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Indoor Distribution Test Report

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

Prepared For
LF Illumination LLC
Justin Weaver
9200 Deering Avenue
Chatsworth, CA 91311

Catalog Number
MF31BNT23L8030WTDLDUWW
Order Number
10804087
Test Number
1096474

Test Date

2015-06-11

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: Aluminum housing, faceted specular plastic reflector, no enclosure
Lamp: One white LED
Mounting: Recessed
Ballast/Driver: ERP ESS030W-0700-42

Luminaire



Luminaire Characteristics

Luminous Diameter: 2.00 in.

Summary of Results

Total Luminaire Output:	1643 Lumens
Luminaire Efficacy:	68.7 lm/w
Maximum Candela:	3434 Candela

Electrical Data

Test Temperature:	25.0 °C
Voltage:	120.0 VAC
Current:	0.2023 A
Power:	23.93 W
Power Factor:	0.986
Frequency:	60 Hz
Current THD:	12.2 %

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
25.0 °C	120.0 VAC	0.2023 A	23.93 W	0.986	60 Hz	12.2 %

Summary of Results

Spacing Criteria

0-180: 0.60
90-270: 0.60

Total Lumen Output:

1643 Lumens

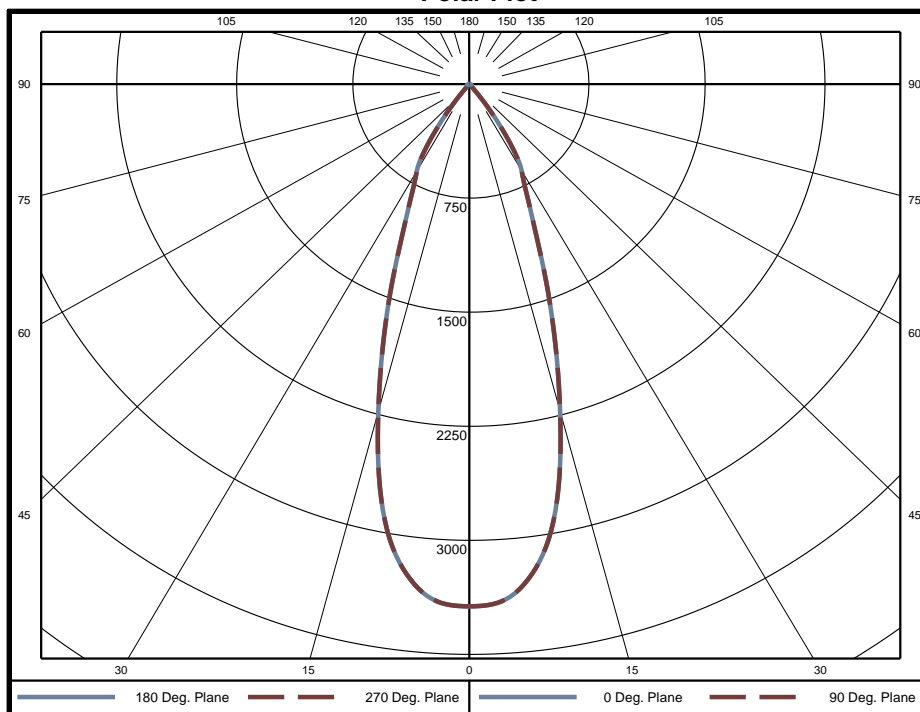
Luminaire Efficacy:

68.7 lm/w

Maximum Candela:

3434 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	81.4	5.0%	60-65	8.3	0.5%	120-125	0	0.0%
5-10	227.5	13.8%	65-70	8.3	0.5%	125-130	0	0.0%
10-15	308.3	18.8%	70-75	7.8	0.5%	130-135	0	0.0%
15-20	297.9	18.1%	75-80	6.5	0.4%	135-140	0	0.0%
20-25	240.7	14.7%	80-85	3.7	0.2%	140-145	0	0.0%
25-30	194.6	11.8%	85-90	1.1	0.1%	145-150	0	0.0%
30-35	156.0	9.5%	90-95	0	0.0%	150-155	0	0.0%
35-40	65.7	4.0%	95-100	0	0.0%	155-160	0	0.0%
40-45	9.9	0.6%	100-105	0	0.0%	160-165	0	0.0%
45-50	8.2	0.5%	105-110	0	0.0%	165-170	0	0.0%
50-55	8.4	0.5%	110-115	0	0.0%	170-175	0	0.0%
55-60	8.4	0.5%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	1572	95.7%
0-60	1607	97.8%
0-90	1643	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	3433	3433	3433	3433	3433	3433	3433	3433	3433	3433	3433	3433	3433	3433	3433	3433
	5	3357	3357	3357	3357	3357	3357	3357	3357	3357	3357	3357	3357	3357	3357	3357	3357
	10	2982	2982	2982	2982	2982	2982	2982	2982	2982	2982	2982	2982	2982	2982	2982	2982
	15	2217	2217	2217	2217	2217	2217	2217	2217	2217	2217	2217	2217	2217	2217	2217	2217
	20	1457	1457	1457	1457	1457	1457	1457	1457	1457	1457	1457	1457	1457	1457	1457	1457
	25	918	918	918	918	918	918	918	918	918	918	918	918	918	918	918	918
	30	664	664	664	664	664	664	664	664	664	664	664	664	664	664	664	664
	35	365	365	365	365	365	365	365	365	365	365	365	365	365	365	365	365
	40	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58
	45	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
	50	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
	55	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19
	60	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
	65	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
	70	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
	75	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
80	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
85	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
90	0	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	0	
100	0	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	0	
110	0	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	0	
120	0	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	0	
130	0	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	0	
140	0	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	0	
150	0	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	0	
160	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	
170	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	
180	0	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	1694000	1694000	1694000
	45	14690	14690	14690
	55	16140	16140	16140
	65	19600	19600	19600
	75	26110	26110	26110
	85	21790	21790	21790



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	1956	1956	1956	1956	1910	1910	1910	1910	1825	1825	1825	1747	1747	1747	1676	1676	1676	1643
1	1870	1827	1788	1753	1830	1792	1757	1726	1725	1698	1673	1664	1643	1623	1608	1592	1576	1547
2	1788	1714	1652	1601	1752	1686	1630	1583	1633	1588	1548	1585	1548	1516	1540	1511	1484	1458
3	1711	1615	1540	1481	1679	1592	1524	1469	1550	1493	1446	1511	1463	1423	1475	1435	1402	1378
4	1638	1526	1445	1382	1610	1508	1433	1374	1474	1409	1358	1442	1387	1343	1412	1366	1328	1304
5	1570	1447	1362	1299	1545	1432	1353	1293	1404	1335	1282	1378	1318	1271	1353	1302	1260	1238
6	1506	1376	1289	1226	1483	1364	1282	1222	1340	1268	1214	1318	1255	1206	1297	1242	1198	1177
7	1445	1311	1224	1163	1425	1300	1218	1160	1281	1207	1154	1262	1197	1148	1245	1186	1142	1121
8	1389	1251	1165	1106	1371	1243	1160	1103	1226	1152	1099	1210	1143	1094	1195	1135	1090	1070
9	1336	1197	1112	1054	1319	1189	1108	1052	1175	1101	1049	1161	1094	1046	1148	1087	1042	1023
10	1286	1147	1063	1007	1271	1140	1060	1006	1128	1054	1003	1116	1048	1001	1105	1043	998	980

Cone of Light Tabulation

Mounting Height	Footcandles at Nadir	Diameter (Feet)
4.00	215	2.39
6.00	95.4	3.59
8.00	53.6	4.78
10.0	34.3	5.98
12.0	23.8	7.17
14.0	17.5	8.37
16.0	13.4	9.56

Cone of Light Plot

