



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

7240.98-WL

Order Number

11281216

Test Number

1253429

Test Date

2016-07-07

Prepared By

Khang Nguyen, Technician

Approved By

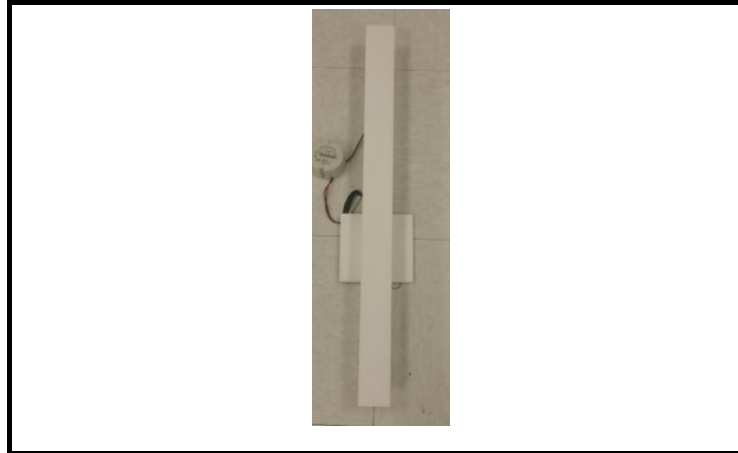
Eric Gaudreau, Senior Engineering Associate

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Luminaire Description: Rectangular white formed aluminum housing, and frosted plastic lens
Lamp: 36 White LEDs
Mounting: Surface/Wall
Ballast/Driver: ERP EBR015U-0350-42

Luminaire



Luminaire Characteristics

Luminous Length: 2.50 in.
Luminous Width: 1.750 in.
Luminous Height: 24.00 in.

Summary of Results

Total Luminaire Output: 707.1 Lumens
Luminaire Efficacy: 50.5 lm/w
Maximum Candela: 299 Candela

Test Conditions

Test Temperature: 24.5 °C
Voltage: 120.0 VAC
Current: 0.1181 A
Power: 14.01 W
Power Factor: 0.989
Frequency: 60 Hz
Current THD: 12.6 %

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



Distribution - Goniophotometer

Distribution Test Conditions

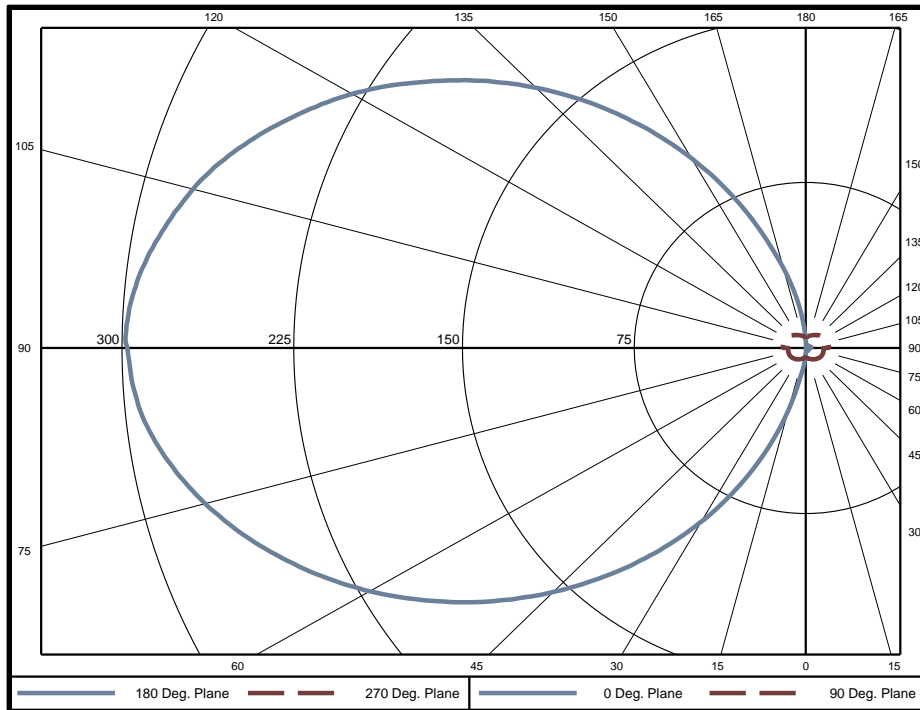
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.5 °C	120.0 VAC	0.1181 A	14.01 W	0.989	60 Hz	12.6 %

Summary of Results

Spacing Criteria
 0-180: 0.10
 90-270: 10.65

Total Lumen Output: 707.1 Lumens
Luminaire Efficacy: 50.5 lm/w
Maximum Candela: 299 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	0.10	0.0%	60-65	30.94	4.4%	120-125	28.09	4.0%
5-10	0.40	0.1%	65-70	34.50	4.9%	125-130	24.11	3.4%
10-15	0.96	0.1%	70-75	37.68	5.3%	130-135	20.13	2.8%
15-20	2.07	0.3%	75-80	40.38	5.7%	135-140	16.26	2.3%
20-25	3.77	0.5%	80-85	42.42	6.0%	140-145	12.60	1.8%
25-30	6.02	0.9%	85-90	43.53	6.2%	145-150	9.32	1.3%
30-35	8.77	1.2%	90-95	43.77	6.2%	150-155	6.47	0.9%
35-40	11.94	1.7%	95-100	42.75	6.0%	155-160	4.14	0.6%
40-45	15.45	2.2%	100-105	40.97	5.8%	160-165	2.42	0.3%
45-50	19.20	2.7%	105-110	38.51	5.4%	165-170	1.24	0.2%
50-55	23.15	3.3%	110-115	35.42	5.0%	170-175	0.49	0.1%
55-60	27.11	3.8%	115-120	31.91	4.5%	175-180	0.11	0.0%

Zone	Lumens	% of Luminaire
0-40	34	4.8%
0-60	119	16.8%
0-90	348	49.3%
90-180	359	50.7%



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	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
5	1.5	2.2	2.9	3.6	4.4	5.5	6.5	7.0	6.7	7.0	6.5	5.5	4.4	3.6	2.9	2.2
10	0.7	1.7	2.7	3.6	4.6	8.2	11.6	12.3	13.0	12.3	11.6	8.2	4.6	3.6	2.7	1.7
15	0.5	1.4	2.7	3.7	4.9	11.8	16.8	23.6	28.8	23.6	16.8	11.8	4.9	3.7	2.7	1.4
20	0.8	1.5	2.7	3.7	5.2	16.4	26.7	40.0	48.0	40.0	26.7	16.4	5.2	3.7	2.7	1.5
25	1.0	1.6	2.7	3.7	5.5	21.6	38.6	57.4	68.6	57.4	38.6	21.6	5.5	3.7	2.7	1.6
30	1.2	1.7	2.7	3.6	5.9	27.1	51.2	75.7	90.3	75.7	51.2	27.1	5.9	3.6	2.7	1.7
35	1.4	1.8	2.7	3.5	6.2	32.7	64.1	94.2	112.1	94.2	64.1	32.7	6.2	3.5	2.7	1.8
40	1.6	1.9	2.6	3.3	6.5	38.2	77.0	112.6	134.0	112.6	77.0	38.2	6.5	3.3	2.6	1.9
45	1.3	1.8	2.5	3.1	6.8	43.4	89.1	131.1	156.2	131.1	89.1	43.4	6.8	3.1	2.5	1.8
50	1.1	1.6	2.3	2.9	7.0	48.5	101.6	149.1	178.5	149.1	101.6	48.5	7.0	2.9	2.3	1.6
55	1.1	1.4	2.2	2.8	7.3	53.8	113.1	166.7	199.8	166.7	113.1	53.8	7.3	2.8	2.2	1.4
60	1.1	1.4	2.2	2.6	7.4	57.9	124.2	183.2	220.7	183.2	124.2	57.9	7.4	2.6	2.2	1.4
65	1.1	1.4	2.1	2.5	7.5	61.5	133.8	198.4	239.9	198.4	133.8	61.5	7.5	2.5	2.1	1.4
70	1.1	1.4	2.1	2.3	7.5	64.3	142.2	212.1	257.4	212.1	142.2	64.3	7.5	2.3	2.1	1.4
75	1.4	1.6	2.1	2.1	7.6	66.8	149.7	224.4	272.8	224.4	149.7	66.8	7.6	2.1	2.1	1.6
80	1.7	1.9	2.1	1.9	7.5	68.5	155.6	234.2	285.4	234.2	155.6	68.5	7.5	1.9	2.1	1.9
85	1.9	2.0	2.0	1.7	7.4	69.7	160.1	241.2	294.1	241.2	160.1	69.7	7.4	1.7	2.0	2.0
90	2.1	2.0	1.9	1.6	7.3	70.1	162.0	244.1	297.7	244.1	162.0	70.1	7.3	1.6	1.9	2.0
95	2.3	2.1	2.0	1.8	9.7	69.4	160.3	241.5	295.9	241.5	160.3	69.4	9.7	1.8	2.0	2.1
100	2.2	2.2	2.2	2.1	9.7	68.2	156.6	235.4	288.4	235.4	156.6	68.2	9.7	2.1	2.2	2.2
105	2.1	2.1	2.3	2.4	9.7	66.4	151.8	227.4	278.4	227.4	151.8	66.4	9.7	2.4	2.3	2.1
110	1.9	2.0	2.4	2.7	9.6	63.9	145.1	216.2	264.7	216.2	145.1	63.9	9.6	2.7	2.4	2.0
115	1.7	1.9	2.5	3.0	9.4	60.7	137.3	203.4	248.1	203.4	137.3	60.7	9.4	3.0	2.5	1.9
120	1.3	1.7	2.5	3.2	9.2	57.2	128.0	188.6	230.2	188.6	128.0	57.2	9.2	3.2	2.5	1.7
125	1.3	1.6	2.6	3.5	8.9	52.9	117.8	172.3	209.6	172.3	117.8	52.9	8.9	3.5	2.6	1.6
130	1.2	1.6	2.7	3.7	8.5	48.3	106.7	155.0	188.4	155.0	106.7	48.3	8.5	3.7	2.7	1.6
135	1.2	1.6	2.8	3.9	8.1	43.2	94.2	137.0	166.7	137.0	94.2	43.2	8.1	3.9	2.8	1.6
140	1.2	1.7	2.9	4.1	7.6	37.8	81.5	118.4	144.1	118.4	81.5	37.8	7.6	4.1	2.9	1.7
145	1.3	1.8	3.0	4.3	7.1	31.8	68.5	99.3	121.3	99.3	68.5	31.8	7.1	4.3	3.0	1.8
150	1.3	1.8	3.1	4.5	6.8	26.4	55.4	80.5	98.5	80.5	55.4	26.4	6.8	4.5	3.1	1.8
155	1.1	1.7	3.0	4.5	6.4	21.0	42.6	61.7	76.0	61.7	42.6	21.0	6.4	4.5	3.0	1.7
160	0.9	1.5	3.0	4.6	6.0	16.1	32.0	44.6	54.7	44.6	32.0	16.1	6.0	4.6	3.0	1.5
165	0.7	1.3	2.8	4.5	5.7	11.7	22.5	31.1	37.1	31.1	22.5	11.7	5.7	4.5	2.8	1.3
170	0.4	1.1	2.6	4.4	5.4	8.2	14.0	19.2	22.7	19.2	14.0	8.2	5.4	4.4	2.6	1.1
175	1.2	1.9	2.9	4.0	5.1	6.1	7.6	9.1	10.5	9.1	7.6	6.1	5.1	4.0	2.9	1.9
180	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2

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

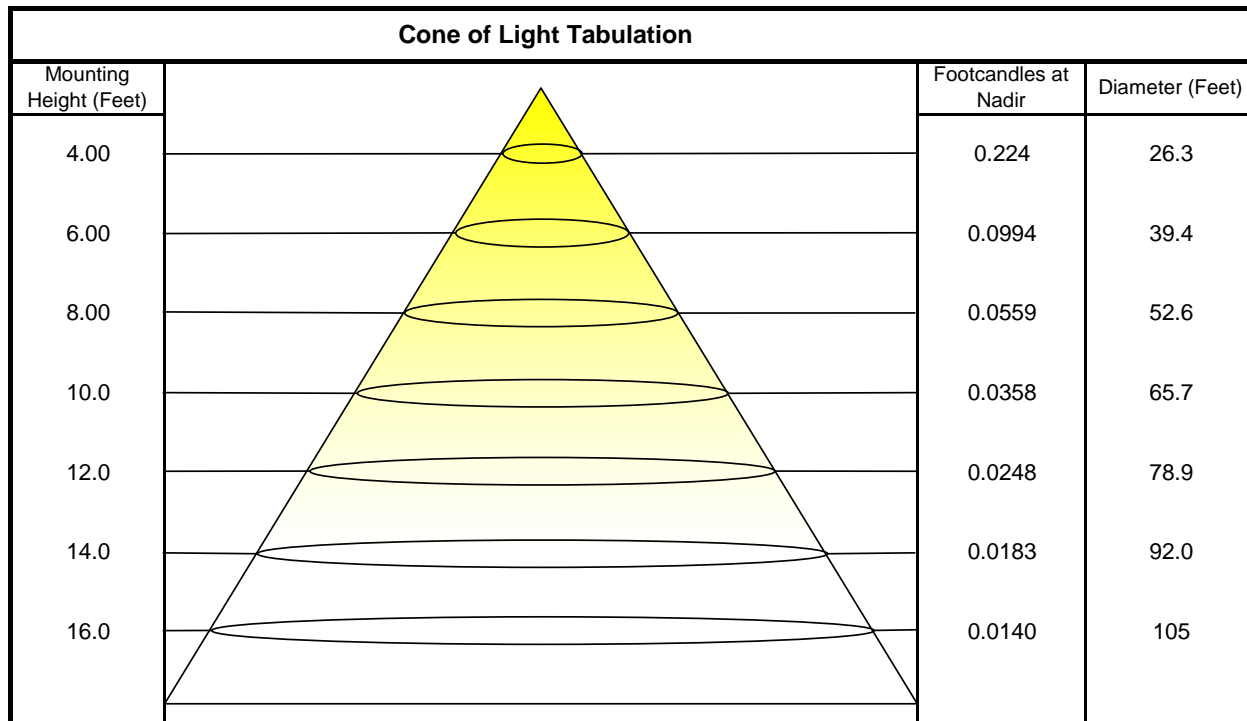
	0	45	90
0	1267	1267	1267
45	62	71	230
55	46	55	218
65	43	49	207
75	50	46	198
85	68	43	191



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	756	756	756	756	697	697	697	697	586	586	586	485	485	485	392	392	392	348
1	646	597	552	512	588	545	506	470	448	418	390	359	336	314	277	259	243	203
2	571	497	436	384	517	452	398	352	368	326	289	291	258	230	219	194	173	136
3	511	423	355	301	461	384	324	275	311	264	224	243	207	176	181	153	129	96
4	461	366	296	242	416	332	269	221	268	219	180	209	170	139	154	124	100	71
5	419	320	251	199	378	290	228	182	235	185	147	183	144	113	134	104	80	54
6	383	283	215	167	346	257	196	152	208	159	123	162	123	94	119	89	65	43
7	352	252	187	142	318	229	171	129	186	138	104	145	107	79	107	77	55	34
8	325	227	164	122	294	206	150	111	167	122	89	131	94	67	97	68	46	28
9	302	205	146	106	273	187	133	96	152	108	77	119	84	58	88	60	40	23
10	281	187	130	92	255	170	119	84	139	96	67	109	75	51	81	54	35	19

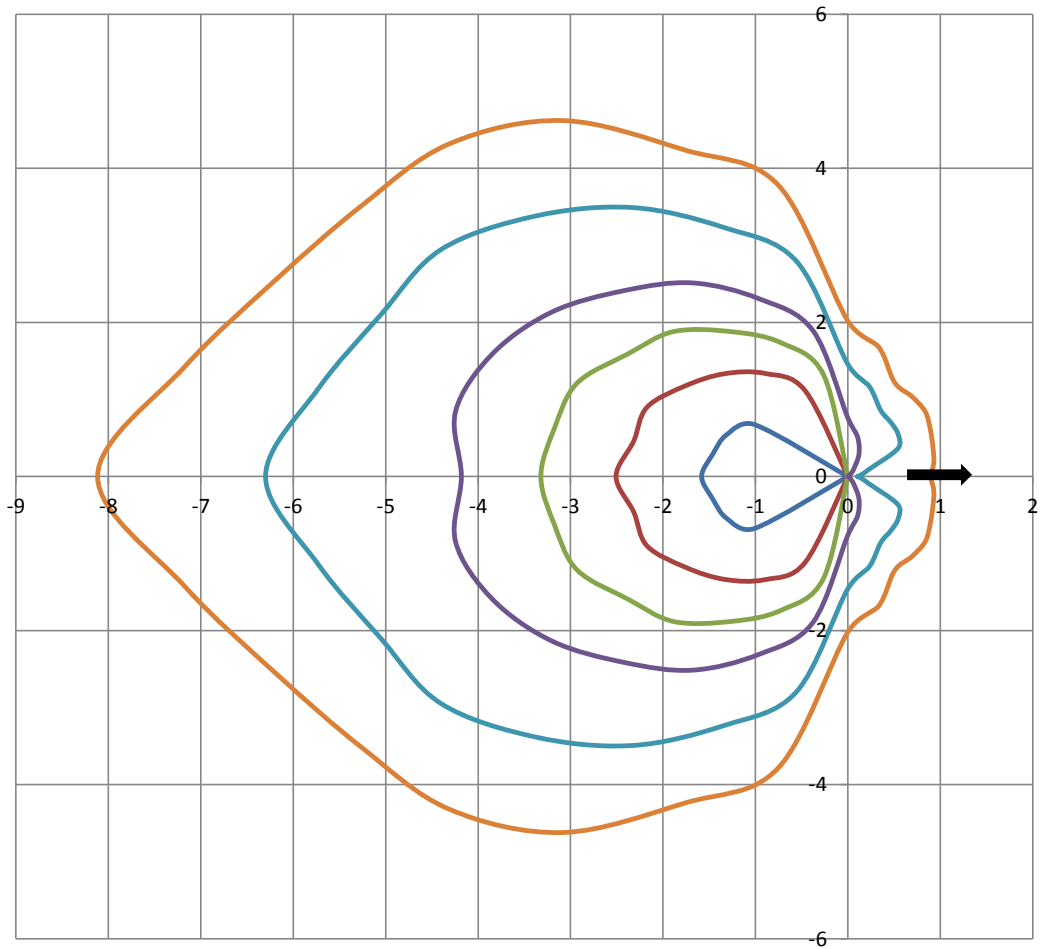
Beam and Field Information	
CIE Type:	Direct/Indirect
Center Beam Intensity:	3.6 Candela
Central Cone Intensity:	4 Candela
Beam Flux:	704.7 Lumens
Beam Angle (0-180):	N/A Degrees
Beam Angle (90-270):	N/A Degrees
Field Angle (0-180):	N/A Degrees
Field Angle (90-270):	N/A Degrees





ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

