



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

7243.98-WL

Order Number

11281216

Test Number

1253430

Test Date

2016-07-06

Prepared By

Khang Nguyen, Technician

Approved By

Eric Gaudreau, Senior Engineering Associate

The results contained in this report pertain only to the tested sample.
This report shall not be reproduced, except in full, without written approval of Underwriters Laboratories.
This report must not be used by the client to claim product certification, approval, or endorsement by
NVLAP, NIST, or any agency of the Federal Government.



Luminaire Description: Semi circular white formed aluminum housing and frosted plastic lens
Lamp: 39 White LEDs
Mounting: Surface/Wall
Ballast/Driver: ERP EBR020U-0500-37

Luminaire



Luminaire Characteristics

Luminous Length: 4.00 in.
Luminous Width: 1.000 in.
Luminous Height: 18.00 in.

Summary of Results

Total Luminaire Output: 1099 Lumens
Luminaire Efficacy: 62.6 lm/w
Maximum Candela: 411 Candela

Test Conditions

Test Temperature: 24.5 °C
Voltage: 120.0 VAC
Current: 0.1481 A
Power: 17.55 W
Power Factor: 0.988
Frequency: 60 Hz
Current THD: 13.9 %

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



Distribution - Goniophotometer

Distribution Test Conditions

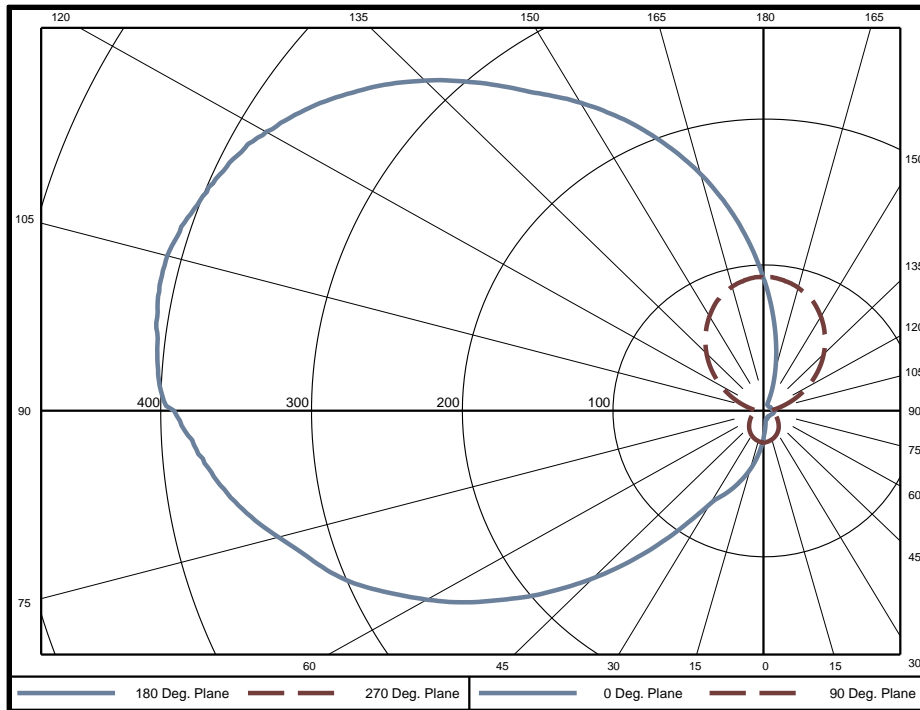
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.5 °C	120.0 VAC	0.1481 A	17.55 W	0.988	60 Hz	13.9 %

Summary of Results

Spacing Criteria
 0-180: 0.22
 90-270: 6.09

Total Lumen Output: 1099 Lumens
Luminaire Efficacy: 62.6 lm/w
Maximum Candela: 411 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	0.47	0.0%	60-65	35.50	3.2%	120-125	52.31	4.8%
5-10	1.46	0.1%	65-70	40.98	3.7%	125-130	48.09	4.4%
10-15	2.55	0.2%	70-75	45.98	4.2%	130-135	43.46	4.0%
15-20	3.83	0.3%	75-80	50.57	4.6%	135-140	38.58	3.5%
20-25	5.30	0.5%	80-85	54.73	5.0%	140-145	33.67	3.1%
25-30	6.90	0.6%	85-90	58.11	5.3%	145-150	28.90	2.6%
30-35	8.92	0.8%	90-95	60.43	5.5%	150-155	24.23	2.2%
35-40	11.77	1.1%	95-100	61.47	5.6%	155-160	19.69	1.8%
40-45	15.44	1.4%	100-105	61.62	5.6%	160-165	15.22	1.4%
45-50	19.81	1.8%	105-110	60.54	5.5%	165-170	10.83	1.0%
50-55	24.74	2.3%	110-115	58.58	5.3%	170-175	6.48	0.6%
55-60	30.04	2.7%	115-120	55.88	5.1%	175-180	2.15	0.2%

Zone	Lumens	% of Luminaire
0-40	41	3.7%
0-60	131	11.9%
0-90	417	38.0%
90-180	682	62.1%



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	19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.4
5	11.3	12.7	14.7	17.4	20.4	23.2	25.4	26.6	26.5	26.6	25.4	23.2	20.4	17.4	14.7	12.7
10	6.8	8.3	10.8	14.7	19.9	25.9	31.1	34.5	35.6	34.5	31.1	25.9	19.9	14.7	10.8	8.3
15	5.1	6.2	8.2	12.2	19.4	28.2	36.6	42.3	44.6	42.3	36.6	28.2	19.4	12.2	8.2	6.2
20	5.3	6.2	6.9	10.2	18.5	30.5	41.8	49.9	53.9	49.9	41.8	30.5	18.5	10.2	6.9	6.2
25	4.5	6.5	7.0	8.7	17.6	32.7	46.4	57.1	62.8	57.1	46.4	32.7	17.6	8.7	7.0	6.5
30	4.0	6.2	7.5	7.7	16.5	34.4	51.0	64.1	75.3	64.1	51.0	34.4	16.5	7.7	7.5	6.2
35	3.9	5.6	7.8	7.2	15.3	36.3	56.3	79.2	100.1	79.2	56.3	36.3	15.3	7.2	7.8	5.6
40	3.9	5.3	7.5	6.8	14.0	38.3	64.4	102.6	130.1	102.6	64.4	38.3	14.0	6.8	7.5	5.3
45	4.0	5.2	7.1	6.6	12.6	40.7	76.9	129.1	162.3	129.1	76.9	40.7	12.6	6.6	7.1	5.2
50	4.1	5.2	6.9	6.5	11.3	43.8	93.2	156.8	195.0	156.8	93.2	43.8	11.3	6.5	6.9	5.2
55	4.3	5.3	6.8	6.4	10.0	47.7	111.0	184.0	226.8	184.0	111.0	47.7	10.0	6.4	6.8	5.3
60	4.5	5.4	6.9	6.5	9.0	52.3	129.9	211.2	258.0	211.2	129.9	52.3	9.0	6.5	6.9	5.4
65	4.8	5.7	7.1	6.6	7.9	58.1	148.6	236.2	287.4	236.2	148.6	58.1	7.9	6.6	7.1	5.7
70	5.1	6.8	7.8	6.7	7.0	64.7	165.6	259.6	312.0	259.6	165.6	64.7	7.0	6.7	7.8	6.8
75	5.5	7.7	8.6	6.9	6.1	72.4	181.3	276.8	333.8	276.8	181.3	72.4	6.1	6.9	8.6	7.7
80	5.6	8.3	9.1	6.9	5.4	80.3	194.1	296.7	357.0	296.7	194.1	80.3	5.4	6.9	9.1	8.3
85	5.9	8.5	9.3	6.8	5.2	87.7	207.0	312.5	374.4	312.5	207.0	87.7	5.2	6.8	9.3	8.5
90	6.2	8.6	9.2	6.7	6.0	95.5	218.6	327.4	392.1	327.4	218.6	95.5	6.0	6.7	9.2	8.6
95	5.0	8.2	8.9	6.8	4.6	99.9	224.1	336.8	404.9	336.8	224.1	99.9	4.6	6.8	8.9	8.2
100	4.6	7.7	8.3	6.7	7.1	106.4	229.4	342.2	409.5	342.2	229.4	106.4	7.1	6.7	8.3	7.7
105	4.5	6.8	7.5	6.5	11.2	112.1	231.1	343.2	410.6	343.2	231.1	112.1	11.2	6.5	7.5	6.8
110	4.3	5.6	6.4	6.3	16.9	116.9	231.5	338.9	403.2	338.9	231.5	116.9	16.9	6.3	6.4	5.6
115	3.9	4.6	5.8	6.3	23.6	121.3	229.7	333.6	394.3	333.6	229.7	121.3	23.6	6.3	5.8	4.6
120	3.7	4.4	5.6	6.4	30.7	124.5	225.7	323.7	381.8	323.7	225.7	124.5	30.7	6.4	5.6	4.4
125	3.6	4.3	5.7	7.0	38.0	126.9	219.9	310.2	364.2	310.2	219.9	126.9	38.0	7.0	5.7	4.3
130	3.5	4.3	5.9	9.1	45.5	128.3	212.5	294.0	343.1	294.0	212.5	128.3	45.5	9.1	5.9	4.3
135	3.5	4.3	6.3	13.0	52.8	129.1	204.8	275.5	319.1	275.5	204.8	129.1	52.8	13.0	6.3	4.3
140	3.5	4.5	7.1	18.4	59.7	129.2	197.3	255.6	292.4	255.6	197.3	129.2	59.7	18.4	7.1	4.5
145	3.6	4.9	9.4	25.1	66.3	128.1	188.6	238.1	265.1	238.1	188.6	128.1	66.3	25.1	9.4	4.9
150	3.8	6.3	14.1	33.1	72.5	126.4	178.7	220.4	242.8	220.4	178.7	126.4	72.5	33.1	14.1	6.3
155	6.9	11.2	21.4	41.9	78.0	123.3	167.2	201.4	219.5	201.4	167.2	123.3	78.0	41.9	21.4	11.2
160	15.6	20.0	31.1	51.7	82.4	119.0	154.3	180.3	194.6	180.3	154.3	119.0	82.4	51.7	31.1	20.0
165	28.2	32.3	43.6	61.4	86.0	113.7	139.6	158.2	169.4	158.2	139.6	113.7	86.0	61.4	43.6	32.3
170	45.2	48.7	57.7	71.5	88.6	107.1	123.5	135.4	142.8	135.4	123.5	107.1	88.6	71.5	57.7	48.7
175	66.1	67.8	73.4	81.2	90.4	99.2	106.8	111.8	116.0	111.8	106.8	99.2	90.4	81.2	73.4	67.8
180	89.6	89.6	89.6	89.6	89.6	89.6	89.6	89.6	89.6	89.6	89.6	89.6	89.6	89.6	89.6	89.6

Average Luminance (cd/m²)

Horizontal Angle (Degrees)

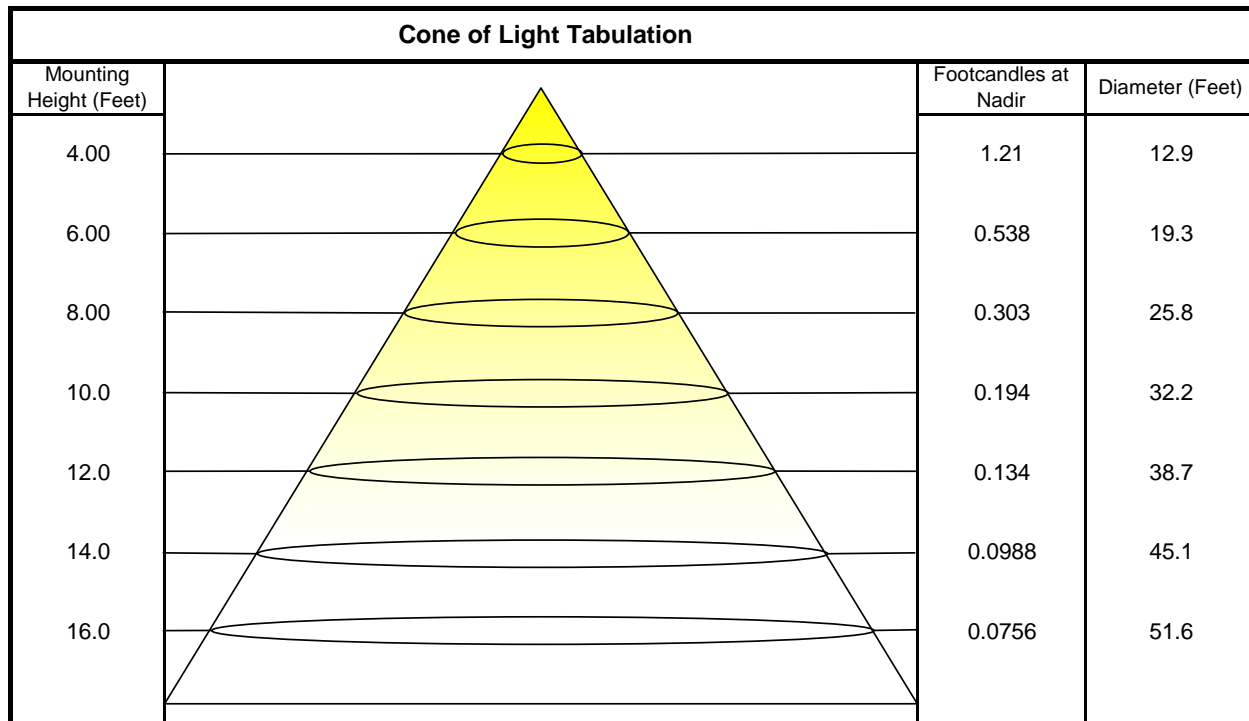
	0	45	90
0	7504	7504	7504
45	2192	3911	6911
55	2914	4608	6778
65	4373	6513	7250
75	8172	12900	9146
85	26160	41230	22960



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	1146	1146	1146	1146	1040	1040	1040	1040	842	842	842	661	661	661	495	495	495	417
1	989	918	854	797	887	825	770	720	653	611	573	494	463	435	348	326	305	235
2	879	772	683	609	785	692	615	549	542	484	433	404	361	323	276	245	218	156
3	790	662	563	484	703	593	506	436	462	396	342	342	293	251	229	194	164	110
4	715	576	473	395	636	515	425	355	401	332	278	295	244	202	197	160	129	82
5	652	506	404	328	579	453	363	295	353	283	230	259	207	167	172	135	104	63
6	597	448	349	277	531	402	313	249	313	245	194	231	179	140	153	116	87	50
7	549	401	305	237	489	360	274	213	281	214	166	207	157	119	138	101	73	41
8	507	361	268	205	452	324	242	184	254	189	143	188	139	103	126	90	63	34
9	471	327	239	179	420	294	215	161	231	169	125	171	124	90	115	80	55	28
10	439	298	213	157	392	268	192	141	211	151	110	157	111	79	107	73	48	24

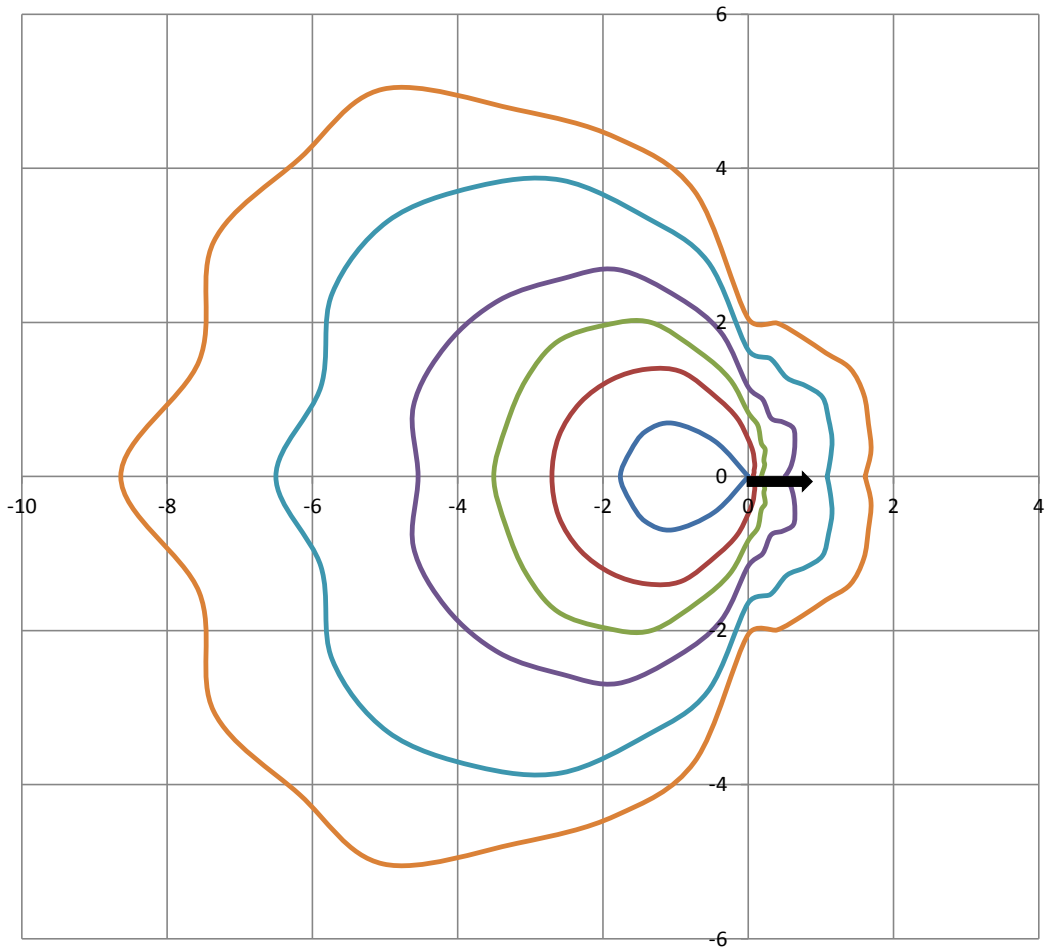
Beam and Field Information	
CIE Type:	Semi-Indirect
Center Beam Intensity:	19.4 Candela
Central Cone Intensity:	20 Candela
Beam Flux:	1063.7 Lumens
Beam Angle (0-180):	N/A Degrees
Beam Angle (90-270):	N/A Degrees
Field Angle (0-180):	N/A Degrees
Field Angle (90-270):	N/A Degrees





ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

