

**Report No:** L041705602**Issue Date:** 4/19/2017**Report Prepared For:** HIVE LIGHTING  
525 S. Hewitt St. Los Angeles, CA. 90013**Model Number:** WASP 100-C**Test:** Electrical and Photometric tests

**Standards Used:** Appropriate part or all test guidelines were used for test performed:  
*IESNA LM79: 2008* Approved Methods for Electrical and Photometric Measurements of Solid-State Lighting Products  
*ANSI NEMA ANSLG C78.377: 2008* Specification of the Chromaticity of Solid State Lighting Products  
*ANSI C82.77:2002:* 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.

**Testing Condition:** Fixture is tested with S(saturation) setting set to 0.

**Sample Arrival Date:** 4/14/17

**Date of Tests:** 4/18/17 - 4/19/17

**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-S1	11/28/17
ITECH	IT6122	PS-DC03-S1	11/28/17
Fluke Digital Thermometer	52k/J	MT-TP02-GC	11/28/17
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

**Test Summary**

<b>Manufacturer:</b>	HIVE LIGHTING
<b>Model Number:</b>	WASP 100-C
<b>Driver Model Number:</b>	MEAN WELL GST120A24-R7B
<b>Input Voltage (VAC/60Hz):</b>	120.00
<b>Input Current (Amp):</b>	0.64
<b>Input Power (W):</b>	74.58
<b>Input Power Factor:</b>	0.97
<b>Current ATHD @ 120V(%):</b>	8%
<b>Current ATHD @ 277V(%):</b>	N/A
<b>Efficacy:</b>	49
<b>Color Rendering Index (CRI):</b>	98
<b>Correlated Color Temperature (K):</b>	3770
<b>Chromaticity Coordinate x:</b>	0.3934
<b>Chromaticity Coordinate y:</b>	0.3903
<b>Ambient Temperature (°C):</b>	25.0
<b>Stabilization Time (Hours):</b>	0:35
<b>Total Operating Time (Hours):</b>	1:45

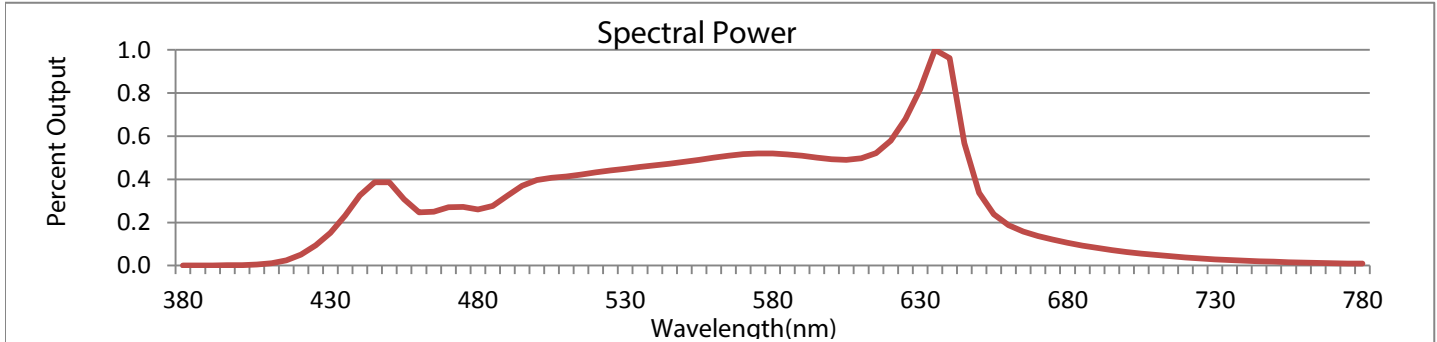


**ILLUMINANCE AT A DISTANCE**

HEIGHT(FT)	CENTER BEAM FOOTCANDLE	BEAM SPREAD(FT)		FIELD SPREAD(FT)	
		HORIZONTAL	VERTICAL	HORIZONTAL	VERTICAL
<b>1.00</b>	10,687.00 FC	0.5	0.5	1.2	1.2
<b>2.00</b>	2,671.75 FC	1.1	1.0	2.3	2.3
<b>3.00</b>	1,187.44 FC	1.6	1.6	3.5	3.5
<b>4.00</b>	667.94 FC	2.1	2.1	4.7	4.6
<b>5.00</b>	427.48 FC	2.6	2.6	5.8	5.8
<b>6.00</b>	296.86 FC	3.2	3.1	7.0	7.0
		BEAM ANGLE		FIELD ANGLE	
		29.5°	29.2°	60.4°	60.2°

FIG. 1 LUMINAIRE

\*All Results in accordance to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting.



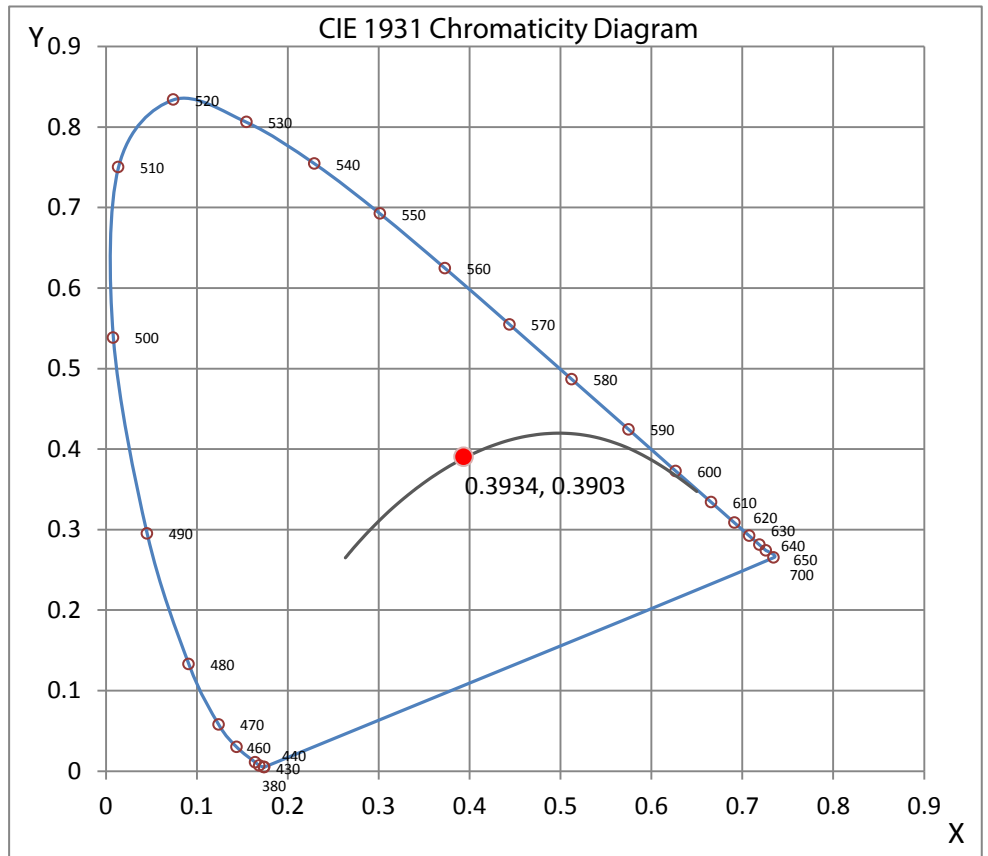
Wavelength	W/m <sup>2</sup> nm	440	0.3256	510	0.4136	580	0.5202	650	0.3367	720	0.0379
380	0.0008	450	0.3862	520	0.4321	590	0.5094	660	0.1881	730	0.0293
390	0.0010	460	0.2475	530	0.4485	600	0.4928	670	0.1371	740	0.0228
400	0.0025	470	0.2706	540	0.4652	610	0.4971	680	0.1057	750	0.0180
410	0.0112	480	0.2603	550	0.4818	620	0.5789	690	0.0816	760	0.0141
420	0.0504	490	0.3237	560	0.5004	630	0.8176	700	0.0635	770	0.0111
430	0.1524	500	0.3962	570	0.5164	640	0.9621	710	0.0489	780	0.0098

**CRI & CCT**

x	0.3934
y	0.3903
u'	0.2282
v'	0.5093
<b>CRI</b>	<b>98.30</b>
CCT	3770
Duv	0.00265

**R Values**

R1	98.84
R2	97.98
R3	95.53
R4	99.02
R5	98.67
R6	97.97
R7	99.29
R8	99.47
R9	98.98
R10	94.61
R11	97.56
R12	89.92
R13	98.09
R14	96.76



\*All Results in accordance to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting.

## Test Methods

### Photometric Measurements - Goniophotometer

A Custom Light Laboratory Type C Rotating Mirror Goniophotometer was used to measure candelas(intensity) at each angle of distribution as defined by IESNA for the appropriate fixture type.

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.

### 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:

This report must not be used by the customer to claim product certification, approval or endorsement by NVLAP, NIST or any agency of Federal Government.

Report Prepared by : Keyur Patel

Test Report Released by:



Jeff Ahn  
Engineering Manager

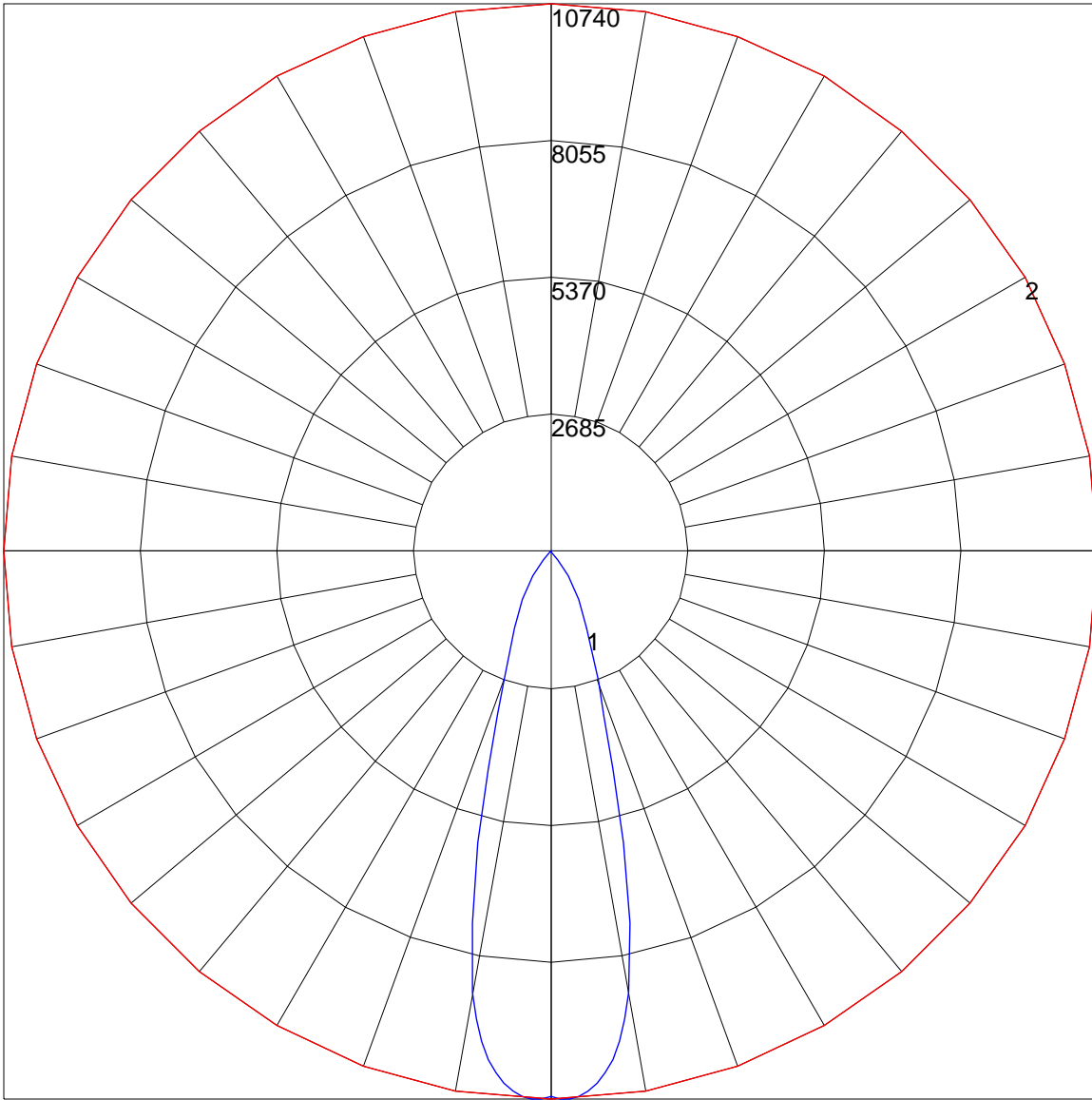
Test Report Reviewed by:



Steve Kang  
Quality Assurance

*\*Attached are photometric data reports. Total number of pages: 9*

POLAR GRAPH



Maximum Candela = 10740 Located At Horizontal Angle = 0, Vertical Angle = 2  
# 1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (2) (Through Max. Cd.)