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Report No: L101605109

Date: 11/8/2016



NVLAP LAB CODE 200927-0

**Report No:** L101605109

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

**Model Number:** 803/K2-HI-15-XX/DIM1-8-1000/FS-LG-P-1-WH/NL

**Test:** Photometric/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. Catalog number is 803/K2-HI-15-XX/DIM1-8-1000/FS-LG-P-1-WH/NL . 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:** 11/8/16 - 11/8/16

**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-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>	Number Eight Lighting Company
<b>Model Number:</b>	803/K2-HI-15-XX/DIM1-8-1000/FS-LG-P-1-WH/NL
<b>Driver Model Number:</b>	INTUITIVE SYSTEMS ISD-601-1050-15-D
<b>Total Lumens:</b>	1047.00
<b>Input Voltage (VAC/60Hz):</b>	120.00
<b>Input Current (Amp):</b>	0.13
<b>Input Power (W):</b>	15.05
<b>Input Power Factor:</b>	0.98
<b>Current ATHD @ 120V(%):</b>	8%
<b>Current ATHD @ 277V(%):</b>	N/A
<b>Efficacy:</b>	70
<b>Ambient Temperature (°C):</b>	25.0
<b>Stabilization Time (Hours):</b>	0:30
<b>Total Operating Time (Hours):</b>	1:20
<b>Off State Power(W):</b>	0.00

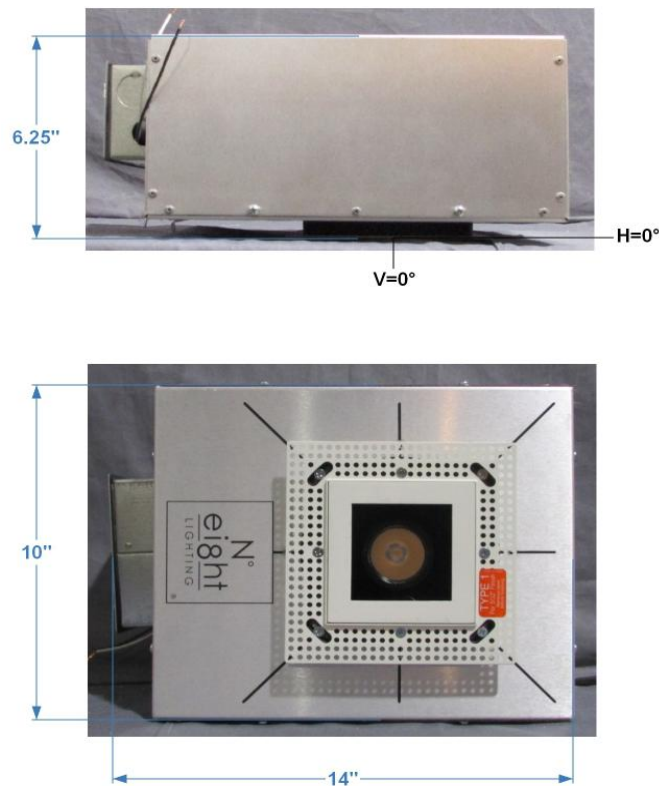


FIG.1 LUMINAIRE

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

## 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 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 INDOOR REPORT**  
**PHOTOMETRIC FILENAME : L101605109.IES**

**DESCRIPTION INFORMATION (From Photometric File)**

IESNA:LM-63-2002  
 [TEST] L101605109  
 [TESTLAB] LIGHT LABORATORY, INC.  
 [ISSUEDATE] 11/04/2016  
 [MANUFAC] Number Eight Lighting Company  
 [LUMCAT] 803/K2-HI-15-XX/DIM1-8-1000/FS-LG-P-1-WH/NL  
 [LUMINAIRE] LED Recessed Fixed Position Downlight, 15° Beam Spread, 2.75" x 2.75" 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, 15.05W  
 [TEST PROCEDURE] IESNA:LM-79-08

**CHARACTERISTICS**

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1047
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	70
Total Luminaire Watts	15.05
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.32
Spacing Criterion (90-270)	0.32
Spacing Criterion (Diagonal)	0.34
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	0.23 ft
Luminous Width (90-270)	0.23 ft
Luminous Height	0.00 ft

**LUMINANCE DATA (cd/sq.m)**

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	5894	6325	5606
55	2127	3899	2127
65	1443	1924	1443
75	1571	1571	1571
85	4665	4665	4665

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : L101605109.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>
<b>0.0</b>	7051	7051	7051	7051	7051	7051	7051	7051	7051	7051
<b>1.0</b>	7027	7029	7031	7025	7026	7028	7029	7029	7029	7027
<b>3.0</b>	6620	6622	6622	6621	6624	6618	6623	6623	6629	6626
<b>5.0</b>	5755	5752	5757	5760	5759	5759	5765	5768	5771	5773
<b>7.0</b>	4646	4649	4650	4653	4655	4656	4659	4661	4662	4666
<b>9.0</b>	3479	3482	3478	3480	3484	3486	3488	3488	3492	3488
<b>11.0</b>	2512	2513	2512	2515	2515	2517	2523	2519	2523	2522
<b>13.0</b>	1809	1807	1808	1808	1809	1812	1811	1814	1815	1815
<b>15.0</b>	1309	1310	1310	1308	1310	1313	1314	1315	1315	1313
<b>17.0</b>	955	955	952	954	957	958	958	960	962	959
<b>19.5</b>	628	628	628	630	632	632	631	635	636	635
<b>22.5</b>	371	373	374	373	374	378	380	380	378	379
<b>25.5</b>	238	239	239	239	239	241	242	241	240	240
<b>29.0</b>	147	146	147	146	145	147	146	147	146	146
<b>33.0</b>	85	85	85	85	85	85	85	85	85	84
<b>37.5</b>	46	46	47	47	47	47	47	47	47	47
<b>42.5</b>	26	26	26	26	26	27	27	27	27	27
<b>47.5</b>	15	15	15	15	16	16	17	17	17	17
<b>55.0</b>	6	6	7	7	7	8	9	10	11	11
<b>65.0</b>	3	3	3	3	3	3	3	4	4	4
<b>75.0</b>	2	2	2	2	2	2	2	2	2	2
<b>85.0</b>	2	2	2	2	2	2	2	2	2	2
<b>90.0</b>	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>
<b>0.0</b>	7051	7051	7051	7051	7051	7051	7051	7051	7051
<b>1.0</b>	7029	7029	7029	7025	7026	7028	7028	7023	7030
<b>3.0</b>	6629	6628	6629	6628	6626	6625	6626	6629	6629
<b>5.0</b>	5772	5778	5780	5783	5788	5787	5791	5788	5788
<b>7.0</b>	4669	4668	4671	4671	4673	4671	4672	4671	4672
<b>9.0</b>	3493	3496	3495	3494	3490	3487	3487	3488	3482
<b>11.0</b>	2527	2525	2525	2525	2518	2516	2516	2516	2515
<b>13.0</b>	1815	1812	1799	1796	1791	1791	1789	1786	1778
<b>15.0</b>	1311	1310	1306	1303	1300	1298	1296	1293	1294
<b>17.0</b>	954	952	947	945	943	941	941	939	938
<b>19.5</b>	632	629	624	620	618	618	618	617	616
<b>22.5</b>	376	373	371	373	373	371	368	365	365
<b>25.5</b>	239	237	236	236	236	235	232	233	234
<b>29.0</b>	146	144	145	143	144	143	142	142	142
<b>33.0</b>	85	84	84	83	83	82	82	82	82
<b>37.5</b>	47	47	46	46	46	45	45	45	45
<b>42.5</b>	27	27	26	26	26	26	25	25	25
<b>47.5</b>	17	17	16	16	15	15	15	14	14
<b>55.0</b>	11	10	9	8	7	7	6	6	6
<b>65.0</b>	4	4	3	3	3	3	3	3	3
<b>75.0</b>	2	2	2	2	2	2	2	2	2
<b>85.0</b>	2	2	2	2	2	2	2	2	2
<b>90.0</b>	0	0	0	0	0	0	0	0	0

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : L101605109.IES**

**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	829.29	N.A.	79.20
0-30	962.80	N.A.	92.00
0-40	1007.23	N.A.	96.20
0-60	1035.84	N.A.	99.00
0-80	1043.95	N.A.	99.70
0-90	1046.66	N.A.	100.00
10-90	648.84	N.A.	62.00
20-40	177.94	N.A.	17.00
20-50	198.88	N.A.	19.00
40-70	34.01	N.A.	3.20
60-80	8.12	N.A.	0.80
70-80	2.72	N.A.	0.30
80-90	2.70	N.A.	0.30
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	1046.66	N.A.	100.00

Total Luminaire Efficiency = N.A.%

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	397.82
10-20	431.47
20-30	133.52
30-40	44.43
40-50	20.94
50-60	7.66
60-70	5.40
70-80	2.72
80-90	2.70
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

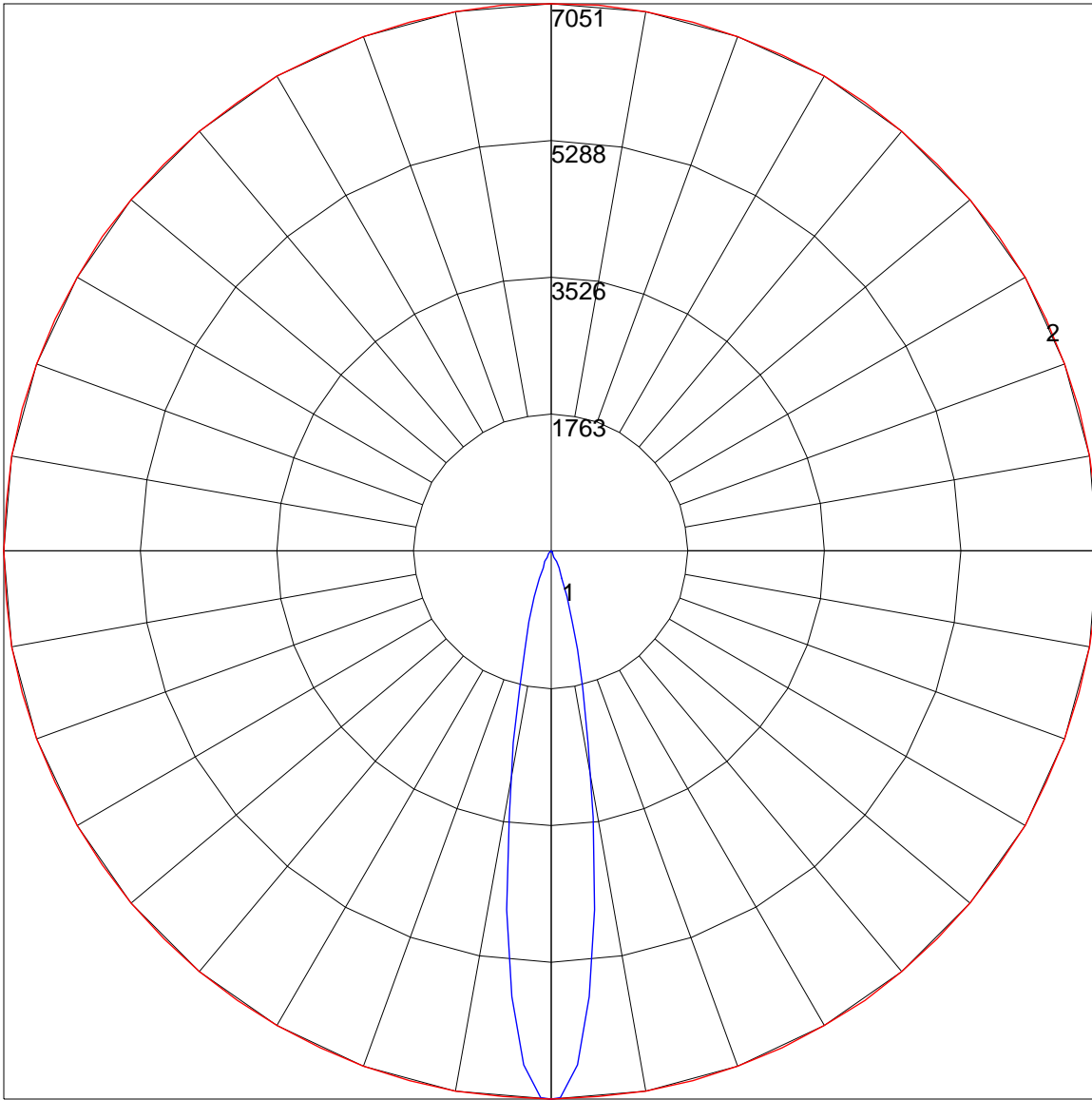
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**COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD**

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	100
1	115	113	111	109	112	110	109	107	106	105	104	103	102	101	99	99	98	96	96
2	111	107	104	101	109	105	103	100	102	100	98	100	98	96	97	95	94	93	93
3	107	102	99	96	105	101	98	95	99	96	94	96	94	92	94	92	91	90	90
4	104	98	94	91	102	97	94	91	95	92	90	94	91	89	92	90	88	87	87
5	101	95	91	88	99	94	90	87	92	89	86	91	88	86	89	87	85	84	84
6	98	92	87	84	97	91	87	84	90	86	83	88	85	83	87	85	82	81	81
7	95	89	84	81	94	88	84	81	87	83	81	86	83	80	85	82	80	79	79
8	93	86	82	79	92	85	82	79	85	81	79	84	81	78	83	80	78	77	77
9	90	84	79	77	89	83	79	77	82	79	76	82	78	76	81	78	76	75	75
10	88	81	77	75	87	81	77	75	80	77	74	80	76	74	79	76	74	73	73

POLAR GRAPH



Maximum Candela = 7051 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.

