



UL LLC  
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## Indoor Distribution Test Report

Relevant Standards  
IES LM-79-2008  
ANSI C82.77-2002

Prepared For  
**Sonneman - A Way of Light**

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United States

**Catalog Number**

**2773.03**

Order Number

11281216

Test Number

1267657

Test Date

2016-07-30

Prepared By

Austin Duff, Technician

Approved By

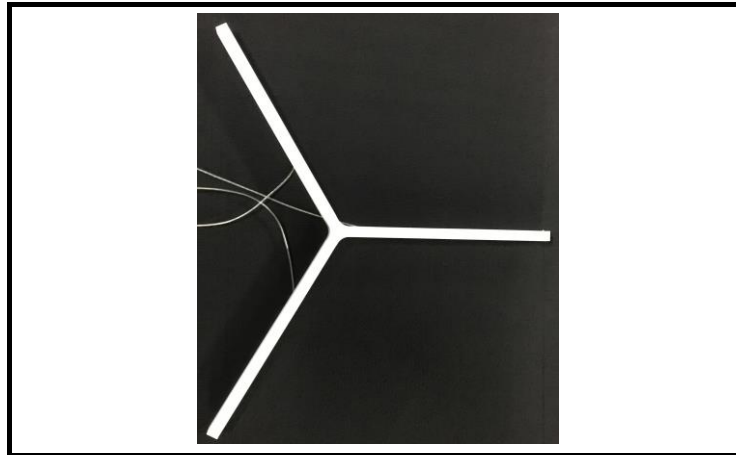
Eric Gaudreau, Senior Engineering Associate

The results contained in this report pertain only to the tested sample.  
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**Luminaire Description:** White aluminum support, wires leading to formed white aluminum housing and frosted lens  
**Lamp:** 72 white LEDs  
**Mounting:** Pendant  
**Ballast/Driver:** L.T.F. TA60WA12LED-0000

**Luminaire**



**Luminaire Characteristics**

Luminous Length: 24.75 in.  
Luminous Width: 28.50 in.  
Luminous Height: 0.25 in.

**Summary of Results**

Total Luminaire Output: 1279 Lumens  
Luminaire Efficacy: 33.7 lm/w  
Maximum Candela: 307 Candela

**Test Conditions**

Test Temperature: 24.9 °C  
Voltage: 120.0 VAC  
Current: 0.3303 A  
Power: 37.94 W  
Power Factor: 0.957  
Frequency: 60 Hz  
Current THD: 30.0 %

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



## Distribution - Goniophotometer

### Distribution Test Conditions

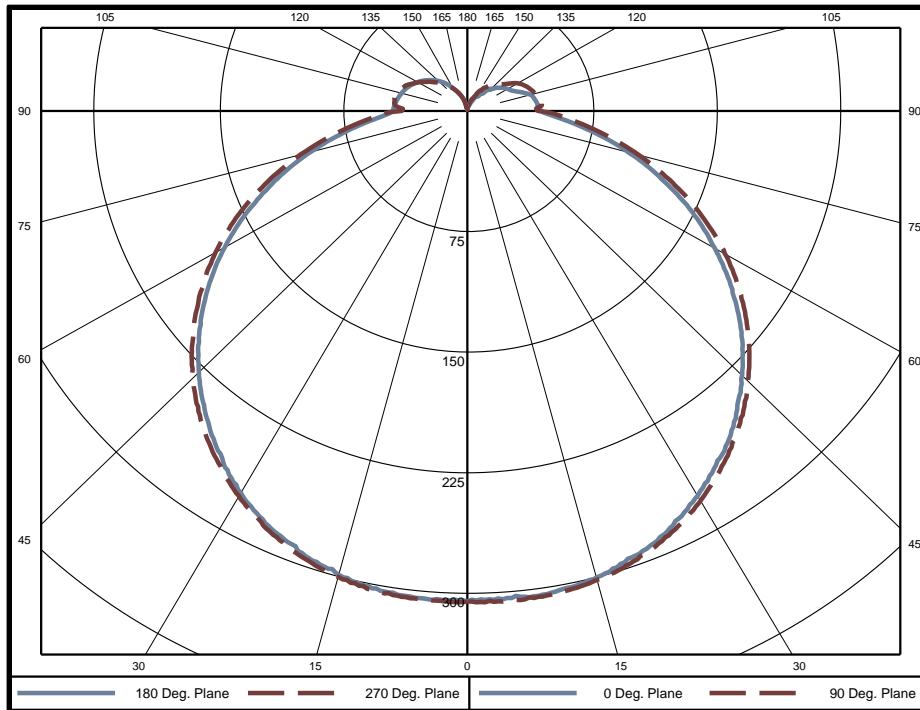
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.9 °C	120.0 VAC	0.3303 A	37.94 W	0.957	60 Hz	30.0 %

### Summary of Results

**Spacing Criteria**  
 0-180: 1.34  
 90-270: 1.33

**Total Lumen Output:** 1279 Lumens  
**Luminaire Efficacy:** 33.7 lm/w  
**Maximum Candela:** 307 Candela

### Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	7.30	0.6%	60-65	78.87	6.2%	120-125	14.63	1.1%
5-10	21.81	1.7%	65-70	70.11	5.5%	125-130	12.37	1.0%
10-15	35.89	2.8%	70-75	59.78	4.7%	130-135	10.24	0.8%
15-20	49.08	3.8%	75-80	48.45	3.8%	135-140	8.09	0.6%
20-25	61.08	4.8%	80-85	37.30	2.9%	140-145	6.12	0.5%
25-30	71.43	5.6%	85-90	27.96	2.2%	145-150	4.41	0.3%
30-35	79.78	6.2%	90-95	23.38	1.8%	150-155	2.96	0.2%
35-40	85.86	6.7%	95-100	23.78	1.9%	155-160	1.85	0.1%
40-45	89.58	7.0%	100-105	22.64	1.8%	160-165	1.03	0.1%
45-50	90.76	7.1%	105-110	20.89	1.6%	165-170	0.47	0.0%
50-55	89.34	7.0%	110-115	19.01	1.5%	170-175	0.16	0.0%
55-60	85.33	6.7%	115-120	16.88	1.3%	175-180	0.03	0.0%

Zone	Lumens	% of Luminaire
0-40	412	32.2%
0-60	767	60.0%
0-90	1090	85.2%
90-180	189	14.8%



**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	305.1	305.1	305.1	305.1	305.1	305.1	305.1	305.1	305.1	305.1	305.1	305.1	305.1	305.1	305.1	305.1
5	304.1	305.1	304.0	306.9	305.4	306.3	303.9	305.9	304.3	305.9	303.9	306.3	305.4	306.9	304.0	305.1
10	303.6	304.7	302.9	304.9	304.0	305.1	303.3	305.2	303.0	305.2	303.3	305.1	304.0	304.9	302.9	304.7
15	300.2	301.1	299.6	301.1	300.9	301.6	300.0	301.3	298.9	301.3	300.0	301.6	300.9	301.1	299.6	301.1
20	294.3	295.8	294.2	295.1	295.7	295.7	294.4	296.2	292.5	296.2	294.4	295.7	295.7	295.1	294.2	295.8
25	286.3	288.6	286.5	288.4	287.8	287.7	286.0	288.3	284.7	288.3	286.0	287.7	287.8	288.4	286.5	288.6
30	275.9	278.1	276.6	277.6	277.7	276.6	276.5	278.2	274.1	278.2	276.5	276.6	277.7	277.6	276.6	278.1
35	263.4	265.9	264.3	264.3	265.7	263.6	264.1	265.4	260.3	265.4	264.1	263.6	265.7	264.3	264.3	265.9
40	249.7	251.3	249.7	250.5	252.0	249.4	249.0	251.3	246.2	251.3	249.0	249.4	252.0	250.5	249.7	251.3
45	232.4	234.8	233.7	234.1	235.7	232.6	232.9	234.6	229.7	234.6	232.9	232.6	235.7	234.1	233.7	234.8
50	214.0	216.8	215.8	215.4	217.6	213.8	214.8	215.9	211.4	215.9	214.8	213.8	217.6	215.4	215.8	216.8
55	193.4	196.9	195.8	195.8	198.1	193.5	194.1	196.5	191.3	196.5	194.1	193.5	198.1	195.8	195.8	196.9
60	170.9	175.6	174.5	174.2	176.5	171.8	172.4	174.8	169.3	174.8	172.4	171.8	176.5	174.2	174.5	175.6
65	148.2	152.3	151.4	151.0	153.4	148.4	149.4	151.9	146.0	151.9	149.4	148.4	153.4	151.0	151.4	152.3
70	123.3	128.5	127.6	126.7	129.3	124.1	124.9	127.8	121.7	127.8	124.9	124.1	129.3	126.7	127.6	128.5
75	99.7	104.6	103.5	102.7	105.1	99.7	100.8	103.8	97.9	103.8	100.8	99.7	105.1	102.7	103.5	104.6
80	76.5	81.5	80.2	79.7	81.5	76.3	77.2	80.6	75.1	80.6	77.2	76.3	81.5	79.7	80.2	81.5
85	56.5	61.3	60.0	59.4	61.2	56.3	57.1	60.3	55.7	60.3	57.1	56.3	61.2	59.4	60.0	61.3
90	44.1	40.3	45.5	46.1	41.0	42.6	41.5	40.9	45.3	40.9	41.5	42.6	41.0	46.1	45.5	40.3
95	42.3	44.4	45.0	45.1	44.3	42.6	42.6	43.7	44.0	43.7	42.6	42.6	44.3	45.1	45.0	44.4
100	40.9	44.3	43.6	44.4	44.4	42.0	42.6	43.0	42.9	43.0	42.6	42.0	44.4	44.4	43.6	44.3
105	39.0	42.3	41.6	42.4	42.9	39.8	39.9	40.4	41.4	40.4	39.9	39.8	42.9	42.4	41.6	42.3
110	34.1	39.3	39.6	40.5	40.7	37.1	37.5	38.4	39.8	38.4	37.5	37.1	40.7	40.5	39.6	39.3
115	29.7	35.6	37.2	38.2	38.3	34.8	34.3	37.1	37.8	37.1	34.3	34.8	38.3	38.2	37.2	35.6
120	27.4	32.1	34.0	35.6	34.8	31.5	31.4	34.9	35.4	34.9	31.4	31.5	34.8	35.6	34.0	32.1
125	25.2	29.1	30.9	31.6	30.5	27.6	29.3	32.1	32.8	32.1	29.3	27.6	30.5	31.6	30.9	29.1
130	22.5	25.2	27.9	28.4	27.0	24.6	26.1	29.7	29.8	29.7	26.1	24.6	27.0	28.4	27.9	25.2
135	19.5	22.6	24.8	25.1	24.1	22.0	22.7	25.8	26.8	25.8	22.7	22.0	24.1	25.1	24.8	22.6
140	14.1	18.8	21.5	21.9	21.1	18.6	17.2	21.1	23.4	21.1	17.2	18.6	21.1	21.9	21.5	18.8
145	10.9	15.2	18.4	18.6	18.0	15.2	14.8	17.1	19.6	17.1	14.8	15.2	18.0	18.6	18.4	15.2
150	10.2	12.1	15.1	15.3	14.8	11.9	10.7	13.8	15.3	13.8	10.7	11.9	14.8	15.3	15.1	12.1
155	6.9	9.5	12.1	12.3	11.0	7.8	7.6	10.8	12.0	10.8	7.6	7.8	11.0	12.3	12.1	9.5
160	4.6	7.5	9.2	9.2	8.4	5.0	5.6	8.3	8.9	8.3	5.6	5.0	8.4	9.2	9.2	7.5
165	3.3	5.3	6.2	5.9	4.4	3.0	4.1	5.8	6.0	5.8	4.1	3.0	4.4	5.9	6.2	5.3
170	2.3	3.3	3.6	3.5	2.5	2.0	2.8	3.5	3.4	3.5	2.8	2.0	2.5	3.5	3.6	3.3
175	1.5	1.6	1.6	1.6	1.2	1.3	1.5	1.6	1.6	1.6	1.5	1.3	1.2	1.6	1.6	1.6
180	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

**Average Luminance (cd/m<sup>2</sup>)**  
Horizontal Angle (Degrees)

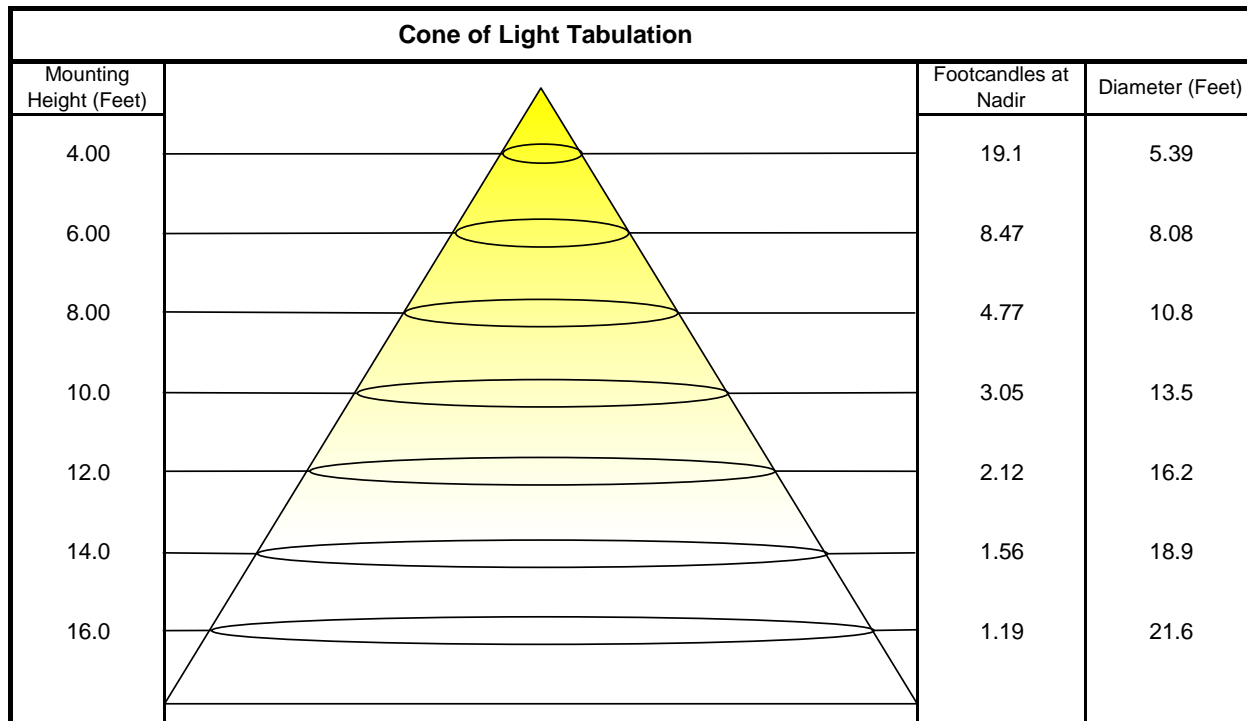
	0	45	90
0	670	670	670
45	715	717	726
55	730	736	750
65	754	766	783
75	816	837	864
85	1277	1313	1401



### 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	1477	1477	1477	1477	1421	1421	1421	1421	1316	1316	1316	1220	1220	1220	1131	1131	1131	1090
1	1323	1252	1189	1132	1268	1204	1147	1096	1115	1069	1026	1032	996	961	956	927	900	860
2	1193	1077	981	901	1140	1036	949	875	959	888	826	889	830	779	823	776	734	695
3	1081	937	825	737	1032	902	800	718	836	751	681	775	705	645	719	661	611	574
4	985	824	706	616	940	794	685	601	737	645	572	685	607	544	636	571	517	482
5	902	732	612	524	861	706	595	512	657	562	489	611	530	467	569	500	445	412
6	831	655	537	453	793	633	523	443	590	495	424	551	469	406	514	443	388	357
7	768	591	477	396	734	572	464	388	535	441	372	500	418	357	467	396	342	313
8	714	537	426	350	683	520	416	344	488	396	330	457	376	317	428	357	304	277
9	665	491	385	313	637	476	376	307	447	358	296	420	341	284	395	325	273	248
10	623	452	349	281	597	438	342	276	413	326	267	389	311	257	366	297	247	223

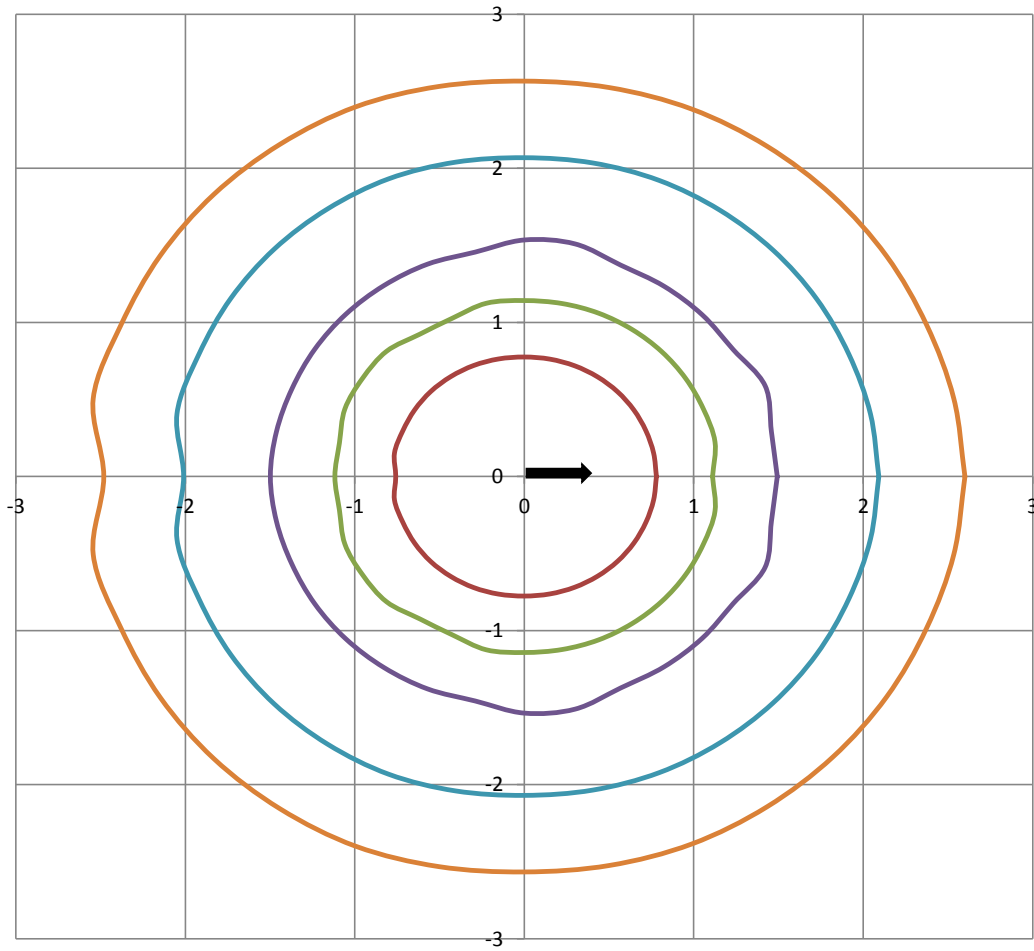
Beam and Field Information	
CIE Type:	Semi-Direct
Center Beam Intensity:	305.1 Candela
Central Cone Intensity:	305 Candela
Beam Flux:	839.9 Lumens
Beam Angle (0-180):	127.7 Degrees
Beam Angle (90-270):	130.4 Degrees
Field Angle (0-180):	242.7 Degrees
Field Angle (90-270):	249.9 Degrees





# ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

