



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-WW-B-20**  
Project Number  
**10345709**  
Test Number  
**33048**

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

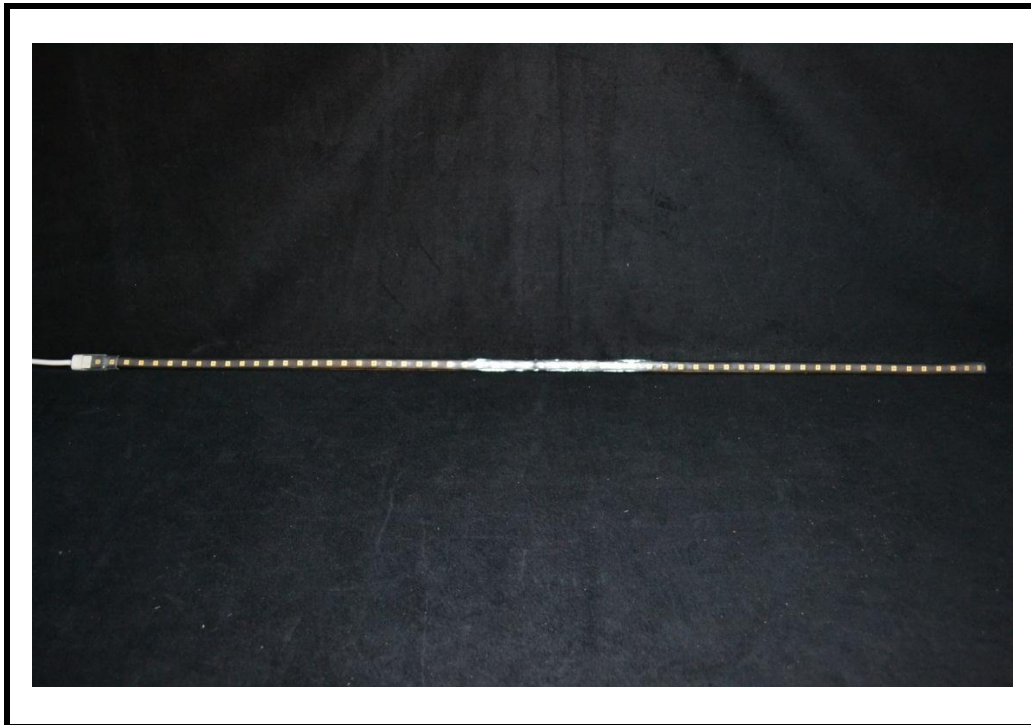
The results contained in this report pertain only to the tested sample.  
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Luminaire Description: LED Super Flat Rope  
Catalog Number: SFR-WW-B-20  
Lamp: 60 LEDs  
Ballast/Driver: One Mean Well SP-320-24 Driver

Luminaire



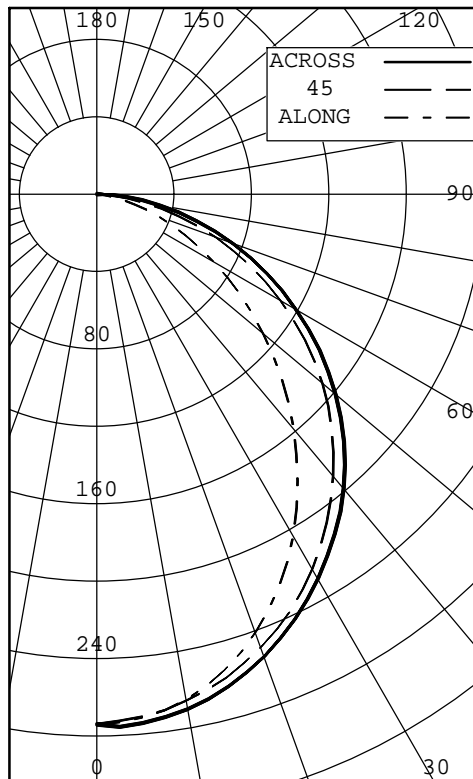
Test Conditions

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	274	274	274	274	274	
5	272	270	271	274	274	26
10	265	264	266	270	270	
15	255	255	259	263	263	73
20	241	243	249	253	254	
25	223	230	237	242	242	108
30	203	214	223	228	229	
35	181	196	207	213	215	127
40	158	176	190	197	198	
45	135	155	172	179	181	128
50	112	134	152	159	161	
55	91	112	131	139	141	111
60	70	89	109	117	119	
65	51	68	88	95	97	80
70	35	48	66	73	75	
75	21	30	44	51	54	43
80	10	14	25	31	34	
85	3	5	10	13	15	11
90	0	0	0	0	0	

ZONAL LUMENS AND PERCENTAGES

ZONE	LUMENS	% LUMINAIRE
0-30	207	29.30
0-40	334	47.27
0-60	573	81.02
0-90	707	100.00
40-90	373	52.73
60-90	134	18.98
90-180	0	0.00
0-180	707	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	15060	19192	20204
55	12430	18086	19361
65	9483	16369	18160
75	6251	13463	16445
85	2710	8604	13966

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	274	274	274	274	274	274	
2.5	273	271	272	275	276	273	
5.0	272	270	271	274	274	272	26
7.5	269	267	269	272	273	270	
10.0	265	264	266	270	270	267	
12.5	261	260	263	266	267	263	
15.0	255	255	259	263	263	259	73
17.5	248	249	254	258	259	254	
20.0	241	243	249	253	254	248	
22.5	232	237	243	248	248	242	
25.0	223	230	237	242	242	235	108
27.5	214	222	230	235	236	228	
30.0	203	214	223	228	229	220	
32.5	192	205	215	221	222	212	
35.0	181	196	207	213	215	204	127
37.5	170	186	199	205	207	195	
40.0	158	176	190	197	198	185	
42.5	147	166	181	189	190	176	
45.0	135	155	172	179	181	166	128
47.5	124	145	162	170	171	156	
50.0	112	134	152	159	161	146	
52.5	101	123	142	149	151	135	
55.0	91	112	131	139	141	124	111
57.5	80	101	120	128	130	113	
60.0	70	89	109	117	119	102	
62.5	60	79	99	106	108	92	
65.0	51	68	88	95	97	81	80
67.5	43	58	77	84	86	71	
70.0	35	48	66	73	75	60	
72.5	28	39	55	62	64	50	
75.0	21	30	44	51	54	41	43
77.5	15	22	34	40	44	31	
80.0	10	14	25	31	34	23	
82.5	6	9	16	21	24	15	
85.0	3	5	10	13	15	9	11
87.5	1	2	4	7	9	5	
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	1.00
	1	1.131	.081	.041	.00	1.101	.061	.020	.98	1.071	.041	.000	.97	0.990	.960	.94	0.950	.930	.91	0.920	.900	.88	0.86		
	2	1.030	.960	.890	.83	1.010	.940	.880	.82	0.990	.920	.860	.82	0.880	.840	.80	0.850	.810	.78	0.820	.790	.76	0.74		
	3	0.950	.850	.770	.70	0.930	.830	.760	.70	0.900	.820	.750	.69	0.790	.730	.68	0.760	.710	.67	0.740	.700	.66	0.64		
	4	0.880	.760	.670	.61	0.860	.750	.670	.61	0.840	.740	.660	.60	0.710	.650	.60	0.690	.630	.59	0.670	.620	.58	0.56		
	5	0.810	.680	.590	.53	0.790	.670	.590	.52	0.770	.660	.580	.52	0.640	.570	.52	0.620	.560	.51	0.600	.550	.51	0.49		
	6	0.750	.610	.520	.46	0.730	.600	.520	.46	0.710	.590	.510	.46	0.580	.510	.45	0.560	.500	.45	0.540	.490	.44	0.42		
	7	0.690	.550	.460	.41	0.670	.540	.460	.40	0.660	.530	.450	.40	0.520	.440	.39	0.500	.440	.39	0.490	.430	.39	0.37		
	8	0.640	.500	.420	.36	0.620	.490	.410	.35	0.610	.480	.410	.35	0.470	.400	.35	0.460	.390	.35	0.450	.390	.35	0.33		
	9	0.590	.460	.370	.31	0.580	.450	.370	.31	0.560	.440	.370	.31	0.430	.360	.31	0.420	.350	.31	0.410	.350	.30	0.29		
	10	0.550	.420	.330	.28	0.540	.410	.330	.28	0.530	.400	.330	.28	0.390	.320	.28	0.380	.320	.27	0.380	.320	.27	0.26		

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.