



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

2774.03

Order Number

11281216

Test Number

1267658

Test Date

2016-07-20

Prepared By

Jeremy Lewis, Technician

Approved By

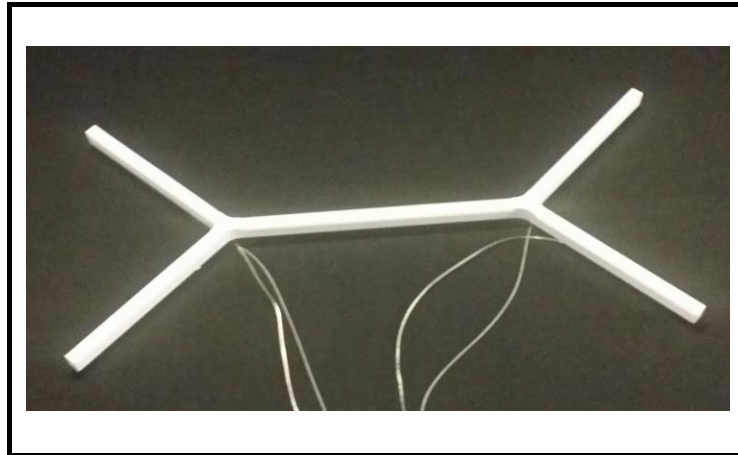
Eric Gaudreau, Senior Engineering Associate

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Luminaire Description: White steel support, wires leading to formed white aluminum housing and frosted lens
Lamp: White LEDs
Mounting: Pendant
Ballast/Driver: L.T.F. TA60WA12LED-0000

Luminaire



Luminaire Characteristics

Luminous Length: 37.00 in.
Luminous Width: 18.00 in.
Luminous Height: 0.50 in.

Summary of Results

Total Luminaire Output: 1563 Lumens
Luminaire Efficacy: 31.4 lm/w
Maximum Candela: 397 Candela

Test Conditions

Test Temperature: 25.1 °C
Voltage: 120.1 VAC
Current: 0.4343 A
Power: 49.83 W
Power Factor: 0.955
Frequency: 60 Hz
Current THD: 30.7 %

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



Distribution - Goniophotometer

Distribution Test Conditions

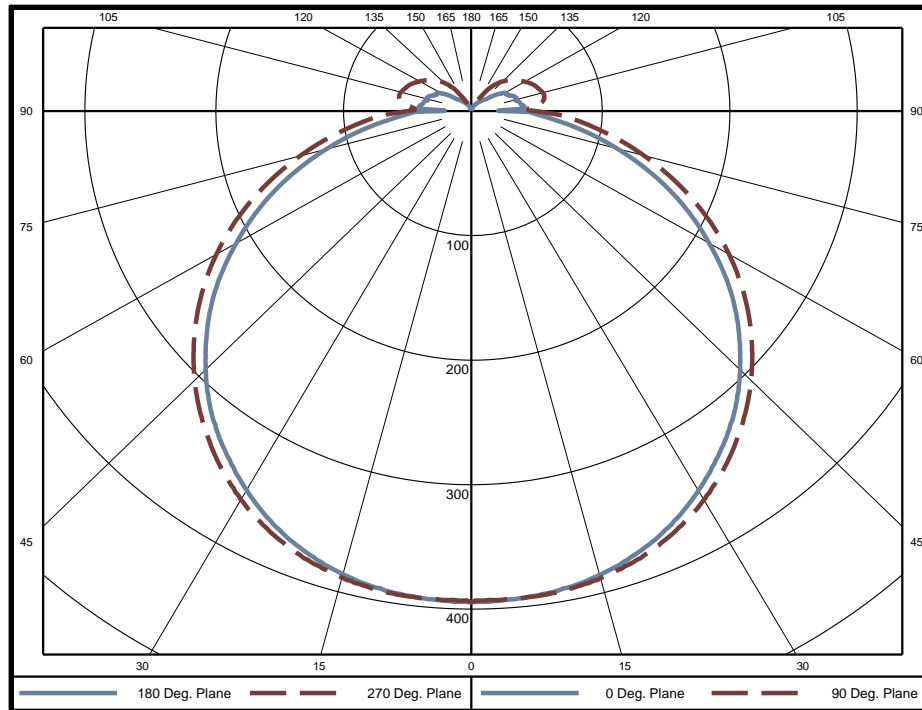
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.1 °C	120.1 VAC	0.4343 A	49.83 W	0.955	60 Hz	30.7 %

Summary of Results

Spacing Criteria
 0-180: 1.32
 90-270: 1.32

Total Lumen Output: 1563 Lumens
Luminaire Efficacy: 31.4 lm/w
Maximum Candela: 397 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	9.4	0.6%	60-65	99.1	6.3%	120-125	15.6	1.0%
5-10	28.2	1.8%	65-70	87.4	5.6%	125-130	12.6	0.8%
10-15	46.3	3.0%	70-75	73.5	4.7%	130-135	9.7	0.6%
15-20	63.3	4.0%	75-80	58.4	3.7%	135-140	7.0	0.4%
20-25	78.7	5.0%	80-85	43.6	2.8%	140-145	4.6	0.3%
25-30	91.9	5.9%	85-90	30.7	2.0%	145-150	2.6	0.2%
30-35	102.5	6.6%	90-95	23.3	1.5%	150-155	1.5	0.1%
35-40	110.1	7.0%	95-100	24.5	1.6%	155-160	0.6	0.0%
40-45	114.6	7.3%	100-105	24.0	1.5%	160-165	0.1	0.0%
45-50	115.8	7.4%	105-110	22.7	1.5%	165-170	0	0.0%
50-55	113.6	7.3%	110-115	20.8	1.3%	170-175	0	0.0%
55-60	108.0	6.9%	115-120	18.4	1.2%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	530	33.9%
0-60	982	62.9%
0-90	1375	88.0%
90-180	188	12.0%



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	394.5	394.5	394.5	394.5	394.5	394.5	394.5	394.5	394.5	394.5	394.5	394.5	394.5	394.5	394.5	394.5
5	393.4	396.2	394.2	395.0	393.2	395.0	394.2	396.2	393.4	396.2	394.2	395.0	393.2	395.0	394.2	396.2
10	390.7	393.5	391.7	393.2	391.7	393.2	391.7	393.5	390.7	393.5	391.7	393.2	391.7	393.2	391.7	393.5
15	385.4	388.4	387.0	389.1	387.9	389.1	387.0	388.4	385.4	388.4	387.0	389.1	387.9	389.1	387.0	388.4
20	377.1	380.3	379.2	382.3	382.0	382.3	379.2	380.3	377.1	380.3	379.2	382.3	382.0	382.3	379.2	380.3
25	366.2	369.0	368.5	372.5	372.3	372.5	368.5	369.0	366.2	369.0	368.5	372.5	372.3	372.5	368.5	369.0
30	351.2	354.9	354.6	360.0	359.9	360.0	354.6	354.9	351.2	354.9	354.6	360.0	359.9	360.0	354.6	354.9
35	334.6	337.9	337.3	343.7	344.1	343.7	337.3	337.9	334.6	337.9	337.3	343.7	344.1	343.7	337.3	337.9
40	315.9	318.3	317.4	324.9	325.9	324.9	317.4	318.3	315.9	318.3	317.4	324.9	325.9	324.9	317.4	318.3
45	293.8	296.4	295.5	303.7	305.1	303.7	295.5	296.4	293.8	296.4	295.5	303.7	305.1	303.7	295.5	296.4
50	269.2	271.5	271.0	279.7	282.0	279.7	271.0	271.5	269.2	271.5	271.0	279.7	282.0	279.7	271.0	271.5
55	242.3	244.3	244.0	253.6	256.9	253.6	244.0	244.3	242.3	244.3	244.0	253.6	256.9	253.6	244.0	244.3
60	212.1	215.0	215.1	225.3	229.4	225.3	215.1	215.0	212.1	215.0	215.1	225.3	229.4	225.3	215.1	215.0
65	181.7	183.9	183.9	195.1	199.7	195.1	183.9	183.9	181.7	183.9	183.9	195.1	199.7	195.1	183.9	183.9
70	149.6	151.9	151.9	163.6	169.0	163.6	151.9	151.9	149.6	151.9	151.9	163.6	169.0	163.6	151.9	151.9
75	116.8	119.8	119.8	131.8	137.8	131.8	119.8	119.8	116.8	119.8	119.8	131.8	137.8	131.8	119.8	119.8
80	86.2	88.8	88.9	101.6	107.8	101.6	88.9	88.8	86.2	88.8	88.9	101.6	107.8	101.6	88.9	88.8
85	58.9	61.9	62.2	75.1	80.7	75.1	62.2	61.9	58.9	61.9	62.2	75.1	80.7	75.1	62.2	61.9
90	23.4	39.4	47.3	51.7	49.9	51.7	47.3	39.4	23.4	39.4	47.3	51.7	49.9	51.7	47.3	39.4
95	41.1	37.4	45.0	49.2	49.6	49.2	45.0	37.4	41.1	37.4	45.0	49.2	49.6	49.2	45.0	37.4
100	38.1	37.5	43.6	52.8	57.0	52.8	43.6	37.5	38.1	37.5	43.6	52.8	57.0	52.8	43.6	37.5
105	34.9	36.5	41.9	52.2	57.2	52.2	41.9	36.5	34.9	36.5	41.9	52.2	57.2	52.2	41.9	36.5
110	34.9	35.3	40.0	50.0	54.5	50.0	40.0	35.3	34.9	35.3	40.0	50.0	54.5	50.0	40.0	35.3
115	31.2	32.4	37.4	46.9	51.5	46.9	37.4	32.4	31.2	32.4	37.4	46.9	51.5	46.9	37.4	32.4
120	29.4	27.6	34.2	43.4	47.4	43.4	34.2	27.6	29.4	27.6	34.2	43.4	47.4	43.4	34.2	27.6
125	22.3	23.3	30.5	39.2	43.1	39.2	30.5	23.3	22.3	23.3	30.5	39.2	43.1	39.2	30.5	23.3
130	14.9	18.4	26.3	34.4	38.7	34.4	26.3	18.4	14.9	18.4	26.3	34.4	38.7	34.4	26.3	18.4
135	12.3	12.1	20.8	29.8	33.5	29.8	20.8	12.1	12.3	12.1	20.8	29.8	33.5	29.8	20.8	12.1
140	9.6	9.0	15.6	24.4	27.3	24.4	15.6	9.0	9.6	9.0	15.6	24.4	27.3	24.4	15.6	9.0
145	8.1	6.8	7.8	16.1	18.8	16.1	7.8	6.8	8.1	6.8	7.8	16.1	18.8	16.1	7.8	6.8
150	6.1	4.6	4.2	11.4	10.7	11.4	4.2	4.6	6.1	4.6	4.2	11.4	10.7	11.4	4.2	4.6
155	4.8	2.9	2.2	6.2	6.0	6.2	2.2	2.9	4.8	2.9	2.2	6.2	6.0	6.2	2.2	2.9
160	2.2	1.0	0.6	1.2	0.9	1.2	0.6	1.0	2.2	1.0	0.6	1.2	0.9	1.2	0.6	1.0
165	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
170	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
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)

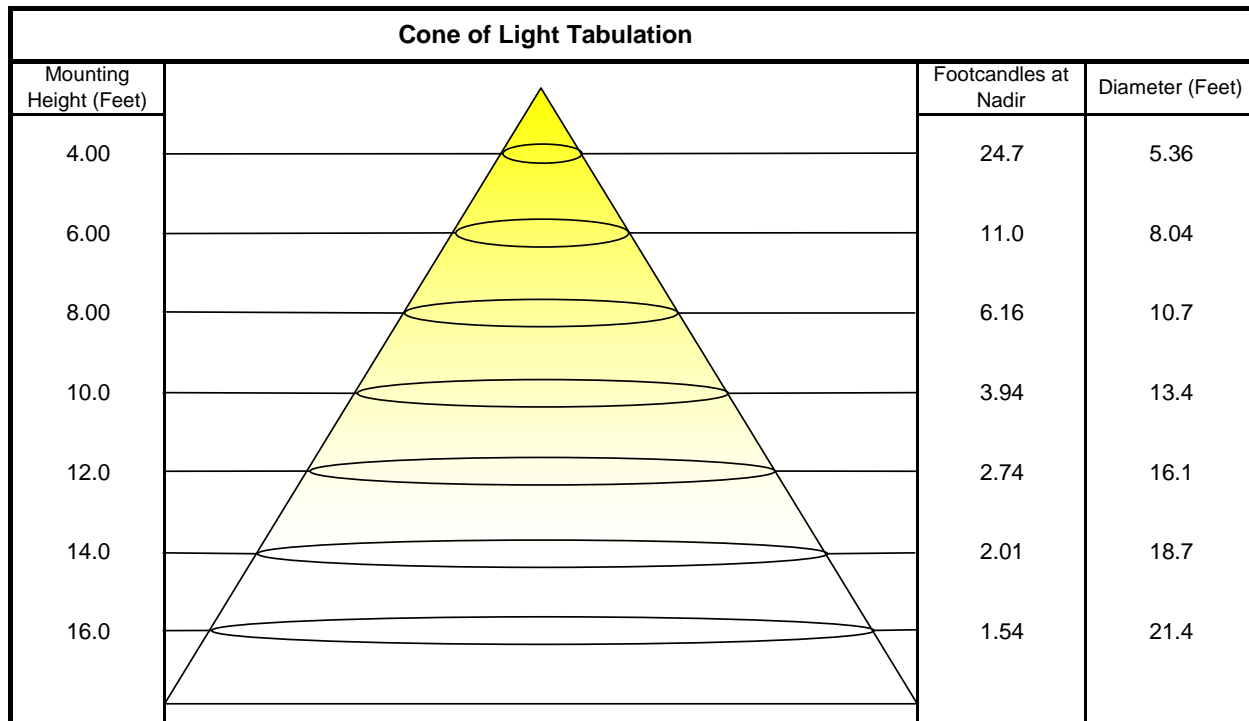
	0	45	90
0	918	918	918
45	954	945	977
55	965	950	1003
65	972	953	1038
75	1000	971	1123
85	1362	1246	1636



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	1816	1816	1816	1816	1752	1752	1752	1752	1632	1632	1632	1523	1523	1523	1422	1422	1422	1375
1	1630	1545	1468	1399	1567	1490	1421	1359	1388	1332	1281	1295	1250	1208	1209	1173	1140	1093
2	1470	1330	1213	1116	1410	1283	1178	1088	1197	1109	1034	1117	1045	982	1043	985	933	887
3	1333	1157	1022	913	1277	1118	993	893	1044	939	853	975	888	814	911	839	777	733
4	1215	1018	874	764	1164	985	852	749	921	808	718	862	766	688	807	726	659	617
5	1114	905	759	651	1067	876	740	639	821	704	614	770	669	591	722	636	567	528
6	1026	811	667	563	983	786	651	553	738	621	533	694	592	514	652	564	495	458
7	949	732	592	493	910	710	579	485	669	553	469	630	528	452	593	504	436	402
8	881	666	530	437	846	647	519	430	610	497	416	576	476	402	544	455	389	356
9	822	609	478	390	790	592	469	384	560	450	372	530	431	361	501	413	349	318
10	769	560	435	351	740	545	426	346	517	410	336	490	394	326	465	378	316	287

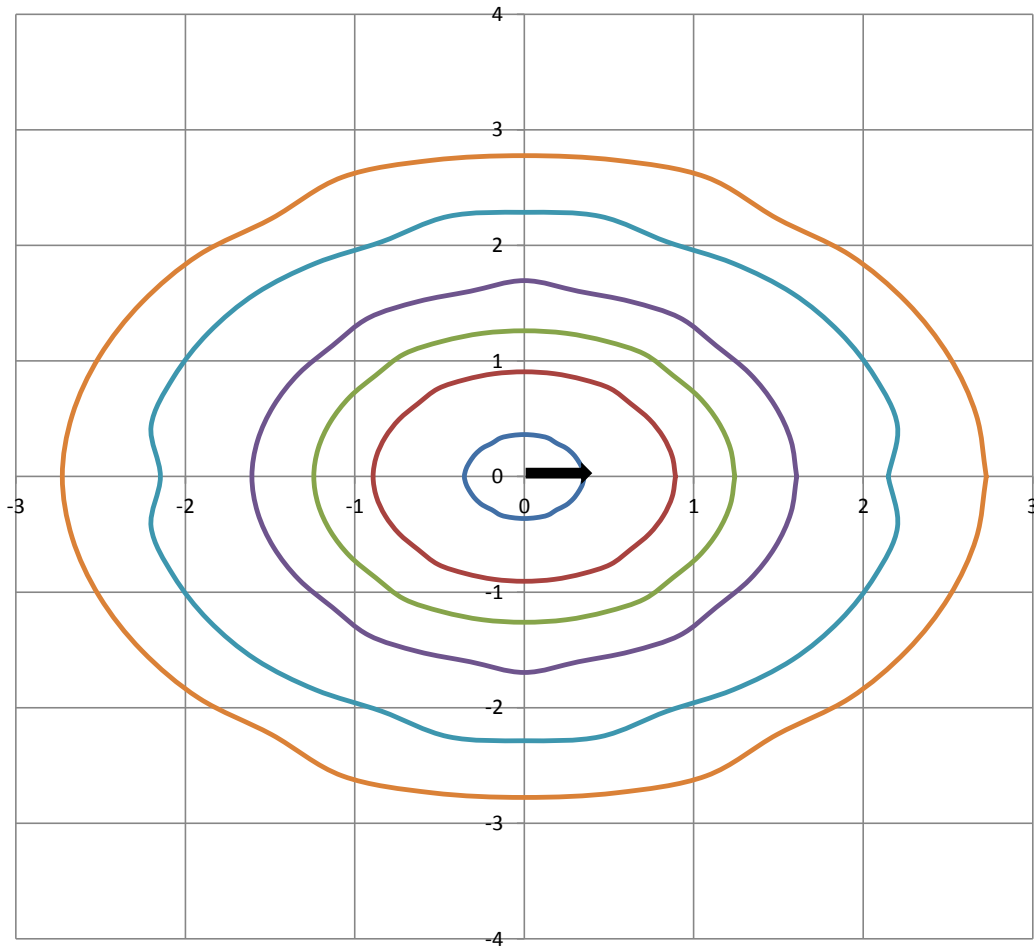
Beam and Field Information	
CIE Type:	Semi-Direct
Center Beam Intensity:	394.5 Candela
Central Cone Intensity:	395 Candela
Beam Flux:	1055.2 Lumens
Beam Angle (0-180):	124.9 Degrees
Beam Angle (90-270):	130.8 Degrees
Field Angle (0-180):	178.7 Degrees
Field Angle (90-270):	258.2 Degrees





ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

