



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

Report No: L101605107

Date: 11/8/2016



NVLAP LAB CODE 200927-0

**Report No:** L101605107

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

**Model Number:** 803/K2-HI-40-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-40-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-40-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>	918.00
<b>Input Voltage (VAC/60Hz):</b>	120.00
<b>Input Current (Amp):</b>	0.13
<b>Input Power (W):</b>	15.06
<b>Input Power Factor:</b>	0.98
<b>Current ATHD @ 120V(%):</b>	8%
<b>Current ATHD @ 277V(%):</b>	N/A
<b>Efficacy:</b>	61
<b>Ambient Temperature (°C):</b>	25.0
<b>Stabilization Time (Hours):</b>	0:45
<b>Total Operating Time (Hours):</b>	1:30
<b>Off State Power(W):</b>	0.00

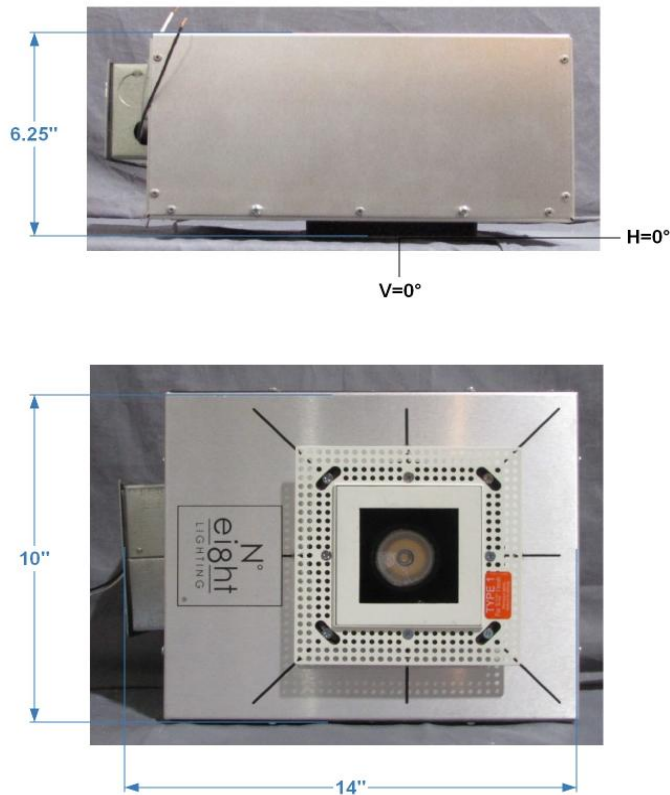


FIG.1 LUMINAIRE

\*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 : L101605107.IES**

## DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
 [TEST] L101605107  
 [TESTLAB] LIGHT LABORATORY, INC.  
 [ISSUEDATE] 11/04/2016  
 [MANUFAC] Number Eight Lighting Company  
 [LUMCAT] 803/K2-HI-40-XX/DIM1-8-1000/FS-LG-P-1-WH/NL  
 [LUMINAIRE] LED Recessed Fixed Position Downlight, 40° 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, 15.06W  
 [TEST PROCEDURE] IESNA:LM-79-08

## CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	918
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	61
Total Luminaire Watts	15.06
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.62
Spacing Criterion (90-270)	0.62
Spacing Criterion (Diagonal)	0.62
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	16387	16674	16531
55	5316	6025	5671
65	1924	2886	1924
75	785	1571	785
85	2332	2332	2332

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**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>	1876	1876	1876	1876	1876	1876	1876	1876	1876	1876
<b>1.0</b>	1872	1872	1872	1872	1872	1872	1872	1872	1872	1872
<b>3.0</b>	1842	1843	1843	1843	1843	1844	1844	1844	1844	1845
<b>5.0</b>	1791	1790	1791	1791	1792	1792	1793	1792	1792	1792
<b>7.0</b>	1711	1711	1711	1712	1712	1713	1713	1713	1713	1713
<b>9.0</b>	1605	1605	1605	1606	1606	1607	1607	1606	1606	1606
<b>11.0</b>	1480	1479	1480	1480	1479	1480	1480	1480	1480	1480
<b>13.0</b>	1345	1345	1345	1344	1344	1344	1343	1343	1342	1342
<b>15.0</b>	1206	1206	1205	1204	1203	1203	1202	1201	1201	1202
<b>17.0</b>	1055	1055	1055	1054	1054	1054	1052	1052	1052	1052
<b>19.5</b>	863	862	862	861	860	860	859	859	859	859
<b>22.5</b>	647	647	646	646	646	646	647	646	645	645
<b>25.5</b>	482	483	482	482	483	484	484	484	482	481
<b>29.0</b>	344	344	345	345	346	347	348	347	346	345
<b>33.0</b>	222	222	223	224	225	225	226	225	224	224
<b>37.5</b>	129	129	129	130	131	131	131	131	131	130
<b>42.5</b>	73	73	73	73	74	74	74	74	74	74
<b>47.5</b>	41	41	41	41	41	41	42	42	42	42
<b>55.0</b>	15	15	15	16	16	16	17	17	17	17
<b>65.0</b>	4	4	4	4	4	4	4	5	5	6
<b>75.0</b>	1	2	2	2	2	2	2	2	2	2
<b>85.0</b>	1	1	1	1	1	1	1	1	1	1
<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>	1876	1876	1876	1876	1876	1876	1876	1876	1876
<b>1.0</b>	1872	1873	1874	1875	1875	1876	1877	1877	1877
<b>3.0</b>	1845	1846	1846	1847	1848	1848	1849	1850	1849
<b>5.0</b>	1793	1793	1793	1794	1794	1795	1795	1795	1795
<b>7.0</b>	1713	1712	1713	1713	1714	1713	1714	1714	1714
<b>9.0</b>	1606	1606	1606	1607	1607	1608	1607	1608	1607
<b>11.0</b>	1480	1480	1479	1480	1479	1479	1479	1479	1480
<b>13.0</b>	1343	1342	1342	1342	1342	1342	1342	1342	1341
<b>15.0</b>	1202	1202	1201	1201	1201	1200	1201	1202	1202
<b>17.0</b>	1052	1051	1051	1050	1049	1050	1050	1051	1051
<b>19.5</b>	859	858	858	857	857	857	857	858	857
<b>22.5</b>	644	644	644	643	643	643	643	643	643
<b>25.5</b>	480	480	480	480	480	479	480	480	481
<b>29.0</b>	344	343	343	343	343	343	344	345	345
<b>33.0</b>	223	222	222	222	222	223	224	224	225
<b>37.5</b>	130	129	129	129	129	130	130	130	130
<b>42.5</b>	74	74	74	74	74	74	74	74	74
<b>47.5</b>	42	42	42	42	42	41	41	41	41
<b>55.0</b>	17	17	17	17	17	16	16	16	16
<b>65.0</b>	5	5	4	4	4	4	4	4	4
<b>75.0</b>	2	2	2	2	2	1	1	1	1
<b>85.0</b>	1	1	1	1	1	1	1	1	1
<b>90.0</b>	0	0	0	0	0	0	0	0	0

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : L101605107.IES**

**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	475.49	N.A.	51.80
0-30	712.05	N.A.	77.60
0-40	826.55	N.A.	90.00
0-60	903.33	N.A.	98.40
0-80	916.29	N.A.	99.80
0-90	918.06	N.A.	100.00
10-90	783.37	N.A.	85.30
20-40	351.06	N.A.	38.20
20-50	409.29	N.A.	44.60
40-70	86.59	N.A.	9.40
60-80	12.96	N.A.	1.40
70-80	3.14	N.A.	0.30
80-90	1.77	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	918.06	N.A.	100.00

Total Luminaire Efficiency = N.A.%

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	134.69
10-20	340.80
20-30	236.56
30-40	114.50
40-50	58.24
50-60	18.54
60-70	9.81
70-80	3.14
80-90	1.77
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

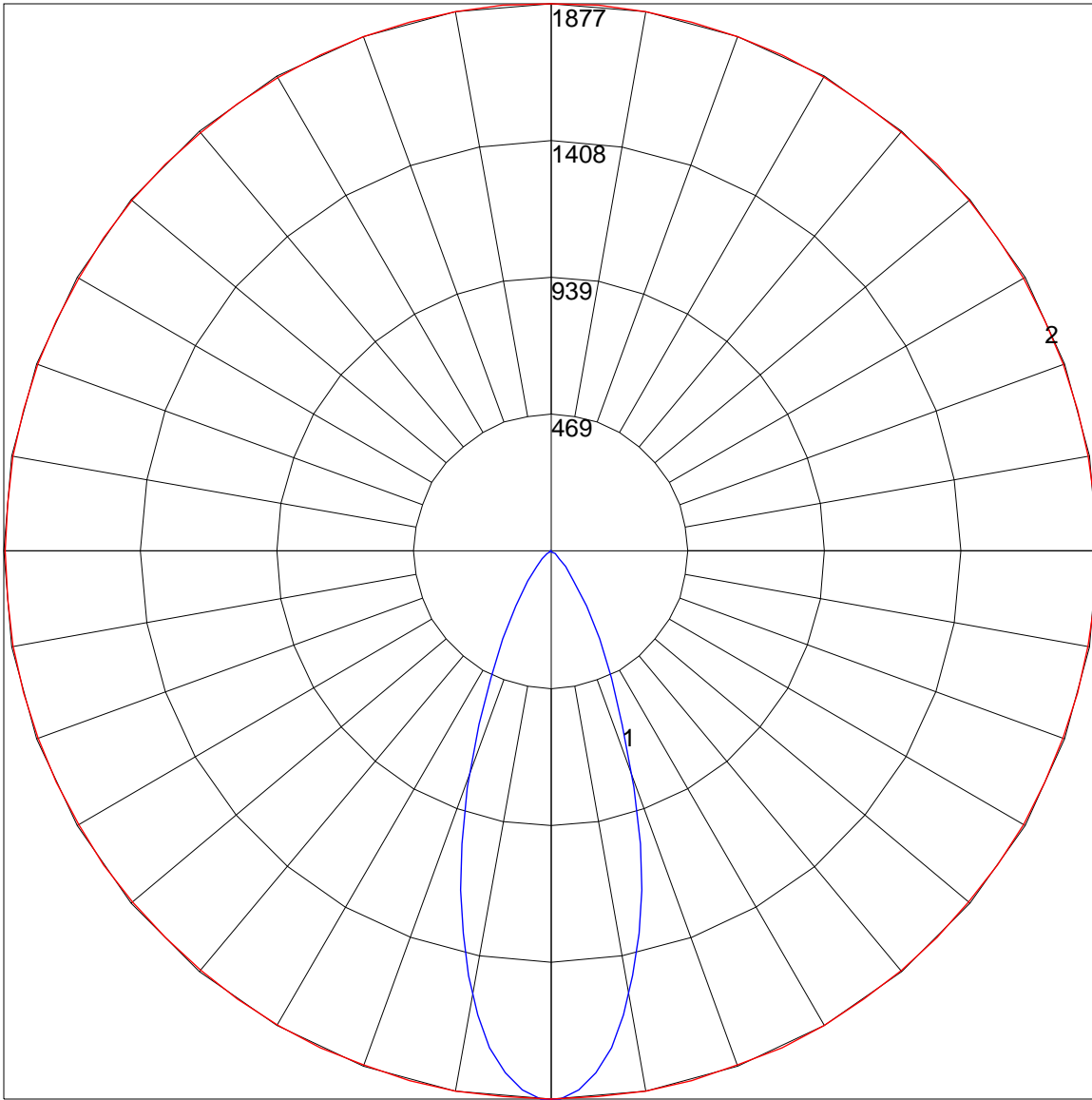
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**COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD**

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	0
1	114	111	109	106	111	109	107	105	105	103	101	101	100	98	98	97	96	94	0
2	108	104	100	96	106	102	98	95	99	96	93	96	93	91	93	91	89	88	0
3	103	97	92	89	101	96	91	88	93	89	86	91	88	85	89	86	84	82	0
4	98	91	86	82	97	90	85	82	88	84	81	86	83	80	84	81	79	77	0
5	94	86	81	76	92	85	80	76	83	79	75	82	78	75	80	77	74	73	0
6	90	81	76	72	88	81	75	71	79	74	71	78	74	71	76	73	70	69	0
7	86	77	72	68	85	76	71	67	75	70	67	74	70	67	73	69	66	65	0
8	82	73	68	64	81	73	67	64	72	67	63	71	66	63	70	66	63	62	0
9	79	70	64	61	78	69	64	60	68	64	60	68	63	60	67	63	60	59	0
10	76	67	61	58	75	66	61	57	65	61	57	65	60	57	64	60	57	56	0

POLAR GRAPH



Maximum Candela = 1877 Located At Horizontal Angle = 80, Vertical Angle = 1  
# 1 - Vertical Plane Through Horizontal Angles (80 - 260) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (1) (Through Max. Cd.)



## SAMPLE Illuminance cone diagram

Mounting Height = 12 ft.

