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Report No: L011505003

Date: 1/26/2015



NVLAP LAB CODE 200927-0

**Report No:** L011505003

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

**Model Number:** CDL1LED1

**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 CDL1LED1 . Received in working and undamaged condition. No modifications were necessary.

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

**Sample Arrival Date:** 1/21/15

**Date of Tests:** 1/22/15 - 1/26/15

**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	11/10/15
Xitron Power Analysis System	2503AH	MT-EL01	10/20/15
BK Precision DC Power Supply	1747	PSDC-04	01/08/16
Fluke Digital Thermometer	52k/J	MT-TP02-GC	01/05/16
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>	CDL1LED1
<b>Driver Model Number:</b>	N/A
<b>Total Lumens:</b>	49.30
<b>Input Voltage (VAC/60Hz):</b>	12.00
<b>Input Current (Amp):</b>	0.27
<b>Input Power (W):</b>	2.82
<b>Input Power Factor:</b>	0.88
<b>Current ATHD @ 12V(%):</b>	52%
<b>Current ATHD @ 277V(%):</b>	N/A
<b>Efficacy:</b>	17
<b>Color Rendering Index (CRI):</b>	81
<b>Correlated Color Temperature (K):</b>	2759
<b>Chromaticity Coordinate x:</b>	0.4479
<b>Chromaticity Coordinate y:</b>	0.3962
<b>Ambient Temperature (°C):</b>	25.0
<b>Stabilization Time (Hours):</b>	0:45
<b>Total Operating Time (Hours):</b>	1:45
<b>Off State Power(W):</b>	0.00

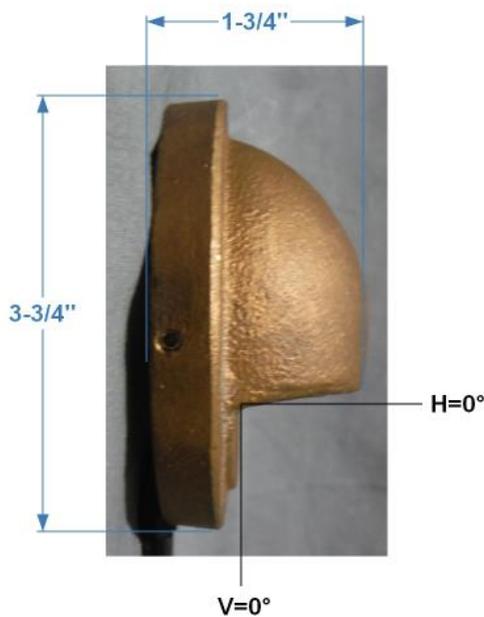
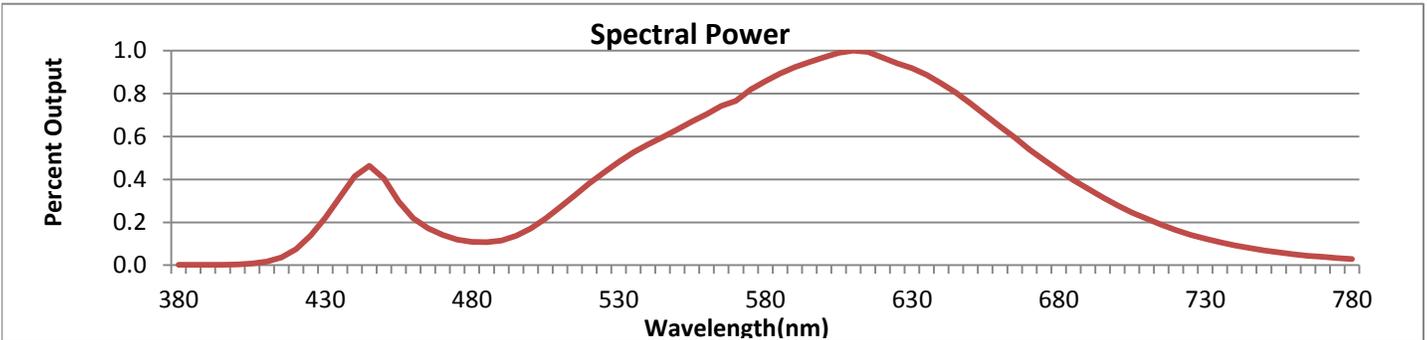


FIG. 1 LUMINAIRE

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



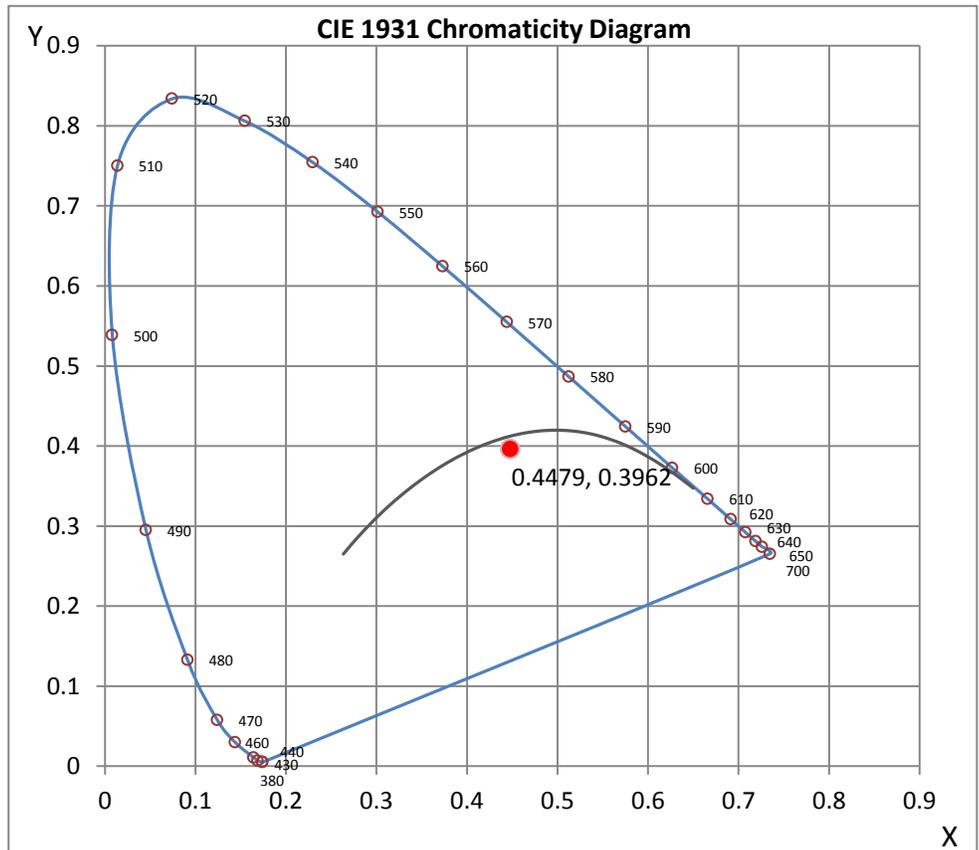
Wavelength	W/m <sup>2</sup> nm	440	0.4138	510	0.2709	580	0.8589	650	0.7540	720	0.1633
380	0.0023	450	0.4047	520	0.3813	590	0.9233	660	0.6473	730	0.1232
390	0.0023	460	0.2191	530	0.4806	600	0.9696	670	0.5392	740	0.0932
400	0.0039	470	0.1410	540	0.5633	610	1.0000	680	0.4421	750	0.0694
410	0.0163	480	0.1083	550	0.6322	620	0.9683	690	0.3559	760	0.0511
420	0.0748	490	0.1151	560	0.7033	630	0.9187	700	0.2799	770	0.0384
430	0.2223	500	0.1714	570	0.7665	640	0.8477	710	0.2176	780	0.0288

**CRI & CCT**

x	0.4479
y	0.3962
u'	0.2612
v'	0.5199
CRI	81.20
CCT	2759
Duv	-0.00439

**R Values**

R1	80.95
R2	87.51
R3	90.88
R4	79.33
R5	78.56
R6	81.44
R7	84.86
R8	66.35
R9	24.83
R10	68.81
R11	75.61
R12	63.95
R13	81.89
R14	93.87



\*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 : L011505003.IES

### DESCRIPTIVE INFORMATION (From Photometric File)

IESNA:LM-63-2002  
[TEST] L011505003  
[TESTLAB] LIGHT LABORATORY, INC.  
[ISSUEDATE] 1/26/2015  
[MANUFAC] CAST LIGHTING  
[LUMCAT] CDL1LED1  
[LUMINAIRE] 3-3/4"DIA. X 1-3/4"L. LED DECK LIGHT  
[MORE] FROSTED 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, 2.82W  
[TEST PROCEDURE] IESNA:LM-79-08

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

### CHARACTERISTICS

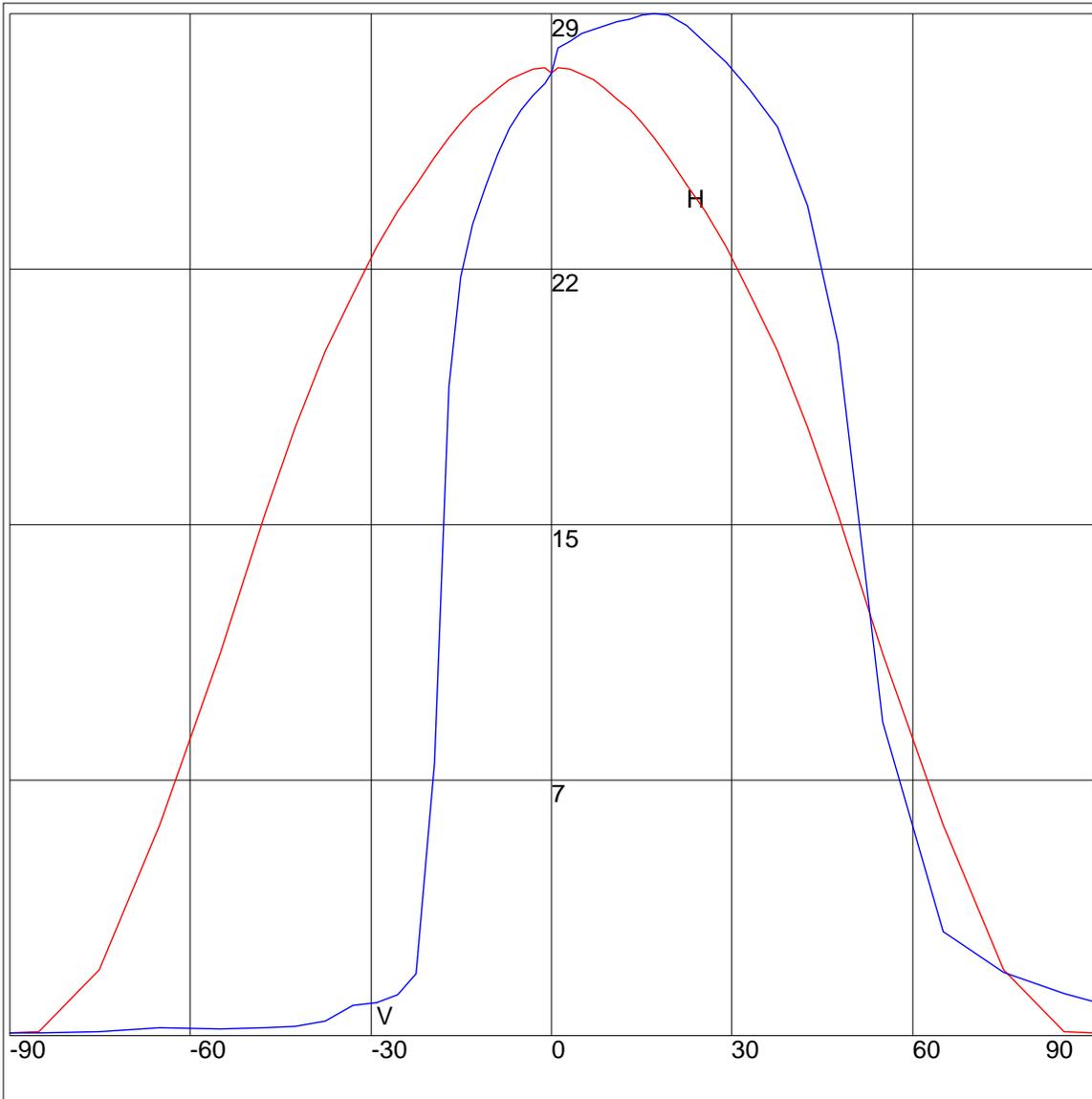
NEMA Type	7 H x 5 V
Maximum Candela	29.4
Maximum Candela Angle	0H 17V
Horizontal Beam Angle (50%)	97.0
Vertical Beam Angle (50%)	69.0
Horizontal Field Angle (10%)	144.1
Vertical Field Angle (10%)	87.5
Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Beam Lumens	36
Beam Efficiency	N.A.
Field Lumens	47
Field Efficiency	N.A.
Spill Lumens	2
Luminaire Lumens	49
Total Efficiency	N.A.
Total Luminaire Watts	2.82
Ballast Factor	1.00

**IES FLOOD REPORT**  
**PHOTOMETRIC FILENAME : L011505003.IES**

**AXIAL CANDELA**

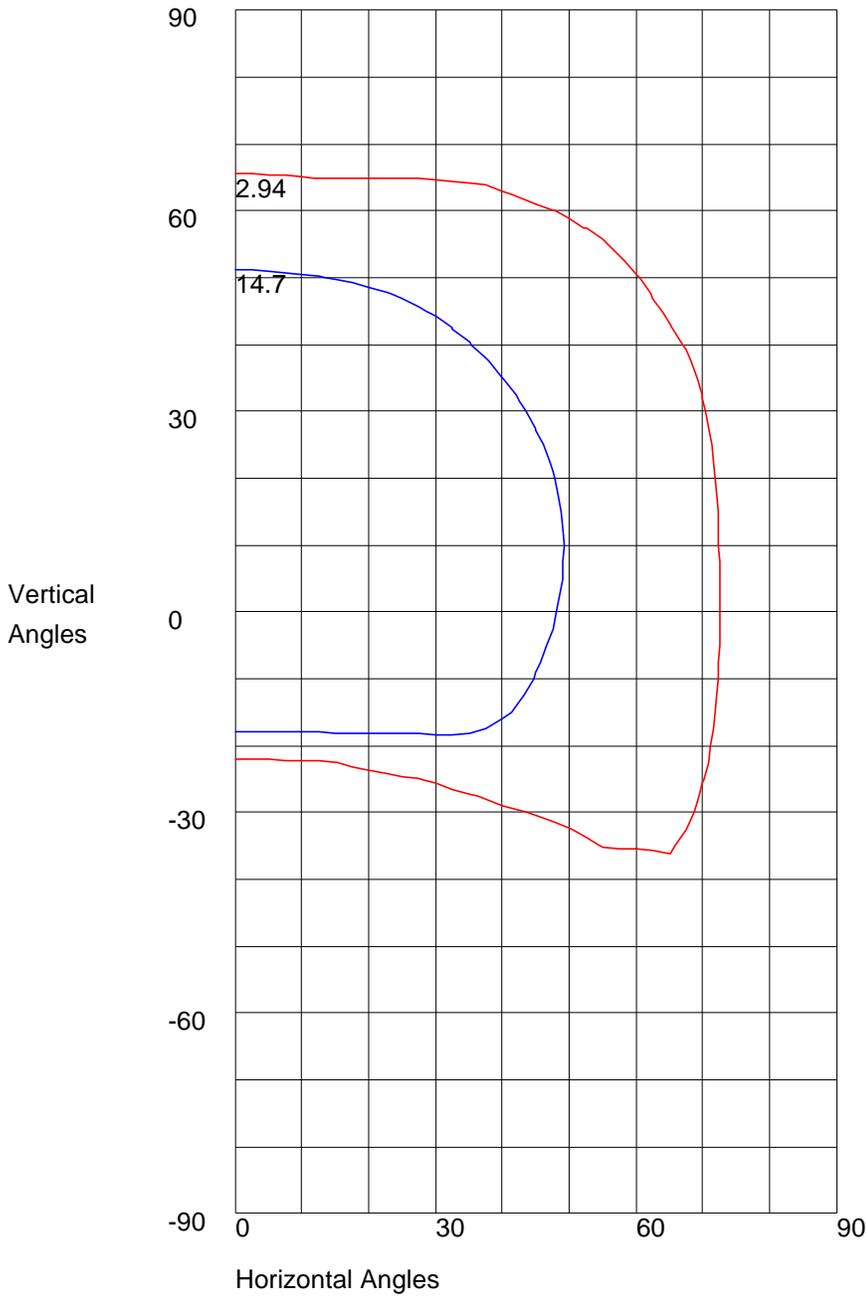
DEG.	HOR.	DEG.	VERT.
90	.09	90	.99
85	.12	85	1.23
75	1.91	75	1.84
65	6.07	65	3
55	11	55	9.04
47.5	15.01	47.5	19.92
42.5	17.51	42.5	23.87
37.5	19.7	37.5	26.16
33	21.33	33	27.22
29	22.7	29	28
25.5	23.72	25.5	28.58
22.5	24.47	22.5	29.06
19.5	25.26	19.5	29.37
17	25.85	17	29.4
15	26.26	15	29.37
13	26.62	13	29.26
11	26.93	11	29.19
9	27.23	9	29.06
7	27.49	7	28.96
5	27.66	5	28.82
3	27.8	3	28.61
1	27.85	1	28.41
0	27.71	0	27.71
-1	27.85	-1	27.39
-3	27.8	-3	27.05
-5	27.66	-5	26.64
-7	27.49	-7	26.09
-9	27.23	-9	25.34
-11	26.93	-11	24.45
-13	26.62	-13	23.33
-15	26.26	-15	21.83
-17	25.85	-17	18.69
-19.5	25.26	-19.5	7.84
-22.5	24.47	-22.5	1.81
-25.5	23.72	-25.5	1.19
-29	22.7	-29	.96
-33	21.33	-33	.89
-37.5	19.7	-37.5	.44
-42.5	17.51	-42.5	.27
-47.5	15.01	-47.5	.24
-55	11	-55	.21
-65	6.07	-65	.24
-75	1.91	-75	.14
-85	.12	-85	.1
-90	.09	-90	.1

AXIAL CANDELA DISPLAY



Maximum Candela = 29.4 Located At Horizontal Angle = 0, Vertical Angle = 17  
H - Horizontal Axial Candela  
V - Vertical Axial Candela

ISOCANDELA CURVES



Maximum Candela = 29.4 Located At Horizontal Angle = 0, Vertical Angle = 17  
50% Maximum Candela = 14.7  
10% Maximum Candela = 2.94