



7826 East Evans Road  
Scottsdale, AZ 85260  
480-991-9260

## Photometric Indoor Test Report

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

Prepared For  
**Environmental Lights**  
11235 W. Bernardo Court, Suite 102  
San Diego, CA 92127

Catalog Number  
**ww3528-450-reel**  
Project Number  
**10345709**  
Test Number  
**33079**

Test Date

2014-06-16

Prepared By

Handwritten signature of Dennis Boyles in black ink.

Dennis Boyles, Technician

Approved By

Handwritten signature of Jim Domigan in black ink.

Jim Domigan, Laboratory Team Leader

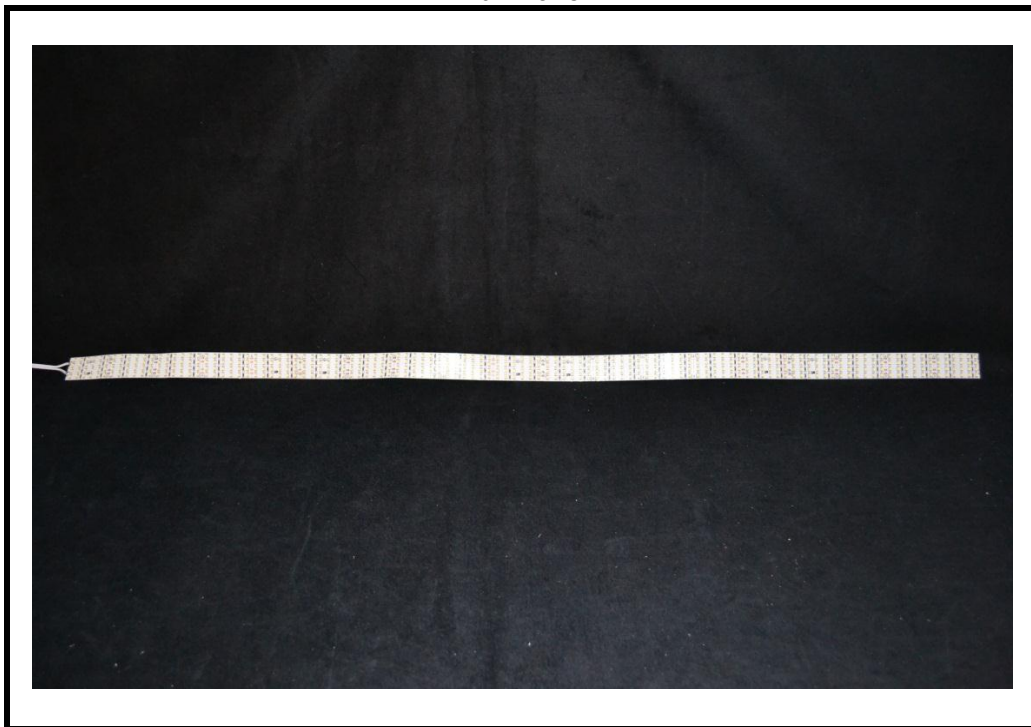
The results contained in this report pertain only to the tested sample.  
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Luminaire Description: LED Strip Light  
Catalog Number: ww3528-450-reel  
Lamp: LED Array  
Ballast/Driver: One Mean Well SP-320-24 Driver

Luminaire



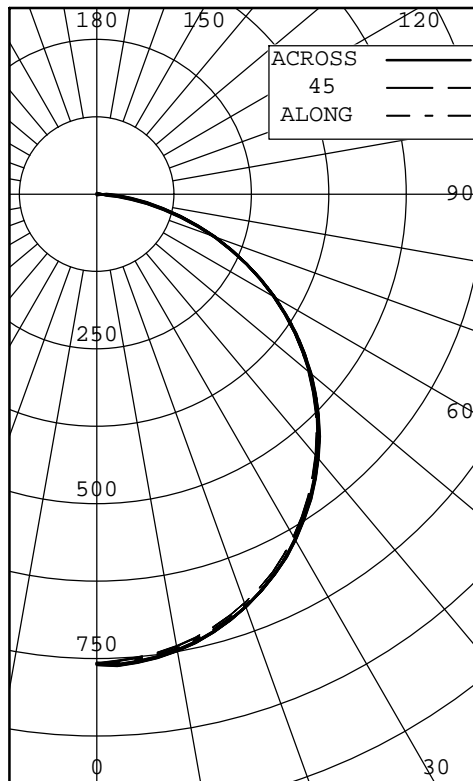
Test Conditions

Test Temperature: 24.8 °C  
Voltage: 24.0 VDC



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INTENSITY (CANDLEPOWER) SUMMARY OUTPUT LUMENS



ANGLE	ALONG	22.5	45	67.5	ACROSS	OUTPUT LUMENS
0	758	758	758	758	758	
5	755	749	752	760	758	73
10	745	739	742	749	749	
15	728	722	725	733	732	205
20	705	699	701	708	708	
25	676	672	673	679	678	311
30	642	637	637	643	643	
35	601	597	596	601	601	374
40	556	551	550	556	555	
45	506	502	501	505	505	387
50	452	448	447	451	450	
55	395	390	390	393	392	349
60	333	329	330	331	330	
65	270	267	268	269	267	265
70	207	204	205	205	204	
75	143	141	142	142	141	150
80	84	82	83	84	82	
85	35	34	35	35	35	41
90	0	0	0	0	0	

ZONAL LUMENS AND PERCENTAGES

ZONE	LUMENS	% LUMINAIRE
0-30	588	27.31
0-40	962	44.67
0-60	1699	78.87
0-90	2154	100.00
40-90	1192	55.33
60-90	455	21.13
90-180	0	0.00
0-180	2154	100.00

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

LUMINOUS LENGTH: 39.370 INS  
 WIDTH: 0.875 INS

LUMINANCE SUMMARY CD./SQ.M.

S/MH: 1.3  
 SC: 1.3

ANGLE	ALONG	45	ACROSS
45	32213	31994	32250
55	30950	30718	30871
65	28788	28585	28572
75	24912	24637	24562
85	17966	18089	17905

TESTED IN ACCORDANCE WITH IES PROCEDURES.



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INTENSITY (CANDLEPOWER) DATA  
 IN 2.5 DEGREE STEPS

ANGLE	PLANE						OUTPUT LUMENS
	ALONG	22.5	45	67.5	ACROSS	AVERAGE	
0.0	758	758	758	758	758	758	
2.5	758	751	755	762	762	757	
5.0	755	749	752	760	758	754	73
7.5	751	745	747	755	755	750	
10.0	745	739	742	749	749	744	
12.5	737	731	734	742	741	737	
15.0	728	722	725	733	732	727	205
17.5	717	711	714	721	721	716	
20.0	705	699	701	708	708	704	
22.5	691	686	688	695	694	690	
25.0	676	672	673	679	678	675	311
27.5	660	655	656	662	661	658	
30.0	642	637	637	643	643	640	
32.5	622	618	617	623	622	620	
35.0	601	597	596	601	601	599	374
37.5	579	575	573	579	579	576	
40.0	556	551	550	556	555	553	
42.5	532	527	526	531	531	529	
45.0	506	502	501	505	505	503	387
47.5	480	475	474	478	478	477	
50.0	452	448	447	451	450	449	
52.5	424	420	419	423	421	421	
55.0	395	390	390	393	392	392	349
57.5	365	360	360	362	361	361	
60.0	333	329	330	331	330	330	
62.5	302	298	299	300	299	299	
65.0	270	267	268	269	267	268	265
67.5	239	235	236	237	236	237	
70.0	207	204	205	205	204	205	
72.5	175	172	173	173	172	173	
75.0	143	141	142	142	141	142	150
77.5	113	111	111	112	111	111	
80.0	84	82	83	84	82	83	
82.5	58	56	57	58	57	57	
85.0	35	34	35	35	35	35	41
87.5	16	16	17	17	16	16	
90.0	0	0	0	0	0	0	



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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	.06	1.021	.021	.02	1.00			
1	1.121	.071	.030	.99	1.101	.051	.010	.97	1.071	.030	.990	.96	0.980	.960	.93	0.950	.920	.90	0.910	.890	.87	0.85				
2	1.030	.950	.880	.82	1.000	.930	.870	.81	0.980	.910	.850	.80	0.870	.830	.78	0.840	.800	.77	0.810	.780	.75	0.73				
3	0.940	.830	.750	.69	0.920	.820	.740	.68	0.890	.800	.730	.68	0.780	.710	.66	0.750	.700	.65	0.720	.680	.64	0.62				
4	0.870	.750	.660	.59	0.850	.730	.650	.59	0.830	.720	.650	.58	0.700	.630	.58	0.670	.620	.57	0.650	.600	.56	0.54				
5	0.800	.670	.580	.51	0.780	.660	.570	.51	0.760	.640	.560	.50	0.620	.550	.50	0.600	.540	.49	0.590	.530	.49	0.47				
6	0.740	.600	.510	.44	0.720	.590	.500	.44	0.700	.580	.500	.44	0.560	.490	.43	0.540	.480	.43	0.530	.470	.42	0.41				
7	0.670	.530	.440	.39	0.660	.530	.440	.38	0.640	.520	.440	.38	0.500	.430	.38	0.490	.420	.37	0.480	.420	.37	0.35				
8	0.630	.480	.400	.34	0.610	.480	.390	.34	0.600	.470	.390	.33	0.460	.380	.33	0.450	.380	.33	0.430	.370	.33	0.31				
9	0.580	.440	.350	.30	0.570	.440	.350	.30	0.550	.430	.350	.30	0.420	.340	.29	0.410	.340	.29	0.390	.330	.29	0.27				
10	0.540	.400	.310	.26	0.530	.400	.310	.26	0.510	.390	.310	.26	0.380	.310	.26	0.370	.300	.26	0.360	.300	.26	0.24				

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.



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**All testing was conducted in accordance with LM-79-08,**

Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products as published by the Illuminating Engineering Society of North America (IESNA).

The condition of the item tested was new. Stabilization time before testing meets the stabilization requirements of LM-79-08.

The test results (luminous distribution and flux) were obtained by using a Lighting Sciences series 6000 Type C Moving Mirror Goniophotometer

- The photometric reference standard used is a set of three incandescent luminous intensity standard lamps calibrated and traceable to the U.S. National Institute of Standards and Technology.

Power measurements were obtained with a Xitron 2801 power analyzer.

Ambient temperature during testing was  $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$ , measured using an Omega model DP460.

Calibration certificates are on file at the laboratory

The results in this report apply to the test sample(s) mentioned in this report at the time of the testing period only and are not to be used to indicate applicability to other similar products.