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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-48-700-35K-A05-A401-U

Order Number
12182822
Test Number
12182822.08

Test Date

2018-02-22

Revised 2018-02-27

Prepared By

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Approved By

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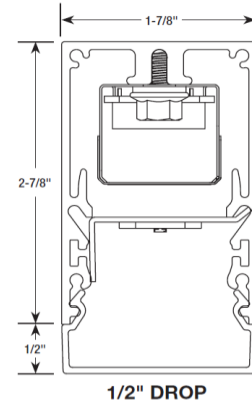


Luminaire Description: Extruded aluminum housing, frosted lens enclosure
Lamp: 96 white LEDs
Mounting: Recessed
Ballast/Driver: Philips XI040C110V054BST1

Luminaire Photo



Luminaire Cross Section



Luminaire Characteristics

Luminous Length: 47.00 in.
Luminous Width: 1.875 in.
Luminous Height: 0.50 in.

Summary of Results

Total Luminaire Output: 2843 Lumens
Luminaire Efficacy: 90.7 lm/w
Maximum Candela: 828 Candela

Test Conditions

Test Temperature: 24.2 °C
Voltage: 120.0 VAC
Current: 0.2625 A
Power: 31.33 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	0.2625 A	31.33 W	0.995	60 Hz	8.60 %

Summary of Results

Spacing Criteria

0-180: 1.28
90-270: 1.31

Total Lumen Output:

2843 Lumens

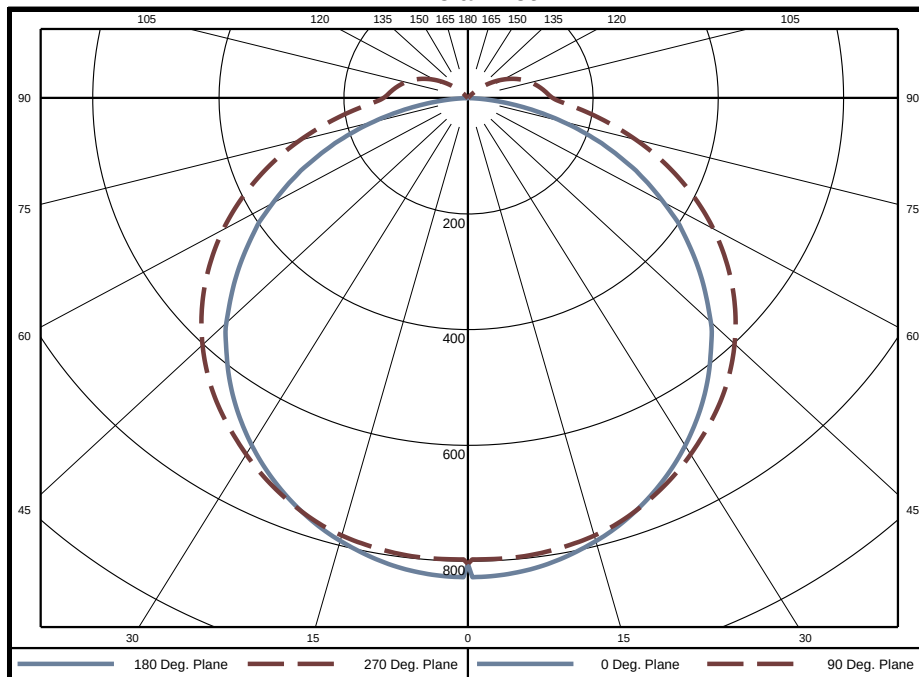
Luminaire Efficacy:

90.7 lm/w

Maximum Candela:

828 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	19.2	0.7%	60-65	186.6	6.6%	120-125	11.1	0.4%
5-10	57.2	2.0%	65-70	163.5	5.8%	125-130	6.6	0.2%
10-15	93.6	3.3%	70-75	136.1	4.8%	130-135	3.1	0.1%
15-20	127.0	4.5%	75-80	106.2	3.7%	135-140	0.9	0.0%
20-25	156.4	5.5%	80-85	77.0	2.7%	140-145	0.0	0.0%
25-30	181.1	6.4%	85-90	53.5	1.9%	145-150	0	0.0%
30-35	200.5	7.1%	90-95	43.6	1.5%	150-155	0	0.0%
35-40	214.3	7.5%	95-100	39.0	1.4%	155-160	0	0.0%
40-45	221.8	7.8%	100-105	34.0	1.2%	160-165	0	0.0%
45-50	222.5	7.8%	105-110	28.2	1.0%	165-170	0	0.0%
50-55	216.6	7.6%	110-115	22.1	0.8%	170-175	0	0.0%
55-60	204.8	7.2%	115-120	16.2	0.6%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	1049	36.9%
0-60	1915	67.4%
0-90	2638	92.8%
90-180	205	7.2%



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	804.8	804.8	804.8	804.8	804.8	804.8	804.8	804.8	804.8	804.8	804.8	804.8	804.8	804.8	804.8
	5	823.8	806.0	797.1	798.3	797.2	798.3	797.1	806.0	823.8	806.0	797.1	798.3	797.2	798.3	797.1
	10	811.6	796.1	790.5	793.1	792.2	793.1	790.5	796.1	811.6	796.1	790.5	793.1	792.2	793.1	790.5
	15	791.9	779.1	777.0	782.0	782.2	782.0	777.0	779.1	791.9	779.1	777.0	782.0	782.2	782.0	777.0
	20	765.6	754.4	755.2	763.1	764.5	763.1	755.2	754.4	765.6	754.4	755.2	763.1	764.5	763.1	755.2
	25	732.4	724.4	729.1	738.0	740.0	738.0	729.1	724.4	732.4	724.4	729.1	738.0	740.0	738.0	729.1
	30	693.7	689.4	697.7	708.0	711.0	708.0	697.7	689.4	693.7	689.4	697.7	708.0	711.0	708.0	697.7
	35	650.0	649.1	662.3	675.0	678.8	675.0	662.3	649.1	650.0	649.1	662.3	675.0	678.8	675.0	662.3
	40	601.2	604.4	622.1	637.7	643.3	637.7	622.1	604.4	601.2	604.4	622.1	637.7	643.3	637.7	622.1
	45	549.1	556.1	576.6	596.0	602.0	596.0	576.6	556.1	549.1	556.1	576.6	596.0	602.0	596.0	576.6
	50	488.4	500.7	527.3	549.8	556.3	549.8	527.3	500.7	488.4	500.7	527.3	549.8	556.3	549.8	527.3
	55	426.8	443.7	475.1	499.7	506.4	499.7	475.1	443.7	426.8	443.7	475.1	499.7	506.4	499.7	475.1
	60	361.8	385.3	418.9	445.6	452.9	445.6	418.9	385.3	361.8	385.3	418.9	445.6	452.9	445.6	418.9
	65	296.5	321.9	359.8	387.9	396.0	387.9	359.8	321.9	296.5	321.9	359.8	387.9	396.0	387.9	359.8
	70	227.4	258.8	298.9	328.5	337.6	328.5	298.9	258.8	227.4	258.8	298.9	328.5	337.6	328.5	298.9
	75	155.9	194.3	236.9	267.8	277.9	267.8	236.9	194.3	155.9	194.3	236.9	267.8	277.9	267.8	236.9
	80	90.4	132.1	178.1	209.9	220.6	209.9	178.1	132.1	90.4	132.1	178.1	209.9	220.6	209.9	178.1
	85	33.9	79.3	126.3	158.6	169.8	158.6	126.3	79.3	33.9	79.3	126.3	158.6	169.8	158.6	126.3
	90	4.3	47.7	94.1	125.4	136.0	125.4	94.1	47.7	4.3	47.7	94.1	125.4	136.0	125.4	94.1
	95	3.7	39.8	84.2	114.3	124.6	114.3	84.2	39.8	3.7	39.8	84.2	114.3	124.6	114.3	84.2
	100	3.1	31.7	75.6	104.9	115.0	104.9	75.6	31.7	3.1	31.7	75.6	104.9	115.0	104.9	75.6
	105	2.5	21.7	65.7	94.6	104.5	94.6	65.7	21.7	2.5	21.7	65.7	94.6	104.5	94.6	65.7
	110	1.9	11.4	53.8	82.8	92.8	82.8	53.8	11.4	1.9	11.4	53.8	82.8	92.8	82.8	53.8
	115	1.3	2.5	40.7	69.2	79.2	69.2	40.7	2.5	1.3	2.5	40.7	69.2	79.2	69.2	40.7
	120	0.7	0.4	27.2	54.3	64.1	54.3	27.2	0.4	0.7	0.4	27.2	54.3	64.1	54.3	27.2
	125	0.3	0.1	14.5	39.3	48.2	39.3	14.5	0.1	0.3	0.1	14.5	39.3	48.2	39.3	14.5
	130	0.0	0.0	3.0	24.2	32.4	24.2	3.0	0.0	0.0	0.0	3.0	24.2	32.4	24.2	3.0
	135	0.0	0.0	0.0	10.3	17.1	10.3	0.0	0.0	0.0	0.0	0.0	10.3	17.1	10.3	0.0
	140	0.0	0.0	0.0	0.6	3.8	0.6	0.0	0.0	0.0	0.0	0.0	0.6	3.8	0.6	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
	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
	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
	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
	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
	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
	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
	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

Average Luminance (cd/m²)

Vertical Angle (Degrees)	Horizontal Angle (Degrees)			
	0	45	90	
	0	14160	14160	14160
	45	13520	11990	11820
	55	12890	11380	11250
	65	12060	10540	10490
	75	10190	9297	9465
	85	6103	7867	8464



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	3335	3335	3335	3335	3234	3234	3234	3234	3045	3045	3045	2872	2872	2872	2713	2713	2713	2638
1	3000	2846	2708	2583	2899	2760	2635	2521	2600	2498	2404	2453	2370	2293	2317	2251	2190	2114
2	2709	2454	2243	2066	2612	2382	2189	2025	2246	2085	1946	2121	1988	1871	2005	1896	1799	1723
3	2458	2139	1892	1696	2368	2078	1850	1667	1962	1769	1611	1855	1693	1556	1756	1620	1504	1430
4	2243	1885	1623	1423	2160	1833	1589	1401	1734	1525	1359	1643	1464	1319	1557	1405	1279	1208
5	2058	1677	1411	1215	1981	1633	1384	1199	1548	1332	1166	1469	1282	1135	1396	1234	1104	1036
6	1896	1505	1242	1054	1827	1466	1220	1041	1394	1177	1015	1326	1135	990	1262	1095	965	900
7	1755	1360	1105	925	1693	1327	1086	915	1264	1050	894	1205	1015	873	1150	981	853	791
8	1632	1238	991	821	1575	1210	975	812	1155	945	795	1103	915	778	1054	886	761	703
9	1523	1134	896	735	1471	1109	883	728	1061	856	713	1015	831	699	972	806	684	629
10	1426	1044	816	664	1379	1022	804	657	980	782	645	940	760	633	902	738	620	568

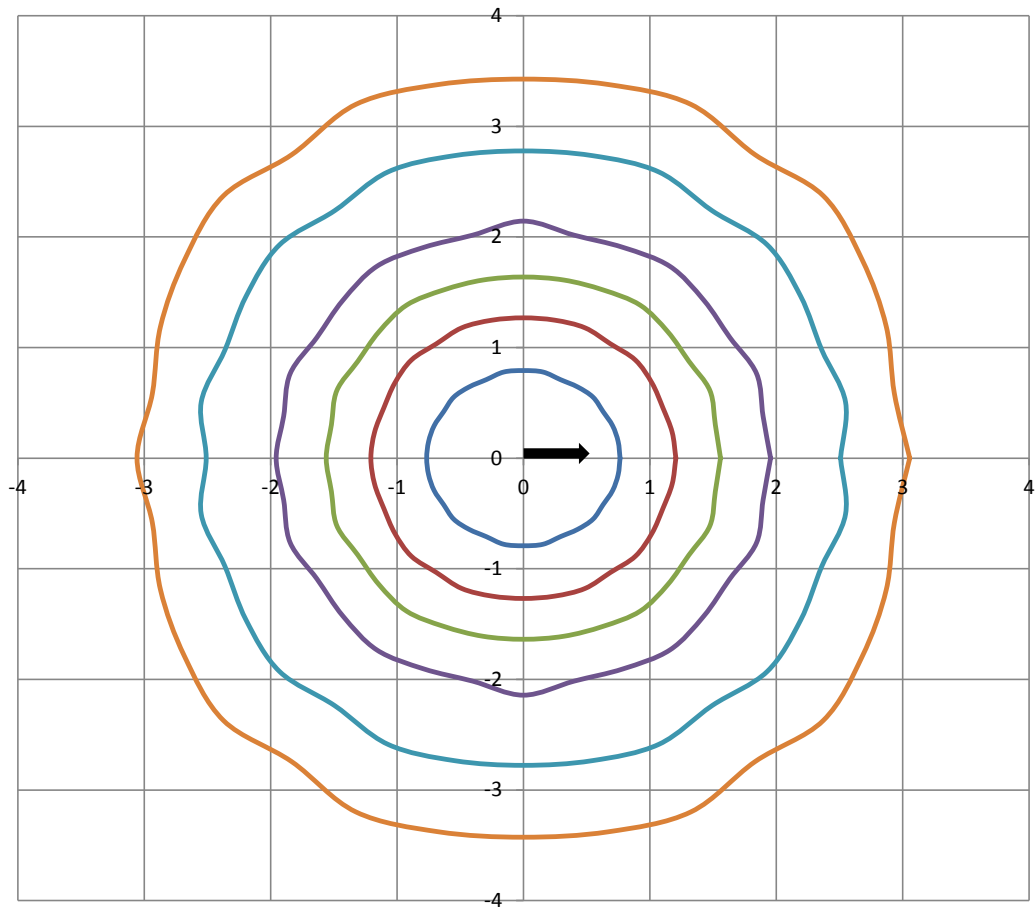
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	804.8 Candela
Central Cone Intensity:	804 Candela
Beam Flux:	1965.0 Lumens
Beam Angle (0-180):	114.2 Degrees
Beam Angle (90-270):	128.9 Degrees
Field Angle (0-180):	161.5 Degrees
Field Angle (90-270):	229.1 Degrees

Cone of Light Tabulation			
Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
4.00		50.3	5.17
6.00		22.4	7.75
8.00		12.6	10.3
10.0		8.05	12.9
12.0		5.59	15.5
14.0		4.11	18.1
16.0		3.14	20.7



ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

