

Calibration Date: 04/18/16      Job No.: R12597  
Model Number: QSP2300  
Serial Number: 70497  
Operator: TPC  
Standard Lamp: V-035(3/4/15)  
Operating Voltage Range: 6      to      15      VDC (+)

Note: The QSP2300 output is a voltage that is proportional to the log of the incident irradiance.  
To calculate irradiance, use this formula:

$$\text{Irradiance} = \text{Calibration factor} * (10^{\wedge}\text{Light Signal Voltage} - 10^{\wedge}\text{Dark Voltage})$$

Dry Calibration Factor: 3.31E+12      quanta/cm<sup>2</sup>·sec per volt      5.50E-06      μEinsteins/cm<sup>2</sup>·sec per volt  
Wet Calibration Factor: 5.84E+12      quanta/cm<sup>2</sup>·sec per volt      9.70E-06      μEinsteins/cm<sup>2</sup>·sec per volt

#### Sensor Test Data and Results<sup>2)</sup>

Sensor Supply Current (Dark): 3.4      mA  
Supply Voltage: 6      Volts  
Lamp Integrated PAR Irradiance: 1.03E+16      quanta/cm<sup>2</sup>·sec      0.01713      μEinsteins/cm<sup>2</sup>·sec  
Immersion Coefficient: 0.566

Nominal Filter OD	Expected Transmission	Calibrated Trans.	Sensor Voltage	Expected Voltage	Voltage % Error	Measured Trans.	Transmission Error (%)	Test Irrad. (quanta/cm <sup>2</sup> ·sec)
No Filter	100%	100.00%	3.494	3.494	0%	100.00%	0.0	1.03E+16
0.3	50%	36.10%	3.058	3.052	0%	36.62%	-1.4	3.78E+15
0.5	32%	27.60%	2.944	2.935	0%	28.13%	-1.9	2.90E+15
1	10%	9.27%	2.475	2.461	1%	9.54%	-2.9	9.85E+14
2	1%	1.11%	1.562	1.539	1%	1.14%	-2.4	1.17E+14
3	0.10%	0.05%	0.436	0.222	49%	0.06%	-3.4	5.72E+12
RG780	0.00%	0.00%	0.002	0.002	-18%	0.00%	-100.0	1.53E+10

Dark Before: 0.002      Volts  
Light - No Filter Hldr.: 3.494      Volts  
Dark After - NFH: 0.002      Volts  
Average Dark: 0.0024      Volts

#### Notes:

1. Annual calibration is recommended.
- 2) This section is for internal use and for more advanced analysis.