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Indoor Distribution Test Report

Relevant Standards
IES LM-79-2008
ANSI C82.77-2002

*Mercury Typed Notes Added:

The LR202 (4" Depth) and the LR102 (3" Depth) use the same reflector & lens.
The LED distance to the lens is the same so the photometrics would be equal.

Prepared For
Mercury Lighting
Stephen Bambush
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Fairfield, NJ 07004-3416

Catalog Number
LR202-24G-4800-35K-A40-UNI-XXXX
Order Number
11321901
Test Number
1261245

Test Date

2016-06-21

Prepared By

Kevin Rodriguez, Technician

Approved By

Timothy Wagner, Project Handler

The results contained in this report pertain only to the tested sample.
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Luminaire Description: Formed white enamel steel housing / reflector, frosted plastic lens enclosure
Lamp: 96 white LEDs
Mounting: Recessed
Ballast/Driver: One Philips Advance XI040C110V054BPT1

Luminaire



Luminaire Characteristics

Luminous Length: 45.00 in.
Luminous Width: 20.50 in.

Summary of Results

Total Luminaire Output:	4776 Lumens
Luminaire Efficacy:	112 lm/w
Maximum Candela:	1647 Candela

Test Conditions

Test Temperature:	24.7 °C
Voltage:	120.0 VAC
Current:	0.3560 A
Power:	42.65 W
Power Factor:	0.997
Frequency:	60 Hz
Current THD:	5.12 %

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
24.7 °C	120.0 VAC	0.3560 A	42.65 W	0.997	60 Hz	5.12 %

Summary of Results

Spacing Criteria

0-180: 1.18

90-270: 1.18

Total Lumen Output:

4776 Lumens

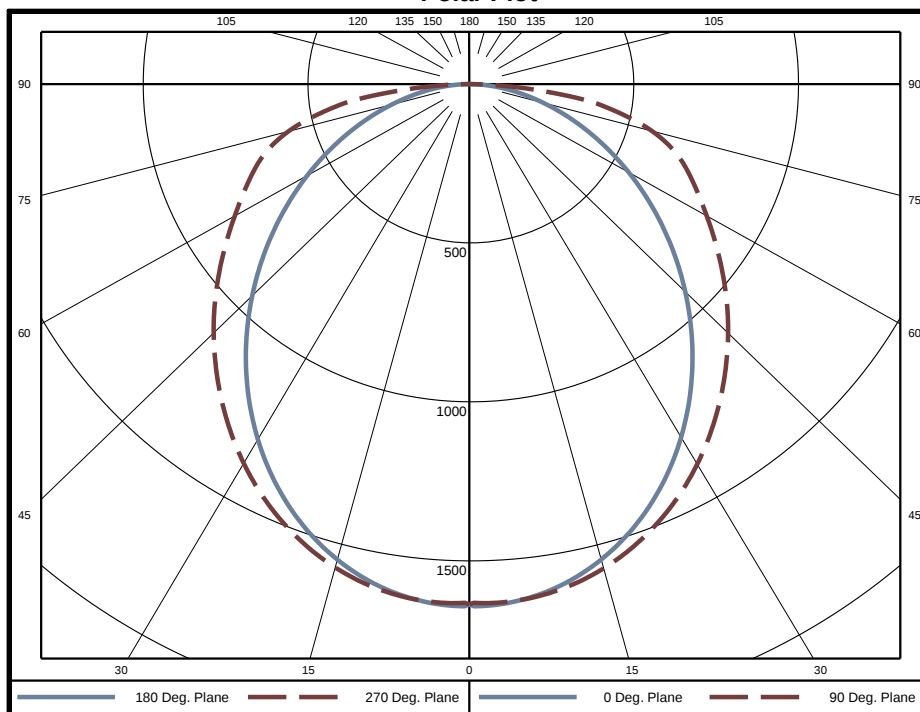
Luminaire Efficacy:

112.0 lm/w

Maximum Candela:

1647 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	39.2	0.8%	60-65	317.6	6.6%	120-125	0	0.0%
5-10	116.1	2.4%	65-70	284.5	6.0%	125-130	0	0.0%
10-15	188.4	3.9%	70-75	247.8	5.2%	130-135	0	0.0%
15-20	253.3	5.3%	75-80	200.0	4.2%	135-140	0	0.0%
20-25	308.1	6.5%	80-85	133.8	2.8%	140-145	0	0.0%
25-30	351.0	7.3%	85-90	41.9	0.9%	145-150	0	0.0%
30-35	380.8	8.0%	90-95	0	0.0%	150-155	0	0.0%
35-40	397.3	8.3%	95-100	0	0.0%	155-160	0	0.0%
40-45	400.8	8.4%	100-105	0	0.0%	160-165	0	0.0%
45-50	392.6	8.2%	105-110	0	0.0%	165-170	0	0.0%
50-55	374.5	7.8%	110-115	0	0.0%	170-175	0	0.0%
55-60	348.5	7.3%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	2034	42.6%
0-60	3551	74.3%
0-90	4776	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	1637	1637	1637	1637	1637	1637	1637	1637	1637	1637	1637	1637	1637	1637	1637
	5	1633	1639	1635	1634	1631	1634	1635	1639	1633	1639	1635	1634	1631	1634	1635
	10	1602	1609	1610	1614	1613	1614	1610	1609	1602	1609	1610	1614	1613	1614	1610
	15	1550	1560	1567	1576	1577	1576	1567	1560	1550	1560	1567	1576	1577	1576	1567
	20	1479	1492	1508	1524	1525	1524	1508	1492	1479	1492	1508	1524	1525	1524	1508
	25	1391	1409	1433	1458	1459	1458	1433	1409	1391	1409	1433	1458	1459	1458	1433
	30	1289	1311	1346	1379	1381	1379	1346	1311	1289	1311	1346	1379	1381	1379	1346
	35	1177	1203	1248	1290	1295	1290	1248	1203	1177	1203	1248	1290	1295	1290	1248
	40	1057	1086	1142	1193	1203	1193	1142	1086	1057	1086	1142	1193	1203	1193	1142
	45	934	966	1031	1094	1109	1094	1031	966	934	966	1031	1094	1109	1094	1031
	50	810	844	919	993	1013	993	919	844	810	844	919	993	1013	993	919
	55	686	723	809	893	919	893	809	723	686	723	809	893	919	893	809
	60	566	607	706	799	831	799	706	607	566	607	706	799	831	799	706
	65	451	497	611	716	753	716	611	497	451	497	611	716	753	716	611
	70	342	397	529	640	678	640	529	397	342	397	529	640	678	640	529
	75	240	308	450	545	574	545	450	308	240	308	450	545	574	545	450
	80	150	230	345	403	423	403	345	230	150	230	345	403	423	403	345
	85	70	137	192	197	196	197	192	137	70	137	192	197	196	197	192
	90	0	1	1	1	1	1	1	0	1	1	1	1	1	1	1
	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	2750	2750
	45	2219	2635
	55	2010	2693
	65	1794	2993
	75	1560	3729
	85	1349	3768



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	5686	5686	5686	5686	5554	5554	5554	5554	5307	5307	5307	5081	5081	5081	4874	4874	4874	4776
1	5139	4887	4661	4457	5005	4777	4570	4384	4571	4400	4244	4382	4242	4113	4207	4095	3989	3885
2	4650	4227	3878	3584	4520	4136	3814	3540	3963	3691	3456	3804	3576	3376	3656	3468	3300	3191
3	4228	3697	3286	2958	4106	3620	3238	2931	3475	3147	2877	3340	3061	2826	3216	2979	2776	2667
4	3866	3269	2831	2497	3753	3204	2795	2479	3082	2726	2444	2969	2659	2409	2863	2596	2376	2268
5	3554	2919	2475	2147	3451	2864	2447	2134	2761	2392	2110	2665	2340	2086	2575	2291	2062	1958
6	3282	2628	2188	1873	3189	2581	2166	1864	2494	2123	1846	2412	2082	1829	2335	2042	1812	1711
7	3044	2383	1954	1654	2960	2344	1937	1648	2269	1902	1635	2199	1868	1622	2133	1836	1609	1512
8	2835	2176	1761	1476	2759	2142	1746	1471	2078	1718	1461	2017	1691	1452	1961	1664	1442	1349
9	2650	1998	1599	1329	2581	1969	1587	1325	1914	1563	1318	1861	1541	1310	1812	1518	1303	1214
10	2486	1845	1461	1206	2424	1820	1451	1203	1772	1432	1197	1726	1413	1191	1683	1394	1185	1101

Beam and Field Information

CIE Type:	Direct
Center Beam Intensity:	1637 Candela
Central Cone Intensity:	1638 Candela
Beam Flux:	3219.0 Lumens
Beam Angle (0-180):	99.3 Degrees
Beam Angle (90-270):	121.5 Degrees
Field Angle (0-180):	158.4 Degrees
Field Angle (90-270):	171.3 Degrees

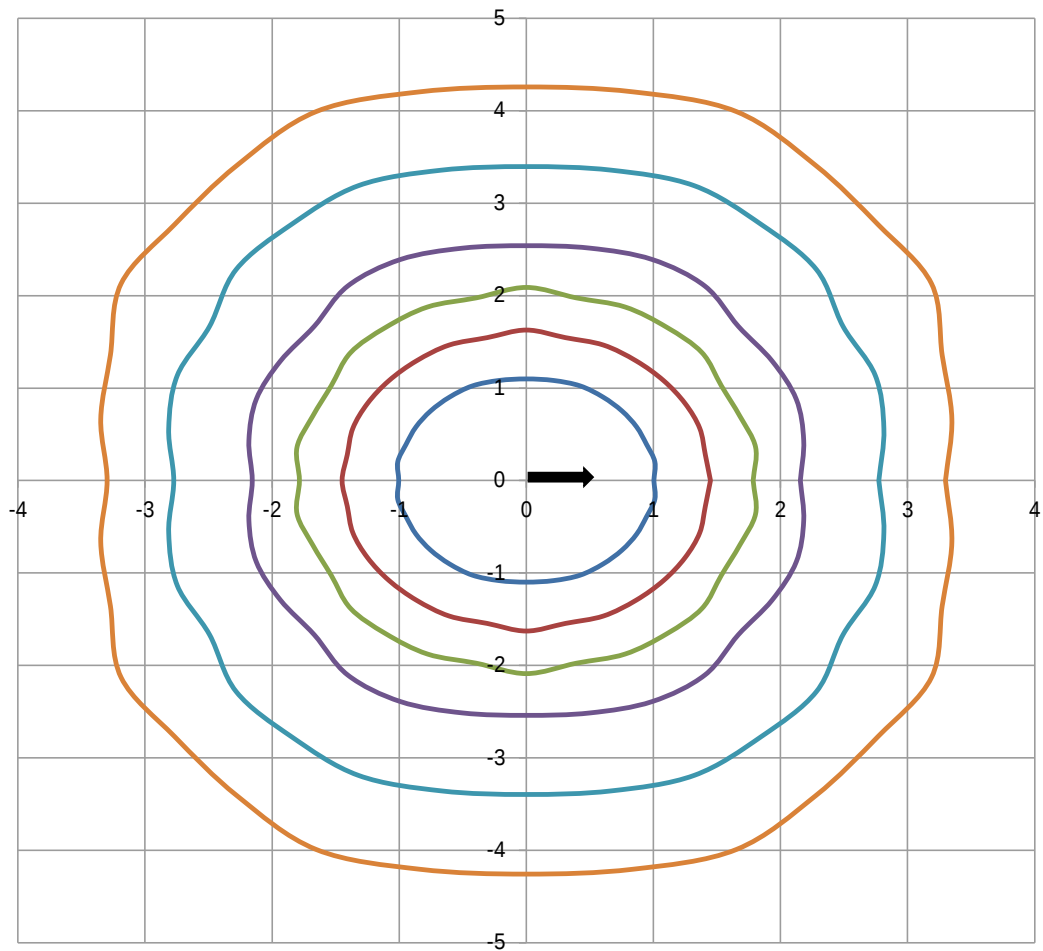
Cone of Light Tabulation

Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
4.00		102	4.88
6.00		45.5	7.33
8.00		25.6	9.77
10.0		16.4	12.2
12.0		11.4	14.7
14.0		8.35	17.1
16.0		6.39	19.5



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