



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-48-770-35K-A05-A401-U

Order Number
12182822
Test Number
12182822.15

Test Date

2018-03-20

Prepared By

Bhavik Shah, Laboratory Leader

Approved By

Alexa Lambert, Project Handler

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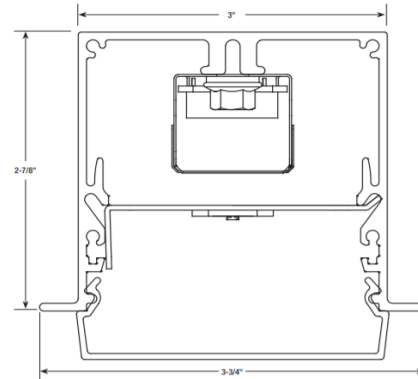


Luminaire Description: Extruded aluminum housing, frosted lens enclosure
Lamp: 96 white LEDs
Mounting: Recessed
Ballast/Driver: Philips XI040C110V054BST1

Luminaire Photo



Luminaire Cross Section



Luminaire Characteristics

Luminous Length: 47.00 in.
Luminous Width: 3.000 in.
Luminous Height: 0.50 in.

Summary of Results

Total Luminaire Output: 3076 Lumens
Luminaire Efficacy: 84.4 lm/w
Maximum Candela: 908 Candela

Test Conditions

Test Temperature: 24.8 °C
Voltage: 120.1 VAC
Current: 0.3044 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
24.8 °C	120.1 VAC	0.3044 A	36.43 W	0.996	60 Hz	6.88 %

Summary of Results

Spacing Criteria

0-180: 1.26
90-270: 1.32

Total Lumen Output:

3076 Lumens

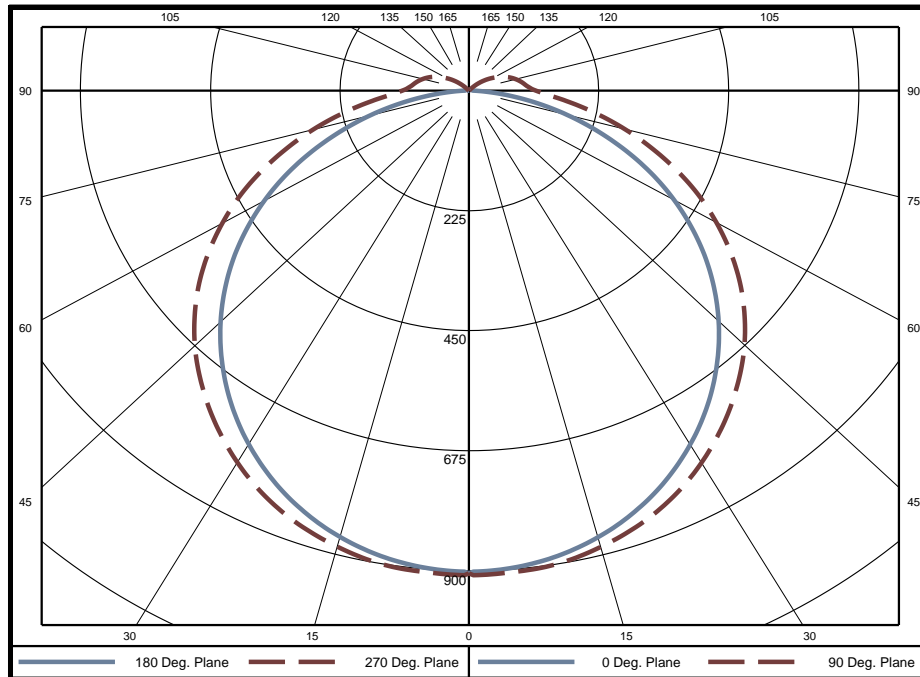
Luminaire Efficacy:

84.4 lm/w

Maximum Candela:

908 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	21.6	0.7%	60-65	206.2	6.7%	120-125	8.3	0.3%
5-10	64.2	2.1%	65-70	177.8	5.8%	125-130	4.6	0.1%
10-15	104.9	3.4%	70-75	144.4	4.7%	130-135	1.9	0.1%
15-20	142.5	4.6%	75-80	109.5	3.6%	135-140	0.4	0.0%
20-25	175.9	5.7%	80-85	75.6	2.5%	140-145	0.0	0.0%
25-30	204.0	6.6%	85-90	49.0	1.6%	145-150	0	0.0%
30-35	225.8	7.3%	90-95	36.9	1.2%	150-155	0	0.0%
35-40	240.9	7.8%	95-100	32.1	1.0%	155-160	0	0.0%
40-45	248.9	8.1%	100-105	27.6	0.9%	160-165	0	0.0%
45-50	249.7	8.1%	105-110	22.6	0.7%	165-170	0	0.0%
50-55	242.7	7.9%	110-115	17.3	0.6%	170-175	0	0.0%
55-60	228.1	7.4%	115-120	12.5	0.4%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	1180	38.4%
0-60	2149	69.9%
0-90	2912	94.7%
90-180	164	5.3%



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	904.8	904.8	904.8	904.8	904.8	904.8	904.8	904.8	904.8	904.8	904.8	904.8	904.8	904.8	904.8
	5	897.5	901.5	901.1	901.7	905.5	901.7	901.1	901.5	897.5	901.5	901.1	901.7	905.5	901.7	901.1
	10	885.9	890.1	891.7	894.4	899.7	894.4	891.7	890.1	885.9	890.1	891.7	894.4	899.7	894.4	891.7
	15	866.5	872.3	876.0	879.6	884.9	879.6	876.0	872.3	866.5	872.3	876.0	879.6	884.9	879.6	876.0
	20	840.2	847.6	854.0	858.7	865.3	858.7	854.0	847.6	840.2	847.6	854.0	858.7	865.3	858.7	854.0
	25	806.8	815.6	825.0	832.0	838.8	832.0	825.0	815.6	806.8	815.6	825.0	832.0	838.8	832.0	825.0
	30	766.7	777.2	789.8	797.5	805.2	797.5	789.8	777.2	766.7	777.2	789.8	797.5	805.2	797.5	789.8
	35	720.9	732.5	748.4	757.7	766.3	757.7	748.4	732.5	720.9	732.5	748.4	757.7	766.3	757.7	748.4
	40	669.1	682.5	702.1	712.6	722.4	712.6	702.1	682.5	669.1	682.5	702.1	712.6	722.4	712.6	702.1
	45	612.4	627.6	650.0	663.9	674.6	663.9	650.0	627.6	612.4	627.6	650.0	663.9	674.6	663.9	650.0
	50	550.4	567.6	593.8	610.0	620.7	610.0	593.8	567.6	550.4	567.6	593.8	610.0	620.7	610.0	593.8
	55	483.4	503.3	532.2	549.9	560.8	549.9	532.2	503.3	483.4	503.3	532.2	549.9	560.8	549.9	532.2
	60	411.4	434.3	465.8	485.1	495.2	485.1	465.8	434.3	411.4	434.3	465.8	485.1	495.2	485.1	465.8
	65	334.7	362.1	394.5	416.4	426.1	416.4	394.5	362.1	334.7	362.1	394.5	416.4	426.1	416.4	394.5
	70	254.7	286.4	320.8	344.0	352.5	344.0	320.8	286.4	254.7	286.4	320.8	344.0	352.5	344.0	320.8
	75	176.5	211.1	247.4	272.2	280.6	272.2	247.4	211.1	176.5	211.1	247.4	272.2	280.6	272.2	247.4
	80	102.7	140.5	179.4	204.5	212.5	204.5	179.4	140.5	102.7	140.5	179.4	204.5	212.5	204.5	179.4
	85	39.8	79.7	119.8	145.1	153.9	145.1	119.8	79.7	39.8	79.7	119.8	145.1	153.9	145.1	119.8
	90	7.1	44.1	83.2	108.3	116.7	108.3	83.2	44.1	7.1	44.1	83.2	108.3	116.7	108.3	83.2
	95	5.9	34.0	69.7	93.2	101.1	93.2	69.7	34.0	5.9	34.0	69.7	93.2	101.1	93.2	69.7
	100	5.1	26.1	62.0	85.2	92.9	85.2	62.0	26.1	5.1	26.1	62.0	85.2	92.9	85.2	62.0
	105	4.5	17.6	52.5	75.9	84.0	75.9	52.5	17.6	4.5	17.6	52.5	75.9	84.0	75.9	52.5
	110	3.8	9.1	41.9	65.0	73.8	65.0	41.9	9.1	3.8	9.1	41.9	65.0	73.8	65.0	41.9
	115	3.0	3.1	30.7	52.9	61.9	52.9	30.7	3.1	3.0	3.1	30.7	52.9	61.9	52.9	30.7
	120	2.2	1.7	19.6	40.5	48.9	40.5	19.6	1.7	2.2	1.7	19.6	40.5	48.9	40.5	19.6
	125	1.4	1.0	8.6	28.0	35.8	28.0	8.6	1.0	1.4	1.0	8.6	28.0	35.8	28.0	8.6
	130	0.7	0.3	1.0	15.7	22.5	15.7	1.0	0.3	0.7	0.3	1.0	15.7	22.5	15.7	1.0
	135	0.1	0.0	0.0	4.4	9.8	4.4	0.0	0.0	0.1	0.0	0.0	4.4	9.8	4.4	0.0
	140	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	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	9946	9946	9946
45	9420	8980	8990
55	9126	8651	8682
65	8512	8088	8165
75	7210	7159	7349
85	4478	6209	6684



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	3623	3623	3623	3623	3519	3519	3519	3519	3326	3326	3326	3150	3150	3150	2988	2988	2988	2912
1	3267	3104	2958	2826	3165	3017	2884	2764	2855	2746	2646	2706	2617	2535	2568	2497	2431	2354
2	2954	2681	2456	2266	2855	2608	2401	2226	2470	2298	2148	2344	2200	2075	2226	2109	2004	1926
3	2682	2339	2074	1863	2589	2277	2032	1835	2160	1952	1781	2052	1877	1729	1952	1805	1678	1602
4	2448	2062	1780	1565	2362	2010	1747	1544	1910	1684	1505	1818	1624	1466	1732	1566	1429	1354
5	2246	1836	1549	1337	2168	1791	1523	1322	1706	1472	1292	1627	1423	1263	1553	1376	1234	1162
6	2070	1647	1364	1160	1999	1609	1342	1148	1536	1301	1125	1468	1260	1102	1404	1222	1079	1010
7	1916	1490	1213	1019	1852	1457	1195	1010	1394	1161	991	1334	1127	972	1279	1095	954	888
8	1782	1356	1089	905	1723	1328	1074	897	1273	1044	882	1221	1016	866	1173	989	851	789
9	1663	1242	985	811	1610	1217	972	804	1169	947	791	1124	923	779	1082	900	766	707
10	1558	1144	897	733	1510	1122	886	727	1080	865	716	1041	844	705	1003	824	694	638

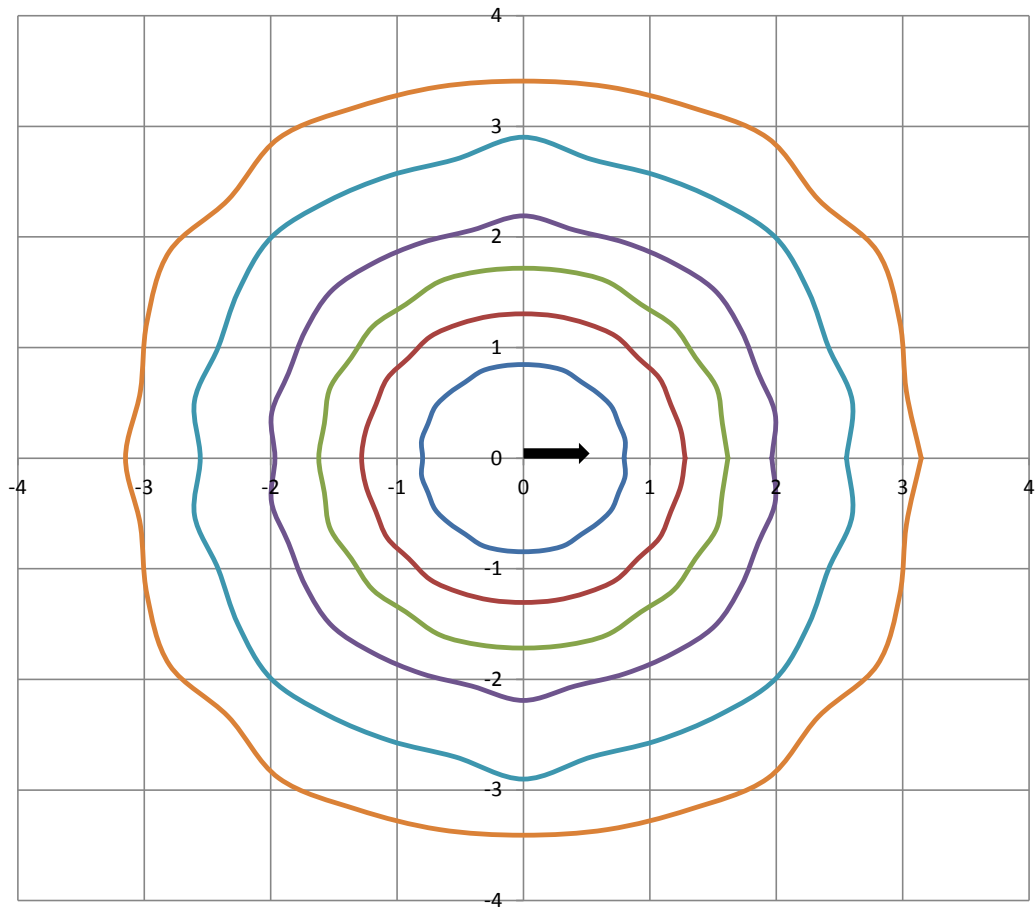
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	904.8 Candela
Central Cone Intensity:	904 Candela
Beam Flux:	2177.5 Lumens
Beam Angle (0-180):	114.4 Degrees
Beam Angle (90-270):	126.3 Degrees
Field Angle (0-180):	161.8 Degrees
Field Angle (90-270):	202.8 Degrees

Cone of Light Tabulation			
Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
4.00		56.5	5.17
6.00		25.1	7.76
8.00		14.1	10.3
10.0		9.05	12.9
12.0		6.28	15.5
14.0		4.62	18.1
16.0		3.53	20.7



ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

