

December 2009

Global Solar Radiation on a Horizontal Surface
Hourly Integrated and Daily Totals
Instrument: Eppley PSP
Watt-Hours per Square Meter

Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily
1	0	0	0	0	0	0	0	33	163 ?	393 ?	414	473	487	432	320	166	35	0	0	0	0	0	0	0	2916 ?
2	0	0	0	0	0	0	0	2	15	42	93	187	132	114	69	41	9	1	0	0	0	0	0	0	705
3	0	0	0	0	0	0	0	7	21	38	58	60 ?	56	138	125	92	27	1	0	0	0	0	0	0	622
4	0	0	0	0	0	0	0	7	33	40	59	71	124	124	113	61 ?	19	0	0	0	0	0	0	0	652
5	0	0	0	0	0	0	0	2	7 ?	?	?	?	38 ?	39 ?	36 ?	30 ?	4	0	0	0	0	0	0	0	157 ?
6	0	0	0	0	0	0	0	4	25	89	108	131	78	105	80	66	13	3	0	0	0	0	0	0	703
7	0	0	0	0	0	0	0	11	75	102	112	79	107	80	51	42	15	4	0	0	0	0	0	0	679
8	0	0	0	0	0	0	0	10	52	106	169	197	85	48	30 ?	?	2	1	0	0	0	0	0	0	700 ?
9	0	0	0	0	0	0	0	12	105	243	359	435	465	431	323	202	44	3	0	0	0	0	0	0	2621
10	0	0	0	0	0	0	0	9	43	121	330	464	484	439	344	202	57	5	0	0	0	0	0	0	2498
11	0	0	0	0	0	0	0	9	117	281	397	395	424	433	292 ?	204	55	0	0	0	0	0	0	0	2606
12	0	0	0	0	0	0	0	9	126	228	308	352	283	246	151	89	23	0	0	0	0	0	0	0	1816
13	0	0	0	0	0	0	0	2	12 ?	?	?	79	99	100	57	36	9	2	0	0	0	0	0	0	395 ?
14	0	0	0	0	0	0	0	10	110	232	369	440	464	420	336	196	53	0	0	0	0	0	0	0	2630
15	0	0	0	0	0	0	0	1	6 ?	25 ?	39 ?	54	53	53	41	27	7	0	0	0	0	0	0	0	306 ?
16	0	0	0	0	0	0	0	5	54	215	377	446	465	425	334	197	54	0	0	0	0	0	0	0	2573
17	0	0	0	0	0	0	0	16	100	238	329 ?	424 ?	446	372	280 ?	185	46	0	0	0	0	0	0	0	2436 ?
18	0	0	0	0	0	0	0	4	27	68	106	94	53	37 ?	?	?	3	1	0	0	0	0	0	0	392 ?
19	0	0	0	0	0	0	0	2	11	25	36	41 ?	47 ?	?	29 ?	21 ?	6	1	0	0	0	0	0	0	220 ?
20	0	0	0	0	0	0	0	0	2 ?	?	?	?	?	?	?	?	3	0	0	0	0	0	0	0	6 ?
21	0	0	0	0	0	0	0	1	6 ?	?	?	?	?	?	?	?	3	0	0	0	0	0	0	0	10 ?
22	0	0	0	0	0	0	0	3	17	44	116	95 ?	561 ?	367 ?	331	193	56	0	0	0	0	0	0	0	1784 ?
23	0	0	0	0	0	0	0	17	143	271	427	411	437	407	302	184	44	0	0	0	0	0	0	0	2641
24	0	0	0	0	0	0	0	7	92	246	373	434	438	374	225	193	43	2	0	0	0	0	0	0	2426
25	0	0	0	0	0	0	0	4	22	68	77	169	182	201	109	126	33	7	0	0	0	0	0	0	998
26	0	0	0	0	0	0	0	14	95	165	259	345	485	429	305	269	106	12	0	0	0	0	0	0	2483
27	0	0	0	0	0	0	0	6	91	243	374	452	473	434	347	153	39	3	0	0	0	0	0	0	2614
28	0	0	0	0	0	0	0	5	35	138	180	181	368	294	144	70	17	4	0	0	0	0	0	0	1437
29	0	0	0	0	0	0	0	3	22	106	221	242	391	453	360	225	58	4	0	0	0	0	0	0	2085
30	0	0	0	0	0	0	0	7	47	99	268	266	348	304	226	98	40	6	0	0	0	0	0	0	1709
31	0	0	0	0	0	0	0	4	15	50	77	123	141	115	52	26	9	2	0	0	0	0	0	0	613
Avg	0	0	0	0	0	0	0	7	54	145	224	255	283	265	193	126	30	2	0	0	0	0	0	0	1433 ?
S D	0	0	0	0	0	0	0	6	47	99	137	159	184	159	125	77	24	3	0	0	0	0	0	0	1008
S/A	0	0	0	0	0	0	0	0.88	0.86	0.69	0.61	0.62	0.65	0.6	0.65	0.61	0.81	1.34	0	0	0	0	0	0	0.7
Min	0	0	0	0	0	0	0	0	2	25	36	41	38	37	29	21	2	0	0	0	0	0	0	0	6
Max	0	0	0	0	0	0	0	33	163	393	427	473	561	453	360	269	106	12	0	0	0	0	0	0	2916
n	0	0	0	0	0	0	0	184	334	307	309	315	321	312	305	296	367	43	0	0	0	0	0	0	3094

Daylight Data Recovery: 0.0% missing; 0.0% untested; 13.5% exceed the 15% QC threshold -- 3575 total daylight measurements.

Instrument: Eppley PSP Serial Number: 25821F3 Calibration Factor: 9.020 μV/W/m² Calibration Date: 05/1998

Data & Flag	Hour Column	Day Column
<value> *	> 20% Missing	> 10% Missing
<value> ?	> 20% Fail QC	> 10% Fail QC
<blank> *	> 90% Missing	> 90% Missing
<blank> ?	> 90% Fail QC	> 90% Fail QC

Note: Daily values with a missing flag (*) are not used in monthly statistics.

December 2009

Direct Normal Solar Radiation
 Hourly Integrated and Daily Totals
 Instrument: Eppley NIP
 Watt-Hours per Square Meter

Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily
1	0	0	0	0	0	0	0	?	*	*	*	*	*	*	*	*	*	*	0	0	0	0	0	0	*
2	0	0	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	0	0	*
3	0	0	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	0	0	*
4	0	0	0	0	0	0	0	*	*	*	*	*	*	?	?	?	*	?	0	0	0	0	0	0	*
5	0	0	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	0	0	*
6	0	0	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	0	0	*
7	0	0	0	0	0	0	0	?	*	*	*	*	*	*	*	?	*	*	0	0	0	0	0	0	*
8	0	0	0	0	0	0	0	?	482 *?	*	*	*	*	*	*	*	*	*	0	0	0	0	0	0	*
9	0	0	0	0	0	0	0	?	*	*	*	*	*	*	*	*	*	*	0	0	0	0	0	0	*
10	0	0	0	0	0	0	0	?	*	*	*	*	*	*	*	*	*	*	0	0	0	0	0	0	*
11	0	0	0	0	0	0	0	*	*	*	?	*	*	477 ?	355 ?	?	?	?	0	0	0	0	0	0	?
12	0	0	0	0	0	0	0	*	*	?	?	?	?	?	?	?	153	273	0	0	0	0	0	0	426 *?
13	0	0	0	0	0	0	0	683	776 ?	858	906 ?	?	?	?	?	?	?	?	0	0	0	0	0	0	3224 ?
14	0	0	0	0	0	0	0	?	?	?	*	*	*	*	*	*	*	*	0	0	0	0	0	0	*
15	0	0	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	0	0	*
16	0	0	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	0	0	*
17	0	0	0	0	0	0	0	16 ?	470 ?	704 ?	102 ?	?	?	466 ?	224 ?	?	?	?	0	0	0	0	0	0	1983 ?
18	0	0	0	0	0	0	0	?	?	?	?	?	?	?	?	?	?	?	0	0	0	0	0	0	?
19	0	0	0	0	0	0	0	?	?	?	?	?	?	?	?	?	?	?	0	0	0	0	0	0	?
20	0	0	0	0	0	0	0	?	?	?	?	?	?	?	?	?	?	?	0	0	0	0	0	0	?
21	0	0	0	0	0	0	0	196	225	193	200 ?	222	372	319	363	404	449	472	0	0	0	0	0	0	3416
22	0	0	0	0	0	0	0	?	?	?	?	?	929 ?	?	?	?	?	?	0	0	0	0	0	0	?
23	0	0	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	?	?	0	0	0	0	0	*
24	0	0	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	0	0	*
25	0	0	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	0	0	*
26	0	0	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	0	0	*
27	0	0	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	0	0	*
28	0	0	0	0	0	0	0	?	*	*	*	*	*	*	?	?	?	?	0	0	0	0	0	0	*
29	0	0	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	0	0	*
30	0	0	0	0	0	0	0	*	*	?	*	*	*	*	*	*	*	*	0	0	0	0	0	0	*
31	0	0	0	0	0	0	0	*	*	?	?	?	?	?	?	?	?	?	0	0	0	0	0	0	?
Avg	0	0	0	0	0	0	0	298	488	585	403	222	650	421	314	404	301	372	0	0	0	0	0	0	2874 *?
S D	0	0	0	0	0	0	0	345	226	348	439	0	394	88	78	0	209	141	0	0	0	0	0	0	778
S/A	0	0	0	0	0	0	0	1.16	0.46	0.59	1.09	0	0.61	0.21	0.25	0	0.69	0.38	0	0	0	0	0	0	0.27
Min	0	0	0	0	0	0	0	16	225	193	102	222	372	319	224	404	153	273	0	0	0	0	0	0	1983
Max	0	0	0	0	0	0	0	683	776	858	906	222	929	477	363	404	449	472	0	0	0	0	0	0	3416
n	0	0	0	0	0	0	0	11	29	30	12	12	15	25	20	12	23	2	0	0	0	0	0	0	166

Daylight Data Recovery: 64.1% missing; 0.0% untested; 30.5% exceed the 15% QC threshold -- 3575 total daylight measurements.

Instrument: Eppley NIP Serial Number: 17664E6 Calibration Factor: 8.480 μV/W/m² Calibration Date: 05/1998

Data & Flag	Hour Column	Day Column
<value> *	> 20% Missing	> 10% Missing
<value> ?	> 20% Fail QC	> 10% Fail QC
<blank> *	> 90% Missing	> 90% Missing
<blank> ?	> 90% Fail QC	> 90% Fail QC

Note: Daily values with a missing flag (*) are not used in monthly statistics.

December 2009

Diffuse Solar Radiation (Shadow Band) on a Horizontal Surface
Hourly Integrated and Daily Totals
Instrument: Eppley PSP
Watt-Hours per Square Meter

Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily
1	0	0	0	0	0	0	0	20	85	69	50	50	51	40	56	41	23	0	0	0	0	0	0	0	485
2	0	0	0	0	0	0	0	2	15	42	99	201	141	122	73	43	9	1	0	0	0	0	0	0	747
3	0	0	0	0	0	0	0	7	20	38	60	54	59	146	130	95	27	0	0	0	0	0	0	0	635
4	0	0	0	0	0	0	0	6	31	38	57	69	130	131	118	62	19	0	0	0	0	0	0	0	659
5	0	0	0	0	0	0	0	1	8	14 ?	22 ?	27 ?	30 ?	31	28 ?	19 ?	3	0	0	0	0	0	0	0	182 ?
6	0	0	0	0	0	0	0	3	18	54	65	65	42	43	34	23	6	0	0	0	0	0	0	0	352
7	0	0	0	0	0	0	0	3	18	38	45	33	72	86	56	47	18	5	0	0	0	0	0	0	422
8	0	0	0	0	0	0	0	10	54	110	169	204	86	50	28	15 ?	2	1	0	0	0	0	0	0	728
9	0	0	0	0	0	0	0	12	92	214 ?	200	137	71	66	61	53	20	2	0	0	0	0	0	0	928
10	0	0	0	0	0	0	0	8	43	119	196	85	71	57	49	37	18	4	0	0	0	0	0	0	686
11	0	0	0	0	0	0	0	7	108	? ?	225 ?	122	116	124	101 ?	32	15	0	0	0	0	0	0	0	849 ?
12	0	0	0	0	0	0	0	7	109	195 ?	235	201	239	215	153	92	24	0	0	0	0	0	0	0	1470
13	0	0	0	0	0	0	0	2	14	20 ?	63	85	104	105	60	38	10	2	0	0	0	0	0	0	502
14	0	0	0	0	0	0	0	11	84	214	283 ?	93	61	60	43	35	20	0	0	0	0	0	0	0	904
15	0	0	0	0	0	0	0	1	8	22	31	55	56	56	43	27	7	0	0	0	0	0	0	0	305
16	0	0	0	0	0	0	0	5	50	120 ?	328 ?	109	55	51	44	34	15	0	0	0	0	0	0	0	811 ?
17	0	0	0	0	0	0	0	19 ?	89	178 ?	302 ?	114 ?	76	111	128 ?	65	15	0	0	0	0	0	0	0	1097 ?
18	0	0	0	0	0	0	0	3	27	71	112	99	56	30	17 ?	? ?	2	0	0	0	0	0	0	0	416 ?
19	0	0	0	0	0	0	0	1	8	18	26	29	29	19 ?	22	14 ?	4	0	0	0	0	0	0	0	169 ?
20	0	0	0	0	0	0	0	0	1 ?	? ?	? ?	21 ?	? ?	? ?	? ?	? ?	1	0	0	0	0	0	0	0	24 ?
21	0	0	0	0	0	0	0	0	4	13 ?	21	? ?	? ?	22 ?	? ?	? ?	2	0	0	0	0	0	0	0	62 ?
22	0	0	0	0	0	0	0	1	10	23	35	67	129 ?	157	73	48	22	0	0	0	0	0	0	0	566
23	0	0	0	0	0	0	0	19 ?	63 ?	181	271 ?	145	83	86	71	39	14	0	0	0	0	0	0	0	973 ?
24	0	0	0	0	0	0	0	9	92	? ?	360 ?	150	99	89	153	103	40	1	0	0	0	0	0	0	1096 ?
25	0	0	0	0	0	0	0	4	21	62	82	180	194	211	115	123	34	6	0	0	0	0	0	0	1033
26	0	0	0	0	0	0	0	16	92 ?	147	251	144	58	69	106	134	56	12 ?	0	0	0	0	0	0	1085
27	0	0	0	0	0	0	0	5	91	? ?	? ?	166	61	58	54	60	28	3	0	0	0	0	0	0	526 ?
28	0	0	0	0	0	0	0	4	35	123	181	186	185	204	144	73	17	4	0	0	0	0	0	0	1157
29	0	0	0	0	0	0	0	3	22	108	221	238	160	56	45	36	16	2	0	0	0	0	0	0	908
30	0	0	0	0	0	0	0	6	47	102	236	262	221	273	149	100	38	6	0	0	0	0	0	0	1440
31	0	0	0	0	0	0	0	4	16	52	80	128	148	121	55	26	9	2	0	0	0	0	0	0	641
Avg	0	0	0	0	0	0	0	6	44	88	148	117	99	96	76	54	17	2	0	0	0	0	0	0	705 ?
S D	0	0	0	0	0	0	0	6	35	65	106	66	57	64	43	33	13	3	0	0	0	0	0	0	373
S/A	0	0	0	0	0	0	0	0.89	0.8	0.74	0.71	0.56	0.57	0.67	0.57	0.61	0.74	1.66	0	0	0	0	0	0	0.53
Min	0	0	0	0	0	0	0	0	1	13	21	21	29	19	17	14	1	0	0	0	0	0	0	0	24
Max	0	0	0	0	0	0	0	20	109	214	360	262	239	273	153	134	56	12	0	0	0	0	0	0	1470
n	0	0	0	0	0	0	0	172	353	282	292	335	338	336	323	312	368	42	0	0	0	0	0	0	3157

Daylight Data Recovery: 0.0% missing; 0.0% untested; 11.7% exceed the 15% QC threshold -- 3575 total daylight measurements.

Instrument: Eppley PSP Serial Number: 17860F3 Calibration Factor: 7.010 μV/W/m² Calibration Date: 05/1998

Data & Flag	Hour Column	Day Column
<value> *	> 20% Missing	> 10% Missing
<value> ?	> 20% Fail QC	> 10% Fail QC
<blank> *	> 90% Missing	> 90% Missing
<blank> ?	> 90% Fail QC	> 90% Fail QC

Note: Daily values with a missing flag (*) are not used in monthly statistics.