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Photometric Test Report

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

Prepared For
Elemental LED Inc, DBA Diode LED

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United States

Catalog Number
DI-12V-UB30-8016

Order Number
10665784
Test Number
895398

Test Date

2015-02-03 - 2015-02-05

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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: LED strip
Lamp: 18 white LEDs
Mounting: Surface

Luminaire



Luminaire Characteristics

Luminous Length: 12.00 in.
Luminous Width: 0.3800 in.

Summary of Results

Integrating Sphere

Total Output: 352 Lumens
Efficacy: 84.4 lm/w
CCT: 2774 K
CRI (Ra): 81.3

Distribution

Total Output: 360.2 Lumens
Efficacy: 84.7 lm/w
Maximum Candela: 125.8 Candela

Electrical Data at 12VDC

Test Temperature: 24.6 °C
Voltage: 12.00 VDC
Current: 0.3472 A
Power: 4.167 W



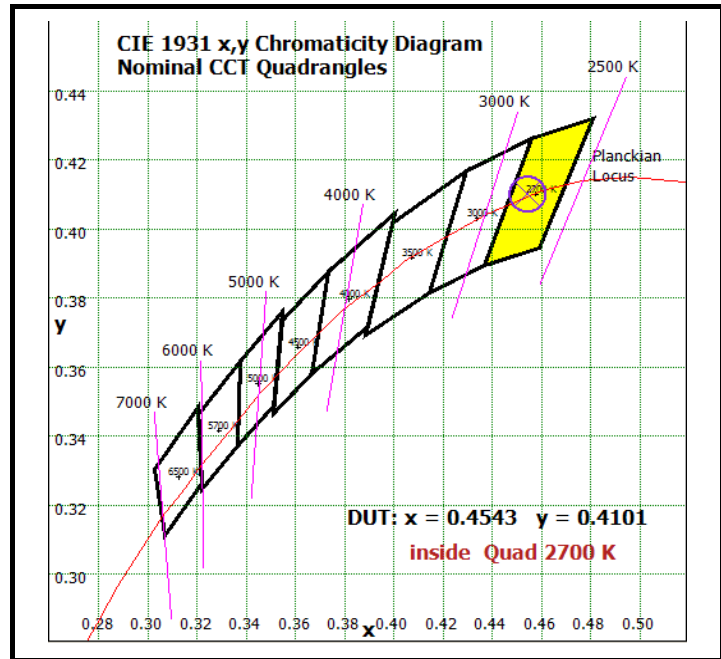
Color Quality - Integrating Sphere

Integrating Sphere Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.6 °C	12.00 VDC	0.3472 A	4.167 W	N / A	N / A	N / A

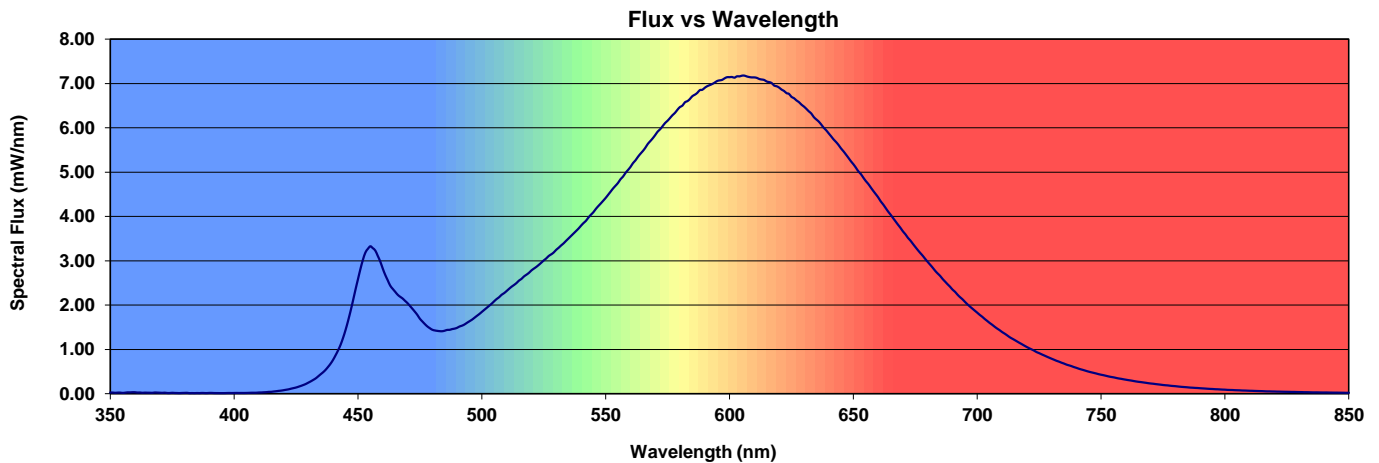
Summary of Results

Luminous Flux:	352 Lumens
Efficacy:	84.4 lm/w
CCT:	2774 K
CRI (Ra):	81.3
CRI (R9):	13.9
Chromaticity (x):	0.4543
Chromaticity (y):	0.4101
Chromaticity (u):	0.2591
Chromaticity (v):	0.3509
Chromaticity (u')	0.2591
Chromaticity (v')	0.5263
Duv:	0.0002



Color Rendering Index Detail

Ra (CRI)	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
81.3	79.0	90.5	96.2	75.9	78.2	87.1	83.0	60.2	13.9	77.7	72.0	66.6	81.4	98.6





Distribution - Goniophotometer

Distribution Test Conditions

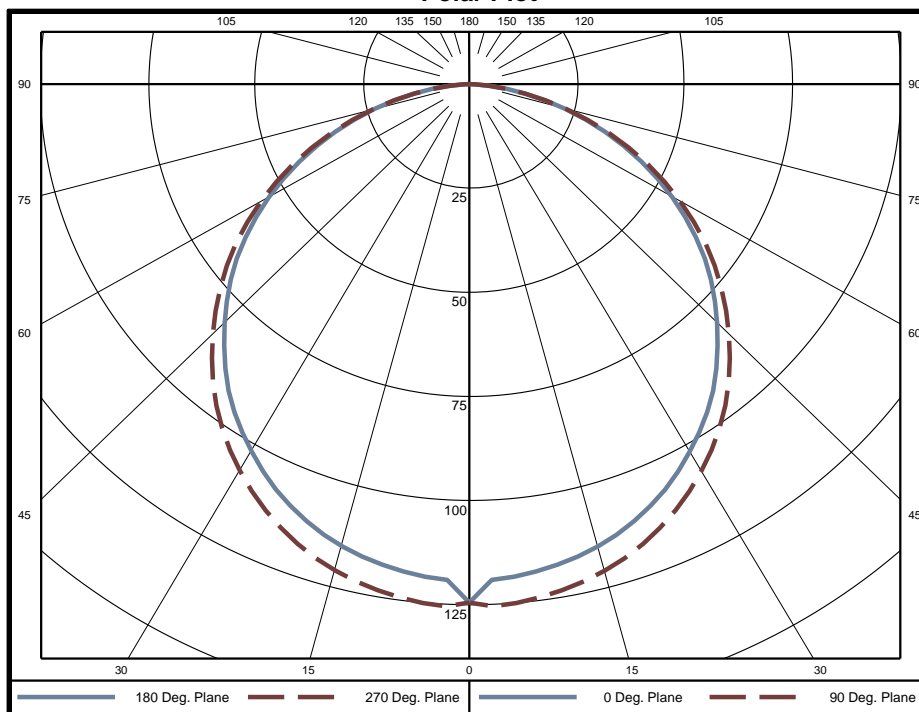
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.9 °C	12.00 VDC	0.3543 A	4.253 W	N / A	N / A	N / A

Summary of Results

Spacing Criteria
 0-180: 1.22
 90-270: 1.28

Total Lumen Output: 360 Lumens
Luminaire Efficacy: 84.7 lm/w
Maximum Candela: 126 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	3.2	0.9%	60-65	24.7	6.9%	120-125	0.0	0.0%
5-10	8.8	2.4%	65-70	20.2	5.6%	125-130	0.0	0.0%
10-15	14.4	4.0%	70-75	15.1	4.2%	130-135	0.0	0.0%
15-20	19.5	5.4%	75-80	9.8	2.7%	135-140	0.0	0.0%
20-25	23.9	6.6%	80-85	4.9	1.4%	140-145	0.0	0.0%
25-30	27.6	7.7%	85-90	1.1	0.3%	145-150	0.0	0.0%
30-35	30.4	8.4%	90-95	0.0	0.0%	150-155	0.0	0.0%
35-40	32.2	8.9%	95-100	0.0	0.0%	155-160	0.0	0.0%
40-45	32.8	9.1%	100-105	0.0	0.0%	160-165	0.0	0.0%
45-50	32.3	9.0%	105-110	0.0	0.0%	165-170	0.0	0.0%
50-55	30.9	8.6%	110-115	0.0	0.0%	170-175	0.0	0.0%
55-60	28.3	7.9%	115-120	0.0	0.0%	175-180	0.0	0.0%

Zone	Lumens	% of Luminaire
0-40	159.9	44.4%
0-60	284.3	78.9%
0-90	360.2	100.0%
90-180	0.0	0.0%



Candela Tabulation
Horizontal Angle (Degrees)

Vertical Angle (Degrees)	Horizontal Angle (Degrees)															
	0	22.5	45	67.5	90	113	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5
0	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124
5	119	124	125	124	125	124	125	124	119	124	125	124	125	124	125	124
10	117	122	124	123	123	123	124	122	117	122	124	123	123	123	124	122
15	115	120	121	120	121	120	121	120	115	120	121	120	121	120	121	120
20	112	117	118	117	117	117	118	117	112	117	118	117	117	117	118	117
25	107	112	113	112	113	112	113	112	107	112	113	112	113	112	113	112
30	102	107	108	107	107	107	108	107	102	107	108	107	107	107	108	107
35	96	100	101	100	101	100	101	100	96	100	101	100	101	100	101	100
40	89	93	94	93	93	93	94	93	89	93	94	93	93	93	94	93
45	81	85	85	85	85	85	85	85	81	85	85	85	85	85	85	85
50	73	76	76	76	76	76	76	76	73	76	76	76	76	76	76	76
55	64	67	67	67	67	67	67	67	64	67	67	67	67	67	67	67
60	54	57	57	56	56	56	57	57	54	57	57	56	56	56	57	57
65	44	46	46	45	46	45	46	46	44	46	46	45	46	45	46	46
70	33	35	35	34	34	34	35	35	33	35	35	34	34	34	35	35
75	23	24	24	23	23	23	24	24	23	24	24	23	23	23	24	24
80	13	14	13	13	13	13	13	14	13	14	13	13	13	13	13	14
85	5	5	5	5	4	5	5	5	5	5	5	5	4	5	5	5
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	42320	42320	42320
45	39050	41060	40820
55	37980	39750	39550
65	35390	36890	36640
75	30300	31090	30680
85	19190	19260	17340



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	429	429	429	429	419	419	419	419	400	400	400	383	383	383	368	368	368	360
1	392	375	359	346	382	367	353	340	351	340	329	337	328	319	324	317	310	302
2	356	326	302	281	347	319	297	277	307	287	271	295	279	265	284	271	259	251
3	324	286	257	233	315	280	253	231	270	246	227	260	240	223	250	233	219	211
4	297	253	221	197	288	248	219	196	239	213	193	231	208	190	223	204	188	180
5	273	226	193	169	265	222	191	168	214	187	166	207	183	165	200	179	163	155
6	252	203	171	147	245	200	169	147	193	166	145	187	163	144	181	160	143	135
7	233	184	152	130	227	181	151	130	176	148	129	170	146	128	165	143	127	119
8	217	168	137	116	211	165	136	115	161	134	115	156	132	114	152	130	113	106
9	203	154	124	104	197	152	123	104	148	122	103	144	120	103	140	118	102	95
10	190	142	113	94	185	140	113	94	137	111	94	133	110	93	130	108	93	86

Cone of Light Tabulation

Mounting Height	Footcandles at Nadir	Diameter (Feet)
1.00	124	1.27
2.00	31.1	2.54
3.00	13.8	3.81
4.00	7.78	5.08
6.00	3.46	7.63
8.00	1.95	10.2
10.0	1.24	12.7

Cone of Light Plot

