



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

Report No: L081911901



**Report No:** L081911901

**Issue Date: 8/30/2019**

**Report Prepared For:** Beachside Lighting  
905 Kalaniana'ole Hwy., #2901, Kailua, HI 96734 USA

**Model Number:** E16-11W-NFL

**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.

**Special Test Condition:** Fixture is tested with no special conditions.

**Sample Arrival Date:** 8/21/19

**Date of Tests:** 8/28/19 - 8/30/19

**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	1/9/21
BK PRECISION	1747	PS-DC04	1/10/21
Fluke Digital Thermometer	52K/J	MT-TP05	1/10/21
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

### General Information

<b>Manufacturer:</b>	Beachside Lighting
<b>Model Number:</b>	E16-11W-NFL
<b>Driver Model Number:</b>	N/A

### Test Summary

<b>Total Lumens:</b>	609.84
<b>Efficacy:</b>	59.16
<b>Color Redering Index:</b>	91.0
<b>Correlated Color Temperature:</b>	3103
<b>Input Voltage (VAC/60Hz):</b>	12.01
<b>Input Current (Amp):</b>	1.0751
<b>Input Power (W):</b>	10.31
<b>Input Power Factor:</b>	0.7984
<b>Current ATHD (%):</b>	55.3%

### Test Condition

<b>Ambient Temperature (°C):</b>	25.0
<b>Stabilization Time (Hours):</b>	1:00
<b>Total Operating Time (Hours):</b>	2:10

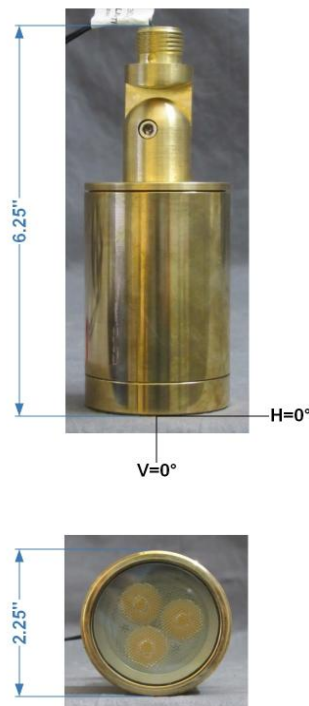
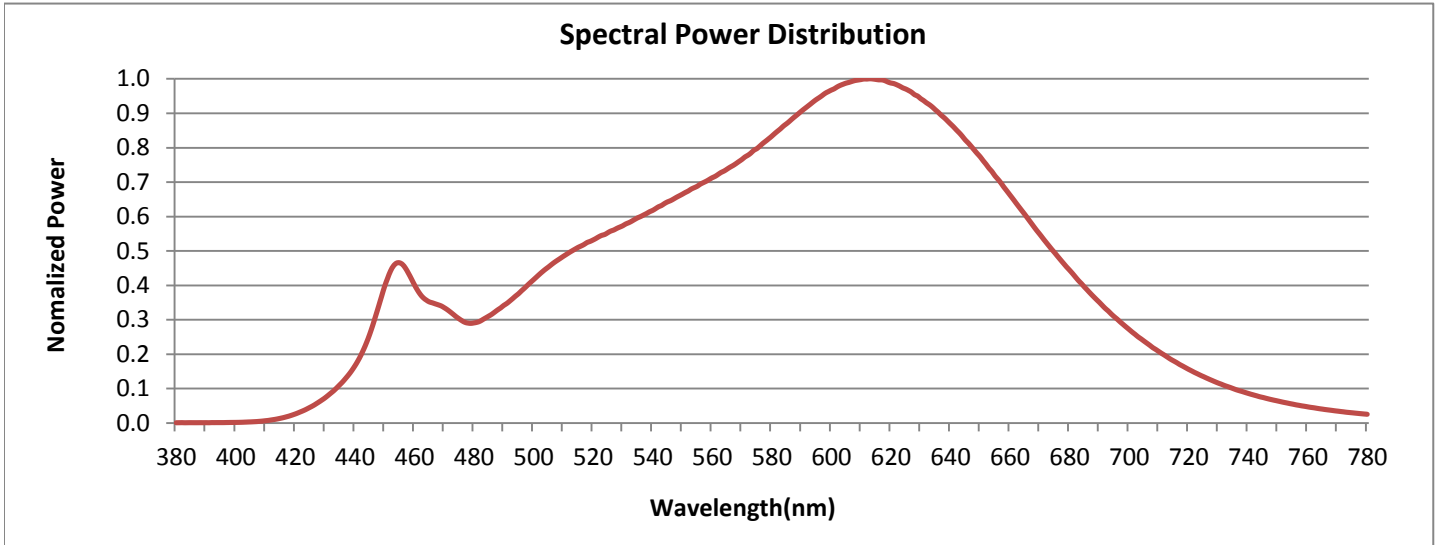


FIG. 1 LUMINAIRE

**Colorimetry Test Results**

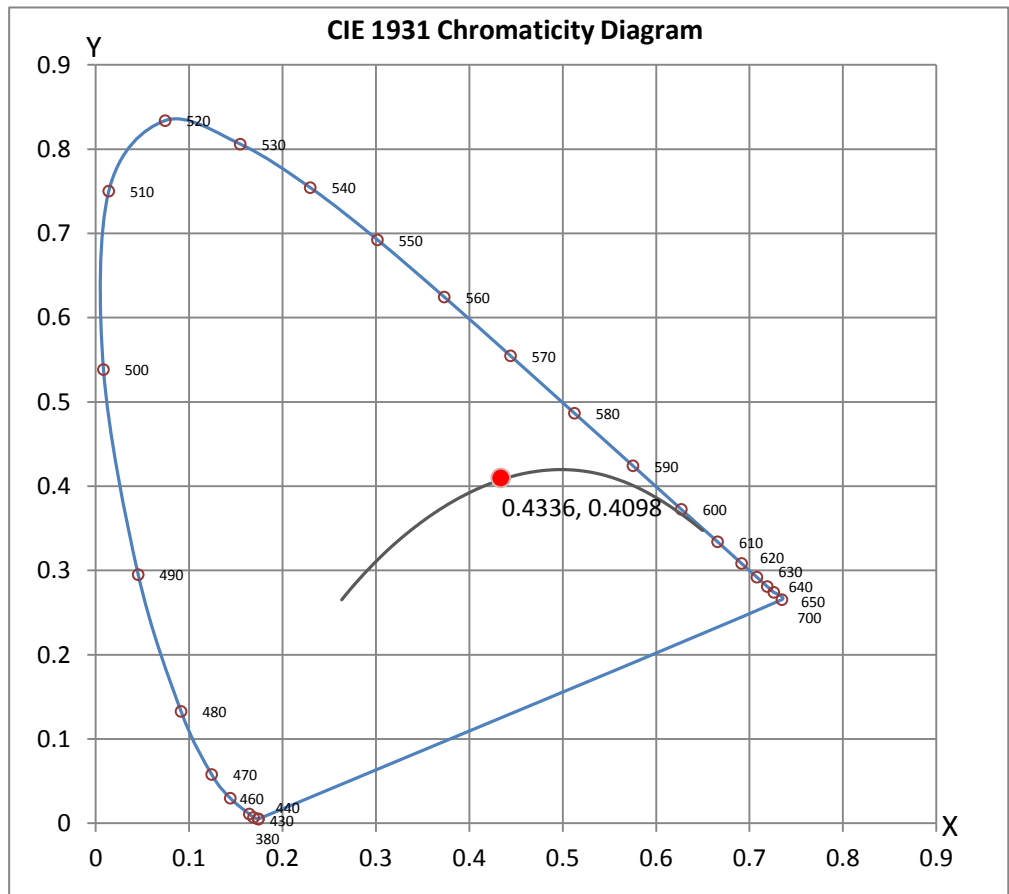


**CRI & CCT**

x	0.4336
y	0.4098
u'	0.2460
v'	0.5231
CRI	91.00
CCT	3103
Duv	0.00276

**R Values**

R1	90.42
R2	95.73
R3	98.80
R4	90.11
R5	90.47
R6	95.79
R7	89.94
R8	76.52
R9	47.16
R10	89.79
R11	90.96
R12	79.93
R13	91.84
R14	99.76
R15	84.82



## 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 :           Dennis Malonzo          

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 : L081911901.IES**

**DESCRIPTIVE INFORMATION (From Photometric File)**

IESNA:LM-63-2002  
 [TEST] L081911901  
 [TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)  
 [ISSUEDATE] 8/30/2019  
 [MANUFAC] Beachside Lighting  
 [LUMCAT] E16-11W-NFL  
 [LUMINAIRE] E16 Fixture with 11 watt 3000K, Narrow Flood Optic  
 [BALLASTCAT] N/A  
 [OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND  
 [MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.  
 [INPUT] 12.01VAC, 10.31W  
 [TEST PROCEDURE] IESNA:LM-79-08

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

**CHARACTERISTICS**

NEMA Type	4 H x 4 V
Maximum Candela	1896
Maximum Candela Angle	0H 0V
Horizontal Beam Angle (50%)	29.5
Vertical Beam Angle (50%)	29.5
Horizontal Field Angle (10%)	52.7
Vertical Field Angle (10%)	52.7
Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Beam Lumens	297
Beam Efficiency	N.A.
Field Lumens	491
Field Efficiency	N.A.
Spill Lumens	118
Luminaire Lumens	610
Total Efficiency	N.A.
Total Luminaire Watts	10.31
Ballast Factor	1.00

**IES FLOOD REPORT**  
**PHOTOMETRIC FILENAME : L081911901.IES**

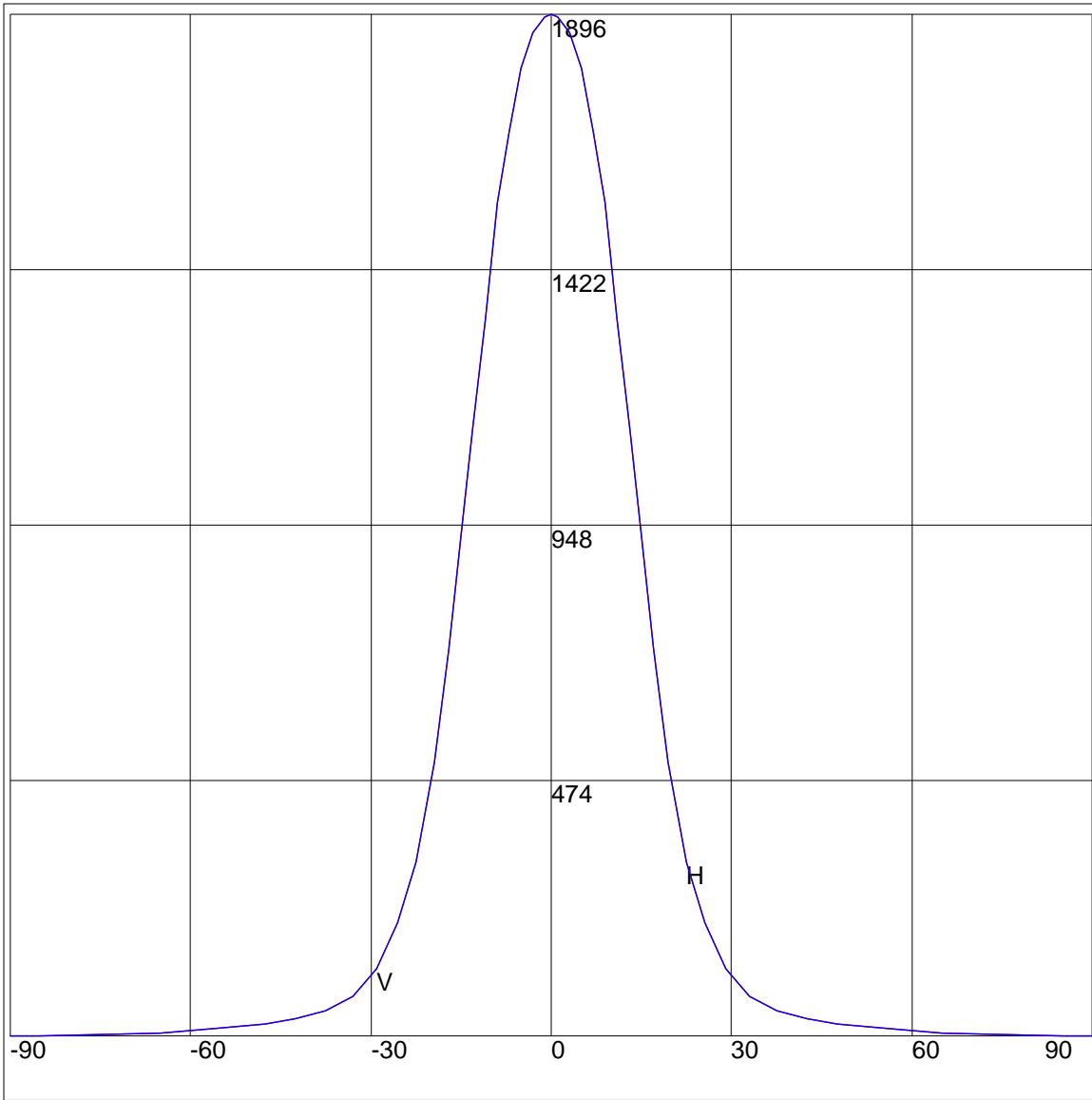
**AXIAL CANDELA**

DEG.	HOR.	DEG.	VERT.
90	0	90	0
85	1	85	1
75	3	75	3
65	7	65	7
55	15	55	15
47.5	24	47.5	24
42.5	32	42.5	32
37.5	47	37.5	47
33	75	33	75
29	126	29	126
25.5	210	25.5	210
22.5	323	22.5	323
19.5	508	19.5	508
17	719	17	719
15	922	15	922
13	1125	13	1125
11	1332	11	1332
9	1546	9	1546
7	1679	7	1679
5	1795	5	1795
3	1861	3	1861
1	1890	1	1890
0	1896	0	1896
-1	1890	-1	1890
-3	1861	-3	1861
-5	1795	-5	1795
-7	1679	-7	1679
-9	1546	-9	1546
-11	1332	-11	1332
-13	1125	-13	1125
-15	922	-15	922
-17	719	-17	719
-19.5	508	-19.5	508
-22.5	323	-22.5	323
-25.5	210	-25.5	210
-29	126	-29	126
-33	75	-33	75
-37.5	47	-37.5	47
-42.5	32	-42.5	32
-47.5	24	-47.5	24
-55	15	-55	15
-65	7	-65	7
-75	3	-75	3
-85	1	-85	1
-90	0	-90	0

**ZONAL LUMEN SUMMARY**

Zone	%
0-20	65.7
0-30	84.4
0-40	90.9
0-60	97
0-80	99.6
0-90	100
10-90	78.2
20-40	25.3
20-50	29.3
40-70	7.8
60-80	2.6
70-80	0.8
80-90	0.4
90-110	0
90-120	0
90-130	0
90-150	0
90-180	0
110-180	0
0-180	100

AXIAL CANDELA DISPLAY

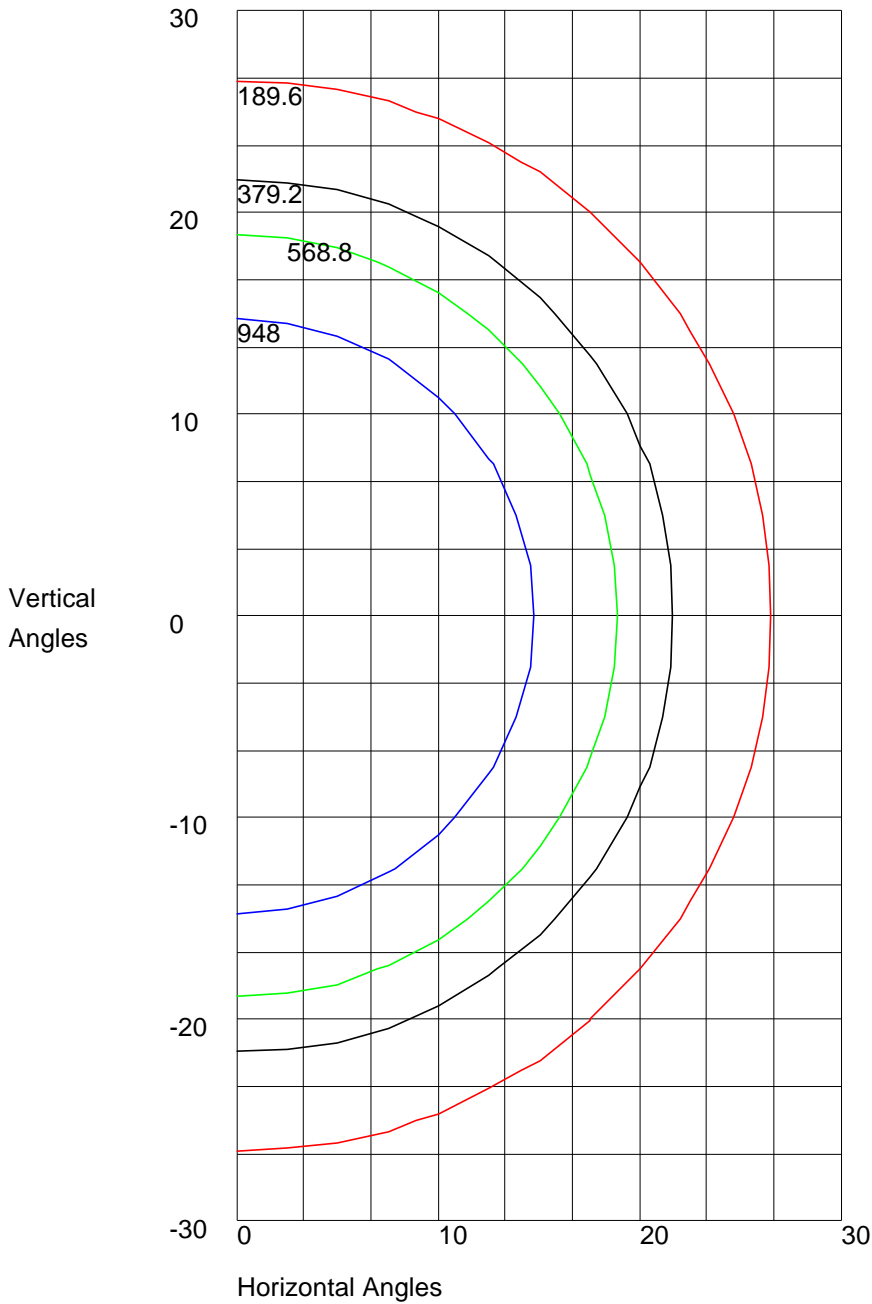


Maximum Candela = 1896 Located At Horizontal Angle = 0, Vertical Angle = 0

H - Horizontal Axial Candela

V - Vertical Axial Candela

ISOCANDELA CURVES



Maximum Candela = 1896 Located At Horizontal Angle = 0, Vertical Angle = 0  
50% Maximum Candela = 948  
10% Maximum Candela = 189.6