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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

2775.03

Order Number

11281216

Test Number

1267885

Test Date

2016-07-22

Prepared By

Jeremy Lewis, Technician

Approved By

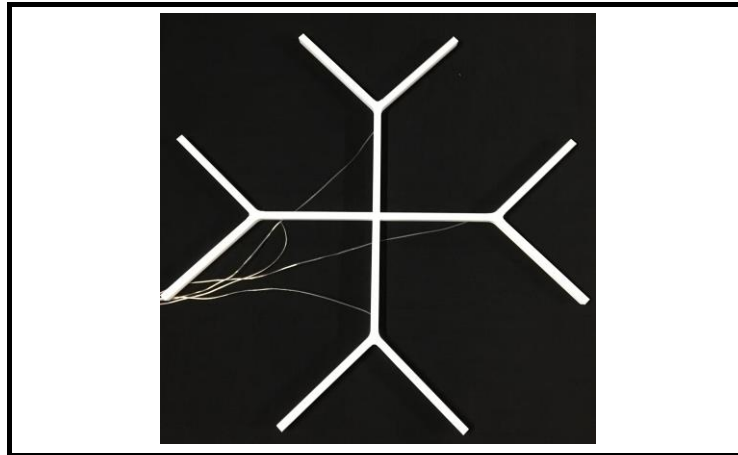
Eric Gaudreau, Senior Engineering Associate

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Luminaire Description: Decorative white aluminum housing with frosted lens
Lamp: 216 white LEDs
Mounting: Pendant
Ballast/Driver: Two (2) L.T.F. TA60WA12LED-0000

Luminaire



Luminaire Characteristics

Luminous Length: 46.00 in.
Luminous Width: 46.00 in.
Luminous Height: 0.25 in.

Summary of Results

Total Luminaire Output: 3754 Lumens
Luminaire Efficacy: 34 lm/w
Maximum Candela: 899 Candela

Test Conditions

Test Temperature: 24.7 °C
Voltage: 120.0 VAC
Current: 0.9635 A
Power: 110.5 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

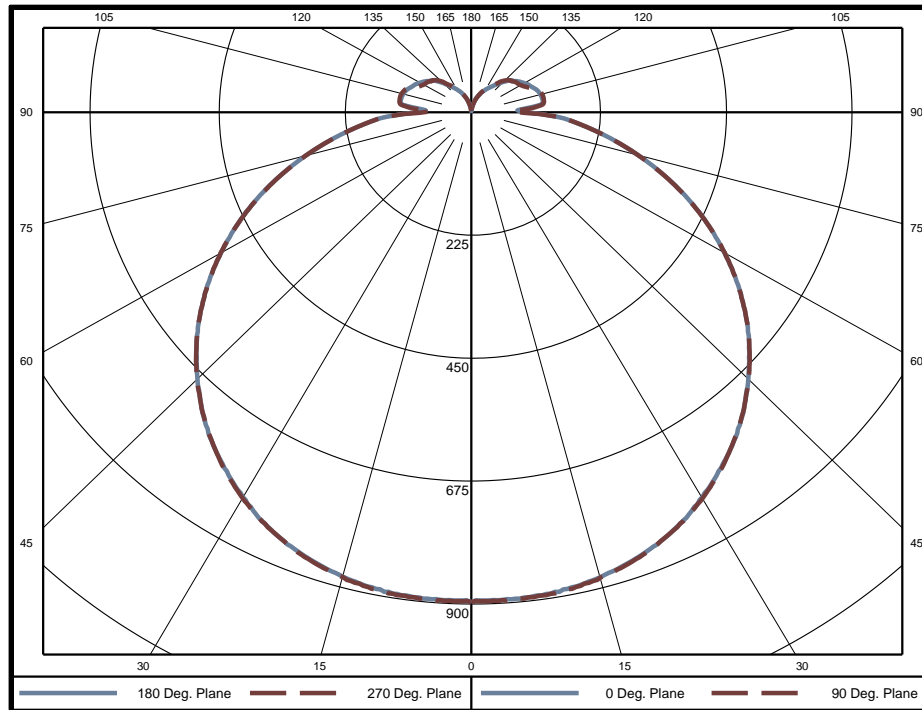
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.7 °C	120.0 VAC	0.9635 A	110.5 W	0.955	60 Hz	30.7 %

Summary of Results

Spacing Criteria
 0-180: 1.35
 90-270: 1.35

Total Lumen Output: 3754 Lumens
Luminaire Efficacy: 34.0 lm/w
Maximum Candela: 899 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	21.4	0.6%	60-65	232.3	6.2%	120-125	45.9	1.2%
5-10	64.0	1.7%	65-70	206.8	5.5%	125-130	40.1	1.1%
10-15	105.4	2.8%	70-75	175.9	4.7%	130-135	33.8	0.9%
15-20	144.3	3.8%	75-80	142.3	3.8%	135-140	27.1	0.7%
20-25	179.7	4.8%	80-85	109.0	2.9%	140-145	20.5	0.5%
25-30	210.2	5.6%	85-90	73.1	1.9%	145-150	15.0	0.4%
30-35	234.9	6.3%	90-95	50.3	1.3%	150-155	10.2	0.3%
35-40	253.1	6.7%	95-100	63.0	1.7%	155-160	6.6	0.2%
40-45	264.1	7.0%	100-105	65.0	1.7%	160-165	3.7	0.1%
45-50	267.6	7.1%	105-110	62.5	1.7%	165-170	1.6	0.0%
50-55	263.3	7.0%	110-115	57.6	1.5%	170-175	0.5	0.0%
55-60	251.3	6.7%	115-120	51.4	1.4%	175-180	0.1	0.0%

Zone	Lumens	% of Luminaire
0-40	1213	32.3%
0-60	2259	60.2%
0-90	3199	85.2%
90-180	555	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	896.8	896.8	896.8	896.8	896.8	896.8	896.8	896.8	896.8	896.8	896.8	896.8	896.8	896.8	896.8	896.8
5	893.6	897.5	898.2	897.0	894.9	897.0	898.2	897.5	893.6	897.5	898.2	897.0	894.9	897.0	898.2	897.5
10	891.2	893.6	894.2	893.6	890.7	893.6	894.2	893.6	891.2	893.6	894.2	893.6	890.7	893.6	894.2	893.6
15	880.3	884.5	884.6	884.3	880.9	884.3	884.6	884.5	880.3	884.5	884.6	884.3	880.9	884.3	884.6	884.5
20	864.7	868.0	868.0	868.6	866.3	868.6	868.0	868.0	864.7	868.0	868.0	868.6	866.3	868.6	868.0	868.0
25	842.8	845.9	845.2	846.0	843.3	846.0	845.2	845.9	842.8	845.9	845.2	846.0	843.3	846.0	845.2	845.9
30	812.9	817.2	815.2	816.6	814.6	816.6	815.2	817.2	812.9	817.2	815.2	816.6	814.6	816.6	815.2	817.2
35	777.5	781.7	777.6	780.5	778.7	780.5	777.6	781.7	777.5	781.7	777.6	780.5	778.7	780.5	777.6	781.7
40	737.3	738.9	734.2	738.6	736.9	738.6	734.2	738.9	737.3	738.9	734.2	738.6	736.9	738.6	734.2	738.9
45	688.8	690.3	685.2	690.2	689.8	690.2	685.2	690.3	688.8	690.3	685.2	690.2	689.8	690.2	685.2	690.3
50	637.0	636.4	630.5	636.8	636.6	636.8	630.5	636.4	637.0	636.4	630.5	636.8	636.6	636.8	630.5	636.4
55	578.4	576.7	569.5	576.9	578.3	576.9	569.5	576.7	578.4	576.7	569.5	576.9	578.3	576.9	569.5	576.7
60	513.7	514.1	505.9	514.0	514.9	514.0	505.9	514.1	513.7	514.1	505.9	514.0	514.9	514.0	505.9	514.1
65	446.4	445.7	437.3	445.8	446.1	445.8	437.3	445.7	446.4	445.7	437.3	445.8	446.1	445.8	437.3	445.7
70	376.0	375.1	365.7	374.8	375.1	374.8	365.7	375.1	376.0	375.1	365.7	374.8	375.1	374.8	365.7	375.1
75	304.0	303.5	292.4	303.2	303.9	303.2	292.4	303.5	304.0	303.5	292.4	303.2	303.9	303.2	292.4	303.5
80	235.9	235.2	222.8	235.0	235.5	235.0	222.8	235.2	235.9	235.2	222.8	235.0	235.5	235.0	222.8	235.2
85	175.1	174.0	160.8	173.7	175.2	173.7	160.8	174.0	175.1	174.0	160.8	173.7	175.2	173.7	160.8	174.0
90	96.2	102.3	98.1	95.5	85.5	95.5	98.1	102.3	96.2	102.3	98.1	95.5	85.5	95.5	98.1	102.3
95	105.5	100.7	96.8	104.0	114.8	104.0	96.8	100.7	105.5	100.7	96.8	104.0	114.8	104.0	96.8	100.7
100	127.5	121.0	113.5	120.8	129.5	120.8	113.5	121.0	127.5	121.0	113.5	120.8	129.5	120.8	113.5	121.0
105	126.1	121.6	113.2	121.9	128.7	121.9	113.2	121.6	126.1	121.6	113.2	121.9	128.7	121.9	113.2	121.6
110	121.8	117.8	110.2	118.7	123.7	118.7	110.2	117.8	121.8	117.8	110.2	118.7	123.7	118.7	110.2	117.8
115	114.3	111.6	105.5	109.8	108.5	109.8	105.5	111.6	114.3	111.6	105.5	109.8	108.5	109.8	105.5	111.6
120	107.1	104.5	99.1	101.4	99.7	101.4	99.1	104.5	107.1	104.5	99.1	101.4	99.7	101.4	99.1	104.5
125	98.9	97.0	91.7	98.4	95.7	98.4	91.7	97.0	98.9	97.0	91.7	98.4	95.7	98.4	91.7	97.0
130	90.8	88.0	84.3	90.3	90.5	90.3	84.3	88.0	90.8	88.0	84.3	90.3	90.5	90.3	84.3	88.0
135	78.1	78.1	75.4	80.9	81.9	80.9	75.4	78.1	78.1	78.1	75.4	80.9	81.9	80.9	75.4	78.1
140	65.6	65.9	66.5	68.8	67.9	68.8	66.5	65.9	65.6	65.9	66.5	68.8	67.9	68.8	66.5	65.9
145	55.1	53.9	56.6	56.5	57.6	56.5	56.6	53.9	55.1	53.9	56.6	56.5	57.6	56.5	56.6	53.9
150	46.3	44.9	42.5	46.8	47.9	46.8	42.5	44.9	46.3	44.9	42.5	46.8	47.9	46.8	42.5	44.9
155	37.7	36.2	31.3	37.2	38.7	37.2	31.3	36.2	37.7	36.2	31.3	37.2	38.7	37.2	31.3	36.2
160	29.0	27.9	22.7	28.4	28.9	28.4	22.7	27.9	29.0	27.9	22.7	28.4	28.9	28.4	22.7	27.9
165	19.7	18.4	15.1	18.4	19.4	18.4	15.1	18.4	19.7	18.4	15.1	18.4	19.4	18.4	15.1	18.4
170	11.2	10.0	9.8	9.6	10.9	9.6	9.8	10.0	11.2	10.0	9.8	9.6	10.9	9.6	9.8	10.0
175	4.3	4.4	4.8	4.3	4.4	4.3	4.8	4.4	4.3	4.4	4.8	4.3	4.4	4.3	4.8	4.4
180	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	2.5

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

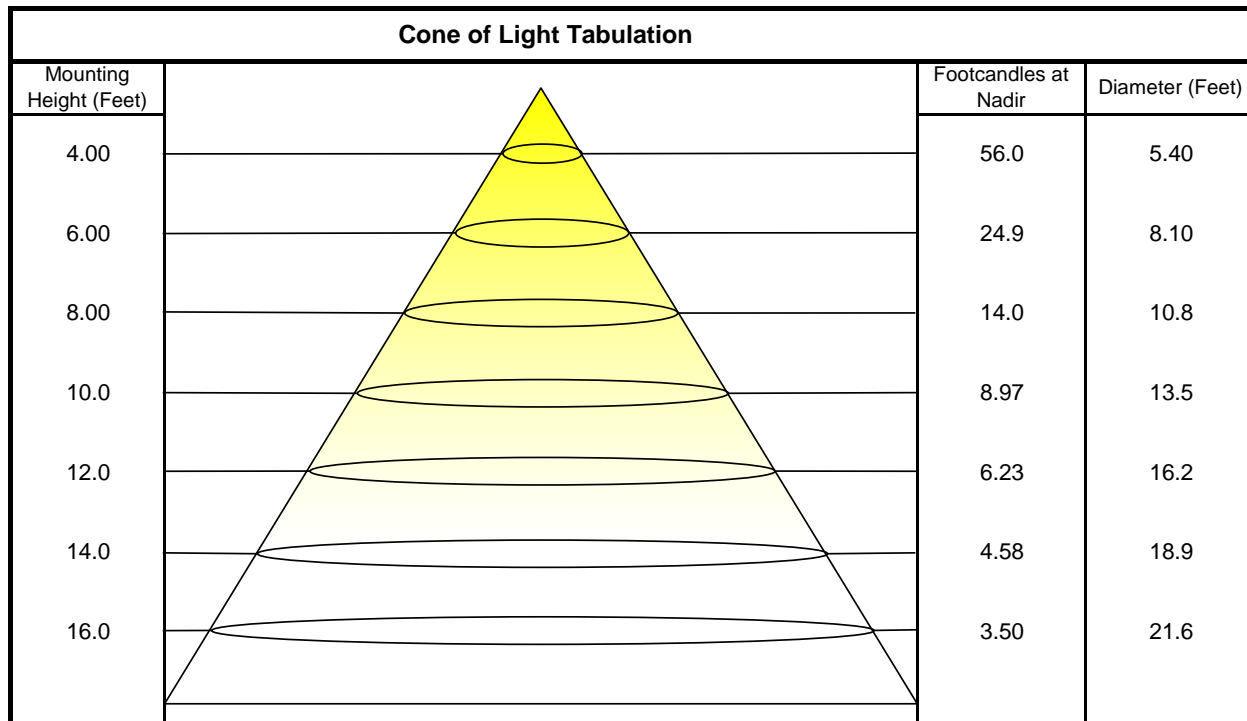
	0	45	90
0	657	657	657
45	710	704	711
55	733	719	733
65	765	746	764
75	843	805	843
85	1386	1242	1386



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	4337	4337	4337	4337	4171	4171	4171	4171	3863	3863	3863	3580	3580	3580	3321	3321	3321	3199
1	3887	3682	3497	3331	3725	3541	3375	3224	3278	3143	3020	3036	2928	2829	2812	2728	2650	2531
2	3504	3166	2886	2651	3350	3046	2792	2576	2821	2612	2432	2614	2443	2294	2422	2285	2162	2048
3	3176	2754	2428	2168	3032	2651	2353	2112	2458	2209	2004	2280	2073	1899	2114	1944	1798	1689
4	2894	2422	2076	1812	2762	2334	2015	1769	2168	1898	1684	2014	1786	1602	1870	1680	1523	1420
5	2652	2151	1800	1542	2531	2075	1750	1507	1931	1653	1440	1798	1560	1374	1673	1471	1309	1213
6	2441	1926	1580	1332	2331	1860	1538	1304	1736	1457	1249	1619	1378	1194	1510	1303	1141	1050
7	2257	1738	1401	1166	2158	1681	1366	1142	1572	1296	1096	1470	1230	1050	1374	1165	1005	920
8	2096	1579	1254	1031	2006	1529	1223	1011	1433	1164	972	1343	1106	933	1259	1051	895	815
9	1955	1444	1131	920	1872	1400	1105	903	1315	1053	869	1235	1003	836	1160	954	803	728
10	1829	1327	1027	828	1753	1288	1004	813	1213	959	784	1142	915	755	1075	873	727	656

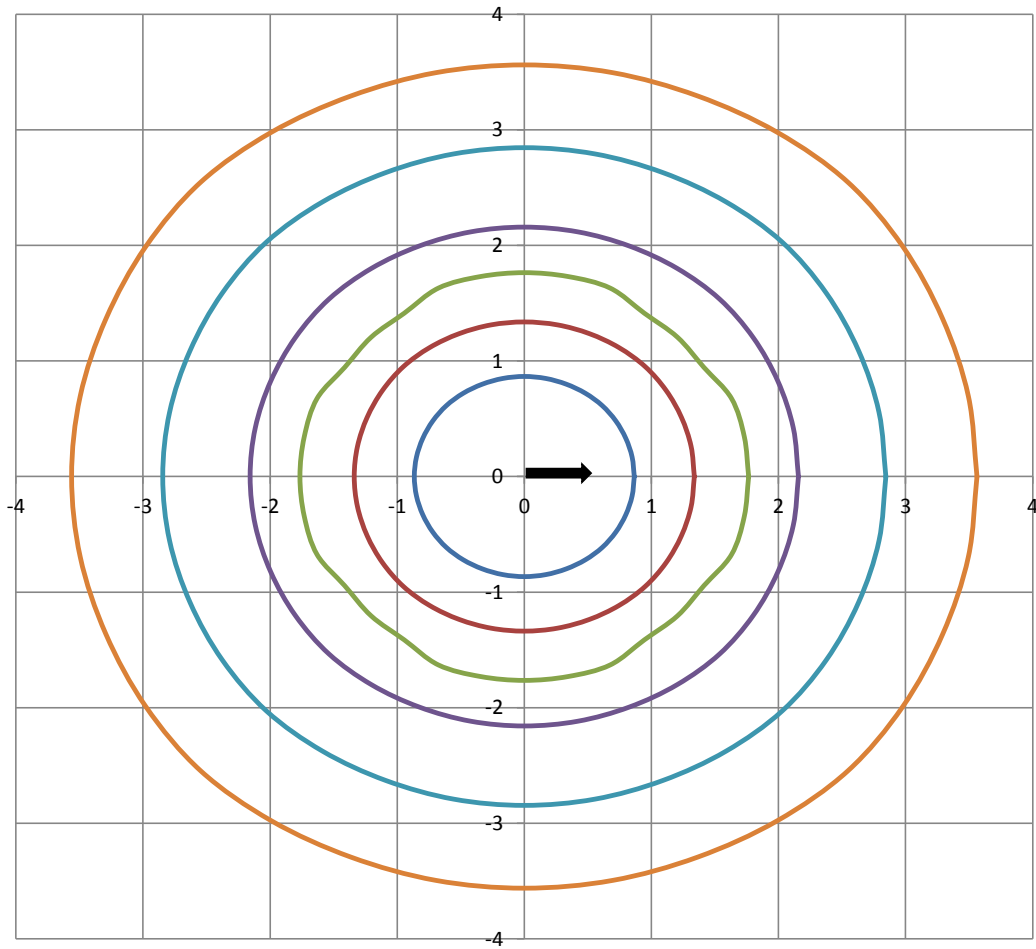
Beam and Field Information	
CIE Type:	Semi-Direct
Center Beam Intensity:	896.8 Candela
Central Cone Intensity:	897 Candela
Beam Flux:	2478.5 Lumens
Beam Angle (0-180):	129.7 Degrees
Beam Angle (90-270):	129.7 Degrees
Field Angle (0-180):	261.2 Degrees
Field Angle (90-270):	179.2 Degrees





ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

