



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
SFR-DW-B-20
Project Number
10345709
Test Number
33050

Test Date

2014-06-09

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

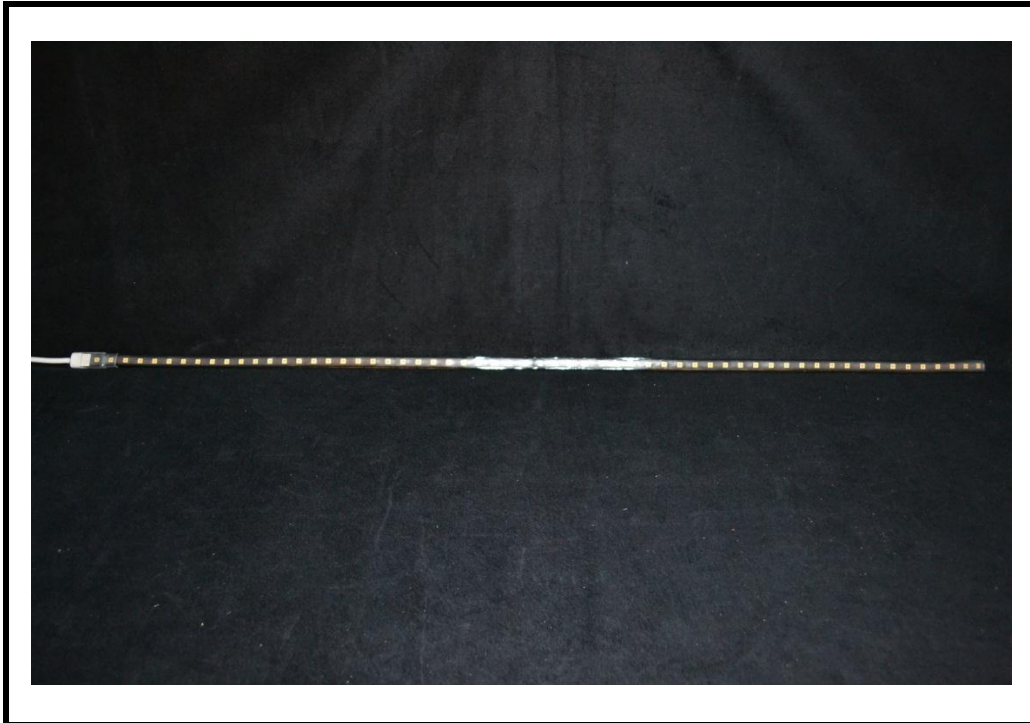
The results contained in this report pertain only to the tested sample.
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Luminaire Description: LED Super Flat Rope
Catalog Number: SFR-DW-B-20
Lamp: 60 LEDs
Ballast/Driver: One Mean Well SP-320-24 Driver

Luminaire



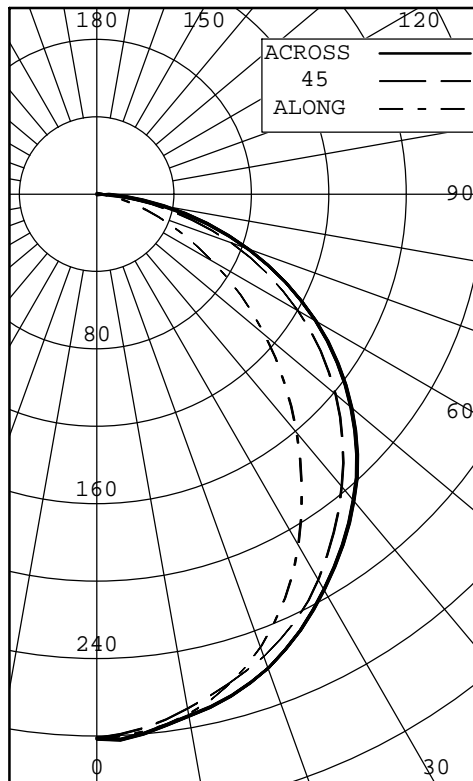
Test Conditions

Test Temperature: 24.6 °C
Voltage: 24.0 VDC



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INTENSITY (CANDLEPOWER) SUMMARY OUTPUT LUMENS



ANGLE	ALONG	22.5	45	67.5	ACROSS	OUTPUT LUMENS
0	281	281	281	281	281	
5	279	277	277	279	280	27
10	273	270	270	273	274	
15	263	260	262	267	269	74
20	248	248	254	259	260	
25	230	234	243	248	249	111
30	209	219	230	234	235	
35	185	201	213	220	221	131
40	161	181	197	205	207	
45	137	160	180	188	190	133
50	114	138	161	170	172	
55	91	116	141	150	152	118
60	69	94	120	128	131	
65	50	72	97	105	107	87
70	34	51	74	81	84	
75	21	33	51	57	59	48
80	10	15	29	33	36	
85	3	5	10	13	14	11
90	0	0	0	0	0	

ZONAL LUMENS AND PERCENTAGES

ZONE	LUMENS	% LUMINAIRE
0-30	212	28.63
0-40	343	46.31
0-60	593	80.22
0-90	740	100.00
40-90	397	53.69
60-90	146	19.78
90-180	0	0.00
0-180	740	100.00

*** THIS IS AN ABSOLUTE TEST ***

LUMINOUS LENGTH: 39.370 INS
 WIDTH: 0.500 INS

LUMINANCE SUMMARY CD./SQ.M.

S/MH: 1.2
 SC(ALONG): 1.1, SC(ACROSS): 1.2

ANGLE	ALONG	45	ACROSS
45	15238	20070	21255
55	12458	19457	20946
65	9315	18220	20096
75	6297	15473	18155
85	2845	9420	13105

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	281	281	281	281	281	281	
2.5	280	278	279	282	282	280	
5.0	279	277	277	279	280	278	27
7.5	277	274	274	276	277	275	
10.0	273	270	270	273	274	272	
12.5	269	265	266	270	272	268	
15.0	263	260	262	267	269	264	74
17.5	256	254	258	263	265	259	
20.0	248	248	254	259	260	254	
22.5	240	241	249	254	255	248	
25.0	230	234	243	248	249	241	111
27.5	220	227	237	241	242	234	
30.0	209	219	230	234	235	226	
32.5	197	211	222	227	229	218	
35.0	185	201	213	220	221	209	131
37.5	173	192	205	212	214	201	
40.0	161	181	197	205	207	192	
42.5	149	171	188	197	199	182	
45.0	137	160	180	188	190	173	133
47.5	125	149	171	179	181	163	
50.0	114	138	161	170	172	153	
52.5	102	127	151	160	162	143	
55.0	91	116	141	150	152	132	118
57.5	80	105	131	139	142	121	
60.0	69	94	120	128	131	110	
62.5	59	83	109	117	119	99	
65.0	50	72	97	105	107	88	87
67.5	42	61	86	93	96	77	
70.0	34	51	74	81	84	66	
72.5	27	42	63	69	72	56	
75.0	21	33	51	57	59	45	48
77.5	15	24	39	45	47	35	
80.0	10	15	29	33	36	25	
82.5	6	9	19	22	24	16	
85.0	3	5	10	13	14	9	11
87.5	1	2	4	6	7	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	.081	.031	.00	1.101	.051	.020	.98	1.071	.031	.000	.96	0.990	.960	.93	0.950	.930	.91	0.920	.900	.88	0.86			
	2	1.030	.960	.890	.83	1.010	.940	.870	.82	0.990	.920	.860	.81	0.880	.830	.79	0.850	.810	.77	0.820	.790	.76	0.74			
	3	0.950	.840	.760	.70	0.920	.830	.750	.69	0.900	.810	.740	.69	0.780	.730	.68	0.760	.710	.66	0.730	.690	.65	0.63			
	4	0.880	.760	.670	.61	0.850	.740	.660	.60	0.830	.730	.660	.60	0.710	.640	.59	0.680	.630	.58	0.660	.610	.57	0.55			
	5	0.810	.680	.590	.52	0.790	.670	.580	.52	0.770	.650	.570	.52	0.630	.560	.51	0.610	.550	.51	0.600	.540	.50	0.48			
	6	0.750	.610	.520	.46	0.730	.600	.510	.45	0.710	.590	.510	.45	0.570	.500	.45	0.550	.490	.44	0.540	.480	.44	0.42			
	7	0.680	.540	.460	.40	0.670	.540	.450	.40	0.650	.530	.450	.39	0.510	.440	.39	0.500	.430	.38	0.490	.430	.38	0.36			
	8	0.630	.490	.410	.35	0.620	.490	.410	.35	0.610	.480	.400	.35	0.470	.390	.34	0.460	.390	.34	0.440	.380	.34	0.32			
	9	0.590	.450	.360	.31	0.570	.440	.360	.31	0.560	.440	.360	.31	0.430	.350	.30	0.420	.350	.30	0.400	.340	.30	0.28			
	10	0.540	.410	.320	.27	0.530	.400	.320	.27	0.520	.400	.320	.27	0.390	.320	.27	0.380	.310	.27	0.370	.310	.27	0.25			

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.