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Indoor Distribution Test Report

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

Prepared For
Sonneman
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106 Pierces Rd
Newburgh, NY 12550-9369

Catalog Number
2740
Order Number
11175190
Test Number
1216530

Test Date

2016-03-03

Prepared By

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Approved By

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Luminaire Description: Formed white enamel steel housing, frosted plastic lens enclosure
Lamp: 96 white LEDs
Mounting: Pendant
Ballast/Driver: One ERP ESS030W-0700-42

Luminaire



Luminaire Characteristics

Luminous Diameter: 15.00 in.

Summary of Results

Total Luminaire Output:	4245 Lumens
Luminaire Efficacy:	141.7 lm/w
Maximum Candela:	1509 Candela

Electrical Data

Test Temperature:	25.6 °C
Voltage:	120.0 VAC
Current:	0.2520 A
Power:	29.96 W
Power Factor:	0.988
Frequency:	60 Hz
Current THD:	12.1 %

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
25.6 °C	120.0 VAC	0.2520 A	29.96 W	0.988	60 Hz	12.1 %

Summary of Results

Spacing Criteria

0-180: 1.25
90-270: 1.25

Total Lumen Output:

4245 Lumens

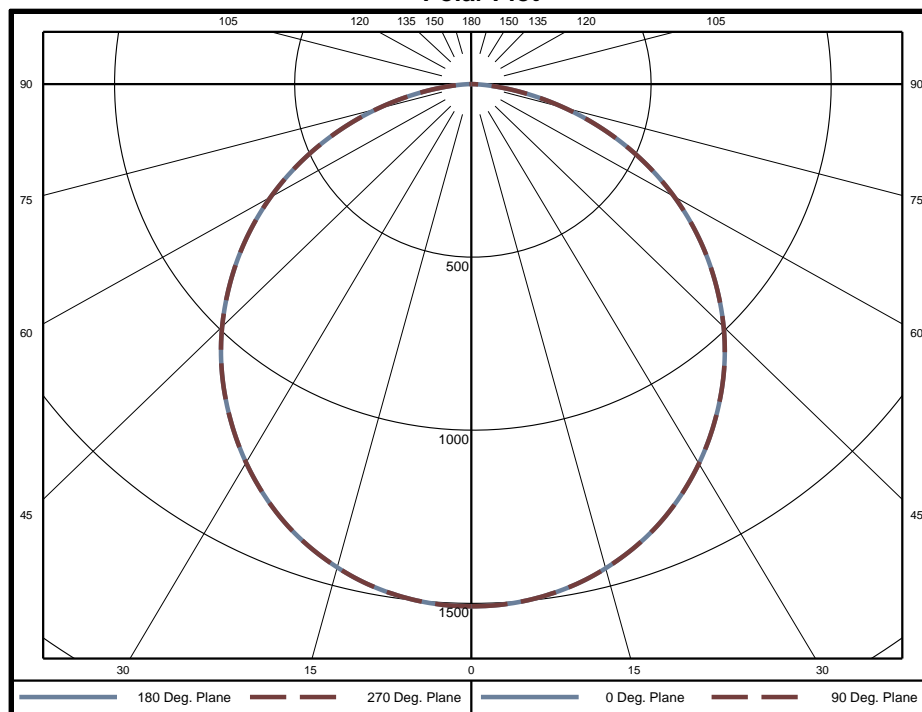
Luminaire Efficacy:

141.7 lm/w

Maximum Candela:

1509 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	36.0	0.8%	60-65	287.6	6.8%	120-125	0	0.0%
5-10	106.8	2.5%	65-70	235.4	5.5%	125-130	0	0.0%
10-15	173.8	4.1%	70-75	176.0	4.1%	130-135	0	0.0%
15-20	234.7	5.5%	75-80	113.0	2.7%	135-140	0	0.0%
20-25	287.5	6.8%	80-85	54.2	1.3%	140-145	0	0.0%
25-30	329.9	7.8%	85-90	12.3	0.3%	145-150	0	0.0%
30-35	360.9	8.5%	90-95	0	0.0%	150-155	0	0.0%
35-40	379.9	8.9%	95-100	0	0.0%	155-160	0	0.0%
40-45	386.6	9.1%	100-105	0	0.0%	160-165	0	0.0%
45-50	379.8	8.9%	105-110	0	0.0%	165-170	0	0.0%
50-55	360.8	8.5%	110-115	0	0.0%	170-175	0	0.0%
55-60	329.9	7.8%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	1910	45.0%
0-60	3367	79.3%
0-90	4245	100.0%
90-180	0	0.0%



Candela Tabulation
Horizontal Angle (Degrees)

Vertical Angle (Degrees)	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	1509	1509	1509	1509	1509	1509	1509	1509	1509	1509	1509	1509	1509	1509	1509	1509
5	1502	1502	1502	1502	1502	1502	1502	1502	1502	1502	1502	1502	1502	1502	1502	1502
10	1482	1482	1482	1482	1482	1482	1482	1482	1482	1482	1482	1482	1482	1482	1482	1482
15	1448	1448	1448	1448	1448	1448	1448	1448	1448	1448	1448	1448	1448	1448	1448	1448
20	1401	1401	1401	1401	1401	1401	1401	1401	1401	1401	1401	1401	1401	1401	1401	1401
25	1340	1340	1340	1340	1340	1340	1340	1340	1340	1340	1340	1340	1340	1340	1340	1340
30	1267	1267	1267	1267	1267	1267	1267	1267	1267	1267	1267	1267	1267	1267	1267	1267
35	1184	1184	1184	1184	1184	1184	1184	1184	1184	1184	1184	1184	1184	1184	1184	1184
40	1094	1094	1094	1094	1094	1094	1094	1094	1094	1094	1094	1094	1094	1094	1094	1094
45	994	994	994	994	994	994	994	994	994	994	994	994	994	994	994	994
50	886	886	886	886	886	886	886	886	886	886	886	886	886	886	886	886
55	773	773	773	773	773	773	773	773	773	773	773	773	773	773	773	773
60	654	654	654	654	654	654	654	654	654	654	654	654	654	654	654	654
65	529	529	529	529	529	529	529	529	529	529	529	529	529	529	529	529
70	401	401	401	401	401	401	401	401	401	401	401	401	401	401	401	401
75	273	273	273	273	273	273	273	273	273	273	273	273	273	273	273	273
80	152	152	152	152	152	152	152	152	152	152	152	152	152	152	152	152
85	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53
90	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
105	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130	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
140	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
150	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
160	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
170	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
180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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

Vertical Angle (Degrees)	Horizontal Angle (Degrees)		
	0	45	90
0	13230	13230	13230
45	12330	12330	12330
55	11820	11820	11820
65	10980	10980	10980
75	9257	9257	9257
85	5349	5349	5349



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	5054	5054	5054	5054	4936	4936	4936	4936	4717	4717	4717	4516	4516	4516	4332	4332	4332	4245
1	4621	4419	4239	4076	4505	4323	4159	4010	4142	4007	3883	3976	3866	3764	3824	3735	3652	3563
2	4201	3851	3562	3319	4089	3771	3505	3279	3620	3396	3202	3481	3293	3129	3352	3197	3059	2967
3	3828	3380	3033	2757	3723	3313	2991	2732	3186	2910	2683	3069	2834	2636	2960	2761	2591	2497
4	3504	2993	2620	2334	3406	2937	2588	2318	2830	2526	2285	2731	2467	2254	2638	2411	2223	2131
5	3221	2674	2291	2008	3132	2626	2266	1997	2535	2218	1975	2451	2172	1953	2373	2128	1932	1841
6	2974	2406	2026	1752	2892	2366	2006	1744	2289	1968	1728	2217	1931	1713	2150	1896	1697	1609
7	2757	2181	1808	1547	2683	2147	1792	1541	2081	1762	1529	2019	1732	1518	1962	1703	1506	1422
8	2566	1990	1628	1379	2499	1960	1615	1375	1904	1590	1366	1851	1566	1357	1801	1542	1349	1267
9	2397	1826	1477	1240	2337	1801	1466	1237	1752	1445	1230	1706	1425	1224	1663	1406	1217	1139
10	2248	1685	1348	1124	2193	1663	1340	1122	1621	1322	1116	1580	1305	1111	1543	1289	1106	1031

Cone of Light Tabulation

Mounting Height	Footcandles at Nadir	Diameter (Feet)
4.00	94.3	4.99
6.00	41.9	7.49
8.00	23.6	9.99
10.0	15.1	12.5
12.0	10.5	15.0
14.0	7.70	17.5
16.0	5.89	20.0

Cone of Light Plot

