

**October 2003**

**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	4	10 ?	61	77	97	57 ?	125	109	87	68	54	51	3	0	0	0	0	0	804 ?
2	0	0	0	0	0	0	13	40	110	153	357	580	741	722	613	455	259	64	0	0	0	0	0	0	4107
3	0	0	0	0	0	0	33	174	377	529	648	705	702	677	629	364	150	40	0	0	0	0	0	0	5027
4	0	0	0	0	0	0	1	17 ?	40	53	74	128	343	164	149	205 ?	37 ?	0	0	0	0	0	0	0	1212 ?
5	0	0	0	0	0	0	23	134	336 ?	509	624	531	588	532	490	311	204	23	0	0	0	0	0	0	4305
6	0	0	0	0	0	0	20	121	332	501	543	679	577	561	543	352	210	47	0	0	0	0	0	0	4487
7	0	0	0	0	0	0	23	104	330 ?	482	641	522	264	563	503	253	80	20	0	0	0	0	0	0	3784
8	0	0	0	0	0	0	19	134	320	441	599	695	710	653	398	320	176	42	0	0	0	0	0	0	4505
9	0	0	0	0	0	0	5	69	256	226	233	284	240	155	139	65	35	7	0	0	0	0	0	0	1714
10	0	0	0	0	0	0	12	43	125	297	451	436	591	570	416	204	106	18	0	0	0	0	0	0	3269
11	0	0	0	0	0	0	9	46	177	275	285	349	479	371	510	267	135	27	0	0	0	0	0	0	2928
12	0	0	0	0	0	0	28	73	105	92	71	92	135	217	235	121	44 ?	17	0	0	0	0	0	0	1230
13	0	0	0	0	0	0	14	125	284	464	604	426	441	468	182	182	128	29	0	0	0	0	0	0	3348
14	0	0	0	0	0	0	10	79	256	365	308	422	273	154 ?	91	53	24 ?	2	0	0	0	0	0	0	2038 ?
15	0	0	0	0	0	0	10	49	155	180	325	464	699	616	537	356	185	35	0	0	0	0	0	0	3612
16	0	0	0	0	0	0	13	124	312	482	616	670	688	643	527	365	174	31	0	0	0	0	0	0	4645
17	0	0	0	0	0	0	10	76	154	207	340	353	203	51 ?	68	73	64	10	0	0	0	0	0	0	1610
18	0	0	0	0	0	0	10	113	325	451	579	679	686	631	516	356	168	30	0	0	0	0	0	0	4545
19	0	0	0	0	0	0	13	129	291	459	589	660	668	611	493	341	157	26	0	0	0	0	0	0	4437
20	0	0	0	0	0	0	12	105	221 ?	333	591	650	626	608	411	237	164	31	0	0	0	0	0	0	3989
21	0	0	0	0	0	0	9	83	193	404	412	332	496	457	434	249	88	14	0	0	0	0	0	0	3172
22	0	0	0	0	0	0	8	92	235	434	594	617	583	645	557	321	151	27	0	0	0	0	0	0	4263
23	0	0	0	0	0	0	3	25	67	158	178	183	241	176	210	240	123	10	0	0	0	0	0	0	1612
24	0	0	0	0	0	0	6	144 ?	280	452	578	647	652	589	470	311	132	16	0	0	0	0	0	0	4278
25	0	0	0	0	0	0	11	92	252	395	523	562	548	532	364	229	130	19	0	0	0	0	0	0	3658
26	0	0	0	0	0	0	7	65	153	222	142	125	93	78	50	37 ?	6 ?	2	0	0	0	0	0	0	981
27	0	0	0	0	0	0	1	4 ?	38 ?	37 ?	59 ?	73 ?	92	89	54 ?	89	50	19	0	0	0	0	0	0	605 ?
28	0	0	0	0	0	0	5	56	117	261	429	310	309	276	165	124	50	8	0	0	0	0	0	0	2110
29	0	0	0	0	0	0	2	8	61	158	532 ?	335	629	559	432	303	124	17	0	0	0	0	0	0	3160
30	0	0	0	0	0	0	5	78	247	403	526	597	598	549	440	276	118	8	0	0	0	0	0	0	3848
31	0	0	0	0	0	0	4	78	254	365	532	584	598	525	351	250	83	8	0	0	0	0	0	0	3632
Avg	0	0	0	0	0	0	11	80	209	318	422	443	472	437	357	238	116	23	0	0	0	0	0	0	3126
S D	0	0	0	0	0	0	8	44	101	152	195	209	213	217	185	112	62	15	1	0	0	0	0	0	1334
S/A	0	0	0	0	0	0	0.71	0.55	0.48	0.48	0.46	0.47	0.45	0.5	0.52	0.47	0.53	0.68	5.57	0	0	0	0	0	0.43
Min	0	0	0	0	0	0	1	4	38	37	59	57	92	51	50	37	6	0	0	0	0	0	0	0	605
Max	0	0	0	0	0	0	33	174	377	529	648	705	741	722	629	455	259	64	3	0	0	0	0	0	5027
n	0	0	0	0	0	0	171	348	337	365	365	359	372	362	364	357	349	267	2	0	0	0	0	0	4018

Daylight Data Recovery: 0.0% missing; 3.5% exceed the 15% QC threshold -- 4162 total daylight measurements.

Instrument: Eppley PSP    Serial Number: 25821F3    Calibration Factor: 9.020  $\mu\text{V}/\text{W}/\text{m}^2$     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.

Bluefield State College  
 37.27 N Latitude 81.24 W Longitude 803 Meters AMSL Time Zone -5

October 2003

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	1	1	0	0	0	0	0	0	21	0	0	0	0	0	0	24
2	0	0	0	0	0	0	0	0	1	7	114	362	714	920	966	931	813	419	0	0	0	0	0	0	5247
3	0	0	0	0	0	0	211	696	844	774	709	701	650	800	939	389	59	13	0	0	0	0	0	0	6786
4	0	0	0	0	0	0	0	0	0	0	0	1	70	2	1	31	0	0	0	0	0	0	0	0	105
5	0	0	0	0	0	0	59	474 ?	794 ?	812	649	131	150	344	379	242	324	17	0	0	0	0	0	0	4373
6	0	0	0	0	0	0	4	221	653	730	538	692	494	553	667	609	640	265	0	0	0	0	0	0	6066
7	0	0	0	0	0	0	44	370 ?	736 ?	776	798	508	149	544	569	272	22	23	0	0	0	0	0	0	4813
8	0	0	0	0	0	0	45	372	628	723	697	782	754	774	420	310	266	77	0	0	0	0	0	0	5847
9	0	0	0	0	0	0	0	41	192	11	3	3	13	2	0	0	0	1	0	0	0	0	0	0	266
10	0	0	0	0	0	0	0	0	1	60	178	104	291	371	327	111	50	4	0	0	0	0	0	0	1498
11	0	0	0	0	0	0	0	0	31	67	2	3	93	44	430	379	73	5	0	0	0	0	0	0	1128
12	0	0	0	0	0	0	28	10	1	1	0	1	1	43	81	8	0	0	0	0	0	0	0	0	176
13	0	0	0	0	0	0	22	293	486	652	707	251	262	281	5	98	106	4	0	0	0	0	0	0	3168
14	0	0	0	0	0	0	1	61	257	236	60	127	18	10	1	0	0	0	0	0	0	0	0	0	772
15	0	0	0	0	0	0	0	8	59	27	125	350	713	789	867	785	709	294	0	0	0	0	0	0	4726
16	0	0	0	0	0	0	59	545	731	788	824	805	880	933	920	841	652	230	0	0	0	0	0	0	8209
17	0	0	0	0	0	0	4	37	27	9	43	74	7	0	0	0	0	0	0	0	0	0	0	0	202
18	0	0	0	0	0	0	0	420	735	720	795	862	902	939	929	859	698	295	0	0	0	0	0	0	8156
19	0	0	0	0	0	0	48	479	672	752	791	835	875	903	882	822	655	247	0	0	0	0	0	0	7961
20	0	0	0	0	0	0	25	525	589 ?	634	826	803	767	904	487	402	575	201	0	0	0	0	0	0	6739
21	0	0	0	0	0	0	0	215	243	449	257	38	312	358	392	259	19	0	0	0	0	0	0	0	2542
22	0	0	0	0	0	0	0	275	290	506	709	702	675	785	864	676	385	101	0	0	0	0	0	0	5970
23	0	0	0	0	0	0	0	0	0	10	3	4	24	3	33	218	295	4	0	0	0	0	0	0	595
24	0	0	0	0	0	0	0	341 ?	741	787	815	841	877	900	890	818	657	244	0	0	0	0	0	0	7911
25	0	0	0	0	0	0	1	298	490	604	621	543	474	579	361	240	231	20	0	0	0	0	0	0	4460
26	0	0	0	0	0	0	0	27	44	29	1	1	0	0	0	0	0	0	0	0	0	0	0	0	103
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	15	34	0	0	0	0	0	0	52
28	0	0	0	0	0	0	0	43	163	433	469	80	9	11	1	1	0	0	0	0	0	0	0	0	1209
29	0	0	0	0	0	0	0	0	1	44	614	297	747	822	781	830	642	269	0	0	0	0	0	0	5047
30	0	0	0	0	0	0	0	391	674	743	773	810	822	827	876	765	496	54	0	0	0	0	0	0	7230
31	0	0	0	0	0	0	0	335	668	538	777	703	756	696	439	502	219	49	0	0	0	0	0	0	5681
Avg	0	0	0	0	0	0	18	209	347	385	416	368	403	456	436	368	277	93	0	0	0	0	0	0	3776
S D	0	0	0	0	0	0	41	212	319	337	345	341	352	379	374	332	288	124	0	0	0	0	0	0	2947
S/A	0	0	0	0	0	0	2.29	1.01	0.92	0.88	0.83	0.92	0.87	0.83	0.86	0.9	1.04	1.33	0	0	0	0	0	0	0.78
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	24
Max	0	0	0	0	0	0	211	696	844	812	826	862	902	939	966	931	813	419	0	0	0	0	0	0	8209
n	0	0	0	0	0	0	171	362	349	371	370	372	372	372	372	372	372	269	2	0	0	0	0	0	4126

Daylight Data Recovery: 0.0% missing; 0.9% exceed the 15% QC threshold -- 4162 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.

**Bluefield State College**  
**37.27 N Latitude 81.24 W Longitude 803 Meters AMSL Time Zone -5**

**October 2003**

**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	3	13	59	82	104	55	136	119	90	70	58	50	2	0	0	0	0	0	839
2	0	0	0	0	0	0	15	42	117	159	285	302	209	99	60	47	36	15	0	0	0	0	0	0	1386
3	0	0	0	0	0	0	9	30	49	91	144	160	206	126	95	181	133	39	0	0	0	0	0	0	1263
4	0	0	0	0	0	0	1	16	42	57	80	137	306	176	159	157 ?	34	0	0	0	0	0	0	0	1166
5	0	0	0	0	0	0	14	37 ?	54	72	170	409	447	289	257	201	125	22	0	0	0	0	0	0	2097
6	0	0	0	0	0	0	20	56	79	98	176	161	219	194	179	98	53	18	0	0	0	0	0	0	1351
7	0	0	0	0	0	0	17	43 ?	65	73	106	150	149	202	186	146	75	19	0	0	0	0	0	0	1233
8	0	0	0	0	0	0	14	60	89	101	128	130	171	150	160	187	113	37	0	0	0	0	0	0	1340
9	0	0	0	0	0	0	5	63	178	232	244	302	245	164	150	63	36	7	0	0	0	0	0	0	1689
10	0	0	0	0	0	0	15	46	135	262	314	343	347	304	218	149	94	18	0	0	0	0	0	0	2245
11	0	0	0	0	0	0	9	48	165	248	300	370	405	348	245	97	110	27	0	0	0	0	0	0	2372
12	0	0	0	0	0	0	28	67	113	99	76	98	145	191	199	121	37	18	0	0	0	0	0	0	1192
13	0	0	0	0	0	0	12	60	104	117	138	243	251	284	187	153	99	29	0	0	0	0	0	0	1678
14	0	0	0	0	0	0	10	73	158	238	273	330	263	112	82	49	23 ?	2	0	0	0	0	0	0	1612
15	0	0	0	0	0	0	13	50	135	170	242	204	199	124	95	63	37	13	0	0	0	0	0	0	1345
16	0	0	0	0	0	0	11	34	53	65	74	92	78	68	60	52	39	14	0	0	0	0	0	0	639
17	0	0	0	0	0	0	9	71	150	214	317	299	209	46	74	79	68	10	0	0	0	0	0	0	1548
18	0	0	0	0	0	0	11	35	53	81	76	68	65	57	50	42	30	10	0	0	0	0	0	0	578
19	0	0	0	0	0	0	10	36	57	66	70	69	68	65	58	47	32	10	0	0	0	0	0	0	590
20	0	0	0	0	0	0	9	28	53	66	59	82	91	66	154	87	59	19	0	0	0	0	0	0	773
21	0	0	0	0	0	0	9	44	109	165	239	315	270	225	237	150	86	14	0	0	0	0	0	0	1862
22	0	0	0	0	0	0	8	48	142	168	127	115	112	171	140	81	83	19	0	0	0	0	0	0	1213
23	0	0	0	0	0	0	2	26	71	159	186	191	231	183	193	162	75	10	0	0	0	0	0	0	1489
24	0	0	0	0	0	0	7 ?	31 ?	43	46	47	52	57	60	51	43	25	5	0	0	0	0	0	0	468
25	0	0	0	0	0	0	12 ?	44	83	82	115	161	201	174	176	136	91	18	0	0	0	0	0	0	1292
26	0	0	0	0	0	0	9 ?	62	142	211	152	134	98	83	52	32	9 ?	2	0	0	0	0	0	0	986
27	0	0	0	0	0	0	0	4 ?	25	35	53	57	98	94	44	85	50	15	0	0	0	0	0	0	560
28	0	0	0	0	0	0	3	44	64	92	132	242	312	273	176	131	53	9	0	0	0	0	0	0	1529
29	0	0	0	0	0	0	1	8	55	120	146	129	130	82	74	44	27	9	0	0	0	0	0	0	825
30	0	0	0	0	0	0	6 ?	24	41	46	47	49	62	82	49	41	43	6	0	0	0	0	0	0	496
31	0	0	0	0	0	0	5 ?	31	51	92	53	98	98	113	134	83	43	6	0	0	0	0	0	0	809
Avg	0	0	0	0	0	0	10	41	88	123	151	179	190	152	132	99	61	16	0	0	0	0	0	0	1241
S D	0	0	0	0	0	0	6	18	44	67	86	107	103	82	67	51	33	11	0	0	0	0	0	0	513
S/A	0	0	0	0	0	0	0.61	0.44	0.5	0.54	0.57	0.6	0.54	0.54	0.51	0.51	0.54	0.71	5.57	0	0	0	0	0	0.41
Min	0	0	0	0	0	0	0	4	25	35	47	49	57	46	44	32	9	0	0	0	0	0	0	0	468
Max	0	0	0	0	0	0	28	73	178	262	317	409	447	348	257	201	133	50	2	0	0	0	0	0	2372
n	0	0	0	0	0	0	156	352	366	371	370	372	372	371	372	367	361	267	2	0	0	0	0	0	4099

Daylight Data Recovery: 0.0% missing; 1.5% exceed the 15% QC threshold -- 4162 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.