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www.lightlaboratory.com

Report No: L122112703



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**Issue Date:** 1/5/2022

**Report Prepared For:** GRAND MASTER LEVEL

**Model Number:** VEGETATION 6 BAR

**Test:** Photosynthetically active radiation (PAR) & Electrical measurement

**Standards Used:** Appropriate part or all test guidelines were used for test performed:

*IESNA LM79: 2019* Approved Methods for Electrical and Photometric Measurements of Solid-State Lighting Products

*ANSI NEMA ANSLG C78.377: 2017* Specification of the Chromaticity of Solid State Lighting Products

*ANSI C82.77-10:2014:* Harmonic Emission Limits-Related Quality Requirements for Lighting Equipment

**Description of Sample:** Client submitted the sample. Received in working and undamaged condition. No modifications were necessary.

**Special Test Condition:** Fixture is tested with no special conditions.

**Date of Tests:** 1/4/22

**Seasoning of Sample:** No seasoning was performed in accordance with IESNA LM-79.

**Equipment List**

| Equipment Used                    | Model No   | Stock No   | Calibration Due Date |
|-----------------------------------|------------|------------|----------------------|
| Chroma Programmable AC Source     | 61604      | PS-AC02    | --                   |
| Yokogawa Digital Power Meter      | WT210      | MT-EL06-S4 | 4/7/23               |
| HP Power Supply                   | 6032A      | PS-DC05-S2 | --                   |
| Fluke Digital Thermometer         | 52K/J      | MT-TP05    | 3/17/23              |
| LLI Type C Goniophotometer System | RMG-C-MKII | CD-LL04-GC | --                   |
| LLI 2M Sphere                     | 2MR97      | CD-SN03-S2 | --                   |
| LLI Spectroradiometer             | SPR-3000   | MT-SC01-S2 | Before Use           |

### General Information

|                             |                    |
|-----------------------------|--------------------|
| <b>Manufacturer:</b>        | GRAND MASTER LEVEL |
| <b>Model Number:</b>        | VEGETATION 6 BAR   |
| <b>Driver Model Number:</b> | GML MASTER 6V      |

### Photometric, PPF & Electrical Test Results

|   |           |                     |
|---|-----------|---------------------|
| <b>Total PPF (<math>\mu\text{mol/s}</math>):</b>        | 1798.54   | * 380 - 780nm range |
| <b>Total PPF (<math>\mu\text{mol/s}</math>):</b>        | 1763.88   | * 400 - 700nm range |
| <b>Total Radiant Flux(W):</b>                           | 393.76    | * 380 - 780nm range |
| <b>Total Lumens (lm):</b>                               | 124994.90 | * 380 - 780nm range |
| <b>PPF Efficacy (<math>\mu\text{mol/Joule}</math>):</b> | 2.67      | * 380 - 780nm range |
| <b>PPF Efficacy (<math>\mu\text{mol/Joule}</math>):</b> | 2.62      | * 400 - 700nm range |
| <b>Luminous Efficacy (lm/W):</b>                        | 185.89    |                     |
| <b>Input Voltage (VAC/60Hz):</b>                        | 240.02    |                     |
| <b>Input Current (Amp):</b>                             | 2.8549    |                     |
| <b>Input Power (W):</b>                                 | 672.40    |                     |
| <b>Input Power Factor:</b>                              | 0.9812    |                     |
| <b>Current ATHD (%):</b>                                | 8.0%      |                     |

### Test Condition

|   |      |
|---|------|
| <b>Ambient Temperature (<math>^{\circ}\text{C}</math>):</b> | 25.0 |
| <b>Stabilization Time (Hours):</b>                          | 0:40 |
| <b>Total Operating Time (Hours):</b>                        | 1:00 |

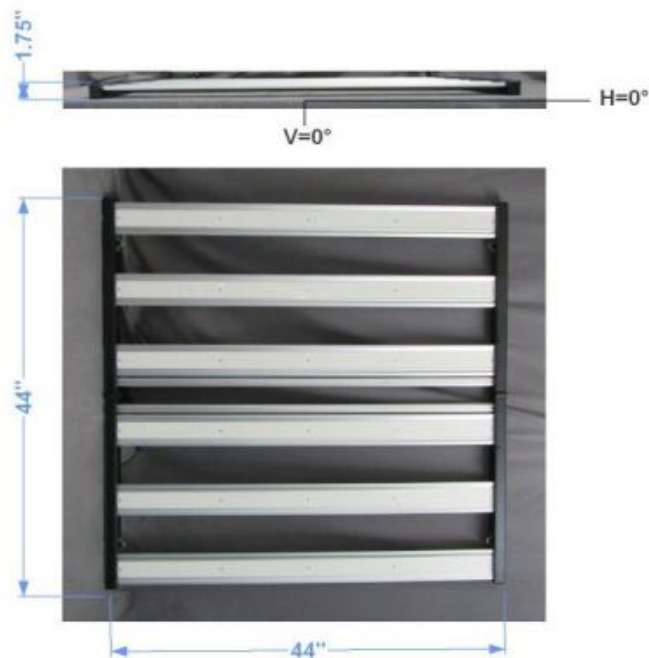
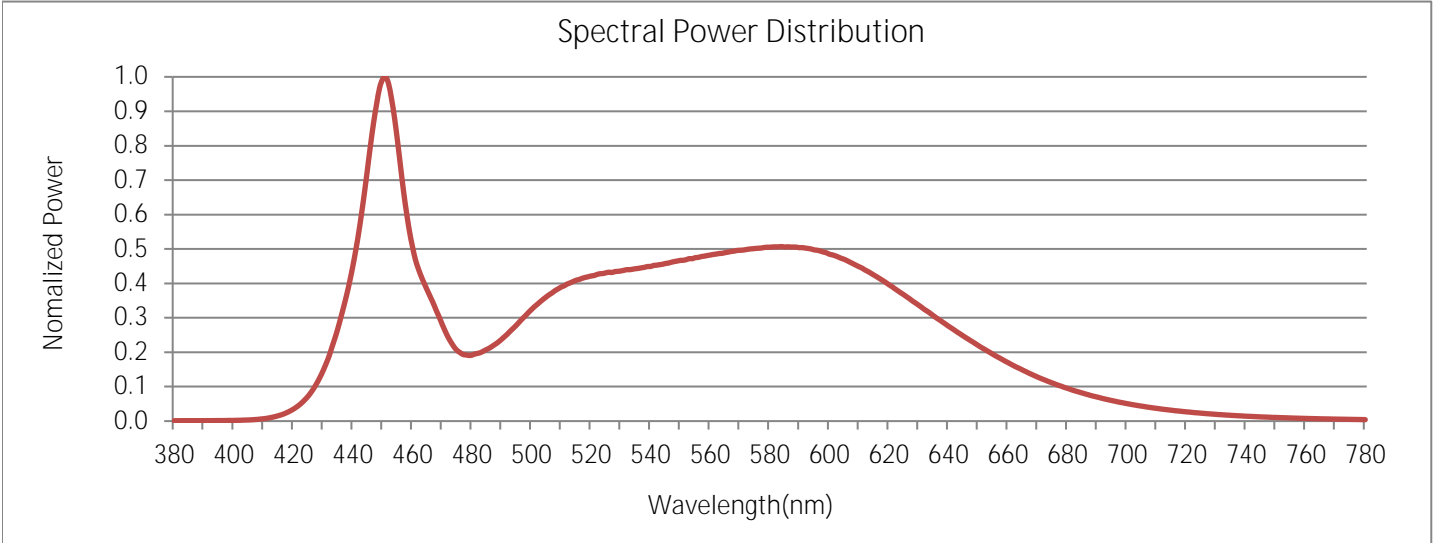


FIG. 1 LUMINAIRE

**Colorimetry Test Results**

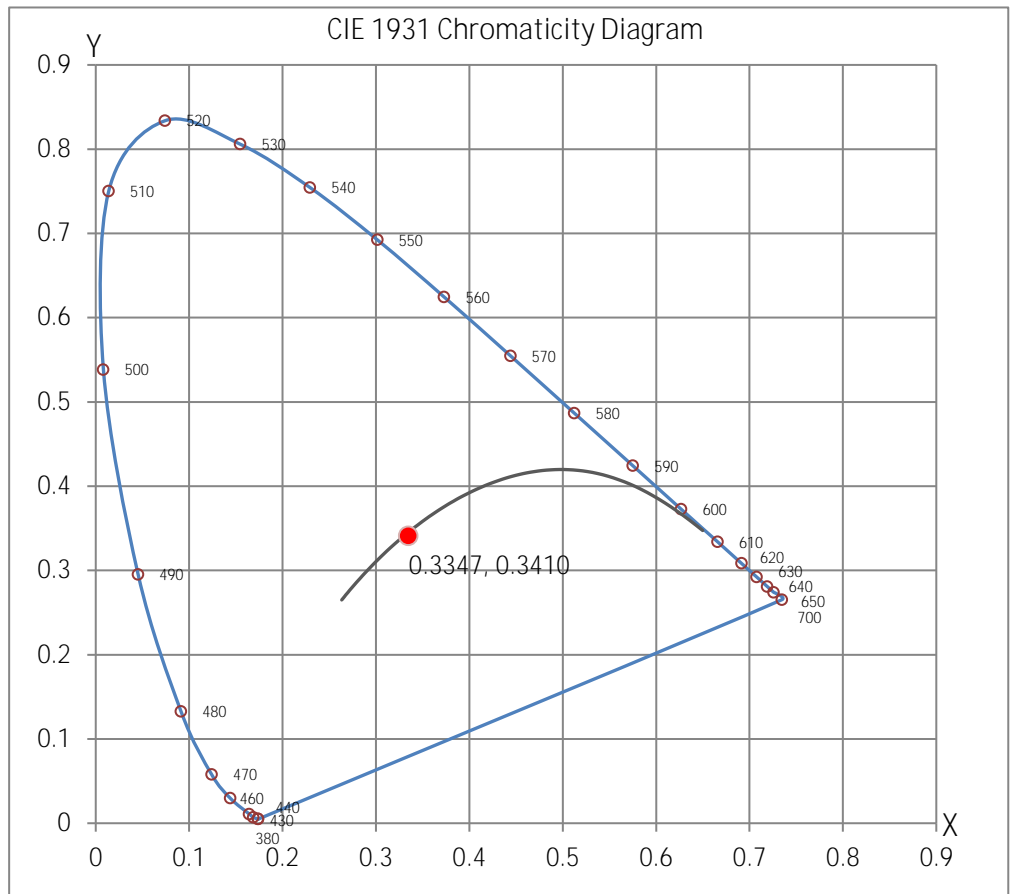


**CRI & CCT**

|     |          |
|-----|----------|
| x   | 0.3347   |
| y   | 0.3410   |
| u'  | 0.2085   |
| v'  | 0.4778   |
| CRI | 83.90    |
| CCT | 5404     |
| Duv | -0.00102 |

**R Values**

|     |       |
|-----|-------|
| R1  | 82.94 |
| R2  | 88.26 |
| R3  | 91.29 |
| R4  | 84.82 |
| R5  | 84.08 |
| R6  | 83.49 |
| R7  | 86.79 |
| R8  | 69.16 |
| R9  | 11.06 |
| R10 | 71.89 |
| R11 | 85.00 |
| R12 | 63.48 |
| R13 | 84.27 |
| R14 | 95.05 |
| R15 | 78.41 |





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**Test Methods**

**Spectral Measurements - Integrating Sphere**

A Sensing Spectroradiometer SPR-3000, in conjunction with Light Laboratory 2 meter integrating sphere was used to measure chromaticity coordinates, correlated color temperature(CCT) and the color rendering index(CRI) for each sample.

Ambient temperature is set to 25°C and is measured from the center of the fixture, within 1ft from the outside of the fixture. Temperature is maintained at 25°C throughout the testing process and the sample is stabilized for at least 30mins and longer as necessary for the sample to achieve stabilization.

Electrical measurements are measured using the listed equipment.

**Disclaimers:**

The results related only to the samples as received and tested. This report must not be used by the customer to claim product certification, approval or endorsement by NVLAP, NIST or any agency of the Federal Government.

Report Prepared by :                     Jason Gee                    

Test Report Reviewed by:

Steve Kang  
Quality Assurance