

Biospherical Instruments Inc.

CALIBRATION CERTIFICATE

Calibration Date 11/19/07
Model Number QSP2150 Firmware Version v 1.1
Serial Number 50115
Operator AMB
Standard Lamp HEC1632(10/25/06)
Sensor Operating Voltage Range: 6 to 15 VDC (+)
Output Polarity: Positive

Sensor Conditions at Calibration (in air):

Calibration Voltage: 6 VDC (+)
Sensor Current: 5.0 mA

Sensor Output Voltage:

Sensor Illuminated 143.3 mV
Sensor Dark 10.0 mV
Sensor Net Response 133.4 mV
RG780 10.2 mV

Corrected Lamp Output:

Output In Air (same condition as calibration):
1.53E-02 $\mu\text{E}/\text{cm}^2\text{sec}$

Output Corrected for Immersion in Water: 2.58E-02 $\mu\text{E}/\text{cm}^2\text{sec}$ Using Immersion Coefficient of:
0.59375 (Collector Type: SC-3)

Calibration Scale Factor:

(To calculate irradiance, divide the net voltage reading in Volts by this value.)

Dry: 8.709E+00 Volts/ $(\mu\text{E}/\text{cm}^2\text{sec})$
Wet: 5.171E+00 Volts/ $(\mu\text{E}/\text{cm}^2\text{sec})$
Dry: 8.709E-04 Volts/ $(\mu\text{E}/\text{m}^2\text{sec})$
Wet: 5.171E-04 Volts/ $(\mu\text{E}/\text{m}^2\text{sec})$

Notes:

1. Annual calibration is recommended.
2. Calibration is performed using a Standard of Spectral Irradiance traceable to the National Institute of Standards and Technology (NIST).
3. To approximate the sensor's saturating irradiance, multiply the calibration factor by the sensor power supply voltage, minus one volt.
4. The collector should be cleaned frequently with alcohol.