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## Biospherical Instruments Inc.

### CALIBRATION CERTIFICATE

Calibration Date 1/10/2005  
Model Number QSR-2200  
Serial Number 20146  
Operator TPC  
Standard Lamp 99134(12/26/03)  
Probe Excitation Voltage Range: 6 to 18 VDC(+)  
Output Polarity: POSITIVE

#### Probe Conditions at Calibration(in air):

Calibration Voltage: 6 VDC(+)  
Probe Current: 3.6 mA

#### Probe Output Voltage:

Probe Illuminated 87.9 mV  
Probe Dark 1.7 mV  
Probe Net Response 86.2 mV

#### Corrected Lamp Output:

Output In Air (same condition as calibration):

8.82E+15 quanta/cm<sup>2</sup>sec  
0.01465 uE/cm<sup>2</sup>sec

#### Calibration Factor:

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

Dry: 9.77E-18 V/(quanta/cm<sup>2</sup>sec)  
5.88E+00 V/(uE/cm<sup>2</sup>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. The collector should be cleaned frequently with alcohol.
4. Calibration was performed with customer cable, when available.