

**September 2004**

**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	3	44	104	331	477	589	634	461	691	557	423	266	109	33	0	0	0	0	0	4723
2	0	0	0	0	0	2	24	74	326	341	478	465	340	245	321	321	254	179	28	0	0	0	0	0	3398
3	0	0	0	0	0	2	64	155	325	528	591	606	439	671	172	172	271	108	25	0	0	0	0	0	4129
4	0	0	0	0	0	1	18	118	251	492	459	453	742	630	618	415	341	158	20	0	0	0	0	0	4715
5	0	0	0	0	0	0	34	201	431	622	816	866	801	786	632	537	348	165	23	0	0	0	0	0	6262
6	0	0	0	0	0	0	36	139	314	559	504	583	181	250	226	120	74	56	13	0	0	0	0	0	3055
7	0	0	0	0	0	0	10	24	43	60	119	163	150	165	105	107	62	17 ?	5	0	0	0	0	0	1031
8	0	0	0	0	0	0	3	28	63	123	114	125	226	136	123	73 ?	46	21	5	0	0	0	0	0	1085
9	0	0	0	0	0	0	10	37	65	98	240	266	289	396	330	192	89	32	10	0	0	0	0	0	2053
10	0	0	0	0	0	0	17	64	168	569	611	510	643	610	458	549	377	147	10	0	0	0	0	0	4732
11	0	0	0	0	0	0	40	182	435 ?	535	702	832	903	819	691	525	252	74	11	0	0	0	0	0	5999
12	0	0	0	0	0	0	57	218	367	525	618	610	484	418	285	353	126	94	16	0	0	0	0	0	4171
13	0	0	0	0	0	0	29	136	325	558	539	645	584	623	396	275	230	73	5	0	0	0	0	0	4416
14	0	0	0	0	0	0	3	34	131	130	290	220	134 ?	97 ?	106	146	110	32	22	0	0	0	0	0	1454
15	0	0	0	0	0	0	32	196	392	579	717	796	817	766	651	500	293	107	4	0	0	0	0	0	5850
16	0	0	0	0	0	0	12	68	94	152	214	270	417	322	243	105	69	19	1	0	0	0	0	0	1986
17	0	0	0	0	0	0	8	37	68	232	158	83	111	142	94	94	44	18	2	0	0	0	0	0	1090
18	0	0	0	0	0	0	3	?	44 ?	69	142	197	562	555	541	477	320	92	6	0	0	0	0	0	3008 ?
19	0	0	0	0	0	0	27	145	222 ?	608	694	818	835	776	663	500	308	105	0	0	0	0	0	0	5701
20	0	0	0	0	0	0	42	210	412	596	734	815	829	778	664	498	303	105	2	0	0	0	0	0	5990
21	0	0	0	0	0	0	38	201	400	578	712	790	805	739	605	398	304	111	6	0	0	0	0	0	5688
22	0	0	0	0	0	0	35	110 ?	?	607 ?	688	760	772	720	613	455	271	85	1	0	0	0	0	0	5117 ?
23	0	0	0	0	0	0	28	131 ?	?	646	690	773	782	711	623	482	280	74	5	0	0	0	0	0	5225 ?
24	0	0	0	0	0	0	38	172	356	505	672	737	652	660	586	348	254	68	1	0	0	0	0	0	5048
25	0	0	0	0	0	0	34	162	273	486	612	461	533	596	540	364	143	66	1	0	0	0	0	0	4271
26	0	0	0	0	0	0	10	45	92	246	415	607	705	683	517	350	193	74	8	0	0	0	0	0	3945
27	0	0	0	0	0	0	16	69	146	108	186	171	258	128	95	45	?	3 ?	0	0	0	0	0	0	1224 ?
28	0	0	0	0	0	0	8	16 ?	34	51	57 ?	187	160	133	56 ?	63 ?	?	2 ?	1	0	0	0	0	0	768 ?
29	0	0	0	0	0	0	14	72	181	323	267	452	658	501	386	347	213	61	5	0	0	0	0	0	3479
30	0	0	0	0	0	0	12	63	109	165	322	709	742	421	385	285	228	39	0	0	0	0	0	0	3483
Avg	0	0	0	0	0	0	25	111	229	385	465	520	534	506	409	317	217	76	9	0	0	0	0	0	3770
S D	0	0	0	0	0	1	16	65	138	212	233	252	254	244	214	166	102	48	9	0	0	0	0	0	1736
S/A	0	0	0	0	0	2.89	0.65	0.58	0.6	0.55	0.5	0.49	0.48	0.48	0.52	0.52	0.47	0.63	1.04	0	0	0	0	0	0.46
Min	0	0	0	0	0	0	3	16	34	51	57	83	111	97	56	45	44	2	0	0	0	0	0	0	768
Max	0	0	0	0	0	3	64	218	435	646	816	866	903	819	691	549	377	179	33	0	0	0	0	0	6262
n	0	0	0	0	0	4	315	328	310	349	355	360	355	356	355	343	334	344	164	0	0	0	0	0	4276

Daylight Data Recovery: 0.0% missing; 3.8% exceed the 15% QC threshold -- 4444 total daylight measurements.

Instrument: Eppley PSP    Serial Number: 25821F3    Calibration Factor: 9.020 μV/W/m<sup>2</sup>    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.

**September 2004**

**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	1	27	3	266	262	263	299	147	476	379	246	243	57	2	0	0	0	0	0	2670
2	0	0	0	0	0	0	0	1	70	13	44	54	9	2	7	41	148	367	47	0	0	0	0	0	804
3	0	0	0	0	0	0	109	121	180	406	314	236	17	226	0	1	213	85	4	0	0	0	0	0	1912
4	0	0	0	0	0	0	0	16	15	161	52	14	242	250	449	331	517	439	44	0	0	0	0	0	2530
5	0	0	0	0	0	0	23	384	632	650	799	758	694	789	618	688	605	477	54	0	0	0	0	0	7172
6	0	0	0	0	0	0	1	89	176	293	190	238	1	4	1	0	0	0	0	0	0	0	0	0	993
7	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	4
8	0	0	0	0	0	0	0	0	0	1	0	0	3	0	0	0	0	0	0	0	0	0	0	0	5
9	0	0	0	0	0	0	0	0	0	1	15	5	3	37	15	1	0	0	0	0	0	0	0	0	76
10	0	0	0	0	0	0	0	0	1	534	595	271	379	453	394	720	604	497	21	0	0	0	0	0	4470
11	0	0	0	0	0	0	49	354 ?	725 ?	627	756	837	842	827	744	733	349	64	0	0	0	0	0	0	6907
12	0	0	0	0	0	0	108	348	426	504	449	351	129	108	40	182	10	30	2	0	0	0	0	0	2687
13	0	0	0	0	0	0	15	103	423	596	215	324	184	296	173	49	91	15	0	0	0	0	0	0	2484
14	0	0	0	0	0	0	0	0	1	0	2	1	0	1	1	1	1	2	0	0	0	0	0	0	10
15	0	0	0	0	0	0	81	480	663	810	862	894	900	841	780	765	581	318	1	0	0	0	0	0	7977
16	0	0	0	0	0	0	0	1	0	2	3	3	34	12	4	0	0	0	0	0	0	0	0	0	59
17	0	0	0	0	0	0	0	1	0	17	0	0	1	1	0	0	0	0	0	0	0	0	0	0	20
18	0	0	0	0	0	0	0	0	0	0	1	5	208	274	446	643	754	402	0	0	0	0	0	0	2734
19	0	0	0	0	0	0	0	41	307 ?	947	907	1000	1008	981	951	909	823	578	1	0	0	0	0	0	8451
20	0	0	0	0	0	0	264	747	888	954	985	998	997	988	974	921	823	563	0	0	0	0	0	0	10102
21	0	0	0	0	0	0	257	739	880	944	977	987	984	902	705	702	782	388	0	0	0	0	0	0	9248
22	0	0	0	0	0	0	185	543 ?	831 ?	875 ?	914	930	926	904	877	817	710	423	0	0	0	0	0	0	8934 ?
23	0	0	0	0	0	0	29	337 ?	?	910	943	960	947	893	864	878	727	291	0	0	0	0	0	0	7780 ?
24	0	0	0	0	0	0	148	438	627	727	839	756	472	549	649	400	513	231	0	0	0	0	0	0	6348
25	0	0	0	0	0	0	72	277	188	400	479	203	293	481	543	421	115	77	0	0	0	0	0	0	3550
26	0	0	0	0	0	0	0	0	0	13	128	445	582	623	538	417	289	138	0	0	0	0	0	0	3173
27	0	0	0	0	0	0	0	0	7	1	3	2	4	0	0	0	0	0	0	0	0	0	0	0	19
28	0	0	0	0	0	0	0	0	0	0	0	1	2	1	0	0	0	0	0	0	0	0	0	0	4
29	0	0	0	0	0	0	0	2	37	170	21	123	549	346	272	345	335	123	0	0	0	0	0	0	2323
30	0	0	0	0	0	0	0	0	1	1	11	558	585	190	225	285	362	49	0	0	0	0	0	0	2268
Avg	0	0	0	0	0	0	46	168	253	361	359	375	371	382	355	350	320	187	6	0	0	0	0	0	3524
S D	0	0	0	0	0	0	76	235	315	363	386	383	381	362	347	341	305	203	15	0	0	0	0	0	3336
S/A	0	0	0	0	0	4.76	1.68	1.4	1.24	1.01	1.08	1.02	1.02	0.95	0.98	0.98	0.95	1.08	2.52	0	0	0	0	0	0.95
Min	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Max	0	0	0	0	0	1	264	747	888	954	985	1000	1008	988	974	921	823	578	54	0	0	0	0	0	10102
n	0	0	0	0	0	4	316	346	320	355	360	360	360	360	360	360	360	360	164	0	0	0	0	0	4386

Daylight Data Recovery: 0.0% missing; 1.3% exceed the 15% QC threshold -- 4444 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.

**September 2004**

**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	?	44	112	229	308	384	389	340	309	284	286	159	101	35	0	0	0	0	0	2978
2	0	0	0	0	0	?	26	78	303	351	464	435	352	261	341	298	195	101	24	0	0	0	0	0	3230
3	0	0	0	0	0	?	50	131	242	282	364	425	454	510	186	189	196	88	26	0	0	0	0	0	3143
4	0	0	0	0	0	?	20	118	255	398	436	473	526	451	302	228	133	66	17	0	0	0	0	0	3423
5	0	0	0	0	0	0	32	92	153	235	251	275	230	169	196	157	112	68	18	0	0	0	0	0	1988
6	0	0	0	0	0	0	38	125	234	388	375	403	194	262	248	131	79	61	14	0	0	0	0	0	2552
7	0	0	0	0	0	0	10	25	47	61	128	176	163	179	114	116	67	16	5	0	0	0	0	0	1110
8	0	0	0	0	0	0	4	30	63	136	125	137	241	145	129	58	46	23	5	0	0	0	0	0	1141
9	0	0	0	0	0	0	11	39	71	107	237	283	310	382	340	206	97	34	10	0	0	0	0	0	2125
10	0	0	0	0	0	0	20	68	180	200	172	284	328	252	184	164	146	55	10	0	0	0	0	0	2065
11	0	0	0	0	0	0	32	90 ?	171 ?	176	159	185	239	195	195	139	113	64	11	0	0	0	0	0	1770
12	0	0	0	0	0	0	47	137	184	233	298	331	386	341	275	258	126	95	17	0	0	0	0	0	2726
13	0	0	0	0	0	0	31	113	175	222	382	387	437	411	279	260	204	72	5	0	0	0	0	0	2980
14	0	0	0	0	0	0	3	32	142	143	315	241	125 ?	92	113	157	119	31	23	0	0	0	0	0	1534
15	0	0	0	0	0	0	23	78	108	111	118	112	113	139	142	105	83	53	5	0	0	0	0	0	1190
16	0	0	0	0	0	0	13	74	101	163	230	290	397	333	260	113	75	20	2	0	0	0	0	0	2070
17	0	0	0	0	0	0	8	40	71	234	171	90	119	150	103	101	47	19	1	0	0	0	0	0	1155
18	0	0	0	0	0	0	3	10 ?	35	74	152	203	396	353	262	156	63	32	7	0	0	0	0	0	1746
19	0	0	0	0	0	0	30	125	65	54	65	60	59	57	55	43	32	15	1	0	0	0	0	0	660
20	0	0	0	0	0	0	16	36	47	56	62	66	67	63	55	46	35	19	4	0	0	0	0	0	571
21	0	0	0	0	0	0	13	35	47	54	58	61	64	87	155	63	50	48	7	0	0	0	0	0	741
22	0	0	0	0	0	0	19	44 ?	57	67 ?	76	74	74	74	68	58	45	23	2	0	0	0	0	0	682
23	0	0	0	0	0	0	20	46	57	54	58	64	72	73	85	62	46	31	6	0	0	0	0	0	673
24	0	0	0	0	0	0	27	74	100	101	115	180	286	268	191	157	98	35	1	0	0	0	0	0	1632
25	0	0	0	0	0	0	26	99	208	262	283	314	319	259	218	171	109	56	1	0	0	0	0	0	2324
26	0	0	0	0	0	0	11	48	99	250	339	272	269	246	186	159	108	55	8	0	0	0	0	0	2052
27	0	0	0	0	0	0	16	74	150	113	192	178	271	138	102	45	20 ?	3 ?	0	0	0	0	0	0	1302
28	0	0	0	0	0	0	9	17	37	56	55	201	172	144	51	34	17 ?	2 ?	0	0	0	0	0	0	795
29	0	0	0	0	0	0	15	76	177	242	268	366	264	265	228	187	119	46	6	0	0	0	0	0	2261
30	0	0	0	0	0	0	13	67	118	176	329	305	315	291	247	167	130	35	0	0	0	0	0	0	2193
Avg	0	0	0	0	0	0	21	71	131	177	222	242	253	230	186	144	96	46	9	0	0	0	0	0	1827
S D	0	0	0	0	0	0	13	37	75	104	125	126	130	122	86	75	52	28	9	0	0	0	0	0	854
S/A	0	0	0	0	0	0	0.61	0.52	0.58	0.59	0.56	0.52	0.51	0.53	0.46	0.52	0.54	0.61	0.98	0	0	0	0	0	0.47
Min	0	0	0	0	0	0	3	10	35	54	55	60	59	57	51	34	17	2	0	0	0	0	0	0	571
Max	0	0	0	0	0	0	50	137	303	398	464	473	526	510	341	298	204	101	35	0	0	0	0	0	3423
n	0	0	0	0	0	0	307	346	350	356	360	360	357	358	360	359	354	353	164	0	0	0	0	0	4384

Daylight Data Recovery: 0.0% missing; 1.4% exceed the 15% QC threshold -- 4444 total daylight measurements.

Instrument: Eppley PSP    Serial Number: 17860F3    Calibration Factor: 7.010  $\mu\text{V}/\text{W}/\text{m}^2$     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.