



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
nwr-f-reel
Project Number
10345709
Test Number
33058

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

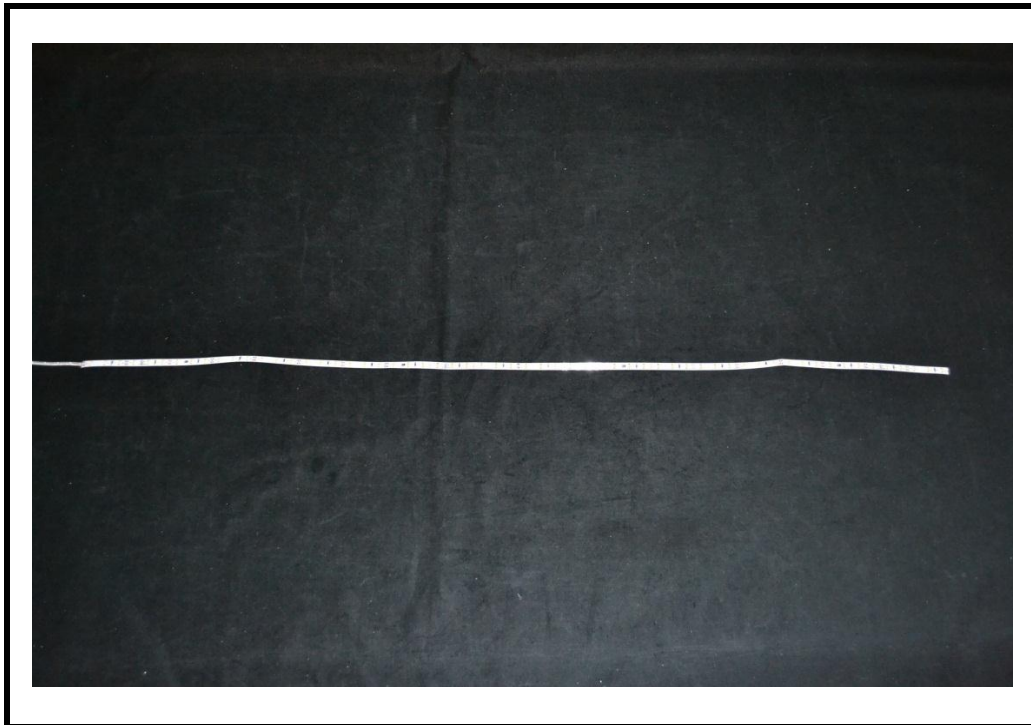
The results contained in this report pertain only to the tested sample.
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Luminaire Description: LED Strip Light
Catalog Number: nwrfl-reel
Lamp: LED Array
Ballast/Driver: One Mean Well SP-240-12 Driver

Luminaire



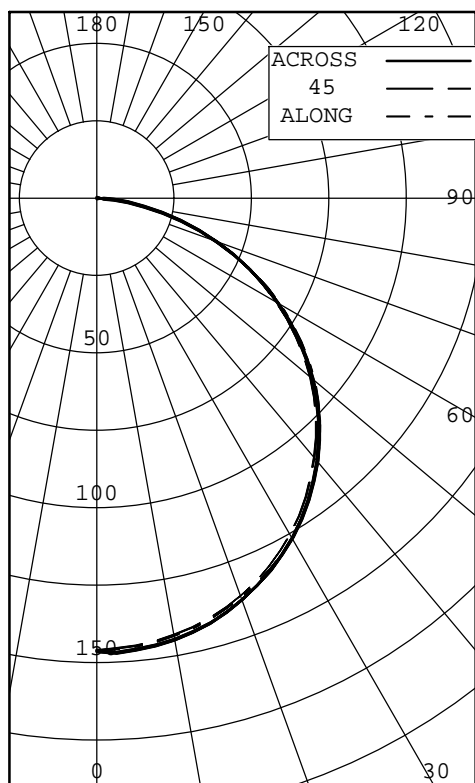
Test Conditions

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	146	146	146	146	146	
5	145	145	145	147	146	14
10	144	143	143	145	145	
15	141	140	141	142	142	40
20	137	136	137	138	138	
25	132	131	131	133	133	61
30	126	125	125	126	127	
35	119	118	118	119	119	74
40	111	110	109	110	111	
45	102	101	100	101	101	78
50	92	90	90	91	91	
55	81	79	79	80	80	71
60	69	67	67	68	68	
65	56	54	54	55	55	54
70	42	41	41	41	42	
75	29	28	28	28	28	30
80	16	16	16	16	16	
85	5	6	6	6	6	7
90	0	0	0	0	0	

ZONAL LUMENS AND PERCENTAGES

ZONE	LUMENS	% LUMINAIRE
0-30	115	26.77
0-40	189	44.07
0-60	337	78.78
0-90	428	100.00
40-90	239	55.93
60-90	91	21.22
90-180	0	0.00
0-180	428	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	45410	44846	45360
55	44286	43380	43904
65	41473	40498	40921
75	34682	34175	34509
85	19695	20470	20677

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	146	146	146	146	146	146	
2.5	146	145	146	147	147	146	
5.0	145	145	145	147	146	146	14
7.5	145	144	144	146	146	145	
10.0	144	143	143	145	145	144	
12.5	143	142	142	144	144	143	
15.0	141	140	141	142	142	141	40
17.5	139	138	139	140	140	139	
20.0	137	136	137	138	138	137	
22.5	135	134	134	135	135	135	
25.0	132	131	131	133	133	132	61
27.5	129	129	128	130	130	129	
30.0	126	125	125	126	127	126	
32.5	123	122	122	123	123	122	
35.0	119	118	118	119	119	118	74
37.5	115	114	114	115	115	114	
40.0	111	110	109	110	111	110	
42.5	107	105	105	106	106	106	
45.0	102	101	100	101	101	101	78
47.5	97	96	95	96	96	96	
50.0	92	90	90	91	91	91	
52.5	86	85	85	85	85	85	
55.0	81	79	79	80	80	79	71
57.5	75	73	73	74	74	73	
60.0	69	67	67	68	68	67	
62.5	62	61	61	61	61	61	
65.0	56	54	54	55	55	55	54
67.5	49	48	48	48	48	48	
70.0	42	41	41	41	42	41	
72.5	35	35	35	35	35	35	
75.0	29	28	28	28	28	28	30
77.5	22	22	22	22	22	22	
80.0	16	16	16	16	16	16	
82.5	10	10	10	10	10	10	
85.0	5	6	6	6	6	6	7
87.5	2	2	2	3	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	.061	.06	1.021	.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	.930	.90	0.910	.890	.88	0.86				
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	.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	.610	.57	0.650	.600	.56	0.54				
5	0.800	.670	.580	.51	0.780	.660	.570	.50	0.760	.640	.560	.50	0.620	.550	.50	0.600	.540	.49	0.580	.530	.48	0.47				
6	0.740	.600	.500	.44	0.720	.590	.500	.44	0.700	.580	.490	.43	0.560	.490	.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	.34	0.610	.470	.390	.33	0.590	.470	.390	.33	0.450	.380	.33	0.440	.380	.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.