



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

7254.98-WL

Order Number

11281216

Test Number

1253434

Test Date

2016-07-07

Prepared By

Tony Rubio, 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: Frosted plastic lens, rectangular aluminum housing, and frosted lens
Lamp: 108 White LEDs
Mounting: Surface/Wall
Ballast/Driver: L.T.F. TA60WA24LED-0000

Luminaire



Luminaire Characteristics

Luminous Length: 2.00 in.
Luminous Width: 23.50 in.
Luminous Height: 3.50 in.

Summary of Results

Total Luminaire Output: 1130 Lumens
Luminaire Efficacy: 30.5 lm/w
Maximum Candela: 218 Candela

Test Conditions

Test Temperature: 24.1 °C
Voltage: 120.0 VAC
Current: 0.3233 A
Power: 37.06 W
Power Factor: 0.960
Frequency: 60 Hz
Current THD: 30.9 %

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



Distribution - Goniophotometer

Distribution Test Conditions

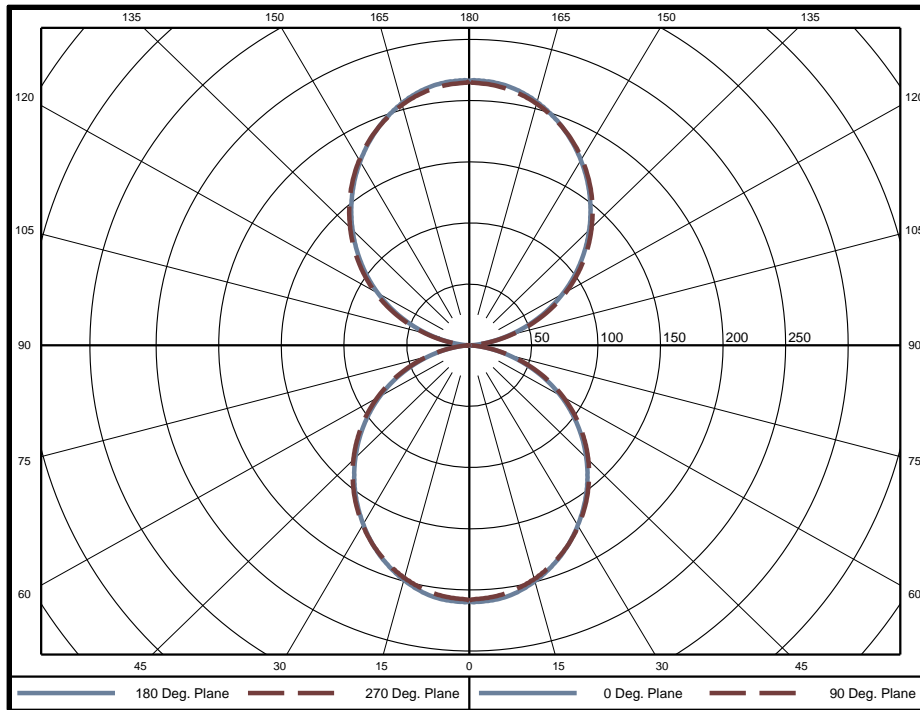
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.1 °C	120.0 VAC	0.3233 A	37.06 W	0.960	60 Hz	30.9 %

Summary of Results

Spacing Criteria
 0-180: 1.21
 90-270: 1.21

Total Lumen Output: 1130 Lumens
Luminaire Efficacy: 30.5 lm/w
Maximum Candela: 218 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	4.99	0.4%	60-65	36.52	3.2%	120-125	43.47	3.8%
5-10	14.78	1.3%	65-70	29.52	2.6%	125-130	47.96	4.2%
10-15	23.96	2.1%	70-75	21.69	1.9%	130-135	50.94	4.5%
15-20	32.16	2.8%	75-80	13.62	1.2%	135-140	52.31	4.6%
20-25	39.12	3.5%	80-85	6.24	0.6%	140-145	51.95	4.6%
25-30	44.59	3.9%	85-90	1.28	0.1%	145-150	49.82	4.4%
30-35	48.40	4.3%	90-95	1.30	0.1%	150-155	45.92	4.1%
35-40	50.53	4.5%	95-100	6.36	0.6%	155-160	40.33	3.6%
40-45	50.92	4.5%	100-105	13.93	1.2%	160-165	33.19	2.9%
45-50	49.62	4.4%	105-110	22.24	2.0%	165-170	24.73	2.2%
50-55	46.74	4.1%	110-115	30.28	2.7%	170-175	15.26	1.4%
55-60	42.34	3.7%	115-120	37.50	3.3%	175-180	5.16	0.5%

Zone	Lumens	% of Luminaire
0-40	259	22.9%
0-60	448	39.7%
0-90	557	49.3%
90-180	573	50.7%



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	208.8	208.8	208.8	208.8	208.8	208.8	208.8	208.8	208.8	208.8	208.8	208.8	208.8	208.8	208.8	208.8
5	209.3	209.7	207.9	207.5	206.5	207.5	207.9	209.7	209.3	209.7	207.9	207.5	206.5	207.5	207.9	209.7
10	205.8	206.3	204.6	204.1	202.8	204.1	204.6	206.3	205.8	206.3	204.6	204.1	202.8	204.1	204.6	206.3
15	199.1	200.1	198.9	198.7	197.3	198.7	198.9	200.1	199.1	200.1	198.9	198.7	197.3	198.7	198.9	200.1
20	190.9	192.1	191.3	191.3	189.8	191.3	191.3	192.1	190.9	192.1	191.3	191.3	189.8	191.3	191.3	192.1
25	181.2	182.1	181.9	182.2	180.8	182.2	181.9	182.1	181.2	182.1	181.9	182.2	180.8	182.2	181.9	182.1
30	169.4	170.5	170.6	171.3	170.1	171.3	170.6	170.5	169.4	170.5	170.6	171.3	170.1	171.3	170.6	170.5
35	156.9	157.7	158.2	158.9	158.0	158.9	158.2	157.7	156.9	157.7	158.2	158.9	158.0	158.9	158.2	157.7
40	143.2	144.2	144.9	145.7	144.8	145.7	144.9	144.2	143.2	144.2	144.9	145.7	144.8	145.7	144.9	144.2
45	128.9	129.6	130.6	131.5	131.0	131.5	130.6	129.6	128.9	129.6	130.6	131.5	131.0	131.5	130.6	129.6
50	113.8	114.4	115.5	116.5	116.2	116.5	115.5	114.4	113.8	114.4	115.5	116.5	116.2	116.5	115.5	114.4
55	98.3	98.8	99.7	100.9	100.7	100.9	99.7	98.8	98.3	98.8	99.7	100.9	100.7	100.9	99.7	98.8
60	82.1	82.7	83.5	84.6	84.5	84.6	83.5	82.7	82.1	82.7	83.5	84.6	84.5	84.6	83.5	82.7
65	65.5	66.0	66.9	67.9	67.9	67.9	66.9	66.0	65.5	66.0	66.9	67.9	67.9	67.9	66.9	66.0
70	48.6	49.1	49.9	50.7	50.6	50.7	49.9	49.1	48.6	49.1	49.9	50.7	50.6	50.7	49.9	49.1
75	32.3	32.7	33.4	34.0	33.8	34.0	33.4	32.7	32.3	32.7	33.4	34.0	33.8	34.0	33.4	32.7
80	17.4	17.7	18.1	18.4	18.1	18.4	18.1	17.7	17.4	17.7	18.1	18.4	18.1	18.4	18.1	17.7
85	5.9	6.0	6.0	5.9	5.3	5.9	6.0	6.0	5.9	6.0	6.0	5.9	5.3	5.9	6.0	6.0
90	0.2	0.3	0.1	0.1	0.1	0.1	0.1	0.3	0.2	0.3	0.1	0.1	0.1	0.1	0.1	0.3
95	6.1	6.2	6.2	6.0	5.4	6.0	6.2	6.2	6.1	6.2	6.2	6.0	5.4	6.0	6.2	6.2
100	17.7	17.9	18.5	18.8	18.6	18.8	18.5	17.9	17.7	17.9	18.5	18.8	18.6	18.8	18.5	17.9
105	33.0	33.3	34.3	34.9	34.9	34.9	34.3	33.3	33.0	33.3	34.3	34.9	34.9	34.9	34.3	33.3
110	49.7	50.2	51.3	52.1	52.2	52.1	51.3	50.2	49.7	50.2	51.3	52.1	52.2	52.1	51.3	50.2
115	66.8	67.5	68.7	69.8	69.8	69.8	68.7	67.5	66.8	67.5	68.7	69.8	69.8	69.8	68.7	67.5
120	83.9	84.6	85.9	87.1	87.0	87.1	85.9	84.6	83.9	84.6	85.9	87.1	87.0	87.1	85.9	84.6
125	100.4	101.3	102.5	103.8	103.6	103.8	102.5	101.3	100.4	101.3	102.5	103.8	103.6	103.8	102.5	101.3
130	116.5	117.4	118.5	119.7	119.3	119.7	118.5	117.4	116.5	117.4	118.5	119.7	119.3	119.7	118.5	117.4
135	131.9	133.1	134.1	135.2	134.7	135.2	134.1	133.1	131.9	133.1	134.1	135.2	134.7	135.2	134.1	133.1
140	147.0	148.0	149.0	150.0	149.2	150.0	149.0	148.0	147.0	148.0	149.0	150.0	149.2	150.0	149.0	148.0
145	161.1	162.3	163.1	163.7	162.9	163.7	163.1	162.3	161.1	162.3	163.1	163.7	162.9	163.7	163.1	162.3
150	174.2	175.4	176.0	176.4	175.3	176.4	176.0	175.4	174.2	175.4	176.0	176.4	175.3	176.4	176.0	175.4
155	186.2	187.5	187.6	187.5	186.8	187.5	187.6	187.5	186.2	187.5	187.6	187.5	186.8	187.5	187.6	187.5
160	196.7	198.0	197.4	197.3	196.2	197.3	197.4	198.0	196.7	198.0	197.4	197.3	196.2	197.3	197.4	198.0
165	205.5	206.6	205.7	205.0	204.2	205.0	205.7	206.6	205.5	206.6	205.7	205.0	204.2	205.0	205.7	206.6
170	212.1	212.9	211.3	210.5	209.9	210.5	211.3	212.9	212.1	212.9	211.3	210.5	209.9	210.5	211.3	212.9
175	215.9	216.3	214.9	214.0	213.5	214.0	214.9	216.3	215.9	216.3	214.9	214.0	213.5	214.0	214.9	216.3
180	216.1	216.1	216.1	216.1	216.1	216.1	216.1	216.1	216.1	216.1	216.1	216.1	216.1	216.1	216.1	216.1

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

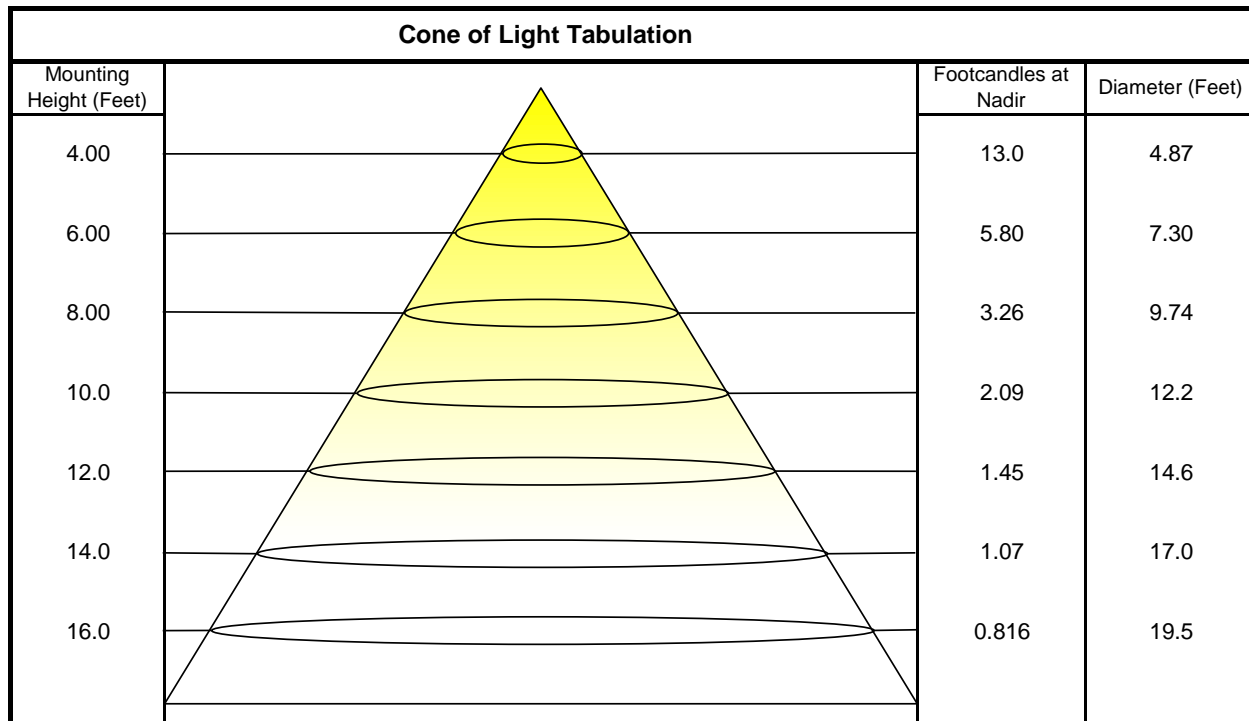
Vertical Angle (Degrees)	Horizontal Angle (Degrees)		
	0	45	90
0	6885	6885	6885
45	6010	6093	6109
55	5653	5734	5790
65	5110	5218	5296
75	4116	4260	4307
85	2223	2258	2001



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	1209	1209	1209	1209	1114	1114	1114	1114	937	937	937	775	775	775	627	627	627	557
1	1104	1055	1011	972	1015	974	937	903	822	795	771	683	664	647	555	542	531	470
2	1004	921	852	793	923	851	791	740	720	676	638	600	568	540	488	466	446	394
3	916	809	726	660	841	748	676	618	635	580	535	529	489	456	432	403	379	333
4	837	715	626	557	769	663	584	523	563	503	455	471	426	390	385	353	326	285
5	768	637	545	477	705	591	509	448	504	441	392	422	375	337	347	312	284	247
6	707	571	479	413	650	530	448	389	453	389	342	381	332	295	314	278	249	216
7	654	515	425	362	601	479	398	341	411	347	301	347	297	261	287	250	221	191
8	606	467	380	319	558	435	356	302	374	311	267	317	268	232	263	226	198	171
9	565	426	341	284	520	398	321	269	343	281	238	291	243	208	243	206	178	154
10	527	391	309	255	486	365	291	241	316	256	215	269	222	188	225	188	162	140

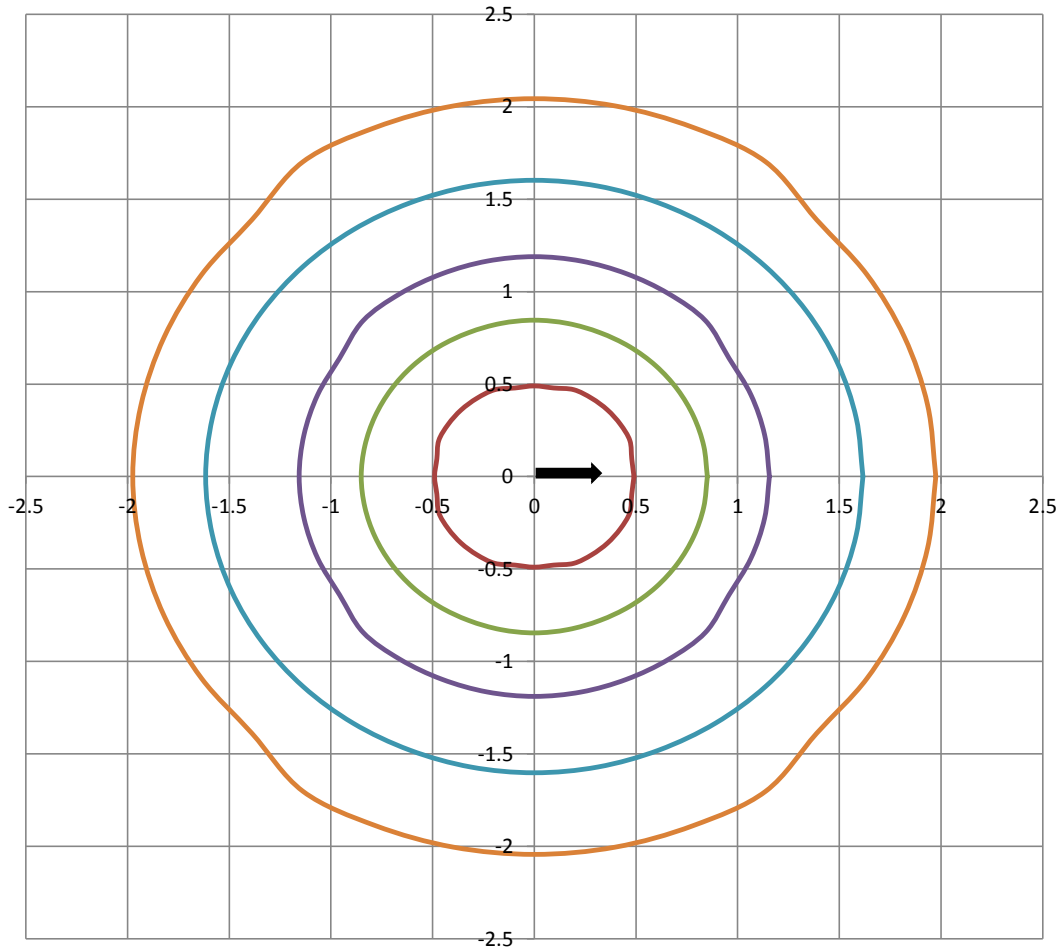
Beam and Field Information	
CIE Type:	Direct/Indirect
Center Beam Intensity:	208.8 Candela
Central Cone Intensity:	209 Candela
Beam Flux:	804.6 Lumens
Beam Angle (0-180):	106.1 Degrees
Beam Angle (90-270):	107.6 Degrees
Field Angle (0-180):	157.6 Degrees
Field Angle (90-270):	158.1 Degrees





ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

