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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
LS1-4-4200-35K-A40-UNI-XXXX

Order Number
11205397
Test Number
1227936

Test Date

2016-03-31

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 housing, white steel reflector, no 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: 44.50 in.
Luminous Width: 2.000 in.

Summary of Results

Total Luminaire Output:	4185 Lumens
Luminaire Efficacy:	131.1 lm/w
Maximum Candela:	1391 Candela

Test Conditions

Test Temperature:	24.4 °C
Voltage:	120.0 VAC
Current:	0.2667 A
Power:	31.93 W
Power Factor:	0.997
Frequency:	60 Hz
Current THD:	5.85 %

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
24.4 °C	120.0 VAC	0.2667 A	31.93 W	0.997	60 Hz	5.85 %

Summary of Results

Spacing Criteria

0-180: 1.31

90-270: 1.31

Total Lumen Output:

4185 Lumens

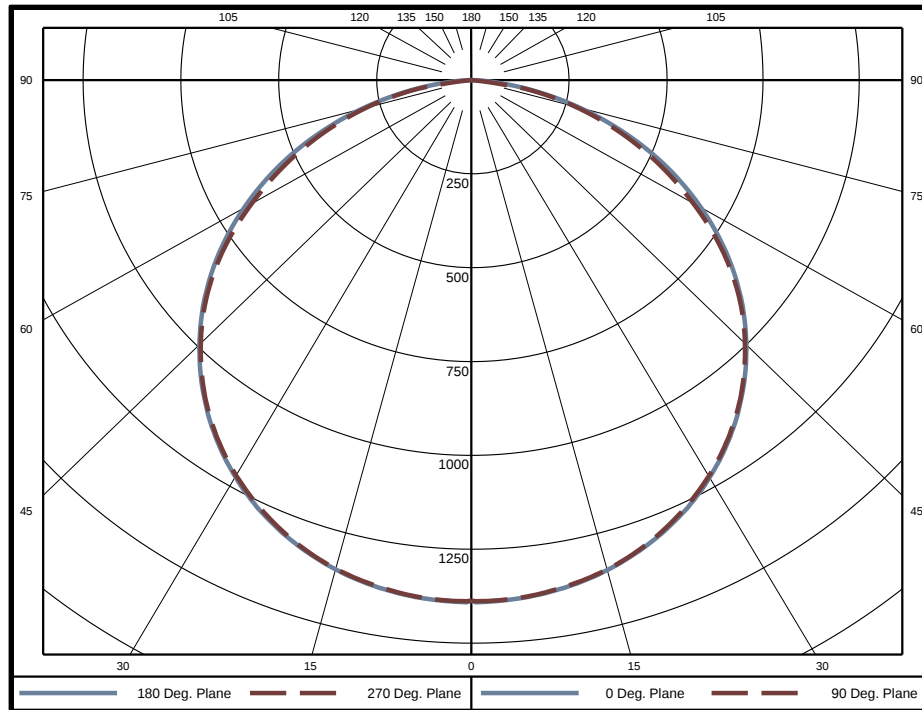
Luminaire Efficacy:

131.1 lm/w

Maximum Candela:

1391 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	33.1	0.8%	60-65	296.3	7.1%	120-125	0	0.0%
5-10	98.4	2.4%	65-70	243.7	5.8%	125-130	0	0.0%
10-15	161.1	3.8%	70-75	183.0	4.4%	130-135	0	0.0%
15-20	219.1	5.2%	75-80	117.9	2.8%	135-140	0	0.0%
20-25	270.8	6.5%	80-85	50.2	1.2%	140-145	0	0.0%
25-30	314.4	7.5%	85-90	5.2	0.1%	145-150	0	0.0%
30-35	348.6	8.3%	90-95	0	0.0%	150-155	0	0.0%
35-40	371.8	8.9%	95-100	0	0.0%	155-160	0	0.0%
40-45	383.2	9.2%	100-105	0	0.0%	160-165	0	0.0%
45-50	382.2	9.1%	105-110	0	0.0%	165-170	0	0.0%
50-55	367.6	8.8%	110-115	0	0.0%	170-175	0	0.0%
55-60	338.5	8.1%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	1817	43.4%
0-60	3289	78.6%
0-90	4185	100.0%
90-180	0	0.0%



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	1387	1387	1387	1387	1387	1387	1387	1387	1387	1387	1387	1387	1387	1387	1387
	5	1387	1382	1379	1383	1385	1383	1379	1382	1387	1382	1379	1383	1385	1383	1379
	10	1373	1368	1366	1370	1371	1370	1366	1368	1373	1368	1366	1370	1371	1370	1366
	15	1350	1346	1342	1347	1349	1347	1342	1346	1350	1346	1342	1347	1349	1347	1342
	20	1318	1313	1308	1313	1316	1313	1308	1313	1318	1313	1308	1313	1316	1313	1308
	25	1275	1269	1264	1269	1271	1269	1264	1269	1275	1269	1264	1269	1271	1269	1264
	30	1221	1216	1211	1215	1218	1215	1211	1216	1221	1216	1211	1215	1218	1215	1211
	35	1157	1152	1147	1151	1154	1151	1147	1152	1157	1152	1147	1151	1154	1151	1147
	40	1081	1078	1073	1077	1078	1077	1073	1078	1081	1078	1073	1077	1078	1077	1073
	45	996	995	990	991	991	991	990	995	996	995	990	991	991	991	990
	50	901	902	898	895	895	895	898	902	901	902	898	895	895	895	898
	55	795	798	792	786	782	786	792	798	795	798	792	786	782	786	792
	60	679	685	675	661	657	661	675	685	679	685	675	661	657	661	675
	65	556	564	544	535	531	535	544	564	556	564	544	535	531	535	544
	70	425	431	412	407	405	407	412	431	425	431	412	407	405	407	412
	75	291	292	282	280	279	280	282	292	291	292	282	280	279	280	282
	80	162	158	160	157	153	157	160	158	162	158	160	157	153	157	160
	85	55	55	31	8	5	8	31	55	55	55	31	8	5	8	31
	90	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	105	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	24150	24150
	45	24520	24380
	55	24150	24050
	65	22920	22400
	75	19590	18970
	85	10970	6148



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	4982	4982	4982	4982	4866	4866	4866	4866	4650	4650	4650	4452	4452	4452	4271	4271	4271	4185
1	4552	4352	4173	4011	4438	4257	4093	3946	4078	3944	3821	3915	3805	3703	3764	3676	3593	3505
2	4131	3782	3494	3251	4020	3703	3437	3212	3554	3330	3137	3416	3229	3065	3289	3134	2996	2905
3	3758	3311	2965	2689	3653	3244	2923	2664	3119	2843	2617	3003	2768	2570	2895	2696	2526	2433
4	3434	2925	2552	2267	3337	2869	2521	2251	2763	2460	2219	2665	2402	2189	2573	2346	2159	2067
5	3153	2607	2225	1944	3064	2560	2201	1933	2470	2154	1911	2387	2108	1890	2309	2065	1869	1778
6	2908	2342	1963	1690	2827	2302	1943	1682	2226	1905	1667	2154	1869	1651	2088	1835	1636	1549
7	2693	2120	1748	1487	2619	2085	1732	1482	2020	1702	1470	1959	1673	1459	1902	1644	1448	1364
8	2504	1931	1570	1323	2438	1902	1558	1318	1846	1533	1310	1793	1509	1301	1743	1486	1293	1212
9	2338	1770	1422	1187	2278	1744	1411	1184	1696	1391	1177	1650	1371	1170	1607	1352	1164	1086
10	2190	1631	1296	1073	2136	1609	1287	1071	1567	1270	1066	1527	1254	1061	1490	1238	1055	981

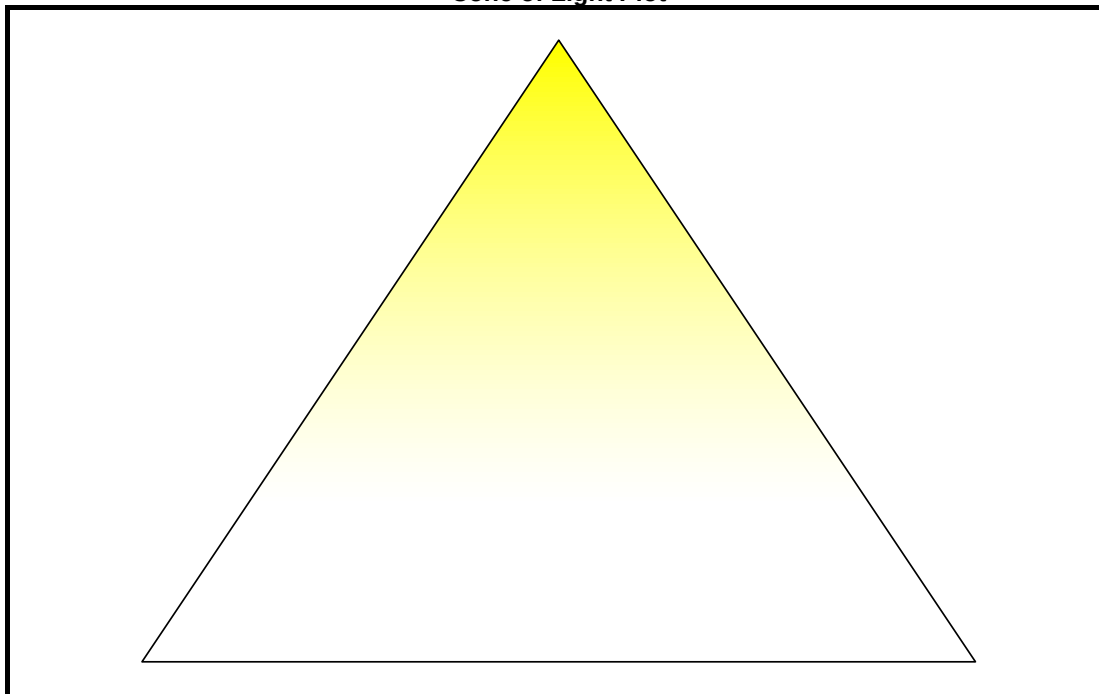
Cone of Light Tabulation

Mounting Height	Footcandles at Nadir	Diameter (Feet)
4.00	86.7	5.21
6.00	38.5	7.81
8.00	21.7	10.4
10.0	13.9	13.0
12.0	9.63	15.6
14.0	7.08	18.2
16.0	5.42	20.8

Beam and Field Information

CIE Type:	Direct
Center Beam Intensity:	1387 Candela
Central Cone Intensity:	1385 Candela
Beam Flux:	3234.0 Lumens
Beam Angle (0-180):	118.8 Degrees
Beam Angle (90-270):	117.1 Degrees
Field Angle (0-180):	161.9 Degrees
Field Angle (90-270):	161.1 Degrees

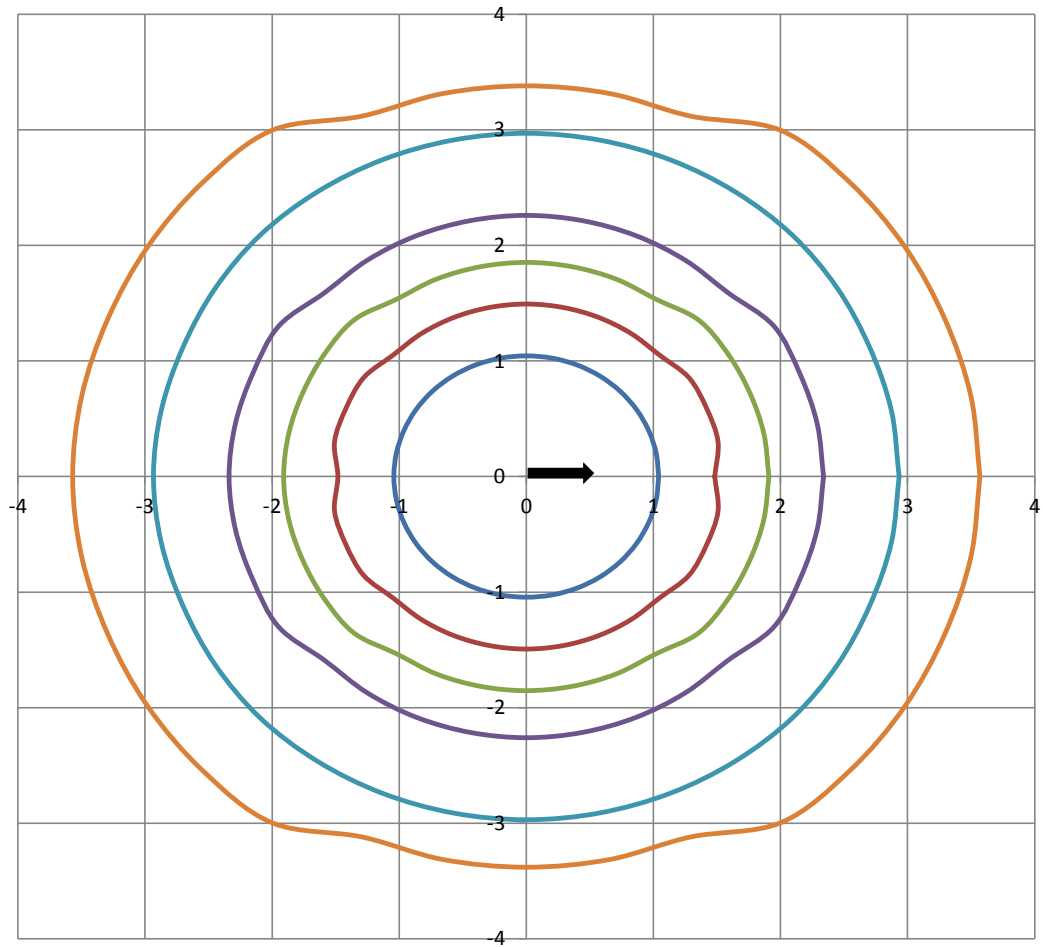
Cone of Light Plot





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