

Report No: L111708107 **Issue Date:** 1/10/2018

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

Model Number: CID113

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:	CID113
Driver Model Number:	N/A
Total Lumens:	569.10
Input Voltage (VDC):	12.00
Input Current (Amp):	0.76
Input Power (W):	8.35
Input Power Factor:	0.92
Current ATHD @ 12V(%):	38%
Efficacy:	68
Color Rendering Index (CRI):	83
Correlated Color Temperature (K):	2619
Chromaticity Coordinate x:	0.4695
Chromaticity Coordinate y:	0.4170
Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	1:30
Total Operating Time (Hours):	2:30

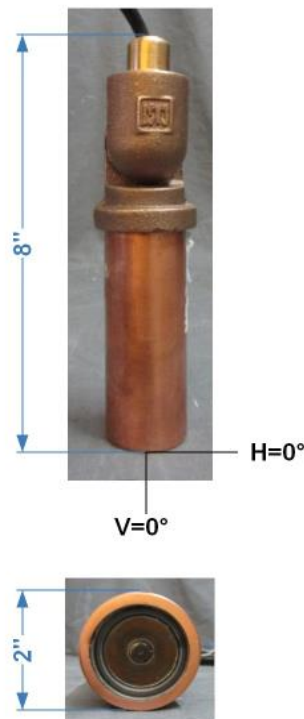
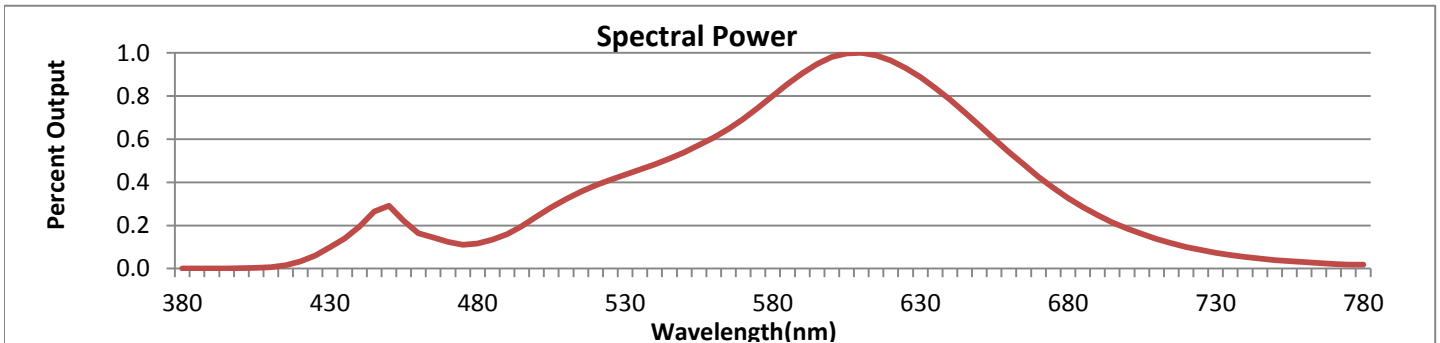


FIG. 1 LUMINAIRE



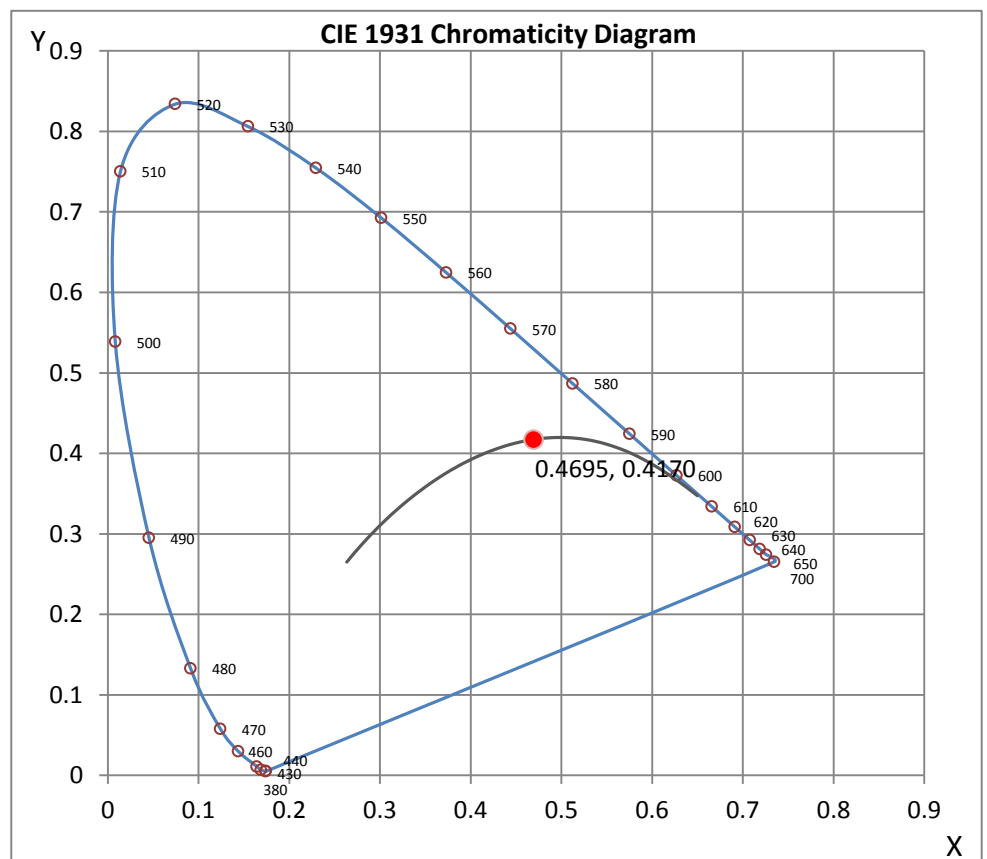
Wavelength	W/m ² nm	440	0.1943	510	0.3228	580	0.8004	650	0.6642	720	0.1006
380	0.0007	450	0.2914	520	0.3859	590	0.9062	660	0.5414	730	0.0734
390	0.0008	460	0.1632	530	0.4358	600	0.9808	670	0.4248	740	0.0537
400	0.0016	470	0.1233	540	0.4833	610	1.0000	680	0.3276	750	0.0398
410	0.0068	480	0.1169	550	0.5391	620	0.9649	690	0.2481	760	0.0295
420	0.0329	490	0.1598	560	0.6077	630	0.8874	700	0.1858	770	0.0216
430	0.0978	500	0.2407	570	0.6941	640	0.7833	710	0.1377	780	0.0187

CRI & CCT

x	0.4695
y	0.4170
u'	0.2658
v'	0.5312
CRI	82.80
CCT	2619
Duv	0.00160

R Values

R1	80.92
R2	89.92
R3	97.80
R4	81.67
R5	80.56
R6	88.30
R7	83.60
R8	59.39
R9	10.84
R10	77.24
R11	81.35
R12	73.41
R13	82.75
R14	98.73



*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 : L111708107.IES

DESCRIPTIVE INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L111708107
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)
[ISSUEDATE] 1/10/2018
[MANUFAC] CAST Lighting LLC.
[LUMCAT] CID113
[LUMINAIRE] Impressionist 13° 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, 8.35W
[TEST PROCEDURE] IESNA:LM-79-08

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

CHARACTERISTICS

NEMA Type	3 H x 3 V
Maximum Candela	3978
Maximum Candela Angle	-5H -1V
Horizontal Beam Angle (50%)	17.5
Vertical Beam Angle (50%)	20.2
Horizontal Field Angle (10%)	33.5
Vertical Field Angle (10%)	34.8
Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Beam Lumens	310
Beam Efficiency	N.A.
Field Lumens	482
Field Efficiency	N.A.
Spill Lumens	87
Luminaire Lumens	569
Total Efficiency	N.A.
Total Luminaire Watts	8.35
Ballast Factor	1.00

IES FLOOD REPORT
PHOTOMETRIC FILENAME : L111708107.IES

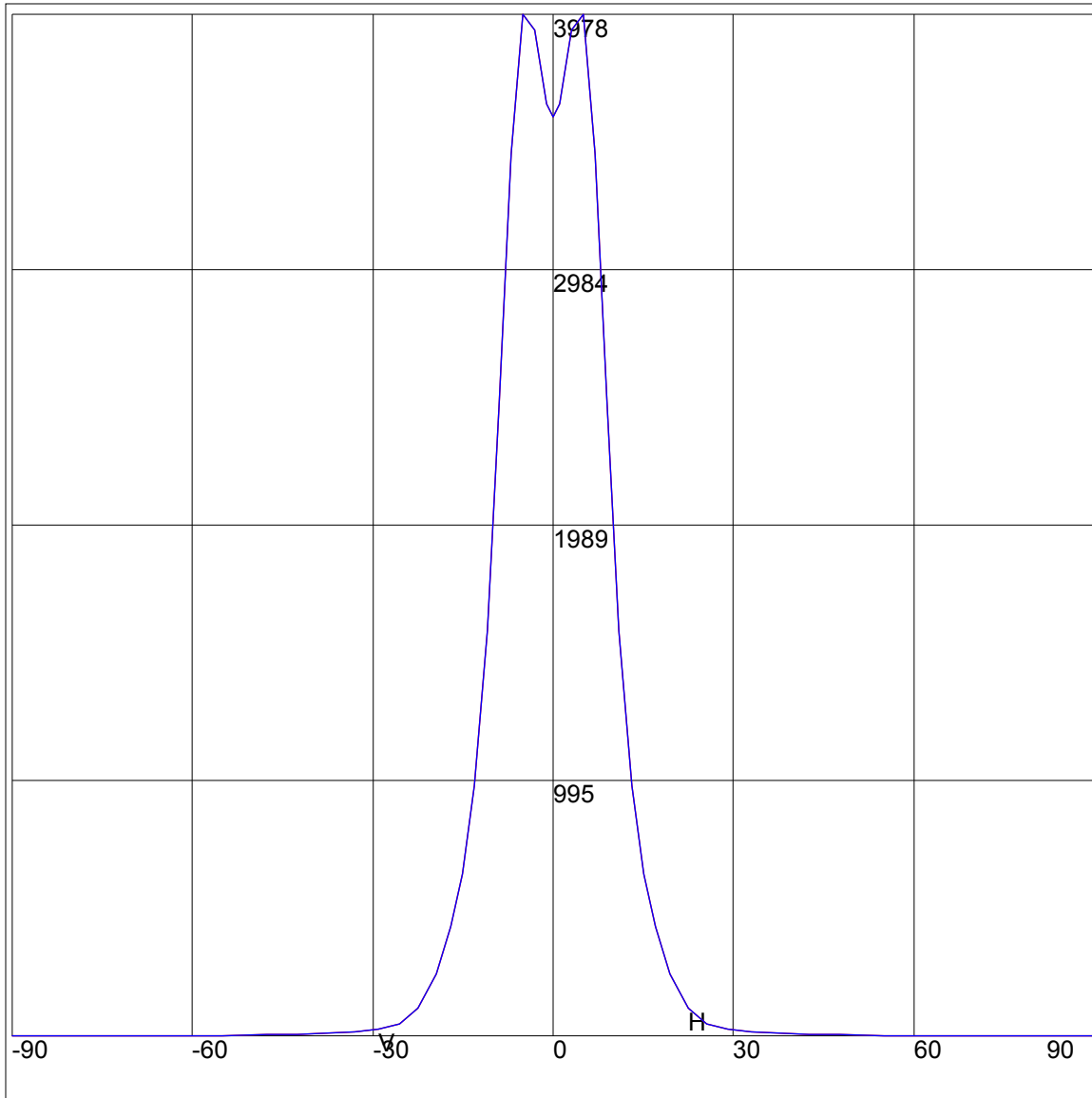
AXIAL CANDELA

DEG.	HOR.	DEG.	VERT.
90	0	90	0
85	0	85	0
75	0	75	0
65	2	65	2
55	4	55	4
47.5	7	47.5	7
42.5	10	42.5	10
37.5	15	37.5	15
33	18	33	18
29	27	29	27
25.5	51	25.5	51
22.5	108	22.5	108
19.5	244	19.5	244
17	427	17	427
15	632	15	632
13	976	13	976
11	1582	11	1582
9	2474	9	2474
7	3435	7	3435
5	3978	5	3978
3	3914	3	3914
1	3632	1	3632
0	3577	0	3577
-1	3632	-1	3632
-3	3914	-3	3914
-5	3978	-5	3978
-7	3435	-7	3435
-9	2474	-9	2474
-11	1582	-11	1582
-13	976	-13	976
-15	632	-15	632
-17	427	-17	427
-19.5	244	-19.5	244
-22.5	108	-22.5	108
-25.5	51	-25.5	51
-29	27	-29	27
-33	18	-33	18
-37.5	15	-37.5	15
-42.5	10	-42.5	10
-47.5	7	-47.5	7
-55	4	-55	4
-65	2	-65	2
-75	0	-75	0
-85	0	-85	0
-90	0	-90	0

ZONAL LUMEN SUMMARY

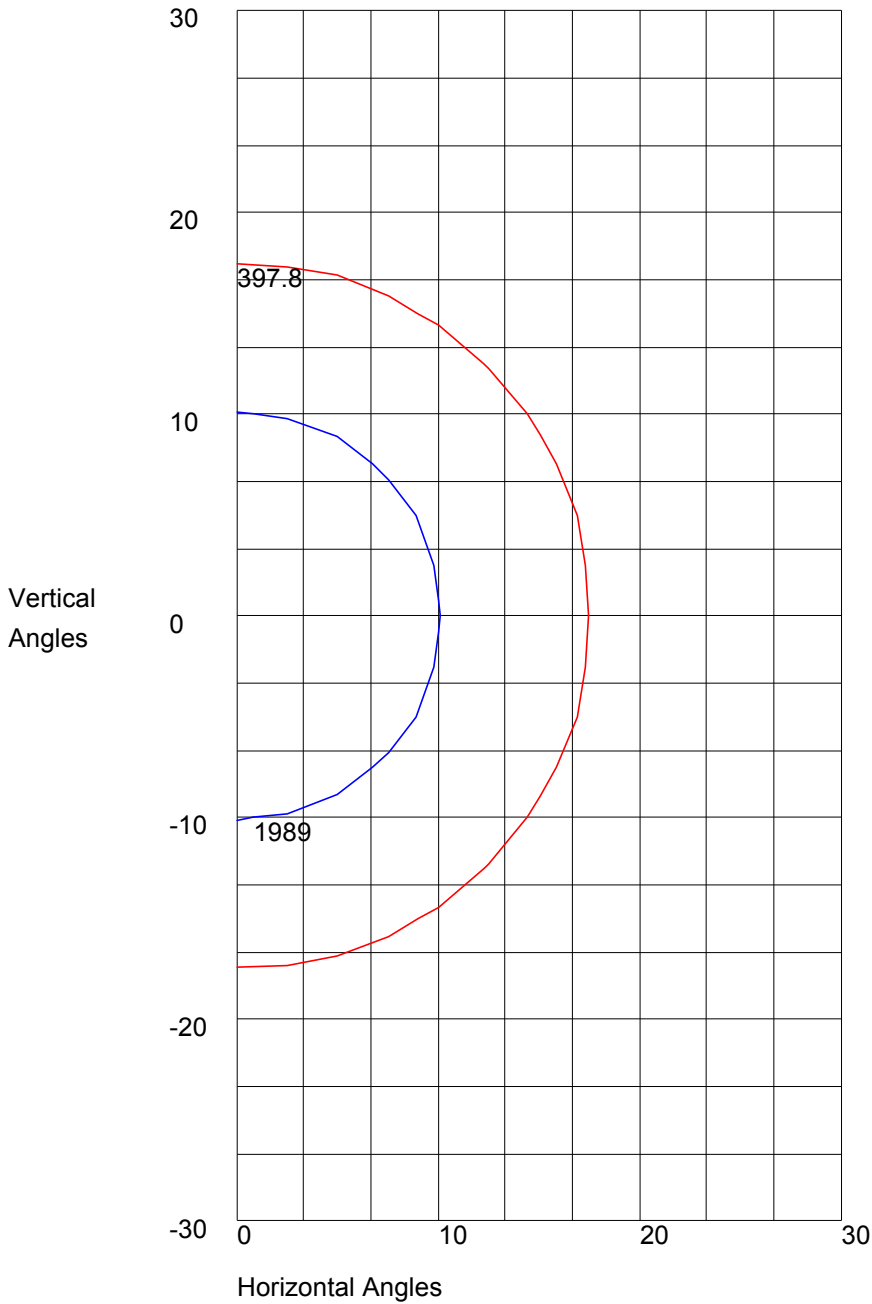
Zone	%
0-20	88.9
0-30	95.6
0-40	97.4
0-60	99.3
0-80	100
0-90	100
10-90	53
20-40	8.4
20-50	9.8
40-70	2.5
60-80	0.7
70-80	0.2
80-90	0
90-110	0
90-120	0
90-130	0
90-150	0
90-180	0
110-180	0
0-180	100

AXIAL CANDELA DISPLAY



Maximum Candela = 3978 Located At Horizontal Angle =-5, Vertical Angle =-1
H - Horizontal Axial Candela
V - Vertical Axial Candela

ISOCANDELA CURVES



Maximum Candela = 3978 Located At Horizontal Angle =-5, Vertical Angle =-1
50% Maximum Candela = 1989
10% Maximum Candela = 397.8