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Indoor Distribution Test Report

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

Prepared For
Simkar Corporation

Andre Duljas
700 Ramona Ave
Philadelphia, PA 19120
United States

Catalog Number
LCH4FA2535U1

Order Number
11334431
Test Number
1263057

Test Date

2016-06-27

Prepared By

Dane Hernandez-Adams, Technician

Approved By

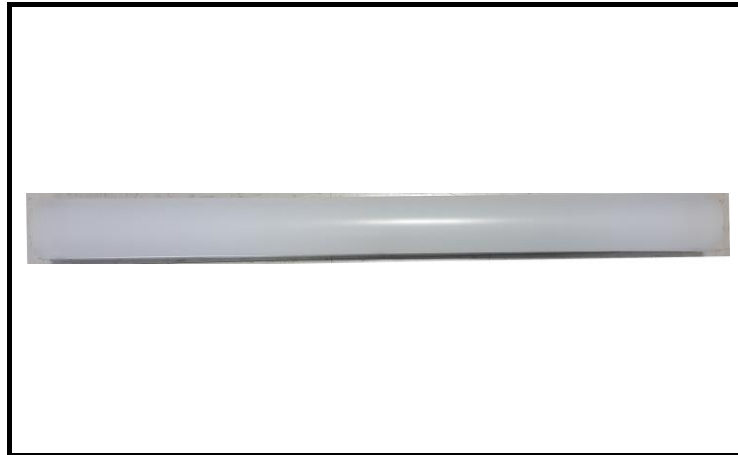
Carissa Samonte-cam, Project Handler

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Luminaire Description: White steel housing, plastic frosted linear prismatic lens
Lamp: 48 white LEDs (2 boards of 24 LEDs)
Mounting: Recessed
Ballast/Driver: One Eaglerise EWP028C0750LED4P

Luminaire



Luminaire Characteristics

Luminous Length: 48.00 in.
Luminous Width: 4.250 in.
Luminous Height: 2.00 in.

Summary of Results

Total Luminaire Output: 2417 Lumens
Luminaire Efficacy: 118.2 lm/w
Maximum Candela: 734 Candela

Test Conditions

Test Temperature: 24.6 °C
Voltage: 120.0 VAC
Current: 0.1729 A
Power: 20.45 W
Power Factor: 0.985
Frequency: 60 Hz
Current THD: 12.3 %

Laboratory results may not be representative of field performance
Ballast factors have not been applied



Distribution - Goniophotometer

Distribution Test Conditions

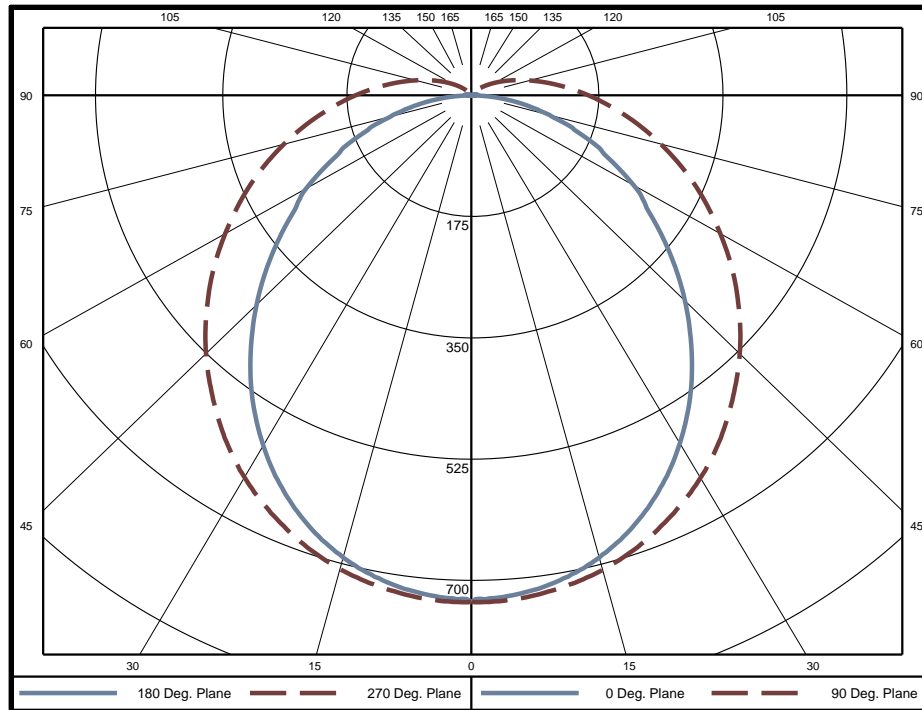
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.6 °C	120.0 VAC	0.1729 A	20.45 W	0.985	60 Hz	12.3 %

Summary of Results

Spacing Criteria
 0-180: 1.19
 90-270: 1.19

Total Lumen Output: 2417 Lumens
Luminaire Efficacy: 118.2 lm/w
Maximum Candela: 734 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	17.4	0.7%	60-65	150.1	6.2%	120-125	6.1	0.3%
5-10	51.7	2.1%	65-70	133.5	5.5%	125-130	3.7	0.2%
10-15	84.1	3.5%	70-75	114.4	4.7%	130-135	2.1	0.1%
15-20	113.5	4.7%	75-80	95.0	3.9%	135-140	1.1	0.0%
20-25	138.8	5.7%	80-85	75.7	3.1%	140-145	0.4	0.0%
25-30	159.2	6.6%	85-90	57.9	2.4%	145-150	0.1	0.0%
30-35	174.0	7.2%	90-95	44.5	1.8%	150-155	0.0	0.0%
35-40	182.7	7.6%	95-100	34.5	1.4%	155-160	0	0.0%
40-45	185.6	7.7%	100-105	25.9	1.1%	160-165	0	0.0%
45-50	183.2	7.6%	105-110	19.0	0.8%	165-170	0	0.0%
50-55	175.8	7.3%	110-115	13.5	0.6%	170-175	0	0.0%
55-60	164.4	6.8%	115-120	9.3	0.4%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	921	38.1%
0-60	1630	67.5%
0-90	2257	93.4%
90-180	160	6.6%



Candela Tabulation
Horizontal 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	730.9	730.9	730.9	730.9	730.9	730.9	730.9	730.9	730.9	730.9	730.9	730.9	730.9	730.9	730.9	730.9
5	722.9	729.7	726.4	727.9	729.0	727.9	726.4	729.7	722.9	729.7	726.4	727.9	729.0	727.9	726.4	729.7
10	710.7	717.9	716.7	719.6	720.7	719.6	716.7	717.9	710.7	717.9	716.7	719.6	720.7	719.6	716.7	717.9
15	690.7	698.8	699.5	705.3	708.4	705.3	699.5	698.8	690.7	698.8	699.5	705.3	708.4	705.3	699.5	698.8
20	661.9	671.3	675.8	685.1	689.0	685.1	675.8	671.3	661.9	671.3	675.8	685.1	689.0	685.1	675.8	671.3
25	625.1	636.5	646.3	659.5	665.2	659.5	646.3	636.5	625.1	636.5	646.3	659.5	665.2	659.5	646.3	636.5
30	581.9	595.7	610.9	629.1	636.7	629.1	610.9	595.7	581.9	595.7	610.9	629.1	636.7	629.1	610.9	595.7
35	533.3	548.7	570.8	594.4	603.7	594.4	570.8	548.7	533.3	548.7	570.8	594.4	603.7	594.4	570.8	548.7
40	479.2	497.2	526.3	554.8	565.7	554.8	526.3	497.2	479.2	497.2	526.3	554.8	565.7	554.8	526.3	497.2
45	423.4	443.5	479.2	513.6	526.8	513.6	479.2	443.5	423.4	443.5	479.2	513.6	526.8	513.6	479.2	443.5
50	366.3	388.6	431.4	470.9	485.4	470.9	431.4	388.6	366.3	388.6	431.4	470.9	485.4	470.9	431.4	388.6
55	309.8	334.0	382.4	426.9	443.0	426.9	382.4	334.0	309.8	334.0	382.4	426.9	443.0	426.9	382.4	334.0
60	264.3	279.9	334.1	382.3	399.1	382.3	334.1	279.9	264.3	279.9	334.1	382.3	399.1	382.3	334.1	279.9
65	208.9	236.0	287.6	339.1	356.4	339.1	287.6	236.0	208.9	236.0	287.6	339.1	356.4	339.1	287.6	236.0
70	162.0	185.5	242.9	296.7	314.2	296.7	242.9	185.5	162.0	185.5	242.9	296.7	314.2	296.7	242.9	185.5
75	115.2	142.1	200.5	255.0	272.5	255.0	200.5	142.1	115.2	142.1	200.5	255.0	272.5	255.0	200.5	142.1
80	74.0	99.2	162.1	216.0	233.1	216.0	162.1	99.2	74.0	99.2	162.1	216.0	233.1	216.0	162.1	99.2
85	34.2	63.9	128.1	179.6	195.9	179.6	128.1	63.9	34.2	63.9	128.1	179.6	195.9	179.6	128.1	63.9
90	0.0	39.2	99.0	147.0	162.7	147.0	99.0	39.2	0.0	39.2	99.0	147.0	162.7	147.0	99.0	39.2
95	7.3	24.8	74.8	118.0	132.3	118.0	74.8	24.8	7.3	24.8	74.8	118.0	132.3	118.0	74.8	24.8
100	7.8	16.3	55.4	93.1	105.9	93.1	55.4	16.3	7.8	16.3	55.4	93.1	105.9	93.1	55.4	16.3
105	6.2	10.9	40.2	71.7	83.0	71.7	40.2	10.9	6.2	10.9	40.2	71.7	83.0	71.7	40.2	10.9
110	4.5	7.3	28.5	54.2	63.9	54.2	28.5	7.3	4.5	7.3	28.5	54.2	63.9	54.2	28.5	7.3
115	2.9	4.7	19.9	39.9	48.0	39.9	19.9	4.7	2.9	4.7	19.9	39.9	48.0	39.9	19.9	4.7
120	1.7	3.0	13.4	28.6	35.1	28.6	13.4	3.0	1.7	3.0	13.4	28.6	35.1	28.6	13.4	3.0
125	0.7	1.6	8.6	19.8	24.8	19.8	8.6	1.6	0.7	1.6	8.6	19.8	24.8	19.8	8.6	1.6
130	0.0	0.5	4.7	13.0	16.7	13.0	4.7	0.5	0.0	0.5	4.7	13.0	16.7	13.0	4.7	0.5
135	0.0	0.1	2.1	7.8	10.6	7.8	2.1	0.1	0.0	0.1	2.1	7.8	10.6	7.8	2.1	0.1
140	0.0	0.0	0.6	4.2	5.9	4.2	0.6	0.0	0.0	0.0	0.6	4.2	5.9	4.2	0.6	0.0
145	0.0	0.0	0.1	1.5	2.7	1.5	0.1	0.0	0.0	0.0	0.1	1.5	2.7	1.5	0.1	0.0
150	0.0	0.0	0.0	0.1	0.7	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.7	0.1	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	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	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	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	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	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	0.0

Average Luminance (cd/m²)
Horizontal Angle (Degrees)

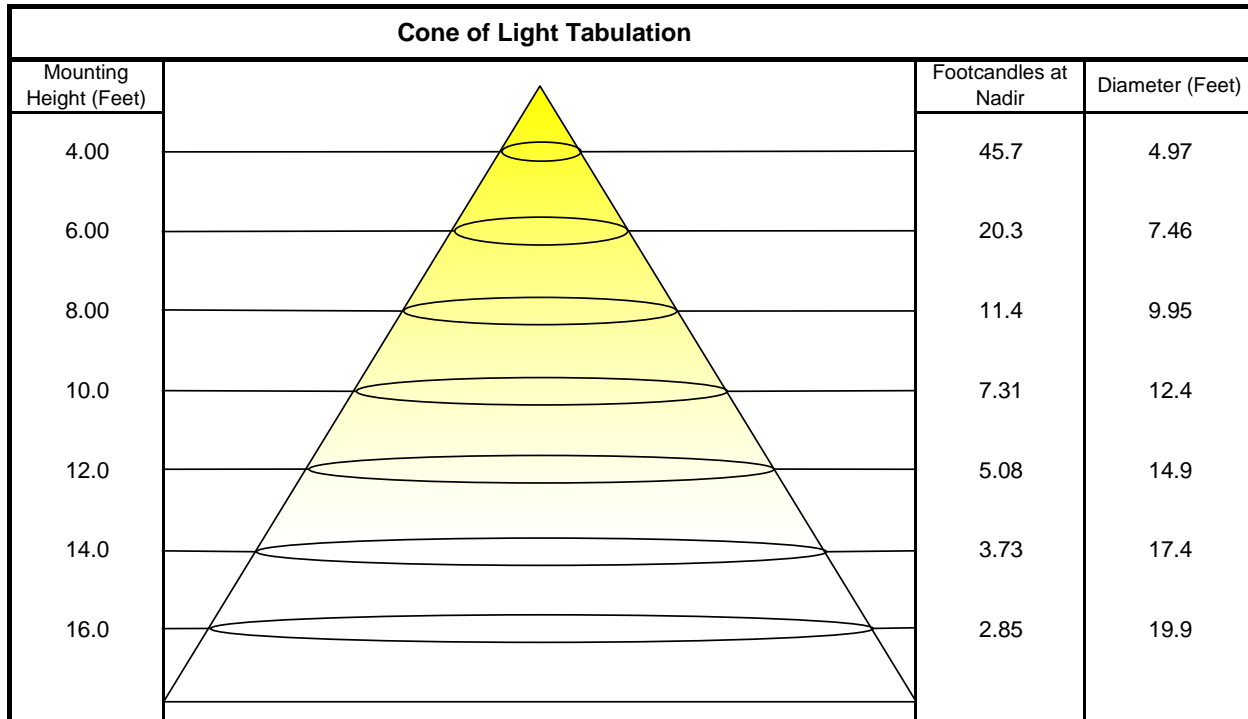
	0	45	90
0	5553	5553	5553
45	4367	3780	3849
55	3874	3339	3509
65	3448	2910	3189
75	2928	2503	2903
85	2020	2172	2677



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	2840	2840	2840	2840	2755	2755	2755	2755	2597	2597	2597	2452	2452	2452	2320	2320	2320	2257
1	2548	2414	2294	2186	2463	2343	2234	2135	2209	2120	2038	2086	2013	1947	1972	1915	1861	1797
2	2303	2084	1904	1752	2222	2024	1859	1718	1911	1772	1653	1806	1692	1591	1709	1616	1532	1468
3	2092	1820	1610	1443	2016	1769	1575	1419	1673	1508	1373	1584	1445	1328	1501	1385	1285	1223
4	1912	1608	1385	1215	1842	1564	1357	1197	1482	1304	1163	1406	1253	1130	1335	1205	1098	1038
5	1756	1433	1208	1042	1692	1396	1186	1028	1326	1143	1002	1261	1101	976	1200	1062	951	894
6	1620	1289	1066	906	1563	1257	1048	896	1196	1012	875	1140	978	854	1087	945	834	780
7	1502	1167	950	798	1449	1140	935	790	1087	905	773	1038	877	756	992	849	740	688
8	1397	1064	854	710	1350	1040	841	703	994	816	689	952	792	675	911	769	662	613
9	1305	976	774	638	1262	955	763	632	915	742	620	877	721	608	842	701	597	551
10	1223	900	706	577	1184	881	697	572	846	678	562	813	660	552	782	643	542	498

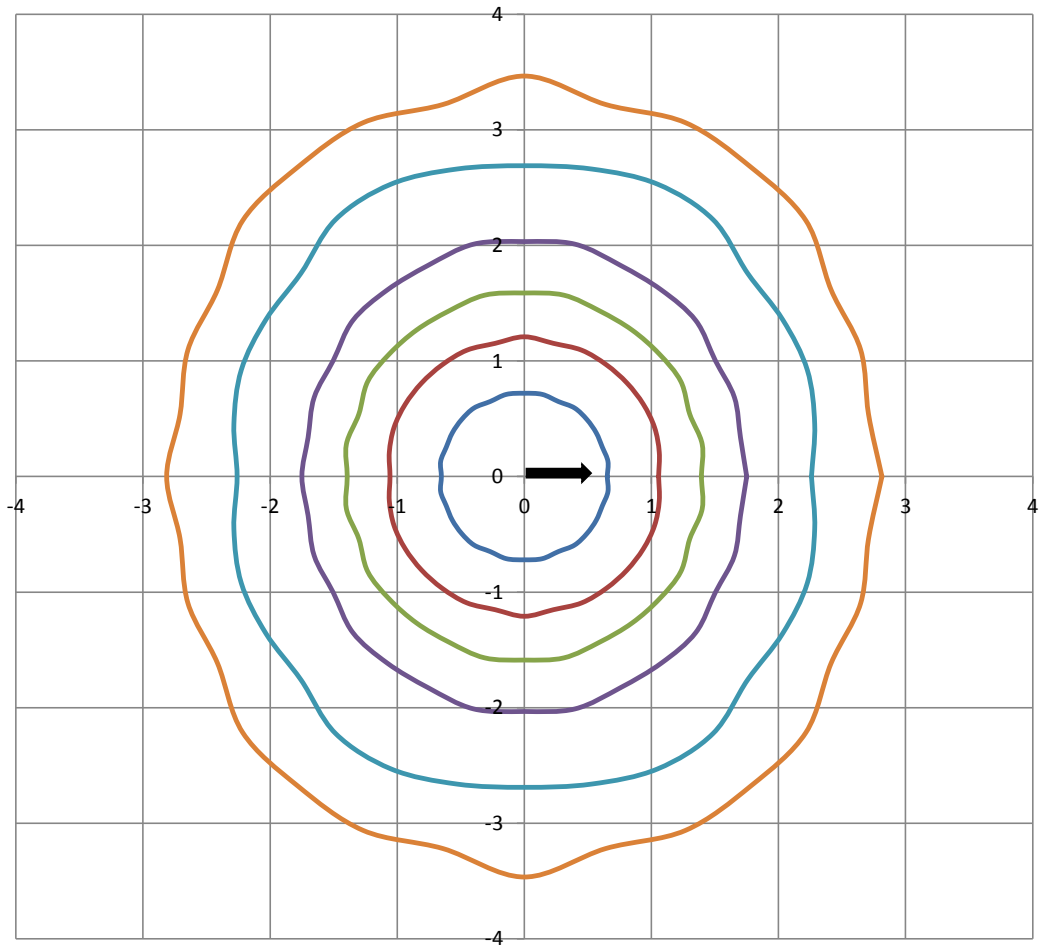
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	730.9 Candela
Central Cone Intensity:	730 Candela
Beam Flux:	1547.7 Lumens
Beam Angle (0-180):	100.2 Degrees
Beam Angle (90-270):	127.9 Degrees
Field Angle (0-180):	160.2 Degrees
Field Angle (90-270):	215.0 Degrees





ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

