



8165 E Kaiser Blvd. Anaheim, CA 92808
www.lightlaboratory.com

Report No: L121706545



Report No: L121706545 **Issue Date:** 1/23/2018

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

Model Number: MPT2-HI-R-6-BK/15/DIM1-M-1000

Test: Photometric/Colorimetric/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. Received in working and undamaged condition. No modifications were necessary.

Testing Condition: Fixture is tested with no special conditions.

Sample Arrival Date: 1/2/18

Date of Tests: 1/20/18 - 1/23/18

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-S4	1/9/19
BK PRECISION	1747	PS-DC04	1/10/19
Fluke Digital Thermometer	52K/J	MT-TP05	1/10/19
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:	MPT2-HI-R-6-BK/15/DIM1-M-1000
Driver Model Number:	IntuitiveSystems ISD-701-1000-15-D
Total Lumens:	889.54
Input Voltage (VAC/60Hz):	120.00
Input Current (Amp):	0.12
Input Power (W):	14.46
Input Power Factor:	0.98
Current ATHD @ 120V(%):	6%
Current ATHD @ 277V(%):	N/A
Efficacy:	62
Color Rendering Index (CRI):	93
Correlated Color Temperature (K):	2956
Chromaticity Coordinate x:	0.4427
Chromaticity Coordinate y:	0.4103
Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	1:00
Total Operating Time (Hours):	1:35

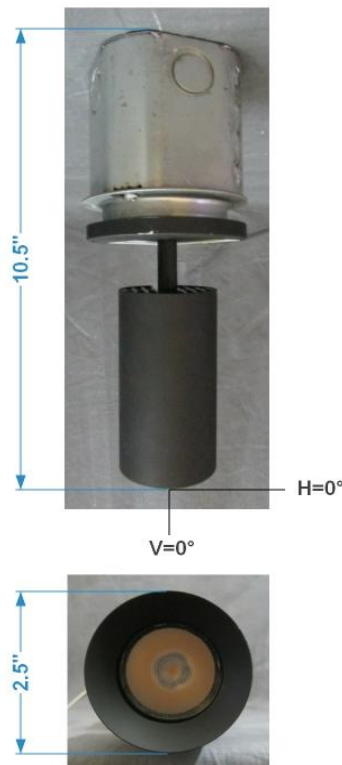
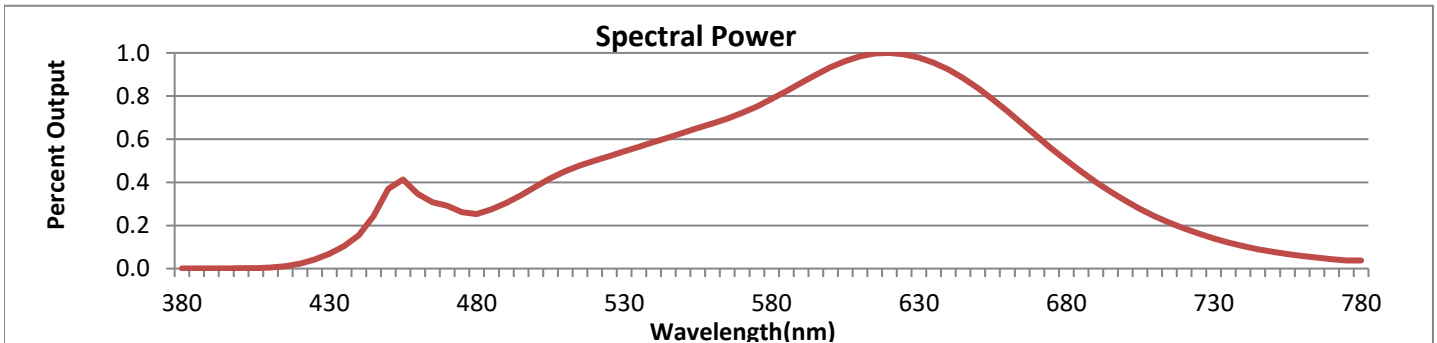


FIG. 1 LUMINAIRE

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



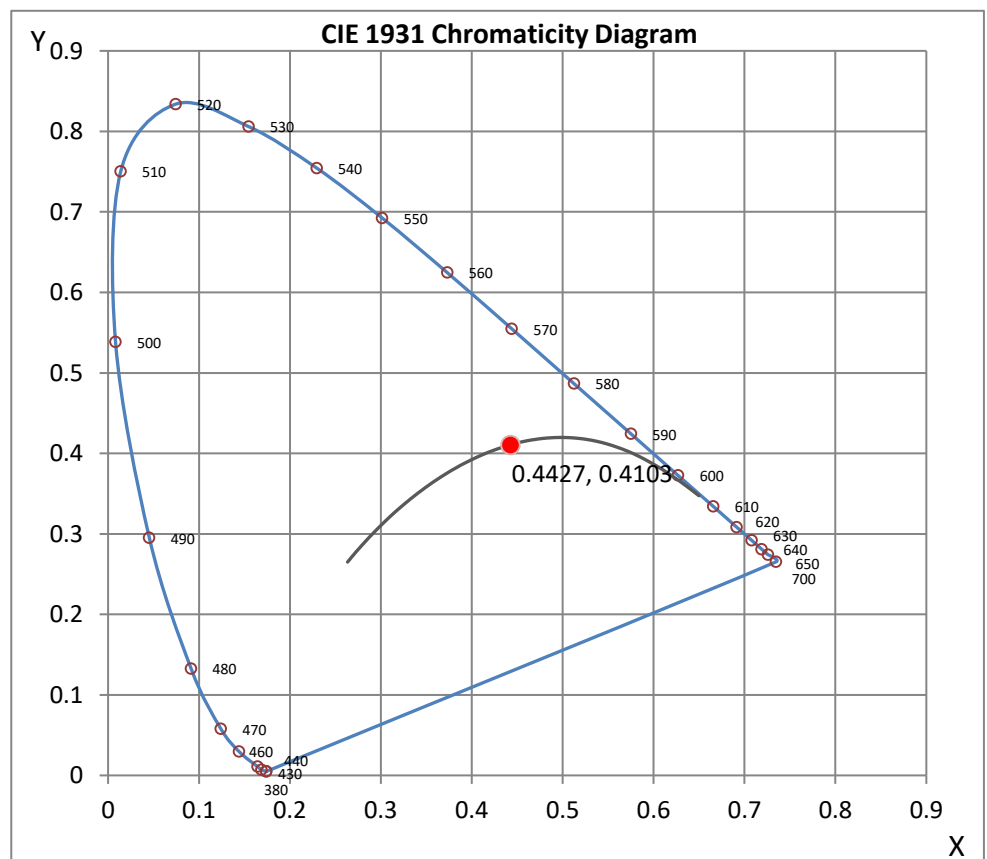
Wavelength	W/m ² nm	440	0.1551	510	0.4510	580	0.7863	650	0.8373	720	0.1865
380	0.0008	450	0.3701	520	0.5005	590	0.8609	660	0.7299	730	0.1402
390	0.0008	460	0.3459	530	0.5430	600	0.9335	670	0.6128	740	0.1040
400	0.0014	470	0.2906	540	0.5864	610	0.9838	680	0.5028	750	0.0784
410	0.0053	480	0.2532	550	0.6303	620	1.0000	690	0.4015	760	0.0586
420	0.0231	490	0.3043	560	0.6723	630	0.9785	700	0.3147	770	0.0435
430	0.0687	500	0.3811	570	0.7215	640	0.9236	710	0.2420	780	0.0374

CRI & CCT

x	0.4427
y	0.4103
u'	0.2516
v'	0.5247
CRI	93.30
CCT	2956
Duv	0.00169

R Values

R1	93.27
R2	96.96
R3	99.50
R4	93.16
R5	93.00
R6	96.85
R7	92.01
R8	81.47
R9	58.60
R10	92.16
R11	94.52
R12	83.12
R13	94.36
R14	99.19



*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.

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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 : L121706545.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] L121706545
 [TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)
 [ISSUEDATE] 1/23/2018
 [MANUFAC] Number Eight Lighting Company
 [LUMCAT] MPT2-HI-R-6-BK/15/DIM1-M-1000
 [LUMINAIRE] LED Recessed Downlight, 15° Beam Spread, 0° Aiming Angle,
 [BALLASTCAT] IntuitiveSystems ISD-701-1000-15-D
 [OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND
 [MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.
 [INPUT] 120VAC, 14.46W
 [TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	890
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	62
Total Luminaire Watts	14.46
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	Circular
Luminous Length (0-180)	0.21 ft (Diameter)
Luminous Width (90-270)	0.21 ft (Diameter)
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	5269	5269	5269
55	1083	1083	1083
65	735	735	735
75	0	0	0
85	0	0	0

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CANDELA TABULATION

	<u>0</u>
0.0	5684
1.0	5618
2.0	5441
3.0	5171
4.0	4827
5.0	4435
6.0	4014
7.0	3589
8.0	3176
9.0	2789
10.0	2437
12.0	1839
14.0	1384
16.0	1039
18.0	773
20.0	571
22.5	387
25.0	261
27.5	183
30.0	131
35.0	66
40.0	31
45.0	12
50.0	4
55.0	2
60.0	1
65.0	1
70.0	0
75.0	0
80.0	0
85.0	0
90.0	0

IES INDOOR REPORT
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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	699.43	N.A.	78.60
0-30	830.41	N.A.	93.40
0-40	875.61	N.A.	98.40
0-60	888.80	N.A.	99.90
0-80	889.54	N.A.	100.00
0-90	889.54	N.A.	100.00
10-90	533.92	N.A.	60.00
20-40	176.17	N.A.	19.80
20-50	187.37	N.A.	21.10
40-70	13.93	N.A.	1.60
60-80	0.74	N.A.	0.10
70-80	0.00	N.A.	0.00
80-90	0.00	N.A.	0.00
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	889.54	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	355.62
10-20	343.82
20-30	130.98
30-40	45.19
40-50	11.19
50-60	2.00
60-70	0.74
70-80	0.00
80-90	0.00
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

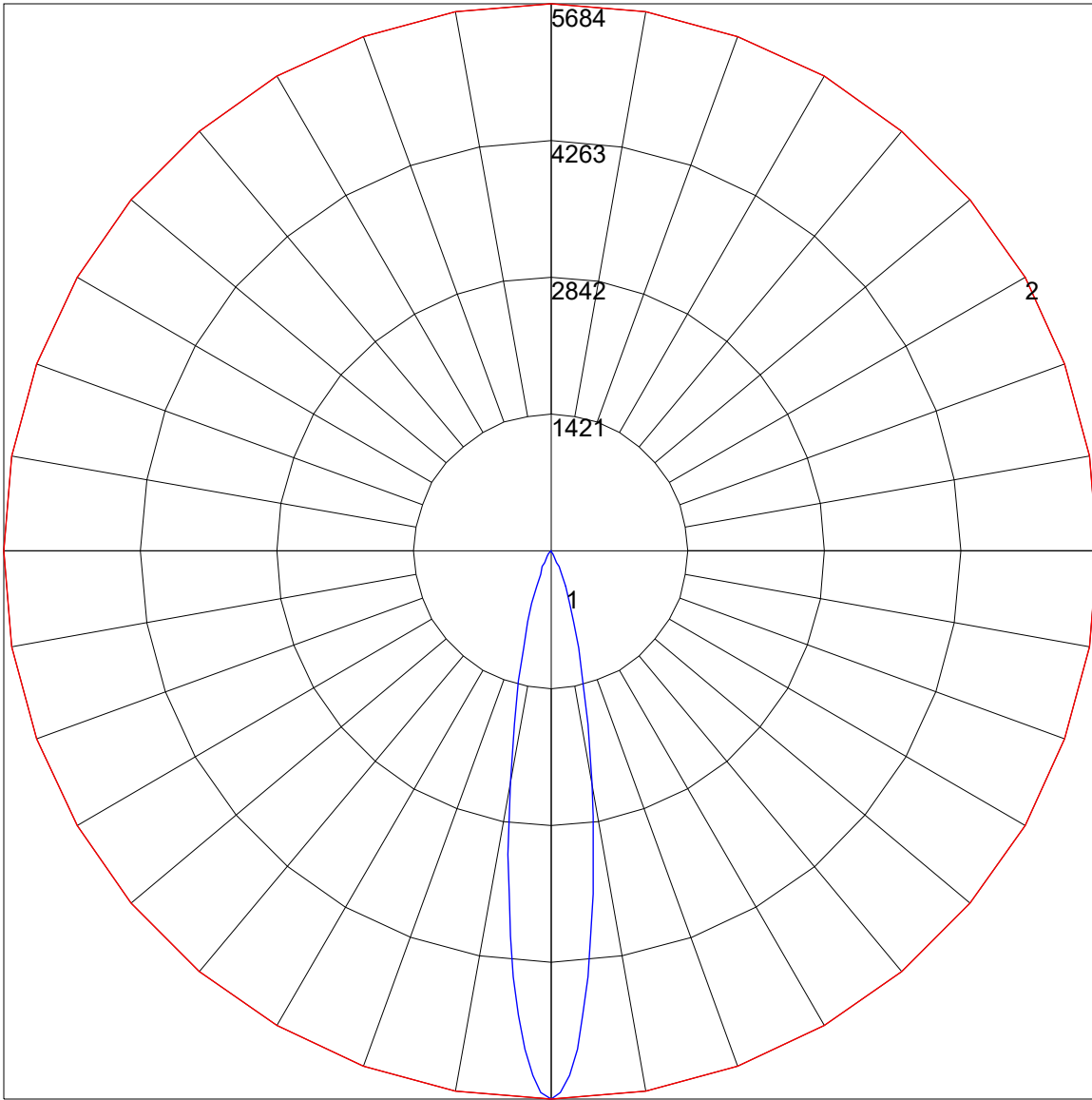
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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
1	115	113	111	109	113	111	109	108	107	106	104	103	102	101	100	99	98	97
2	111	108	105	102	109	106	103	101	103	101	99	100	98	97	97	96	95	94
3	108	103	100	97	106	102	99	96	99	97	95	97	95	93	95	93	92	91
4	105	99	95	92	103	98	95	92	96	93	91	94	92	90	93	91	89	88
5	102	96	92	89	100	95	91	88	93	90	88	92	89	87	90	88	86	85
6	99	93	88	85	97	92	88	85	91	87	85	89	86	84	88	86	84	83
7	96	90	86	83	95	89	85	82	88	85	82	87	84	82	86	83	81	80
8	93	87	83	80	92	87	83	80	86	82	80	85	82	79	84	81	79	78
9	91	85	81	78	90	84	80	78	83	80	78	83	80	77	82	79	77	76
10	89	82	78	76	88	82	78	76	81	78	76	81	78	75	80	77	75	74

POLAR GRAPH



Maximum Candela = 5684 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.)

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ILLUMINANCE CONE DIAGRAM: BEAM (50%)
MOUNT HEIGHT(Ft): 12

