



Photon Flux Test Report

Test results reported for:

ATLANTIS HYDROPONICS

Orb Optronix report:

ATLS001-020

Original issue date:

6/13/2016

Prepared for: **Atlantis Hydroponics**
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Test report approved by:
Aaron Miller
Lab Manager

1.0 Description of test sample

Orb test sample identificaton: -01		Manufacturer specifications:	
Manufacturer:	ATLANTIS HYDROPONICS	Voltage (V):	240
Part number:		Test Current (mA):	4.4
Model Number:	XXXX 1000E	Wattage (W):	1000
Description:		Frequency (Hz):	60
Additional equipment:			

2.0 Scope of testing

Spectral radiant flux measured in integrating sphere.

2.1 Test protocol and data reduction

1. Data is recorded for the 350nm to 850nm spectral range with a 1 nm resolution.
2. Lamp is energized for stablization time of at least 0.5h prior to initiating test.
3. Reflector assembly oriented in glass down orientation.

2.2 Laboratory conditions

Test Date: 10-Jun-16

Ambient Temperature: 24.9 °C

Humidity: 51 %RH

3.0 Results

Radiant Power Measurements

Total Integrated Radiant Flux (350-850nm):	474.44	W
Radiant Efficiency:	44.72%	% (optical watts out/electrical watts in)

PAR Measurements

PAR PPF (400-700nm):	1839.59	$\mu\text{moles}/\text{m}^2/\text{s}$
Total Integrated PPF*:	1971.44	$\mu\text{moles}/\text{m}^2/\text{s}$
PPF Efficacy:	1.858	$(\mu\text{moles}/\text{m}^2/\text{s})/\text{W}$ (PPF out/electrical watts in)
Total Integrated YPF**:	1755.42	$\mu\text{moles}/\text{m}^2/\text{s}$
YPF Efficacy:	1.655	$(\mu\text{moles}/\text{m}^2/\text{s})/\text{W}$ (YPF out/electrical watts in)
Photosynthetically Active Yield Efficiency:	0.890	% (YPF/PPF)

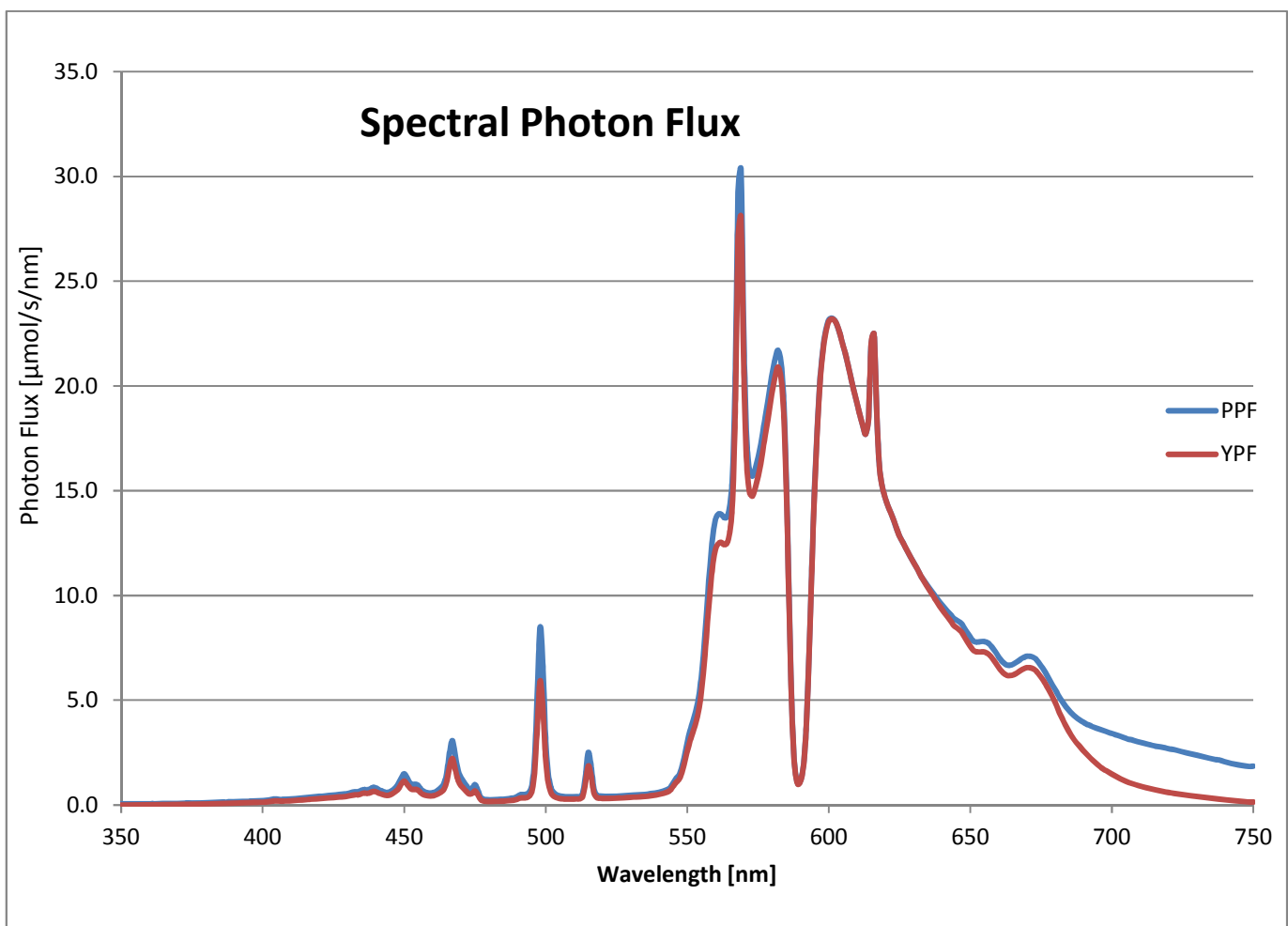
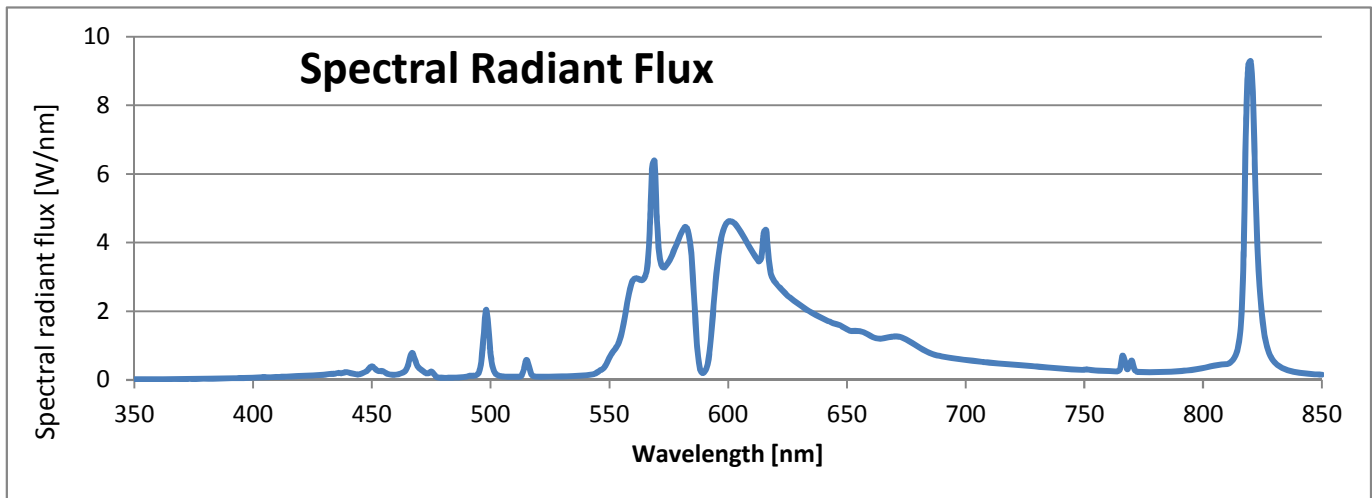
* Photosynthetic Photon Flux: weighted equally by wavelength and summed between 350nm and 750nm.

** Yield Photon Flux: PPF weighted by action spectrum (average of 20 plant species as defined by McCree) and summed between 350nm and 750nm. (See section 5.0)

Electrical Measurements

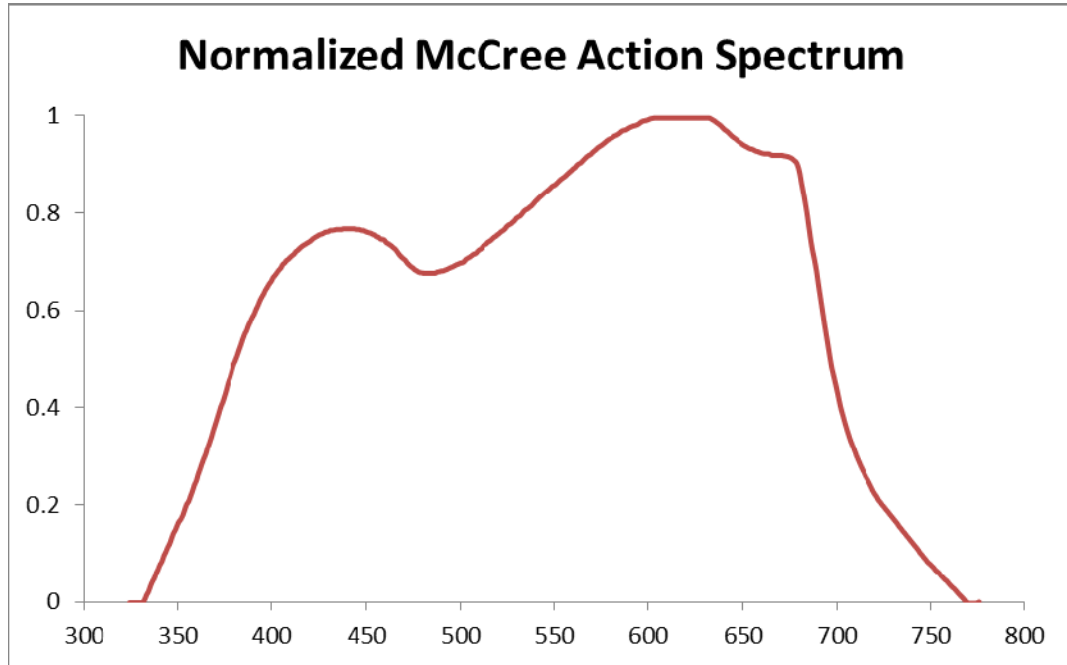
Active Power (W):	1060.8	Average Voltage(V):	240.05
Power Factor:	0.9853	Average Current (A):	4.4847
Total Harmonic Distortion:	0.18%	Frequency (Hz):	59.986

4.0 Spectral



5.0 Additional Information

McCree, K. J., 1972. The action spectrum, absorptance and quantum yield of photosynthesis in crop plants. *Agrie. Meteorol*, 9: 191-216.



Weighting Function for calculation of YPF

END OF REPORT