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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
2763
Order Number
11175190
Test Number
1216535

Test Date

2016-03-08

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 black aluminum housing, frosted plastic lens enclosure
Lamp: 180 white LEDs, three bars with 60 LEDs each
Mounting: Pendant
Ballast/Driver: One ERP ESP050W-1200-42

Luminaire



Luminaire Characteristics

Luminous Length: 39.25 in.
Luminous Width: 10.25 in.
Luminous Height: 0.25 in.

Summary of Results

Total Luminaire Output: 3989 Lumens
Luminaire Efficacy: 81.4 lm/w
Maximum Candela: 1004 Candela

Electrical Data

Test Temperature: 24.5 °C
Voltage: 120.0 VAC
Current: 0.4130 A
Power: 49.01 W
Power Factor: 0.986
Frequency: 60 Hz
Current THD: 11.1 %

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
24.5 °C	120.0 VAC	0.4130 A	49.01 W	0.986	60 Hz	11.1 %

Summary of Results

Spacing Criteria

0-180: 1.25
90-270: 1.25

Total Lumen Output:

3989 Lumens

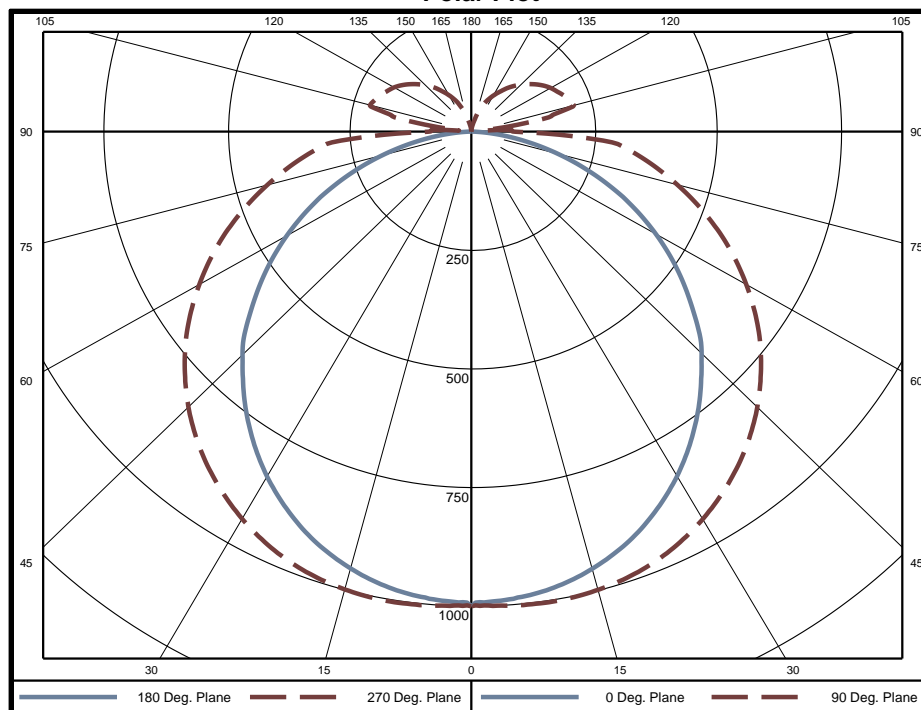
Luminaire Efficacy:

81.4 lm/w

Maximum Candela:

1004 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	23.9	0.6%	60-65	253.4	6.4%	120-125	45.0	1.1%
5-10	71.4	1.8%	65-70	226.0	5.7%	125-130	39.0	1.0%
10-15	117.3	2.9%	70-75	193.3	4.8%	130-135	32.8	0.8%
15-20	160.4	4.0%	75-80	157.8	4.0%	135-140	26.6	0.7%
20-25	199.2	5.0%	80-85	122.3	3.1%	140-145	20.7	0.5%
25-30	232.3	5.8%	85-90	73.3	1.8%	145-150	15.3	0.4%
30-35	258.8	6.5%	90-95	25.2	0.6%	150-155	10.6	0.3%
35-40	278.1	7.0%	95-100	29.7	0.7%	155-160	6.4	0.2%
40-45	289.6	7.3%	100-105	56.1	1.4%	160-165	3.2	0.1%
45-50	293.2	7.4%	105-110	59.3	1.5%	165-170	1.3	0.0%
50-55	287.7	7.2%	110-115	55.4	1.4%	170-175	0.4	0.0%
55-60	274.2	6.9%	115-120	50.5	1.3%	175-180	0.0	0.0%

Zone	Lumens	% of Luminaire
0-40	1341	33.6%
0-60	2486	62.3%
0-90	3512	88.0%
90-180	478	12.0%



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	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
5	988	1000	1001	1003	1002	1003	1001	1000	988	1000	1001	1003	1002	1003	1001	1000
10	975	990	997	1003	1004	1003	997	990	975	990	997	1003	1004	1003	997	990
15	953	973	986	996	999	996	986	973	953	973	986	996	999	996	986	973
20	924	948	966	983	987	983	966	948	924	948	966	983	987	983	966	948
25	885	914	940	961	967	961	940	914	885	914	940	961	967	961	940	914
30	839	873	906	932	940	932	906	873	839	873	906	932	940	932	906	873
35	785	825	865	896	906	896	865	825	785	825	865	896	906	896	865	825
40	726	770	818	853	865	853	818	770	726	770	818	853	865	853	818	770
45	664	711	764	804	818	804	764	711	664	711	764	804	818	804	764	711
50	592	649	705	749	764	749	705	649	592	649	705	749	764	749	705	649
55	516	575	640	688	706	688	640	575	516	575	640	688	706	688	640	575
60	436	500	571	622	641	622	571	500	436	500	571	622	641	622	571	500
65	354	422	499	553	573	553	499	422	354	422	499	553	573	553	499	422
70	269	342	424	482	502	482	424	342	269	342	424	482	502	482	424	342
75	185	262	348	409	431	409	348	262	185	262	348	409	431	409	348	262
80	106	186	276	340	362	340	276	186	106	186	276	340	362	340	276	186
85	39	119	211	275	297	275	211	119	39	119	211	275	297	275	211	119
90	0	45	72	86	89	86	72	45	0	45	72	86	89	86	72	45
95	0	46	34	28	29	28	34	46	0	46	34	28	29	28	34	46
100	0	52	113	124	129	124	113	52	0	52	113	124	129	124	113	52
105	0	50	120	183	215	183	120	50	0	50	120	183	215	183	120	50
110	0	50	117	177	206	177	117	50	0	50	117	177	206	177	117	50
115	0	48	113	169	195	169	113	48	0	48	113	169	195	169	113	48
120	0	44	106	160	185	160	106	44	0	44	106	160	185	160	106	44
125	0	41	99	148	172	148	99	41	0	41	99	148	172	148	99	41
130	0	38	91	135	156	135	91	38	0	38	91	135	156	135	91	38
135	0	33	81	121	140	121	81	33	0	33	81	121	140	121	81	33
140	0	29	71	107	123	107	71	29	0	29	71	107	123	107	71	29
145	0	22	62	91	104	91	62	22	0	22	62	91	104	91	62	22
150	0	18	50	76	87	76	50	18	0	18	50	76	87	76	50	18
155	0	13	37	59	70	59	37	13	0	13	37	59	70	59	37	13
160	0	10	22	42	49	42	22	10	0	10	22	42	49	42	22	10
165	0	6	14	22	26	22	14	6	0	6	14	22	26	22	14	6
170	0	3	8	13	14	13	8	3	0	3	8	13	14	13	8	3
175	0	0	2	4	4	4	2	0	0	0	2	4	4	4	2	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)

	0	45	90
0	3853	3853	3853
45	3595	4074	4350
55	3432	4168	4581
65	3187	4343	4967
75	2685	4794	5877
85	1588	7455	10280



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	4636	4636	4636	4636	4472	4472	4472	4472	4167	4167	4167	3888	3888	3888	3632	3632	3632	3512
1	4155	3936	3738	3561	3994	3797	3619	3457	3537	3393	3260	3299	3183	3075	3079	2987	2902	2782
2	3746	3384	3085	2834	3592	3266	2994	2763	3045	2820	2625	2841	2656	2494	2652	2502	2369	2253
3	3395	2944	2595	2317	3251	2843	2523	2265	2654	2385	2164	2479	2254	2066	2316	2130	1971	1860
4	3094	2590	2220	1938	2962	2504	2162	1898	2341	2050	1820	2190	1944	1744	2050	1842	1670	1564
5	2836	2301	1927	1650	2715	2227	1879	1619	2087	1787	1557	1956	1699	1497	1835	1614	1437	1337
6	2611	2061	1692	1427	2502	1997	1652	1402	1876	1575	1351	1763	1501	1302	1657	1430	1253	1159
7	2416	1861	1502	1250	2316	1806	1468	1229	1700	1403	1187	1601	1340	1146	1508	1279	1105	1016
8	2244	1692	1345	1106	2154	1643	1316	1088	1551	1260	1053	1464	1206	1019	1382	1154	984	900
9	2093	1548	1214	988	2011	1505	1189	973	1423	1141	943	1346	1094	914	1274	1049	884	805
10	1959	1424	1103	890	1884	1386	1082	877	1313	1040	851	1245	999	826	1180	960	800	726

Cone of Light Tabulation

Mounting Height	Footcandles at Nadir	Diameter (Feet)
4.00	62.5	5.34
6.00	27.8	8.01
8.00	15.6	10.7
10.0	10.0	13.3
12.0	6.95	16.0
14.0	5.10	18.7
16.0	3.91	21.4

Cone of Light Plot

