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Indoor Distribution Test Report

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

Prepared For
Mercury Lighting

John Andrews
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Fairfield, NJ 07004-3416

Catalog Number
LW14-4-3800-35K-HTA-A40-UNI-SR-XXXX

Order Number
11205397
Test Number
1227931

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: 4.500 in.
Luminous Height: 2.00 in.

Summary of Results

Total Luminaire Output: 3710 Lumens
Luminaire Efficacy: 117 lm/w
Maximum Candela: 1090 Candela

Test Conditions

Test Temperature: 24.9 °C
Voltage: 120.0 VAC
Current: 0.2649 A
Power: 31.70 W
Power Factor: 0.997
Frequency: 60 Hz
Current THD: 6.11 %

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
24.9 °C	120.0 VAC	0.2649 A	31.70 W	0.997	60 Hz	6.11 %

Summary of Results

Spacing Criteria

0-180: 1.18

90-270: 1.18

Total Lumen Output:

3710 Lumens

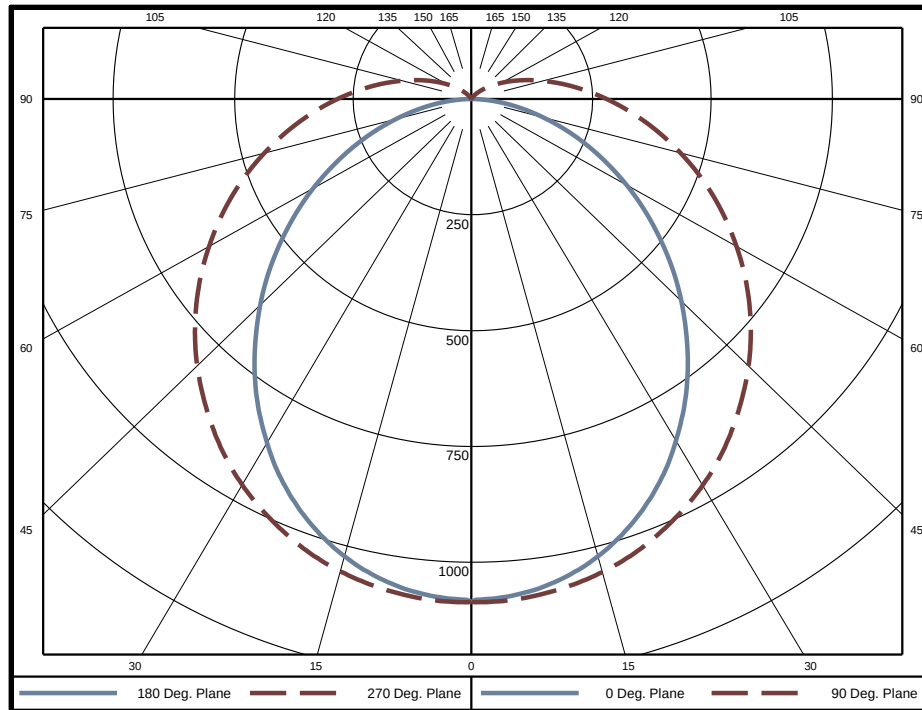
Luminaire Efficacy:

117.0 lm/w

Maximum Candela:

1090 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	25.9	0.7%	60-65	229.7	6.2%	120-125	11.5	0.3%
5-10	76.8	2.1%	65-70	205.2	5.5%	125-130	7.4	0.2%
10-15	125.0	3.4%	70-75	178.1	4.8%	130-135	4.4	0.1%
15-20	168.7	4.5%	75-80	150.0	4.0%	135-140	2.3	0.1%
20-25	206.4	5.6%	80-85	122.8	3.3%	140-145	1.0	0.0%
25-30	236.9	6.4%	85-90	97.4	2.6%	145-150	0.3	0.0%
30-35	259.3	7.0%	90-95	76.4	2.1%	150-155	0.0	0.0%
35-40	273.0	7.4%	95-100	59.6	1.6%	155-160	0	0.0%
40-45	278.3	7.5%	100-105	45.4	1.2%	160-165	0	0.0%
45-50	276.0	7.4%	105-110	33.8	0.9%	165-170	0	0.0%
50-55	266.5	7.2%	110-115	24.5	0.7%	170-175	0	0.0%
55-60	250.6	6.8%	115-120	17.1	0.5%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	1372	37.0%
0-60	2443	65.9%
0-90	3427	92.4%
90-180	284	7.6%



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	1086	1086	1086	1086	1086	1086	1086	1086	1086	1086	1086	1086	1086	1086	1086
	5	1074	1084	1078	1081	1084	1081	1078	1084	1074	1084	1078	1081	1084	1081	1078
	10	1055	1065	1064	1070	1073	1070	1064	1065	1055	1065	1064	1070	1073	1070	1064
	15	1023	1035	1039	1051	1057	1051	1039	1035	1023	1035	1039	1051	1057	1051	1039
	20	978	993	1004	1023	1032	1023	1004	993	978	993	1004	1023	1032	1023	1004
	25	922	940	960	987	999	987	960	940	922	940	960	987	999	987	960
	30	856	878	908	945	961	945	908	878	856	878	908	945	961	945	908
	35	784	808	849	897	917	897	849	808	784	808	849	897	917	897	849
	40	705	733	784	842	866	842	784	733	705	733	784	842	866	842	784
	45	624	654	716	784	813	784	716	654	624	654	716	784	813	784	716
	50	542	575	647	724	756	724	647	575	542	575	647	724	756	724	647
	55	460	496	576	662	696	662	576	496	460	496	576	662	696	662	576
	60	379	418	506	598	634	598	506	418	379	418	506	598	634	598	506
	65	301	344	439	535	573	535	439	344	301	344	439	535	573	535	439
	70	228	274	375	473	511	473	375	274	228	274	375	473	511	473	375
	75	159	209	314	411	449	411	314	209	159	209	314	411	449	411	314
	80	97	153	259	354	390	354	259	153	97	153	259	354	390	354	259
	85	42	106	210	299	333	299	210	106	42	106	210	299	333	299	210
	90	0	70	167	250	281	250	167	70	0	70	167	250	281	250	167
	95	0	43	130	205	233	205	130	43	0	43	130	205	233	205	130
	100	0	26	99	165	190	165	99	26	0	26	99	165	190	165	99
	105	0	15	74	131	152	131	74	15	0	15	74	131	152	131	74
	110	0	9	54	101	120	101	54	9	0	9	54	101	120	101	54
	115	0	5	38	76	92	76	38	5	0	5	38	76	92	76	38
	120	0	2	26	56	69	56	26	2	0	2	26	56	69	56	26
	125	0	0	17	40	50	40	17	0	0	0	17	40	50	40	17
	130	0	0	10	27	34	27	10	0	0	0	10	27	34	27	10
	135	0	0	5	17	22	17	5	0	0	0	5	17	22	17	5
	140	0	0	2	10	13	10	2	0	0	0	2	10	13	10	2
	145	0	0	0	4	7	4	0	0	0	0	0	4	7	4	0
	150	0	0	0	1	2	1	0	0	0	0	0	1	2	1	0
	155	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	160	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	165	0	0	0	0	0	0	0	0	0	0	0	0	0	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	8310	8310
	45	6753	8798
	55	6134	8707
	65	5456	8457
	75	4687	8403
	85	3693	8892



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	4349	4349	4349	4349	4215	4215	4215	4215	3965	3965	3965	3736	3736	3736	3525	3525	3525	3427
1	3894	3685	3498	3330	3760	3572	3402	3248	3359	3220	3093	3163	3051	2947	2983	2893	2810	2708
2	3516	3177	2897	2661	3388	3081	2825	2607	2901	2687	2502	2734	2557	2402	2580	2436	2307	2206
3	3193	2772	2447	2188	3073	2691	2391	2149	2537	2283	2074	2395	2181	2002	2263	2085	1932	1834
4	2916	2446	2103	1840	2806	2377	2058	1811	2246	1972	1755	2124	1890	1700	2011	1812	1647	1553
5	2678	2180	1832	1576	2577	2121	1796	1553	2008	1726	1510	1904	1659	1467	1806	1595	1425	1336
6	2470	1959	1616	1369	2379	1908	1586	1352	1811	1528	1317	1721	1472	1283	1636	1419	1249	1165
7	2288	1773	1439	1205	2205	1729	1414	1191	1645	1366	1162	1567	1319	1134	1493	1274	1107	1027
8	2129	1616	1293	1072	2054	1578	1272	1060	1505	1231	1036	1436	1191	1013	1371	1153	990	914
9	1988	1482	1171	962	1920	1448	1153	952	1384	1118	932	1323	1084	912	1267	1051	892	821
10	1863	1366	1068	870	1801	1336	1052	861	1280	1022	844	1226	992	827	1176	964	811	743

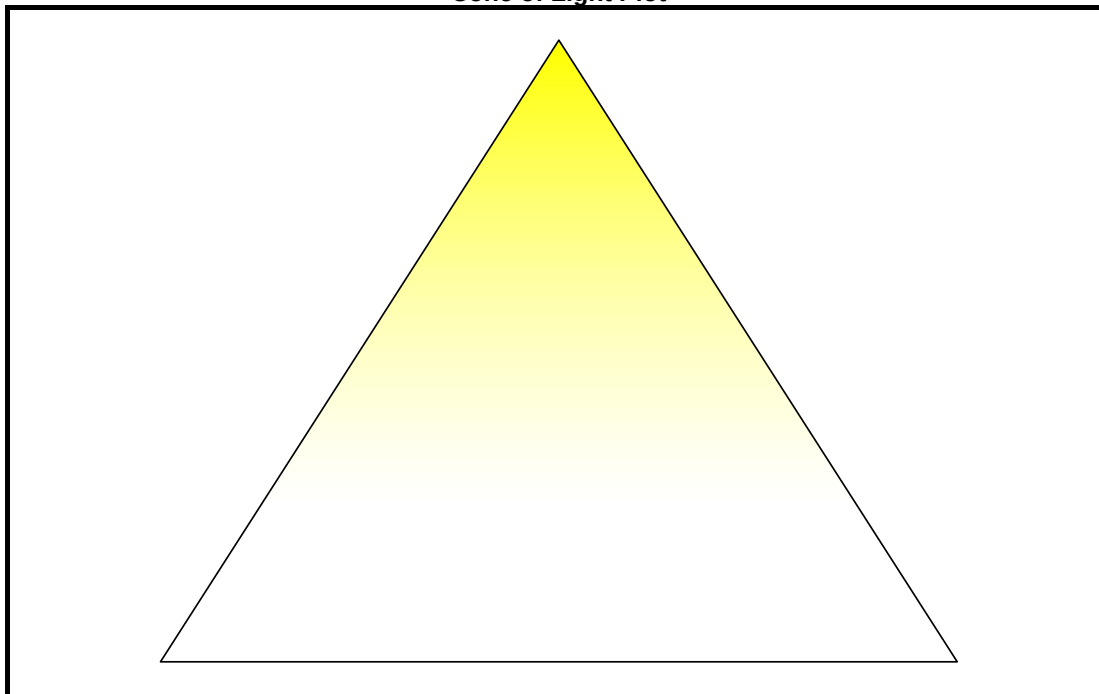
Cone of Light Tabulation

Mounting Height	Footcandles at Nadir	Diameter (Feet)
4.00	67.9	4.99
6.00	30.2	7.48
8.00	17.0	9.97
10.0	10.9	12.5
12.0	7.54	15.0
14.0	5.54	17.4
16.0	4.24	19.9

Beam and Field Information

CIE Type:	Direct
Center Beam Intensity:	1086 Candela
Central Cone Intensity:	1084 Candela
Beam Flux:	2386.6 Lumens
Beam Angle (0-180):	99.9 Degrees
Beam Angle (90-270):	134.8 Degrees
Field Angle (0-180):	158.0 Degrees
Field Angle (90-270):	223.8 Degrees

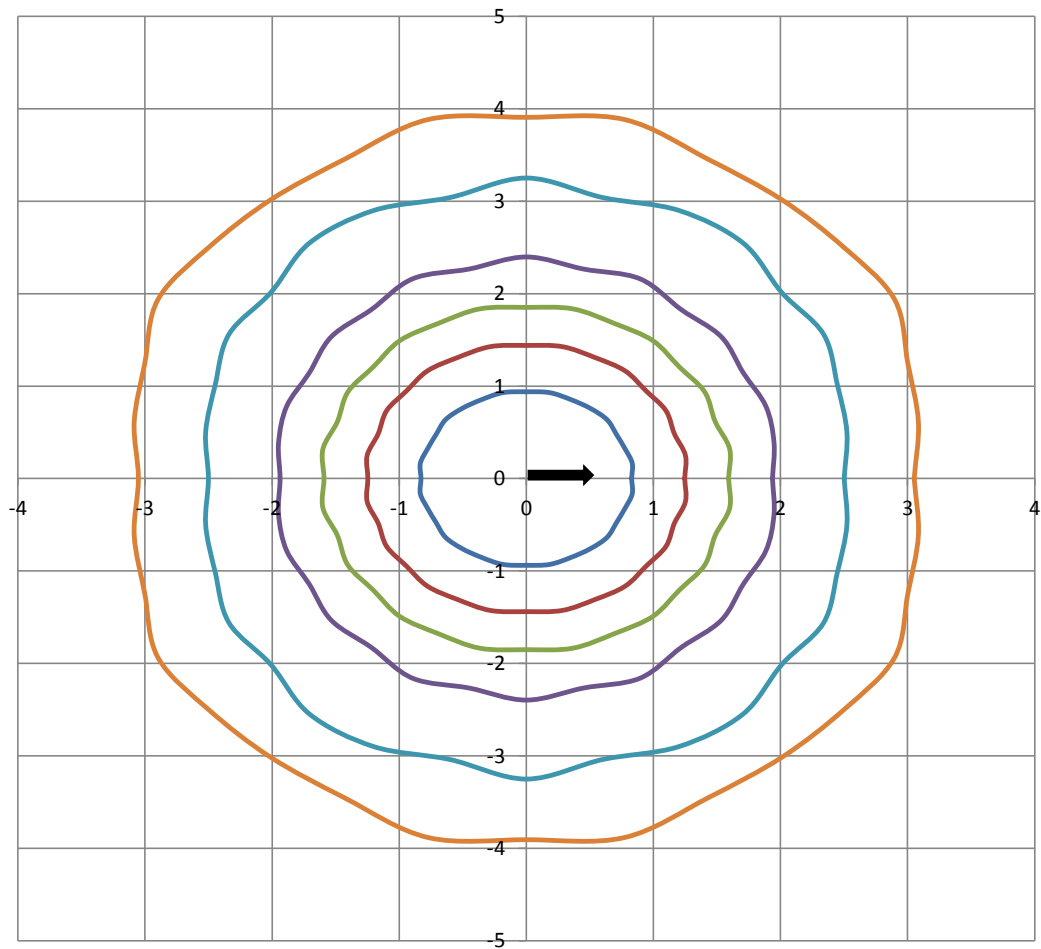
Cone of Light Plot





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