



8165 E Kaiser Blvd. Anaheim, CA 92808
 p. 714.282.2270
 f. 714.676.5558

Report No: L061606107

Date: 7/19/2016



NVLAP LAB CODE 200927-0

Report No: L061606107

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

Model Number: E3-SQ-3W-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 E3-SQ-3W-NFL . Received in working and undamaged condition. No modifications were necessary.

Testing Condition: Fixture is tested with no special conditions.

Sample Arrival Date: 6/25/16

Date of Tests: 7/13/16 - 7/18/16

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

Manufacturer:	Beachside Lighting
Model Number:	E3-SQ-3W-NFL
Driver Model Number:	N/A
Total Lumens:	188.38
Input Voltage (VAC/60Hz):	12.00
Input Current (Amp):	0.33
Input Power (W):	2.89
Input Power Factor:	0.73
Current ATHD @ 12V(%):	81%
Current ATHD @ 277V(%):	N/A
Efficacy:	65
Color Rendering Index (CRI):	83
Correlated Color Temperature (K):	3008
Chromaticity Coordinate x:	0.4372
Chromaticity Coordinate y:	0.4057
Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	0:30
Total Operating Time (Hours):	1:10
Off State Power(W):	0.00

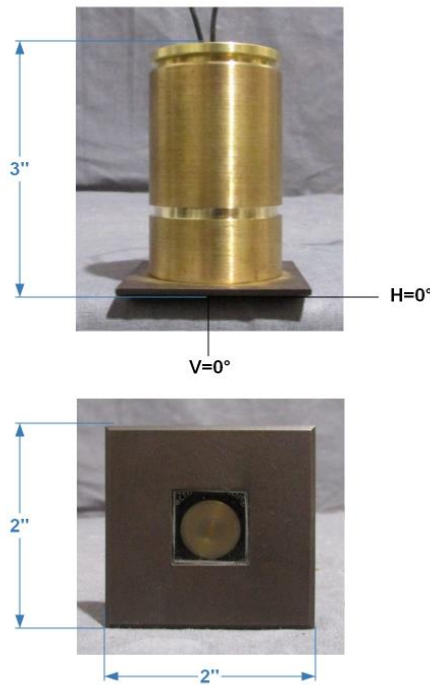
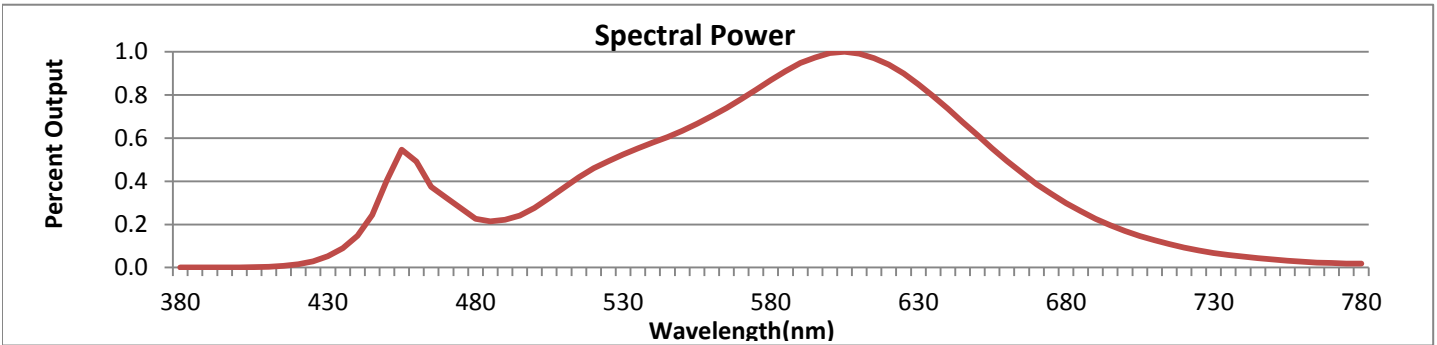


FIG. 1 LUMINAIRE

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



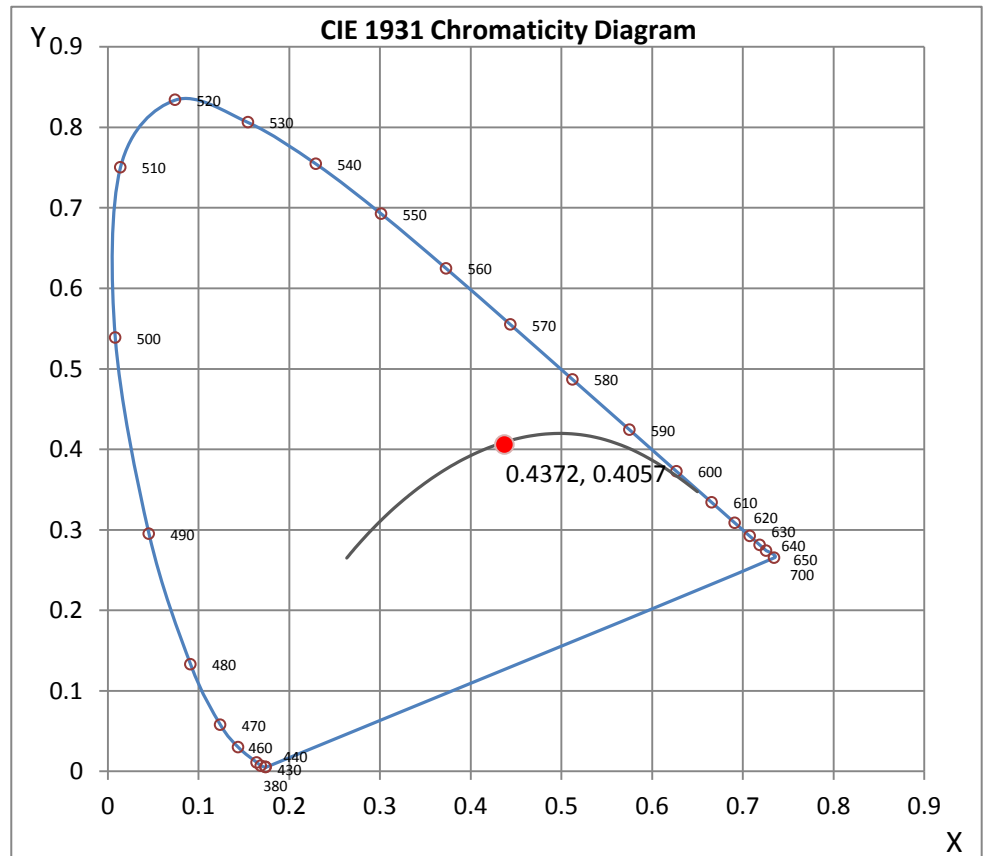
Wavelength	W/m ² nm	440	0.1478	510	0.3715	580	0.8684	650	0.6153	720	0.0924
380	0.0007	450	0.4055	520	0.4603	590	0.9482	660	0.4953	730	0.0678
390	0.0010	460	0.4915	530	0.5242	600	0.9949	670	0.3869	740	0.0505
400	0.0010	470	0.3247	540	0.5797	610	0.9911	680	0.2987	750	0.0370
410	0.0035	480	0.2265	550	0.6343	620	0.9416	690	0.2266	760	0.0274
420	0.0147	490	0.2212	560	0.7022	630	0.8500	700	0.1698	770	0.0206
430	0.0527	500	0.2766	570	0.7809	640	0.7363	710	0.1261	780	0.0178

CRI & CCT

x	0.4372
y	0.4057
u'	0.2500
v'	0.5221
CRI	83.00
CCT	3008
Duv	0.00061

R Values

R1	81.69
R2	91.42
R3	96.87
R4	79.80
R5	80.76
R6	88.65
R7	83.68
R8	61.10
R9	12.28
R10	78.94
R11	77.75
R12	66.66
R13	84.08
R14	98.72



*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 : L061606107.IES

DESCRIPTIVE INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L061606107
[TESTLAB] LIGHT LABORATORY, INC.
[ISSUEDATE] 7/1J/2016
[MANUFAC] BEACHSIDE LIGHTING
[LUMCAT] E3-SQ-3W-NFL
[LUMINAIRE] RECESSED UPLIGHT
[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, 2.89W
[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	1670
Maximum Candela Angle	0H 0V
Horizontal Beam Angle (50%)	15.3
Vertical Beam Angle (50%)	15.3
Horizontal Field Angle (10%)	33.3
Vertical Field Angle (10%)	33.4
Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Beam Lumens	65
Beam Efficiency	N.A.
Field Lumens	147
Field Efficiency	N.A.
Spill Lumens	42
Luminaire Lumens	188
Total Efficiency	N.A.
Total Luminaire Watts	2.89
Ballast Factor	1.00

IES FLOOD REPORT
PHOTOMETRIC FILENAME : L061606107.IES

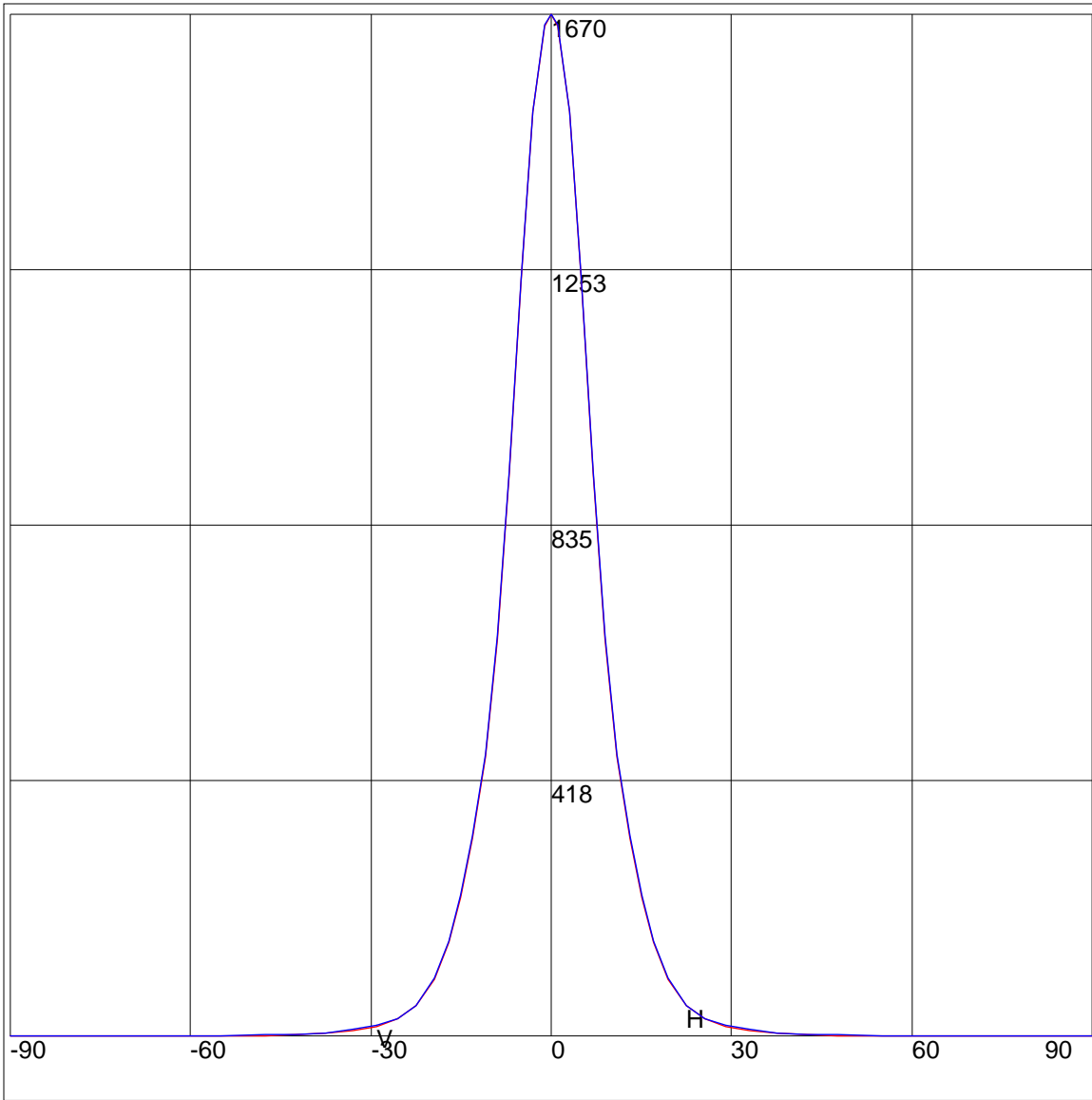
AXIAL CANDELA

DEG.	HOR.	DEG.	VERT.
90	0	90	0
85	0	85	0
75	0	75	0
65	1	65	1
55	1	55	1
47.5	2	47.5	3
42.5	4	42.5	4
37.5	6	37.5	6
33	10	33	11
29	17	29	18
25.5	29	25.5	30
22.5	50	22.5	51
19.5	94	19.5	95
17	154	17	156
15	226	15	231
13	323	13	327
11	456	11	462
9	649	9	655
7	920	7	924
5	1232	5	1233
3	1511	3	1510
1	1651	1	1652
0	1670	0	1670
-1	1651	-1	1652
-3	1511	-3	1510
-5	1232	-5	1233
-7	920	-7	924
-9	649	-9	655
-11	456	-11	462
-13	323	-13	327
-15	226	-15	231
-17	154	-17	156
-19.5	94	-19.5	95
-22.5	50	-22.5	51
-25.5	29	-25.5	30
-29	17	-29	18
-33	10	-33	11
-37.5	6	-37.5	6
-42.5	4	-42.5	4
-47.5	2	-47.5	3
-55	1	-55	1
-65	1	-65	1
-75	0	-75	0
-85	0	-85	0
-90	0	-90	0

ZONAL LUMEN SUMMARY

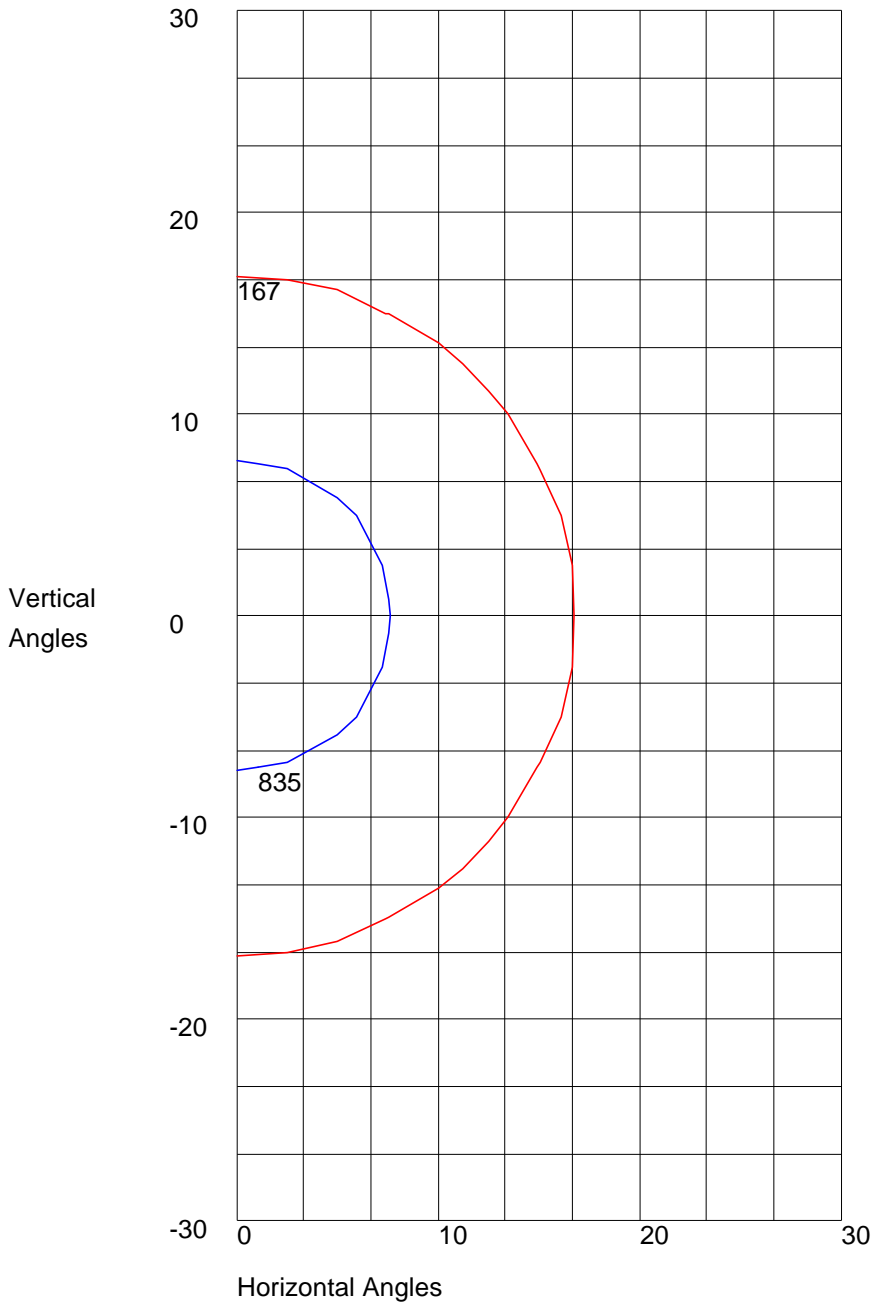
Zone	%
0-20	84.4
0-30	94
0-40	97
0-60	99.2
0-80	100
0-90	100
10-90	55.8
20-40	12.6
20-50	14.2
40-70	2.7
60-80	0.8
70-80	0.3
80-90	0
90-110	0
90-120	0
90-130	0
90-150	0
90-180	0
110-180	0
0-180	100

AXIAL CANDELA DISPLAY



Maximum Candela = 1670 Located At Horizontal Angle = 0, Vertical Angle = 0
H - Horizontal Axial Candela
V - Vertical Axial Candela

ISOCANDELA CURVES



Maximum Candela = 1670 Located At Horizontal Angle = 0, Vertical Angle = 0
50% Maximum Candela = 835
10% Maximum Candela = 167

Illuminance cone diagram

Mounting Height = 12 ft.

