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Photometric Test Report

Relevant Standards
IES LM-79-2008
ANSI C78.377-2011, ANSI C82.77-2002
CIE 13.3-1995, CIE 15-2004, IES TM-30-15

Prepared For
RLE Industries
35 Kulik Rd
Fairfield, NJ 07004-3307
United States

Catalog Number
SWW-3-48"
Order Number
11644098
Test Number
11644098.01

Test Date

2017-02-22 - 2017-02-23

Prepared By

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Approved By

Tiffany Hamm, Project Handler

The results contained in this report pertain only to the tested sample.
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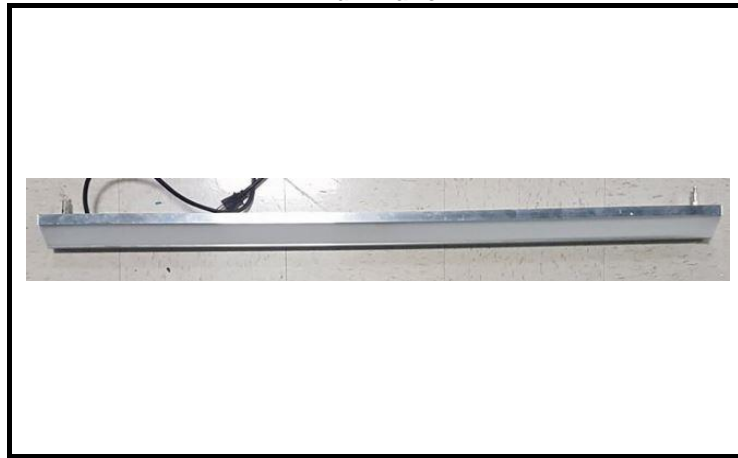
Laboratory results may not be representative of field performance
Ballast factors have not been applied

Testing was performed in a 2-meter integrating sphere using the 4π geometry method.
Absorption correction was employed for Sphere measurement



Luminaire Description: Formed aluminum housing, frosted plastic lens enclosure
Lamp: 96 white LEDs
Mounting: Pendant
Ballast/Driver: One Philips Advance Xitanium XI040C110V054BPT1 driver

Luminaire



Luminaire Characteristics

Luminous Length: 1.50 in.
Luminous Width: 48.00 in.
Luminous Height: 1.50 in.

Summary of Results

Integrating Sphere

Luminous Flux: 3388 Lumens
Efficacy: 107.3 lm/w
CCT: 4083 K
CRI (Ra): 83.3

Distribution

Total Luminaire Output: 3237 Lumens
Luminaire Efficacy: 102.1 lm/w
Maximum Candela: 1229 Candela

Electrical Data at 120 VAC

Test Temperature: 25.9 °C
Voltage: 120.0 VAC
Current: 0.2639 A
Power: 31.58 W
Power Factor: 0.997
Frequency: 60 Hz
Current THD: 6.16 %



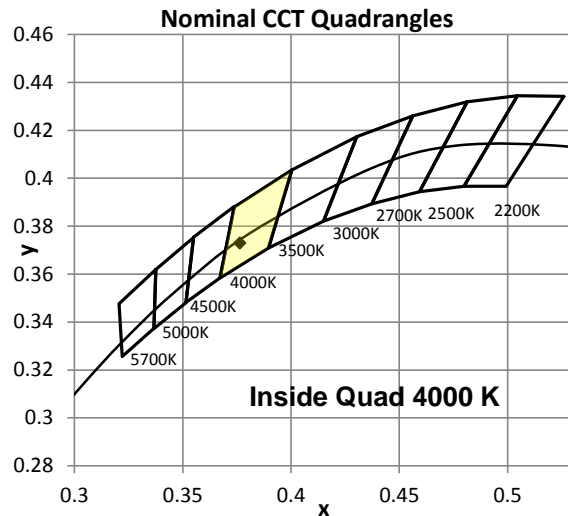
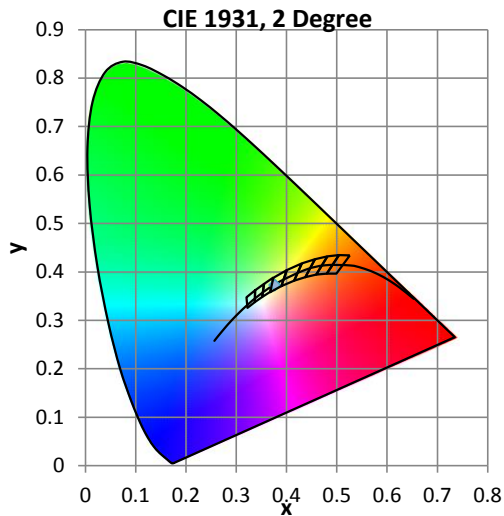
Color Quality - Integrating Sphere

Integrating Sphere Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.9 °C	120.0 VAC	0.2639 A	31.58 W	0.997	60 Hz	6.16 %

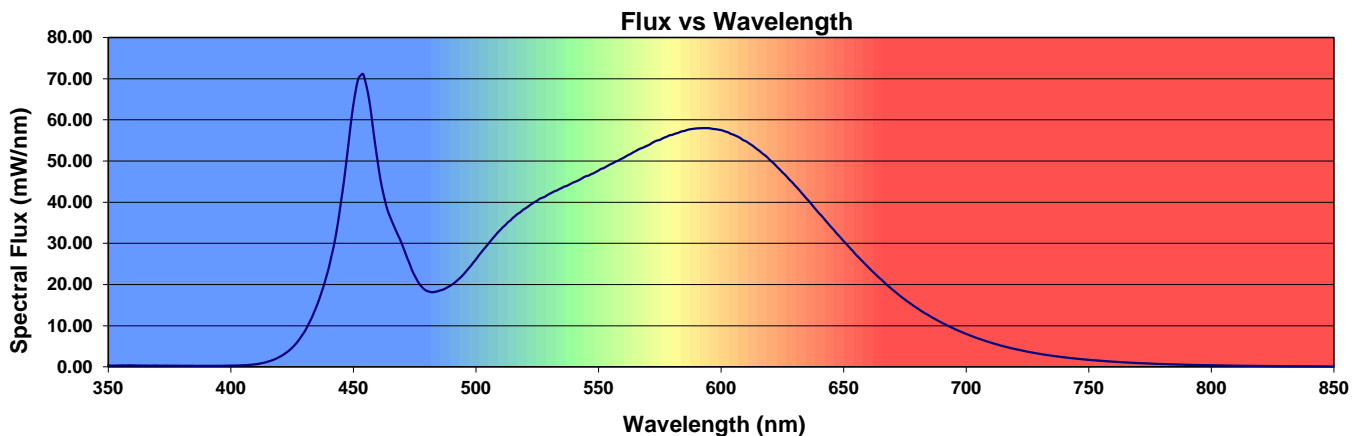
Summary of Results

Total Output:	3388 Lumens	Chromaticity (x):	0.3764
Efficacy:	107.3 lm/w	Chromaticity (y):	0.3729
CCT:	4083 K	Chromaticity (u'):	0.2240
CRI (Ra):	83.3	Chromaticity (v'):	0.4992
CRI (R9):	12.7	TM-30 R_f:	81.5
Peak Wavelength:	453.3 nm	TM-30 R_g:	94.9
Dominant Wavelength:	579.1 nm	Duv:	-0.0012
S/P Ratio:	1.719		



Color Rendering Index Detail

Ra (CRI)	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
83.3	81.9	90.0	94.6	81.1	81.4	85.0	86.3	65.9	12.7	75.1	79.3	59.8	84.1	97.2





Distribution - Goniophotometer

Distribution Test Conditions

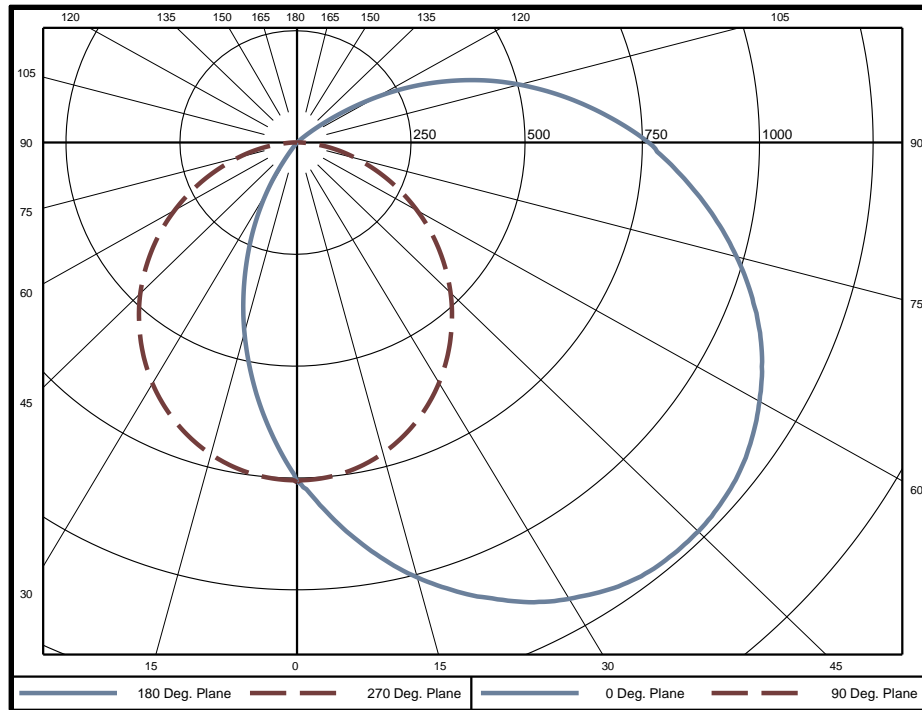
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.8 °C	120.0 VAC	0.2647 A	31.69 W	0.997	60 Hz	5.98 %

Summary of Results

Spacing Criteria
 0-180: 2.17
 90-270: 0.57

Total Lumen Output: 3237 Lumens
Luminaire Efficacy: 102.1 lm/w
Maximum Candela: 1229 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	18.1	0.6%	60-65	202.8	6.3%	120-125	10.4	0.3%
5-10	53.7	1.7%	65-70	193.5	6.0%	125-130	3.1	0.1%
10-15	87.4	2.7%	70-75	181.5	5.6%	130-135	0.3	0.0%
15-20	118.2	3.7%	75-80	167.0	5.2%	135-140	0	0.0%
20-25	145.1	4.5%	80-85	150.1	4.6%	140-145	0	0.0%
25-30	167.4	5.2%	85-90	131.6	4.1%	145-150	0	0.0%
30-35	184.3	5.7%	90-95	112.8	3.5%	150-155	0	0.0%
35-40	195.7	6.0%	95-100	93.5	2.9%	155-160	0	0.0%
40-45	203.6	6.3%	100-105	73.7	2.3%	160-165	0	0.0%
45-50	208.8	6.5%	105-110	54.4	1.7%	165-170	0	0.0%
50-55	211.0	6.5%	110-115	37.5	1.2%	170-175	0	0.0%
55-60	209.3	6.5%	115-120	22.4	0.7%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	970	30.0%
0-60	1803	55.7%
0-90	2829	87.4%
90-180	408	12.6%



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	760	760	760	760	760	760	760	760	760	760	760	760	760	760	760	760
5	839	845	820	788	752	721	692	675	652	675	692	721	752	788	820	845
10	928	922	875	811	740	673	616	582	550	582	616	673	740	811	875	922
15	1007	990	922	827	721	621	537	484	446	484	537	621	721	827	922	990
20	1075	1047	959	834	695	563	455	387	342	387	455	563	695	834	959	1047
25	1132	1094	984	831	662	502	372	291	242	291	372	502	662	831	984	1094
30	1178	1128	999	820	624	437	290	199	148	199	290	437	624	820	999	1128
35	1212	1149	1004	799	579	370	209	111	53	111	209	370	579	799	1004	1149
40	1227	1157	998	775	530	303	134	29	1	29	134	303	530	775	998	1157
45	1228	1153	982	743	479	237	59	0	0	0	59	237	479	743	982	1153
50	1217	1137	955	703	423	173	8	0	0	0	8	173	423	703	955	1137
55	1192	1108	918	656	366	113	0	0	0	0	0	113	366	656	918	1108
60	1155	1066	873	605	307	56	0	0	0	0	0	56	307	605	873	1066
65	1109	1016	819	549	247	11	0	0	0	0	0	11	247	549	819	1016
70	1050	954	762	487	188	0	0	0	0	0	0	0	188	487	762	954
75	983	889	700	423	133	0	0	0	0	0	0	0	133	423	700	889
80	910	821	635	361	84	0	0	0	0	0	0	0	84	361	635	821
85	833	750	565	296	38	0	0	0	0	0	0	0	38	296	565	750
90	760	674	492	232	8	0	0	0	0	0	0	0	8	232	492	674
95	675	591	415	168	0	0	0	0	0	0	0	0	0	168	415	591
100	588	505	335	106	0	0	0	0	0	0	0	0	0	106	335	505
105	500	416	255	41	0	0	0	0	0	0	0	0	0	41	255	416
110	409	326	174	4	0	0	0	0	0	0	0	0	0	4	174	326
115	312	232	89	0	0	0	0	0	0	0	0	0	0	0	89	232
120	212	135	23	0	0	0	0	0	0	0	0	0	0	0	23	135
125	110	50	0	0	0	0	0	0	0	0	0	0	0	0	0	50
130	30	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5
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)

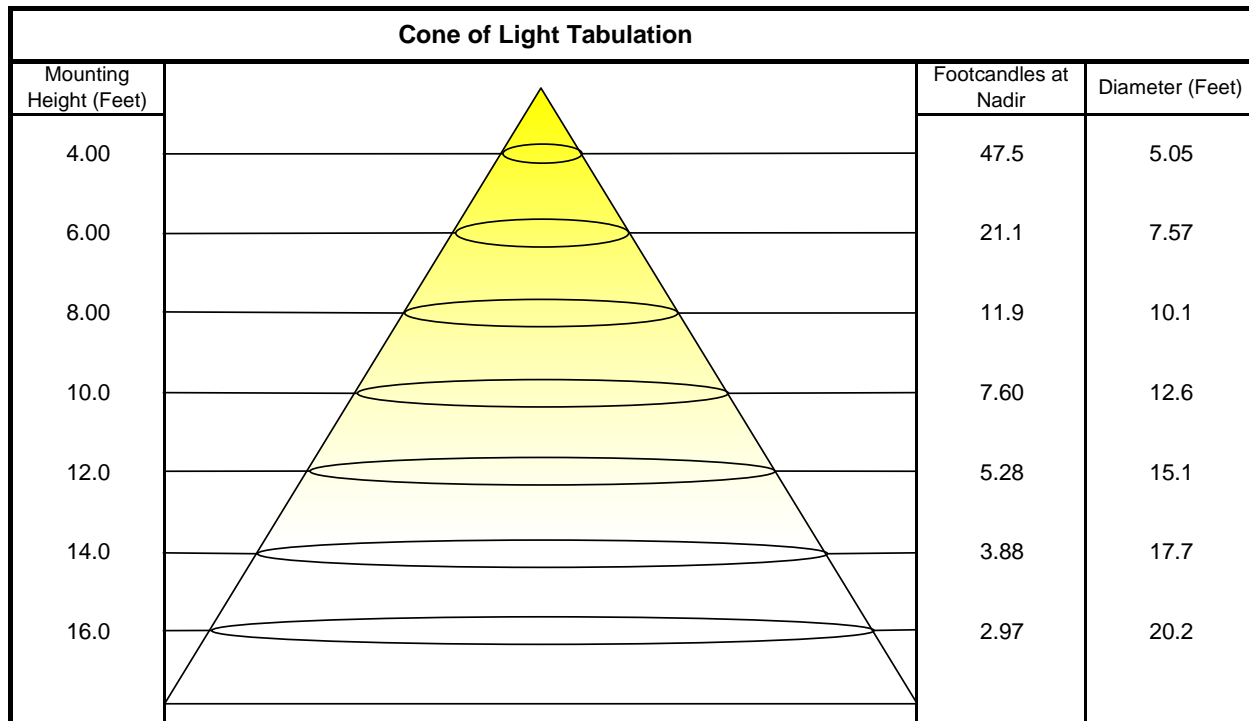
	0	45	90
0	16360	16360	16360
45	18700	17280	14140
55	18430	16880	13160
65	17960	16260	11800
75	17280	15650	9917
85	16560	14940	6824



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	3757	3757	3757	3757	3622	3622	3622	3622	3370	3370	3370	3140	3140	3140	2929	2929	2929	2829
1	3309	3105	2923	2759	3172	2989	2824	2675	2772	2638	2514	2573	2464	2363	2389	2303	2222	2119
2	2966	2646	2382	2160	2836	2548	2306	2102	2362	2162	1989	2191	2026	1882	2033	1899	1780	1680
3	2680	2291	1990	1750	2559	2207	1930	1707	2048	1815	1624	1901	1707	1543	1765	1604	1465	1370
4	2440	2011	1696	1456	2329	1939	1648	1423	1803	1555	1358	1676	1466	1296	1559	1381	1234	1145
5	2236	1785	1469	1237	2135	1723	1430	1210	1605	1353	1159	1496	1279	1108	1394	1209	1059	975
6	2059	1598	1289	1068	1967	1545	1256	1046	1443	1192	1004	1349	1130	963	1260	1071	922	843
7	1905	1443	1144	934	1822	1397	1116	917	1308	1061	882	1226	1009	847	1148	958	813	739
8	1770	1313	1025	827	1695	1272	1001	812	1195	954	782	1122	909	753	1053	865	724	655
9	1652	1201	925	739	1583	1166	905	726	1097	864	701	1033	825	676	972	787	651	586
10	1547	1106	842	666	1485	1074	824	655	1014	788	633	956	754	611	902	721	590	529

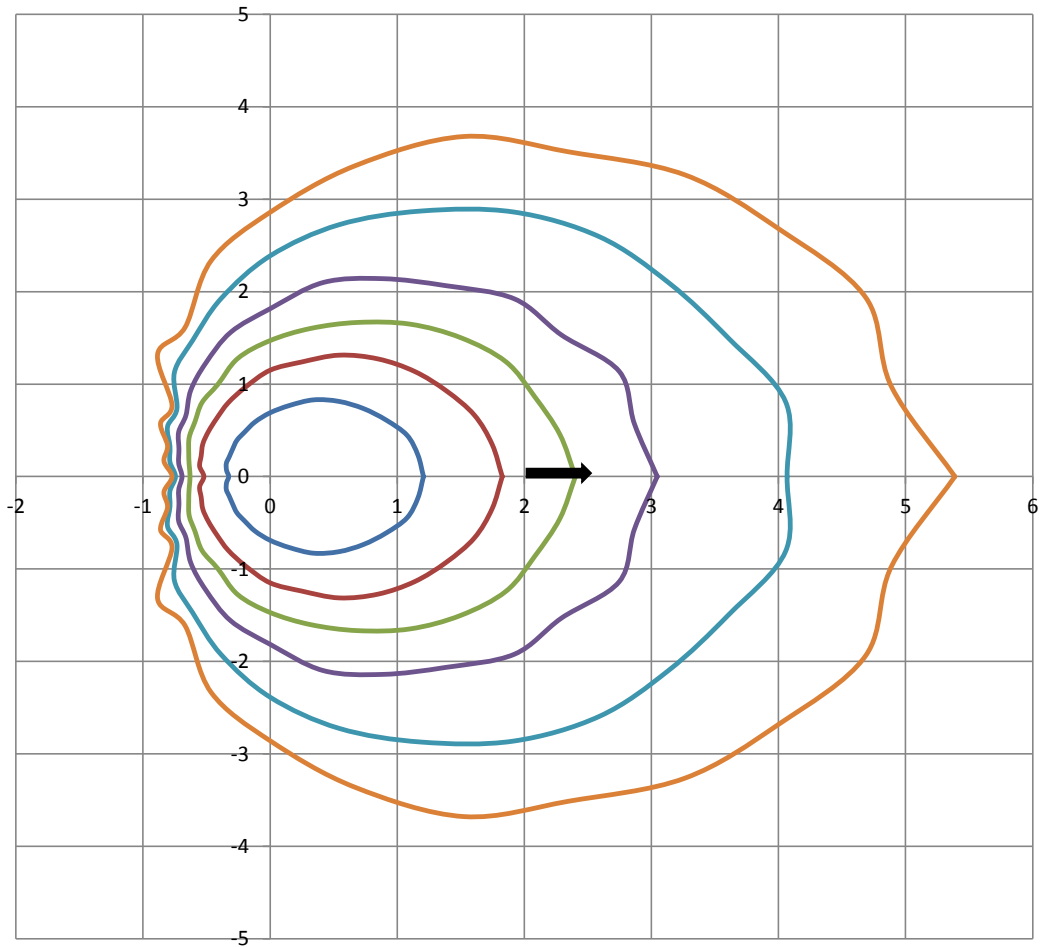
Beam and Field Information	
CIE Type:	Semi-Direct
Center Beam Intensity:	760 Candela
Central Cone Intensity:	758 Candela
Beam Flux:	2829.3 Lumens
Beam Angle (0-180):	129.7 Degrees
Beam Angle (90-270):	107.6 Degrees
Field Angle (0-180):	160.7 Degrees
Field Angle (90-270):	161.6 Degrees





ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

