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Indoor Distribution Test Report

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

Prepared For
LED Waves, LLC
Tiago Zeitoune
The Esquire Building at 41st ST
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Brooklyn, NY 11232

Catalog Number
PR15-6-V1-W3000K-D
Order Number
10974084
Test Number
1163213

Test Date

2015-09-29

Prepared By

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Approved By

Kyle Spaziani, Project Handler

The results contained in this report pertain only to the tested sample.
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Luminaire Description: White steel / aluminum housing, frosted plastic lens enclosure
Lamp: 64 white LEDs
Mounting: Recessed
Ballast/Driver: LED20W-7-C0700-LE-1

Luminaire



Luminaire Characteristics

Luminous Diameter: 4.78 in.

Summary of Results

Total Luminaire Output:	767.9 Lumens
Luminaire Efficacy:	72.4 lm/w
Maximum Candela:	273 Candela

Electrical Data

Test Temperature:	24.1 °C
Voltage:	120.0 VAC
Current:	0.09032 A
Power:	10.61 W
Power Factor:	0.979
Frequency:	60 Hz
Current THD:	12.5 %

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



Distribution - Goniophotometer

Distribution Test Conditions

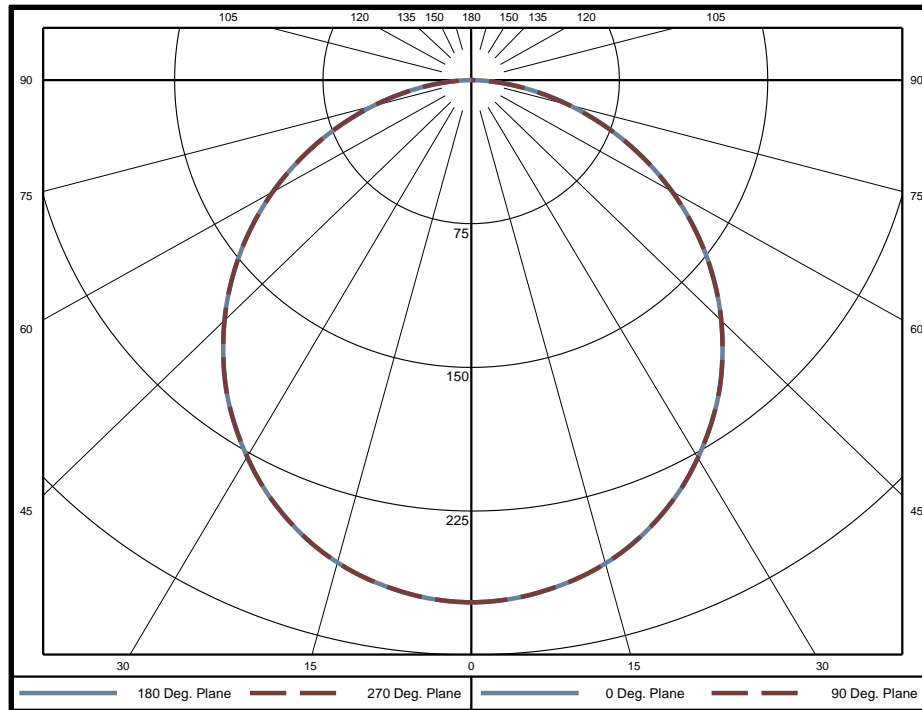
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.1 °C	120.0 VAC	0.09032 A	10.61 W	0.979	60 Hz	12.5 %

Summary of Results

Spacing Criteria
 0-180: 1.24
 90-270: 1.24

Total Lumen Output: 767.9 Lumens
Luminaire Efficacy: 72.4 lm/w
Maximum Candela: 273 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	6.50	0.8%	60-65	51.47	6.7%	120-125	0	0.0%
5-10	19.26	2.5%	65-70	42.51	5.5%	125-130	0	0.0%
10-15	31.35	4.1%	70-75	32.49	4.2%	130-135	0	0.0%
15-20	42.33	5.5%	75-80	22.08	2.9%	135-140	0	0.0%
20-25	51.77	6.7%	80-85	12.01	1.6%	140-145	0	0.0%
25-30	59.37	7.7%	85-90	3.05	0.4%	145-150	0	0.0%
30-35	64.89	8.5%	90-95	0	0.0%	150-155	0	0.0%
35-40	68.27	8.9%	95-100	0	0.0%	155-160	0	0.0%
40-45	69.22	9.0%	100-105	0	0.0%	160-165	0	0.0%
45-50	67.96	8.9%	105-110	0	0.0%	165-170	0	0.0%
50-55	64.48	8.4%	110-115	0	0.0%	170-175	0	0.0%
55-60	58.91	7.7%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	344	44.8%
0-60	604	78.7%
0-90	768	100.0%
90-180	0	0.0%



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	272.6	272.6	272.6	272.6	272.6	272.6	272.6	272.6	272.6	272.6	272.6	272.6	272.6	272.6	272.6	272.6
5	271.2	271.2	271.2	271.2	271.2	271.2	271.2	271.2	271.2	271.2	271.2	271.2	271.2	271.2	271.2	271.2
10	267.2	267.2	267.2	267.2	267.2	267.2	267.2	267.2	267.2	267.2	267.2	267.2	267.2	267.2	267.2	267.2
15	261.1	261.1	261.1	261.1	261.1	261.1	261.1	261.1	261.1	261.1	261.1	261.1	261.1	261.1	261.1	261.1
20	252.4	252.4	252.4	252.4	252.4	252.4	252.4	252.4	252.4	252.4	252.4	252.4	252.4	252.4	252.4	252.4
25	241.3	241.3	241.3	241.3	241.3	241.3	241.3	241.3	241.3	241.3	241.3	241.3	241.3	241.3	241.3	241.3
30	227.8	227.8	227.8	227.8	227.8	227.8	227.8	227.8	227.8	227.8	227.8	227.8	227.8	227.8	227.8	227.8
35	212.9	212.9	212.9	212.9	212.9	212.9	212.9	212.9	212.9	212.9	212.9	212.9	212.9	212.9	212.9	212.9
40	196.1	196.1	196.1	196.1	196.1	196.1	196.1	196.1	196.1	196.1	196.1	196.1	196.1	196.1	196.1	196.1
45	177.9	177.9	177.9	177.9	177.9	177.9	177.9	177.9	177.9	177.9	177.9	177.9	177.9	177.9	177.9	177.9
50	158.5	158.5	158.5	158.5	158.5	158.5	158.5	158.5	158.5	158.5	158.5	158.5	158.5	158.5	158.5	158.5
55	138.1	138.1	138.1	138.1	138.1	138.1	138.1	138.1	138.1	138.1	138.1	138.1	138.1	138.1	138.1	138.1
60	116.8	116.8	116.8	116.8	116.8	116.8	116.8	116.8	116.8	116.8	116.8	116.8	116.8	116.8	116.8	116.8
65	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0
70	73.0	73.0	73.0	73.0	73.0	73.0	73.0	73.0	73.0	73.0	73.0	73.0	73.0	73.0	73.0	73.0
75	51.6	51.6	51.6	51.6	51.6	51.6	51.6	51.6	51.6	51.6	51.6	51.6	51.6	51.6	51.6	51.6
80	31.4	31.4	31.4	31.4	31.4	31.4	31.4	31.4	31.4	31.4	31.4	31.4	31.4	31.4	31.4	31.4
85	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3
90	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
95	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
100	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
105	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
110	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
115	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
120	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
125	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
130	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
135	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
140	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
145	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
150	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
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	23550	23550	23550
45	21730	21730	21730
55	20800	20800	20800
65	19420	19420	19420
75	17210	17210	17210
85	13160	13160	13160



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	914	914	914	914	893	893	893	893	853	853	853	817	817	817	784	784	784	768
1	834	797	764	734	813	780	750	722	747	722	699	717	697	678	689	673	658	642
2	758	694	641	597	738	680	631	590	652	611	576	627	593	563	604	576	550	533
3	691	609	546	496	672	597	538	491	574	524	482	553	510	474	533	497	466	449
4	632	540	472	420	615	529	466	417	510	455	411	492	444	405	475	434	400	383
5	581	482	413	361	565	473	408	359	457	399	355	442	391	351	427	383	347	331
6	537	434	365	315	522	427	361	314	413	354	311	400	348	308	387	341	305	289
7	498	393	326	278	484	387	323	277	375	317	275	364	312	273	354	307	271	256
8	463	359	293	248	451	354	291	247	343	286	246	334	282	244	325	278	243	228
9	433	329	266	223	422	325	264	223	316	260	221	308	257	220	300	253	219	205
10	406	304	243	202	396	300	241	202	292	238	201	285	235	200	278	232	199	186

Cone of Light Tabulation

Mounting Height	Footcandles at Nadir	Diameter (Feet)
4.00	17.0	4.97
6.00	7.57	7.46
8.00	4.26	9.94
10.0	2.73	12.4
12.0	1.89	14.9
14.0	1.39	17.4
16.0	1.06	19.9

Cone of Light Plot

