



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

2600.03

Order Number

11281216

Test Number

1267651

Test Date

2016-07-20

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 steel support, wire cables attached to frosted glass plate sitting on three (3) supports leading to white circular aluminum housing
Lamp: White LEDs
Mounting: Pendant
Ballast/Driver: Meanwell APV-35-12

Luminaire



Luminaire Characteristics

Luminous Diameter: 22.00 in.
Luminous Height: 7.00 in.

Summary of Results

Total Luminaire Output:	669.9 Lumens
Luminaire Efficacy:	28 lm/w
Maximum Candela:	206 Candela

Test Conditions

Test Temperature:	24.5 °C
Voltage:	120.1 VAC
Current:	0.3898 A
Power:	23.93 W
Power Factor:	0.511
Frequency:	60 Hz
Current THD:	162 %

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



Distribution - Goniophotometer

Distribution Test Conditions

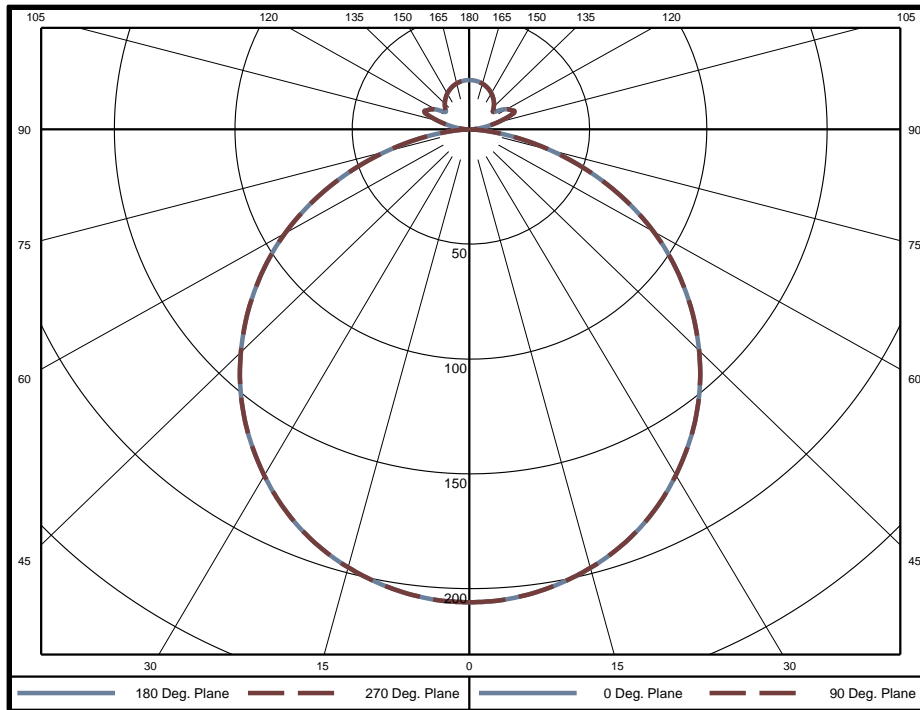
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.5 °C	120.1 VAC	0.3898 A	23.93 W	0.511	60 Hz	162 %

Summary of Results

Spacing Criteria
 0-180: 1.26
 90-270: 1.26

Total Lumen Output: 669.9 Lumens
Luminaire Efficacy: 28.0 lm/w
Maximum Candela: 206 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	4.91	0.7%	60-65	39.53	5.9%	120-125	7.34	1.1%
5-10	14.57	2.2%	65-70	32.01	4.8%	125-130	5.61	0.8%
10-15	23.71	3.5%	70-75	23.50	3.5%	130-135	5.62	0.8%
15-20	32.08	4.8%	75-80	14.85	2.2%	135-140	5.69	0.8%
20-25	39.36	5.9%	80-85	7.10	1.1%	140-145	5.56	0.8%
25-30	45.26	6.8%	85-90	1.99	0.3%	145-150	5.26	0.8%
30-35	49.61	7.4%	90-95	0.74	0.1%	150-155	4.78	0.7%
35-40	52.36	7.8%	95-100	2.54	0.4%	155-160	4.14	0.6%
40-45	53.28	8.0%	100-105	5.25	0.8%	160-165	3.37	0.5%
45-50	52.39	7.8%	105-110	8.30	1.2%	165-170	2.49	0.4%
50-55	49.78	7.4%	110-115	10.25	1.5%	170-175	1.53	0.2%
55-60	45.52	6.8%	115-120	9.15	1.4%	175-180	0.51	0.1%

Zone	Lumens	% of Luminaire
0-40	262	39.1%
0-60	463	69.1%
0-90	582	86.9%
90-180	88	13.2%



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	205.9	205.9	205.9	205.9	205.9	205.9	205.9	205.9	205.9	205.9	205.9	205.9	205.9	205.9	205.9	205.9
5	205.0	205.0	205.0	205.0	205.0	205.0	205.0	205.0	205.0	205.0	205.0	205.0	205.0	205.0	205.0	205.0
10	202.1	202.1	202.1	202.1	202.1	202.1	202.1	202.1	202.1	202.1	202.1	202.1	202.1	202.1	202.1	202.1
15	197.6	197.6	197.6	197.6	197.6	197.6	197.6	197.6	197.6	197.6	197.6	197.6	197.6	197.6	197.6	197.6
20	191.6	191.6	191.6	191.6	191.6	191.6	191.6	191.6	191.6	191.6	191.6	191.6	191.6	191.6	191.6	191.6
25	183.6	183.6	183.6	183.6	183.6	183.6	183.6	183.6	183.6	183.6	183.6	183.6	183.6	183.6	183.6	183.6
30	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0
35	163.1	163.1	163.1	163.1	163.1	163.1	163.1	163.1	163.1	163.1	163.1	163.1	163.1	163.1	163.1	163.1
40	150.7	150.7	150.7	150.7	150.7	150.7	150.7	150.7	150.7	150.7	150.7	150.7	150.7	150.7	150.7	150.7
45	137.0	137.0	137.0	137.0	137.0	137.0	137.0	137.0	137.0	137.0	137.0	137.0	137.0	137.0	137.0	137.0
50	122.3	122.3	122.3	122.3	122.3	122.3	122.3	122.3	122.3	122.3	122.3	122.3	122.3	122.3	122.3	122.3
55	106.7	106.7	106.7	106.7	106.7	106.7	106.7	106.7	106.7	106.7	106.7	106.7	106.7	106.7	106.7	106.7
60	90.1	90.1	90.1	90.1	90.1	90.1	90.1	90.1	90.1	90.1	90.1	90.1	90.1	90.1	90.1	90.1
65	72.4	72.4	72.4	72.4	72.4	72.4	72.4	72.4	72.4	72.4	72.4	72.4	72.4	72.4	72.4	72.4
70	54.1	54.1	54.1	54.1	54.1	54.1	54.1	54.1	54.1	54.1	54.1	54.1	54.1	54.1	54.1	54.1
75	36.1	36.1	36.1	36.1	36.1	36.1	36.1	36.1	36.1	36.1	36.1	36.1	36.1	36.1	36.1	36.1
80	19.9	19.9	19.9	19.9	19.9	19.9	19.9	19.9	19.9	19.9	19.9	19.9	19.9	19.9	19.9	19.9
85	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
90	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
95	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	2.6
100	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
105	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8
110	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1
115	19.8	19.8	19.8	19.8	19.8	19.8	19.8	19.8	19.8	19.8	19.8	19.8	19.8	19.8	19.8	19.8
120	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.7
125	13.7	13.7	13.7	13.7	13.7	13.7	13.7	13.7	13.7	13.7	13.7	13.7	13.7	13.7	13.7	13.7
130	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1
135	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7
140	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1
145	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3
150	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4
155	19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.4
160	20.2	20.2	20.2	20.2	20.2	20.2	20.2	20.2	20.2	20.2	20.2	20.2	20.2	20.2	20.2	20.2
165	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8
170	21.2	21.2	21.2	21.2	21.2	21.2	21.2	21.2	21.2	21.2	21.2	21.2	21.2	21.2	21.2	21.2
175	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5
180	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5

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

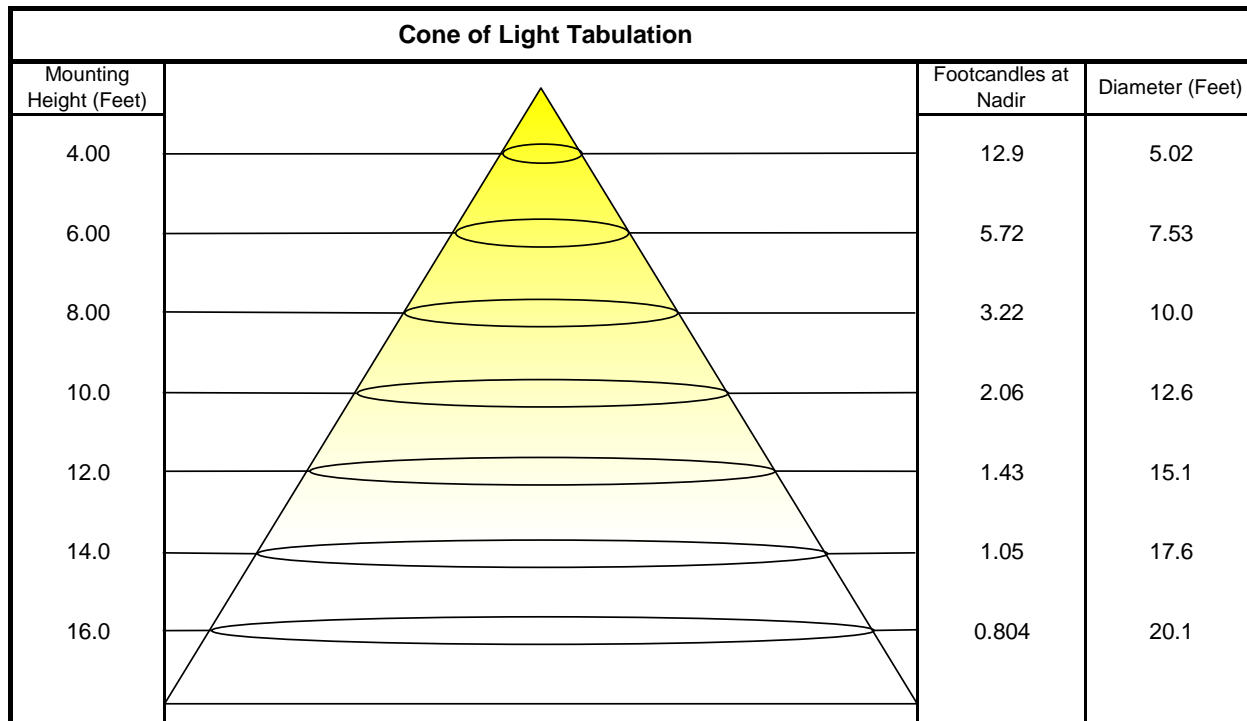
	0	45	90
0	840	840	840
45	790	790	790
55	758	758	758
65	699	699	699
75	568	568	568
85	341	341	341



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	777	777	777	777	748	748	748	748	695	695	695	647	647	647	603	603	603	582
1	710	679	651	626	683	655	630	607	611	591	572	570	554	539	532	520	508	489
2	646	592	547	510	620	572	531	497	534	501	472	499	472	449	467	445	426	407
3	588	519	466	424	564	502	453	414	470	429	396	440	406	378	412	385	361	343
4	538	460	402	358	516	445	392	351	417	372	337	391	354	323	367	336	310	293
5	494	410	351	308	474	397	343	302	373	327	291	351	311	280	330	296	269	253
6	456	369	310	268	438	358	303	263	337	289	254	317	276	245	299	264	236	221
7	422	334	276	236	406	324	270	232	306	259	224	289	248	217	273	237	209	195
8	393	304	248	210	377	296	243	206	280	233	200	265	224	194	250	214	187	174
9	367	278	225	188	353	271	220	185	257	212	180	244	203	174	231	195	169	156
10	343	256	205	170	331	250	201	168	237	193	163	226	186	158	214	179	154	141

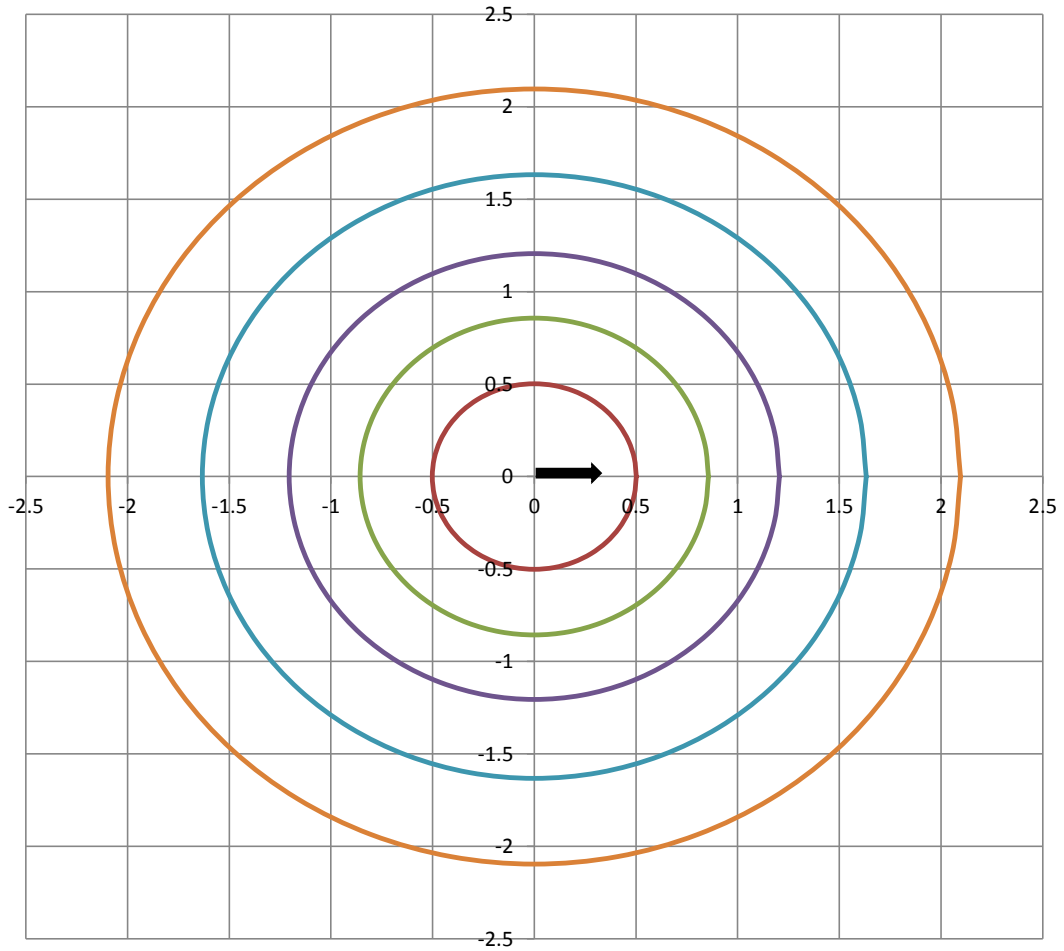
Beam and Field Information	
CIE Type:	Semi-Direct
Center Beam Intensity:	205.9 Candela
Central Cone Intensity:	206 Candela
Beam Flux:	428.2 Lumens
Beam Angle (0-180):	112.3 Degrees
Beam Angle (90-270):	112.3 Degrees
Field Angle (0-180):	159.5 Degrees
Field Angle (90-270):	159.5 Degrees





ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

