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Indoor Distribution Test Report

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

Prepared For
RLE Industries

Terry Williams
35 Kulik Rd
Fairfield, NJ 07004

Catalog Number

RG-3

Order Number

10959934

Test Number

1158719

Test Date

2015-09-15

Prepared By

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Approved By

Jeffrey Lockner, Project Engineer

The results contained in this report pertain only to the tested sample.
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Luminaire Description: White aluminum housing / aluminum reflector, frosted plastic lens enclosure
Lamp: 18 white LEDs with clear plastic optics
Mounting: Pendant
Ballast/Driver: One Hatch Transformer LV60-24N-UNV-I

Luminaire



Luminaire Characteristics

Luminous Length: 36.00 in.
Luminous Width: 2.250 in.

Summary of Results

Total Luminaire Output: 2011 Lumens
Luminaire Efficacy: 40.4 lm/w
Maximum Candela: 5686 Candela

Electrical Data

Test Temperature: 25.5 °C
Voltage: 120.0 VAC
Current: 0.4161 A
Power: 49.75 W
Power Factor: 0.997
Frequency: 60 Hz
Current THD: 6.06 %

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



Distribution - Goniophotometer

Distribution Test Conditions

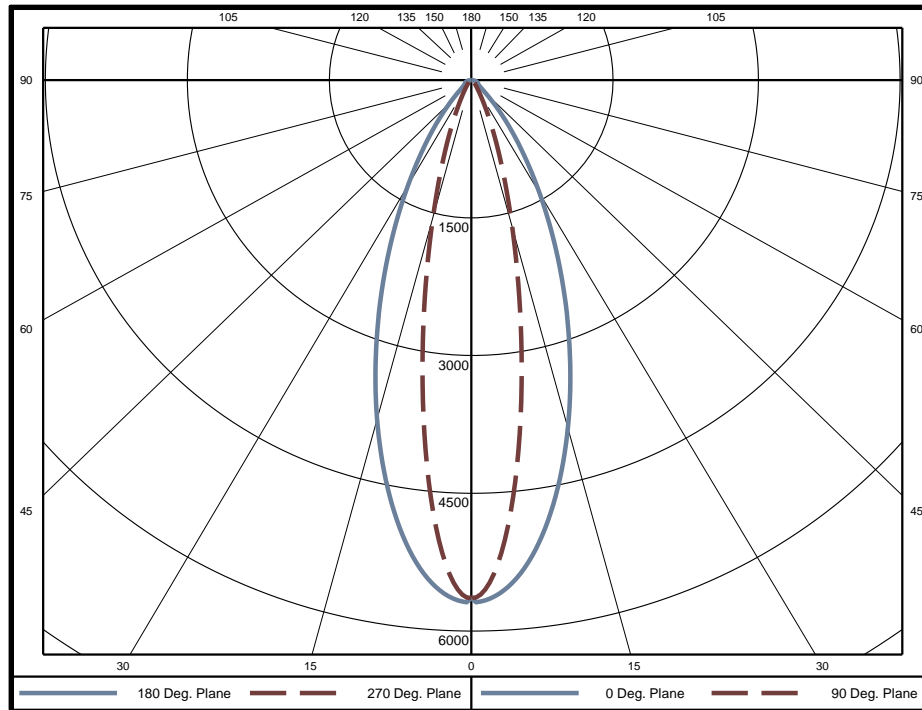
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.5 °C	120.0 VAC	0.4161 A	49.75 W	0.997	60 Hz	6.06 %

Summary of Results

Spacing Criteria
 0-180: 0.66
 90-270: 0.66

Total Lumen Output: 2011 Lumens
Luminaire Efficacy: 40.4 lm/w
Maximum Candela: 5686 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	127.5	6.3%	60-65	18.4	0.9%	120-125	0	0.0%
5-10	312.1	15.5%	65-70	14.7	0.7%	125-130	0	0.0%
10-15	368.0	18.3%	70-75	10.8	0.5%	130-135	0	0.0%
15-20	334.3	16.6%	75-80	7.4	0.4%	135-140	0	0.0%
20-25	264.3	13.1%	80-85	4.3	0.2%	140-145	0	0.0%
25-30	191.3	9.5%	85-90	1.2	0.1%	145-150	0	0.0%
30-35	130.7	6.5%	90-95	0	0.0%	150-155	0	0.0%
35-40	86.0	4.3%	95-100	0	0.0%	155-160	0	0.0%
40-45	55.2	2.7%	100-105	0	0.0%	160-165	0	0.0%
45-50	36.3	1.8%	105-110	0	0.0%	165-170	0	0.0%
50-55	26.8	1.3%	110-115	0	0.0%	170-175	0	0.0%
55-60	22.0	1.1%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	1814	90.2%
0-60	1955	97.2%
0-90	2011	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	5638	5638	5638	5638	5638	5638	5638	5638	5638	5638	5638	5638	5638	5638	5638	5638
5	5444	5287	5018	4772	4721	4772	5018	5287	5444	5287	5018	4772	4721	4772	5018	5287
10	4781	4369	3671	3168	3026	3168	3671	4369	4781	4369	3671	3168	3026	3168	3671	4369
15	3906	3250	2342	1808	1649	1808	2342	3250	3906	3250	2342	1808	1649	1808	2342	3250
20	2985	2222	1362	944	835	944	1362	2222	2985	2222	1362	944	835	944	1362	2222
25	2144	1413	754	473	399	473	754	1413	2144	1413	754	473	399	473	754	1413
30	1435	856	408	232	195	232	408	856	1435	856	408	232	195	232	408	856
35	891	500	220	126	109	126	220	500	891	500	220	126	109	126	220	500
40	507	286	125	78	69	78	125	286	507	286	125	78	69	78	125	286
45	256	165	80	55	51	55	80	165	256	165	80	55	51	55	80	165
50	138	104	55	42	40	42	55	104	138	104	55	42	40	42	55	104
55	97	77	40	32	31	32	40	77	97	77	40	32	31	32	40	77
60	83	62	30	25	24	25	30	62	83	62	30	25	24	25	30	62
65	76	47	22	19	18	19	22	47	76	47	22	19	18	19	22	47
70	66	29	15	14	14	14	15	29	66	29	15	14	14	14	15	29
75	53	14	11	11	11	11	11	14	53	14	11	11	11	11	11	14
80	35	8	7	7	7	7	7	8	35	8	7	7	7	7	7	8
85	14	4	4	4	4	4	4	4	14	4	4	4	4	4	4	4
90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	107900	107900	107900
45	6914	2152	1380
55	3250	1348	1039
65	3420	980	793
75	3944	798	781
85	3070	799	781



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	2395	2395	2395	2395	2339	2339	2339	2339	2235	2235	2235	2140	2140	2140	2052	2052	2052	2011
1	2287	2233	2185	2142	2238	2190	2147	2108	2109	2074	2043	2034	2007	1982	1966	1945	1925	1889
2	2184	2091	2014	1949	2140	2056	1986	1927	1992	1934	1885	1932	1886	1845	1877	1840	1807	1774
3	2086	1966	1872	1798	2047	1938	1853	1784	1886	1814	1755	1838	1778	1728	1794	1744	1702	1672
4	1996	1856	1754	1676	1961	1834	1739	1666	1791	1710	1646	1752	1683	1627	1715	1657	1609	1580
5	1912	1759	1652	1573	1880	1740	1641	1566	1705	1619	1552	1673	1598	1539	1643	1578	1526	1499
6	1833	1672	1563	1486	1805	1657	1555	1481	1628	1538	1471	1600	1521	1461	1575	1506	1452	1425
7	1761	1594	1486	1410	1736	1581	1479	1406	1556	1465	1399	1533	1452	1392	1512	1440	1385	1359
8	1693	1523	1416	1343	1670	1512	1411	1340	1491	1400	1334	1472	1389	1329	1453	1379	1324	1299
9	1630	1459	1354	1283	1610	1449	1349	1281	1432	1340	1277	1415	1332	1272	1399	1324	1268	1245
10	1572	1400	1297	1229	1553	1392	1294	1227	1377	1286	1224	1362	1279	1221	1348	1273	1218	1195

Cone of Light Tabulation

Mounting Height	Footcandles at Nadir	Diameter (Feet)
4.00	352	1.83
6.00	157	2.74
8.00	88.1	3.65
10.0	56.4	4.57
12.0	39.2	5.48
14.0	28.8	6.39
16.0	22.0	7.31

Cone of Light Plot

