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Report No: L111407101

Date: 12/23/2014



NVLAP LAB CODE 200927-0

Report No: L111407101

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

Model Number: CCSL25036

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 CCSL25036. Received in working and undamaged condition. No modifications were necessary.

Testing Condition: Fixture is tested with no special conditions.

Sample Arrival Date: 12/22/14

Date of Tests: 12/23/14 - 12/23/14

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.

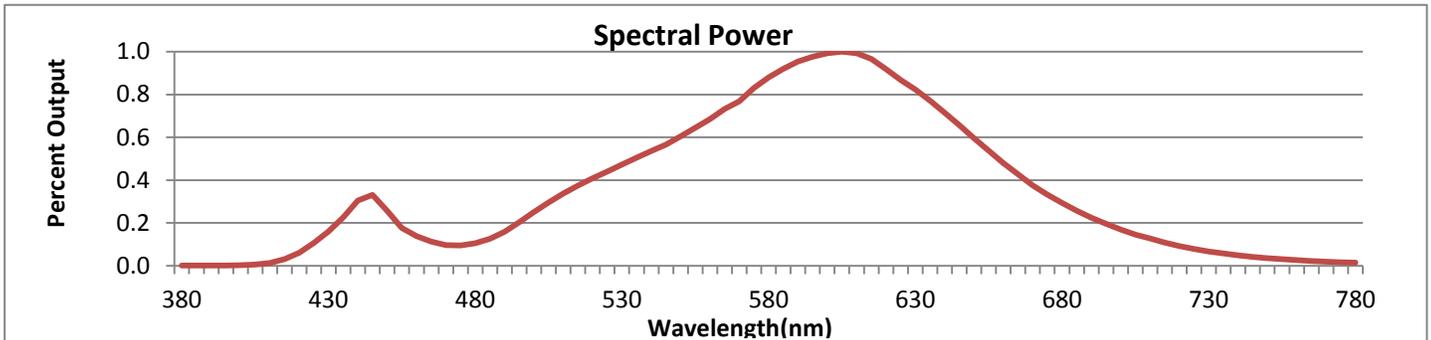
Test Summary

Manufacturer:	Cast Lighting
Model Number:	CCSL25036
Driver Model Number:	N/A
Total Lumens:	229.44
Input Voltage (VAC):	12.00
Input Current (Amp):	0.42
Input Power (W):	4.13
Input Power Factor:	0.82
Current ATHD @ 12V(%):	66%
Current ATHD @ 24V(%):	N/A
Efficacy:	56
Color Rendering Index (CRI):	79
Correlated Color Temperature (K):	2816
Chromaticity Coordinate x:	0.4569
Chromaticity Coordinate y:	0.4202
Ambient Temperature (°F):	77.0
Stabilization Time (Hours):	0:30
Total Operating Time (Hours):	1:30
Off State Power(W):	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.



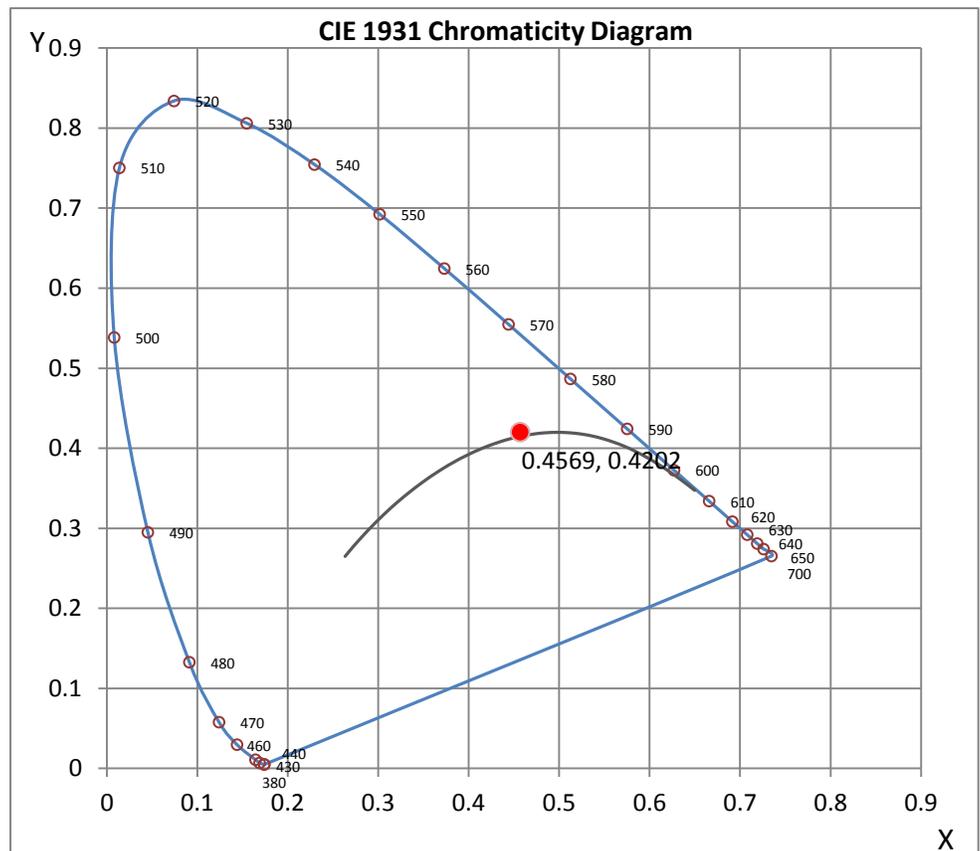
Wavelength	W/m ² nm	440	0.3038	510	0.3378	580	0.8798	650	0.5965	720	0.0914
380	0.0008	450	0.2566	520	0.4083	590	0.9547	660	0.4803	730	0.0671
390	0.0010	460	0.1380	530	0.4721	600	0.9922	670	0.3765	740	0.0492
400	0.0026	470	0.0970	540	0.5357	610	0.9931	680	0.2935	750	0.0359
410	0.0133	480	0.1056	550	0.6044	620	0.9186	690	0.2245	760	0.0260
420	0.0609	490	0.1595	560	0.6858	630	0.8235	700	0.1692	770	0.0193
430	0.1599	500	0.2502	570	0.7684	640	0.7145	710	0.1269	780	0.0142

CRI & CCT

x	0.4569
y	0.4202
u'	0.2564
v'	0.5305
CRI	79.00
CCT	2816
Duv	0.00381

R Values

R1	76.21
R2	85.61
R3	95.30
R4	78.22
R5	75.42
R6	81.34
R7	83.53
R8	56.01
R9	-2.09
R10	67.46
R11	76.17
R12	63.25
R13	77.66
R14	96.93



*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 : Wilson Khounlavong

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*



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Photometric Test Report

IES FLOOD REPORT
PHOTOMETRIC FILENAME : L111407101.IES

DESCRIPTIVE INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] L111407101
 [TESTLAB] LIGHT LABORATORY, INC.
 [ISSUE DATE] 12/23/2014
 [MANUFAC] CAST LIGHTING
 [LUMCAT] CCSL25036
 [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, 4.13W
 [TEST PROCEDURE] IESNA:LM-79-08

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

CHARACTERISTICS

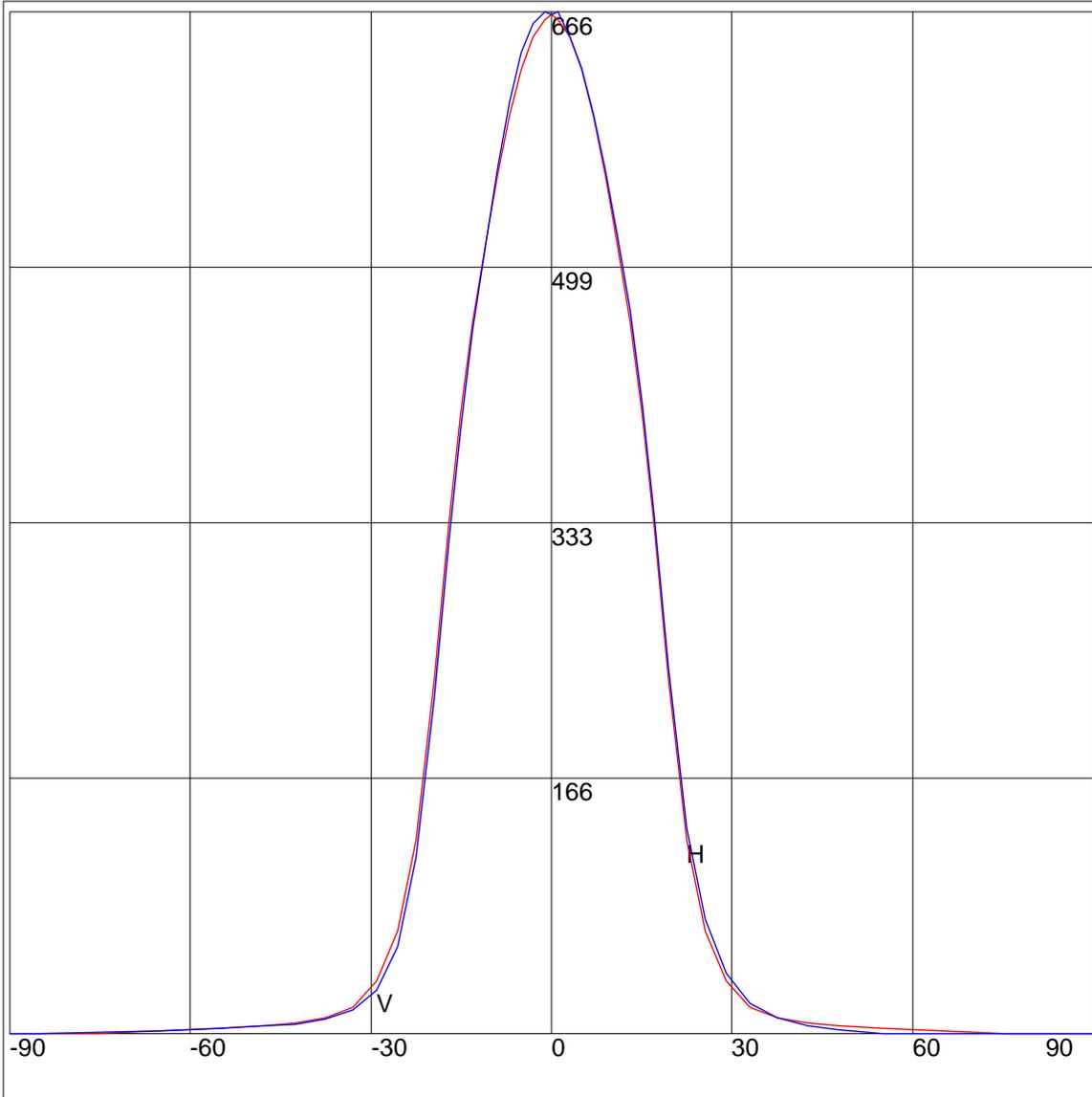
NEMA Type	4 H x 4 V
Maximum Candela	665.62
Maximum Candela Angle	0H -1V
Horizontal Beam Angle (50%)	34.0
Vertical Beam Angle (50%)	33.9
Horizontal Field Angle (10%)	51.2
Vertical Field Angle (10%)	51.3
Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Beam Lumens	135
Beam Efficiency	N.A.
Field Lumens	198
Field Efficiency	N.A.
Spill Lumens	32
Luminaire Lumens	229
Total Efficiency	N.A.
Total Luminaire Watts	4.13
Ballast Factor	1.00

IES FLOOD REPORT
PHOTOMETRIC FILENAME : L111407101.IES

AXIAL CANDELA

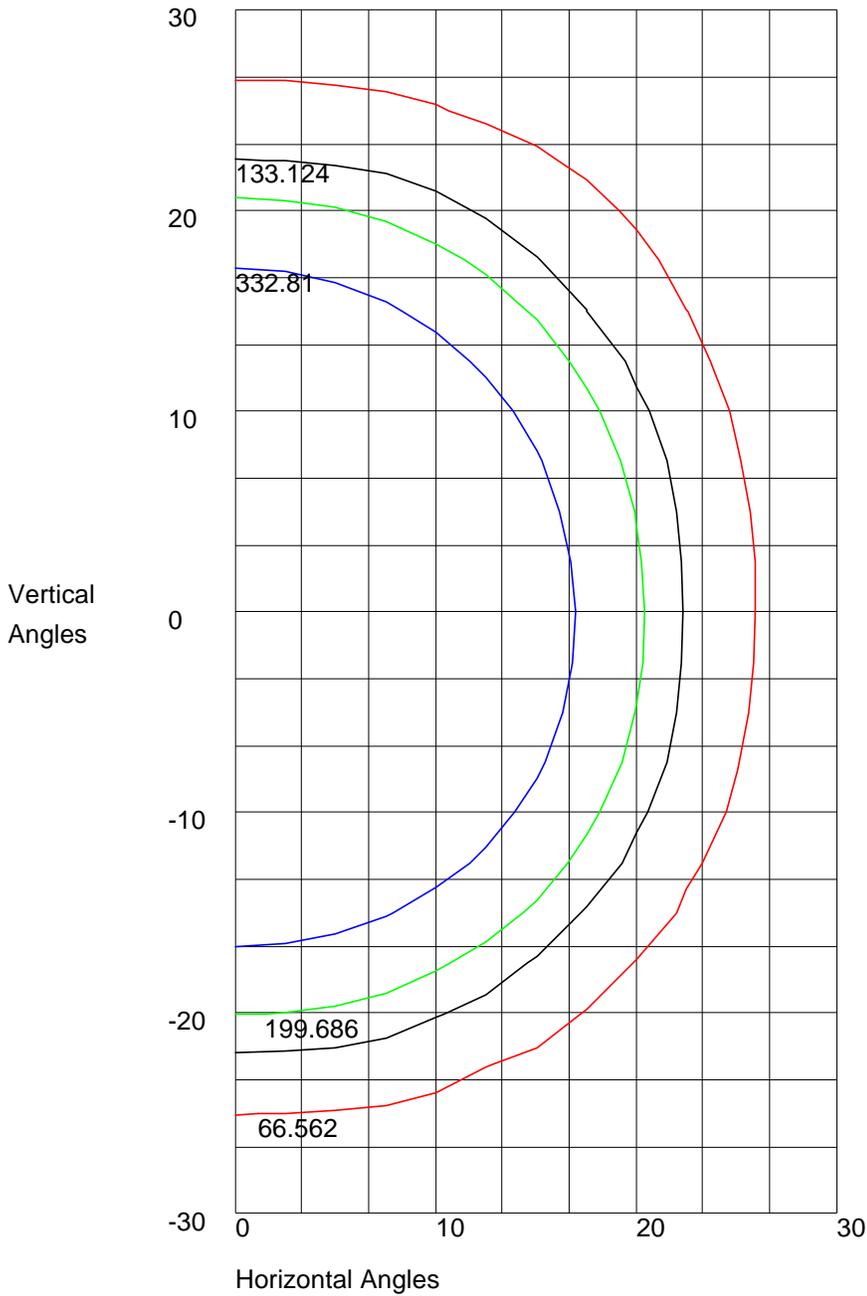
DEG.	HOR.	DEG.	VERT.
90	.34	90	0
85	.36	85	0
75	.5	75	0
65	2.04	65	.31
55	4.07	55	.38
47.5	5.73	47.5	3.36
42.5	7.14	42.5	5.66
37.5	10.5	37.5	10.85
33	17.97	33	19.73
29	34.77	29	39.67
25.5	67.42	25.5	74.88
22.5	126.62	22.5	134.36
19.5	231.55	19.5	239.38
17	332.74	17	339.73
15	403.75	15	410.8
13	463.52	13	470.79
11	514.43	11	520.45
9	559.4	9	562.94
7	597.7	7	599.18
5	628.33	5	628.35
3	649.03	3	649.42
1	660.85	1	665.62
0	664.21	0	664.21
-1	660.85	-1	665.62
-3	649.03	-3	658.17
-5	628.33	-5	638.99
-7	597.7	-7	606.15
-9	559.4	-9	564
-11	514.43	-11	514.27
-13	463.52	-13	458.54
-15	403.75	-15	394.16
-17	332.74	-17	321.37
-19.5	231.55	-19.5	219.54
-22.5	126.62	-22.5	115.18
-25.5	67.42	-25.5	57.28
-29	34.77	-29	28.9
-33	17.97	-33	15.75
-37.5	10.5	-37.5	9.54
-42.5	7.14	-42.5	6.35
-47.5	5.73	-47.5	5.22
-55	4.07	-55	3.84
-65	2.04	-65	2.54
-75	.5	-75	1.24
-85	.36	-85	.69
-90	.34	-90	0

AXIAL CANDELA DISPLAY



Maximum Candela = 665.62 Located At Horizontal Angle = 0, Vertical Angle = -1
H - Horizontal Axial Candela
V - Vertical Axial Candela

ISOCANDELA CURVES



Maximum Candela = 665.62 Located At Horizontal Angle = 0, Vertical Angle = -1
50% Maximum Candela = 332.81
10% Maximum Candela = 66.562