

# Calibration History of the Eppley PSP # 19211F3 Pyranometer

This page shows the calibration history of the PSP 19211F3. The responsivity used to transform the irradiance voltage data into  $Wm^{-2}$  is a running average of the calibration responsivities 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.

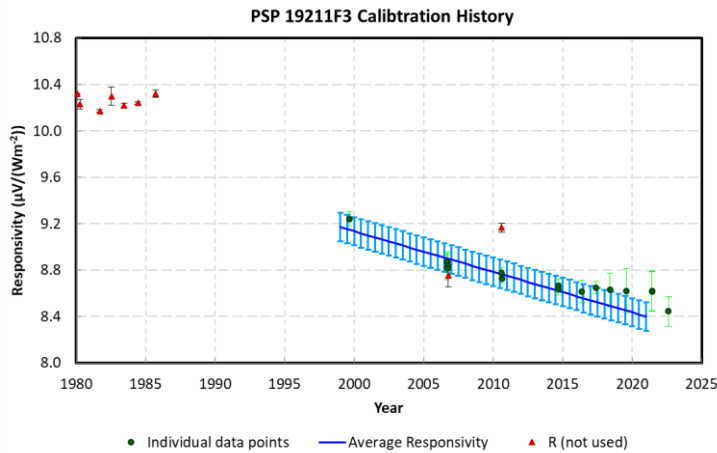


Figure 1: All calibration data plotted against time with long-term trend

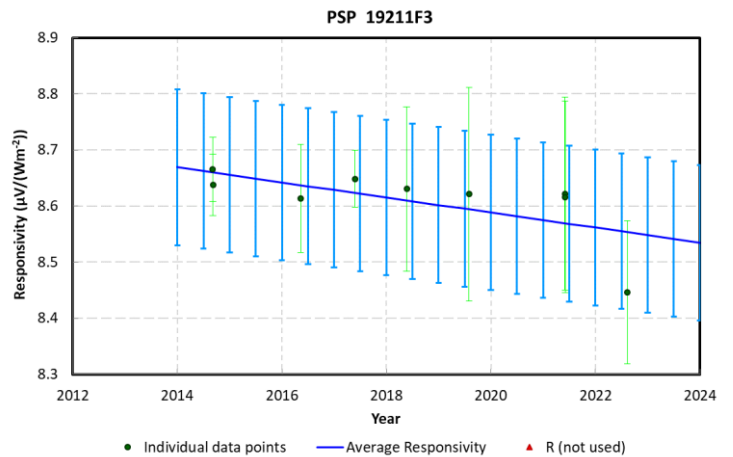


Figure 2: Calibration trend over the past 10 years

## 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 19211F3 P6

	Calibration Date	Responsivity ( $\mu V/Wm^{-2}$ )	Uncertainty ( $\mu V/Wm^{-2}$ )	Average SZA ( $^{\circ}$ )	Temperature (C)	Reference Instruments	Location	Notes
1	1980/01/14	10.59		-	25	factory	Factory	
2	1980/04/12	10.23	0.04	-	23	PSP_13365F3 R=8.33	Eugene, OR	Uncertainty 1 standard deviation
3	1981/09/01	10.17	0.01	-	-	PSP_13365F3 R=8.33	Twin Falls, ID	Uncertainty 1 standard deviation

4	1982/07/10	10.3	0.08	-	-	PSP_13365F3 R=8.33	Twin Falls, ID	Uncertainty 1 standard deviation
5	1983/06/14	10.22	0.02	-	-	PSP_13365F3 R=8.33	Twin Falls, ID	Uncertainty 1 standard deviation
6	1984/06/08	10.24	0.01	-	-	PSP_13365F3 R=8.25	Twin Falls, ID	Uncertainty 1 standard deviation
7	1985/09/19	10.32	0.03	-	-	PSP_13365F3 R=8.25	Eugene, OR	Uncertainty 1 standard deviation
8	1999/08/25 to 1999/08/29	9.244	0.066	49.8	26.5	DNI N5 8.069, DHI P16 R=8.101	Eugene, OR	Uncertainty 1 standard deviation
9	2010/08/13	9.166	0.039	-	-	ACR, Schenk_1315 R=14.89?	Eugene, OR	Uncertainty 1 standard deviation
10	2006/09/01	8.82441	0.10791	45.04842	25.31744	NIP 18948E6 R =8.13580, Schenk_1315 R=14.89	Eugene, OR	
11	2006/09/05	8.8647	0.08361	44.97059	26.1455	NIP 18948E6 R =8.13580, Schenk_1315 R=14.89	Eugene, OR	
12	2006/09/08	8.87387	0.08502	44.89366	24.3734	NIP 18948E6 R =8.13580, Schenk_1315 R=14.89	Eugene, OR	
13	2006/09/22	8.83654	0.1084	45.22075	23.29791	NIP 18948E6 R =8.13580, Schenk_1315 R=14.89	Eugene, OR	
14	2006/09/29	8.81463	0.08483	46.76205	24.17109	NIP 18948E6 R =8.13580, Schenk_1315 R=14.89	Eugene, OR	
15	2006/10/07	8.75384	0.09478	50.29639	19.7646	NIP 18948E6 R =8.13580, Schenk_1315 R=14.89	Eugene, OR	
16	2010/08/13	8.77979	0.04755	44.93277	33.7372	ACR, Schenk_1315 R=14.89?	Eugene, OR	
17	2010/08/16	8.72937	0.04195	44.56341	23.079	ACR, Schenk_1315 R=14.89?	Eugene, OR	

18	2014/09/04	8.66555	0.05732	44.96203	27.22318	ACR, Schenk_1315 R=14.89	Eugene, OR	
19	2014/09/05	8.63762	0.05487	45.07577	24.2524	ACR, Schenk_1315 R=14.89	Eugene, OR	
20	2016/05/11	8.61373	0.09635	44.99515	23.50014	ACR R=1.00069, Schenk_1315 R=14.89	Eugene, OR	
21	2017/05/26	8.64829	0.05075	45.00511	22.79377	ACR R=1.0005 Schenk_1315 R=14.89	Eugene, OR	
22	2018/05/22	8.630498146	0.146517991	44.99581 072	22.00273381	ACR R=1.0002, Schenk_1315 R=14.9111	Eugene, OR	
23	2019/08/01	8.6211115862	0.190608275	45.11777 151	25.73832794	ACR R=1.00034, CMP22_120363 R=9.6981	Eugene, OR	
24	2021/06/02	8.622084958	0.171615071	44.93154 23	27.10290698	ACR R=1.00038, CMP22_120363 R=9.7005	Eugene, OR	
25	2021/06/03	8.616057575	0.170916468	45.09940 858	25.45663096	ACR R=1.00038, CMP22_120363 R=9.7005	Eugene, OR	
26	2022/08/11	8.446194564	0.127688649	45.04220 684	-	ACR R=1.00038, CMP22_120365 R=8.9202	Eugene, OR	