



UL Verification Services Inc.
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
MLD2-N5/F-48-1000-35K-A10-A401-U

Order Number
12182822
Test Number
12182822.03

Test Date

2018-02-21

Revised 2018-02-23

Prepared By

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Approved By

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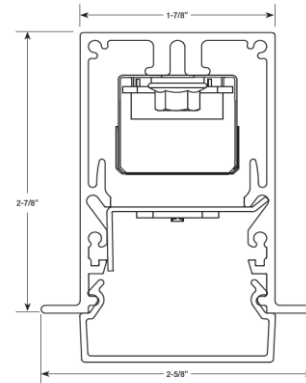


Luminaire Description: Extruded aluminum housing, frosted lens enclosure
Lamp: 96 white LEDs
Ballast/Driver: Philips XI040C110V054BST1

Luminaire Photo



Luminaire Cross Section



Luminaire Characteristics

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

Summary of Results

Total Luminaire Output: 4028 Lumens
Luminaire Efficacy: 90.5 lm/w
Maximum Candela: 927 Candela

Test Conditions

Test Temperature: 25.4 °C
Voltage: 119.9 VAC
Current: 0.3722 A
Power: 44.52 W
Power Factor: 0.998
Frequency: 60 Hz
Current THD: 5.66 %

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
25.4 °C	119.9 VAC	0.3722 A	44.52 W	0.998	60 Hz	5.66 %

Summary of Results

Spacing Criteria

0-180: 1.28

90-270: 1.42

Total Lumen Output:

4028 Lumens

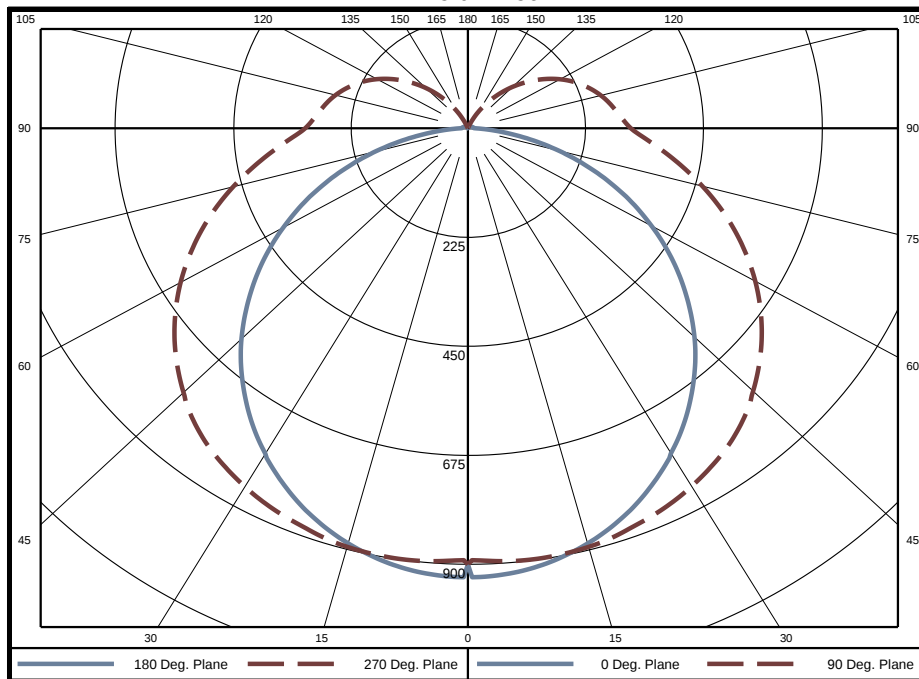
Luminaire Efficacy:

90.5 lm/w

Maximum Candela:

927 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	21.5	0.5%	60-65	247.9	6.2%	120-125	47.1	1.2%
5-10	64.3	1.6%	65-70	226.5	5.6%	125-130	36.2	0.9%
10-15	105.7	2.6%	70-75	200.4	5.0%	130-135	26.1	0.6%
15-20	144.4	3.6%	75-80	170.9	4.2%	135-140	17.7	0.4%
20-25	179.2	4.4%	80-85	141.2	3.5%	140-145	10.7	0.3%
25-30	209.7	5.2%	85-90	115.9	2.9%	145-150	5.2	0.1%
30-35	235.1	5.8%	90-95	102.1	2.5%	150-155	1.6	0.0%
35-40	254.7	6.3%	95-100	95.1	2.4%	155-160	0.1	0.0%
40-45	267.4	6.6%	100-105	87.8	2.2%	160-165	0	0.0%
45-50	272.9	6.8%	105-110	79.0	2.0%	165-170	0	0.0%
50-55	271.5	6.7%	110-115	68.9	1.7%	170-175	0	0.0%
55-60	263.1	6.5%	115-120	58.2	1.4%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	1215	30.2%
0-60	2290	56.8%
0-90	3392	84.2%
90-180	636	15.8%



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	900.3	900.3	900.3	900.3	900.3	900.3	900.3	900.3	900.3	900.3	900.3	900.3	900.3	900.3	900.3	900.3
	5	922.3	902.6	894.6	897.2	896.8	897.2	894.6	902.6	922.3	902.6	894.6	897.2	896.8	897.2	894.6	902.6
	10	908.9	894.0	891.7	897.5	898.2	897.5	891.7	894.0	908.9	894.0	891.7	897.5	898.2	897.5	891.7	894.0
	15	886.9	877.2	881.6	891.7	894.3	891.7	881.6	877.2	886.9	877.2	881.6	891.7	894.3	891.7	881.6	877.2
	20	857.3	852.5	863.0	878.6	883.5	878.6	863.0	852.5	857.3	852.5	863.0	878.6	883.5	878.6	863.0	852.5
	25	820.5	821.9	840.0	862.6	870.7	862.6	840.0	821.9	820.5	821.9	840.0	862.6	870.7	862.6	840.0	821.9
	30	775.8	786.0	813.4	843.8	853.8	843.8	813.4	786.0	775.8	786.0	813.4	843.8	853.8	843.8	813.4	786.0
	35	727.4	742.2	784.7	821.2	833.0	821.2	784.7	742.2	727.4	742.2	784.7	821.2	833.0	821.2	784.7	742.2
	40	672.7	695.4	749.0	792.8	806.3	792.8	749.0	695.4	672.7	695.4	749.0	792.8	806.3	792.8	749.0	695.4
	45	613.1	644.1	708.5	754.6	769.7	754.6	708.5	644.1	613.1	644.1	708.5	754.6	769.7	754.6	708.5	644.1
	50	547.5	589.7	661.7	713.3	729.4	713.3	661.7	589.7	547.5	589.7	661.7	713.3	729.4	713.3	661.7	589.7
	55	479.3	532.1	610.4	666.5	684.2	666.5	610.4	532.1	479.3	532.1	610.4	666.5	684.2	666.5	610.4	532.1
	60	407.0	470.5	554.8	615.9	634.3	615.9	554.8	470.5	407.0	470.5	554.8	615.9	634.3	615.9	554.8	470.5
	65	333.8	405.6	495.0	559.5	579.9	559.5	495.0	405.6	333.8	405.6	495.0	559.5	579.9	559.5	495.0	405.6
	70	256.6	338.2	433.4	501.4	523.2	501.4	433.4	338.2	256.6	338.2	433.4	501.4	523.2	501.4	433.4	338.2
	75	180.8	269.7	371.1	441.4	464.5	441.4	371.1	269.7	180.8	269.7	371.1	441.4	464.5	441.4	371.1	269.7
	80	106.4	204.1	310.3	382.5	406.9	382.5	310.3	204.1	106.4	204.1	310.3	382.5	406.9	382.5	310.3	204.1
	85	45.5	148.2	256.5	329.1	353.3	329.1	256.5	148.2	45.5	148.2	256.5	329.1	353.3	329.1	256.5	148.2
	90	12.0	111.0	216.6	287.5	311.4	287.5	216.6	111.0	12.0	111.0	216.6	287.5	311.4	287.5	216.6	111.0
	95	11.0	99.3	200.9	269.1	292.1	269.1	200.9	99.3	11.0	99.3	200.9	269.1	292.1	269.1	200.9	99.3
	100	10.1	89.9	189.5	255.7	277.8	255.7	189.5	89.9	10.1	89.9	189.5	255.7	277.8	255.7	189.5	89.9
	105	9.0	77.9	176.5	241.2	262.8	241.2	176.5	77.9	9.0	77.9	176.5	241.2	262.8	241.2	176.5	77.9
	110	8.0	63.9	160.7	224.2	245.1	224.2	160.7	63.9	8.0	63.9	160.7	224.2	245.1	224.2	160.7	63.9
	115	6.9	49.6	142.2	204.5	225.3	204.5	142.2	49.6	6.9	49.6	142.2	204.5	225.3	204.5	142.2	49.6
	120	5.8	35.5	121.8	182.1	202.6	182.1	121.8	35.5	5.8	35.5	121.8	182.1	202.6	182.1	121.8	35.5
	125	4.8	21.8	100.4	157.0	177.0	157.0	100.4	21.8	4.8	21.8	100.4	157.0	177.0	157.0	100.4	21.8
	130	3.8	9.5	78.1	131.0	149.6	131.0	78.1	9.5	3.8	9.5	78.1	131.0	149.6	131.0	78.1	9.5
	135	2.8	2.2	54.5	104.2	121.3	104.2	54.5	2.2	2.8	2.2	54.5	104.2	121.3	104.2	54.5	2.2
	140	1.9	1.2	32.5	77.3	92.4	77.3	32.5	1.2	1.9	1.2	32.5	77.3	92.4	77.3	32.5	1.2
	145	1.0	0.5	14.7	50.3	64.0	50.3	14.7	0.5	1.0	0.5	14.7	50.3	64.0	50.3	14.7	0.5
	150	0.4	0.1	0.7	24.2	36.9	24.2	0.7	0.1	0.4	0.1	0.7	24.2	36.9	24.2	0.7	0.1
	155	0.0	0.0	0.0	3.5	11.8	3.5	0.0	0.0	0.0	0.0	0.0	3.5	11.8	3.5	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)		0	45	90
	0	15840	15840	15840
	45	14930	12660	12490
	55	14270	12000	11910
	65	13290	11190	11260
	75	11380	10240	10560
	85	7384	9440	10050



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	4644	4644	4644	4644	4462	4462	4462	4462	4123	4123	4123	3812	3812	3812	3527	3527	3527	3392
1	4132	3898	3689	3501	3952	3743	3554	3383	3452	3299	3159	3184	3062	2949	2937	2841	2751	2619
2	3715	3339	3028	2766	3544	3206	2923	2683	2957	2724	2523	2727	2537	2371	2514	2362	2225	2098
3	3362	2897	2537	2251	3203	2783	2454	2189	2570	2295	2069	2372	2144	1952	2188	2001	1840	1720
4	3061	2544	2165	1876	2915	2446	2097	1828	2262	1967	1733	2091	1843	1642	1932	1725	1553	1439
5	2803	2257	1875	1593	2670	2173	1819	1554	2014	1711	1478	1865	1607	1404	1727	1508	1332	1226
6	2580	2020	1643	1373	2459	1947	1596	1342	1808	1505	1280	1679	1418	1219	1558	1334	1159	1059
7	2385	1822	1456	1200	2275	1758	1416	1174	1637	1339	1122	1524	1264	1070	1417	1192	1020	927
8	2215	1654	1302	1060	2115	1599	1268	1038	1492	1201	993	1392	1137	950	1299	1074	907	820
9	2065	1512	1174	945	1973	1463	1144	926	1369	1086	888	1280	1030	850	1197	976	813	732
10	1932	1390	1066	850	1849	1346	1040	833	1263	989	800	1184	940	768	1109	892	735	659

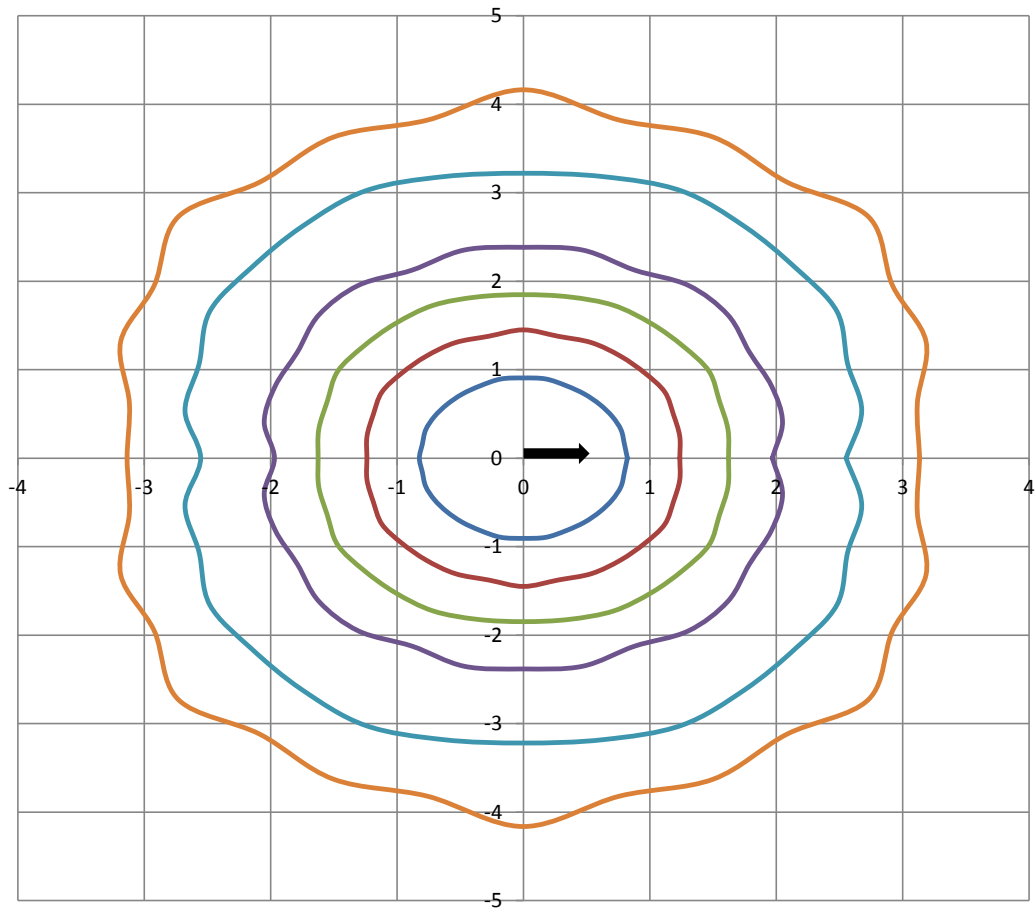
Beam and Field Information	
CIE Type:	Semi-Direct
Center Beam Intensity:	900.3 Candela
Central Cone Intensity:	901 Candela
Beam Flux:	2702.1 Lumens
Beam Angle (0-180):	114.1 Degrees
Beam Angle (90-270):	152.4 Degrees
Field Angle (0-180):	162.4 Degrees
Field Angle (90-270):	280.8 Degrees

Cone of Light Tabulation			
Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
4.00		56.3	5.39
6.00		25.0	8.08
8.00		14.1	10.8
10.0		9.00	13.5
12.0		6.25	16.2
14.0		4.59	18.9
16.0		3.52	21.6



ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

