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Photometric Test Report

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

Prepared For
Precision Architectural Lighting

Fred Compton
4830 Timber Creek Drive
Houston, TX 77017

Catalog Number
MLR3-HO-K40-4'-TT-LOH-UNIV (Lens B)

Order Number
10822132
Test Number
1094330

Test Date

2015-06-05

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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Table of Contents

Summary of Results	Page 3
Integrating Sphere Results	Page 4
Distribution Results	Page 5
Conditions / Summary of Results / Polar Plot / Zonal / Luminance	Page 5
Candela Tabulation	Page 6
Coefficients of Utilization	Page 7

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: Aluminum housing, white enamel aluminum reflector, frosted plastic lens
Lamp: 144 white LEDs
Mounting: Recessed
Ballast/Driver: Osram OT50W/PRG1400C/UNV/DIM/L

Luminaire



Luminaire Characteristics

Luminous Length: 47.00 in.
Luminous Width: 2.750 in.

Summary of Results

Integrating Sphere

Luminous Flux: 3148 Lumens
Efficacy: 92.5 lm/w
CCT: 3994 K
CRI (Ra): 83.8

Distribution

Total Luminaire Output: 3068 Lumens
Luminaire Efficacy: 90.1 lm/w
Maximum Candela: 1315 Candela

Electrical Data at 120 VAC

Test Temperature: 25.4 °C
Voltage: 120.0 VAC
Current: 0.2848 A
Power: 34.04 W
Power Factor: 0.995
Frequency: 60 Hz
Current THD: 7.26 %



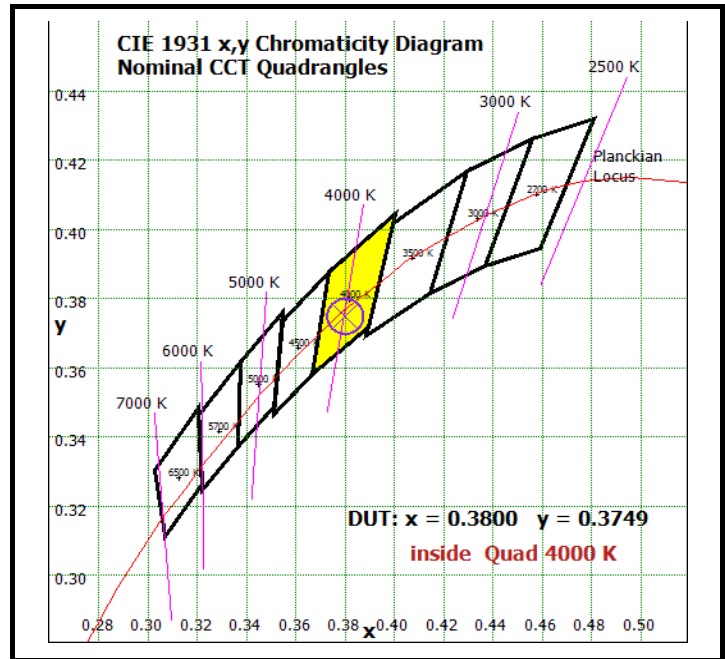
Color Quality - Integrating Sphere

Integrating Sphere Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.4 °C	120.0 VAC	0.2848 A	34.04 W	0.995	60 Hz	7.26 %

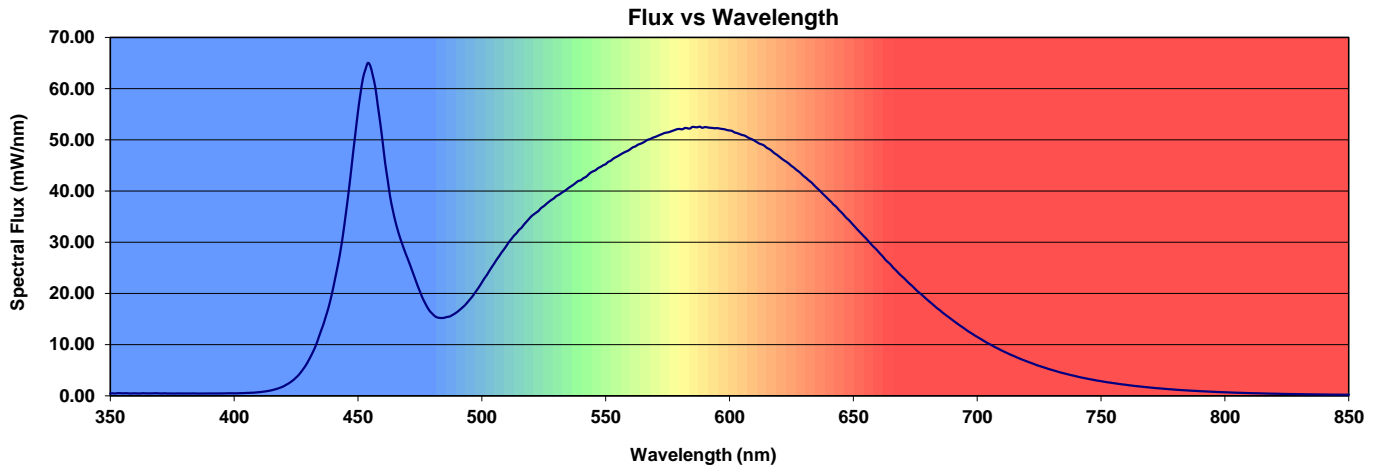
Summary of Results

Total Output:	3148 Lumens
Efficacy:	92.5 lm/w
CCT:	3994 K
CRI (Ra):	83.8
CRI (R9):	24.7
Chromaticity (x):	0.3800
Chromaticity (y):	0.3749
Chromaticity (u):	0.2256
Chromaticity (v):	0.3338
Chromaticity (u')	0.2256
Chromaticity (v')	0.5007
Duv:	-0.0008



Color Rendering Index Detail

Ra (CRI)	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
83.8	82.4	89.5	93.2	81.3	81.4	83.6	88.2	70.5	24.7	73.5	78.4	57.2	84.1	96.1





Distribution - Goniophotometer

Distribution Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.2 °C	120.0 VAC	0.2851 A	34.05 W	0.996	60 Hz	7.23 %

Summary of Results

Spacing Criteria

0-180: 1.19
90-270: 1.19

Total Lumen Output:

3068 Lumens

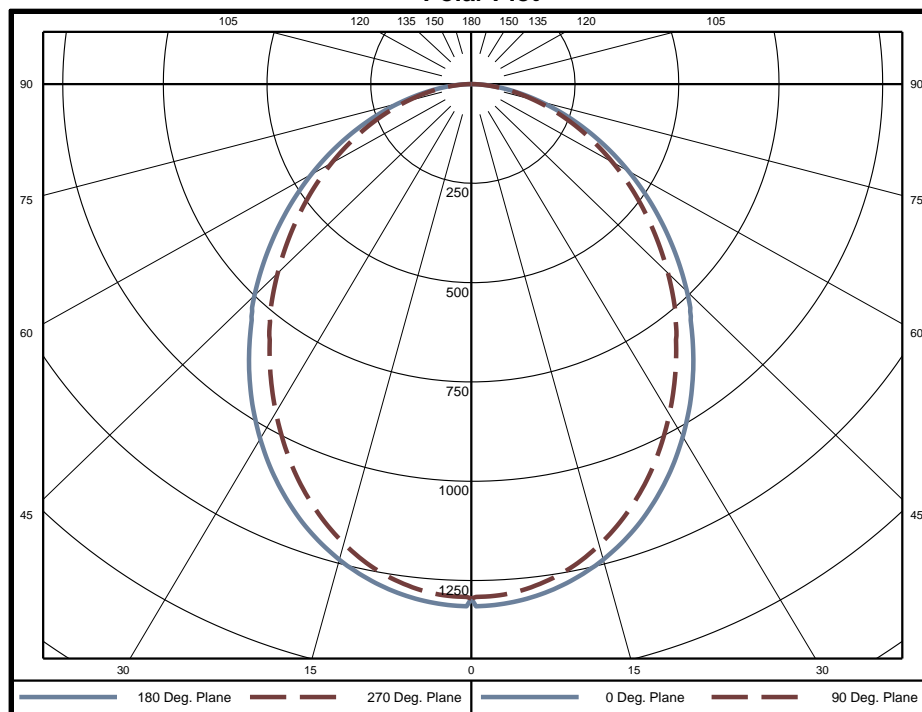
Luminaire Efficacy:

90.1 lm/w

Maximum Candela:

1315 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	30.9	1.0%	60-65	180.9	5.9%	120-125	0	0.0%
5-10	91.0	3.0%	65-70	145.2	4.7%	125-130	0	0.0%
10-15	146.6	4.8%	70-75	108.0	3.5%	130-135	0	0.0%
15-20	194.6	6.3%	75-80	71.6	2.3%	135-140	0	0.0%
20-25	233.1	7.6%	80-85	38.9	1.3%	140-145	0	0.0%
25-30	260.6	8.5%	85-90	11.5	0.4%	145-150	0	0.0%
30-35	276.5	9.0%	90-95	0	0.0%	150-155	0	0.0%
35-40	281.5	9.2%	95-100	0	0.0%	155-160	0	0.0%
40-45	278.0	9.1%	100-105	0	0.0%	160-165	0	0.0%
45-50	263.7	8.6%	105-110	0	0.0%	165-170	0	0.0%
50-55	241.7	7.9%	110-115	0	0.0%	170-175	0	0.0%
55-60	213.7	7.0%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	1515	49.4%
0-60	2251	81.9%
0-90	3068	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	1295	1295	1295	1295	1295	1295	1295	1295	1295	1295	1295	1295	1295	1295	1295	1295
5	1306	1285	1279	1286	1282	1286	1279	1285	1306	1285	1279	1286	1282	1286	1279	1285
10	1281	1260	1252	1256	1251	1256	1252	1260	1281	1260	1252	1256	1251	1256	1252	1260
15	1240	1218	1206	1206	1199	1206	1206	1218	1240	1218	1206	1206	1199	1206	1206	1218
20	1184	1160	1144	1138	1131	1138	1144	1160	1184	1160	1144	1138	1131	1138	1144	1160
25	1112	1088	1067	1058	1049	1058	1067	1088	1112	1088	1067	1058	1049	1058	1067	1088
30	1030	1005	981	967	957	967	981	1005	1030	1005	981	967	957	967	981	1005
35	938	913	888	870	860	870	888	913	938	913	888	870	860	870	888	913
40	840	816	794	777	769	777	794	816	840	816	794	777	769	777	794	816
45	746	724	700	680	670	680	700	724	746	724	700	680	670	680	700	724
50	644	623	602	583	573	583	602	623	644	623	602	583	573	583	602	623
55	544	526	507	490	482	490	507	526	544	526	507	490	482	490	507	526
60	447	432	415	400	393	400	415	432	447	432	415	400	393	400	415	432
65	353	341	328	315	310	315	328	341	353	341	328	315	310	315	328	341
70	263	256	245	236	231	236	245	256	263	256	245	236	231	236	245	256
75	180	175	168	162	159	162	168	175	180	175	168	162	159	162	168	175
80	107	105	101	97	96	97	101	105	107	105	101	97	96	97	101	105
85	47	46	45	42	42	42	45	46	47	46	45	42	42	42	45	46
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	15530	15530	15530
45	12650	11870	11360
55	11370	10600	10070
65	10010	9302	8789
75	8331	7797	7387
85	6527	6138	5740



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	3652	3652	3652	3652	3568	3568	3568	3568	3409	3409	3409	3264	3264	3264	3131	3131	3131	3068
1	3353	3213	3088	2975	3270	3144	3030	2927	3014	2920	2834	2895	2818	2748	2785	2723	2666	2603
2	3064	2821	2621	2452	2984	2764	2580	2423	2656	2501	2367	2556	2427	2313	2464	2357	2262	2197
3	2805	2494	2253	2061	2730	2446	2223	2043	2355	2164	2007	2271	2109	1972	2194	2056	1938	1873
4	2577	2222	1962	1763	2508	2182	1939	1751	2106	1894	1727	2035	1852	1704	1969	1812	1681	1616
5	2378	1995	1728	1531	2314	1961	1711	1523	1897	1676	1506	1837	1643	1490	1781	1611	1475	1411
6	2202	1805	1538	1347	2144	1776	1524	1341	1721	1497	1329	1670	1470	1318	1622	1445	1306	1245
7	2046	1642	1381	1198	1994	1618	1370	1193	1571	1347	1185	1527	1326	1176	1486	1306	1168	1108
8	1909	1504	1249	1075	1861	1483	1240	1071	1443	1222	1065	1405	1205	1058	1369	1188	1052	995
9	1786	1385	1138	972	1744	1366	1131	970	1332	1116	965	1299	1101	960	1268	1087	955	900
10	1678	1281	1044	886	1639	1265	1037	884	1235	1025	880	1207	1013	876	1180	1001	872	820

Cone of Light Tabulation

Mounting Height	Footcandles at Nadir	Diameter (Feet)
4.00	81.0	4.58
6.00	36.0	6.87
8.00	20.2	9.15
10.0	13.0	11.4
12.0	9.00	13.7
14.0	6.61	16.0
16.0	5.06	18.3

Cone of Light Plot

