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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-24V-UB30-8020

Order Number
10665784
Test Number
895400

Test Date

2015-02-05

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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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: 361 Lumens
Efficacy: 85.2 lm/w
CCT: 2782 K
CRI (Ra): 81.8

Distribution

Total Output: 362.3 Lumens
Efficacy: 84.6 lm/w
Maximum Candela: 125.5 Candela

Electrical Data at 12VDC

Test Temperature: 24.7 °C
Voltage: 24.00 VDC
Current: 0.1763 A
Power: 4.231 W



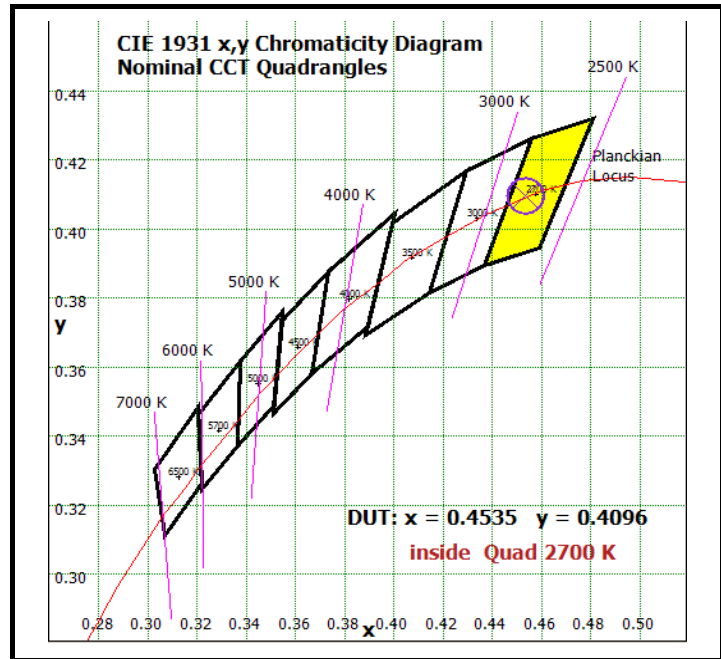
Color Quality - Integrating Sphere

Integrating Sphere Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.7 °C	24.00 VDC	0.1763 A	4.231 W	N / A	N / A	N / A

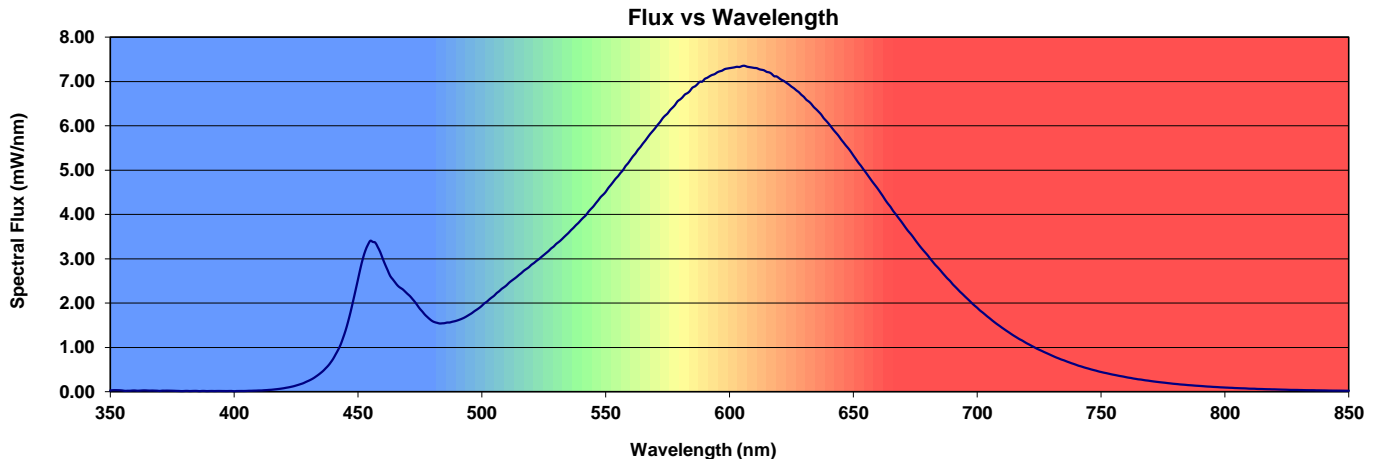
Summary of Results

Luminous Flux:	361 Lumens
Efficacy:	85.2 lm/w
CCT:	2782 K
CRI (Ra):	81.8
CRI (R9):	15.7
Chromaticity (x):	0.4535
Chromaticity (y):	0.4096
Chromaticity (u):	0.2588
Chromaticity (v):	0.3507
Chromaticity (u')	0.2588
Chromaticity (v')	0.5260
Duv:	0.0001



Color Rendering Index Detail

Ra (CRI)	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
81.8	79.7	91.2	95.9	76.4	79.0	88.1	83.0	60.8	15.7	79.2	72.6	68.1	82.2	98.5





Distribution - Goniophotometer

Distribution Test Conditions

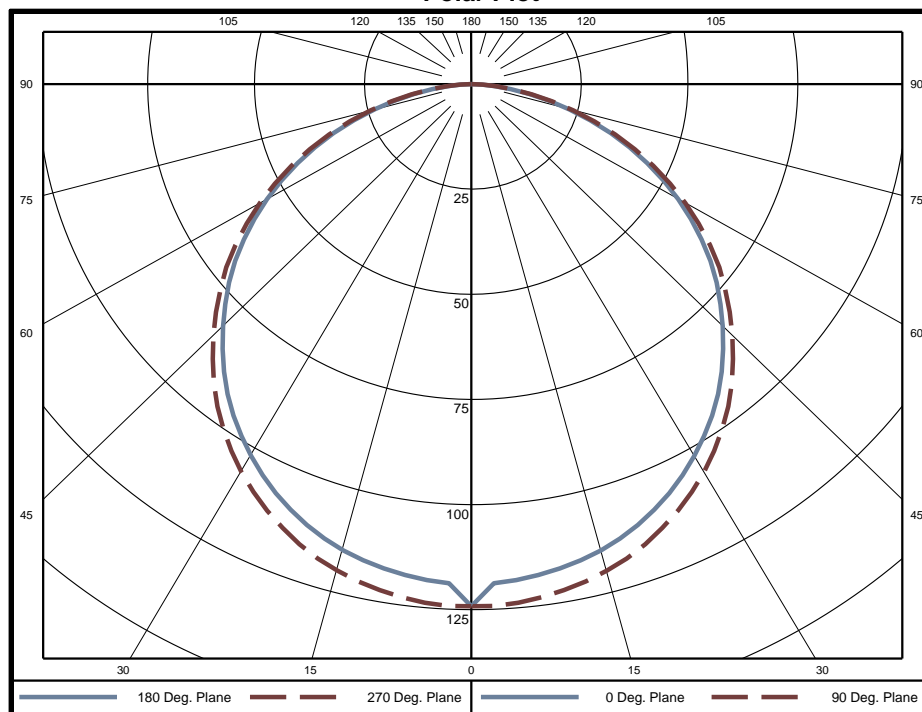
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.3 °C	24.00 VDC	0.1784 A	4.281 W	N / A	N / A	N / A

Summary of Results

Spacing Criteria
 0-180: 1.23
 90-270: 1.27

Total Lumen Output: 362 Lumens
Luminaire Efficacy: 84.6 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	3.1	0.9%	60-65	24.9	6.9%	120-125	0.0	0.0%
5-10	8.8	2.4%	65-70	20.5	5.7%	125-130	0.0	0.0%
10-15	14.3	4.0%	70-75	15.4	4.3%	130-135	0.0	0.0%
15-20	19.4	5.4%	75-80	10.2	2.8%	135-140	0.0	0.0%
20-25	23.9	6.6%	80-85	5.3	1.5%	140-145	0.0	0.0%
25-30	27.6	7.6%	85-90	1.6	0.4%	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	32.4	8.9%	105-110	0.0	0.0%	165-170	0.0	0.0%
50-55	31.0	8.6%	110-115	0.0	0.0%	170-175	0.0	0.0%
55-60	28.5	7.9%	115-120	0.0	0.0%	175-180	0.0	0.0%

Zone	Lumens	% of Luminaire
0-40	159.7	44.1%
0-60	284.4	78.5%
0-90	362.3	100.0%
90-180	0.0	0.0%



Candela Tabulation
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	118	124	125	124	124	124	125	124	118	124	125	124	124	124	125	124
10	117	122	123	123	122	123	123	122	117	122	123	123	122	123	123	122
15	115	120	121	120	120	120	121	120	115	120	121	120	120	120	121	120
20	112	116	118	117	116	117	118	116	112	116	118	117	116	117	118	116
25	107	112	113	112	112	112	113	112	107	112	113	112	112	112	113	112
30	102	107	108	107	107	107	108	107	102	107	108	107	107	107	108	107
35	96	101	101	100	100	100	101	101	96	101	101	100	100	100	101	101
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	77	76	76	76	77	76	73	76	77	76	76	76	77	76
55	64	67	67	67	67	67	67	67	64	67	67	67	67	67	67	67
60	55	57	57	57	57	57	57	57	55	57	57	57	57	57	57	57
65	44	46	46	46	46	46	46	46	44	46	46	46	46	46	46	46
70	34	35	35	35	35	35	35	35	34	35	35	35	35	35	35	35
75	23	24	24	24	24	24	24	24	23	24	24	24	24	24	24	24
80	13	14	14	14	14	14	14	14	13	14	14	14	14	14	14	14
85	5	6	6	6	6	6	6	6	5	6	6	6	6	6	6	6
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	42210	42210	42210
45	39180	41100	40630
55	38180	39920	39530
65	35780	37300	36980
75	30540	31910	31780
85	20340	23060	22180



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	432	432	432	432	422	422	422	422	403	403	403	386	386	386	370	370	370	363
1	394	376	361	347	384	368	354	341	353	341	330	339	329	320	325	318	311	303
2	358	328	302	281	348	321	298	278	308	288	272	296	280	265	285	271	259	251
3	326	287	257	233	317	281	254	231	270	247	227	260	240	223	251	234	219	211
4	298	254	222	197	290	249	219	196	240	214	193	231	209	190	223	204	188	180
5	274	227	194	169	266	223	192	168	215	187	166	208	183	165	201	180	163	155
6	253	204	171	147	246	200	169	147	194	166	145	188	163	144	182	160	143	135
7	234	185	153	130	228	182	151	130	176	149	129	171	146	128	166	144	127	119
8	218	168	137	116	212	166	136	115	161	134	115	156	132	114	152	130	113	106
9	203	154	124	104	198	152	123	104	148	122	103	144	120	103	140	118	102	95
10	191	142	113	94	186	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	31.0	2.55
3.00	13.8	3.82
4.00	7.76	5.09
6.00	3.45	7.64
8.00	1.94	10.2
10.0	1.24	12.7

Cone of Light Plot

