



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

2400.03

Order Number

11281216

Test Number

1253436

Test Date

2016-07-22

Prepared By

Tony Rubio, Technician

Approved By

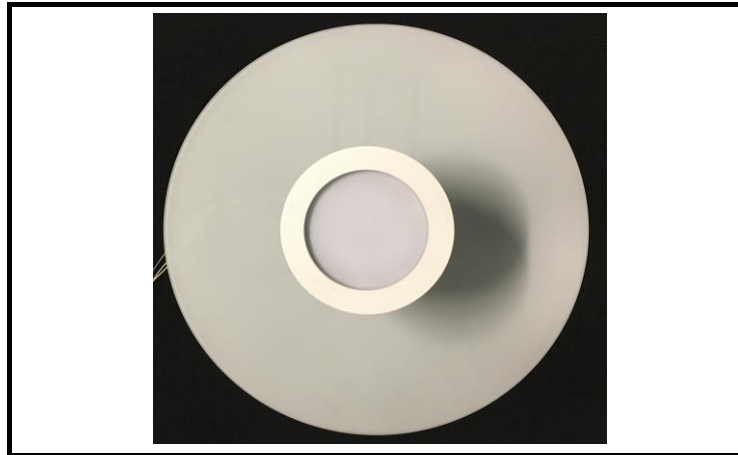
Eric Gaudreau, Senior Engineering Associate

The results contained in this report pertain only to the tested sample.
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Luminaire Description: White steel driver case, wire cables attached to frosted glass plate sitting on three (3) steel supports leading to white circular aluminum housing with frosted lens
Lamp: 24 white LEDs
Mounting: Pendant
Ballast/Driver: EagleRise EEP60SE

Luminaire



Luminaire Characteristics

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

Summary of Results

Total Luminaire Output:	866.6 Lumens
Luminaire Efficacy:	34.2 lm/w
Maximum Candela:	240 Candela

Test Conditions

Test Temperature:	24.7 °C
Voltage:	120.0 VAC
Current:	0.2228 A
Power:	25.33 W
Power Factor:	0.947
Frequency:	60 Hz
Current THD:	33.6 %

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



Distribution - Goniophotometer

Distribution Test Conditions

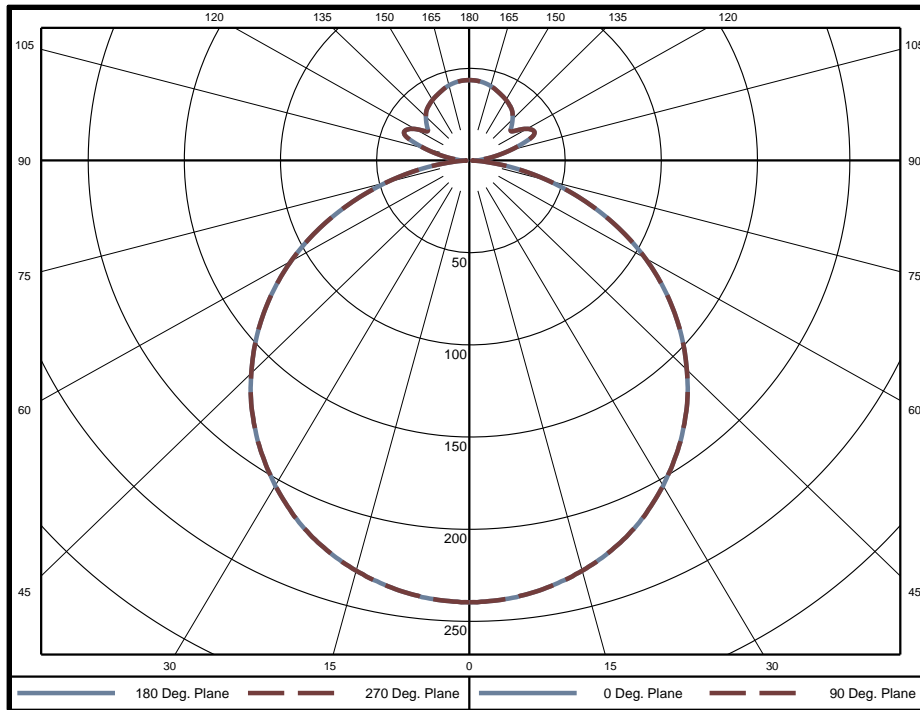
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.7 °C	120.0 VAC	0.2228 A	25.33 W	0.947	60 Hz	33.6 %

Summary of Results

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

Total Lumen Output: 866.6 Lumens
Luminaire Efficacy: 34.2 lm/w
Maximum Candela: 240 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	5.71	0.7%	60-65	47.24	5.5%	120-125	14.37	1.7%
5-10	16.95	2.0%	65-70	38.44	4.4%	125-130	12.05	1.4%
10-15	27.61	3.2%	70-75	28.50	3.3%	130-135	12.37	1.4%
15-20	37.39	4.3%	75-80	18.39	2.1%	135-140	12.48	1.4%
20-25	45.96	5.3%	80-85	8.96	1.0%	140-145	12.01	1.4%
25-30	52.93	6.1%	85-90	2.62	0.3%	145-150	11.05	1.3%
30-35	58.16	6.7%	90-95	3.10	0.4%	150-155	9.84	1.1%
35-40	61.55	7.1%	95-100	5.55	0.6%	155-160	8.41	1.0%
40-45	62.88	7.3%	100-105	9.79	1.1%	160-165	6.84	0.8%
45-50	62.05	7.2%	105-110	14.68	1.7%	165-170	5.05	0.6%
50-55	59.17	6.8%	110-115	18.43	2.1%	170-175	3.09	0.4%
55-60	54.21	6.3%	115-120	17.70	2.0%	175-180	1.04	0.1%

Zone	Lumens	% of Luminaire
0-40	306	35.3%
0-60	545	62.8%
0-90	689	79.5%
90-180	178	20.5%



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	239.6	239.6	239.6	239.6	239.6	239.6	239.6	239.6	239.6	239.6	239.6	239.6	239.6	239.6	239.6	239.6
5	238.5	238.5	238.5	238.5	238.5	238.5	238.5	238.5	238.5	238.5	238.5	238.5	238.5	238.5	238.5	238.5
10	235.2	235.2	235.2	235.2	235.2	235.2	235.2	235.2	235.2	235.2	235.2	235.2	235.2	235.2	235.2	235.2
15	230.2	230.2	230.2	230.2	230.2	230.2	230.2	230.2	230.2	230.2	230.2	230.2	230.2	230.2	230.2	230.2
20	223.4	223.4	223.4	223.4	223.4	223.4	223.4	223.4	223.4	223.4	223.4	223.4	223.4	223.4	223.4	223.4
25	214.6	214.6	214.6	214.6	214.6	214.6	214.6	214.6	214.6	214.6	214.6	214.6	214.6	214.6	214.6	214.6
30	203.8	203.8	203.8	203.8	203.8	203.8	203.8	203.8	203.8	203.8	203.8	203.8	203.8	203.8	203.8	203.8
35	191.4	191.4	191.4	191.4	191.4	191.4	191.4	191.4	191.4	191.4	191.4	191.4	191.4	191.4	191.4	191.4
40	177.6	177.6	177.6	177.6	177.6	177.6	177.6	177.6	177.6	177.6	177.6	177.6	177.6	177.6	177.6	177.6
45	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0
50	145.2	145.2	145.2	145.2	145.2	145.2	145.2	145.2	145.2	145.2	145.2	145.2	145.2	145.2	145.2	145.2
55	127.0	127.0	127.0	127.0	127.0	127.0	127.0	127.0	127.0	127.0	127.0	127.0	127.0	127.0	127.0	127.0
60	107.6	107.6	107.6	107.6	107.6	107.6	107.6	107.6	107.6	107.6	107.6	107.6	107.6	107.6	107.6	107.6
65	86.8	86.8	86.8	86.8	86.8	86.8	86.8	86.8	86.8	86.8	86.8	86.8	86.8	86.8	86.8	86.8
70	65.2	65.2	65.2	65.2	65.2	65.2	65.2	65.2	65.2	65.2	65.2	65.2	65.2	65.2	65.2	65.2
75	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3
80	24.9	24.9	24.9	24.9	24.9	24.9	24.9	24.9	24.9	24.9	24.9	24.9	24.9	24.9	24.9	24.9
85	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2
90	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9
95	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
100	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9
105	23.1	23.1	23.1	23.1	23.1	23.1	23.1	23.1	23.1	23.1	23.1	23.1	23.1	23.1	23.1	23.1
110	33.3	33.3	33.3	33.3	33.3	33.3	33.3	33.3	33.3	33.3	33.3	33.3	33.3	33.3	33.3	33.3
115	37.6	37.6	37.6	37.6	37.6	37.6	37.6	37.6	37.6	37.6	37.6	37.6	37.6	37.6	37.6	37.6
120	34.4	34.4	34.4	34.4	34.4	34.4	34.4	34.4	34.4	34.4	34.4	34.4	34.4	34.4	34.4	34.4
125	27.7	27.7	27.7	27.7	27.7	27.7	27.7	27.7	27.7	27.7	27.7	27.7	27.7	27.7	27.7	27.7
130	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0
135	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2
140	35.1	35.1	35.1	35.1	35.1	35.1	35.1	35.1	35.1	35.1	35.1	35.1	35.1	35.1	35.1	35.1
145	36.8	36.8	36.8	36.8	36.8	36.8	36.8	36.8	36.8	36.8	36.8	36.8	36.8	36.8	36.8	36.8
150	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3
155	39.5	39.5	39.5	39.5	39.5	39.5	39.5	39.5	39.5	39.5	39.5	39.5	39.5	39.5	39.5	39.5
160	40.8	40.8	40.8	40.8	40.8	40.8	40.8	40.8	40.8	40.8	40.8	40.8	40.8	40.8	40.8	40.8
165	42.1	42.1	42.1	42.1	42.1	42.1	42.1	42.1	42.1	42.1	42.1	42.1	42.1	42.1	42.1	42.1
170	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0
175	43.5	43.5	43.5	43.5	43.5	43.5	43.5	43.5	43.5	43.5	43.5	43.5	43.5	43.5	43.5	43.5
180	43.7	43.7	43.7	43.7	43.7	43.7	43.7	43.7	43.7	43.7	43.7	43.7	43.7	43.7	43.7	43.7

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

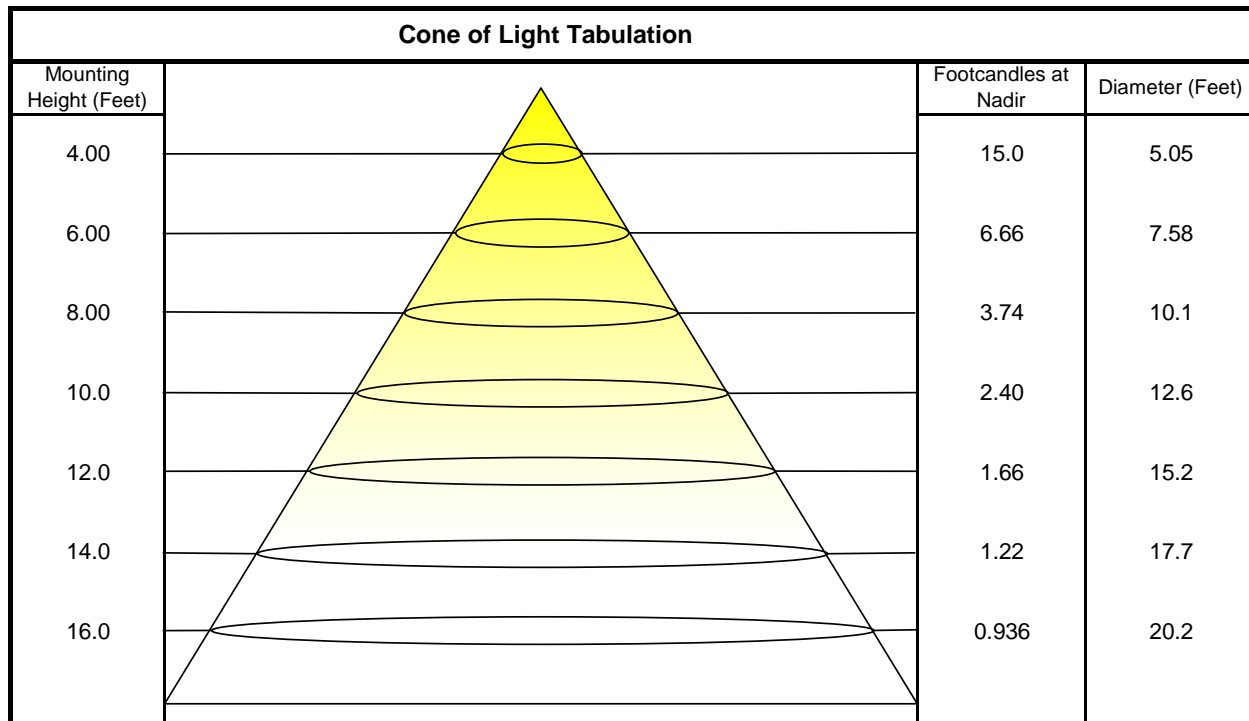
	0	45	90
0	977	977	977
45	1035	1035	1035
55	767	767	767
65	517	517	517
75	269	269	269
85	59	59	59



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	989	989	989	989	946	946	946	946	864	864	864	789	789	789	721	721	721	689
1	903	863	827	795	862	826	794	765	757	732	709	694	674	656	635	621	607	577
2	821	752	695	647	782	720	669	625	661	620	584	607	574	545	557	531	508	480
3	748	659	591	537	711	632	570	520	582	531	489	535	493	459	491	458	429	403
4	684	583	509	453	650	560	493	440	516	460	416	475	429	391	437	399	368	344
5	628	520	444	389	597	500	430	378	461	403	358	426	377	338	393	352	319	297
6	579	467	391	338	551	449	380	329	416	357	312	385	335	296	356	313	280	259
7	536	422	348	297	510	407	338	290	377	318	276	350	299	262	324	281	248	229
8	498	384	312	263	474	370	304	257	345	287	245	320	270	233	297	254	222	204
9	464	351	282	236	443	339	275	230	316	260	220	295	245	210	274	231	200	183
10	434	323	257	212	415	313	250	208	292	237	199	273	224	190	254	212	181	165

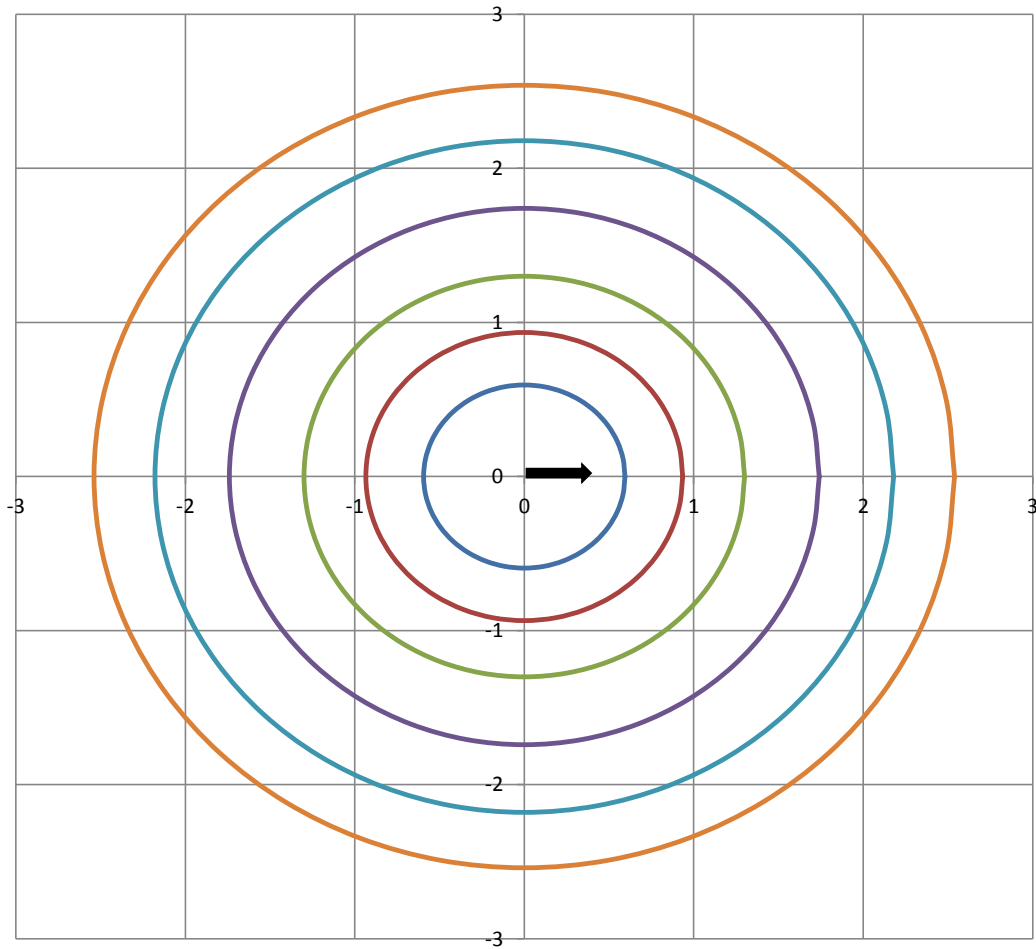
Beam and Field Information	
CIE Type:	Semi-Direct
Center Beam Intensity:	239.6 Candela
Central Cone Intensity:	239 Candela
Beam Flux:	511.1 Lumens
Beam Angle (0-180):	113.7 Degrees
Beam Angle (90-270):	113.7 Degrees
Field Angle (0-180):	160.5 Degrees
Field Angle (90-270):	160.5 Degrees





ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

