



## 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:	Gavita 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)

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#### 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.

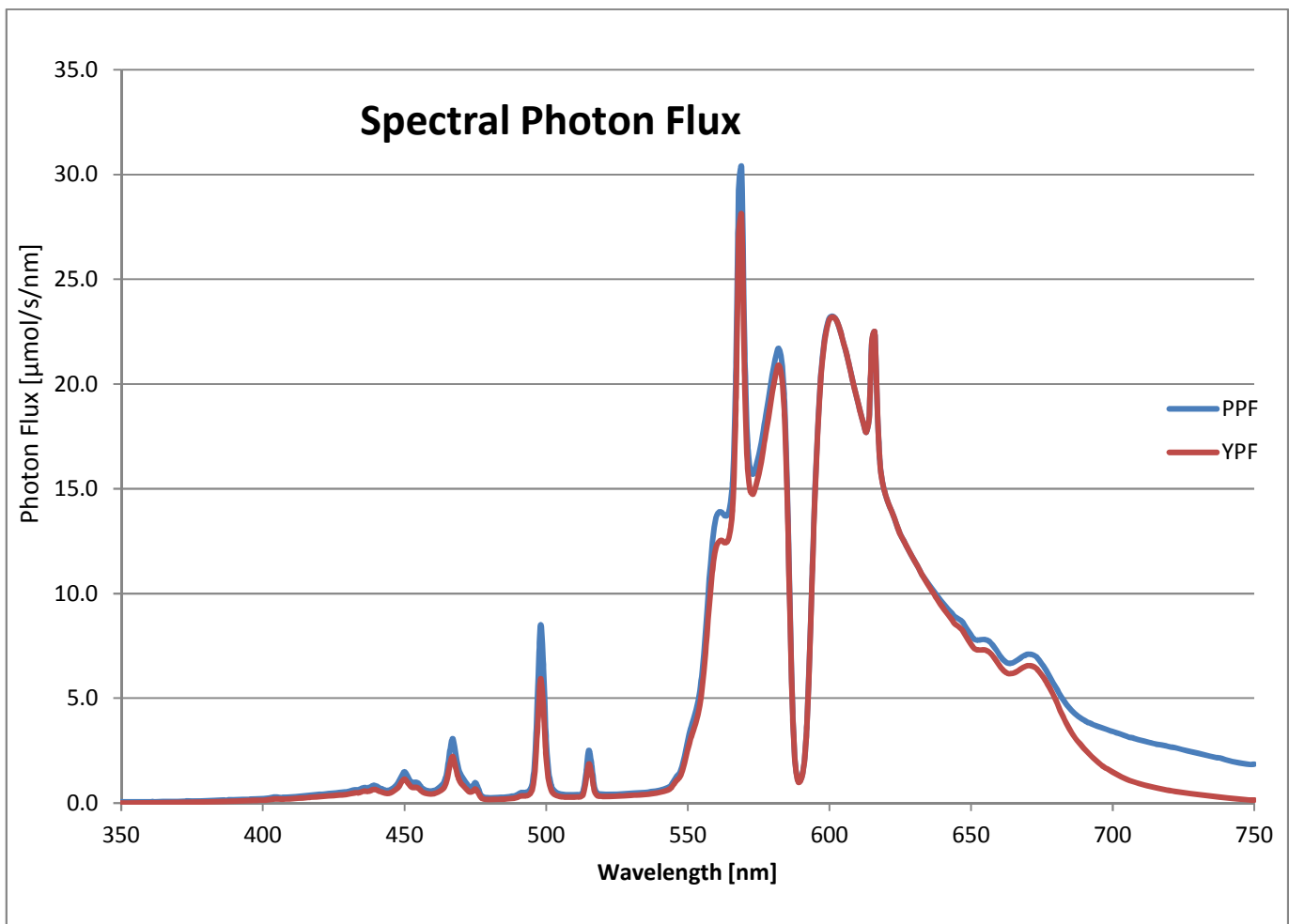
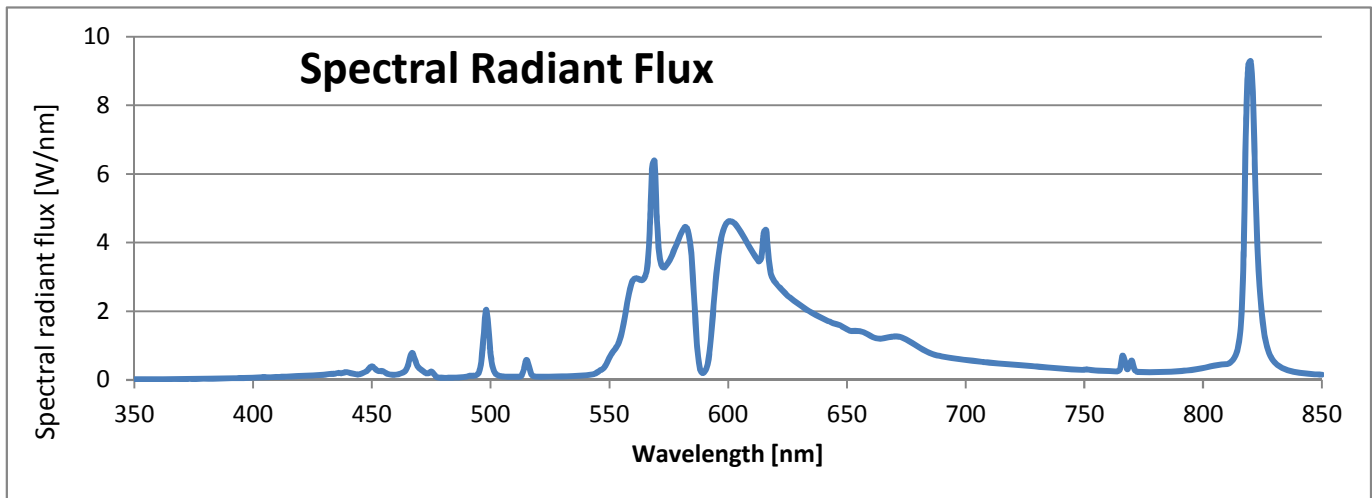
\*\* Yield Photon Flux: PPF weighted by action spectrum (average of 20 plant species as defined by McCree) and summed between 350nm and 750nm. (See section 5.0)

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#### Electrical Measurements

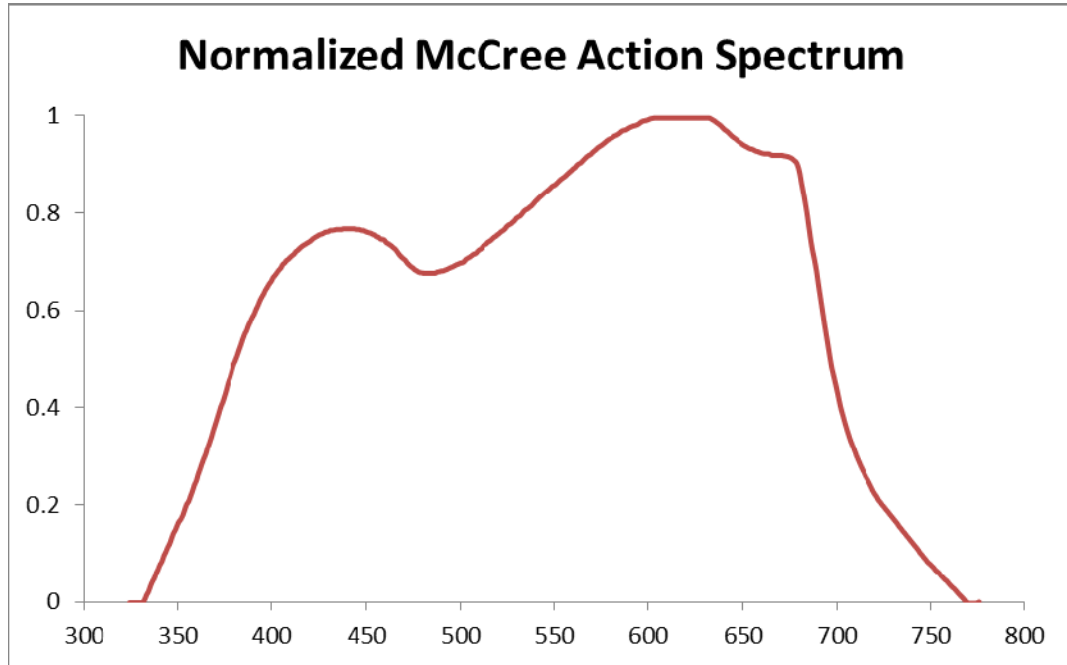
Active Power ( <b>W</b> ):	1060.8	Average Voltage( <b>V</b> ):	240.05
Power Factor:	0.9853	Average Current ( <b>A</b> ):	4.4847
Total Harmonic Distortion:	0.18%	Frequency ( <b>Hz</b> ):	59.986

## 4.0 Spectral



## 5.0 Additional Information

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



Weighting Function for calculation of YPF

END OF REPORT