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## Indoor Distribution Test Report

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

Prepared For  
**Mercury Lighting**

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Fairfield, NJ 07004-3416  
United States

Catalog Number  
**LR402-22G-3900-35K-1%-UNI**

Order Number  
11170243  
Test Number  
1215243

Test Date

2016-02-25

Prepared By

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Approved By

Kyle Spaziani, Project Handler

The results contained in this report pertain only to the tested sample.  
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**Luminaire Description:** White steel housing / reflector, frosted plastic lens enclosure  
**Lamp:** 44 white LEDs  
**Mounting:** Recessed  
**Ballast/Driver:** One Philips Advance Xitanium XI036C100V054DSM1

### Luminaire



### Luminaire Characteristics

Luminous Length: 23.00 in.  
Luminous Width: 23.00 in.

### Summary of Results

Total Luminaire Output: 3638 Lumens  
Luminaire Efficacy: 100.7 lm/w  
Maximum Candela: 1321 Candela

### Electrical Data

Test Temperature: 25.2 °C  
Voltage: 120.0 VAC  
Current: 0.3019 A  
Power: 36.13 W  
Power Factor: 0.997  
Frequency: 60 Hz  
Current THD: 5.49 %

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
25.2 °C	120.0 VAC	0.3019 A	36.13 W	0.997	60 Hz	5.49 %

### Summary of Results

#### Spacing Criteria

0-180: 1.17  
90-270: 1.17

#### Total Lumen Output:

3638 Lumens

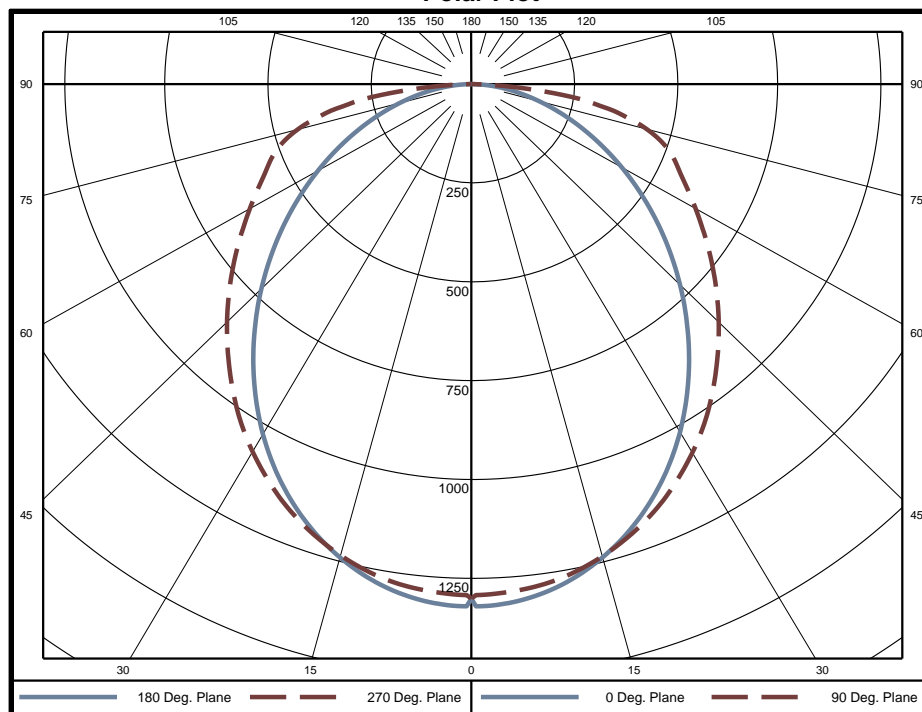
#### Luminaire Efficacy:

100.7 lm/w

#### Maximum Candela:

1321 Candela

### Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	31.0	0.9%	60-65	238.2	6.5%	120-125	0	0.0%
5-10	91.8	2.5%	65-70	211.5	5.8%	125-130	0	0.0%
10-15	148.6	4.1%	70-75	183.0	5.0%	130-135	0	0.0%
15-20	199.1	5.5%	75-80	145.4	4.0%	135-140	0	0.0%
20-25	241.4	6.6%	80-85	91.9	2.5%	140-145	0	0.0%
25-30	273.9	7.5%	85-90	23.9	0.7%	145-150	0	0.0%
30-35	295.9	8.1%	90-95	0	0.0%	150-155	0	0.0%
35-40	306.9	8.4%	95-100	0	0.0%	155-160	0	0.0%
40-45	307.9	8.5%	100-105	0	0.0%	160-165	0	0.0%
45-50	300.0	8.2%	105-110	0	0.0%	165-170	0	0.0%
50-55	284.6	7.8%	110-115	0	0.0%	170-175	0	0.0%
55-60	263.3	7.2%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	1589	43.7%
0-60	2744	75.4%
0-90	3638	100.0%
90-180	0	0.0%



**Candela Tabulation**  
Horizontal Angle (Degrees)

Vertical Angle (Degrees)	Horizontal 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	1301	1301	1301	1301	1301	1301	1301	1301	1301	1301	1301	1301	1301	1301	1301	1301
5	1312	1295	1292	1290	1286	1290	1292	1295	1312	1295	1292	1290	1286	1290	1292	1295
10	1285	1270	1269	1271	1268	1271	1269	1270	1285	1270	1269	1271	1268	1271	1269	1270
15	1240	1227	1231	1237	1236	1237	1231	1227	1240	1227	1231	1237	1236	1237	1231	1227
20	1180	1170	1180	1192	1194	1192	1180	1170	1180	1170	1180	1192	1194	1192	1180	1170
25	1107	1101	1118	1135	1141	1135	1118	1101	1107	1101	1118	1135	1141	1135	1118	1101
30	1022	1019	1044	1070	1078	1070	1044	1019	1022	1019	1044	1070	1078	1070	1044	1019
35	927	930	963	996	1008	996	963	930	927	930	963	996	1008	996	963	930
40	827	835	876	917	931	917	876	835	827	835	876	917	931	917	876	835
45	726	738	786	836	854	836	786	738	726	738	786	836	854	836	786	738
50	625	640	698	756	777	756	698	640	625	640	698	756	777	756	698	640
55	526	545	611	678	703	678	611	545	526	545	611	678	703	678	611	545
60	430	454	528	604	633	604	528	454	430	454	528	604	633	604	528	454
65	340	367	452	536	571	536	452	367	340	367	452	536	571	536	452	367
70	255	289	383	478	520	478	383	289	255	289	383	478	520	478	383	289
75	178	218	319	408	445	408	319	218	178	218	319	408	445	408	319	218
80	110	150	237	300	321	300	237	150	110	150	237	300	321	300	237	150
85	50	75	118	135	139	135	118	75	50	75	118	135	139	135	118	75
90	1	1	2	1	1	1	2	1	1	1	2	1	1	1	2	1
95	0	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	0
105	0	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	0
115	0	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	0
125	0	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	0
135	0	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	0
145	0	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	0
155	0	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	0
165	0	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	0
175	0	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	0

**Average Luminance (cd/m<sup>2</sup>)**  
Horizontal Angle (Degrees)

Vertical Angle (Degrees)	Horizontal Angle (Degrees)		
	0	45	90
0	3813	3813	3813
45	3007	3258	3540
55	2686	3120	3589
65	2354	3131	3956
75	2016	3606	5040
85	1670	3971	4685



### 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	4331	4331	4331	4331	4231	4231	4231	4231	4043	4043	4043	3871	3871	3871	3713	3713	3713	3638
1	3925	3738	3570	3418	3824	3654	3501	3362	3498	3371	3255	3354	3251	3155	3222	3138	3060	2982
2	3557	3240	2979	2759	3459	3171	2930	2725	3040	2836	2661	2919	2749	2599	2807	2666	2540	2459
3	3237	2838	2529	2283	3145	2780	2493	2262	2670	2424	2221	2568	2358	2181	2473	2296	2143	2061
4	2962	2513	2183	1931	2877	2463	2156	1918	2371	2103	1890	2285	2052	1864	2205	2004	1838	1757
5	2725	2245	1910	1663	2647	2204	1889	1654	2126	1848	1635	2053	1808	1616	1985	1771	1598	1519
6	2518	2023	1691	1453	2447	1988	1674	1446	1922	1642	1433	1860	1610	1420	1801	1580	1407	1330
7	2336	1836	1512	1285	2272	1806	1498	1280	1749	1472	1270	1696	1447	1260	1646	1422	1251	1177
8	2176	1677	1363	1148	2118	1652	1352	1144	1603	1331	1137	1557	1310	1129	1514	1290	1122	1052
9	2034	1541	1239	1035	1982	1519	1230	1032	1477	1212	1026	1437	1194	1020	1400	1178	1015	947
10	1909	1423	1133	940	1862	1404	1125	937	1368	1110	933	1333	1096	928	1301	1082	924	860

### Cone of Light Tabulation

Mounting Height	Footcandles at Nadir	Diameter (Feet)
4.00	81.3	4.79
6.00	36.1	7.19
8.00	20.3	9.59
10.0	13.0	12.0
12.0	9.04	14.4
14.0	6.64	16.8
16.0	5.08	19.2

### Cone of Light Plot

