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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
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Catalog Number
LE481-58-V1-A-5
Order Number
11304304
Test Number
1260403

Test Date

2016-06-11 - 2016-06-13

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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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: White steel enamel housing, white steel reflector, frosted plastic lens with clear glass lens enclosure
Lamp: 160 White LEDs
Mounting: Recessed
Ballast/Driver: Thomas Research Products PLED75W-054-C1400

Luminaire



Luminaire Characteristics
Luminous Length: 48.00 in.
Luminous Width: 7.375 in.

Summary of Results

Integrating Sphere

Luminous Flux: 5855 Lumens
Efficacy: 105.7 lm/w
CCT: 5348 K
CRI (Ra): 84.7

Distribution

Total Luminaire Output: 5742 Lumens
Luminaire Efficacy: 103.5 lm/w
Maximum Candela: 2177 Candela

Electrical Data at 120 VAC

Test Temperature: 25.6 °C
Voltage: 120.0 VAC
Current: 0.4643 A
Power: 55.38 W
Power Factor: 0.994
Frequency: 60 Hz
Current THD: 6.49 %



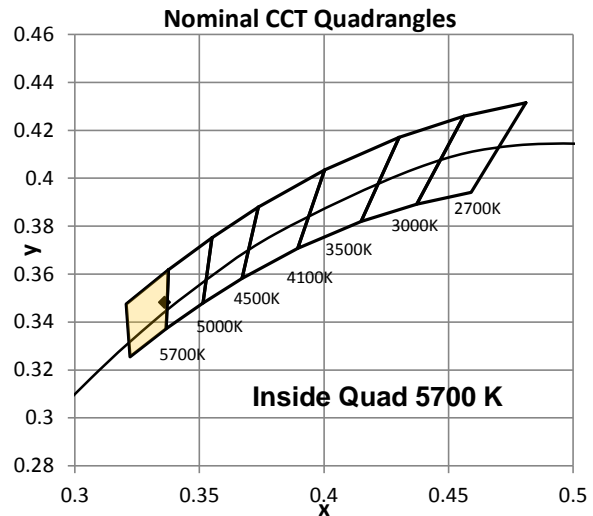
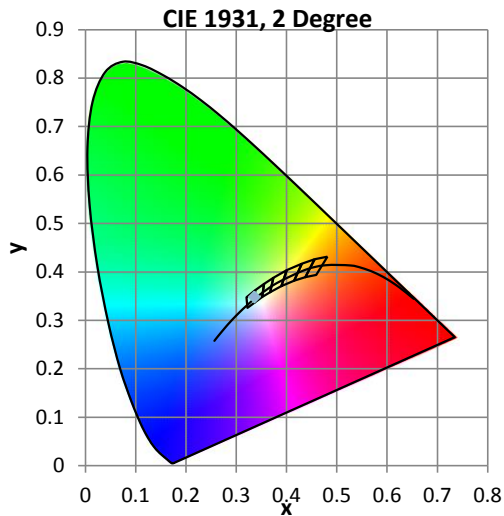
Color Quality - Integrating Sphere

Integrating Sphere Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.6 °C	120.0 VAC	0.4643 A	55.38 W	0.994	60 Hz	6.49 %

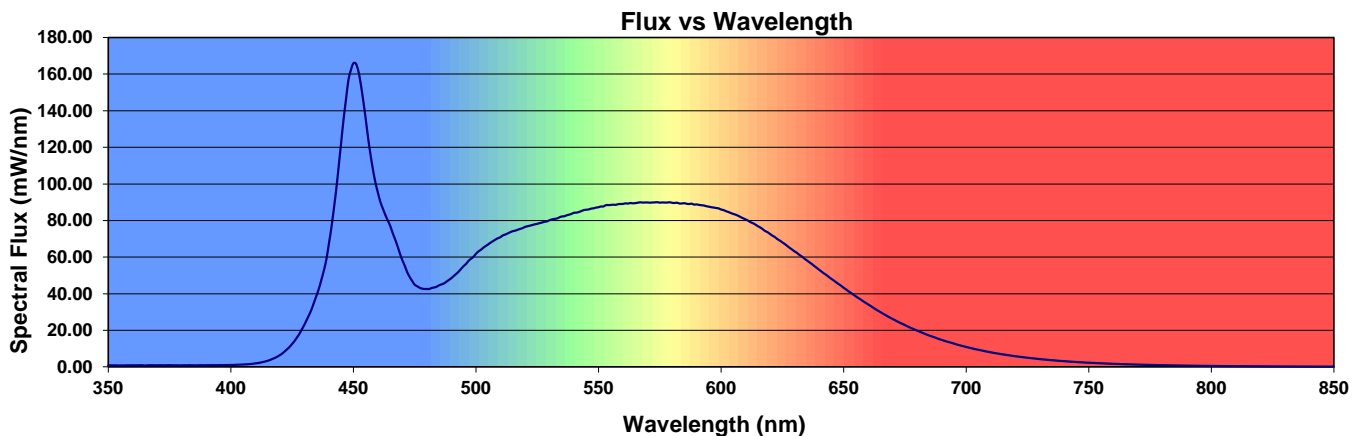
Summary of Results

Total Output:	5855 Lumens	Chromaticity (x):	0.3360
Efficacy:	105.7 lm/w	Chromaticity (y):	0.3482
CCT:	5348 K	Chromaticity (u'):	0.2066
CRI (Ra):	84.7	Chromaticity (v'):	0.4816
CRI (R9):	16.6	TM-30 R_f:	83.0
Peak Wavelength:	450.4 nm	TM-30 R_g:	95.9
Dominant Wavelength:	561.7 nm	Duv:	0.0017
S/P Ratio:	2.053		



Color Rendering Index Detail

Ra (CRI)	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
84.7	83.3	89.5	93.0	84.5	83.9	84.6	88.2	70.8	16.6	74.5	83.9	63.7	85.1	96.3





Distribution - Goniophotometer

Distribution Test Conditions

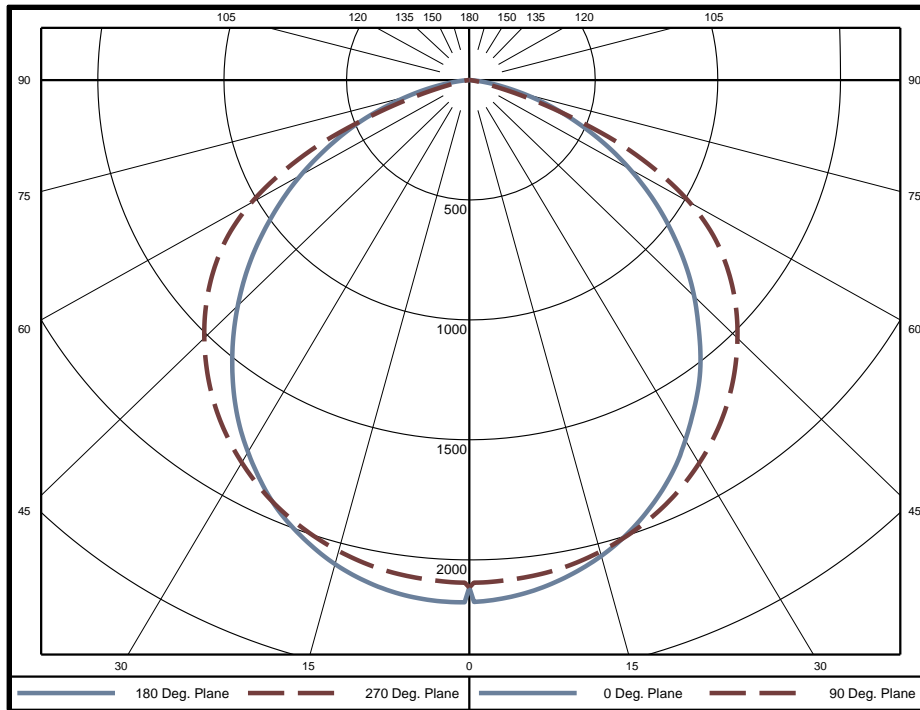
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.5 °C	120.0 VAC	0.4654 A	55.48 W	0.994	60 Hz	6.49 %

Summary of Results

Spacing Criteria
 0-180: 1.22
 90-270: 1.26

Total Lumen Output: 5742 Lumens
Luminaire Efficacy: 103.5 lm/w
Maximum Candela: 2177 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	50.5	0.9%	60-65	395.1	6.9%	120-125	0	0.0%
5-10	149.8	2.6%	65-70	297.5	5.2%	125-130	0	0.0%
10-15	244.1	4.3%	70-75	179.6	3.1%	130-135	0	0.0%
15-20	330.2	5.8%	75-80	77.1	1.3%	135-140	0	0.0%
20-25	405.3	7.1%	80-85	21.9	0.4%	140-145	0	0.0%
25-30	466.7	8.1%	85-90	3.0	0.1%	145-150	0	0.0%
30-35	512.0	8.9%	90-95	0	0.0%	150-155	0	0.0%
35-40	540.0	9.4%	95-100	0	0.0%	155-160	0	0.0%
40-45	549.5	9.6%	100-105	0	0.0%	160-165	0	0.0%
45-50	540.5	9.4%	105-110	0	0.0%	165-170	0	0.0%
50-55	513.0	8.9%	110-115	0	0.0%	170-175	0	0.0%
55-60	466.1	8.1%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	2699	47.0%
0-60	4768	83.0%
0-90	5742	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	2115	2115	2115	2115	2115	2115	2115	2115	2115	2115	2115	2115	2115	2115	2115	2115
5	2158	2114	2088	2091	2088	2092	2093	2121	2172	2121	2093	2092	2088	2091	2088	2114
10	2116	2081	2059	2069	2069	2072	2068	2091	2145	2091	2068	2072	2069	2069	2059	2081
15	2054	2026	2014	2029	2034	2035	2025	2040	2093	2040	2025	2035	2034	2029	2014	2026
20	1971	1951	1951	1976	1985	1983	1965	1969	2019	1969	1965	1983	1985	1976	1951	1951
25	1867	1857	1873	1908	1923	1916	1888	1882	1923	1882	1888	1916	1923	1908	1873	1857
30	1740	1743	1778	1824	1844	1834	1796	1770	1800	1770	1796	1834	1844	1824	1778	1743
35	1602	1615	1667	1726	1751	1737	1685	1641	1662	1641	1685	1737	1751	1726	1667	1615
40	1449	1472	1542	1615	1643	1625	1561	1500	1505	1500	1561	1625	1643	1615	1542	1472
45	1285	1318	1403	1488	1520	1498	1422	1346	1337	1346	1422	1498	1520	1488	1403	1318
50	1113	1157	1252	1346	1385	1358	1271	1183	1163	1183	1271	1358	1385	1346	1252	1157
55	936	989	1090	1191	1227	1203	1111	1013	978	1013	1111	1203	1227	1191	1090	989
60	754	816	920	1000	1021	1016	940	841	795	841	940	1016	1021	1000	920	816
65	573	639	735	753	739	770	759	663	610	663	759	770	739	753	735	639
70	399	464	515	437	390	460	543	490	432	490	543	460	390	437	515	464
75	239	292	256	151	123	164	288	315	260	315	288	164	123	151	256	292
80	108	128	48	42	40	44	59	150	123	150	59	44	40	42	48	128
85	25	13	8	9	9	9	10	18	30	18	10	9	9	9	8	13
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)

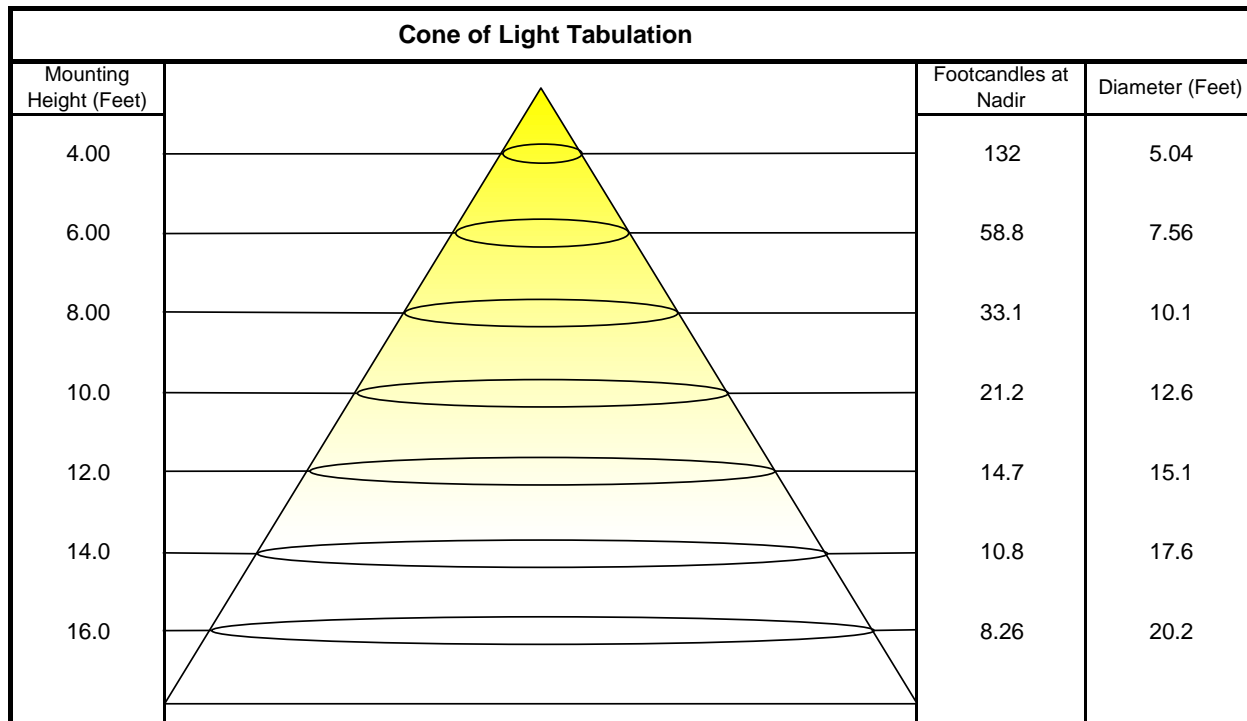
Vertical Angle (Degrees)	Horizontal Angle (Degrees)		
	0	45	90
0	9262	9262	9262
45	7958	8688	9415
55	7143	8324	9365
65	5935	7618	7658
75	4036	4332	2083
85	1233	417	469



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	6835	6835	6835	6835	6676	6676	6676	6676	6380	6380	6380	6108	6108	6108	5859	5859	5859	5742
1	6299	6048	5823	5620	6146	5919	5714	5529	5677	5509	5355	5454	5318	5192	5249	5140	5038	4921
2	5750	5302	4932	4621	5602	5195	4855	4566	4993	4707	4460	4807	4569	4359	4635	4438	4263	4142
3	5251	4669	4219	3860	5111	4579	4162	3825	4410	4052	3758	4253	3949	3693	4107	3850	3630	3508
4	4810	4141	3651	3277	4680	4065	3608	3254	3923	3525	3210	3790	3445	3166	3666	3370	3124	3002
5	4423	3701	3196	2824	4304	3637	3163	2808	3516	3098	2777	3403	3036	2747	3298	2977	2718	2598
6	4084	3332	2827	2465	3975	3277	2800	2454	3174	2749	2432	3078	2700	2410	2988	2652	2389	2273
7	3785	3020	2524	2176	3687	2973	2502	2168	2885	2461	2152	2803	2421	2136	2725	2382	2120	2008
8	3523	2755	2272	1940	3433	2715	2254	1934	2639	2220	1922	2568	2188	1910	2501	2156	1898	1790
9	3290	2527	2060	1745	3209	2493	2046	1740	2427	2018	1731	2366	1991	1722	2307	1964	1713	1608
10	3084	2331	1881	1581	3010	2301	1869	1577	2244	1845	1570	2191	1823	1563	2140	1801	1556	1456

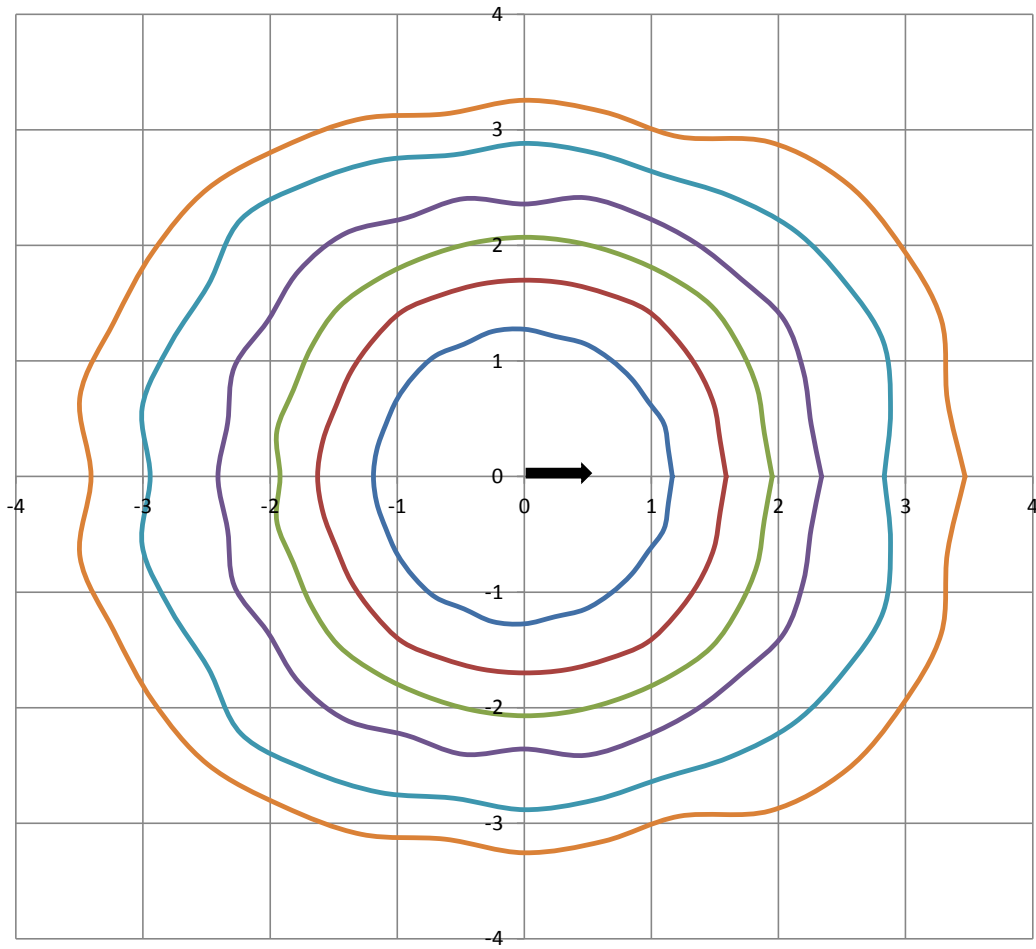
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	2115 Candela
Central Cone Intensity:	2112 Candela
Beam Flux:	4419.0 Lumens
Beam Angle (0-180):	104.4 Degrees
Beam Angle (90-270):	118.4 Degrees
Field Angle (0-180):	152.5 Degrees
Field Angle (90-270):	146.2 Degrees





ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

