



8165 E Kaiser Blvd. Anaheim, CA 92808
www.lightlaboratory.com

Report No: L111708110



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Issue Date: 1/10/2018

Report Prepared For: CAST Lighting LLC.
1120 Goffle Road Hawthorne NJ 07506-2024

Model Number: CID164

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:	CID164
Driver Model Number:	N/A
Total Lumens:	451.14
Input Voltage (VDC):	12.00
Input Current (Amp):	0.75
Input Power (W):	8.33
Input Power Factor:	0.92
Current ATHD @ 12V(%):	38%
Efficacy:	54
Color Rendering Index (CRI):	83
Correlated Color Temperature (K):	2629
Chromaticity Coordinate x:	0.4678
Chromaticity Coordinate y:	0.4154
Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	0:35
Total Operating Time (Hours):	1:35

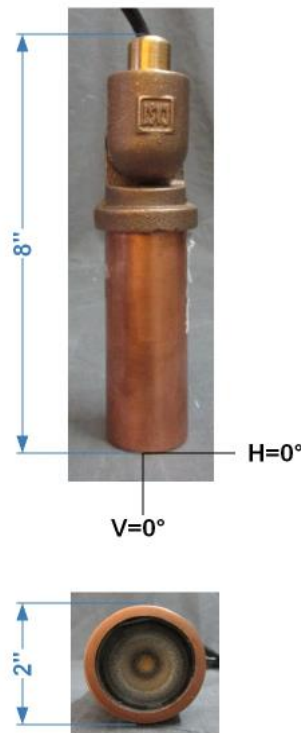
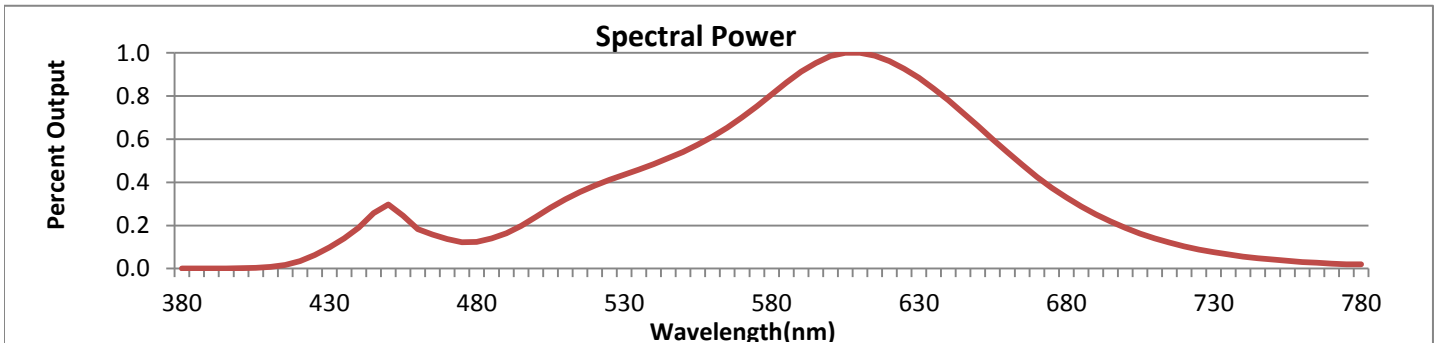


FIG. 1 LUMINAIRE

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



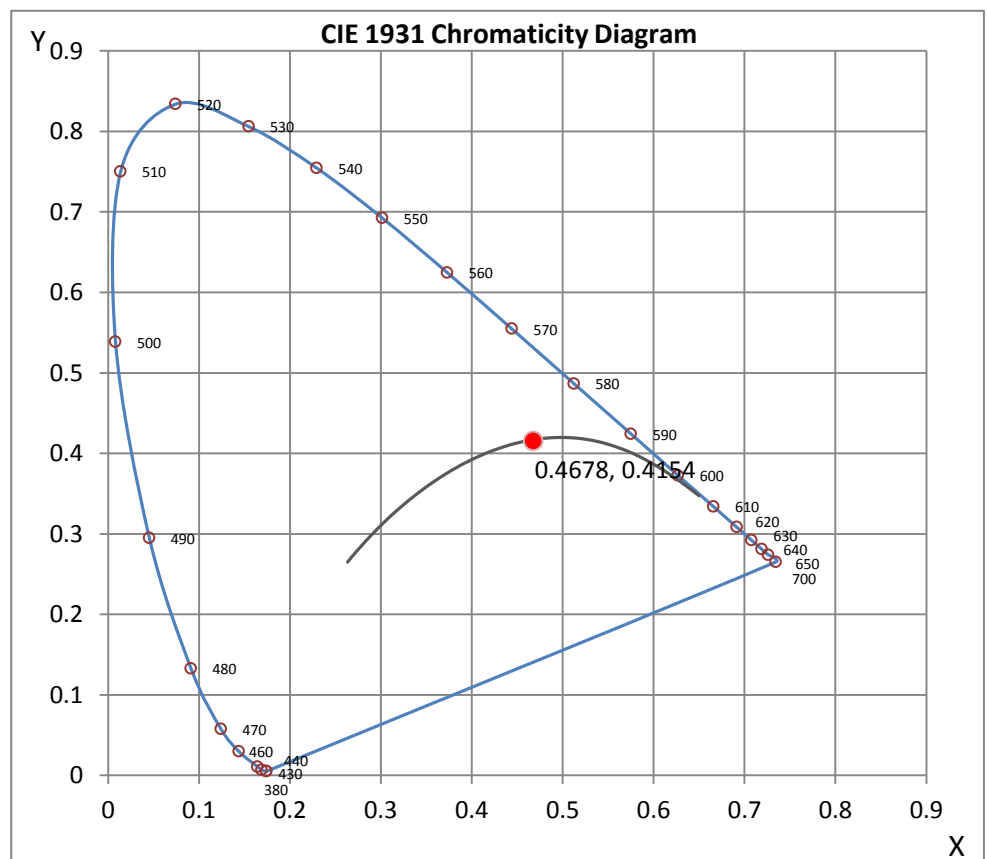
Wavelength	W/m ² nm	440	0.1900	510	0.3207	580	0.8079	650	0.6626	720	0.1035
380	0.0006	450	0.2979	520	0.3845	590	0.9129	660	0.5410	730	0.0757
390	0.0008	460	0.1823	530	0.4356	600	0.9860	670	0.4256	740	0.0560
400	0.0017	470	0.1377	540	0.4842	610	1.0000	680	0.3301	750	0.0416
410	0.0077	480	0.1242	550	0.5412	620	0.9621	690	0.2509	760	0.0308
420	0.0349	490	0.1634	560	0.6116	630	0.8846	700	0.1886	770	0.0228
430	0.0987	500	0.2397	570	0.7004	640	0.7805	710	0.1406	780	0.0199

CRI & CCT

x	0.4678
y	0.4154
u'	0.2654
v'	0.5304
CRI	82.50
CCT	2629
Duv	0.00115

R Values

R1	80.66
R2	90.04
R3	97.62
R4	81.02
R5	80.30
R6	88.36
R7	83.18
R8	58.87
R9	10.05
R10	77.47
R11	80.44
R12	73.52
R13	82.61
R14	98.84



*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 : L111708110.IES

DESCRIPTIVE INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] L111708110
 [TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)
 [ISSUEDATE] 1/10/2018
 [MANUFAC] CAST Lighting LLC.
 [LUMCAT] CID164
 [LUMINAIRE] Impressionist 64° 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, 8.33W
 [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	473.53
Maximum Candela Angle	-7H -1V
Horizontal Beam Angle (50%)	57.4
Vertical Beam Angle (50%)	58.9
Horizontal Field Angle (10%)	86.6
Vertical Field Angle (10%)	87.4
Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Beam Lumens	304
Beam Efficiency	N.A.
Field Lumens	417
Field Efficiency	N.A.
Spill Lumens	34
Luminaire Lumens	451
Total Efficiency	N.A.
Total Luminaire Watts	8.33
Ballast Factor	1.00

IES FLOOD REPORT
PHOTOMETRIC FILENAME : L111708110.IES

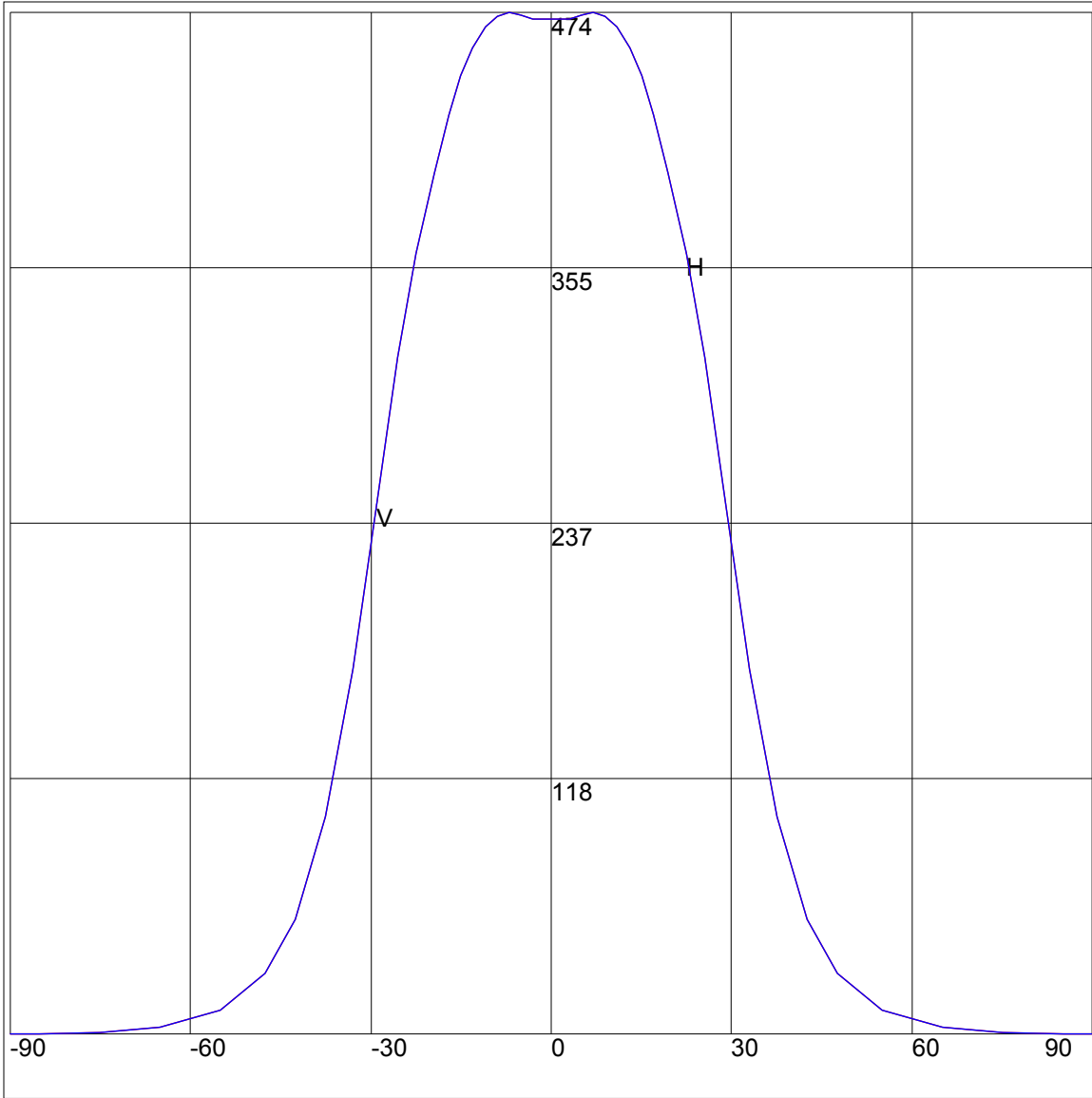
AXIAL CANDELA

DEG.	HOR.	DEG.	VERT.
90	0	90	0
85	.16	85	.16
75	.96	75	.96
65	3.37	65	3.37
55	11.11	55	11.11
47.5	28.3	47.5	28.3
42.5	53.51	42.5	53.51
37.5	100.66	37.5	100.66
33	169.38	33	169.38
29	245.63	29	245.63
25.5	313.53	25.5	313.53
22.5	362.13	22.5	362.13
19.5	398.85	19.5	398.85
17	425.88	17	425.88
15	443.97	15	443.97
13	457.04	13	457.04
11	466.55	11	466.55
9	471.43	9	471.43
7	473.53	7	473.53
5	472.53	5	472.53
3	470.74	3	470.74
1	470.52	1	470.52
0	470.32	0	470.32
-1	470.52	-1	470.52
-3	470.74	-3	470.74
-5	472.53	-5	472.53
-7	473.53	-7	473.53
-9	471.43	-9	471.43
-11	466.55	-11	466.55
-13	457.04	-13	457.04
-15	443.97	-15	443.97
-17	425.88	-17	425.88
-19.5	398.85	-19.5	398.85
-22.5	362.13	-22.5	362.13
-25.5	313.53	-25.5	313.53
-29	245.63	-29	245.63
-33	169.38	-33	169.38
-37.5	100.66	-37.5	100.66
-42.5	53.51	-42.5	53.51
-47.5	28.3	-47.5	28.3
-55	11.11	-55	11.11
-65	3.37	-65	3.37
-75	.96	-75	.96
-85	.16	-85	.16
-90	0	-90	0

ZONAL LUMEN SUMMARY

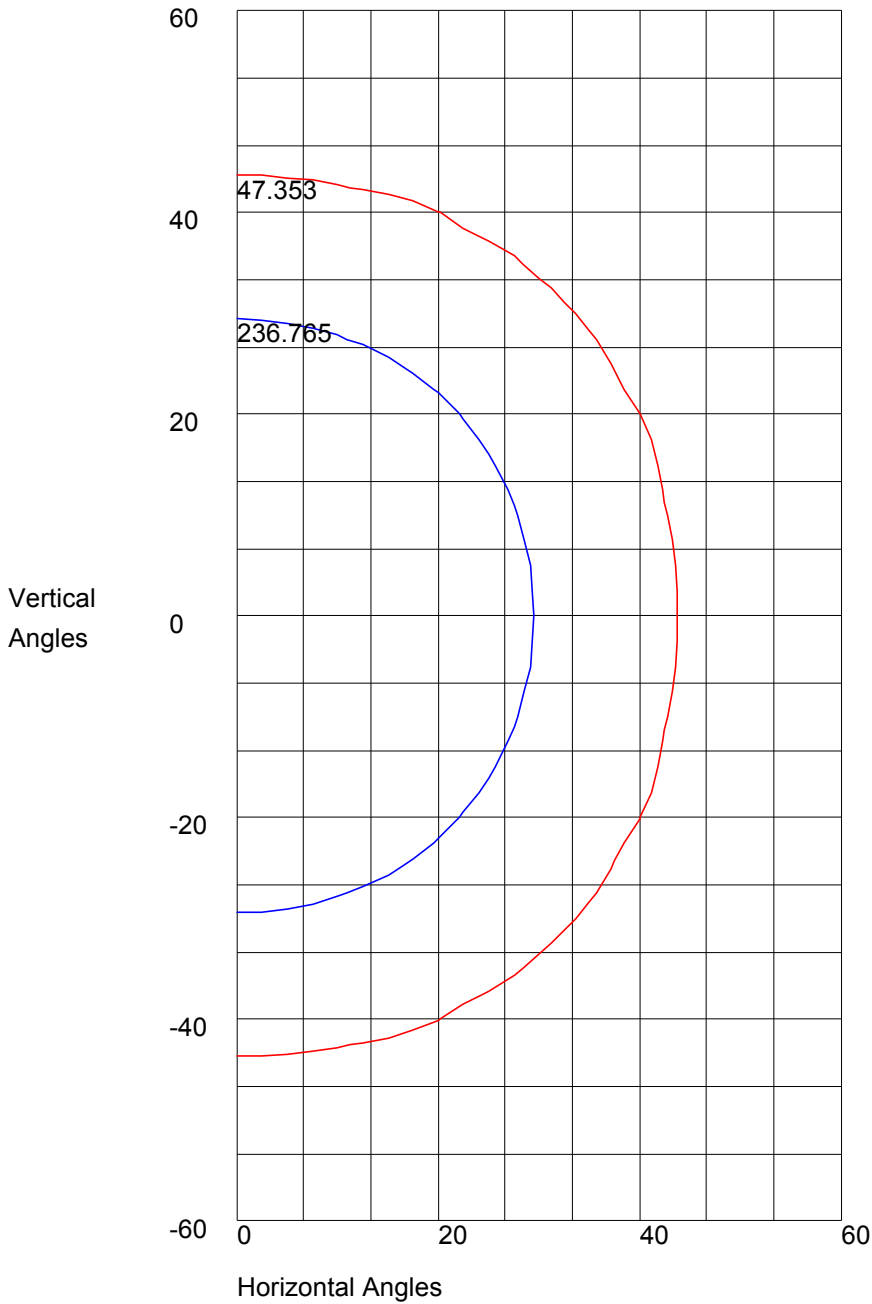
Zone	%
0-20	35.7
0-30	66.6
0-40	85.5
0-60	97.8
0-80	99.9
0-90	100
10-90	91.9
20-40	49.8
20-50	59.3
40-70	13.9
60-80	2
70-80	0.5
80-90	0.1
90-110	0
90-120	0
90-130	0
90-150	0
90-180	0
110-180	0
0-180	100

AXIAL CANDELA DISPLAY



Maximum Candela = 473.53 Located At Horizontal Angle = -7, Vertical Angle = -1
H - Horizontal Axial Candela
V - Vertical Axial Candela

ISOCANDELA CURVES



Maximum Candela = 473.53 Located At Horizontal Angle =-7, Vertical Angle =-1
50% Maximum Candela = 236.765
10% Maximum Candela = 47.353