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7036 Snowdrift Road
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
MLD3-N5/F-48-915-35K-A10-A401-U
Order Number
12182822
Test Number
12182822.17

Test Date

2018-04-17

Revised 2018-04-20

Prepared By

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Approved By

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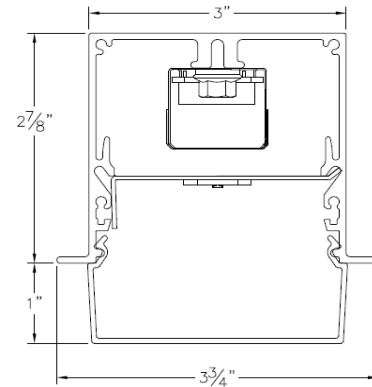


Luminaire Description: Extruded aluminum housing, frosted lens enclosure
Lamp: 96 white LEDs
Mounting: Recessed
Ballast/Driver: Philips XI040C110V054BST1

Luminaire Photo



Luminaire Cross-Section



Luminaire Characteristics

Luminous Length: 48.00 in.
Luminous Width: 3.750 in.
Luminous Height: 1.00 in.

Summary of Results

Total Luminaire Output: 3671 Lumens
Luminaire Efficacy: 100.8 lm/w
Maximum Candela: 919 Candela

Test Conditions

Test Temperature: 25.3 °C
Voltage: 120.1 VAC
Current: 0.3045 A
Power: 36.43 W
Power Factor: 0.996
Frequency: 60 Hz
Current THD: 6.88 %

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
25.3 °C	120.1 VAC	0.3045 A	36.43 W	0.996	60 Hz	6.88 %

Summary of Results

Spacing Criteria

0-180: 1.25
90-270: 1.39

Total Lumen Output:

3671 Lumens

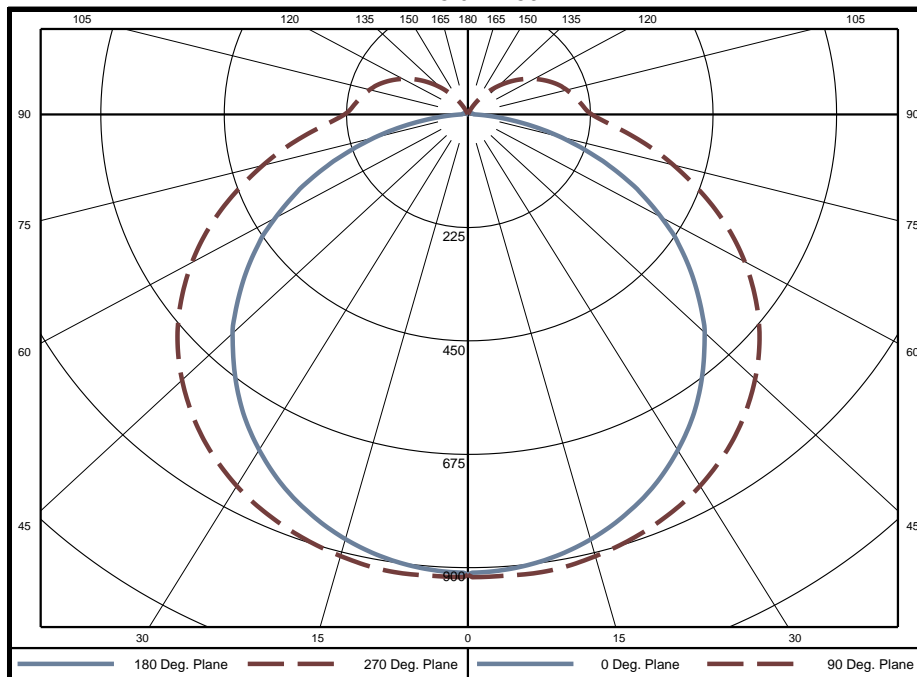
Luminaire Efficacy:

100.8 lm/w

Maximum Candela:

919 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	21.8	0.6%	60-65	233.2	6.4%	120-125	31.9	0.9%
5-10	65.0	1.8%	65-70	207.9	5.7%	125-130	24.1	0.7%
10-15	106.6	2.9%	70-75	177.6	4.8%	130-135	17.2	0.5%
15-20	145.3	4.0%	75-80	145.8	4.0%	135-140	11.2	0.3%
20-25	180.1	4.9%	80-85	114.0	3.1%	140-145	6.4	0.2%
25-30	210.1	5.7%	85-90	87.4	2.4%	145-150	2.8	0.1%
30-35	234.3	6.4%	90-95	74.4	2.0%	150-155	0.7	0.0%
35-40	252.2	6.9%	95-100	68.7	1.9%	155-160	0.0	0.0%
40-45	263.1	7.2%	100-105	62.8	1.7%	160-165	0	0.0%
45-50	267.0	7.3%	105-110	55.8	1.5%	165-170	0	0.0%
50-55	263.2	7.2%	110-115	48.1	1.3%	170-175	0	0.0%
55-60	251.9	6.9%	115-120	40.0	1.1%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	1215	33.1%
0-60	2261	61.6%
0-90	3227	87.9%
90-180	444	12.1%



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	913.9	913.9	913.9	913.9	913.9	913.9	913.9	913.9	913.9	913.9	913.9	913.9	913.9	913.9	913.9	913.9
5	905.9	911.0	911.4	913.2	918.6	913.2	911.4	911.0	905.9	911.0	911.4	913.2	918.6	913.2	911.4	911.0
10	893.5	900.6	905.0	910.2	917.4	910.2	905.0	900.6	893.5	900.6	905.0	910.2	917.4	910.2	905.0	900.6
15	873.5	883.8	892.1	899.7	907.5	899.7	892.1	883.8	873.5	883.8	892.1	899.7	907.5	899.7	892.1	883.8
20	845.9	859.9	873.0	883.7	893.4	883.7	873.0	859.9	845.9	859.9	873.0	883.7	893.4	883.7	873.0	859.9
25	812.1	828.7	847.3	863.3	874.8	863.3	847.3	828.7	812.1	828.7	847.3	863.3	874.8	863.3	847.3	828.7
30	770.8	791.2	816.3	837.8	851.3	837.8	816.3	791.2	770.8	791.2	816.3	837.8	851.3	837.8	816.3	791.2
35	724.2	747.6	781.3	806.6	821.4	806.6	781.3	747.6	724.2	747.6	781.3	806.6	821.4	806.6	781.3	747.6
40	670.7	698.4	740.9	769.6	785.5	769.6	740.9	698.4	670.7	698.4	740.9	769.6	785.5	769.6	740.9	698.4
45	615.4	645.4	695.7	727.0	744.0	727.0	695.7	645.4	615.4	645.4	695.7	727.0	744.0	727.0	695.7	645.4
50	550.4	589.3	643.8	679.5	697.4	679.5	643.8	589.3	550.4	589.3	643.8	679.5	697.4	679.5	643.8	589.3
55	483.5	527.3	587.8	625.7	644.1	625.7	587.8	527.3	483.5	527.3	587.8	625.7	644.1	625.7	587.8	527.3
60	411.1	462.4	524.6	567.3	585.8	567.3	524.6	462.4	411.1	462.4	524.6	567.3	585.8	567.3	524.6	462.4
65	336.6	391.8	458.1	504.5	522.6	504.5	458.1	391.8	336.6	391.8	458.1	504.5	522.6	504.5	458.1	391.8
70	255.8	318.0	388.1	438.1	455.8	438.1	388.1	318.0	255.8	318.0	388.1	438.1	455.8	438.1	388.1	318.0
75	179.3	244.9	320.3	372.7	390.2	372.7	320.3	244.9	179.3	244.9	320.3	372.7	390.2	372.7	320.3	244.9
80	105.2	177.3	256.1	309.9	327.7	309.9	256.1	177.3	105.2	177.3	256.1	309.9	327.7	309.9	256.1	177.3
85	44.1	119.3	199.5	251.4	268.6	251.4	199.5	119.3	44.1	119.3	199.5	251.4	268.6	251.4	199.5	119.3
90	11.2	82.9	160.2	209.8	226.7	209.8	160.2	82.9	11.2	82.9	160.2	209.8	226.7	209.8	160.2	82.9
95	9.8	72.2	146.4	194.2	210.4	194.2	146.4	72.2	9.8	72.2	146.4	194.2	210.4	194.2	146.4	72.2
100	8.8	63.6	136.4	184.0	199.1	184.0	136.4	63.6	8.8	63.6	136.4	184.0	199.1	184.0	136.4	63.6
105	8.1	53.9	124.9	172.3	187.6	172.3	124.9	53.9	8.1	53.9	124.9	172.3	187.6	172.3	124.9	53.9
110	7.2	43.7	111.8	158.0	174.4	158.0	111.8	43.7	7.2	43.7	111.8	158.0	174.4	158.0	111.8	43.7
115	6.4	33.3	97.5	141.6	158.2	141.6	97.5	33.3	6.4	33.3	97.5	141.6	158.2	141.6	97.5	33.3
120	5.3	22.6	82.5	124.1	140.5	124.1	82.5	22.6	5.3	22.6	82.5	124.1	140.5	124.1	82.5	22.6
125	4.2	13.0	66.9	105.8	121.6	105.8	66.9	13.0	4.2	13.0	66.9	105.8	121.6	105.8	66.9	13.0
130	3.2	5.0	50.9	86.8	101.2	86.8	50.9	5.0	3.2	5.0	50.9	86.8	101.2	86.8	50.9	5.0
135	2.3	1.7	33.6	67.7	80.2	67.7	33.6	1.7	2.3	1.7	33.6	67.7	80.2	67.7	33.6	1.7
140	1.5	0.9	18.4	48.6	59.3	48.6	18.4	0.9	1.5	0.9	18.4	48.6	59.3	48.6	18.4	0.9
145	0.6	0.1	5.6	30.0	39.0	30.0	5.6	0.1	0.6	0.1	5.6	30.0	39.0	30.0	5.6	0.1
150	0.0	0.0	0.0	12.0	19.9	12.0	0.0	0.0	0.0	0.0	0.0	12.0	19.9	12.0	0.0	0.0
155	0.0	0.0	0.0	1.4	4.5	1.4	0.0	0.0	0.0	0.0	0.0	1.4	4.5	1.4	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	7870	7870	7870
45	7341	7041	7153
55	7049	6840	7003
65	6565	6500	6775
75	5535	6060	6507
85	3521	5930	6556



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	4264	4264	4264	4264	4113	4113	4113	4113	3832	3832	3832	3574	3574	3574	3338	3338	3338	3227
1	3814	3608	3424	3257	3665	3480	3313	3162	3240	3104	2980	3019	2910	2810	2816	2730	2649	2538
2	3436	3100	2822	2588	3294	2991	2738	2523	2786	2577	2396	2598	2426	2275	2423	2284	2159	2051
3	3113	2696	2373	2115	2981	2603	2306	2067	2427	2178	1973	2265	2057	1883	2115	1943	1795	1692
4	2838	2371	2029	1768	2716	2291	1975	1731	2141	1872	1659	2001	1773	1588	1871	1679	1520	1422
5	2600	2106	1760	1505	2489	2037	1716	1476	1908	1631	1418	1787	1549	1362	1674	1471	1308	1215
6	2394	1886	1545	1301	2293	1827	1509	1277	1715	1437	1230	1610	1369	1185	1512	1303	1140	1052
7	2215	1703	1371	1139	2123	1652	1340	1119	1554	1280	1080	1462	1222	1042	1376	1166	1005	922
8	2057	1548	1228	1008	1974	1503	1201	991	1417	1150	959	1337	1100	926	1261	1051	895	817
9	1919	1416	1108	900	1843	1376	1085	886	1301	1041	858	1230	997	831	1162	955	804	731
10	1796	1303	1007	811	1727	1268	987	799	1201	948	775	1137	911	751	1077	874	727	659

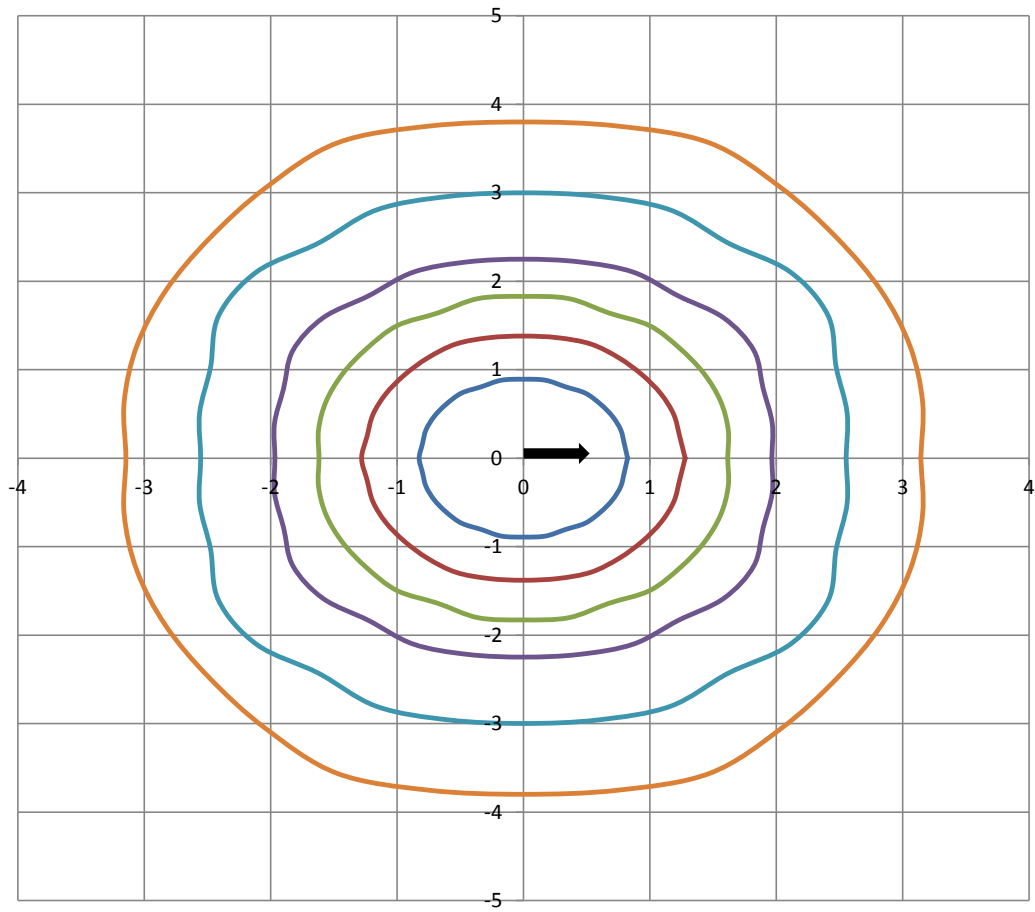
Beam and Field Information	
CIE Type:	Semi-Direct
Center Beam Intensity:	913.9 Candela
Central Cone Intensity:	913 Candela
Beam Flux:	2481.7 Lumens
Beam Angle (0-180):	114.0 Degrees
Beam Angle (90-270):	139.8 Degrees
Field Angle (0-180):	162.0 Degrees
Field Angle (90-270):	264.7 Degrees

Cone of Light Tabulation			
Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
4.00		57.1	5.30
6.00		25.4	7.95
8.00		14.3	10.6
10.0		9.14	13.2
12.0		6.35	15.9
14.0		4.66	18.5
16.0		3.57	21.2



ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

