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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-BL30-W8016

Order Number
10665784
Test Number
895396

Test Date

2015-01-30 - 2015-01-31

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 3-meter integrating sphere using the 4π geometry method.
Absorption correction was employed for Sphere measurement



Luminaire Description: LED strip
Lamp: 36 white LEDs
Mounting: Surface

Luminaire



Luminaire Characteristics

Luminous Length: 0.38 in.
Luminous Width: 12.00 in.

Summary of Results

Integrating Sphere

Total Output: 184 Lumens
Efficacy: 67.0 lm/w
CCT: 3254 K
CRI (Ra): 86.0

Distribution

Total Output: 180.1 Lumens
Efficacy: 66.5 lm/w
Maximum Candela: 57.32 Candela

Electrical Data at 12VDC

Test Temperature: 24.9 °C
Voltage: 11.99 VDC
Current: 0.2291 A
Power: 2.748 W



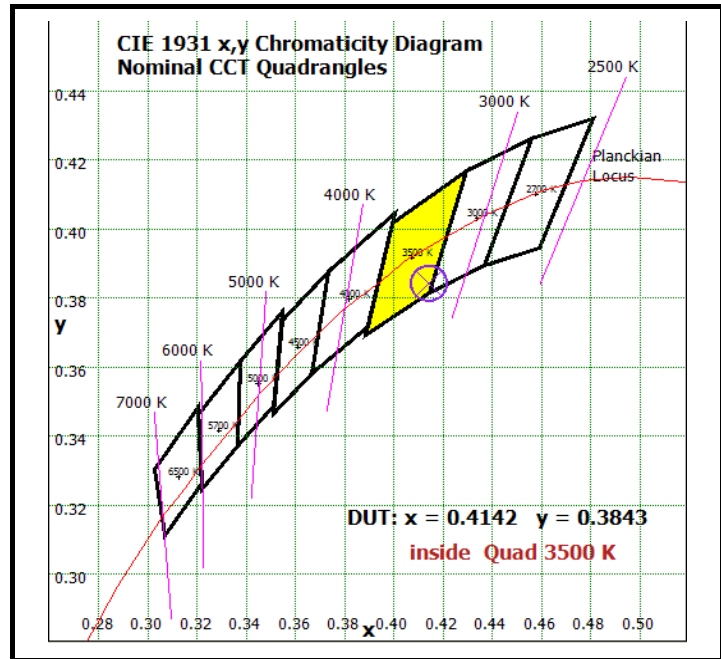
Color Quality - Integrating Sphere

Integrating Sphere Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.9 °C	11.99 VDC	0.2291 A	2.748 W	N / A	N / A	N / A

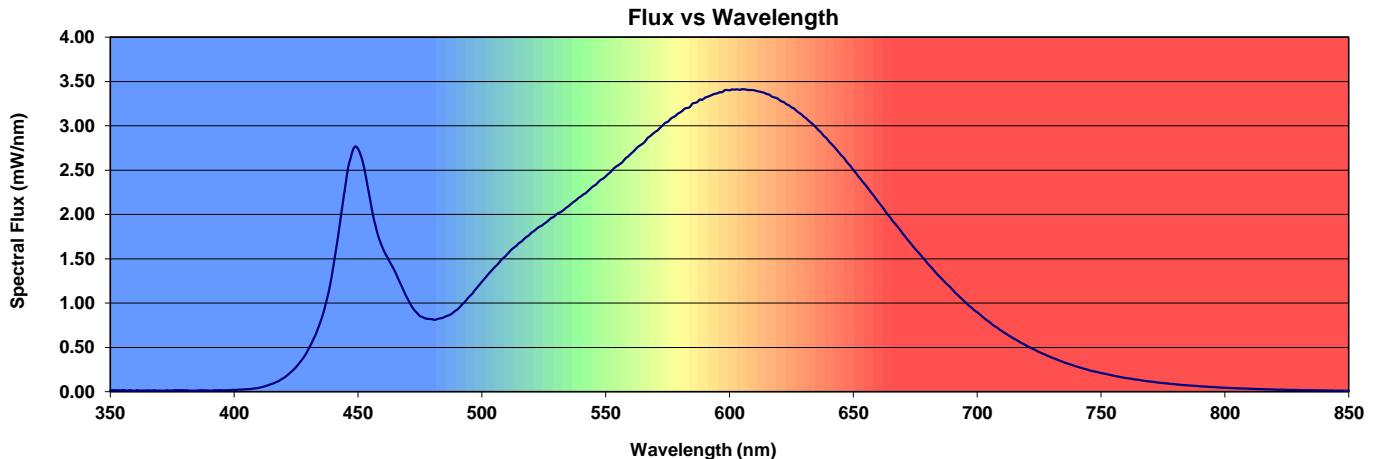
Summary of Results

Luminous Flux:	184 Lumens
Efficacy:	67.0 lm/w
CCT:	3254 K
CRI (Ra):	86.0
CRI (R9):	33.9
Chromaticity (x):	0.4142
Chromaticity (y):	0.3843
Chromaticity (u):	0.2442
Chromaticity (v):	0.3399
Chromaticity (u')	0.2442
Chromaticity (v')	0.5099
Duv:	-0.0047



Color Rendering Index Detail

Ra (CRI)	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
86.0	85.3	92.1	95.6	83.9	85.0	88.5	86.8	71.1	33.9	80.6	82.3	72.9	86.8	97.6





Distribution - Goniophotometer

Distribution Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.6 °C	12.00 VDC	0.2259 A	2.710 W	N / A	N / A	N / A

Summary of Results

Spacing Criteria

0-180: 1.28
90-270: 1.31

Total Lumen Output:

180 Lumens

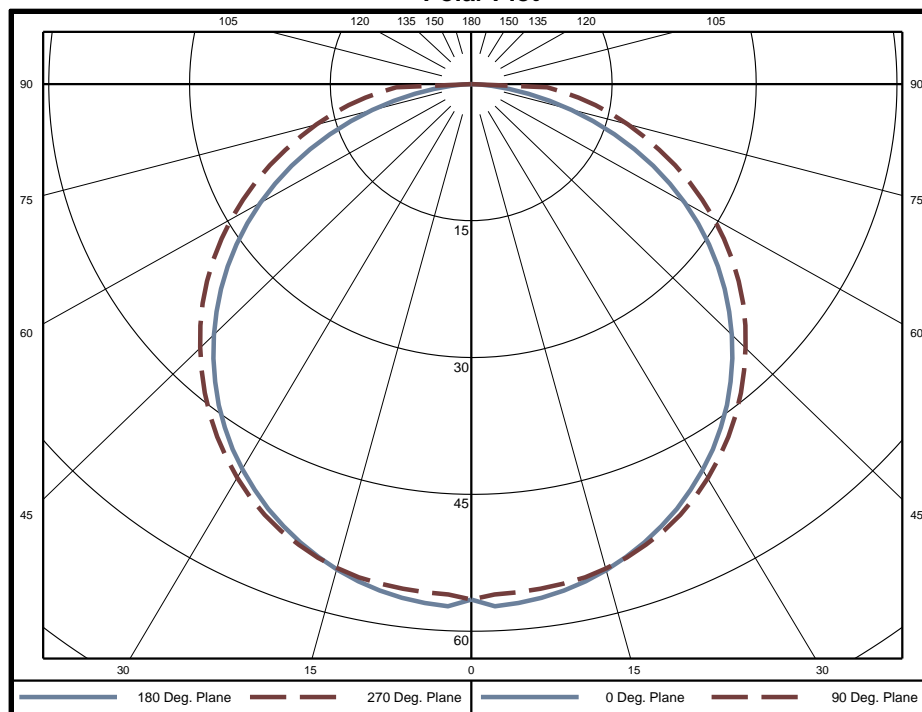
Luminaire Efficacy:

66.5 lm/w

Maximum Candela:

57 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	1.4	0.8%	60-65	12.6	7.0%	120-125	0.0	0.0%
5-10	4.0	2.2%	65-70	10.9	6.0%	125-130	0.0	0.0%
10-15	6.6	3.6%	70-75	8.8	4.9%	130-135	0.0	0.0%
15-20	8.9	5.0%	75-80	6.7	3.7%	135-140	0.0	0.0%
20-25	11.0	6.1%	80-85	4.7	2.6%	140-145	0.0	0.0%
25-30	12.8	7.1%	85-90	2.4	1.3%	145-150	0.0	0.0%
30-35	14.1	7.8%	90-95	0.0	0.0%	150-155	0.0	0.0%
35-40	15.1	8.4%	95-100	0.0	0.0%	155-160	0.0	0.0%
40-45	15.5	8.6%	100-105	0.0	0.0%	160-165	0.0	0.0%
45-50	15.5	8.6%	105-110	0.0	0.0%	165-170	0.0	0.0%
50-55	15.0	8.3%	110-115	0.0	0.0%	170-175	0.0	0.0%
55-60	14.0	7.8%	115-120	0.0	0.0%	175-180	0.0	0.0%

Zone	Lumens	% of Luminaire
0-40	73.9	41.0%
0-60	133.9	74.4%
0-90	180.1	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	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57
5	57	57	56	56	56	56	56	57	57	57	56	56	56	56	56	57
10	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56
15	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55
20	53	53	54	54	54	54	54	53	53	53	54	54	54	54	54	53
25	51	51	52	52	52	52	52	51	51	51	52	52	52	52	52	51
30	49	49	49	50	50	50	49	49	49	49	49	50	50	50	49	49
35	46	46	47	47	47	47	47	46	46	46	47	47	47	47	47	46
40	43	43	44	44	44	44	44	43	43	43	44	44	44	44	44	43
45	39	39	40	41	41	41	40	39	39	39	40	41	41	41	40	39
50	35	36	37	37	37	37	37	36	35	36	37	37	37	37	37	36
55	31	32	33	33	34	33	33	32	31	32	33	33	34	33	33	32
60	26	27	29	29	30	29	29	27	26	27	29	29	30	29	29	27
65	21	23	24	25	25	25	24	23	21	23	24	25	25	25	24	23
70	16	18	20	21	21	21	20	18	16	18	20	21	21	21	20	18
75	11	13	15	17	17	17	15	13	11	13	15	17	17	17	15	13
80	6	8	11	13	13	13	11	8	6	8	11	13	13	13	11	8
85	2	5	8	9	10	9	8	5	2	5	8	9	10	9	8	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)

	0	45	90
0	19220	19220	19220
45	18710	19420	19650
55	18170	19510	19900
65	17060	19430	20380
75	14390	19950	22460
85	8548	29820	37370



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	215	215	215	215	210	210	210	210	201	201	201	192	192	192	185	185	185	181
1	194	185	176	168	189	180	172	165	173	166	160	165	160	155	159	154	150	146
2	176	159	146	135	171	156	144	133	149	139	130	143	135	127	138	131	124	120
3	159	139	123	111	155	136	122	110	131	118	108	126	115	106	121	112	104	100
4	146	123	106	93	141	120	105	93	116	102	91	111	99	90	107	97	89	85
5	134	109	92	80	130	107	91	79	103	89	78	100	87	78	96	85	77	73
6	123	98	81	69	120	96	81	69	93	79	68	90	77	68	87	76	67	63
7	114	89	72	61	111	87	72	61	85	70	60	82	69	60	79	68	59	56
8	106	81	65	54	103	80	65	54	77	63	54	75	62	53	73	61	53	49
9	99	74	59	49	97	73	58	48	71	58	48	69	57	48	67	56	48	44
10	93	68	54	44	91	67	53	44	66	53	44	64	52	43	62	51	43	40

Cone of Light Tabulation

Mounting Height	Footcandles at Nadir	Diameter (Feet)
1.00	56.5	1.30
2.00	14.1	2.59
3.00	6.28	3.89
4.00	3.53	5.19
6.00	1.57	7.78
8.00	0.883	10.4
10.0	0.565	13.0

Cone of Light Plot

