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## Indoor Distribution Test Report

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

**Prepared For**  
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**Catalog Number**  
**2330**  
Order Number  
10977900  
Test Number  
1165578

Test Date

2015-10-06

Prepared By

Derek Smarr, Technician

Approved By

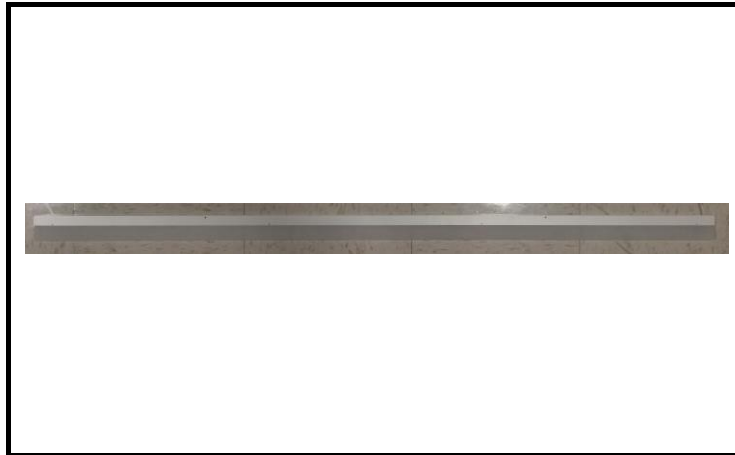
Kyle Spaziani, Project Handler

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**Luminaire Description:** Formed white aluminum housing, frosted plastic lens  
**Lamp:** 288 white LEDs  
**Mounting:** Pendant  
**Ballast/Driver:** One ERP EBR020U-0400-42

**Luminaire**



**Luminaire Characteristics**

Luminous Length: 47.75 in.  
Luminous Width: 0.6250 in.  
Luminous Height: 1.00 in.

**Summary of Results**

Total Luminaire Output: 1329 Lumens  
Luminaire Efficacy: 78.5 lm/w  
Maximum Candela: 370 Candela

**Electrical Data**

Test Temperature: 24.7 °C  
Voltage: 120.0 VAC  
Current: 0.1422 A  
Power: 16.93 W  
Power Factor: 0.992  
Frequency: 60 Hz  
Current THD: 10.6 %

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	0.1422 A	16.93 W	0.992	60 Hz	10.6 %

### Summary of Results

#### Spacing Criteria

0-180: 1.13  
90-270: 1.13

#### Total Lumen Output:

1329 Lumens

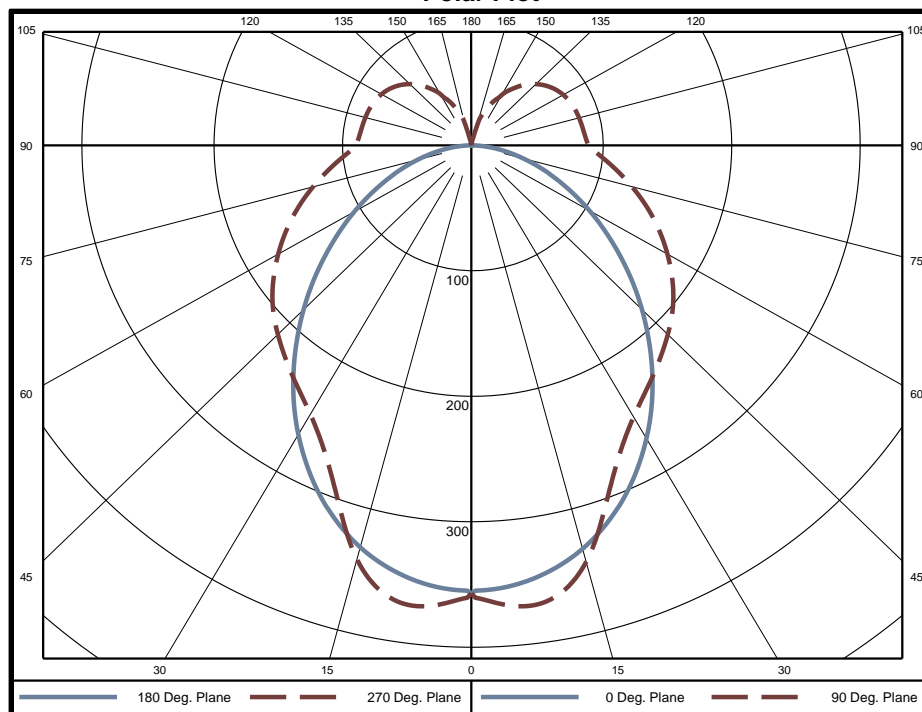
#### Luminaire Efficacy:

78.5 lm/w

#### Maximum Candela:

370 Candela

### Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	8.60	0.6%	60-65	67.81	5.1%	120-125	24.30	1.8%
5-10	25.80	1.9%	65-70	62.54	4.7%	125-130	21.07	1.6%
10-15	41.74	3.1%	70-75	56.49	4.3%	130-135	17.75	1.3%
15-20	54.60	4.1%	75-80	49.95	3.8%	135-140	14.38	1.1%
20-25	63.60	4.8%	80-85	43.44	3.3%	140-145	10.93	0.8%
25-30	69.70	5.2%	85-90	37.35	2.8%	145-150	7.98	0.6%
30-35	73.90	5.6%	90-95	34.54	2.6%	150-155	5.45	0.4%
35-40	76.49	5.8%	95-100	33.51	2.5%	155-160	3.36	0.3%
40-45	77.55	5.8%	100-105	32.36	2.4%	160-165	1.71	0.1%
45-50	77.17	5.8%	105-110	30.97	2.3%	165-170	0.56	0.0%
50-55	75.32	5.7%	110-115	29.27	2.2%	170-175	0.06	0.0%
55-60	72.10	5.4%	115-120	27.07	2.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	414	31.2%
0-60	717	53.9%
0-90	1034	77.8%
90-180	295	22.2%



**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	357.2	357.2	357.2	357.2	357.2	357.2	357.2	357.2	357.2	357.2	357.2	357.2	357.2	357.2	357.2	357.2
5	352.3	357.7	361.5	364.7	368.5	364.7	361.5	357.7	352.3	357.7	361.5	364.7	368.5	364.7	361.5	357.7
10	344.6	354.7	360.9	363.2	365.8	363.2	360.9	354.7	344.6	354.7	360.9	363.2	365.8	363.2	360.9	354.7
15	332.2	346.2	349.0	343.7	342.1	343.7	349.0	346.2	332.2	346.2	349.0	343.7	342.1	343.7	349.0	346.2
20	314.8	331.0	325.6	308.0	302.1	308.0	325.6	331.0	314.8	331.0	325.6	308.0	302.1	308.0	325.6	331.0
25	293.5	309.8	293.0	272.6	269.5	272.6	293.0	309.8	293.5	309.8	293.0	272.6	269.5	272.6	293.0	309.8
30	268.8	284.2	260.2	248.3	248.9	248.3	260.2	284.2	268.8	284.2	260.2	248.3	248.9	248.3	260.2	284.2
35	241.9	255.5	233.8	231.8	235.1	231.8	233.8	255.5	241.9	255.5	233.8	231.8	235.1	231.8	233.8	255.5
40	213.5	226.3	213.4	218.7	223.5	218.7	213.4	226.3	213.5	226.3	213.4	218.7	223.5	218.7	213.4	226.3
45	185.0	198.3	196.8	206.8	212.5	206.8	196.8	198.3	185.0	198.3	196.8	206.8	212.5	206.8	196.8	198.3
50	156.9	172.7	181.7	195.0	201.0	195.0	181.7	172.7	156.9	172.7	181.7	195.0	201.0	195.0	181.7	172.7
55	129.9	150.2	167.2	182.0	187.6	182.0	167.2	150.2	129.9	150.2	167.2	182.0	187.6	182.0	167.2	150.2
60	105.0	130.6	153.1	168.0	173.0	168.0	153.1	130.6	105.0	130.6	153.1	168.0	173.0	168.0	153.1	130.6
65	81.8	112.8	139.3	153.9	157.9	153.9	139.3	112.8	81.8	112.8	139.3	153.9	157.9	153.9	139.3	112.8
70	61.2	96.4	125.3	139.4	142.6	139.4	125.3	96.4	61.2	96.4	125.3	139.4	142.6	139.4	125.3	96.4
75	42.3	81.1	111.8	124.8	127.1	124.8	111.8	81.1	42.3	81.1	111.8	124.8	127.1	124.8	111.8	81.1
80	25.7	67.1	98.6	110.7	112.5	110.7	98.6	67.1	25.7	67.1	98.6	110.7	112.5	110.7	98.6	67.1
85	11.4	55.1	86.4	97.9	99.4	97.9	86.4	55.1	11.4	55.1	86.4	97.9	99.4	97.9	86.4	55.1
90	0.9	45.5	76.9	88.1	89.4	88.1	76.9	45.5	0.9	45.5	76.9	88.1	89.4	88.1	76.9	45.5
95	0.8	44.3	75.0	86.0	87.3	86.0	75.0	44.3	0.8	44.3	75.0	86.0	87.3	86.0	75.0	44.3
100	0.8	43.0	73.2	84.6	86.1	84.6	73.2	43.0	0.8	43.0	73.2	84.6	86.1	84.6	73.2	43.0
105	0.7	41.8	71.5	83.3	85.2	83.3	71.5	41.8	0.7	41.8	71.5	83.3	85.2	83.3	71.5	41.8
110	0.7	40.4	69.6	81.8	84.3	81.8	69.6	40.4	0.7	40.4	69.6	81.8	84.3	81.8	69.6	40.4
115	0.6	38.5	67.4	80.0	82.9	80.0	67.4	38.5	0.6	38.5	67.4	80.0	82.9	80.0	67.4	38.5
120	0.4	34.2	64.8	77.5	81.0	77.5	64.8	34.2	0.4	34.2	64.8	77.5	81.0	77.5	64.8	34.2
125	0.2	29.7	59.2	74.4	78.1	74.4	59.2	29.7	0.2	29.7	59.2	74.4	78.1	74.4	59.2	29.7
130	0.1	25.4	51.5	70.2	74.2	70.2	51.5	25.4	0.1	25.4	51.5	70.2	74.2	70.2	51.5	25.4
135	0.0	21.7	45.6	64.4	69.1	64.4	45.6	21.7	0.0	21.7	45.6	64.4	69.1	64.4	45.6	21.7
140	0.0	18.4	38.5	54.9	62.8	54.9	38.5	18.4	0.0	18.4	38.5	54.9	62.8	54.9	38.5	18.4
145	0.0	15.1	31.6	44.6	55.3	44.6	31.6	15.1	0.0	15.1	31.6	44.6	55.3	44.6	31.6	15.1
150	0.0	11.4	26.5	36.1	46.4	36.1	26.5	11.4	0.0	11.4	26.5	36.1	46.4	36.1	26.5	11.4
155	0.0	7.8	21.0	27.3	37.6	27.3	21.0	7.8	0.0	7.8	21.0	27.3	37.6	27.3	21.0	7.8
160	0.0	3.8	15.2	19.3	27.7	19.3	15.2	3.8	0.0	3.8	15.2	19.3	27.7	19.3	15.2	3.8
165	0.0	0.5	9.2	12.6	13.1	12.6	9.2	0.5	0.0	0.5	9.2	12.6	13.1	12.6	9.2	0.5
170	0.0	0.0	2.2	5.6	3.4	5.6	2.2	0.0	0.0	0.0	2.2	5.6	3.4	5.6	2.2	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/m<sup>2</sup>)**  
Horizontal Angle (Degrees)

	0	45	90
0	18550	18550	18550
45	13310	6735	6002
55	11420	5740	5171
65	9616	4950	4380
75	7863	4250	3658
85	5474	3653	3070



### 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	1512	1512	1512	1512	1443	1443	1443	1443	1313	1313	1313	1194	1194	1194	1085	1085	1085	1034
1	1351	1277	1211	1151	1283	1218	1158	1105	1106	1059	1016	1004	967	932	910	881	854	805
2	1220	1102	1004	921	1157	1051	962	887	955	884	822	868	810	760	786	741	700	655
3	1109	962	849	759	1050	919	816	733	837	752	683	761	692	634	690	635	587	545
4	1014	850	731	639	960	813	703	619	742	651	579	676	601	540	615	553	502	463
5	931	758	637	548	882	726	615	532	664	571	499	607	529	467	554	488	436	400
6	859	682	563	477	815	654	543	463	600	506	436	550	470	410	503	436	384	350
7	797	618	502	420	756	593	485	409	546	453	386	501	422	363	460	393	341	310
8	741	563	451	374	704	541	437	364	500	409	345	460	382	325	424	356	306	277
9	692	516	409	336	658	497	396	327	460	372	310	425	349	294	392	326	277	250
10	649	476	373	304	618	459	362	296	426	340	282	394	320	267	365	300	253	228

### Cone of Light Tabulation

Mounting Height	Footcandles at Nadir	Diameter (Feet)
4.00	22.3	4.45
6.00	9.92	6.67
8.00	5.58	8.90
10.0	3.57	11.1
12.0	2.48	13.3
14.0	1.82	15.6
16.0	1.40	17.8

### Cone of Light Plot

