154 17:41	06:31 06:52-07:13/21 19:15	05:47 19:46	05:20 20:14
4	07:13 11:06-13:26/140 16:35	06:56 11:05-13:44/159 17:10	06:20 11:07-13:40/153 17:43	06:29 06:53-07:13/20 19:16	05:45 19:47	05:20 20:15
5	07:13 11:05-13:26/141 16:36	06:55 11:05-13:45/160 17:11	06:18 11:09-13:40/151 17:44	06:28 06:54-07:11/17 19:17	05:44 19:48	05:19 20:15
6	07:13 11:05-13:26/141 16:37	06:54 11:05-13:45/160 17:12	06:17 11:09-13:39/150 17:45	06:26 06:56-07:09/13 19:18	05:43 19:49	05:19 20:16
7	07:13 11:06-13:27/141 16:37	06:53 11:05-13:45/160 17:13	06:15 11:10-13:38/148 17:46	06:25 06:58-07:06/8 19:19	05:42 19:50	05:19 20:17
8	07:12 11:06-13:28/142 16:38	06:52 11:05-13:46/161 17:14	06:13 11:11-13:37/146 17:47	06:23 19:20	05:41 19:51	05:19 20:17
9	07:12 11:06-13:29/143 16:39	06:51 11:05-13:46/161 17:16	06:12 11:12-13:35/143 17:48	06:21 19:21	05:40 19:52	05:18 20:18
10	07:12 11:07-13:30/143 16:40	06:50 11:04-13:46/162 17:17	06:10 11:14-13:35/141 17:49	06:20 19:22	05:38 19:53	05:18 20:18
11	07:12 11:06-13:30/144 16:41	06:49 11:04-13:46/162 17:18	06:09 11:15-13:33/138 17:50	06:18 19:23	05:37 19:54	05:18 20:19
12	07:12 11:06-13:31/145 16:43	06:48 11:04-13:46/162 17:19	06:07 11:17-13:33/136 17:51	06:17 19:24	05:36 19:55	05:18 20:19
13	07:11 11:07-13:32/145 16:44	06:46 11:05-13:47/162 17:20	06:05 11:19-13:31/132 17:52 06:24-06:30/6	06:15 19:25	05:35 19:56	05:18 20:20
14	07:11 11:06-13:32/146 16:45	06:45 11:04-13:46/162 17:22	06:04 11:22-13:29/127 17:54 06:22-06:32/10	06:13 19:26	05:34 19:57	05:18 20:20
15	07:11 11:07-13:33/146 16:46	06:44 11:04-13:46/162 17:23	06:02 11:26-13:28/122 17:55 06:21-06:34/13	06:12 19:27	05:33 19:58	05:18 20:21
16	07:10 11:06-13:34/148 16:47	06:43 11:04-13:47/163 17:24	06:01 11:30-13:25/115 17:56 06:19-06:34/15	06:10 19:28	05:32 19:59	05:18 20:21
17	07:10 11:07-13:35/148 16:48	06:41 11:04-13:46/162 17:25	05:59 11:37-13:22/105 17:57 06:17-06:34/17	06:09 19:29	05:31 20:00	05:18 20:21
18	07:09 11:06-13:35/149 16:49	06:40 11:04-13:46/162 17:26	05:57 11:47-13:20/93 17:58 06:16-06:35/19	06:07 19:30	05:30 20:01	05:18 20:22
19	07:09 11:07-13:36/149 16:50	06:39 11:05-13:46/161 17:28	05:56 12:00-13:17/77 17:59 06:14-06:34/20	06:06 19:31	05:30 20:01	05:18 20:22
20	07:08 11:06-13:37/151 16:51	06:37 11:04-13:46/162 17:29	05:54 12:16-13:12/56 18:00 06:12-06:34/22	06:04 19:32	05:29 20:02	05:18 20:22
21	07:08 11:06-13:37/151 16:53	06:36 11:05-13:46/161 17:30	05:52 12:34-13:06/32 18:01 06:12-06:34/22	06:03 19:33	05:28 20:03	05:18 20:23
22	07:07 11:06-13:38/152 16:54	06:34 11:04-13:45/161 17:31	05:51 06:11-06:33/22 18:02	06:02 19:34	05:27 20:04	05:18 20:23
23	07:07 11:06-13:38/152 16:55	06:33 11:05-13:45/160 17:32	05:49 06:11-06:31/20 18:03	06:00 19:35	05:26 20:05	05:19 20:23
24	07:06 11:06-13:39/153 16:56	06:32 11:05-13:45/160 17:33	05:47 06:06-06:11/5 18:04 06:13-06:30/17	05:59 19:36	05:26 20:06	05:19 20:23
25	07:05 11:06-13:40/154 16:57	06:30 11:05-13:44/159 17:35	05:46 06:04-06:13/9 18:05 06:14-06:28/14	05:57 19:37	05:25 20:07	05:19 20:23
26	07:04 11:06-13:40/154 16:59	06:29 11:06-13:44/158 17:36	05:44 06:03-06:15/12 18:06 06:17-06:26/9	05:56 19:38	05:24 20:08	05:20 20:23
27	07:04 11:06-13:41/155 17:00	06:27 11:06-13:43/157 17:37	05:42 06:01-06:15/14 18:07	05:54 19:39	05:24 20:09	05:20 20:23
28	07:03 11:06-13:41/155 17:01	06:26 11:06-13:43/157 17:38	05:41 05:59-06:16/17 18:08	05:53 19:40	05:23 20:09	05:20 20:23
29	07:02 11:05-13:42/157 17:02		06:39 06:58-07:16/18 19:09	05:52 19:42	05:22 20:10	05:21 20:23
30	07:01 11:05-13:42/157 17:03		06:37 06:56-07:16/20 19:10	05:50 19:43	05:22 20:11	05:21 20:23
31	07:00 11:05-13:42/157 17:05		06:36 06:54-07:15/21 19:11		05:21 20:12	
Potential sun hours	299	298	370	398	447	450
Sum of minutes with flicker	4576	4491	2972	125	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: WON026_ShadowFlickering WTG: 9 - VESTAS V172-7.2 7200 172.0 IO! hub: 150.0 m (TOT: 236.0 m) (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	05:22 20:23	05:45 20:05	06:15 19:22	06:44 11:57-14:11/134 18:33 07:04-07:07/3	06:18 10:34-13:15/161 16:47	06:52 10:48-13:12/144 16:23
2	05:22 20:23	05:46 20:04	06:16 19:21	06:45 11:54-14:11/137 18:31	06:19 10:34-13:15/161 16:46	06:53 10:49-13:12/143 16:23
3	05:23 20:23	05:47 20:03	06:17 19:19	06:46 11:52-14:12/140 18:29	06:20 10:35-13:16/161 16:44	06:54 10:49-13:12/143 16:22
4	05:23 20:23	05:48 20:02	06:18 19:18	06:47 11:50-14:13/143 18:28	06:21 10:35-13:15/160 16:43	06:55 10:50-13:12/142 16:22
5	05:24 20:23	05:49 20:00	06:19 06:54-07:02/8 19:16	06:48 11:48-14:13/145 18:26	06:22 10:35-13:15/160 16:42	06:56 10:51-13:12/141 16:22
6	05:24 20:22	05:50 19:59	06:20 06:51-07:04/13 19:14	06:49 11:47-14:14/147 18:24	06:23 10:35-13:14/159 16:41	06:57 10:51-13:13/142 16:22
7	05:25 20:22	05:51 19:58	06:21 06:49-07:06/17 19:13	06:50 11:45-14:14/149 18:23	06:25 10:36-13:15/159 16:40	06:58 10:52-13:13/141 16:22
8	05:25 20:22	05:52 19:57	06:22 06:48-07:07/19 19:11	06:51 11:44-14:14/150 18:21	06:26 10:36-13:15/159 16:39	06:59 10:53-13:13/140 16:22
9	05:26 20:21	05:53 19:56	06:23 06:46-07:07/21 19:09	06:52 11:43-14:14/151 18:20	06:27 10:36-13:14/158 16:38	07:00 10:54-13:13/139 16:22
10	05:27 20:21	05:54 19:54	06:24 06:46-07:08/22 19:08	06:53 11:41-14:15/154 18:18	06:28 10:36-13:14/158 16:37	07:00 10:55-13:14/139 16:22
11	05:27 20:21	05:55 19:53	06:25 06:45-07:08/23 19:06	06:54 11:41-14:16/155 18:16	06:29 10:37-13:14/157 16:36	07:01 10:55-13:14/139 16:22
12	05:28 20:20	05:56 19:52	06:26 06:46-07:08/22 19:04	06:56 11:40-14:16/156 18:15	06:31 10:37-13:14/157 16:35	07:02 10:56-13:14/138 16:22
13	05:29 20:20	05:57 19:50	06:27 06:47-07:07/20 19:03	06:57 11:39-14:16/157 18:13	06:32 10:37-13:14/157 16:34	07:03 10:56-13:14/138 16:22
14	05:30 20:19	05:57 19:49	06:28 06:48-07:07/19 19:01	06:58 11:39-14:16/157 18:12	06:33 10:38-13:13/155 16:33	07:04 10:57-13:15/138 16:22
15	05:30 20:19	05:58 19:48	06:29 06:49-07:06/17 18:59	06:59 11:38-14:16/158 18:10	06:34 10:39-13:14/155 16:32	07:04 10:58-13:15/137 16:23
16	05:31 20:18	05:59 19:46	06:30 06:50-07:05/15 18:58	07:00 11:37-14:16/159 18:09	06:35 10:39-13:13/154 16:31	07:05 10:58-13:15/137 16:23
17	05:32 20:18	06:00 19:45	06:30 06:51-07:03/12 18:56 07:06-07:14/8	07:01 11:36-14:16/160 18:07	06:36 10:39-13:13/154 16:31	07:06 10:59-13:15/136 16:23
18	05:33 20:17	06:01 19:44	06:31 06:52-07:02/10 18:54 07:03-07:16/13	07:02 11:36-14:16/160 18:06	06:38 10:40-13:13/153 16:30	07:06 11:00-13:16/136 16:24
19	05:33 20:16	06:02 19:42	06:32 06:52-06:58/6 18:53 07:00-07:16/16	07:03 11:35-14:16/161 18:04	06:39 10:40-13:12/152 16:29	07:07 10:59-13:16/137 16:24
20	05:34 20:16	06:03 19:41	06:33 06:58-07:17/19 18:51	07:04 11:36-14:17/161 18:03	06:40 10:41-13:13/152 16:28	07:08 11:00-13:17/137 16:24
21	05:35 20:15	06:04 19:39	06:34 06:57-07:18/21 18:49	07:05 11:35-14:16/161 18:01	06:41 10:42-13:13/151 16:28	07:08 11:00-13:17/137 16:25
22	05:36 20:14	06:05 19:38	06:35 13:24-13:47/23 18:48 06:56-07:18/22	07:06 11:35-14:16/161 18:00	06:42 10:42-13:13/151 16:27	07:09 11:01-13:18/137 16:25
23	05:37 20:13	06:06 19:36	06:36 13:05-13:55/50 18:46 06:56-07:18/22	07:07 11:34-14:16/162 17:59	06:43 10:43-13:12/149 16:26	07:09 11:01-13:18/137 16:26
24	05:38 20:12	06:07 19:35	06:37 12:48-13:59/71 18:44 06:57-07:18/21	07:09 11:34-14:16/162 17:57	06:44 10:43-13:12/149 16:26	07:10 11:02-13:19/137 16:26
25	05:39 20:12	06:08 19:33	06:38 12:33-14:02/89 18:43 06:58-07:17/19	06:10 10:34-13:16/162 16:56	06:45 10:45-13:13/148 16:25	07:10 11:03-13:19/136 16:27
26	05:39 20:11	06:09 19:32	06:39 12:22-14:04/102 18:41 06:59-07:17/18	06:11 10:34-13:16/162 16:54	06:47 10:45-13:13/148 16:25	07:11 11:03-13:19/136 16:28
27	05:40 20:10	06:10 19:30	06:40 12:14-14:06/112 18:39 07:00-07:16/16	06:12 10:34-13:16/162 16:53	06:48 10:46-13:12/146 16:24	07:11 11:04-13:21/137 16:28
28	05:41 20:09	06:11 19:29	06:41 12:08-14:07/119 18:38 07:01-07:14/13	06:13 10:34-13:16/162 16:52	06:49 10:46-13:12/146 16:24	07:11 11:04-13:21/137 16:29
29	05:42 20:08	06:12 19:27	06:42 12:04-14:09/125 18:36 07:02-07:13/11	06:14 10:33-13:15/162 16:51	06:50 10:47-13:12/145 16:24	07:12 11:04-13:21/137 16:30
30	05:43 20:07	06:13 19:26	06:43 12:00-14:10/130 18:34 07:03-07:11/8	06:15 10:34-13:16/162 16:49	06:51 10:47-13:12/145 16:23	07:12 11:04-13:22/138 16:30
31	05:44 20:06	06:14 19:24		06:17 10:34-13:16/162 16:48		07:12 11:04-13:22/138 16:31
Potential sun hours	457	427	375	346	299	290
Sum of minutes with flicker	0	0	1292	4817	4620	4294

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: WON026_ShadowFlickering WTG: 10 - VESTAS V172-7.2 7200 172.0 !O! hub: 150.0 m (TOT: 236.0 m) (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	July	August	September	October	November	December
1	07:12 07:57-08:55/58	06:59 08:01-09:08/67	06:24 06:34	05:49 05:21	05:21 05:21	05:21 05:21	05:21 05:21	05:45 06:15	06:15 06:44	06:44 06:44	06:18 07:36-08:33/57	06:52 07:40-08:43/63
2	16:32 07:12 07:57-08:55/58	17:06 06:58 08:02-09:08/66	17:39 06:23 06:33	17:39 06:33 05:48	19:12 05:20 05:22	19:12 05:20 05:22	19:12 05:20 05:22	20:05 05:46	19:22 06:16	18:33 06:45	06:19 07:35-08:34/59	06:53 07:40-08:43/63
3	16:33 07:12 07:57-08:56/59	17:07 06:57 08:02-09:08/66	17:40 06:21 06:31	17:40 06:31 05:47	19:13 05:20 05:22	19:13 05:20 05:22	19:13 05:20 05:22	20:04 06:17	19:21 06:46	18:31 06:20	06:19 07:35-08:36/61	06:54 07:41-08:43/62
4	16:34 07:12 07:57-08:57/60	17:08 06:56 08:03-09:07/64	17:41 06:20 06:29	17:41 06:29 05:45	19:14 05:20 05:23	19:14 05:20 05:23	19:14 05:20 05:23	20:03 06:18	19:19 06:47	18:29 06:21	06:21 07:34-08:36/62	06:55 07:41-08:43/62
5	16:35 07:13 07:57-08:57/60	17:09 06:55 08:03-09:07/64	17:43 06:20 06:29	17:43 06:29 05:45	19:16 05:20 05:23	19:16 05:20 05:23	19:16 05:20 05:23	20:02 06:18	19:18 06:47	18:28 06:21	06:21 07:34-08:37/63	06:56 07:42-08:43/61
6	16:36 07:13 07:57-08:57/60	17:11 06:55 08:03-09:07/64	17:44 06:18 06:28	17:44 06:28 05:44	19:17 05:20 05:23	19:17 05:20 05:23	19:17 05:20 05:23	20:00 06:19	19:16 06:48	18:26 06:22	06:22 07:34-08:37/63	06:56 07:42-08:43/61
7	16:36 07:13 07:57-08:58/61	17:12 06:54 08:04-09:07/63	17:45 06:17 06:26	17:45 06:26 05:43	19:18 05:20 05:23	19:18 05:20 05:23	19:18 05:20 05:23	20:00 06:20	19:16 06:49	18:24 06:23	06:23 07:33-08:37/64	06:57 07:43-08:43/60
8	16:37 07:13 07:57-08:58/61	17:13 06:53 08:05-09:06/61	17:46 06:15 06:24	17:46 06:24 05:42	19:19 05:20 05:23	19:19 05:20 05:23	19:19 05:20 05:23	20:02 06:21	19:14 06:50	18:24 06:25	06:25 07:34-08:38/64	06:58 07:44-08:44/60
9	16:37 07:13 07:57-08:59/62	17:14 06:52 08:06-09:06/60	17:47 06:13 06:23	17:47 06:23 05:41	19:20 05:20 05:23	19:20 05:20 05:23	19:20 05:20 05:23	20:02 06:22	19:13 06:51	18:23 06:26	06:26 07:33-08:39/66	06:59 07:44-08:44/60
10	16:38 07:12 07:58-09:00/62	17:14 06:51 08:06-09:05/59	17:47 06:12 06:21	17:47 06:21 05:39	19:21 05:18 05:26	19:21 05:18 05:26	19:21 05:18 05:26	20:02 06:23	19:11 06:52	18:21 06:27	06:27 07:33-08:39/66	07:00 07:45-08:44/59
11	16:39 07:12 07:58-09:01/63	17:16 06:50 08:07-09:03/56	17:48 06:10 06:20	17:48 06:20 05:38	19:22 05:18 05:27	19:22 05:18 05:27	19:22 05:18 05:27	20:03 06:24	19:09 06:53	18:20 06:28	06:28 07:32-08:39/67	07:00 07:46-08:44/58
12	16:40 07:12 07:58-09:01/63	17:17 06:49 08:08-09:03/55	17:49 06:09 06:18	17:49 06:18 05:37	19:23 05:18 05:27	19:23 05:18 05:27	19:23 05:18 05:27	20:04 06:25	19:08 06:54	18:18 06:29	06:29 07:33-08:40/67	07:01 07:47-08:45/58
13	16:41 07:12 07:58-09:02/64	17:18 06:48 08:09-09:02/53	17:50 06:07 06:17	17:50 06:17 05:36	19:24 05:18 05:28	19:24 05:18 05:28	19:24 05:18 05:28	20:05 06:26	19:06 06:56	18:16 06:31	06:31 07:33-08:40/67	07:02 07:48-08:45/57
14	16:42 07:11 07:58-09:03/65	17:19 06:46 08:10-09:01/51	17:51 06:05 06:15	17:51 06:15 05:35	19:25 05:18 05:29	19:25 05:18 05:29	19:25 05:18 05:29	20:06 06:27	19:04 06:57	18:15 06:32	06:32 07:32-08:41/69	07:03 07:48-08:45/57
15	16:44 07:11 07:58-09:03/65	17:20 06:45 08:11-08:59/48	17:52 06:04 06:13	17:52 06:13 05:34	19:26 05:18 05:29	19:26 05:18 05:29	19:26 05:18 05:29	20:07 06:28	19:03 06:58	18:13 06:33	06:33 07:32-08:41/69	07:04 07:48-08:45/57
16	16:45 07:11 07:58-09:04/66	17:22 06:44 08:12-08:57/45	17:54 06:02 06:12	17:54 06:12 05:33	19:27 05:18 05:30	19:27 05:18 05:30	19:27 05:18 05:30	20:08 06:29	19:01 06:59	18:12 06:34	06:34 07:33-08:42/69	07:04 07:49-08:46/57
17	16:46 07:10 07:58-09:04/66	17:23 06:43 08:14-08:56/42	17:55 06:01 06:10	17:55 06:10 05:32	19:28 05:18 05:31	19:28 05:18 05:31	19:28 05:18 05:31	20:09 06:30	19:00 07:00	18:10 06:35	06:35 07:33-08:42/69	07:05 07:49-08:45/56
18	16:47 07:10 07:59-09:05/66	17:24 06:41 08:15-08:53/38	17:56 06:00 06:09	17:56 06:09 05:31	19:29 05:18 05:32	19:29 05:18 05:32	19:29 05:18 05:32	20:10 06:31	19:00 07:01	18:09 06:36	06:36 07:33-08:42/69	07:06 07:50-08:46/56
19	16:48 07:09 07:58-09:05/67	17:25 06:40 08:18-08:51/33	17:57 06:00 06:07	17:57 06:07 05:30	19:30 05:18 05:33	19:30 05:18 05:33	19:30 05:18 05:33	20:11 06:32	19:00 07:02	18:07 06:37	06:37 07:33-08:42/69	07:06 07:51-08:47/56
20	16:49 07:09 07:59-09:06/67	17:26 06:39 08:21-08:48/27	17:58 06:00 06:06	17:58 06:06 05:30	19:31 05:18 05:33	19:31 05:18 05:33	19:31 05:18 05:33	20:12 06:33	19:00 07:03	18:06 06:38	06:38 07:33-08:42/69	07:07 07:51-08:47/56
21	16:50 07:09 07:59-09:06/67	17:28 06:39 08:23-08:44/21	17:59 06:00 06:06	17:59 06:06 05:30	19:32 05:18 05:33	19:32 05:18 05:33	19:32 05:18 05:33	20:13 06:34	19:00 07:04	18:04 06:39	06:39 07:33-08:42/69	07:07 07:51-08:47/56
22	16:51 07:08 07:59-09:06/67	17:29 06:37 08:23-08:44/21	18:00 06:00 06:04	18:00 06:04 05:29	19:33 05:18 05:34	19:33 05:18 05:34	19:33 05:18 05:34	20:14 06:35	19:00 07:04	18:03 06:40	06:40 07:34-08:42/68	07:08 07:52-08:48/56
23	16:52 07:08 07:59-09:06/67	17:30 06:36 08:30-08:38/8	18:01 06:00 06:03	18:01 06:03 05:28	19:34 05:18 05:35	19:34 05:18 05:35	19:34 05:18 05:35	20:15 06:36	19:00 07:05	18:03 06:41	06:41 07:35-08:42/67	07:08 07:52-08:47/55
24	16:53 07:07 07:59-09:07/68	17:31 06:34 08:30-08:38/8	18:02 06:00 06:01	18:02 06:01 05:27	19:35 05:18 05:36	19:35 05:18 05:36	19:35 05:18 05:36	20:16 06:37	19:00 07:06	18:02 06:42	06:42 07:35-08:42/67	07:09 07:53-08:48/55
25	16:54 07:07 07:59-09:08/69	17:32 06:33 08:30-08:38/8	18:03 06:00 06:01	18:03 06:01 05:26	19:36 05:18 05:37	19:36 05:18 05:37	19:36 05:18 05:37	20:17 06:38	19:00 07:07	18:00 06:43	06:43 07:35-08:42/67	07:09 07:53-08:48/55
26	16:55 07:06 07:59-09:08/69	17:33 06:32 08:30-08:38/8	18:04 06:00 06:02	18:04 06:02 05:25	19:37 05:18 05:38	19:37 05:18 05:38	19:37 05:18 05:38	20:18 06:39	19:00 07:08	18:00 06:44	06:44 07:35-08:42/67	07:10 07:54-08:50/56
27	16:56 07:05 08:00-09:09/69	17:34 06:30 08:30-08:38/8	18:05 06:00 06:03	18:05 06:03 05:24	19:38 05:18 05:39	19:38 05:18 05:39	19:38 05:18 05:39	20:19 06:40	19:00 07:09	18:00 06:45	06:45 07:37-08:43/66	07:10 07:54-08:50/56
28	16:57 07:04 08:00-09:09/69	17:35 06:29 08:30-08:38/8	18:06 06:00 06:04	18:06 06:04 05:23	19:39 05:18 05:40	19:39 05:18 05:40	19:39 05:18 05:40	20:20 06:41	19:00 07:10	18:00 06:46	06:46 07:37-08:43/66	07:11 07:54-08:50/56
29	16:58 07:04 08:00-09:09/69	17:36 06:28 08:30-08:38/8	18:07 06:00 06:05	18:07 06:05 05:22	19:40 05:18 05:41	19:40 05:18 05:41	19:40 05:18 05:41	20:21 06:42	19:00 07:11	18:00 06:47	06:47 07:37-08:43/66	07:11 07:55-08:51/56
30	16:59 07:03 08:00-09:09/69	17:37 06:27 08:30-08:38/8	18:08 06:00 06:06	18:08 06:06 05:21	19:41 05:18 05:42	19:41 05:18 05:42	19:41 05:18 05:42	20:22 06:43	19:00 07:12	18:00 06:48	06:48 07:37-08:43/66	07:11 07:55-08:51/56
31	17:00 07:00 08:01-09:08/67	17:38 06:26 08:30-08:38/8	18:09 06:00 06:07	18:09 06:07 05:20	19:42 05:18 05:43	19:42 05:18 05:43	19:42 05:18 05:43	20:23 06:44	19:00 07:13	18:00 06:49	06:49 07:38-08:43/65	07:12 07:56-08:53/57
Potential sun hours	299	298	370	398	447	451	457	427	375	346	299	1974
Sum of minutes with flicker	2011	1047	0	0	0	0	0	0	0	437	1974	1791

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: WON026_ShadowFlickering WTG: 11 - VESTAS V172-7.2 7200 172.0 !O! hub: 150.0 m (TOT: 236.0 m) (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	July	August	September	October	November	December
1	07:13 16:32	07:00 17:06	06:24 17:39	06:34 19:13	05:49 19:44	05:21 20:13	05:22 20:24	05:45 20:05	06:15 19:23	06:44 18:33	06:18 16:47	06:52 16:23
2	07:13 16:33	06:59 17:07	06:23 17:41	06:33 19:14	05:48 19:45	05:21 20:13	05:22 20:23	05:46 20:04	06:16 19:21	06:45 18:31	06:19 16:46	06:53 16:23
3	07:13 16:34	06:58 17:08	06:21 17:42	06:31 19:15	05:47 19:46	05:20 20:14	05:23 20:23	05:47 20:03	06:17 19:19	06:46 18:30	06:20 16:45	06:54 16:23
4	07:13 16:35	06:57 17:10	06:20 17:43	06:30 19:16	05:46 19:47	05:20 20:15	05:23 20:23	05:48 20:02	06:18 19:18	06:47 18:28	06:21 16:43	06:55 16:22
5	07:13 16:36	06:56 17:11	06:18 17:44	06:28 19:17	05:44 19:48	05:19 20:16	05:24 20:23	05:49 20:01	06:19 19:16	06:48 18:26	06:23 16:42	06:56 16:22
6	07:13 16:37	06:55 17:12	06:17 17:45	06:26 19:18	05:43 19:49	05:19 20:16	05:24 20:23	05:50 19:59	06:20 19:15	06:50 18:25	06:24 16:41	06:57 16:22
7	07:13 16:38	06:54 17:13	06:15 17:46	06:25 19:19	05:42 19:50	05:19 20:17	05:25 20:22	05:51 19:58	06:21 19:13	06:51 18:23	06:25 16:40	06:58 16:22
8	07:13 16:39	06:52 17:15	06:14 17:47	06:23 19:20	05:41 19:51	05:19 20:17	05:26 20:22	05:52 19:57	06:22 19:11	06:52 18:21	06:26 16:39	06:59 16:22
9	07:13 16:40	06:51 17:16	06:12 17:48	06:21 19:21	05:40 19:52	05:18 20:18	05:26 20:22	05:53 19:56	06:23 19:10	06:53 18:20	06:27 16:38	07:00 16:22
10	07:12 16:41	06:50 17:17	06:10 17:49	06:20 19:22	05:39 19:53	05:18 20:19	05:27 20:21	05:54 19:55	06:24 19:08	06:54 18:18	06:28 16:37	07:01 16:22
11	07:12 16:42	06:49 17:18	06:09 17:51	06:18 19:23	05:37 19:54	05:18 20:19	05:28 20:21	05:55 19:53	06:25 19:06	06:55 18:17	06:30 16:36	07:02 16:22
12	07:12 16:43	06:48 17:19	06:07 17:52	06:17 19:24	05:36 19:55	05:18 20:20	05:28 20:21	05:56 19:52	06:26 19:05	06:56 18:15	06:31 16:35	07:02 16:22
13	07:12 16:44	06:47 17:21	06:06 17:53	06:15 19:25	05:35 19:56	05:18 20:20	05:29 20:20	05:57 19:51	06:27 19:03	06:57 18:14	06:32 16:34	07:03 16:22
14	07:11 16:45	06:45 17:22	06:04 17:54	06:14 19:26	05:34 19:57	05:18 20:21	05:30 20:20	05:58 19:49	06:28 19:01	06:58 18:12	06:33 16:33	07:04 16:23
15	07:11 16:46	06:44 17:23	06:02 17:55	06:12 19:27	05:33 19:58	05:18 20:21	05:30 20:19	05:59 19:48	06:29 19:00	06:59 18:10	06:34 16:32	07:05 16:23
16	07:11 16:47	06:43 17:24	06:01 17:56	06:11 19:28	05:32 19:59	05:18 20:21	05:31 20:18	06:00 19:47	06:30 18:58	07:00 18:09	06:35 16:31	07:05 16:23
17	07:10 16:48	06:41 17:25	05:59 17:57	06:09 19:29	05:32 20:00	05:18 20:22	05:32 20:18	06:01 19:45	06:31 18:56	07:01 18:07	06:37 16:31	07:06 16:23
18	07:10 16:49	06:40 17:27	05:57 17:58	06:08 19:30	05:31 20:01	05:18 20:22	05:33 20:17	06:02 19:44	06:32 18:55	07:02 18:06	06:38 16:30	07:07 16:24
19	07:09 16:50	06:39 17:28	05:56 17:59	06:06 19:31	05:30 20:02	05:18 20:22	05:34 20:16	06:03 19:42	06:33 18:53	07:03 18:04	06:39 16:29	07:07 16:24
20	07:09 16:52	06:37 17:29	05:54 18:00	06:05 19:32	05:29 20:03	05:18 20:23	05:34 20:16	06:03 19:41	06:34 18:51	07:04 18:03	06:40 16:29	07:08 16:24
21	07:08 16:53	06:36 17:30	05:53 18:01	06:03 19:33	05:28 20:04	05:18 20:23	05:35 20:15	06:04 19:40	06:35 18:50	07:05 18:02	06:41 16:28	07:09 16:25
22	07:07 16:54	06:35 17:31	05:51 18:02	06:02 19:34	05:27 20:04	05:19 20:23	05:36 20:14	06:05 19:38	06:36 18:48	07:07 18:00	06:42 16:27	07:09 16:25
23	07:07 16:55	06:33 17:33	05:49 18:03	06:00 19:36	05:27 20:05	05:19 20:23	05:37 20:13	06:06 19:37	06:36 18:46	07:08 17:59	06:43 16:27	07:10 16:26
24	07:06 16:56	06:32 17:34	05:48 18:04	05:59 19:37	05:26 20:06	05:19 20:23	05:38 20:13	06:07 19:35	06:37 18:45	07:09 17:57	06:45 16:26	07:10 16:26
25	07:05 16:57	06:30 17:35	05:46 18:05	05:57 19:38	05:25 20:07	05:19 20:24	05:39 20:12	06:08 19:34	06:38 18:43	06:10 16:56	06:46 16:26	07:10 16:27
26	07:05 16:59	06:29 17:36	05:44 18:06	05:56 19:39	05:24 20:08	05:20 20:24	05:40 20:11	06:09 19:32	06:39 18:41	06:11 16:55	06:47 16:25	07:11 16:28
27	07:04 17:00	06:27 17:37	05:43 18:07	05:55 19:40	05:24 20:09	05:20 20:24	05:40 20:10	06:10 19:31	06:40 18:39	06:12 16:53	06:48 16:25	07:11 16:28
28	07:03 17:01	06:26 17:38	05:41 18:09	05:53 19:41	05:23 20:10	05:20 20:24	05:41 20:09	06:11 19:29	06:41 18:38	06:13 16:52	06:49 16:24	07:12 16:29
29	07:02 17:02		06:39 19:10	05:52 19:42	05:23 20:10	05:21 20:24	05:42 20:08	06:12 19:27	06:42 18:36	06:14 16:51	06:50 16:24	07:12 16:30
30	07:01 17:04		06:38 19:11	05:51 19:43	05:22 20:11	05:21 20:24	05:43 20:07	06:13 19:26	06:43 18:34	06:16 16:49	06:51 16:23	07:12 16:30
31	07:01 17:05		06:36 19:12		05:22 20:12		05:44 20:06	06:14 19:24		06:17 16:48		07:12 16:31
Potential sun hours	299	298	370	398	447	451	457	427	375	346	299	289
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

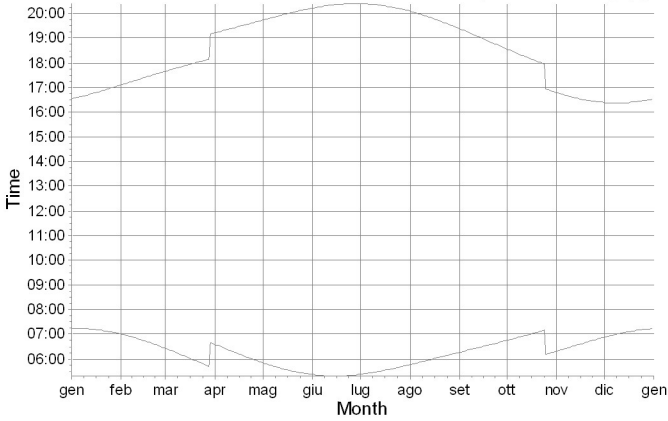
Table layout: For each day in each month the following matrix apply

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

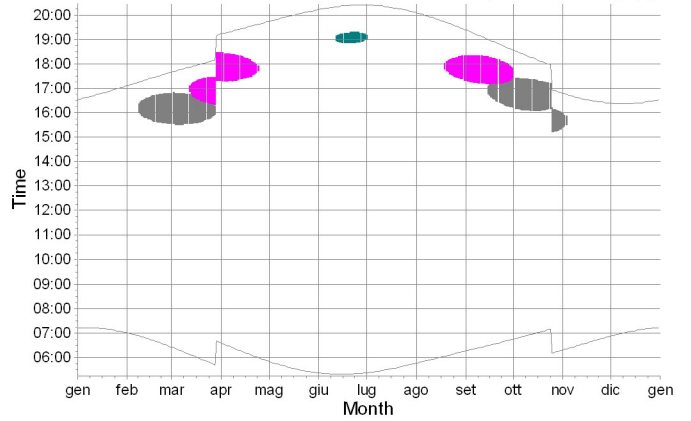
SHADOW - Calendar per WTG, graphical

Calculation: WON026_ShadowFlickering

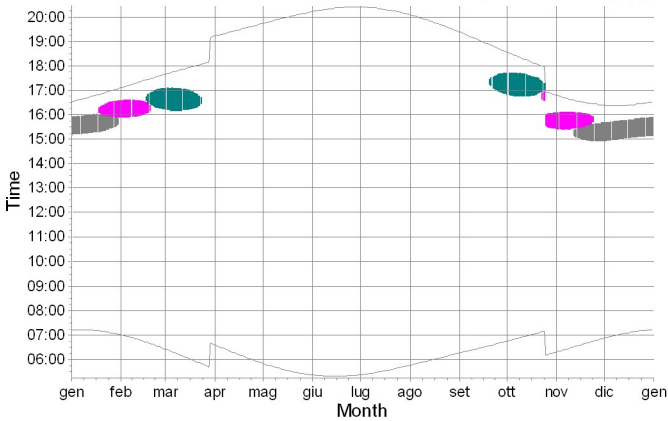
1: VESTAS V172-7.2 7200 172.0 !O! hub: 150.0 m (TOT: 236.0 m) (1)



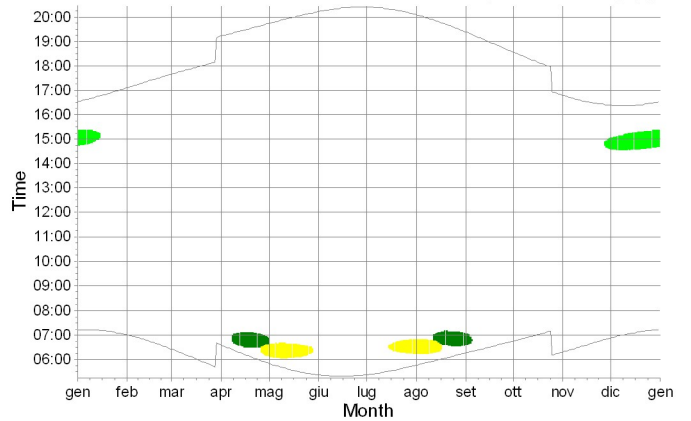
2: VESTAS V172-7.2 7200 172.0 !O! hub: 150.0 m (TOT: 236.0 m) (2)



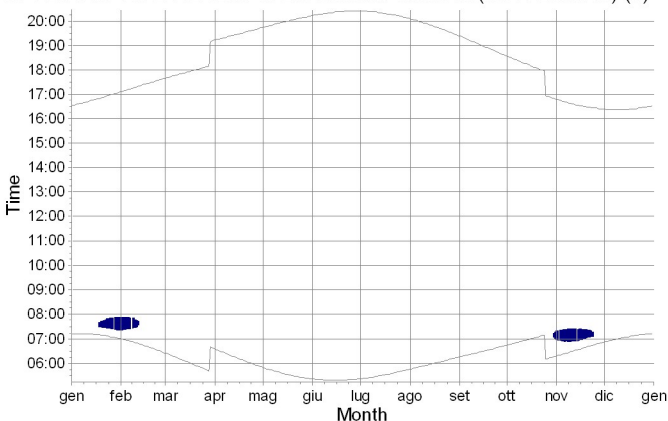
3: VESTAS V172-7.2 7200 172.0 !O! hub: 150.0 m (TOT: 236.0 m) (3)



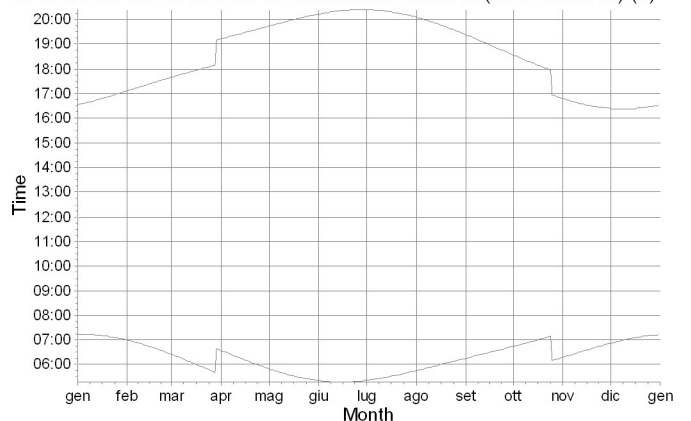
4: VESTAS V172-7.2 7200 172.0 !O! hub: 150.0 m (TOT: 236.0 m) (4)



5: VESTAS V172-7.2 7200 172.0 !O! hub: 150.0 m (TOT: 236.0 m) (5)



6: VESTAS V172-7.2 7200 172.0 !O! hub: 150.0 m (TOT: 236.0 m) (6)



Shadow receptors

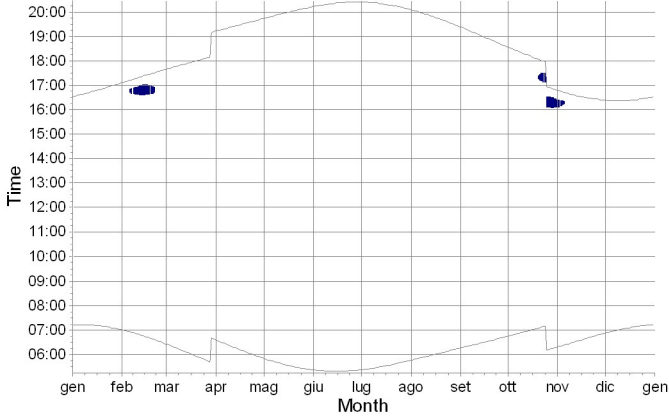
- A: Shadow Receptor: 1.0 × 1.0 Azimuth: -150.0° Slope: 90.0° (1)
- B: Shadow Receptor: 1.0 × 1.0 Azimuth: -170.0° Slope: 90.0° (2)
- D: Shadow Receptor: 1.0 × 1.0 Azimuth: 80.0° Slope: 90.0° (4)
- E: Shadow Receptor: 1.0 × 1.0 Azimuth: 90.0° Slope: 90.0° (5)

- F: Shadow Receptor: 1.0 × 1.0 Azimuth: 100.0° Slope: 90.0° (6)
- G: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (7)
- I: Shadow Receptor: 1.0 × 1.0 Azimuth: -40.0° Slope: 90.0° (9)

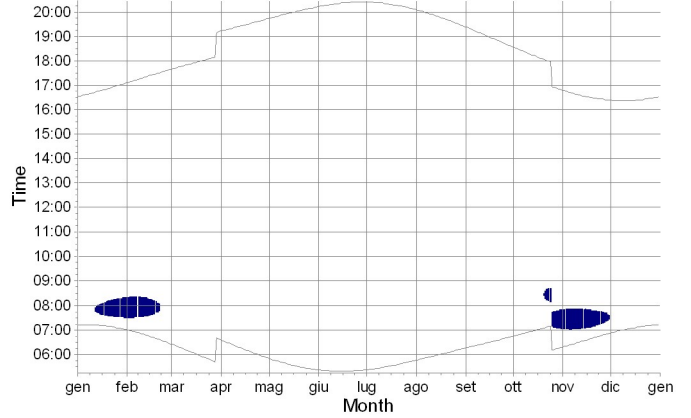
SHADOW - Calendar per WTG, graphical

Calculation: WON026_ShadowFlickering

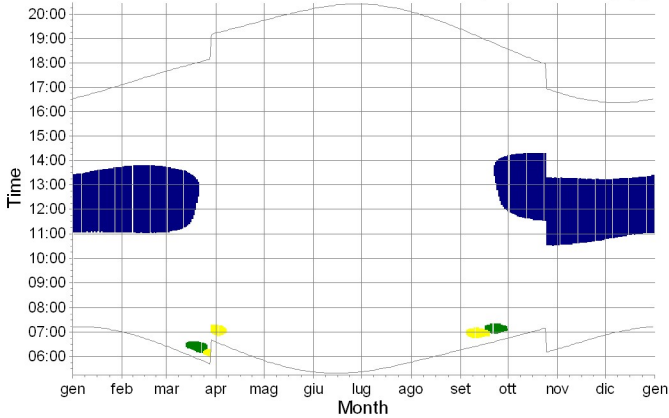
7: VESTAS V172-7.2 7200 172.0 !O! hub: 150.0 m (TOT: 236.0 m) (7)



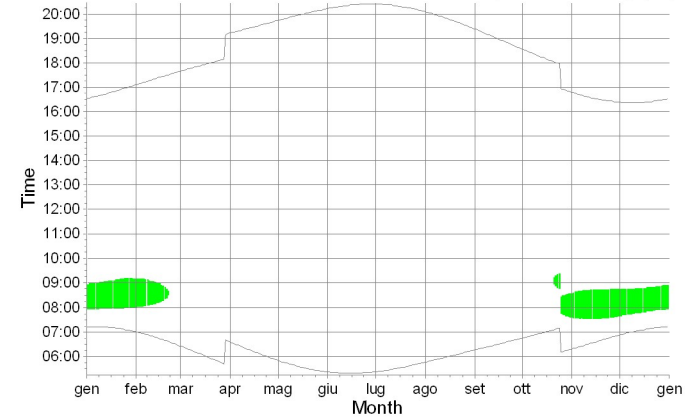
8: VESTAS V172-7.2 7200 172.0 !O! hub: 150.0 m (TOT: 236.0 m) (8)



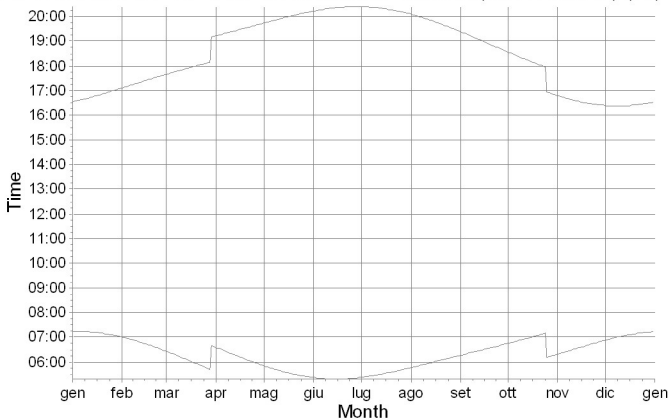
9: VESTAS V172-7.2 7200 172.0 !O! hub: 150.0 m (TOT: 236.0 m) (9)



10: VESTAS V172-7.2 7200 172.0 !O! hub: 150.0 m (TOT: 236.0 m) (10)



11: VESTAS V172-7.2 7200 172.0 !O! hub: 150.0 m (TOT: 236.0 m) (11)



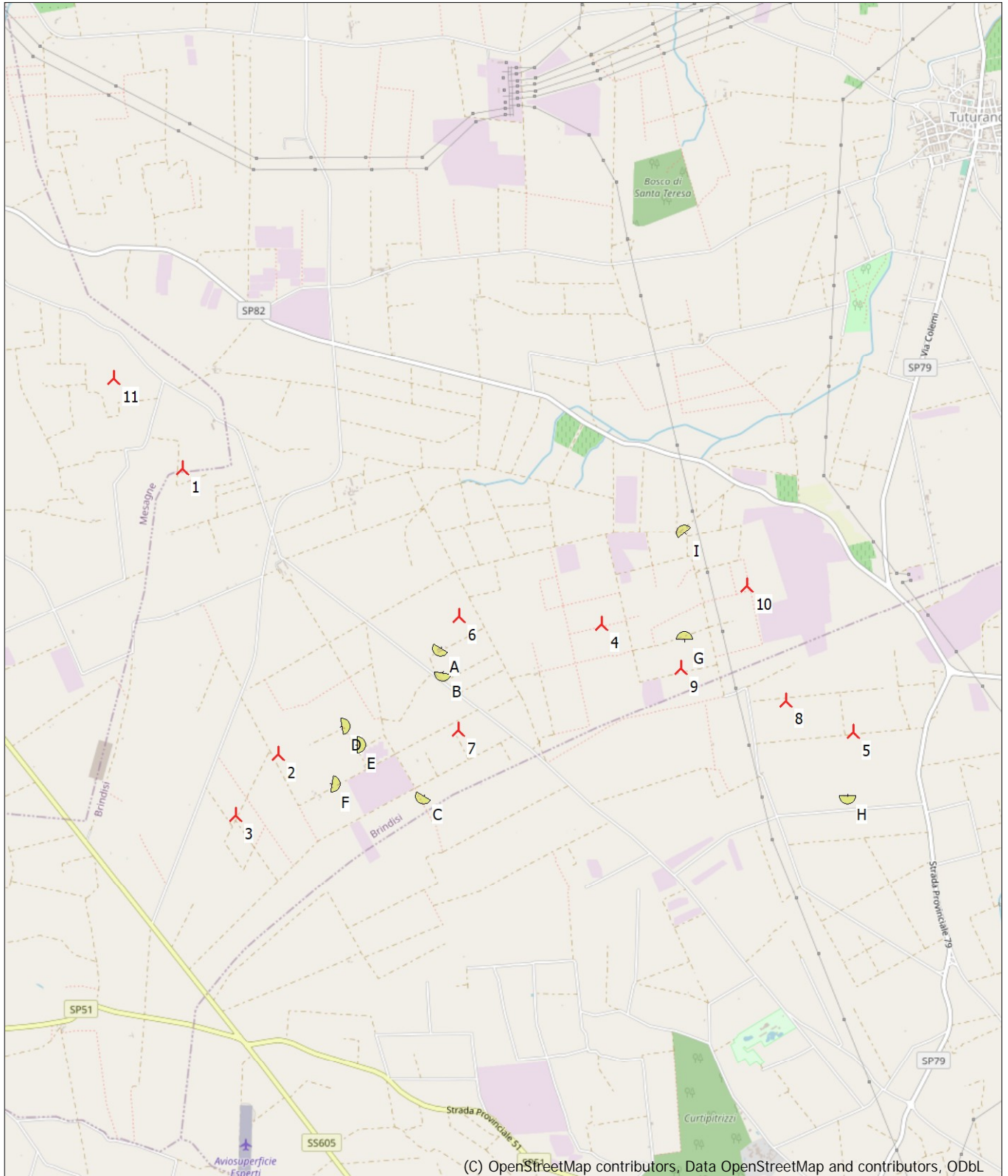
Shadow receptors

- A: Shadow Receptor: 1.0 × 1.0 Azimuth: -150.0° Slope: 90.0° (1)
- B: Shadow Receptor: 1.0 × 1.0 Azimuth: -170.0° Slope: 90.0° (2)

- G: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 90.0° (7)
- I: Shadow Receptor: 1.0 × 1.0 Azimuth: -40.0° Slope: 90.0° (9)

SHADOW - Map

Calculation: WON026_ShadowFlickering



0 500 1000 1500 2000 m

Map: EMD OpenStreetMap , Print scale 1:40,000, Map center UTM (north)-WGS84 Zone: 33 East: 746,104 North: 4,488,817

New WTG Shadow receptor

Flicker map level: Elevation Grid Data Object: WON026_EMDGrid_0.wpg (1)