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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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Catalog Number
LR202-22G-3800-35K-1%-UNI-XXXX

Order Number
11228120
Test Number
1241925

Test Date

2016-04-28

Prepared By

Dane Hernandez-Adams, 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 steel housing, steel reflectors, frosted plastic patterned lens enclosure
Lamp: 44 white LEDs
Mounting: Recessed
Ballast/Driver: One Philips Advance Xitanium XI040C110V054BPT1

Luminaire



Luminaire Characteristics

Luminous Length: 23.00 in.
Luminous Width: 20.75 in.

Summary of Results

Total Luminaire Output:	3637 Lumens
Luminaire Efficacy:	98.7 lm/w
Maximum Candela:	1322 Candela

Test Conditions

Test Temperature:	24.7 °C
Voltage:	120.0 VAC
Current:	0.3077 A
Power:	36.85 W
Power Factor:	0.997
Frequency:	60 Hz
Current THD:	5.54 %

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	0.3077 A	36.85 W	0.997	60 Hz	5.54 %

Summary of Results

Spacing Criteria

0-180: 1.17

90-270: 1.17

Total Lumen Output:

3637 Lumens

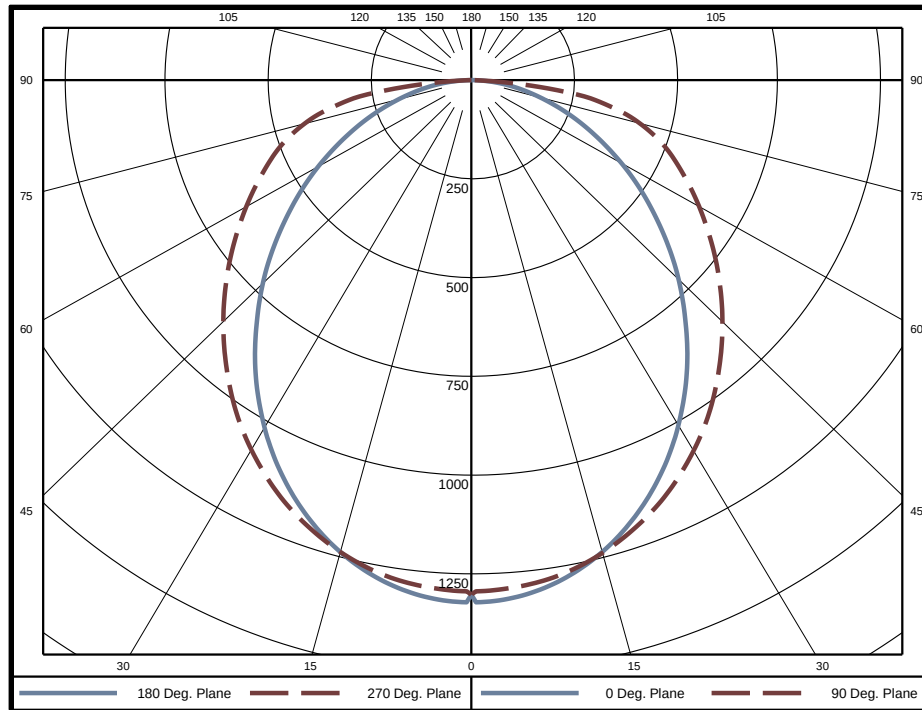
Luminaire Efficacy:

98.7 lm/w

Maximum Candela:

1322 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	31.1	0.9%	60-65	239.8	6.6%	120-125	0	0.0%
5-10	91.8	2.5%	65-70	211.6	5.8%	125-130	0	0.0%
10-15	148.6	4.1%	70-75	180.5	5.0%	130-135	0	0.0%
15-20	198.9	5.5%	75-80	143.4	3.9%	135-140	0	0.0%
20-25	241.1	6.6%	80-85	92.0	2.5%	140-145	0	0.0%
25-30	273.7	7.5%	85-90	21.3	0.6%	145-150	0	0.0%
30-35	295.7	8.1%	90-95	0	0.0%	150-155	0	0.0%
35-40	307.0	8.4%	95-100	0	0.0%	155-160	0	0.0%
40-45	308.4	8.5%	100-105	0	0.0%	160-165	0	0.0%
45-50	301.2	8.3%	105-110	0	0.0%	165-170	0	0.0%
50-55	286.2	7.9%	110-115	0	0.0%	170-175	0	0.0%
55-60	265.2	7.3%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	1588	43.7%
0-60	2749	75.6%
0-90	3638	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	1302	1302	1302	1302	1302	1302	1302	1302	1302	1302	1302	1302	1302	1302	1302
	5	1313	1296	1292	1291	1288	1291	1292	1296	1313	1296	1292	1291	1288	1291	1292
	10	1284	1269	1269	1272	1270	1272	1269	1269	1284	1269	1269	1272	1270	1272	1269
	15	1238	1225	1230	1238	1239	1238	1230	1225	1238	1225	1230	1238	1239	1238	1230
	20	1176	1167	1178	1193	1197	1193	1178	1167	1176	1167	1178	1193	1197	1193	1178
	25	1101	1097	1115	1138	1145	1138	1115	1097	1101	1097	1115	1138	1145	1138	1115
	30	1015	1015	1042	1073	1084	1073	1042	1015	1015	1015	1042	1073	1084	1073	1042
	35	921	925	961	1001	1017	1001	961	925	921	925	961	1001	1017	1001	961
	40	821	830	874	923	942	923	874	830	821	830	874	923	942	923	874
	45	722	734	787	843	867	843	787	734	722	734	787	843	867	843	787
	50	622	638	699	764	790	764	699	638	622	638	699	764	790	764	699
	55	525	544	613	686	715	686	613	544	525	544	613	686	715	686	613
	60	431	455	531	610	642	610	531	455	431	455	531	610	642	610	531
	65	341	369	454	539	573	539	454	369	341	369	454	539	573	539	454
	70	258	292	384	471	507	471	384	292	258	292	384	471	507	471	384
	75	182	220	314	394	427	394	314	220	182	220	314	394	427	394	314
	80	115	154	236	294	319	294	236	154	115	154	236	294	319	294	236
	85	53	79	118	125	126	125	118	79	53	79	118	125	126	125	118
	90	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
	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	4230	4230
	45	3318	3613
	55	2970	3472
	65	2617	3491
	75	2278	3942
	85	1989	4392



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	4330	4330	4330	4330	4230	4230	4230	4230	4042	4042	4042	3870	3870	3870	3712	3712	3712	3637
1	3926	3739	3571	3421	3825	3655	3503	3364	3499	3373	3257	3356	3252	3157	3223	3140	3062	2984
2	3558	3242	2981	2761	3460	3172	2932	2728	3041	2838	2663	2921	2751	2602	2809	2668	2543	2461
3	3238	2839	2531	2285	3145	2781	2495	2264	2671	2425	2223	2569	2360	2184	2475	2297	2145	2063
4	2963	2513	2184	1933	2878	2464	2157	1919	2372	2104	1892	2286	2054	1865	2206	2005	1840	1758
5	2725	2246	1911	1664	2647	2205	1890	1655	2127	1849	1636	2054	1809	1618	1986	1772	1600	1520
6	2518	2024	1692	1454	2447	1988	1675	1447	1922	1642	1434	1860	1611	1420	1802	1581	1408	1331
7	2336	1836	1512	1285	2272	1806	1499	1280	1750	1472	1271	1696	1447	1261	1647	1422	1251	1178
8	2176	1677	1364	1148	2118	1652	1353	1144	1603	1331	1137	1557	1310	1130	1514	1290	1122	1052
9	2034	1541	1239	1035	1982	1519	1230	1032	1477	1212	1026	1437	1195	1020	1400	1178	1015	948
10	1909	1423	1133	940	1861	1404	1125	937	1368	1110	933	1333	1096	928	1301	1082	924	860

Beam and Field Information

CIE Type:	Direct
Center Beam Intensity:	1302 Candela
Central Cone Intensity:	1300 Candela
Beam Flux:	2406.9 Lumens
Beam Angle (0-180):	97.1 Degrees
Beam Angle (90-270):	118.7 Degrees
Field Angle (0-180):	157.6 Degrees
Field Angle (90-270):	169.8 Degrees

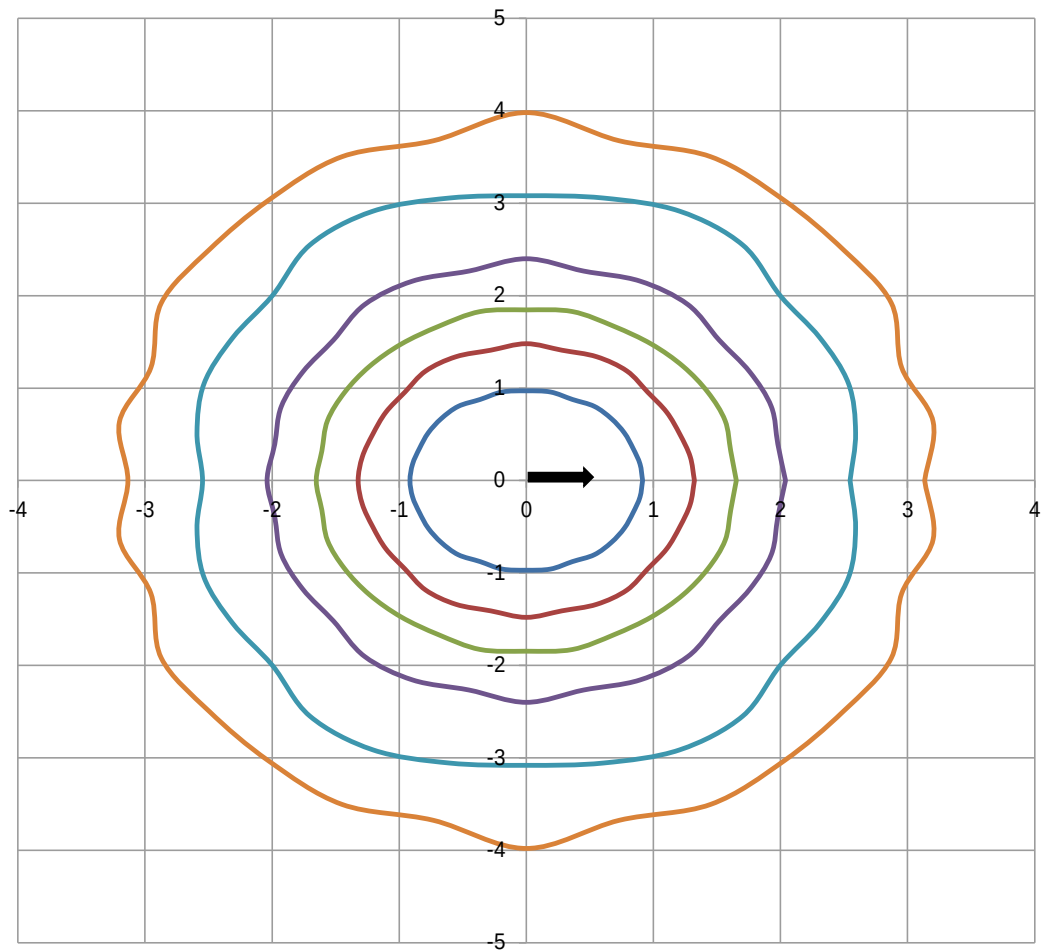
Cone of Light Tabulation

Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
4.00		81.4	4.79
6.00		36.2	7.18
8.00		20.4	9.58
10.0		13.0	12.0
12.0		9.04	14.4
14.0		6.65	16.8
16.0		5.09	19.2



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