



UL Verification Services Inc.
7036 Snowdrift Road
Allentown, PA 18106
610-774-1300



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-48-990-35K-A10-A401-U
Order Number
12182822
Test Number
12182822.23

Test Date

2018-04-17

Revised 2018-04-20

Prepared By

Cordaryl Cousar, Technician

Approved By

Alexa Lambert, Project Handler

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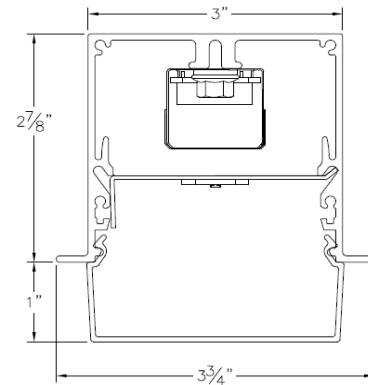


Luminaire Description: Extruded aluminum housing, frosted lens enclosure
Lamp: 96 white LEDs
Mounting: Recessed
Ballast/Driver: Philips XI040C110V054BST1

Luminaire Photo



Luminaire Cross-Section



Luminaire Characteristics

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

Summary of Results

Total Luminaire Output: 3976 Lumens
Luminaire Efficacy: 100.1 lm/w
Maximum Candela: 995 Candela

Test Conditions

Test Temperature: 25.8 °C
Voltage: 120.1 VAC
Current: 0.3319 A
Power: 39.74 W
Power Factor: 0.997
Frequency: 60 Hz
Current THD: 6.11 %

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
25.8 °C	120.1 VAC	0.3319 A	39.74 W	0.997	60 Hz	6.11 %

Summary of Results

Spacing Criteria

0-180: 1.26
90-270: 1.39

Total Lumen Output:

3976 Lumens

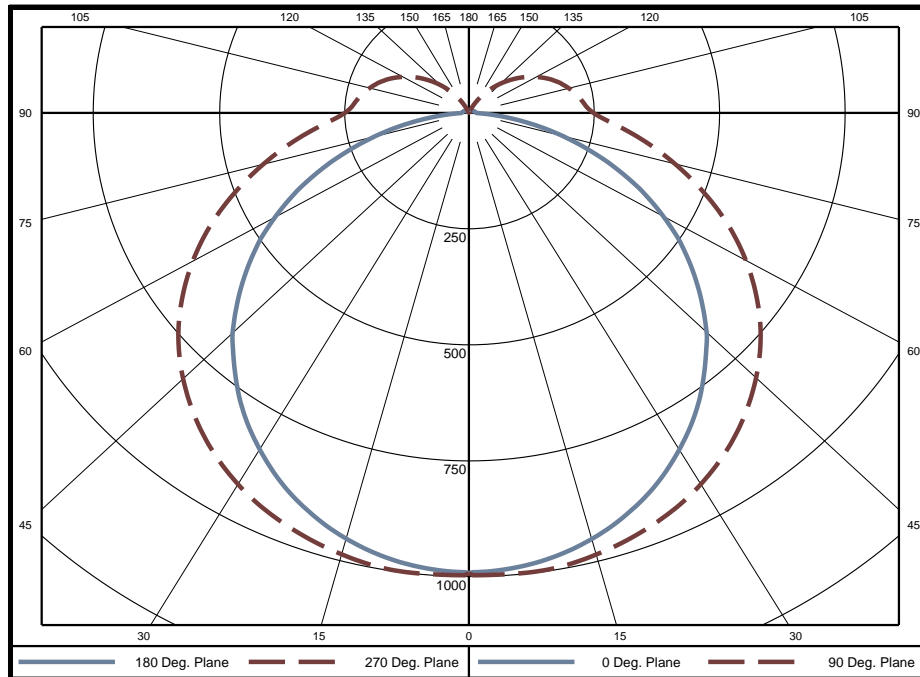
Luminaire Efficacy:

100.1 lm/w

Maximum Candela:

995 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	23.6	0.6%	60-65	252.4	6.3%	120-125	34.7	0.9%
5-10	70.4	1.8%	65-70	225.0	5.7%	125-130	26.3	0.7%
10-15	115.5	2.9%	70-75	192.3	4.8%	130-135	18.7	0.5%
15-20	157.4	4.0%	75-80	157.7	4.0%	135-140	12.4	0.3%
20-25	195.1	4.9%	80-85	123.4	3.1%	140-145	7.1	0.2%
25-30	227.5	5.7%	85-90	94.6	2.4%	145-150	3.1	0.1%
30-35	253.7	6.4%	90-95	80.5	2.0%	150-155	0.8	0.0%
35-40	273.1	6.9%	95-100	74.5	1.9%	155-160	0.0	0.0%
40-45	285.0	7.2%	100-105	68.0	1.7%	160-165	0	0.0%
45-50	289.1	7.3%	105-110	60.6	1.5%	165-170	0	0.0%
50-55	284.9	7.2%	110-115	52.2	1.3%	170-175	0	0.0%
55-60	272.6	6.9%	115-120	43.5	1.1%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	1316	33.1%
0-60	2448	61.6%
0-90	3493	87.9%
90-180	482	12.1%



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	989.4	989.4	989.4	989.4	989.4	989.4	989.4	989.4	989.4	989.4	989.4	989.4	989.4	989.4	989.4
	5	982.8	987.0	987.1	988.7	994.7	988.7	987.1	987.0	982.8	987.0	987.1	988.7	994.7	988.7	987.1
	10	969.6	976.3	980.1	985.2	993.0	985.2	980.1	976.3	969.6	976.3	980.1	985.2	993.0	985.2	980.1
	15	947.9	957.9	966.2	973.7	982.0	973.7	966.2	957.9	947.9	957.9	966.2	973.7	982.0	973.7	966.2
	20	918.2	931.9	945.3	956.1	966.5	956.1	945.3	931.9	918.2	931.9	945.3	956.1	966.5	956.1	945.3
	25	881.3	898.1	917.6	933.8	946.6	933.8	917.6	898.1	881.3	898.1	917.6	933.8	946.6	933.8	917.6
	30	836.2	857.4	883.7	906.2	920.9	906.2	883.7	857.4	836.2	857.4	883.7	906.2	920.9	906.2	883.7
	35	785.9	809.9	845.8	872.7	888.7	872.7	845.8	809.9	785.9	809.9	845.8	872.7	888.7	872.7	845.8
	40	727.8	756.7	802.4	832.5	849.8	832.5	802.4	756.7	727.8	756.7	802.4	832.5	849.8	832.5	802.4
	45	668.4	699.2	753.3	786.9	805.2	786.9	753.3	699.2	668.4	699.2	753.3	786.9	805.2	786.9	753.3
	50	597.6	637.5	697.4	735.3	755.0	735.3	697.4	637.5	597.6	637.5	697.4	735.3	755.0	735.3	697.4
	55	525.0	571.1	635.6	677.3	697.0	677.3	635.6	571.1	525.0	571.1	635.6	677.3	697.0	677.3	635.6
	60	446.8	500.0	567.8	613.4	633.7	613.4	567.8	500.0	446.8	500.0	567.8	613.4	633.7	613.4	567.8
	65	364.3	424.5	495.6	545.7	565.5	545.7	495.6	424.5	364.3	424.5	495.6	545.7	565.5	545.7	495.6
	70	277.3	344.5	420.7	473.6	493.2	473.6	420.7	344.5	277.3	344.5	420.7	473.6	493.2	473.6	420.7
	75	193.6	265.9	346.7	403.0	422.0	403.0	346.7	265.9	193.6	265.9	346.7	403.0	422.0	403.0	346.7
	80	114.3	192.1	277.6	335.0	354.0	335.0	277.6	192.1	114.3	192.1	277.6	335.0	354.0	335.0	277.6
	85	48.2	129.6	215.2	271.9	290.4	271.9	215.2	129.6	48.2	129.6	215.2	271.9	290.4	271.9	215.2
	90	12.5	89.5	173.6	227.0	245.2	227.0	173.6	89.5	12.5	89.5	173.6	227.0	245.2	227.0	173.6
	95	10.8	78.6	158.8	210.2	227.4	210.2	158.8	78.6	10.8	78.6	158.8	210.2	227.4	210.2	158.8
	100	9.7	69.3	148.4	198.8	215.8	198.8	148.4	69.3	9.7	69.3	148.4	198.8	215.8	198.8	148.4
	105	9.0	58.8	135.8	186.2	203.1	186.2	135.8	58.8	9.0	58.8	135.8	186.2	203.1	186.2	135.8
	110	8.0	47.8	121.5	171.3	188.7	171.3	121.5	47.8	8.0	47.8	121.5	171.3	188.7	171.3	121.5
	115	7.1	36.6	106.0	153.4	171.7	153.4	106.0	36.6	7.1	36.6	106.0	153.4	171.7	153.4	106.0
	120	6.0	25.2	90.0	134.6	152.4	134.6	90.0	25.2	6.0	25.2	90.0	134.6	152.4	134.6	90.0
	125	4.7	14.6	73.1	114.8	131.9	114.8	73.1	14.6	4.7	14.6	73.1	114.8	131.9	114.8	73.1
	130	3.8	5.2	56.0	94.3	109.8	94.3	56.0	5.2	3.8	5.2	56.0	94.3	109.8	94.3	56.0
	135	2.8	2.1	37.5	73.7	87.4	73.7	37.5	2.1	2.8	2.1	37.5	73.7	87.4	73.7	37.5
	140	1.8	1.2	20.8	53.1	64.7	53.1	20.8	1.2	1.8	1.2	20.8	53.1	64.7	53.1	20.8
	145	0.9	0.4	6.6	33.1	43.0	33.1	6.6	0.4	0.9	0.4	6.6	33.1	43.0	33.1	6.6
	150	0.1	0.0	0.0	13.7	22.1	13.7	0.0	0.0	0.1	0.0	0.0	13.7	22.1	13.7	0.0
	155	0.0	0.0	0.0	0.9	4.0	0.9	0.0	0.0	0.0	0.0	0.0	0.9	4.0	0.9	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	8520	8520	8520
	45	7973	7624	7742
	55	7655	7395	7578
	65	7106	7032	7331
	75	5975	6558	7037
	85	3848	6397	7088



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	4618	4618	4618	4618	4455	4455	4455	4455	4150	4150	4150	3870	3870	3870	3614	3614	3614	3493
1	4131	3908	3708	3528	3969	3769	3588	3425	3509	3362	3228	3269	3152	3043	3049	2956	2869	2749
2	3722	3358	3057	2804	3568	3240	2965	2733	3018	2791	2595	2813	2627	2464	2624	2473	2338	2221
3	3372	2920	2570	2291	3228	2819	2498	2239	2629	2359	2137	2453	2228	2039	2290	2104	1944	1832
4	3074	2568	2198	1915	2941	2482	2140	1875	2319	2027	1797	2167	1920	1720	2026	1818	1646	1540
5	2817	2281	1906	1630	2696	2207	1859	1599	2066	1766	1536	1935	1678	1476	1813	1593	1416	1315
6	2594	2043	1674	1409	2484	1979	1634	1383	1857	1557	1333	1744	1483	1283	1637	1411	1234	1140
7	2399	1845	1485	1234	2299	1789	1452	1212	1683	1386	1170	1583	1323	1129	1490	1262	1088	999
8	2229	1677	1330	1092	2138	1628	1301	1074	1535	1245	1038	1448	1191	1003	1366	1139	969	885
9	2078	1534	1201	975	1996	1491	1176	960	1409	1127	930	1332	1080	900	1259	1035	870	791
10	1945	1411	1091	878	1870	1373	1070	865	1300	1027	839	1232	986	813	1167	947	788	713

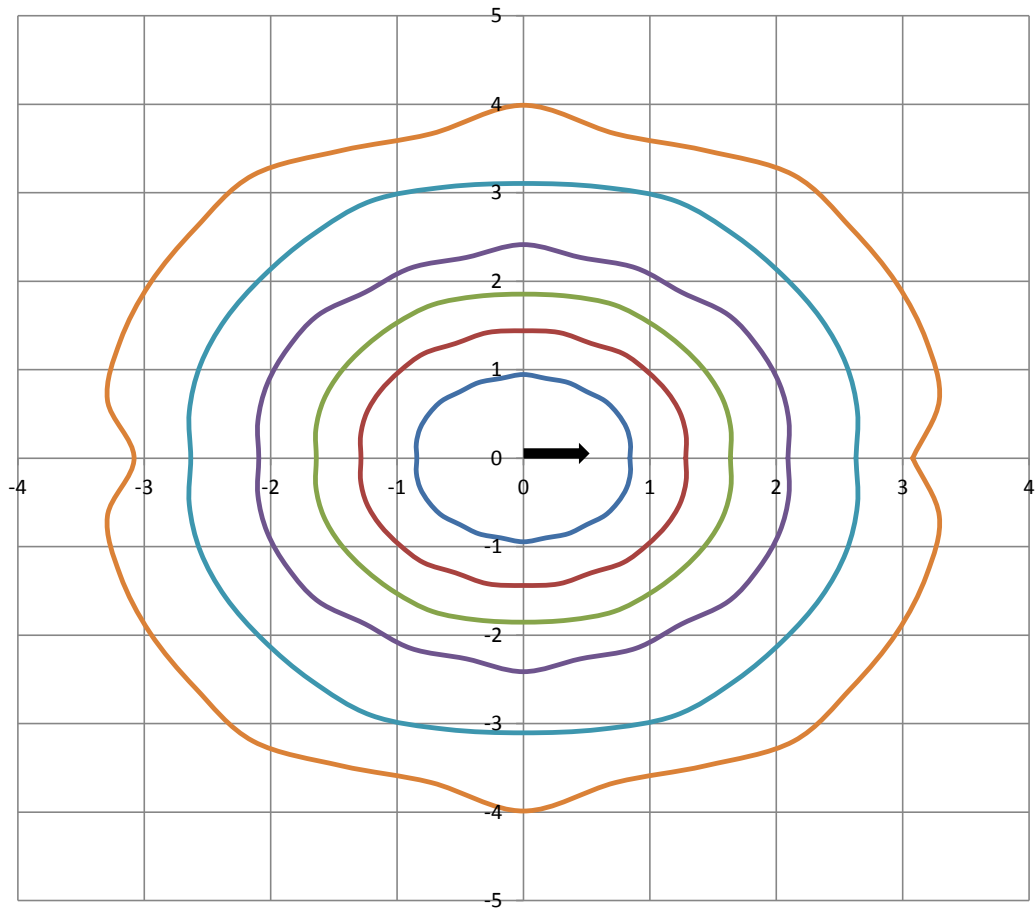
Beam and Field Information	
CIE Type:	Semi-Direct
Center Beam Intensity:	989.4 Candela
Central Cone Intensity:	989 Candela
Beam Flux:	2687.0 Lumens
Beam Angle (0-180):	114.2 Degrees
Beam Angle (90-270):	139.8 Degrees
Field Angle (0-180):	162.1 Degrees
Field Angle (90-270):	264.8 Degrees

Cone of Light Tabulation			
Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
4.00		61.8	5.30
6.00		27.5	7.95
8.00		15.5	10.6
10.0		9.89	13.3
12.0		6.87	15.9
14.0		5.05	18.6
16.0		3.86	21.2



ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

