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Photometric Test Report

Relevant Standards
IES LM-79-2008
ANSI C82.77-2002
UL1598-2008

Prepared For
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United States

Catalog Number
RG2LEDWR17041U1

Order Number
10846592
Test Number
1116099

Test Date

2015-06-25 - 2015-06-30

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 housing, white steel reflector plate, no enclosure
Lamp: 168 white LEDs, two boards with 84 LEDs each
Mounting: Pendant
Ballast/Driver: One Eaglerise ESL150-3150P

Luminaire



Luminaire Characteristics

Luminous Length: 23.00 in.
Luminous Width: 18.00 in.

Summary of Results

Integrating Sphere

Luminous Flux: 17710 Lumens
Efficacy: 103.1 lm/w
CCT: 4151 K
CRI (Ra): 83.6

Distribution

Total Luminaire Output: 17190 Lumens
Luminaire Efficacy: 100.7 lm/w
Maximum Candela: 5733 Candela

Electrical Data at 277 VAC

Test Temperature: 25.2 °C
Voltage: 277.0 VAC
Current: 0.6541 A
Power: 168.7 W
Power Factor: 0.931
Frequency: 60 Hz
Current THD: 17.2 %

In-Situ

LED Temperature: 90.7 °C
Driver Temperature: 61.2 °C
Maximum LED Current: 0.1498 A

Temperature is offset to an ambient temperature of 25°C as described in UL1598-2008.



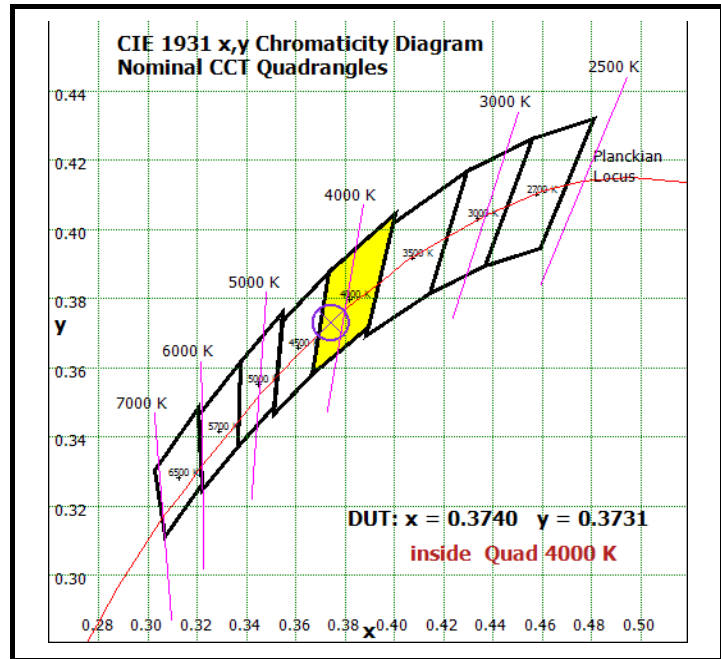
Color Quality - Integrating Sphere

Integrating Sphere Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.6 °C	120.0 VAC	1.438 A	171.8 W	0.995	60 Hz	5.02 %

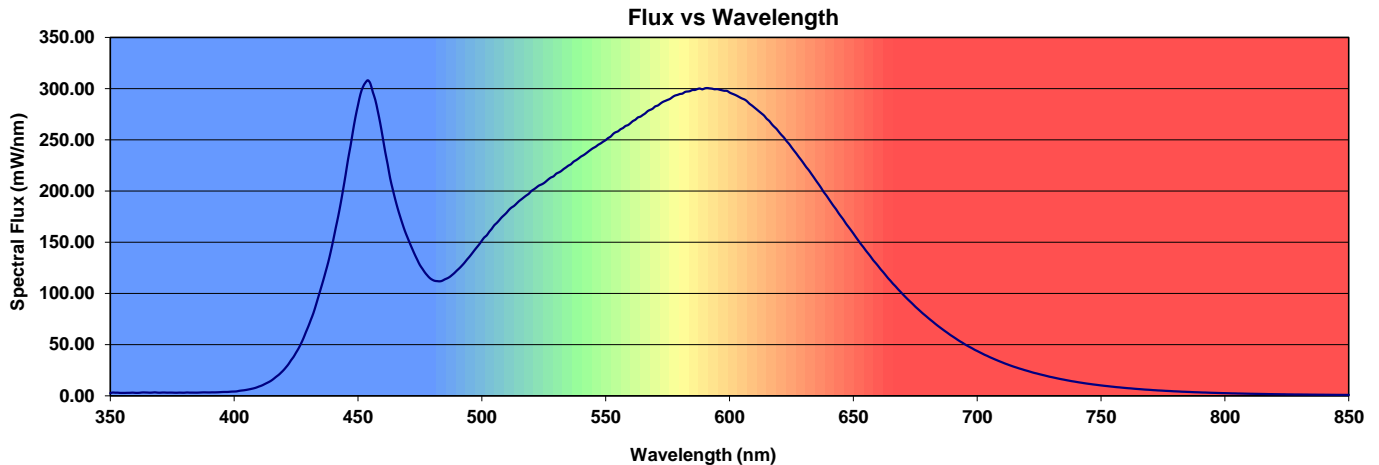
Summary of Results

Total Output:	17710 Lumens
Efficacy:	103.1 lm/w
CCT:	4151 K
CRI (Ra):	83.6
CRI (R9):	12.4
Chromaticity (x):	0.3740
Chromaticity (y):	0.3731
Chromaticity (u):	0.2223
Chromaticity (v):	0.3327
Chromaticity (u')	0.2223
Chromaticity (v')	0.4990
Duv:	0.0002



Color Rendering Index Detail

Ra (CRI)	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
83.6	81.8	90.3	95.4	81.3	81.8	86.0	86.4	66.0	12.4	76.4	79.4	64.7	84.0	97.7





Distribution - Goniophotometer

Distribution Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.1 °C	120.0 VAC	1.429 A	170.7 W	0.995	60 Hz	4.94 %

Summary of Results

Spacing Criteria

0-180: 1.28
90-270: 1.28

Total Lumen Output:

17190 Lumens

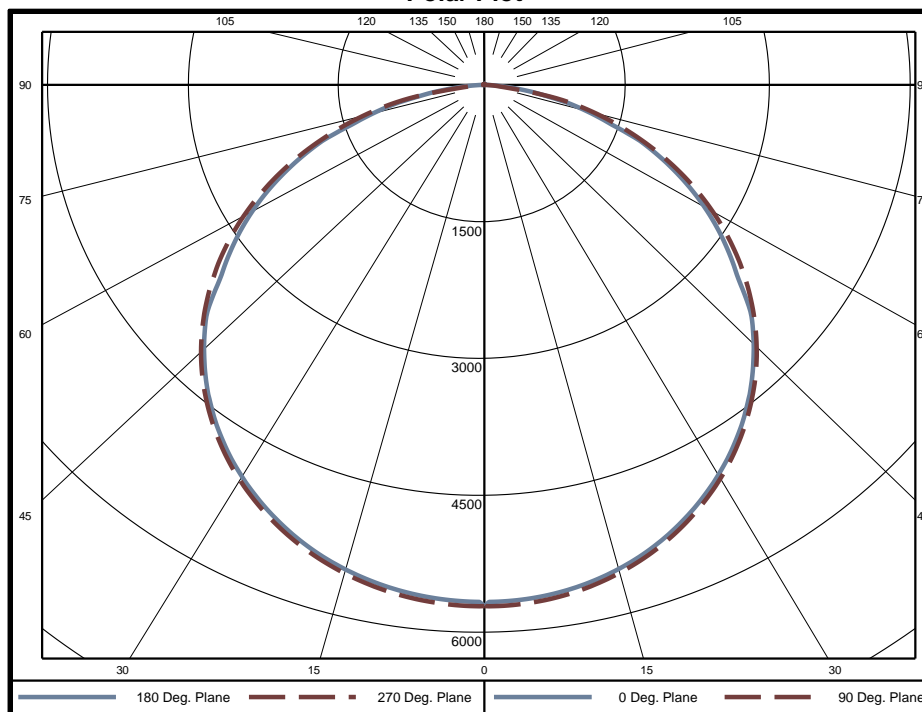
Luminaire Efficacy:

100.7 lm/w

Maximum Candela:

5733 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	136	0.8%	60-65	1216	7.1%	120-125	0	0.0%
5-10	405	2.4%	65-70	1011	5.9%	125-130	0	0.0%
10-15	663	3.9%	70-75	761	4.4%	130-135	0	0.0%
15-20	901	5.2%	75-80	492	2.9%	135-140	0	0.0%
20-25	1112	6.5%	80-85	203	1.2%	140-145	0	0.0%
25-30	1291	7.5%	85-90	32	0.2%	145-150	0	0.0%
30-35	1429	8.3%	90-95	0	0.0%	150-155	0	0.0%
35-40	1524	8.9%	95-100	0	0.0%	155-160	0	0.0%
40-45	1570	9.1%	100-105	0	0.0%	160-165	0	0.0%
45-50	1564	9.1%	105-110	0	0.0%	165-170	0	0.0%
50-55	1496	8.7%	110-115	0	0.0%	170-175	0	0.0%
55-60	1381	8.0%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	7461	43.4%
0-60	13472	78.4%
0-90	17187	100.0%
90-180	0	0.0%



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	5714	5714	5714	5714	5714	5714	5714	5714	5714	5714	5714	5714	5714	5714	5714	5714
5	5651	5716	5704	5689	5697	5689	5704	5716	5651	5716	5704	5689	5697	5689	5704	5716
10	5592	5657	5645	5631	5638	5631	5645	5657	5592	5657	5645	5631	5638	5631	5645	5657
15	5491	5558	5545	5532	5535	5532	5545	5558	5491	5558	5545	5532	5535	5532	5545	5558
20	5349	5418	5403	5391	5391	5391	5403	5418	5349	5418	5403	5391	5391	5391	5403	5418
25	5162	5232	5219	5210	5205	5210	5219	5232	5162	5232	5219	5210	5205	5210	5219	5232
30	4936	5007	4994	4986	4980	4986	4994	5007	4936	5007	4994	4986	4980	4986	4994	5007
35	4671	4739	4727	4720	4713	4720	4727	4739	4671	4739	4727	4720	4713	4720	4727	4739
40	4365	4428	4420	4414	4407	4414	4420	4428	4365	4428	4420	4414	4407	4414	4420	4428
45	4017	4078	4073	4066	4059	4066	4073	4078	4017	4078	4073	4066	4059	4066	4073	4078
50	3587	3687	3684	3675	3669	3675	3684	3687	3587	3687	3684	3675	3669	3675	3684	3687
55	3125	3179	3258	3249	3244	3249	3258	3179	3125	3179	3258	3249	3244	3249	3258	3179
60	2681	2726	2756	2787	2781	2787	2756	2726	2681	2726	2756	2787	2781	2787	2756	2726
65	2202	2241	2241	2291	2284	2291	2241	2241	2202	2241	2241	2291	2284	2291	2241	2241
70	1687	1729	1730	1768	1756	1768	1730	1729	1687	1729	1730	1768	1756	1768	1730	1729
75	1123	1142	1215	1212	1226	1212	1215	1142	1123	1142	1215	1212	1226	1212	1215	1142
80	615	629	673	671	616	671	673	629	615	629	673	671	616	671	673	629
85	206	206	133	122	120	122	133	206	206	206	133	122	120	122	133	206
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)

	0	45	90
0	21390	21390	21390
45	21270	21560	21490
55	20400	21270	21170
65	19510	19860	20230
75	16250	17570	17740
85	8850	5714	5148



Utilization of Lumens - Zonal Cavity Method

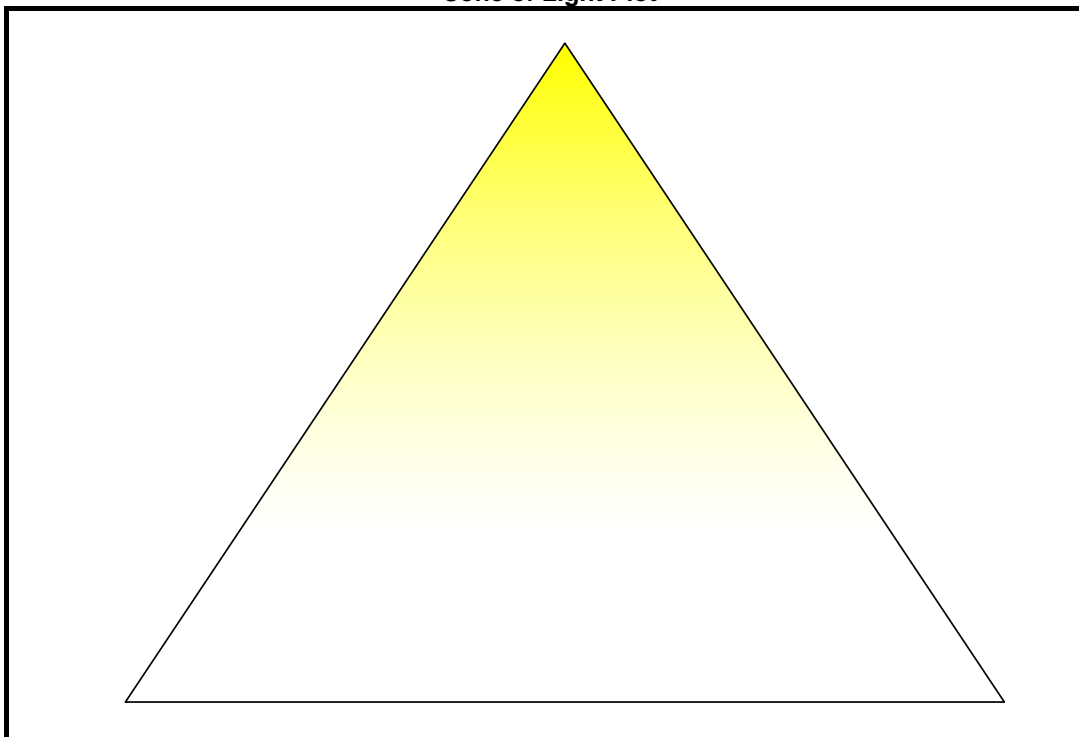
Effective Floor Cavity Reflectance 20%

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	20461	20461	20461	20461	19985	19985	19985	19985	19097	19097	19097	18284	18284	18284	17538	17538	17538	17187
1	18688	17864	17126	16460	18218	17473	16801	16191	16741	16187	15679	16068	15616	15198	15448	15085	14745	14384
2	16958	15523	14335	13336	16503	15196	14104	13176	14583	13663	12867	14018	13248	12572	13495	12858	12291	11915
3	15427	13588	12164	11030	14996	13314	11993	10929	12798	11665	10733	12321	11355	10543	11878	11060	10360	9979
4	14098	12005	10472	9301	13698	11774	10342	9234	11339	10092	9104	10935	9854	8978	10559	9626	8855	8476
5	12945	10700	9132	7975	12578	10506	9032	7929	10138	8837	7840	9795	8650	7752	9475	8472	7667	7296
6	11938	9614	8054	6935	11605	9449	7975	6903	9136	7820	6839	8843	7672	6776	8569	7529	6715	6355
7	11057	8701	7174	6104	10755	8560	7110	6081	8292	6985	6034	8042	6865	5988	7806	6749	5942	5596
8	10283	7928	6447	5429	10010	7807	6395	5412	7577	6293	5376	7361	6194	5342	7158	6099	5307	4975
9	9600	7267	5838	4873	9353	7163	5795	4859	6964	5710	4832	6777	5629	4805	6600	5550	4779	4461
10	8995	6698	5323	4408	8772	6608	5287	4397	6435	5217	4376	6272	5148	4355	6118	5082	4334	4030

Cone of Light Tabulation

Mounting Height (Feet)	Footcandles at Nadir	Diameter (Feet)
4.00	357	5.18
6.00	159	7.78
8.00	89.3	10.4
10.0	57.1	13.0
12.0	39.7	15.6
14.0	29.2	18.1
16.0	22.3	20.7

Cone of Light Plot





In-Situ Test

In-Situ Test Conditions

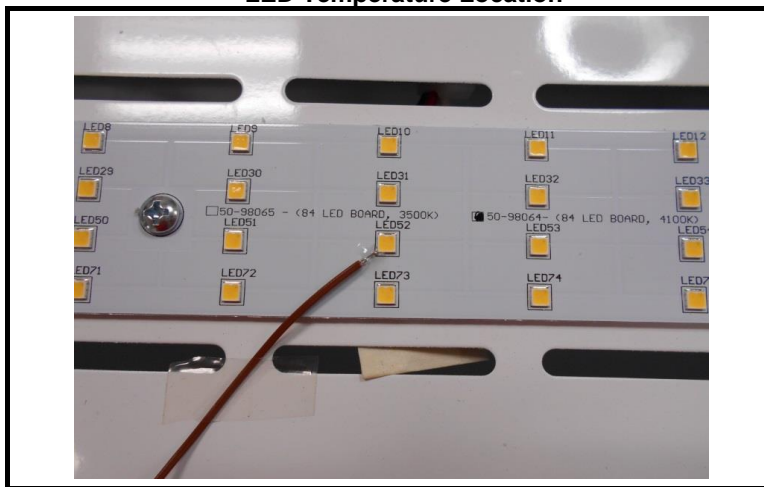
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
23.3 °C	120.0 VAC	N/A	N/A	N/A	60 Hz	N/A

Summary of Results

LED Temperature: 90.7 °C
Driver Temperature: 61.2 °C
Maximum LED Current: 0.1498 A

Temperatures are offset to an ambient temperature of 25°C as described in UL1598-2008

LED Temperature Location



Driver Temperature Location

