

Report No: L111708109**Issue Date:** 1/10/2018**Report Prepared For:** CAST Lighting LLC.
1120 Goffle Road Hawthorne NJ 07506-2024**Model Number:** CID140**Test:** Photometric/Colorimetric/Electrical Test

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

Testing Condition: Fixture is tested with no special conditions.

Sample Arrival Date: 12/7/17

Date of Tests: 1/9/18 - 1/10/18

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-S4	1/9/19
BK PRECISION	1747	PS-DC04	1/10/19
Fluke Digital Thermometer	52K/J	MT-TP05	1/10/19
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 LLC.
Model Number:	CID140
Driver Model Number:	N/A
Total Lumens:	504.38
Input Voltage (VDC):	12.00
Input Current (Amp):	0.76
Input Power (W):	8.29
Input Power Factor:	0.92
Current ATHD @ 12V(%):	38%
Efficacy:	61
Color Rendering Index (CRI):	83
Correlated Color Temperature (K):	2615
Chromaticity Coordinate x:	0.4703
Chromaticity Coordinate y:	0.4179
Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	0:30
Total Operating Time (Hours):	1:30

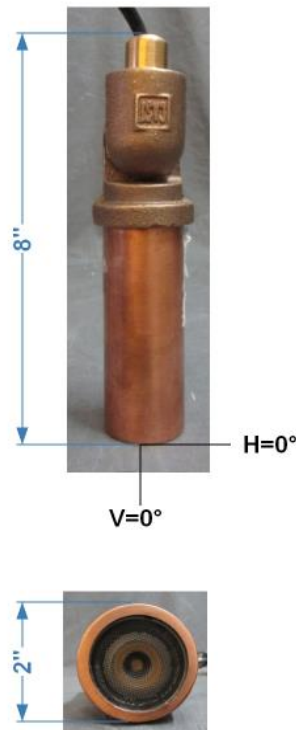
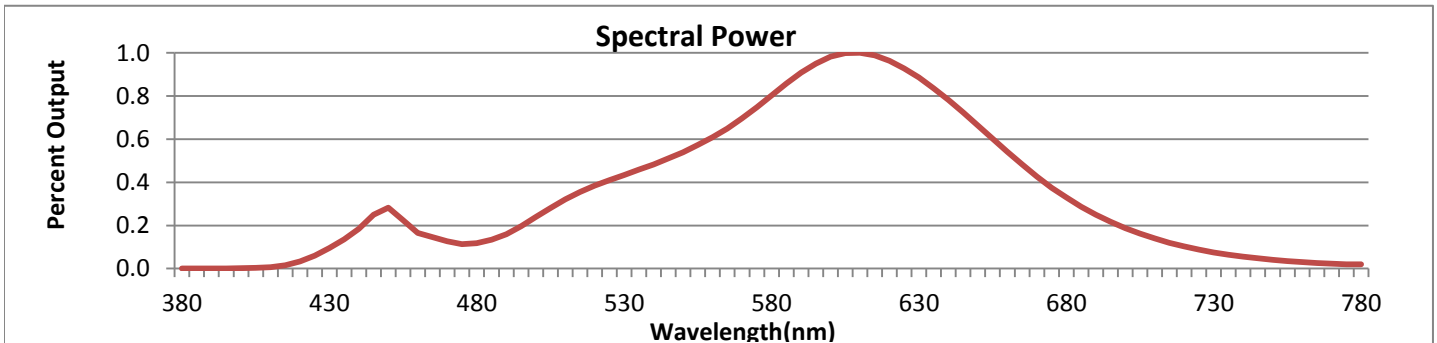


FIG. 1 LUMINAIRE



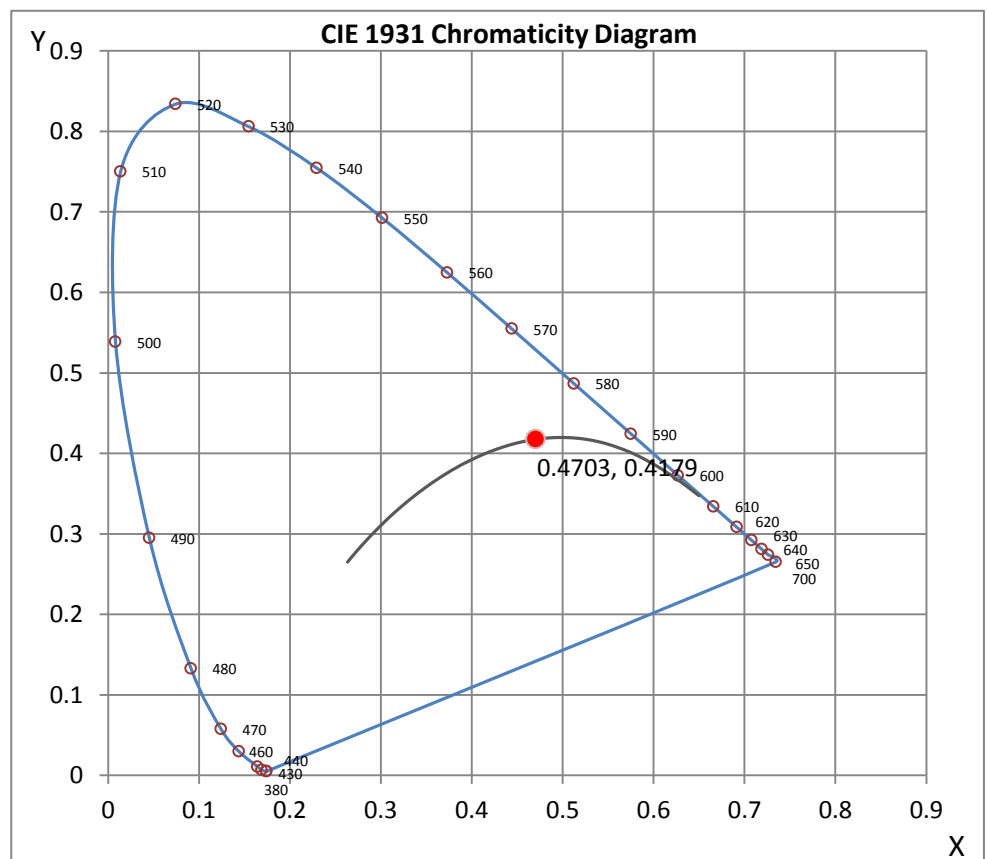
Wavelength	W/m ² nm	440	0.1839	510	0.3210	580	0.8037	650	0.6643	720	0.1023
380	0.0006	450	0.2818	520	0.3844	590	0.9091	660	0.5420	730	0.0750
390	0.0008	460	0.1653	530	0.4345	600	0.9825	670	0.4260	740	0.0552
400	0.0015	470	0.1261	540	0.4830	610	1.0000	680	0.3294	750	0.0409
410	0.0070	480	0.1181	550	0.5399	620	0.9638	690	0.2501	760	0.0302
420	0.0330	490	0.1597	560	0.6090	630	0.8867	700	0.1878	770	0.0224
430	0.0947	500	0.2390	570	0.6963	640	0.7827	710	0.1396	780	0.0193

CRI & CCT

x	0.4703
y	0.4179
u'	0.2659
v'	0.5317
CRI	82.60
CCT	2615
Duv	0.00187

R Values

R1	80.61
R2	89.79
R3	97.86
R4	81.31
R5	80.21
R6	88.10
R7	83.53
R8	59.02
R9	10.02
R10	76.96
R11	80.82
R12	72.91
R13	82.47
R14	98.79



*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
www.lightlaboratory.com

Photometric Test Report

IES FLOOD REPORT
PHOTOMETRIC FILENAME : L111708109.IES

DESCRIPTIVE INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L111708109
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)
[ISSUEDATE] 1/10/2018
[MANUFAC] CAST Lighting LLC.
[LUMCAT] CID140
[LUMINAIRE] Impressionist 40° Optic Hi Setting
[BALLASTCAT] N/A
[OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND
[MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.
[INPUT] 12VAC, 8.29W
[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	715.99
Maximum Candela Angle	-1H 0V
Horizontal Beam Angle (50%)	49.6
Vertical Beam Angle (50%)	49.6
Horizontal Field Angle (10%)	77.4
Vertical Field Angle (10%)	77.4
Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Beam Lumens	321
Beam Efficiency	N.A.
Field Lumens	463
Field Efficiency	N.A.
Spill Lumens	41
Luminaire Lumens	504
Total Efficiency	N.A.
Total Luminaire Watts	8.29
Ballast Factor	1.00

IES FLOOD REPORT
PHOTOMETRIC FILENAME : L111708109.IES

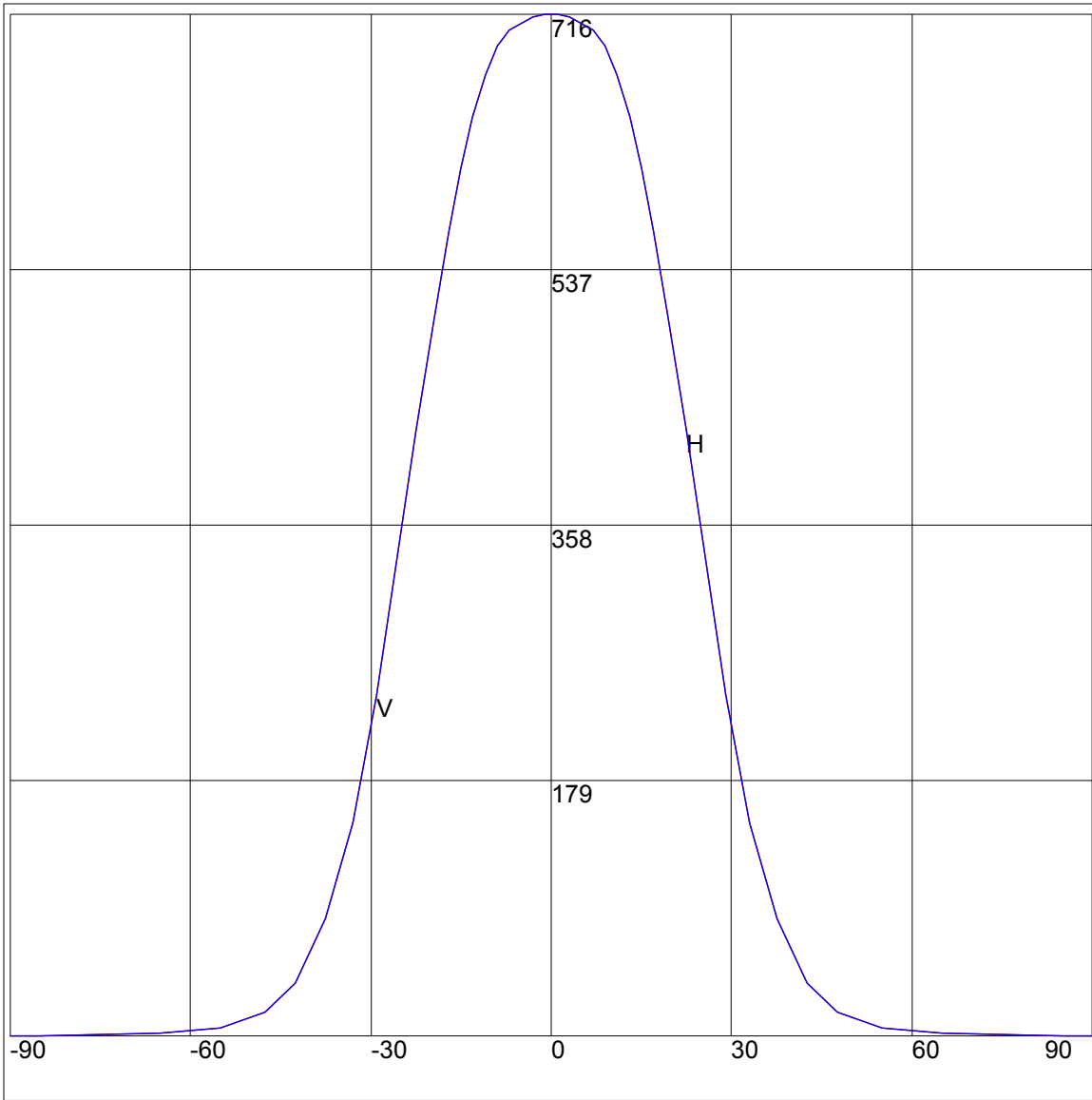
AXIAL CANDELA

DEG.	HOR.	DEG.	VERT.
90	0	90	0
85	.17	85	.17
75	1.18	75	1.18
65	2.71	65	2.71
55	5.92	55	5.92
47.5	17.01	47.5	17.01
42.5	37.64	42.5	37.64
37.5	82.45	37.5	82.45
33	149.42	33	149.42
29	238.8	29	238.8
25.5	337.64	25.5	337.64
22.5	424.26	22.5	424.26
19.5	503.47	19.5	503.47
17	563.94	17	563.94
15	607.44	15	607.44
13	644.08	13	644.08
11	673.18	11	673.18
9	693.55	9	693.55
7	705.14	7	705.14
5	709.73	5	709.73
3	713.71	3	713.71
1	715.99	1	715.99
0	715.96	0	715.96
-1	715.99	-1	715.99
-3	713.71	-3	713.71
-5	709.73	-5	709.73
-7	705.14	-7	705.14
-9	693.55	-9	693.55
-11	673.18	-11	673.18
-13	644.08	-13	644.08
-15	607.44	-15	607.44
-17	563.94	-17	563.94
-19.5	503.47	-19.5	503.47
-22.5	424.26	-22.5	424.26
-25.5	337.64	-25.5	337.64
-29	238.8	-29	238.8
-33	149.42	-33	149.42
-37.5	82.45	-37.5	82.45
-42.5	37.64	-42.5	37.64
-47.5	17.01	-47.5	17.01
-55	5.92	-55	5.92
-65	2.71	-65	2.71
-75	1.18	-75	1.18
-85	.17	-85	.17
-90	0	-90	0

ZONAL LUMEN SUMMARY

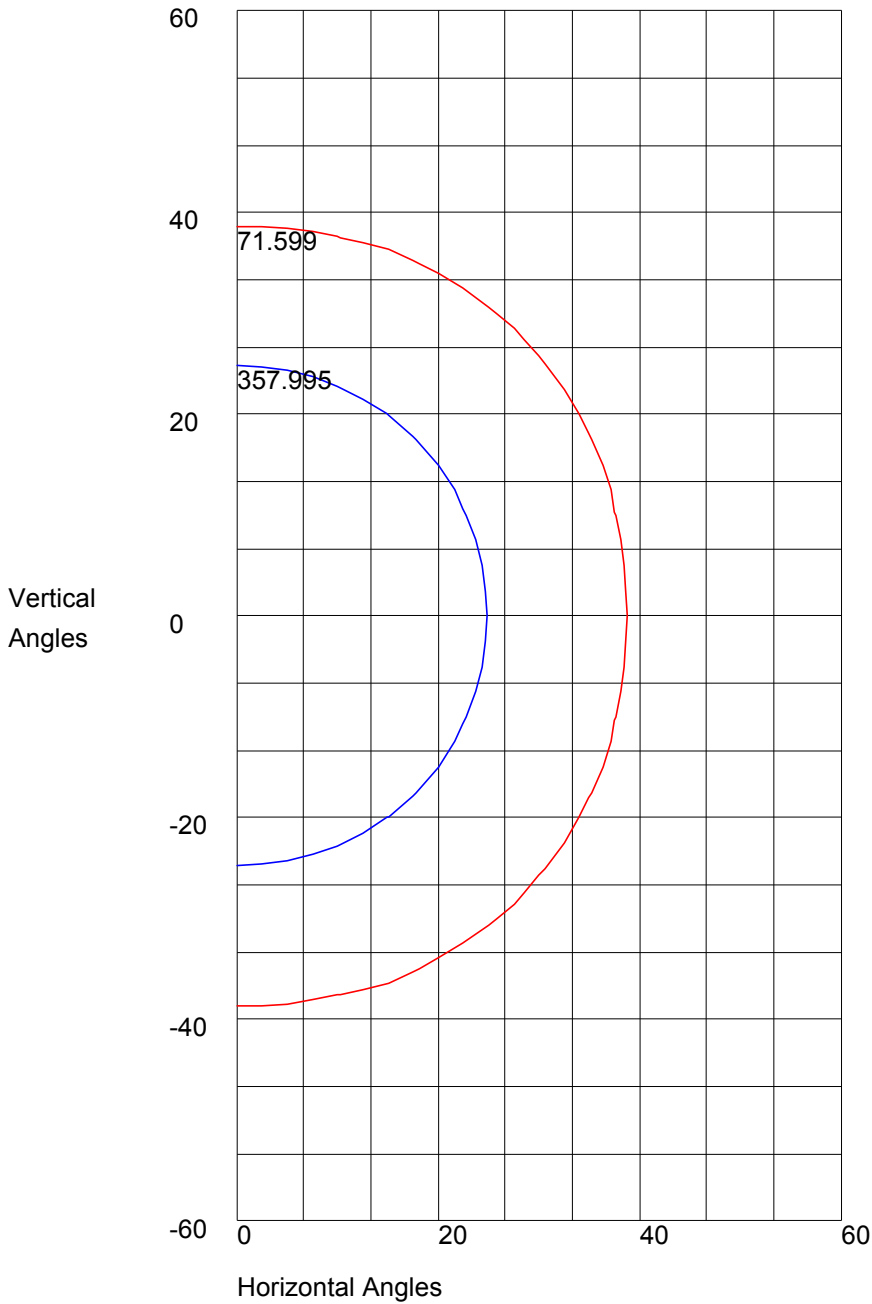
Zone	%
0-20	44.6
0-30	75.6
0-40	90.9
0-60	98.6
0-80	99.8
0-90	100
10-90	89.2
20-40	46.2
20-50	52.5
40-70	8.6
60-80	1.2
70-80	0.4
80-90	0.2
90-110	0
90-120	0
90-130	0
90-150	0
90-180	0
110-180	0
0-180	100

AXIAL CANDELA DISPLAY



Maximum Candela = 715.99 Located At Horizontal Angle = -1, Vertical Angle = 0
H - Horizontal Axial Candela
V - Vertical Axial Candela

ISOCANDELA CURVES



Maximum Candela = 715.99 Located At Horizontal Angle = -1, Vertical Angle = 0
50% Maximum Candela = 357.995
10% Maximum Candela = 71.599