

Calibration Date: 06/24/20

Job No.: L20087

Model Number: QSP2300

Serial Number: 70778

Operator: TPC

Standard Lamp: V-040(1/3/2019)

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:

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

Dry Calibration Factor: 4.08E+12 quanta/cm<sup>2</sup>.sec per volt      6.77E-06  $\mu$ Einsteins/cm<sup>2</sup>.sec per volt  
Wet Calibration Factor: 7.20E+12 quanta/cm<sup>2</sup>.sec per volt      1.20E-05  $\mu$ Einsteins/cm<sup>2</sup>.sec per volt

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

Sensor Supply Current (Dark): 3.5 mA  
Supply Voltage: 6 Volts

Lamp Integrated PAR Irradiance: 9.40E+15 quanta/cm<sup>2</sup>.sec      0.01561  $\mu$ Einsteins/cm<sup>2</sup>.sec  
Immersion Coefficient: 0.566

Test Irrad.

Nominal Filter OD	Expected Transmission	Calibrated Trans.	Sensor Voltage	Expected Voltage	Voltage % Error	Measured Trans.	Transmission Error (%)	(quanta/cm <sup>2</sup> .sec)
No Filter	100%	100.00%	3.363	3.363	0%	100.00%	0.0	9.40E+15
0.3	50%	36.10%	2.917	2.921	0%	35.75%	1.0	3.36E+15
0.5	32%	27.60%	2.804	2.804	0%	27.57%	0.1	2.59E+15
1	10%	9.27%	2.326	2.330	0%	9.14%	1.4	8.60E+14
2	1%	1.11%	1.400	1.408	-1%	1.05%	6.1	9.83E+13
3	0.10%	0.05%	0.278	0.091	67%	0.04%	38.5	3.66E+12
RG780	0.00%	0.00%	0.279	0.003	99%	0.04%	-100.0	3.67E+12

Dark Before: 0.003 Volts  
 Light - No Filter Hldr.: 3.363 Volts  
 Dark After - NFH: 0.003 Volts  
 Average Dark 0.0033 Volts

Notes:

1. Annual calibration is recommended.

2) This section is for internal use and for more advanced analysis.