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Report No: L101605125

Date: 12/8/2016



NVLAP LAB CODE 200927-0

Report No: L101605125

Report Prepared For: Number Eight Lighting Company
526 Portal Street, Cotati, CA 94931

Model Number: 803/K2-HI-40-XX/DIM1-8-1000/FS-P-1-WH

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 803/K2-HI-40-XX/DIM1-8-1000/FS-P-1-WH . Received in working and undamaged condition. No modifications were necessary.

Testing Condition: Fixture is tested with no special conditions.

Sample Arrival Date: 10/31/16

Date of Tests: 12/5/16 - 12/8/16

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-GB	2/10/17
Xitron Power Analyzer	2802	MT-EL02-2	12/22/16
BK PRECISION	1747	PS-DC04	12/8/16
Fluke Digital Thermometer	52k/J	MT-TP02-GB	12/8/16
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:	Number Eight Lighting Company
Model Number:	803/K2-HI-40-XX/DIM1-8-1000/FS-P-1-WH
Driver Model Number:	INTUITIVE SYSTEMS ISD-601-1050-15-D
Total Lumens:	886.28
Input Voltage (VAC/60Hz):	120.00
Input Current (Amp):	0.13
Input Power (W):	15.00
Input Power Factor:	0.98
Current ATHD @ 120V(%):	8%
Current ATHD @ 277V(%):	N/A
Efficacy:	59
Color Rendering Index (CRI):	93
Correlated Color Temperature (K):	2886
Chromaticity Coordinate x:	0.4458
Chromaticity Coordinate y:	0.4079
Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	0:45
Total Operating Time (Hours):	1:25
Off State Power(W):	0.00

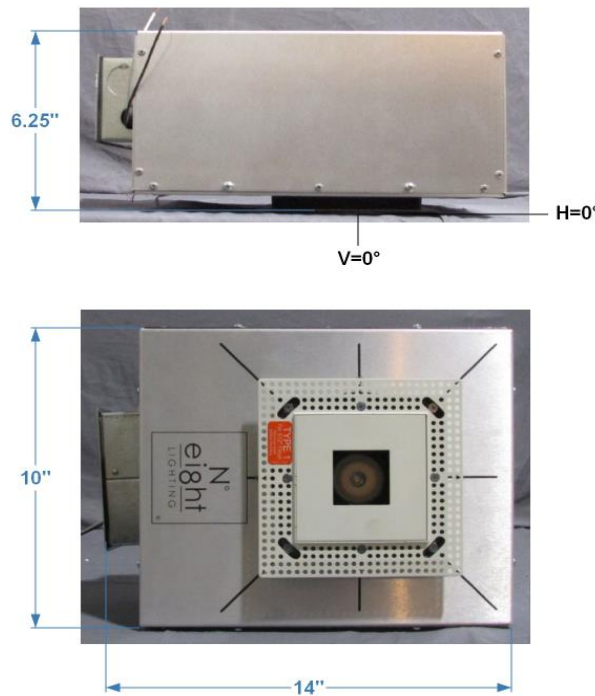
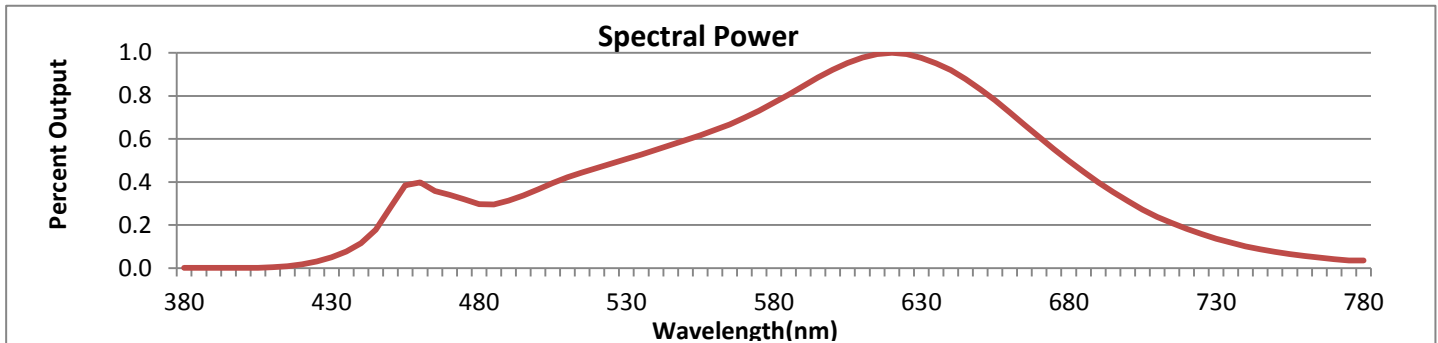


FIG. 1 LUMINAIRE

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



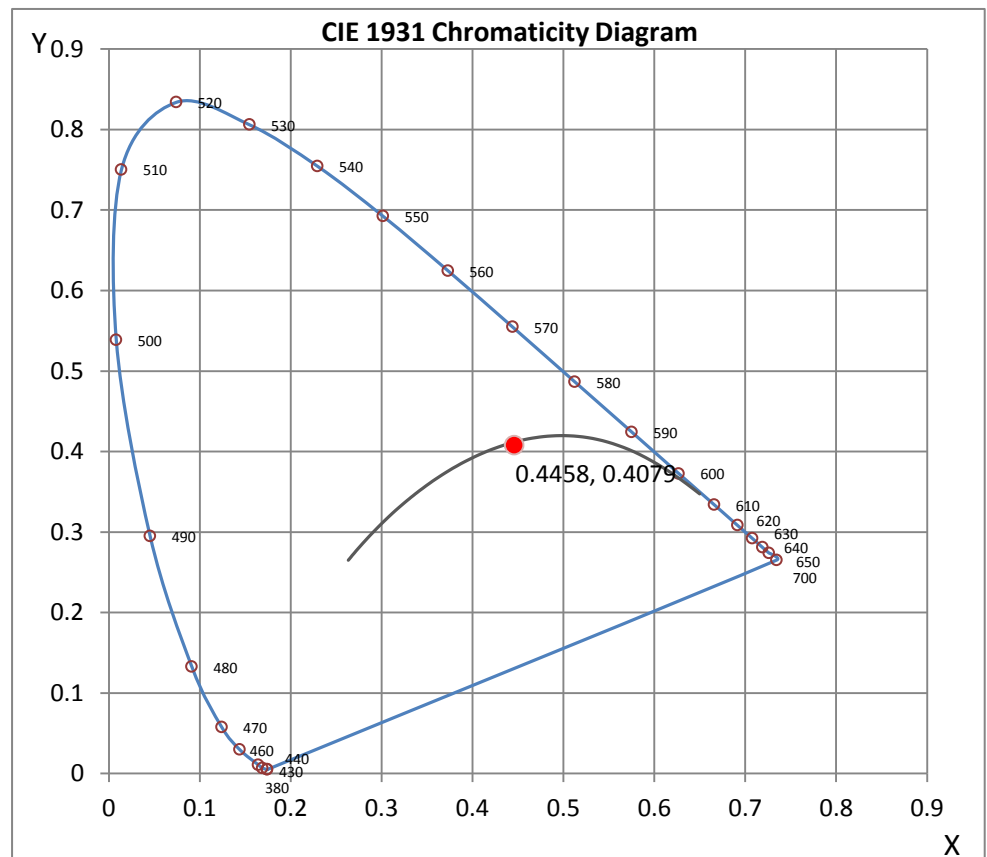
Wavelength	W/m ² nm	440	0.1162	510	0.4218	580	0.7677	650	0.8309	720	0.1825
380	0.0007	450	0.2823	520	0.4655	590	0.8462	660	0.7243	730	0.1370
390	0.0009	460	0.3981	530	0.5065	600	0.9217	670	0.6088	740	0.1010
400	0.0011	470	0.3397	540	0.5500	610	0.9778	680	0.4994	750	0.0756
410	0.0039	480	0.2966	550	0.5942	620	1.0000	690	0.3988	760	0.0562
420	0.0171	490	0.3132	560	0.6414	630	0.9771	700	0.3115	770	0.0416
430	0.0509	500	0.3650	570	0.6980	640	0.9195	710	0.2381	780	0.0358

CRI & CCT

x	0.4458
y	0.4079
u'	0.2546
v'	0.5242
CRI	93.10
CCT	2886
Duv	0.00038

R Values

R1	94.37
R2	99.17
R3	96.78
R4	92.23
R5	94.18
R6	97.17
R7	89.98
R8	80.78
R9	60.17
R10	97.12
R11	93.95
R12	84.61
R13	96.02
R14	99.09



*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: 10*



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Photometric Test Report

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L101605125.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] L101605125
 [TESTLAB] LIGHT LABORATORY, INC.
 [ISSUE DATE] 12/08/2016
 [MANUFAC] Number Eight Lighting Company
 [LUMCAT] 803/K2-HI-40-XX/DIM1-8-1000/FS-P-1-WH
 [LUMINAIRE] LED Recessed Fixed Position Downlight, 90+ CRI,
 [MORE] 40° Beam Spread, 1.75" x 1.75" Aperture Trim
 [BALLASTCAT] INTUITIVE SYSTEMS ISD-601-1050-15-D
 [LAMPPOSITION] 0,0
 [LAMPCAT] N/A
 [OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND
 [MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.
 [INPUT] 120VAC, 15.00W
 [TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	886
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	59
Total Luminaire Watts	15
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.60
Spacing Criterion (90-270)	0.60
Spacing Criterion (Diagonal)	0.62
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	0.15 ft
Luminous Width (90-270)	0.15 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	29741	34134	30416
55	7499	8333	8333
65	2262	3393	2262
75	1847	1847	1847
85	5484	5484	5484

**IES INDOOR REPORT
PHOTOMETRIC FILENAME : L101605125.IES**

CANDELA TABULATION

	<u>0</u>	<u>5</u>	<u>10</u>	<u>15</u>	<u>20</u>	<u>25</u>	<u>30</u>	<u>35</u>	<u>40</u>	<u>45</u>
0.0	1884	1884	1884	1884	1884	1884	1884	1884	1884	1884
1.0	1879	1879	1879	1879	1879	1879	1879	1879	1879	1879
3.0	1847	1847	1847	1847	1848	1848	1848	1849	1849	1849
5.0	1791	1791	1791	1792	1792	1792	1792	1792	1792	1792
7.0	1708	1708	1709	1709	1710	1710	1710	1710	1710	1710
9.0	1599	1598	1598	1599	1600	1600	1601	1601	1601	1601
11.0	1471	1471	1471	1471	1472	1473	1473	1473	1474	1473
13.0	1334	1334	1334	1334	1334	1335	1334	1335	1334	1333
15.0	1191	1191	1191	1192	1191	1191	1192	1191	1191	1190
17.0	1039	1039	1039	1040	1041	1041	1041	1041	1041	1040
19.5	846	846	846	846	847	846	846	846	846	846
22.5	633	633	633	633	634	634	634	634	635	634
25.5	471	472	472	473	473	474	474	473	474	473
29.0	334	335	335	336	337	338	338	338	338	337
33.0	211	211	212	213	214	216	216	217	217	217
37.5	115	116	116	117	119	120	122	123	123	124
42.5	59	59	60	60	61	62	64	66	67	67
47.5	29	29	29	30	30	31	32	33	34	34
55.0	9	9	9	9	9	9	9	10	10	10
65.0	2	2	2	2	2	2	3	3	3	3
75.0	1	1	1	1	1	1	1	1	1	1
85.0	1	1	1	1	1	1	1	1	1	1
90.0	0	0	0	0	0	0	0	0	0	0

Vert. Angles Horizontal Angles

	<u>50</u>	<u>55</u>	<u>60</u>	<u>65</u>	<u>70</u>	<u>75</u>	<u>80</u>	<u>85</u>	<u>90</u>
0.0	1884	1884	1884	1884	1884	1884	1884	1884	1884
1.0	1879	1879	1878	1878	1878	1878	1877	1877	1877
3.0	1848	1848	1848	1847	1847	1846	1846	1846	1846
5.0	1792	1791	1790	1790	1790	1789	1789	1789	1788
7.0	1710	1709	1709	1708	1707	1706	1705	1705	1704
9.0	1600	1600	1598	1598	1597	1597	1596	1597	1596
11.0	1472	1471	1469	1470	1469	1468	1468	1468	1468
13.0	1332	1331	1331	1331	1331	1330	1329	1330	1329
15.0	1190	1190	1189	1189	1188	1188	1188	1187	1187
17.0	1039	1038	1037	1036	1036	1036	1036	1036	1036
19.5	845	845	844	844	843	843	843	843	843
22.5	633	632	631	631	631	631	631	630	630
25.5	472	471	471	471	471	471	470	470	469
29.0	336	336	336	336	335	335	335	334	334
33.0	216	216	216	215	214	214	214	214	214
37.5	124	123	122	121	120	120	119	119	119
42.5	67	66	65	64	63	62	61	61	60
47.5	34	33	32	31	31	30	30	30	30
55.0	10	10	10	10	10	10	10	10	10
65.0	3	3	3	2	2	2	2	2	2
75.0	1	1	1	1	1	1	1	1	1
85.0	1	1	1	1	1	1	1	1	1
90.0	0	0	0	0	0	0	0	0	0

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L101605125.IES

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	471.96	N.A.	53.30
0-30	703.92	N.A.	79.40
0-40	813.81	N.A.	91.80
0-60	877.48	N.A.	99.00
0-80	884.92	N.A.	99.80
0-90	886.28	N.A.	100.00
10-90	751.80	N.A.	84.80
20-40	341.85	N.A.	38.60
20-50	392.42	N.A.	44.30
40-70	69.37	N.A.	7.80
60-80	7.45	N.A.	0.80
70-80	1.74	N.A.	0.20
80-90	1.35	N.A.	0.20
90-110	0.00	N.A.	0.00
90-120	0.00	N.A.	0.00
90-130	0.00	N.A.	0.00
90-150	0.00	N.A.	0.00
90-180	0.00	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	886.28	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	134.47
10-20	337.48
20-30	231.96
30-40	109.89
40-50	50.56
50-60	13.10
60-70	5.70
70-80	1.74
80-90	1.35
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

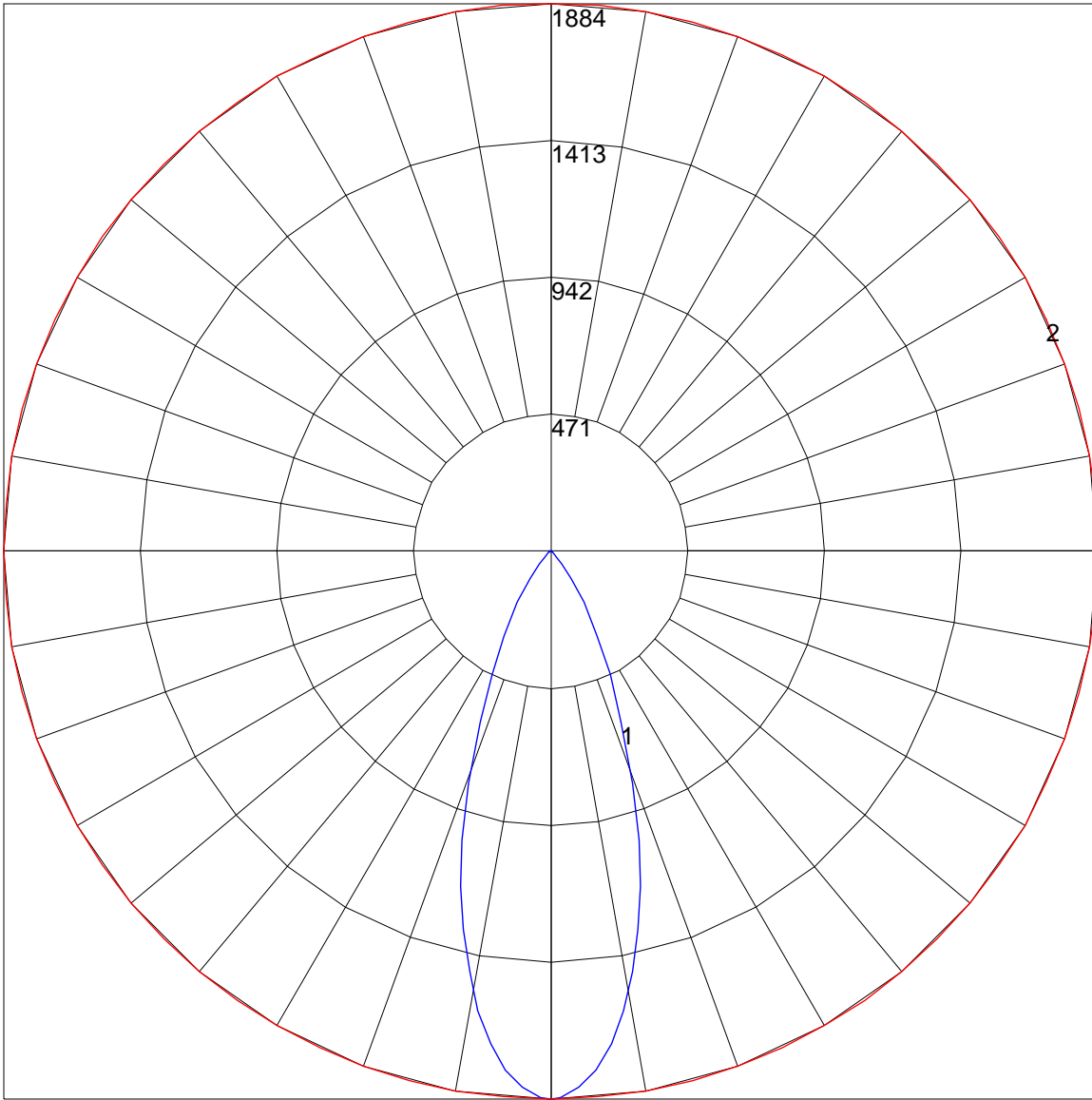
IES INDOOR REPORT
PHOTOMETRIC FILENAME : L101605125.IES

COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

Effective Floor Cavity Reflectance 0.20

RC	80				70				50			30			10			0	
	RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	0
1	114	111	109	107	111	109	107	105	105	103	102	101	100	99	98	97	96	94	0
2	109	104	100	97	107	102	99	96	99	96	94	96	94	92	94	92	90	88	0
3	104	98	93	89	102	96	92	89	94	90	87	91	88	86	89	87	85	83	0
4	99	92	87	83	97	91	86	83	89	85	82	87	83	81	85	82	80	78	0
5	95	87	82	78	93	86	81	77	84	80	77	83	79	76	81	78	75	74	0
6	91	82	77	73	89	82	76	73	80	76	72	79	75	72	77	74	71	70	0
7	87	78	73	69	85	77	72	69	76	72	68	75	71	68	74	70	68	66	0
8	83	74	69	65	82	74	69	65	73	68	65	72	67	64	71	67	64	63	0
9	80	71	65	62	79	70	65	62	69	65	61	69	64	61	68	64	61	60	0
10	76	68	62	59	76	67	62	59	66	62	59	66	61	58	65	61	58	57	0

POLAR GRAPH



Maximum Candela = 1884 Located At Horizontal Angle = 0, Vertical Angle = 0
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)

SAMPLE Illuminance cone diagram

Mounting Height = 12 ft.

