



Green Trust
changing energy

Windpark Egchelse Heide
Slagschaduwonderzoek

changing energy



Onderwerp Slagschaduwonderzoek voor Windpark Egchelse Heide			
Opdrachtgever Windpark Egchelse Heide B.V.			
Auteur Green Trust Consultancy B.V.			
	Naam	Functie	Paraaf
Vorbereid door:	Rob Westerhuis Romana Madic	Projectadviseur Engineer	
Geautoriseerd door	Jeroen Boerkamps	Directeur	
Datum	04 dec 2017		
Revisie	171204NL033-007R1-Slagschaduw_Studie_Egchelse_Heide_Final		

Opdrachtgever

Windpark Egchelse Heide BV
Karissendijk 11
5987 NJ Egchel
Nederland

Green Trust Consultancy B.V.

Stationsweg 6
6861 EG Oosterbeek
Nederland

T +31 (0)26 339 28 92

E: info@greentrust.nl

W: www.greentrust.nl



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1.0 Inleiding en samenvatting

In opdracht van Windpark Egchelse Heide BV is door Green Trust een slagschaduwonderzoek uitgevoerd voor het nog op te richten windpark Windpark Egchelse Heide. Doel van het onderzoek is het bepalen van de te verwachte slagschaduw veroorzaakt door het windpark ter plaatse van gevoelige objecten, in dit geval nabijgelegen woningen. Daarbij zijn ook de te nemen maatregelen om slagschaduw te beperken toegelicht. Het onderzoek is onderdeel van de Wabo omgevingsvergunningaanvraag in het kader van het Activiteitenbesluit milieubeheer.

Uit de rekenresultaten blijkt dat met het treffen van stilstandsvoorzieningen wordt voldaan aan de normstelling voor slagschaduw.



2.0 Uitgangspunten

2.1 Locatie

De locatie van het geplande windpark is gelegen in de gemeente Peel en Maas, zuidwestelijk van de kern Egchel. Windpark Egchelse Heide BV heeft vijf windturbines gepland in een lijnopstelling direct ten noorden van de Haambergweg. De geplande windturbines van windpark Egchelse Heide zijn in afbeelding 2.1 met oranje figuren afgebeeld. Ten zuiden van windpark Egchelse Heide bevindt zich het reeds bestaand windpark Neer. Dit windpark is met blauwe figuren afgebeeld. De locatie wordt gekenmerkt door agrarisch gebied.

Afbeelding 2.1. Situatie



Bron kaartlagen: PDOK + Google Earth

2.2 Type windturbines

Op verzoek van de opdrachtgever is de studie uitgevoerd binnen een bandbreedte in maatvoering van de windturbines.

Maat	Minimaal (m)	Maximaal (m)
Ashoogte	110	140
Rotordiameter	110	140
Tiphoogte	165	210

Bij gelijke ashoogte zal een rotordiameter van 140 meter meer slagschaduw werpen dan een rotordiameter van 110 meter. Het slagschaduwonderzoek is derhalve uitgevoerd voor een windturbine met een rotordiameter van 140 op 110 meter ashoogte (ondergrens), hierna te noemen RD140@110m, en een rotordiameter van 140 op 140 meter ashoogte (bovengrens), hierna te noemen RD140@140m. Het betreft voorsnog niet bestaande windturbines.

Het bestaande windpark Neer bestaat uit vijf windturbines van fabrikant Enercon met een masthoogte van 98,4 meter, waarvan er vier van het windturbinetype E82 zijn en één van het windturbinetype E92 (middelste turbine).



3.0 Toetsingskader

3.1 Regelgeving

Slagschaduw, veroorzaakt door de zon die op de draaiende rotorbladen van de windturbines schijnt, kan als hinderlijk worden ervaren. De mate van hinder wordt onder andere bepaald door:

- De blootstellingsduur
- De intensiteit van lichtsterkte-wisselingen (contrast)
- Het toerental/flikkerfrequentie
- De operationele tijd van een windturbine
- Type windturbine
- De kans op zon en wind
- De windrichting
- Omgevingsobstakels van woningen (afscherming door gebouwen/begroeiing)

Een inrichting, bestaande uit meerdere windturbines, valt onder artikel 3.13 van het *Activiteitenbesluit milieubeheer*¹. Volgens artikel 3.14 lid 4 dienen bij het inwerking hebben van windturbines ten behoeve van het voorkomen of beperken van slagschaduw en lichtschittering de bij ministeriële regeling te stellen maatregelen te worden toegepast.

3.2 Normstelling

In artikel 3.14 lid 4 van het *Activiteitenbesluit* wordt verwezen naar de bij de ministeriële regeling te stellen maatregelen. In deze *Activiteitenregeling milieubeheer*² wordt in artikel 3.12b het volgende vermeldt:

‘Ten behoeve van het voorkomen of beperken van slagschaduw en lichtschittering is de windturbine voorzien van een automatische stilstandvoorziening die de windturbine afschakelt indien slagschaduw optreedt ter plaatse van gevoelige objecten voorzover de afstand tussen de windturbine en de gevoelige objecten minder dan 12 maal de rotordiameter bedraagt en gemiddeld meer dan 17 dagen per jaar gedurende meer dan 20 minuten per dag slagschaduw kan optreden en voorzover zich in de door de slagschaduw getroffen uitwendige scheidingsconstructie van gevoelige gebouwen of woonwagens ramen bevinden. De afstand geldt van een punt op ashoogte van de windturbine tot de gevel van het gevoelige object.’

In het kader van dit onderzoek wordt dit artikel als volgt geïnterpreteerd:

- Er is een stilstandsvoorziening op een turbine nodig als de gemiddelde duur van hinderlijke schaduw gemiddeld meer is dan 17 dagen per jaar gedurende meer dan 20 minuten per dag, in dit rapport beschouwt als 5 uur en 40 minuten³. Voor zover zich in de door de slagschaduw getroffen uitwendige scheidingsconstructie van gevoelige gebouwen of woonwagens zich ramen bevinden.

¹ Besluit van 19 oktober 2007, houdende algemene regels voor inrichtingen (Besluit algemene regels voor inrichtingen milieubeheer; BARIM)

² Regeling van de Minister van Volkshuisvesting, Ruimtelijke Ordening en Milieubeheer van 9 november 2007, nr. DJZ2007104180, houdende algemene regels voor inrichtingen (Regeling algemene regels voor inrichtingen milieubeheer; RARIM)

³ Dit is in feite een conservatievere benadering dan wat de regeling voorschrijft aangezien slagschaduw van minder dan 20 minuten per dag of minder dan 17 dagen met meer dan 20 minuten per dag volgens de regeling aanvaardbaar is.



- De eventuele schaduw van windturbines op een grotere afstand dan 12 maal de rotordiameter wordt verwaarloosd.
- Schaduw bij een zonnestand lager dan vijf graden wordt als niet-hinderlijk beoordeeld. Bij zonsopkomst en zonsondergang is het licht vrij diffuus en wordt de turbine vaak aan het zicht onttrokken door gebouwen en begroeiing.
- Bij een windpark worden de schaduwen en schaduw dagen van verschillende turbines opgeteld voor zover de schaduwen elkaar niet overlappen.

In de Regeling behorend tot het Besluit is verder in artikel 3.12 lid 2 geregeld dat het bevoegd gezag aanvullend voorschriften kan stellen, indien het voorkomen of beperken van hinder door slagschaduw in een specifiek geval niet toereikend is.

3.3 Rekenmethode

Het slagschaduwonderzoek is uitgevoerd met het softwarepakket WindPRO® versie 3.1.617, module slagschaduw, van EMD. Van de situatie is een rekenmodel opgesteld waarmee de effecten ten aanzien van slagschaduw veroorzaakt door windturbines op hun omgeving zijn berekend. Daarbij zijn berekeningen gemaakt voor een 'worst-case' scenario en een 'real-case scenario'. In een worst-case scenario draait de windturbine altijd, schijnt de zon altijd (tussen zonsopkomst en zonsondergang) en staan de rotorbladen haaks op de lijn zon/gevoelig object. Het real-case scenario houdt rekening met de gemiddelde zonneshijnduur, windsnelheid en windrichting in het gebied.

3.4 Cumulatie

Wettelijk gelden er geen eisen ten aanzien van de cumulatie van slagschaduw effecten van andere windparken in de nabije omgeving. Echter, in het kader van een goede ruimtelijke ordening is windpark Neer voor wat betreft cumulatie in deze studie ook beschouwd.

3.5 Overige beoordeling

Uit onderzoek blijkt dat de frequenties tussen 2,5 en 14 Hz als erg storend kunnen worden ervaren⁴. Moderne windturbines hebben een maximale omwentelingssnelheid van 10 tot 20 toeren per minuut. Het maximale aantal bladpassages bij windturbines met drie rotorbladen wordt daarmee maximaal 60 per minuut en komt overeen met een frequentie van 1 Hz. De in deze studie meegenomen windturbines hebben een relatief grote rotordiameter wat normaliter gepaard gaat met een omwentelingssnelheid tussen de 10 en 12 toeren per minuut bij nominaal vermogen. Dit resulteert in een frequentie van 0,5 tot 0,6 Hz en ligt dus buiten het als hinderlijk ervaren gebied.

⁴Zie www.rvo.nl/onderwerpen/duurzaam-ondernemen/duurzame-energie-opwekken/windenergie-op-land/milieu-en-omgeving/slagschaduw



4.0 Slagschaduwonderzoek

4.1 Modellerings omgeving

De geometrie van de omgeving is vastgesteld aan de hand van geografische informatiesystemen, luchtfoto's en locatiebezoeken.

4.2 Windturbinetypes

Het slagschaduwonderzoek is uitgevoerd met verschillende windturbinetypes voor windpark Egchelse Heide en windpark Neer. In onderstaande tabellen zijn technische gegevens van deze windturbines weergegeven.

Voor windpark Egchelse Heide is het volgende windturbintype aangehouden in de berekeningen:

Tabel 4.1 Windturbintype windpark Egchelse Heide

Windturbine	Nominaal vermogen [MW]	Rotor diameter [m]	Ashoogte [m]	Start windsnelheid [m/s]	Stop windsnelheid [m/s]
RD140@110m	4,0	140	110	2	25
RD140@140m	4,0	140	140	2	25

Voor windpark Neer zijn twee windturbinetypes aangehouden, de middelste windturbine (E92) wijkt af van de overige vier windturbines:

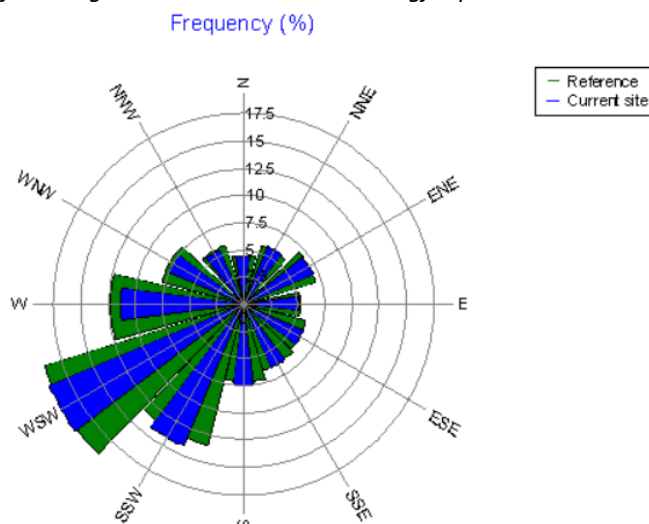
Tabel 4.2 Windturbintype windpark Neer

Windturbine	Nominaal vermogen [MW]	Rotor diameter [m]	Ashoogte [m]	Start windsnelheid [m/s]	Stop windsnelheid [m/s]
E82	2,3MW	82	98,4	3	28
E92	2,35MW	92	98,4	3	28

4.3 Windklimaat

Voor de slagschaduwberekeningen wordt gebruik gemaakt van statistische klimaatgegevens. Met behulp van de Measure-Correlate-Predict analyse (MCP-analyse) is op basis van ERA5_N51.288034_E005.833333 5y meteodata een lange termijn correctie uitgevoerd op CFSR_E06.000_N51.500 meteodata die in de WindPRO database is opgenomen. De verwachte windrichtingfrequentie is in afbeelding 4.1 weergegeven.

Afbeelding 4.1: Verwachte windrichtingfrequentie





4.4 Zonneschijn

Slagschaduw treedt enkel op als de zon schijnt. In het worst-case scenario wordt ervanuit gegaan dat de zon altijd schijnt, van zonsopkomst tot zonsondergang. In de real-case scenario schijnt de zon overdag niet altijd door bijvoorbeeld bewolking en mist waarvoor het worst-case scenario wordt gecorrigeerd. De gemiddelde verwachte dagelijkse zonneshijnduren per maand ('real-case') staan hieronder weergegeven (tabel 2). Op deze locatie is gebruik gemaakt van KNMI-gegevens van meetstation Ell.

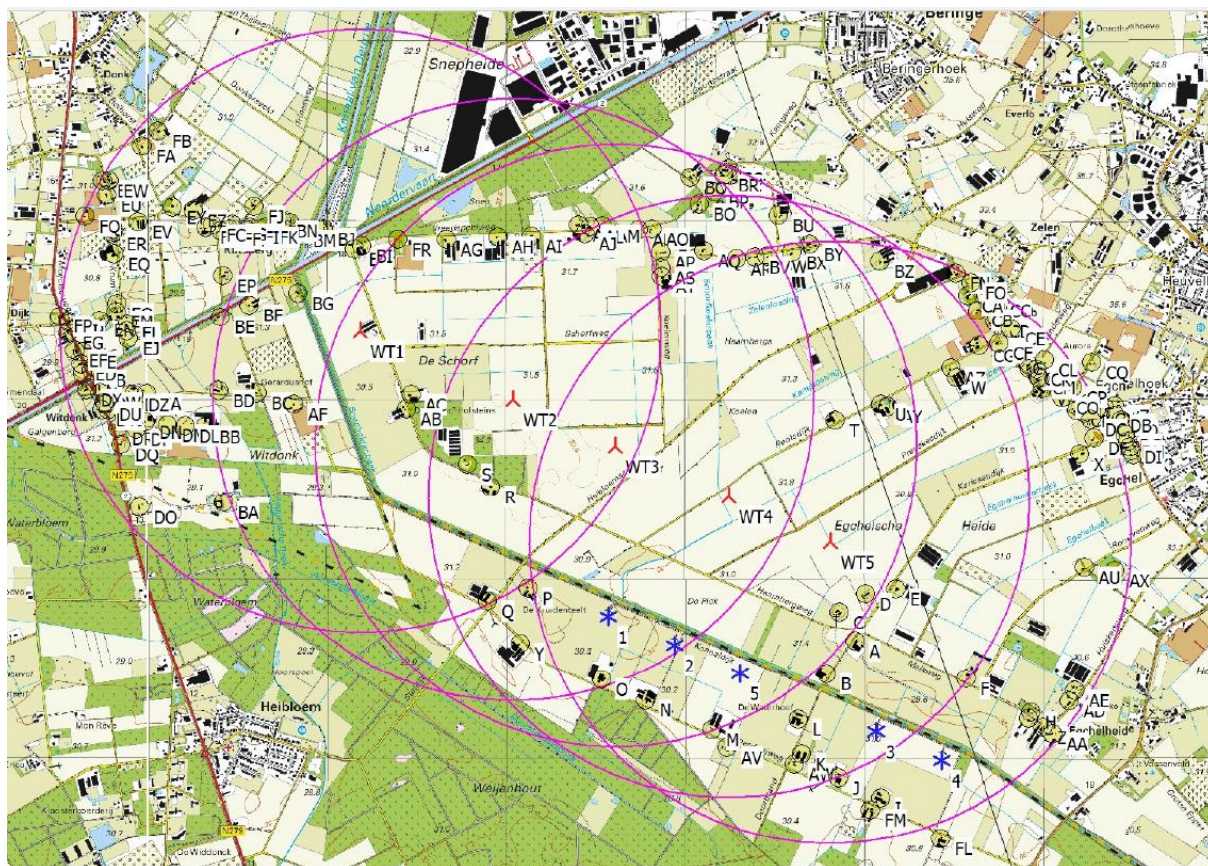
Tabel 4.3: Gemiddelde verwachte dagelijkse zonneshijnduren per maand

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,34	3,15	4,67	6,36	6,79	7,08	6,62	6,22	5,48	4,05	2,37	1,91

4.5 Gevoelige objecten

Op basis van BAG⁵ data is een inventarisatie gemaakt van gevoelige objecten (receptoren) binnen de afstand van 12 maal de rotordiameter (invloedsgebied) ten opzichte van de windturbines. Hierbij is uitgegaan van 12 maal de grootste rotordiameter (12 x 140 meter = 1.680 meter). Voor de receptoren is uitgegaan van het type gevoelige objecten zoals beschreven in de Wet Geluidhinder⁶. Voor deze locatie betreft dat gebouwen met woonfunctie. Uit de BAG-data zijn woningen geselecteerd. In tabel 5.1 staan de 174 onderzochte woningen vermeld. In afbeelding 4.2 is de situatie geschetst.

Afbeelding 4.2 Invloedsgebied en receptoren



⁵ Basisregistraties Adressen en Gebouwen

⁶ Wet van 16 februari 1979, houdende regels inzake het voorkomen of beperken van geluidhinder



De volgende uitgangspunten gelden voor de receptoren (woningen):

- Een breedte van 8 meter
- Een hoogte van 5 meter
- 1 meter boven maaiveld

Daarnaast zijn de receptoren gemodelleerd in 'green house mode', wat betekent dat een woning als een glazen kas wordt beschouwd. Dit is een conservatieve benadering. In werkelijkheid zal de hoeveelheid slagschaduw in woningen minder zijn omdat er slechts op een beperkt deel van de gevel vensters/ramen aanwezig zijn.

4.6 Overige Bebouwing

Omgevingsobstakels (afschermende factoren) voor woningen zoals begroeiing en omliggende bebouwing zijn in de slagschaduwberekening niet meegenomen. In de praktijk zullen deze een afschermende werking hebben.



5.0 Resultaten

De jaarlijkse schaduwduur bij 174 rekenpunten (woningen) is berekend. De resultaten zijn weergegeven in tabel 5.1. Hierin is per woning de te verwachte schaduwduur per jaar aangegeven voor de volgende varianten: Windpark Neer, Windpark Egchelse Heide met RD140@110, Windpark Egchelse Heide met RD140@140, Cumulatiescenario Windpark Neer + Windpark Egchelse Heide met RD140@110 en Cumulatiescenario Windpark Neer + Windpark Egchelse Heide met RD140@140

Tabel 5.1 Rekenresultaten

Slagschaduwreceptor		Schaduw verwachte hinderduur [uur/jaar]				
		WP Neer	WP Egchelse Heide 5x RD 140m ashoogte 110m	WP Egchelse Heide 5x RD 140m ashoogte 140m	WP Egchelse Heide (5x RD 140m ashoogte 110m) + WP Neer	WP Egchelse Heide (5x RD 140m ashoogte 140m) + WP Neer
A	Karissendijk 11, Egchel	08:27	00:00	00:00	08:27	08:27
B	Karissendijk 14, Egchel	23:58	00:00	00:00	23:59	23:59
C	Haambergweg 2, Egchel	06:49	00:00	00:00	06:49	06:49
D	Karissendijk 10, Egchel	03:23	01:01	01:41	04:27	05:08
E	Karissendijk 9, Egchel	01:45	04:52	05:35	06:42	07:25
F	Melkweg 18, Egchel	11:44	00:00	00:00	11:44	11:44
G	Melkweg 11, Egchel	08:16	00:00	00:00	08:16	08:16
H	Melkweg 12, Egchel	07:45	00:00	00:00	07:45	07:45
I	Boerderijweg 2, Neer	00:21	00:00	00:00	00:20	00:20
J	Boerderijweg 4, Neer	07:11	00:00	00:00	07:11	07:11
K	Doorbrand 2, Neer	24:37	00:00	00:00	24:37	24:37
L	Doorbrand 1, Neer	13:31	00:00	00:00	13:30	13:30
M	Boerderijweg 6, Neer	01:52	00:00	00:00	01:53	01:53
N	Boerderijweg 8, Neer	13:48	00:00	00:00	13:48	13:48
O	Boerderijweg 10, Neer	18:18	02:29	03:27	20:48	21:45
P	Staldijk 1, Heibloem	07:05	03:52	07:13	10:55	14:14
Q	Staldijk 2, Heibloem	04:15	01:22	02:41	05:37	06:56
R	Haambergweg 11, Beringe	02:00	15:57	22:58	17:37	24:36
S	Haambergweg 10, Beringe	00:52	07:01	09:34	07:44	10:18
T	Rootsdijk 12, Panningen	00:00	09:50	16:30	09:50	16:30
U	Rootsdijk 11, Panningen	00:00	04:03	09:00	04:03	09:00
V	Hub 6, Panningen	00:00	00:45	01:41	00:45	01:41
W	Rootsdijk 5, Panningen	00:00	04:26	06:43	04:26	06:43
X	Karissendijk 3, Egchel	00:00	00:39	01:15	00:39	01:15
Y	Boerderijweg 11, Neer	16:59	00:11	00:44	17:11	17:28
Z	Melkweg 9, Egchel	06:44	00:00	00:00	06:44	06:44
AA	Melkweg 7, Egchel	05:34	00:00	00:00	05:34	05:34
AB	Haambergweg 15, Beringe	00:00	17:05	20:36	17:05	20:36
AC	Haambergweg 14, Beringe	00:00	16:22	19:05	16:22	19:05
AD	Huiskensweg 10, Egchel	03:14	00:01	00:05	03:15	03:20
AE	Huiskensweg 8, Egchel	02:39	00:48	01:17	03:29	03:59
AF	Witdonk 20, Meijel	00:00	01:48	03:05	01:48	03:05



Slagschaduwreceptor		Schaduw verwachte hinderduur [uur/jaar]				
		WP Neer	WP Egchelse Heide 5x RD 140m ashoogte 110m	WP Egchelse Heide 5x RD 140m ashoogte 140m	WP Egchelse Heide (5x RD 140m ashoogte 110m) + WP Neer	WP Egchelse Heide (5x RD 140m ashoogte 140m) + WP Neer
AG	Vredepeelweg 25, Beringe	00:00	12:51	14:26	12:51	14:26
AH	Vredepeelweg 23, Beringe	00:00	04:10	05:30	04:10	05:30
AI	Vredepeelweg 21, Beringe	00:00	02:31	03:33	02:31	03:33
AJ	Vredepeelweg 19, Beringe	00:00	00:57	01:38	00:57	01:38
AK	Vredepeelweg 22, Beringe	00:00	01:01	01:44	01:01	01:44
AL	Vredepeelweg 20, Beringe	00:00	00:47	01:25	00:47	01:25
AM	Vredepeelweg 18, Beringe	00:00	00:36	01:20	00:36	01:20
AN	Vredepeelweg 15, Beringe	00:00	02:54	05:08	02:54	05:08
AO	Vredepeelweg 13, Beringe	00:00	03:24	05:21	03:24	05:21
AP	Koelenweg 1, Beringe	00:00	03:02	04:28	03:02	04:28
AQ	Groeze 18, Beringe	00:00	01:06	01:49	01:06	01:49
AR	Groeze 17, Beringe	00:00	00:40	02:53	00:40	02:53
AS	Koelenweg 2, Beringe	00:00	02:55	04:24	02:55	04:24
AT	Koelenweg 3, Beringe	00:00	03:01	04:31	03:01	04:31
AU	Rongvenweg 8, Egchel	00:01	00:51	01:34	00:52	01:36
AV	Boerderijweg 7, Neer	02:59	00:00	00:00	02:59	02:59
AW	Boerderijweg 4a, Neer	20:18	00:00	00:00	20:18	20:18
AX	Rongvenweg 5, Egchel	00:11	00:25	00:58	00:37	01:10
AY	Rootsdijk 9, Panningen	00:00	04:30	09:49	04:30	09:49
AZ	Rootsdijk 3, Panningen	00:00	02:26	05:02	02:26	05:02
BA	Witdonk 33, Meijel	00:00	00:22	01:02	00:22	01:02
BB	Marxweg 7, Meijel	00:00	04:53	05:31	04:53	05:31
BC	Witdonk 19, Meijel	00:00	10:55	09:40	10:55	09:40
BD	Witdonk 15, Meijel	00:00	14:53	17:36	14:53	17:36
BE	Kanaaldijk 1, Meijel	00:00	06:17	08:09	06:17	08:09
BF	Kanaaldijk 2, Meijel	00:00	09:38	11:18	09:38	11:18
BG	Kanaaldijk 3, Meijel	00:00	22:19	22:56	22:19	22:56
BH	Haambergweg 18, Beringe	00:00	16:04	22:17	16:04	22:17
BI	Vredepeelweg 35, Beringe	00:00	14:44	21:22	14:44	21:22
BJ	Katsberg 30A, Meijel	00:00	00:00	00:00	00:00	00:00
BK	Katsberg 30, Meijel	00:00	07:58	12:03	07:58	12:03
BL	Katsberg 15, Meijel	00:00	07:32	09:56	07:32	09:56
BM	Katsberg 26, Meijel	00:00	09:10	11:50	09:10	11:50
BN	Katsberg 13, Meijel	00:00	07:38	09:36	07:38	09:36
BO	Vredepeelweg 9, Beringe	00:00	01:03	02:02	01:03	02:02
BP	Vredepeelweg 7, Beringe	00:00	00:36	01:22	00:36	01:22
BQ	Vredepeelweg 8/8A, Beringe	00:00	00:36	01:49	00:36	01:49
BR	Vredepeelweg 4, Beringe	00:00	00:21	01:07	00:21	01:07
BS	Vredepeelweg 2, Beringe	00:00	00:16	01:01	00:16	01:01
BT	Vredepeelweg 1, Beringe	00:00	00:16	00:53	00:16	00:53
BU	Groeze 12, Beringe	00:00	00:06	00:29	00:06	00:29
BV	Groeze 13/15, Beringe	00:00	01:37	03:49	01:37	03:49
BW	Groeze 11, Beringe	00:00	02:18	04:14	02:18	04:14
BX	Groeze 9, Beringe	00:00	01:45	03:13	01:45	03:13



Slagschaduwreceptor		Schaduw verwachte hinderduur [uur/jaar]				
		WP Neer	WP Egchelse Heide 5x RD 140m ashoogte 110m	WP Egchelse Heide 5x RD 140m ashoogte 140m	WP Egchelse Heide (5x RD 140m ashoogte 110m) + WP Neer	WP Egchelse Heide (5x RD 140m ashoogte 140m) + WP Neer
BY	Groeze 8/8A, Beringe	00:00	00:49	02:00	00:49	02:00
BZ	Heibloemseweg 32, Panningen	00:00	00:06	00:26	00:06	00:26
CA	Hondsheuvelstraat 3, Panningen	00:00	00:09	00:35	00:09	00:35
CB	Hub 18, Panningen	00:00	00:10	00:35	00:10	00:35
CC	Eemsestraat 13, Panningen	00:00	00:02	00:21	00:02	00:21
CD	Hub 17A, Panningen	00:00	00:08	01:46	00:08	01:46
CE	Hub 17, Panningen	00:00	01:17	02:46	01:17	02:46
CF	Hub 16, Panningen	00:00	01:59	03:37	01:59	03:37
CG	Rootsdijk 4, Panningen	00:00	01:32	03:34	01:32	03:34
CH	Hub 13, Panningen	00:00	01:08	02:17	01:08	02:17
CI	Hub 12, Panningen	00:00	00:51	01:50	00:51	01:50
CJ	Linderweg 12, Panningen	00:00	00:51	01:50	00:51	01:50
CK	Linderweg 11, Panningen	00:00	00:42	01:36	00:42	01:36
CL	Linderweg 9, Panningen	00:00	00:31	01:06	00:31	01:06
CM	Hub 9, Panningen	00:00	00:43	01:39	00:43	01:39
CN	Hub 7, Panningen	00:00	00:43	01:37	00:43	01:37
CO	Hub 4, Panningen	00:00	00:36	01:10	00:36	01:10
CP	Bakkersweg 1, Panningen	00:00	00:23	00:55	00:23	00:55
CQ	Bakkersweg 10, Panningen	00:00	00:08	00:30	00:08	00:30
CR	Hub 1, Panningen	00:00	00:30	01:04	00:30	01:04
CS	Hoekerstraat 36 (historisch), Egchel	00:00	00:21	00:51	00:21	00:51
CT	Hoekerstraat 36, Egchel	00:00	00:25	00:55	00:25	00:55
CU	Hoekerstraat 34, Egchel	00:00	00:23	00:51	00:23	00:51
CV	Hoekerstraat 32, Egchel	00:00	00:21	00:48	00:21	00:48
CW	Hoekerstraat 30, Egchel	00:00	00:17	00:45	00:17	00:45
CX	Hoekerstraat 28, Egchel	00:00	00:15	00:41	00:15	00:41
CY	Hoekerstraat 26, Egchel	00:00	00:12	00:38	00:12	00:38
CZ	Hoekerstraat 24, Egchel	00:00	00:09	00:31	00:09	00:31
DA	Hoekerstraat 13, Egchel	00:00	00:08	00:30	00:08	00:30
DB	Hoekerstraat 15, Egchel	00:00	00:09	00:31	00:09	00:31
DC	Hoekerstraat 17, Egchel	00:00	00:22	00:50	00:22	00:50
DD	Jacobusstraat 4, Egchel	00:00	00:07	00:28	00:07	00:28
DE	Jacobusstraat 6, Egchel	00:00	00:08	00:30	00:08	00:30
DF	Karissendijk 4, Egchel	00:00	00:22	00:53	00:22	00:53
DG	Jacobusstraat 8, Egchel	00:00	00:09	00:31	00:09	00:31
DH	Jacobusstraat 10, Egchel	00:00	00:09	00:32	00:09	00:32
DI	Jacobusstraat 12, Egchel	00:00	00:09	00:31	00:09	00:31
DJ	Jacobusstraat 14, Egchel	00:00	00:09	00:30	00:09	00:30
DK	Jacobusstraat 16, Egchel	00:00	00:08	00:30	00:08	00:30
DL	Marxweg 5, Meijel	00:00	08:01	09:31	08:01	09:31
DM	Marxweg 3, Meijel	00:00	05:36	09:03	05:36	09:03
DN	Marxweg 1, Meijel	00:00	02:36	04:21	02:36	04:21
DO	Meijelseweg 21, Heibloem	00:00	00:00	00:00	00:00	00:00
DP	Marxweg 2, Meijel	00:00	02:15	03:56	02:15	03:56



Slagschaduwreceptor		Schaduw verwachte hinderduur [uur/jaar]				
		WP Neer	WP Egchelse Heide 5x RD 140m ashoogte 110m	WP Egchelse Heide 5x RD 140m ashoogte 140m	WP Egchelse Heide (5x RD 140m ashoogte 110m) + WP Neer	WP Egchelse Heide (5x RD 140m ashoogte 140m) + WP Neer
DQ	Roggelsedijk 29, Meijel	00:00	01:40	03:16	01:40	03:16
DR	Roggelsedijk 27, Meijel	00:00	01:23	02:34	01:23	02:34
DS	Roggelsedijk 25, Meijel	00:00	01:05	02:01	01:05	02:01
DT	Roggelsedijk 26, Meijel	00:00	00:56	01:47	00:56	01:47
DU	Roggelsedijk 23, Meijel	00:00	01:01	01:52	01:01	01:52
DV	Roggelsedijk 23A, Meijel	00:00	01:00	01:50	01:00	01:50
DW	Roggelsedijk 21, Meijel	00:00	00:54	01:42	00:54	01:42
DX	Roggelsedijk 24A, Meijel	00:00	00:38	01:20	00:38	01:20
DY	Witdonk 3, Meijel	00:00	01:37	02:43	01:37	02:43
DZ	Witdonk 5, Meijel	00:00	01:46	02:54	01:46	02:54
EA	Witdonk 7, Meijel	00:00	02:15	03:34	02:15	03:34
EB	Roggelsedijk 19, Meijel	00:00	00:44	01:22	00:44	01:22
EC	Roggelsedijk 24, Meijel	00:00	00:35	01:13	00:35	01:13
ED	Roggelsedijk 22, Meijel	00:00	00:34	01:09	00:34	01:09
EE	Roggelsedijk 17, Meijel	00:00	00:35	01:11	00:35	01:11
EF	Roggelsedijk 20, Meijel	00:00	00:29	01:01	00:29	01:01
EG	Roggelsedijk 18, Meijel	00:00	00:24	00:53	00:24	00:53
EH	Roggelsedijk 15, Meijel	00:00	00:23	00:51	00:23	00:51
EI	Roggelsedijk 13A, Meijel	00:00	00:22	00:49	00:22	00:49
EJ	Krum 14, Meijel	00:00	01:27	02:18	01:27	02:18
EK	Krum 12, Meijel	00:00	01:20	02:10	01:20	02:10
EL	Krum 16, Meijel	00:00	01:19	02:03	01:19	02:03
EM	Krum 10, Meijel	00:00	00:58	01:38	00:58	01:38
EN	Krum 8, Meijel	00:00	00:45	01:23	00:45	01:23
EO	Krum 5, Meijel	00:00	00:57	01:37	00:57	01:37
EP	Katsberg 16, Meijel	00:00	04:29	05:35	04:29	05:35
EQ	Krum 13, Meijel	00:00	00:37	01:06	00:37	01:06
ER	Krum 15, Meijel	00:00	00:31	00:59	00:31	00:59
ES	Krum 15B, Meijel	00:00	00:30	00:57	00:30	00:57
ET	Krum 15A, Meijel	00:00	00:31	00:57	00:31	00:57
EU	Krum 19, Meijel	00:00	00:21	00:44	00:21	00:44
EV	Katsberg 8, Meijel	00:00	00:47	01:18	00:47	01:18
EW	Krum 22, Meijel	00:00	00:17	00:40	00:17	00:40
EX	Krum 21, Meijel	00:00	00:15	00:37	00:15	00:37
EY	Katsberg 1A, Meijel	00:00	01:10	01:49	01:10	01:49
EZ	Katsberg 3, Meijel	00:00	01:38	02:24	01:38	02:24
FA	Heihorst 11, Meijel	00:00	00:24	00:48	00:24	00:48
FB	Heihorst 12, Meijel	00:00	00:33	01:05	00:33	01:05
FC	Katsberg 5, Meijel	00:00	02:29	03:22	02:29	03:22
FD	Katsberg 12, Meijel	00:00	02:20	03:12	02:20	03:12
FE	Katsberg 14, Meijel	00:00	02:59	04:08	02:59	04:08
FF	Katsberg 14B, Meijel	00:00	03:20	04:34	03:20	04:34
FG	Katsberg 7, Meijel	00:00	03:24	04:36	03:24	04:36
FH	Katsberg 18, Meijel	00:00	04:35	05:50	04:35	05:50
FI	Katsberg 20, Meijel	00:00	04:59	06:08	04:59	06:08
FJ	Trinesweg 20, Meijel	00:00	05:20	06:49	05:20	06:49
FK	Katsberg 22, Meijel	00:00	07:11	08:35	07:11	08:35
FL	Boerderijweg 3, Neer	00:00	00:00	00:00	00:00	00:00
FM	Boerderijweg 5, Neer	00:00	00:00	00:00	00:00	00:00
FN	Hondsheuvelstraat 9, Panningen	00:00	00:11	00:42	00:11	00:42
FO	Hondsheuvelstraat 8, Panningen	00:00	00:06	00:31	00:06	00:31
FP	Roggelsedijk 16, Meijel	00:00	00:16	00:41	00:16	00:41
FQ	Katsberg 1, Meijel	00:00	00:15	00:35	00:15	00:35
FR	Vredepeelweg 29, Beringe	00:00	13:59	20:17	13:59	20:17



Bij de rekenpunten in tabel 5.1 met groen gearceerde tijden wordt niet voldaan aan de normstelling. Door het treffen van stilstandsvoorzieningen op de windturbines kan hier wel aan voldaan worden.

In bijlage I zijn de rekenresultaten met behulp van contouren weergegeven. De slagschaduwcontour van 5,7 uur staat gelijk aan 5 uur en 40 minuten.

In bijlage II is een samenvatting gegeven van de objecten en resultaten. Hierbij is, naast de verwachte schaduwduur per jaar volgens het real-case scenario, ook een weergave gemaakt van het worst-case scenario met:

- de potentiële jaarlijkse schaduwduur
- het aantal dagen per jaar waarop hinder kan optreden
- de maximale passageduur van de schaduw langs de gevel

In bijlage III zijn de directe resultaten vanuit het softwareprogramma WindPRO weergegeven, inclusief locaties van de windturbines en receptoren.



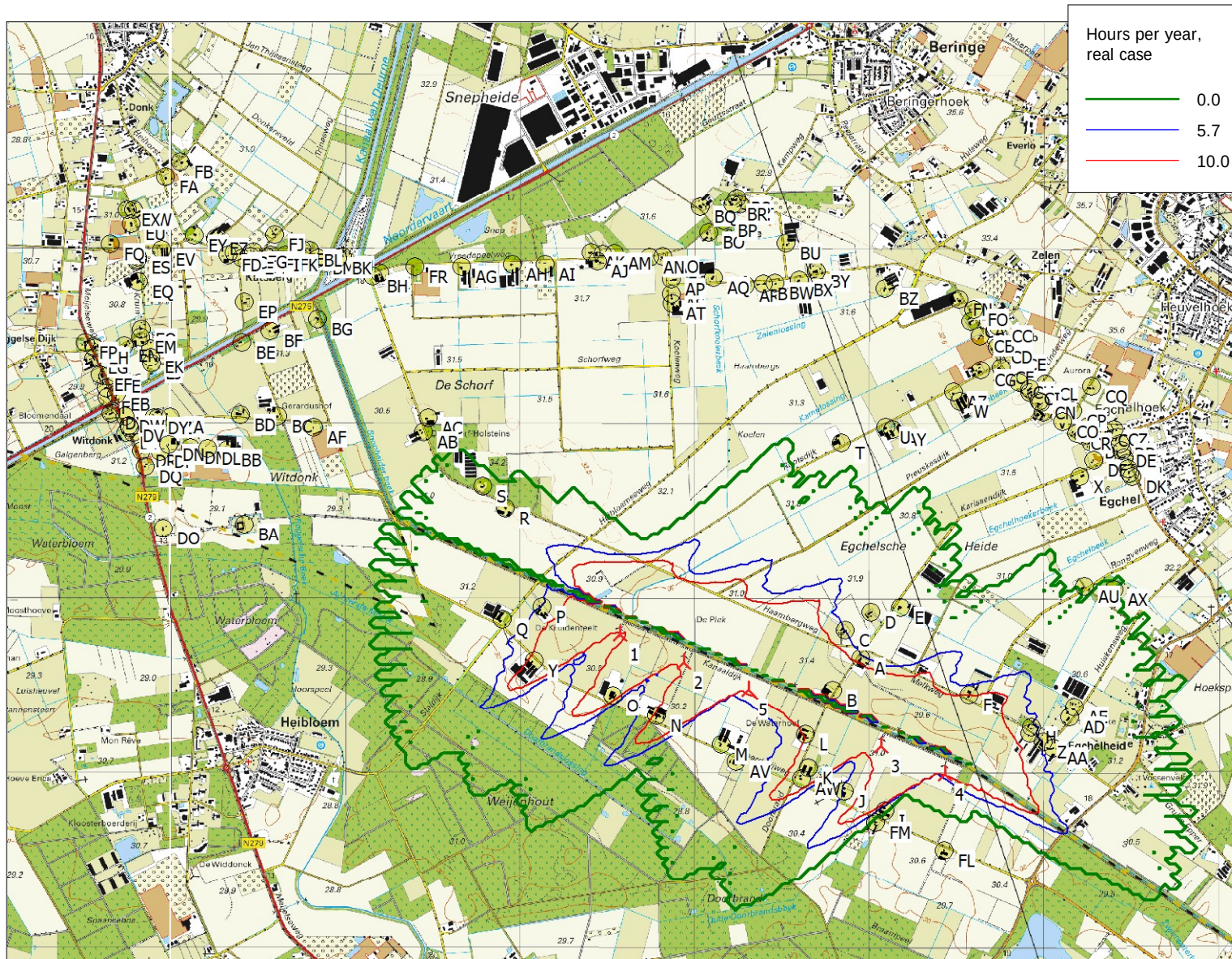
6.0 Conclusie

Binnen de in het Activiteitenbesluit genoemde afstand van 12 maal de rotordiameter van windpark Egchelse Heide bevinden zich woningen waarbij getoetst dient te worden op slagschaduwhinder ontstaan door het windpark. Uit de slagschaduwberekeningen blijkt dat een overschrijding plaatsvindt van de hinderbeoordeling van 5 uur en 40 minuten per jaar op 19 woningen bij de turbine met een rotordiameter van 140 meter en een ashoogte van 110 meter. Bij de turbine met een rotordiameter van 140 meter en een ashoogte van 140 meter betreft het 26 woningen. In het geval er rekening wordt gehouden met cumulatie van windpark Neer vindt er bij oprichting van windpark Egchelse Heide overschrijding plaats op 2 extra woningen bij de turbine met ashoogte van 110 meter en op 1 extra woningen bij de turbine met ashoogte van 140 meter.

Automatische stilstandsvoorzieningen dienen te worden geïmplementeerd om te voldoen aan de hinderbeoordeling.

Bijlage I: Schaduwcontouren

1. Slagschaduw windpark Neer
2. Slagschaduw windpark Egchelse Heide met RD140@110
3. Slagschaduw windpark Egchelse Heide met RD140@140
4. Slagschaduw windpark Egchelse Heide met RD140@110 + windpark Neer
5. Slagschaduw windpark Egchelse Heide met RD140@140+ windpark Neer



Project:
171201 WP WP Egchelse Heide

SHADOW - Map

Calculation:
WP Neer

Licensed user:
Green Trust Group BV
Stationsweg 6
NL-6861 EG Oosterbeek

Romana Madic / romana.madic@greentrust.nl
Calculated:
04/12/2017 12:04/3.1.617

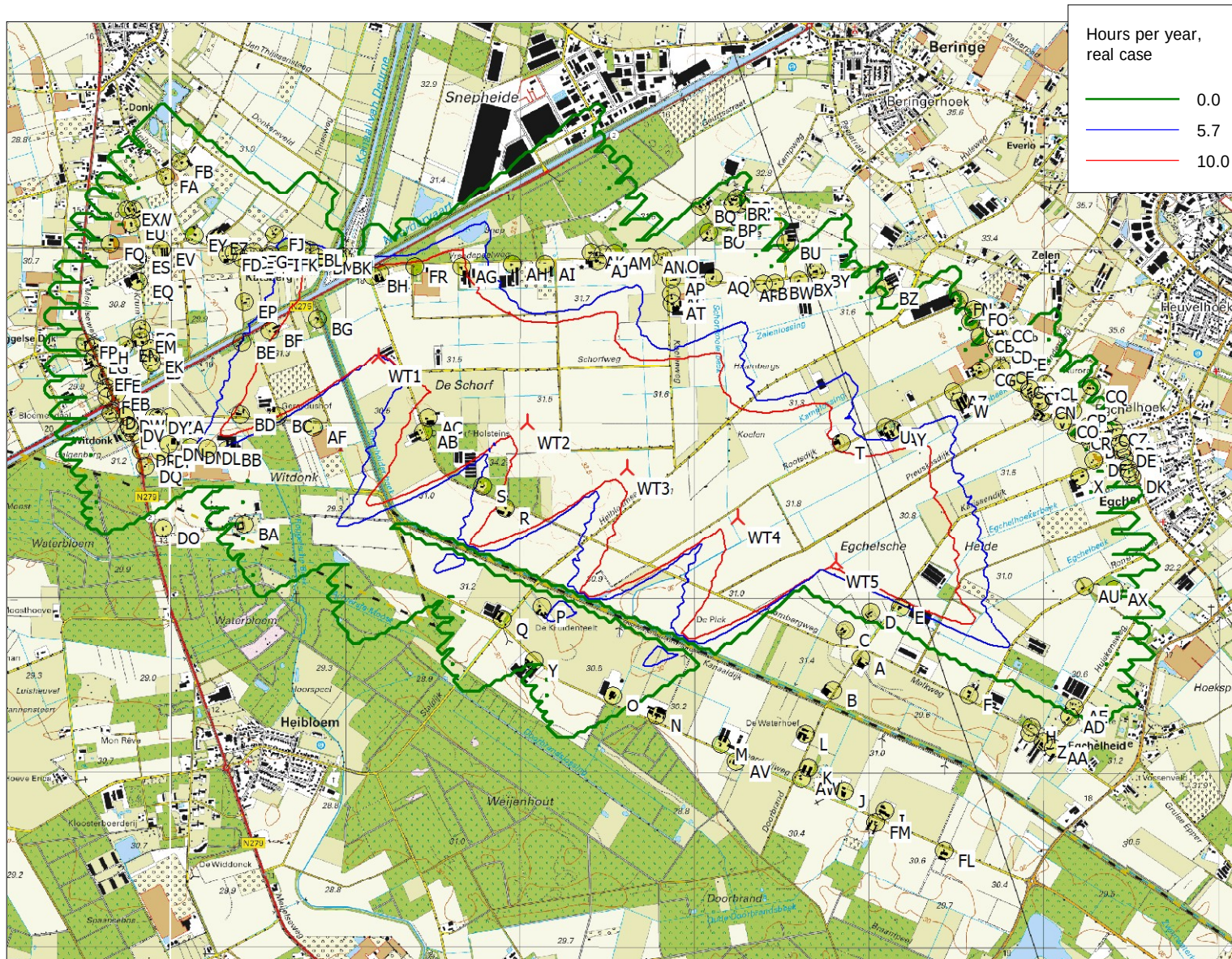


New WTG

Shadow receptor

Flicker map level: Grid data

Map: WP Egchelse Heide TOP25 -1 , Print scale 1:35,000, Map center Dutch Stereo-RD/NAP 2008 East: 192,500 North: 369,500



Project:
171201 WP WP Egchelse Heide

SHADOW - Map

Calculation:
5xWT (RD140@110m)

Licensed user:
Green Trust Group BV
Stationsweg 6
NL-6861 EG Oosterbeek

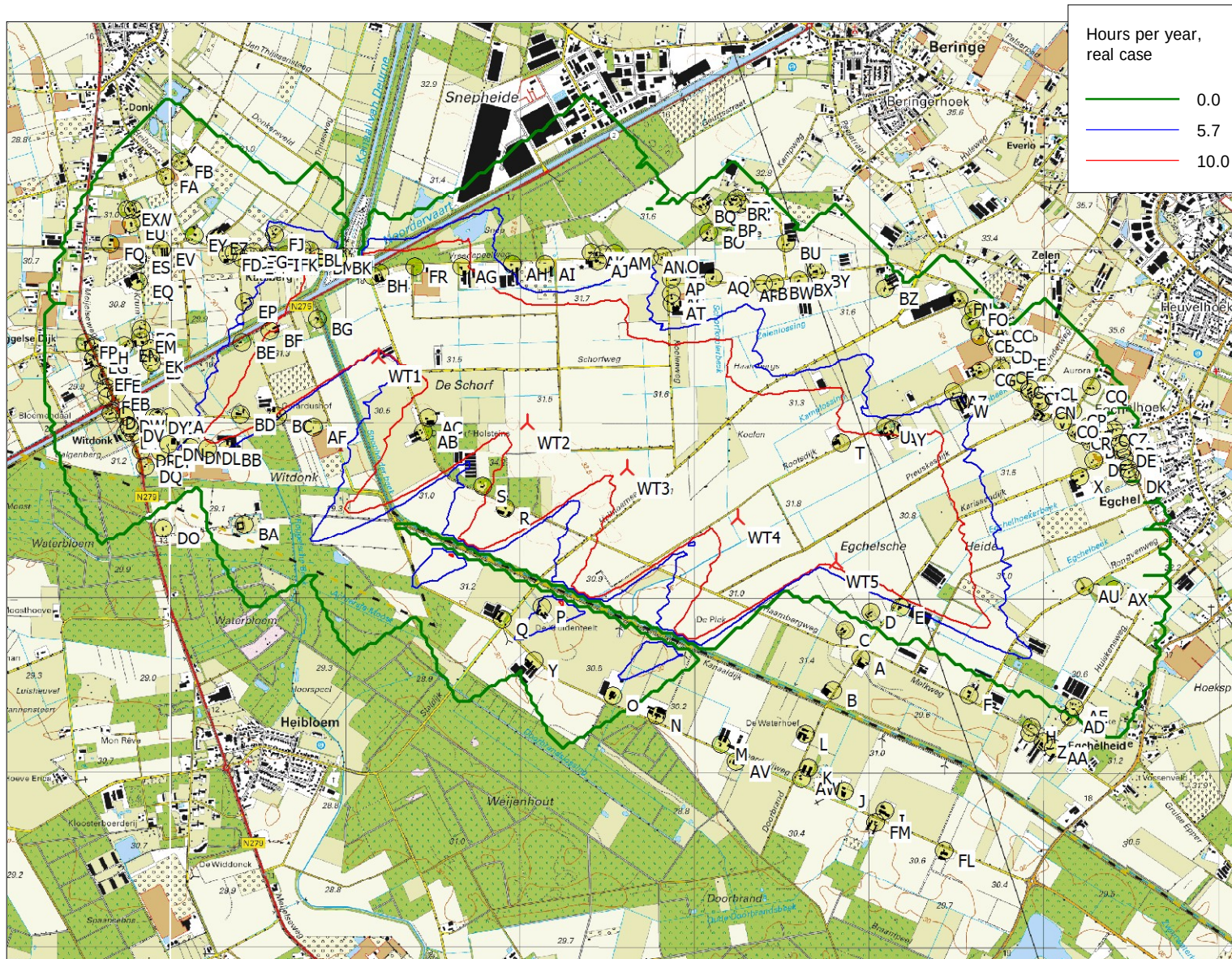
Romana Madic / romana.madic@greentrust.nl
Calculated:
04/12/2017 11:09/3.1.617



New WTG

Shadow receptor

Flicker map level: Grid data



Project:
171201 WP WP Egchelse Heide

SHADOW - Map

Calculation:
5xWT (RD140@140m)

Licensed user:
Green Trust Group BV
Stationsweg 6
NL-6861 EG Oosterbeek

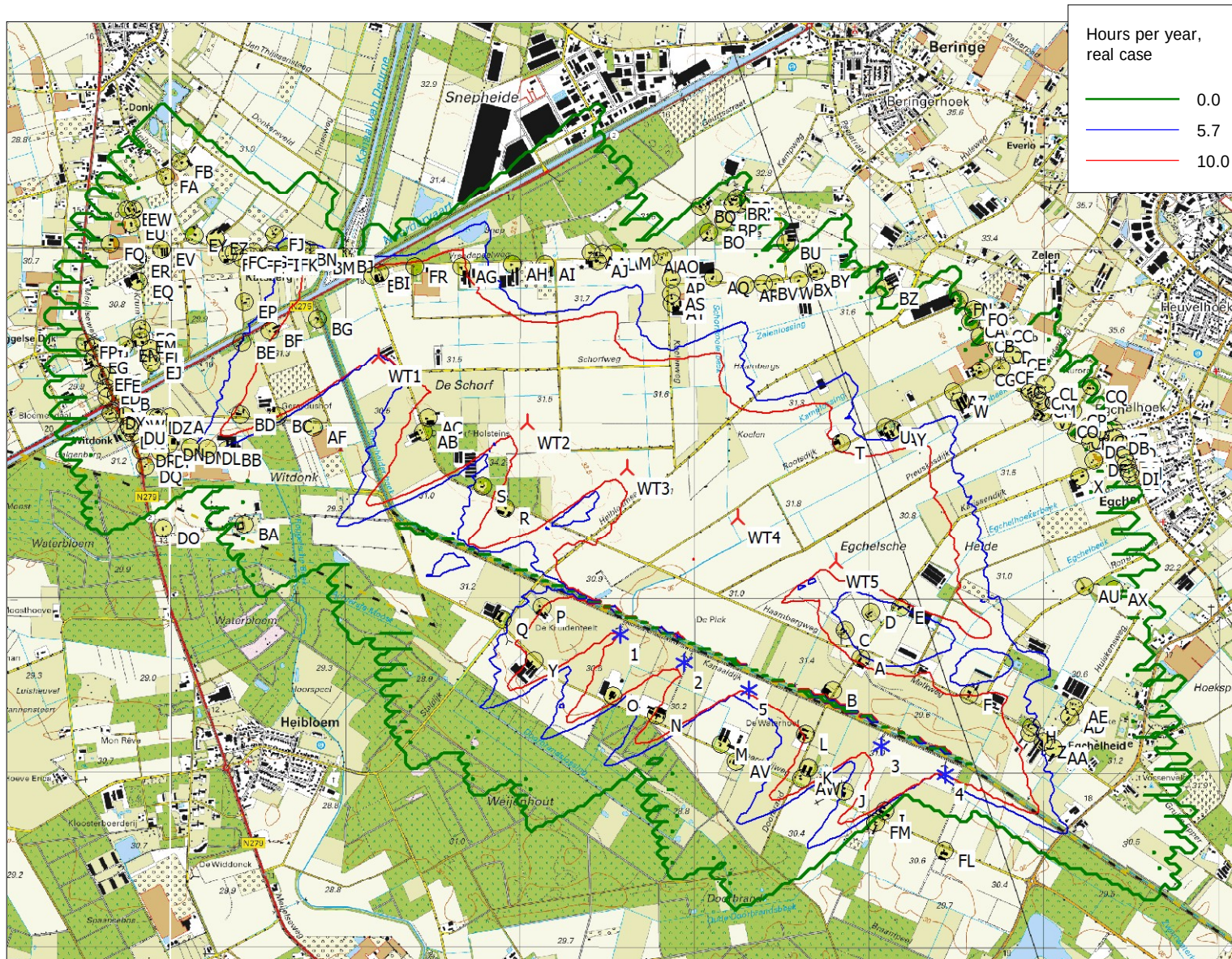
Romana Madic / romana.madic@greentrust.nl
Calculated:
04/12/2017 11:15/3.1.617



New WTG

Shadow receptor

Flicker map level: Grid data



Project:
171201 WP WP Egchelse Heide

SHADOW - Map

Calculation:
5xWT (RD140@110m)+WP Neer

Licensed user:
Green Trust Group BV
Stationsweg 6
NL-6861 EG Oosterbeek

Romana Madic / romana.madic@greentrust.nl
Calculated:
04/12/2017 11:24/3.1.617



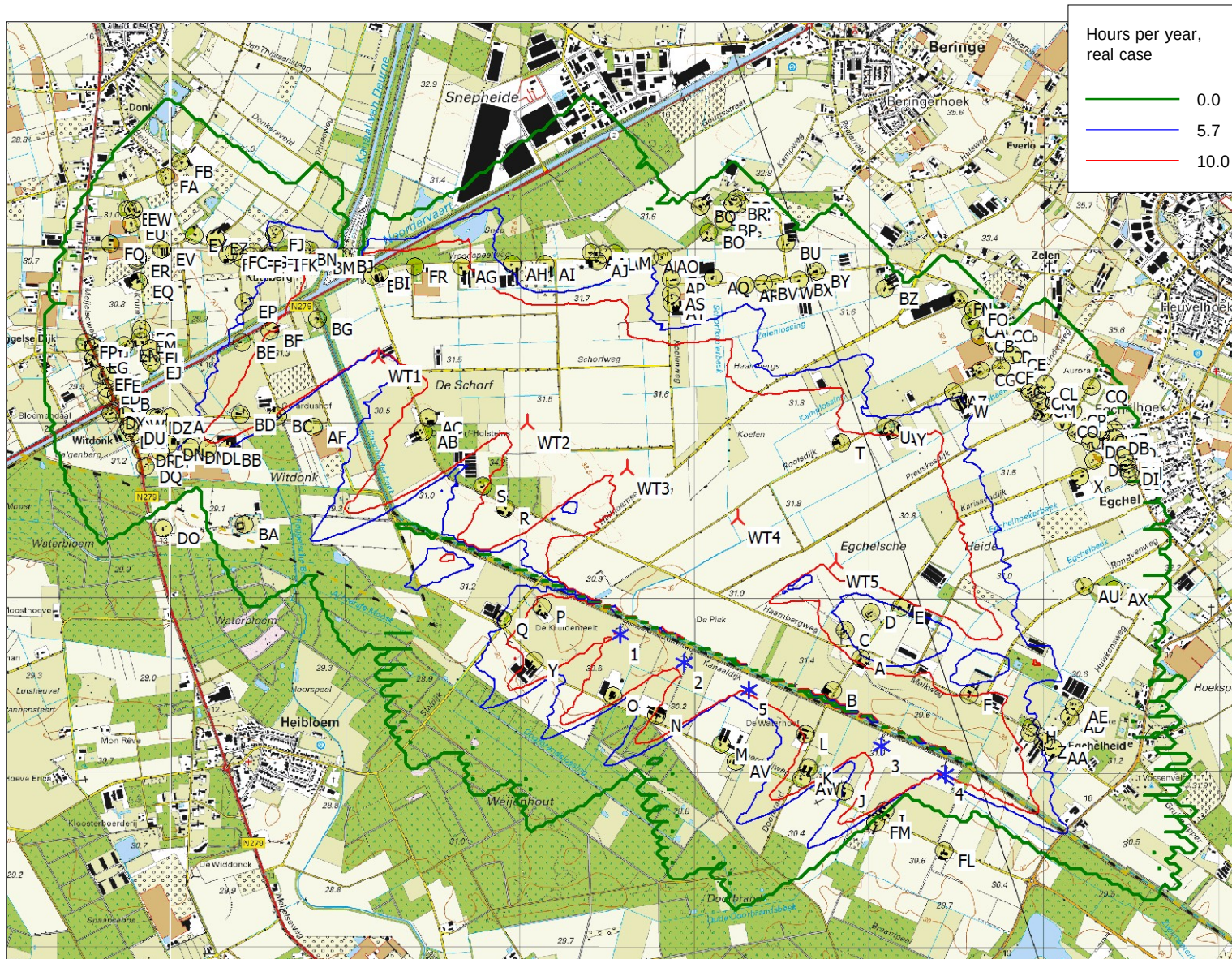
Map: WP Egchelse Heide TOP25 -1 , Print scale 1:35,000, Map center Dutch Stereo-RD/NAP 2008 East: 192,500 North: 369,500

New WTG

Existing WTG

Shadow receptor

Flicker map level: Grid data



Project:
171201 WP WP Egchelse Heide

SHADOW - Map

Calculation:
5xWT (RD140@140m)+WP Neer

Licensed user:
Green Trust Group BV
Stationsweg 6
NL-6861 EG Oosterbeek

Romana Madic / romana.madic@greentrust.nl
Calculated:
04/12/2017 11:33/3.1.617



New WTG

Existing WTG

Shadow receptor

Flicker map level: Grid data

Map: WP Egchelse Heide TOP25 -1, Print scale 1:35,000, Map center Dutch Stereo-RD/2000 East: 192,500 North: 369,500

Bijlage II: Schaduw tabel

1. Schaduw tabel windpark Neer
2. Schaduw tabel Egchelse Heide met RD140@110
3. Schaduw tabel Egchelse Heide met RD140@140
4. Schaduw tabel Egchelse Heide met RD140@110+ windpark Neer
5. Schaduw tabel Egchelse Heide met RD140@140 + windpark Neer

Slagschaduwreceptor	WP Neer			
	Schaduw, worst case			Schaduw, verwacht
	Potentiële schaduwduur [uur/jaar]	Potentiële schaduwdagen [dagen/jaar]	Maximale passageduur [uur/dag]	verwachte hinderduur [uur/jaar]
A Karissendijk 11, Egchel	42:36	119	00:46	08:27
B Karissendijk 14, Egchel	124:40	172	01:16	23:58
C Haambergweg 2, Egchel	27:24	85	00:36	06:49
D Karissendijk 10, Egchel	14:02	62	00:28	03:23
E Karissendijk 9, Egchel	07:07	41	00:21	01:45
F Melkweg 18, Egchel	57:35	120	00:44	11:44
G Melkweg 11, Egchel	31:34	79	00:38	08:16
H Melkweg 12, Egchel	30:03	77	00:37	07:45
I Boerderijweg 2, Neer	01:09	10	00:09	00:21
J Boerderijweg 4, Neer	25:00	54	00:36	07:11
K Doorbrand 2, Neer	86:39	144	00:50	24:37
L Doorbrand 1, Neer	56:19	149	00:47	13:31
M Boerderijweg 6, Neer	07:04	39	00:21	01:52
N Boerderijweg 8, Neer	48:02	100	00:44	13:48
O Boerderijweg 10, Neer	61:59	112	00:49	18:18
P Staldijk 1, Heibloem	33:15	67	00:43	07:05
Q Staldijk 2, Heibloem	17:34	62	00:31	04:15
R Haambergweg 11, Beringe	15:29	68	00:21	02:00
S Haambergweg 10, Beringe	06:49	46	00:14	00:52
T Rootsdijk 12, Panningen	00:00	0	00:00	00:00
U Rootsdijk 11, Panningen	00:00	0	00:00	00:00
V Hub 6, Panningen	00:00	0	00:00	00:00
W Rootsdijk 5, Panningen	00:00	0	00:00	00:00
X Karissendijk 3, Egchel	00:00	0	00:00	00:00
Y Boerderijweg 11, Neer	59:38	150	00:42	16:59
Z Melkweg 9, Egchel	24:53	70	00:35	06:44
AA Melkweg 7, Egchel	20:40	64	00:32	05:34
AB Haambergweg 15, Beringe	00:00	0	00:00	00:00
AC Haambergweg 14, Beringe	00:00	0	00:00	00:00
AD Huiskensweg 10, Egchel	12:44	53	00:27	03:14
AE Huiskensweg 8, Egchel	10:35	48	00:25	02:39
AF Witdonk 20, Meijel	00:00	0	00:00	00:00
AG Vredepeelweg 25, Beringe	00:00	0	00:00	00:00
AH Vredepeelweg 23, Beringe	00:00	0	00:00	00:00
AI Vredepeelweg 21, Beringe	00:00	0	00:00	00:00
AJ Vredepeelweg 19, Beringe	00:00	0	00:00	00:00
AK Vredepeelweg 22, Beringe	00:00	0	00:00	00:00
AL Vredepeelweg 20, Beringe	00:00	0	00:00	00:00
AM Vredepeelweg 18, Beringe	00:00	0	00:00	00:00
AN Vredepeelweg 15, Beringe	00:00	0	00:00	00:00
AO Vredepeelweg 13, Beringe	00:00	0	00:00	00:00
AP Koelenweg 1, Beringe	00:00	0	00:00	00:00
AQ Groeze 18, Beringe	00:00	0	00:00	00:00
AR Groeze 17, Beringe	00:00	0	00:00	00:00
AS Koelenweg 2, Beringe	00:00	0	00:00	00:00
AT Koelenweg 3, Beringe	00:00	0	00:00	00:00
AU Rongvenweg 8, Egchel	00:08	6	00:02	00:01
AV Boerderijweg 7, Neer	10:37	48	00:24	02:59
AW Boerderijweg 4a, Neer	69:20	124	00:45	20:18
AX Rongvenweg 5, Egchel	01:00	23	00:04	00:11
AY Rootsdijk 9, Panningen	00:00	0	00:00	00:00
AZ Rootsdijk 3, Panningen	00:00	0	00:00	00:00
BA Witdonk 33, Meijel	00:00	0	00:00	00:00
BB Marxweg 7, Meijel	00:00	0	00:00	00:00
BC Witdonk 19, Meijel	00:00	0	00:00	00:00
BD Witdonk 15, Meijel	00:00	0	00:00	00:00
BE Kanaaldijk 1, Meijel	00:00	0	00:00	00:00
BF Kanaaldijk 2, Meijel	00:00	0	00:00	00:00
BG Kanaaldijk 3, Meijel	00:00	0	00:00	00:00
BH Haambergweg 18, Beringe	00:00	0	00:00	00:00
BI Vredepeelweg 35, Beringe	00:00	0	00:00	00:00
BJ Katsberg 30A, Meijel	00:00	0	00:00	00:00
BK Katsberg 30, Meijel	00:00	0	00:00	00:00
BL Katsberg 15, Meijel	00:00	0	00:00	00:00
BM Katsberg 26, Meijel	00:00	0	00:00	00:00
BN Katsberg 13, Meijel	00:00	0	00:00	00:00
BO Vredepeelweg 9, Beringe	00:00	0	00:00	00:00
BP Vredepeelweg 7, Beringe	00:00	0	00:00	00:00
BQ Vredepeelweg 8/8A, Beringe	00:00	0	00:00	00:00
BR Vredepeelweg 4, Beringe	00:00	0	00:00	00:00
BS Vredepeelweg 2, Beringe	00:00	0	00:00	00:00
BT Vredepeelweg 1, Beringe	00:00	0	00:00	00:00
BU Groeze 12, Beringe	00:00	0	00:00	00:00
BV Groeze 13/15, Beringe	00:00	0	00:00	00:00
BW Groeze 11, Beringe	00:00	0	00:00	00:00
BX Groeze 9, Beringe	00:00	0	00:00	00:00
BY Groeze 8/8A, Beringe	00:00	0	00:00	00:00
BZ Heibloemseweg 32, Panningen	00:00	0	00:00	00:00
CA Hondsheuvelstraat 3, Panningen	00:00	0	00:00	00:00
CB Hub 18, Panningen	00:00	0	00:00	00:00
CC Eemsestraat 13, Panningen	00:00	0	00:00	00:00
CD Hub 17A, Panningen	00:00	0	00:00	00:00
CE Hub 17, Panningen	00:00	0	00:00	00:00

Slagschaduwreceptor	WP Neer			
	Schaduw, worst case			Schaduw, verwacht
	Potentiele schaduwduur	Potentiele schaduwdagen	Maximale passageduur	verwachte hinderduur
	[uur/jaar]	[dagen/jaar]	[uur/dag]	[uur/jaar]
CF	Hub 16, Panningen	00:00	0	00:00
CG	Rootsdijk 4, Panningen	00:00	0	00:00
CH	Hub 13, Panningen	00:00	0	00:00
CI	Hub 12, Panningen	00:00	0	00:00
CJ	Linderweg 12, Panningen	00:00	0	00:00
CK	Linderweg 11, Panningen	00:00	0	00:00
CL	Linderweg 9, Panningen	00:00	0	00:00
CM	Hub 9, Panningen	00:00	0	00:00
CN	Hub 7, Panningen	00:00	0	00:00
CO	Hub 4, Panningen	00:00	0	00:00
CP	Bakkersweg 1, Panningen	00:00	0	00:00
CQ	Bakkersweg 10, Panningen	00:00	0	00:00
CR	Hub 1, Panningen	00:00	0	00:00
CS	Hoekerstraat 36 (historisch), Egchel	00:00	0	00:00
CT	Hoekerstraat 36, Egchel	00:00	0	00:00
CU	Hoekerstraat 34, Egchel	00:00	0	00:00
CV	Hoekerstraat 32, Egchel	00:00	0	00:00
CW	Hoekerstraat 30, Egchel	00:00	0	00:00
CX	Hoekerstraat 28, Egchel	00:00	0	00:00
CY	Hoekerstraat 26, Egchel	00:00	0	00:00
CZ	Hoekerstraat 24, Egchel	00:00	0	00:00
DA	Hoekerstraat 13, Egchel	00:00	0	00:00
DB	Hoekerstraat 15, Egchel	00:00	0	00:00
DC	Hoekerstraat 17, Egchel	00:00	0	00:00
DD	Jacobusstraat 4, Egchel	00:00	0	00:00
DE	Jacobusstraat 6, Egchel	00:00	0	00:00
DF	Karissendijk 4, Egchel	00:00	0	00:00
DG	Jacobusstraat 8, Egchel	00:00	0	00:00
DH	Jacobusstraat 10, Egchel	00:00	0	00:00
DI	Jacobusstraat 12, Egchel	00:00	0	00:00
DJ	Jacobusstraat 14, Egchel	00:00	0	00:00
DK	Jacobusstraat 16, Egchel	00:00	0	00:00
DL	Marxweg 5, Meijel	00:00	0	00:00
DM	Marxweg 3, Meijel	00:00	0	00:00
DN	Marxweg 1, Meijel	00:00	0	00:00
DO	Meijelweg 21, Heibloem	00:00	0	00:00
DP	Marxweg 2, Meijel	00:00	0	00:00
DQ	Roggelsedijk 29, Meijel	00:00	0	00:00
DR	Roggelsedijk 27, Meijel	00:00	0	00:00
DS	Roggelsedijk 25, Meijel	00:00	0	00:00
DT	Roggelsedijk 26, Meijel	00:00	0	00:00
DU	Roggelsedijk 23, Meijel	00:00	0	00:00
DV	Roggelsedijk 23A, Meijel	00:00	0	00:00
DW	Roggelsedijk 21, Meijel	00:00	0	00:00
DX	Roggelsedijk 24A, Meijel	00:00	0	00:00
DY	Witdonk 3, Meijel	00:00	0	00:00
DZ	Witdonk 5, Meijel	00:00	0	00:00
EA	Witdonk 7, Meijel	00:00	0	00:00
EB	Roggelsedijk 19, Meijel	00:00	0	00:00
EC	Roggelsedijk 24, Meijel	00:00	0	00:00
ED	Roggelsedijk 22, Meijel	00:00	0	00:00
EE	Roggelsedijk 17, Meijel	00:00	0	00:00
EF	Roggelsedijk 20, Meijel	00:00	0	00:00
EG	Roggelsedijk 18, Meijel	00:00	0	00:00
EH	Roggelsedijk 15, Meijel	00:00	0	00:00
EI	Roggelsedijk 13A, Meijel	00:00	0	00:00
EJ	Krum 14, Meijel	00:00	0	00:00
EK	Krum 12, Meijel	00:00	0	00:00
EL	Krum 16, Meijel	00:00	0	00:00
EM	Krum 10, Meijel	00:00	0	00:00
EN	Krum 8, Meijel	00:00	0	00:00
EO	Krum 5, Meijel	00:00	0	00:00
EP	Katsberg 16, Meijel	00:00	0	00:00
EQ	Krum 13, Meijel	00:00	0	00:00
ER	Krum 15, Meijel	00:00	0	00:00
ES	Krum 15B, Meijel	00:00	0	00:00
ET	Krum 15A, Meijel	00:00	0	00:00
EU	Krum 19, Meijel	00:00	0	00:00
EV	Katsberg 8, Meijel	00:00	0	00:00
EW	Krum 22, Meijel	00:00	0	00:00
EX	Krum 21, Meijel	00:00	0	00:00
EY	Katsberg 1A, Meijel	00:00	0	00:00
EZ	Katsberg 3, Meijel	00:00	0	00:00
FA	Heihorst 11, Meijel	00:00	0	00:00
FB	Heihorst 12, Meijel	00:00	0	00:00
FC	Katsberg 5, Meijel	00:00	0	00:00
FD	Katsberg 12, Meijel	00:00	0	00:00
FE	Katsberg 14, Meijel	00:00	0	00:00
FF	Katsberg 14B, Meijel	00:00	0	00:00
FG	Katsberg 7, Meijel	00:00	0	00:00
FH	Katsberg 18, Meijel	00:00	0	00:00
FI	Katsberg 20, Meijel	00:00	0	00:00
FJ	Trinesweg 20, Meijel	00:00	0	00:00

Slagschaduwreceptor	WP Neer			
	Schaduw, worst case			Schaduw, verwacht
	Potentiële schaduwduur	Potentiële schaduwdagen	Maximale passageduur	verwachte hinderduur
	[uur/jaar]	[dagen/jaar]	[uur/dag]	[uur/jaar]
FK Katsberg 22, Meijel	00:00	0	00:00	00:00
FL Boerderijweg 3, Neer	00:00	0	00:00	00:00
FM Boerderijweg 5, Neer	00:00	0	00:00	00:00
FN Hondsheuvelstraat 9, Panningen	00:00	0	00:00	00:00
FO Hondsheuvelstraat 8, Panningen	00:00	0	00:00	00:00
FP Roggelsedijk 16, Meijel	00:00	0	00:00	00:00
FQ Katsberg 1, Meijel	00:00	0	00:00	00:00
FR Vredepeelweg 29, Beringe	00:00	0	00:00	00:00

Slagschaduwreceptor		WP Egchelse Heide RD140@110				WP Egchelse Heide RD140@140			
		Schaduw, worst case			Schaduw, verwacht	Schaduw, worst case			Schaduw, verwacht
		Potentiele schaduwduur	Potentiele schaduwduur	Maximale passageduur		Potentiele schaduwduur	Potentiele schaduwduur	Maximale passageduur	
		[uur/jaar]	[dagen/jaar]	[uur/dag]	verwachte hinderduur [uur/jaar]	[uur/jaar]	[dagen/jaar]	[uur/dag]	verwachte hinderduur [uur/jaar]
A	Karissendijk 11, Egchel	00:00	0	00:00	00:00	00:00	0	00:00	00:00
B	Karissendijk 14, Egchel	00:00	0	00:00	00:00	00:00	0	00:00	00:00
C	Haambergweg 2, Egchel	00:00	0	00:00	00:00	00:00	0	00:00	00:00
D	Karissendijk 10, Egchel	04:27	45	00:08	01:01	07:21	48	00:13	01:41
E	Karissendijk 9, Egchel	21:15	67	00:27	04:52	24:20	68	00:32	05:35
F	Melkweg 18, Egchel	00:00	0	00:00	00:00	00:00	0	00:00	00:00
G	Melkweg 11, Egchel	00:00	0	00:00	00:00	00:00	0	00:00	00:00
H	Melkweg 12, Egchel	00:00	0	00:00	00:00	00:00	0	00:00	00:00
I	Boerderijweg 2, Neer	00:00	0	00:00	00:00	00:00	0	00:00	00:00
J	Boerderijweg 4, Neer	00:00	0	00:00	00:00	00:00	0	00:00	00:00
K	Doorbrand 2, Neer	00:00	0	00:00	00:00	00:00	0	00:00	00:00
L	Doorbrand 1, Neer	00:00	0	00:00	00:00	00:00	0	00:00	00:00
M	Boerderijweg 6, Neer	00:00	0	00:00	00:00	00:00	0	00:00	00:00
N	Boerderijweg 8, Neer	00:00	0	00:00	00:00	00:00	0	00:00	00:00
O	Boerderijweg 10, Neer	08:14	53	00:13	02:29	11:23	54	00:18	03:27
P	Staldijk 1, Heibloem	13:03	65	00:22	03:52	24:23	94	00:28	07:13
Q	Staldijk 2, Heibloem	04:38	31	00:13	01:22	09:04	42	00:20	02:41
R	Haambergweg 11, Beringe	55:19	121	00:48	15:57	79:51	143	00:49	22:58
S	Haambergweg 10, Beringe	24:42	72	00:39	07:01	34:00	83	00:42	09:34
T	Rootsdijk 12, Panningen	41:35	103	00:48	09:50	75:57	159	00:47	16:30
U	Rootsdijk 11, Panningen	16:35	61	00:32	04:03	42:11	112	00:35	09:00
V	Hub 6, Panningen	03:38	31	00:14	00:45	07:45	44	00:21	01:41
W	Rootsdijk 5, Panningen	23:18	72	00:30	04:26	34:28	89	00:32	06:43
X	Karissendijk 3, Egchel	02:34	19	00:12	00:39	04:52	25	00:19	01:15
Y	Boerderijweg 11, Neer	00:40	14	00:04	00:11	02:31	25	00:11	00:44
Z	Melkweg 9, Egchel	00:00	0	00:00	00:00	00:00	0	00:00	00:00
AA	Melkweg 7, Egchel	00:00	0	00:00	00:00	00:00	0	00:00	00:00
AB	Haambergweg 15, Beringe	61:13	117	00:58	17:05	74:47	134	00:57	20:36
AC	Haambergweg 14, Beringe	62:11	113	01:00	16:22	72:33	124	00:59	19:05
AD	Huiskensweg 10, Egchel	00:05	5	00:01	00:01	00:24	15	00:02	00:05
AE	Huiskensweg 8, Egchel	03:33	40	00:08	00:48	05:40	42	00:12	01:17
AF	Witdonk 20, Meijel	06:33	37	00:20	01:48	11:16	50	00:26	03:05
AG	Vreedepelweg 25, Beringe	68:16	106	00:52	12:51	76:03	118	00:51	14:26
AH	Vreedepelweg 23, Beringe	18:15	50	00:36	04:10	23:37	55	00:38	05:30
AI	Vreedepelweg 21, Beringe	10:17	36	00:27	02:31	14:29	41	00:32	03:33
AJ	Vreedepelweg 19, Beringe	03:56	24	00:16	00:57	06:35	29	00:22	01:38
AK	Vreedepelweg 22, Beringe	04:11	24	00:17	01:01	07:07	30	00:23	01:44
AL	Vreedepelweg 20, Beringe	03:17	22	00:14	00:47	05:50	27	00:20	01:25
AM	Vreedepelweg 18, Beringe	02:30	19	00:12	00:36	05:46	35	00:19	01:20
AN	Vreedepelweg 15, Beringe	15:43	54	00:27	02:54	26:53	76	00:32	05:08
AO	Vreedepelweg 13, Beringe	18:20	62	00:26	03:24	27:57	80	00:30	05:21
AP	Koelenweg 1, Beringe	15:32	72	00:27	03:02	22:17	83	00:31	04:28
AQ	Groeze 18, Beringe	05:27	30	00:18	01:06	08:59	36	00:24	01:49
AR	Groeze 17, Beringe	02:56	22	00:13	00:40	14:36	59	00:22	02:53
AS	Koelenweg 2, Beringe	14:38	61	00:28	02:55	21:21	74	00:32	04:24
AT	Koelenweg 3, Beringe	14:44	60	00:30	03:01	21:10	71	00:33	04:31
AU	Rongvenweg 8, Egchel	03:10	21	00:13	00:51	05:51	28	00:19	01:34
AV	Boerderijweg 7, Neer	00:00	0	00:00	00:00	00:00	0	00:00	00:00
AW	Boerderijweg 4a, Neer	00:00	0	00:00	00:00	00:00	0	00:00	00:00
AX	Rongvenweg 5, Egchel	01:36	18	00:08	00:25	03:36	22	00:15	00:58
AY	Rootsdijk 9, Panningen	19:50	78	00:31	04:30	46:54	118	00:39	09:49
AZ	Rootsdijk 3, Panningen	12:32	54	00:22	02:26	25:40	77	00:30	05:02
BA	Witdonk 33, Meijel	01:16	17	00:06	00:22	03:31	25	00:13	01:02
BB	Marxweg 7, Meijel	16:09	69	00:23	04:53	18:18	70	00:26	05:31
BC	Witdonk 19, Meijel	36:28	90	00:41	10:55	32:37	76	00:41	09:40
BD	Witdonk 15, Meijel	50:28	117	00:41	14:53	59:53	116	00:42	17:36
BE	Kanaaldijk 1, Meijel	24:51	66	00:42	06:17	32:05	73	00:43	08:09
BF	Kanaaldijk 2, Meijel	42:13	79	00:53	09:38	48:56	89	00:53	11:18
BG	Kanaaldijk 3, Meijel	113:45	110	01:27	22:19	111:06	102	01:25	22:56
BH	Haambergweg 18, Beringe	99:59	82	01:25	16:04	136:18	102	01:43	22:17
BI	Vreedepelweg 35, Beringe	91:10	78	01:24	14:44	130:04	96	01:42	21:22
BJ	Katsberg 30A, Meijel	00:00	0	00:00	00:00	00:00	0	00:00	00:00
BK	Katsberg 30, Meijel	54:21	76	00:56	07:58	81:06	84	01:05	12:03
BL	Katsberg 15, Meijel	53:36	82	00:51	07:32	69:43	88	00:51	09:56
BM	Katsberg 26, Meijel	64:25	84	00:56	09:10	81:49	94	01:00	11:50
BN	Katsberg 13, Meijel	55:14	84	00:49	07:38	68:20	90	00:49	09:36
BO	Vreedepelweg 9, Beringe	05:36	48	00:14	01:03	10:42	64	00:21	02:02
BP	Vreedepelweg 7, Beringe	03:10	31	00:10	00:36	07:08	44	00:18	01:22
BQ	Vreedepelweg 8/8A, Beringe	03:31	21	00:13	00:36	10:15	38	00:20	01:49
BR	Vreedepelweg 4, Beringe	01:54	29	00:07	00:21	05:56	49	00:15	01:07
BS	Vreedepelweg 2, Beringe	01:29	26	00:06	00:16	05:28	51	00:13	01:01
BT	Vreedepelweg 1, Beringe	01:24	22	00:06	00:16	04:38	36	00:14	00:53
BU	Groeze 12, Beringe	00:31	10	00:04	00:06	02:22	23	00:11	00:29
BV	Groeze 13/15, Beringe	08:31	45	00:18	01:37	19:49	68	00:26	03:49
BW	Groeze 11, Beringe	12:23	53	00:21	02:18	22:04	74	00:26	04:14
BX	Groeze 9, Beringe	09:16	64	00:16	01:45	16:32	80	00:22	03:13
BY	Groeze 8/8A, Beringe	04:17	43	00:12	00:49	10:05	67	00:19	02:00
BZ	Heibloemseweg 32, Panningen	00:31	11	00:04	00:06	02:06	18	00:11	00:26
CA	Hondsheuveldstraat 3, Panningen	00:47	13	00:05	00:09	03:04	24	00:13	00:35
CB	Hub 18, Panningen	00:50	12	00:06	00:10	02:54	22	00:13	00:35
CC	Eemsestraat 13, Panningen	00:13	8	00:03	00:02	01:43	16	00:10	00:21
CD	Hub 17A, Panningen	00:39	12	00:05	00:08	09:34	48	00:18	01:46
CE	Hub 17, Panningen	07:05	45	00:13	01:17	14:37	64	00:20	02:46

Slagschaduwreceptor		WP Egchelse Heide RD140@110				WP Egchelse Heide RD140@140			
		Schaduw, worst case			Schaduw, verwacht	Schaduw, worst case			Schaduw, verwacht
		Potentiele schaduwduur	Potentiele schaduwdagen	Maximale passageduur		Potentiele schaduwduur	Potentiele schaduwdagen	Maximale passageduur	
		[uur/jaar]	[dagen/jaar]	[uur/dag]	verwachte hinderduur [uur/jaar]	[uur/jaar]	[dagen/jaar]	[uur/dag]	verwachte hinderduur [uur/jaar]
CF	Hub 16, Panningen	10:41	54	00:17	01:59	18:54	74	00:24	03:37
CG	Rootsdijk 4, Panningen	08:14	44	00:18	01:32	18:44	67	00:25	03:34
CH	Hub 13, Panningen	05:46	43	00:16	01:08	11:20	61	00:22	02:17
CI	Hub 12, Panningen	04:21	36	00:14	00:51	09:09	52	00:21	01:50
CJ	Linderweg 12, Panningen	04:19	36	00:15	00:51	09:02	50	00:21	01:50
CK	Linderweg 11, Panningen	03:37	32	00:13	00:42	07:52	47	00:20	01:36
CL	Linderweg 9, Panningen	02:44	24	00:11	00:31	05:41	32	00:18	01:06
CM	Hub 9, Panningen	03:38	31	00:14	00:43	07:53	45	00:20	01:39
CN	Hub 7, Panningen	03:34	30	00:14	00:43	07:43	44	00:21	01:37
CO	Hub 4, Panningen	02:37	20	00:12	00:36	05:00	25	00:19	01:10
CP	Bakkersweg 1, Panningen	01:48	17	00:10	00:23	04:04	24	00:17	00:55
CQ	Bakkersweg 10, Panningen	00:43	12	00:05	00:08	02:25	18	00:13	00:30
CR	Hub 1, Panningen	02:05	18	00:10	00:30	04:20	24	00:17	01:04
CS	Hoekerstraat 36 (historisch), Egchel	01:26	15	00:08	00:21	03:27	22	00:15	00:51
CT	Hoekerstraat 36, Egchel	01:44	16	00:09	00:25	03:47	23	00:16	00:55
CU	Hoekerstraat 34, Egchel	01:34	16	00:09	00:23	03:31	22	00:15	00:51
CV	Hoekerstraat 32, Egchel	01:27	15	00:08	00:21	03:19	21	00:15	00:48
CW	Hoekerstraat 30, Egchel	01:12	14	00:07	00:17	03:07	21	00:14	00:45
CX	Hoekerstraat 28, Egchel	01:02	13	00:07	00:15	02:50	20	00:13	00:41
CY	Hoekerstraat 26, Egchel	00:52	12	00:06	00:12	02:35	19	00:13	00:38
CZ	Hoekerstraat 24, Egchel	00:38	12	00:05	00:09	02:09	18	00:11	00:31
DA	Hoekerstraat 13, Egchel	00:35	11	00:05	00:08	02:05	17	00:11	00:30
DB	Hoekerstraat 15, Egchel	00:39	11	00:05	00:09	02:09	17	00:12	00:31
DC	Hoekerstraat 17, Egchel	01:30	15	00:09	00:22	03:27	22	00:15	00:50
DD	Jacobusstraat 4, Egchel	00:31	10	00:05	00:07	02:00	17	00:11	00:28
DE	Jacobusstraat 6, Egchel	00:36	11	00:05	00:08	02:03	17	00:11	00:30
DF	Karissendijk 4, Egchel	01:33	15	00:09	00:22	03:31	22	00:16	00:53
DG	Jacobusstraat 8, Egchel	00:36	10	00:05	00:09	02:02	16	00:11	00:31
DH	Jacobusstraat 10, Egchel	00:38	11	00:05	00:09	02:04	16	00:11	00:32
DI	Jacobusstraat 12, Egchel	00:35	10	00:05	00:09	02:00	16	00:11	00:31
DJ	Jacobusstraat 14, Egchel	00:35	11	00:04	00:09	01:59	17	00:11	00:30
DK	Jacobusstraat 16, Egchel	00:32	10	00:04	00:08	01:56	16	00:10	00:30
DL	Marxweg 5, Meijel	26:40	84	00:29	08:01	31:42	88	00:33	09:31
DM	Marxweg 3, Meijel	18:48	73	00:25	05:36	30:18	83	00:30	09:03
DN	Marxweg 1, Meijel	08:47	41	00:20	02:36	14:41	53	00:26	04:21
DO	Meijelseweg 21, Heibloem	00:00	0	00:00	00:00	00:00	0	00:00	00:00
DP	Marxweg 2, Meijel	07:35	39	00:18	02:15	13:15	52	00:24	03:56
DQ	Roggelsedijk 29, Meijel	05:37	36	00:14	01:40	11:00	49	00:21	03:16
DR	Roggelsedijk 27, Meijel	04:40	30	00:14	01:23	08:41	39	00:21	02:34
DS	Roggelsedijk 25, Meijel	03:41	25	00:13	01:05	06:52	33	00:20	02:01
DT	Roggelsedijk 26, Meijel	03:11	23	00:12	00:56	06:05	31	00:19	01:47
DU	Roggelsedijk 23, Meijel	03:29	24	00:13	01:01	06:24	31	00:20	01:52
DV	Roggelsedijk 23A, Meijel	03:26	24	00:13	01:00	06:17	30	00:20	01:50
DW	Roggelsedijk 21, Meijel	03:05	23	00:12	00:54	05:50	29	00:19	01:42
DX	Roggelsedijk 24A, Meijel	02:12	20	00:10	00:38	04:37	26	00:17	01:20
DY	Witdonk 3, Meijel	05:33	30	00:17	01:37	09:17	37	00:24	02:43
DZ	Witdonk 5, Meijel	06:01	31	00:18	01:46	09:55	37	00:25	02:54
EA	Witdonk 7, Meijel	07:42	35	00:21	02:15	12:11	42	00:27	03:34
EB	Roggelsedijk 19, Meijel	02:35	20	00:11	00:44	04:47	24	00:18	01:22
EC	Roggelsedijk 24, Meijel	02:04	18	00:10	00:35	04:14	24	00:17	01:13
ED	Roggelsedijk 22, Meijel	02:00	18	00:10	00:34	04:02	24	00:16	01:09
EE	Roggelsedijk 17, Meijel	02:05	18	00:10	00:35	04:11	24	00:17	01:11
EF	Roggelsedijk 20, Meijel	01:44	16	00:09	00:29	03:36	22	00:15	01:01
EG	Roggelsedijk 18, Meijel	01:30	16	00:08	00:24	03:16	20	00:15	00:53
EH	Roggelsedijk 15, Meijel	01:31	16	00:08	00:23	03:19	21	00:15	00:51
EI	Roggelsedijk 13A, Meijel	01:28	15	00:08	00:22	03:12	20	00:14	00:49
EJ	Krum 14, Meijel	05:11	26	00:18	01:27	08:15	32	00:25	02:18
EK	Krum 12, Meijel	04:57	26	00:18	01:20	07:55	31	00:24	02:10
EL	Krum 16, Meijel	05:02	26	00:18	01:19	07:48	32	00:24	02:03
EM	Krum 10, Meijel	03:53	23	00:16	00:58	06:30	28	00:22	01:38
EN	Krum 8, Meijel	02:57	20	00:13	00:45	05:20	26	00:19	01:23
EO	Krum 5, Meijel	03:53	23	00:16	00:57	06:32	28	00:22	01:37
EP	Katsberg 16, Meijel	22:15	51	00:41	04:29	27:16	55	00:41	05:35
EQ	Krum 13, Meijel	02:59	21	00:13	00:37	05:19	25	00:20	01:06
ER	Krum 15, Meijel	02:45	19	00:13	00:31	05:02	25	00:19	00:59
ES	Krum 15B, Meijel	02:41	19	00:13	00:30	04:58	25	00:19	00:57
ET	Krum 15A, Meijel	02:44	20	00:13	00:31	04:57	24	00:19	00:57
EU	Krum 19, Meijel	01:54	18	00:10	00:21	03:58	22	00:17	00:44
EV	Katsberg 8, Meijel	04:10	25	00:16	00:47	06:55	30	00:22	01:18
EW	Krum 22, Meijel	01:43	17	00:09	00:17	03:51	22	00:16	00:40
EX	Krum 21, Meijel	01:27	15	00:08	00:15	03:28	22	00:15	00:37
EY	Katsberg 1A, Meijel	07:10	32	00:22	01:10	10:47	38	00:27	01:49
EZ	Katsberg 3, Meijel	10:39	40	00:26	01:38	14:59	46	00:31	02:24
FA	Heihorst 11, Meijel	02:50	24	00:11	00:24	05:40	30	00:18	00:48
FB	Heihorst 12, Meijel	04:06	34	00:12	00:33	08:04	45	00:19	01:05
FC	Katsberg 5, Meijel	15:39	48	00:32	02:29	20:31	52	00:34	03:22
FD	Katsberg 12, Meijel	13:59	43	00:31	02:20	18:41	49	00:34	03:12
FE	Katsberg 14, Meijel	18:32	52	00:35	02:59	24:47	54	00:44	04:08
FF	Katsberg 14B, Meijel	21:49	56	00:37	03:20	28:39	60	00:45	04:34
FG	Katsberg 7, Meijel	23:14	60	00:37	03:24	30:12	64	00:44	04:36
FH	Katsberg 18, Meijel	31:53	74	00:41	04:35	38:59	74	00:49	05:50
FI	Katsberg 20, Meijel	35:31	88	00:42	04:59	42:19	80	00:48	06:08
FJ	Trinesweg 20, Meijel	40:06	84	00:40	05:20	50:37	89	00:40	06:49

Slagschaduwreceptor		WP Egchelse Heide RD140@110				WP Egchelse Heide RD140@140			
		Schaduw, worst case			Schaduw, verwacht	Schaduw, worst case			Schaduw, verwacht
		Potentiële schaduwduur	Potentiële schaduwdagen	Maximale passageduur		Potentiële schaduwduur	Potentiële schaduwdagen	Maximale passageduur	
		[uur/jaar]	[dagen/jaar]	[uur/dag]	verwachte hinderduur [uur/jaar]	[uur/jaar]	[dagen/jaar]	[uur/dag]	verwachte hinderduur [uur/jaar]
FK	Katsberg 22, Meijel	53:51	93	00:46	07:11	63:04	104	00:51	08:35
FL	Boerderijweg 3, Neer	00:00	0	00:00	00:00	00:00	0	00:00	00:00
FM	Boerderijweg 5, Neer	00:00	0	00:00	00:00	00:00	0	00:00	00:00
FN	Hondsheuvelstraat 9, Panningen	00:58	18	00:05	00:11	03:40	28	00:13	00:42
FO	Hondsheuvelstraat 8, Panningen	00:32	12	00:04	00:06	02:41	22	00:12	00:31
FP	Roggelsedijk 16, Meijel	01:04	14	00:07	00:16	02:43	19	00:13	00:41
FQ	Katsberg 1, Meijel	01:22	15	00:08	00:15	03:07	20	00:15	00:35
FR	Vredepeelweg 29, Beringe	81:33	76	01:30	13:59	118:29	94	01:37	20:17

Slagschaduwreceptor		WP Egchelse Heide RD140@110 + WP Neer				WP Egchelse Heide RD140@140 + WP Neer			
		Schaduw, worst case			Schaduw, verwacht	Schaduw, worst case			Schaduw, verwacht
		Potentiële schaduwduur	Potentiële schaduwduur	Maximale passageduur		Potentiële schaduwduur	Potentiële schaduwduur	Maximale passageduur	
		[uur/jaar]	[dagen/jaar]	[uur/dag]	verwachte hinderduur	[uur/jaar]	[dagen/jaar]	[uur/dag]	verwachte hinderduur
A	Karissendijk 11, Egchel	42:36	119	00:46	08:27	42:36	119	00:46	08:27
B	Karissendijk 14, Egchel	124:42	173	01:16	23:59	124:42	173	01:16	23:59
C	Haambergweg 2, Egchel	27:24	85	00:36	06:49	27:24	85	00:36	06:49
D	Karissendijk 10, Egchel	18:29	107	00:28	04:27	21:23	110	00:28	05:08
E	Karissendijk 9, Egchel	28:22	108	00:27	06:42	31:27	109	00:32	07:25
F	Melkweg 18, Egchel	57:35	120	00:44	11:44	57:35	120	00:44	11:44
G	Melkweg 11, Egchel	31:34	79	00:38	08:16	31:34	79	00:38	08:16
H	Melkweg 12, Egchel	30:03	77	00:37	07:45	30:03	77	00:37	07:45
I	Boerderijweg 2, Neer	01:08	10	00:09	00:20	01:08	10	00:09	00:20
J	Boerderijweg 4, Neer	25:00	54	00:36	07:11	25:00	54	00:36	07:11
K	Doorbrand 2, Neer	86:39	144	00:50	24:37	86:39	144	00:50	24:37
L	Doorbrand 1, Neer	56:18	149	00:47	13:30	56:18	149	00:47	13:30
M	Boerderijweg 6, Neer	07:05	39	00:21	01:53	07:05	39	00:21	01:53
N	Boerderijweg 8, Neer	48:02	100	00:44	13:48	48:02	100	00:44	13:48
O	Boerderijweg 10, Neer	70:13	112	01:02	20:48	73:22	112	01:07	21:45
P	Staldijk 1, Heibloem	46:18	132	00:43	10:55	57:38	161	00:43	14:14
Q	Staldijk 2, Heibloem	22:12	93	00:31	05:37	26:38	104	00:31	06:56
R	Haambergweg 11, Beringe	70:48	189	00:48	17:37	95:20	211	00:49	24:36
S	Haambergweg 10, Beringe	31:31	118	00:39	07:44	40:49	129	00:42	10:18
T	Rootsdijk 12, Panningen	41:35	103	00:48	09:50	75:57	159	00:47	16:30
U	Rootsdijk 11, Panningen	16:35	61	00:32	04:03	42:11	112	00:35	09:00
V	Hub 6, Panningen	03:38	31	00:14	00:45	07:45	44	00:21	01:41
W	Rootsdijk 5, Panningen	23:18	72	00:30	04:26	34:28	89	00:32	06:43
X	Karissendijk 3, Egchel	02:34	19	00:12	00:39	04:52	25	00:19	01:15
Y	Boerderijweg 11, Neer	60:18	150	00:42	17:11	61:16	155	00:43	17:28
Z	Melkweg 9, Egchel	24:53	70	00:35	06:44	24:53	70	00:35	06:44
AA	Melkweg 7, Egchel	20:40	64	00:32	05:34	20:40	64	00:32	05:34
AB	Haambergweg 15, Beringe	61:13	117	00:58	17:05	74:47	134	00:57	20:36
AC	Haambergweg 14, Beringe	62:11	113	01:00	16:22	72:33	124	00:59	19:05
AD	Huiskensweg 10, Egchel	12:49	58	00:27	03:15	13:08	68	00:27	03:20
AE	Huiskensweg 8, Egchel	14:08	88	00:25	03:29	16:15	90	00:25	03:59
AF	Witdonk 20, Meijel	06:33	37	00:20	01:48	11:16	50	00:26	03:05
AG	Vreedepeelweg 25, Beringe	68:16	106	00:52	12:51	76:03	118	00:51	14:26
AH	Vreedepeelweg 23, Beringe	18:15	50	00:36	04:10	23:37	55	00:38	05:30
AI	Vreedepeelweg 21, Beringe	10:17	36	00:27	02:31	14:29	41	00:32	03:33
AJ	Vreedepeelweg 19, Beringe	03:56	24	00:16	00:57	06:35	29	00:22	01:38
AK	Vreedepeelweg 22, Beringe	04:11	24	00:17	01:01	07:07	30	00:23	01:44
AL	Vreedepeelweg 20, Beringe	03:17	22	00:14	00:47	05:50	27	00:20	01:25
AM	Vreedepeelweg 18, Beringe	02:30	19	00:12	00:36	05:46	35	00:19	01:20
AN	Vreedepeelweg 15, Beringe	15:43	54	00:27	02:54	26:53	76	00:32	05:08
AO	Vreedepeelweg 13, Beringe	18:20	62	00:26	03:24	27:57	80	00:30	05:21
AP	Koelenweg 1, Beringe	15:32	72	00:27	03:02	22:17	83	00:31	04:28
AQ	Groeze 18, Beringe	05:27	30	00:18	01:06	08:59	36	00:24	01:49
AR	Groeze 17, Beringe	02:56	22	00:13	00:40	14:36	59	00:22	02:53
AS	Koelenweg 2, Beringe	14:38	61	00:28	02:55	21:21	74	00:32	04:24
AT	Koelenweg 3, Beringe	14:44	60	00:30	03:01	21:10	71	00:33	04:31
AU	Rongvenweg 8, Egchel	03:18	27	00:13	00:52	05:59	34	00:19	01:36
AV	Boerderijweg 7, Neer	10:37	48	00:24	02:59	10:37	48	00:24	02:59
AW	Boerderijweg 4a, Neer	69:20	124	00:45	20:18	69:20	124	00:45	20:18
AX	Rongvenweg 5, Egchel	02:36	41	00:08	00:37	04:36	45	00:15	01:10
AY	Rootsdijk 9, Panningen	19:50	78	00:31	04:30	46:54	118	00:39	09:49
AZ	Rootsdijk 3, Panningen	12:32	54	00:22	02:26	25:40	77	00:30	05:02
BA	Witdonk 33, Meijel	01:16	17	00:06	00:22	03:31	25	00:13	01:02
BB	Marxweg 7, Meijel	16:09	69	00:23	04:53	18:18	70	00:26	05:31
BC	Witdonk 19, Meijel	36:28	90	00:41	10:55	32:37	76	00:41	09:40
BD	Witdonk 15, Meijel	50:28	117	00:41	14:53	59:53	116	00:42	17:36
BE	Kanaaldijk 1, Meijel	24:51	66	00:42	06:17	32:05	73	00:43	08:09
BF	Kanaaldijk 2, Meijel	42:13	79	00:53	09:38	48:56	89	00:53	11:18
BG	Kanaaldijk 3, Meijel	113:45	110	01:27	22:19	111:06	102	01:25	22:56
BH	Haambergweg 18, Beringe	99:59	82	01:25	16:04	136:18	102	01:43	22:17
BI	Vreedepeelweg 35, Beringe	91:10	78	01:24	14:44	130:04	96	01:42	21:22
BJ	Katsberg 30A, Meijel	00:00	0	00:00	00:00	00:00	0	00:00	00:00
BK	Katsberg 30, Meijel	54:21	76	00:56	07:58	81:06	84	01:05	12:03
BL	Katsberg 15, Meijel	53:36	82	00:51	07:32	69:43	88	00:51	09:56
BM	Katsberg 26, Meijel	64:25	84	00:56	09:10	81:49	94	01:00	11:50
BN	Katsberg 13, Meijel	55:14	84	00:49	07:38	68:20	90	00:49	09:36
BO	Vreedepeelweg 9, Beringe	05:36	48	00:14	01:03	10:42	64	00:21	02:02
BP	Vreedepeelweg 7, Beringe	03:10	31	00:10	00:36	07:08	44	00:18	01:22
BQ	Vreedepeelweg 8/8A, Beringe	03:31	21	00:13	00:36	10:15	38	00:20	01:49
BR	Vreedepeelweg 4, Beringe	01:54	29	00:07	00:21	05:56	49	00:15	01:07
BS	Vreedepeelweg 2, Beringe	01:29	26	00:06	00:16	05:28	51	00:13	01:01
BT	Vreedepeelweg 1, Beringe	01:24	22	00:06	00:16	04:38	36	00:14	00:53
BU	Groeze 12, Beringe	00:31	10	00:04	00:06	02:22	23	00:11	00:29
BV	Groeze 13/15, Beringe	08:31	45	00:18	01:37	19:49	68	00:26	03:49
BW	Groeze 11, Beringe	12:23	53	00:21	02:18	22:04	74	00:26	04:14
BX	Groeze 9, Beringe	09:16	64	00:16	01:45	16:32	80	00:22	03:13
BY	Groeze 8/8A, Beringe	04:17	43	00:12	00:49	10:05	67	00:19	02:00
BZ	Heibloemseweg 32, Panningen	00:31	11	00:04	00:06	02:06	18	00:11	00:26
CA	Hondscheuvelstraat 3, Panningen	00:47	13	00:05	00:09	03:04	24	00:13	00:35
CB	Hub 18, Panningen	00:50	12	00:06	00:10	02:54	22	00:13	00:35
CC	Eemsestraat 13, Panningen	00:13	8	00:03	00:02	01:43	16	00:10	00:21
CD	Hub 17A, Panningen	00:39	12	00:05	00:08	09:34	48	00:18	01:46
CE	Hub 17, Panningen	07:05	45	00:13	01:17	14:37	64	00:20	02:46

Slagschaduwreceptor		WP Egchelse Heide RD140@110 + WP Neer				WP Egchelse Heide RD140@140 + WP Neer			
		Schaduw, worst case			Schaduw, verwacht	Schaduw, worst case			Schaduw, verwacht
		Potentiële schaduwduur	Potentiële schaduwdagen	Maximale passageduur		Potentiële schaduwduur	Potentiële schaduwdagen	Maximale passageduur	
		[uur/jaar]	[dagen/jaar]	[uur/dag]		[uur/jaar]	[dagen/jaar]	[uur/dag]	
CF	Hub 16, Panningen	10:41	54	00:17	01:59	18:54	74	00:24	03:37
CG	Rootsdijk 4, Panningen	08:14	44	00:18	01:32	18:44	67	00:25	03:34
CH	Hub 13, Panningen	05:46	43	00:16	01:08	11:20	61	00:22	02:17
CI	Hub 12, Panningen	04:21	36	00:14	00:51	09:09	52	00:21	01:50
CJ	Linderweg 12, Panningen	04:19	36	00:15	00:51	09:02	50	00:21	01:50
CK	Linderweg 11, Panningen	03:37	32	00:13	00:42	07:52	47	00:20	01:36
CL	Linderweg 9, Panningen	02:44	24	00:11	00:31	05:41	32	00:18	01:06
CM	Hub 9, Panningen	03:38	31	00:14	00:43	07:53	45	00:20	01:39
CN	Hub 7, Panningen	03:34	30	00:14	00:43	07:43	44	00:21	01:37
CO	Hub 4, Panningen	02:37	20	00:12	00:36	05:00	25	00:19	01:10
CP	Bakkersweg 1, Panningen	01:48	17	00:10	00:23	04:04	24	00:17	00:55
CQ	Bakkersweg 10, Panningen	00:43	12	00:05	00:08	02:25	18	00:13	00:30
CR	Hub 1, Panningen	02:05	18	00:10	00:30	04:20	24	00:17	01:04
CS	Hoekerstraat 36 (historisch), Egchel	01:26	15	00:08	00:21	03:27	22	00:15	00:51
CT	Hoekerstraat 36, Egchel	01:44	16	00:09	00:25	03:47	23	00:16	00:55
CU	Hoekerstraat 34, Egchel	01:34	16	00:09	00:23	03:31	22	00:15	00:51
CV	Hoekerstraat 32, Egchel	01:27	15	00:08	00:21	03:19	21	00:15	00:48
CW	Hoekerstraat 30, Egchel	01:12	14	00:07	00:17	03:07	21	00:14	00:45
CX	Hoekerstraat 28, Egchel	01:02	13	00:07	00:15	02:50	20	00:13	00:41
CY	Hoekerstraat 26, Egchel	00:52	12	00:06	00:12	02:35	19	00:13	00:38
CZ	Hoekerstraat 24, Egchel	00:38	12	00:05	00:09	02:09	18	00:11	00:31
DA	Hoekerstraat 13, Egchel	00:35	11	00:05	00:08	02:05	17	00:11	00:30
DB	Hoekerstraat 15, Egchel	00:39	11	00:05	00:09	02:09	17	00:12	00:31
DC	Hoekerstraat 17, Egchel	01:30	15	00:09	00:22	03:27	22	00:15	00:50
DD	Jacobusstraat 4, Egchel	00:31	10	00:05	00:07	02:00	17	00:11	00:28
DE	Jacobusstraat 6, Egchel	00:36	11	00:05	00:08	02:03	17	00:11	00:30
DF	Karissendijk 4, Egchel	01:33	15	00:09	00:22	03:31	22	00:16	00:53
DG	Jacobusstraat 8, Egchel	00:36	10	00:05	00:09	02:02	16	00:11	00:31
DH	Jacobusstraat 10, Egchel	00:38	11	00:05	00:09	02:04	16	00:11	00:32
DI	Jacobusstraat 12, Egchel	00:35	10	00:05	00:09	02:00	16	00:11	00:31
DJ	Jacobusstraat 14, Egchel	00:35	11	00:04	00:09	01:59	17	00:11	00:30
DK	Jacobusstraat 16, Egchel	00:32	10	00:04	00:08	01:56	16	00:10	00:30
DL	Marxweg 5, Meijel	26:40	84	00:29	08:01	31:42	88	00:33	09:31
DM	Marxweg 3, Meijel	18:48	73	00:25	05:36	30:18	83	00:30	09:03
DN	Marxweg 1, Meijel	08:47	41	00:20	02:36	14:41	53	00:26	04:21
DO	Meijelseweg 21, Heibloem	00:00	0	00:00	00:00	00:00	0	00:00	00:00
DP	Marxweg 2, Meijel	07:35	39	00:18	02:15	13:15	52	00:24	03:56
DQ	Roggelsedijk 29, Meijel	05:37	36	00:14	01:40	11:00	49	00:21	03:16
DR	Roggelsedijk 27, Meijel	04:40	30	00:14	01:23	08:41	39	00:21	02:34
DS	Roggelsedijk 25, Meijel	03:41	25	00:13	01:05	06:52	33	00:20	02:01
DT	Roggelsedijk 26, Meijel	03:11	23	00:12	00:56	06:05	31	00:19	01:47
DU	Roggelsedijk 23, Meijel	03:29	24	00:13	01:01	06:24	31	00:20	01:52
DV	Roggelsedijk 23A, Meijel	03:26	24	00:13	01:00	06:17	30	00:20	01:50
DW	Roggelsedijk 21, Meijel	03:05	23	00:12	00:54	05:50	29	00:19	01:42
DX	Roggelsedijk 24A, Meijel	02:12	20	00:10	00:38	04:37	26	00:17	01:20
DY	Witdonk 3, Meijel	05:33	30	00:17	01:37	09:17	37	00:24	02:43
DZ	Witdonk 5, Meijel	06:01	31	00:18	01:46	09:55	37	00:25	02:54
EA	Witdonk 7, Meijel	07:42	35	00:21	02:15	12:11	42	00:27	03:34
EB	Roggelsedijk 19, Meijel	02:35	20	00:11	00:44	04:47	24	00:18	01:22
EC	Roggelsedijk 24, Meijel	02:04	18	00:10	00:35	04:14	24	00:17	01:13
ED	Roggelsedijk 22, Meijel	02:00	18	00:10	00:34	04:02	24	00:16	01:09
EE	Roggelsedijk 17, Meijel	02:05	18	00:10	00:35	04:11	24	00:17	01:11
EF	Roggelsedijk 20, Meijel	01:44	16	00:09	00:29	03:36	22	00:15	01:01
EG	Roggelsedijk 18, Meijel	01:30	16	00:08	00:24	03:16	20	00:15	00:53
EH	Roggelsedijk 15, Meijel	01:31	16	00:08	00:23	03:19	21	00:15	00:51
EI	Roggelsedijk 13A, Meijel	01:28	15	00:08	00:22	03:12	20	00:14	00:49
EJ	Krum 14, Meijel	05:11	26	00:18	01:27	08:15	32	00:25	02:18
EK	Krum 12, Meijel	04:57	26	00:18	01:20	07:55	31	00:24	02:10
EL	Krum 16, Meijel	05:02	26	00:18	01:19	07:48	32	00:24	02:03
EM	Krum 10, Meijel	03:53	23	00:16	00:58	06:30	28	00:22	01:38
EN	Krum 8, Meijel	02:57	20	00:13	00:45	05:20	26	00:19	01:23
EO	Krum 5, Meijel	03:53	23	00:16	00:57	06:32	28	00:22	01:37
EP	Katsberg 16, Meijel	22:15	51	00:41	04:29	27:16	55	00:41	05:35
EQ	Krum 13, Meijel	02:59	21	00:13	00:37	05:19	25	00:20	01:06
ER	Krum 15, Meijel	02:45	19	00:13	00:31	05:02	25	00:19	00:59
ES	Krum 15B, Meijel	02:41	19	00:13	00:30	04:58	25	00:19	00:57
ET	Krum 15A, Meijel	02:44	20	00:13	00:31	04:57	24	00:19	00:57
EU	Krum 19, Meijel	01:54	18	00:10	00:21	03:58	22	00:17	00:44
EV	Katsberg 8, Meijel	04:10	25	00:16	00:47	06:55	30	00:22	01:18
EW	Krum 22, Meijel	01:43	17	00:09	00:17	03:51	22	00:16	00:40
EX	Krum 21, Meijel	01:27	15	00:08	00:15	03:28	22	00:15	00:37
EY	Katsberg 1A, Meijel	07:10	32	00:22	01:10	10:47	38	00:27	01:49
EZ	Katsberg 3, Meijel	10:39	40	00:26	01:38	14:59	46	00:31	02:24
FA	Heihorst 11, Meijel	02:50	24	00:11	00:24	05:40	30	00:18	00:48
FB	Heihorst 12, Meijel	04:06	34	00:12	00:33	08:04	45	00:19	01:05
FC	Katsberg 5, Meijel	15:39	48	00:32	02:29	20:31	52	00:34	03:22
FD	Katsberg 12, Meijel	13:59	43	00:31	02:20	18:41	49	00:34	03:12
FE	Katsberg 14, Meijel	18:32	52	00:35	02:59	24:47	54	00:44	04:08
FF	Katsberg 14B, Meijel	21:49	56	00:37	03:20	28:39	60	00:45	04:34
FG	Katsberg 7, Meijel	23:14	60	00:37	03:24	30:12	64	00:44	04:36
FH	Katsberg 18, Meijel	31:53	74	00:41	04:35	38:59	74	00:49	05:50
FI	Katsberg 20, Meijel	35:31	88	00:42	04:59	42:19	80	00:48	06:08
FJ	Trinesweg 20, Meijel	40:06	84	00:40	05:20	50:37	89	00:40	06:49

Slagschaduwreceptor	WP Egchelse Heide RD140@110 + WP Neer				WP Egchelse Heide RD140@140 + WP Neer			
	Schaduw, worst case			Schaduw, verwacht	Schaduw, worst case			Schaduw, verwacht
	Potentiële schaduwduur [uur/jaar]	Potentiële schaduwdagen [dagen/jaar]	Maximale passageduur [uur/dag]	verwachte hinderduur [uur/jaar]	Potentiële schaduwduur [uur/jaar]	Potentiële schaduwdagen [dagen/jaar]	Maximale passageduur [uur/dag]	verwachte hinderduur [uur/jaar]
FK Katsberg 22, Meijel	53:51	93	00:46	07:11	63:04	104	00:51	08:35
FL Boerderijweg 3, Neer	00:00	0	00:00	00:00	00:00	0	00:00	00:00
FM Boerderijweg 5, Neer	00:00	0	00:00	00:00	00:00	0	00:00	00:00
FN Hondsheuvelstraat 9, Panningen	00:58	18	00:05	00:11	03:40	28	00:13	00:42
FO Hondsheuvelstraat 8, Panningen	00:32	12	00:04	00:06	02:41	22	00:12	00:31
FP Roggelsedijk 16, Meijel	01:04	14	00:07	00:16	02:43	19	00:13	00:41
FQ Katsberg 1, Meijel	01:22	15	00:08	00:15	03:07	20	00:15	00:35
FR Vredepeelweg 29, Beringe	81:33	76	01:30	13:59	118:29	94	01:37	20:17



Bijlage III: Objecten en resultaten

1. Resultaten windpark Neer
2. Resultaten Egchelse Heide met RD140@110
3. Resultaten Egchelse Heide met RD140@140
4. Resultaten Egchelse Heide met RD140@110 + windpark Neer
5. Resultaten Egchelse Heide met RD140@140 + windpark Neer

SHADOW - Main Result

Calculation: WP Neer

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

5 °

Day step for calculation

1 days

Time step for calculation

1 minutes

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2.34	3.15	4.67	6.37	6.79	7.08	6.62	6.22	5.48	4.05	2.37	1.91

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
386	487	649	476	501	406	622	1,444	1,670	905	620	470	8,636

Idle start wind speed: Cut in wind speed from power curve

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: Grid data

Obstacles used in calculation

Eye height: 1.5 m

Grid resolution: 10.0 m

All coordinates are in

Dutch Stereo-RD/NAP 2008

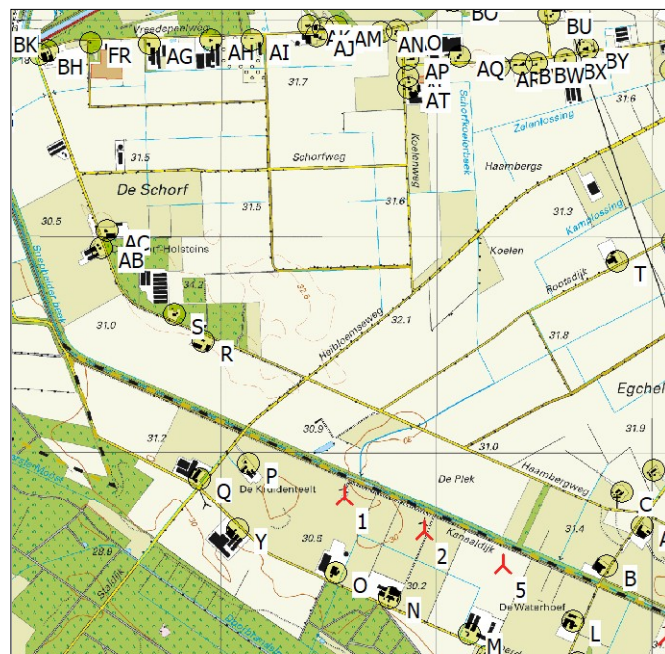
WTGs

	X (east)	Y (north)	Z	Row data/Description	WTG type			Power, rated	Rotor diameter	Hub height	Shadow data	
					Valid	Manufact.	Type-generator				Calculation distance	RPM
			[m]					[kW]	[m]	[m]	[m]	[RPM]
1	192,568	368,784	29.9	1	Yes	ENERCON	E-82 E2-2,300	2,300	82.0	98.4	1,602	18.0
2	192,936	368,626	30.4	2	Yes	ENERCON	E-82 E2-2,300	2,300	82.0	98.4	1,602	18.0
3	194,063	368,141	29.8	3	Yes	ENERCON	E-82 E2-2,300	2,300	82.0	98.4	1,602	18.0
4	194,430	367,983	31.4	4	Yes	ENERCON	E-82 E2-2,300	2,300	82.0	98.4	1,602	18.0
5	193,303	368,468	30.0	5	Yes	ENERCON	E-92 2,3 MW-2,350	2,350	92.0	98.4	1,516	16.0

Shadow receptor-Input

No.	Name	X (east)	Y (north)	Z	Width	Height	Height a.g.l.	Degrees from south cw	Slope of window	Direction mode
				[m]	[m]	[m]	[m]	[°]	[°]	
A	Karissendijk 11, Egchel	193,948	368,647	31.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
B	Karissendijk 14, Egchel	193,784	368,464	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
C	Haambergweg 2, Egchel	193,858	368,807	31.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
D	Karissendijk 10, Egchel	194,005	368,912	31.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
E	Karissendijk 9, Egchel	194,173	368,938	30.1	8.0	5.0	1.0	0.0	90.0	"Green house mode"
F	Melkweg 18, Egchel	194,566	368,437	30.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
G	Melkweg 11, Egchel	194,917	368,212	32.5	8.0	5.0	1.0	0.0	90.0	"Green house mode"
H	Melkweg 12, Egchel	194,927	368,248	32.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
I	Boerderijweg 2, Neer	194,088	367,772	31.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
J	Boerderijweg 4, Neer	193,852	367,883	30.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
K	Doorbrand 2, Neer	193,649	368,018	31.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
L	Doorbrand 1, Neer	193,630	368,211	30.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
M	Boerderijweg 6, Neer	193,147	368,151	30.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
N	Boerderijweg 8, Neer	192,778	368,317	31.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
O	Boerderijweg 10, Neer	192,529	368,434	31.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
P	Staldijk 1, Heibloem	192,120	368,942	32.1	8.0	5.0	1.0	0.0	90.0	"Green house mode"
Q	Staldijk 2, Heibloem	191,894	368,869	31.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
R	Haambergweg 11, Beringe	191,912	369,510	33.1	8.0	5.0	1.0	0.0	90.0	"Green house mode"
S	Haambergweg 10, Beringe	191,780	369,633	35.6	8.0	5.0	1.0	0.0	90.0	"Green house mode"
T	Rootsdijk 12, Panningen	193,835	369,879	30.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
U	Rootsdijk 11, Panningen	194,090	369,970	31.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
V	Hub 6, Panningen	194,992	370,052	33.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
W	Rootsdijk 5, Panningen	194,513	370,115	31.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"

To be continued on next page...



New WTG

Scale 1:35,000

Shadow receptor

SHADOW - Main Result

Calculation: WP Neer

...continued from previous page

No.	Name	X (east)	Y (north)	Z	Width	Height	Height a.g.l.	Degrees from south cw	Slope of window	Direction mode
		[m]	[m]	[m]	[m]	[m]	[m]	[°]	[°]	
X	Karissendijk 3, Egchel	195,200	369,690	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
Y	Boerderijweg 11, Neer	192,075	368,633	30.1	8.0	5.0	1.0	0.0	90.0	"Green house mode"
Z	Melkweg 9, Egchel	194,994	368,164	32.6	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AA	Melkweg 7, Egchel	195,048	368,128	32.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AB	Haambergweg 15, Beringe	191,440	369,942	33.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AC	Haambergweg 14, Beringe	191,469	370,022	34.1	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AD	Huiskensweg 10, Egchel	195,142	368,310	32.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AE	Huiskensweg 8, Egchel	195,172	368,368	32.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AF	Witdonk 20, Meijel	190,811	369,968	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AG	Vreedepeelweg 25, Beringe	191,663	370,887	33.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AH	Vreedepeelweg 23, Beringe	191,950	370,903	35.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AI	Vreedepeelweg 21, Beringe	192,140	370,904	33.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AJ	Vreedepeelweg 19, Beringe	192,439	370,921	32.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AK	Vreedepeelweg 22, Beringe	192,401	370,969	33.6	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AL	Vreedepeelweg 20, Beringe	192,470	370,958	34.6	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AM	Vreedepeelweg 18, Beringe	192,534	370,963	35.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AN	Vreedepeelweg 15, Beringe	192,736	370,940	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AO	Vreedepeelweg 13, Beringe	192,811	370,947	31.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AP	Koelenweg 1, Beringe	192,863	370,816	31.6	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AQ	Groeze 18, Beringe	193,101	370,826	32.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AR	Groeze 17, Beringe	193,287	370,779	32.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AS	Koelenweg 2, Beringe	192,863	370,734	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AT	Koelenweg 3, Beringe	192,867	370,681	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AU	Rongvenweg 8, Egchel	195,229	369,059	31.8	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AV	Boerderijweg 7, Neer	193,234	368,051	30.1	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AW	Boerderijweg 4a, Neer	193,607	367,957	30.5	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AX	Rongvenweg 5, Egchel	195,398	369,040	31.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AY	Rootsdijk 9, Panningen	194,129	369,956	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AZ	Rootsdijk 3, Panningen	194,481	370,169	31.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BA	Witdonk 33, Meijel	190,417	369,417	30.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BB	Marxweg 7, Meijel	190,318	369,841	31.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BC	Witdonk 19, Meijel	190,605	370,032	34.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BD	Witdonk 15, Meijel	190,393	370,042	30.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BE	Kanaaldijk 1, Meijel	190,400	370,457	34.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BF	Kanaaldijk 2, Meijel	190,564	370,523	32.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BG	Kanaaldijk 3, Meijel	190,835	370,589	35.8	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BH	Haambergweg 18, Beringe	191,153	370,834	33.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BI	Vreedepeelweg 35, Beringe	191,192	370,852	34.5	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BJ	Katsberg 30A, Meijel	190,977	370,947	35.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BK	Katsberg 30, Meijel	190,952	370,937	34.5	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BL	Katsberg 15, Meijel	190,791	370,984	33.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BM	Katsberg 26, Meijel	190,839	370,939	33.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BN	Katsberg 13, Meijel	190,745	370,989	34.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BO	Vreedepeelweg 9, Beringe	193,075	371,087	33.6	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BP	Vreedepeelweg 7, Beringe	193,159	371,150	34.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BQ	Vreedepeelweg 8/8A, Beringe	193,028	371,233	33.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BR	Vreedepeelweg 4, Beringe	193,213	371,245	35.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BS	Vreedepeelweg 2, Beringe	193,239	371,281	34.6	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BT	Vreedepeelweg 1, Beringe	193,255	371,245	34.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BU	Groeze 12, Beringe	193,519	371,021	32.8	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BV	Groeze 13/15, Beringe	193,390	370,791	32.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BW	Groeze 11, Beringe	193,457	370,796	32.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BX	Groeze 9, Beringe	193,592	370,815	32.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BY	Groeze 8/8A, Beringe	193,694	370,863	33.6	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BZ	Heibloemseweg 32, Panningen	194,084	370,765	33.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CA	Hondsheuvelstraat 3, Panningen	194,577	370,578	34.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CB	Hub 18, Panningen	194,632	370,489	32.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CC	Eemsestraat 13, Panningen	194,734	370,550	34.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CD	Hub 17A, Panningen	194,727	370,428	32.1	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CE	Hub 17, Panningen	194,816	370,386	33.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CF	Hub 16, Panningen	194,749	370,309	31.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CG	Rootsdijk 4, Panningen	194,636	370,294	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CH	Hub 13, Panningen	194,855	370,222	32.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CI	Hub 12, Panningen	194,914	370,186	33.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"

To be continued on next page...

SHADOW - Main Result

Calculation: WP Neer

...continued from previous page

No.	Name	X (east)	Y (north)	Z	Width	Height	Height a.g.l.	Degrees from south cw	Slope of window	Direction mode
		[m]		[m]	[m]	[m]	[m]	[°]	[°]	
CJ	Linderweg 12, Panningen	194,918	370,167	33.8	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CK	Linderweg 11, Panningen	194,958	370,162	33.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CL	Linderweg 9, Panningen	195,005	370,213	33.1	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CM	Hub 9, Panningen	194,969	370,116	34.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CN	Hub 7, Panningen	194,978	370,109	34.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CO	Hub 4, Panningen	195,103	370,002	32.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CP	Bakkersweg 1, Panningen	195,161	370,061	32.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CQ	Bakkersweg 10, Panningen	195,267	370,201	33.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CR	Hub 1, Panningen	195,183	369,934	31.8	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CS	Hoekerstraat 36 (historisch), Egchel	195,250	369,972	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CT	Hoekerstraat 36, Egchel	195,226	369,920	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CU	Hoekerstraat 34, Egchel	195,246	369,925	32.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CV	Hoekerstraat 32, Egchel	195,267	369,931	32.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CW	Hoekerstraat 30, Egchel	195,293	369,938	32.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CX	Hoekerstraat 28, Egchel	195,317	369,943	32.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CY	Hoekerstraat 26, Egchel	195,341	369,950	32.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CZ	Hoekerstraat 24, Egchel	195,396	369,958	33.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DA	Hoekerstraat 13, Egchel	195,419	369,912	33.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DB	Hoekerstraat 15, Egchel	195,400	369,907	33.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DC	Hoekerstraat 17, Egchel	195,263	369,884	32.6	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DD	Jacobusstraat 4, Egchel	195,435	369,877	33.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DE	Jacobusstraat 6, Egchel	195,444	369,836	32.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DF	Karissendijk 4, Egchel	195,282	369,780	33.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DG	Jacobusstraat 8, Egchel	195,455	369,796	33.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DH	Jacobusstraat 10, Egchel	195,469	369,763	33.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DI	Jacobusstraat 12, Egchel	195,480	369,731	33.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DJ	Jacobusstraat 14, Egchel	195,487	369,707	33.5	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DK	Jacobusstraat 16, Egchel	195,500	369,687	33.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DL	Marxweg 5, Meijel	190,204	369,849	30.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DM	Marxweg 3, Meijel	190,106	369,851	30.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DN	Marxweg 1, Meijel	189,982	369,871	30.8	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DO	Meijelseweg 21, Heibloem	189,950	369,393	30.5	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DP	Marxweg 2, Meijel	189,933	369,830	30.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DQ	Roggelsedijk 29, Meijel	189,848	369,745	30.6	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DR	Roggelsedijk 27, Meijel	189,827	369,834	31.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DS	Roggelsedijk 25, Meijel	189,775	369,937	31.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DT	Roggelsedijk 26, Meijel	189,738	369,938	31.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DU	Roggelsedijk 23, Meijel	189,758	369,966	31.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DV	Roggelsedijk 23A, Meijel	189,754	369,979	31.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DW	Roggelsedijk 21, Meijel	189,732	370,032	31.1	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DX	Roggelsedijk 24A, Meijel	189,653	370,049	31.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DY	Witdonk 3, Meijel	189,896	370,021	32.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DZ	Witdonk 5, Meijel	189,920	370,022	32.6	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EA	Witdonk 7, Meijel	189,990	370,025	32.8	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EB	Roggelsedijk 19, Meijel	189,683	370,155	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EC	Roggelsedijk 24, Meijel	189,631	370,139	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
ED	Roggelsedijk 22, Meijel	189,623	370,193	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EE	Roggelsedijk 17, Meijel	189,634	370,259	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EF	Roggelsedijk 20, Meijel	189,590	370,267	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EG	Roggelsedijk 18, Meijel	189,551	370,366	31.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EH	Roggelsedijk 15, Meijel	189,558	370,423	31.5	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EI	Roggelsedijk 13A, Meijel	189,553	370,433	31.5	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EJ	Krum 14, Meijel	189,886	370,334	31.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EK	Krum 12, Meijel	189,877	370,373	31.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EL	Krum 16, Meijel	189,881	370,419	31.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EM	Krum 10, Meijel	189,820	370,488	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EN	Krum 8, Meijel	189,728	370,436	30.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EO	Krum 5, Meijel	189,825	370,532	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EP	Katsberg 16, Meijel	190,415	370,687	31.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EQ	Krum 13, Meijel	189,806	370,806	32.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
ER	Krum 15, Meijel	189,799	370,918	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
ES	Krum 15B, Meijel	189,803	370,940	31.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
ET	Krum 15A, Meijel	189,802	370,930	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EU	Krum 19, Meijel	189,766	371,134	31.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"

To be continued on next page...

SHADOW - Main Result

Calculation: WP Neer

...continued from previous page

No.	Name	X (east)	Y (north)	Z	Width	Height	Height a.g.l.	Degrees from south cw	Slope of window	Direction mode
				[m]	[m]	[m]	[m]	[°]	[°]	
EV	Katsberg 8, Meijel	189,941	370,986	31.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EW	Krum 22, Meijel	189,782	371,215	32.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EX	Krum 21, Meijel	189,747	371,216	31.8	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EY	Katsberg 1A, Meijel	190,131	371,068	32.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EZ	Katsberg 3, Meijel	190,248	371,049	32.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FA	Heihorst 11, Meijel	189,963	371,405	32.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FB	Heihorst 12, Meijel	190,050	371,490	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FC	Katsberg 5, Meijel	190,358	370,970	32.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FD	Katsberg 12, Meijel	190,319	370,955	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FE	Katsberg 14, Meijel	190,400	370,936	32.8	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FF	Katsberg 14B, Meijel	190,450	370,946	33.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FG	Katsberg 7, Meijel	190,467	370,973	33.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FH	Katsberg 18, Meijel	190,547	370,941	33.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FI	Katsberg 20, Meijel	190,567	370,954	34.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FJ	Trinesweg 20, Meijel	190,588	371,073	33.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FK	Katsberg 22, Meijel	190,652	370,954	34.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FL	Boerderijweg 3, Neer	194,424	367,543	30.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FM	Boerderijweg 5, Neer	194,030	367,706	31.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FN	Hondsheuvelstraat 9, Panningen	194,510	370,702	34.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FO	Hondsheuvelstraat 8, Panningen	194,593	370,645	34.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FP	Roggelsedijk 16, Meijel	189,503	370,458	31.8	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FQ	Katsberg 1, Meijel	189,646	371,019	31.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FR	Vreedepeelweg 29, Beringe	191,392	370,890	36.5	8.0	5.0	1.0	0.0	90.0	"Green house mode"

Calculation Results

Shadow receptor

		Shadow, worst case			Shadow, expected values
No.	Name	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
	A Karissendijk 11, Egchel	42:36	119	0:46	8:27
	B Karissendijk 14, Egchel	124:40	172	1:16	23:58
	C Haambergweg 2, Egchel	27:24	85	0:36	6:49
	D Karissendijk 10, Egchel	14:02	62	0:28	3:23
	E Karissendijk 9, Egchel	7:07	41	0:21	1:45
	F Melkweg 18, Egchel	57:35	120	0:44	11:44
	G Melkweg 11, Egchel	31:34	79	0:38	8:16
	H Melkweg 12, Egchel	30:03	77	0:37	7:45
	I Boerderijweg 2, Neer	1:09	10	0:09	0:21
	J Boerderijweg 4, Neer	25:00	54	0:36	7:11
	K Doorbrand 2, Neer	86:39	144	0:50	24:37
	L Doorbrand 1, Neer	56:19	149	0:47	13:31
	M Boerderijweg 6, Neer	7:04	39	0:21	1:52
	N Boerderijweg 8, Neer	48:02	100	0:44	13:48
	O Boerderijweg 10, Neer	61:59	112	0:49	18:18
	P Staldijk 1, Heibloem	33:15	67	0:43	7:05
	Q Staldijk 2, Heibloem	17:34	62	0:31	4:15
	R Haambergweg 11, Beringe	15:29	68	0:21	2:00
	S Haambergweg 10, Beringe	6:49	46	0:14	0:52
	T Rootsdijk 12, Panningen	0:00	0	0:00	0:00
	U Rootsdijk 11, Panningen	0:00	0	0:00	0:00
	V Hub 6, Panningen	0:00	0	0:00	0:00
	W Rootsdijk 5, Panningen	0:00	0	0:00	0:00
	X Karissendijk 3, Egchel	0:00	0	0:00	0:00
	Y Boerderijweg 11, Neer	59:38	150	0:42	16:59
	Z Melkweg 9, Egchel	24:53	70	0:35	6:44
	AA Melkweg 7, Egchel	20:40	64	0:32	5:34
	AB Haambergweg 15, Beringe	0:00	0	0:00	0:00
	AC Haambergweg 14, Beringe	0:00	0	0:00	0:00
	AD Huiskensweg 10, Egchel	12:44	53	0:27	3:14
	AE Huiskensweg 8, Egchel	10:35	48	0:25	2:39
	AF Witdonk 20, Meijel	0:00	0	0:00	0:00
	AG Vreedepeelweg 25, Beringe	0:00	0	0:00	0:00

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SHADOW - Main Result

Calculation: WP Neer

...continued from previous page

No.	Name	Shadow, worst case		Shadow, expected values	
		Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
AH	Vreedepeelweg 23, Beringe	0:00	0	0:00	0:00
AI	Vreedepeelweg 21, Beringe	0:00	0	0:00	0:00
AJ	Vreedepeelweg 19, Beringe	0:00	0	0:00	0:00
AK	Vreedepeelweg 22, Beringe	0:00	0	0:00	0:00
AL	Vreedepeelweg 20, Beringe	0:00	0	0:00	0:00
AM	Vreedepeelweg 18, Beringe	0:00	0	0:00	0:00
AN	Vreedepeelweg 15, Beringe	0:00	0	0:00	0:00
AO	Vreedepeelweg 13, Beringe	0:00	0	0:00	0:00
AP	Koelenweg 1, Beringe	0:00	0	0:00	0:00
AQ	Groeze 18, Beringe	0:00	0	0:00	0:00
AR	Groeze 17, Beringe	0:00	0	0:00	0:00
AS	Koelenweg 2, Beringe	0:00	0	0:00	0:00
AT	Koelenweg 3, Beringe	0:00	0	0:00	0:00
AU	Rongvenweg 8, Egchel	0:08	6	0:02	0:01
AV	Boerderijweg 7, Neer	10:37	48	0:24	2:59
AW	Boerderijweg 4a, Neer	69:20	124	0:45	20:18
AX	Rongvenweg 5, Egchel	1:00	23	0:04	0:11
AY	Rootsdijk 9, Panningen	0:00	0	0:00	0:00
AZ	Rootsdijk 3, Panningen	0:00	0	0:00	0:00
BA	Witdonk 33, Meijel	0:00	0	0:00	0:00
BB	Marxweg 7, Meijel	0:00	0	0:00	0:00
BC	Witdonk 19, Meijel	0:00	0	0:00	0:00
BD	Witdonk 15, Meijel	0:00	0	0:00	0:00
BE	Kanaaldijk 1, Meijel	0:00	0	0:00	0:00
BF	Kanaaldijk 2, Meijel	0:00	0	0:00	0:00
BG	Kanaaldijk 3, Meijel	0:00	0	0:00	0:00
BH	Haambergweg 18, Beringe	0:00	0	0:00	0:00
BI	Vreedepeelweg 35, Beringe	0:00	0	0:00	0:00
BJ	Katsberg 30A, Meijel	0:00	0	0:00	0:00
BK	Katsberg 30, Meijel	0:00	0	0:00	0:00
BL	Katsberg 15, Meijel	0:00	0	0:00	0:00
BM	Katsberg 26, Meijel	0:00	0	0:00	0:00
BN	Katsberg 13, Meijel	0:00	0	0:00	0:00
BO	Vreedepeelweg 9, Beringe	0:00	0	0:00	0:00
BP	Vreedepeelweg 7, Beringe	0:00	0	0:00	0:00
BQ	Vreedepeelweg 8/8A, Beringe	0:00	0	0:00	0:00
BR	Vreedepeelweg 4, Beringe	0:00	0	0:00	0:00
BS	Vreedepeelweg 2, Beringe	0:00	0	0:00	0:00
BT	Vreedepeelweg 1, Beringe	0:00	0	0:00	0:00
BU	Groeze 12, Beringe	0:00	0	0:00	0:00
BV	Groeze 13/15, Beringe	0:00	0	0:00	0:00
BW	Groeze 11, Beringe	0:00	0	0:00	0:00
BX	Groeze 9, Beringe	0:00	0	0:00	0:00
BY	Groeze 8/8A, Beringe	0:00	0	0:00	0:00
BZ	Heibloemseweg 32, Panningen	0:00	0	0:00	0:00
CA	Hondsheuvelstraat 3, Panningen	0:00	0	0:00	0:00
CB	Hub 18, Panningen	0:00	0	0:00	0:00
CC	Eemsestraat 13, Panningen	0:00	0	0:00	0:00
CD	Hub 17A, Panningen	0:00	0	0:00	0:00
CE	Hub 17, Panningen	0:00	0	0:00	0:00
CF	Hub 16, Panningen	0:00	0	0:00	0:00
CG	Rootsdijk 4, Panningen	0:00	0	0:00	0:00
CH	Hub 13, Panningen	0:00	0	0:00	0:00
CI	Hub 12, Panningen	0:00	0	0:00	0:00
CJ	Linderweg 12, Panningen	0:00	0	0:00	0:00
CK	Linderweg 11, Panningen	0:00	0	0:00	0:00
CL	Linderweg 9, Panningen	0:00	0	0:00	0:00
CM	Hub 9, Panningen	0:00	0	0:00	0:00
CN	Hub 7, Panningen	0:00	0	0:00	0:00
CO	Hub 4, Panningen	0:00	0	0:00	0:00
CP	Bakkersweg 1, Panningen	0:00	0	0:00	0:00
CQ	Bakkersweg 10, Panningen	0:00	0	0:00	0:00
CR	Hub 1, Panningen	0:00	0	0:00	0:00

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SHADOW - Main Result

Calculation: WP Neer

...continued from previous page

No.	Name	Shadow, worst case		Shadow, expected values	
		Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
CS	Hoekerstraat 36 (historisch), Egchel	0:00	0	0:00	0:00
CT	Hoekerstraat 36, Egchel	0:00	0	0:00	0:00
CU	Hoekerstraat 34, Egchel	0:00	0	0:00	0:00
CV	Hoekerstraat 32, Egchel	0:00	0	0:00	0:00
CW	Hoekerstraat 30, Egchel	0:00	0	0:00	0:00
CX	Hoekerstraat 28, Egchel	0:00	0	0:00	0:00
CY	Hoekerstraat 26, Egchel	0:00	0	0:00	0:00
CZ	Hoekerstraat 24, Egchel	0:00	0	0:00	0:00
DA	Hoekerstraat 13, Egchel	0:00	0	0:00	0:00
DB	Hoekerstraat 15, Egchel	0:00	0	0:00	0:00
DC	Hoekerstraat 17, Egchel	0:00	0	0:00	0:00
DD	Jacobusstraat 4, Egchel	0:00	0	0:00	0:00
DE	Jacobusstraat 6, Egchel	0:00	0	0:00	0:00
DF	Karissendijk 4, Egchel	0:00	0	0:00	0:00
DG	Jacobusstraat 8, Egchel	0:00	0	0:00	0:00
DH	Jacobusstraat 10, Egchel	0:00	0	0:00	0:00
DI	Jacobusstraat 12, Egchel	0:00	0	0:00	0:00
DJ	Jacobusstraat 14, Egchel	0:00	0	0:00	0:00
DK	Jacobusstraat 16, Egchel	0:00	0	0:00	0:00
DL	Marxweg 5, Meijel	0:00	0	0:00	0:00
DM	Marxweg 3, Meijel	0:00	0	0:00	0:00
DN	Marxweg 1, Meijel	0:00	0	0:00	0:00
DO	Meijelseweg 21, Heibloem	0:00	0	0:00	0:00
DP	Marxweg 2, Meijel	0:00	0	0:00	0:00
DQ	Roggelsedijk 29, Meijel	0:00	0	0:00	0:00
DR	Roggelsedijk 27, Meijel	0:00	0	0:00	0:00
DS	Roggelsedijk 25, Meijel	0:00	0	0:00	0:00
DT	Roggelsedijk 26, Meijel	0:00	0	0:00	0:00
DU	Roggelsedijk 23, Meijel	0:00	0	0:00	0:00
DV	Roggelsedijk 23A, Meijel	0:00	0	0:00	0:00
DW	Roggelsedijk 21, Meijel	0:00	0	0:00	0:00
DX	Roggelsedijk 24A, Meijel	0:00	0	0:00	0:00
DY	Witdonk 3, Meijel	0:00	0	0:00	0:00
DZ	Witdonk 5, Meijel	0:00	0	0:00	0:00
EA	Witdonk 7, Meijel	0:00	0	0:00	0:00
EB	Roggelsedijk 19, Meijel	0:00	0	0:00	0:00
EC	Roggelsedijk 24, Meijel	0:00	0	0:00	0:00
ED	Roggelsedijk 22, Meijel	0:00	0	0:00	0:00
EE	Roggelsedijk 17, Meijel	0:00	0	0:00	0:00
EF	Roggelsedijk 20, Meijel	0:00	0	0:00	0:00
EG	Roggelsedijk 18, Meijel	0:00	0	0:00	0:00
EH	Roggelsedijk 15, Meijel	0:00	0	0:00	0:00
EI	Roggelsedijk 13A, Meijel	0:00	0	0:00	0:00
EJ	Krum 14, Meijel	0:00	0	0:00	0:00
EK	Krum 12, Meijel	0:00	0	0:00	0:00
EL	Krum 16, Meijel	0:00	0	0:00	0:00
EM	Krum 10, Meijel	0:00	0	0:00	0:00
EN	Krum 8, Meijel	0:00	0	0:00	0:00
EO	Krum 5, Meijel	0:00	0	0:00	0:00
EP	Katsberg 16, Meijel	0:00	0	0:00	0:00
EQ	Krum 13, Meijel	0:00	0	0:00	0:00
ER	Krum 15, Meijel	0:00	0	0:00	0:00
ES	Krum 15B, Meijel	0:00	0	0:00	0:00
ET	Krum 15A, Meijel	0:00	0	0:00	0:00
EU	Krum 19, Meijel	0:00	0	0:00	0:00
EV	Katsberg 8, Meijel	0:00	0	0:00	0:00
EW	Krum 22, Meijel	0:00	0	0:00	0:00
EX	Krum 21, Meijel	0:00	0	0:00	0:00
EY	Katsberg 1A, Meijel	0:00	0	0:00	0:00
EZ	Katsberg 3, Meijel	0:00	0	0:00	0:00
FA	Heihorst 11, Meijel	0:00	0	0:00	0:00
FB	Heihorst 12, Meijel	0:00	0	0:00	0:00
FC	Katsberg 5, Meijel	0:00	0	0:00	0:00

To be continued on next page...

SHADOW - Main Result

Calculation: WP Neer

...continued from previous page

No.	Name	Shadow, worst case		Shadow, expected values	
		Shadow hours	Shadow days	Max shadow	Shadow hours
		per year [h/year]	per year [days/year]	hours per day [h/day]	per year [h/year]
FD	Katsberg 12, Meijel	0:00	0	0:00	0:00
FE	Katsberg 14, Meijel	0:00	0	0:00	0:00
FF	Katsberg 14B, Meijel	0:00	0	0:00	0:00
FG	Katsberg 7, Meijel	0:00	0	0:00	0:00
FH	Katsberg 18, Meijel	0:00	0	0:00	0:00
FI	Katsberg 20, Meijel	0:00	0	0:00	0:00
FJ	Trinesweg 20, Meijel	0:00	0	0:00	0:00
FK	Katsberg 22, Meijel	0:00	0	0:00	0:00
FL	Boerderijweg 3, Neer	0:00	0	0:00	0:00
FM	Boerderijweg 5, Neer	0:00	0	0:00	0:00
FN	Hondsheuvelstraat 9, Panningen	0:00	0	0:00	0:00
FO	Hondsheuvelstraat 8, Panningen	0:00	0	0:00	0:00
FP	Roggelsedijk 16, Meijel	0:00	0	0:00	0:00
FQ	Katsberg 1, Meijel	0:00	0	0:00	0:00
FR	Vreedepeelweg 29, Beringe	0:00	0	0:00	0:00

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

No.	Name	Worst case	Expected
		[h/year]	[h/year]
1	1	117:48	28:25
2	2	98:51	26:43
3	3	264:52	64:03
4	4	176:07	40:09
5	5	144:37	39:28

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

SHADOW - Main Result

Calculation: 5xWT (RD140@110m)

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

5 °

Day step for calculation

1 days

Time step for calculation

1 minutes

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2.34	3.15	4.67	6.37	6.79	7.08	6.62	6.22	5.48	4.05	2.37	1.91

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
386	487	649	476	501	406	622	1,444	1,670	905	620	470	8,636

Idle start wind speed: Cut in wind speed from power curve

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: Grid data

Obstacles used in calculation

Eye height: 1.5 m

Grid resolution: 10.0 m

All coordinates are in
Dutch Stereo-RD/NAP 2008

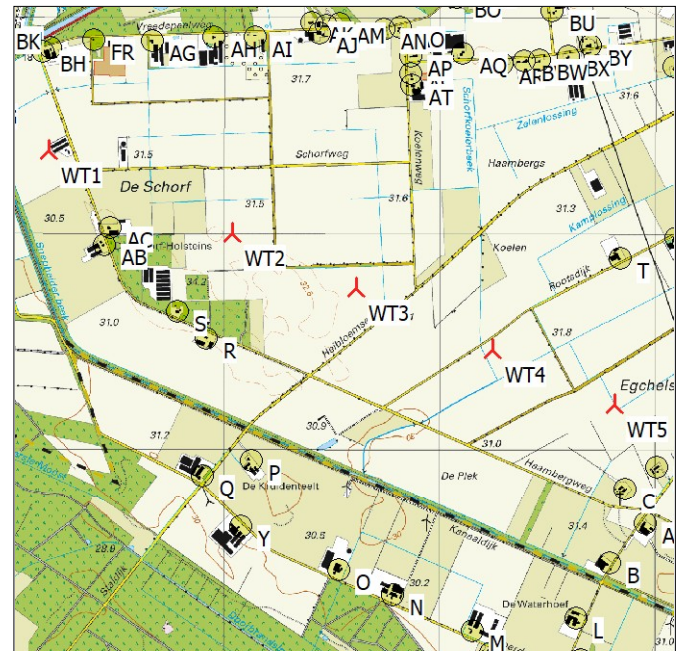
WTGs

	X (east)	Y (north)	Z	Row	data/Description	WTG type			Power, rated	Rotor diameter	Hub height	Shadow data	
						Valid	Manufact.	Type-generator				Calculation distance	RPM
			[m]						[kW]	[m]	[m]	[m]	[RPM]
WT1	191,183	370,376	31.3	WT1		Yes	Typical	RD140-4,000	4,000	140.0	110.0	1,905	11.0
WT2	192,034	369,995	29.2	WT2		Yes	Typical	RD140-4,000	4,000	140.0	110.0	1,905	11.0
WT3	192,608	369,738	28.9	WT3		Yes	Typical	RD140-4,000	4,000	140.0	110.0	1,905	11.0
WT4	193,240	369,455	28.8	WT4		Yes	Typical	RD140-4,000	4,000	140.0	110.0	1,905	11.0
WT5	193,806	369,199	30.8	WT5		Yes	Typical	RD140-4,000	4,000	140.0	110.0	1,905	11.0

Shadow receptor-Input

No.	Name	X (east)	Y (north)	Z	Width	Height	Height a.g.l.	Degrees from south cw	Slope of window	Direction mode
				[m]	[m]	[m]	[m]	[°]	[°]	
A	Karissendijk 11, Egchel	193,948	368,647	31.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
B	Karissendijk 14, Egchel	193,784	368,464	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
C	Haambergweg 2, Egchel	193,858	368,807	31.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
D	Karissendijk 10, Egchel	194,005	368,912	31.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
E	Karissendijk 9, Egchel	194,173	368,938	30.1	8.0	5.0	1.0	0.0	90.0	"Green house mode"
F	Melkweg 18, Egchel	194,566	368,437	30.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
G	Melkweg 11, Egchel	194,917	368,212	32.5	8.0	5.0	1.0	0.0	90.0	"Green house mode"
H	Melkweg 12, Egchel	194,927	368,248	32.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
I	Boerderijweg 2, Neer	194,088	367,772	31.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
J	Boerderijweg 4, Neer	193,852	367,883	30.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
K	Doorbrand 2, Neer	193,649	368,018	31.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
L	Doorbrand 1, Neer	193,630	368,211	30.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
M	Boerderijweg 6, Neer	193,147	368,151	30.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
N	Boerderijweg 8, Neer	192,778	368,317	31.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
O	Boerderijweg 10, Neer	192,529	368,434	31.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
P	Staldijk 1, Heibloem	192,120	368,942	32.1	8.0	5.0	1.0	0.0	90.0	"Green house mode"
Q	Staldijk 2, Heibloem	191,894	368,869	31.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
R	Haambergweg 11, Beringe	191,912	369,510	33.1	8.0	5.0	1.0	0.0	90.0	"Green house mode"
S	Haambergweg 10, Beringe	191,780	369,633	35.6	8.0	5.0	1.0	0.0	90.0	"Green house mode"
T	Rootsdijk 12, Panningen	193,835	369,879	30.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
U	Rootsdijk 11, Panningen	194,090	369,970	31.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
V	Hub 6, Panningen	194,992	370,052	33.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
W	Rootsdijk 5, Panningen	194,513	370,115	31.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"

To be continued on next page...



Scale 1:35,000
New WTG
Shadow receptor

SHADOW - Main Result

Calculation: 5xWT (RD140@110m)

...continued from previous page

No.	Name	X (east)	Y (north)	Z	Width	Height	Height a.g.l.	Degrees from south cw	Slope of window	Direction mode
		[m]	[m]	[m]	[m]	[m]	[m]	[°]	[°]	
X	Karissendijk 3, Egchel	195,200	369,690	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
Y	Boerderijweg 11, Neer	192,075	368,633	30.1	8.0	5.0	1.0	0.0	90.0	"Green house mode"
Z	Melkweg 9, Egchel	194,994	368,164	32.6	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AA	Melkweg 7, Egchel	195,048	368,128	32.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AB	Haambergweg 15, Beringe	191,440	369,942	33.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AC	Haambergweg 14, Beringe	191,469	370,022	34.1	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AD	Huiskensweg 10, Egchel	195,142	368,310	32.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AE	Huiskensweg 8, Egchel	195,172	368,368	32.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AF	Witdonk 20, Meijel	190,811	369,968	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AG	Vreedepeelweg 25, Beringe	191,663	370,887	33.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AH	Vreedepeelweg 23, Beringe	191,950	370,903	35.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AI	Vreedepeelweg 21, Beringe	192,140	370,904	33.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AJ	Vreedepeelweg 19, Beringe	192,439	370,921	32.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AK	Vreedepeelweg 22, Beringe	192,401	370,969	33.6	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AL	Vreedepeelweg 20, Beringe	192,470	370,958	34.6	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AM	Vreedepeelweg 18, Beringe	192,534	370,963	35.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AN	Vreedepeelweg 15, Beringe	192,736	370,940	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AO	Vreedepeelweg 13, Beringe	192,811	370,947	31.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AP	Koelenweg 1, Beringe	192,863	370,816	31.6	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AQ	Groeze 18, Beringe	193,101	370,826	32.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AR	Groeze 17, Beringe	193,287	370,779	32.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AS	Koelenweg 2, Beringe	192,863	370,734	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AT	Koelenweg 3, Beringe	192,867	370,681	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AU	Rongvenweg 8, Egchel	195,229	369,059	31.8	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AV	Boerderijweg 7, Neer	193,234	368,051	30.1	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AW	Boerderijweg 4a, Neer	193,607	367,957	30.5	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AX	Rongvenweg 5, Egchel	195,398	369,040	31.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AY	Rootsdijk 9, Panningen	194,129	369,956	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AZ	Rootsdijk 3, Panningen	194,481	370,169	31.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BA	Witdonk 33, Meijel	190,417	369,417	30.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BB	Marxweg 7, Meijel	190,318	369,841	31.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BC	Witdonk 19, Meijel	190,605	370,032	34.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BD	Witdonk 15, Meijel	190,393	370,042	30.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BE	Kanaaldijk 1, Meijel	190,400	370,457	34.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BF	Kanaaldijk 2, Meijel	190,564	370,523	32.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BG	Kanaaldijk 3, Meijel	190,835	370,589	35.8	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BH	Haambergweg 18, Beringe	191,153	370,834	33.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BI	Vreedepeelweg 35, Beringe	191,192	370,852	34.5	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BJ	Katsberg 30A, Meijel	190,977	370,947	35.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BK	Katsberg 30, Meijel	190,952	370,937	34.5	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BL	Katsberg 15, Meijel	190,791	370,984	33.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BM	Katsberg 26, Meijel	190,839	370,939	33.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BN	Katsberg 13, Meijel	190,745	370,989	34.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BO	Vreedepeelweg 9, Beringe	193,075	371,087	33.6	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BP	Vreedepeelweg 7, Beringe	193,159	371,150	34.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BQ	Vreedepeelweg 8/8A, Beringe	193,028	371,233	33.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BR	Vreedepeelweg 4, Beringe	193,213	371,245	35.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BS	Vreedepeelweg 2, Beringe	193,239	371,281	34.6	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BT	Vreedepeelweg 1, Beringe	193,255	371,245	34.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BU	Groeze 12, Beringe	193,519	371,021	32.8	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BV	Groeze 13/15, Beringe	193,390	370,791	32.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BW	Groeze 11, Beringe	193,457	370,796	32.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BX	Groeze 9, Beringe	193,592	370,815	32.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BY	Groeze 8/8A, Beringe	193,694	370,863	33.6	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BZ	Heibloemseweg 32, Panningen	194,084	370,765	33.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CA	Hondsheuvelstraat 3, Panningen	194,577	370,578	34.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CB	Hub 18, Panningen	194,632	370,489	32.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CC	Eemsestraat 13, Panningen	194,734	370,550	34.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CD	Hub 17A, Panningen	194,727	370,428	32.1	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CE	Hub 17, Panningen	194,816	370,386	33.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CF	Hub 16, Panningen	194,749	370,309	31.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CG	Rootsdijk 4, Panningen	194,636	370,294	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CH	Hub 13, Panningen	194,855	370,222	32.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CI	Hub 12, Panningen	194,914	370,186	33.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"

To be continued on next page...

SHADOW - Main Result

Calculation: 5xWT (RD140@110m)

...continued from previous page

No.	Name	X (east)	Y (north)	Z	Width	Height	Height a.g.l.	Degrees from south cw	Slope of window	Direction mode
		[m]		[m]	[m]	[m]	[m]	[°]	[°]	
CJ	Linderweg 12, Panningen	194,918	370,167	33.8	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CK	Linderweg 11, Panningen	194,958	370,162	33.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CL	Linderweg 9, Panningen	195,005	370,213	33.1	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CM	Hub 9, Panningen	194,969	370,116	34.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CN	Hub 7, Panningen	194,978	370,109	34.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CO	Hub 4, Panningen	195,103	370,002	32.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CP	Bakkersweg 1, Panningen	195,161	370,061	32.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CQ	Bakkersweg 10, Panningen	195,267	370,201	33.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CR	Hub 1, Panningen	195,183	369,934	31.8	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CS	Hoekerstraat 36 (historisch), Egchel	195,250	369,972	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CT	Hoekerstraat 36, Egchel	195,226	369,920	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CU	Hoekerstraat 34, Egchel	195,246	369,925	32.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CV	Hoekerstraat 32, Egchel	195,267	369,931	32.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CW	Hoekerstraat 30, Egchel	195,293	369,938	32.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CX	Hoekerstraat 28, Egchel	195,317	369,943	32.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CY	Hoekerstraat 26, Egchel	195,341	369,950	32.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CZ	Hoekerstraat 24, Egchel	195,396	369,958	33.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DA	Hoekerstraat 13, Egchel	195,419	369,912	33.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DB	Hoekerstraat 15, Egchel	195,400	369,907	33.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DC	Hoekerstraat 17, Egchel	195,263	369,884	32.6	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DD	Jacobusstraat 4, Egchel	195,435	369,877	33.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DE	Jacobusstraat 6, Egchel	195,444	369,836	32.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DF	Karissendijk 4, Egchel	195,282	369,780	33.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DG	Jacobusstraat 8, Egchel	195,455	369,796	33.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DH	Jacobusstraat 10, Egchel	195,469	369,763	33.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DI	Jacobusstraat 12, Egchel	195,480	369,731	33.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DJ	Jacobusstraat 14, Egchel	195,487	369,707	33.5	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DK	Jacobusstraat 16, Egchel	195,500	369,687	33.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DL	Marxweg 5, Meijel	190,204	369,849	30.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DM	Marxweg 3, Meijel	190,106	369,851	30.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DN	Marxweg 1, Meijel	189,982	369,871	30.8	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DO	Meijelseweg 21, Heibloem	189,950	369,393	30.5	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DP	Marxweg 2, Meijel	189,933	369,830	30.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DQ	Roggelsedijk 29, Meijel	189,848	369,745	30.6	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DR	Roggelsedijk 27, Meijel	189,827	369,834	31.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DS	Roggelsedijk 25, Meijel	189,775	369,937	31.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DT	Roggelsedijk 26, Meijel	189,738	369,938	31.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DU	Roggelsedijk 23, Meijel	189,758	369,966	31.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DV	Roggelsedijk 23A, Meijel	189,754	369,979	31.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DW	Roggelsedijk 21, Meijel	189,732	370,032	31.1	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DX	Roggelsedijk 24A, Meijel	189,653	370,049	31.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DY	Witdonk 3, Meijel	189,896	370,021	32.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DZ	Witdonk 5, Meijel	189,920	370,022	32.6	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EA	Witdonk 7, Meijel	189,990	370,025	32.8	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EB	Roggelsedijk 19, Meijel	189,683	370,155	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EC	Roggelsedijk 24, Meijel	189,631	370,139	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
ED	Roggelsedijk 22, Meijel	189,623	370,193	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EE	Roggelsedijk 17, Meijel	189,634	370,259	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EF	Roggelsedijk 20, Meijel	189,590	370,267	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EG	Roggelsedijk 18, Meijel	189,551	370,366	31.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EH	Roggelsedijk 15, Meijel	189,558	370,423	31.5	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EI	Roggelsedijk 13A, Meijel	189,553	370,433	31.5	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EJ	Krum 14, Meijel	189,886	370,334	31.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EK	Krum 12, Meijel	189,877	370,373	31.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EL	Krum 16, Meijel	189,881	370,419	31.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EM	Krum 10, Meijel	189,820	370,488	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EN	Krum 8, Meijel	189,728	370,436	30.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EO	Krum 5, Meijel	189,825	370,532	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EP	Katsberg 16, Meijel	190,415	370,687	31.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EQ	Krum 13, Meijel	189,806	370,806	32.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
ER	Krum 15, Meijel	189,799	370,918	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
ES	Krum 15B, Meijel	189,803	370,940	31.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
ET	Krum 15A, Meijel	189,802	370,930	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EU	Krum 19, Meijel	189,766	371,134	31.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"

To be continued on next page...

SHADOW - Main Result

Calculation: 5xWT (RD140@110m)

...continued from previous page

No.	Name	X (east)	Y (north)	Z	Width	Height	Height a.g.l.	Degrees from south cw	Slope of window	Direction mode
				[m]	[m]	[m]	[m]	[°]	[°]	
EV	Katsberg 8, Meijel	189,941	370,986	31.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EW	Krum 22, Meijel	189,782	371,215	32.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EX	Krum 21, Meijel	189,747	371,216	31.8	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EY	Katsberg 1A, Meijel	190,131	371,068	32.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EZ	Katsberg 3, Meijel	190,248	371,049	32.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FA	Heihorst 11, Meijel	189,963	371,405	32.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FB	Heihorst 12, Meijel	190,050	371,490	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FC	Katsberg 5, Meijel	190,358	370,970	32.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FD	Katsberg 12, Meijel	190,319	370,955	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FE	Katsberg 14, Meijel	190,400	370,936	32.8	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FF	Katsberg 14B, Meijel	190,450	370,946	33.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FG	Katsberg 7, Meijel	190,467	370,973	33.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FH	Katsberg 18, Meijel	190,547	370,941	33.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FI	Katsberg 20, Meijel	190,567	370,954	34.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FJ	Trinesweg 20, Meijel	190,588	371,073	33.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FK	Katsberg 22, Meijel	190,652	370,954	34.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FL	Boerderijweg 3, Neer	194,424	367,543	30.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FM	Boerderijweg 5, Neer	194,030	367,706	31.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FN	Hondsheuvelstraat 9, Panningen	194,510	370,702	34.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FO	Hondsheuvelstraat 8, Panningen	194,593	370,645	34.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FP	Roggelsedijk 16, Meijel	189,503	370,458	31.8	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FQ	Katsberg 1, Meijel	189,646	371,019	31.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FR	Vreedepeelweg 29, Beringe	191,392	370,890	36.5	8.0	5.0	1.0	0.0	90.0	"Green house mode"

Calculation Results

Shadow receptor

No.	Name	Shadow, worst case			Shadow, expected values
		Shadow hours	Shadow days	Max shadow	Shadow hours
		per year [h/year]	per year [days/year]	hours per day [h/day]	per year [h/year]
A	Karissendijk 11, Egchel	0:00	0	0:00	0:00
B	Karissendijk 14, Egchel	0:00	0	0:00	0:00
C	Haambergweg 2, Egchel	0:00	0	0:00	0:00
D	Karissendijk 10, Egchel	4:27	45	0:08	1:01
E	Karissendijk 9, Egchel	21:15	67	0:27	4:52
F	Melkweg 18, Egchel	0:00	0	0:00	0:00
G	Melkweg 11, Egchel	0:00	0	0:00	0:00
H	Melkweg 12, Egchel	0:00	0	0:00	0:00
I	Boerderijweg 2, Neer	0:00	0	0:00	0:00
J	Boerderijweg 4, Neer	0:00	0	0:00	0:00
K	Doorbrand 2, Neer	0:00	0	0:00	0:00
L	Doorbrand 1, Neer	0:00	0	0:00	0:00
M	Boerderijweg 6, Neer	0:00	0	0:00	0:00
N	Boerderijweg 8, Neer	0:00	0	0:00	0:00
O	Boerderijweg 10, Neer	8:14	53	0:13	2:29
P	Staldijk 1, Heibloem	13:03	65	0:22	3:52
Q	Staldijk 2, Heibloem	4:38	31	0:13	1:22
R	Haambergweg 11, Beringe	55:19	121	0:48	15:57
S	Haambergweg 10, Beringe	24:42	72	0:39	7:01
T	Rootsdijk 12, Panningen	41:35	103	0:48	9:50
U	Rootsdijk 11, Panningen	16:35	61	0:32	4:03
V	Hub 6, Panningen	3:38	31	0:14	0:45
W	Rootsdijk 5, Panningen	23:18	72	0:30	4:26
X	Karissendijk 3, Egchel	2:34	19	0:12	0:39
Y	Boerderijweg 11, Neer	0:40	14	0:04	0:11
Z	Melkweg 9, Egchel	0:00	0	0:00	0:00
AA	Melkweg 7, Egchel	0:00	0	0:00	0:00
AB	Haambergweg 15, Beringe	61:13	117	0:58	17:05
AC	Haambergweg 14, Beringe	62:11	113	1:00	16:22
AD	Huiskensweg 10, Egchel	0:05	5	0:01	0:01
AE	Huiskensweg 8, Egchel	3:33	40	0:08	0:48
AF	Witdonk 20, Meijel	6:33	37	0:20	1:48
AG	Vreedepeelweg 25, Beringe	68:16	106	0:52	12:51

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SHADOW - Main Result

Calculation: 5xWT (RD140@110m)

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No.	Name	Shadow, worst case		Shadow, expected values	
		Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
AH	Vreedepeelweg 23, Beringe	18:15	50	0:36	4:10
AI	Vreedepeelweg 21, Beringe	10:17	36	0:27	2:31
AJ	Vreedepeelweg 19, Beringe	3:56	24	0:16	0:57
AK	Vreedepeelweg 22, Beringe	4:11	24	0:17	1:01
AL	Vreedepeelweg 20, Beringe	3:17	22	0:14	0:47
AM	Vreedepeelweg 18, Beringe	2:30	19	0:12	0:36
AN	Vreedepeelweg 15, Beringe	15:43	54	0:27	2:54
AO	Vreedepeelweg 13, Beringe	18:20	62	0:26	3:24
AP	Koelenweg 1, Beringe	15:32	72	0:27	3:02
AQ	Groeze 18, Beringe	5:27	30	0:18	1:06
AR	Groeze 17, Beringe	2:56	22	0:13	0:40
AS	Koelenweg 2, Beringe	14:38	61	0:28	2:55
AT	Koelenweg 3, Beringe	14:44	60	0:30	3:01
AU	Rongvenweg 8, Egchel	3:10	21	0:13	0:51
AV	Boerderijweg 7, Neer	0:00	0	0:00	0:00
AW	Boerderijweg 4a, Neer	0:00	0	0:00	0:00
AX	Rongvenweg 5, Egchel	1:36	18	0:08	0:25
AY	Rootsdijk 9, Panningen	19:50	78	0:31	4:30
AZ	Rootsdijk 3, Panningen	12:32	54	0:22	2:26
BA	Witdonk 33, Meijel	1:16	17	0:06	0:22
BB	Marxweg 7, Meijel	16:09	69	0:23	4:53
BC	Witdonk 19, Meijel	36:28	90	0:41	10:55
BD	Witdonk 15, Meijel	50:28	117	0:41	14:53
BE	Kanaaldijk 1, Meijel	24:51	66	0:42	6:17
BF	Kanaaldijk 2, Meijel	42:13	79	0:53	9:38
BG	Kanaaldijk 3, Meijel	113:45	110	1:27	22:19
BH	Haambergweg 18, Beringe	99:59	82	1:25	16:04
BI	Vreedepeelweg 35, Beringe	91:10	78	1:24	14:44
BJ	Katsberg 30A, Meijel	0:00	0	0:00	0:00
BK	Katsberg 30, Meijel	54:21	76	0:56	7:58
BL	Katsberg 15, Meijel	53:36	82	0:51	7:32
BM	Katsberg 26, Meijel	64:25	84	0:56	9:10
BN	Katsberg 13, Meijel	55:14	84	0:49	7:38
BO	Vreedepeelweg 9, Beringe	5:36	48	0:14	1:03
BP	Vreedepeelweg 7, Beringe	3:10	31	0:10	0:36
BQ	Vreedepeelweg 8/8A, Beringe	3:31	21	0:13	0:36
BR	Vreedepeelweg 4, Beringe	1:54	29	0:07	0:21
BS	Vreedepeelweg 2, Beringe	1:29	26	0:06	0:16
BT	Vreedepeelweg 1, Beringe	1:24	22	0:06	0:16
BU	Groeze 12, Beringe	0:31	10	0:04	0:06
BV	Groeze 13/15, Beringe	8:31	45	0:18	1:37
BW	Groeze 11, Beringe	12:23	53	0:21	2:18
BX	Groeze 9, Beringe	9:16	64	0:16	1:45
BY	Groeze 8/8A, Beringe	4:17	43	0:12	0:49
BZ	Heibloemseweg 32, Panningen	0:31	11	0:04	0:06
CA	Hondsheuvellaan 3, Panningen	0:47	13	0:05	0:09
CB	Hub 18, Panningen	0:50	12	0:06	0:10
CC	Eemsestraat 13, Panningen	0:13	8	0:03	0:02
CD	Hub 17A, Panningen	0:39	12	0:05	0:08
CE	Hub 17, Panningen	7:05	45	0:13	1:17
CF	Hub 16, Panningen	10:41	54	0:17	1:59
CG	Rootsdijk 4, Panningen	8:14	44	0:18	1:32
CH	Hub 13, Panningen	5:46	43	0:16	1:08
CI	Hub 12, Panningen	4:21	36	0:14	0:51
CJ	Linderweg 12, Panningen	4:19	36	0:15	0:51
CK	Linderweg 11, Panningen	3:37	32	0:13	0:42
CL	Linderweg 9, Panningen	2:44	24	0:11	0:31
CM	Hub 9, Panningen	3:38	31	0:14	0:43
CN	Hub 7, Panningen	3:34	30	0:14	0:43
CO	Hub 4, Panningen	2:37	20	0:12	0:36
CP	Bakkersweg 1, Panningen	1:48	17	0:10	0:23
CQ	Bakkersweg 10, Panningen	0:43	12	0:05	0:08
CR	Hub 1, Panningen	2:05	18	0:10	0:30

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SHADOW - Main Result

Calculation: 5xWT (RD140@110m)

...continued from previous page

No.	Name	Shadow, worst case		Shadow, expected values	
		Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
CS	Hoekerstraat 36 (historisch), Egchel	1:26	15	0:08	0:21
CT	Hoekerstraat 36, Egchel	1:44	16	0:09	0:25
CU	Hoekerstraat 34, Egchel	1:34	16	0:09	0:23
CV	Hoekerstraat 32, Egchel	1:27	15	0:08	0:21
CW	Hoekerstraat 30, Egchel	1:12	14	0:07	0:17
CX	Hoekerstraat 28, Egchel	1:02	13	0:07	0:15
CY	Hoekerstraat 26, Egchel	0:52	12	0:06	0:12
CZ	Hoekerstraat 24, Egchel	0:38	12	0:05	0:09
DA	Hoekerstraat 13, Egchel	0:35	11	0:05	0:08
DB	Hoekerstraat 15, Egchel	0:39	11	0:05	0:09
DC	Hoekerstraat 17, Egchel	1:30	15	0:09	0:22
DD	Jacobusstraat 4, Egchel	0:31	10	0:05	0:07
DE	Jacobusstraat 6, Egchel	0:36	11	0:05	0:08
DF	Karissendijk 4, Egchel	1:33	15	0:09	0:22
DG	Jacobusstraat 8, Egchel	0:36	10	0:05	0:09
DH	Jacobusstraat 10, Egchel	0:38	11	0:05	0:09
DI	Jacobusstraat 12, Egchel	0:35	10	0:05	0:09
DJ	Jacobusstraat 14, Egchel	0:35	11	0:04	0:09
DK	Jacobusstraat 16, Egchel	0:32	10	0:04	0:08
DL	Marxweg 5, Meijel	26:40	84	0:29	8:01
DM	Marxweg 3, Meijel	18:48	73	0:25	5:36
DN	Marxweg 1, Meijel	8:47	41	0:20	2:36
DO	Meijelseweg 21, Heibloem	0:00	0	0:00	0:00
DP	Marxweg 2, Meijel	7:35	39	0:18	2:15
DQ	Roggelsedijk 29, Meijel	5:37	36	0:14	1:40
DR	Roggelsedijk 27, Meijel	4:40	30	0:14	1:23
DS	Roggelsedijk 25, Meijel	3:41	25	0:13	1:05
DT	Roggelsedijk 26, Meijel	3:11	23	0:12	0:56
DU	Roggelsedijk 23, Meijel	3:29	24	0:13	1:01
DV	Roggelsedijk 23A, Meijel	3:26	24	0:13	1:00
DW	Roggelsedijk 21, Meijel	3:05	23	0:12	0:54
DX	Roggelsedijk 24A, Meijel	2:12	20	0:10	0:38
DY	Witdonk 3, Meijel	5:33	30	0:17	1:37
DZ	Witdonk 5, Meijel	6:01	31	0:18	1:46
EA	Witdonk 7, Meijel	7:42	35	0:21	2:15
EB	Roggelsedijk 19, Meijel	2:35	20	0:11	0:44
EC	Roggelsedijk 24, Meijel	2:04	18	0:10	0:35
ED	Roggelsedijk 22, Meijel	2:00	18	0:10	0:34
EE	Roggelsedijk 17, Meijel	2:05	18	0:10	0:35
EF	Roggelsedijk 20, Meijel	1:44	16	0:09	0:29
EG	Roggelsedijk 18, Meijel	1:30	16	0:08	0:24
EH	Roggelsedijk 15, Meijel	1:31	16	0:08	0:23
EI	Roggelsedijk 13A, Meijel	1:28	15	0:08	0:22
EJ	Krum 14, Meijel	5:11	26	0:18	1:27
EK	Krum 12, Meijel	4:57	26	0:18	1:20
EL	Krum 16, Meijel	5:02	26	0:18	1:19
EM	Krum 10, Meijel	3:53	23	0:16	0:58
EN	Krum 8, Meijel	2:57	20	0:13	0:45
EO	Krum 5, Meijel	3:53	23	0:16	0:57
EP	Katsberg 16, Meijel	22:15	51	0:41	4:29
EQ	Krum 13, Meijel	2:59	21	0:13	0:37
ER	Krum 15, Meijel	2:45	19	0:13	0:31
ES	Krum 15B, Meijel	2:41	19	0:13	0:30
ET	Krum 15A, Meijel	2:44	20	0:13	0:31
EU	Krum 19, Meijel	1:54	18	0:10	0:21
EV	Katsberg 8, Meijel	4:10	25	0:16	0:47
EW	Krum 22, Meijel	1:43	17	0:09	0:17
EX	Krum 21, Meijel	1:27	15	0:08	0:15
EY	Katsberg 1A, Meijel	7:10	32	0:22	1:10
EZ	Katsberg 3, Meijel	10:39	40	0:26	1:38
FA	Heihorst 11, Meijel	2:50	24	0:11	0:24
FB	Heihorst 12, Meijel	4:06	34	0:12	0:33
FC	Katsberg 5, Meijel	15:39	48	0:32	2:29

To be continued on next page...

SHADOW - Main Result

Calculation: 5xWT (RD140@110m)

...continued from previous page

No.	Name	Shadow, worst case		Shadow, expected values	
		Shadow hours	Shadow days	Max shadow	Shadow hours
		per year [h/year]	per year [days/year]	hours per day [h/day]	per year [h/year]
	FD Katsberg 12, Meijel	13:59	43	0:31	2:20
	FE Katsberg 14, Meijel	18:32	52	0:35	2:59
	FF Katsberg 14B, Meijel	21:49	56	0:37	3:20
	FG Katsberg 7, Meijel	23:14	60	0:37	3:24
	FH Katsberg 18, Meijel	31:53	74	0:41	4:35
	FI Katsberg 20, Meijel	35:31	88	0:42	4:59
	FJ Trinesweg 20, Meijel	40:06	84	0:40	5:20
	FK Katsberg 22, Meijel	53:51	93	0:46	7:11
	FL Boerderijweg 3, Neer	0:00	0	0:00	0:00
	FM Boerderijweg 5, Neer	0:00	0	0:00	0:00
	FN Hondsheuvelstraat 9, Panningen	0:58	18	0:05	0:11
	FO Hondsheuvelstraat 8, Panningen	0:32	12	0:04	0:06
	FP Roggelsedijk 16, Meijel	1:04	14	0:07	0:16
	FQ Katsberg 1, Meijel	1:22	15	0:08	0:15
	FR Vreedepeelweg 29, Beringe	81:33	76	1:30	13:59

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

No.	Name	Worst case	Expected
		[h/year]	[h/year]
WT1	WT1	688:04	134:02
WT2	WT2	186:29	41:28
WT3	WT3	125:44	31:46
WT4	WT4	84:47	20:31
WT5	WT5	70:36	15:14

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 - Main Result

Calculation: 5xWT (RD140@140m)

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

5 °

Day step for calculation

1 days

Time step for calculation

1 minutes

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2.34	3.15	4.67	6.37	6.79	7.08	6.62	6.22	5.48	4.05	2.37	1.91

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
386	487	649	476	501	406	622	1,444	1,670	905	620	470	8,636

Idle start wind speed: Cut in wind speed from power curve

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: Grid data

Obstacles used in calculation

Eye height: 1.5 m

Grid resolution: 10.0 m

All coordinates are in

Dutch Stereo-RD/NAP 2008

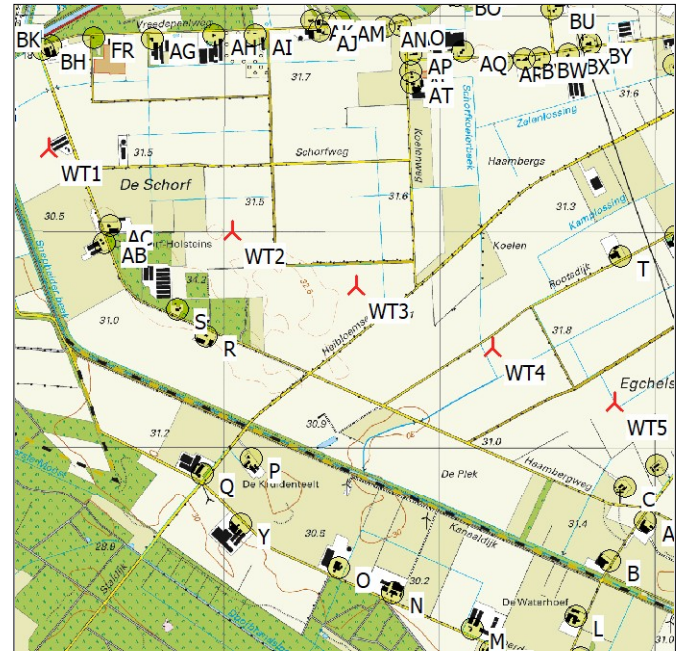
WTGs

	X (east)	Y (north)	Z	Row data/Description	WTG type			Power, rated	Rotor diameter	Hub height	Shadow data	
					Valid	Manufact.	Type-generator				Calculation distance	RPM
			[m]					[kW]	[m]	[m]	[m]	[RPM]
WT1	191,183	370,376	31.3	WT1	Yes	Typical	RD140-4,000	4,000	140.0	140.0	1,903	11.0
WT2	192,034	369,995	29.2	WT2	Yes	Typical	RD140-4,000	4,000	140.0	140.0	1,903	11.0
WT3	192,608	369,738	28.9	WT3	Yes	Typical	RD140-4,000	4,000	140.0	140.0	1,903	11.0
WT4	193,240	369,455	28.8	WT4	Yes	Typical	RD140-4,000	4,000	140.0	140.0	1,903	11.0
WT5	193,806	369,199	30.8	WT5	Yes	Typical	RD140-4,000	4,000	140.0	140.0	1,903	11.0

Shadow receptor-Input

No.	Name	X (east)	Y (north)	Z	Width	Height	Height a.g.l.	Degrees from south cw	Slope of window	Direction mode
				[m]	[m]	[m]	[m]	[°]	[°]	
A	Karissendijk 11, Egchel	193,948	368,647	31.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
B	Karissendijk 14, Egchel	193,784	368,464	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
C	Haambergweg 2, Egchel	193,858	368,807	31.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
D	Karissendijk 10, Egchel	194,005	368,912	31.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
E	Karissendijk 9, Egchel	194,173	368,938	30.1	8.0	5.0	1.0	0.0	90.0	"Green house mode"
F	Melkweg 18, Egchel	194,566	368,437	30.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
G	Melkweg 11, Egchel	194,917	368,212	32.5	8.0	5.0	1.0	0.0	90.0	"Green house mode"
H	Melkweg 12, Egchel	194,927	368,248	32.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
I	Boerderijweg 2, Neer	194,088	367,772	31.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
J	Boerderijweg 4, Neer	193,852	367,883	30.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
K	Doorbrand 2, Neer	193,649	368,018	31.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
L	Doorbrand 1, Neer	193,630	368,211	30.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
M	Boerderijweg 6, Neer	193,147	368,151	30.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
N	Boerderijweg 8, Neer	192,778	368,317	31.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
O	Boerderijweg 10, Neer	192,529	368,434	31.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
P	Staldijk 1, Heibloem	192,120	368,942	32.1	8.0	5.0	1.0	0.0	90.0	"Green house mode"
Q	Staldijk 2, Heibloem	191,894	368,869	31.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
R	Haambergweg 11, Beringe	191,912	369,510	33.1	8.0	5.0	1.0	0.0	90.0	"Green house mode"
S	Haambergweg 10, Beringe	191,780	369,633	35.6	8.0	5.0	1.0	0.0	90.0	"Green house mode"
T	Rootsdijk 12, Panningen	193,835	369,879	30.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
U	Rootsdijk 11, Panningen	194,090	369,970	31.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
V	Hub 6, Panningen	194,992	370,052	33.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
W	Rootsdijk 5, Panningen	194,513	370,115	31.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"

To be continued on next page...



New WTG

Scale 1:35,000
Shadow receptor

SHADOW - Main Result

Calculation: 5xWT (RD140@140m)

...continued from previous page

No.	Name	X (east)	Y (north)	Z	Width	Height	Height a.g.l.	Degrees from south cw	Slope of window	Direction mode
		[m]		[m]	[m]	[m]	[m]	[°]	[°]	
X	Karissendijk 3, Egchel	195,200	369,690	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
Y	Boerderijweg 11, Neer	192,075	368,633	30.1	8.0	5.0	1.0	0.0	90.0	"Green house mode"
Z	Melkweg 9, Egchel	194,994	368,164	32.6	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AA	Melkweg 7, Egchel	195,048	368,128	32.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AB	Haambergweg 15, Beringe	191,440	369,942	33.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AC	Haambergweg 14, Beringe	191,469	370,022	34.1	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AD	Huiskensweg 10, Egchel	195,142	368,310	32.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AE	Huiskensweg 8, Egchel	195,172	368,368	32.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AF	Witdonk 20, Meijel	190,811	369,968	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AG	Vreedepeelweg 25, Beringe	191,663	370,887	33.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AH	Vreedepeelweg 23, Beringe	191,950	370,903	35.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AI	Vreedepeelweg 21, Beringe	192,140	370,904	33.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AJ	Vreedepeelweg 19, Beringe	192,439	370,921	32.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AK	Vreedepeelweg 22, Beringe	192,401	370,969	33.6	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AL	Vreedepeelweg 20, Beringe	192,470	370,958	34.6	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AM	Vreedepeelweg 18, Beringe	192,534	370,963	35.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AN	Vreedepeelweg 15, Beringe	192,736	370,940	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AO	Vreedepeelweg 13, Beringe	192,811	370,947	31.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AP	Koelenweg 1, Beringe	192,863	370,816	31.6	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AQ	Groeze 18, Beringe	193,101	370,826	32.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AR	Groeze 17, Beringe	193,287	370,779	32.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AS	Koelenweg 2, Beringe	192,863	370,734	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AT	Koelenweg 3, Beringe	192,867	370,681	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AU	Rongvenweg 8, Egchel	195,229	369,059	31.8	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AV	Boerderijweg 7, Neer	193,234	368,051	30.1	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AW	Boerderijweg 4a, Neer	193,607	367,957	30.5	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AX	Rongvenweg 5, Egchel	195,398	369,040	31.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AY	Rootsdijk 9, Panningen	194,129	369,956	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AZ	Rootsdijk 3, Panningen	194,481	370,169	31.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BA	Witdonk 33, Meijel	190,417	369,417	30.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BB	Marxweg 7, Meijel	190,318	369,841	31.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BC	Witdonk 19, Meijel	190,605	370,032	34.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BD	Witdonk 15, Meijel	190,393	370,042	30.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BE	Kanaaldijk 1, Meijel	190,400	370,457	34.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BF	Kanaaldijk 2, Meijel	190,564	370,523	32.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BG	Kanaaldijk 3, Meijel	190,835	370,589	35.8	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BH	Haambergweg 18, Beringe	191,153	370,834	33.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BI	Vreedepeelweg 35, Beringe	191,192	370,852	34.5	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BJ	Katsberg 30A, Meijel	190,977	370,947	35.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BK	Katsberg 30, Meijel	190,952	370,937	34.5	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BL	Katsberg 15, Meijel	190,791	370,984	33.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BM	Katsberg 26, Meijel	190,839	370,939	33.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BN	Katsberg 13, Meijel	190,745	370,989	34.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BO	Vreedepeelweg 9, Beringe	193,075	371,087	33.6	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BP	Vreedepeelweg 7, Beringe	193,159	371,150	34.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BQ	Vreedepeelweg 8/8A, Beringe	193,028	371,233	33.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BR	Vreedepeelweg 4, Beringe	193,213	371,245	35.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BS	Vreedepeelweg 2, Beringe	193,239	371,281	34.6	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BT	Vreedepeelweg 1, Beringe	193,255	371,245	34.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BU	Groeze 12, Beringe	193,519	371,021	32.8	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BV	Groeze 13/15, Beringe	193,390	370,791	32.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BW	Groeze 11, Beringe	193,457	370,796	32.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BX	Groeze 9, Beringe	193,592	370,815	32.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BY	Groeze 8/8A, Beringe	193,694	370,863	33.6	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BZ	Heibloemseweg 32, Panningen	194,084	370,765	33.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CA	Hondsheuvelstraat 3, Panningen	194,577	370,578	34.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CB	Hub 18, Panningen	194,632	370,489	32.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CC	Eemsestraat 13, Panningen	194,734	370,550	34.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CD	Hub 17A, Panningen	194,727	370,428	32.1	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CE	Hub 17, Panningen	194,816	370,386	33.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CF	Hub 16, Panningen	194,749	370,309	31.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CG	Rootsdijk 4, Panningen	194,636	370,294	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CH	Hub 13, Panningen	194,855	370,222	32.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CI	Hub 12, Panningen	194,914	370,186	33.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"

To be continued on next page...

SHADOW - Main Result

Calculation: 5xWT (RD140@140m)

...continued from previous page

No.	Name	X (east)	Y (north)	Z	Width	Height	Height a.g.l.	Degrees from south cw	Slope of window	Direction mode
		[m]		[m]	[m]	[m]	[m]	[°]	[°]	
CJ	Linderweg 12, Panningen	194,918	370,167	33.8	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CK	Linderweg 11, Panningen	194,958	370,162	33.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CL	Linderweg 9, Panningen	195,005	370,213	33.1	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CM	Hub 9, Panningen	194,969	370,116	34.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CN	Hub 7, Panningen	194,978	370,109	34.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CO	Hub 4, Panningen	195,103	370,002	32.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CP	Bakkersweg 1, Panningen	195,161	370,061	32.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CQ	Bakkersweg 10, Panningen	195,267	370,201	33.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CR	Hub 1, Panningen	195,183	369,934	31.8	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CS	Hoekerstraat 36 (historisch), Egchel	195,250	369,972	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CT	Hoekerstraat 36, Egchel	195,226	369,920	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CU	Hoekerstraat 34, Egchel	195,246	369,925	32.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CV	Hoekerstraat 32, Egchel	195,267	369,931	32.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CW	Hoekerstraat 30, Egchel	195,293	369,938	32.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CX	Hoekerstraat 28, Egchel	195,317	369,943	32.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CY	Hoekerstraat 26, Egchel	195,341	369,950	32.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CZ	Hoekerstraat 24, Egchel	195,396	369,958	33.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DA	Hoekerstraat 13, Egchel	195,419	369,912	33.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DB	Hoekerstraat 15, Egchel	195,400	369,907	33.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DC	Hoekerstraat 17, Egchel	195,263	369,884	32.6	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DD	Jacobusstraat 4, Egchel	195,435	369,877	33.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DE	Jacobusstraat 6, Egchel	195,444	369,836	32.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DF	Karissendijk 4, Egchel	195,282	369,780	33.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DG	Jacobusstraat 8, Egchel	195,455	369,796	33.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DH	Jacobusstraat 10, Egchel	195,469	369,763	33.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DI	Jacobusstraat 12, Egchel	195,480	369,731	33.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DJ	Jacobusstraat 14, Egchel	195,487	369,707	33.5	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DK	Jacobusstraat 16, Egchel	195,500	369,687	33.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DL	Marxweg 5, Meijel	190,204	369,849	30.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DM	Marxweg 3, Meijel	190,106	369,851	30.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DN	Marxweg 1, Meijel	189,982	369,871	30.8	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DO	Meijelseweg 21, Heibloem	189,950	369,393	30.5	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DP	Marxweg 2, Meijel	189,933	369,830	30.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DQ	Roggelsedijk 29, Meijel	189,848	369,745	30.6	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DR	Roggelsedijk 27, Meijel	189,827	369,834	31.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DS	Roggelsedijk 25, Meijel	189,775	369,937	31.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DT	Roggelsedijk 26, Meijel	189,738	369,938	31.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DU	Roggelsedijk 23, Meijel	189,758	369,966	31.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DV	Roggelsedijk 23A, Meijel	189,754	369,979	31.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DW	Roggelsedijk 21, Meijel	189,732	370,032	31.1	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DX	Roggelsedijk 24A, Meijel	189,653	370,049	31.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DY	Witdonk 3, Meijel	189,896	370,021	32.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DZ	Witdonk 5, Meijel	189,920	370,022	32.6	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EA	Witdonk 7, Meijel	189,990	370,025	32.8	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EB	Roggelsedijk 19, Meijel	189,683	370,155	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EC	Roggelsedijk 24, Meijel	189,631	370,139	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
ED	Roggelsedijk 22, Meijel	189,623	370,193	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EE	Roggelsedijk 17, Meijel	189,634	370,259	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EF	Roggelsedijk 20, Meijel	189,590	370,267	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EG	Roggelsedijk 18, Meijel	189,551	370,366	31.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EH	Roggelsedijk 15, Meijel	189,558	370,423	31.5	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EI	Roggelsedijk 13A, Meijel	189,553	370,433	31.5	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EJ	Krum 14, Meijel	189,886	370,334	31.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EK	Krum 12, Meijel	189,877	370,373	31.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EL	Krum 16, Meijel	189,881	370,419	31.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EM	Krum 10, Meijel	189,820	370,488	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EN	Krum 8, Meijel	189,728	370,436	30.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EO	Krum 5, Meijel	189,825	370,532	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EP	Katsberg 16, Meijel	190,415	370,687	31.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EQ	Krum 13, Meijel	189,806	370,806	32.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
ER	Krum 15, Meijel	189,799	370,918	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
ES	Krum 15B, Meijel	189,803	370,940	31.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
ET	Krum 15A, Meijel	189,802	370,930	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EU	Krum 19, Meijel	189,766	371,134	31.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"

To be continued on next page...

SHADOW - Main Result

Calculation: 5xWT (RD140@140m)

...continued from previous page

No.	Name	X (east)	Y (north)	Z	Width	Height	Height a.g.l.	Degrees from south cw	Slope of window	Direction mode
				[m]	[m]	[m]	[m]	[°]	[°]	
EV	Katsberg 8, Meijel	189,941	370,986	31.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EW	Krum 22, Meijel	189,782	371,215	32.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EX	Krum 21, Meijel	189,747	371,216	31.8	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EY	Katsberg 1A, Meijel	190,131	371,068	32.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EZ	Katsberg 3, Meijel	190,248	371,049	32.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FA	Heihorst 11, Meijel	189,963	371,405	32.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FB	Heihorst 12, Meijel	190,050	371,490	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FC	Katsberg 5, Meijel	190,358	370,970	32.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FD	Katsberg 12, Meijel	190,319	370,955	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FE	Katsberg 14, Meijel	190,400	370,936	32.8	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FF	Katsberg 14B, Meijel	190,450	370,946	33.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FG	Katsberg 7, Meijel	190,467	370,973	33.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FH	Katsberg 18, Meijel	190,547	370,941	33.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FI	Katsberg 20, Meijel	190,567	370,954	34.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FJ	Trinesweg 20, Meijel	190,588	371,073	33.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FK	Katsberg 22, Meijel	190,652	370,954	34.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FL	Boerderijweg 3, Neer	194,424	367,543	30.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FM	Boerderijweg 5, Neer	194,030	367,706	31.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FN	Hondsheuvelstraat 9, Panningen	194,510	370,702	34.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FO	Hondsheuvelstraat 8, Panningen	194,593	370,645	34.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FP	Roggelsedijk 16, Meijel	189,503	370,458	31.8	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FQ	Katsberg 1, Meijel	189,646	371,019	31.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FR	Vreedepeelweg 29, Beringe	191,392	370,890	36.5	8.0	5.0	1.0	0.0	90.0	"Green house mode"

Calculation Results

Shadow receptor

		Shadow, worst case			Shadow, expected values
No.	Name	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
	A Karissendijk 11, Egchel	0:00	0	0:00	0:00
	B Karissendijk 14, Egchel	0:00	0	0:00	0:00
	C Haambergweg 2, Egchel	0:00	0	0:00	0:00
	D Karissendijk 10, Egchel	7:21	48	0:13	1:41
	E Karissendijk 9, Egchel	24:20	68	0:32	5:35
	F Melkweg 18, Egchel	0:00	0	0:00	0:00
	G Melkweg 11, Egchel	0:00	0	0:00	0:00
	H Melkweg 12, Egchel	0:00	0	0:00	0:00
	I Boerderijweg 2, Neer	0:00	0	0:00	0:00
	J Boerderijweg 4, Neer	0:00	0	0:00	0:00
	K Doorbrand 2, Neer	0:00	0	0:00	0:00
	L Doorbrand 1, Neer	0:00	0	0:00	0:00
	M Boerderijweg 6, Neer	0:00	0	0:00	0:00
	N Boerderijweg 8, Neer	0:00	0	0:00	0:00
	O Boerderijweg 10, Neer	11:23	54	0:18	3:27
	P Staldijk 1, Heibloem	24:23	94	0:28	7:13
	Q Staldijk 2, Heibloem	9:04	42	0:20	2:41
	R Haambergweg 11, Beringe	79:51	143	0:49	22:58
	S Haambergweg 10, Beringe	34:00	83	0:42	9:34
	T Rootsdijk 12, Panningen	75:57	159	0:47	16:30
	U Rootsdijk 11, Panningen	42:11	112	0:35	9:00
	V Hub 6, Panningen	7:45	44	0:21	1:41
	W Rootsdijk 5, Panningen	34:28	89	0:32	6:43
	X Karissendijk 3, Egchel	4:52	25	0:19	1:15
	Y Boerderijweg 11, Neer	2:31	25	0:11	0:44
	Z Melkweg 9, Egchel	0:00	0	0:00	0:00
	AA Melkweg 7, Egchel	0:00	0	0:00	0:00
	AB Haambergweg 15, Beringe	74:47	134	0:57	20:36
	AC Haambergweg 14, Beringe	72:33	124	0:59	19:05
	AD Huiskensweg 10, Egchel	0:24	15	0:02	0:05
	AE Huiskensweg 8, Egchel	5:40	42	0:12	1:17
	AF Witdonk 20, Meijel	11:16	50	0:26	3:05
	AG Vreedepeelweg 25, Beringe	76:03	118	0:51	14:26

To be continued on next page...

SHADOW - Main Result

Calculation: 5xWT (RD140@140m)

...continued from previous page

No.	Name	Shadow, worst case		Shadow, expected values	
		Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
AH	Vreedepeelweg 23, Beringe	23:37	55	0:38	5:30
AI	Vreedepeelweg 21, Beringe	14:29	41	0:32	3:33
AJ	Vreedepeelweg 19, Beringe	6:35	29	0:22	1:38
AK	Vreedepeelweg 22, Beringe	7:07	30	0:23	1:44
AL	Vreedepeelweg 20, Beringe	5:50	27	0:20	1:25
AM	Vreedepeelweg 18, Beringe	5:46	35	0:19	1:20
AN	Vreedepeelweg 15, Beringe	26:53	76	0:32	5:08
AO	Vreedepeelweg 13, Beringe	27:57	80	0:30	5:21
AP	Koelenweg 1, Beringe	22:17	83	0:31	4:28
AQ	Groeze 18, Beringe	8:59	36	0:24	1:49
AR	Groeze 17, Beringe	14:36	59	0:22	2:53
AS	Koelenweg 2, Beringe	21:21	74	0:32	4:24
AT	Koelenweg 3, Beringe	21:10	71	0:33	4:31
AU	Rongvenweg 8, Egchel	5:51	28	0:19	1:34
AV	Boerderijweg 7, Neer	0:00	0	0:00	0:00
AW	Boerderijweg 4a, Neer	0:00	0	0:00	0:00
AX	Rongvenweg 5, Egchel	3:36	22	0:15	0:58
AY	Rootsdijk 9, Panningen	46:54	118	0:39	9:49
AZ	Rootsdijk 3, Panningen	25:40	77	0:30	5:02
BA	Witdonk 33, Meijel	3:31	25	0:13	1:02
BB	Marxweg 7, Meijel	18:18	70	0:26	5:31
BC	Witdonk 19, Meijel	32:37	76	0:41	9:40
BD	Witdonk 15, Meijel	59:53	116	0:42	17:36
BE	Kanaaldijk 1, Meijel	32:05	73	0:43	8:09
BF	Kanaaldijk 2, Meijel	48:56	89	0:53	11:18
BG	Kanaaldijk 3, Meijel	111:06	102	1:25	22:56
BH	Haambergweg 18, Beringe	136:18	102	1:43	22:17
BI	Vreedepeelweg 35, Beringe	130:04	96	1:42	21:22
BJ	Katsberg 30A, Meijel	0:00	0	0:00	0:00
BK	Katsberg 30, Meijel	81:06	84	1:05	12:03
BL	Katsberg 15, Meijel	69:43	88	0:51	9:56
BM	Katsberg 26, Meijel	81:49	94	1:00	11:50
BN	Katsberg 13, Meijel	68:20	90	0:49	9:36
BO	Vreedepeelweg 9, Beringe	10:42	64	0:21	2:02
BP	Vreedepeelweg 7, Beringe	7:08	44	0:18	1:22
BQ	Vreedepeelweg 8/8A, Beringe	10:15	38	0:20	1:49
BR	Vreedepeelweg 4, Beringe	5:56	49	0:15	1:07
BS	Vreedepeelweg 2, Beringe	5:28	51	0:13	1:01
BT	Vreedepeelweg 1, Beringe	4:38	36	0:14	0:53
BU	Groeze 12, Beringe	2:22	23	0:11	0:29
BV	Groeze 13/15, Beringe	19:49	68	0:26	3:49
BW	Groeze 11, Beringe	22:04	74	0:26	4:14
BX	Groeze 9, Beringe	16:32	80	0:22	3:13
BY	Groeze 8/8A, Beringe	10:05	67	0:19	2:00
BZ	Heibloemseweg 32, Panningen	2:06	18	0:11	0:26
CA	Hondsheuvellaan 3, Panningen	3:04	24	0:13	0:35
CB	Hub 18, Panningen	2:54	22	0:13	0:35
CC	Eemsestraat 13, Panningen	1:43	16	0:10	0:21
CD	Hub 17A, Panningen	9:34	48	0:18	1:46
CE	Hub 17, Panningen	14:37	64	0:20	2:46
CF	Hub 16, Panningen	18:54	74	0:24	3:37
CG	Rootsdijk 4, Panningen	18:44	67	0:25	3:34
CH	Hub 13, Panningen	11:20	61	0:22	2:17
CI	Hub 12, Panningen	9:09	52	0:21	1:50
CJ	Linderweg 12, Panningen	9:02	50	0:21	1:50
CK	Linderweg 11, Panningen	7:52	47	0:20	1:36
CL	Linderweg 9, Panningen	5:41	32	0:18	1:06
CM	Hub 9, Panningen	7:53	45	0:20	1:39
CN	Hub 7, Panningen	7:43	44	0:21	1:37
CO	Hub 4, Panningen	5:00	25	0:19	1:10
CP	Bakkersweg 1, Panningen	4:04	24	0:17	0:55
CQ	Bakkersweg 10, Panningen	2:25	18	0:13	0:30
CR	Hub 1, Panningen	4:20	24	0:17	1:04

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SHADOW - Main Result

Calculation: 5xWT (RD140@140m)

...continued from previous page

No.	Name	Shadow, worst case		Max shadow hours per day [h/day]	Shadow, expected values	
		Shadow hours per year [h/year]	Shadow days per year [days/year]		Shadow hours per year [h/year]	Shadow hours per year [h/year]
CS	Hoekerstraat 36 (historisch), Egchel	3:27	22	0:15	0:51	
CT	Hoekerstraat 36, Egchel	3:47	23	0:16	0:55	
CU	Hoekerstraat 34, Egchel	3:31	22	0:15	0:51	
CV	Hoekerstraat 32, Egchel	3:19	21	0:15	0:48	
CW	Hoekerstraat 30, Egchel	3:07	21	0:14	0:45	
CX	Hoekerstraat 28, Egchel	2:50	20	0:13	0:41	
CY	Hoekerstraat 26, Egchel	2:35	19	0:13	0:38	
CZ	Hoekerstraat 24, Egchel	2:09	18	0:11	0:31	
DA	Hoekerstraat 13, Egchel	2:05	17	0:11	0:30	
DB	Hoekerstraat 15, Egchel	2:09	17	0:12	0:31	
DC	Hoekerstraat 17, Egchel	3:27	22	0:15	0:50	
DD	Jacobusstraat 4, Egchel	2:00	17	0:11	0:28	
DE	Jacobusstraat 6, Egchel	2:03	17	0:11	0:30	
DF	Karissendijk 4, Egchel	3:31	22	0:16	0:53	
DG	Jacobusstraat 8, Egchel	2:02	16	0:11	0:31	
DH	Jacobusstraat 10, Egchel	2:04	16	0:11	0:32	
DI	Jacobusstraat 12, Egchel	2:00	16	0:11	0:31	
DJ	Jacobusstraat 14, Egchel	1:59	17	0:11	0:30	
DK	Jacobusstraat 16, Egchel	1:56	16	0:10	0:30	
DL	Marxweg 5, Meijel	31:42	88	0:33	9:31	
DM	Marxweg 3, Meijel	30:18	83	0:30	9:03	
DN	Marxweg 1, Meijel	14:41	53	0:26	4:21	
DO	Meijelseweg 21, Heibloem	0:00	0	0:00	0:00	
DP	Marxweg 2, Meijel	13:15	52	0:24	3:56	
DQ	Roggelsedijk 29, Meijel	11:00	49	0:21	3:16	
DR	Roggelsedijk 27, Meijel	8:41	39	0:21	2:34	
DS	Roggelsedijk 25, Meijel	6:52	33	0:20	2:01	
DT	Roggelsedijk 26, Meijel	6:05	31	0:19	1:47	
DU	Roggelsedijk 23, Meijel	6:24	31	0:20	1:52	
DV	Roggelsedijk 23A, Meijel	6:17	30	0:20	1:50	
DW	Roggelsedijk 21, Meijel	5:50	29	0:19	1:42	
DX	Roggelsedijk 24A, Meijel	4:37	26	0:17	1:20	
DY	Witdonk 3, Meijel	9:17	37	0:24	2:43	
DZ	Witdonk 5, Meijel	9:55	37	0:25	2:54	
EA	Witdonk 7, Meijel	12:11	42	0:27	3:34	
EB	Roggelsedijk 19, Meijel	4:47	24	0:18	1:22	
EC	Roggelsedijk 24, Meijel	4:14	24	0:17	1:13	
ED	Roggelsedijk 22, Meijel	4:02	24	0:16	1:09	
EE	Roggelsedijk 17, Meijel	4:11	24	0:17	1:11	
EF	Roggelsedijk 20, Meijel	3:36	22	0:15	1:01	
EG	Roggelsedijk 18, Meijel	3:16	20	0:15	0:53	
EH	Roggelsedijk 15, Meijel	3:19	21	0:15	0:51	
EI	Roggelsedijk 13A, Meijel	3:12	20	0:14	0:49	
EJ	Krum 14, Meijel	8:15	32	0:25	2:18	
EK	Krum 12, Meijel	7:55	31	0:24	2:10	
EL	Krum 16, Meijel	7:48	32	0:24	2:03	
EM	Krum 10, Meijel	6:30	28	0:22	1:38	
EN	Krum 8, Meijel	5:20	26	0:19	1:23	
EO	Krum 5, Meijel	6:32	28	0:22	1:37	
EP	Katsberg 16, Meijel	27:16	55	0:41	5:35	
EQ	Krum 13, Meijel	5:19	25	0:20	1:06	
ER	Krum 15, Meijel	5:02	25	0:19	0:59	
ES	Krum 15B, Meijel	4:58	25	0:19	0:57	
ET	Krum 15A, Meijel	4:57	24	0:19	0:57	
EU	Krum 19, Meijel	3:58	22	0:17	0:44	
EV	Katsberg 8, Meijel	6:55	30	0:22	1:18	
EW	Krum 22, Meijel	3:51	22	0:16	0:40	
EX	Krum 21, Meijel	3:28	22	0:15	0:37	
EY	Katsberg 1A, Meijel	10:47	38	0:27	1:49	
EZ	Katsberg 3, Meijel	14:59	46	0:31	2:24	
FA	Heihorst 11, Meijel	5:40	30	0:18	0:48	
FB	Heihorst 12, Meijel	8:04	45	0:19	1:05	
FC	Katsberg 5, Meijel	20:31	52	0:34	3:22	

To be continued on next page...

SHADOW - Main Result

Calculation: 5xWT (RD140@140m)

...continued from previous page

No.	Name	Shadow, worst case		Shadow, expected values	
		Shadow hours	Shadow days	Max shadow	Shadow hours
		per year [h/year]	per year [days/year]	hours per day [h/day]	per year [h/year]
	FD Katsberg 12, Meijel	18:41	49	0:34	3:12
	FE Katsberg 14, Meijel	24:47	54	0:44	4:08
	FF Katsberg 14B, Meijel	28:39	60	0:45	4:34
	FG Katsberg 7, Meijel	30:12	64	0:44	4:36
	FH Katsberg 18, Meijel	38:59	74	0:49	5:50
	FI Katsberg 20, Meijel	42:19	80	0:48	6:08
	FJ Trinesweg 20, Meijel	50:37	89	0:40	6:49
	FK Katsberg 22, Meijel	63:04	104	0:51	8:35
	FL Boerderijweg 3, Neer	0:00	0	0:00	0:00
	FM Boerderijweg 5, Neer	0:00	0	0:00	0:00
	FN Hondsheuvelstraat 9, Panningen	3:40	28	0:13	0:42
	FO Hondsheuvelstraat 8, Panningen	2:41	22	0:12	0:31
	FP Roggelsedijk 16, Meijel	2:43	19	0:13	0:41
	FQ Katsberg 1, Meijel	3:07	20	0:15	0:35
	FR Vreedepeelweg 29, Beringe	118:29	94	1:37	20:17

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

No.	Name	Worst case	Expected
		[h/year]	[h/year]
WT1	WT1	859:35	170:02
WT2	WT2	263:05	57:15
WT3	WT3	203:58	49:26
WT4	WT4	121:36	29:58
WT5	WT5	161:23	32:57

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 - Main Result

Calculation: 5xWT (RD140@110m)+WP Neer

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

5 °

Day step for calculation

1 days

Time step for calculation

1 minutes

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2.34	3.15	4.67	6.37	6.79	7.08	6.62	6.22	5.48	4.05	2.37	1.91

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
386	487	649	476	501	406	622	1,444	1,670	905	620	470	8,636

Idle start wind speed: Cut in wind speed from power curve

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:

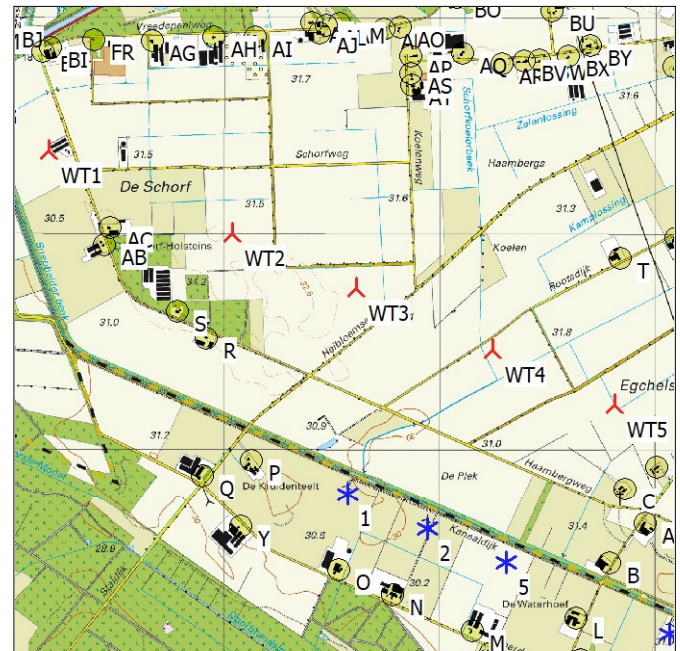
Height contours used: Grid data

Obstacles used in calculation

Eye height: 1.5 m

Grid resolution: 10.0 m

All coordinates are in
Dutch Stereo-RD/NAP 2008



▲ New WTG

Scale 1:35,000

★ Existing WTG

● Shadow receptor

WTGs

	X (east)	Y (north)	Z	Row data/Description	WTG type			Power, rated	Rotor diameter	Hub height	Shadow data	
					Valid	Manufact.	Type-generator				Calculation distance	RPM
			[m]					[kW]	[m]	[m]	[m]	[RPM]
1	192,568	368,784	29.9	1	Yes	ENERCON	E-82 E2-2,300	2,300	82.0	98.4	1,602	18.0
2	192,936	368,626	30.4	2	Yes	ENERCON	E-82 E2-2,300	2,300	82.0	98.4	1,602	18.0
3	194,063	368,141	29.8	3	Yes	ENERCON	E-82 E2-2,300	2,300	82.0	98.4	1,602	18.0
4	194,430	367,983	31.4	4	Yes	ENERCON	E-82 E2-2,300	2,300	82.0	98.4	1,602	18.0
5	193,303	368,468	30.0	5	Yes	ENERCON	E-92 2,3 MW-2,350	2,350	92.0	98.4	1,516	16.0
WT1	191,183	370,376	31.3	WT1	Yes	Typical	RD140-4,000	4,000	140.0	110.0	1,905	11.0
WT2	192,034	369,995	29.2	WT2	Yes	Typical	RD140-4,000	4,000	140.0	110.0	1,905	11.0
WT3	192,608	369,738	28.9	WT3	Yes	Typical	RD140-4,000	4,000	140.0	110.0	1,905	11.0
WT4	193,240	369,455	28.8	WT4	Yes	Typical	RD140-4,000	4,000	140.0	110.0	1,905	11.0
WT5	193,806	369,199	30.8	WT5	Yes	Typical	RD140-4,000	4,000	140.0	110.0	1,905	11.0

Shadow receptor-Input

No.	Name	X (east)	Y (north)	Z	Width	Height	Height a.g.l.	Degrees from south cw	Slope of window	Direction mode
				[m]	[m]	[m]	[m]	[°]	[°]	
A	Karissendijk 11, Egchel	193,948	368,647	31.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
B	Karissendijk 14, Egchel	193,784	368,464	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
C	Haambergweg 2, Egchel	193,858	368,807	31.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
D	Karissendijk 10, Egchel	194,005	368,912	31.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
E	Karissendijk 9, Egchel	194,173	368,938	30.1	8.0	5.0	1.0	0.0	90.0	"Green house mode"
F	Melkweg 18, Egchel	194,566	368,437	30.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
G	Melkweg 11, Egchel	194,917	368,212	32.5	8.0	5.0	1.0	0.0	90.0	"Green house mode"
H	Melkweg 12, Egchel	194,927	368,248	32.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
I	Boerderijweg 2, Neer	194,088	367,772	31.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
J	Boerderijweg 4, Neer	193,852	367,883	30.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
K	Doorbrand 2, Neer	193,649	368,018	31.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
L	Doorbrand 1, Neer	193,630	368,211	30.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
M	Boerderijweg 6, Neer	193,147	368,151	30.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
N	Boerderijweg 8, Neer	192,778	368,317	31.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
O	Boerderijweg 10, Neer	192,529	368,434	31.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
P	Staldijk 1, Heibloem	192,120	368,942	32.1	8.0	5.0	1.0	0.0	90.0	"Green house mode"
Q	Staldijk 2, Heibloem	191,894	368,869	31.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"

To be continued on next page...

SHADOW - Main Result

Calculation: 5xWT (RD140@110m)+WP Neer

...continued from previous page

No.	Name	X (east)	Y (north)	Z	Width	Height	Height a.g.l.	Degrees from south cw	Slope of window	Direction mode
		[m]	[m]	[m]	[m]	[m]	[m]	[°]	[°]	
R	Haambergweg 11, Beringe	191,912	369,510	33.1	8.0	5.0	1.0	0.0	90.0	"Green house mode"
S	Haambergweg 10, Beringe	191,780	369,633	35.6	8.0	5.0	1.0	0.0	90.0	"Green house mode"
T	Rootsdijk 12, Panningen	193,835	369,879	30.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
U	Rootsdijk 11, Panningen	194,090	369,970	31.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
V	Hub 6, Panningen	194,992	370,052	33.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
W	Rootsdijk 5, Panningen	194,513	370,115	31.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
X	Karissendijk 3, Egchel	195,200	369,690	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
Y	Boerderijweg 11, Neer	192,075	368,633	30.1	8.0	5.0	1.0	0.0	90.0	"Green house mode"
Z	Melkweg 9, Egchel	194,994	368,164	32.6	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AA	Melkweg 7, Egchel	195,048	368,128	32.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AB	Haambergweg 15, Beringe	191,440	369,942	33.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AC	Haambergweg 14, Beringe	191,469	370,022	34.1	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AD	Huiskensweg 10, Egchel	195,142	368,310	32.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AE	Huiskensweg 8, Egchel	195,172	368,368	32.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AF	Witdonk 20, Meijel	190,811	369,968	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AG	Vreedepeelweg 25, Beringe	191,663	370,887	33.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AH	Vreedepeelweg 23, Beringe	191,950	370,903	35.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AI	Vreedepeelweg 21, Beringe	192,140	370,904	33.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AJ	Vreedepeelweg 19, Beringe	192,439	370,921	32.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AK	Vreedepeelweg 22, Beringe	192,401	370,969	33.6	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AL	Vreedepeelweg 20, Beringe	192,470	370,958	34.6	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AM	Vreedepeelweg 18, Beringe	192,534	370,963	35.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AN	Vreedepeelweg 15, Beringe	192,736	370,940	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AO	Vreedepeelweg 13, Beringe	192,811	370,947	31.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AP	Koelenweg 1, Beringe	192,863	370,816	31.6	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AQ	Groeze 18, Beringe	193,101	370,826	32.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AR	Groeze 17, Beringe	193,287	370,779	32.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AS	Koelenweg 2, Beringe	192,863	370,734	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AT	Koelenweg 3, Beringe	192,867	370,681	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AU	Rongvenweg 8, Egchel	195,229	369,059	31.8	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AV	Boerderijweg 7, Neer	193,234	368,051	30.1	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AW	Boerderijweg 4a, Neer	193,607	367,957	30.5	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AX	Rongvenweg 5, Egchel	195,398	369,040	31.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AY	Rootsdijk 9, Panningen	194,129	369,956	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AZ	Rootsdijk 3, Panningen	194,481	370,169	31.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BA	Witdonk 33, Meijel	190,417	369,417	30.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BB	Marxweg 7, Meijel	190,318	369,841	31.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BC	Witdonk 19, Meijel	190,605	370,032	34.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BD	Witdonk 15, Meijel	190,393	370,042	30.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BE	Kanaaldijk 1, Meijel	190,400	370,457	34.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BF	Kanaaldijk 2, Meijel	190,564	370,523	32.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BG	Kanaaldijk 3, Meijel	190,835	370,589	35.8	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BH	Haambergweg 18, Beringe	191,153	370,834	33.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BI	Vreedepeelweg 35, Beringe	191,192	370,852	34.5	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BJ	Katsberg 30A, Meijel	190,977	370,947	35.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BK	Katsberg 30, Meijel	190,952	370,937	34.5	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BL	Katsberg 15, Meijel	190,791	370,984	33.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BM	Katsberg 26, Meijel	190,839	370,939	33.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BN	Katsberg 13, Meijel	190,745	370,989	34.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BO	Vreedepeelweg 9, Beringe	193,075	371,087	33.6	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BP	Vreedepeelweg 7, Beringe	193,159	371,150	34.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BQ	Vreedepeelweg 8/8A, Beringe	193,028	371,233	33.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BR	Vreedepeelweg 4, Beringe	193,213	371,245	35.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BS	Vreedepeelweg 2, Beringe	193,239	371,281	34.6	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BT	Vreedepeelweg 1, Beringe	193,255	371,245	34.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BU	Groeze 12, Beringe	193,519	371,021	32.8	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BV	Groeze 13/15, Beringe	193,390	370,791	32.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BW	Groeze 11, Beringe	193,457	370,796	32.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BX	Groeze 9, Beringe	193,592	370,815	32.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BY	Groeze 8/8A, Beringe	193,694	370,863	33.6	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BZ	Heibloemseweg 32, Panningen	194,084	370,765	33.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CA	Hondsheuvelstraat 3, Panningen	194,577	370,578	34.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CB	Hub 18, Panningen	194,632	370,489	32.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CC	Eemsestraat 13, Panningen	194,734	370,550	34.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"

To be continued on next page...

SHADOW - Main Result

Calculation: 5xWT (RD140@110m)+WP Neer

...continued from previous page

No.	Name	X (east)	Y (north)	Z	Width	Height	Height a.g.l.	Degrees from south cw	Slope of window	Direction mode
		[m]		[m]	[m]	[m]	[m]	[°]	[°]	
CD	Hub 17A, Panningen	194,727	370,428	32.1	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CE	Hub 17, Panningen	194,816	370,386	33.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CF	Hub 16, Panningen	194,749	370,309	31.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CG	Rootsdijk 4, Panningen	194,636	370,294	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CH	Hub 13, Panningen	194,855	370,222	32.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CI	Hub 12, Panningen	194,914	370,186	33.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CJ	Linderweg 12, Panningen	194,918	370,167	33.8	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CK	Linderweg 11, Panningen	194,958	370,162	33.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CL	Linderweg 9, Panningen	195,005	370,213	33.1	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CM	Hub 9, Panningen	194,969	370,116	34.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CN	Hub 7, Panningen	194,978	370,109	34.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CO	Hub 4, Panningen	195,103	370,002	32.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CP	Bakkersweg 1, Panningen	195,161	370,061	32.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CQ	Bakkersweg 10, Panningen	195,267	370,201	33.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CR	Hub 1, Panningen	195,183	369,934	31.8	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CS	Hoekerstraat 36 (historisch), Egchel	195,250	369,972	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CT	Hoekerstraat 36, Egchel	195,226	369,920	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CU	Hoekerstraat 34, Egchel	195,246	369,925	32.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CV	Hoekerstraat 32, Egchel	195,267	369,931	32.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CW	Hoekerstraat 30, Egchel	195,293	369,938	32.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CX	Hoekerstraat 28, Egchel	195,317	369,943	32.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CY	Hoekerstraat 26, Egchel	195,341	369,950	32.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CZ	Hoekerstraat 24, Egchel	195,396	369,958	33.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DA	Hoekerstraat 13, Egchel	195,419	369,912	33.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DB	Hoekerstraat 15, Egchel	195,400	369,907	33.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DC	Hoekerstraat 17, Egchel	195,263	369,884	32.6	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DD	Jacobusstraat 4, Egchel	195,435	369,877	33.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DE	Jacobusstraat 6, Egchel	195,444	369,836	32.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DF	Karissendijk 4, Egchel	195,282	369,780	33.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DG	Jacobusstraat 8, Egchel	195,455	369,796	33.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DH	Jacobusstraat 10, Egchel	195,469	369,763	33.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DI	Jacobusstraat 12, Egchel	195,480	369,731	33.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DJ	Jacobusstraat 14, Egchel	195,487	369,707	33.5	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DK	Jacobusstraat 16, Egchel	195,500	369,687	33.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DL	Marxweg 5, Meijel	190,204	369,849	30.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DM	Marxweg 3, Meijel	190,106	369,851	30.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DN	Marxweg 1, Meijel	189,982	369,871	30.8	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DO	Meijelseweg 21, Heibloem	189,950	369,393	30.5	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DP	Marxweg 2, Meijel	189,933	369,830	30.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DQ	Roggelsedijk 29, Meijel	189,848	369,745	30.6	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DR	Roggelsedijk 27, Meijel	189,827	369,834	31.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DS	Roggelsedijk 25, Meijel	189,775	369,937	31.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DT	Roggelsedijk 26, Meijel	189,738	369,938	31.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DU	Roggelsedijk 23, Meijel	189,758	369,966	31.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DV	Roggelsedijk 23A, Meijel	189,754	369,979	31.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DW	Roggelsedijk 21, Meijel	189,732	370,032	31.1	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DX	Roggelsedijk 24A, Meijel	189,653	370,049	31.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DY	Witdonk 3, Meijel	189,896	370,021	32.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DZ	Witdonk 5, Meijel	189,920	370,022	32.6	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EA	Witdonk 7, Meijel	189,990	370,025	32.8	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EB	Roggelsedijk 19, Meijel	189,683	370,155	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EC	Roggelsedijk 24, Meijel	189,631	370,139	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
ED	Roggelsedijk 22, Meijel	189,623	370,193	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EE	Roggelsedijk 17, Meijel	189,634	370,259	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EF	Roggelsedijk 20, Meijel	189,590	370,267	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EG	Roggelsedijk 18, Meijel	189,551	370,366	31.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EH	Roggelsedijk 15, Meijel	189,558	370,423	31.5	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EI	Roggelsedijk 13A, Meijel	189,553	370,433	31.5	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EJ	Krum 14, Meijel	189,886	370,334	31.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EK	Krum 12, Meijel	189,877	370,373	31.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EL	Krum 16, Meijel	189,881	370,419	31.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EM	Krum 10, Meijel	189,820	370,488	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EN	Krum 8, Meijel	189,728	370,436	30.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EO	Krum 5, Meijel	189,825	370,532	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"

To be continued on next page...

SHADOW - Main Result

Calculation: 5xWT (RD140@110m)+WP Neer

...continued from previous page

No.	Name	X (east)	Y (north)	Z	Width	Height	Height a.g.l.	Degrees from south cw	Slope of window	Direction mode
				[m]	[m]	[m]	[m]	[°]	[°]	
EP	Katsberg 16, Meijel	190,415	370,687	31.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EQ	Krum 13, Meijel	189,806	370,806	32.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
ER	Krum 15, Meijel	189,799	370,918	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
ES	Krum 15B, Meijel	189,803	370,940	31.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
ET	Krum 15A, Meijel	189,802	370,930	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EU	Krum 19, Meijel	189,766	371,134	31.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EV	Katsberg 8, Meijel	189,941	370,986	31.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EW	Krum 22, Meijel	189,782	371,215	32.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EX	Krum 21, Meijel	189,747	371,216	31.8	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EY	Katsberg 1A, Meijel	190,131	371,068	32.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EZ	Katsberg 3, Meijel	190,248	371,049	32.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FA	Heihorst 11, Meijel	189,963	371,405	32.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FB	Heihorst 12, Meijel	190,050	370,946	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FC	Katsberg 5, Meijel	190,358	370,970	32.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FD	Katsberg 12, Meijel	190,319	370,955	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FE	Katsberg 14, Meijel	190,400	370,936	32.8	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FF	Katsberg 14B, Meijel	190,450	370,946	33.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FG	Katsberg 7, Meijel	190,467	370,973	33.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FH	Katsberg 18, Meijel	190,547	370,941	33.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FI	Katsberg 20, Meijel	190,567	370,954	34.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FJ	Trinesweg 20, Meijel	190,588	371,073	33.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FK	Katsberg 22, Meijel	190,652	370,954	34.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FL	Boerderijweg 3, Neer	194,424	367,543	30.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FM	Boerderijweg 5, Neer	194,030	367,706	31.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FN	Hondsheuvelstraat 9, Panningen	194,510	370,702	34.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FO	Hondsheuvelstraat 8, Panningen	194,593	370,645	34.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FP	Roggelsedijk 16, Meijel	189,503	370,458	31.8	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FQ	Katsberg 1, Meijel	189,646	371,019	31.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FR	Vreedepeelweg 29, Beringe	191,392	370,890	36.5	8.0	5.0	1.0	0.0	90.0	"Green house mode"

Calculation Results

Shadow receptor

		Shadow, worst case			Shadow, expected values
No.	Name	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
A	Karissendijk 11, Egchel	42:36	119	0:46	8:27
B	Karissendijk 14, Egchel	124:42	173	1:16	23:59
C	Haambergweg 2, Egchel	27:24	85	0:36	6:49
D	Karissendijk 10, Egchel	18:29	107	0:28	4:27
E	Karissendijk 9, Egchel	28:22	108	0:27	6:42
F	Melkweg 18, Egchel	57:35	120	0:44	11:44
G	Melkweg 11, Egchel	31:34	79	0:38	8:16
H	Melkweg 12, Egchel	30:03	77	0:37	7:45
I	Boerderijweg 2, Neer	1:08	10	0:09	0:20
J	Boerderijweg 4, Neer	25:00	54	0:36	7:11
K	Doorbrand 2, Neer	86:39	144	0:50	24:37
L	Doorbrand 1, Neer	56:18	149	0:47	13:30
M	Boerderijweg 6, Neer	7:05	39	0:21	1:53
N	Boerderijweg 8, Neer	48:02	100	0:44	13:48
O	Boerderijweg 10, Neer	70:13	112	1:02	20:48
P	Staldijk 1, Heibloem	46:18	132	0:43	10:55
Q	Staldijk 2, Heibloem	22:12	93	0:31	5:37
R	Haambergweg 11, Beringe	70:48	189	0:48	17:37
S	Haambergweg 10, Beringe	31:31	118	0:39	7:44
T	Rootsdijk 12, Panningen	41:35	103	0:48	9:50
U	Rootsdijk 11, Panningen	16:35	61	0:32	4:03
V	Hub 6, Panningen	3:38	31	0:14	0:45
W	Rootsdijk 5, Panningen	23:18	72	0:30	4:26
X	Karissendijk 3, Egchel	2:34	19	0:12	0:39
Y	Boerderijweg 11, Neer	60:18	150	0:42	17:11
Z	Melkweg 9, Egchel	24:53	70	0:35	6:44
AA	Melkweg 7, Egchel	20:40	64	0:32	5:34

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SHADOW - Main Result

Calculation: 5xWT (RD140@110m)+WP Neer

...continued from previous page

No.	Name	Shadow, worst case		Shadow, expected values	
		Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
AB	Haambergweg 15, Beringe	61:13	117	0:58	17:05
AC	Haambergweg 14, Beringe	62:11	113	1:00	16:22
AD	Huiskensweg 10, Egchel	12:49	58	0:27	3:15
AE	Huiskensweg 8, Egchel	14:08	88	0:25	3:29
AF	Witdonk 20, Meijel	6:33	37	0:20	1:48
AG	Vreedepelweg 25, Beringe	68:16	106	0:52	12:51
AH	Vreedepelweg 23, Beringe	18:15	50	0:36	4:10
AI	Vreedepelweg 21, Beringe	10:17	36	0:27	2:31
AJ	Vreedepelweg 19, Beringe	3:56	24	0:16	0:57
AK	Vreedepelweg 22, Beringe	4:11	24	0:17	1:01
AL	Vreedepelweg 20, Beringe	3:17	22	0:14	0:47
AM	Vreedepelweg 18, Beringe	2:30	19	0:12	0:36
AN	Vreedepelweg 15, Beringe	15:43	54	0:27	2:54
AO	Vreedepelweg 13, Beringe	18:20	62	0:26	3:24
AP	Koelenweg 1, Beringe	15:32	72	0:27	3:02
AQ	Groeze 18, Beringe	5:27	30	0:18	1:06
AR	Groeze 17, Beringe	2:56	22	0:13	0:40
AS	Koelenweg 2, Beringe	14:38	61	0:28	2:55
AT	Koelenweg 3, Beringe	14:44	60	0:30	3:01
AU	Rongvenweg 8, Egchel	3:18	27	0:13	0:52
AV	Boerderijweg 7, Neer	10:37	48	0:24	2:59
AW	Boerderijweg 4a, Neer	69:20	124	0:45	20:18
AX	Rongvenweg 5, Egchel	2:36	41	0:08	0:37
AY	Rootsdijk 9, Panningen	19:50	78	0:31	4:30
AZ	Rootsdijk 3, Panningen	12:32	54	0:22	2:26
BA	Witdonk 33, Meijel	1:16	17	0:06	0:22
BB	Marxweg 7, Meijel	16:09	69	0:23	4:53
BC	Witdonk 19, Meijel	36:28	90	0:41	10:55
BD	Witdonk 15, Meijel	50:28	117	0:41	14:53
BE	Kanaaldijk 1, Meijel	24:51	66	0:42	6:17
BF	Kanaaldijk 2, Meijel	42:13	79	0:53	9:38
BG	Kanaaldijk 3, Meijel	113:45	110	1:27	22:19
BH	Haambergweg 18, Beringe	99:59	82	1:25	16:04
BI	Vreedepelweg 35, Beringe	91:10	78	1:24	14:44
BJ	Katsberg 30A, Meijel	0:00	0	0:00	0:00
BK	Katsberg 30, Meijel	54:21	76	0:56	7:58
BL	Katsberg 15, Meijel	53:36	82	0:51	7:32
BM	Katsberg 26, Meijel	64:25	84	0:56	9:10
BN	Katsberg 13, Meijel	55:14	84	0:49	7:38
BO	Vreedepelweg 9, Beringe	5:36	48	0:14	1:03
BP	Vreedepelweg 7, Beringe	3:10	31	0:10	0:36
BQ	Vreedepelweg 8/8A, Beringe	3:31	21	0:13	0:36
BR	Vreedepelweg 4, Beringe	1:54	29	0:07	0:21
BS	Vreedepelweg 2, Beringe	1:29	26	0:06	0:16
BT	Vreedepelweg 1, Beringe	1:24	22	0:06	0:16
BU	Groeze 12, Beringe	0:31	10	0:04	0:06
BV	Groeze 13/15, Beringe	8:31	45	0:18	1:37
BW	Groeze 11, Beringe	12:23	53	0:21	2:18
BX	Groeze 9, Beringe	9:16	64	0:16	1:45
BY	Groeze 8/8A, Beringe	4:17	43	0:12	0:49
BZ	Heibloemseweg 32, Panningen	0:31	11	0:04	0:06
CA	Hondsheuvelstraat 3, Panningen	0:47	13	0:05	0:09
CB	Hub 18, Panningen	0:50	12	0:06	0:10
CC	Eemsestraat 13, Panningen	0:13	8	0:03	0:02
CD	Hub 17A, Panningen	0:39	12	0:05	0:08
CE	Hub 17, Panningen	7:05	45	0:13	1:17
CF	Hub 16, Panningen	10:41	54	0:17	1:59
CG	Rootsdijk 4, Panningen	8:14	44	0:18	1:32
CH	Hub 13, Panningen	5:46	43	0:16	1:08
CI	Hub 12, Panningen	4:21	36	0:14	0:51
CJ	Linderweg 12, Panningen	4:19	36	0:15	0:51
CK	Linderweg 11, Panningen	3:37	32	0:13	0:42
CL	Linderweg 9, Panningen	2:44	24	0:11	0:31

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SHADOW - Main Result

Calculation: 5xWT (RD140@110m)+WP Neer

...continued from previous page

No.	Name	Shadow, worst case		Shadow, expected values	
		Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
CM	Hub 9, Panningen	3:38	31	0:14	0:43
CN	Hub 7, Panningen	3:34	30	0:14	0:43
CO	Hub 4, Panningen	2:37	20	0:12	0:36
CP	Bakkersweg 1, Panningen	1:48	17	0:10	0:23
CQ	Bakkersweg 10, Panningen	0:43	12	0:05	0:08
CR	Hub 1, Panningen	2:05	18	0:10	0:30
CS	Hoekerstraat 36 (historisch), Egchel	1:26	15	0:08	0:21
CT	Hoekerstraat 36, Egchel	1:44	16	0:09	0:25
CU	Hoekerstraat 34, Egchel	1:34	16	0:09	0:23
CV	Hoekerstraat 32, Egchel	1:27	15	0:08	0:21
CW	Hoekerstraat 30, Egchel	1:12	14	0:07	0:17
CX	Hoekerstraat 28, Egchel	1:02	13	0:07	0:15
CY	Hoekerstraat 26, Egchel	0:52	12	0:06	0:12
CZ	Hoekerstraat 24, Egchel	0:38	12	0:05	0:09
DA	Hoekerstraat 13, Egchel	0:35	11	0:05	0:08
DB	Hoekerstraat 15, Egchel	0:39	11	0:05	0:09
DC	Hoekerstraat 17, Egchel	1:30	15	0:09	0:22
DD	Jacobusstraat 4, Egchel	0:31	10	0:05	0:07
DE	Jacobusstraat 6, Egchel	0:36	11	0:05	0:08
DF	Karissendijk 4, Egchel	1:33	15	0:09	0:22
DG	Jacobusstraat 8, Egchel	0:36	10	0:05	0:09
DH	Jacobusstraat 10, Egchel	0:38	11	0:05	0:09
DI	Jacobusstraat 12, Egchel	0:35	10	0:05	0:09
DJ	Jacobusstraat 14, Egchel	0:35	11	0:04	0:09
DK	Jacobusstraat 16, Egchel	0:32	10	0:04	0:08
DL	Marxweg 5, Meijel	26:40	84	0:29	8:01
DM	Marxweg 3, Meijel	18:48	73	0:25	5:36
DN	Marxweg 1, Meijel	8:47	41	0:20	2:36
DO	Meijelseweg 21, Heibloem	0:00	0	0:00	0:00
DP	Marxweg 2, Meijel	7:35	39	0:18	2:15
DQ	Roggelsedijk 29, Meijel	5:37	36	0:14	1:40
DR	Roggelsedijk 27, Meijel	4:40	30	0:14	1:23
DS	Roggelsedijk 25, Meijel	3:41	25	0:13	1:05
DT	Roggelsedijk 26, Meijel	3:11	23	0:12	0:56
DU	Roggelsedijk 23, Meijel	3:29	24	0:13	1:01
DV	Roggelsedijk 23A, Meijel	3:26	24	0:13	1:00
DW	Roggelsedijk 21, Meijel	3:05	23	0:12	0:54
DX	Roggelsedijk 24A, Meijel	2:12	20	0:10	0:38
DY	Witdonk 3, Meijel	5:33	30	0:17	1:37
DZ	Witdonk 5, Meijel	6:01	31	0:18	1:46
EA	Witdonk 7, Meijel	7:42	35	0:21	2:15
EB	Roggelsedijk 19, Meijel	2:35	20	0:11	0:44
EC	Roggelsedijk 24, Meijel	2:04	18	0:10	0:35
ED	Roggelsedijk 22, Meijel	2:00	18	0:10	0:34
EE	Roggelsedijk 17, Meijel	2:05	18	0:10	0:35
EF	Roggelsedijk 20, Meijel	1:44	16	0:09	0:29
EG	Roggelsedijk 18, Meijel	1:30	16	0:08	0:24
EH	Roggelsedijk 15, Meijel	1:31	16	0:08	0:23
EI	Roggelsedijk 13A, Meijel	1:28	15	0:08	0:22
EJ	Krum 14, Meijel	5:11	26	0:18	1:27
EK	Krum 12, Meijel	4:57	26	0:18	1:20
EL	Krum 16, Meijel	5:02	26	0:18	1:19
EM	Krum 10, Meijel	3:53	23	0:16	0:58
EN	Krum 8, Meijel	2:57	20	0:13	0:45
EO	Krum 5, Meijel	3:53	23	0:16	0:57
EP	Katsberg 16, Meijel	22:15	51	0:41	4:29
EQ	Krum 13, Meijel	2:59	21	0:13	0:37
ER	Krum 15, Meijel	2:45	19	0:13	0:31
ES	Krum 15B, Meijel	2:41	19	0:13	0:30
ET	Krum 15A, Meijel	2:44	20	0:13	0:31
EU	Krum 19, Meijel	1:54	18	0:10	0:21
EV	Katsberg 8, Meijel	4:10	25	0:16	0:47
EW	Krum 22, Meijel	1:43	17	0:09	0:17

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SHADOW - Main Result

Calculation: 5xWT (RD140@110m)+WP Neer

...continued from previous page

No.	Name	Shadow, worst case		Shadow, expected values	
		Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
EX	Krum 21, Meijel	1:27	15	0:08	0:15
EY	Katsberg 1A, Meijel	7:10	32	0:22	1:10
EZ	Katsberg 3, Meijel	10:39	40	0:26	1:38
FA	Heihorst 11, Meijel	2:50	24	0:11	0:24
FB	Heihorst 12, Meijel	4:06	34	0:12	0:33
FC	Katsberg 5, Meijel	15:39	48	0:32	2:29
FD	Katsberg 12, Meijel	13:59	43	0:31	2:20
FE	Katsberg 14, Meijel	18:32	52	0:35	2:59
FF	Katsberg 14B, Meijel	21:49	56	0:37	3:20
FG	Katsberg 7, Meijel	23:14	60	0:37	3:24
FH	Katsberg 18, Meijel	31:53	74	0:41	4:35
FI	Katsberg 20, Meijel	35:31	88	0:42	4:59
FJ	Trinesweg 20, Meijel	40:06	84	0:40	5:20
FK	Katsberg 22, Meijel	53:51	93	0:46	7:11
FL	Boerderijweg 3, Neer	0:00	0	0:00	0:00
FM	Boerderijweg 5, Neer	0:00	0	0:00	0:00
FN	Hondsheuvelstraat 9, Panningen	0:58	18	0:05	0:11
FO	Hondsheuvelstraat 8, Panningen	0:32	12	0:04	0:06
FP	Roggelsedijk 16, Meijel	1:04	14	0:07	0:16
FQ	Katsberg 1, Meijel	1:22	15	0:08	0:15
FR	Vreedepeelweg 29, Beringe	81:33	76	1:30	13:59

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

No.	Name	Worst case [h/year]	Expected [h/year]
1	1	117:48	28:25
2	2	98:51	26:43
3	3	264:54	64:04
4	4	176:06	40:09
5	5	144:37	39:28
WT1	WT1	688:04	134:02
WT2	WT2	186:29	41:28
WT3	WT3	125:44	31:46
WT4	WT4	84:47	20:31
WT5	WT5	70:36	15:14

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 - Main Result

Calculation: 5xWT (RD140@140m)+WP Neer

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

5 °

Day step for calculation

1 days

Time step for calculation

1 minutes

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2.34	3.15	4.67	6.37	6.79	7.08	6.62	6.22	5.48	4.05	2.37	1.91

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
386	487	649	476	501	406	622	1,444	1,670	905	620	470	8,636

Idle start wind speed: Cut in wind speed from power curve

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:

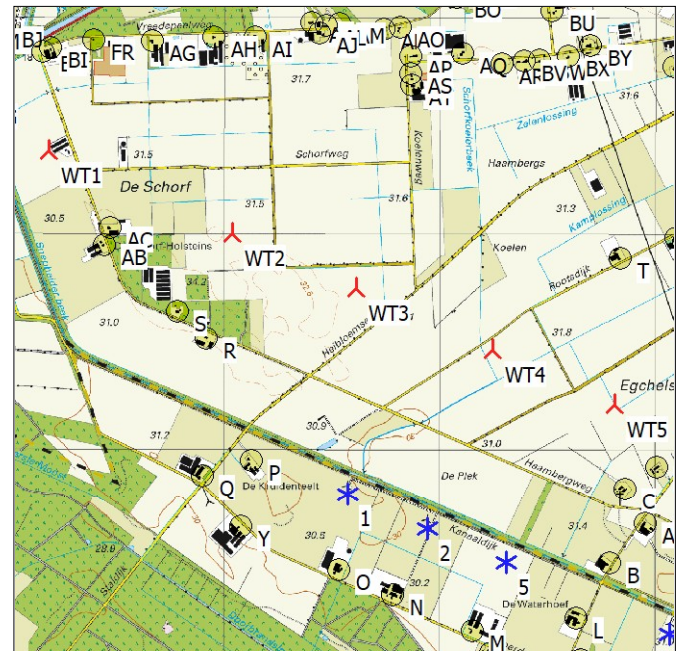
Height contours used: Grid data

Obstacles used in calculation

Eye height: 1.5 m

Grid resolution: 10.0 m

All coordinates are in
Dutch Stereo-RD/NAP 2008



▲ New WTG

Scale 1:35,000

★ Existing WTG

● Shadow receptor

WTGs

	X (east)	Y (north)	Z	Row data/Description	WTG type			Power, rated	Rotor diameter	Hub height	Shadow data	
					Valid	Manufact.	Type-generator				Calculation distance	RPM
			[m]					[kW]	[m]	[m]	[m]	[RPM]
1	192,568	368,784	29.9	1	Yes	ENERCON	E-82 E2-2,300	2,300	82.0	98.4	1,602	18.0
2	192,936	368,626	30.4	2	Yes	ENERCON	E-82 E2-2,300	2,300	82.0	98.4	1,602	18.0
3	194,063	368,141	29.8	3	Yes	ENERCON	E-82 E2-2,300	2,300	82.0	98.4	1,602	18.0
4	194,430	367,983	31.4	4	Yes	ENERCON	E-82 E2-2,300	2,300	82.0	98.4	1,602	18.0
5	193,303	368,468	30.0	5	Yes	ENERCON	E-92 2,3 MW-2,350	2,350	92.0	98.4	1,516	16.0
WT1	191,183	370,376	31.3	WT1	Yes	Typical	RD140-4,000	4,000	140.0	140.0	1,903	11.0
WT2	192,034	369,995	29.2	WT2	Yes	Typical	RD140-4,000	4,000	140.0	140.0	1,903	11.0
WT3	192,608	369,738	28.9	WT3	Yes	Typical	RD140-4,000	4,000	140.0	140.0	1,903	11.0
WT4	193,240	369,455	28.8	WT4	Yes	Typical	RD140-4,000	4,000	140.0	140.0	1,903	11.0
WT5	193,806	369,199	30.8	WT5	Yes	Typical	RD140-4,000	4,000	140.0	140.0	1,903	11.0

Shadow receptor-Input

No.	Name	X (east)	Y (north)	Z	Width	Height	Height a.g.l.	Degrees from south cw	Slope of window	Direction mode
				[m]	[m]	[m]	[m]	[°]	[°]	
A	Karissendijk 11, Egchel	193,948	368,647	31.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
B	Karissendijk 14, Egchel	193,784	368,464	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
C	Haambergweg 2, Egchel	193,858	368,807	31.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
D	Karissendijk 10, Egchel	194,005	368,912	31.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
E	Karissendijk 9, Egchel	194,173	368,938	30.1	8.0	5.0	1.0	0.0	90.0	"Green house mode"
F	Melkweg 18, Egchel	194,566	368,437	30.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
G	Melkweg 11, Egchel	194,917	368,212	32.5	8.0	5.0	1.0	0.0	90.0	"Green house mode"
H	Melkweg 12, Egchel	194,927	368,248	32.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
I	Boerderijweg 2, Neer	194,088	367,772	31.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
J	Boerderijweg 4, Neer	193,852	367,883	30.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
K	Doorbrand 2, Neer	193,649	368,018	31.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
L	Doorbrand 1, Neer	193,630	368,211	30.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
M	Boerderijweg 6, Neer	193,147	368,151	30.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
N	Boerderijweg 8, Neer	192,778	368,317	31.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
O	Boerderijweg 10, Neer	192,529	368,434	31.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
P	Staldijk 1, Heibloem	192,120	368,942	32.1	8.0	5.0	1.0	0.0	90.0	"Green house mode"
Q	Staldijk 2, Heibloem	191,894	368,869	31.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"

To be continued on next page...

SHADOW - Main Result

Calculation: 5xWT (RD140@140m)+WP Neer

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No.	Name	X (east)	Y (north)	Z	Width	Height	Height a.g.l.	Degrees from south cw	Slope of window	Direction mode
		[m]	[m]	[m]	[m]	[m]	[m]	[°]	[°]	
R	Haambergweg 11, Beringe	191,912	369,510	33.1	8.0	5.0	1.0	0.0	90.0	"Green house mode"
S	Haambergweg 10, Beringe	191,780	369,633	35.6	8.0	5.0	1.0	0.0	90.0	"Green house mode"
T	Rootsdijk 12, Panningen	193,835	369,879	30.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
U	Rootsdijk 11, Panningen	194,090	369,970	31.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
V	Hub 6, Panningen	194,992	370,052	33.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
W	Rootsdijk 5, Panningen	194,513	370,115	31.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
X	Karissendijk 3, Egchel	195,200	369,690	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
Y	Boerderijweg 11, Neer	192,075	368,633	30.1	8.0	5.0	1.0	0.0	90.0	"Green house mode"
Z	Melkweg 9, Egchel	194,994	368,164	32.6	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AA	Melkweg 7, Egchel	195,048	368,128	32.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AB	Haambergweg 15, Beringe	191,440	369,942	33.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AC	Haambergweg 14, Beringe	191,469	370,022	34.1	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AD	Huiskensweg 10, Egchel	195,142	370,310	32.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AE	Huiskensweg 8, Egchel	195,172	368,368	32.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AF	Witdonk 20, Meijel	190,811	369,968	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AG	Vreedepeelweg 25, Beringe	191,663	370,887	33.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AH	Vreedepeelweg 23, Beringe	191,950	370,903	35.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AI	Vreedepeelweg 21, Beringe	192,140	370,904	33.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AJ	Vreedepeelweg 19, Beringe	192,439	370,921	32.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AK	Vreedepeelweg 22, Beringe	192,401	370,969	33.6	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AL	Vreedepeelweg 20, Beringe	192,470	370,958	34.6	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AM	Vreedepeelweg 18, Beringe	192,534	370,963	35.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AN	Vreedepeelweg 15, Beringe	192,736	370,940	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AO	Vreedepeelweg 13, Beringe	192,811	370,947	31.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AP	Koelenweg 1, Beringe	192,863	370,816	31.6	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AQ	Groeze 18, Beringe	193,101	370,826	32.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AR	Groeze 17, Beringe	193,287	370,779	32.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AS	Koelenweg 2, Beringe	192,863	370,734	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AT	Koelenweg 3, Beringe	192,867	370,681	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AU	Rongvenweg 8, Egchel	195,229	369,059	31.8	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AV	Boerderijweg 7, Neer	193,234	368,051	30.1	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AW	Boerderijweg 4a, Neer	193,607	367,957	30.5	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AX	Rongvenweg 5, Egchel	195,398	369,040	31.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AY	Rootsdijk 9, Panningen	194,129	369,956	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
AZ	Rootsdijk 3, Panningen	194,481	370,169	31.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BA	Witdonk 33, Meijel	190,417	369,417	30.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BB	Marxweg 7, Meijel	190,318	369,841	31.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BC	Witdonk 19, Meijel	190,605	370,032	34.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BD	Witdonk 15, Meijel	190,393	370,042	30.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BE	Kanaaldijk 1, Meijel	190,400	370,457	34.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BF	Kanaaldijk 2, Meijel	190,564	370,523	32.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BG	Kanaaldijk 3, Meijel	190,835	370,589	35.8	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BH	Haambergweg 18, Beringe	191,153	370,834	33.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BI	Vreedepeelweg 35, Beringe	191,192	370,852	34.5	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BJ	Katsberg 30A, Meijel	190,977	370,947	35.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BK	Katsberg 30, Meijel	190,952	370,937	34.5	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BL	Katsberg 15, Meijel	190,791	370,984	33.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BM	Katsberg 26, Meijel	190,839	370,939	33.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BN	Katsberg 13, Meijel	190,745	370,989	34.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BO	Vreedepeelweg 9, Beringe	193,075	371,087	33.6	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BP	Vreedepeelweg 7, Beringe	193,159	371,150	34.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BQ	Vreedepeelweg 8/8A, Beringe	193,028	371,233	33.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BR	Vreedepeelweg 4, Beringe	193,213	371,245	35.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BS	Vreedepeelweg 2, Beringe	193,239	371,281	34.6	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BT	Vreedepeelweg 1, Beringe	193,255	371,245	34.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BU	Groeze 12, Beringe	193,519	371,021	32.8	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BV	Groeze 13/15, Beringe	193,390	370,791	32.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BW	Groeze 11, Beringe	193,457	370,796	32.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BX	Groeze 9, Beringe	193,592	370,815	32.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BY	Groeze 8/8A, Beringe	193,694	370,863	33.6	8.0	5.0	1.0	0.0	90.0	"Green house mode"
BZ	Heibloemseweg 32, Panningen	194,084	370,765	33.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CA	Hondsheuvelstraat 3, Panningen	194,577	370,578	34.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CB	Hub 18, Panningen	194,632	370,489	32.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CC	Eemsestraat 13, Panningen	194,734	370,550	34.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"

To be continued on next page...

SHADOW - Main Result

Calculation: 5xWT (RD140@140m)+WP Neer

...continued from previous page

No.	Name	X (east)	Y (north)	Z	Width	Height	Height a.g.l.	Degrees from south cw	Slope of window	Direction mode
		[m]		[m]	[m]	[m]	[m]	[°]	[°]	
CD	Hub 17A, Panningen	194,727	370,428	32.1	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CE	Hub 17, Panningen	194,816	370,386	33.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CF	Hub 16, Panningen	194,749	370,309	31.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CG	Rootsdijk 4, Panningen	194,636	370,294	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CH	Hub 13, Panningen	194,855	370,222	32.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CI	Hub 12, Panningen	194,914	370,186	33.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CJ	Linderweg 12, Panningen	194,918	370,167	33.8	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CK	Linderweg 11, Panningen	194,958	370,162	33.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CL	Linderweg 9, Panningen	195,005	370,213	33.1	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CM	Hub 9, Panningen	194,969	370,116	34.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CN	Hub 7, Panningen	194,978	370,109	34.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CO	Hub 4, Panningen	195,103	370,002	32.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CP	Bakkersweg 1, Panningen	195,161	370,061	32.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CQ	Bakkersweg 10, Panningen	195,267	370,201	33.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CR	Hub 1, Panningen	195,183	369,934	31.8	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CS	Hoekerstraat 36 (historisch), Egchel	195,250	369,972	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CT	Hoekerstraat 36, Egchel	195,226	369,920	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CU	Hoekerstraat 34, Egchel	195,246	369,925	32.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CV	Hoekerstraat 32, Egchel	195,267	369,931	32.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CW	Hoekerstraat 30, Egchel	195,293	369,938	32.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CX	Hoekerstraat 28, Egchel	195,317	369,943	32.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CY	Hoekerstraat 26, Egchel	195,341	369,950	32.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
CZ	Hoekerstraat 24, Egchel	195,396	369,958	33.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DA	Hoekerstraat 13, Egchel	195,419	369,912	33.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DB	Hoekerstraat 15, Egchel	195,400	369,907	33.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DC	Hoekerstraat 17, Egchel	195,263	369,884	32.6	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DD	Jacobusstraat 4, Egchel	195,435	369,877	33.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DE	Jacobusstraat 6, Egchel	195,444	369,836	32.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DF	Karissendijk 4, Egchel	195,282	369,780	33.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DG	Jacobusstraat 8, Egchel	195,455	369,796	33.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DH	Jacobusstraat 10, Egchel	195,469	369,763	33.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DI	Jacobusstraat 12, Egchel	195,480	369,731	33.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DJ	Jacobusstraat 14, Egchel	195,487	369,707	33.5	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DK	Jacobusstraat 16, Egchel	195,500	369,687	33.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DL	Marxweg 5, Meijel	190,204	369,849	30.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DM	Marxweg 3, Meijel	190,106	369,851	30.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DN	Marxweg 1, Meijel	189,982	369,871	30.8	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DO	Meijelseweg 21, Heibloem	189,950	369,393	30.5	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DP	Marxweg 2, Meijel	189,933	369,830	30.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DQ	Roggelsedijk 29, Meijel	189,848	369,745	30.6	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DR	Roggelsedijk 27, Meijel	189,827	369,834	31.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DS	Roggelsedijk 25, Meijel	189,775	369,937	31.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DT	Roggelsedijk 26, Meijel	189,738	369,938	31.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DU	Roggelsedijk 23, Meijel	189,758	369,966	31.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DV	Roggelsedijk 23A, Meijel	189,754	369,979	31.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DW	Roggelsedijk 21, Meijel	189,732	370,032	31.1	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DX	Roggelsedijk 24A, Meijel	189,653	370,049	31.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DY	Witdonk 3, Meijel	189,896	370,021	32.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
DZ	Witdonk 5, Meijel	189,920	370,022	32.6	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EA	Witdonk 7, Meijel	189,990	370,025	32.8	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EB	Roggelsedijk 19, Meijel	189,683	370,155	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EC	Roggelsedijk 24, Meijel	189,631	370,139	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
ED	Roggelsedijk 22, Meijel	189,623	370,193	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EE	Roggelsedijk 17, Meijel	189,634	370,259	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EF	Roggelsedijk 20, Meijel	189,590	370,267	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EG	Roggelsedijk 18, Meijel	189,551	370,366	31.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EH	Roggelsedijk 15, Meijel	189,558	370,423	31.5	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EI	Roggelsedijk 13A, Meijel	189,553	370,433	31.5	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EJ	Krum 14, Meijel	189,886	370,334	31.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EK	Krum 12, Meijel	189,877	370,373	31.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EL	Krum 16, Meijel	189,881	370,419	31.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EM	Krum 10, Meijel	189,820	370,488	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EN	Krum 8, Meijel	189,728	370,436	30.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EO	Krum 5, Meijel	189,825	370,532	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"

To be continued on next page...

SHADOW - Main Result

Calculation: 5xWT (RD140@140m)+WP Neer

...continued from previous page

No.	Name	X (east)	Y (north)	Z	Width	Height	Height a.g.l.	Degrees from south cw	Slope of window	Direction mode
				[m]	[m]	[m]	[m]	[°]	[°]	
EP	Katsberg 16, Meijel	190,415	370,687	31.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EQ	Krum 13, Meijel	189,806	370,806	32.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
ER	Krum 15, Meijel	189,799	370,918	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
ES	Krum 15B, Meijel	189,803	370,940	31.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
ET	Krum 15A, Meijel	189,802	370,930	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EU	Krum 19, Meijel	189,766	371,134	31.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EV	Katsberg 8, Meijel	189,941	370,986	31.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EW	Krum 22, Meijel	189,782	371,215	32.4	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EX	Krum 21, Meijel	189,747	371,216	31.8	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EY	Katsberg 1A, Meijel	190,131	371,068	32.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
EZ	Katsberg 3, Meijel	190,248	371,049	32.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FA	Heihorst 11, Meijel	189,963	371,405	32.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FB	Heihorst 12, Meijel	190,050	370,946	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FC	Katsberg 5, Meijel	190,358	370,970	32.3	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FD	Katsberg 12, Meijel	190,319	370,955	32.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FE	Katsberg 14, Meijel	190,400	370,936	32.8	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FF	Katsberg 14B, Meijel	190,450	370,946	33.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FG	Katsberg 7, Meijel	190,467	370,973	33.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FH	Katsberg 18, Meijel	190,547	370,941	33.9	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FI	Katsberg 20, Meijel	190,567	370,954	34.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FJ	Trinesweg 20, Meijel	190,588	371,073	33.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FK	Katsberg 22, Meijel	190,652	370,954	34.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FL	Boerderijweg 3, Neer	194,424	367,543	30.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FM	Boerderijweg 5, Neer	194,030	367,706	31.7	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FN	Hondsheuvelstraat 9, Panningen	194,510	370,702	34.0	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FO	Hondsheuvelstraat 8, Panningen	194,593	370,645	34.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FP	Roggelsedijk 16, Meijel	189,503	370,458	31.8	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FQ	Katsberg 1, Meijel	189,646	371,019	31.2	8.0	5.0	1.0	0.0	90.0	"Green house mode"
FR	Vreedepeelweg 29, Beringe	191,392	370,890	36.5	8.0	5.0	1.0	0.0	90.0	"Green house mode"

Calculation Results

Shadow receptor

		Shadow, worst case			Shadow, expected values	
No.	Name	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]	
	A Karissendijk 11, Egchel	42:36	119	0:46	8:27	
	B Karissendijk 14, Egchel	124:42	173	1:16	23:59	
	C Haambergweg 2, Egchel	27:24	85	0:36	6:49	
	D Karissendijk 10, Egchel	21:23	110	0:28	5:08	
	E Karissendijk 9, Egchel	31:27	109	0:32	7:25	
	F Melkweg 18, Egchel	57:35	120	0:44	11:44	
	G Melkweg 11, Egchel	31:34	79	0:38	8:16	
	H Melkweg 12, Egchel	30:03	77	0:37	7:45	
	I Boerderijweg 2, Neer	1:08	10	0:09	0:20	
	J Boerderijweg 4, Neer	25:00	54	0:36	7:11	
	K Doorbrand 2, Neer	86:39	144	0:50	24:37	
	L Doorbrand 1, Neer	56:18	149	0:47	13:30	
	M Boerderijweg 6, Neer	7:05	39	0:21	1:53	
	N Boerderijweg 8, Neer	48:02	100	0:44	13:48	
	O Boerderijweg 10, Neer	73:22	112	1:07	21:45	
	P Staldijk 1, Heibloem	57:38	161	0:43	14:14	
	Q Staldijk 2, Heibloem	26:38	104	0:31	6:56	
	R Haambergweg 11, Beringe	95:20	211	0:49	24:36	
	S Haambergweg 10, Beringe	40:49	129	0:42	10:18	
	T Rootsdijk 12, Panningen	75:57	159	0:47	16:30	
	U Rootsdijk 11, Panningen	42:11	112	0:35	9:00	
	V Hub 6, Panningen	7:45	44	0:21	1:41	
	W Rootsdijk 5, Panningen	34:28	89	0:32	6:43	
	X Karissendijk 3, Egchel	4:52	25	0:19	1:15	
	Y Boerderijweg 11, Neer	61:16	155	0:43	17:28	
	Z Melkweg 9, Egchel	24:53	70	0:35	6:44	
	AA Melkweg 7, Egchel	20:40	64	0:32	5:34	

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SHADOW - Main Result

Calculation: 5xWT (RD140@140m)+WP Neer

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No.	Name	Shadow, worst case		Shadow, expected values	
		Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
AB	Haambergweg 15, Beringe	74:47	134	0:57	20:36
AC	Haambergweg 14, Beringe	72:33	124	0:59	19:05
AD	Huiskensweg 10, Egchel	13:08	68	0:27	3:20
AE	Huiskensweg 8, Egchel	16:15	90	0:25	3:59
AF	Witdonk 20, Meijel	11:16	50	0:26	3:05
AG	Vreedepeelweg 25, Beringe	76:03	118	0:51	14:26
AH	Vreedepeelweg 23, Beringe	23:37	55	0:38	5:30
AI	Vreedepeelweg 21, Beringe	14:29	41	0:32	3:33
AJ	Vreedepeelweg 19, Beringe	6:35	29	0:22	1:38
AK	Vreedepeelweg 22, Beringe	7:07	30	0:23	1:44
AL	Vreedepeelweg 20, Beringe	5:50	27	0:20	1:25
AM	Vreedepeelweg 18, Beringe	5:46	35	0:19	1:20
AN	Vreedepeelweg 15, Beringe	26:53	76	0:32	5:08
AO	Vreedepeelweg 13, Beringe	27:57	80	0:30	5:21
AP	Koelenweg 1, Beringe	22:17	83	0:31	4:28
AQ	Groeze 18, Beringe	8:59	36	0:24	1:49
AR	Groeze 17, Beringe	14:36	59	0:22	2:53
AS	Koelenweg 2, Beringe	21:21	74	0:32	4:24
AT	Koelenweg 3, Beringe	21:10	71	0:33	4:31
AU	Rongvenweg 8, Egchel	5:59	34	0:19	1:36
AV	Boerderijweg 7, Neer	10:37	48	0:24	2:59
AW	Boerderijweg 4a, Neer	69:20	124	0:45	20:18
AX	Rongvenweg 5, Egchel	4:36	45	0:15	1:10
AY	Rootsdijk 9, Panningen	46:54	118	0:39	9:49
AZ	Rootsdijk 3, Panningen	25:40	77	0:30	5:02
BA	Witdonk 33, Meijel	3:31	25	0:13	1:02
BB	Marxweg 7, Meijel	18:18	70	0:26	5:31
BC	Witdonk 19, Meijel	32:37	76	0:41	9:40
BD	Witdonk 15, Meijel	59:53	116	0:42	17:36
BE	Kanaaldijk 1, Meijel	32:05	73	0:43	8:09
BF	Kanaaldijk 2, Meijel	48:56	89	0:53	11:18
BG	Kanaaldijk 3, Meijel	111:06	102	1:25	22:56
BH	Haambergweg 18, Beringe	136:18	102	1:43	22:17
BI	Vreedepeelweg 35, Beringe	130:04	96	1:42	21:22
BJ	Katsberg 30A, Meijel	0:00	0	0:00	0:00
BK	Katsberg 30, Meijel	81:06	84	1:05	12:03
BL	Katsberg 15, Meijel	69:43	88	0:51	9:56
BM	Katsberg 26, Meijel	81:49	94	1:00	11:50
BN	Katsberg 13, Meijel	68:20	90	0:49	9:36
BO	Vreedepeelweg 9, Beringe	10:42	64	0:21	2:02
BP	Vreedepeelweg 7, Beringe	7:08	44	0:18	1:22
BQ	Vreedepeelweg 8/8A, Beringe	10:15	38	0:20	1:49
BR	Vreedepeelweg 4, Beringe	5:56	49	0:15	1:07
BS	Vreedepeelweg 2, Beringe	5:28	51	0:13	1:01
BT	Vreedepeelweg 1, Beringe	4:38	36	0:14	0:53
BU	Groeze 12, Beringe	2:22	23	0:11	0:29
BV	Groeze 13/15, Beringe	19:49	68	0:26	3:49
BW	Groeze 11, Beringe	22:04	74	0:26	4:14
BX	Groeze 9, Beringe	16:32	80	0:22	3:13
BY	Groeze 8/8A, Beringe	10:05	67	0:19	2:00
BZ	Heibloemseweg 32, Panningen	2:06	18	0:11	0:26
CA	Hondsheuvelstraat 3, Panningen	3:04	24	0:13	0:35
CB	Hub 18, Panningen	2:54	22	0:13	0:35
CC	Eemsestraat 13, Panningen	1:43	16	0:10	0:21
CD	Hub 17A, Panningen	9:34	48	0:18	1:46
CE	Hub 17, Panningen	14:37	64	0:20	2:46
CF	Hub 16, Panningen	18:54	74	0:24	3:37
CG	Rootsdijk 4, Panningen	18:44	67	0:25	3:34
CH	Hub 13, Panningen	11:20	61	0:22	2:17
CI	Hub 12, Panningen	9:09	52	0:21	1:50
CJ	Linderweg 12, Panningen	9:02	50	0:21	1:50
CK	Linderweg 11, Panningen	7:52	47	0:20	1:36
CL	Linderweg 9, Panningen	5:41	32	0:18	1:06

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SHADOW - Main Result

Calculation: 5xWT (RD140@140m)+WP Neer

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No.	Name	Shadow, worst case		Shadow, expected values	
		Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
CM	Hub 9, Panningen	7:53	45	0:20	1:39
CN	Hub 7, Panningen	7:43	44	0:21	1:37
CO	Hub 4, Panningen	5:00	25	0:19	1:10
CP	Bakkersweg 1, Panningen	4:04	24	0:17	0:55
CQ	Bakkersweg 10, Panningen	2:25	18	0:13	0:30
CR	Hub 1, Panningen	4:20	24	0:17	1:04
CS	Hoekerstraat 36 (historisch), Egchel	3:27	22	0:15	0:51
CT	Hoekerstraat 36, Egchel	3:47	23	0:16	0:55
CU	Hoekerstraat 34, Egchel	3:31	22	0:15	0:51
CV	Hoekerstraat 32, Egchel	3:19	21	0:15	0:48
CW	Hoekerstraat 30, Egchel	3:07	21	0:14	0:45
CX	Hoekerstraat 28, Egchel	2:50	20	0:13	0:41
CY	Hoekerstraat 26, Egchel	2:35	19	0:13	0:38
CZ	Hoekerstraat 24, Egchel	2:09	18	0:11	0:31
DA	Hoekerstraat 13, Egchel	2:05	17	0:11	0:30
DB	Hoekerstraat 15, Egchel	2:09	17	0:12	0:31
DC	Hoekerstraat 17, Egchel	3:27	22	0:15	0:50
DD	Jacobusstraat 4, Egchel	2:00	17	0:11	0:28
DE	Jacobusstraat 6, Egchel	2:03	17	0:11	0:30
DF	Karissendijk 4, Egchel	3:31	22	0:16	0:53
DG	Jacobusstraat 8, Egchel	2:02	16	0:11	0:31
DH	Jacobusstraat 10, Egchel	2:04	16	0:11	0:32
DI	Jacobusstraat 12, Egchel	2:00	16	0:11	0:31
DJ	Jacobusstraat 14, Egchel	1:59	17	0:11	0:30
DK	Jacobusstraat 16, Egchel	1:56	16	0:10	0:30
DL	Marxweg 5, Meijel	31:42	88	0:33	9:31
DM	Marxweg 3, Meijel	30:18	83	0:30	9:03
DN	Marxweg 1, Meijel	14:41	53	0:26	4:21
DO	Meijelseweg 21, Heibloem	0:00	0	0:00	0:00
DP	Marxweg 2, Meijel	13:15	52	0:24	3:56
DQ	Roggelsedijk 29, Meijel	11:00	49	0:21	3:16
DR	Roggelsedijk 27, Meijel	8:41	39	0:21	2:34
DS	Roggelsedijk 25, Meijel	6:52	33	0:20	2:01
DT	Roggelsedijk 26, Meijel	6:05	31	0:19	1:47
DU	Roggelsedijk 23, Meijel	6:24	31	0:20	1:52
DV	Roggelsedijk 23A, Meijel	6:17	30	0:20	1:50
DW	Roggelsedijk 21, Meijel	5:50	29	0:19	1:42
DX	Roggelsedijk 24A, Meijel	4:37	26	0:17	1:20
DY	Witdonk 3, Meijel	9:17	37	0:24	2:43
DZ	Witdonk 5, Meijel	9:55	37	0:25	2:54
EA	Witdonk 7, Meijel	12:11	42	0:27	3:34
EB	Roggelsedijk 19, Meijel	4:47	24	0:18	1:22
EC	Roggelsedijk 24, Meijel	4:14	24	0:17	1:13
ED	Roggelsedijk 22, Meijel	4:02	24	0:16	1:09
EE	Roggelsedijk 17, Meijel	4:11	24	0:17	1:11
EF	Roggelsedijk 20, Meijel	3:36	22	0:15	1:01
EG	Roggelsedijk 18, Meijel	3:16	20	0:15	0:53
EH	Roggelsedijk 15, Meijel	3:19	21	0:15	0:51
EI	Roggelsedijk 13A, Meijel	3:12	20	0:14	0:49
EJ	Krum 14, Meijel	8:15	32	0:25	2:18
EK	Krum 12, Meijel	7:55	31	0:24	2:10
EL	Krum 16, Meijel	7:48	32	0:24	2:03
EM	Krum 10, Meijel	6:30	28	0:22	1:38
EN	Krum 8, Meijel	5:20	26	0:19	1:23
EO	Krum 5, Meijel	6:32	28	0:22	1:37
EP	Katsberg 16, Meijel	27:16	55	0:41	5:35
EQ	Krum 13, Meijel	5:19	25	0:20	1:06
ER	Krum 15, Meijel	5:02	25	0:19	0:59
ES	Krum 15B, Meijel	4:58	25	0:19	0:57
ET	Krum 15A, Meijel	4:57	24	0:19	0:57
EU	Krum 19, Meijel	3:58	22	0:17	0:44
EV	Katsberg 8, Meijel	6:55	30	0:22	1:18
EW	Krum 22, Meijel	3:51	22	0:16	0:40

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SHADOW - Main Result

Calculation: 5xWT (RD140@140m)+WP Neer

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No.	Name	Shadow, worst case		Shadow, expected values	
		Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
EX	Krum 21, Meijel	3:28	22	0:15	0:37
EY	Katsberg 1A, Meijel	10:47	38	0:27	1:49
EZ	Katsberg 3, Meijel	14:59	46	0:31	2:24
FA	Heihorst 11, Meijel	5:40	30	0:18	0:48
FB	Heihorst 12, Meijel	8:04	45	0:19	1:05
FC	Katsberg 5, Meijel	20:31	52	0:34	3:22
FD	Katsberg 12, Meijel	18:41	49	0:34	3:12
FE	Katsberg 14, Meijel	24:47	54	0:44	4:08
FF	Katsberg 14B, Meijel	28:39	60	0:45	4:34
FG	Katsberg 7, Meijel	30:12	64	0:44	4:36
FH	Katsberg 18, Meijel	38:59	74	0:49	5:50
FI	Katsberg 20, Meijel	42:19	80	0:48	6:08
FJ	Trinesweg 20, Meijel	50:37	89	0:40	6:49
FK	Katsberg 22, Meijel	63:04	104	0:51	8:35
FL	Boerderijweg 3, Neer	0:00	0	0:00	0:00
FM	Boerderijweg 5, Neer	0:00	0	0:00	0:00
FN	Hondsheuvelstraat 9, Panningen	3:40	28	0:13	0:42
FO	Hondsheuvelstraat 8, Panningen	2:41	22	0:12	0:31
FP	Roggelsedijk 16, Meijel	2:43	19	0:13	0:41
FQ	Katsberg 1, Meijel	3:07	20	0:15	0:35
FR	Vreedepeelweg 29, Beringe	118:29	94	1:37	20:17

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

No.	Name	Worst case [h/year]	Expected [h/year]
1	1	117:48	28:25
2	2	98:51	26:43
3	3	264:54	64:04
4	4	176:06	40:09
5	5	144:37	39:28
WT1	WT1	859:35	170:02
WT2	WT2	263:05	57:15
WT3	WT3	203:58	49:26
WT4	WT4	121:36	29:58
WT5	WT5	161:23	32:57

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.