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Allentown, PA 18106  
610-774-1300



## Indoor Distribution Test Report

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

Prepared For  
**Mercury Lighting**  
20 Audrey Pl  
Fairfield, NJ 07004-3416  
United States

Catalog Number  
**MLD3-N5/F-48-965-35K-A15-A401-U**  
Order Number  
12182822  
Test Number  
12182822.19

Test Date

2018-04-17

Revised 2018-04-20

Prepared By

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Approved By

Alexa Lambert, Project Handler

The results contained in this report pertain only to the tested sample.  
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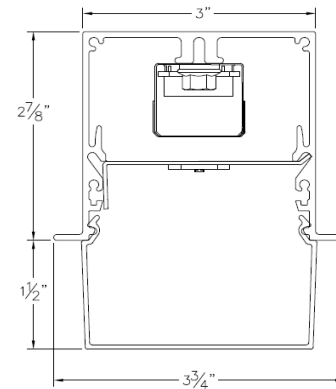


**Luminaire Description:** Extruded aluminum housing, frosted lens enclosure  
**Lamp:** 96 white LEDs  
**Mounting:** Recessed  
**Ballast/Driver:** Philips XI040C110V054BST1

**Luminaire Photo**



**Luminaire Cross-Section**



**Luminaire Characteristics**

Luminous Length: 48.00 in.  
Luminous Width: 3.750 in.  
Luminous Height: 1.50 in.

**Summary of Results**

Total Luminaire Output: 3871 Lumens  
Luminaire Efficacy: 106.3 lm/w  
Maximum Candela: 849 Candela

**Test Conditions**

Test Temperature: 25.8 °C  
Voltage: 120.1 VAC  
Current: 0.3044 A  
Power: 36.42 W  
Power Factor: 0.996  
Frequency: 60 Hz  
Current THD: 6.89 %

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
25.8 °C	120.1 VAC	0.3044 A	36.42 W	0.996	60 Hz	6.89 %

### Summary of Results

#### Spacing Criteria

0-180: 1.25

90-270: 1.45

Total Lumen Output:

3871 Lumens

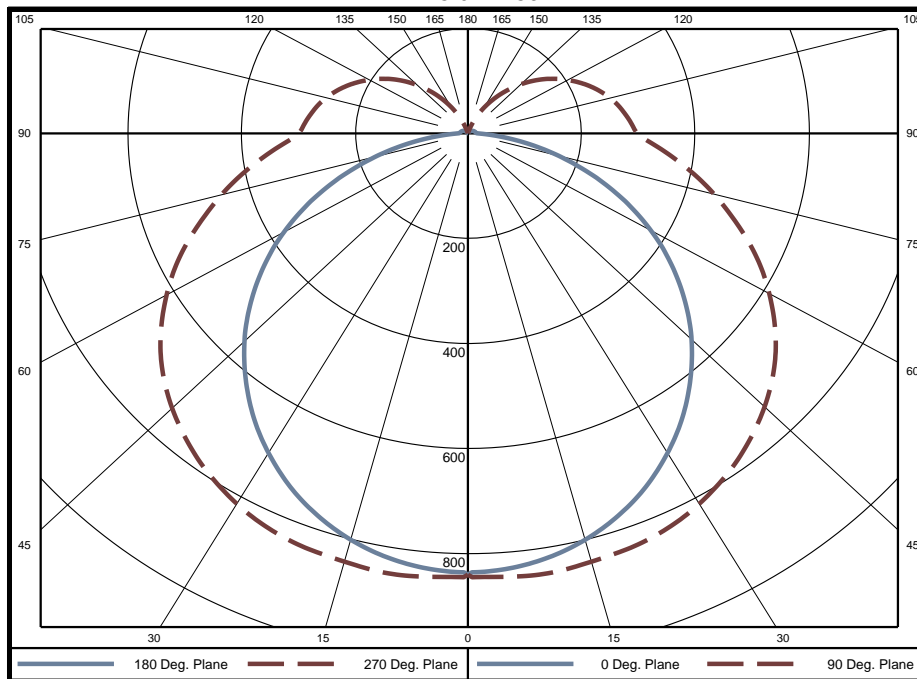
Luminaire Efficacy:

106.3 lm/w

Maximum Candela:

849 Candela

### Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	20.1	0.5%	60-65	236.1	6.1%	120-125	50.1	1.3%
5-10	59.9	1.5%	65-70	215.9	5.6%	125-130	40.2	1.0%
10-15	98.5	2.5%	70-75	190.9	4.9%	130-135	30.5	0.8%
15-20	134.6	3.5%	75-80	164.0	4.2%	135-140	21.7	0.6%
20-25	167.7	4.3%	80-85	136.4	3.5%	140-145	14.3	0.4%
25-30	196.7	5.1%	85-90	111.8	2.9%	145-150	8.5	0.2%
30-35	220.7	5.7%	90-95	99.8	2.6%	150-155	4.1	0.1%
35-40	239.1	6.2%	95-100	94.0	2.4%	155-160	1.3	0.0%
40-45	251.7	6.5%	100-105	87.2	2.3%	160-165	0.1	0.0%
45-50	258.1	6.7%	105-110	79.1	2.0%	165-170	0	0.0%
50-55	257.6	6.7%	110-115	69.8	1.8%	170-175	0	0.0%
55-60	250.3	6.5%	115-120	60.1	1.6%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	1137	29.4%
0-60	2155	55.7%
0-90	3210	82.9%
90-180	661	17.1%



### 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	840.0	840.0	840.0	840.0	840.0	840.0	840.0	840.0	840.0	840.0	840.0	840.0	840.0	840.0	840.0	840.0
5	831.6	837.7	839.4	841.8	847.1	841.8	839.4	837.7	831.6	837.7	839.4	841.8	847.1	841.8	839.4	837.7
10	819.8	829.2	835.5	841.6	849.0	841.6	835.5	829.2	819.8	829.2	835.5	841.6	849.0	841.6	835.5	829.2
15	800.8	814.5	825.4	835.0	843.7	835.0	825.4	814.5	800.8	814.5	825.4	835.0	843.7	835.0	825.4	814.5
20	774.8	792.9	810.3	827.0	839.1	827.0	810.3	792.9	774.8	792.9	810.3	827.0	839.1	827.0	810.3	792.9
25	742.6	764.6	791.8	816.2	829.8	816.2	791.8	764.6	742.6	764.6	791.8	816.2	829.8	816.2	791.8	764.6
30	703.5	730.7	769.6	798.7	814.3	798.7	769.6	730.7	703.5	730.7	769.6	798.7	814.3	798.7	769.6	730.7
35	659.8	691.6	741.8	776.2	793.5	776.2	741.8	691.6	659.8	691.6	741.8	776.2	793.5	776.2	741.8	691.6
40	610.5	649.6	709.5	748.6	767.8	748.6	709.5	649.6	610.5	649.6	709.5	748.6	767.8	748.6	709.5	649.6
45	557.8	604.3	672.3	716.7	737.8	716.7	672.3	604.3	557.8	604.3	672.3	716.7	737.8	716.7	672.3	604.3
50	500.2	555.5	630.0	680.0	702.8	680.0	630.0	555.5	500.2	555.5	630.0	680.0	702.8	680.0	630.0	555.5
55	439.1	501.6	583.0	637.1	660.7	637.1	583.0	501.6	439.1	501.6	583.0	637.1	660.7	637.1	583.0	501.6
60	374.0	445.3	530.5	588.7	612.9	588.7	530.5	445.3	374.0	445.3	530.5	588.7	612.9	588.7	530.5	445.3
65	306.1	383.1	473.8	536.7	561.4	536.7	473.8	383.1	306.1	383.1	473.8	536.7	561.4	536.7	473.8	383.1
70	234.7	319.2	414.0	480.0	504.4	480.0	414.0	319.2	234.7	319.2	414.0	480.0	504.4	480.0	414.0	319.2
75	165.6	255.0	355.1	424.6	449.0	424.6	355.1	255.0	165.6	255.0	355.1	424.6	449.0	424.6	355.1	255.0
80	99.7	195.4	299.7	370.1	394.0	370.1	299.7	195.4	99.7	195.4	299.7	370.1	394.0	370.1	299.7	195.4
85	44.7	143.9	247.8	317.6	340.9	317.6	247.8	143.9	44.7	143.9	247.8	317.6	340.9	317.6	247.8	143.9
90	15.6	109.3	209.6	276.1	298.4	276.1	209.6	109.3	15.6	109.3	209.6	276.1	298.4	276.1	209.6	109.3
95	14.1	99.7	198.0	263.4	285.4	263.4	198.0	99.7	14.1	99.7	198.0	263.4	285.4	263.4	198.0	99.7
100	13.1	90.8	187.8	251.4	273.3	251.4	187.8	90.8	13.1	90.8	187.8	251.4	273.3	251.4	187.8	90.8
105	12.3	80.8	175.7	237.4	259.3	237.4	175.7	80.8	12.3	80.8	175.7	237.4	259.3	237.4	175.7	80.8
110	11.4	70.0	161.1	221.0	242.6	221.0	161.1	70.0	11.4	70.0	161.1	221.0	242.6	221.0	161.1	70.0
115	10.3	58.9	145.1	202.1	223.7	202.1	145.1	58.9	10.3	58.9	145.1	202.1	223.7	202.1	145.1	58.9
120	9.0	46.8	128.0	182.5	203.0	182.5	128.0	46.8	9.0	46.8	128.0	182.5	203.0	182.5	128.0	46.8
125	7.6	36.0	110.0	161.3	180.9	161.3	110.0	36.0	7.6	36.0	110.0	161.3	180.9	161.3	110.0	36.0
130	6.4	24.3	91.1	138.5	157.3	138.5	91.1	24.3	6.4	24.3	91.1	138.5	157.3	138.5	91.1	24.3
135	5.2	14.1	69.2	114.9	132.0	114.9	69.2	14.1	5.2	14.1	69.2	114.9	132.0	114.9	69.2	14.1
140	4.0	5.8	49.2	91.3	106.1	91.3	49.2	5.8	4.0	5.8	49.2	91.3	106.1	91.3	49.2	5.8
145	2.8	2.2	31.3	67.6	80.6	67.6	31.3	2.2	2.8	2.2	31.3	67.6	80.6	67.6	31.3	2.2
150	1.7	1.1	16.0	43.1	55.7	43.1	16.0	1.1	1.7	1.1	16.0	43.1	55.7	43.1	16.0	1.1
155	0.7	0.2	3.7	21.2	32.0	21.2	3.7	0.2	0.7	0.2	3.7	21.2	32.0	21.2	3.7	0.2
160	0.0	0.0	0.0	4.6	10.0	4.6	0.0	0.0	0.0	0.0	0.0	4.6	10.0	4.6	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)

Vertical Angle (Degrees)	Horizontal Angle (Degrees)		
	0	45	90
0	7233	7233	7233
45	6587	6274	6418
55	6311	6097	6313
65	5845	5837	6157
75	4935	5525	5993
85	3252	5459	6045



### 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	4451	4451	4451	4451	4271	4271	4271	4271	3934	3934	3934	3626	3626	3626	3343	3343	3343	3210
1	3958	3734	3532	3351	3780	3579	3398	3233	3290	3144	3010	3025	2908	2800	2780	2688	2603	2472
2	3558	3196	2897	2645	3389	3065	2793	2562	2817	2594	2402	2589	2408	2248	2378	2232	2102	1977
3	3219	2772	2427	2152	3062	2660	2344	2089	2447	2184	1967	2250	2033	1850	2068	1889	1737	1619
4	2930	2434	2070	1792	2786	2337	2002	1743	2153	1871	1647	1983	1746	1554	1825	1627	1464	1353
5	2683	2158	1791	1520	2551	2074	1735	1481	1916	1626	1404	1768	1522	1329	1631	1422	1255	1151
6	2469	1931	1569	1310	2349	1858	1522	1278	1720	1430	1214	1591	1342	1152	1471	1258	1091	994
7	2282	1741	1390	1144	2173	1677	1350	1117	1557	1271	1064	1444	1196	1011	1337	1123	959	869
8	2118	1580	1242	1010	2019	1525	1208	987	1419	1140	941	1319	1075	897	1225	1012	853	768
9	1975	1444	1119	900	1884	1395	1089	880	1301	1031	841	1212	974	803	1129	919	764	686
10	1847	1327	1016	808	1765	1283	989	791	1199	938	757	1120	888	724	1046	840	691	617

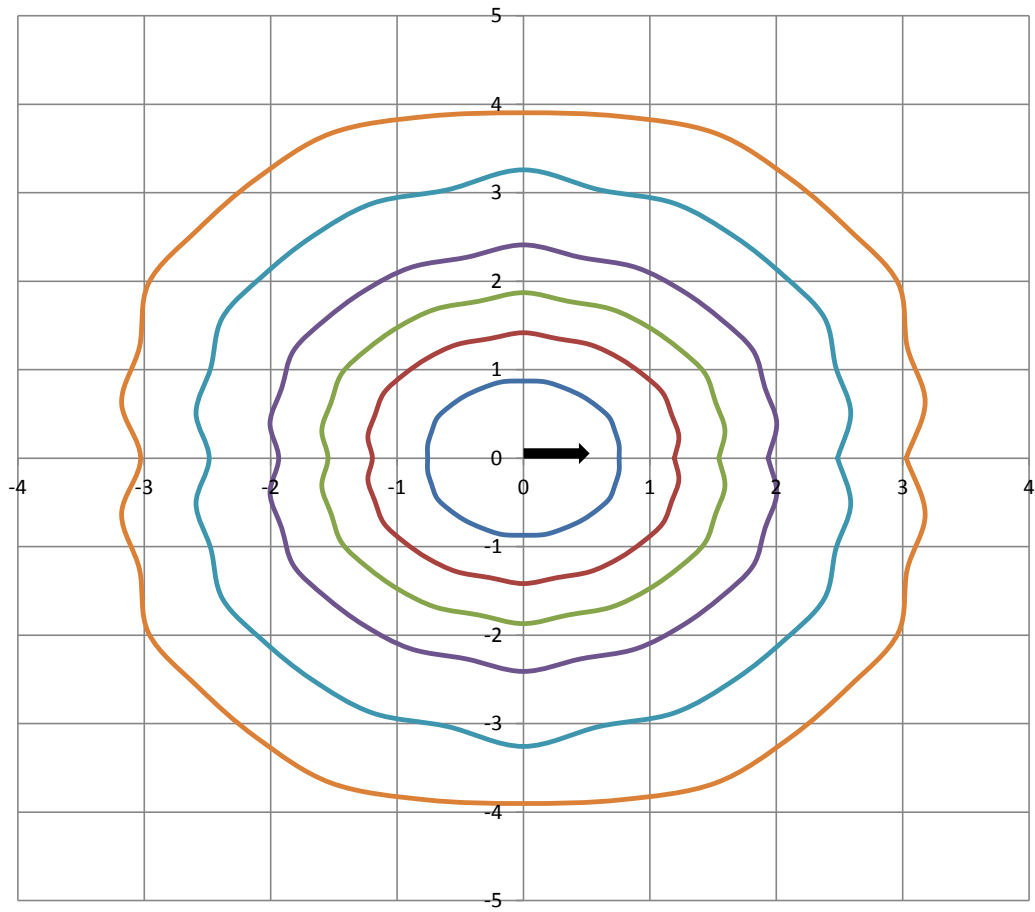
Beam and Field Information	
CIE Type:	Semi-Direct
Center Beam Intensity:	840.0 Candela
Central Cone Intensity:	840 Candela
Beam Flux:	2585.5 Lumens
Beam Angle (0-180):	113.0 Degrees
Beam Angle (90-270):	155.3 Degrees
Field Angle (0-180):	162.6 Degrees
Field Angle (90-270):	288.7 Degrees

Cone of Light Tabulation			
Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
4.00		52.5	5.42
6.00		23.3	8.13
8.00		13.1	10.8
10.0		8.40	13.5
12.0		5.83	16.3
14.0		4.29	19.0
16.0		3.28	21.7



## ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

