



# THE EPPLEY LABORATORY, INC.

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## STANDARDIZATION OF EPPLEY PRECISION SPECTRAL PYRANOMETER Model PSP

Serial Number: 31246F3

Resistance: 681Ω 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:

$$8.51 \times 10^{-6} \text{ volts/watts meter}^{-2}$$

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 ± 0.5% up to this intensity.

The calibration of this instrument is traceable to standard self-calibrating cavity pyrheliometers in terms of the Systems Internationale des Unites (SI units), which participated in the Tenth International Pyrheliometric Comparisons (IPC X) at Davos, Switzerland in September-October 2005.

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 SOEST  
Honolulu, HI

Date of Test: April 14, 2009

S.O. Number: 62035  
Date: April 15, 2009

In Charge of Test:

Reviewed by:

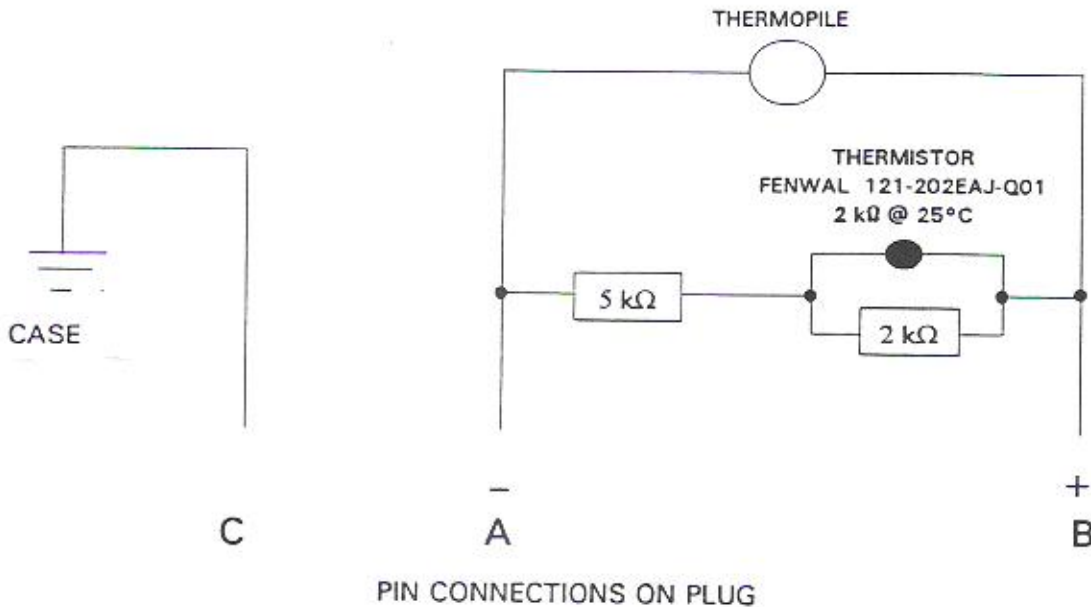
*Debra L. Gentry*  
*George L. Kirk*

Remarks:

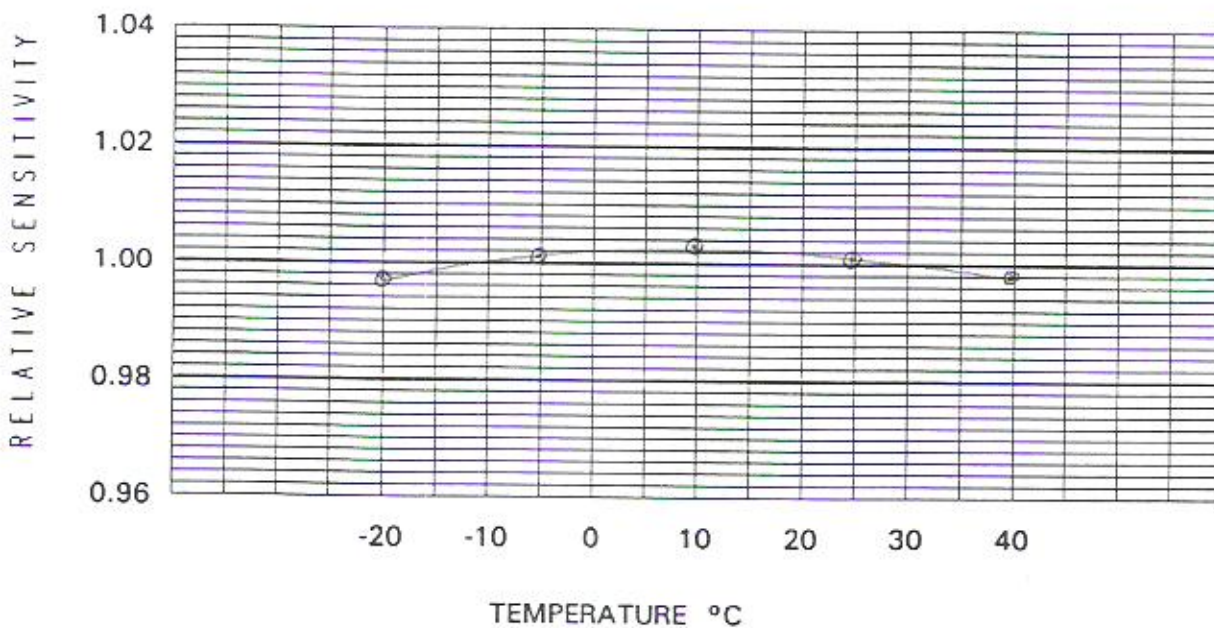
# PRECISION SPECTRAL PYRANOMETER MODEL PSP

INSTRUMENT SERIAL NUMBER: 31246F3

## INTERNAL WIRING



## TEMPERATURE DEPENDENCE



TESTED BY: D. Denty

DATE: APRIL 13, 2009