



# THE EPPLEY LABORATORY, INC.

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## STANDARDIZATION OF EPPLEY PRECISION SPECTRAL PYRANOMETER Model PSP

Serial Number: 31246F3

Resistance: 680  $\Omega$  at 23°C

Temperature Compensation Range: -20° to +40°C

This radiometer has been compared with Standard Precision Spectral Pyranometer, Serial Number 21231F3 in Eppley's Integrating Hemisphere under radiation intensities of approximately 700 watts meter<sup>-2</sup> (roughly one half a solar constant).

As a result of a series of comparisons, it has been found to have a sensitivity of:

$$8.42 \times 10^{-6} \text{ volts/watts meter}^{-2}$$

The calculation of this constant is based on the fact that the relationship between radiation intensity and emf is rectilinear to intensities of 1400 watts meter<sup>-2</sup>. This radiometer is linear to within  $\pm 0.5\%$  up to this intensity.

The calibration of this instrument is traceable to standard self-calibrating cavity pyrhemometers in terms of the Systems Internationale des Unites (SI units), which participated in the Eleventh International Pyrhemometric Comparisons (IPC XI) at Davos, Switzerland in September-October 2010.

Eppley recommends a minimum calibration cycle of five (5) years but encourages annual calibrations for highest measurement accuracy. Unless otherwise stated in the remarks section below or on the Sales Order, the results are "AS FOUND / AS LEFT".

Useful conversion facts: 1 cal cm<sup>-2</sup> min<sup>-1</sup> = 697.3 watts meter<sup>-2</sup>  
1 BTU/ft<sup>2</sup>-hr<sup>-1</sup> = 3.153 watts meter<sup>-2</sup>

Shipped to: University of Hawaii Marine Center  
Ocean Technology Group  
Honolulu, HI

Date of Test: July 16, 2012

In Charge of Test:

S.O. Number: 63500

Date: July 16, 2012

Reviewed by:

Remarks: Sensitivity before repainting element =  $8.08 \times 10^{-6}$  volts/watts meter<sup>-2</sup>