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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**

Wes Buck  
Suite 211, 1195 Park Ave.  
Emeryville, CA 94608  
United States

**Catalog Number**  
**DI-12V-BL63-W8016**

Order Number  
10665784  
Test Number  
895397

Test Date

2015-01-30

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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## 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

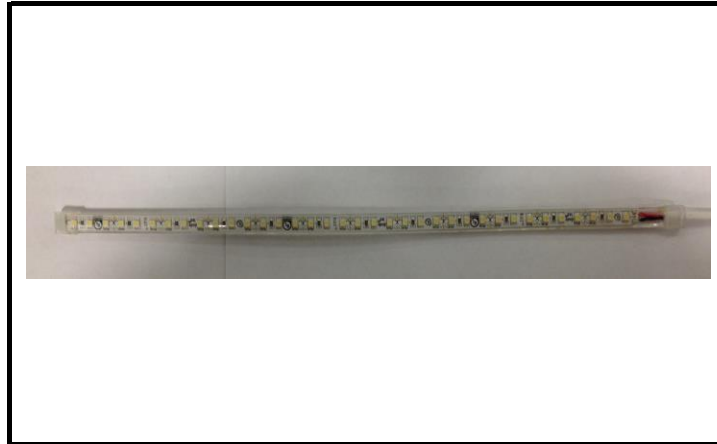
Laboratory results may not be representative of field performance  
Ballast factors have not been applied

Testing was performed in a 3-meter integrating sphere using the  $4\pi$  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: 207 Lumens  
Efficacy: 68.7 lm/w  
CCT: 6091 K  
CRI (Ra): 85.7

**Distribution**

Total Output: 198.7 Lumens  
Efficacy: 65.0 lm/w  
Maximum Candela: 61.79 Candela

**Electrical Data at 12VDC**

Test Temperature: 24.7 °C  
Voltage: 12.00 VDC  
Current: 0.2503 A  
Power: 3.004 W



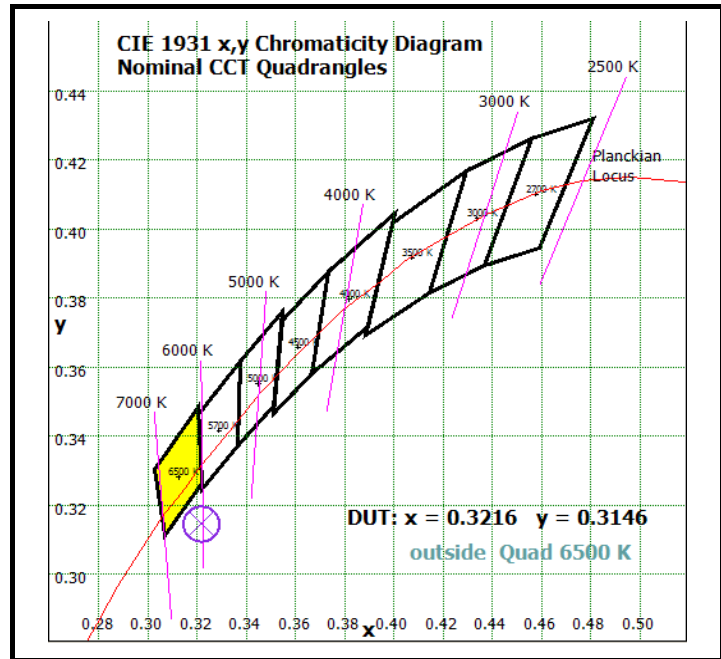
## Color Quality - Integrating Sphere

### Integrating Sphere Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.7 °C	12.00 VDC	0.2503 A	3.004 W	N / A	N / A	N / A

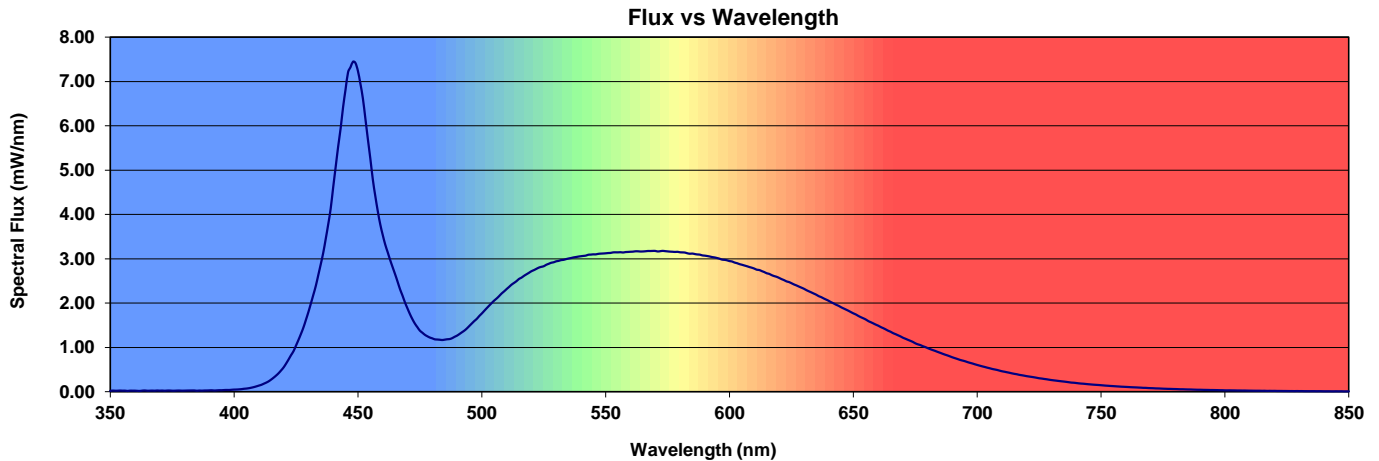
### Summary of Results

<b>Luminous Flux:</b>	207 Lumens
<b>Efficacy:</b>	68.7 lm/w
<b>CCT:</b>	6091 K
<b>CRI (Ra):</b>	85.7
<b>CRI (R9):</b>	50.1
Chromaticity (x):	0.3216
Chromaticity (y):	0.3146
Chromaticity (u):	0.2098
Chromaticity (v):	0.3078
Chromaticity (u')	0.2098
Chromaticity (v')	0.4618
Duv:	-0.0093



### Color Rendering Index Detail

Ra (CRI)	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
85.7	89.1	87.3	82.2	87.7	88.7	80.0	87.2	83.3	50.1	67.0	88.4	62.9	87.9	89.5





## Distribution - Goniophotometer

### Distribution Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.9 °C	12.00 VDC	0.2547 A	3.056 W	N / A	N / A	N / A

### Summary of Results

#### Spacing Criteria

0-180: 1.30  
90-270: 1.30

#### Total Lumen Output:

199 Lumens

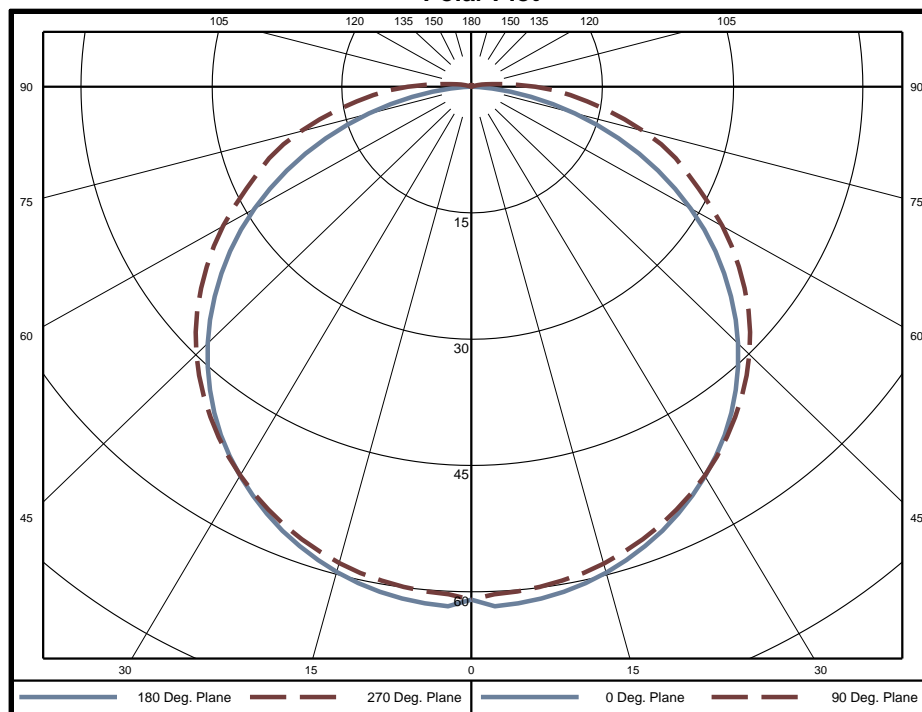
#### Luminaire Efficacy:

65.0 lm/w

#### Maximum Candela:

62 Candela

### Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	1.5	0.8%	60-65	14.1	7.1%	120-125	0.0	0.0%
5-10	4.3	2.2%	65-70	12.3	6.2%	125-130	0.0	0.0%
10-15	7.1	3.6%	70-75	10.2	5.1%	130-135	0.0	0.0%
15-20	9.6	4.8%	75-80	7.9	4.0%	135-140	0.0	0.0%
20-25	11.8	6.0%	80-85	5.5	2.8%	140-145	0.0	0.0%
25-30	13.8	6.9%	85-90	2.8	1.4%	145-150	0.0	0.0%
30-35	15.3	7.7%	90-95	0.0	0.0%	150-155	0.0	0.0%
35-40	16.4	8.2%	95-100	0.0	0.0%	155-160	0.0	0.0%
40-45	16.9	8.5%	100-105	0.0	0.0%	160-165	0.0	0.0%
45-50	17.0	8.6%	105-110	0.0	0.0%	165-170	0.0	0.0%
50-55	16.6	8.4%	110-115	0.0	0.0%	170-175	0.0	0.0%
55-60	15.6	7.9%	115-120	0.0	0.0%	175-180	0.0	0.0%

Zone	Lumens	% of Luminaire
0-40	79.7	40.1%
0-60	145.9	73.4%
0-90	198.7	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	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61
5	62	61	60	60	60	60	60	61	62	61	60	60	60	60	60	61
10	61	60	60	60	60	60	60	60	61	60	60	60	60	60	60	60
15	60	59	59	59	59	59	59	59	60	59	59	59	59	59	59	59
20	58	58	57	57	57	57	57	58	58	58	57	57	57	57	57	58
25	56	56	55	56	55	56	55	56	56	56	55	56	55	56	55	56
30	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53
35	51	50	50	51	51	51	50	50	51	50	50	51	51	51	50	50
40	47	47	47	48	48	48	47	47	47	47	47	48	48	48	47	47
45	43	43	44	45	45	45	44	43	43	43	44	45	45	45	44	43
50	39	39	41	41	41	41	41	39	39	39	41	41	41	41	41	39
55	34	35	36	37	37	37	36	35	34	35	36	37	37	37	36	35
60	29	30	32	33	33	33	32	30	29	30	32	33	33	33	32	30
65	24	25	27	28	29	28	27	25	24	25	27	28	29	28	27	25
70	18	20	22	24	25	24	22	20	18	20	22	24	25	24	22	20
75	12	15	18	20	20	20	18	15	12	15	18	20	20	20	18	15
80	7	10	13	15	16	15	13	10	7	10	13	15	16	15	13	10
85	2	5	9	11	11	11	9	5	2	5	9	11	11	11	9	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/m<sup>2</sup>)**

Horizontal Angle (Degrees)

	0	45	90
0	20720	20720	20720
45	20740	21190	21580
55	20190	21560	22100
65	18940	21690	23030
75	16110	23510	26690
85	9403	34440	44330



### 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	237	237	237	237	232	232	232	232	222	222	222	212	212	212	204	204	204	199
1	214	203	193	184	208	198	190	181	190	182	176	182	176	170	175	170	165	161
2	193	175	160	148	188	171	157	146	164	152	142	157	147	139	151	143	136	131
3	175	153	135	121	170	149	133	120	143	129	118	138	126	116	132	122	114	109
4	160	134	116	102	155	132	114	101	127	111	99	122	109	98	117	106	97	92
5	147	120	101	87	142	117	100	86	113	97	85	109	95	84	105	93	83	79
6	135	107	89	75	131	105	88	75	102	86	74	98	84	73	95	83	73	69
7	125	97	79	66	122	95	78	66	92	77	65	89	75	65	87	74	64	60
8	116	88	71	59	113	87	70	59	84	69	58	82	68	58	79	67	57	53
9	109	81	64	53	106	80	64	53	77	63	52	75	62	52	73	61	52	48
10	102	75	58	48	99	74	58	48	72	57	47	70	56	47	68	56	47	43

### Cone of Light Tabulation

Mounting Height	Footcandles at Nadir	Diameter (Feet)
1.00	60.9	1.30
2.00	15.2	2.60
3.00	6.77	3.90
4.00	3.81	5.20
6.00	1.69	7.80
8.00	0.952	10.4
10.0	0.609	13.0

### Cone of Light Plot

