



High Precision Solar Radiation

S1092W / S1092Z

- 9 μV sensitivity
- 1% cosine response
- Linearity 0.5%

The Precision Spectral Pyranometer is a World Meteorological Organization First Class Radiometer, designed for the measurement of sun and sky radiation, totally, or in defined broad wavelength bands. It comprises a circular multi-junction wire-wound Eppley thermopile, which has the ability to withstand severe mechanical vibration and shock. Its receiver is coated with Parson's black lacquer (non-wavelength selective absorption). This instrument is supplied with a pair of removable precision ground and polished hemispheres of Schott optical glass. Both hemispheres are made of clear WG295 glass, which is uniformly transparent to energy between 0.285 to 2.8 μm . For special applications, other Schott glasses and Infrasil II quartz hemispheres are available. Included is a spirit level, adjustable leveling screws and a desiccator which can be readily inspected. The instrument has a cast bronze body with a white enameled guard disk (shield), and comes with a transit/storage case. A calibration certificate, traceable to the World Radiation Reference, and a temperature compensation curve are also included.



**Technical Specifications****S1092W / S1092Z**Measurement

Spectral Response:	285 - 2800
Sensitivity:	9 $\mu\text{V}/\text{Wm}^{-2}$ (approx)
Impedance:	650 ohms (approx)
Temperature Dependence:	+/- 1% over ambient temperature range -20°C to $+40^{\circ}\text{C}$ (temperature compensation of sensitivity can be supplied over other ranges at additional charge)
Linearity:	+/- 0.5% from 0 to 2800 Wm^{-2}
Response Time:	1 second (1/e signal)
Cosine:	+/- 1% from normalization 0- 70° zenith angle +/- 3% $70-80^{\circ}$ zenith angle
Mechanical Vibration:	Tested up to 20 g's without damage
Calibration:	Integrating hemisphere
Orientation:	Performance is not affected by orientation or tilt

PHYSICAL

Size:	5 $\frac{3}{4}$ inch diameter, 3 $\frac{3}{4}$ inch height
Weight:	7 lbs