



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  
wwrf-reel  
Project Number  
10345709  
Test Number  
33056

Test Date

2014-06-18

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

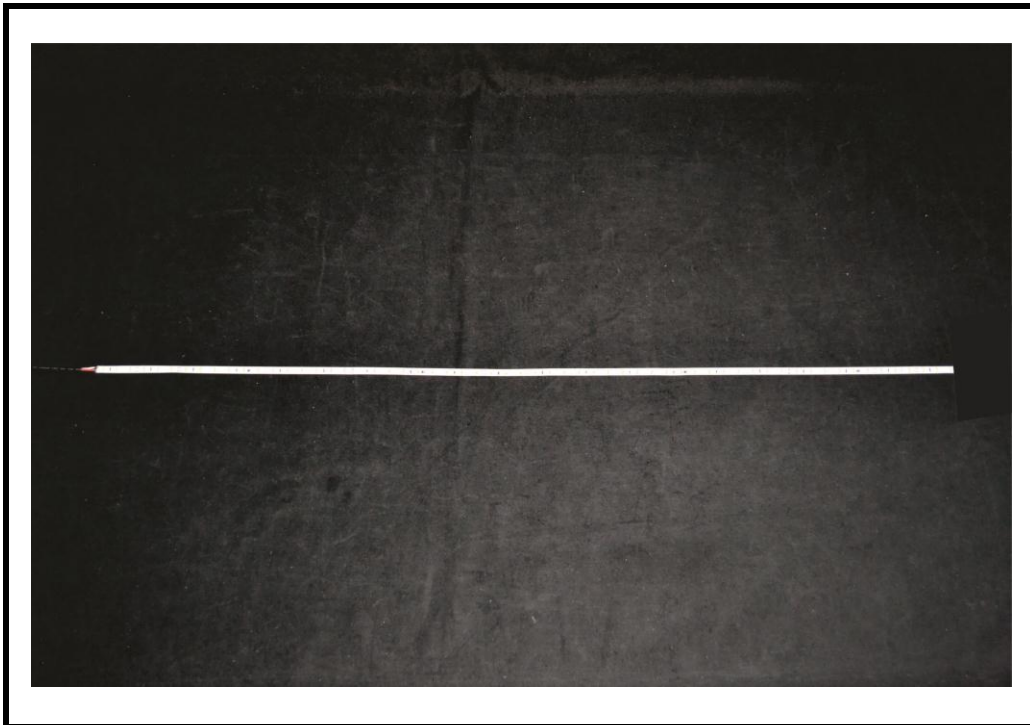
The results contained in this report pertain only to the tested sample.  
This report shall not be reproduced, except in full, without written approval of Underwriters Laboratories.



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

Luminaire Description: LED Strip Light  
Catalog Number: wwrf-reel  
Lamp: LED Array  
Ballast/Driver: One Mean Well SP-240-12 Driver

Luminaire



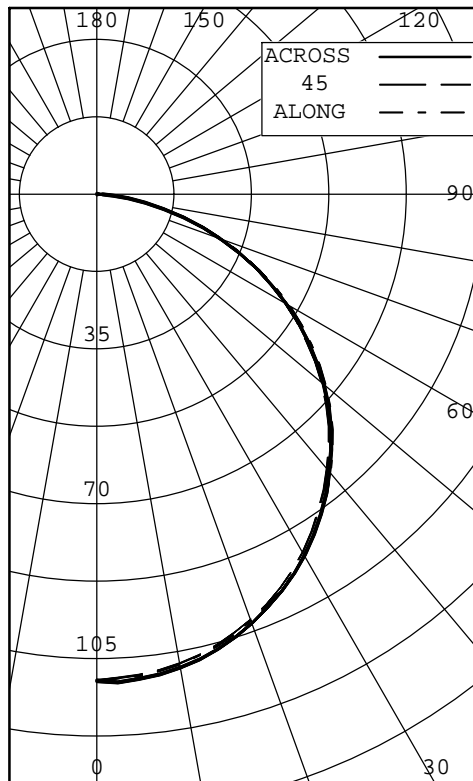
Test Conditions

Test Temperature: 24.9 °C  
Voltage: 12.0 VDC



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

INTENSITY (CANDLEPOWER) SUMMARY OUTPUT LUMENS



ANGLE	ALONG	22.5	45	67.5	ACROSS	OUTPUT LUMENS
0	110	110	110	110	110	
5	109	109	109	110	110	11
10	108	107	108	109	109	
15	106	105	105	107	106	30
20	103	102	102	103	103	
25	99	98	98	99	99	45
30	94	93	93	94	94	
35	88	88	87	88	88	55
40	82	81	81	82	82	
45	75	74	74	75	75	57
50	68	67	66	67	67	
55	59	58	58	58	58	52
60	50	49	49	49	49	
65	41	40	40	40	40	39
70	31	30	30	30	30	
75	21	20	20	20	20	22
80	11	11	11	11	11	
85	4	4	4	4	4	5
90	0	0	0	0	0	

ZONAL LUMENS AND PERCENTAGES

ZONE	LUMENS	% LUMINAIRE
0-30	86	27.12
0-40	141	44.50
0-60	250	79.12
0-90	316	100.00
40-90	175	55.50
60-90	66	20.88
90-180	0	0.00
0-180	316	100.00

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

LUMINOUS LENGTH: 39.370 INS  
 WIDTH: 0.250 INS

LUMINANCE SUMMARY CD./SQ.M.

S/MH: 1.3  
 SC: 1.3

ANGLE	ALONG	45	ACROSS
45	16770	16588	16722
55	16267	15943	16095
65	15147	14789	14924
75	12686	12457	12429
85	7137	7246	7074

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	110	110	110	110	110	110	
2.5	110	109	110	111	111	110	
5.0	109	109	109	110	110	109	11
7.5	109	108	109	110	110	109	
10.0	108	107	108	109	109	108	
12.5	107	106	107	108	108	107	
15.0	106	105	105	107	106	106	30
17.5	104	104	104	105	105	104	
20.0	103	102	102	103	103	103	
22.5	101	100	100	101	101	101	
25.0	99	98	98	99	99	99	45
27.5	97	96	96	97	97	96	
30.0	94	93	93	94	94	94	
32.5	91	91	90	91	91	91	
35.0	88	88	87	88	88	88	55
37.5	85	85	84	85	85	85	
40.0	82	81	81	82	82	82	
42.5	79	78	78	78	78	78	
45.0	75	74	74	75	75	75	57
47.5	72	71	70	71	71	71	
50.0	68	67	66	67	67	67	
52.5	64	62	62	63	63	63	
55.0	59	58	58	58	58	58	52
57.5	55	54	54	54	54	54	
60.0	50	49	49	49	49	49	
62.5	46	44	44	45	45	45	
65.0	41	40	40	40	40	40	39
67.5	36	35	35	35	35	35	
70.0	31	30	30	30	30	30	
72.5	26	25	25	25	25	25	
75.0	21	20	20	20	20	20	22
77.5	16	16	16	16	16	16	
80.0	11	11	11	11	11	11	
82.5	7	7	7	7	7	7	
85.0	4	4	4	4	4	4	5
87.5	2	2	2	2	2	2	
90.0	0	0	0	0	0	0	



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

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	.98	1.071	.030	.990	.96	0.990	.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	0.900	.800	.730	.68	0.780	.720	.67	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	.650	.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	0.440	.380	.33	0.430	.370	.33	0.31				
9	0.580	.440	.350	.29	0.570	.430	.350	.29	0.550	.430	.350	.29	0.410	.340	.29	0.400	.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.



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

**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.