



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

Report No: L051913401



Report No: L051913401

Issue Date: 6/7/2019

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

Model Number: 400-HI-R-10/DIM1-4-1000/FLS-4-WH

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: 6/5/19 - 6/7/19

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

General Information

Manufacturer:	Number Eight Lighting Company
Model Number:	400-HI-R-10/DIM1-4-1000/FLS-4-WH
Driver Model Number:	INTUITIVE SYSTEMS ISD-701-1000-15-D

Test Summary

Total Lumens:	1076.70
Efficacy:	76.79
Color Redering Index:	93.6
Correlated Color Temperature:	3107
Input Voltage (VAC/60Hz):	120.01
Input Current (Amp):	0.1175
Input Power (W):	14.02
Input Power Factor:	0.9945
Current ATHD (%):	9.6%

Test Condition

Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	0:30
Total Operating Time (Hours):	1:50

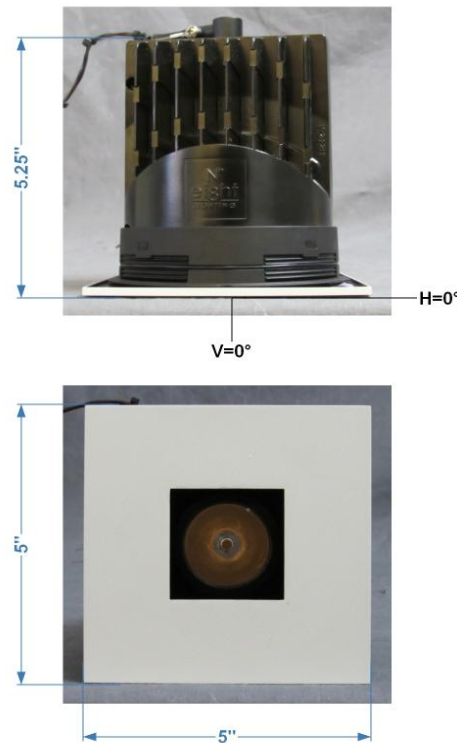
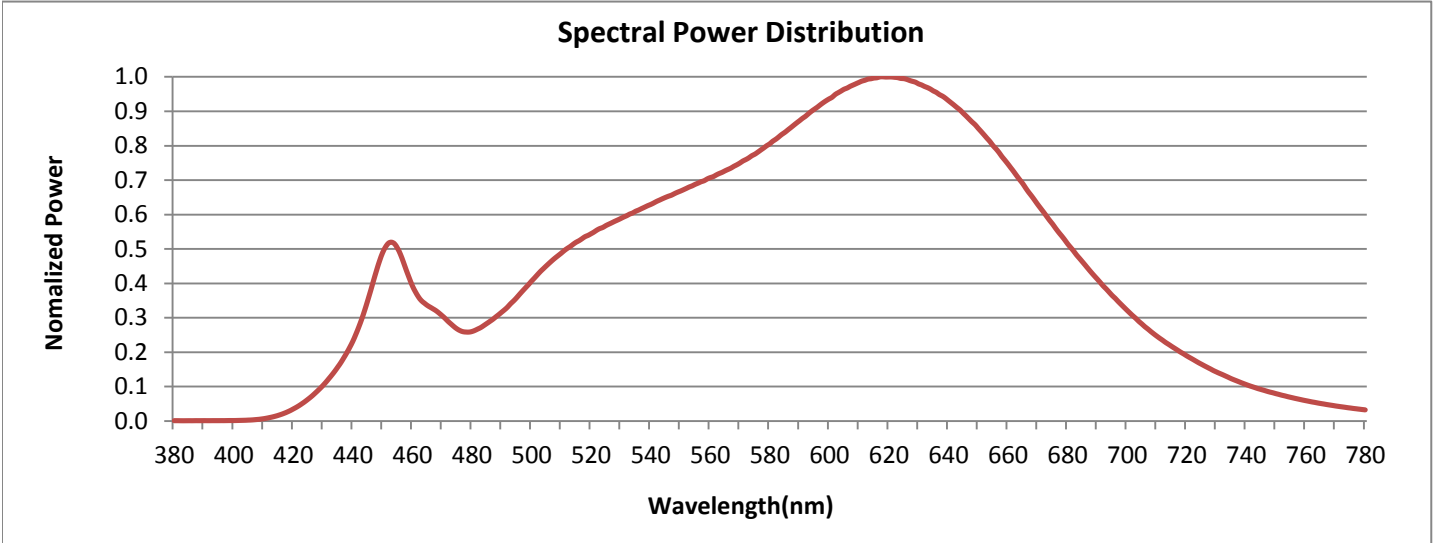


FIG. 1 LUMINAIRE

Colorimetry Test Results

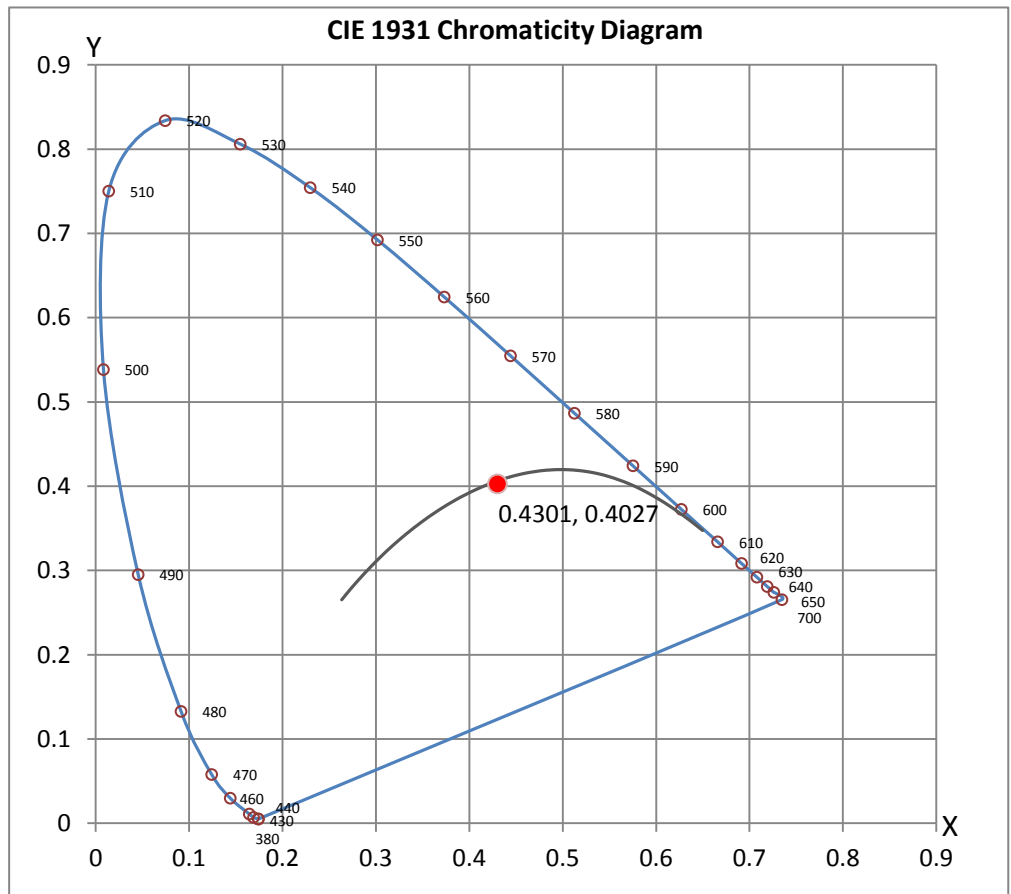


CRI & CCT

x	0.4301
y	0.4027
u'	0.2468
v'	0.5198
CRI	93.60
CCT	3107
Duv	0.00044

R Values

R1	93.77
R2	96.47
R3	97.93
R4	94.33
R5	93.70
R6	95.96
R7	93.17
R8	83.83
R9	62.97
R10	90.94
R11	95.26
R12	82.78
R13	94.54
R14	98.14
R15	89.96



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: 11*



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

Photometric Test Report

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L051913401.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L051913401
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)
[ISSUE DATE] 6/7/2019
[MANUFAC] Number Eight Lighting Company
[LUMCAT] 400-HI-R-10/DIM1-4-1000/FLS-4-WH
[LUMINAIRE] LED Recessed Adjustable Downlight, 90+ CRI, 10° Beam Spread,
[MORE] 0° Aiming Angle, 2" x 2" Aperture Trim, 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] 120.01VAC, 14.02W
[TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1077
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	77
Total Luminaire Watts	14.02
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.22
Spacing Criterion (90-270)	0.22
Spacing Criterion (Diagonal)	0.26
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	0.17 ft
Luminous Width (90-270)	0.17 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	1579	2105	1579
55	0	0	0
65	0	0	0
75	0	0	0
85	0	0	0

**IES INDOOR REPORT
PHOTOMETRIC FILENAME : L051913401.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	14151	14151	14151	14151	14151	14151	14151	14151	14151	14151
1	14144	14141	14148	14153	14160	14163	14170	14177	14186	14191
2	13543	13541	13546	13528	13486	13468	13471	13497	13516	13531
3	12318	12315	12288	12282	12274	12313	12338	12349	12363	12375
4	10506	10521	10549	10600	10623	10647	10652	10708	10753	10767
5	8816	8807	8823	8838	8870	8906	8948	8974	8984	9000
6	7278	7278	7281	7274	7271	7283	7301	7320	7334	7352
7	5967	5981	5994	6016	6049	6085	6115	6127	6129	6156
8	5026	5029	5036	5049	5047	5080	5104	5119	5143	5159
9	4153	4167	4174	4179	4196	4214	4221	4233	4265	4283
10	3407	3409	3400	3416	3437	3450	3466	3495	3509	3515
12	2127	2139	2156	2172	2180	2188	2197	2210	2223	2223
14	1194	1194	1199	1218	1235	1244	1261	1277	1283	1289
16	659	661	670	675	680	691	705	710	719	727
18	428	432	437	437	438	439	439	440	445	438
20	288	287	285	288	292	297	297	296	291	290
22	211	212	212	213	214	214	215	216	217	216
24	169	170	171	170	170	170	170	173	174	173
26	118	120	120	121	121	121	122	123	124	123
28	75	75	75	75	75	76	76	77	78	78
30	37	37	38	38	39	39	40	41	42	42
35	14	14	15	15	16	16	17	18	18	18
40	7	7	7	7	8	8	8	8	9	10
45	3	3	3	3	4	4	4	4	4	4
50	1	1	1	1	2	2	2	2	2	2
55	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0
75	0	0	0	0	0	0	0	0	0	0
80	0	0	0	0	0	0	0	0	0	0
85	0	0	0	0	0	0	0	0	0	0
90	0	0	0	0	0	0	0	0	0	0

Vert. 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	14151	14151	14151	14151	14151	14151	14151	14151	14151
1	14198	14204	14204	14207	14204	14210	14208	14212	14208
2	13555	13568	13558	13555	13572	13586	13605	13613	13625
3	12343	12333	12328	12315	12344	12347	12367	12341	12430
4	10832	10876	10861	10866	10832	10830	10836	10832	10845
5	9012	9014	9028	9038	9059	9056	9030	9046	9026
6	7398	7440	7467	7506	7525	7517	7507	7516	7514
7	6170	6168	6185	6202	6235	6265	6266	6279	6268
8	5183	5183	5184	5170	5162	5169	5171	5166	5161
9	4315	4337	4347	4338	4317	4309	4312	4309	4299
10	3532	3539	3540	3550	3552	3553	3561	3581	3578
12	2224	2231	2230	2235	2244	2241	2242	2233	2231
14	1297	1295	1296	1292	1292	1285	1285	1277	1268
16	729	730	727	714	711	698	687	676	672
18	431	434	423	410	407	401	394	387	386
20	283	277	272	270	268	269	267	270	272
22	214	211	208	207	207	207	208	209	210

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L051913401.IES

CANDELA TABULATION - (Cont.)

24	171	169	167	167	167	166	165	166	166
26	121	119	118	117	117	116	117	117	117
28	77	75	74	73	72	71	71	71	71
30	42	42	41	40	39	39	39	39	39
35	18	18	17	16	16	15	15	15	15
40	9	8	8	8	7	7	7	7	7
45	4	4	4	4	3	3	3	3	3
50	2	2	2	2	2	2	1	1	1
55	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0
75	0	0	0	0	0	0	0	0	0
80	0	0	0	0	0	0	0	0	0
85	0	0	0	0	0	0	0	0	0
90	0	0	0	0	0	0	0	0	0

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L051913401.IES

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	996.09	N.A.	92.50
0-30	1060.96	N.A.	98.50
0-40	1073.19	N.A.	99.70
0-60	1076.7	N.A.	100.00
0-80	1076.7	N.A.	100.00
0-90	1076.7	N.A.	100.00
10-90	402.62	N.A.	37.40
20-40	77.10	N.A.	7.20
20-50	80.25	N.A.	7.50
40-70	3.52	N.A.	0.30
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	1076.7	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	674.08
10-20	322.01
20-30	64.87
30-40	12.23
40-50	3.15
50-60	0.36
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

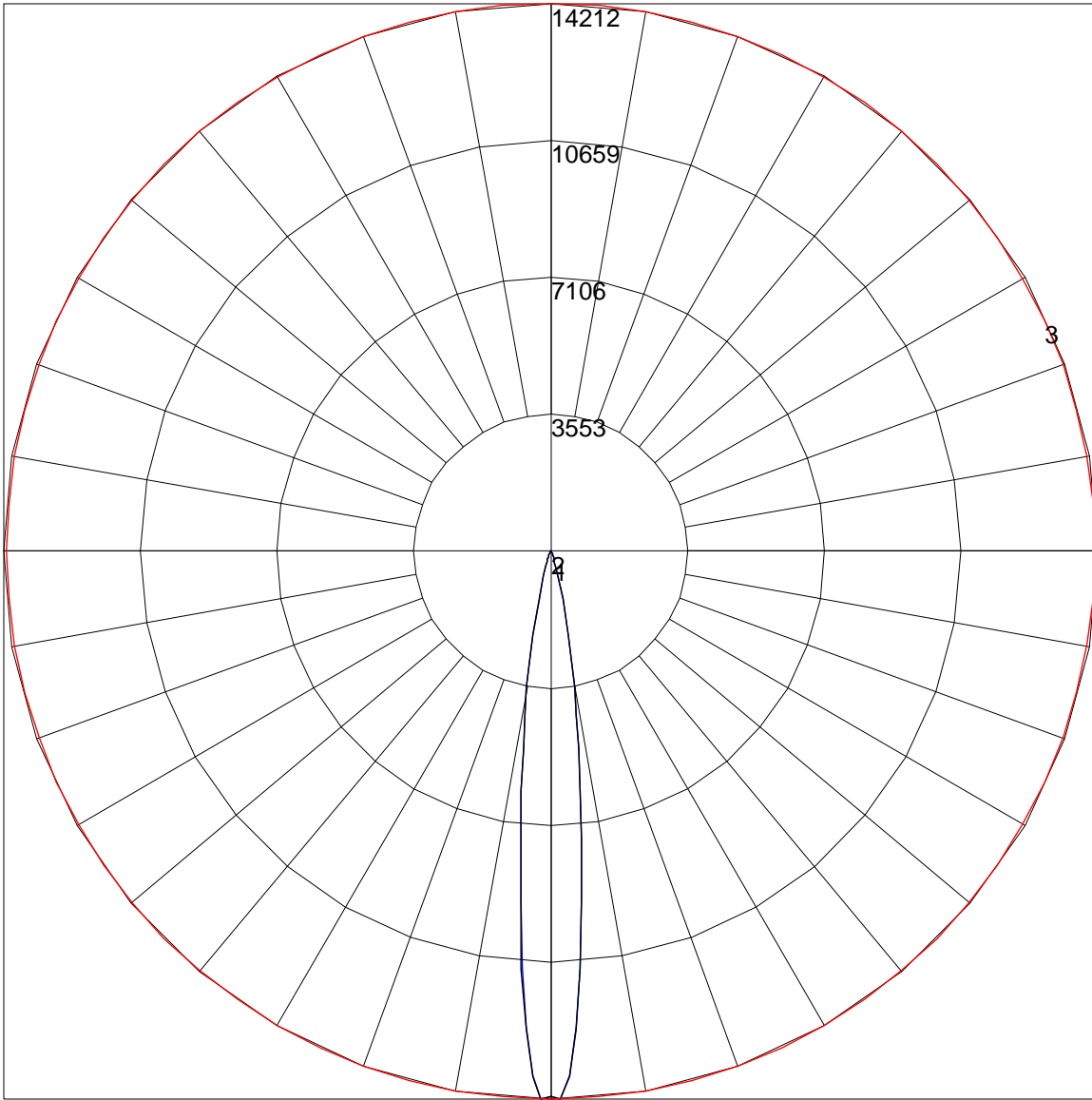
IES INDOOR REPORT
PHOTOMETRIC FILENAME : L051913401.IES

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	100
1	116	114	112	111	113	112	110	109	108	107	106	104	104	103	101	100	100	98	98
2	113	110	107	105	111	108	106	104	105	104	102	102	101	100	100	99	98	97	97
3	110	107	104	101	109	105	103	101	103	101	99	101	99	98	99	97	96	95	95
4	108	104	101	98	106	103	100	98	101	98	96	99	97	95	97	96	94	93	93
5	106	101	98	96	105	100	97	95	99	96	94	97	95	94	96	94	93	92	92
6	104	99	96	93	103	98	95	93	97	95	93	96	94	92	95	93	91	91	91
7	102	97	94	92	101	96	93	91	95	93	91	95	92	91	94	92	90	89	89
8	100	95	92	90	99	95	92	90	94	91	89	93	91	89	92	90	89	88	88
9	99	94	91	89	98	93	90	88	93	90	88	92	90	88	91	89	88	87	87
10	97	92	89	87	97	92	89	87	91	89	87	91	88	87	90	88	87	86	86

POLAR GRAPH



Maximum Candela = 14212 Located At Horizontal Angle = 85, Vertical Angle = 1
1 - Vertical Plane Through Horizontal Angles (85 - 265) (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 : L051913401.IES

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

