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Report No: L111407301

Date: 1/15/2015



NVLAP LAB CODE 200927-0

Report No: L111407301

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

Model Number: CBLED141-High

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 CBLED141-High. Received in working and undamaged condition. No modifications were necessary.

Testing Condition: Fixture is tested with no special conditions.

Sample Arrival Date: 11/18/14

Date of Tests: 1/15/15 - 1/15/15

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:	CBLED141-High
Driver Model Number:	N/A
Total Lumens:	328.48
Input Voltage (VAC/60Hz):	12.00
Input Current (Amp):	0.82
Input Power (W):	9.25
Input Power Factor:	0.94
Current ATHD @ 12V(%):	35%
Current ATHD @ 277V(%):	N/A
Efficacy:	36
Color Rendering Index (CRI):	80
Correlated Color Temperature (K):	2720
Chromaticity Coordinate x:	0.4532
Chromaticity Coordinate y:	0.4011
Ambient Temperature (°F):	77.0
Stabilization Time (Hours):	1:05
Total Operating Time (Hours):	2:05
Off State Power(W):	0.00

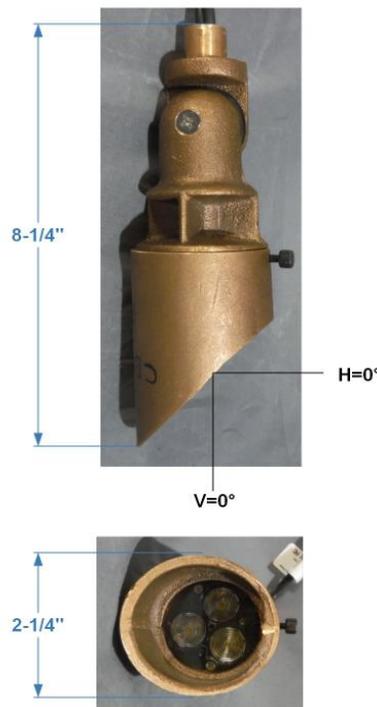
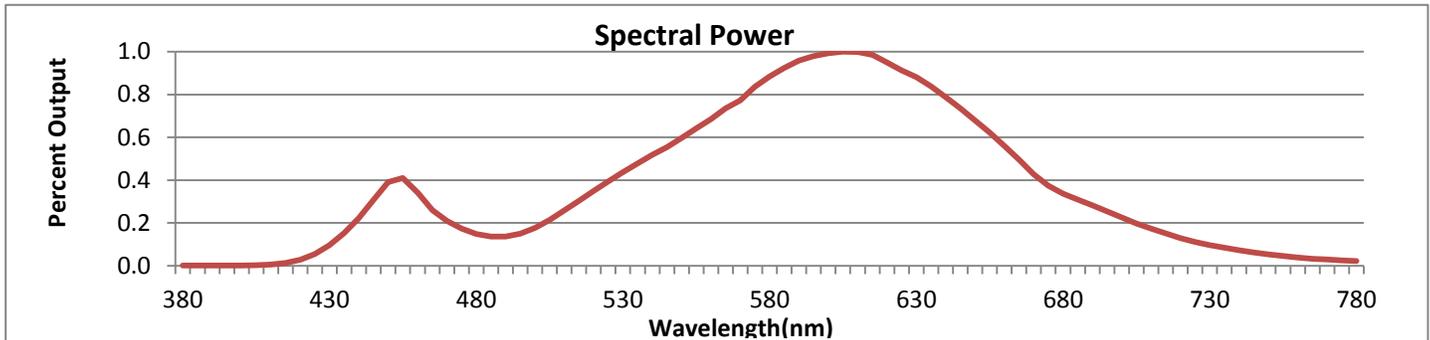


FIG. 1 LUMINAIRE

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



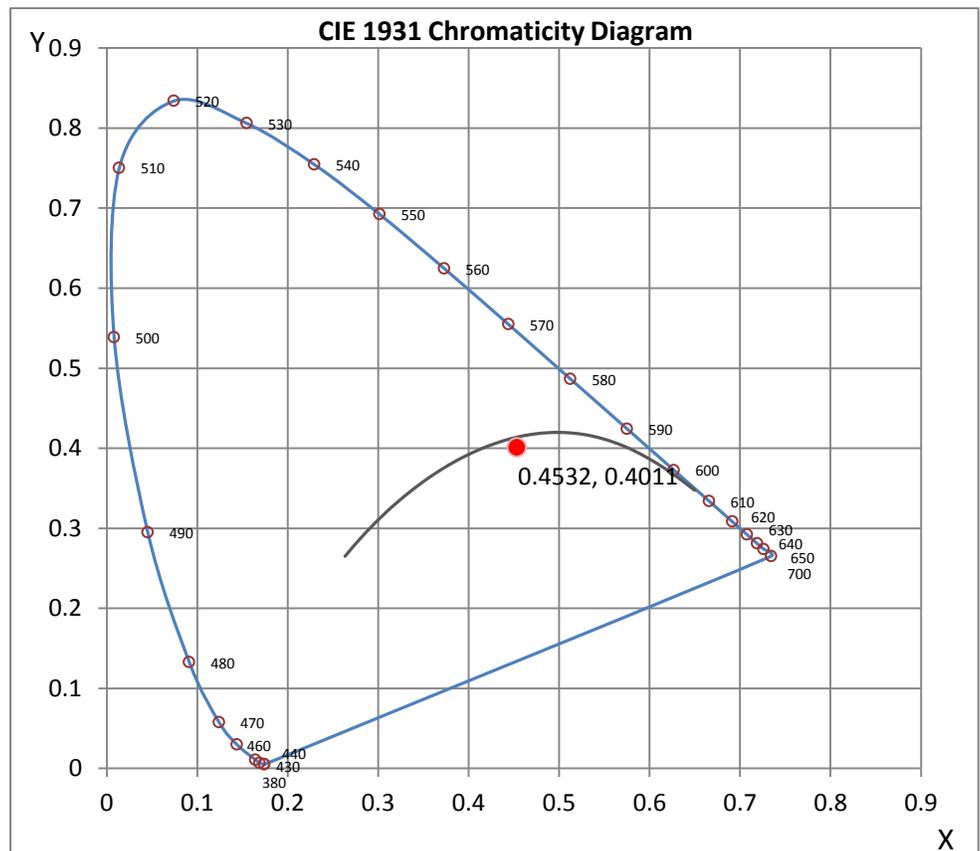
Wavelength	W/m ² nm	440	0.2224	510	0.2582	580	0.8838	650	0.6796	720	0.1290
380	0.0009	450	0.3902	520	0.3497	590	0.9579	660	0.5607	730	0.0968
390	0.0008	460	0.3412	530	0.4373	600	0.9932	670	0.4283	740	0.0718
400	0.0012	470	0.2093	540	0.5179	610	0.9988	680	0.3365	750	0.0531
410	0.0054	480	0.1486	550	0.5967	620	0.9504	690	0.2821	760	0.0388
420	0.0275	490	0.1371	560	0.6857	630	0.8810	700	0.2258	770	0.0290
430	0.0962	500	0.1767	570	0.7724	640	0.7872	710	0.1740	780	0.0213

CRI & CCT

x	0.4532
y	0.4011
u'	0.2625
v'	0.5227
CRI	79.50
CCT	2720
Duv	-0.00299

R Values

R1	77.74
R2	88.61
R3	95.46
R4	74.75
R5	75.98
R6	83.64
R7	81.83
R8	57.98
R9	8.85
R10	72.12
R11	69.87
R12	64.43
R13	79.92
R14	97.27



*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*



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Photometric Test Report

IES FLOOD REPORT

PHOTOMETRIC FILENAME : L111407301.IES

DESCRIPTIVE INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L111407301
[TESTLAB] LIGHT LABORATORY, INC.
[ISSUEDATE] 1/15/2015
[MANUFAC] CAST LIGHTING
[LUMCAT] CBLED141-HIGH
[LUMINAIRE] 2-1/4"DIA. X 8-1/4"H. LED DIRECTIONAL LIGHT
[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, 9.25W
[_TEST PROCEDURE] IESNA:LM-79-08

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

CHARACTERISTICS

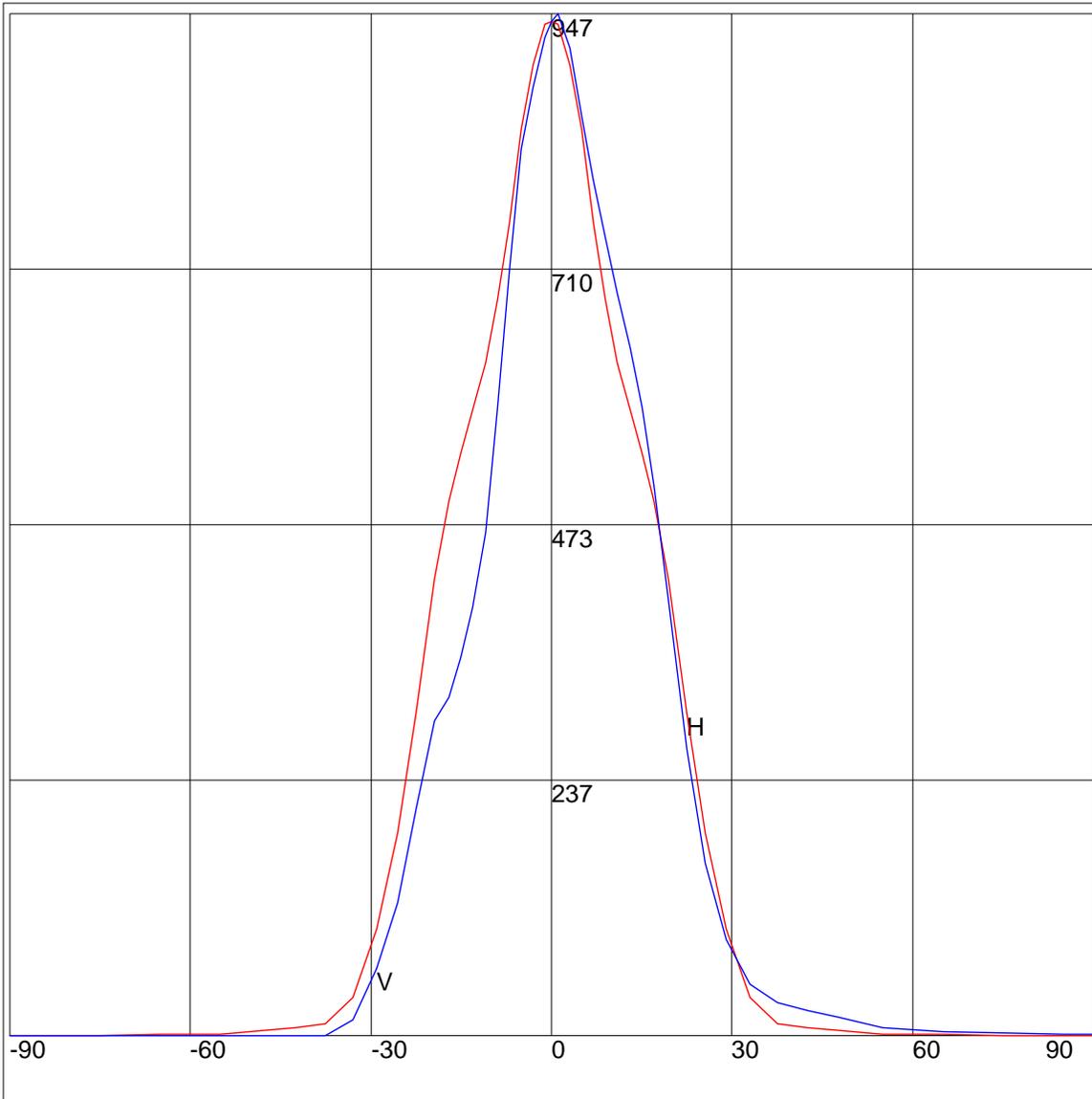
NEMA Type	4 H x 4 V
Maximum Candela	946.76
Maximum Candela Angle	0H 1V
Horizontal Beam Angle (50%)	35.7
Vertical Beam Angle (50%)	28.7
Horizontal Field Angle (10%)	58.6
Vertical Field Angle (10%)	55.9
Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Beam Lumens	155
Beam Efficiency	N.A.
Field Lumens	289
Field Efficiency	N.A.
Spill Lumens	39
Luminaire Lumens	328
Total Efficiency	N.A.
Total Luminaire Watts	9.25
Ballast Factor	1.00

IES FLOOD REPORT
PHOTOMETRIC FILENAME : L111407301.IES

AXIAL CANDELA

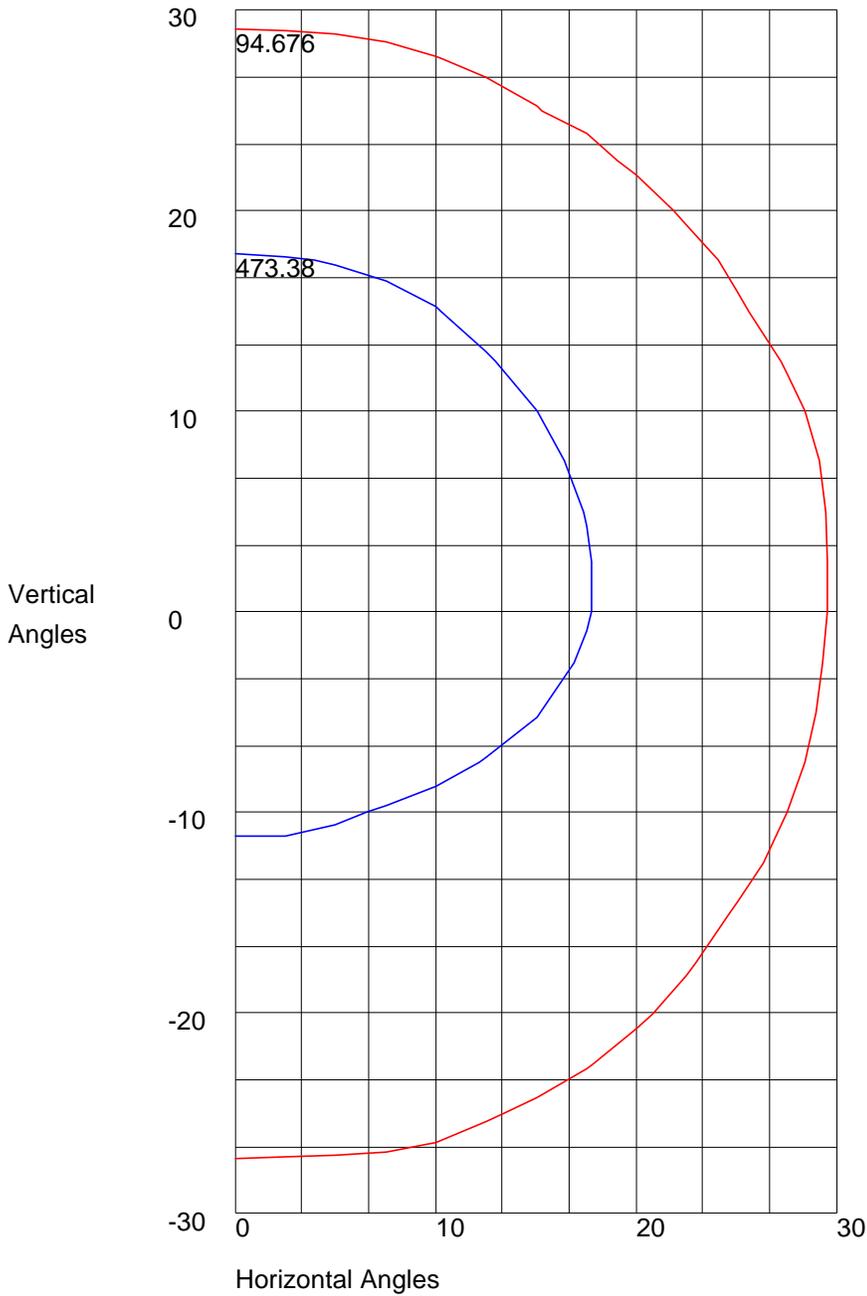
DEG.	HOR.	DEG.	VERT.
90	.5	90	1.84
85	.56	85	2.12
75	.84	75	2.87
65	1.21	65	4.26
55	2.32	55	8.39
47.5	5.29	47.5	17.53
42.5	7.37	42.5	23.81
37.5	12.02	37.5	31.41
33	35.44	33	48.33
29	99.16	29	89.22
25.5	188.89	25.5	160.81
22.5	298.93	22.5	266.57
19.5	423.42	19.5	404.15
17	495.89	17	509.87
15	539.03	15	582.18
13	579.45	13	637.43
11	623.79	11	688.24
9	681.76	9	740.08
7	753.39	7	791.92
5	839.5	5	851.27
3	898.84	3	915.38
1	937.21	1	946.76
0	938.87	0	938.87
-1	937.21	-1	924.93
-3	898.84	-3	878.89
-5	839.5	-5	820.57
-7	753.39	-7	709.05
-9	681.76	-9	582.52
-11	623.79	-11	466.22
-13	579.45	-13	397.33
-15	539.03	-15	349.92
-17	495.89	-17	313.77
-19.5	423.42	-19.5	291.94
-22.5	298.93	-22.5	209.75
-25.5	188.89	-25.5	123.8
-29	99.16	-29	63.1
-33	35.44	-33	14.7
-37.5	12.02	-37.5	.58
-42.5	7.37	-42.5	.51
-47.5	5.29	-47.5	.48
-55	2.32	-55	.48
-65	1.21	-65	.44
-75	.84	-75	0
-85	.56	-85	0
-90	.5	-90	0

AXIAL CANDELA DISPLAY



Maximum Candela = 946.76 Located At Horizontal Angle = 0, Vertical Angle = 1
H - Horizontal Axial Candela
V - Vertical Axial Candela

ISOCANDELA CURVES



Maximum Candela = 946.76 Located At Horizontal Angle = 0, Vertical Angle = 1
50% Maximum Candela = 473.38
10% Maximum Candela = 94.676