



UL Verification Services Inc.  
7036 Snowdrift Road  
Allentown, PA 18106  
610-774-1300

## Integrating Sphere Test Report

Relevant Standards  
IES LM-79-2008  
ANSI C78.377-2011, ANSI C82.77-2002  
CIE 13.3-1995, CIE 15-2004

Prepared For  
Elemental LED Inc, DBA Diode LED  
Wes Buck  
Suite 211, 1195 Park Ave.  
Emeryville, CA 94608  
United States

Catalog Number  
HYDROLUME™ 24V LED Strip Light DI-24V-HL35-80-XX

Order Number  
10460077  
Test Number  
758962

Test Date  
2014-09-26

Prepared By

*Javier Caban*

Javier Caban, Technician

Approved By

*Eric M. Gaudreau*

Eric Gaudreau, Engineering Project Handler

The results contained in this report pertain only to the tested sample.  
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Luminaire Description: LED strip  
Catalog Number: HYDROLUME™ 24V LED Strip Light DI-24V-HL35-80-XX  
Lamp: 12 white LEDs  
Mounting: Surface  
Ballast/Driver: One Meanwell LPV-60-24

Luminaire



#### Summary of Results

Radiant Flux:	299.1 mW
Luminous Flux:	95.34 Lumens
Luminaire Efficacy:	38.9 Lumens/Watt
CCT:	3866 K
CRI (Ra):	76.5
Chromaticity (x):	0.3861
Chromaticity (y):	0.3793
Chromaticity (u):	0.2278
Chromaticity (v):	0.3357
Duv:	-0.0006

#### Test Conditions

Test Temperature:	25.7 °C
Voltage:	120.0 VAC
Current:	0.05636 A
Power:	2.450 W
Power Factor:	0.363
Frequency:	60 Hz
Current THD:	175 %

Testing was performed in a 1-meter integrating sphere using the 4 $\pi$  geometry method.

Absorption correction was employed for this measurement.

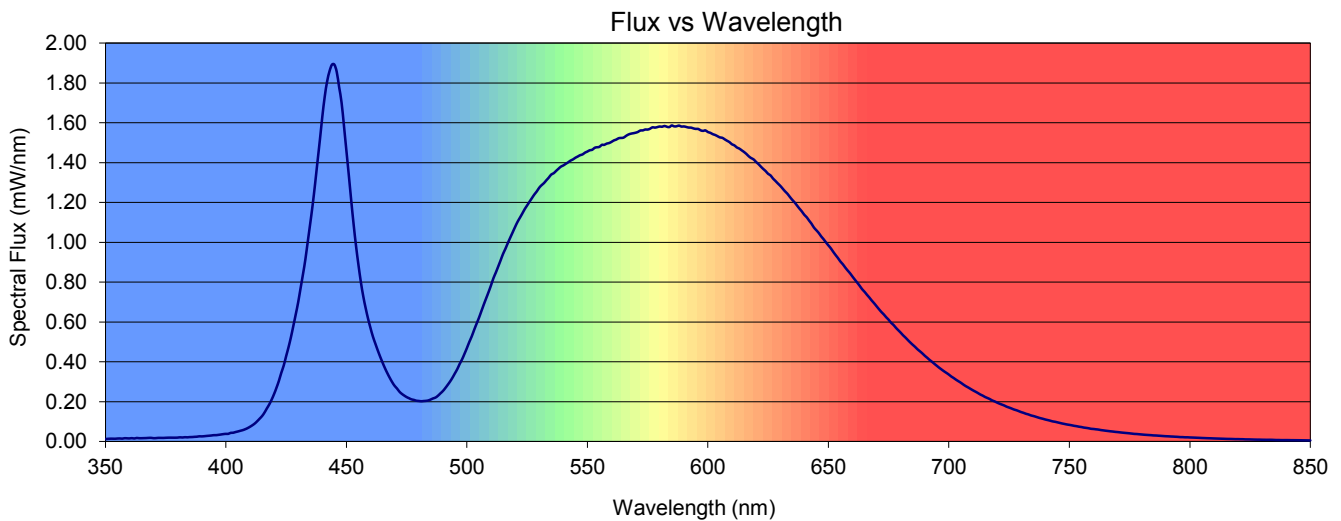
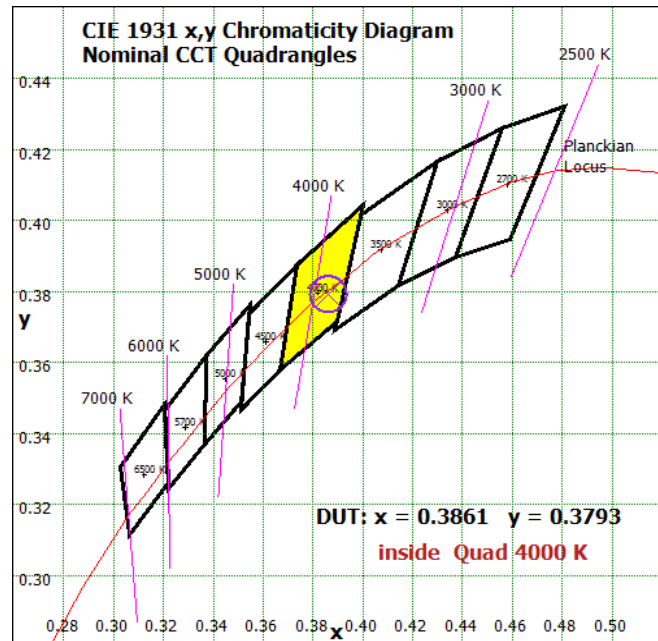
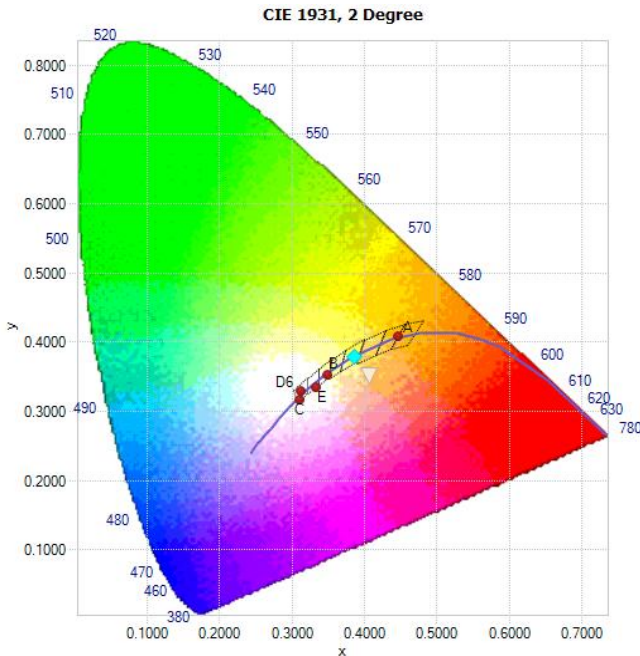


Chromaticity Coordinates

x	y	u	v	u'	v'	Duv
0.3861	0.3793	0.2278	0.3357	0.2278	0.5035	-0.0006

Color Rendering Index Detail

Ra (CRI)	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
76.5	76.4	80.0	81.3	77.7	75.0	71.3	83.0	67.0	10.2	51.5	75.3	48.5	76.1	88.9







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## Photometric Indoor 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  
HYDROLUME™ 24V LED Strip Light DI-24V-HL35-80-XX  
Project Number  
10460077  
Test Number  
758961

Test Date

2014-09-24

Prepared By

Handwritten signature of Javier Caban in black ink.

Javier Caban, Technician

Approved By

Handwritten signature of Eric M. Gaudreau in black ink.

Eric Gaudreau, Engineering Project Handler

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Luminaire Description: LED strip  
Catalog Number: HYDROLUME™ 24V LED Strip Light DI-24V-HL35-80-XX  
Lamp: 12 white LEDs  
Mounting: Surface  
Ballast/Driver: One Meanwell LPV-60-24

Luminaire

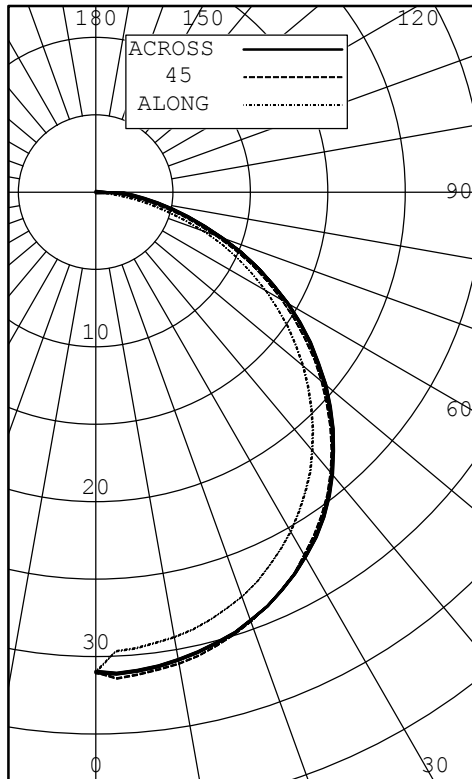


Test Conditions

Test Temperature:	24.2 °C
Voltage:	120.0 VAC
Current:	0.05255 A
Power:	2.428 W
Power Factor:	0.385
Frequency:	60 Hz
Current THD:	162 %



INTENSITY (CANDLEPOWER) SUMMARY OUTPUT LUMENS



ANGLE	ALONG	22.5	45	67.5	ACROSS	OUTPUT LUMENS
0	31	31	31	31	31	
5	30	31	31	31	31	3
10	29	31	31	31	31	
15	29	30	30	30	30	8
20	28	29	30	30	29	
25	27	28	28	28	28	13
30	25	27	27	27	27	
35	24	25	25	26	26	16
40	22	23	24	24	24	
45	20	21	21	22	22	16
50	18	19	19	19	19	
55	15	16	17	17	17	15
60	13	14	14	14	14	
65	10	11	11	12	12	11
70	8	8	8	9	9	
75	5	5	6	6	6	6
80	3	3	4	4	4	
85	1	1	2	2	2	2
90	0	0	0	0	0	

ZONAL LUMENS AND PERCENTAGES

ZONE	LUMENS	% LUMINAIRE
0-30	24	27.11
0-40	40	44.59
0-60	71	78.94
0-90	90	100.00
40-90	50	55.41
60-90	19	21.06
90-180	0	0.00
0-180	90	100.00

EFFICACY (LUMENS PER WATT): 37.5

\*\*\* THIS IS AN ABSOLUTE TEST \*\*\*

LUMINOUS LENGTH: 12.000 INS  
 WIDTH: 0.500 INS

LUMINANCE SUMMARY CD./SQ.M.

S/MH: 1.3  
 SC (ALONG): 1.2, SC (ACROSS): 1.3

ANGLE	ALONG	45	ACROSS
45	7197	7866	7939
55	6823	7459	7640
65	6204	6839	7117
75	4741	5746	6212
85	2519	5497	7289

TESTED IN ACCORDANCE WITH IES PROCEDURES.



INTENSITY (CANDLEPOWER) DATA  
 IN 2.5 DEGREE STEPS

ANGLE	PLANE						OUTPUT LUMENS
	ALONG	22.5	45	67.5	ACROSS	AVERAGE	
0.0	31	31	31	31	31	31	
2.5	30	31	31	31	31	31	
5.0	30	31	31	31	31	31	3
7.5	29	31	31	31	31	31	
10.0	29	31	31	31	31	31	
12.5	29	30	31	31	30	30	
15.0	29	30	30	30	30	30	8
17.5	28	30	30	30	30	30	
20.0	28	29	30	30	29	29	
22.5	27	29	29	29	29	29	
25.0	27	28	28	28	28	28	13
27.5	26	27	28	28	28	27	
30.0	25	27	27	27	27	27	
32.5	24	26	26	26	26	26	
35.0	24	25	25	26	26	25	16
37.5	23	24	25	25	25	24	
40.0	22	23	24	24	24	23	
42.5	21	22	23	23	23	22	
45.0	20	21	21	22	22	21	16
47.5	19	20	20	21	21	20	
50.0	18	19	19	19	19	19	
52.5	16	17	18	18	18	18	
55.0	15	16	17	17	17	16	15
57.5	14	15	15	16	16	15	
60.0	13	14	14	14	14	14	
62.5	11	12	13	13	13	12	
65.0	10	11	11	12	12	11	11
67.5	9	9	10	10	10	10	
70.0	8	8	8	9	9	8	
72.5	6	7	7	7	7	7	
75.0	5	5	6	6	6	6	6
77.5	4	4	5	5	5	5	
80.0	3	3	4	4	4	3	
82.5	2	2	3	3	3	3	
85.0	1	1	2	2	2	2	2
87.5	0	1	1	2	2	1	
90.0	0	0	0	0	0	0	





COEFFICIENTS OF UTILIZATION

ZONAL CAVITY METHOD

EFFECTIVE FLOOR CAVITY REFLECTANCE = .20

CC WALL	90				80				70				50				30				10				0	
	70	50	30	10	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0	
RCR	0	1.221	.221	.221	.22	1.191	.191	.191	.19	1.161	.161	.161	.16	1.111	.111	.111	.11	1.061	.061	.061	.06	1.021	.021	.021	.02	1.00
	1	1.121	.071	.071	.030	1.091	.051	.051	.010	1.071	.030	.030	.096	0.980	.950	.93	0.940	.920	.90	0.910	.890	.87	0.85			
	2	1.030	.950	.880	.82	1.000	.930	.860	.81	0.980	.910	.850	.80	0.870	.820	.78	0.840	.800	.76	0.810	.780	.75	0.73			
	3	0.940	.830	.750	.69	0.920	.820	.740	.68	0.890	.800	.730	.67	0.770	.710	.66	0.750	.700	.65	0.720	.680	.64	0.62			
	4	0.870	.750	.650	.59	0.850	.730	.650	.59	0.820	.720	.640	.58	0.690	.630	.57	0.670	.610	.57	0.650	.600	.56	0.54			
	5	0.800	.670	.570	.51	0.780	.650	.570	.50	0.760	.640	.560	.50	0.620	.550	.50	0.600	.540	.49	0.580	.530	.48	0.46			
	6	0.740	.600	.500	.44	0.720	.590	.500	.44	0.700	.580	.490	.43	0.560	.480	.43	0.540	.480	.43	0.530	.470	.42	0.40			
	7	0.670	.530	.440	.38	0.660	.520	.440	.38	0.640	.510	.430	.37	0.500	.420	.37	0.480	.420	.37	0.470	.410	.36	0.35			
	8	0.620	.480	.390	.33	0.610	.470	.390	.33	0.590	.470	.390	.33	0.450	.380	.33	0.440	.370	.33	0.430	.370	.32	0.30			
	9	0.580	.440	.350	.29	0.560	.430	.350	.29	0.550	.420	.350	.29	0.410	.340	.29	0.400	.330	.29	0.390	.330	.28	0.27			
	10	0.530	.400	.310	.26	0.520	.390	.310	.26	0.510	.390	.310	.26	0.380	.300	.26	0.370	.300	.25	0.360	.300	.25	0.23			

THE ABOVE COEFFICIENTS HAVE BEEN CALCULATED BASED ON LUMINAIRE LUMENS  
 BECAUSE IN AN ABSOLUTE TEST THE BARE LAMP LUMENS ARE UNKNOWN.  
 LIGHTING DESIGN CALCULATIONS MADE USING THESE COEFFICIENTS SHOULD  
 THEREFORE USE THE LUMINAIRE LUMENS IN THE CALCULATION FORMULA

LABORATORY RESULTS MAY NOT BE REPRESENTATIVE OF FIELD PERFORMANCE.  
 BALLAST AND FIELD FACTORS HAVE NOT BEEN APPLIED.

TEST DISTANCE EXCEEDS FIVE TIMES THE GREATEST  
 LUMINOUS OPENING OF LUMINAIRE.



## Cone of Light

**Cone Of Light Tabulation**

Mounting Height (Feet)	Footcandles at Nadir	Diameter (Feet)
4.00	1.95	5.10
6.00	0.868	7.65
8.00	0.488	10.2
10.0	0.313	12.8
12.0	0.217	15.3
14.0	0.159	17.9
16.0	0.122	20.4

**Cone of Light Plot**

