

**Appendix F**

**Shadow Flicker Modeling for the  
Pleasant Valley Repower Project**



**ReGenerate**  
RENEWABLE ENERGY CONSULTING

# Shadow Flicker Assessment

PROJECT: PLEASANT VALLEY REPOWER (MN)

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## Revision History

Issue	Date	Revision Purpose
1	17-Jan-22	Original
2	28-Jan-22	Minor Report Edits
3	08-Mar-22	Updated WTG Capacity

## 1. Introduction

The existing Pleasant Valley Wind Farm is being repowered, as the Pleasant Valley Repower Wind Project (Repower Project) by Xcel Energy (Xcel) in southeastern Minnesota. Merjent (on behalf of Xcel) has retained ReGenerate Consulting (ReGenerate) to carry out an independent analysis of the shadow flicker effects caused by the proposed Repower Project.

The objective of this assessment is to predict the total amount of shadow flicker generated by the project at all receptors within or near the project area and in accordance with any applicable regulations as described in further detail later in the report. This report describes the Repower Project site, modeling methodology and results of the analysis.

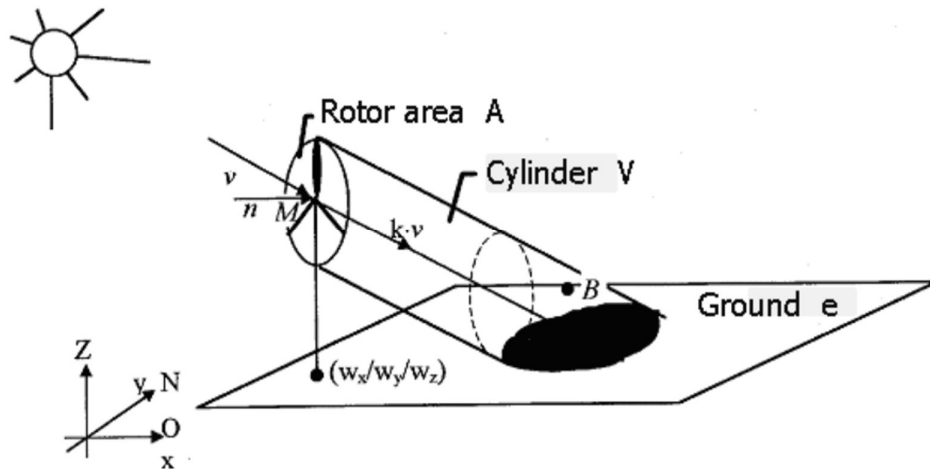
Appendix I shows the spatial mapping for shadow flicker results. Appendix II shows turbine coordinates provided for Pleasant Valley. Appendix III shows the results at each receptor analyzed for this study.

ReGenerate Consulting is an independent engineering consulting agency. The principal investigator for this report, Chris Nuckols, has 20-years' engineering and management experience and 15-years' of wind and solar resource assessment experience working for renewable energy developers, owners, and OEMs, He has provided engineering support to more than 100 renewable energy projects large and small, on five continents.

## 2. Background

The cumulative effects of turbine generated shadow flicker throughout the Repower Project area were studied to determine the impact on sensitive receptors. This effect occurs when wind turbine blades cast a moving shadow across the ground and nearby structures; this is perceived as a flickering effect due to the constant rotation of the blades. Flicker occurs when the following conditions are met: turbine is operating, sun is shining with insignificant cloud cover, turbine blades are positioned directly between the sun and receptor, and the receptor is close enough to distinguish the shadow created.

Calculation of potential shadow impact is carried out by simulating the position of the sun relative to the turbine rotor swept area with the resulting shadow calculated in steps of 1 minute throughout a complete year. If the shadow at any time casts a shadow reflection on the window defined for the receptor, this step will be registered as 1 minute of potential shadow impact. Information required in this calculation includes position of wind turbines, turbine hub height and rotor diameter, position of receptor, terrain elevation, window information (height, size, azimuth, and tilt), time zone and daylight-saving time information and simulation model which holds information about the earth's orbit and rotation relative to the sun. A diagram of this simulation is presented in Figure 1 below.



**Figure 1: Diagram of Shadow Flicker Model Simulation [1]**

Available scientific evidence suggests that shadow flicker impact from wind turbines is unlikely to affect human health. [2] It can however be considered an annoyance for homeowners near wind turbines.

### 3. Project Regulations

There are no applicable state or local regulations establishing a shadow flicker limit. [3] Recently, the Minnesota Public Utilities Commission has begun including a Shadow Flicker Mitigation Plan for receptors with more than 30 hours/year of expected shadow flicker impacts.

### 4. Project Details

The Repower Project is located near Sargeant, Minnesota in agricultural land consisting mostly of rolling hills. There are scattered dwellings, farm buildings and trees throughout the project area.

Merjent provided ReGenerate with the coordinates of turbines and receptors for the Repower Project. The turbine configuration for the Repower Project features 100 V110-2.2MW turbines at 95 m hub-height. Turbine coordinates provided for the Repower Project are shown in Appendix II. Coordinates for individual receptors can be found in Appendix III.

Neighboring projects that are currently operational were reviewed as part of this analysis based upon the U.S. Wind Turbine Database by USGS. [4] The effect of turbines within 2 miles of the Repower Project were included in the calculation as well. The table below shows these nearby projects and their turbine configuration.

Grand Meadow	Wapsipinicon
13x GE 1.6-97 h80 7x GE 1.6-91 h80	24x GE 1.5-77 h80

**Table 1: Neighboring Wind Farms Considered in Study**

## 5. Modeling Procedures

ReGenerate used the WindPRO software [1] to model shadow flicker for this project. Modeling assumptions for the shadow flicker analysis include:

- Turbine is operating 100% of the time.
- Flicker is modeled out to ten times the rotor diameter from each respective turbine.
- Neighboring projects within 2 miles of the Repower Project were included in modeling.
- Flicker is ignored if sun is less than 3° above horizon.
- Default observer eye level is 1.5 m.
- Receptors are perpendicular to all turbines, also known as greenhouse mode.
- Monthly sunshine probability has been modeled from nearest meteorological stations.
- Data source for monthly sunshine hours was from average of Minneapolis, MN and Des Moines, IA locations with data from 1981 – 2010 annual climate normal.
- Turbine orientation is considered.
- Obstacles (like trees or buildings) are not considered.

Based on the assumptions above, this model is likely to produce estimates higher than those which will be experienced.

ReGenerate studied nearby meteorological reference stations available from usclimatedata.com (USCD) historical norms and from the Global Historical Climatology Network (GHCN) for this analysis; see the table below. [5,6]

Station	State	Data Source	Average Sunshine [hr/day]	Distance from Project [km]
MINNEAPOLIS-ST. PAUL	MN	USCD	7.1	138
SIoux FALLS	SD	GHCN	7.0	318
DES MOINES	IA	USCD	7.4	251
DES MOINES	IA	GHCN	7.4	251

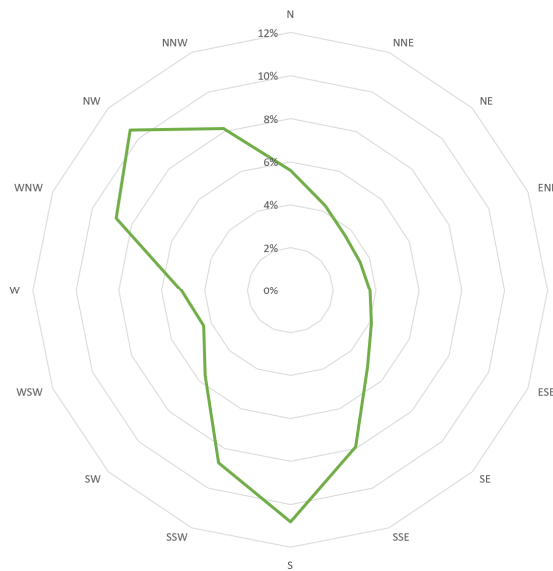
**Table 2: Meteorological Reference Stations**

The Sioux Falls station was closest to the project area, but exhibited numerous days of erroneous data and was therefore excluded from the analysis. Based on the similar proximity and mid-range of the two data sources in terms of solar resource, the average of the Minneapolis-St. Paul and Des Moines meteorological stations was chosen as most representative. Monthly average sunshine hours per month used in modeling are shown in the table below.

Average Sunshine [hr/month]											
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
149	165	202	227	274	307	340	297	239	202	127	121

**Table 3: Average Sunshine Hours per Month**

The wind direction frequency was considered to account for turbine orientation of the rotor area relative to the sun. This data was taken from local meteorological data adjusted to project hub height. The wind frequency rose is shown in the figure below.



**Figure 2: Wind Frequency Rose for Project**

This model is still likely to produce estimates higher than those which will be experienced. Factors that will lower the impact, but not modeled include:

- Availability of the turbines.
- Turbines not operating below cut-in and above cut-out wind speeds.
- The impact of obstacles (like trees or buildings).
- Dust or aerosols in the air which reduce the impact of shadow flicker.

## 6. Modeling Results

The effect on receptors has been quantified using the methodology described above and the maximum value of shadow flicker at any receptor location was found to be 50.8 hr/yr for participating receptors and 48.3 hr/yr for non-participating receptors. A summary of the results can be seen in the tables below; detailed results can be found in Appendix III.

Shadow Flicker [hr/yr]	Participating		Non-Participating		Total	
	No Receptors	% of Receptors	No Receptors	% of Receptors	No Receptors	% of Receptors
0	30	49.18%	1279	84.42%	1309	83.06%
0.1 to 20	20	32.79%	198	13.07%	218	13.83%
20.1 to 30	5	8.20%	25	1.65%	30	1.90%
30.1 to 40	4	6.56%	11	0.73%	15	0.95%
40.1 to 50	1	1.64%	2	0.13%	3	0.19%
50.1 to 50.8	1	1.64%	0	0.00%	1	0.06%
50.9 or more	0	0.00%	0	0.00%	0	0.00%

**Table 5: Shadow Flicker Results Summary**

It should be noted that shadow flicker impact at receptors R-1363, R-1374 and R-1540, which are all over 30 hr/yr, is due solely from neighboring wind farms considered in the assessment.

## 7. Conclusions

Shadow flicker has been studied for receptors in the vicinity of the Repower Project. The maximum value of shadow flicker was found to be 48.3 hr/yr for non-participating receptors while the maximum value for participating receptors was found to be 50.8 hr/yr.

## 8. References

- [1] EMD International A/S. (Apr 2019). WindPRO 3.3 User Manual – 6 Environment. Retrieved from [http://help.emd.dk/WindPRO/content/windPRO3.3/c6-UK\\_WindPRO3.3-Environment.pdf](http://help.emd.dk/WindPRO/content/windPRO3.3/c6-UK_WindPRO3.3-Environment.pdf).
- [2] Knopper, Loren D et al. “Wind turbines and human health.” *Frontiers in public health* vol. 2 63. 19 Jun. 2014, doi:10.3389/fpubh.2014.00063.
- [3] Email from Brie Anderson to Chris Nuckols and Ryan McDevitt. 11-Aug-2021.
- [4] United States Geological Survey. “The U.S. Wind Turbine Database.” Retrieved from <https://eerscmap.usgs.gov/uswtodb/>.
- [5] U.S. climate data. (January 2021). Climate data for Minneapolis, MN - 1981-2010 normals – weather. Retrieved from <https://www.usclimatedata.com/climate/minneapolis/minnesota/united-states/usmn0503>
- [6] National Oceanic and Atmospheric Administration. (March 2019). Global Historical Climatology Network (GHCN). Retrieved from <https://www.ncdc.noaa.gov/data-access/land-based-station-data/land-based-datasets/global-historical-climatology-network-ghcn>.



## Appendix I - Maps

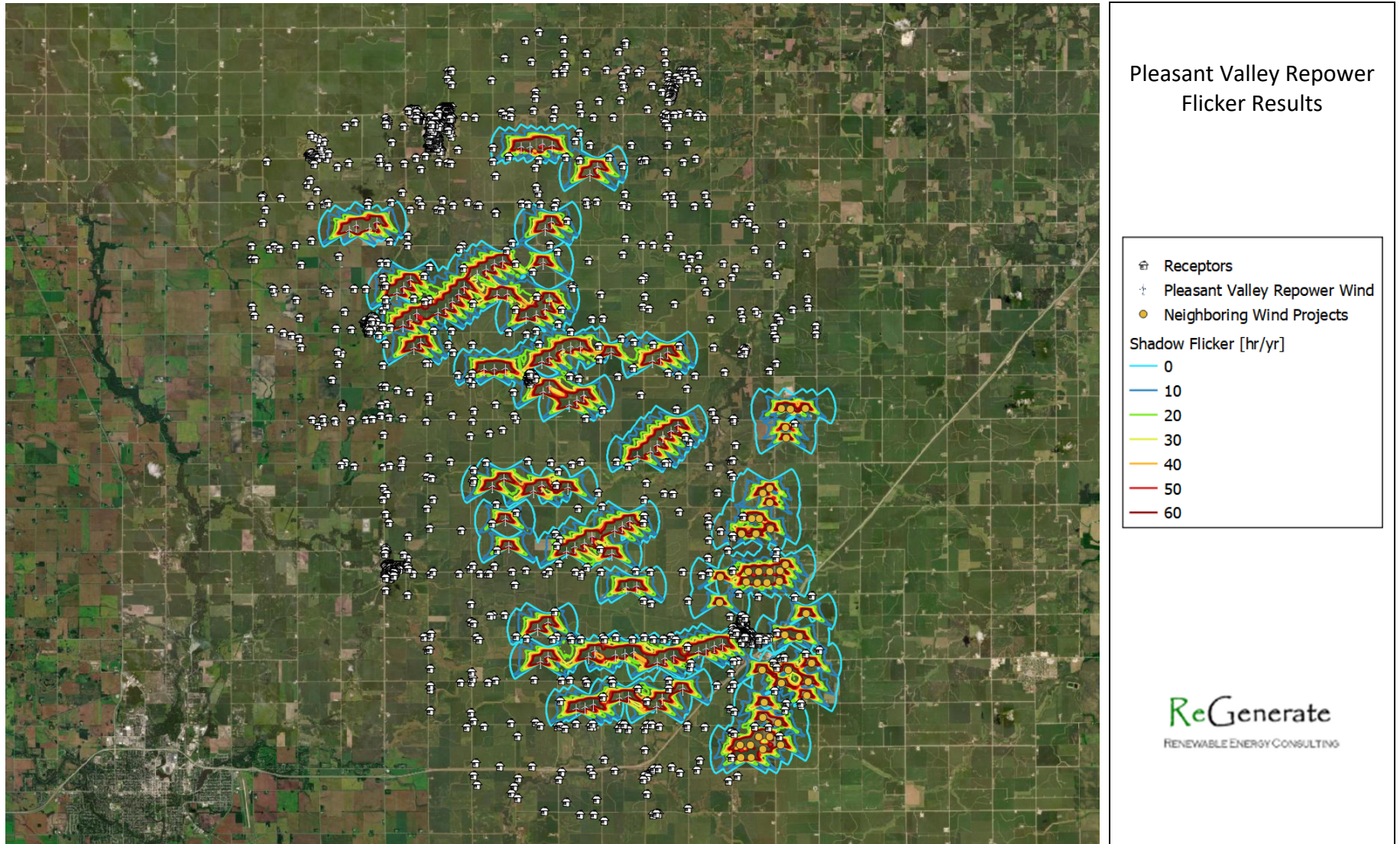


Figure 3: Shadow Flicker Map of Pleasant Valley Repower Wind Project

## Appendix II – Project Turbine Coordinates (UTM WGS84 Zone 15)

Turbine ID	X [m]	Y [m]	Turbine Type
T-01	509214	4855634	V110-2.2MW h95
T-02	509487	4855808	V110-2.2MW h95
T-03	509968	4855697	V110-2.2MW h95
T-04	510231	4855935	V110-2.2MW h95
T-05	515588	4858704	V110-2.2MW h95
T-06	515938	4858704	V110-2.2MW h95
T-07	516393	4858812	V110-2.2MW h95
T-08	516748	4858756	V110-2.2MW h95
T-09	518143	4857698	V110-2.2MW h95
T-10	518432	4857985	V110-2.2MW h95
T-11	516480	4855681	V110-2.2MW h95
T-12	516718	4855945	V110-2.2MW h95
T-13	510988	4853306	V110-2.2MW h95
T-14	511241	4853542	V110-2.2MW h95
T-15	511480	4853797	V110-2.2MW h95
T-16	511219	4852101	V110-2.2MW h95
T-17	511466	4852325	V110-2.2MW h95
T-18	511711	4852547	V110-2.2MW h95
T-19	511615	4851260	V110-2.2MW h95
T-20	511872	4851468	V110-2.2MW h95
T-21	512504	4852563	V110-2.2MW h95
T-22	512783	4852745	V110-2.2MW h95
T-23	513048	4852987	V110-2.2MW h95
T-24	513274	4853264	V110-2.2MW h95
T-25	513481	4853543	V110-2.2MW h95
T-26	513963	4853990	V110-2.2MW h95
T-27	514287	4854168	V110-2.2MW h95
T-28	514593	4854375	V110-2.2MW h95
T-29	514907	4854489	V110-2.2MW h95
T-30	516425	4854442	V110-2.2MW h95
T-31	514703	4853225	V110-2.2MW h95
T-32	515100	4853245	V110-2.2MW h95
T-33	515779	4852415	V110-2.2MW h95
T-34	516165	4852497	V110-2.2MW h95
T-35	516485	4852732	V110-2.2MW h95
T-36	516644	4853103	V110-2.2MW h95
T-37	514225	4850489	V110-2.2MW h95
T-38	514615	4850499	V110-2.2MW h95
T-39	515007	4850504	V110-2.2MW h95

Turbine ID	X [m]	Y [m]	Turbine Type
T-40	516369	4850752	V110-2.2MW h95
T-41	516648	4850928	V110-2.2MW h95
T-42	517137	4851211	V110-2.2MW h95
T-43	517441	4851325	V110-2.2MW h95
T-44	517781	4851324	V110-2.2MW h95
T-45	516413	4849622	V110-2.2MW h95
T-46	516641	4849868	V110-2.2MW h95
T-47	517373	4849161	V110-2.2MW h95
T-48	517656	4849332	V110-2.2MW h95
T-49	517930	4849516	V110-2.2MW h95
T-50	518940	4851106	V110-2.2MW h95
T-51	520470	4850783	V110-2.2MW h95
T-52	520774	4850911	V110-2.2MW h95
T-53	521034	4851115	V110-2.2MW h95
T-54	514513	4846105	V110-2.2MW h95
T-55	514968	4846386	V110-2.2MW h95
T-56	516053	4845946	V110-2.2MW h95
T-57	516369	4846134	V110-2.2MW h95
T-58	517326	4846070	V110-2.2MW h95
T-59	519917	4847245	V110-2.2MW h95
T-60	520394	4847399	V110-2.2MW h95
T-61	520638	4847653	V110-2.2MW h95
T-62	520846	4847967	V110-2.2MW h95
T-63	521154	4848143	V110-2.2MW h95
T-64	521407	4848385	V110-2.2MW h95
T-65	515129	4843885	V110-2.2MW h95
T-66	515002	4844885	V110-2.2MW h95
T-67	517276	4843694	V110-2.2MW h95
T-68	517588	4843858	V110-2.2MW h95
T-69	517953	4844001	V110-2.2MW h95
T-70	518218	4844261	V110-2.2MW h95
T-71	518964	4843605	V110-2.2MW h95
T-72	519057	4844480	V110-2.2MW h95
T-73	519347	4844638	V110-2.2MW h95
T-74	519621	4844822	V110-2.2MW h95
T-75	519489	4842368	V110-2.2MW h95
T-76	519876	4842409	V110-2.2MW h95
T-77	516214	4840839	V110-2.2MW h95
T-78	516590	4841054	V110-2.2MW h95
T-79	516307	4839602	V110-2.2MW h95
T-80	516596	4839823	V110-2.2MW h95
T-81	518085	4839793	V110-2.2MW h95
T-82	518319	4840014	V110-2.2MW h95

Turbine ID	X [m]	Y [m]	Turbine Type
T-83	519086	4839860	V110-2.2MW h95
T-84	519440	4839911	V110-2.2MW h95
T-85	519785	4839954	V110-2.2MW h95
T-86	520652	4839579	V110-2.2MW h95
T-87	520936	4839750	V110-2.2MW h95
T-88	521250	4839850	V110-2.2MW h95
T-89	522167	4839992	V110-2.2MW h95
T-90	522464	4840086	V110-2.2MW h95
T-91	522772	4840187	V110-2.2MW h95
T-92	523080	4840282	V110-2.2MW h95
T-93	517650	4837865	V110-2.2MW h95
T-94	517973	4837931	V110-2.2MW h95
T-95	518287	4838016	V110-2.2MW h95
T-96	519248	4838247	V110-2.2MW h95
T-97	519569	4838324	V110-2.2MW h95
T-98	520626	4837956	V110-2.2MW h95
T-99	520826	4838250	V110-2.2MW h95
T-100	521590	4838605	V110-2.2MW h95



### Appendix III – Individual Receptor Results (UTM WGS84 Zone 15)

Receptor ID	X [m]	Y [m]	Status	Shadow Flicker [hr/yr]
R-1	505564	4854612	Non-Participating	0
R-2	505567	4855084	Non-Participating	0
R-3	505600	4852844	Non-Participating	0
R-4	505680	4852513	Non-Participating	0
R-5	505687	4854597	Non-Participating	0
R-6	505957	4856907	Non-Participating	0
R-7	505980	4856952	Non-Participating	0
R-8	505987	4855952	Non-Participating	0
R-9	506072	4856439	Non-Participating	0
R-10	506139	4858226	Non-Participating	0
R-11	506235	4854980	Non-Participating	0
R-12	506269	4852029	Non-Participating	0
R-13	506357	4853504	Non-Participating	0
R-14	506416	4855096	Non-Participating	0
R-15	506418	4853394	Non-Participating	0
R-16	506630	4854991	Non-Participating	0
R-17	506675	4856886	Non-Participating	0
R-18	506757	4851889	Non-Participating	0
R-19	506840	4853499	Non-Participating	0
R-20	507058	4851766	Non-Participating	0
R-21	507203	4855135	Non-Participating	0
R-22	507223	4853115	Non-Participating	0
R-23	507325	4851669	Non-Participating	0
R-24	507352	4852431	Non-Participating	0
R-25	507398	4851338	Non-Participating	0
R-26	507418	4854405	Non-Participating	0
R-27	507648	4857376	Non-Participating	0
R-28	507680	4858450	Non-Participating	0
R-29	507686	4858403	Non-Participating	0
R-30	507694	4858487	Non-Participating	0
R-31	507714	4858510	Non-Participating	0
R-32	507732	4857531	Non-Participating	0
R-33	507752	4858526	Non-Participating	0
R-34	507762	4856588	Non-Participating	0
R-35	507764	4858426	Non-Participating	0
R-36	507770	4859228	Non-Participating	0

Receptor ID	X [m]	Y [m]	Status	Shadow Flicker [hr/yr]
R-37	507786	4855294	Non-Participating	0
R-38	507792	4858373	Non-Participating	0
R-39	507794	4858532	Non-Participating	0
R-40	507794	4858332	Non-Participating	0
R-41	507807	4848670	Non-Participating	0
R-42	507823	4858412	Non-Participating	0
R-43	507838	4858521	Non-Participating	0
R-44	507877	4858366	Non-Participating	0
R-45	507878	4858471	Non-Participating	0
R-46	507890	4859131	Non-Participating	0
R-47	507898	4858118	Non-Participating	0
R-48	507920	4858364	Non-Participating	0
R-49	507922	4858446	Non-Participating	0
R-50	507966	4858361	Non-Participating	0
R-51	507971	4858445	Non-Participating	0
R-52	507997	4857127	Non-Participating	0
R-53	508008	4858363	Non-Participating	0
R-54	508051	4859072	Non-Participating	0
R-55	508055	4858362	Non-Participating	0
R-56	508057	4848412	Non-Participating	0
R-57	508130	4858756	Non-Participating	0
R-58	508155	4858684	Non-Participating	0
R-59	508188	4858521	Non-Participating	0
R-60	508195	4858482	Non-Participating	0
R-61	508202	4858604	Non-Participating	0
R-62	508217	4848727	Non-Participating	0
R-63	508243	4856652	Non-Participating	0
R-64	508248	4848540	Non-Participating	0
R-65	508253	4858977	Non-Participating	0
R-66	508282	4853499	Non-Participating	0
R-67	508301	4858381	Non-Participating	0
R-68	508358	4858344	Non-Participating	0
R-69	508411	4856712	Non-Participating	0
R-70	508432	4858532	Non-Participating	0
R-71	508443	4853347	Non-Participating	0
R-72	508565	4850141	Non-Participating	0
R-73	508658	4848637	Non-Participating	0
R-74	508686	4848567	Non-Participating	0
R-75	508714	4852035	Non-Participating	0

Receptor ID	X [m]	Y [m]	Status	Shadow Flicker [hr/yr]
R-76	508758	4851198	Non-Participating	0
R-77	508770	4858021	Non-Participating	0
R-78	508775	4850739	Non-Participating	0
R-79	508810	4854714	Non-Participating	0
R-80	508878	4846953	Non-Participating	0
R-81	508925	4851122	Non-Participating	0
R-82	508934	4849230	Non-Participating	0
R-83	508935	4849185	Non-Participating	0
R-84	508940	4849126	Non-Participating	0
R-85	509028	4852683	Non-Participating	0
R-86	509037	4847053	Non-Participating	0
R-87	509066	4859534	Non-Participating	0
R-88	509165	4858186	Non-Participating	0
R-89	509264	4848631	Non-Participating	0
R-90	509280	4852011	Non-Participating	0
R-91	509362	4853503	Non-Participating	0
R-92	509371	4846909	Non-Participating	0
R-93	509387	4859675	Non-Participating	0
R-94	509721	4852262	Non-Participating	0
R-95	509759	4852243	Non-Participating	0
R-96	509781	4852231	Non-Participating	0
R-97	509799	4852222	Non-Participating	0
R-98	509808	4852334	Non-Participating	0
R-99	509812	4848664	Non-Participating	0
R-100	509816	4853506	Non-Participating	0
R-101	509842	4852207	Non-Participating	0
R-102	509847	4851948	Non-Participating	0
R-103	509875	4851879	Non-Participating	0
R-104	509882	4851895	Non-Participating	0
R-105	509882	4852191	Non-Participating	0
R-106	509892	4856589	Non-Participating	0
R-107	509893	4851928	Non-Participating	0
R-108	509901	4852097	Non-Participating	0
R-109	509907	4852228	Non-Participating	0
R-110	509908	4851970	Non-Participating	0
R-111	509913	4851876	Non-Participating	0
R-112	509916	4852003	Non-Participating	0
R-113	509917	4851985	Non-Participating	0
R-114	509921	4856727	Non-Participating	0

Receptor ID	X [m]	Y [m]	Status	Shadow Flicker [hr/yr]
R-115	509924	4851902	Non-Participating	0
R-116	509927	4852177	Non-Participating	0
R-117	509927	4852278	Non-Participating	0
R-118	509930	4852020	Non-Participating	0
R-119	509932	4851919	Non-Participating	0
R-120	509938	4852120	Non-Participating	0
R-121	509942	4852312	Non-Participating	0
R-122	509944	4852165	Non-Participating	0
R-123	509949	4852073	Non-Participating	0
R-124	509950	4851944	Non-Participating	0
R-125	509951	4852225	Non-Participating	0
R-126	509952	4851964	Non-Participating	0
R-127	509955	4852339	Non-Participating	0
R-128	509955	4852115	Non-Participating	0
R-129	509961	4851987	Non-Participating	0
R-130	509962	4852161	Non-Participating	0
R-131	509968	4852106	Non-Participating	0
R-132	509970	4852220	Non-Participating	0
R-133	509971	4852008	Non-Participating	0
R-134	509975	4852389	Non-Participating	0
R-135	509981	4852154	Non-Participating	0
R-136	509981	4852301	Non-Participating	0
R-137	509987	4852037	Non-Participating	0
R-138	509989	4852250	Non-Participating	0
R-139	509998	4852065	Non-Participating	0
R-140	510003	4852205	Non-Participating	0
R-141	510005	4852469	Non-Participating	0
R-142	510007	4852093	Non-Participating	0
R-143	510011	4852374	Non-Participating	0
R-144	510020	4852241	Non-Participating	0
R-145	510024	4852414	Non-Participating	0
R-146	510028	4852141	Non-Participating	0
R-147	510032	4852154	Non-Participating	0
R-148	510039	4852311	Non-Participating	0
R-149	510041	4852463	Non-Participating	0
R-150	510056	4852220	Non-Participating	0
R-151	510057	4852187	Non-Participating	0
R-152	510062	4848696	Non-Participating	0
R-153	510062	4852123	Non-Participating	0



Receptor ID	X [m]	Y [m]	Status	Shadow Flicker [hr/yr]
R-154	510065	4852354	Non-Participating	0
R-155	510071	4852375	Non-Participating	0
R-156	510080	4852116	Non-Participating	0
R-157	510080	4852391	Non-Participating	0
R-158	510089	4852295	Non-Participating	0
R-159	510089	4852423	Non-Participating	0
R-160	510104	4852333	Non-Participating	0
R-161	510112	4852478	Non-Participating	0
R-162	510115	4852168	Non-Participating	0
R-163	510120	4852247	Non-Participating	0
R-164	510123	4852373	Non-Participating	0
R-165	510138	4852423	Non-Participating	0
R-166	510139	4852210	Non-Participating	3.1
R-167	510172	4852208	Non-Participating	3.3
R-168	510219	4852298	Non-Participating	3.5
R-169	510293	4851815	Non-Participating	5.9
R-170	510329	4858360	Non-Participating	0
R-171	510349	4858190	Non-Participating	0
R-172	510373	4848814	Non-Participating	0
R-173	510373	4849204	Non-Participating	0
R-174	510379	4854489	Non-Participating	0
R-175	510419	4849895	Non-Participating	0
R-176	510450	4850688	Non-Participating	0
R-177	510452	4845676	Non-Participating	0
R-178	510454	4852114	Non-Participating	10.8
R-179	510455	4852713	Non-Participating	11.7
R-180	510457	4853915	Non-Participating	9.2
R-181	510459	4848074	Non-Participating	0
R-182	510466	4853603	Non-Participating	23.2
R-183	510470	4846877	Non-Participating	0
R-184	510475	4846114	Non-Participating	0
R-185	510521	4843655	Non-Participating	0
R-186	510534	4849889	Non-Participating	0
R-187	510537	4842917	Non-Participating	0
R-188	510538	4859605	Non-Participating	0
R-189	510538	4842954	Non-Participating	0
R-190	510540	4842775	Non-Participating	0
R-191	510541	4842794	Non-Participating	0
R-192	510542	4842876	Non-Participating	0

Receptor ID	X [m]	Y [m]	Status	Shadow Flicker [hr/yr]
R-193	510542	4842820	Non-Participating	0
R-194	510543	4843179	Non-Participating	0
R-195	510543	4843253	Non-Participating	0
R-196	510543	4853126	Non-Participating	31.3
R-197	510543	4842836	Non-Participating	0
R-198	510544	4843217	Non-Participating	0
R-199	510547	4853641	Non-Participating	33.1
R-200	510550	4845152	Non-Participating	0
R-201	510554	4843234	Non-Participating	0
R-202	510555	4842312	Non-Participating	0
R-203	510556	4851467	Non-Participating	2.8
R-204	510556	4843874	Non-Participating	0
R-205	510558	4859829	Non-Participating	0
R-206	510558	4843795	Non-Participating	0
R-207	510559	4843184	Non-Participating	0
R-208	510560	4843219	Non-Participating	0
R-209	510562	4843672	Non-Participating	0
R-210	510564	4843706	Non-Participating	0
R-211	510564	4849255	Non-Participating	0
R-212	510565	4843750	Non-Participating	0
R-213	510566	4852924	Participating	4.7
R-214	510570	4843291	Non-Participating	0
R-215	510575	4843219	Non-Participating	0
R-216	510577	4843184	Non-Participating	0
R-217	510583	4842918	Non-Participating	0
R-218	510584	4843123	Non-Participating	0
R-219	510588	4843016	Non-Participating	0
R-220	510588	4845879	Non-Participating	0
R-221	510589	4842876	Non-Participating	0
R-222	510589	4843159	Non-Participating	0
R-223	510591	4843078	Non-Participating	0
R-224	510591	4842852	Non-Participating	0
R-225	510592	4842831	Non-Participating	0
R-226	510593	4842814	Non-Participating	0
R-227	510595	4843220	Non-Participating	0
R-228	510606	4854472	Non-Participating	0
R-229	510607	4843280	Non-Participating	0
R-230	510615	4843219	Non-Participating	0
R-231	510627	4843289	Non-Participating	0

Receptor ID	X [m]	Y [m]	Status	Shadow Flicker [hr/yr]
R-232	510628	4843072	Non-Participating	0
R-233	510629	4859728	Non-Participating	0
R-234	510631	4859579	Non-Participating	0
R-235	510633	4842972	Non-Participating	0
R-236	510633	4843020	Non-Participating	0
R-237	510634	4843160	Non-Participating	0
R-238	510634	4859652	Non-Participating	0
R-239	510635	4842922	Non-Participating	0
R-240	510635	4843045	Non-Participating	0
R-241	510636	4843119	Non-Participating	0
R-242	510637	4842787	Non-Participating	0
R-243	510637	4842815	Non-Participating	0
R-244	510638	4842845	Non-Participating	0
R-245	510644	4843180	Non-Participating	0
R-246	510651	4858039	Non-Participating	0
R-247	510651	4842870	Non-Participating	0
R-248	510654	4843292	Non-Participating	0
R-249	510654	4843120	Non-Participating	0
R-250	510660	4842974	Non-Participating	0
R-251	510663	4844806	Non-Participating	0
R-252	510664	4843070	Non-Participating	0
R-253	510668	4843219	Non-Participating	0
R-254	510670	4843122	Non-Participating	0
R-255	510670	4842916	Non-Participating	0
R-256	510672	4843021	Non-Participating	0
R-257	510674	4842741	Non-Participating	0
R-258	510675	4842784	Non-Participating	0
R-259	510675	4848743	Non-Participating	0
R-260	510689	4842822	Non-Participating	0
R-261	510689	4842842	Non-Participating	0
R-262	510689	4842871	Non-Participating	0
R-263	510691	4846939	Non-Participating	0
R-264	510691	4843288	Non-Participating	0
R-265	510691	4855269	Non-Participating	3.6
R-266	510692	4842795	Non-Participating	0
R-267	510693	4843223	Non-Participating	0
R-268	510693	4843178	Non-Participating	0
R-269	510693	4842915	Non-Participating	0
R-270	510693	4842742	Non-Participating	0

Receptor ID	X [m]	Y [m]	Status	Shadow Flicker [hr/yr]
R-271	510693	4843159	Non-Participating	0
R-272	510694	4843015	Non-Participating	0
R-273	510694	4843264	Non-Participating	0
R-274	510695	4842941	Non-Participating	0
R-275	510696	4843120	Non-Participating	0
R-276	510722	4842741	Non-Participating	0
R-277	510723	4852072	Participating	38.5
R-278	510730	4843077	Non-Participating	0
R-279	510732	4842974	Non-Participating	0
R-280	510732	4843163	Non-Participating	0
R-281	510732	4842876	Non-Participating	0
R-282	510733	4842935	Non-Participating	0
R-283	510734	4843050	Non-Participating	0
R-284	510734	4843017	Non-Participating	0
R-285	510734	4843175	Non-Participating	0
R-286	510735	4843033	Non-Participating	0
R-287	510735	4842810	Non-Participating	0
R-288	510735	4842842	Non-Participating	0
R-289	510736	4842913	Non-Participating	0
R-290	510736	4842795	Non-Participating	0
R-291	510737	4843220	Non-Participating	0
R-292	510739	4842773	Non-Participating	0
R-293	510739	4843126	Non-Participating	0
R-294	510740	4843275	Non-Participating	0
R-295	510747	4843230	Non-Participating	0
R-296	510747	4842975	Non-Participating	0
R-297	510747	4843180	Non-Participating	0
R-298	510749	4843075	Non-Participating	0
R-299	510756	4856731	Non-Participating	0
R-300	510768	4843019	Non-Participating	0
R-301	510768	4843072	Non-Participating	0
R-302	510768	4843179	Non-Participating	0
R-303	510770	4842973	Non-Participating	0
R-304	510778	4842868	Non-Participating	0
R-305	510780	4858937	Non-Participating	0
R-306	510781	4843123	Non-Participating	0
R-307	510789	4843018	Non-Participating	0
R-308	510789	4843221	Non-Participating	0
R-309	510790	4843074	Non-Participating	0

Receptor ID	X [m]	Y [m]	Status	Shadow Flicker [hr/yr]
R-310	510795	4843162	Non-Participating	0
R-311	510807	4842974	Non-Participating	0
R-312	510811	4843074	Non-Participating	0
R-313	510816	4843019	Non-Participating	0
R-314	510819	4842921	Non-Participating	0
R-315	510822	4843159	Non-Participating	0
R-316	510823	4843177	Non-Participating	0
R-317	510825	4842973	Non-Participating	0
R-318	510825	4843073	Non-Participating	0
R-319	510825	4843038	Non-Participating	0
R-320	510826	4843121	Non-Participating	0
R-321	510847	4843242	Non-Participating	0
R-322	510851	4842856	Non-Participating	0
R-323	510862	4842976	Non-Participating	0
R-324	510864	4843180	Non-Participating	0
R-325	510865	4843157	Non-Participating	0
R-326	510865	4843074	Non-Participating	0
R-327	510865	4843015	Non-Participating	0
R-328	510866	4843121	Non-Participating	0
R-329	510867	4842926	Non-Participating	0
R-330	510870	4843223	Non-Participating	0
R-331	510870	4843034	Non-Participating	0
R-332	510880	4842974	Non-Participating	0
R-333	510892	4843078	Non-Participating	0
R-334	510899	4842974	Non-Participating	0
R-335	510903	4843015	Non-Participating	0
R-336	510906	4842955	Non-Participating	0
R-337	510909	4843125	Non-Participating	0
R-338	510911	4843176	Non-Participating	0
R-339	510916	4843077	Non-Participating	0
R-340	510919	4842978	Non-Participating	0
R-341	510919	4843222	Non-Participating	0
R-342	510924	4843016	Non-Participating	0
R-343	510935	4843078	Non-Participating	0
R-344	510937	4843121	Non-Participating	0
R-345	510939	4843177	Non-Participating	0
R-346	510958	4843221	Non-Participating	0
R-347	510972	4843176	Non-Participating	0
R-348	510976	4849754	Non-Participating	0

Receptor ID	X [m]	Y [m]	Status	Shadow Flicker [hr/yr]
R-349	510994	4843124	Non-Participating	0
R-350	511026	4843226	Non-Participating	0
R-351	511045	4843068	Non-Participating	0
R-352	511061	4843224	Non-Participating	0
R-353	511064	4843174	Non-Participating	0
R-354	511065	4843129	Non-Participating	0
R-355	511092	4843224	Non-Participating	0
R-356	511120	4843169	Non-Participating	0
R-357	511121	4843224	Non-Participating	0
R-358	511131	4846889	Non-Participating	0
R-359	511146	4857088	Non-Participating	0
R-360	511151	4843170	Non-Participating	0
R-361	511153	4843224	Non-Participating	0
R-362	511165	4847133	Non-Participating	0
R-363	511181	4843174	Non-Participating	0
R-364	511182	4843224	Non-Participating	0
R-365	511196	4848728	Non-Participating	0
R-366	511210	4843174	Non-Participating	0
R-367	511211	4843223	Non-Participating	0
R-368	511212	4859534	Non-Participating	0
R-369	511219	4843652	Non-Participating	0
R-370	511225	4858160	Non-Participating	0
R-371	511235	4843225	Non-Participating	0
R-372	511240	4843176	Non-Participating	0
R-373	511258	4843144	Non-Participating	0
R-374	511269	4843124	Non-Participating	0
R-375	511300	4843123	Non-Participating	0
R-376	511305	4843174	Non-Participating	0
R-377	511355	4855113	Non-Participating	0
R-378	511357	4842124	Non-Participating	0
R-379	511362	4843496	Non-Participating	0
R-380	511365	4855488	Non-Participating	0
R-381	511369	4843205	Non-Participating	0
R-382	511386	4860108	Non-Participating	0
R-383	511386	4860155	Non-Participating	0
R-384	511388	4844296	Non-Participating	0
R-385	511389	4843093	Non-Participating	0
R-386	511423	4860110	Non-Participating	0
R-387	511438	4849674	Non-Participating	0

Receptor ID	X [m]	Y [m]	Status	Shadow Flicker [hr/yr]
R-388	511456	4856435	Non-Participating	0
R-389	511459	4860108	Non-Participating	0
R-390	511463	4860158	Non-Participating	0
R-391	511488	4860156	Non-Participating	0
R-392	511491	4860108	Non-Participating	0
R-393	511493	4860074	Non-Participating	0
R-394	511494	4859981	Non-Participating	0
R-395	511496	4860044	Non-Participating	0
R-396	511497	4860012	Non-Participating	0
R-397	511518	4859984	Non-Participating	0
R-398	511540	4860073	Non-Participating	0
R-399	511540	4860153	Non-Participating	0
R-400	511542	4860028	Non-Participating	0
R-401	511545	4860105	Non-Participating	0
R-402	511557	4842929	Non-Participating	0
R-403	511566	4860074	Non-Participating	0
R-404	511571	4860151	Non-Participating	0
R-405	511572	4860106	Non-Participating	0
R-406	511575	4860026	Non-Participating	0
R-407	511581	4859985	Non-Participating	0
R-408	511596	4853166	Participating	20.1
R-409	511598	4860074	Non-Participating	0
R-410	511600	4860155	Non-Participating	0
R-411	511602	4860111	Non-Participating	0
R-412	511604	4860027	Non-Participating	0
R-413	511614	4859986	Non-Participating	0
R-414	511631	4860076	Non-Participating	0
R-415	511632	4860110	Non-Participating	0
R-416	511632	4860020	Non-Participating	0
R-417	511634	4860155	Non-Participating	0
R-418	511646	4859986	Non-Participating	0
R-419	511651	4860051	Non-Participating	0
R-420	511662	4860151	Non-Participating	0
R-421	511665	4858347	Non-Participating	0
R-422	511666	4860110	Non-Participating	0
R-423	511686	4859820	Non-Participating	0
R-424	511686	4859793	Non-Participating	0
R-425	511690	4860077	Non-Participating	0
R-426	511694	4859998	Non-Participating	0

Receptor ID	X [m]	Y [m]	Status	Shadow Flicker [hr/yr]
R-427	511696	4860034	Non-Participating	0
R-428	511723	4860157	Non-Participating	0
R-429	511730	4859753	Non-Participating	0
R-430	511731	4859805	Non-Participating	0
R-431	511734	4859892	Non-Participating	0
R-432	511737	4859849	Non-Participating	0
R-433	511746	4859752	Non-Participating	0
R-434	511759	4856808	Non-Participating	0
R-435	511761	4859848	Non-Participating	0
R-436	511769	4859754	Non-Participating	0
R-437	511795	4859848	Non-Participating	0
R-438	511799	4859806	Non-Participating	0
R-439	511804	4859760	Non-Participating	0
R-440	511806	4859896	Non-Participating	0
R-441	511851	4859857	Non-Participating	0
R-442	511853	4857958	Non-Participating	0
R-443	511869	4856602	Non-Participating	0
R-444	511893	4859763	Non-Participating	0
R-445	511893	4859807	Non-Participating	0
R-446	511911	4859756	Non-Participating	0
R-447	511912	4859853	Non-Participating	0
R-448	511967	4840577	Non-Participating	0
R-449	511985	4853988	Participating	17.4
R-450	512008	4853041	Participating	25.9
R-451	512020	4858428	Non-Participating	0
R-452	512064	4850758	Non-Participating	0
R-453	512064	4848582	Non-Participating	0
R-454	512083	4845340	Non-Participating	0
R-455	512084	4846533	Non-Participating	0
R-456	512110	4840105	Non-Participating	0
R-457	512113	4859162	Non-Participating	0
R-458	512122	4858801	Non-Participating	0
R-459	512122	4858746	Non-Participating	0
R-460	512122	4858829	Non-Participating	0
R-461	512123	4858775	Non-Participating	0
R-462	512144	4859451	Non-Participating	0
R-463	512148	4850757	Non-Participating	0
R-464	512150	4853105	Non-Participating	25.8
R-465	512152	4859406	Non-Participating	0



Receptor ID	X [m]	Y [m]	Status	Shadow Flicker [hr/yr]
R-466	512153	4859202	Non-Participating	0
R-467	512155	4849346	Non-Participating	0
R-468	512155	4859175	Non-Participating	0
R-469	512157	4847231	Non-Participating	0
R-470	512158	4859034	Non-Participating	0
R-471	512159	4849522	Non-Participating	0
R-472	512161	4859093	Non-Participating	0
R-473	512164	4859130	Non-Participating	0
R-474	512165	4858749	Non-Participating	0
R-475	512166	4858772	Non-Participating	0
R-476	512168	4858808	Non-Participating	0
R-477	512170	4859449	Non-Participating	0
R-478	512174	4844607	Non-Participating	0
R-479	512176	4854334	Non-Participating	8.1
R-480	512178	4840109	Non-Participating	0
R-481	512196	4859446	Non-Participating	0
R-482	512197	4837845	Non-Participating	0
R-483	512197	4859178	Non-Participating	0
R-484	512198	4839402	Non-Participating	0
R-485	512199	4842909	Non-Participating	0
R-486	512200	4859899	Non-Participating	0
R-487	512200	4859213	Non-Participating	0
R-488	512201	4859462	Non-Participating	0
R-489	512201	4859304	Non-Participating	0
R-490	512202	4859885	Non-Participating	0
R-491	512202	4859132	Non-Participating	0
R-492	512202	4859084	Non-Participating	0
R-493	512203	4859259	Non-Participating	0
R-494	512203	4858804	Non-Participating	0
R-495	512203	4858776	Non-Participating	0
R-496	512203	4858838	Non-Participating	0
R-497	512203	4858745	Non-Participating	0
R-498	512203	4859497	Non-Participating	0
R-499	512204	4858896	Non-Participating	0
R-500	512204	4858928	Non-Participating	0
R-501	512204	4858986	Non-Participating	0
R-502	512204	4858953	Non-Participating	0
R-503	512204	4859028	Non-Participating	0
R-504	512204	4859346	Non-Participating	0

Receptor ID	X [m]	Y [m]	Status	Shadow Flicker [hr/yr]
R-505	512204	4840569	Non-Participating	0
R-506	512204	4858867	Non-Participating	0
R-507	512204	4859156	Non-Participating	0
R-508	512205	4859398	Non-Participating	0
R-509	512210	4838764	Non-Participating	0
R-510	512214	4838651	Non-Participating	0
R-511	512226	4840717	Non-Participating	0
R-512	512246	4859600	Non-Participating	0
R-513	512249	4858979	Non-Participating	0
R-514	512251	4859248	Non-Participating	0
R-515	512251	4859047	Non-Participating	0
R-516	512251	4858954	Non-Participating	0
R-517	512252	4859019	Non-Participating	0
R-518	512252	4859097	Non-Participating	0
R-519	512252	4859069	Non-Participating	0
R-520	512252	4859301	Non-Participating	0
R-521	512252	4859365	Non-Participating	0
R-522	512252	4859212	Non-Participating	0
R-523	512252	4859443	Non-Participating	0
R-524	512253	4858931	Non-Participating	0
R-525	512253	4858837	Non-Participating	0
R-526	512253	4859347	Non-Participating	0
R-527	512253	4859266	Non-Participating	0
R-528	512253	4858809	Non-Participating	0
R-529	512253	4859400	Non-Participating	0
R-530	512254	4859131	Non-Participating	0
R-531	512254	4859184	Non-Participating	0
R-532	512255	4859164	Non-Participating	0
R-533	512255	4858904	Non-Participating	0
R-534	512257	4846482	Non-Participating	0
R-535	512257	4858729	Non-Participating	0
R-536	512258	4858766	Non-Participating	0
R-537	512258	4858743	Non-Participating	0
R-538	512258	4858753	Non-Participating	0
R-539	512259	4858876	Non-Participating	0
R-540	512259	4858790	Non-Participating	0
R-541	512264	4859600	Non-Participating	0
R-542	512268	4859850	Non-Participating	0
R-543	512286	4859600	Non-Participating	0

Receptor ID	X [m]	Y [m]	Status	Shadow Flicker [hr/yr]
R-544	512288	4859802	Non-Participating	0
R-545	512292	4858985	Non-Participating	0
R-546	512295	4845678	Non-Participating	0
R-547	512299	4842990	Non-Participating	0
R-548	512300	4859350	Non-Participating	0
R-549	512300	4859427	Non-Participating	0
R-550	512301	4859387	Non-Participating	0
R-551	512301	4859413	Non-Participating	0
R-552	512302	4859600	Non-Participating	0
R-553	512303	4859011	Non-Participating	0
R-554	512303	4858739	Non-Participating	0
R-555	512303	4859249	Non-Participating	0
R-556	512304	4858838	Non-Participating	0
R-557	512304	4858812	Non-Participating	0
R-558	512304	4858824	Non-Participating	0
R-559	512304	4859368	Non-Participating	0
R-560	512304	4858776	Non-Participating	0
R-561	512304	4859077	Non-Participating	0
R-562	512304	4859095	Non-Participating	0
R-563	512305	4859272	Non-Participating	0
R-564	512305	4858801	Non-Participating	0
R-565	512305	4858787	Non-Participating	0
R-566	512305	4858724	Non-Participating	0
R-567	512305	4858762	Non-Participating	0
R-568	512305	4859210	Non-Participating	0
R-569	512305	4859187	Non-Participating	0
R-570	512305	4858876	Non-Participating	0
R-571	512306	4859300	Non-Participating	0
R-572	512306	4858751	Non-Participating	0
R-573	512307	4858953	Non-Participating	0
R-574	512307	4859041	Non-Participating	0
R-575	512307	4859167	Non-Participating	0
R-576	512308	4859133	Non-Participating	0
R-577	512339	4851956	Non-Participating	19.3
R-578	512340	4859606	Non-Participating	0
R-579	512342	4859350	Non-Participating	0
R-580	512346	4859273	Non-Participating	0
R-581	512346	4859331	Non-Participating	0
R-582	512347	4859292	Non-Participating	0

Receptor ID	X [m]	Y [m]	Status	Shadow Flicker [hr/yr]
R-583	512347	4859250	Non-Participating	0
R-584	512347	4859372	Non-Participating	0
R-585	512347	4859407	Non-Participating	0
R-586	512348	4859187	Non-Participating	0
R-587	512348	4859312	Non-Participating	0
R-588	512348	4859167	Non-Participating	0
R-589	512349	4859432	Non-Participating	0
R-590	512350	4859040	Non-Participating	0
R-591	512350	4859061	Non-Participating	0
R-592	512350	4859148	Non-Participating	0
R-593	512350	4858924	Non-Participating	0
R-594	512350	4859131	Non-Participating	0
R-595	512350	4859210	Non-Participating	0
R-596	512350	4859015	Non-Participating	0
R-597	512350	4858977	Non-Participating	0
R-598	512351	4859089	Non-Participating	0
R-599	512351	4858885	Non-Participating	0
R-600	512352	4858744	Non-Participating	0
R-601	512352	4858814	Non-Participating	0
R-602	512353	4858730	Non-Participating	0
R-603	512354	4858786	Non-Participating	0
R-604	512354	4858758	Non-Participating	0
R-605	512357	4858827	Non-Participating	0
R-606	512358	4858800	Non-Participating	0
R-607	512359	4858773	Non-Participating	0
R-608	512362	4858839	Non-Participating	0
R-609	512363	4859603	Non-Participating	0
R-610	512365	4859752	Non-Participating	0
R-611	512378	4859254	Non-Participating	0
R-612	512380	4859750	Non-Participating	0
R-613	512381	4859604	Non-Participating	0
R-614	512395	4859212	Non-Participating	0
R-615	512395	4858729	Non-Participating	0
R-616	512395	4858757	Non-Participating	0
R-617	512396	4859749	Non-Participating	0
R-618	512396	4858837	Non-Participating	0
R-619	512396	4859258	Non-Participating	0
R-620	512396	4858783	Non-Participating	0
R-621	512396	4858769	Non-Participating	0

Receptor ID	X [m]	Y [m]	Status	Shadow Flicker [hr/yr]
R-622	512396	4859604	Non-Participating	0
R-623	512397	4858798	Non-Participating	0
R-624	512398	4858743	Non-Participating	0
R-625	512399	4858980	Non-Participating	0
R-626	512399	4859135	Non-Participating	0
R-627	512400	4859016	Non-Participating	0
R-628	512401	4859099	Non-Participating	0
R-629	512401	4858921	Non-Participating	0
R-630	512402	4859045	Non-Participating	0
R-631	512403	4858954	Non-Participating	0
R-632	512404	4859162	Non-Participating	0
R-633	512406	4859298	Non-Participating	0
R-634	512420	4859254	Non-Participating	0
R-635	512432	4859603	Non-Participating	0
R-636	512432	4859845	Non-Participating	0
R-637	512432	4859550	Non-Participating	0
R-638	512434	4859804	Non-Participating	0
R-639	512434	4859503	Non-Participating	0
R-640	512436	4859750	Non-Participating	0
R-641	512437	4859650	Non-Participating	0
R-642	512437	4859696	Non-Participating	0
R-643	512439	4859018	Non-Participating	0
R-644	512442	4859055	Non-Participating	0
R-645	512444	4859132	Non-Participating	0
R-646	512444	4859165	Non-Participating	0
R-647	512445	4858908	Non-Participating	0
R-648	512446	4859206	Non-Participating	0
R-649	512446	4859097	Non-Participating	0
R-650	512446	4859183	Non-Participating	0
R-651	512447	4858975	Non-Participating	0
R-652	512447	4858937	Non-Participating	0
R-653	512449	4859807	Non-Participating	0
R-654	512449	4858746	Non-Participating	0
R-655	512450	4858772	Non-Participating	0
R-656	512450	4858807	Non-Participating	0
R-657	512450	4859900	Non-Participating	0
R-658	512450	4859666	Non-Participating	0
R-659	512451	4858758	Non-Participating	0
R-660	512451	4859601	Non-Participating	0

Receptor ID	X [m]	Y [m]	Status	Shadow Flicker [hr/yr]
R-661	512451	4859545	Non-Participating	0
R-662	512451	4858785	Non-Participating	0
R-663	512451	4859566	Non-Participating	0
R-664	512452	4858732	Non-Participating	0
R-665	512452	4859845	Non-Participating	0
R-666	512453	4858878	Non-Participating	0
R-667	512454	4858824	Non-Participating	0
R-668	512456	4856448	Participating	0
R-669	512456	4859750	Non-Participating	0
R-670	512457	4858842	Non-Participating	0
R-671	512464	4859900	Non-Participating	0
R-672	512467	4859546	Non-Participating	0
R-673	512467	4859653	Non-Participating	0
R-674	512467	4859695	Non-Participating	0
R-675	512468	4859503	Non-Participating	0
R-676	512471	4859798	Non-Participating	0
R-677	512472	4859605	Non-Participating	0
R-678	512478	4859901	Non-Participating	0
R-679	512480	4859753	Non-Participating	0
R-680	512481	4859544	Non-Participating	0
R-681	512483	4859846	Non-Participating	0
R-682	512486	4859802	Non-Participating	0
R-683	512488	4859497	Non-Participating	0
R-684	512489	4859696	Non-Participating	0
R-685	512490	4859091	Non-Participating	0
R-686	512491	4859649	Non-Participating	0
R-687	512491	4859137	Non-Participating	0
R-688	512498	4859544	Non-Participating	0
R-689	512499	4859602	Non-Participating	0
R-690	512500	4859800	Non-Participating	0
R-691	512507	4859901	Non-Participating	0
R-692	512508	4859973	Non-Participating	0
R-693	512508	4859973	Non-Participating	0
R-694	512508	4859973	Non-Participating	0
R-695	512508	4860034	Non-Participating	0
R-696	512508	4860034	Non-Participating	0
R-697	512508	4860034	Non-Participating	0
R-698	512509	4859021	Non-Participating	0
R-699	512509	4860005	Non-Participating	0

Receptor ID	X [m]	Y [m]	Status	Shadow Flicker [hr/yr]
R-700	512509	4860005	Non-Participating	0
R-701	512509	4860005	Non-Participating	0
R-702	512511	4859695	Non-Participating	0
R-703	512511	4859753	Non-Participating	0
R-704	512512	4859648	Non-Participating	0
R-705	512512	4858876	Non-Participating	0
R-706	512513	4859091	Non-Participating	0
R-707	512514	4859846	Non-Participating	0
R-708	512514	4859503	Non-Participating	0
R-709	512516	4858980	Non-Participating	0
R-710	512516	4859603	Non-Participating	0
R-711	512516	4859803	Non-Participating	0
R-712	512518	4858216	Non-Participating	0
R-713	512519	4859543	Non-Participating	0
R-714	512550	4859848	Non-Participating	0
R-715	512551	4859881	Non-Participating	0
R-716	512553	4859602	Non-Participating	0
R-717	512553	4859646	Non-Participating	0
R-718	512553	4859547	Non-Participating	0
R-719	512554	4858655	Non-Participating	0
R-720	512554	4859697	Non-Participating	0
R-721	512555	4859899	Non-Participating	0
R-722	512556	4858608	Non-Participating	0
R-723	512556	4860164	Non-Participating	0
R-724	512556	4858637	Non-Participating	0
R-725	512557	4858673	Non-Participating	0
R-726	512557	4859749	Non-Participating	0
R-727	512558	4859799	Non-Participating	0
R-728	512567	4859847	Non-Participating	0
R-729	512577	4859898	Non-Participating	0
R-730	512577	4859649	Non-Participating	0
R-731	512580	4859797	Non-Participating	0
R-732	512580	4859694	Non-Participating	0
R-733	512581	4859602	Non-Participating	0
R-734	512587	4859543	Non-Participating	0
R-735	512589	4860163	Non-Participating	0
R-736	512589	4859749	Non-Participating	0
R-737	512593	4859851	Non-Participating	0
R-738	512595	4859895	Non-Participating	0

Receptor ID	X [m]	Y [m]	Status	Shadow Flicker [hr/yr]
R-739	512596	4859797	Non-Participating	0
R-740	512603	4859603	Non-Participating	0
R-741	512604	4859694	Non-Participating	0
R-742	512605	4859646	Non-Participating	0
R-743	512610	4856413	Non-Participating	0
R-744	512612	4859900	Non-Participating	0
R-745	512617	4860166	Non-Participating	0
R-746	512617	4858607	Non-Participating	0
R-747	512617	4858676	Non-Participating	0
R-748	512617	4859798	Non-Participating	0
R-749	512617	4858654	Non-Participating	0
R-750	512617	4859848	Non-Participating	0
R-751	512617	4859749	Non-Participating	0
R-752	512618	4858635	Non-Participating	0
R-753	512632	4859644	Non-Participating	0
R-754	512634	4859693	Non-Participating	0
R-755	512640	4859901	Non-Participating	0
R-756	512642	4859753	Non-Participating	0
R-757	512646	4860250	Non-Participating	0
R-758	512646	4859798	Non-Participating	0
R-759	512647	4860200	Non-Participating	0
R-760	512648	4859846	Non-Participating	0
R-761	512650	4860168	Non-Participating	0
R-762	512651	4856801	Non-Participating	0
R-763	512656	4859695	Non-Participating	0
R-764	512657	4859900	Non-Participating	0
R-765	512660	4859751	Non-Participating	0
R-766	512671	4859896	Non-Participating	0
R-767	512681	4859750	Non-Participating	0
R-768	512684	4859645	Non-Participating	0
R-769	512684	4859799	Non-Participating	0
R-770	512685	4859847	Non-Participating	0
R-771	512690	4859691	Non-Participating	0
R-772	512694	4860117	Non-Participating	0
R-773	512697	4860083	Non-Participating	0
R-774	512698	4860247	Non-Participating	0
R-775	512698	4860201	Non-Participating	0
R-776	512700	4860164	Non-Participating	0
R-777	512717	4860202	Non-Participating	0



Receptor ID	X [m]	Y [m]	Status	Shadow Flicker [hr/yr]
R-778	512718	4860121	Non-Participating	0
R-779	512721	4859897	Non-Participating	0
R-780	512722	4859801	Non-Participating	0
R-781	512725	4859848	Non-Participating	0
R-782	512725	4859765	Non-Participating	0
R-783	512728	4860244	Non-Participating	0
R-784	512729	4860162	Non-Participating	0
R-785	512730	4859695	Non-Participating	0
R-786	512732	4860083	Non-Participating	0
R-787	512734	4859783	Non-Participating	0
R-788	512735	4859602	Non-Participating	0
R-789	512736	4859954	Non-Participating	0
R-790	512744	4859897	Non-Participating	0
R-791	512745	4860043	Non-Participating	0
R-792	512748	4860120	Non-Participating	0
R-793	512750	4860201	Non-Participating	0
R-794	512751	4860162	Non-Participating	0
R-795	512752	4859799	Non-Participating	0
R-796	512753	4860244	Non-Participating	0
R-797	512753	4859856	Non-Participating	0
R-798	512758	4859752	Non-Participating	0
R-799	512759	4859646	Non-Participating	0
R-800	512761	4859599	Non-Participating	0
R-801	512763	4859696	Non-Participating	0
R-802	512765	4859957	Non-Participating	0
R-803	512766	4860082	Non-Participating	0
R-804	512766	4859897	Non-Participating	0
R-805	512769	4859542	Non-Participating	0
R-806	512772	4860121	Non-Participating	0
R-807	512777	4860201	Non-Participating	0
R-808	512777	4860038	Non-Participating	0
R-809	512777	4860164	Non-Participating	0
R-810	512778	4859412	Non-Participating	0
R-811	512780	4859799	Non-Participating	0
R-812	512786	4860245	Non-Participating	0
R-813	512790	4859599	Non-Participating	0
R-814	512792	4859751	Non-Participating	0
R-815	512792	4859847	Non-Participating	0
R-816	512793	4859548	Non-Participating	0

Receptor ID	X [m]	Y [m]	Status	Shadow Flicker [hr/yr]
R-817	512793	4859645	Non-Participating	0
R-818	512794	4859898	Non-Participating	0
R-819	512795	4860083	Non-Participating	0
R-820	512801	4859487	Non-Participating	0
R-821	512801	4860163	Non-Participating	0
R-822	512801	4860202	Non-Participating	0
R-823	512802	4860118	Non-Participating	0
R-824	512809	4860245	Non-Participating	0
R-825	512811	4860037	Non-Participating	0
R-826	512812	4860006	Non-Participating	0
R-827	512814	4859960	Non-Participating	0
R-828	512818	4859374	Non-Participating	0
R-829	512824	4859643	Non-Participating	0
R-830	512825	4859898	Non-Participating	0
R-831	512827	4860084	Non-Participating	0
R-832	512829	4860164	Non-Participating	0
R-833	512830	4860117	Non-Participating	0
R-834	512832	4859479	Non-Participating	0
R-835	512833	4860201	Non-Participating	0
R-836	512835	4859597	Non-Participating	0
R-837	512835	4859848	Non-Participating	0
R-838	512836	4860243	Non-Participating	0
R-839	512837	4859546	Non-Participating	0
R-840	512839	4859799	Non-Participating	0
R-841	512840	4859693	Non-Participating	0
R-842	512840	4859747	Non-Participating	0
R-843	512841	4858192	Non-Participating	0
R-844	512846	4859897	Non-Participating	0
R-845	512849	4859961	Non-Participating	0
R-846	512850	4859648	Non-Participating	0
R-847	512853	4860007	Non-Participating	0
R-848	512853	4860036	Non-Participating	0
R-849	512854	4861300	Non-Participating	0
R-850	512858	4860117	Non-Participating	0
R-851	512858	4859597	Non-Participating	0
R-852	512861	4859486	Non-Participating	0
R-853	512861	4860163	Non-Participating	0
R-854	512861	4860085	Non-Participating	0
R-855	512863	4859426	Non-Participating	0

Receptor ID	X [m]	Y [m]	Status	Shadow Flicker [hr/yr]
R-856	512863	4860201	Non-Participating	0
R-857	512865	4860243	Non-Participating	0
R-858	512866	4859693	Non-Participating	0
R-859	512866	4859376	Non-Participating	0
R-860	512867	4859897	Non-Participating	0
R-861	512867	4859852	Non-Participating	0
R-862	512868	4859799	Non-Participating	0
R-863	512870	4859746	Non-Participating	0
R-864	512872	4859541	Non-Participating	0
R-865	512874	4851451	Participating	3.5
R-866	512876	4859644	Non-Participating	0
R-867	512880	4861583	Non-Participating	0
R-868	512884	4859969	Non-Participating	0
R-869	512887	4859896	Non-Participating	0
R-870	512891	4860164	Non-Participating	0
R-871	512891	4860202	Non-Participating	0
R-872	512892	4860244	Non-Participating	0
R-873	512893	4859486	Non-Participating	0
R-874	512895	4860115	Non-Participating	0
R-875	512895	4860085	Non-Participating	0
R-876	512895	4859749	Non-Participating	0
R-877	512896	4860036	Non-Participating	0
R-878	512896	4860006	Non-Participating	0
R-879	512896	4859798	Non-Participating	0
R-880	512900	4859643	Non-Participating	0
R-881	512903	4859853	Non-Participating	0
R-882	512904	4859597	Non-Participating	0
R-883	512907	4859895	Non-Participating	0
R-884	512907	4859553	Non-Participating	0
R-885	512943	4847086	Non-Participating	0
R-886	512943	4859809	Non-Participating	0
R-887	512945	4859851	Non-Participating	0
R-888	512952	4859270	Non-Participating	0
R-889	512959	4859851	Non-Participating	0
R-890	512959	4859423	Non-Participating	0
R-891	512963	4859890	Non-Participating	0
R-892	512967	4859806	Non-Participating	0
R-893	512975	4858144	Non-Participating	0
R-894	512980	4859803	Non-Participating	0

Receptor ID	X [m]	Y [m]	Status	Shadow Flicker [hr/yr]
R-895	512986	4859852	Non-Participating	0
R-896	512989	4851945	Non-Participating	0
R-897	512990	4860254	Non-Participating	0
R-898	512995	4861601	Non-Participating	0
R-899	512996	4859805	Non-Participating	0
R-900	513000	4859149	Non-Participating	0
R-901	513000	4859889	Non-Participating	0
R-902	513001	4859851	Non-Participating	0
R-903	513005	4861090	Non-Participating	0
R-904	513010	4859806	Non-Participating	0
R-905	513012	4859850	Non-Participating	0
R-906	513014	4848826	Non-Participating	0
R-907	513041	4851178	Participating	0
R-908	513058	4856601	Non-Participating	0
R-909	513222	4850326	Non-Participating	4.2
R-910	513225	4858675	Non-Participating	0
R-911	513283	4842925	Non-Participating	0
R-912	513300	4854985	Non-Participating	0
R-913	513325	4838885	Non-Participating	0
R-914	513347	4844524	Non-Participating	0
R-915	513411	4855122	Non-Participating	0
R-916	513432	4854287	Non-Participating	17.5
R-917	513478	4859879	Non-Participating	0
R-918	513567	4837250	Non-Participating	0
R-919	513576	4856730	Non-Participating	0
R-920	513639	4850202	Participating	19.6
R-921	513689	4848028	Non-Participating	0
R-922	513696	4843106	Non-Participating	0
R-923	513706	4837782	Non-Participating	0
R-924	513711	4841152	Non-Participating	0
R-925	513714	4841792	Non-Participating	0
R-926	513727	4839268	Non-Participating	0
R-927	513728	4838903	Non-Participating	0
R-928	513757	4851435	Participating	0
R-929	513764	4848580	Non-Participating	0
R-930	513768	4850380	Participating	37
R-931	513772	4849999	Participating	2.4
R-932	513779	4846327	Participating	6.8
R-933	513787	4843225	Non-Participating	0

Receptor ID	X [m]	Y [m]	Status	Shadow Flicker [hr/yr]
R-934	513795	4839052	Non-Participating	0
R-935	513797	4852982	Non-Participating	28.3
R-936	513800	4841089	Non-Participating	0
R-937	513804	4846778	Non-Participating	4.1
R-938	513805	4846397	Non-Participating	7.5
R-939	513815	4835442	Non-Participating	0
R-940	513819	4837472	Non-Participating	0
R-941	513821	4848988	Non-Participating	0
R-942	513864	4859853	Non-Participating	0
R-943	513879	4835906	Non-Participating	0
R-944	513914	4840586	Non-Participating	0
R-945	513948	4835083	Non-Participating	0
R-946	513951	4856592	Non-Participating	0
R-947	514006	4840489	Non-Participating	0
R-948	514007	4856589	Non-Participating	0
R-949	514053	4842931	Non-Participating	0
R-950	514204	4837259	Non-Participating	0
R-951	514262	4847068	Non-Participating	2.9
R-952	514324	4842924	Non-Participating	0
R-953	514336	4838886	Non-Participating	0
R-954	514392	4842923	Non-Participating	0
R-955	514401	4848141	Non-Participating	0
R-956	514431	4841382	Non-Participating	0
R-957	514478	4861241	Non-Participating	0
R-958	514496	4844793	Participating	19.4
R-959	514524	4858751	Non-Participating	3
R-960	514524	4858223	Non-Participating	0
R-961	514532	4841399	Non-Participating	0
R-962	514586	4843194	Non-Participating	0
R-963	514618	4849224	Participating	0
R-964	514623	4856322	Non-Participating	0
R-965	514631	4856343	Non-Participating	0
R-966	514631	4838975	Non-Participating	0
R-967	514636	4857687	Non-Participating	0
R-968	514647	4845509	Non-Participating	0
R-969	514674	4843796	Participating	26.1
R-970	514773	4835789	Non-Participating	0
R-971	514851	4860043	Non-Participating	0
R-972	514893	4848259	Non-Participating	0

Receptor ID	X [m]	Y [m]	Status	Shadow Flicker [hr/yr]
R-973	514955	4862067	Non-Participating	0
R-974	514959	4841403	Non-Participating	0
R-975	514983	4859946	Non-Participating	0
R-976	515040	4854943	Participating	0
R-977	515108	4851918	Non-Participating	0
R-978	515117	4858400	Participating	8.9
R-979	515181	4859890	Non-Participating	0
R-980	515198	4837396	Non-Participating	0
R-981	515199	4860088	Non-Participating	0
R-982	515204	4834781	Non-Participating	0
R-983	515230	4843010	Non-Participating	0
R-984	515241	4855218	Non-Participating	0
R-985	515286	4849697	Participating	0
R-986	515305	4848828	Non-Participating	0
R-987	515322	4835040	Non-Participating	0
R-988	515331	4842513	Non-Participating	0
R-989	515370	4852740	Non-Participating	29.3
R-990	515371	4854454	Non-Participating	30
R-991	515385	4848665	Non-Participating	0
R-992	515392	4840595	Non-Participating	7.9
R-993	515401	4845186	Non-Participating	20.1
R-994	515440	4836895	Non-Participating	0
R-995	515447	4834600	Non-Participating	0
R-996	515477	4835356	Non-Participating	0
R-997	515606	4856668	Non-Participating	0
R-998	515736	4862721	Non-Participating	0
R-999	515754	4843043	Non-Participating	0
R-1000	515766	4851829	Non-Participating	0
R-1001	515777	4840525	Participating	5.2
R-1002	515795	4850116	Non-Participating	31.2
R-1003	515831	4850171	Non-Participating	26.9
R-1004	515835	4856656	Non-Participating	0
R-1005	515836	4847105	Participating	0
R-1006	515838	4850230	Non-Participating	16.7
R-1007	515854	4850088	Non-Participating	32.2
R-1008	515866	4850129	Non-Participating	30.6
R-1009	515875	4850270	Non-Participating	12.9
R-1010	515876	4850022	Non-Participating	28.5
R-1011	515878	4850367	Non-Participating	12.4

Receptor ID	X [m]	Y [m]	Status	Shadow Flicker [hr/yr]
R-1012	515881	4850328	Non-Participating	12.2
R-1013	515881	4850170	Non-Participating	21.4
R-1014	515882	4850291	Non-Participating	12.5
R-1015	515892	4849981	Non-Participating	23.4
R-1016	515892	4850130	Non-Participating	28
R-1017	515906	4850371	Non-Participating	13.1
R-1018	515907	4850315	Non-Participating	12.4
R-1019	515911	4850085	Non-Participating	32.7
R-1020	515912	4850173	Non-Participating	18.3
R-1021	515917	4850130	Non-Participating	24.8
R-1022	515923	4850194	Non-Participating	14.4
R-1023	515937	4850220	Non-Participating	13.5
R-1024	515938	4850327	Non-Participating	12.8
R-1025	515938	4850371	Non-Participating	14.5
R-1026	515959	4861919	Non-Participating	0
R-1027	515960	4850168	Non-Participating	15.1
R-1028	515962	4850088	Non-Participating	28.8
R-1029	515963	4850132	Non-Participating	20.4
R-1030	515974	4850168	Non-Participating	14.4
R-1031	515976	4850326	Non-Participating	14
R-1032	515976	4850274	Non-Participating	13
R-1033	515984	4835790	Non-Participating	0
R-1034	515989	4850373	Non-Participating	15.5
R-1035	516005	4854160	Non-Participating	0
R-1036	516007	4850275	Non-Participating	13.6
R-1037	516008	4850223	Non-Participating	13.7
R-1038	516033	4860113	Non-Participating	0
R-1039	516034	4850327	Non-Participating	16.8
R-1040	516039	4850273	Non-Participating	14.7
R-1041	516043	4850182	Non-Participating	14.6
R-1042	516043	4850156	Non-Participating	15
R-1043	516047	4838990	Participating	0
R-1044	516075	4850176	Non-Participating	11.3
R-1045	516078	4850225	Non-Participating	11.5
R-1046	516098	4860808	Non-Participating	0
R-1047	516107	4850208	Non-Participating	12.6
R-1048	516107	4837426	Non-Participating	0
R-1049	516117	4860574	Non-Participating	0
R-1050	516117	4858001	Participating	0

Receptor ID	X [m]	Y [m]	Status	Shadow Flicker [hr/yr]
R-1051	516126	4851966	Participating	0
R-1052	516136	4857292	Non-Participating	0
R-1053	516162	4853232	Non-Participating	18.5
R-1054	516206	4857058	Non-Participating	0
R-1055	516227	4863039	Non-Participating	0
R-1056	516241	4851479	Non-Participating	4.2
R-1057	516245	4858273	Non-Participating	0
R-1058	516277	4856648	Non-Participating	0
R-1059	516298	4837284	Non-Participating	0
R-1060	516440	4834124	Non-Participating	0
R-1061	516484	4842924	Non-Participating	0
R-1062	516606	4843034	Non-Participating	0
R-1063	516647	4855143	Participating	0
R-1064	516661	4847070	Non-Participating	0
R-1065	516753	4840502	Non-Participating	0
R-1066	516781	4859851	Non-Participating	0
R-1067	516818	4860181	Non-Participating	0
R-1068	516819	4841533	Non-Participating	0
R-1069	516833	4856558	Participating	0
R-1070	516849	4844408	Non-Participating	9.2
R-1071	516850	4861503	Non-Participating	0
R-1072	516874	4846227	Non-Participating	34.9
R-1073	516885	4856735	Non-Participating	0
R-1074	516888	4840599	Participating	19.5
R-1075	516895	4843978	Non-Participating	36.5
R-1076	516929	4854891	Non-Participating	11.6
R-1077	516930	4837268	Non-Participating	0
R-1078	516939	4846739	Non-Participating	1.5
R-1079	516948	4852211	Non-Participating	12
R-1080	516970	4835287	Non-Participating	0
R-1081	516978	4843319	Participating	0
R-1082	516998	4844193	Non-Participating	13.9
R-1083	517026	4838218	Non-Participating	13.3
R-1084	517036	4837283	Non-Participating	0
R-1085	517070	4838978	Non-Participating	0
R-1086	517077	4852758	Non-Participating	14.6
R-1087	517084	4835589	Non-Participating	0
R-1088	517129	4861622	Non-Participating	0
R-1089	517149	4862248	Non-Participating	0



Receptor ID	X [m]	Y [m]	Status	Shadow Flicker [hr/yr]
R-1090	517152	4861515	Non-Participating	0
R-1091	517164	4862776	Non-Participating	0
R-1092	517206	4837184	Non-Participating	0
R-1093	517220	4858384	Non-Participating	10.9
R-1094	517241	4861789	Non-Participating	0
R-1095	517259	4834447	Non-Participating	0
R-1096	517275	4856026	Non-Participating	16.2
R-1097	517384	4850282	Non-Participating	5.4
R-1098	517389	4838991	Non-Participating	0
R-1099	517402	4840576	Participating	7.9
R-1100	517407	4851921	Non-Participating	0
R-1101	517424	4840478	Participating	10.1
R-1102	517471	4846974	Non-Participating	0
R-1103	517476	4853540	Non-Participating	4.1
R-1104	517476	4853612	Non-Participating	4.1
R-1105	517581	4843013	Non-Participating	0
R-1106	517584	4859008	Non-Participating	4.5
R-1107	517600	4837356	Participating	0
R-1108	517680	4845339	Participating	0
R-1109	517708	4850197	Non-Participating	0
R-1110	517733	4860357	Non-Participating	0
R-1111	517736	4859296	Non-Participating	0
R-1112	517744	4858283	Non-Participating	7.6
R-1113	517765	4833987	Non-Participating	0
R-1114	517783	4847092	Non-Participating	0
R-1115	517789	4842923	Participating	0
R-1116	517790	4840494	Non-Participating	12
R-1117	517791	4842859	Participating	0
R-1118	517794	4860027	Non-Participating	0
R-1119	517961	4848722	Non-Participating	0
R-1120	517976	4838959	Non-Participating	0
R-1121	517978	4861575	Non-Participating	0
R-1122	517994	4862246	Non-Participating	0
R-1123	517996	4856744	Participating	0
R-1124	518018	4856636	Participating	0
R-1125	518019	4843156	Non-Participating	10.2
R-1126	518033	4838865	Participating	0
R-1127	518060	4854559	Non-Participating	0
R-1128	518120	4835711	Non-Participating	0

Receptor ID	X [m]	Y [m]	Status	Shadow Flicker [hr/yr]
R-1129	518127	4858839	Participating	0
R-1130	518144	4837263	Non-Participating	0
R-1131	518191	4852396	Non-Participating	0
R-1132	518230	4837362	Participating	0
R-1133	518231	4835469	Non-Participating	0
R-1134	518251	4837258	Non-Participating	0
R-1135	518251	4859861	Non-Participating	0
R-1136	518282	4833993	Non-Participating	0
R-1137	518368	4834559	Non-Participating	0
R-1138	518368	4856747	Participating	0
R-1139	518429	4845947	Non-Participating	0
R-1140	518445	4860471	Non-Participating	0
R-1141	518458	4851400	Participating	23.6
R-1142	518478	4850878	Participating	17.8
R-1143	518481	4850911	Participating	30.3
R-1144	518513	4843832	Non-Participating	48.3
R-1145	518539	4842998	Non-Participating	0
R-1146	518542	4853310	Non-Participating	0
R-1147	518588	4845434	Non-Participating	0
R-1148	518604	4838360	Non-Participating	42.8
R-1149	518609	4840586	Non-Participating	6.7
R-1150	518610	4849026	Non-Participating	6.3
R-1151	518610	4852410	Non-Participating	0
R-1152	518652	4833762	Non-Participating	0
R-1153	518656	4836027	Non-Participating	0
R-1154	518671	4840507	Non-Participating	9.7
R-1155	518740	4861632	Non-Participating	0
R-1156	518843	4858382	Non-Participating	14.1
R-1157	518945	4839005	Non-Participating	0
R-1158	518960	4838868	Non-Participating	9.3
R-1159	518998	4859864	Non-Participating	0
R-1160	519031	4835640	Non-Participating	0
R-1161	519104	4840590	Non-Participating	11
R-1162	519109	4847080	Non-Participating	6.6
R-1163	519179	4850271	Non-Participating	0
R-1164	519188	4837186	Non-Participating	0
R-1165	519190	4862316	Non-Participating	0
R-1166	519264	4860492	Non-Participating	0
R-1167	519295	4837343	Non-Participating	0

Receptor ID	X [m]	Y [m]	Status	Shadow Flicker [hr/yr]
R-1168	519308	4851685	Non-Participating	0
R-1169	519326	4861430	Non-Participating	0
R-1170	519337	4854791	Non-Participating	0
R-1171	519352	4861082	Non-Participating	0
R-1172	519358	4858089	Non-Participating	4
R-1173	519358	4856634	Non-Participating	0
R-1174	519408	4837341	Non-Participating	0
R-1175	519410	4860956	Non-Participating	0
R-1176	519436	4857025	Non-Participating	0
R-1177	519446	4862651	Non-Participating	0
R-1178	519449	4855370	Non-Participating	0
R-1179	519453	4862570	Non-Participating	0
R-1180	519498	4861662	Non-Participating	0
R-1181	519532	4856582	Non-Participating	0
R-1182	519548	4837160	Non-Participating	0
R-1183	519563	4846897	Participating	2
R-1184	519645	4858832	Non-Participating	0
R-1185	519706	4840505	Participating	0.8
R-1186	519741	4850581	Non-Participating	10.7
R-1187	519765	4851547	Non-Participating	4.3
R-1188	519827	4843035	Non-Participating	0
R-1189	519903	4838677	Non-Participating	28.7
R-1190	519911	4861511	Non-Participating	0
R-1191	520001	4849581	Participating	0
R-1192	520024	4861623	Non-Participating	0
R-1193	520041	4858265	Non-Participating	0
R-1194	520072	4855135	Non-Participating	0
R-1195	520074	4853845	Non-Participating	0
R-1196	520082	4852861	Non-Participating	0
R-1197	520109	4835306	Non-Participating	0
R-1198	520115	4841938	Participating	0
R-1199	520118	4844809	Non-Participating	22.8
R-1200	520126	4845681	Non-Participating	0
R-1201	520143	4845066	Non-Participating	13
R-1202	520149	4840587	Non-Participating	2.1
R-1203	520151	4835450	Non-Participating	0
R-1204	520151	4837162	Non-Participating	0
R-1205	520156	4853936	Non-Participating	0
R-1206	520171	4853243	Non-Participating	0

Receptor ID	X [m]	Y [m]	Status	Shadow Flicker [hr/yr]
R-1207	520176	4836401	Non-Participating	0
R-1208	520185	4858282	Non-Participating	0
R-1209	520204	4846300	Non-Participating	0
R-1210	520220	4858288	Non-Participating	0
R-1211	520237	4837341	Non-Participating	0
R-1212	520242	4838214	Participating	50.8
R-1213	520242	4835480	Non-Participating	0
R-1214	520250	4834773	Non-Participating	0
R-1215	520259	4860176	Non-Participating	0
R-1216	520264	4835389	Non-Participating	0
R-1217	520306	4852770	Non-Participating	0
R-1218	520359	4843007	Non-Participating	5.3
R-1219	520403	4841819	Participating	1.9
R-1220	520408	4837331	Non-Participating	0
R-1221	520440	4861034	Non-Participating	0
R-1222	520443	4835643	Non-Participating	0
R-1223	520468	4840491	Participating	14.8
R-1224	520472	4855135	Non-Participating	0
R-1225	520476	4834006	Non-Participating	0
R-1226	520476	4851440	Non-Participating	11.4
R-1227	520499	4835719	Non-Participating	0
R-1228	520597	4834039	Non-Participating	0
R-1229	520666	4835716	Non-Participating	0
R-1230	520667	4834025	Non-Participating	0
R-1231	520694	4837258	Non-Participating	0
R-1232	520796	4860818	Non-Participating	0
R-1233	520847	4859895	Non-Participating	0
R-1234	520854	4840498	Non-Participating	0
R-1235	520870	4845901	Participating	0
R-1236	520894	4862308	Non-Participating	0
R-1237	520932	4859654	Non-Participating	0
R-1238	520934	4860015	Non-Participating	0
R-1239	520936	4861905	Non-Participating	0
R-1240	520939	4847030	Participating	4.2
R-1241	520963	4856968	Non-Participating	0
R-1242	520967	4859861	Non-Participating	0
R-1243	520969	4858850	Non-Participating	0
R-1244	520971	4859822	Non-Participating	0
R-1245	520975	4857840	Non-Participating	0

Receptor ID	X [m]	Y [m]	Status	Shadow Flicker [hr/yr]
R-1246	520985	4855050	Non-Participating	0
R-1247	521020	4859960	Non-Participating	0
R-1248	521027	4859508	Non-Participating	0
R-1249	521033	4850401	Non-Participating	0
R-1250	521037	4861478	Non-Participating	0
R-1251	521038	4860463	Non-Participating	0
R-1252	521040	4847034	Non-Participating	6.7
R-1253	521040	4858841	Non-Participating	0
R-1254	521043	4861043	Non-Participating	0
R-1255	521056	4861209	Non-Participating	0
R-1256	521065	4838660	Participating	18.6
R-1257	521068	4838963	Non-Participating	13.9
R-1258	521081	4860612	Non-Participating	0
R-1259	521082	4860672	Non-Participating	0
R-1260	521088	4855482	Non-Participating	0
R-1261	521092	4860473	Non-Participating	0
R-1262	521101	4860730	Non-Participating	0
R-1263	521107	4861047	Non-Participating	0
R-1264	521125	4840595	Non-Participating	0
R-1265	521129	4860503	Non-Participating	0
R-1266	521136	4861148	Non-Participating	0
R-1267	521156	4860557	Non-Participating	0
R-1268	521161	4860876	Non-Participating	0
R-1269	521169	4835760	Non-Participating	0
R-1270	521176	4856978	Non-Participating	0
R-1271	521182	4860614	Non-Participating	0
R-1272	521184	4860679	Non-Participating	0
R-1273	521195	4860737	Non-Participating	0
R-1274	521201	4845875	Non-Participating	0
R-1275	521202	4859961	Non-Participating	0
R-1276	521216	4861045	Non-Participating	0
R-1277	521233	4856677	Non-Participating	0
R-1278	521237	4860804	Non-Participating	0
R-1279	521243	4860918	Non-Participating	0
R-1280	521244	4860862	Non-Participating	0
R-1281	521252	4852940	Non-Participating	0
R-1282	521265	4859958	Non-Participating	0
R-1283	521273	4860962	Non-Participating	0
R-1284	521295	4861206	Non-Participating	0

Receptor ID	X [m]	Y [m]	Status	Shadow Flicker [hr/yr]
R-1285	521322	4840484	Non-Participating	4.8
R-1286	521331	4849056	Non-Participating	0
R-1287	521339	4861375	Non-Participating	0
R-1288	521360	4861266	Non-Participating	0
R-1289	521422	4850289	Participating	9.3
R-1290	521428	4851397	Non-Participating	21
R-1291	521434	4845217	Non-Participating	0
R-1292	521437	4859988	Non-Participating	0
R-1293	521455	4835547	Non-Participating	0
R-1294	521465	4861272	Non-Participating	0
R-1295	521512	4861599	Non-Participating	0
R-1296	521562	4854741	Non-Participating	0
R-1297	521576	4843002	Non-Participating	0
R-1298	521582	4858210	Non-Participating	0
R-1299	521585	4861587	Non-Participating	0
R-1300	521679	4848003	Participating	36.5
R-1301	521693	4861591	Non-Participating	0
R-1302	521723	4861355	Non-Participating	0
R-1303	521726	4849821	Non-Participating	0
R-1304	521736	4837311	Non-Participating	0
R-1305	521744	4858958	Non-Participating	0
R-1306	521753	4837244	Non-Participating	0
R-1307	521756	4840228	Participating	47.4
R-1308	521759	4841925	Non-Participating	0
R-1309	521760	4854281	Non-Participating	0
R-1310	521769	4834227	Non-Participating	0
R-1311	521792	4860036	Non-Participating	0
R-1312	521815	4847806	Non-Participating	17.7
R-1313	521837	4839463	Non-Participating	7
R-1314	521861	4861584	Non-Participating	0
R-1315	521862	4854624	Non-Participating	0
R-1316	521873	4839620	Participating	29.4
R-1317	521948	4861592	Non-Participating	0
R-1318	521981	4861453	Non-Participating	0
R-1319	521992	4856561	Non-Participating	0
R-1320	522023	4850291	Non-Participating	0
R-1321	522046	4858344	Non-Participating	0
R-1322	522093	4835646	Non-Participating	0
R-1323	522103	4859884	Non-Participating	0

Receptor ID	X [m]	Y [m]	Status	Shadow Flicker [hr/yr]
R-1324	522148	4861166	Non-Participating	0
R-1325	522153	4854248	Non-Participating	0
R-1326	522171	4854770	Non-Participating	0
R-1327	522188	4860003	Non-Participating	0
R-1328	522209	4836024	Non-Participating	0
R-1329	522289	4842885	Non-Participating	3.6
R-1330	522325	4859881	Non-Participating	0
R-1331	522358	4853829	Non-Participating	0
R-1332	522395	4837245	Non-Participating	0
R-1333	522407	4857002	Non-Participating	0
R-1334	522434	4853405	Participating	0
R-1335	522460	4853420	Participating	0
R-1336	522499	4856669	Non-Participating	0
R-1337	522507	4845014	Non-Participating	0
R-1338	522520	4843504	Non-Participating	0
R-1339	522532	4844709	Non-Participating	0
R-1340	522537	4844760	Non-Participating	0
R-1341	522541	4844186	Non-Participating	0
R-1342	522561	4846899	Non-Participating	0
R-1343	522564	4842968	Non-Participating	9.1
R-1344	522616	4852384	Participating	0
R-1345	522660	4848979	Non-Participating	0
R-1346	522725	4851333	Non-Participating	0
R-1347	522782	4848655	Non-Participating	0
R-1348	522831	4838804	Non-Participating	0
R-1349	522866	4845925	Non-Participating	0
R-1350	522966	4844507	Non-Participating	2.7
R-1351	523026	4853708	Non-Participating	0
R-1352	523078	4854464	Non-Participating	0
R-1353	523134	4850415	Non-Participating	0
R-1354	523257	4843787	Non-Participating	0
R-1355	523284	4835253	Non-Participating	0
R-1356	523320	4841355	Non-Participating	0
R-1357	523321	4837936	Non-Participating	0
R-1358	523347	4838674	Non-Participating	0
R-1359	523349	4839242	Non-Participating	0
R-1360	523355	4847108	Non-Participating	0
R-1361	523364	4846629	Non-Participating	0
R-1362	523371	4837050	Non-Participating	7.9

Receptor ID	X [m]	Y [m]	Status	Shadow Flicker [hr/yr]
R-1363	523379	4836127	Non-Participating	30.1
R-1364	523393	4853939	Non-Participating	0
R-1365	523422	4846514	Non-Participating	0
R-1366	523428	4840940	Non-Participating	0
R-1367	523431	4840675	Non-Participating	22
R-1368	523433	4847135	Non-Participating	0
R-1369	523434	4844331	Non-Participating	21.7
R-1370	523437	4840841	Non-Participating	2
R-1371	523439	4843065	Non-Participating	21.1
R-1372	523442	4848699	Non-Participating	0
R-1373	523444	4838848	Non-Participating	0
R-1374	523445	4844289	Non-Participating	33.4
R-1375	523448	4839696	Non-Participating	6.6
R-1376	523454	4840750	Non-Participating	12.5
R-1377	523459	4840928	Non-Participating	0
R-1378	523461	4848582	Non-Participating	0
R-1379	523477	4836999	Non-Participating	11.8
R-1380	523478	4837823	Non-Participating	0
R-1381	523490	4840690	Non-Participating	20.1
R-1382	523491	4840748	Non-Participating	14.5
R-1383	523503	4855943	Non-Participating	0
R-1384	523508	4840920	Non-Participating	0
R-1385	523523	4840679	Non-Participating	19.8
R-1386	523524	4840742	Non-Participating	15.9
R-1387	523532	4847691	Non-Participating	0
R-1388	523537	4854286	Non-Participating	0
R-1389	523541	4840917	Non-Participating	1.2
R-1390	523549	4840693	Non-Participating	18.6
R-1391	523555	4840761	Non-Participating	14.6
R-1392	523565	4840923	Non-Participating	1.7
R-1393	523577	4840770	Non-Participating	14.1
R-1394	523593	4840690	Non-Participating	17.3
R-1395	523597	4840916	Non-Participating	0
R-1396	523604	4839705	Non-Participating	7.1
R-1397	523612	4835424	Non-Participating	0
R-1398	523614	4840770	Non-Participating	13.9
R-1399	523649	4842184	Non-Participating	9.7
R-1400	523651	4840739	Non-Participating	14.5
R-1401	523664	4840904	Non-Participating	1.2



Receptor ID	X [m]	Y [m]	Status	Shadow Flicker [hr/yr]
R-1402	523678	4840692	Non-Participating	11.3
R-1403	523695	4840696	Non-Participating	10.4
R-1404	523702	4840731	Non-Participating	12
R-1405	523725	4841221	Non-Participating	0
R-1406	523725	4841264	Non-Participating	0
R-1407	523726	4840575	Non-Participating	8.3
R-1408	523726	4841024	Non-Participating	0
R-1409	523726	4841048	Non-Participating	0
R-1410	523726	4841117	Non-Participating	0
R-1411	523727	4841135	Non-Participating	0
R-1412	523728	4840994	Non-Participating	0
R-1413	523729	4841079	Non-Participating	0
R-1414	523730	4840598	Non-Participating	8.3
R-1415	523730	4840652	Non-Participating	8.5
R-1416	523730	4840964	Non-Participating	0
R-1417	523731	4840629	Non-Participating	8.4
R-1418	523732	4840934	Non-Participating	1.9
R-1419	523733	4841178	Non-Participating	0
R-1420	523735	4840667	Non-Participating	8.4
R-1421	523735	4840686	Non-Participating	8.5
R-1422	523735	4841156	Non-Participating	0
R-1423	523740	4852690	Non-Participating	0
R-1424	523745	4851104	Non-Participating	0
R-1425	523750	4840422	Non-Participating	7.8
R-1426	523753	4840364	Non-Participating	9
R-1427	523757	4840471	Non-Participating	7.2
R-1428	523766	4841358	Non-Participating	2
R-1429	523772	4840371	Non-Participating	8.5
R-1430	523782	4840546	Non-Participating	6.7
R-1431	523783	4840589	Non-Participating	6.9
R-1432	523783	4840695	Non-Participating	5.8
R-1433	523784	4840568	Non-Participating	6.8
R-1434	523786	4840676	Non-Participating	5.8
R-1435	523787	4841291	Non-Participating	0
R-1436	523789	4852419	Non-Participating	0
R-1437	523790	4841048	Non-Participating	0
R-1438	523791	4841071	Non-Participating	0
R-1439	523792	4841011	Non-Participating	0
R-1440	523792	4841173	Non-Participating	0

Receptor ID	X [m]	Y [m]	Status	Shadow Flicker [hr/yr]
R-1441	523793	4841096	Non-Participating	0
R-1442	523793	4841143	Non-Participating	0
R-1443	523794	4840730	Non-Participating	5.7
R-1444	523794	4841215	Non-Participating	0
R-1445	523796	4851101	Non-Participating	0
R-1446	523797	4840372	Non-Participating	7.9
R-1447	523804	4840419	Non-Participating	6.8
R-1448	523812	4845040	Non-Participating	18.4
R-1449	523814	4856119	Non-Participating	0
R-1450	523828	4840879	Non-Participating	6.8
R-1451	523833	4840360	Non-Participating	7.4
R-1452	523834	4840605	Non-Participating	5.5
R-1453	523835	4840934	Non-Participating	5
R-1454	523836	4840572	Non-Participating	5.5
R-1455	523837	4840636	Non-Participating	5.3
R-1456	523838	4840665	Non-Participating	5.2
R-1457	523840	4840694	Non-Participating	5
R-1458	523840	4841126	Non-Participating	0
R-1459	523841	4841352	Non-Participating	5.1
R-1460	523842	4841167	Non-Participating	0
R-1461	523842	4841240	Non-Participating	0
R-1462	523843	4851254	Non-Participating	0
R-1463	523843	4841212	Non-Participating	0
R-1464	523849	4851295	Non-Participating	0
R-1465	523851	4851108	Non-Participating	0
R-1466	523868	4840358	Non-Participating	5.7
R-1467	523884	4851212	Non-Participating	0
R-1468	523884	4840689	Non-Participating	4.5
R-1469	523886	4840600	Non-Participating	4.8
R-1470	523886	4840621	Non-Participating	4.7
R-1471	523887	4851156	Non-Participating	0
R-1472	523887	4840663	Non-Participating	4.6
R-1473	523888	4840848	Non-Participating	5.3
R-1474	523888	4840910	Non-Participating	6.1
R-1475	523889	4840877	Non-Participating	6
R-1476	523890	4840579	Non-Participating	4.8
R-1477	523890	4841012	Non-Participating	2.8
R-1478	523891	4841285	Non-Participating	1.5
R-1479	523891	4840550	Non-Participating	4.7

Receptor ID	X [m]	Y [m]	Status	Shadow Flicker [hr/yr]
R-1480	523891	4840730	Non-Participating	4.3
R-1481	523891	4840943	Non-Participating	5.6
R-1482	523891	4841078	Non-Participating	0
R-1483	523892	4841047	Non-Participating	0
R-1484	523896	4841142	Non-Participating	0
R-1485	523902	4840369	Non-Participating	5.1
R-1486	523908	4840420	Non-Participating	4.8
R-1487	523908	4840452	Non-Participating	4.6
R-1488	523911	4851260	Non-Participating	0
R-1489	523912	4840493	Non-Participating	4.5
R-1490	523949	4840551	Non-Participating	4
R-1491	523966	4840492	Non-Participating	3.8
R-1492	523972	4840549	Non-Participating	3.8
R-1493	523995	4840740	Non-Participating	3.4
R-1494	524006	4840550	Non-Participating	3.5
R-1495	524011	4855957	Non-Participating	0
R-1496	524020	4840486	Non-Participating	3.3
R-1497	524020	4840684	Non-Participating	3.3
R-1498	524023	4840744	Non-Participating	3.2
R-1499	524025	4840638	Non-Participating	3.3
R-1500	524031	4840551	Non-Participating	3.2
R-1501	524075	4840648	Non-Participating	3
R-1502	524076	4840551	Non-Participating	2.9
R-1503	524083	4840742	Non-Participating	0
R-1504	524090	4840445	Non-Participating	3
R-1505	524094	4840485	Non-Participating	2.8
R-1506	524096	4856578	Non-Participating	0
R-1507	524117	4840733	Non-Participating	0
R-1508	524136	4840410	Non-Participating	2.7
R-1509	524139	4840347	Non-Participating	2.8
R-1510	524142	4840493	Non-Participating	2.5
R-1511	524147	4840553	Non-Participating	0
R-1512	524184	4840564	Non-Participating	0
R-1513	524189	4840629	Non-Participating	0
R-1514	524192	4840335	Non-Participating	0
R-1515	524198	4840379	Non-Participating	0
R-1516	524249	4854958	Non-Participating	0
R-1517	524256	4837250	Non-Participating	13.7
R-1518	524269	4855739	Non-Participating	0

Receptor ID	X [m]	Y [m]	Status	Shadow Flicker [hr/yr]
R-1519	524273	4852703	Non-Participating	0
R-1520	524345	4840564	Non-Participating	2.2
R-1521	524364	4842091	Non-Participating	0
R-1522	524365	4852586	Non-Participating	0
R-1523	524371	4840344	Non-Participating	2.7
R-1524	524374	4840359	Non-Participating	2.6
R-1525	524374	4840389	Non-Participating	2.6
R-1526	524374	4840431	Non-Participating	2.5
R-1527	524374	4840461	Non-Participating	2.5
R-1528	524374	4840375	Non-Participating	2.6
R-1529	524374	4840447	Non-Participating	2.5
R-1530	524375	4840329	Non-Participating	2.7
R-1531	524375	4840404	Non-Participating	2.5
R-1532	524375	4840492	Non-Participating	2.5
R-1533	524393	4840547	Non-Participating	2.5
R-1534	524405	4840467	Non-Participating	2.7
R-1535	524472	4840555	Non-Participating	3.1
R-1536	524473	4840469	Non-Participating	3.3
R-1537	524559	4840460	Non-Participating	4.3
R-1538	524638	4840469	Non-Participating	5.5
R-1539	524693	4840546	Non-Participating	6.3
R-1540	524746	4837243	Non-Participating	37.6
R-1541	524754	4854462	Non-Participating	0
R-1542	524769	4850476	Non-Participating	0
R-1543	524792	4840557	Non-Participating	8.9
R-1544	524933	4839647	Non-Participating	24.6
R-1545	524952	4851795	Non-Participating	0
R-1546	524958	4852121	Non-Participating	0
R-1547	524991	4838592	Non-Participating	0
R-1548	525025	4851688	Non-Participating	0
R-1549	525028	4854022	Non-Participating	0
R-1550	525044	4850756	Participating	0
R-1551	525045	4843510	Non-Participating	18.7
R-1552	525051	4839463	Non-Participating	22.6
R-1553	525051	4840762	Non-Participating	25.3
R-1554	525051	4843778	Non-Participating	0
R-1555	525093	4852463	Non-Participating	0
R-1556	525156	4836911	Non-Participating	29
R-1557	525194	4839783	Non-Participating	6.1

Receptor ID	X [m]	Y [m]	Status	Shadow Flicker [hr/yr]
R-1558	525201	4852351	Non-Participating	0
R-1559	525271	4855140	Non-Participating	0
R-1560	525273	4855944	Non-Participating	0
R-1561	525348	4839808	Non-Participating	4.7
R-1562	525362	4837879	Non-Participating	12.5
R-1563	525424	4838131	Non-Participating	11.3
R-1564	525658	4852735	Non-Participating	0
R-1565	525712	4848520	Non-Participating	14.5
R-1566	525735	4842050	Non-Participating	0
R-1567	525960	4838139	Non-Participating	0
R-1568	525975	4838063	Non-Participating	2.5
R-1569	526133	4839975	Non-Participating	0
R-1570	526170	4854828	Non-Participating	0
R-1571	526198	4853149	Non-Participating	0
R-1572	526226	4852834	Non-Participating	0
R-1573	526361	4842104	Non-Participating	0
R-1574	526504	4852125	Non-Participating	0
R-1575	526504	4851831	Non-Participating	0
R-1576	526637	4840091	Non-Participating	0