



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
wwrf390-reel
Project Number
10345709
Test Number
33060

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

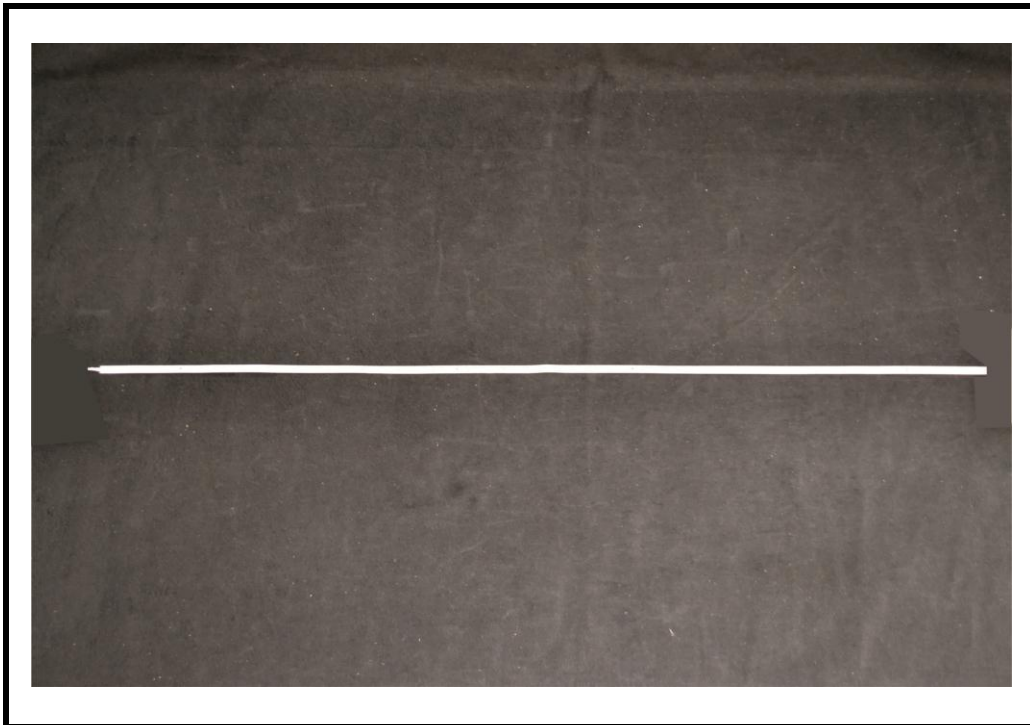
The results contained in this report pertain only to the tested sample.
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Luminaire Description: LED Strip Light
Catalog Number: wwf390-reel
Lamp: LED Array
Ballast/Driver: One Mean Well SP-240-12 Driver

Luminaire

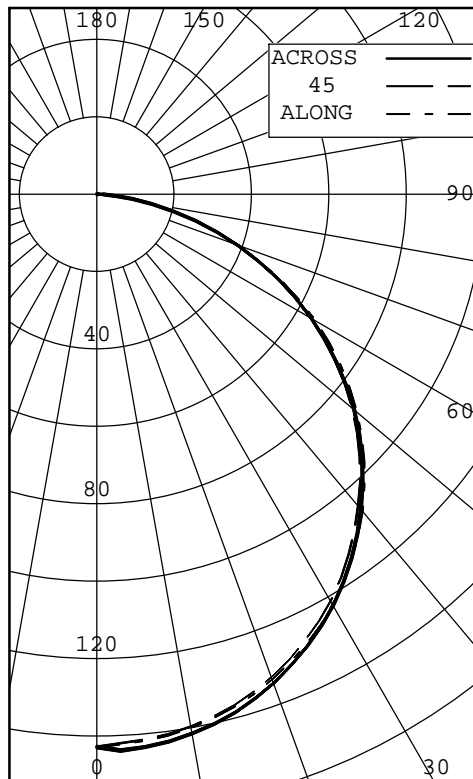


Test Conditions

Test Temperature: 24.9 °C
Voltage: 12.0 VDC



INTENSITY (CANDLEPOWER) SUMMARY OUTPUT LUMENS



ANGLE	ALONG	22.5	45	67.5	ACROSS	OUTPUT LUMENS
0	143	143	143	143	143	
5	142	141	142	143	143	14
10	140	139	140	141	142	
15	137	136	137	139	139	39
20	133	132	133	134	134	
25	128	127	127	129	129	59
30	122	121	121	122	122	
35	115	114	114	115	115	71
40	107	105	105	106	106	
45	98	96	96	97	97	74
50	88	86	86	87	87	
55	77	75	75	76	76	67
60	65	64	64	64	64	
65	53	51	52	52	52	51
70	40	39	39	39	39	
75	27	26	26	26	27	28
80	15	15	15	14	15	
85	5	5	5	5	5	6
90	0	0	0	0	0	

ZONAL LUMENS AND PERCENTAGES

ZONE	LUMENS	% LUMINAIRE
0-30	111	27.16
0-40	183	44.56
0-60	324	79.17
0-90	410	100.00
40-90	227	55.44
60-90	85	20.83
90-180	0	0.00
0-180	410	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	21758	21484	21685
55	21113	20725	20835
65	19637	19276	19319
75	16276	16082	16216
85	9215	9239	9159

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	143	143	143	143	143	143	
2.5	142	141	142	144	144	143	
5.0	142	141	142	143	143	142	14
7.5	141	140	141	143	143	141	
10.0	140	139	140	141	142	140	
12.5	139	138	138	140	140	139	
15.0	137	136	137	139	139	137	39
17.5	135	134	135	137	137	135	
20.0	133	132	133	134	134	133	
22.5	131	130	130	132	132	131	
25.0	128	127	127	129	129	128	59
27.5	125	124	124	126	126	125	
30.0	122	121	121	122	122	122	
32.5	119	118	117	119	119	118	
35.0	115	114	114	115	115	114	71
37.5	111	110	109	111	111	110	
40.0	107	105	105	106	106	106	
42.5	102	101	101	102	102	101	
45.0	98	96	96	97	97	97	74
47.5	93	92	91	92	92	92	
50.0	88	86	86	87	87	87	
52.5	82	81	81	81	81	81	
55.0	77	75	75	76	76	76	67
57.5	71	70	70	70	70	70	
60.0	65	64	64	64	64	64	
62.5	59	58	58	58	58	58	
65.0	53	51	52	52	52	52	51
67.5	46	45	45	45	45	45	
70.0	40	39	39	39	39	39	
72.5	33	33	33	33	33	33	
75.0	27	26	26	26	27	26	28
77.5	20	20	20	20	20	20	
80.0	15	15	15	14	15	15	
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	.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	.740	.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	0.450	.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.