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Indoor Distribution Test Report

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

Prepared For
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Madera, CA 93636-9515
United States

Catalog Number
SM-APII-LED-x45-WW-12-C
Order Number
11708270
Test Number
11708270.04

Test Date

2017-06-26

Prepared By

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Approved By

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The results contained in this report pertain only to the tested sample.
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Luminaire Description: Circular white metal housing and outer patterned glass lens
Lamp: One (1) white LED with optic attached
Mounting: Base Up
Ballast/Driver: SOLOdrive 561/S

Luminaire



Luminaire Characteristics
Luminous Diameter: 4.75 in.

Summary of Results

Total Luminaire Output:	3092 Lumens
Luminaire Efficacy:	92.7 lm/w
Maximum Candela:	1539 Candela

Test Conditions

Test Temperature:	25.4 °C
Voltage:	120.0 VAC
Current:	0.2810 A
Power:	33.34 W
Power Factor:	0.988
Frequency:	60 Hz
Current THD:	6.28 %

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
25.4 °C	120.0 VAC	0.2810 A	33.34 W	0.988	60 Hz	6.28 %

Summary of Results

Spacing Criteria

0-180: 1.34

90-270: 0.65

Total Lumen Output:

3092 Lumens

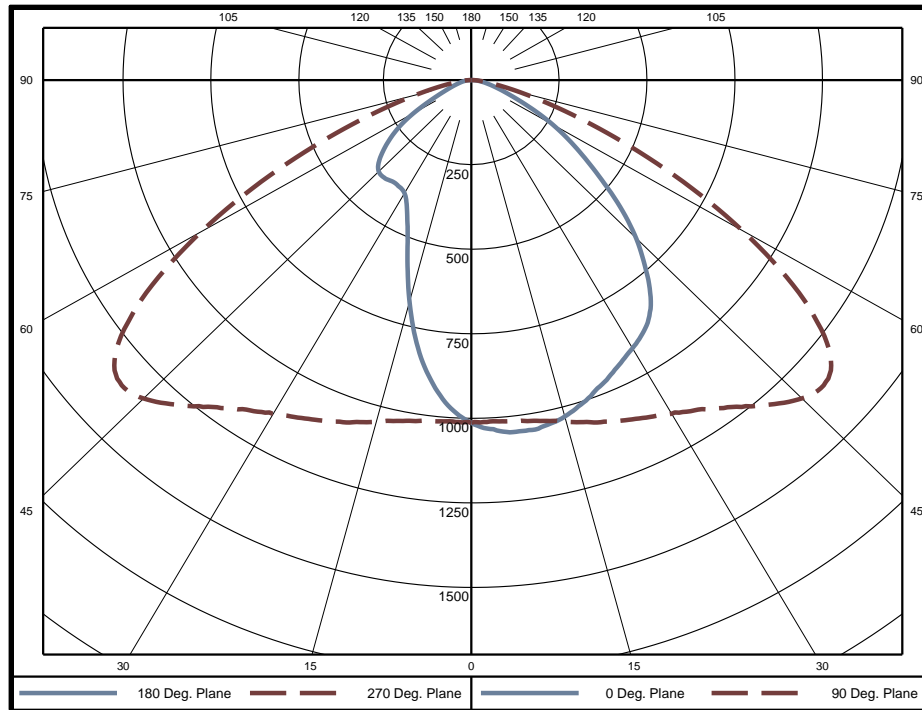
Luminaire Efficacy:

92.7 lm/w

Maximum Candela:

1539 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	24.2	0.8%	60-65	206.1	6.7%	120-125	0	0.0%
5-10	71.4	2.3%	65-70	132.4	4.3%	125-130	0	0.0%
10-15	115.8	3.7%	70-75	75.7	2.4%	130-135	0	0.0%
15-20	157.0	5.1%	75-80	38.8	1.3%	135-140	0	0.0%
20-25	194.8	6.3%	80-85	17.8	0.6%	140-145	0	0.0%
25-30	229.6	7.4%	85-90	6.0	0.2%	145-150	0	0.0%
30-35	261.8	8.5%	90-95	0	0.0%	150-155	0	0.0%
35-40	292.3	9.5%	95-100	0	0.0%	155-160	0	0.0%
40-45	320.6	10.4%	100-105	0	0.0%	160-165	0	0.0%
45-50	338.7	11.0%	105-110	0	0.0%	165-170	0	0.0%
50-55	329.3	10.7%	110-115	0	0.0%	170-175	0	0.0%
55-60	280.2	9.1%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	1347	43.6%
0-60	2616	84.6%
0-90	3093	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	1014	1014	1014	1014	1014	1014	1014	1014	1014	1014	1014	1014	1014	1014	1014
	5	1044	1039	1036	1027	1013	997	981	972	947	972	981	997	1013	1027	1036
	10	1049	1047	1045	1042	1023	986	928	899	835	899	928	986	1023	1042	1045
	15	1030	1046	1050	1063	1046	979	869	816	686	816	869	979	1046	1063	1050
	20	995	1033	1045	1087	1077	979	811	726	539	726	811	979	1077	1087	1045
	25	954	1013	1032	1109	1105	980	753	655	438	655	753	980	1105	1109	1032
	30	917	987	1015	1131	1139	977	686	591	386	591	686	977	1139	1131	1015
	35	875	961	993	1172	1186	958	618	543	376	543	618	958	1186	1172	993
	40	787	936	982	1261	1258	906	546	500	382	500	546	906	1258	1261	982
	45	665	901	975	1399	1331	815	468	449	379	449	468	815	1331	1399	975
	50	521	827	929	1521	1335	684	380	378	336	378	380	684	1335	1521	929
	55	385	672	800	1469	1175	516	288	292	270	292	288	516	1175	1469	800
	60	275	486	597	1170	891	352	200	205	186	205	200	352	891	1170	597
	65	170	305	386	807	582	218	130	128	105	128	130	218	582	807	386
	70	99	175	221	463	323	131	86	83	63	83	86	131	323	463	221
	75	59	91	113	217	156	79	58	55	40	55	58	79	156	217	113
	80	34	42	51	80	65	46	38	36	26	36	38	46	65	80	51
	85	16	16	18	22	24	23	21	20	14	20	21	23	24	22	18
	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	88670	88670
	45	82230	120600
	55	58710	122000
	65	35080	79830
	75	19930	38210
	85	16410	18070



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	3681	3681	3681	3681	3596	3596	3596	3596	3436	3436	3436	3290	3290	3290	3155	3155	3155	3092
1	3390	3253	3131	3020	3307	3183	3072	2971	3053	2961	2878	2933	2859	2790	2823	2763	2707	2644
2	3091	2848	2647	2478	3011	2790	2605	2448	2681	2526	2391	2581	2451	2337	2488	2381	2285	2220
3	2818	2501	2256	2061	2742	2452	2225	2042	2361	2166	2006	2276	2110	1971	2198	2057	1937	1871
4	2575	2210	1943	1739	2504	2169	1920	1727	2092	1875	1703	2020	1832	1679	1953	1791	1657	1590
5	2362	1967	1691	1487	2297	1932	1673	1479	1867	1638	1463	1806	1605	1447	1749	1573	1431	1366
6	2174	1763	1487	1289	2115	1733	1472	1283	1678	1445	1271	1625	1418	1260	1576	1392	1249	1185
7	2010	1591	1319	1129	1956	1566	1308	1125	1518	1285	1116	1473	1264	1108	1431	1243	1100	1038
8	1866	1445	1181	999	1817	1424	1172	996	1383	1153	990	1344	1136	984	1307	1119	977	918
9	1739	1321	1065	893	1694	1302	1058	890	1267	1043	885	1233	1028	881	1202	1014	876	819
10	1626	1214	968	804	1586	1198	962	802	1167	949	798	1138	937	794	1110	925	791	736

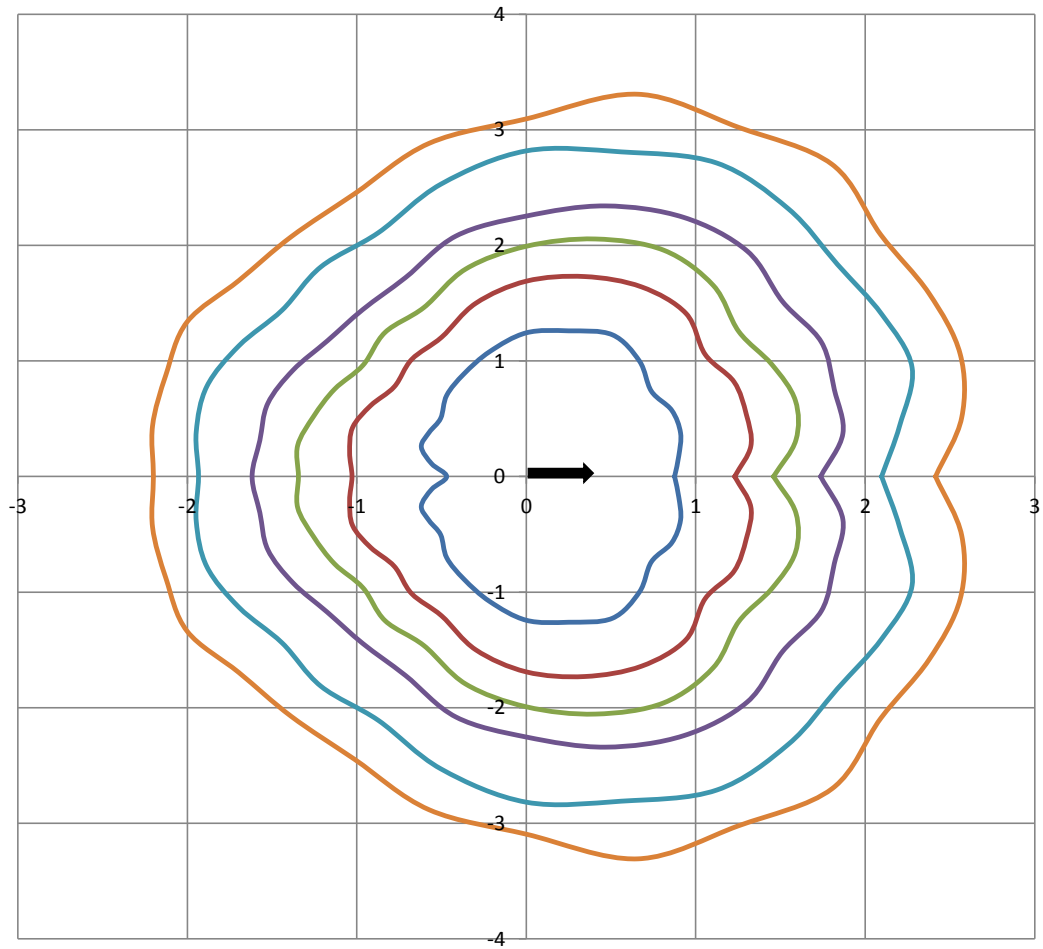
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	1014 Candela
Central Cone Intensity:	1011 Candela
Beam Flux:	2527.4 Lumens
Beam Angle (0-180):	71.7 Degrees
Beam Angle (90-270):	132.6 Degrees
Field Angle (0-180):	135.1 Degrees
Field Angle (90-270):	155.1 Degrees

Cone of Light Tabulation			
Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
4.00		63.4	5.37
6.00		28.2	8.05
8.00		15.8	10.7
10.0		10.1	13.4
12.0		7.04	16.1
14.0		5.17	18.8
16.0		3.96	21.5



ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

