



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

Nicolas Carmichael
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Newburgh, NY 12550-9369
United States

Catalog Number

2609.03

Order Number

11281216

Test Number

1267656

Test Date

2016-07-21

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 attached to aluminum reflector with three (3) supports holding housing and frosted lens
Lamp: White LEDs
Mounting: Pendant
Ballast/Driver: Meanwell APV-35-12

Luminaire



Luminaire Characteristics

Luminous Diameter: 16.00 in.
Luminous Height: 4.50 in.

Summary of Results

Total Luminaire Output:	697.9 Lumens
Luminaire Efficacy:	26.8 lm/w
Maximum Candela:	240 Candela

Test Conditions

Test Temperature:	24.7 °C
Voltage:	120.1 VAC
Current:	0.4179 A
Power:	26.02 W
Power Factor:	0.519
Frequency:	60 Hz
Current THD:	159 %

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



Distribution - Goniophotometer

Distribution Test Conditions

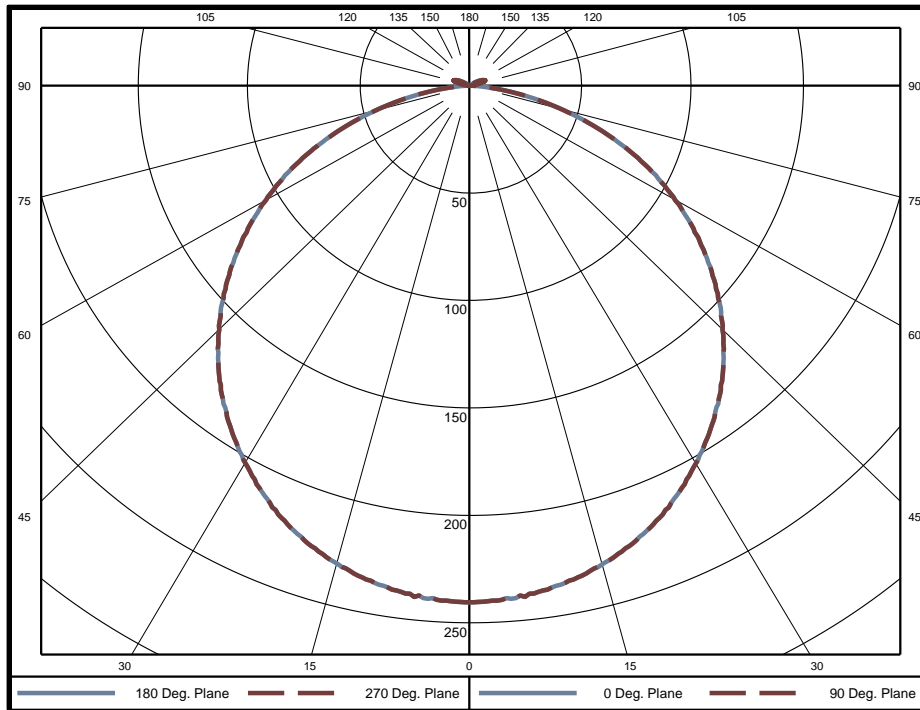
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.7 °C	120.1 VAC	0.4179 A	26.02 W	0.519	60 Hz	159 %

Summary of Results

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

Total Lumen Output: 697.9 Lumens
Luminaire Efficacy: 26.8 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	5.73	0.8%	60-65	47.11	6.8%	120-125	0.95	0.1%
5-10	16.96	2.4%	65-70	38.43	5.5%	125-130	0.11	0.0%
10-15	27.65	4.0%	70-75	28.31	4.1%	130-135	0	0.0%
15-20	37.41	5.4%	75-80	17.69	2.5%	135-140	0	0.0%
20-25	45.93	6.6%	80-85	7.97	1.1%	140-145	0	0.0%
25-30	52.78	7.6%	85-90	1.78	0.3%	145-150	0	0.0%
30-35	57.93	8.3%	90-95	0.39	0.1%	150-155	0	0.0%
35-40	61.23	8.8%	95-100	1.31	0.2%	155-160	0	0.0%
40-45	62.38	8.9%	100-105	2.65	0.4%	160-165	0	0.0%
45-50	61.50	8.8%	105-110	3.65	0.5%	165-170	0	0.0%
50-55	58.62	8.4%	110-115	3.31	0.5%	170-175	0	0.0%
55-60	53.84	7.7%	115-120	2.31	0.3%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	306	43.8%
0-60	542	77.7%
0-90	683	97.9%
90-180	15	2.1%



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	240.3	240.3	240.3	240.3	240.3	240.3	240.3	240.3	240.3	240.3	240.3	240.3	240.3	240.3	240.3	240.3
5	239.2	239.2	239.2	239.2	239.2	239.2	239.2	239.2	239.2	239.2	239.2	239.2	239.2	239.2	239.2	239.2
10	235.7	235.7	235.7	235.7	235.7	235.7	235.7	235.7	235.7	235.7	235.7	235.7	235.7	235.7	235.7	235.7
15	230.4	230.4	230.4	230.4	230.4	230.4	230.4	230.4	230.4	230.4	230.4	230.4	230.4	230.4	230.4	230.4
20	223.2	223.2	223.2	223.2	223.2	223.2	223.2	223.2	223.2	223.2	223.2	223.2	223.2	223.2	223.2	223.2
25	214.0	214.0	214.0	214.0	214.0	214.0	214.0	214.0	214.0	214.0	214.0	214.0	214.0	214.0	214.0	214.0
30	202.9	202.9	202.9	202.9	202.9	202.9	202.9	202.9	202.9	202.9	202.9	202.9	202.9	202.9	202.9	202.9
35	190.5	190.5	190.5	190.5	190.5	190.5	190.5	190.5	190.5	190.5	190.5	190.5	190.5	190.5	190.5	190.5
40	176.5	176.5	176.5	176.5	176.5	176.5	176.5	176.5	176.5	176.5	176.5	176.5	176.5	176.5	176.5	176.5
45	160.4	160.4	160.4	160.4	160.4	160.4	160.4	160.4	160.4	160.4	160.4	160.4	160.4	160.4	160.4	160.4
50	144.0	144.0	144.0	144.0	144.0	144.0	144.0	144.0	144.0	144.0	144.0	144.0	144.0	144.0	144.0	144.0
55	125.9	125.9	125.9	125.9	125.9	125.9	125.9	125.9	125.9	125.9	125.9	125.9	125.9	125.9	125.9	125.9
60	106.4	106.4	106.4	106.4	106.4	106.4	106.4	106.4	106.4	106.4	106.4	106.4	106.4	106.4	106.4	106.4
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	65.1	65.1	65.1	65.1	65.1	65.1	65.1	65.1	65.1	65.1	65.1	65.1	65.1	65.1	65.1	65.1
75	43.3	43.3	43.3	43.3	43.3	43.3	43.3	43.3	43.3	43.3	43.3	43.3	43.3	43.3	43.3	43.3
80	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4
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	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
95	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
100	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
105	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
110	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4
115	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
120	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
125	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
130	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
135	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
140	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
145	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
150	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
155	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
160	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
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)

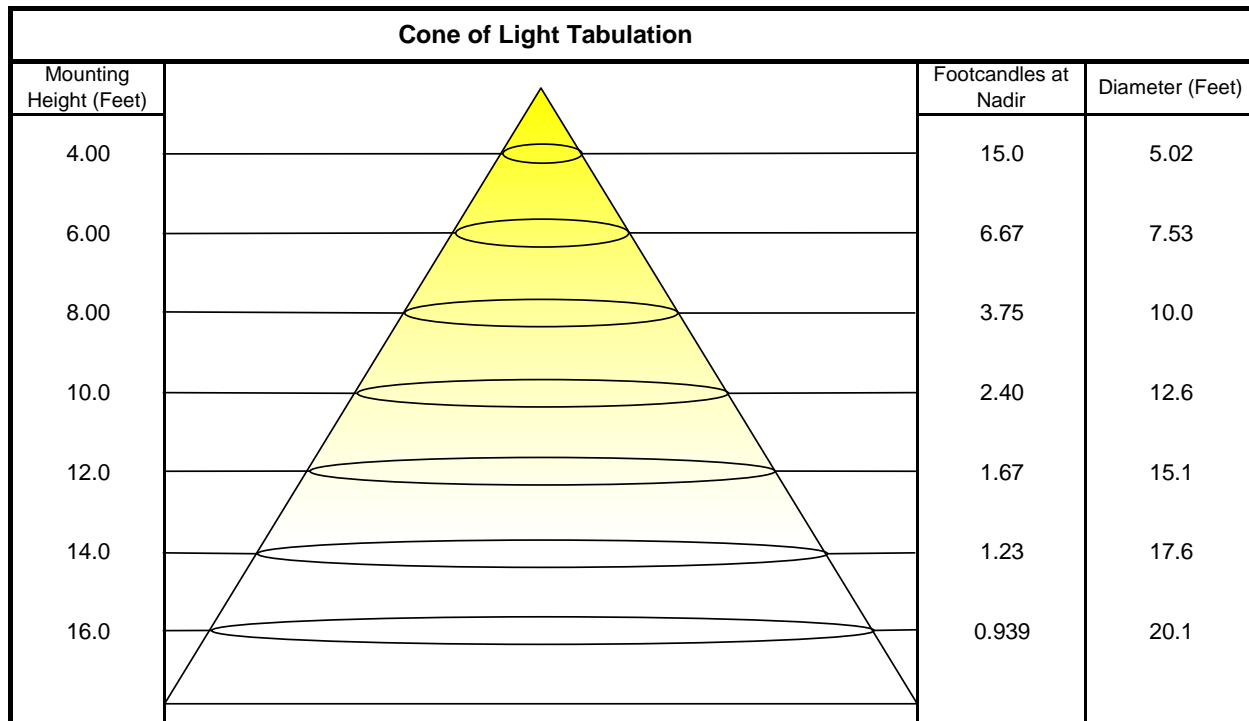
	0	45	90
0	1852	1852	1852
45	2044	2044	2044
55	1489	1489	1489
65	990	990	990
75	496	496	496
85	87	87	87



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	827	827	827	827	806	806	806	806	767	767	767	732	732	732	699	699	699	683
1	757	724	694	668	736	707	680	655	674	652	632	644	627	610	617	603	590	574
2	688	631	583	543	668	616	573	536	589	553	521	564	534	507	541	516	494	478
3	627	553	496	451	608	541	488	446	518	473	436	497	459	427	477	445	418	402
4	573	490	428	382	556	479	422	378	460	410	371	442	399	365	425	388	358	342
5	527	437	374	328	511	428	369	325	412	360	320	396	351	316	382	343	311	296
6	486	393	331	286	472	386	327	284	372	319	280	358	312	277	346	305	273	258
7	451	356	295	252	438	350	292	251	338	286	248	326	280	245	316	274	242	228
8	419	325	265	224	407	319	263	223	309	258	221	299	253	219	290	248	217	203
9	392	298	240	202	381	293	238	201	284	234	199	275	230	197	267	226	195	182
10	367	275	219	183	357	270	218	182	263	214	180	255	210	179	248	207	177	165

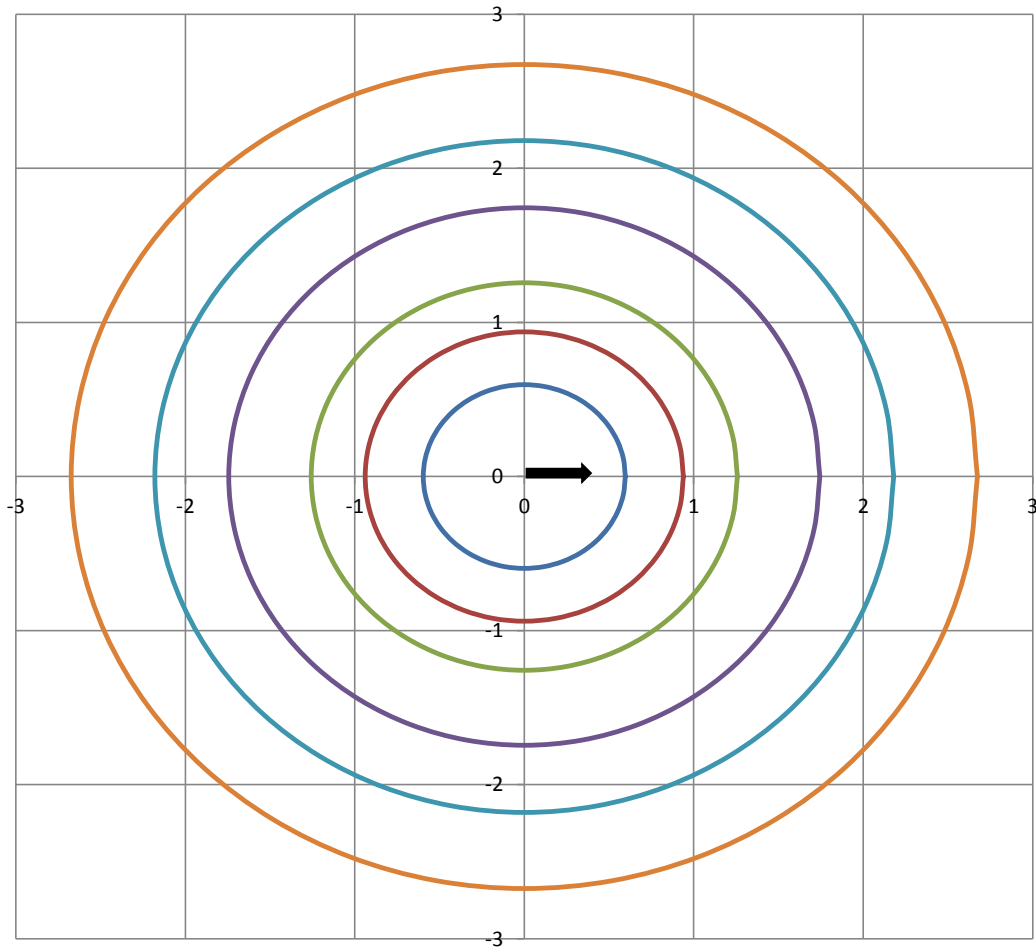
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	240.3 Candela
Central Cone Intensity:	240 Candela
Beam Flux:	505.4 Lumens
Beam Angle (0-180):	113.1 Degrees
Beam Angle (90-270):	113.1 Degrees
Field Angle (0-180):	159.6 Degrees
Field Angle (90-270):	159.6 Degrees





ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

