



8165 E Kaiser Blvd. Anaheim, CA 92808  
 p. 714.282.2270  
 f. 714.676.5558

Report No: L111407104

Date: 12/9/2014



NVLAP LAB CODE 200927-0

**Report No:** L111407104

**Report Prepared For:** Cast Lighting  
 1120-A Goffle Rd., Hawthorne, NJ., 07506

**Model Number:** CCSL18354

**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. Catalog number is CCSL18354 . Received in working and undamaged condition. No modifications were necessary.

**Testing Condition:** Fixture is tested with no special conditions.

**Sample Arrival Date:** 12/4/14

**Date of Tests:** 12/5/14 - 12/9/14

**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	01/04/15
Xitron Power Analysis System	2503AH	MT-EL01	01/09/15
BK Precision DC Power Supply	1747	PSDC-04	01/08/15
Fluke Digital Thermometer	52k/J	MT-TP02-GC	01/04/15
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

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

**Test Summary**

<b>Manufacturer:</b>	Cast Lighting
<b>Model Number:</b>	CCSL18354
<b>Driver Model Number:</b>	N/A
<b>Total Lumens:</b>	152.86
<b>Input Voltage (VAC/60Hz):</b>	12.00
<b>Input Current (Amp):</b>	0.26
<b>Input Power (W):</b>	2.68
<b>Input Power Factor:</b>	0.87
<b>Current ATHD @ 12V(%):</b>	53%
<b>Current ATHD @ 277V(%):</b>	N/A
<b>Efficacy:</b>	57
<b>Color Rendering Index (CRI):</b>	79
<b>Correlated Color Temperature (K):</b>	2885
<b>Chromaticity Coordinate x:</b>	0.4520
<b>Chromaticity Coordinate y:</b>	0.4198
<b>Ambient Temperature (°F):</b>	77.0
<b>Stabilization Time (Hours):</b>	0:30
<b>Total Operating Time (Hours):</b>	1:30
<b>Off State Power(W):</b>	0.00

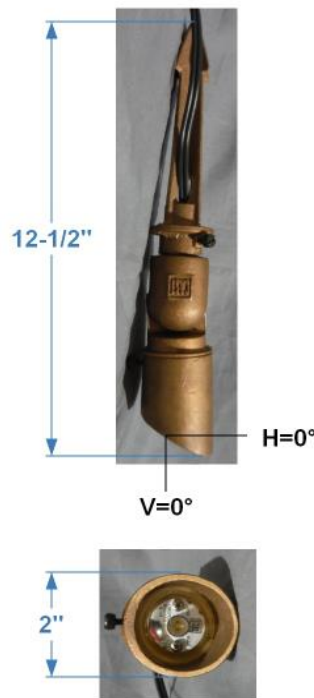
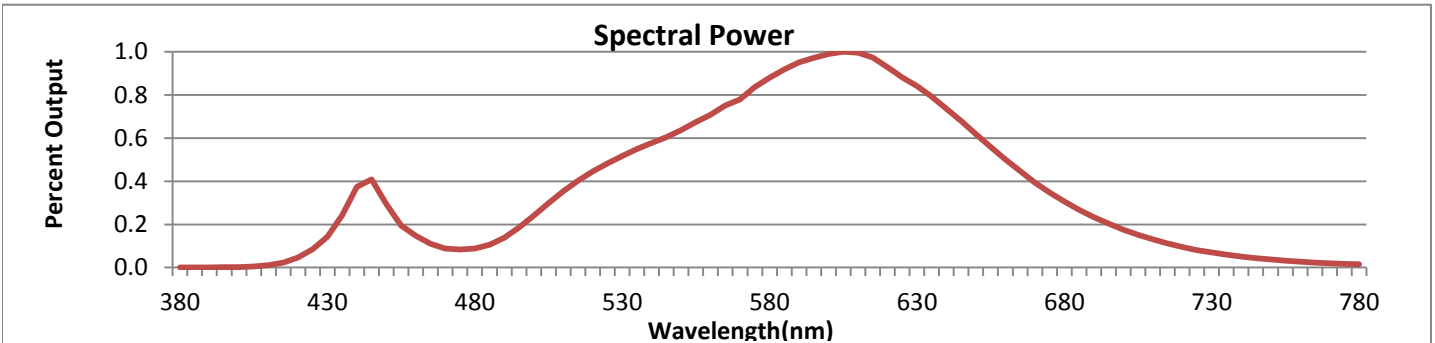


FIG. 1 LUMINAIRE

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



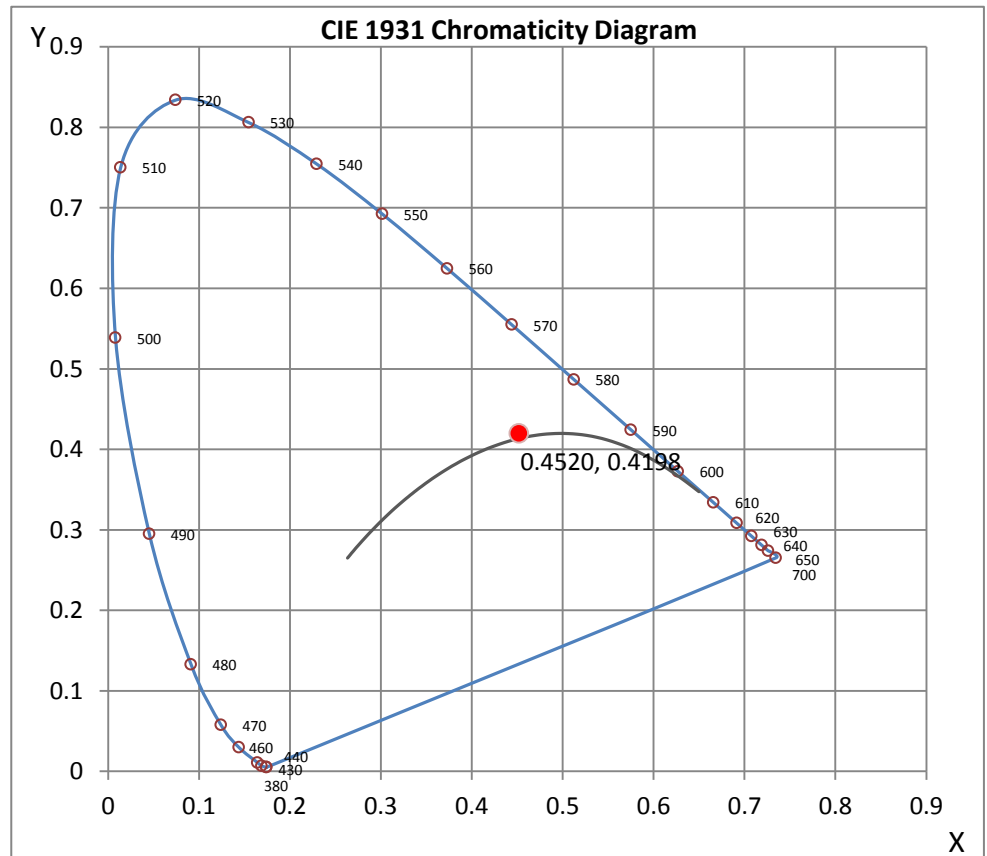
Wavelength	W/m <sup>2</sup> nm	440	0.3740	510	0.3538	580	0.8811	650	0.6197	720	0.0948
380	0.0007	450	0.2943	520	0.4457	590	0.9519	660	0.5017	730	0.0697
390	0.0010	460	0.1467	530	0.5175	600	0.9897	670	0.3937	740	0.0513
400	0.0022	470	0.0884	540	0.5774	610	0.9966	680	0.3056	750	0.0374
410	0.0102	480	0.0885	550	0.6375	620	0.9297	690	0.2338	760	0.0270
420	0.0462	490	0.1387	560	0.7088	630	0.8418	700	0.1761	770	0.0200
430	0.1429	500	0.2410	570	0.7799	640	0.7372	710	0.1316	780	0.0147

**CRI & CCT**

x	0.4520
y	0.4198
u'	0.2534
v'	0.5296
CRI	79.40
CCT	2885
Duv	0.00419

**R Values**

R1	77.38
R2	84.88
R3	92.48
R4	79.88
R5	76.09
R6	79.81
R7	85.00
R8	59.56
R9	3.64
R10	65.16
R11	78.14
R12	59.45
R13	78.33
R14	95.17



\*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: 8*



8165 E. Kaiser Blvd. Anaheim, CA 92808  
p. 714.282.2270  
f. 714.676.5558

## Photometric Test Report

### IES FLOOD REPORT

PHOTOMETRIC FILENAME : L111407104.IES

### DESCRIPTIVE INFORMATION (From Photometric File)

IESNA:LM-63-2002  
[TEST] L111407104  
[TESTLAB] LIGHT LABORATORY, INC.  
[ISSUE DATE] 12/09/2014  
[MANUFAC] CAST LIGHTING  
[LUMCAT] CCSL18354  
[LUMINAIRE] 2"DIA. X 12-1/2"H. LED LUMINAIRE  
[MORE] CLEAR LENS  
[BALLASTCAT] N.A.  
[BALLAST] N.A.  
[LAMPPOSITION] 0,0  
[LAMPCAT] N/A  
[OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND  
[MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.  
[INPUT] 12VAC, 2.68W  
[TEST PROCEDURE] IESNA:LM-79-08

Note: Candela values converted from Type-C to Type-B

### CHARACTERISTICS

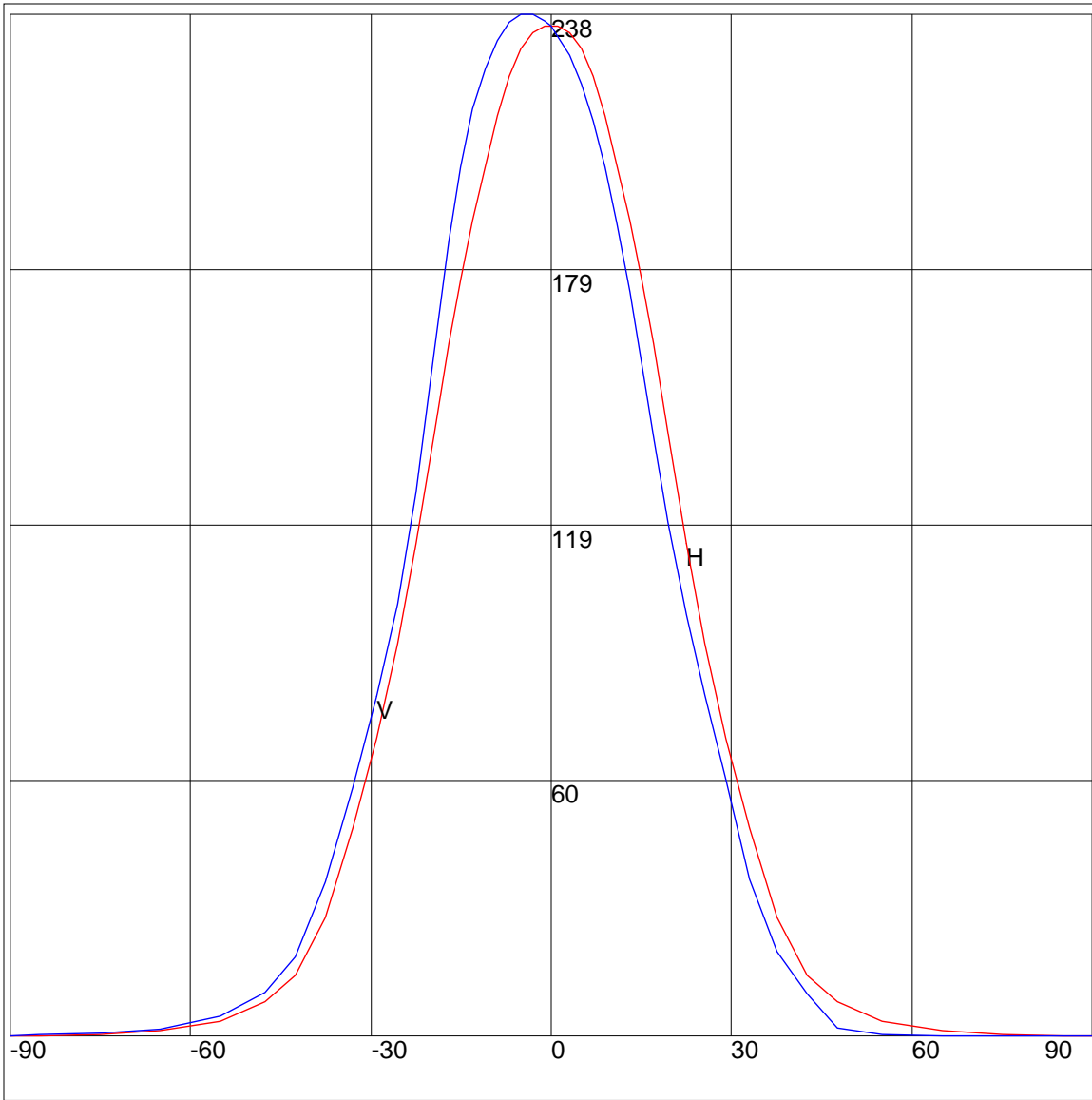
NEMA Type	5 H x 5 V
Maximum Candela	238.42
Maximum Candela Angle	0H -3V
Horizontal Beam Angle (50%)	44.2
Vertical Beam Angle (50%)	43.0
Horizontal Field Angle (10%)	78.2
Vertical Field Angle (10%)	77.4
Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Beam Lumens	81
Beam Efficiency	N.A.
Field Lumens	137
Field Efficiency	N.A.
Spill Lumens	16
Luminaire Lumens	153
Total Efficiency	N.A.
Total Luminaire Watts	2.68
Ballast Factor	1.00

**IES FLOOD REPORT**  
**PHOTOMETRIC FILENAME : L111407104.IES**

**AXIAL CANDELA**

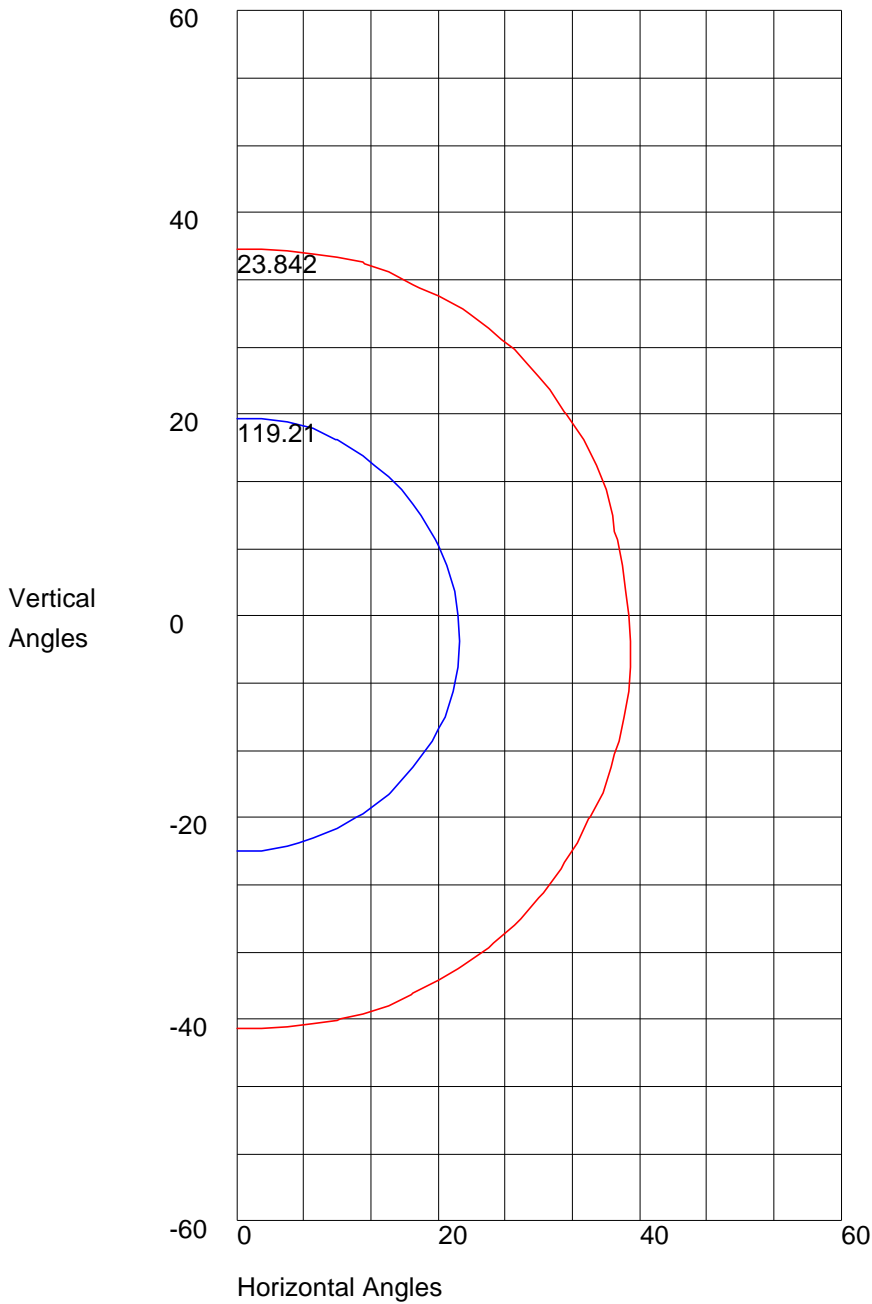
DEG.	HOR.	DEG.	VERT.
90	.22	90	.24
85	.24	85	.24
75	.34	75	.24
65	1.29	65	.24
55	3.67	55	.31
47.5	8.01	47.5	2.03
42.5	14.29	42.5	9.99
37.5	27.71	37.5	19.67
33	48.7	33	36.58
29	69.58	29	59.99
25.5	91.77	25.5	79.79
22.5	114.92	22.5	98.26
19.5	140.9	19.5	120.01
17	161.54	17	139.75
15	176.52	15	156.87
13	190.28	13	173.62
11	203	11	189.61
9	214.75	9	202.9
7	223.86	7	213.5
5	230.33	5	222.05
3	234.01	3	228.77
1	235.76	1	233.3
0	235.62	0	235.62
-1	235.76	-1	236.84
-3	234.01	-3	238.42
-5	230.33	-5	238.38
-7	223.86	-7	236.53
-9	214.75	-9	232.41
-11	203	-11	225.96
-13	190.28	-13	216.25
-15	176.52	-15	202.72
-17	161.54	-17	185.5
-19.5	140.9	-19.5	160
-22.5	114.92	-22.5	127.05
-25.5	91.77	-25.5	100.86
-29	69.58	-29	79.28
-33	48.7	-33	58.31
-37.5	27.71	-37.5	36
-42.5	14.29	-42.5	18.64
-47.5	8.01	-47.5	10.16
-55	3.67	-55	4.74
-65	1.29	-65	1.79
-75	.34	-75	.62
-85	.24	-85	.48
-90	.22	-90	0

AXIAL CANDELA DISPLAY



Maximum Candela = 238.42 Located At Horizontal Angle = 0, Vertical Angle = -3  
H - Horizontal Axial Candela  
V - Vertical Axial Candela

ISOCANDELA CURVES



Maximum Candela = 238.42 Located At Horizontal Angle = 0, Vertical Angle = -3  
50% Maximum Candela = 119.21  
10% Maximum Candela = 23.842