



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
wwrf5050-60-reel
Project Number
10345709
Test Number
33083

Test Date

2014-06-20

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

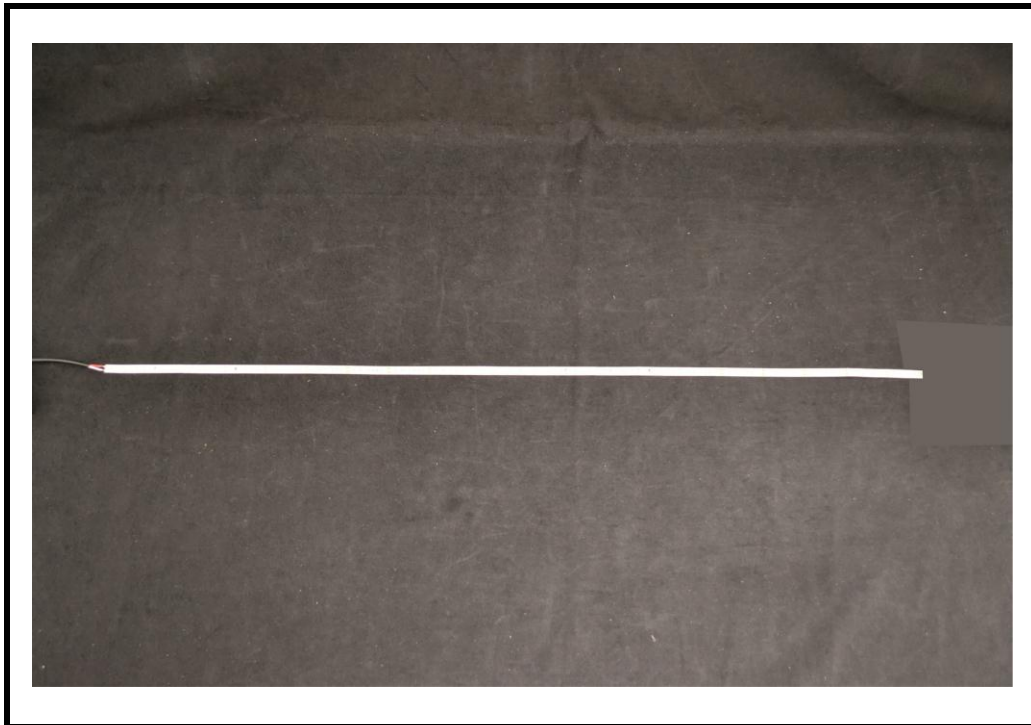
The results contained in this report pertain only to the tested sample.
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Luminaire Description: LED Strip Light
Catalog Number: wwf5050-60-reel
Lamp: LED Array
Ballast/Driver: One Mean Well SP-240-12 Driver

Luminaire



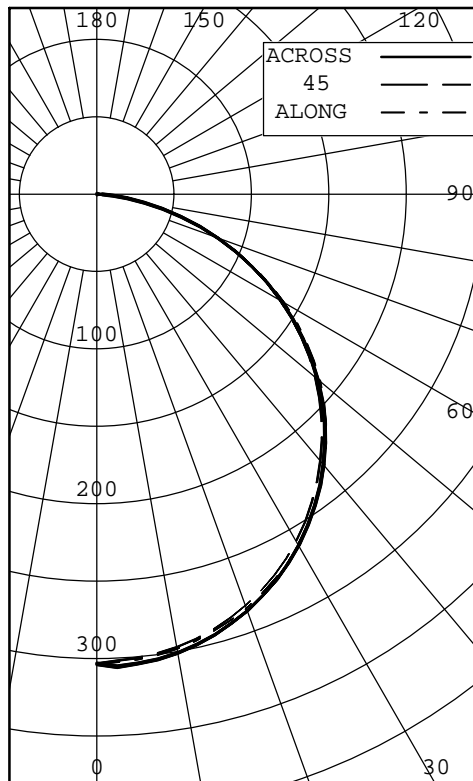
Test Conditions

Test Temperature: 24.4 °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	304	304	304	304	304	
5	302	300	301	304	305	29
10	298	296	297	300	301	
15	292	290	291	294	295	82
20	284	281	282	285	286	
25	274	271	272	274	275	125
30	261	258	258	261	262	
35	246	243	242	245	246	152
40	228	225	225	227	228	
45	209	206	206	208	208	159
50	188	185	184	186	186	
55	165	162	161	163	163	145
60	140	137	136	137	137	
65	113	110	110	111	111	109
70	85	84	84	84	84	
75	57	56	57	57	57	60
80	32	32	31	31	31	
85	11	11	11	11	11	14
90	0	0	0	0	0	

ZONAL LUMENS AND PERCENTAGES

ZONE	LUMENS	% LUMINAIRE
0-30	237	27.03
0-40	389	44.41
0-60	693	79.08
0-90	877	100.00
40-90	487	55.59
60-90	183	20.92
90-180	0	0.00
0-180	877	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	93204	91883	93068
55	90494	88800	89599
65	84251	82604	82965
75	69851	68960	69141
85	40656	40216	39179

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	304	304	304	304	304	304	
2.5	303	300	302	305	306	303	
5.0	302	300	301	304	305	302	29
7.5	300	298	299	303	303	300	
10.0	298	296	297	300	301	298	
12.5	296	293	295	298	298	296	
15.0	292	290	291	294	295	292	82
17.5	288	286	287	290	291	288	
20.0	284	281	282	285	286	283	
22.5	279	276	277	280	281	278	
25.0	274	271	272	274	275	273	125
27.5	268	265	265	268	269	267	
30.0	261	258	258	261	262	260	
32.5	254	251	251	253	254	252	
35.0	246	243	242	245	246	244	152
37.5	237	234	234	236	237	235	
40.0	228	225	225	227	228	226	
42.5	219	216	215	218	218	217	
45.0	209	206	206	208	208	207	159
47.5	199	196	195	197	198	197	
50.0	188	185	184	186	186	186	
52.5	177	173	173	175	175	174	
55.0	165	162	161	163	163	162	145
57.5	153	149	149	150	150	150	
60.0	140	137	136	137	137	137	
62.5	127	124	123	124	124	124	
65.0	113	110	110	111	111	111	109
67.5	99	97	97	97	97	97	
70.0	85	84	84	84	84	84	
72.5	71	70	70	70	70	70	
75.0	57	56	57	57	57	57	60
77.5	44	43	44	44	44	44	
80.0	32	32	31	31	31	31	
82.5	21	21	20	20	20	20	
85.0	11	11	11	11	11	11	14
87.5	5	5	4	4	4	4	
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	.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	.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	.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	.640	.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	0.46			
	6	0.740	.600	.510	.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	.39	0.660	.520	.440	.38	0.640	.520	.430	.38	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	.430	.350	.29	0.410	.340	.29	0.400	.340	.29	0.390	.330	.29	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.