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

NVLAP TESTING
NVLAP LAB CODE 200927-0

Report No: L051913412 **Issue Date: 6/10/2019**

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

Model Number: MPT2-R-HI-6-WH/10/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.

Special Test Condition: Fixture is tested with no special conditions.

Sample Arrival Date: 6/5/19

Date of Tests: 6/6/19 - 6/10/19

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	1/9/21
BK PRECISION	1747	PS-DC04	1/10/21
Fluke Digital Thermometer	52K/J	MT-TP05	1/10/21
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

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General Information	
Manufacturer:	Number Eight Lighting Company
Model Number:	MPT2-R-HI-6-WH/10/DIM1-M-1000
Driver Model Number:	INTUITIVE SYSTEMS ISD-701-1000-15-D

Test Summary	
Total Lumens:	1087.95
Efficacy:	78.36
Color Redering Index:	93.6
Correlated Color Temperature:	3052
Input Voltage (VAC/60Hz):	119.96
Input Current (Amp):	0.1168
Input Power (W):	13.88
Input Power Factor:	0.9908
Current ATHD (%):	12.2%

Test Condition	
Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	0:35
Total Operating Time (Hours):	2:00

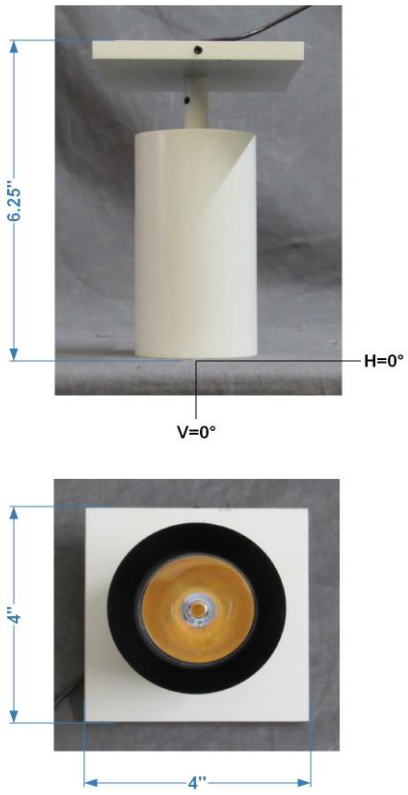

FIG. 1 LUMINAIRE

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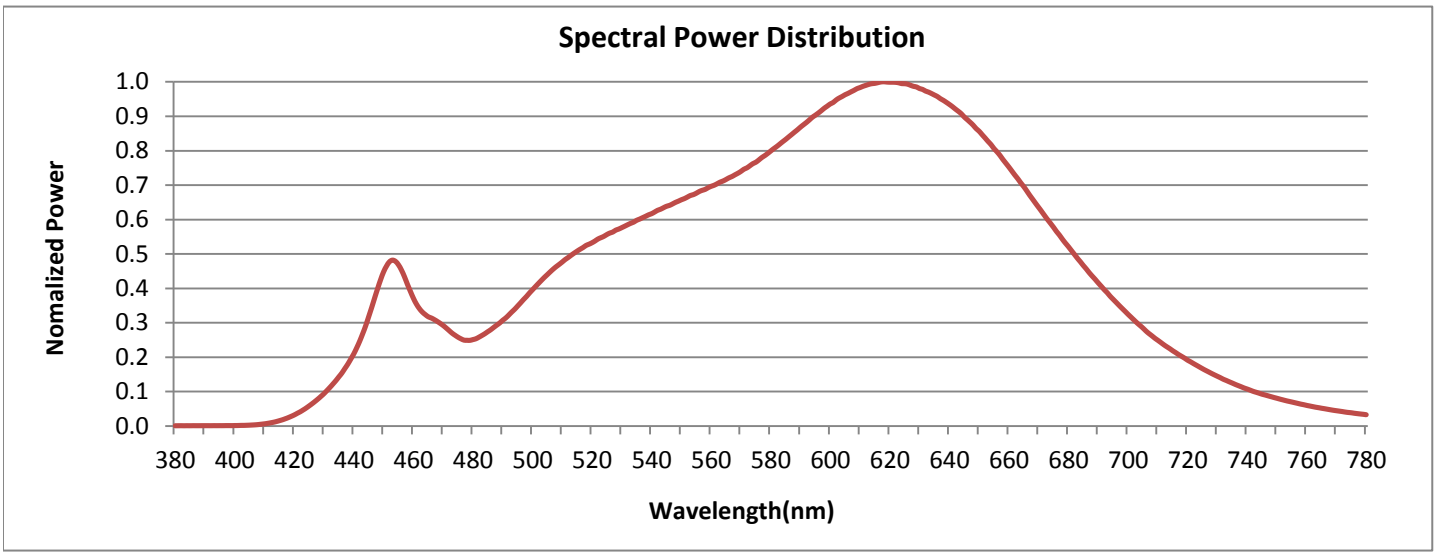
Colorimetry Test Results

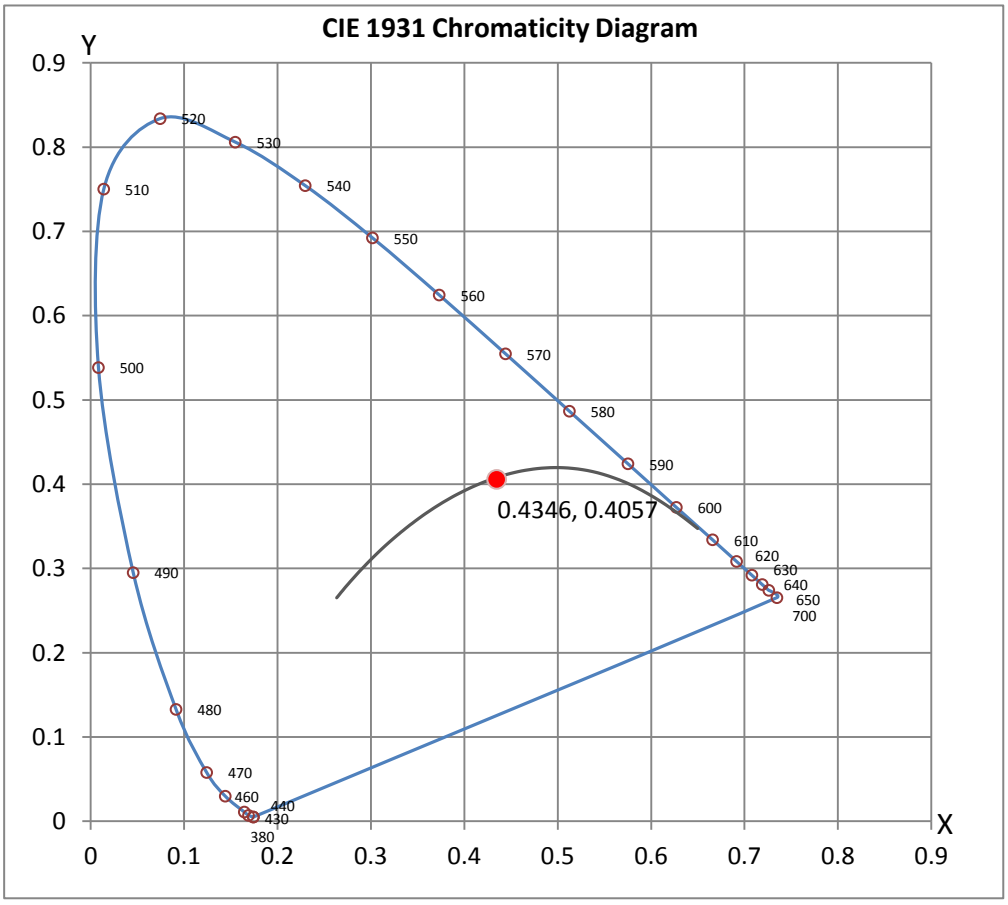


CRI & CCT

x	0.4346
y	0.4057
u'	0.2484
v'	0.5217
CRI	93.60
CCT	3052
Duv	0.00097

R Values

R1	93.61
R2	96.40
R3	98.11
R4	94.31
R5	93.55
R6	96.09
R7	93.12
R8	83.46
R9	62.21
R10	90.86
R11	95.38
R12	82.91
R13	94.39
R14	98.22
R15	89.56



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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 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 : L051913412.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L051913412
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)
[ISSUEDATE] 6/10/2019
[MANUFAC] Number Eight Lighting Company
[LUMCAT] MPT2-R-HI-6-WH/10/DIM1-M-1000
[LUMINAIRE] LED Surface Mounted Adjustable Downlight, 90+ CRI,
[MORE] 10° Beam Spread, 0° Aiming Angle, Standard Output
[BALLASTCAT] INTUITIVE SYSTEMS ISD-701-1000-15-D
[OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND
[MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.
[INPUT] 119.96VAC, 13.88W
[TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1088
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	78
Total Luminaire Watts	13.88
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.22
Spacing Criterion (90-270)	0.22
Spacing Criterion (Diagonal)	0.24
Basic Luminous Shape	Circular
Luminous Length (0-180)	0.15 ft (Diameter)
Luminous Width (90-270)	0.15 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	5164	5164	5164
55	1061	1061	1061
65	0	0	0
75	0	0	0
85	0	0	0

IES INDOOR REPORT
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CANDELA TABULATION

	0
0	15179
1	15284
2	14854
3	13575
4	11728
5	9608
6	7709
7	6326
8	5269
9	4286
10	3468
12	2151
14	1125
16	636
18	372
20	249
22	196
24	156
26	105
28	62
30	31
35	14
40	9
45	6
50	3
55	1
60	0
65	0
70	0
75	0
80	0
85	0
90	0

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L051913412.IES

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	1013.87	N.A.	93.20
0-30	1071.79	N.A.	98.50
0-40	1082.25	N.A.	99.50
0-60	1087.95	N.A.	100.00
0-80	1087.95	N.A.	100.00
0-90	1087.95	N.A.	100.00
10-90	376.93	N.A.	34.60
20-40	68.39	N.A.	6.30
20-50	72.98	N.A.	6.70
40-70	5.70	N.A.	0.50
60-80	0.00	N.A.	0.00
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	1087.95	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	711.02
10-20	302.85
20-30	57.92
30-40	10.46
40-50	4.60
50-60	1.10
60-70	0.00
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

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L051913412.IES

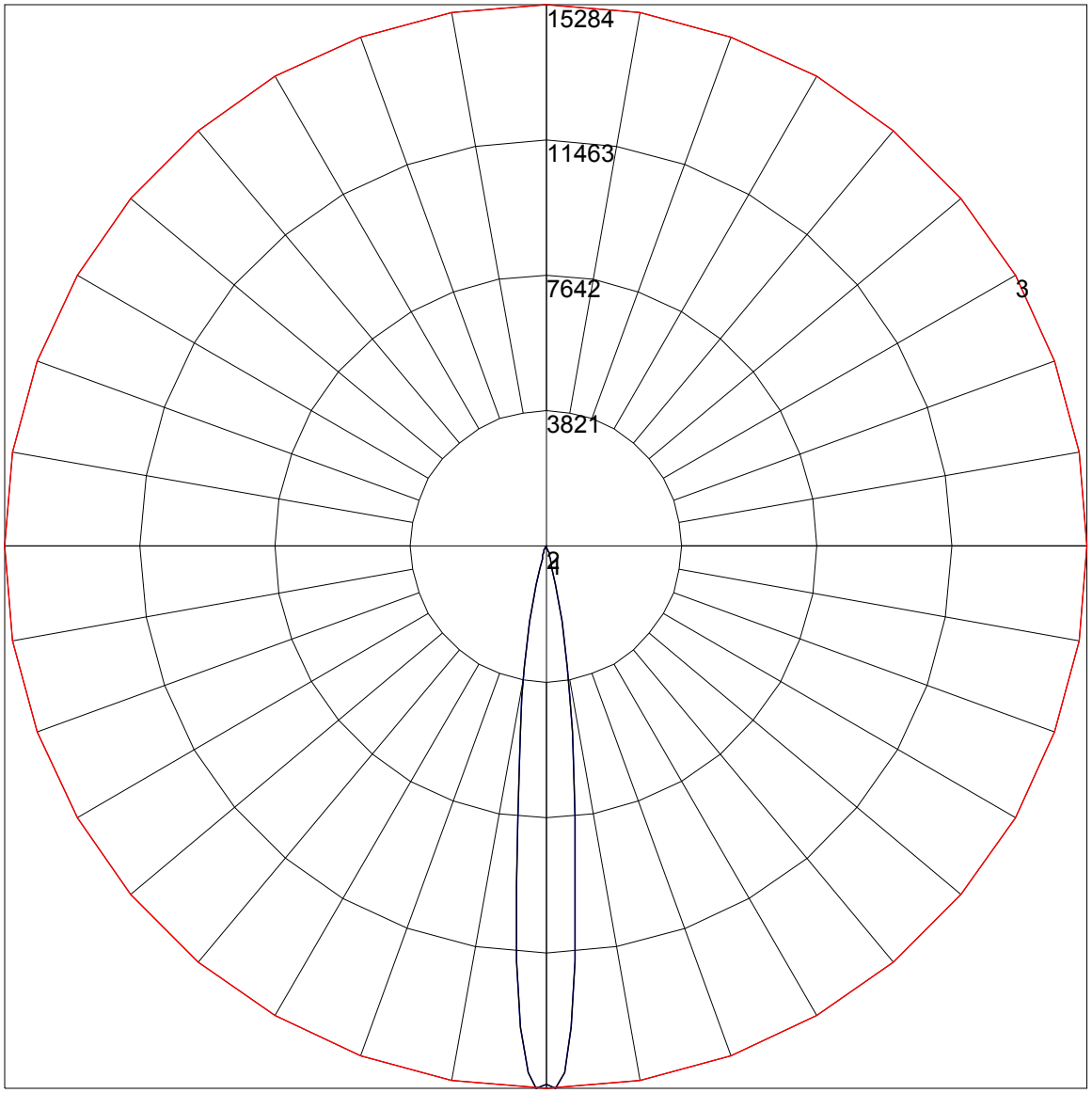
COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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
1	116	114	113	111	114	112	111	109	108	107	106	104	104	103	101	101	100	98
2	113	110	108	106	111	108	106	104	105	104	102	103	101	100	100	99	98	97
3	111	107	104	102	109	106	103	101	103	101	99	101	99	98	99	98	96	95
4	108	104	101	99	107	103	100	98	101	99	97	99	97	96	98	96	95	94
5	106	102	98	96	105	101	98	96	99	97	95	98	96	94	97	95	93	93
6	104	100	96	94	103	99	96	94	98	95	93	97	94	93	95	94	92	91
7	102	98	95	92	102	97	94	92	96	94	92	95	93	91	94	92	91	90
8	101	96	93	91	100	96	93	91	95	92	90	94	92	90	93	91	90	89
9	99	94	91	89	99	94	91	89	93	91	89	93	90	89	92	90	89	88
10	98	93	90	88	97	93	90	88	92	90	88	92	89	88	91	89	88	87

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L051913412.IES

POLAR GRAPH



Maximum Candela = 15284 Located At Horizontal Angle = 0, Vertical Angle = 1
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Vertical Plane Through Horizontal Angles (90 - 270)
3 - Horizontal Cone Through Vertical Angle (1) (Through Max. Cd.)

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L051913412.IES

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