



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
swrf-reel
Project Number
10345709
Test Number
33057

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

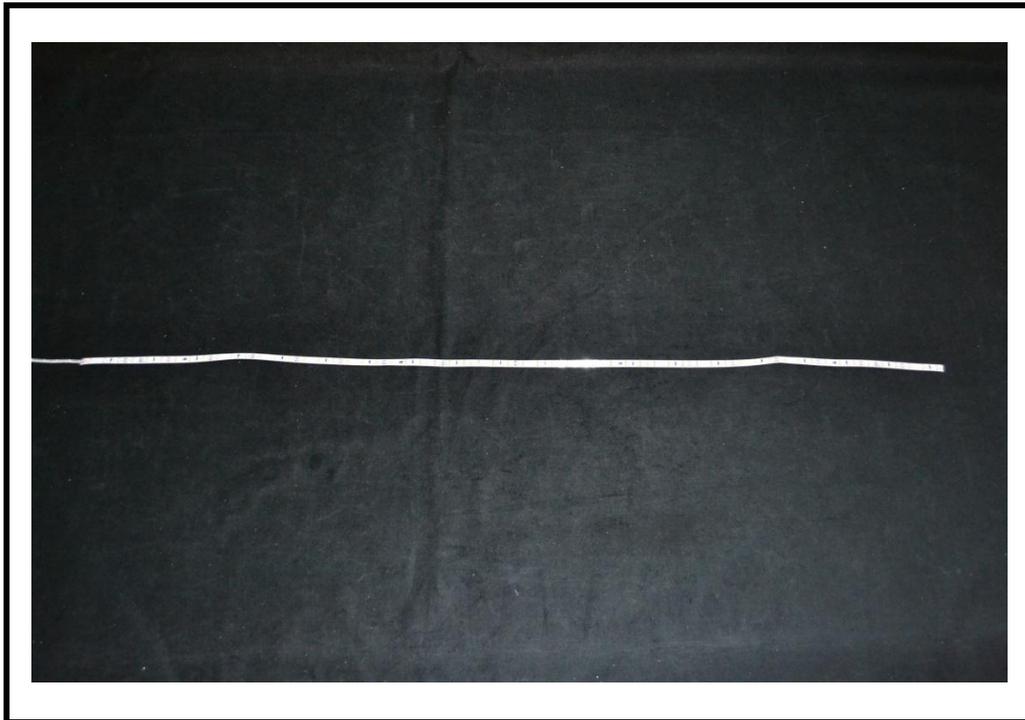
The results contained in this report pertain only to the tested sample.
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Luminaire Description: LED Strip Light
Catalog Number: swrf-reel
Lamp: LED Array
Ballast/Driver: One Mean Well SP-240-12 Driver

Luminaire



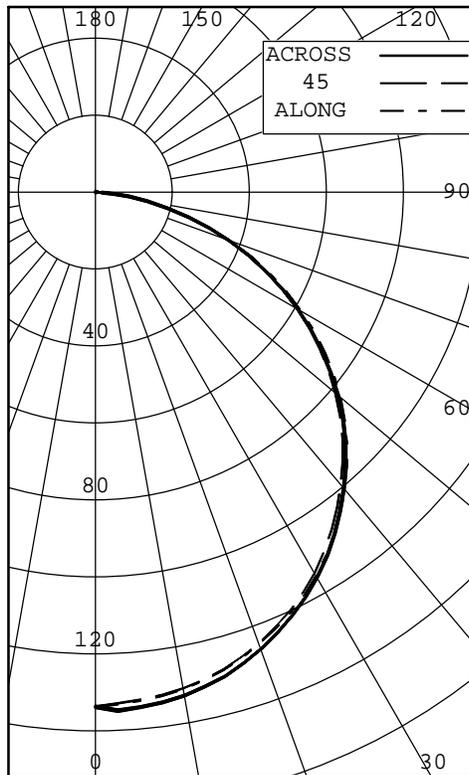
Test Conditions

Test Temperature: 24.9 °C
Voltage: 12.0 VDC



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INTENSITY (CANDLEPOWER) SUMMARY OUTPUT LUMENS



ANGLE	ALONG	22.5	45	67.5	ACROSS	OUTPUT LUMENS
0	134	134	134	134	134	
5	133	132	133	134	134	13
10	131	130	131	132	133	
15	129	128	128	130	130	36
20	125	124	125	126	126	
25	120	120	120	121	121	55
30	115	114	114	115	115	
35	108	107	107	108	108	67
40	101	99	99	100	100	
45	92	91	91	92	92	70
50	83	82	81	82	82	
55	73	71	71	72	72	64
60	62	60	60	61	61	
65	50	49	49	49	49	48
70	38	37	37	37	37	
75	25	25	25	25	25	27
80	14	14	14	14	14	
85	5	5	5	5	5	6
90	0	0	0	0	0	

ZONAL LUMENS AND PERCENTAGES

ZONE	LUMENS	% LUMINAIRE
0-30	104	27.00
0-40	172	44.36
0-60	306	79.03
0-90	387	100.00
40-90	215	55.64
60-90	81	20.97
90-180	0	0.00
0-180	387	100.00

*** THIS IS AN ABSOLUTE TEST ***

LUMINOUS LENGTH: 39.370 INS
 WIDTH: 0.125 INS

LUMINANCE SUMMARY CD./SQ.M.

S/MH: 1.3
 SC: 1.3

ANGLE	ALONG	45	ACROSS
45	41134	40576	41068
55	40003	39218	39494
65	37263	36497	36582
75	30909	30520	30600
85	18430	18115	17957

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	134	134	134	134	134	134	
2.5	133	132	133	135	135	134	
5.0	133	132	133	134	134	133	13
7.5	132	131	132	133	134	132	
10.0	131	130	131	132	133	131	
12.5	130	129	130	131	132	130	
15.0	129	128	128	130	130	129	36
17.5	127	126	127	128	128	127	
20.0	125	124	125	126	126	125	
22.5	123	122	122	123	124	123	
25.0	120	120	120	121	121	120	55
27.5	118	117	117	118	118	118	
30.0	115	114	114	115	115	115	
32.5	112	111	111	112	112	111	
35.0	108	107	107	108	108	108	67
37.5	105	103	103	104	104	104	
40.0	101	99	99	100	100	100	
42.5	97	95	95	96	96	96	
45.0	92	91	91	92	92	91	70
47.5	88	86	86	87	87	87	
50.0	83	82	81	82	82	82	
52.5	78	77	76	77	77	77	
55.0	73	71	71	72	72	72	64
57.5	67	66	66	66	66	66	
60.0	62	60	60	61	61	61	
62.5	56	55	55	55	55	55	
65.0	50	49	49	49	49	49	48
67.5	44	43	43	43	43	43	
70.0	38	37	37	37	37	37	
72.5	32	31	31	31	31	31	
75.0	25	25	25	25	25	25	27
77.5	20	19	19	19	19	19	
80.0	14	14	14	14	14	14	
82.5	9	9	9	9	9	9	
85.0	5	5	5	5	5	5	6
87.5	2	2	2	2	2	2	
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	.11	1.061	.061	.06	1.021	.021	.02	1.00			
1	1.121	.071	.030	.99	1.091	.051	.010	.97	1.071	.030	.990	.96	0.980	.950	.93	0.950	.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	.520	.430	.37	0.500	.420	.37	0.480	.420	.37	0.470	.410	.37	0.35			
8	0.620	.480	.400	.33	0.610	.470	.390	.33	0.590	.470	.390	.33	0.450	.380	.33	0.440	.370	.33	0.430	.370	.32	0.31			
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	.310	.26	0.370	.300	.25	0.360	.300	.25	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.