



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

7238.98-WL

Order Number

11281216

Test Number

1253427

Test Date

2016-06-16

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: Triangular white formed aluminum housing with a triangular frosted glass lens
Lamp: 15 White LEDs
Mounting: Surface/Wall
Ballast/Driver: ERP EBR015U-0350-32

Luminaire



Luminaire Characteristics

Luminous Length: 2.00 in.
Luminous Width: 5.000 in.

Summary of Results

Total Luminaire Output:	637.6 Lumens
Luminaire Efficacy:	53.5 lm/w
Maximum Candela:	332 Candela

Test Conditions

Test Temperature:	25.3 °C
Voltage:	120.0 VAC
Current:	0.1006 A
Power:	11.91 W
Power Factor:	0.987
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

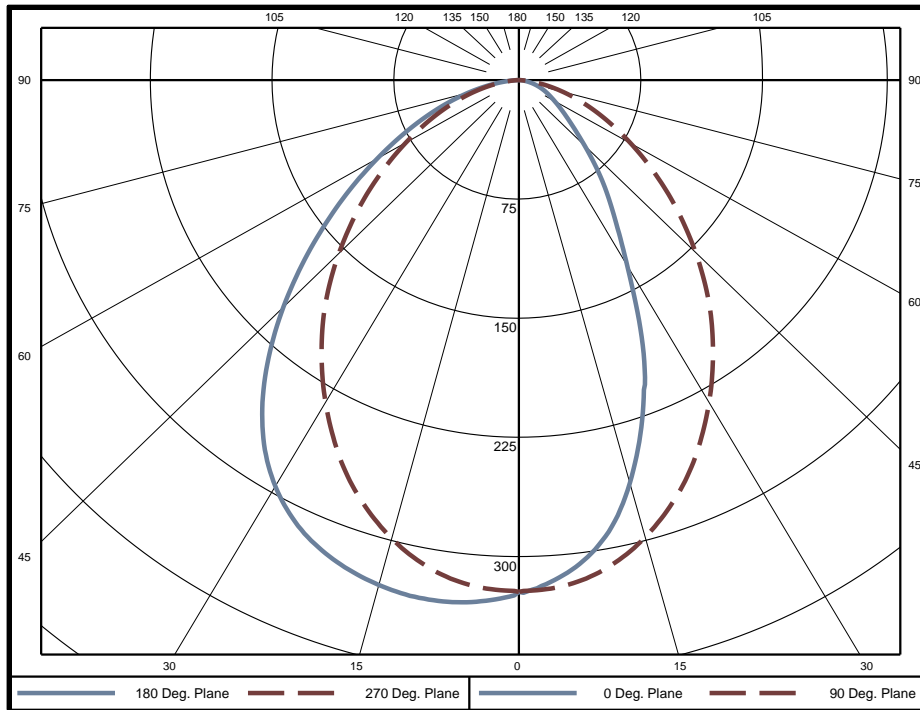
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.3 °C	120.0 VAC	0.1006 A	11.91 W	0.987	60 Hz	14.5 %

Summary of Results

Spacing Criteria
 0-180: 0.82
 90-270: 1.33

Total Lumen Output: 637.6 Lumens
Luminaire Efficacy: 53.5 lm/w
Maximum Candela: 332 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	7.69	1.2%	60-65	30.66	4.8%	120-125	0	0.0%
5-10	22.65	3.6%	65-70	23.42	3.7%	125-130	0	0.0%
10-15	36.18	5.7%	70-75	16.56	2.6%	130-135	0	0.0%
15-20	47.34	7.4%	75-80	10.27	1.6%	135-140	0	0.0%
20-25	55.58	8.7%	80-85	4.86	0.8%	140-145	0	0.0%
25-30	60.69	9.5%	85-90	1.17	0.2%	145-150	0	0.0%
30-35	62.84	9.9%	90-95	0	0.0%	150-155	0	0.0%
35-40	62.16	9.7%	95-100	0	0.0%	155-160	0	0.0%
40-45	58.64	9.2%	100-105	0	0.0%	160-165	0	0.0%
45-50	52.83	8.3%	105-110	0	0.0%	165-170	0	0.0%
50-55	45.81	7.2%	110-115	0	0.0%	170-175	0	0.0%
55-60	38.29	6.0%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	355	55.7%
0-60	551	86.4%
0-90	638	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	322.3	322.3	322.3	322.3	322.3	322.3	322.3	322.3	322.3	322.3	322.3	322.3	322.3	322.3	322.3	322.3
5	313.0	312.5	314.3	316.4	319.7	323.5	327.2	329.3	330.0	329.3	327.2	323.5	319.7	316.4	314.3	312.5
10	294.6	293.4	297.6	304.1	311.8	320.0	326.9	330.9	331.6	330.9	326.9	320.0	311.8	304.1	297.6	293.4
15	263.1	263.8	272.5	284.4	298.4	312.9	323.4	328.5	329.1	328.5	323.4	312.9	298.4	284.4	272.5	263.8
20	222.7	224.7	240.1	259.0	280.5	301.3	315.6	322.1	322.9	322.1	315.6	301.3	280.5	259.0	240.1	224.7
25	178.6	183.0	206.3	231.2	258.7	285.3	304.0	311.6	312.4	311.6	304.0	285.3	258.7	231.2	206.3	183.0
30	132.0	144.0	172.8	202.7	233.7	265.6	287.7	295.8	295.5	295.8	287.7	265.6	233.7	202.7	172.8	144.0
35	100.4	110.8	141.0	174.0	207.7	242.5	266.8	273.3	270.9	273.3	266.8	242.5	207.7	174.0	141.0	110.8
40	76.6	83.4	112.1	145.7	181.1	216.6	240.9	243.6	238.6	243.6	240.9	216.6	181.1	145.7	112.1	83.4
45	55.6	61.5	86.3	119.1	153.4	188.3	210.3	208.9	202.1	208.9	210.3	188.3	153.4	119.1	86.3	61.5
50	41.0	45.4	65.5	93.8	126.6	158.8	176.6	172.3	165.0	172.3	176.6	158.8	126.6	93.8	65.5	45.4
55	31.4	34.0	49.1	72.8	101.4	129.8	143.9	138.0	130.5	138.0	143.9	129.8	101.4	72.8	49.1	34.0
60	24.3	25.9	36.3	55.2	78.8	102.6	113.1	106.2	99.7	106.2	113.1	102.6	78.8	55.2	36.3	25.9
65	18.9	19.6	26.3	40.4	59.1	78.3	85.3	79.1	73.6	79.1	85.3	78.3	59.1	40.4	26.3	19.6
70	14.2	14.3	18.3	28.2	42.1	56.5	61.0	56.0	51.8	56.0	61.0	56.5	42.1	28.2	18.3	14.3
75	9.6	9.5	11.8	17.9	27.2	37.0	39.6	36.5	33.4	36.5	39.6	37.0	27.2	17.9	11.8	9.5
80	5.5	5.2	6.3	9.5	14.6	20.2	21.7	20.2	18.1	20.2	21.7	20.2	14.6	9.5	6.3	5.2
85	2.0	1.8	2.1	3.1	4.8	7.0	7.8	7.5	6.4	7.5	7.8	7.0	4.8	3.1	2.1	1.8
90	0.3	0.2	0.3	0.3	0.4	0.7	0.8	1.0	0.9	1.0	0.8	0.7	0.4	0.3	0.3	0.2
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)

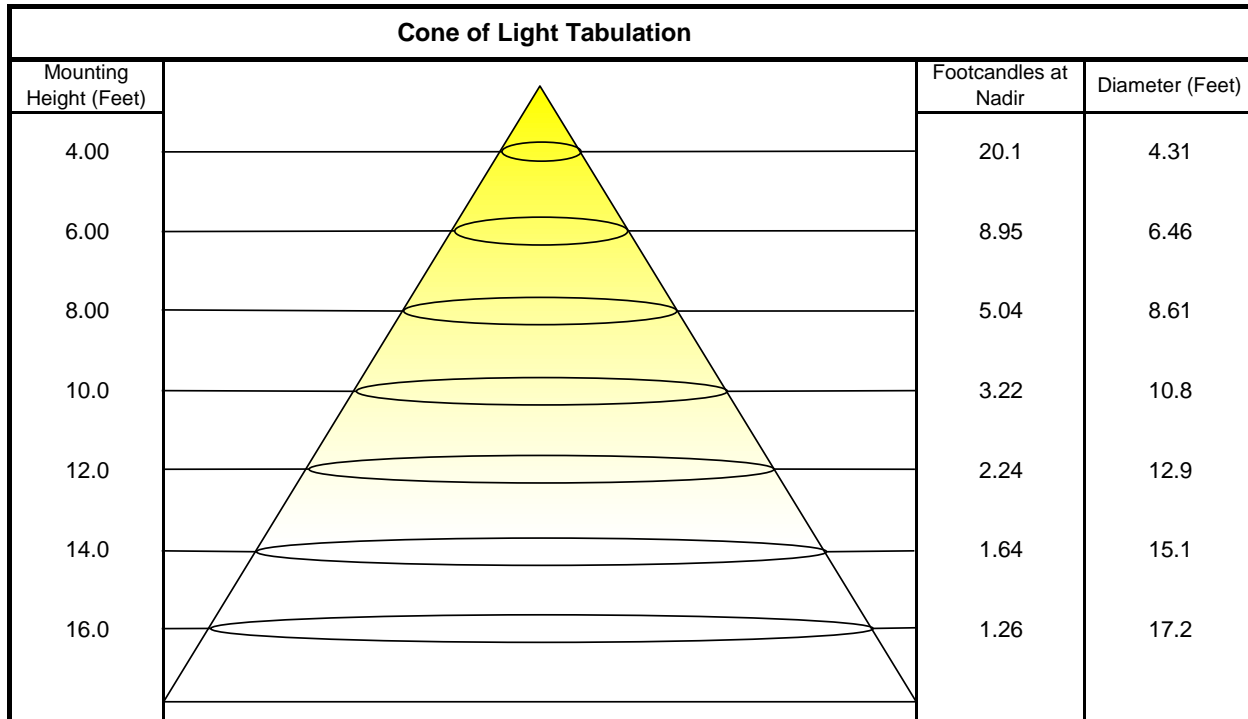
	0	45	90
0	49960	49960	49960
45	12180	18910	33630
55	8483	13280	27410
65	6944	9628	21690
75	5740	7041	16290
85	3557	3671	8616



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	759	759	759	759	741	741	741	741	708	708	708	678	678	678	651	651	651	638
1	703	676	653	631	686	662	640	621	635	618	601	611	596	583	588	577	566	553
2	647	600	562	529	631	589	553	523	566	537	511	546	521	500	527	507	489	476
3	596	535	489	452	581	526	482	448	507	470	440	490	459	432	474	448	425	412
4	550	481	430	391	536	473	425	389	457	416	383	443	407	378	429	399	373	361
5	510	435	382	343	497	428	378	341	415	371	338	402	364	334	391	358	331	318
6	474	395	342	305	462	389	340	303	378	334	301	368	328	298	358	323	296	284
7	441	361	309	273	431	356	307	272	347	302	270	338	298	268	330	294	267	255
8	413	332	281	247	403	328	279	246	320	276	244	312	272	243	305	269	242	230
9	387	307	258	224	378	303	256	224	296	253	223	289	250	222	283	247	221	210
10	364	285	237	205	356	281	236	205	275	233	204	270	231	203	264	228	202	192

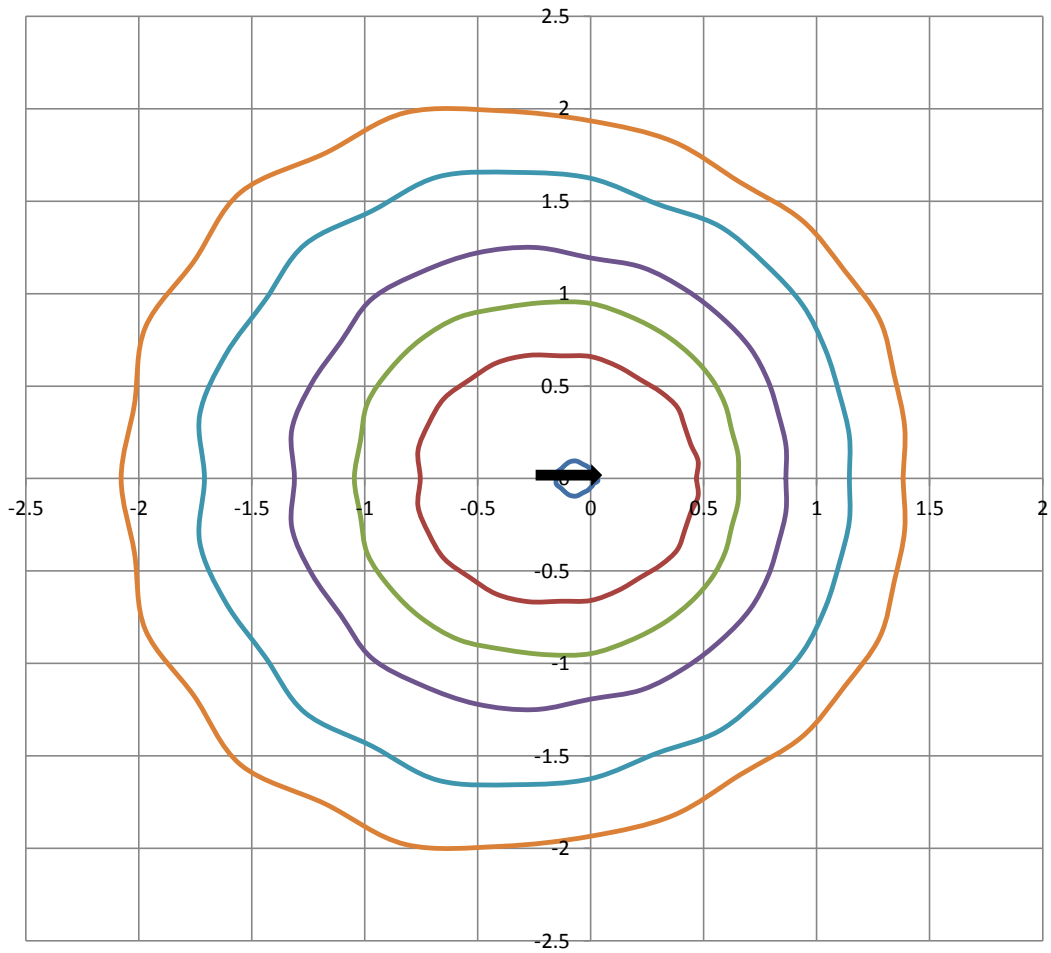
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	322.3 Candela
Central Cone Intensity:	322 Candela
Beam Flux:	406.5 Lumens
Beam Angle (0-180):	77.2 Degrees
Beam Angle (90-270):	87.2 Degrees
Field Angle (0-180):	129.8 Degrees
Field Angle (90-270):	146.4 Degrees





ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

