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Report No: L111407108

Date: 12/9/2014



NVLAP LAB CODE 200927-0

Report No: L111407108

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

Model Number: CEWL5LED1

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 CEWL5LED1 . 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

Manufacturer:	Cast Lighting
Model Number:	CEWL5LED1
Driver Model Number:	N/A
Total Lumens:	76.06
Input Voltage (VAC/60Hz):	12.00
Input Current (Amp):	0.24
Input Power (W):	2.50
Input Power Factor:	0.88
Current ATHD @ 12V(%):	51%
Current ATHD @ 277V(%):	N/A
Efficacy:	30
Color Rendering Index (CRI):	81
Correlated Color Temperature (K):	2704
Chromaticity Coordinate x:	0.4651
Chromaticity Coordinate y:	0.4204
Ambient Temperature (°F):	77.0
Stabilization Time (Hours):	0:45
Total Operating Time (Hours):	1:45
Off State Power(W):	0.00

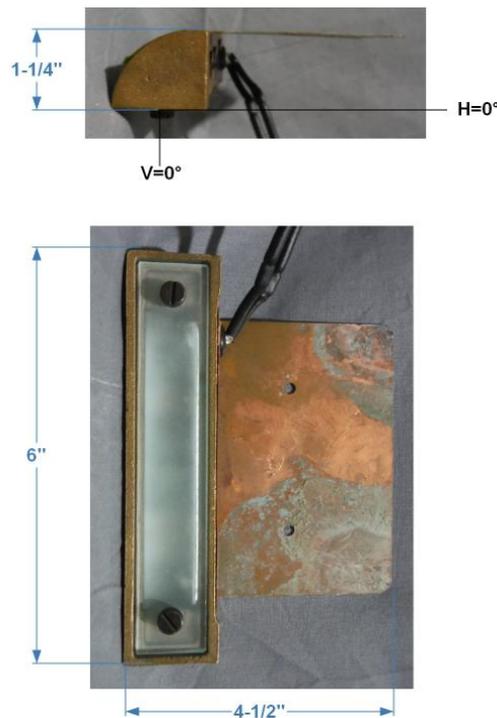
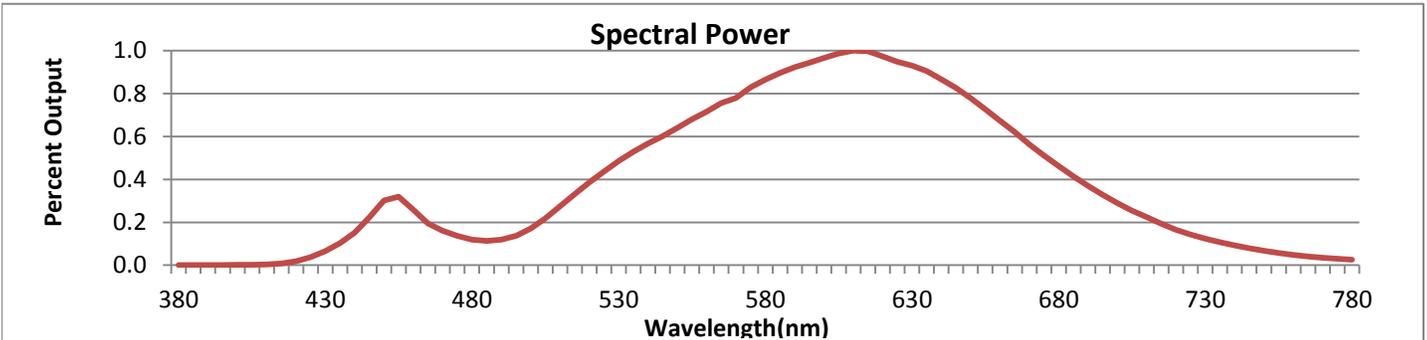


FIG. 1 LUMINAIRE

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



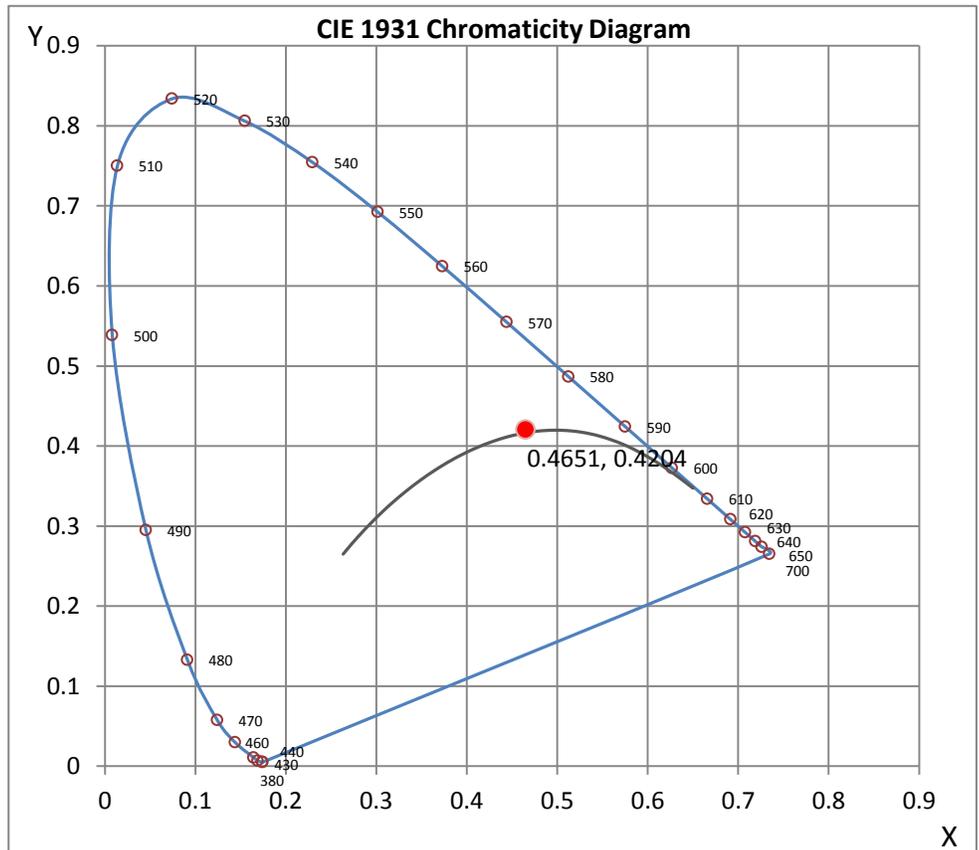
Wavelength	W/m ² nm	440	0.1523	510	0.2745	580	0.8652	650	0.7792	720	0.1655
380	0.0008	450	0.3013	520	0.3862	590	0.9239	660	0.6739	730	0.1240
390	0.0007	460	0.2580	530	0.4855	600	0.9662	670	0.5633	740	0.0918
400	0.0013	470	0.1611	540	0.5674	610	1.0000	680	0.4620	750	0.0671
410	0.0038	480	0.1198	550	0.6405	620	0.9736	690	0.3696	760	0.0481
420	0.0186	490	0.1193	560	0.7155	630	0.9309	700	0.2899	770	0.0353
430	0.0651	500	0.1706	570	0.7799	640	0.8675	710	0.2241	780	0.0256

CRI & CCT

x	0.4651
y	0.4204
u'	0.2615
v'	0.5318
CRI	81.40
CCT	2704
Duv	0.00314

R Values

R1	79.87
R2	86.91
R3	91.99
R4	79.61
R5	77.08
R6	80.54
R7	88.17
R8	66.75
R9	23.30
R10	67.76
R11	74.87
R12	56.42
R13	80.73
R14	94.51



*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.

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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 : L111407108.IES

DESCRIPTIVE INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L111407108
[TESTLAB] LIGHT LABORATORY, INC.
[ISSUE DATE] 12/09/2014
[MANUFAC] CAST LIGHTING
[LUMCAT] CEWL5LED1
[LUMINAIRE] 4-1/2"L. X 6"W. X 1-1/4"H. LED LUMINAIRE
[MORE] DIFFUSED 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, 2.50W
[TEST PROCEDURE] IESNA:LM-79-08

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

CHARACTERISTICS

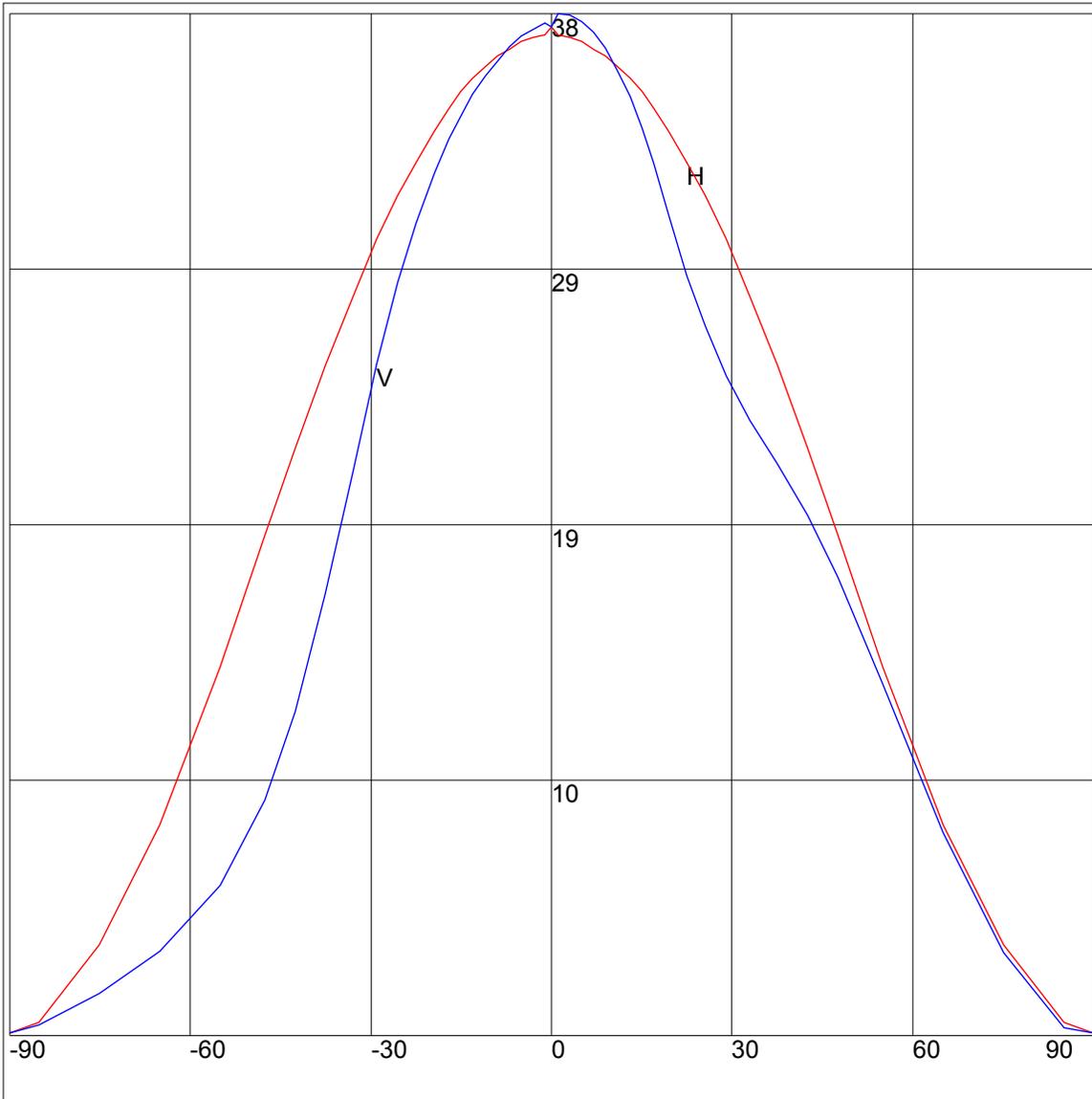
NEMA Type	7 H x 7 V
Maximum Candela	38.2
Maximum Candela Angle	0H 1V
Horizontal Beam Angle (50%)	93.9
Vertical Beam Angle (50%)	78.2
Horizontal Field Angle (10%)	148.3
Vertical Field Angle (10%)	135.9
Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Beam Lumens	45
Beam Efficiency	N.A.
Field Lumens	73
Field Efficiency	N.A.
Spill Lumens	3
Luminaire Lumens	76
Total Efficiency	N.A.
Total Luminaire Watts	2.5
Ballast Factor	1.00

IES FLOOD REPORT
PHOTOMETRIC FILENAME : L111407108.IES

AXIAL CANDELA

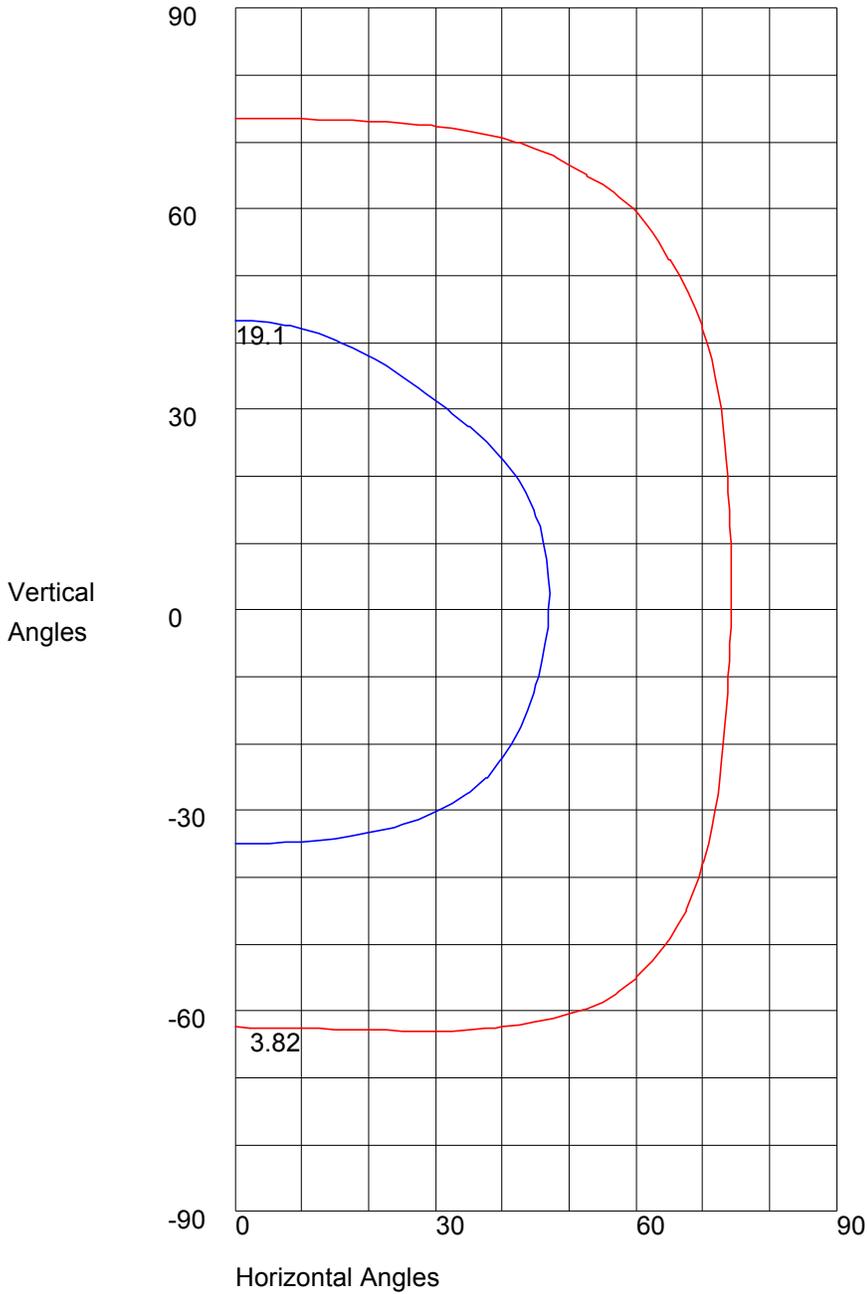
DEG.	HOR.	DEG.	VERT.
90	.14	90	.14
85	.53	85	.34
75	3.43	75	3.12
65	7.89	65	7.59
55	13.8	55	13.14
47.5	18.72	47.5	17.16
42.5	21.98	42.5	19.46
37.5	25.04	37.5	21.38
33	27.64	33	22.99
29	29.77	29	24.68
25.5	31.39	25.5	26.53
22.5	32.66	22.5	28.42
19.5	33.8	19.5	30.72
17	34.66	17	32.6
15	35.28	15	33.91
13	35.78	13	35.11
11	36.22	11	36.07
9	36.62	9	36.93
7	36.88	7	37.51
5	37.17	5	37.92
3	37.32	3	38.13
1	37.41	1	38.2
0	37.72	0	37.72
-1	37.41	-1	37.85
-3	37.32	-3	37.61
-5	37.17	-5	37.37
-7	36.88	-7	36.96
-9	36.62	-9	36.45
-11	36.22	-11	35.9
-13	35.78	-13	35.18
-15	35.28	-15	34.35
-17	34.66	-17	33.53
-19.5	33.8	-19.5	32.26
-22.5	32.66	-22.5	30.37
-25.5	31.39	-25.5	28.14
-29	29.77	-29	25.12
-33	27.64	-33	21.07
-37.5	25.04	-37.5	16.54
-42.5	21.98	-42.5	12.15
-47.5	18.72	-47.5	8.82
-55	13.8	-55	5.63
-65	7.89	-65	3.19
-75	3.43	-75	1.61
-85	.53	-85	.41
-90	.14	-90	.14

AXIAL CANDELA DISPLAY



Maximum Candela = 38.2 Located At Horizontal Angle = 0, Vertical Angle = 1
H - Horizontal Axial Candela
V - Vertical Axial Candela

ISOCANDELA CURVES



Maximum Candela = 38.2 Located At Horizontal Angle = 0, Vertical Angle = 1
50% Maximum Candela = 19.1
10% Maximum Candela = 3.82