



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-48-775-35K-A15-A401-U

Order Number
12182822
Test Number
12182822.11

Test Date

2018-02-23

Prepared By

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Approved By

Alexa Lambert, Project Handler

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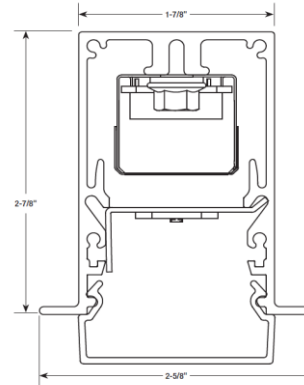


Luminaire Description: Extruded aluminum housing, frosted lens enclosure
Lamp: 96 white LEDs
Mounting: Recessed
Ballast/Driver: Philips XI040C110V054BST1

Luminaire Photo



Luminaire Cross Section



Luminaire Characteristics

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

Summary of Results

Total Luminaire Output: 3099 Lumens
Luminaire Efficacy: 98.9 lm/w
Maximum Candela: 602 Candela

Test Conditions

Test Temperature: 24.0 °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
24.0 °C	120.0 VAC	0.2625 A	31.33 W	0.995	60 Hz	8.60 %

Summary of Results

Spacing Criteria

0-180: 1.27

90-270: 1.52

Total Lumen Output:

3099 Lumens

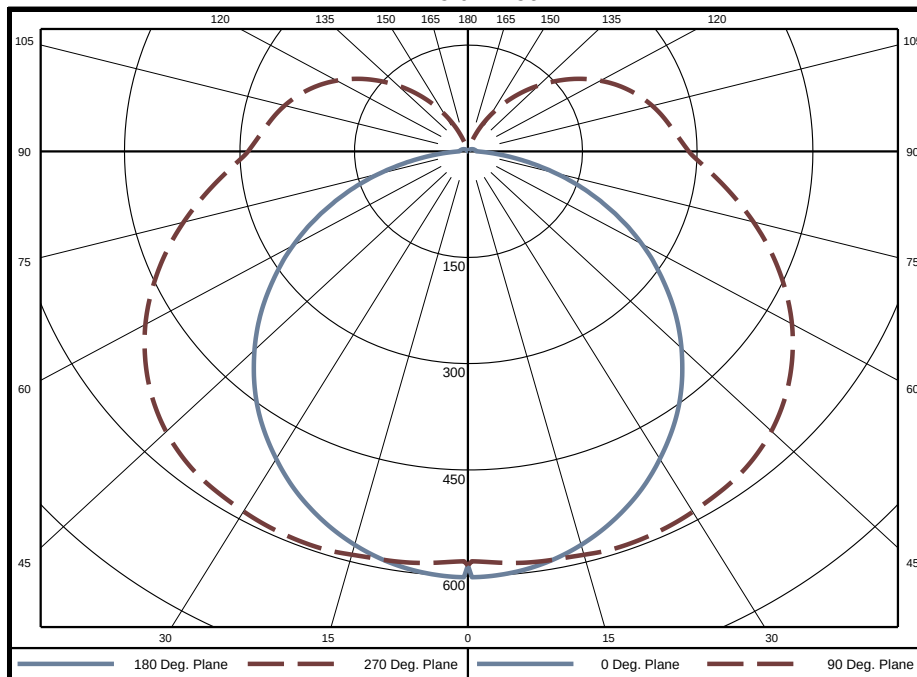
Luminaire Efficacy:

98.9 lm/w

Maximum Candela:

602 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	14.0	0.5%	60-65	183.7	5.9%	120-125	49.7	1.6%
5-10	41.9	1.4%	65-70	172.2	5.6%	125-130	40.1	1.3%
10-15	69.0	2.2%	70-75	157.2	5.1%	130-135	30.8	1.0%
15-20	94.8	3.1%	75-80	139.4	4.5%	135-140	22.3	0.7%
20-25	118.7	3.8%	80-85	121.2	3.9%	140-145	15.0	0.5%
25-30	140.1	4.5%	85-90	105.0	3.4%	145-150	9.0	0.3%
30-35	158.5	5.1%	90-95	95.6	3.1%	150-155	4.7	0.2%
35-40	173.8	5.6%	95-100	90.0	2.9%	155-160	1.7	0.1%
40-45	185.1	6.0%	100-105	84.0	2.7%	160-165	0.3	0.0%
45-50	191.8	6.2%	105-110	76.7	2.5%	165-170	0	0.0%
50-55	193.8	6.3%	110-115	68.4	2.2%	170-175	0	0.0%
55-60	191.1	6.2%	115-120	59.2	1.9%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	811	26.2%
0-60	1573	50.7%
0-90	2451	79.1%
90-180	648	20.9%



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	584.8	584.8	584.8	584.8	584.8	584.8	584.8	584.8	584.8	584.8	584.8	584.8	584.8	584.8	584.8
	5	598.6	586.5	581.8	584.0	583.5	584.0	581.8	586.5	598.6	586.5	581.8	584.0	583.5	584.0	581.8
	10	589.8	581.4	581.4	586.6	587.1	586.6	581.4	581.4	589.8	581.4	581.4	586.6	587.1	586.6	581.4
	15	575.2	571.0	576.8	586.5	589.7	586.5	576.8	571.0	575.2	571.0	576.8	586.5	589.7	586.5	576.8
	20	555.5	555.6	568.1	587.1	593.0	587.1	568.1	555.6	555.5	555.6	568.1	587.1	593.0	587.1	568.1
	25	531.4	536.3	560.3	584.2	591.7	584.2	560.3	536.3	531.4	536.3	560.3	584.2	591.7	584.2	560.3
	30	502.4	513.9	549.1	578.0	587.5	578.0	549.1	513.9	502.4	513.9	549.1	578.0	587.5	578.0	549.1
	35	470.9	489.1	535.2	570.1	581.9	570.1	535.2	489.1	470.9	489.1	535.2	570.1	581.9	570.1	535.2
	40	435.3	462.8	517.9	559.5	573.5	559.5	517.9	462.8	435.3	462.8	517.9	559.5	573.5	559.5	517.9
	45	396.0	433.1	497.4	544.1	559.7	544.1	497.4	433.1	396.0	433.1	497.4	544.1	559.7	544.1	497.4
	50	354.3	399.9	471.9	523.9	540.4	523.9	471.9	399.9	354.3	399.9	471.9	523.9	540.4	523.9	471.9
	55	309.7	364.6	443.9	498.8	516.3	498.8	443.9	364.6	309.7	364.6	443.9	498.8	516.3	498.8	443.9
	60	264.1	327.6	411.8	469.8	488.3	469.8	411.8	327.6	264.1	327.6	411.8	469.8	488.3	469.8	411.8
	65	216.3	288.1	376.2	436.9	456.3	436.9	376.2	288.1	216.3	288.1	376.2	436.9	456.3	436.9	376.2
	70	167.9	247.6	338.7	402.0	422.1	402.0	338.7	247.6	167.9	247.6	338.7	402.0	422.1	402.0	338.7
	75	118.2	204.8	299.8	365.0	386.0	365.0	299.8	204.8	118.2	204.8	299.8	365.0	386.0	365.0	299.8
	80	72.0	163.2	262.1	328.3	350.0	328.3	262.1	163.2	72.0	163.2	262.1	328.3	350.0	328.3	262.1
	85	32.8	127.4	227.6	294.0	315.9	294.0	227.6	127.4	32.8	127.4	227.6	294.0	315.9	294.0	227.6
	90	11.1	103.4	201.6	266.8	288.3	266.8	201.6	103.4	11.1	103.4	201.6	266.8	288.3	266.8	201.6
	95	10.5	95.0	189.5	252.5	273.4	252.5	189.5	95.0	10.5	95.0	189.5	252.5	273.4	252.5	189.5
	100	9.6	88.2	180.6	241.4	261.4	241.4	180.6	88.2	9.6	88.2	180.6	241.4	261.4	241.4	180.6
	105	8.8	79.4	170.4	229.7	249.1	229.7	170.4	79.4	8.8	79.4	170.4	229.7	249.1	229.7	170.4
	110	7.9	68.8	158.2	216.1	235.0	216.1	158.2	68.8	7.9	68.8	158.2	216.1	235.0	216.1	158.2
	115	6.8	58.0	143.6	200.2	218.6	200.2	143.6	58.0	6.8	58.0	143.6	200.2	218.6	200.2	143.6
	120	5.9	47.3	127.2	181.7	199.8	181.7	127.2	47.3	5.9	47.3	127.2	181.7	199.8	181.7	127.2
	125	4.9	36.3	110.1	161.4	178.9	161.4	110.1	36.3	4.9	36.3	110.1	161.4	178.9	161.4	110.1
	130	4.0	25.5	91.9	139.7	156.1	139.7	91.9	25.5	4.0	25.5	91.9	139.7	156.1	139.7	91.9
	135	3.1	16.0	71.2	117.4	132.5	117.4	71.2	16.0	3.1	16.0	71.2	117.4	132.5	117.4	71.2
	140	2.2	7.7	51.3	94.7	108.3	94.7	51.3	7.7	2.2	7.7	51.3	94.7	108.3	94.7	51.3
	145	1.3	1.7	34.9	70.8	83.7	70.8	34.9	1.7	1.3	1.7	34.9	70.8	83.7	70.8	34.9
	150	0.5	0.2	20.0	46.2	59.7	46.2	20.0	0.2	0.5	0.2	20.0	46.2	59.7	46.2	20.0
	155	0.0	0.0	7.5	25.1	36.7	25.1	7.5	0.0	0.0	0.0	7.5	25.1	36.7	25.1	7.5
	160	0.0	0.0	0.0	8.5	15.6	8.5	0.0	0.0	0.0	0.0	8.5	15.6	8.5	0.0	0.0
	165	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.4	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	10290	10290	10290
	45	9546	7790	7734
	55	9083	7398	7390
	65	8427	6922	6993
	75	7180	6377	6582
	85	4849	5947	6285



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	3535	3535	3535	3535	3377	3377	3377	3377	3083	3083	3083	2814	2814	2814	2567	2567	2567	2451
1	3126	2940	2774	2624	2971	2805	2655	2520	2551	2431	2321	2318	2223	2135	2104	2029	1959	1846
2	2803	2508	2263	2058	2657	2392	2170	1982	2174	1994	1838	1973	1827	1699	1788	1671	1567	1460
3	2532	2170	1889	1666	2396	2070	1814	1608	1883	1671	1497	1709	1536	1389	1548	1407	1286	1186
4	2303	1901	1606	1381	2178	1815	1545	1336	1653	1427	1248	1503	1315	1162	1363	1207	1078	985
5	2107	1683	1387	1168	1992	1609	1336	1132	1468	1237	1060	1338	1143	989	1216	1052	921	834
6	1937	1503	1212	1004	1833	1439	1169	973	1316	1086	914	1202	1005	855	1095	928	798	718
7	1789	1354	1072	874	1695	1297	1035	849	1190	963	798	1089	894	748	995	827	700	625
8	1660	1228	956	769	1574	1178	924	748	1083	862	705	994	802	662	911	744	620	551
9	1546	1121	860	684	1468	1077	832	665	993	778	628	913	726	591	839	675	555	491
10	1446	1029	779	613	1374	989	755	597	914	707	564	844	661	532	777	616	501	441

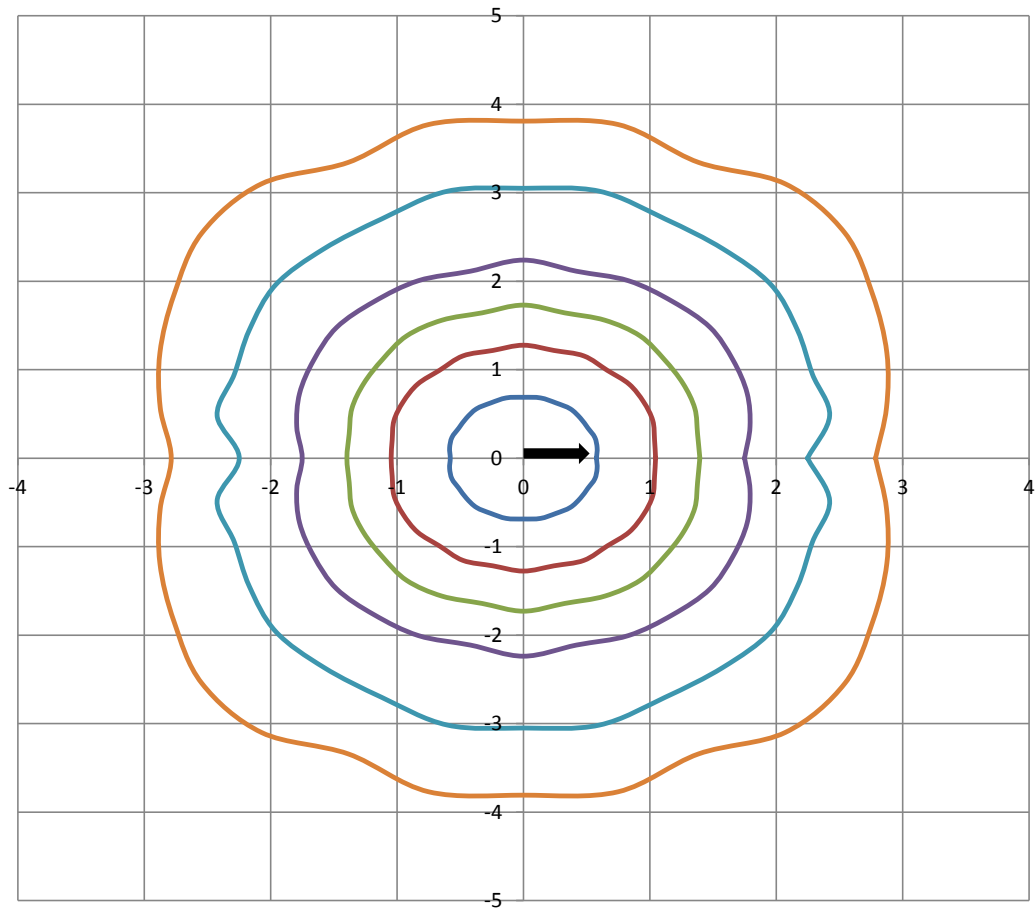
Beam and Field Information	
CIE Type:	Semi-Direct
Center Beam Intensity:	584.8 Candela
Central Cone Intensity:	585 Candela
Beam Flux:	2134.3 Lumens
Beam Angle (0-180):	113.9 Degrees
Beam Angle (90-270):	178.0 Degrees
Field Angle (0-180):	163.1 Degrees
Field Angle (90-270):	300.5 Degrees

Cone of Light Tabulation			
Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
4.00		36.6	5.59
6.00		16.2	8.38
8.00		9.14	11.2
10.0		5.85	14.0
12.0		4.06	16.8
14.0		2.98	19.5
16.0		2.28	22.3



ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

