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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
MLS2-MSQ-24-3000-35K-HTA-A401-U
Order Number
11800009
Test Number
11800009.02

Test Date

2017-06-06

Prepared By

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Approved By

Tiffany Hamm, Project Handler

The results contained in this report pertain only to the tested sample.
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Luminaire Description: White formed aluminum housing, frosted plastic lens
Lamp: 192 white LEDs
Mounting: Surface – Ceiling
Ballast/Driver: One Philips Advance Xitanium XI040C110V054BST1 driver

Luminaire



Luminaire Characteristics

Luminous Length: 24.00 in.
Luminous Width: 24.00 in.

Summary of Results

Total Luminaire Output:	2913 Lumens
Luminaire Efficacy:	88.4 lm/w
Maximum Candela:	1531 Candela

Test Conditions

Test Temperature:	25.7 °C
Voltage:	120.0 VAC
Current:	0.2756 A
Power:	32.95 W
Power Factor:	0.996
Frequency:	60 Hz
Current THD:	6.78 %

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
25.7 °C	120.0 VAC	0.2756 A	32.95 W	0.996	60 Hz	6.78 %

Summary of Results

Spacing Criteria

0-180: 1.04

90-270: 1.04

Total Lumen Output:

2913 Lumens

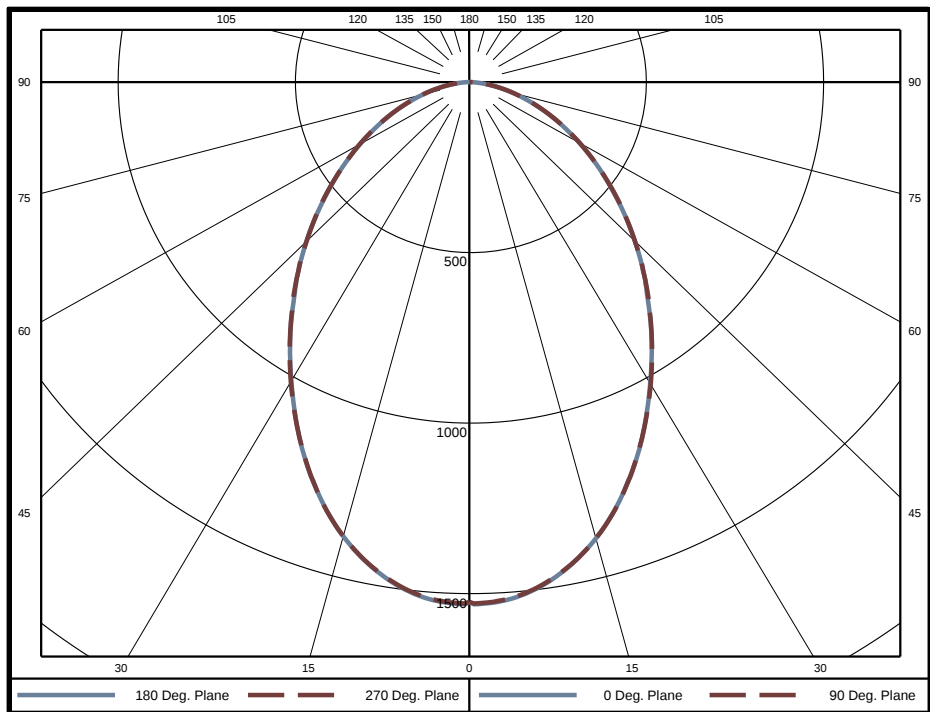
Luminaire Efficacy:

88.4 lm/w

Maximum Candela:

1531 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	36.3	1.2%	60-65	146.8	5.0%	120-125	0	0.0%
5-10	106.2	3.6%	65-70	115.0	3.9%	125-130	0	0.0%
10-15	168.3	5.8%	70-75	83.5	2.9%	130-135	0	0.0%
15-20	218.3	7.5%	75-80	54.0	1.9%	135-140	0	0.0%
20-25	253.0	8.7%	80-85	27.7	1.0%	140-145	0	0.0%
25-30	272.0	9.3%	85-90	8.3	0.3%	145-150	0	0.0%
30-35	277.1	9.5%	90-95	0	0.0%	150-155	0	0.0%
35-40	270.9	9.3%	95-100	0	0.0%	155-160	0	0.0%
40-45	256.1	8.8%	100-105	0	0.0%	160-165	0	0.0%
45-50	234.1	8.0%	105-110	0	0.0%	165-170	0	0.0%
50-55	207.4	7.1%	110-115	0	0.0%	170-175	0	0.0%
55-60	177.9	6.1%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	1602	55.0%
0-60	2478	85.1%
0-90	2913	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	1524	1524	1524	1524	1524	1524	1524	1524	1524	1524	1524	1524	1524	1524	1524
	5	1516	1509	1504	1509	1514	1509	1504	1509	1516	1509	1504	1509	1514	1509	1504
	10	1465	1459	1455	1459	1463	1459	1455	1459	1465	1459	1455	1459	1463	1459	1455
	15	1384	1378	1375	1378	1383	1378	1375	1378	1384	1378	1375	1378	1383	1378	1375
	20	1276	1269	1267	1270	1276	1270	1267	1269	1276	1269	1267	1270	1276	1270	1267
	25	1153	1142	1137	1144	1151	1144	1137	1142	1153	1142	1137	1144	1151	1144	1137
	30	1020	1008	998	1010	1022	1010	998	1008	1020	1008	998	1010	1022	1010	998
	35	895	875	858	876	895	876	858	875	895	875	858	876	895	876	858
	40	774	750	730	751	775	751	730	750	774	750	730	751	775	751	730
	45	661	633	610	634	660	634	610	633	661	633	610	634	660	634	610
	50	552	526	503	527	553	527	503	526	552	526	503	527	553	527	503
	55	452	429	409	429	452	429	409	429	452	429	409	429	452	429	409
	60	360	342	325	342	361	342	325	342	360	342	325	342	361	342	325
	65	277	263	251	264	277	264	251	263	277	263	251	264	277	264	251
	70	202	192	183	192	203	192	183	192	202	192	183	192	203	192	183
	75	135	129	123	129	135	129	123	129	135	129	123	129	135	129	123
	80	77	74	72	75	77	75	72	74	77	74	72	75	77	75	72
	85	29	30	30	30	31	30	30	30	29	30	30	30	31	30	30
	90	2	5	5	5	5	5	5	5	2	5	5	5	5	5	5
	95	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
	105	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
	115	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
	125	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
	135	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
	145	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
	155	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
	165	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
	175	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

Average Luminance (cd/m²)

Horizontal Angle (Degrees)

Vertical Angle (Degrees)	0	45	90
	0	4102	4102
	45	2515	2322
	55	2122	1917
	65	1766	1595
	75	1400	1281
	85	910	916



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	3468	3468	3468	3468	3387	3387	3387	3387	3236	3236	3236	3099	3099	3099	2972	2972	2972	2913
1	3204	3080	2969	2869	3126	3014	2914	2822	2892	2809	2733	2780	2712	2650	2676	2622	2572	2513
2	2945	2729	2550	2400	2872	2675	2511	2371	2574	2436	2317	2481	2366	2265	2394	2300	2215	2156
3	2711	2432	2216	2044	2642	2387	2187	2026	2303	2132	1991	2225	2079	1957	2152	2030	1925	1865
4	2503	2183	1949	1770	2439	2146	1927	1758	2075	1885	1735	2009	1845	1712	1948	1806	1690	1631
5	2319	1973	1732	1554	2261	1942	1715	1545	1882	1682	1529	1826	1651	1513	1774	1621	1498	1440
6	2155	1795	1553	1379	2102	1768	1540	1374	1717	1514	1362	1670	1489	1351	1626	1465	1340	1283
7	2010	1642	1404	1237	1962	1619	1393	1233	1576	1372	1224	1535	1352	1216	1497	1333	1208	1153
8	1880	1511	1278	1119	1836	1491	1269	1115	1454	1253	1109	1419	1236	1103	1386	1220	1097	1044
9	1764	1396	1171	1019	1725	1379	1164	1016	1347	1150	1012	1317	1136	1007	1288	1123	1002	952
10	1661	1297	1079	934	1625	1282	1073	932	1254	1061	928	1228	1050	925	1203	1039	921	873

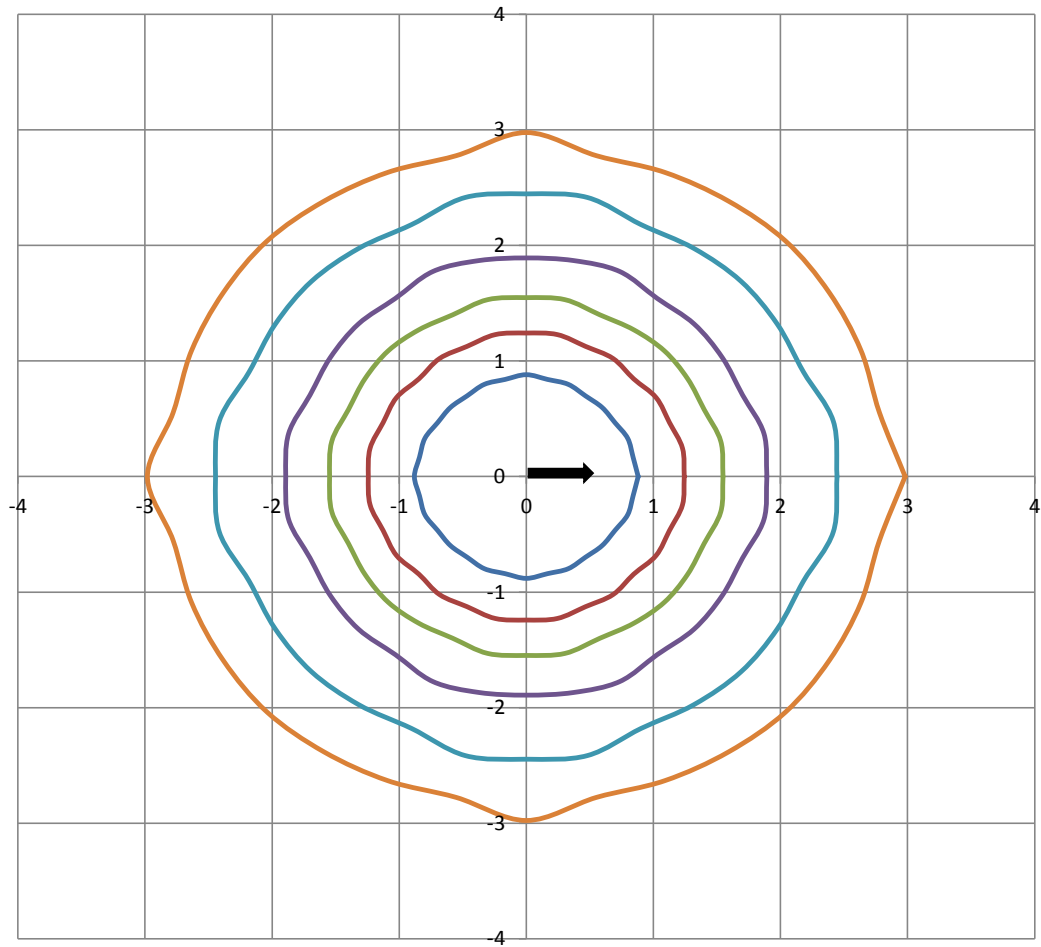
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	1524 Candela
Central Cone Intensity:	1519 Candela
Beam Flux:	1580.0 Lumens
Beam Angle (0-180):	81.2 Degrees
Beam Angle (90-270):	81.1 Degrees
Field Angle (0-180):	147.1 Degrees
Field Angle (90-270):	147.3 Degrees

Cone of Light Tabulation			
Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
4.00		95.3	4.12
6.00		42.3	6.17
8.00		23.8	8.23
10.0		15.2	10.3
12.0		10.6	12.3
14.0		7.78	14.4
16.0		5.95	16.5



ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

5 fc 2 fc 1 fc 0.5 fc 0.2 fc 0.1 fc