

# Calibration History of the Eppley PSP # 17846F3 Pyranometer

This page shows the calibration history of the PSP 17846F3. The responsivity used to transform the irradiance voltage data into  $Wm^{-2}$  is a running average of the responsivity obtained over the years. This reduces the variation of the responsivities associated with the random uncertainty of a given calibration (See Figs. 1 & 2). The rate of change of the pyranometer responsivity is related to exposure to UV radiation. The responsivity values used are in the comprehensive format files or the site files. The responsivities measured during specific calibrations are listed in Table 1.

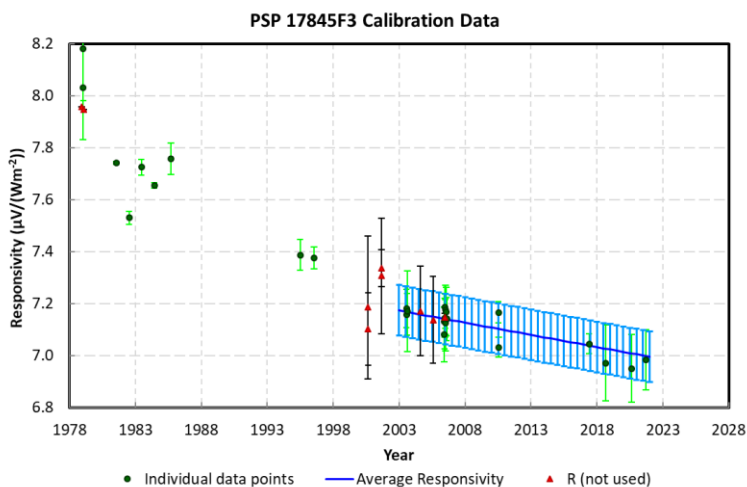


Figure 1: All calibration data plotted against time with long-term trend

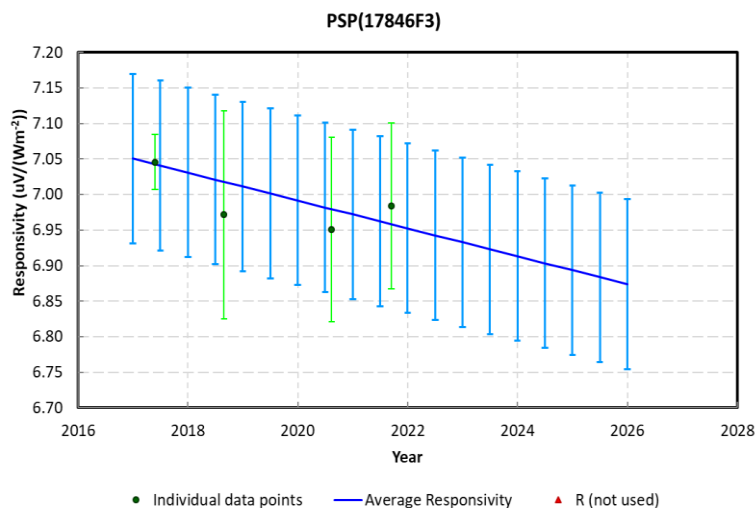


Figure 2: Calibration data plotted against time for 10 year trend

## Information provided in the table 1 are:

- Date of calibration
- Responsivity value
- Uncertainty at the 95% level of confidence
- Average SZA over which the calibration value was obtained
- Average temperature during the calibration
- Type of calibration and instruments used
- Location of calibration
- Notes

Table 1: Calibration information for PSP 17846F3

	Calibration Date	Responsivity ( $\mu V/Wm^{-2}$ )	Uncertainty ( $\mu V/Wm^{-2}$ )	Average SZA ( $^{\circ}$ )	Temperature (C)	Reference Instruments	Location	Notes
1	1978/11/30	7.9570			25.00			
2	1979/01/06	8.0300	0.2000		-2.80	PSP_13365F3 R=8.330?	Eugene, OR	not used low SZA
3	1979/01/15	8.1800	0.2000		5.60	PSP_13365F3 R=8.330?	Eugene, OR	not used low SZA

4	1979/02/06	8.1300			25.00	Factory	Factory	not used low SZA
5	1981/07/16	7.7408	0.0050		25.00	PSP_13365F3 R=8.330	Burns, OR	
6	1982/07/07	7.5299	0.0240			PSP_13365F3 R=8.330	Burns, OR	
7	1983/06/14	7.7244	0.0300			PSP_13365F3 R=8.330	Burns, OR	
8	1984/06/07	7.6547	0.0100			PSP_13365F3 R=8.250	Burns, OR	
9	1985/09/12	7.7566	0.0600			PSP_13365F3 R=8.250	Burns, OR	
10	1995/06/25	7.3876	0.0600			PSP_13365F3 R=7.749	Burns, OR	
11	1996/07/19	7.3762	0.0410			PSP_13365F3 R=7.749	Burns, OR	
12	2000/08/19?	7.1021	0.1400			PSP_13365F3 R=7.582	Burns, OR	
13	2001/08/29	7.3372	0.0710		25.80	PSP_13365F3 R=7.514	Burns, OR	
14	2000/08/17?	7.1860	0.2755	44.83	26.58	PSP_13365F3 R=7.7118	Burns, OR	
15	2001/08/29	7.3064	0.2216	44.88	27.06	PSP_13365F3 R=7.6971	Burns, OR	
16	2003/07/23	7.186	0.0729	45.02	29.54	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
17	2003/08/04	7.1580	0.0804	44.99	25.62	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
18	2003/08/04	7.1700	0.1549	45.03	27.63	NIP_18948E6 R=8.1358, Schenk_1315, R=14.89	Eugene, OR	
19	2004/08/09	6.9973	0.3150	45.00	23.73	ACR, Eppley B&W	NREL	
20	2005/07/28	6.9631	0.2923	45.00	25.04	ACR, Eppley B&W	NREL	
21	2000/08/17?	7.1470	0.0170	44.83	26.58	Side by Side PSP_13365F3?	Eugene, OR	
22	2006/05/29	7.0813	0.1060	45.78	22.33	NIP_18948E6 R=8.1358, Schenk_1315, R=14.89	Eugene, OR	
23	2006/06/06	7.1328	0.1056	44.95	27.22	NIP_18948E6 R=8.1358, Schenk_1315, R=14.89	Eugene, OR	
24	2003/08/04	7.0755	0.0804	44.94	20.76	NIP_18948E6 R=8.1358, Schenk_1315, R=14.89	Eugene, OR	
25	2006/06/24	7.1880	0.0755	44.95	29.76	NIP_18948E6 R=8.1358, PSP_17518F3, R=7.763	Eugene, OR	
26	2006/06/27	7.1310	0.0852	45.01	27.71	NIP_18948E6 R=8.1358, Schenk_1315, R=14.89	Eugene, OR	
27	2006/07/07	7.1271	0.1091	45.02	26.57	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
28	2006/07/16	7.1762	0.0941	45.01	29.32	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
29	2006/07/26	7.1694	0.0945	44.97	26.85	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
30	2006/08/06	7.11409	0.0832	44.95	26.85	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
31	2010/07/14	7.1666	0.0411	44.81	28.55	ACR, Schenk_1315 R=14.89	Eugene, OR	
32	2010/07/15	7.0326	0.0379	45.05	26.36	ACR, Schenk_1315 R=14.89	Eugene, OR	
33	2017/05/26	7.0458	0.0388	45.01	22.79	ACR, R=1.0005, Schenk_1315 R=14.89	Eugene, OR	
34	2018/08/28	6.9715	0.1462	45.00	25.50	Side by Side CMP22_120363, R=9.6939	Seattle, WA	
35	2020/08/12	6.9512	0.1296	44.92	21.54	Side by Side with CMP22_120363, R=9.6981	Seattle, WA	
36	2021/09/14	6.9842	0.1168	44.541		ACR, R=1.00038, CMP22_120363, R=9.7005	Eugene, OR	