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Indoor Distribution Test Report

Relevant Standards
IES LM-79-2008
ANSI C82.77-2002

Prepared For
Mercury Lighting

John Andrews
20 Audrey Pl
Fairfield, NJ 07004-3416

Catalog Number
LW4-4-3800-35K-HTA-A40-UNI-XXXX

Order Number
11205397
Test Number
1227934

Test Date

2016-03-30

Prepared By

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Approved By

Timothy Wagner, Project Handler

The results contained in this report pertain only to the tested sample.
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Luminaire Description: Formed steel housnig, linear patterned frosted plastic lens enclosure
Lamp: 96 white LEDs, two boards with 48 LEDs each
Mounting: Surface
Ballast/Driver: One Philips Advance Xitanium XI040C110V054BPT1

Luminaire



Luminaire Characteristics

Luminous Length: 45.00 in.
Luminous Width: 2.750 in.
Luminous Height: 1.50 in.

Summary of Results

Total Luminaire Output: 3671 Lumens
Luminaire Efficacy: 117.7 lm/w
Maximum Candela: 1032 Candela

Test Conditions

Test Temperature: 24.6 °C
Voltage: 120.0 VAC
Current: 0.2607 A
Power: 31.20 W
Power Factor: 0.997
Frequency: 60 Hz
Current THD: 6.00 %

Laboratory results may not be representative of field performance
Ballast factors have not been applied



Distribution - Goniophotometer

Distribution Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.6 °C	120.0 VAC	0.2607 A	31.20 W	0.997	60 Hz	6.00 %

Summary of Results

Spacing Criteria

0-180: 1.16

90-270: 1.16

Total Lumen Output:

3671 Lumens

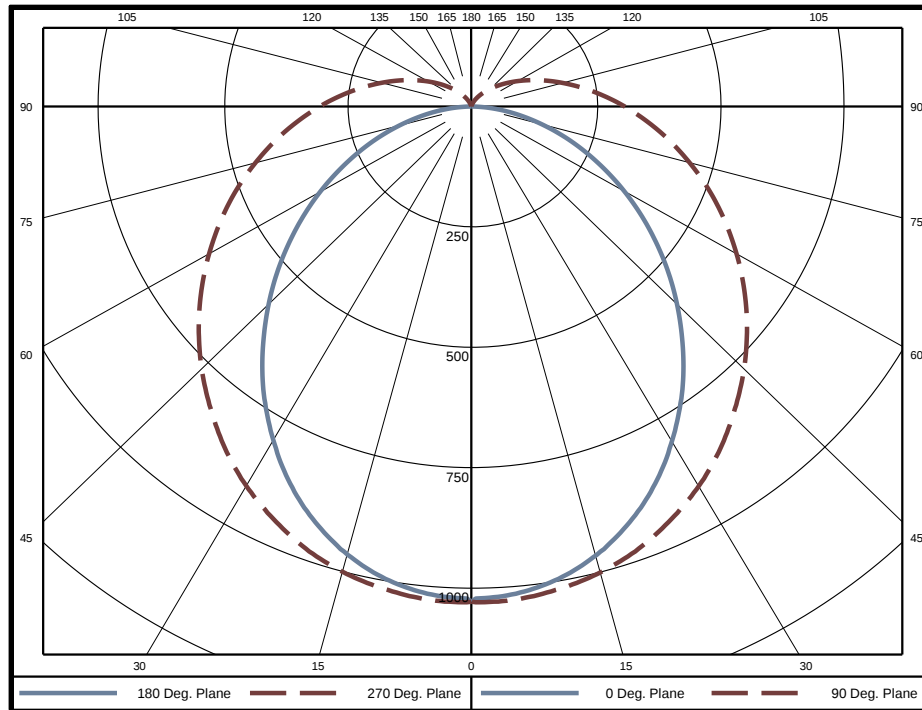
Luminaire Efficacy:

117.7 lm/w

Maximum Candela:

1032 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	24.5	0.7%	60-65	219.9	6.0%	120-125	20.8	0.6%
5-10	72.7	2.0%	65-70	198.9	5.4%	125-130	15.2	0.4%
10-15	118.2	3.2%	70-75	175.6	4.8%	130-135	10.6	0.3%
15-20	159.4	4.3%	75-80	151.4	4.1%	135-140	7.2	0.2%
20-25	194.7	5.3%	80-85	127.7	3.5%	140-145	4.5	0.1%
25-30	223.1	6.1%	85-90	105.3	2.9%	145-150	2.6	0.1%
30-35	243.9	6.6%	90-95	86.7	2.4%	150-155	1.3	0.0%
35-40	256.6	7.0%	95-100	71.1	1.9%	155-160	0.5	0.0%
40-45	261.6	7.1%	100-105	57.4	1.6%	160-165	0.1	0.0%
45-50	259.8	7.1%	105-110	45.8	1.2%	165-170	0.0	0.0%
50-55	251.6	6.9%	110-115	36.0	1.0%	170-175	0	0.0%
55-60	237.9	6.5%	115-120	27.7	0.8%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	1293	35.2%
0-60	2304	62.8%
0-90	3283	89.4%
90-180	388	10.6%



Candela Tabulation
Horizontal Angle (Degrees)

Vertical Angle (Degrees)	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5
	0	1028	1028	1028	1028	1028	1028	1028	1028	1028	1028	1028	1028	1028	1028	1028
	5	1015	1025	1022	1024	1028	1024	1022	1025	1015	1025	1022	1024	1028	1024	1025
	10	996	1007	1007	1014	1017	1014	1007	1007	996	1007	1007	1014	1017	1014	1007
	15	963	977	983	995	1001	995	983	977	963	977	983	995	1001	995	983
	20	919	935	948	968	977	968	948	935	919	935	948	968	977	968	948
	25	864	884	906	934	945	934	906	884	864	884	906	934	945	934	906
	30	799	824	855	894	909	894	855	824	799	824	855	894	909	894	855
	35	729	757	799	847	867	847	799	757	729	757	799	847	867	847	799
	40	653	685	738	796	818	796	738	685	653	685	738	796	818	796	738
	45	577	611	674	742	770	742	674	611	577	611	674	742	770	742	674
	50	500	538	611	688	718	688	611	538	500	538	611	688	718	688	611
	55	424	465	547	631	665	631	547	465	424	465	547	631	665	631	547
	60	350	394	484	575	611	575	484	394	350	394	484	575	611	575	484
	65	278	326	425	520	557	520	425	326	278	326	425	520	557	520	425
	70	211	263	369	467	504	467	369	263	211	263	369	467	504	467	369
	75	147	205	316	414	451	414	316	205	147	205	316	414	451	414	316
	80	91	156	268	364	400	364	268	156	91	156	268	364	400	364	268
	85	40	113	225	317	352	317	225	113	40	113	225	317	352	317	225
	90	0	81	187	274	306	274	187	81	0	81	187	274	306	274	187
	95	0	56	153	234	263	234	153	56	0	56	153	234	263	234	153
	100	0	39	125	198	224	198	125	39	0	39	125	198	224	198	125
	105	0	27	100	165	189	165	100	27	0	27	100	165	189	165	100
	110	0	20	80	137	157	137	80	20	0	20	80	137	157	137	80
	115	0	14	64	112	129	112	64	14	0	14	64	112	129	112	64
	120	0	10	50	90	105	90	50	10	0	10	50	90	105	90	50
	125	0	7	39	71	84	71	39	7	0	7	39	71	84	71	39
	130	0	5	28	55	66	55	28	5	0	5	28	55	66	55	28
	135	0	3	20	42	50	42	20	3	0	3	20	42	50	42	20
	140	0	2	14	31	37	31	14	2	0	2	14	31	37	31	14
	145	0	1	9	20	27	20	9	1	0	1	9	20	27	20	9
	150	0	0	6	12	18	12	6	0	0	0	6	12	18	12	6
	155	0	0	3	7	11	7	3	0	0	0	3	7	11	7	3
	160	0	0	1	3	5	3	1	0	0	0	1	3	5	3	1
	165	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0
	170	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	175	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Average Luminance (cd/m²)
Horizontal Angle (Degrees)

Vertical Angle (Degrees)	0	45	90
	0	12880	12880
	45	10210	13330
	55	9259	12740
	65	8236	12370
	75	7133	12340
	85	5730	13060



Utilization of Lumens - Zonal Cavity Method

Effective Floor Cavity Reflectance 20%																		
Ceiling Cavity Reflectance	80				70				50			30			10			0
Wall Reflectance	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
Room Cavity Ratio (RCR)	** Values are expressed as Lumens delivered to the task surface **																	
0	4277	4277	4277	4277	4133	4133	4133	4133	3863	3863	3863	3616	3616	3616	3390	3390	3390	3283
1	3820	3611	3424	3255	3676	3488	3319	3165	3258	3120	2993	3046	2935	2832	2851	2763	2680	2573
2	3447	3110	2831	2596	3310	3005	2751	2534	2809	2598	2416	2629	2455	2302	2462	2320	2194	2089
3	3129	2711	2389	2132	3001	2623	2326	2087	2456	2206	2000	2301	2092	1916	2157	1984	1835	1734
4	2857	2392	2051	1791	2739	2316	2001	1757	2173	1904	1690	2040	1811	1626	1916	1723	1563	1467
5	2623	2130	1786	1532	2516	2065	1745	1506	1942	1666	1453	1828	1589	1402	1721	1516	1352	1261
6	2419	1914	1575	1331	2322	1858	1540	1310	1751	1474	1267	1652	1410	1226	1559	1349	1185	1099
7	2241	1732	1402	1171	2152	1683	1373	1153	1591	1317	1118	1504	1263	1083	1423	1211	1049	968
8	2084	1578	1259	1041	2004	1535	1235	1026	1454	1187	996	1378	1141	967	1307	1096	938	862
9	1946	1446	1140	933	1873	1409	1119	921	1338	1078	895	1270	1038	871	1207	999	846	774
10	1824	1333	1039	843	1757	1300	1021	832	1237	985	811	1177	950	790	1121	916	768	701

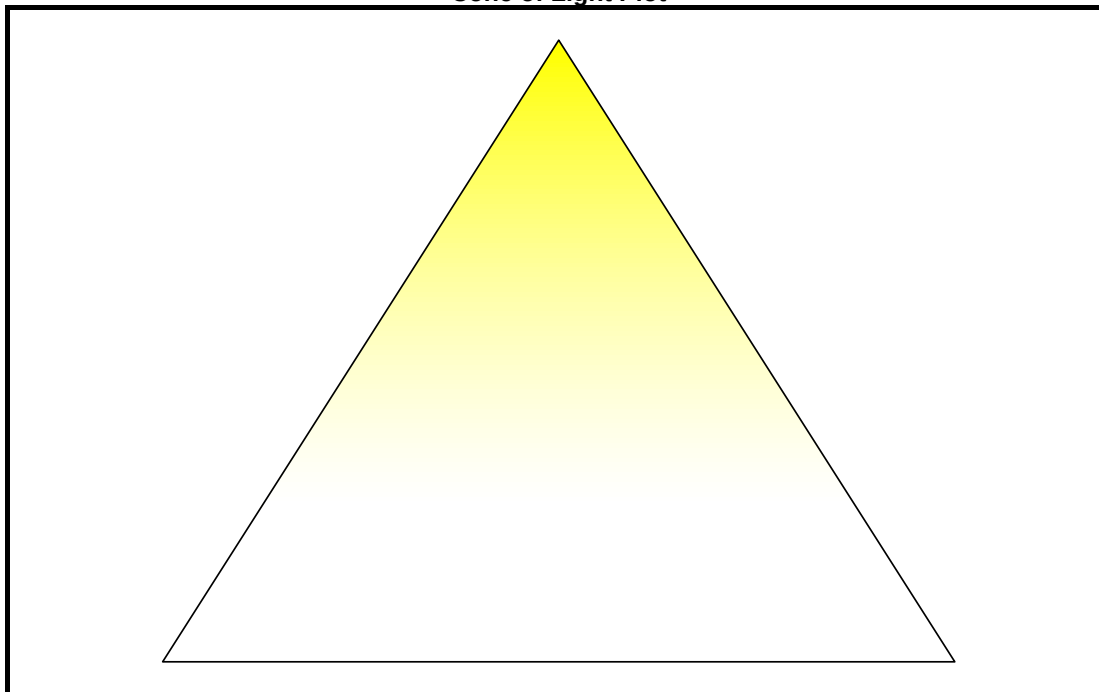
Cone of Light Tabulation

Mounting Height	Footcandles at Nadir	Diameter (Feet)
4.00	64.3	4.96
6.00	28.6	7.44
8.00	16.1	9.91
10.0	10.3	12.4
12.0	7.14	14.9
14.0	5.25	17.4
16.0	4.02	19.8

Beam and Field Information

CIE Type:	Semi-Direct
Center Beam Intensity:	1028 Candela
Central Cone Intensity:	1026 Candela
Beam Flux:	2274.4 Lumens
Beam Angle (0-180):	98.2 Degrees
Beam Angle (90-270):	138.1 Degrees
Field Angle (0-180):	157.7 Degrees
Field Angle (90-270):	240.9 Degrees

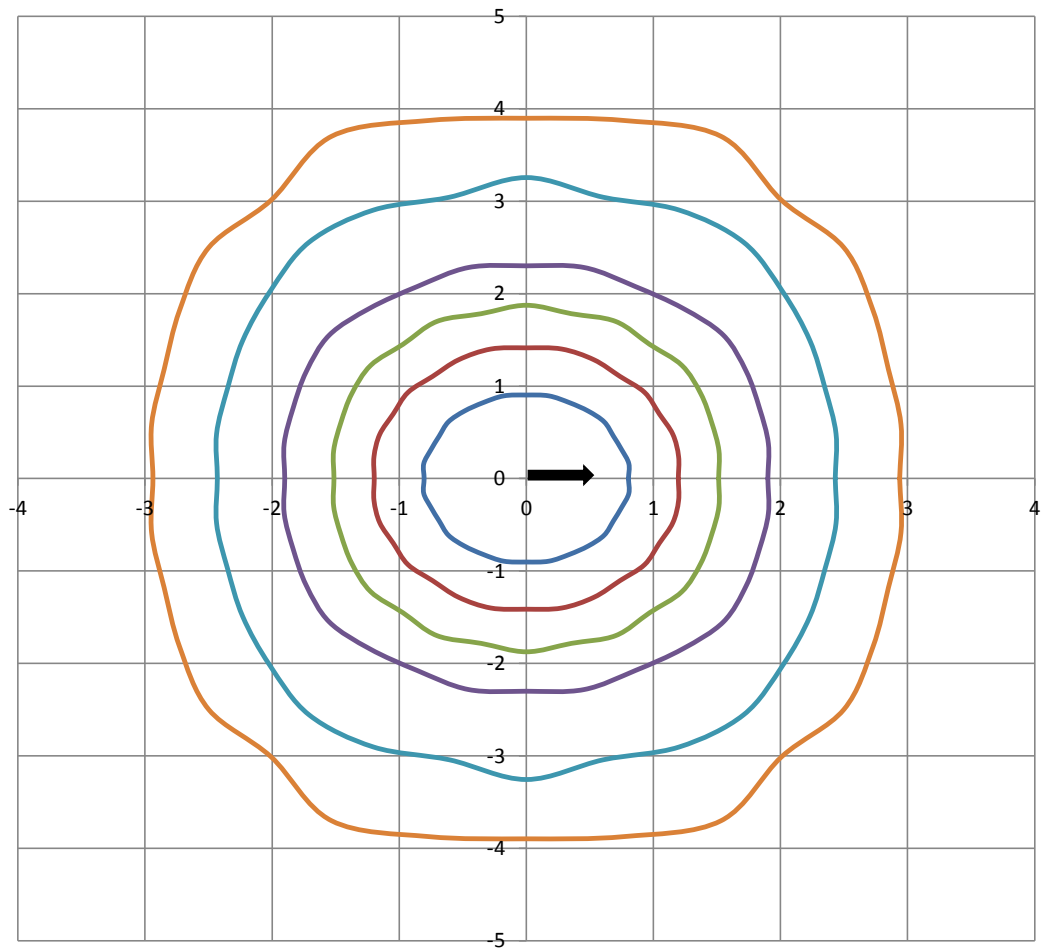
Cone of Light Plot





ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

5 fc 2 fc 1 fc 0.5 fc 0.2 fc 0.1 fc