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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-N5/F-48-1050-35K-A15-A401-U

Order Number
12182822
Test Number
12182822.05

Test Date

2018-02-21

Revised 2018-02-23

Prepared By

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Approved By

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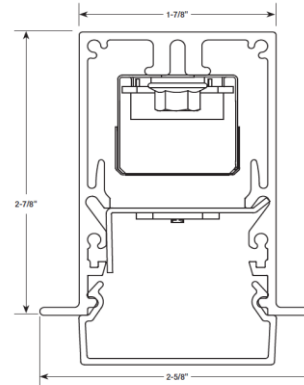


Luminaire Description: Extruded aluminum housing, frosted lens enclosure
Lamp: 96 white LEDs
Ballast/Driver: Philips XI040C110V054BST1

Luminaire Photo



Luminaire Cross Section



Luminaire Characteristics

Luminous Length: 47.00 in.
Luminous Width: 1.875 in.
Luminous Height: 1.50 in.

Summary of Results

Total Luminaire Output: 4203 Lumens
Luminaire Efficacy: 94.3 lm/w
Maximum Candela: 812 Candela

Test Conditions

Test Temperature: 24.7 °C
Voltage: 120.0 VAC
Current: 0.3723 A
Power: 44.58 W
Power Factor: 0.998
Frequency: 60 Hz
Current THD: 5.63 %

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
24.7 °C	120.0 VAC	0.3723 A	44.58 W	0.998	60 Hz	5.63 %

Summary of Results

Spacing Criteria

0-180: 1.27

90-270: 1.52

Total Lumen Output:

4203 Lumens

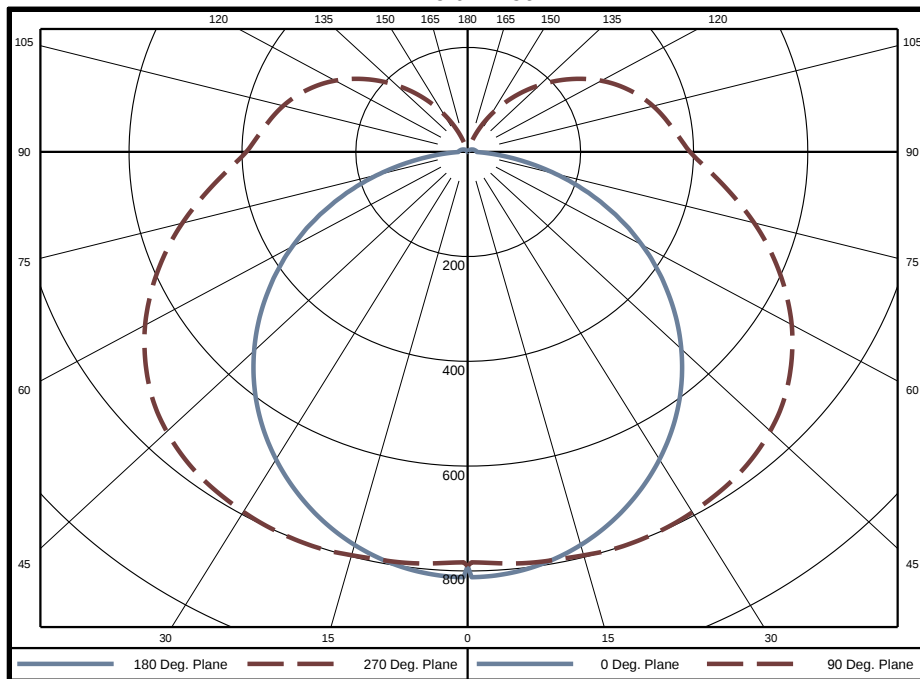
Luminaire Efficacy:

94.3 lm/w

Maximum Candela:

812 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	18.9	0.4%	60-65	248.5	5.9%	120-125	68.2	1.6%
5-10	56.6	1.3%	65-70	233.0	5.5%	125-130	55.2	1.3%
10-15	93.3	2.2%	70-75	213.0	5.1%	130-135	42.6	1.0%
15-20	128.1	3.0%	75-80	189.2	4.5%	135-140	31.0	0.7%
20-25	160.4	3.8%	80-85	164.7	3.9%	140-145	20.9	0.5%
25-30	189.3	4.5%	85-90	143.2	3.4%	145-150	12.9	0.3%
30-35	214.3	5.1%	90-95	130.3	3.1%	150-155	6.7	0.2%
35-40	234.7	5.6%	95-100	122.6	2.9%	155-160	2.6	0.1%
40-45	249.8	5.9%	100-105	114.6	2.7%	160-165	0.5	0.0%
45-50	259.0	6.2%	105-110	104.8	2.5%	165-170	0.0	0.0%
50-55	261.7	6.2%	110-115	93.5	2.2%	170-175	0	0.0%
55-60	258.3	6.1%	115-120	81.1	1.9%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	1096	26.1%
0-60	2124	50.5%
0-90	3316	78.9%
90-180	888	21.1%



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	790.8	790.8	790.8	790.8	790.8	790.8	790.8	790.8	790.8	790.8	790.8	790.8	790.8	790.8	790.8	790.8
	5	808.4	792.6	786.1	789.1	788.9	789.1	786.1	792.6	808.4	792.6	786.1	789.1	788.9	789.1	786.1	792.6
	10	796.5	785.1	785.4	792.4	793.5	792.4	785.4	785.1	796.5	785.1	785.4	792.4	793.5	792.4	785.4	785.1
	15	776.8	771.2	778.9	792.7	797.2	792.7	778.9	771.2	776.8	771.2	778.9	792.7	797.2	792.7	778.9	771.2
	20	750.1	750.4	767.8	792.8	801.2	792.8	767.8	750.4	750.1	750.4	767.8	792.8	801.2	792.8	767.8	750.4
	25	717.2	724.5	756.8	789.1	799.6	789.1	756.8	724.5	717.2	724.5	756.8	789.1	799.6	789.1	756.8	724.5
	30	679.1	694.5	741.9	781.0	794.0	781.0	741.9	694.5	679.1	694.5	741.9	781.0	794.0	781.0	741.9	694.5
	35	636.3	661.4	723.2	770.0	785.5	770.0	723.2	661.4	636.3	661.4	723.2	770.0	785.5	770.0	723.2	661.4
	40	588.4	625.7	699.7	754.4	773.1	754.4	699.7	625.7	588.4	625.7	699.7	754.4	773.1	754.4	699.7	625.7
	45	535.8	585.7	670.9	733.7	754.7	733.7	670.9	585.7	535.8	585.7	670.9	733.7	754.7	733.7	670.9	585.7
	50	479.4	541.3	636.1	707.5	730.1	707.5	636.1	541.3	479.4	541.3	636.1	707.5	730.1	707.5	636.1	541.3
	55	420.3	492.9	598.8	674.1	697.7	674.1	598.8	492.9	420.3	492.9	598.8	674.1	697.7	674.1	598.8	492.9
	60	357.8	442.3	556.3	635.3	660.5	635.3	556.3	442.3	357.8	442.3	556.3	635.3	660.5	635.3	556.3	442.3
	65	293.7	389.2	508.2	591.3	617.3	591.3	508.2	389.2	293.7	389.2	508.2	591.3	617.3	591.3	508.2	389.2
	70	228.4	334.8	458.2	544.4	571.8	544.4	458.2	334.8	228.4	334.8	458.2	544.4	571.8	544.4	458.2	334.8
	75	160.9	278.0	406.5	495.0	523.7	495.0	406.5	278.0	160.9	278.0	406.5	495.0	523.7	495.0	406.5	278.0
	80	98.5	221.8	355.6	445.8	474.8	445.8	355.6	221.8	98.5	221.8	355.6	445.8	474.8	445.8	355.6	221.8
	85	45.4	174.0	309.3	399.9	429.7	399.9	309.3	174.0	45.4	174.0	309.3	399.9	429.7	399.9	309.3	174.0
	90	16.3	141.4	274.7	363.5	392.9	363.5	274.7	141.4	16.3	141.4	274.7	363.5	392.9	363.5	274.7	141.4
	95	15.5	129.9	258.0	343.7	372.2	343.7	258.0	129.9	15.5	129.9	258.0	343.7	372.2	343.7	258.0	129.9
	100	14.4	120.8	245.9	328.4	355.7	328.4	245.9	120.8	14.4	120.8	245.9	328.4	355.7	328.4	245.9	120.8
	105	13.2	109.1	232.3	312.9	339.2	312.9	232.3	109.1	13.2	109.1	232.3	312.9	339.2	312.9	232.3	109.1
	110	12.0	95.2	215.7	294.5	320.0	294.5	215.7	95.2	12.0	95.2	215.7	294.5	320.0	294.5	215.7	95.2
	115	10.6	80.5	196.1	273.0	297.8	273.0	196.1	80.5	10.6	80.5	196.1	273.0	297.8	273.0	196.1	80.5
	120	9.3	66.0	174.2	248.2	272.7	248.2	174.2	66.0	9.3	66.0	174.2	248.2	272.7	248.2	174.2	66.0
	125	8.1	50.9	151.2	220.8	244.2	220.8	151.2	50.9	8.1	50.9	151.2	220.8	244.2	220.8	151.2	50.9
	130	6.8	36.4	126.7	191.5	213.7	191.5	126.7	36.4	6.8	36.4	126.7	191.5	213.7	191.5	126.7	36.4
	135	5.6	23.3	98.7	161.2	181.8	161.2	98.7	23.3	5.6	23.3	98.7	161.2	181.8	161.2	98.7	23.3
	140	4.4	12.2	71.3	130.3	149.0	130.3	71.3	12.2	4.4	12.2	71.3	130.3	149.0	130.3	71.3	12.2
	145	3.3	4.8	48.6	98.4	115.8	98.4	48.6	4.8	3.3	4.8	48.6	98.4	115.8	98.4	48.6	4.8
	150	2.1	1.6	28.7	64.8	83.2	64.8	28.7	1.6	2.1	1.6	28.7	64.8	83.2	64.8	28.7	1.6
	155	1.1	0.6	11.9	35.7	51.7	35.7	11.9	0.6	1.1	0.6	11.9	35.7	51.7	35.7	11.9	0.6
	160	0.3	0.1	1.6	13.1	22.9	13.1	1.6	0.1	0.3	0.1	1.6	13.1	22.9	13.1	1.6	0.1
	165	0.0	0.0	0.0	0.7	2.7	0.7	0.0	0.0	0.0	0.0	0.0	0.7	2.7	0.7	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)		0	45	90
	0	13910	13910	13910
	45	12910	10510	10430
	55	12330	9979	9985
	65	11440	9352	9461
	75	9769	8645	8930
	85	6706	8082	8549



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	4793	4793	4793	4793	4578	4578	4578	4578	4177	4177	4177	3811	3811	3811	3474	3474	3474	3316
1	4238	3986	3760	3556	4026	3801	3598	3414	3455	3292	3143	3138	3009	2889	2845	2744	2650	2496
2	3800	3399	3067	2788	3600	3241	2941	2686	2944	2699	2488	2671	2473	2299	2418	2260	2119	1973
3	3433	2941	2560	2257	3247	2805	2458	2179	2550	2263	2027	2313	2078	1880	2094	1902	1738	1602
4	3122	2576	2177	1872	2951	2459	2093	1810	2239	1932	1689	2034	1779	1572	1843	1632	1458	1331
5	2855	2281	1879	1583	2700	2180	1810	1533	1988	1675	1434	1810	1546	1338	1644	1422	1244	1127
6	2625	2038	1643	1360	2484	1950	1584	1319	1783	1470	1237	1627	1360	1157	1481	1255	1078	969
7	2425	1835	1452	1184	2296	1758	1402	1149	1611	1304	1080	1474	1210	1012	1345	1119	946	845
8	2250	1664	1296	1042	2133	1596	1252	1013	1467	1167	954	1346	1086	896	1231	1006	838	745
9	2096	1519	1165	927	1989	1459	1128	901	1344	1054	850	1236	982	800	1134	913	750	663
10	1960	1394	1056	830	1862	1341	1022	808	1238	958	764	1142	895	720	1050	833	677	595

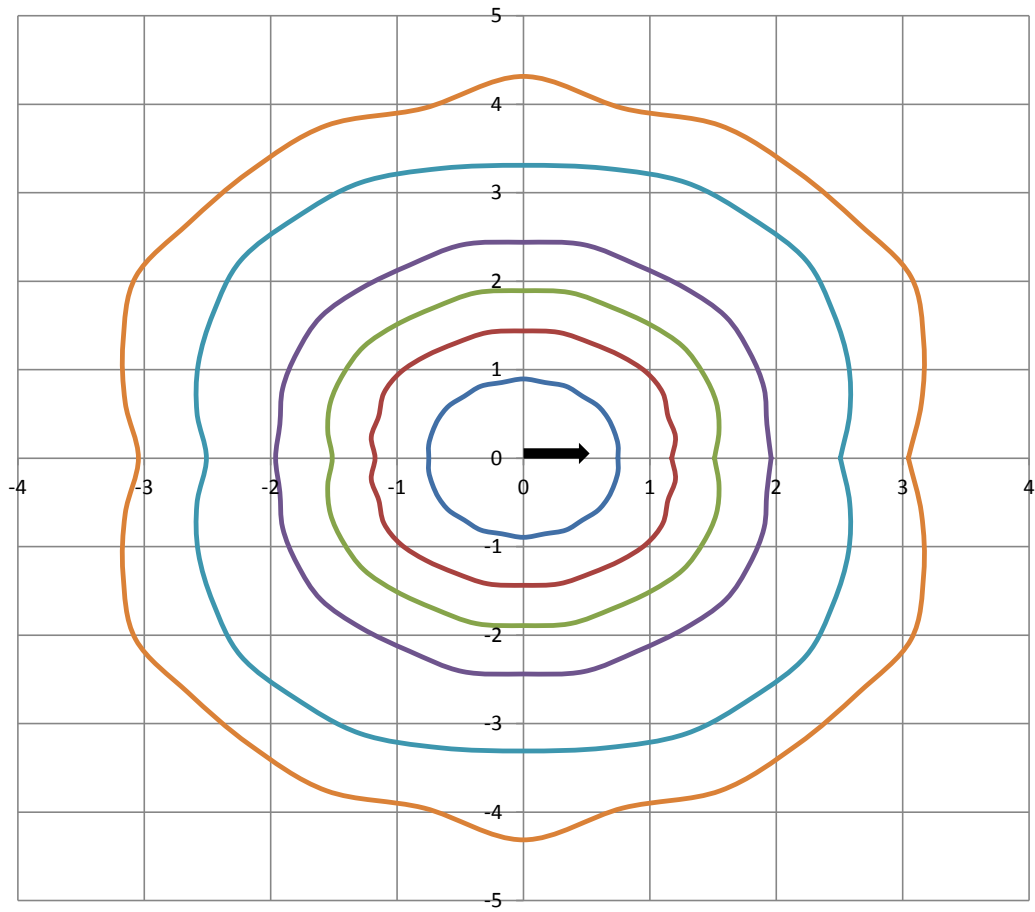
Beam and Field Information	
CIE Type:	Semi-Direct
Center Beam Intensity:	790.8 Candela
Central Cone Intensity:	791 Candela
Beam Flux:	2892.3 Lumens
Beam Angle (0-180):	114.0 Degrees
Beam Angle (90-270):	179.1 Degrees
Field Angle (0-180):	163.4 Degrees
Field Angle (90-270):	301.3 Degrees

Cone of Light Tabulation			
Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
4.00		49.4	5.58
6.00		22.0	8.37
8.00		12.4	11.2
10.0		7.91	14.0
12.0		5.49	16.7
14.0		4.03	19.5
16.0		3.09	22.3



ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

