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Report No: L061606308

Date: 8/1/2016



NVLAP LAB CODE 200927-0

**Report No:** L061606308

**Report Prepared For:** Beachside Lighting  
 905 Kalaniana'ole Hwy # 29A Kailua, HI. 96734

**Model Number:** E8-4W-NFL

**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 E8-4W-NFL . Received in working and undamaged condition. No modifications were necessary.

**Testing Condition:** Fixture is tested with no special conditions.

**Sample Arrival Date:** 7/25/16

**Date of Tests:** 7/25/16 - 8/1/16

**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	11/18/16
Xitron Power Analyzer	2503AH	MT-EL01	11/30/16
ITECH DC Power Supply	IT6122	PSDC-03-S1	11/17/16
Fluke Digital Thermometer	52k/J	MT-TP02-GC	11/24/16
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.

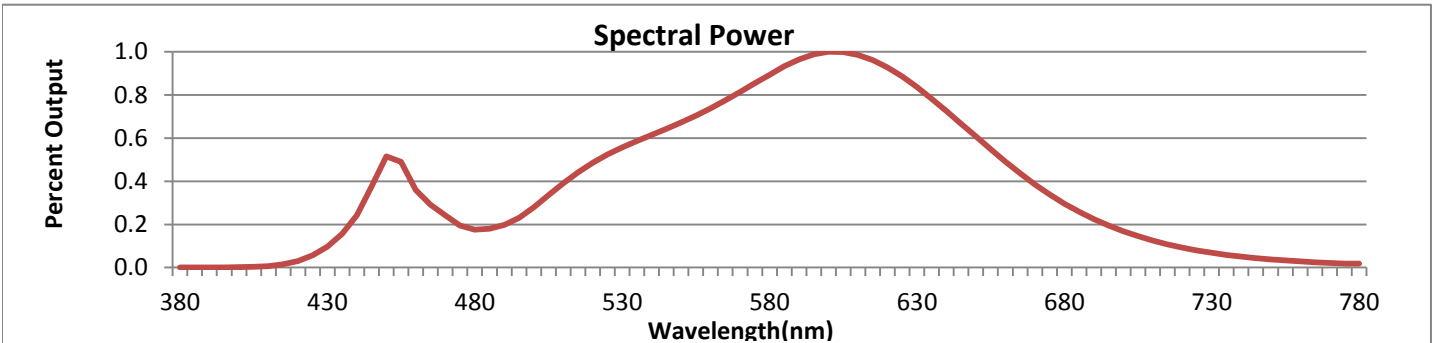
**Test Summary**

<b>Manufacturer:</b>	Beachside Lighting
<b>Model Number:</b>	E8-4W-NFL
<b>Driver Model Number:</b>	N/A
<b>Total Lumens:</b>	230.18
<b>Input Voltage (VAC/60Hz):</b>	12.00
<b>Input Current (Amp):</b>	0.41
<b>Input Power (W):</b>	3.87
<b>Input Power Factor:</b>	0.77
<b>Current ATHD @ 12V(%):</b>	72%
<b>Current ATHD @ 277V(%):</b>	N/A
<b>Efficacy:</b>	59
<b>Color Rendering Index (CRI):</b>	81
<b>Correlated Color Temperature (K):</b>	3072
<b>Chromaticity Coordinate x:</b>	0.4347
<b>Chromaticity Coordinate y:</b>	0.4083
<b>Ambient Temperature (°C):</b>	25.0
<b>Stabilization Time (Hours):</b>	0:45
<b>Total Operating Time (Hours):</b>	1:35
<b>Off State Power(W):</b>	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.



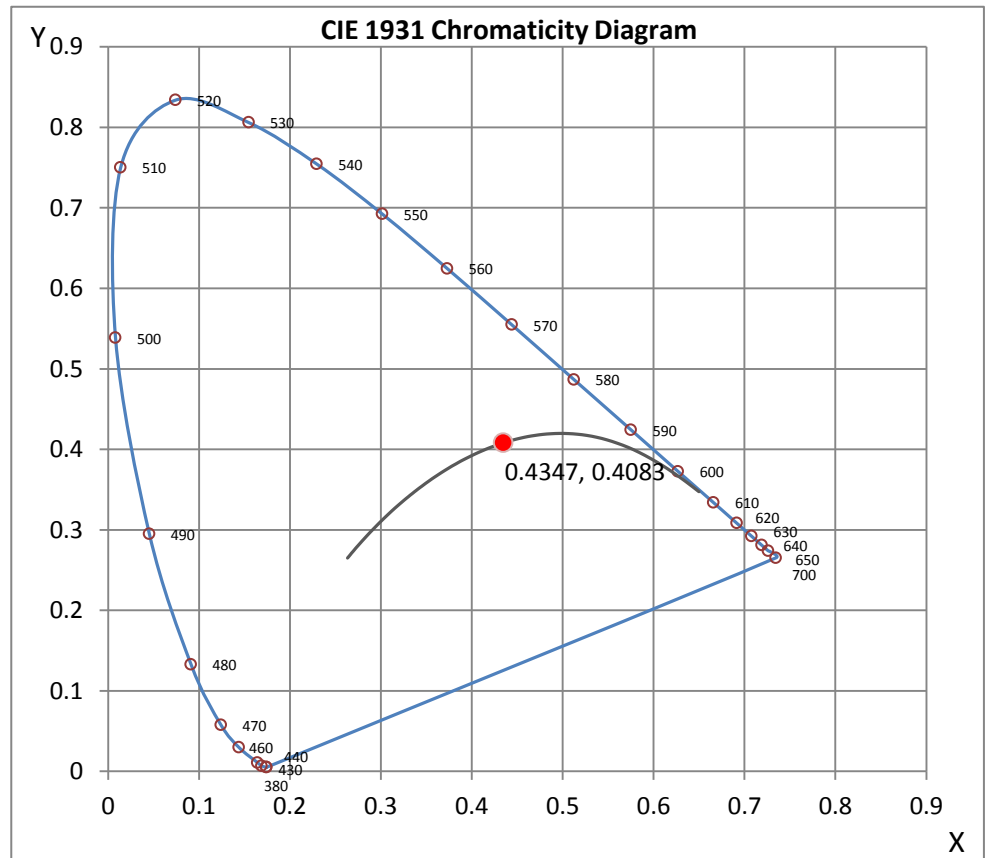
Wavelength	W/m <sup>2</sup> nm	440	0.2422	510	0.3905	580	0.8945	650	0.6083	720	0.0923
380	0.0007	450	0.5150	520	0.4861	590	0.9648	660	0.4923	730	0.0682
390	0.0010	460	0.3602	530	0.5573	600	1.0000	670	0.3855	740	0.0505
400	0.0017	470	0.2425	540	0.6150	610	0.9855	680	0.2965	750	0.0378
410	0.0071	480	0.1754	550	0.6731	620	0.9278	690	0.2240	760	0.0283
420	0.0303	490	0.1974	560	0.7381	630	0.8378	700	0.1680	770	0.0212
430	0.0976	500	0.2800	570	0.8143	640	0.7263	710	0.1253	780	0.0182

**CRI & CCT**

x	0.4347
y	0.4083
u'	0.2473
v'	0.5227
CRI	81.10
CCT	3072
Duv	0.00200

**R Values**

R1	79.16
R2	87.98
R3	95.41
R4	79.45
R5	78.11
R6	83.72
R7	84.82
R8	60.38
R9	6.56
R10	71.42
R11	77.04
R12	61.87
R13	80.93
R14	97.04



\*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: 9*



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## Photometric Test Report

### IES FLOOD REPORT

PHOTOMETRIC FILENAME : L061606308.IES

### DESCRIPTIVE INFORMATION (From Photometric File)

IESNA:LM-63-2002  
[TEST] L061606308  
[TESTLAB] LIGHT LABORATORY, INC.  
[ISSUEDATE] 8/1/2016  
[MANUFAC] BEACHSIDE LIGHTING  
[LUMCAT] E8-4W-NFL  
[LUMINAIRE] SMALL DIRECTIONAL ON KNUCKLE  
[BALLASTCAT] 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, 3.87W  
[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	1514
Maximum Candela Angle	0H 0V
Horizontal Beam Angle (50%)	17.2
Vertical Beam Angle (50%)	17.2
Horizontal Field Angle (10%)	37.6
Vertical Field Angle (10%)	37.6
Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Beam Lumens	79
Beam Efficiency	N.A.
Field Lumens	170
Field Efficiency	N.A.
Spill Lumens	60
Luminaire Lumens	230
Total Efficiency	N.A.
Total Luminaire Watts	3.87
Ballast Factor	1.00

**IES FLOOD REPORT**  
**PHOTOMETRIC FILENAME : L061606308.IES**

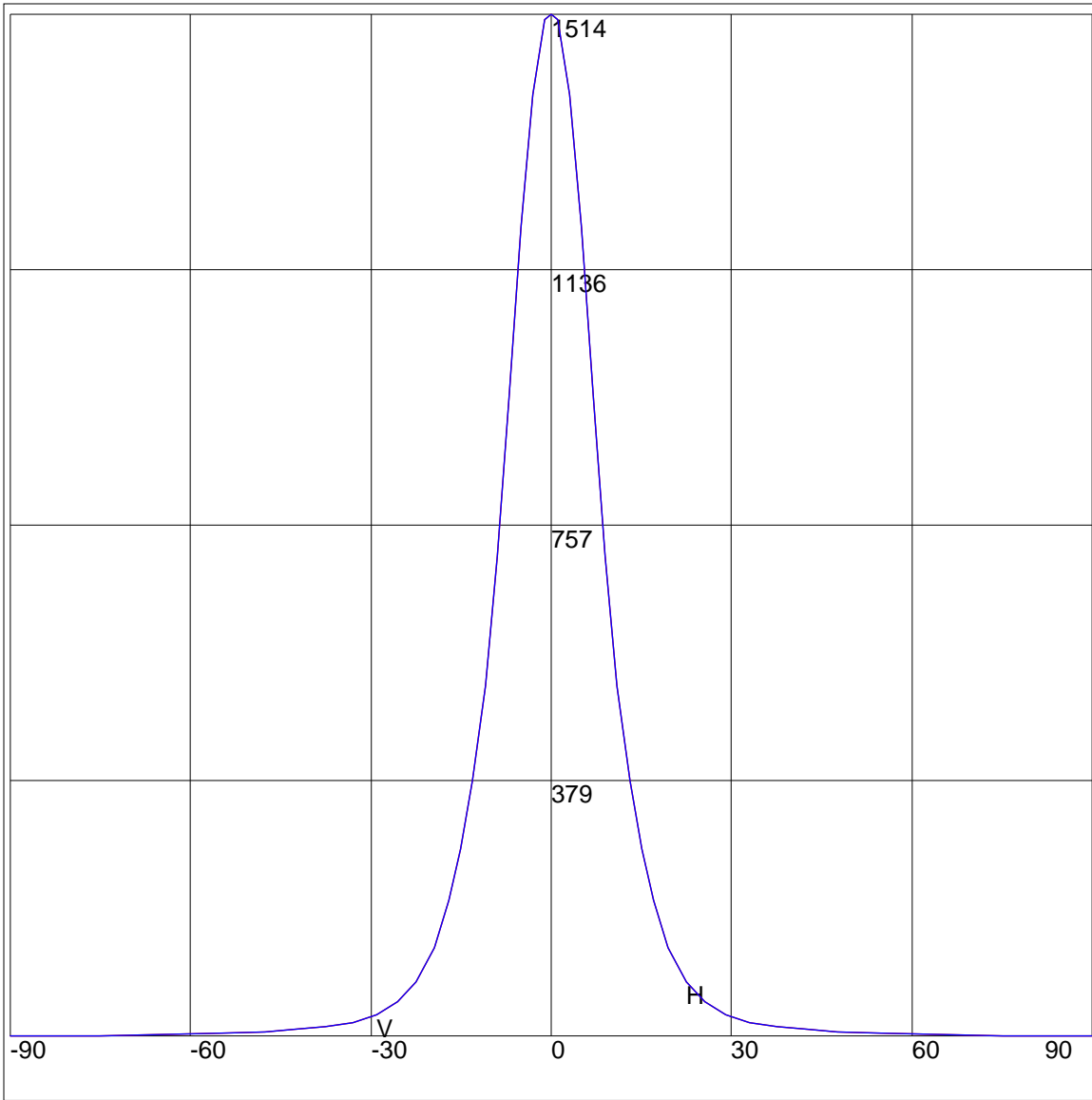
**AXIAL CANDELA**

DEG.	HOR.	DEG.	VERT.
90	0	90	0
85	0	85	0
75	1	75	1
65	3	65	3
55	5	55	5
47.5	7	47.5	7
42.5	10	42.5	10
37.5	14	37.5	14
33	21	33	21
29	33	29	33
25.5	52	25.5	52
22.5	81	22.5	81
19.5	132	19.5	132
17	202	17	202
15	278	15	278
13	380	13	380
11	520	11	520
9	712	9	712
7	951	7	951
5	1199	5	1199
3	1395	3	1395
1	1507	1	1507
0	1514	0	1514
-1	1507	-1	1507
-3	1395	-3	1395
-5	1199	-5	1199
-7	951	-7	951
-9	712	-9	712
-11	520	-11	520
-13	380	-13	380
-15	278	-15	278
-17	202	-17	202
-19.5	132	-19.5	132
-22.5	81	-22.5	81
-25.5	52	-25.5	52
-29	33	-29	33
-33	21	-33	21
-37.5	14	-37.5	14
-42.5	10	-42.5	10
-47.5	7	-47.5	7
-55	5	-55	5
-65	3	-65	3
-75	1	-75	1
-85	0	-85	0
-90	0	-90	0

**ZONAL LUMEN SUMMARY**

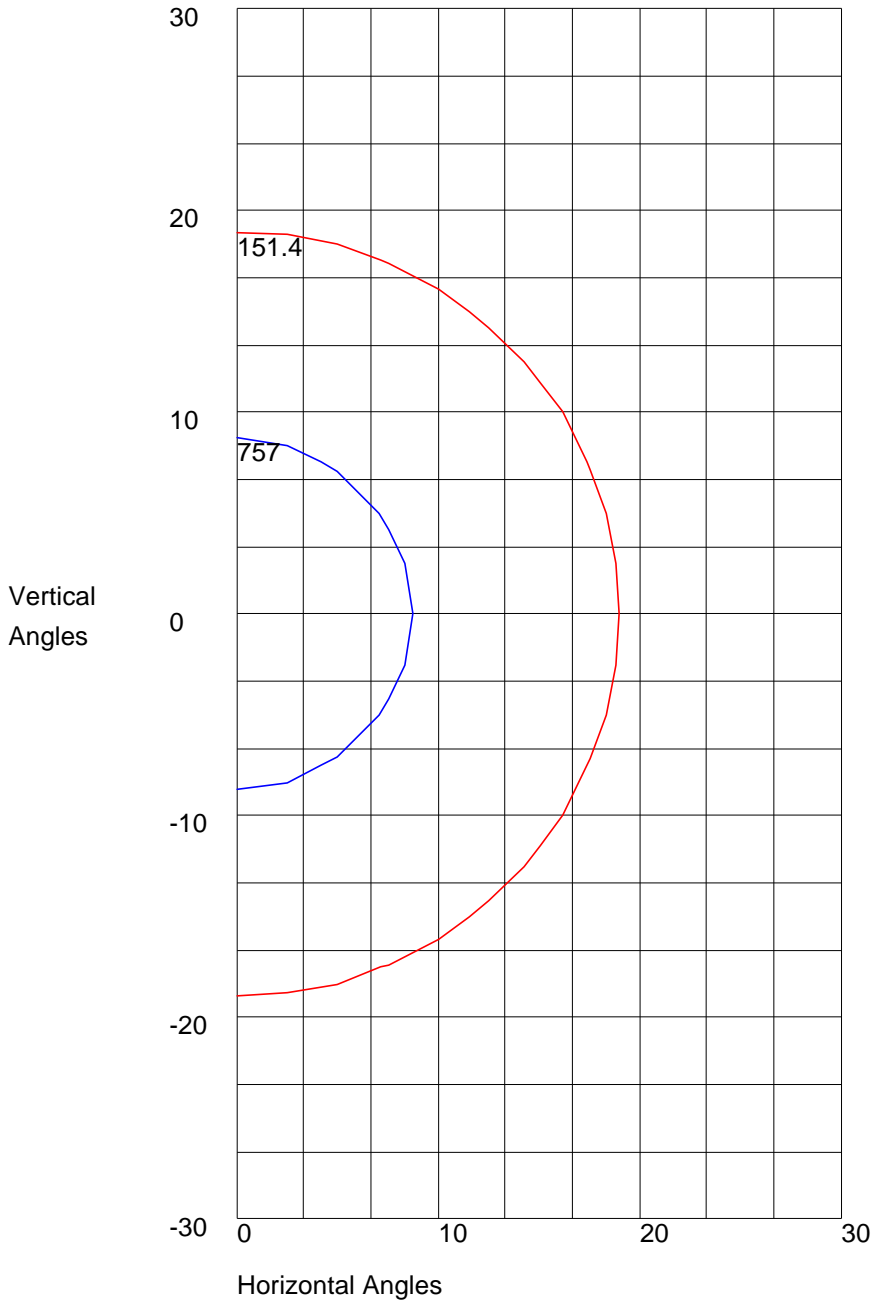
Zone	%
0-20	74.9
0-30	87.5
0-40	92.3
0-60	97.2
0-80	99.8
0-90	100
10-90	64.2
20-40	17.4
20-50	20.6
40-70	6.6
60-80	2.5
70-80	0.9
80-90	0.2
90-110	0
90-120	0
90-130	0
90-150	0
90-180	0
110-180	0
0-180	100

AXIAL CANDELA DISPLAY



Maximum Candela = 1514 Located At Horizontal Angle = 0, Vertical Angle = 0  
H - Horizontal Axial Candela  
V - Vertical Axial Candela

ISOCANDELA CURVES



Maximum Candela = 1514 Located At Horizontal Angle = 0, Vertical Angle = 0  
50% Maximum Candela = 757  
10% Maximum Candela = 151.4



## SAMPLE Illuminance cone diagram

Mounting Height = 4ft

