



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
CST.2950.01

Order Number
11281216
Test Number
1267887

Test Date

2016-08-05

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 formed polished grey aluminum housing with decorative glass lens
Lamp: White LEDs
Mounting: Pendant
Ballast/Driver: One (1) L.T.F TA75WA24LED-0000

Luminaire



Luminaire Characteristics

Luminous Length: 1.25 in.
Luminous Width: 1.25 in.
Luminous Height: 8.75 in.

Summary of Results

Total Luminaire Output: 97.15 Lumens
Luminaire Efficacy: 21.1 lm/w
Maximum Candela: 37 Candela

Test Conditions

Test Temperature: 24.7 °C
Voltage: 120.0 VAC
Current: 0.03400 A
Power: 4.610 W
Power Factor: 0.961
Frequency: 60 Hz
Current THD: 24.7 %

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



Distribution - Goniophotometer

Distribution Test Conditions

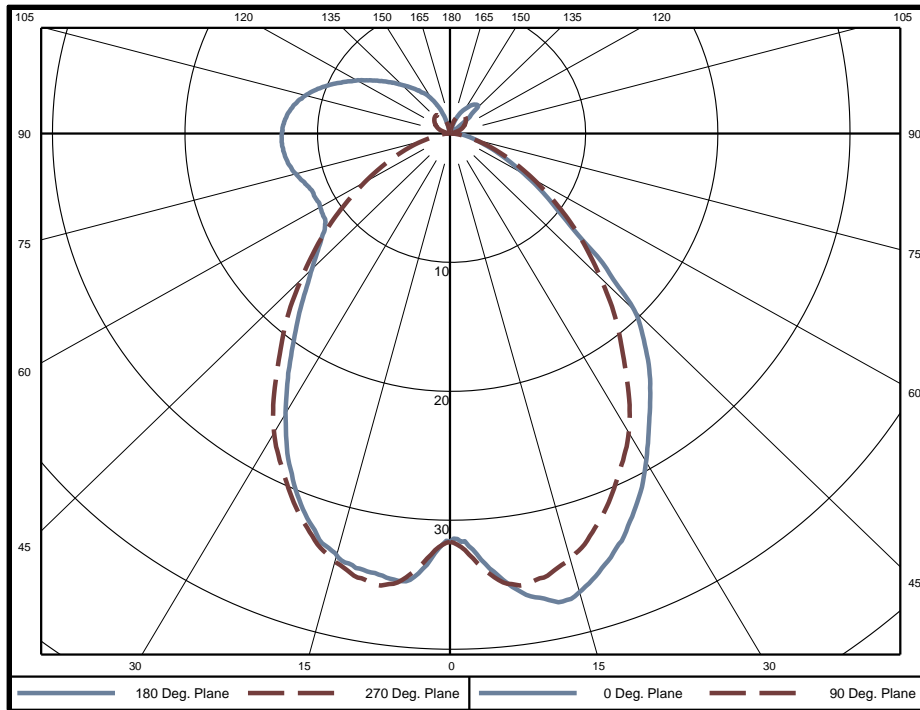
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.7 °C	120.0 VAC	0.03400 A	4.610 W	0.961	60 Hz	24.7 %

Summary of Results

Spacing Criteria
 0-180: 1.31
 90-270: 1.17

Total Lumen Output: 97.15 Lumens
Luminaire Efficacy: 21.1 lm/w
Maximum Candela: 37 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	0.796	0.8%	60-65	3.470	3.6%	120-125	1.418	1.5%
5-10	2.521	2.6%	65-70	2.922	3.0%	125-130	1.294	1.3%
10-15	4.192	4.3%	70-75	2.506	2.6%	130-135	1.200	1.2%
15-20	5.616	5.8%	75-80	2.226	2.3%	135-140	1.096	1.1%
20-25	6.656	6.9%	80-85	2.068	2.1%	140-145	0.921	0.9%
25-30	7.241	7.5%	85-90	1.980	2.0%	145-150	0.723	0.7%
30-35	7.399	7.6%	90-95	1.956	2.0%	150-155	0.542	0.6%
35-40	7.227	7.4%	95-100	1.923	2.0%	155-160	0.354	0.4%
40-45	6.733	6.9%	100-105	1.854	1.9%	160-165	0.179	0.2%
45-50	5.943	6.1%	105-110	1.777	1.8%	165-170	0.044	0.0%
50-55	5.018	5.2%	110-115	1.655	1.7%	170-175	0.001	0.0%
55-60	4.189	4.3%	115-120	1.509	1.6%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	42	42.9%
0-60	64	65.4%
0-90	79	81.0%
90-180	18	19.0%



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	31.67	31.67	31.67	31.67	31.67	31.67	31.67	31.67	31.67	31.67	31.67	31.67	31.67	31.67	31.67	31.67
5	33.87	34.20	34.79	34.89	34.29	34.05	34.11	34.43	34.76	34.43	34.11	34.05	34.29	34.89	34.79	34.20
10	36.53	35.65	35.84	35.79	35.30	36.17	35.17	34.68	34.58	34.68	35.17	36.17	35.30	35.79	35.84	35.65
15	36.90	35.40	35.81	34.94	34.24	35.51	34.38	33.78	33.71	33.78	34.38	35.51	34.24	34.94	35.81	35.40
20	34.97	33.95	34.29	33.47	32.21	33.39	32.68	31.68	31.76	31.68	32.68	33.39	32.21	33.47	34.29	33.95
25	32.35	30.80	31.38	31.13	29.55	30.56	29.86	28.55	28.71	28.55	29.86	30.56	29.55	31.13	31.38	30.80
30	29.20	27.25	27.93	28.15	26.70	27.39	26.21	24.76	25.03	24.76	26.21	27.39	26.70	28.15	27.93	27.25
35	25.93	24.02	24.45	24.36	22.95	24.00	22.90	20.91	21.07	20.91	22.90	24.00	22.95	24.36	24.45	24.02
40	22.90	21.31	20.93	20.59	19.45	20.56	19.78	17.11	17.67	17.11	19.78	20.56	19.45	20.59	20.93	21.31
45	19.38	17.64	17.87	17.34	15.96	16.33	15.00	13.98	14.83	13.98	15.00	16.33	15.96	17.34	17.87	17.64
50	12.88	14.66	14.91	13.96	12.82	11.94	11.77	11.74	12.78	11.74	11.77	11.94	12.82	13.96	14.91	14.66
55	9.09	11.57	11.85	10.86	9.87	7.80	8.72	10.26	11.59	10.26	8.72	7.80	9.87	10.86	11.85	11.57
60	6.53	8.50	9.00	8.18	7.33	5.77	6.62	9.90	11.41	9.90	6.62	5.77	7.33	8.18	9.00	8.50
65	4.55	5.66	6.67	5.77	5.18	4.25	5.86	9.76	11.41	9.76	5.86	4.25	5.18	5.77	6.67	5.66
70	3.09	3.90	4.72	3.82	3.42	3.04	5.68	9.89	11.62	9.89	5.68	3.04	3.42	3.82	4.72	3.90
75	2.09	2.34	3.28	2.50	1.94	2.37	5.66	10.16	12.12	10.16	5.66	2.37	1.94	2.50	3.28	2.34
80	1.39	1.48	2.32	1.58	0.97	2.08	5.71	10.49	12.55	10.49	5.71	2.08	0.97	1.58	2.32	1.48
85	0.90	0.97	1.83	1.06	0.36	1.89	5.81	10.72	12.76	10.72	5.81	1.89	0.36	1.06	1.83	0.97
90	0.61	0.66	1.67	0.86	0.10	1.85	5.91	10.84	12.78	10.84	5.91	1.85	0.10	0.86	1.67	0.66
95	0.45	0.55	1.69	0.84	0.13	2.01	5.96	10.81	12.59	10.81	5.96	2.01	0.13	0.84	1.69	0.55
100	0.32	0.51	1.77	0.87	0.26	2.13	5.88	10.44	12.13	10.44	5.88	2.13	0.26	0.87	1.77	0.51
105	0.23	0.63	1.84	0.94	0.49	2.20	5.64	9.84	11.38	9.84	5.64	2.20	0.49	0.94	1.84	0.63
110	0.16	1.25	1.87	1.13	0.82	2.21	5.27	9.02	10.41	9.02	5.27	2.21	0.82	1.13	1.87	1.25
115	0.12	1.30	1.85	1.34	1.05	2.19	4.87	8.08	9.29	8.08	4.87	2.19	1.05	1.34	1.85	1.30
120	0.12	2.05	1.90	1.54	1.23	2.16	4.47	7.19	8.21	7.19	4.47	2.16	1.23	1.54	1.90	2.05
125	0.28	2.19	2.01	1.71	1.41	2.15	4.61	6.35	7.15	6.35	4.61	2.15	1.41	1.71	2.01	2.19
130	1.25	2.18	2.07	1.81	1.55	2.40	4.32	5.61	6.23	5.61	4.32	2.40	1.55	1.81	2.07	2.18
135	2.94	2.20	2.09	1.90	1.66	2.91	4.05	4.91	5.38	4.91	4.05	2.91	1.66	1.90	2.09	2.20
140	2.92	2.31	2.03	1.91	1.74	3.01	4.09	4.28	4.66	4.28	4.09	3.01	1.74	1.91	2.03	2.31
145	2.63	2.13	1.97	1.94	1.73	2.77	3.57	3.69	4.06	3.69	3.57	2.77	1.73	1.94	1.97	2.13
150	2.16	1.82	1.89	1.93	1.66	2.46	2.99	3.04	3.41	3.04	2.99	2.46	1.66	1.93	1.89	1.82
155	1.68	1.49	1.69	1.77	1.51	2.09	2.42	2.35	2.59	2.35	2.42	2.09	1.51	1.77	1.69	1.49
160	1.03	1.05	1.37	1.44	1.23	1.56	1.65	1.54	1.71	1.54	1.65	1.56	1.23	1.44	1.37	1.05
165	0.00	0.47	0.86	0.92	0.79	0.91	0.74	0.41	0.80	0.41	0.74	0.91	0.79	0.92	0.86	0.47
170	0.00	0.00	0.15	0.22	0.12	0.09	0.00	0.00	0.00	0.00	0.00	0.09	0.12	0.22	0.15	0.00
175	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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

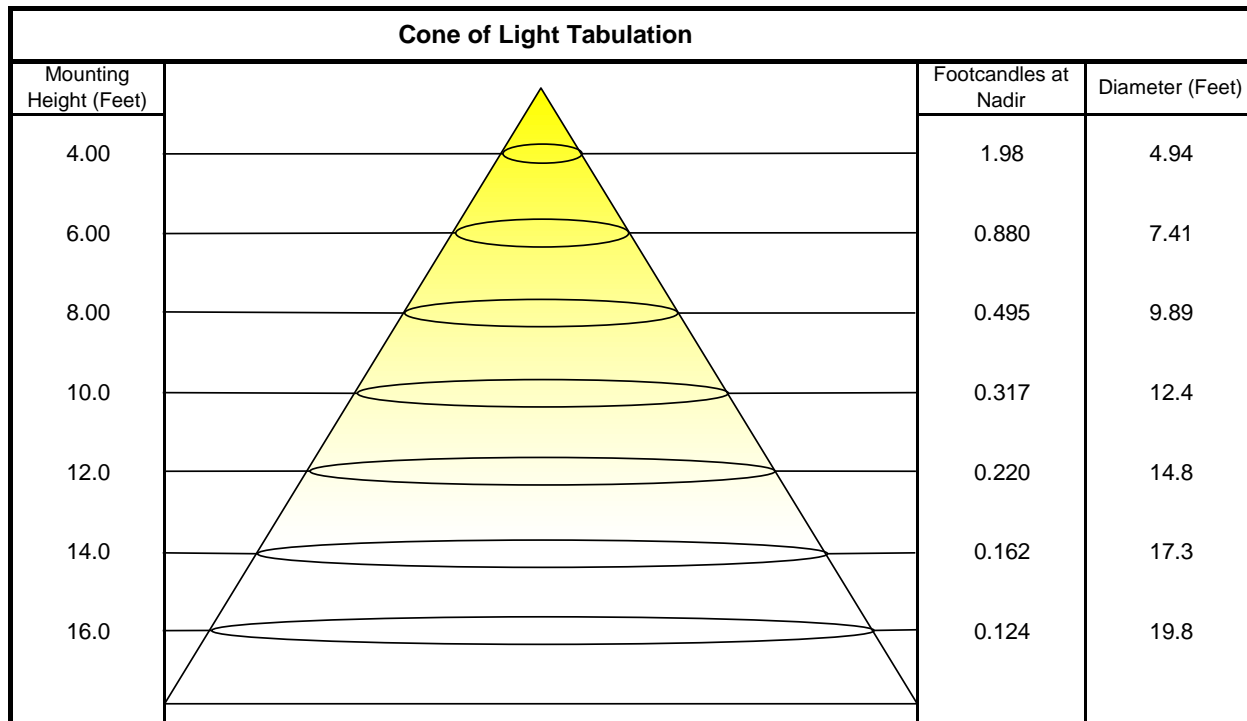
	0	45	90
0	31420	31420	31420
45	3398	2300	2798
55	1430	1354	1552
65	667	704	760
75	295	332	275
85	127	182	51



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	111	111	111	111	107	107	107	107	98	98	98	90	90	90	82	82	82	79
1	101	97	92	89	97	93	89	86	85	82	79	78	76	74	72	70	68	65
2	93	85	79	73	88	82	76	71	75	71	67	69	66	63	64	61	59	56
3	85	76	68	62	81	73	66	60	67	62	57	62	58	54	57	54	51	48
4	78	68	60	54	75	65	58	52	60	54	50	56	51	47	52	48	44	42
5	73	61	53	47	69	59	51	46	55	48	44	51	46	41	47	43	39	37
6	67	55	47	41	64	53	46	40	50	43	39	46	41	37	43	39	35	33
7	63	50	42	37	60	49	41	36	46	39	35	43	37	33	40	35	32	30
8	58	46	38	33	56	45	37	32	42	36	31	39	34	30	37	32	29	27
9	55	42	35	30	52	41	34	29	39	33	28	36	31	27	34	30	26	24
10	51	39	32	27	49	38	31	27	36	30	26	34	29	25	32	27	24	22

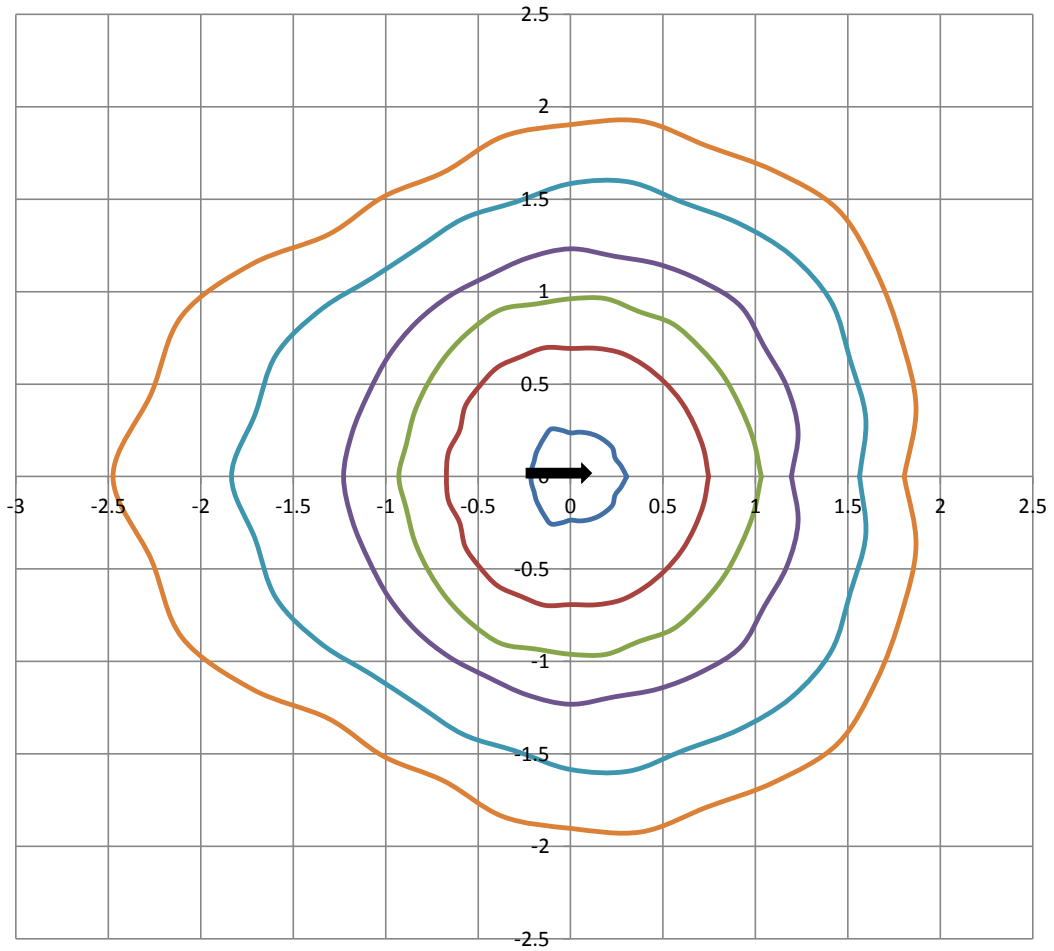
Beam and Field Information	
CIE Type:	Semi-Direct
Center Beam Intensity:	31.67 Candela
Central Cone Intensity:	33 Candela
Beam Flux:	49.4 Lumens
Beam Angle (0-180):	90.8 Degrees
Beam Angle (90-270):	90.4 Degrees
Field Angle (0-180):	221.3 Degrees
Field Angle (90-270):	141.7 Degrees





ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

