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Indoor Distribution Test Report

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

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

Catalog Number
1730
Order Number
11175190
Test Number
1216538

Test Date

2016-03-07

Prepared By

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Approved By

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The results contained in this report pertain only to the tested sample.
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Luminaire Description: Formed white enamel aluminum housing, frosted plastic lens enclosure
Lamp: 84 white LEDs
Mounting: Pendant
Ballast/Driver: One ERP ESS030W-0700-42

Luminaire



Luminaire Characteristics

Luminous Length: 14.25 in.
Luminous Width: 17.50 in.

Summary of Results

Total Luminaire Output:	1916 Lumens
Luminaire Efficacy:	62.1 lm/w
Maximum Candela:	678 Candela

Electrical Data

Test Temperature:	25.6 °C
Voltage:	119.9 VAC
Current:	0.2590 A
Power:	30.86 W
Power Factor:	0.989
Frequency:	60 Hz
Current THD:	11.4 %

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	119.9 VAC	0.2590 A	30.86 W	0.989	60 Hz	11.4 %

Summary of Results

Spacing Criteria

0-180: 1.27
90-270: 1.24

Total Lumen Output:

1916 Lumens

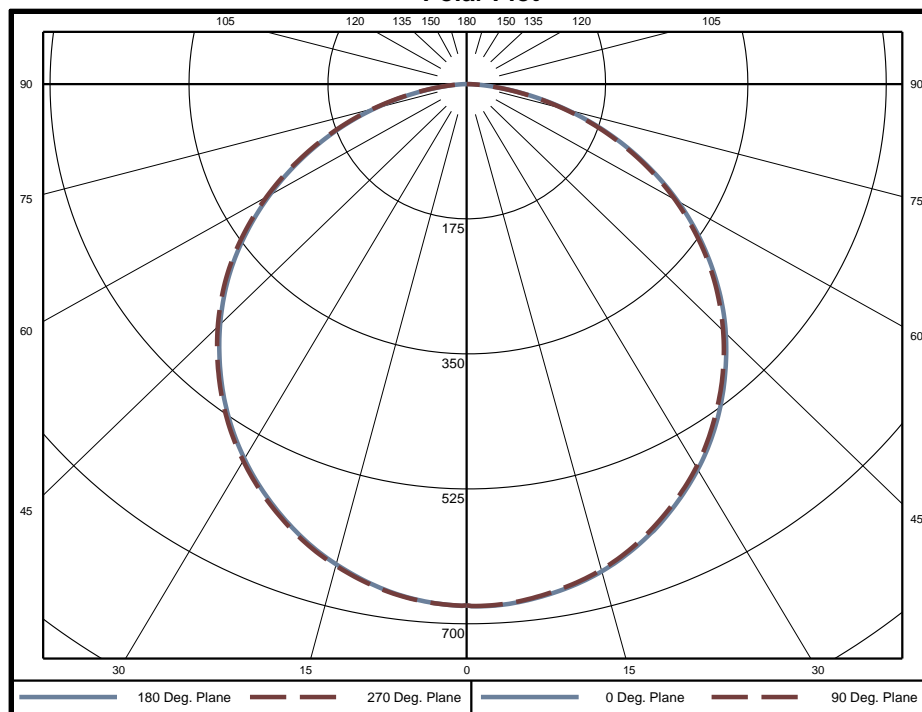
Luminaire Efficacy:

62.1 lm/w

Maximum Candela:

678 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	16.1	0.8%	60-65	130.2	6.8%	120-125	0	0.0%
5-10	47.8	2.5%	65-70	106.8	5.6%	125-130	0	0.0%
10-15	77.8	4.1%	70-75	80.1	4.2%	130-135	0	0.0%
15-20	105.1	5.5%	75-80	51.6	2.7%	135-140	0	0.0%
20-25	128.6	6.7%	80-85	25.1	1.3%	140-145	0	0.0%
25-30	147.9	7.7%	85-90	6.1	0.3%	145-150	0	0.0%
30-35	162.2	8.5%	90-95	0	0.0%	150-155	0	0.0%
35-40	171.0	8.9%	95-100	0	0.0%	155-160	0	0.0%
40-45	174.2	9.1%	100-105	0	0.0%	160-165	0	0.0%
45-50	171.9	9.0%	105-110	0	0.0%	165-170	0	0.0%
50-55	163.6	8.5%	110-115	0	0.0%	170-175	0	0.0%
55-60	149.5	7.8%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	857	44.7%
0-60	1516	79.1%
0-90	1916	100.0%
90-180	0	0.0%



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	676.1	676.1	676.1	676.1	676.1	676.1	676.1	676.1	676.1	676.1	676.1	676.1	676.1	676.1	676.1	676.1
5	675.6	675.0	673.6	673.2	674.7	674.3	673.5	673.0	672.3	671.7	670.5	670.6	672.8	672.8	672.5	672.7
10	667.4	666.6	665.2	664.5	665.7	664.9	664.0	663.2	661.1	660.6	659.6	659.8	662.3	662.4	662.6	663.0
15	653.9	653.1	651.7	650.9	651.8	650.8	649.4	648.4	643.9	643.2	642.3	643.1	645.7	646.2	646.5	647.0
20	633.7	632.6	630.9	630.0	630.9	629.6	628.0	626.6	621.4	620.9	620.4	621.4	623.9	624.6	625.1	626.3
25	607.7	606.7	604.8	603.8	604.2	603.1	601.3	599.5	593.8	593.2	592.6	593.7	596.7	597.8	598.6	599.4
30	577.1	576.1	574.3	573.1	573.6	572.2	570.0	568.3	562.2	561.6	561.1	562.5	565.4	567.0	567.5	569.1
35	541.4	540.0	538.1	537.1	536.8	535.5	533.2	531.6	526.1	525.3	525.2	526.7	529.6	531.4	532.3	533.7
40	500.9	499.8	498.0	497.0	496.7	495.2	492.9	491.1	485.4	484.3	484.4	486.3	489.2	490.9	491.4	493.3
45	457.4	456.1	454.6	453.9	453.0	450.9	449.1	447.2	441.8	440.8	441.3	443.2	446.1	447.5	448.5	450.5
50	409.7	408.3	407.3	406.3	405.6	403.8	401.4	399.6	394.8	393.6	394.1	396.3	399.6	400.3	401.6	403.6
55	358.5	357.4	356.6	356.3	354.6	352.6	350.5	348.8	343.1	341.9	343.1	345.4	348.0	348.7	350.5	352.5
60	304.6	303.2	303.0	302.0	301.0	298.7	296.6	294.7	288.4	287.7	288.0	290.5	293.0	293.8	295.8	297.7
65	247.6	247.0	246.0	245.9	244.3	242.2	239.8	238.5	231.8	231.1	232.4	234.6	235.8	237.6	239.2	241.1
70	189.6	188.7	188.7	187.2	186.4	184.2	182.8	180.4	175.2	174.4	175.3	177.2	178.7	180.0	182.2	184.0
75	130.7	130.7	129.9	128.9	127.9	125.9	124.3	123.2	118.5	118.3	118.7	119.9	121.7	123.6	125.0	126.2
80	74.5	74.1	74.2	73.1	71.9	70.2	69.7	67.8	65.0	64.7	65.0	66.4	67.3	68.6	70.4	71.3
85	28.0	28.4	28.0	27.3	26.7	25.6	24.8	24.1	22.6	22.3	22.1	22.8	24.3	25.2	25.8	26.5
90	1.4	1.4	1.7	1.3	0.9	0.6	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.6	0.8	0.9
95	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
100	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
105	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
110	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
115	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
120	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
125	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
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	4202	4202	4202
45	4021	3996	3982
55	3885	3864	3843
65	3642	3618	3593
75	3138	3120	3072
85	1995	1994	1905



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	2281	2281	2281	2281	2227	2227	2227	2227	2128	2128	2128	2038	2038	2038	1955	1955	1955	1916
1	2084	1993	1911	1837	2032	1949	1875	1807	1868	1807	1750	1793	1743	1697	1724	1684	1646	1606
2	1894	1736	1605	1495	1844	1700	1579	1477	1632	1530	1442	1569	1484	1409	1511	1440	1378	1336
3	1726	1523	1366	1241	1678	1493	1347	1230	1435	1311	1208	1382	1276	1187	1333	1243	1166	1124
4	1579	1348	1179	1050	1535	1323	1165	1043	1274	1137	1028	1230	1110	1014	1188	1085	1000	958
5	1452	1204	1031	903	1411	1182	1020	898	1142	998	888	1103	977	878	1068	957	869	828
6	1340	1083	911	788	1303	1065	902	784	1030	885	777	998	869	770	968	853	763	723
7	1242	982	813	695	1209	966	806	692	936	792	687	909	779	682	883	766	677	638
8	1156	896	732	619	1126	882	726	617	857	715	613	833	704	610	810	693	606	569
9	1080	822	664	557	1053	810	659	555	788	650	552	767	640	549	748	632	546	511
10	1012	758	606	505	988	748	602	504	729	594	501	711	587	499	694	579	496	463

Cone of Light Tabulation

Mounting Height	Footcandles at Nadir	Diameter (Feet)
4.00	42.3	5.00
6.00	18.8	7.51
8.00	10.6	10.0
10.0	6.76	12.5
12.0	4.70	15.0
14.0	3.45	17.5
16.0	2.64	20.0

Cone of Light Plot

