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## Indoor Distribution Test Report

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

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

Catalog Number  
**MF31BNT16L9030WTDLDUWW**  
Order Number  
10804087  
Test Number  
1096471

Test Date

2015-06-08

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-0500-42

### Luminaire



### Luminaire Characteristics

Luminous Diameter: 2.00 in.

### Summary of Results

Total Luminaire Output:	935.1 Lumens
Luminaire Efficacy:	60.4 lm/w
Maximum Candela:	2018 Candela

### Electrical Data

Test Temperature:	25.5 °C
Voltage:	120.0 VAC
Current:	0.1310 A
Power:	15.49 W
Power Factor:	0.985
Frequency:	60 Hz
Current THD:	13.5 %

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
25.5 °C	120.0 VAC	0.1310 A	15.49 W	0.985	60 Hz	13.5 %

### Summary of Results

#### Spacing Criteria

0-180: 0.59  
90-270: 0.59

#### Total Lumen Output:

935.1 Lumens

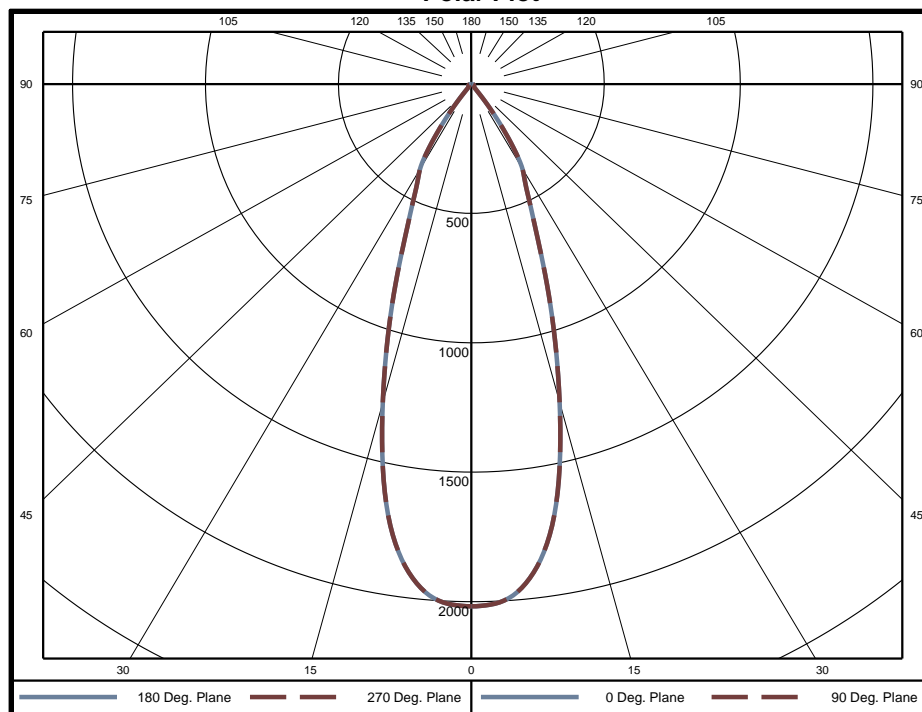
#### Luminaire Efficacy:

60.4 lm/w

#### Maximum Candela:

2018 Candela

### Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	47.8	5.1%	60-65	5.6	0.6%	120-125	0	0.0%
5-10	132.9	14.2%	65-70	5.5	0.6%	125-130	0	0.0%
10-15	177.7	19.0%	70-75	5.1	0.5%	130-135	0	0.0%
15-20	169.5	18.1%	75-80	4.2	0.4%	135-140	0	0.0%
20-25	136.2	14.6%	80-85	2.1	0.2%	140-145	0	0.0%
25-30	111.6	11.9%	85-90	0.6	0.1%	145-150	0	0.0%
30-35	84.8	9.1%	90-95	0	0.0%	150-155	0	0.0%
35-40	29.2	3.1%	95-100	0	0.0%	155-160	0	0.0%
40-45	5.7	0.6%	100-105	0	0.0%	160-165	0	0.0%
45-50	5.5	0.6%	105-110	0	0.0%	165-170	0	0.0%
50-55	5.6	0.6%	110-115	0	0.0%	170-175	0	0.0%
55-60	5.6	0.6%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	890	95.1%
0-60	912	97.5%
0-90	935	100.0%
90-180	0	0.0%



**Candela Tabulation**  
Horizontal Angle (Degrees)

Vertical Angle (Degrees)	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	2018	2018	2018	2018	2018	2018	2018	2018	2018	2018	2018	2018	2018	2018	2018	2018
5	1970	1970	1970	1970	1970	1970	1970	1970	1970	1970	1970	1970	1970	1970	1970	1970
10	1732	1732	1732	1732	1732	1732	1732	1732	1732	1732	1732	1732	1732	1732	1732	1732
15	1269	1269	1269	1269	1269	1269	1269	1269	1269	1269	1269	1269	1269	1269	1269	1269
20	823	823	823	823	823	823	823	823	823	823	823	823	823	823	823	823
25	523	523	523	523	523	523	523	523	523	523	523	523	523	523	523	523
30	383	383	383	383	383	383	383	383	383	383	383	383	383	383	383	383
35	183	183	183	183	183	183	183	183	183	183	183	183	183	183	183	183
40	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
45	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
50	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
55	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
60	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
65	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
70	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
75	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
80	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
85	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
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/m<sup>2</sup>)**  
Horizontal Angle (Degrees)

Vertical Angle (Degrees)	Horizontal Angle (Degrees)		
	0	45	90
0	995700	995700	995700
45	9775	9775	9775
55	10680	10680	10680
65	13050	13050	13050
75	17530	17530	17530
85	12280	12280	12280



### 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	1113	1113	1113	1113	1087	1087	1087	1087	1039	1039	1039	995	995	995	954	954	954	935
1	1064	1040	1018	998	1042	1020	1000	982	982	966	952	947	935	924	915	906	897	880
2	1018	975	940	911	997	959	928	901	930	904	881	902	881	862	877	860	845	830
3	974	919	877	843	956	906	867	836	882	850	823	860	833	810	839	817	798	784
4	933	869	823	787	917	859	816	783	839	803	774	821	790	765	804	778	756	743
5	894	825	776	740	880	816	771	737	800	761	731	785	751	724	771	742	718	706
6	858	784	735	700	845	777	731	697	764	723	693	751	715	688	740	708	684	672
7	824	748	698	664	813	742	695	662	731	689	659	720	683	655	710	677	652	640
8	792	714	665	632	782	709	663	630	700	658	628	691	653	625	682	648	623	612
9	763	684	635	603	753	679	633	602	671	629	600	663	625	598	656	622	596	585
10	735	656	608	577	726	652	606	576	645	603	574	638	600	573	632	597	571	561

### Cone of Light Tabulation

Mounting Height	Footcandles at Nadir	Diameter (Feet)
4.00	126	2.34
6.00	56.1	3.52
8.00	31.5	4.69
10.0	20.2	5.86
12.0	14.0	7.03
14.0	10.3	8.20
16.0	7.88	9.37

### Cone of Light Plot

