

# Biospherical Instruments Inc.

## CALIBRATION CERTIFICATE

SPAR

Calibration Date 5/4/2010  
Model Number QSR2200  
Serial Number 20121  
Operator TPC  
Standard Lamp GS-1019(8/28/08)  
Probe Excitation Voltage Range: 6 to 18 VDC(+)  
Output Polarity: Positive

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

Calibration Voltage: 6 VDC(+)  
Probe Current: 3.4 mA

### Probe Output Voltage:

Probe Illuminated 85.0 mV  
Probe Dark 1.9 mV  
Probe Net Response 83.1 mV  
RG780 2.2 mV

### Corrected Lamp Output:

Output In Air (same condition as calibration):

9.088E+15 quanta/cm<sup>2</sup>sec  
0.01509 uE/cm<sup>2</sup>sec

### Calibration Scale Factor:

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

Dry: 9.1382E-18 V/(quanta/cm<sup>2</sup>sec)  
5.5030E+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.