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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  
**LR302-22G-2400-35K-1%-UNI**

Order Number  
11170243  
Test Number  
1215242

Test Date

2016-02-24

Prepared By

Derek Smarr, Technician

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:** 48 white LEDs  
**Mounting:** Recessed  
**Ballast/Driver:** One Philips Advance Xitanium XI025C070V054DSM1

### Luminaire



### Luminaire Characteristics

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

### Summary of Results

Total Luminaire Output:	2349 Lumens
Luminaire Efficacy:	108.6 lm/w
Maximum Candela:	851 Candela

### Electrical Data

Test Temperature:	25.0 °C
Voltage:	120.0 VAC
Current:	0.1809 A
Power:	21.62 W
Power Factor:	0.996
Frequency:	60 Hz
Current THD:	8.19 %

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
25.0 °C	120.0 VAC	0.1809 A	21.62 W	0.996	60 Hz	8.19 %

### Summary of Results

#### Spacing Criteria

0-180: 1.18  
90-270: 1.18

#### Total Lumen Output:

2349 Lumens

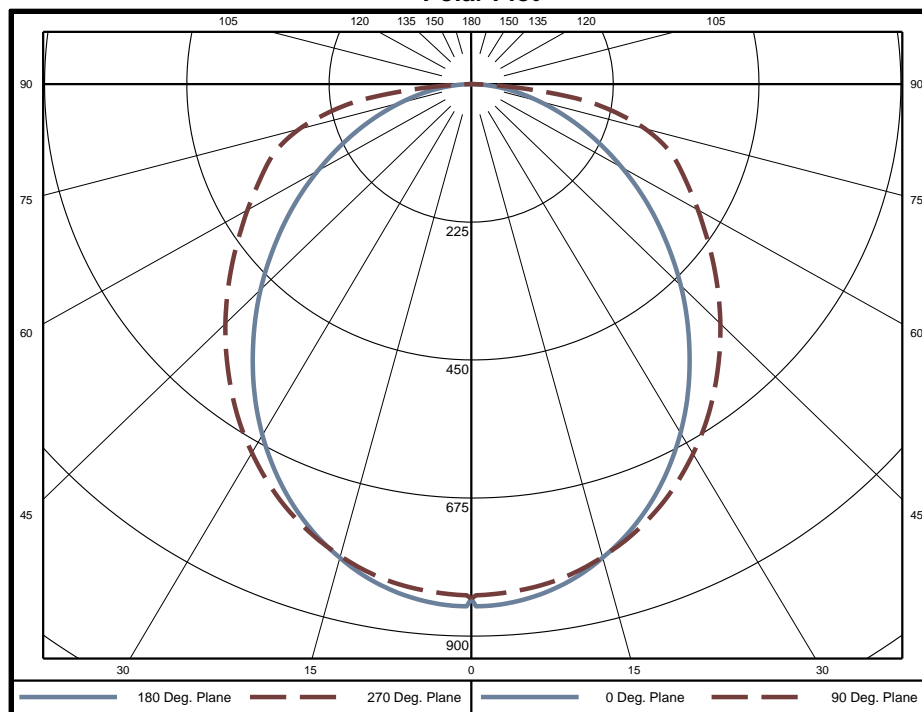
#### Luminaire Efficacy:

108.6 lm/w

#### Maximum Candela:

851 Candela

### Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	20.0	0.9%	60-65	154.3	6.6%	120-125	0	0.0%
5-10	59.2	2.5%	65-70	137.1	5.8%	125-130	0	0.0%
10-15	95.9	4.1%	70-75	117.9	5.0%	130-135	0	0.0%
15-20	128.5	5.5%	75-80	92.9	4.0%	135-140	0	0.0%
20-25	155.9	6.6%	80-85	58.1	2.5%	140-145	0	0.0%
25-30	177.1	7.5%	85-90	14.0	0.6%	145-150	0	0.0%
30-35	191.4	8.1%	90-95	0	0.0%	150-155	0	0.0%
35-40	198.6	8.5%	95-100	0	0.0%	155-160	0	0.0%
40-45	199.3	8.5%	100-105	0	0.0%	160-165	0	0.0%
45-50	194.2	8.3%	105-110	0	0.0%	165-170	0	0.0%
50-55	184.2	7.8%	110-115	0	0.0%	170-175	0	0.0%
55-60	170.5	7.3%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	1027	43.7%
0-60	1775	75.6%
0-90	2349	100.0%
90-180	0	0.0%



**Candela Tabulation**  
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	839.0	839.0	839.0	839.0	839.0	839.0	839.0	839.0	839.0	839.0	839.0	839.0	839.0	839.0	839.0	839.0
5	846.1	835.3	832.7	831.7	829.2	831.7	832.7	835.3	846.1	835.3	832.7	831.7	829.2	831.7	832.7	835.3
10	829.0	818.7	818.5	819.7	818.2	819.7	818.5	818.7	829.0	818.7	818.5	819.7	818.2	819.7	818.5	818.7
15	799.8	791.5	793.9	798.0	797.9	798.0	793.9	791.5	799.8	791.5	793.9	798.0	797.9	798.0	793.9	791.5
20	762.1	755.7	762.0	769.8	771.2	769.8	762.0	755.7	762.1	755.7	762.0	769.8	771.2	769.8	762.0	755.7
25	715.0	711.3	722.1	734.0	737.3	734.0	722.1	711.3	715.0	711.3	722.1	734.0	737.3	734.0	722.1	711.3
30	660.0	659.2	675.3	691.9	696.7	691.9	675.3	659.2	660.0	659.2	675.3	691.9	696.7	691.9	675.3	659.2
35	599.2	601.4	623.0	644.5	652.3	644.5	623.0	601.4	599.2	601.4	623.0	644.5	652.3	644.5	623.0	601.4
40	534.7	540.0	566.7	593.8	603.4	593.8	566.7	540.0	534.7	540.0	566.7	593.8	603.4	593.8	566.7	540.0
45	469.6	476.9	509.0	541.6	553.8	541.6	509.0	476.9	469.6	476.9	509.0	541.6	553.8	541.6	509.0	476.9
50	403.6	414.0	451.1	489.8	504.0	489.8	451.1	414.0	403.6	414.0	451.1	489.8	504.0	489.8	451.1	414.0
55	340.2	351.8	394.9	439.4	455.9	439.4	394.9	351.8	340.2	351.8	394.9	439.4	455.9	439.4	394.9	351.8
60	277.5	292.8	341.6	391.8	411.8	391.8	341.6	292.8	277.5	292.8	341.6	391.8	411.8	391.8	341.6	292.8
65	218.7	236.9	291.9	348.9	372.0	348.9	291.9	236.9	218.7	236.9	291.9	348.9	372.0	348.9	291.9	236.9
70	164.2	186.7	248.5	310.1	335.8	310.1	248.5	186.7	164.2	186.7	248.5	310.1	335.8	310.1	248.5	186.7
75	114.0	140.4	205.6	260.7	283.8	260.7	205.6	140.4	114.0	140.4	205.6	260.7	283.8	260.7	205.6	140.4
80	70.2	96.9	151.5	189.2	207.3	189.2	151.5	96.9	70.2	96.9	151.5	189.2	207.3	189.2	151.5	96.9
85	31.4	48.0	73.0	80.7	83.5	80.7	73.0	48.0	31.4	48.0	73.0	80.7	83.5	80.7	73.0	48.0
90	0.3	0.6	0.9	0.7	0.5	0.7	0.9	0.6	0.3	0.6	0.9	0.7	0.5	0.7	0.9	0.6
95	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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)

	0	45	90
0	2458	2458	2458
45	1946	2109	2295
55	1738	2018	2329
65	1516	2024	2579
75	1291	2327	3212
85	1057	2455	2806



### 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	2797	2797	2797	2797	2732	2732	2732	2732	2610	2610	2610	2499	2499	2499	2397	2397	2397	2349
1	2535	2415	2307	2209	2470	2361	2262	2173	2260	2179	2104	2167	2101	2039	2082	2028	1978	1927
2	2298	2094	1925	1783	2234	2049	1893	1762	1964	1833	1720	1886	1777	1680	1814	1723	1642	1590
3	2091	1834	1635	1476	2031	1796	1611	1462	1725	1566	1436	1659	1524	1410	1598	1484	1386	1333
4	1914	1623	1411	1249	1858	1592	1393	1240	1532	1359	1222	1476	1326	1205	1425	1295	1188	1136
5	1760	1451	1235	1075	1710	1424	1221	1069	1373	1194	1057	1326	1169	1045	1283	1144	1033	982
6	1626	1307	1093	939	1580	1284	1082	935	1241	1061	926	1201	1040	918	1164	1021	909	860
7	1509	1186	977	830	1467	1167	968	827	1130	951	821	1096	935	814	1064	919	808	761
8	1405	1083	881	742	1368	1067	874	739	1035	860	735	1006	846	730	978	833	725	680
9	1314	995	800	668	1280	981	794	667	954	783	663	928	772	659	904	761	656	612
10	1233	919	732	607	1202	907	727	605	883	717	603	861	708	600	840	699	597	555

### Cone of Light Tabulation

Mounting Height	Footcandles at Nadir	Diameter (Feet)
4.00	52.4	4.81
6.00	23.3	7.21
8.00	13.1	9.61
10.0	8.39	12.0
12.0	5.83	14.4
14.0	4.28	16.8
16.0	3.28	19.2

### Cone of Light Plot

