



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
MLR2-N5/F-48-525-35K-ASO-A401-U

Order Number
12182822
Test Number
12182822.13

Test Date

2018-02-21

Revised 2018-02-27

Prepared By

Dane Hernandez-Adams, 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.

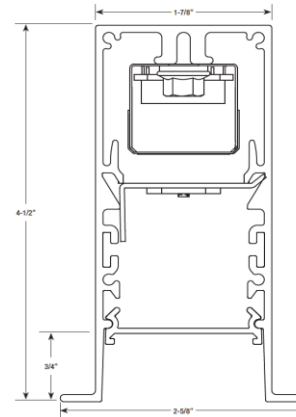


Luminaire Description: Extruded aluminum housing, frosted lens enclosure
Lamp: 96 white LEDs
Mounting: Recessed
Ballast/Driver: Philips XI040C110V054BST1

Luminaire Photo



Luminaire Cross Section



Luminaire Characteristics

Luminous Length: 47.00 in.
Luminous Width: 1.750 in.
Luminous Height: 0.75 in.

Summary of Results

Total Luminaire Output: 2138 Lumens
Luminaire Efficacy: 47.9 lm/w
Maximum Candela: 941 Candela

Test Conditions

Test Temperature: 24.8 °C
Voltage: 120.0 VAC
Current: 0.3730 A
Power: 44.65 W
Power Factor: 0.998
Frequency: 60 Hz
Current THD: 5.40 %

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	120.0 VAC	0.3730 A	44.65 W	0.998	60 Hz	5.40 %

Summary of Results

Spacing Criteria

0-180: 1.27

90-270: 1.10

Total Lumen Output:

2138 Lumens

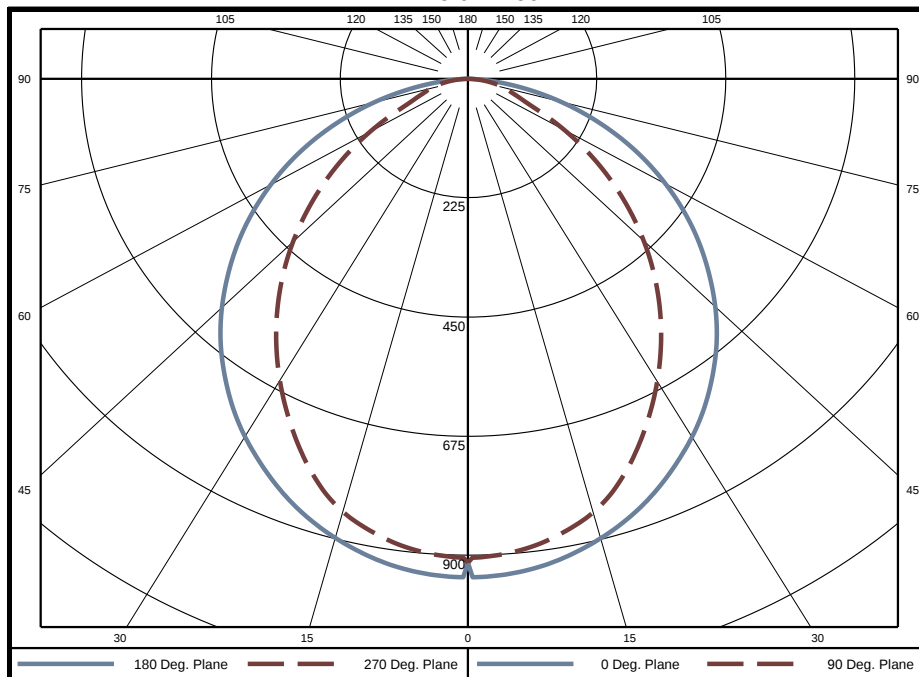
Luminaire Efficacy:

47.9 lm/w

Maximum Candela:

941 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	21.8	1.0%	60-65	118.4	5.5%	120-125	0	0.0%
5-10	64.3	3.0%	65-70	87.2	4.1%	125-130	0	0.0%
10-15	104.1	4.9%	70-75	60.6	2.8%	130-135	0	0.0%
15-20	139.1	6.5%	75-80	38.8	1.8%	135-140	0	0.0%
20-25	167.4	7.8%	80-85	19.9	0.9%	140-145	0	0.0%
25-30	188.2	8.8%	85-90	5.0	0.2%	145-150	0	0.0%
30-35	201.2	9.4%	90-95	0	0.0%	150-155	0	0.0%
35-40	206.3	9.6%	95-100	0	0.0%	155-160	0	0.0%
40-45	203.0	9.5%	100-105	0	0.0%	160-165	0	0.0%
45-50	191.5	9.0%	105-110	0	0.0%	165-170	0	0.0%
50-55	172.9	8.1%	110-115	0	0.0%	170-175	0	0.0%
55-60	148.1	6.9%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	1092	51.1%
0-60	1808	84.6%
0-90	2138	100.0%
90-180	0	0.0%



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	913.8	913.8	913.8	913.8	913.8	913.8	913.8	913.8	913.8	913.8	913.8	913.8	913.8	913.8	913.8
	5	936.7	913.7	900.2	899.5	897.3	899.5	900.2	913.7	936.7	913.7	900.2	899.5	897.3	899.5	900.2
	10	922.2	898.2	883.9	881.1	878.0	881.1	883.9	898.2	922.2	898.2	883.9	881.1	878.0	881.1	883.9
	15	898.1	872.8	857.0	851.8	847.0	851.8	857.0	872.8	898.1	872.8	857.0	851.8	847.0	851.8	857.0
	20	866.6	839.3	819.6	804.2	795.9	804.2	819.6	839.3	866.6	839.3	819.6	804.2	795.9	804.2	819.6
	25	826.8	798.5	770.8	742.5	730.5	742.5	770.8	798.5	826.8	798.5	770.8	742.5	730.5	742.5	770.8
	30	782.1	753.4	710.5	674.2	660.6	674.2	710.5	753.4	782.1	753.4	710.5	674.2	660.6	674.2	710.5
	35	730.8	701.0	645.2	603.3	588.1	603.3	645.2	701.0	730.8	701.0	645.2	603.3	588.1	603.3	645.2
	40	673.9	640.3	575.4	529.1	512.9	529.1	575.4	640.3	673.9	640.3	575.4	529.1	512.9	529.1	575.4
	45	611.3	572.6	501.0	451.9	434.8	451.9	501.0	572.6	611.3	572.6	501.0	451.9	434.8	451.9	501.0
	50	543.6	499.6	424.0	373.0	354.6	373.0	424.0	499.6	543.6	499.6	424.0	373.0	354.6	373.0	424.0
	55	473.8	424.8	345.5	293.4	275.2	293.4	345.5	424.8	473.8	424.8	345.5	293.4	275.2	293.4	345.5
	60	399.8	347.5	267.5	215.0	196.8	215.0	267.5	347.5	399.8	347.5	267.5	215.0	196.8	215.0	267.5
	65	324.3	270.2	189.9	139.8	124.7	139.8	189.9	270.2	324.3	270.2	189.9	139.8	124.7	139.8	189.9
	70	245.9	193.4	116.7	90.3	87.2	90.3	116.7	193.4	245.9	193.4	116.7	90.3	87.2	90.3	116.7
	75	168.9	120.1	68.3	66.7	66.4	66.7	68.3	120.1	168.9	120.1	68.3	66.7	66.4	66.7	68.3
	80	94.8	54.5	44.8	43.2	42.9	43.2	44.8	54.5	94.8	54.5	44.8	43.2	42.9	43.2	44.8
	85	33.8	22.1	20.1	19.1	18.7	19.1	20.1	22.1	33.8	22.1	20.1	19.1	18.7	19.1	20.1
	90	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
	95	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
	100	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
	105	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
	110	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
	115	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
	120	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
	125	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
	130	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
	135	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
	140	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
	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	17220	17220	17220
	45	16030	10160	8112
	55	15220	7834	5608
	65	13980	5059	2898
	75	11610	2288	1859
	85	6172	947	687



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	2545	2545	2545	2545	2486	2486	2486	2486	2375	2375	2375	2274	2274	2274	2182	2182	2182	2138
1	2347	2254	2171	2096	2290	2206	2130	2061	2116	2054	1997	2033	1983	1936	1957	1916	1879	1835
2	2151	1988	1853	1739	2096	1948	1824	1719	1873	1769	1679	1804	1718	1641	1740	1669	1605	1561
3	1973	1762	1599	1469	1921	1729	1578	1456	1666	1537	1430	1608	1498	1406	1555	1462	1382	1338
4	1814	1573	1396	1260	1767	1545	1379	1252	1492	1348	1235	1443	1319	1218	1398	1291	1202	1158
5	1675	1414	1231	1096	1631	1390	1219	1090	1346	1195	1079	1304	1172	1067	1266	1149	1056	1013
6	1551	1279	1096	965	1511	1259	1086	961	1221	1067	953	1186	1049	944	1153	1031	936	894
7	1442	1164	984	858	1406	1147	977	855	1115	961	849	1085	946	843	1056	932	837	796
8	1345	1066	891	770	1312	1051	884	768	1024	872	763	998	860	759	973	848	754	715
9	1259	981	811	697	1229	969	806	695	945	796	691	922	786	688	901	776	684	647
10	1182	908	744	634	1155	897	739	633	876	731	630	856	722	628	837	714	625	589

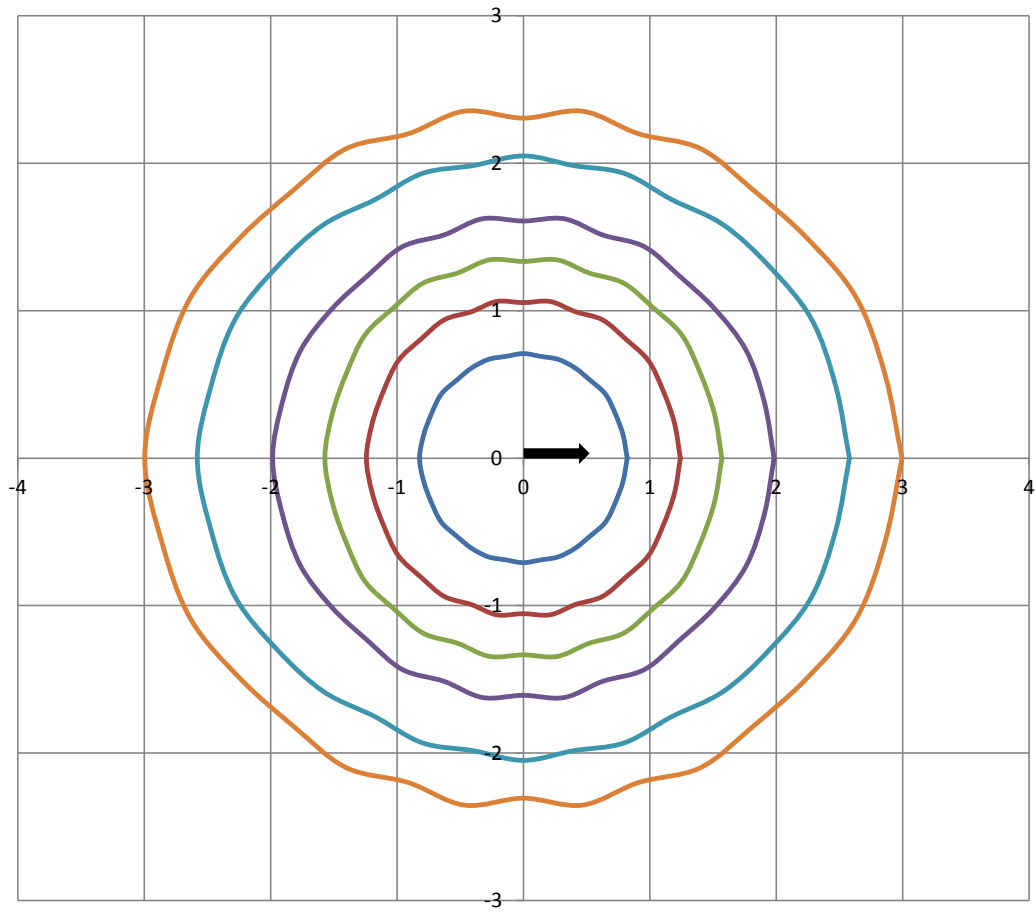
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	913.8 Candela
Central Cone Intensity:	912 Candela
Beam Flux:	1459.7 Lumens
Beam Angle (0-180):	112.3 Degrees
Beam Angle (90-270):	87.2 Degrees
Field Angle (0-180):	160.5 Degrees
Field Angle (90-270):	138.6 Degrees

Cone of Light Tabulation			
Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
4.00		57.1	4.68
6.00		25.4	7.02
8.00		14.3	9.36
10.0		9.14	11.7
12.0		6.35	14.0
14.0		4.66	16.4
16.0		3.57	18.7



ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

