



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.2940.01

Order Number
11281216
Test Number
1267889

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 Diameter: 1.88 in.
Luminous Height: 5.750 in.

Summary of Results

Total Luminaire Output:	185.5 Lumens
Luminaire Efficacy:	30.8 lm/w
Maximum Candela:	196 Candela

Test Conditions

Test Temperature:	24.5 °C
Voltage:	120.0 VAC
Current:	0.05200 A
Power:	6.025 W
Power Factor:	0.966
Frequency:	60 Hz
Current THD:	24.0 %

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



Distribution - Goniophotometer

Distribution Test Conditions

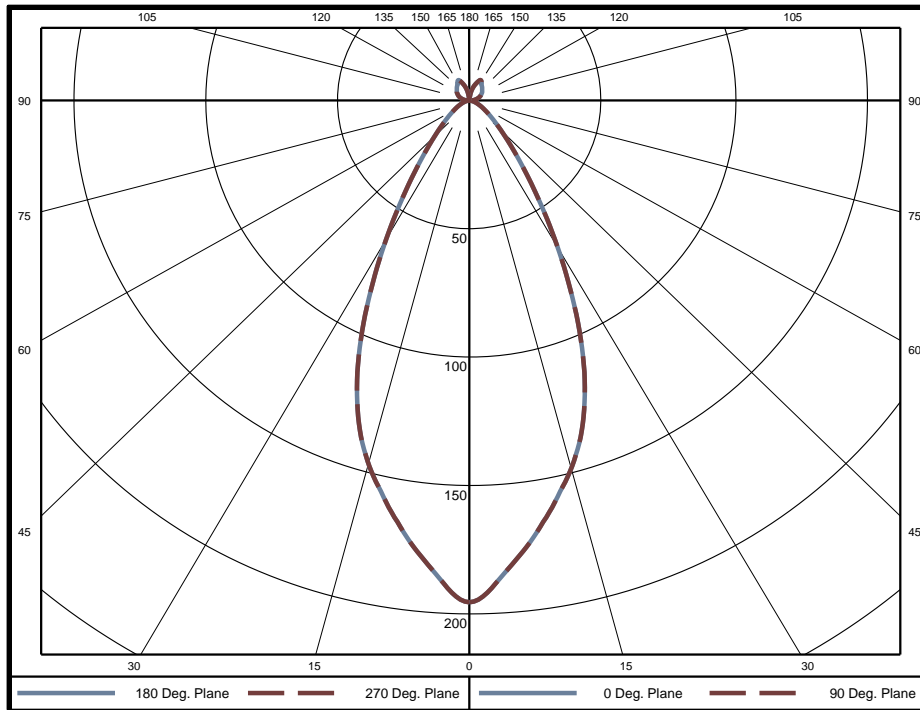
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.5 °C	120.0 VAC	0.05200 A	6.025 W	0.966	60 Hz	24.0 %

Summary of Results

Spacing Criteria
 0-180: 0.77
 90-270: 0.77

Total Lumen Output: 185.5 Lumens
Luminaire Efficacy: 30.8 lm/w
Maximum Candela: 196 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	4.48	2.4%	60-65	2.39	1.3%	120-125	2.56	1.4%
5-10	12.34	6.7%	65-70	1.73	0.9%	125-130	2.62	1.4%
10-15	18.46	10.0%	70-75	1.22	0.7%	130-135	2.61	1.4%
15-20	22.52	12.1%	75-80	0.79	0.4%	135-140	2.60	1.4%
20-25	23.15	12.5%	80-85	0.42	0.2%	140-145	2.52	1.4%
25-30	20.13	10.9%	85-90	0.18	0.1%	145-150	2.46	1.3%
30-35	15.40	8.3%	90-95	0.50	0.3%	150-155	2.25	1.2%
35-40	11.02	5.9%	95-100	1.01	0.5%	155-160	1.62	0.9%
40-45	7.85	4.2%	100-105	1.46	0.8%	160-165	1.00	0.5%
45-50	5.72	3.1%	105-110	1.87	1.0%	165-170	0.50	0.3%
50-55	4.25	2.3%	110-115	2.19	1.2%	170-175	0.11	0.1%
55-60	3.18	1.7%	115-120	2.40	1.3%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	128	68.7%
0-60	149	80.1%
0-90	155	83.7%
90-180	30	16.3%



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	195.5	195.5	195.5	195.5	195.5	195.5	195.5	195.5	195.5	195.5	195.5	195.5	195.5	195.5	195.5	195.5
5	181.5	181.5	181.5	181.5	181.5	181.5	181.5	181.5	181.5	181.5	181.5	181.5	181.5	181.5	181.5	181.5
10	164.9	164.9	164.9	164.9	164.9	164.9	164.9	164.9	164.9	164.9	164.9	164.9	164.9	164.9	164.9	164.9
15	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6
20	125.2	125.2	125.2	125.2	125.2	125.2	125.2	125.2	125.2	125.2	125.2	125.2	125.2	125.2	125.2	125.2
25	95.6	95.6	95.6	95.6	95.6	95.6	95.6	95.6	95.6	95.6	95.6	95.6	95.6	95.6	95.6	95.6
30	65.1	65.1	65.1	65.1	65.1	65.1	65.1	65.1	65.1	65.1	65.1	65.1	65.1	65.1	65.1	65.1
35	41.4	41.4	41.4	41.4	41.4	41.4	41.4	41.4	41.4	41.4	41.4	41.4	41.4	41.4	41.4	41.4
40	26.2	26.2	26.2	26.2	26.2	26.2	26.2	26.2	26.2	26.2	26.2	26.2	26.2	26.2	26.2	26.2
45	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2
50	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7
55	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2
60	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8
65	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
70	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
75	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
80	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
85	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
90	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
95	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
100	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
105	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
110	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
115	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
120	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2
125	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8
130	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2
135	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7
140	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3
145	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9
150	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9
155	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5
160	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9
165	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2
170	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
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)

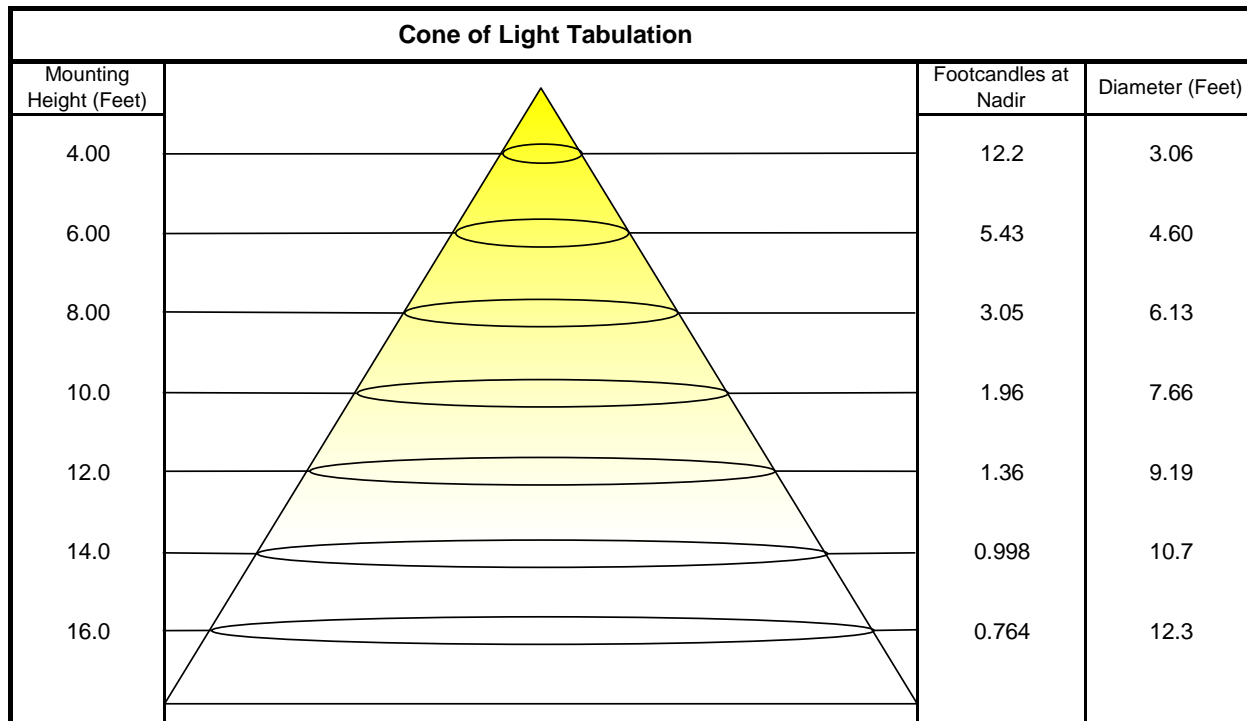
Vertical Angle (Degrees)	Horizontal Angle (Degrees)		
	0	45	90
0	109200	109200	109200
45	13540	13540	13540
55	7954	7954	7954
65	5386	5386	5386
75	4028	4028	4028
85	3001	3001	3001



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	214	214	214	214	205	205	205	205	189	189	189	175	175	175	161	161	161	155
1	201	195	190	185	193	188	183	179	175	171	168	163	160	158	152	150	148	143
2	189	178	170	162	182	173	165	158	162	156	150	152	147	143	142	139	135	130
3	178	164	153	145	171	159	150	142	150	142	136	141	135	130	133	128	124	120
4	167	151	140	131	161	147	137	128	139	130	124	132	125	119	125	119	115	110
5	157	140	128	119	152	137	125	117	130	120	113	123	116	110	117	111	106	102
6	149	130	118	109	144	127	116	108	121	112	105	116	108	102	111	104	99	95
7	140	122	109	101	136	119	108	100	114	104	97	109	101	95	104	97	92	89
8	133	114	102	94	129	112	100	93	107	97	90	103	94	88	99	91	86	83
9	126	107	95	87	122	105	94	86	101	91	85	97	89	83	93	86	81	78
10	120	101	89	82	117	99	88	81	95	86	79	92	84	78	89	81	76	73

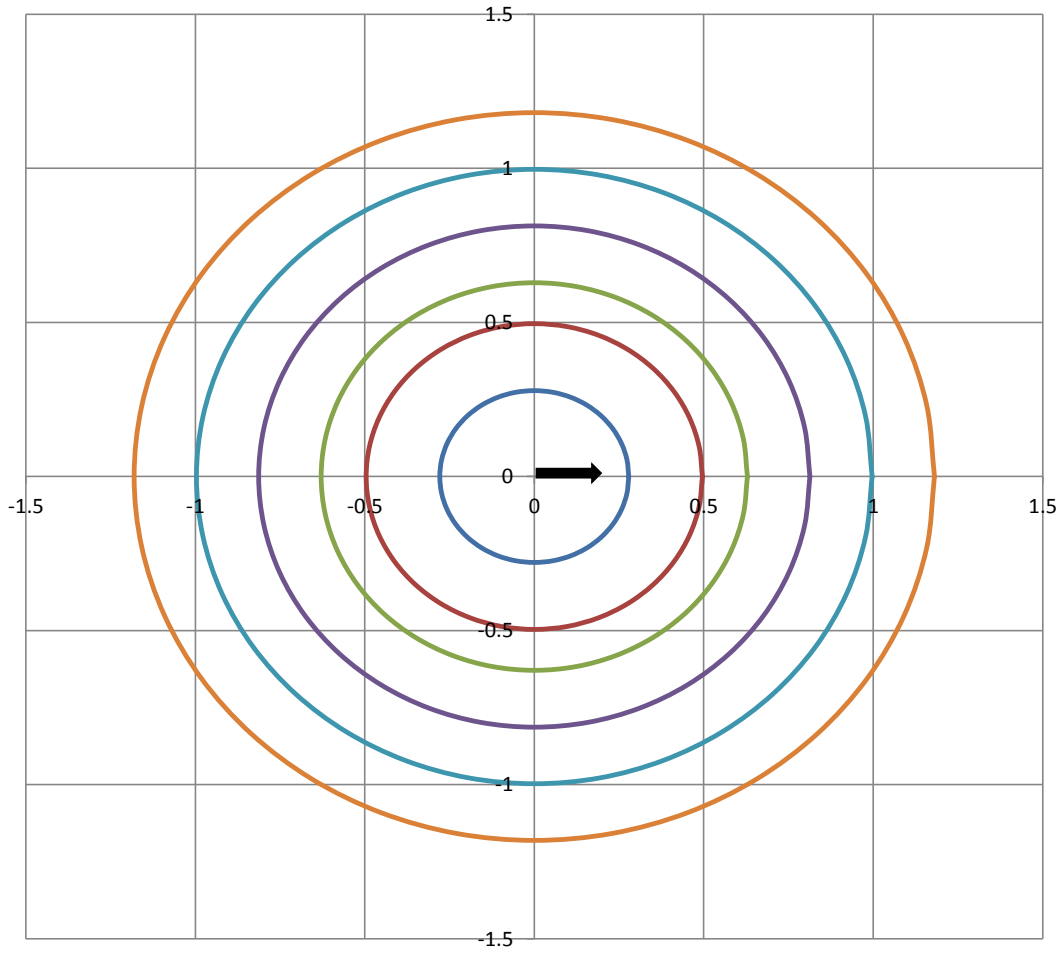
Beam and Field Information	
CIE Type:	Semi-Direct
Center Beam Intensity:	195.5 Candela
Central Cone Intensity:	190 Candela
Beam Flux:	79.4 Lumens
Beam Angle (0-180):	49.3 Degrees
Beam Angle (90-270):	49.3 Degrees
Field Angle (0-180):	86.8 Degrees
Field Angle (90-270):	86.8 Degrees





ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

