06/24/20 Job No.:

L20087

Model Number: Serial Number QSP2300 70777

Calibration Date:

Operator: TPC

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

Operating Voltage Range: Ö VDC (+)

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

Irradiance = Calibration factor \* (10^Light Signal Voltage - 10^Dark Voltage)

Dry Calibration Factor: 4.05E+12 quanta/cm²·sec per volt 6.72E-06 μEinsteins/cm²·sec per volt µEinsteins/cm²·sec per volt

Wet Calibration Factor: Sensor Test Data and Results<sup>2)</sup> Lamp Integrated PAR Irradiance: Sensor Supply Current (Dark): Immersion Coefficient: Supply Voltage 7.15E+12 quanta/cm<sup>2</sup>·sec per volt 9.40E+15 0.566 quanta/cm2 sec 1.19E-05 0.01561 µEinsteins/cm²sec

Nominal Filter OD No Filter 0.3	Expected Transmission 100% 50%	cted Calibrated ission Trans. % 100.00% % 36.10%	Sensor Voltage 3.366 2.921	Expected Voltage 3.366 2.924	Voltage % Error 0% 0%	Measured Trans. 100.00% 35.82%	Transmission Error (%) 0.0 0.8	Test Irrad. (quanta/ cm <sup>2</sup> ·sec) 9.40E+15 3.37E+15
	32%	27.60%	2.806	2.807	0%	27.51%	0.3	
	10%	9.27%	2.334	2.333	0%	9.24%	0.3	
	1%	1.11%	1.421	1.411	1%	1.09%	1.7	
	0.10%	0.05%	0.318	0.094	71%	0.05%	18.3	
	0.00%	0.00%	0.247	0.013	95%	0.03%	-100.0	

## Light - No Filter Hldr.: Dark Before

Dark After - NFH: Average Dark 0.0134 0.013 3.366 0.013 Volts
Volts
Volts

Annual calibration is recommended.

<sup>2)</sup> This section is for internal use and for more advanced analysis