



UL LLC
1075 W Lambert Rd Suite B
Brea, CA 92821

Indoor Distribution Test Report

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

Prepared For
SONNEMAN - A WAY OF LIGHT

NICOLAS CARMICHAEL
106 PIERCES RD
NEWBURGH, NY 12550-9369
United States

Catalog Number

7226.98-WL

Order Number

11281216

Test Number

1253420

Test Date

2016-06-17

Prepared By

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Approved By

Eric Gaudreau, Senior Engineering Associate

The results contained in this report pertain only to the tested sample.
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Luminaire Description: Rectangular/circular white formed aluminum housing with a half circular directional frosted lens
Lamp: White LEDs
Mounting: Surface/Wall
Ballast/Driver: One (1) ERP EBR015U-0350-42

Luminaire



Luminaire Characteristics

Luminous Length: 4.50 in.
Luminous Width: 9.500 in.
Luminous Height: 5.00 in.

Summary of Results

Total Luminaire Output: 889.6 Lumens
Luminaire Efficacy: 66.4 lm/w
Maximum Candela: 295 Candela

Test Conditions

Test Temperature: 24.8 °C
Voltage: 120.0 VAC
Current: 0.1132 A
Power: 13.39 W
Power Factor: 0.986
Frequency: 60 Hz
Current THD: 14.5 %

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



Distribution - Goniophotometer

Distribution Test Conditions

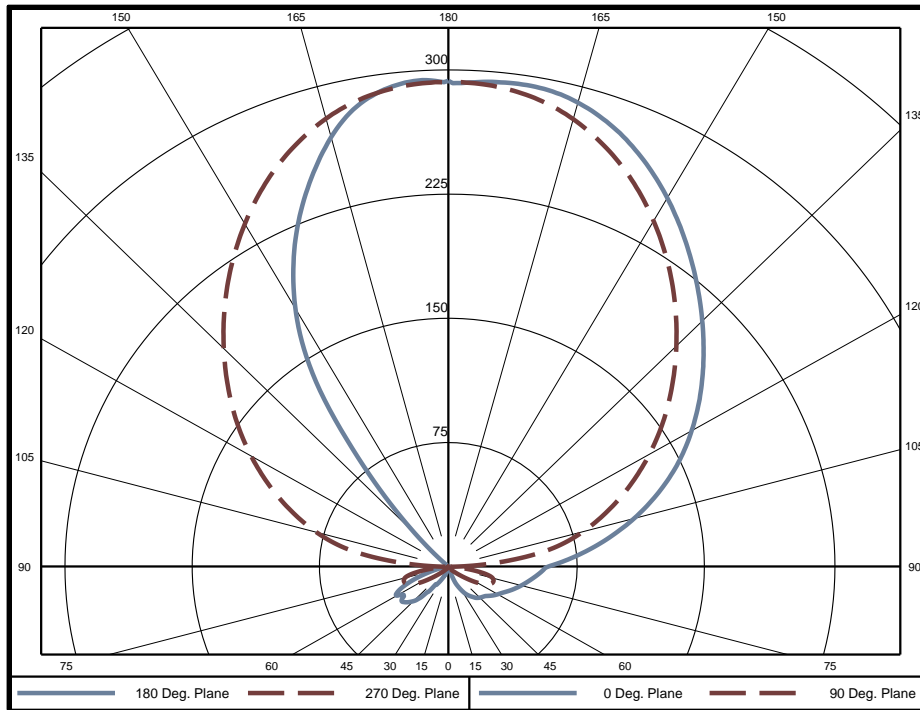
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.8 °C	120.0 VAC	0.1132 A	13.39 W	0.986	60 Hz	14.5 %

Summary of Results

Spacing Criteria
 0-180: #N/A
 90-270: #N/A

Total Lumen Output: 889.6 Lumens
 Luminaire Efficacy: 66.4 lm/w
 Maximum Candela: 295 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	0.00	0.0%	60-65	13.66	1.5%	120-125	49.91	5.6%
5-10	0.02	0.0%	65-70	15.42	1.7%	125-130	53.92	6.1%
10-15	0.07	0.0%	70-75	15.56	1.7%	130-135	58.30	6.6%
15-20	0.33	0.0%	75-80	13.88	1.6%	135-140	62.76	7.1%
20-25	0.94	0.1%	80-85	10.94	1.2%	140-145	65.52	7.4%
25-30	1.84	0.2%	85-90	9.79	1.1%	145-150	65.01	7.3%
30-35	2.85	0.3%	90-95	14.09	1.6%	150-155	61.06	6.9%
35-40	4.13	0.5%	95-100	22.28	2.5%	155-160	54.37	6.1%
40-45	5.60	0.6%	100-105	29.95	3.4%	160-165	45.20	5.1%
45-50	7.14	0.8%	105-110	36.19	4.1%	165-170	33.88	3.8%
50-55	8.91	1.0%	110-115	41.37	4.7%	170-175	20.88	2.3%
55-60	11.02	1.2%	115-120	45.78	5.1%	175-180	7.02	0.8%

Zone	Lumens	% of Luminaire
0-40	10	1.1%
0-60	43	4.8%
0-90	122	13.7%
90-180	767	86.3%



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	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
5	0.0	0.1	0.0	0.1	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.1	0.0	0.1
10	0.0	0.1	0.4	1.1	0.5	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.5	1.1	0.4	0.1
15	0.0	1.3	3.3	2.6	0.6	0.2	0.2	0.3	0.4	0.3	0.2	0.2	0.6	2.6	3.3	1.3
20	5.2	6.1	5.6	3.6	0.6	0.2	0.5	2.8	5.0	2.8	0.5	0.2	0.6	3.6	5.6	6.1
25	13.0	11.2	8.0	4.8	0.6	0.8	4.3	6.9	7.5	6.9	4.3	0.8	0.6	4.8	8.0	11.2
30	17.9	16.0	10.7	6.2	0.9	2.8	7.2	9.9	11.1	9.9	7.2	2.8	0.9	6.2	10.7	16.0
35	21.6	19.9	13.9	7.7	1.3	2.7	9.3	13.8	13.6	13.8	9.3	2.7	1.3	7.7	13.9	19.9
40	24.6	22.7	17.6	9.7	2.1	3.8	10.7	19.9	22.4	19.9	10.7	3.8	2.1	9.7	17.6	22.7
45	26.4	25.0	21.1	12.4	3.6	6.4	11.1	23.3	29.7	23.3	11.1	6.4	3.6	12.4	21.1	25.0
50	27.8	26.8	24.2	15.7	6.3	10.2	13.7	24.5	33.5	24.5	13.7	10.2	6.3	15.7	24.2	26.8
55	30.6	29.4	26.7	19.6	11.5	15.3	18.1	23.0	32.9	23.0	18.1	15.3	11.5	19.6	26.7	29.4
60	33.4	32.4	29.1	24.1	19.3	22.7	23.4	23.8	35.3	23.8	23.4	22.7	19.3	24.1	29.1	32.4
65	36.5	35.0	31.3	27.5	25.3	29.7	28.4	26.7	30.3	26.7	28.4	29.7	25.3	27.5	31.3	35.0
70	40.3	38.1	32.8	28.7	27.6	33.2	30.8	24.1	19.2	24.1	30.8	33.2	27.6	28.7	32.8	38.1
75	44.2	41.4	33.9	27.6	26.6	30.9	24.5	15.8	8.7	15.8	24.5	30.9	26.6	27.6	33.9	41.4
80	48.3	44.9	35.1	23.7	18.5	18.7	12.3	6.1	1.7	6.1	12.3	18.7	18.5	23.7	35.1	44.9
85	52.9	49.1	37.2	19.9	5.6	3.5	1.4	0.3	0.0	0.3	1.4	3.5	5.6	19.9	37.2	49.1
90	58.4	55.6	42.9	23.5	4.0	1.1	0.1	0.0	0.0	0.0	0.1	1.1	4.0	23.5	42.9	55.6
95	75.5	73.0	61.2	45.1	29.1	14.6	3.6	0.0	0.0	0.0	3.6	14.6	29.1	45.1	61.2	73.0
100	93.9	91.8	81.4	69.9	59.7	32.6	8.6	0.1	0.0	0.1	8.6	32.6	59.7	69.9	81.4	91.8
105	112.7	111.0	101.2	90.8	80.5	48.6	13.9	0.2	0.0	0.2	13.9	48.6	80.5	90.8	101.2	111.0
110	131.1	129.4	119.6	109.1	98.6	62.4	19.5	0.3	0.0	0.3	19.5	62.4	98.6	109.1	119.6	129.4
115	148.6	146.6	136.7	126.6	116.5	76.9	25.2	0.4	0.0	0.4	25.2	76.9	116.5	126.6	136.7	146.6
120	164.6	162.7	153.5	143.5	134.3	97.7	31.7	0.5	0.0	0.5	31.7	97.7	134.3	143.5	153.5	162.7
125	180.0	178.3	169.9	160.2	152.1	125.2	49.4	0.5	0.0	0.5	49.4	125.2	152.1	160.2	169.9	178.3
130	195.1	193.6	185.8	176.6	169.5	151.6	83.4	6.6	0.0	6.6	83.4	151.6	169.5	176.6	185.8	193.6
135	210.2	209.2	202.2	193.5	187.2	176.1	127.9	38.9	24.6	38.9	127.9	176.1	187.2	193.5	202.2	209.2
140	225.8	225.2	218.9	210.7	205.0	198.4	166.2	90.8	72.9	90.8	166.2	198.4	205.0	210.7	218.9	225.2
145	241.4	241.2	235.5	227.9	222.6	219.1	194.2	147.6	136.2	147.6	194.2	219.1	222.6	227.9	235.5	241.2
150	256.8	256.7	251.6	244.7	239.5	238.0	217.9	186.5	180.8	186.5	217.9	238.0	239.5	244.7	251.6	256.7
155	270.8	270.9	266.4	260.1	255.3	254.8	239.5	217.9	214.6	217.9	239.5	254.8	255.3	260.1	266.4	270.9
160	282.5	282.5	278.8	273.3	268.9	269.2	259.3	245.1	243.1	245.1	259.3	269.2	268.9	273.3	278.8	282.5
165	290.6	290.5	287.7	283.4	279.9	281.0	276.5	268.9	268.3	268.9	276.5	281.0	279.9	283.4	287.7	290.5
170	294.4	294.4	292.8	289.7	287.6	289.4	288.5	286.0	285.9	286.0	288.5	289.4	287.6	289.7	292.8	294.4
175	294.0	294.4	293.9	292.2	291.7	293.8	294.6	294.0	293.5	294.0	294.6	293.8	291.7	292.2	293.9	294.4
180	293.5	293.5	293.5	293.5	293.5	293.5	293.5	293.5	293.5	293.5	293.5	293.5	293.5	293.5	293.5	293.5

Average Luminance (cd/m²)
Horizontal Angle (Degrees)

Vertical Angle (Degrees)	Horizontal Angle (Degrees)		
	0	45	90
0	0	0	0
45	641	500	122
55	748	637	416
65	925	771	1021
75	1202	893	1255
85	1606	1086	332



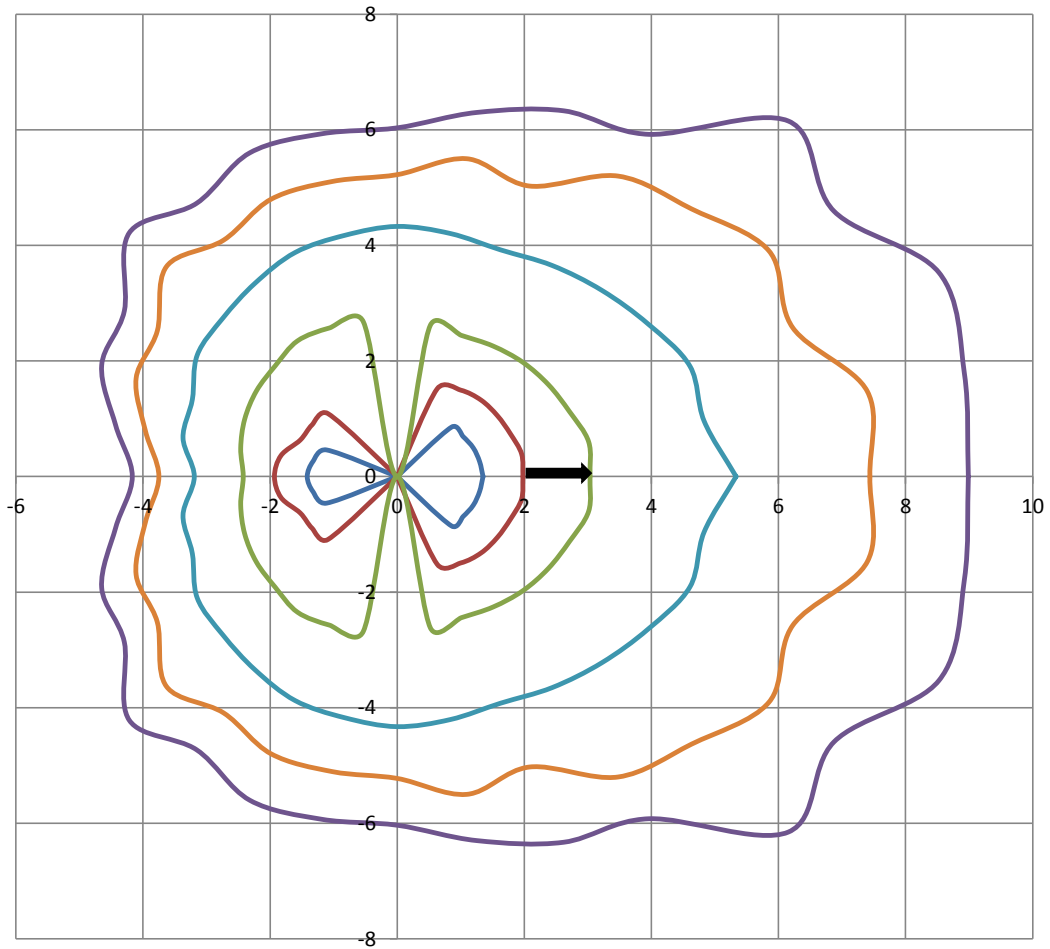
Utilization of Lumens - Zonal Cavity Method

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	876	876	876	876	767	767	767	767	562	562	562	375	375	375	203	203	203	122
1	785	743	705	671	683	648	617	589	471	450	431	308	295	284	158	151	145	76
2	707	639	582	534	613	557	509	469	403	371	344	261	241	224	130	119	109	51
3	640	555	489	436	554	484	428	383	349	311	280	225	201	181	109	96	86	36
4	582	486	415	361	503	423	364	318	305	265	232	196	170	149	94	80	69	26
5	531	428	356	303	459	373	312	267	269	227	195	172	146	125	82	68	56	19
6	486	380	309	258	420	331	271	227	239	197	166	153	126	106	73	58	47	15
7	447	340	270	222	386	296	237	195	214	173	142	137	110	91	65	51	40	11
8	412	305	238	192	357	267	209	169	193	152	123	124	97	78	59	44	34	9
9	382	276	211	167	331	241	185	147	175	135	107	112	87	68	53	39	29	7
10	355	251	188	147	307	219	165	129	159	121	94	102	77	60	49	35	25	6



ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

