



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-48-1050-35K-A15-A401-U**  
Order Number  
12182822  
Test Number  
12182822.25

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.  
This report shall not be reproduced, except in full, without written approval of Underwriters Laboratories.  
This report must not be used by the client to claim product certification, approval, or endorsement by  
NVLAP, NIST, or any agency of the Federal Government.

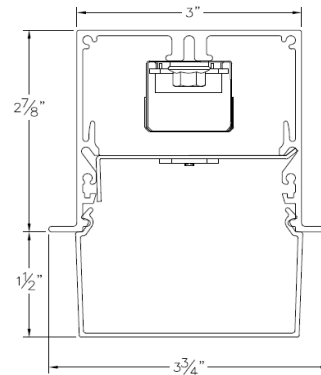


**Luminaire Description:** Extruded aluminum housing, frosted lens enclosure  
**Lamp:** 96 white LEDs  
**Mounting:** Recessed  
**Ballast/Driver:** Philips XI040C110V054BST1

**Luminaire Photo**



**Luminaire Cross-Section**



**Luminaire Characteristics**

Luminous Length: 48.00 in.  
Luminous Width: 3.750 in.  
Luminous Height: 1.50 in.

**Summary of Results**

Total Luminaire Output: 4198 Lumens  
Luminaire Efficacy: 105.5 lm/w  
Maximum Candela: 920 Candela

**Test Conditions**

Test Temperature: 25.6 °C  
Voltage: 120.1 VAC  
Current: 0.3322 A  
Power: 39.77 W  
Power Factor: 0.997  
Frequency: 60 Hz  
Current THD: 6.09 %

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
25.6 °C	120.1 VAC	0.3322 A	39.77 W	0.997	60 Hz	6.09 %

### Summary of Results

#### Spacing Criteria

0-180: 1.25  
90-270: 1.45

#### Total Lumen Output:

4198 Lumens

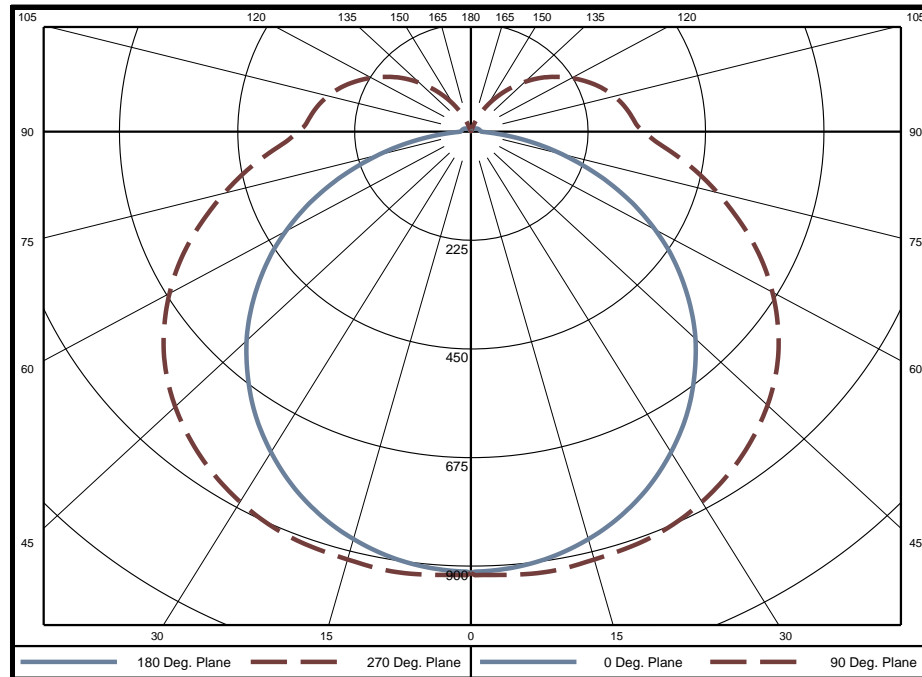
#### Luminaire Efficacy:

105.5 lm/w

#### Maximum Candela:

920 Candela

### Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	21.8	0.5%	60-65	256.0	6.1%	120-125	54.2	1.3%
5-10	65.0	1.5%	65-70	234.1	5.6%	125-130	43.5	1.0%
10-15	106.8	2.5%	70-75	206.9	4.9%	130-135	33.1	0.8%
15-20	146.0	3.5%	75-80	177.8	4.2%	135-140	23.5	0.6%
20-25	181.9	4.3%	80-85	148.0	3.5%	140-145	15.5	0.4%
25-30	213.3	5.1%	85-90	122.1	2.9%	145-150	9.3	0.2%
30-35	239.3	5.7%	90-95	108.3	2.6%	150-155	4.4	0.1%
35-40	259.3	6.2%	95-100	101.9	2.4%	155-160	1.4	0.0%
40-45	273.0	6.5%	100-105	94.5	2.3%	160-165	0.1	0.0%
45-50	279.9	6.7%	105-110	85.7	2.0%	165-170	0	0.0%
50-55	279.4	6.7%	110-115	75.7	1.8%	170-175	0	0.0%
55-60	271.2	6.5%	115-120	65.0	1.5%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	1233	29.4%
0-60	2337	55.7%
0-90	3482	82.9%
90-180	716	17.1%



### 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	911.0	911.0	911.0	911.0	911.0	911.0	911.0	911.0	911.0	911.0	911.0	911.0	911.0	911.0	911.0
	5	903.8	909.3	910.3	912.3	917.9	912.3	910.3	909.3	903.8	909.3	910.3	912.3	917.9	912.3	910.3
	10	891.1	899.9	905.7	912.0	919.7	912.0	905.7	899.9	891.1	899.9	905.7	912.0	919.7	912.0	905.7
	15	870.3	883.7	894.8	904.4	913.8	904.4	894.8	883.7	870.3	883.7	894.8	904.4	913.8	904.4	894.8
	20	842.3	860.2	878.4	895.9	908.7	895.9	878.4	860.2	842.3	860.2	878.4	895.9	908.7	895.9	878.4
	25	806.8	829.5	858.5	884.3	899.1	884.3	858.5	829.5	806.8	829.5	858.5	884.3	899.1	884.3	858.5
	30	764.4	792.5	834.5	865.4	882.0	865.4	834.5	792.5	764.4	792.5	834.5	865.4	882.0	865.4	834.5
	35	717.1	750.1	804.5	841.1	859.8	841.1	804.5	750.1	717.1	750.1	804.5	841.1	859.8	841.1	804.5
	40	663.2	704.7	769.6	811.1	832.2	811.1	769.6	704.7	663.2	704.7	769.6	811.1	832.2	811.1	769.6
	45	606.4	655.6	729.2	777.1	799.9	777.1	729.2	655.6	606.4	655.6	729.2	777.1	799.9	777.1	729.2
	50	543.4	602.2	683.4	736.9	761.6	736.9	683.4	602.2	543.4	602.2	683.4	736.9	761.6	736.9	683.4
	55	477.2	544.1	632.2	690.2	715.7	690.2	632.2	544.1	477.2	544.1	632.2	690.2	715.7	690.2	632.2
	60	406.4	482.0	574.9	637.7	664.1	637.7	574.9	482.0	406.4	482.0	574.9	637.7	664.1	637.7	574.9
	65	331.9	415.7	513.8	581.4	608.0	581.4	513.8	415.7	331.9	415.7	513.8	581.4	608.0	581.4	513.8
	70	254.1	345.8	449.1	520.6	546.7	520.6	449.1	345.8	254.1	345.8	449.1	520.6	546.7	520.6	449.1
	75	178.9	276.8	385.4	460.2	486.1	460.2	385.4	276.8	178.9	276.8	385.4	460.2	486.1	460.2	385.4
	80	108.1	211.2	325.5	401.4	427.4	401.4	325.5	211.2	108.1	211.2	325.5	401.4	427.4	401.4	325.5
	85	48.0	156.4	269.7	344.5	369.4	344.5	269.7	156.4	48.0	156.4	269.7	344.5	369.4	344.5	269.7
	90	16.7	119.2	230.2	303.4	328.2	303.4	230.2	119.2	16.7	119.2	230.2	303.4	328.2	303.4	230.2
	95	15.1	108.1	214.5	284.7	308.4	284.7	214.5	108.1	15.1	108.1	214.5	284.7	308.4	284.7	214.5
	100	14.0	98.5	203.2	272.5	296.1	272.5	203.2	98.5	14.0	98.5	203.2	272.5	296.1	272.5	203.2
	105	13.1	87.6	189.8	257.6	280.9	257.6	189.8	87.6	13.1	87.6	189.8	257.6	280.9	257.6	189.8
	110	12.1	75.8	174.8	239.7	263.2	239.7	174.8	75.8	12.1	75.8	174.8	239.7	263.2	239.7	174.8
	115	11.0	63.8	157.4	218.9	242.2	218.9	157.4	63.8	11.0	63.8	157.4	218.9	242.2	218.9	157.4
	120	9.6	51.0	138.9	196.8	219.6	196.8	138.9	51.0	9.6	51.0	138.9	196.8	219.6	196.8	138.9
	125	8.0	39.1	119.4	174.6	194.9	174.6	119.4	39.1	8.0	39.1	119.4	174.6	194.9	174.6	119.4
	130	6.7	26.5	99.1	149.7	170.1	149.7	99.1	26.5	6.7	26.5	99.1	149.7	170.1	149.7	99.1
	135	5.4	15.3	75.8	124.4	142.7	124.4	75.8	15.3	5.4	15.3	75.8	124.4	142.7	124.4	75.8
	140	4.1	6.2	54.0	98.7	114.8	98.7	54.0	6.2	4.1	6.2	54.0	98.7	114.8	98.7	54.0
	145	2.8	2.2	34.2	73.4	87.0	73.4	34.2	2.2	2.8	2.2	34.2	73.4	87.0	73.4	34.2
	150	1.6	1.0	17.3	47.1	60.4	47.1	17.3	1.0	1.6	1.0	17.3	47.1	60.4	47.1	17.3
	155	0.5	0.1	3.9	23.1	34.5	23.1	3.9	0.1	0.5	0.1	3.9	23.1	34.5	23.1	3.9
	160	0.0	0.0	0.0	4.9	10.6	4.9	0.0	0.0	0.0	0.0	4.9	10.6	4.9	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/m<sup>2</sup>)

Horizontal Angle (Degrees)

Vertical Angle (Degrees)	Horizontal Angle (Degrees)			
	0	45	90	
	0	7845	7845	7845
	45	7161	6805	6958
	55	6859	6612	6838
	65	6338	6330	6669
	75	5330	5998	6488
85	3497	5941	6550	



### 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	4827	4827	4827	4827	4631	4631	4631	4631	4267	4267	4267	3933	3933	3933	3626	3626	3626	3482
1	4292	4048	3830	3633	4099	3881	3684	3506	3568	3409	3263	3280	3153	3036	3015	2915	2822	2681
2	3858	3466	3141	2868	3675	3323	3028	2778	3055	2813	2604	2807	2611	2438	2578	2420	2279	2144
3	3490	3006	2631	2333	3320	2884	2541	2265	2653	2368	2133	2440	2204	2006	2242	2049	1883	1755
4	3178	2639	2244	1943	3021	2534	2170	1890	2335	2029	1786	2151	1894	1685	1979	1765	1587	1467
5	2909	2340	1942	1648	2767	2249	1881	1606	2077	1763	1522	1918	1650	1441	1768	1542	1361	1249
6	2677	2093	1702	1421	2547	2015	1650	1386	1865	1551	1317	1726	1455	1249	1595	1364	1183	1078
7	2474	1887	1507	1240	2356	1819	1463	1211	1688	1379	1153	1565	1297	1096	1450	1218	1040	943
8	2297	1714	1347	1095	2190	1653	1309	1070	1538	1236	1021	1430	1166	972	1328	1097	925	833
9	2141	1566	1214	976	2043	1513	1181	954	1411	1117	912	1315	1056	870	1224	996	829	744
10	2003	1439	1101	876	1914	1391	1073	858	1301	1017	821	1215	963	785	1134	911	749	669

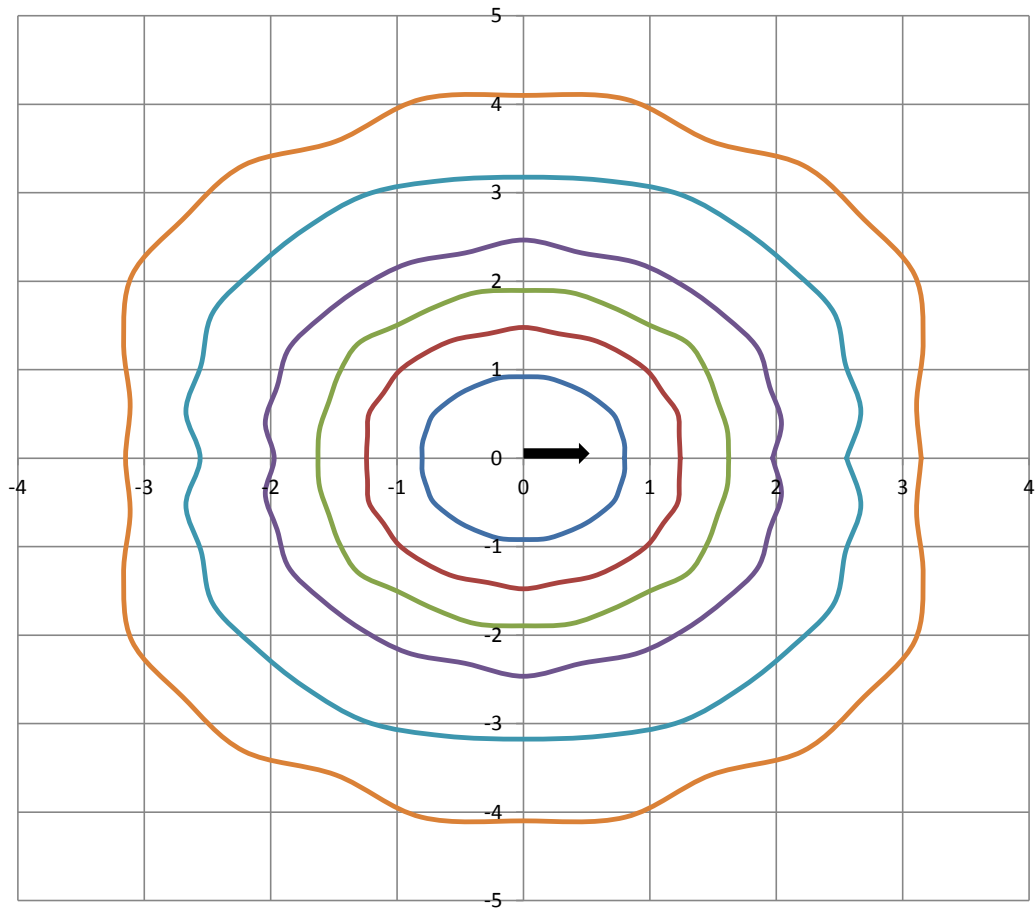
Beam and Field Information	
CIE Type:	Semi-Direct
Center Beam Intensity:	911.0 Candela
Central Cone Intensity:	911 Candela
Beam Flux:	2802.7 Lumens
Beam Angle (0-180):	113.2 Degrees
Beam Angle (90-270):	155.2 Degrees
Field Angle (0-180):	162.6 Degrees
Field Angle (90-270):	288.5 Degrees

Cone of Light Tabulation			
Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
4.00		56.9	5.42
6.00		25.3	8.13
8.00		14.2	10.8
10.0		9.11	13.5
12.0		6.33	16.3
14.0		4.65	19.0
16.0		3.56	21.7



## ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

