



UL Verification Services Inc.
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Allentown, PA 18106
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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
MLD2-M-48-750-35K-A10-A401-U
Order Number
12182822
Test Number
12182822.10

Test Date

2018-02-22

Revised 2018-02-27

Prepared By

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Approved By

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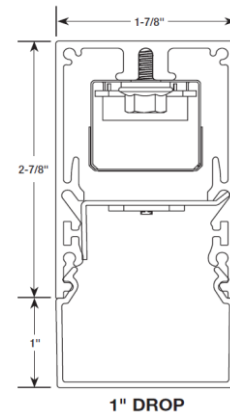


Luminaire Description: Extruded aluminum housing, frosted lens enclosure
Lamp: 96 white LEDs
Mounting: Recessed
Ballast/Driver: Philips XI040C110V054BST1

Luminaire Photo



Luminaire Cross Section



Luminaire Characteristics

Luminous Length: 47.00 in.
Luminous Width: 1.875 in.
Luminous Height: 1.00 in.

Summary of Results

Total Luminaire Output: 2992 Lumens
Luminaire Efficacy: 95.5 lm/w
Maximum Candela: 688 Candela

Test Conditions

Test Temperature: 24.2 °C
Voltage: 120.0 VAC
Current: 0.2626 A
Power: 31.34 W
Power Factor: 0.995
Frequency: 60 Hz
Current THD: 8.60 %

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
24.2 °C	120.0 VAC	0.2626 A	31.34 W	0.995	60 Hz	8.60 %

Summary of Results

Spacing Criteria

0-180: 1.28
90-270: 1.42

Total Lumen Output:

2992 Lumens

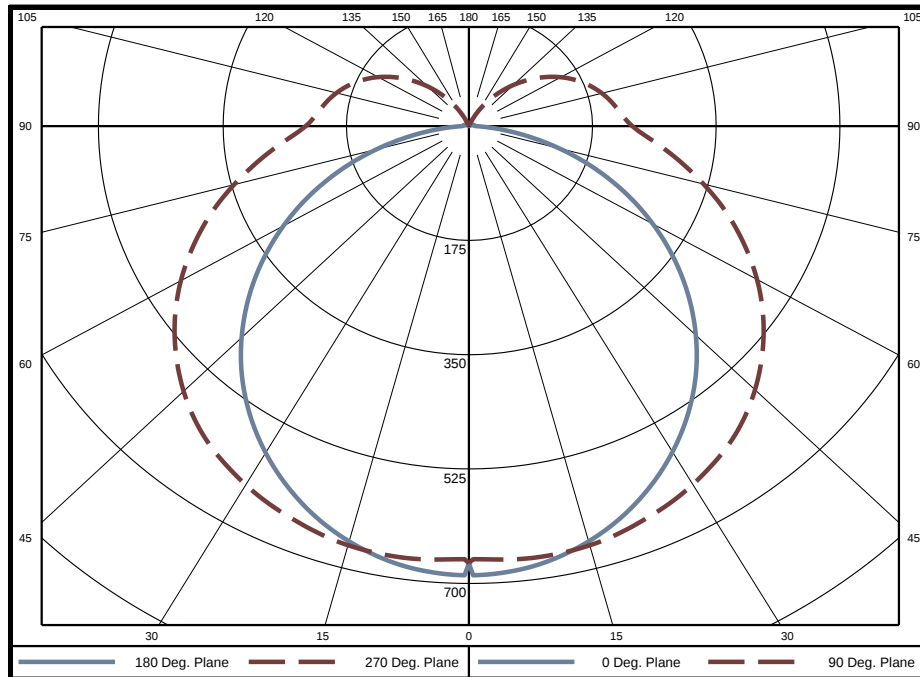
Luminaire Efficacy:

95.5 lm/w

Maximum Candela:

688 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	16.0	0.5%	60-65	184.3	6.2%	120-125	34.7	1.2%
5-10	47.8	1.6%	65-70	168.4	5.6%	125-130	26.7	0.9%
10-15	78.5	2.6%	70-75	148.8	5.0%	130-135	19.2	0.6%
15-20	107.2	3.6%	75-80	126.8	4.2%	135-140	12.9	0.4%
20-25	133.1	4.4%	80-85	104.9	3.5%	140-145	7.8	0.3%
25-30	155.7	5.2%	85-90	86.0	2.9%	145-150	3.8	0.1%
30-35	174.7	5.8%	90-95	75.8	2.5%	150-155	1.2	0.0%
35-40	189.3	6.3%	95-100	70.6	2.4%	155-160	0.1	0.0%
40-45	198.9	6.6%	100-105	65.1	2.2%	160-165	0	0.0%
45-50	203.1	6.8%	105-110	58.5	2.0%	165-170	0	0.0%
50-55	202.0	6.8%	110-115	51.1	1.7%	170-175	0	0.0%
55-60	195.7	6.5%	115-120	43.0	1.4%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	902	30.2%
0-60	1702	56.9%
0-90	2521	84.3%
90-180	471	15.7%



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	669.2	669.2	669.2	669.2	669.2	669.2	669.2	669.2	669.2	669.2	669.2	669.2	669.2	669.2	669.2	669.2
5	684.2	670.7	664.4	666.4	665.8	666.4	664.4	670.7	684.2	670.7	664.4	666.4	665.8	666.4	664.4	670.7
10	674.4	663.9	662.3	666.7	666.9	666.7	662.3	663.9	674.4	663.9	662.3	666.7	666.9	666.7	662.3	663.9
15	657.8	651.3	654.7	662.4	664.0	662.4	654.7	651.3	657.8	651.3	654.7	662.4	664.0	662.4	654.7	651.3
20	636.0	633.0	641.0	652.8	656.5	652.8	641.0	633.0	636.0	633.0	641.0	652.8	656.5	652.8	641.0	633.0
25	608.7	610.4	624.0	640.7	646.3	640.7	624.0	610.4	608.7	610.4	624.0	640.7	646.3	640.7	624.0	610.4
30	576.8	583.6	604.1	626.5	633.7	626.5	604.1	583.6	576.8	583.6	604.1	626.5	633.7	626.5	604.1	583.6
35	540.7	552.7	583.0	609.6	618.1	609.6	583.0	552.7	540.7	552.7	583.0	609.6	618.1	609.6	583.0	552.7
40	500.4	517.9	557.7	588.5	598.4	588.5	557.7	517.9	500.4	517.9	557.7	588.5	598.4	588.5	557.7	517.9
45	455.4	479.6	527.3	561.7	572.8	561.7	527.3	479.6	455.4	479.6	527.3	561.7	572.8	561.7	527.3	479.6
50	407.2	438.7	492.4	530.8	542.6	530.8	492.4	438.7	407.2	438.7	492.4	530.8	542.6	530.8	492.4	438.7
55	355.9	395.8	454.1	496.2	509.1	496.2	454.1	395.8	355.9	395.8	454.1	496.2	509.1	496.2	454.1	395.8
60	302.3	349.6	412.6	457.9	471.7	457.9	412.6	349.6	302.3	349.6	412.6	457.9	471.7	457.9	412.6	349.6
65	247.0	301.1	368.2	416.2	431.0	416.2	368.2	301.1	247.0	301.1	368.2	416.2	431.0	416.2	368.2	301.1
70	190.3	251.2	322.2	372.7	388.8	372.7	322.2	251.2	190.3	251.2	322.2	372.7	388.8	372.7	322.2	251.2
75	132.8	200.1	275.5	328.0	344.7	328.0	275.5	200.1	132.8	200.1	275.5	328.0	344.7	328.0	275.5	200.1
80	79.0	151.3	230.5	284.2	302.2	284.2	230.5	151.3	79.0	151.3	230.5	284.2	302.2	284.2	230.5	151.3
85	33.0	109.9	190.5	244.5	262.5	244.5	190.5	109.9	33.0	109.9	190.5	244.5	262.5	244.5	190.5	109.9
90	8.8	82.6	161.3	214.1	231.8	214.1	161.3	82.6	8.8	82.6	161.3	214.1	231.8	214.1	161.3	82.6
95	8.3	73.7	149.2	199.7	216.7	199.7	149.2	73.7	8.3	73.7	149.2	199.7	216.7	199.7	149.2	73.7
100	7.5	66.5	140.7	189.8	206.2	189.8	140.7	66.5	7.5	66.5	140.7	189.8	206.2	189.8	140.7	66.5
105	6.8	57.5	130.8	178.9	195.0	178.9	130.8	57.5	6.8	57.5	130.8	178.9	195.0	178.9	130.8	57.5
110	6.0	47.0	119.1	166.2	181.9	166.2	119.1	47.0	6.0	47.0	119.1	166.2	181.9	166.2	119.1	47.0
115	5.1	36.4	105.1	151.5	167.0	151.5	105.1	36.4	5.1	36.4	105.1	151.5	167.0	151.5	105.1	36.4
120	4.3	25.9	89.9	134.6	150.0	134.6	89.9	25.9	4.3	25.9	89.9	134.6	150.0	134.6	89.9	25.9
125	3.5	15.8	73.9	116.0	130.9	116.0	73.9	15.8	3.5	15.8	73.9	116.0	130.9	116.0	73.9	15.8
130	2.8	6.8	57.2	96.4	110.4	96.4	57.2	6.8	2.8	6.8	57.2	96.4	110.4	96.4	57.2	6.8
135	2.1	1.9	39.6	76.5	89.2	76.5	39.6	1.9	2.1	1.9	39.6	76.5	89.2	76.5	39.6	1.9
140	1.4	0.9	23.6	56.6	67.7	56.6	23.6	0.9	1.4	0.9	23.6	56.6	67.7	56.6	23.6	0.9
145	0.7	0.3	10.4	36.5	46.6	36.5	10.4	0.3	0.7	0.3	10.4	36.5	46.6	36.5	10.4	0.3
150	0.2	0.1	1.7	17.4	26.6	17.4	1.7	0.1	0.2	0.1	1.7	17.4	26.6	17.4	1.7	0.1
155	0.0	0.0	0.0	3.2	8.2	3.2	0.0	0.0	0.0	0.0	0.0	3.2	8.2	3.2	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/m²)

Horizontal Angle (Degrees)

Vertical Angle (Degrees)	Horizontal Angle (Degrees)		
	0	45	90
0	11770	11770	11770
45	11090	9421	9291
55	10590	8926	8861
65	9831	8323	8367
75	8359	7601	7834
85	5352	7012	7464



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	3449	3449	3449	3449	3315	3315	3315	3315	3063	3063	3063	2832	2832	2832	2621	2621	2621	2521
1	3069	2896	2740	2600	2936	2780	2640	2513	2564	2451	2347	2366	2275	2191	2183	2111	2045	1946
2	2759	2480	2249	2054	2633	2382	2171	1993	2197	2024	1875	2026	1885	1762	1869	1755	1654	1559
3	2497	2152	1885	1672	2379	2068	1823	1626	1909	1705	1537	1762	1593	1451	1626	1487	1368	1278
4	2274	1889	1608	1393	2165	1817	1558	1357	1681	1461	1288	1554	1369	1220	1436	1282	1154	1070
5	2082	1676	1392	1183	1983	1614	1351	1154	1496	1271	1098	1386	1194	1043	1283	1121	990	911
6	1916	1500	1221	1020	1826	1446	1186	997	1343	1118	951	1248	1054	905	1158	991	861	787
7	1772	1353	1081	891	1690	1306	1052	872	1216	994	833	1132	939	795	1053	886	758	689
8	1645	1229	967	787	1571	1187	942	771	1109	892	738	1034	844	705	965	798	674	609
9	1533	1123	872	702	1466	1087	850	688	1017	807	660	951	765	632	889	725	604	544
10	1435	1032	791	631	1373	1000	772	619	938	735	594	879	698	570	824	663	546	490

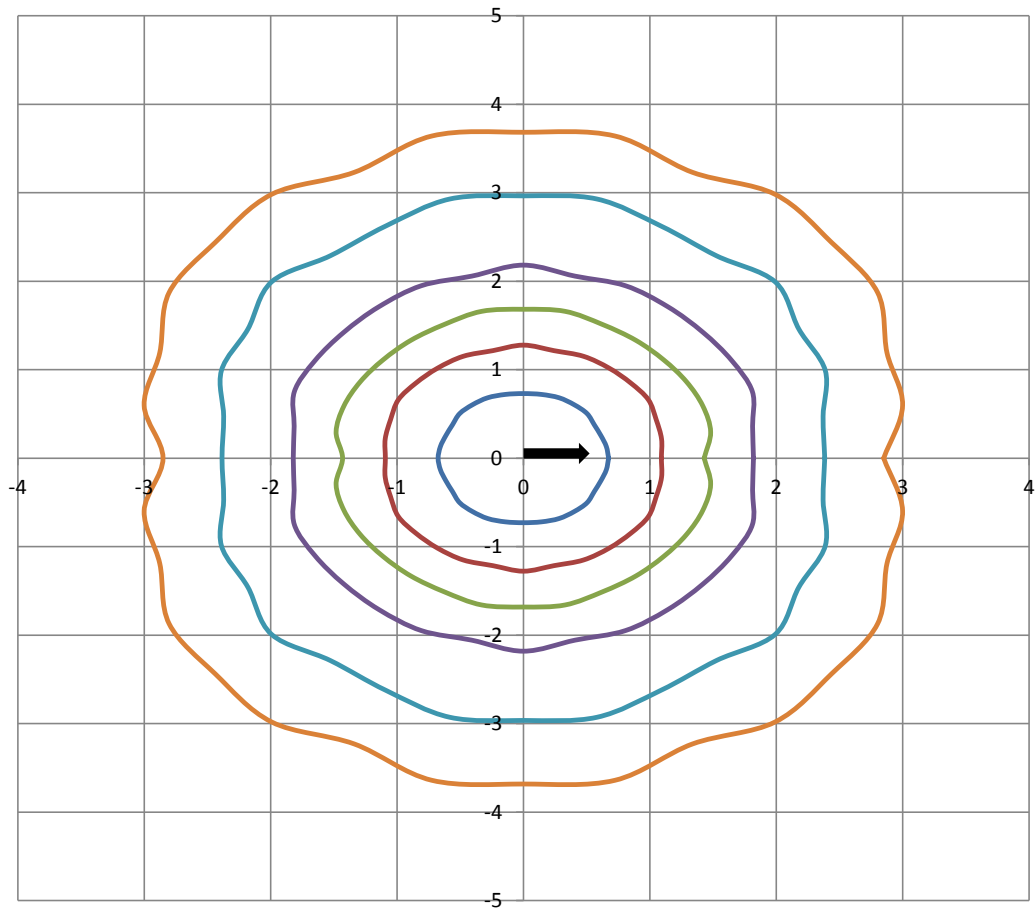
Beam and Field Information	
CIE Type:	Semi-Direct
Center Beam Intensity:	669.2 Candela
Central Cone Intensity:	669 Candela
Beam Flux:	2007.8 Lumens
Beam Angle (0-180):	114.0 Degrees
Beam Angle (90-270):	152.3 Degrees
Field Angle (0-180):	162.3 Degrees
Field Angle (90-270):	280.3 Degrees

Cone of Light Tabulation			
Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
4.00		41.8	5.39
6.00		18.6	8.08
8.00		10.5	10.8
10.0		6.69	13.5
12.0		4.65	16.2
14.0		3.41	18.9
16.0		2.61	21.5



ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

