

Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: FAIL-SAFE

Report Number: P590928

Luminaire Tested: FSR-24-2-LD4-4STD-35-UNV-93-87-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590928
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)
Test Lab: INNOVATION CENTER
Issue Date: 12/8/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-24-2-LD4-4STD-35-UNV-93-87-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7333.0 lumens
Efficiency: N/A
Efficacy: 110.1 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

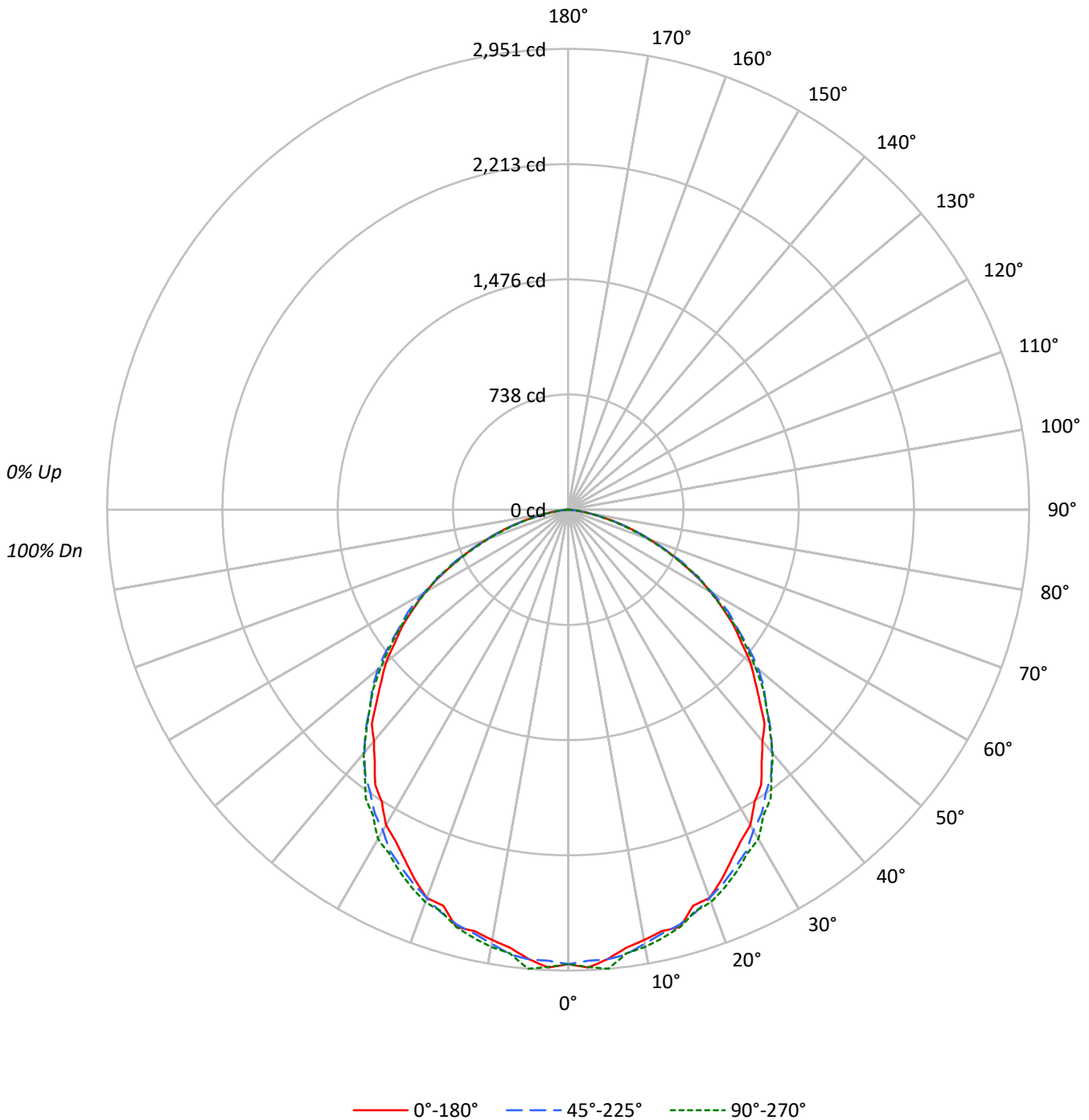
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					20					
RC	80					70					50					30					10					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86					86			
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73					73			
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62					62			
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53					53			
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46					46			
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41					41			
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36					36			
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32					32			
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29					29			
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26					26			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7829	7829	7829
5°	7804	7807	7971
10°	7646	7712	7767
15°	7706	7664	7707
20°	7576	7576	7656
25°	7343	7503	7586
30°	7242	7369	7565
35°	7071	7256	7419
40°	6796	7124	7155
45°	6591	6825	6835
50°	6374	6662	6535
55°	6074	6191	6147
60°	5680	5736	5633
65°	5064	5193	5028
70°	4345	4360	4238
75°	3441	3433	3300
80°	2306	2241	2154
85°	1254	1241	1161

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 7001 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	273.7	3.7
10°-20°	775.7	10.6
20°-30°	1162.1	15.8
30°-40°	1377.3	18.8
40°-50°	1379.9	18.8
50°-60°	1171.3	16.0
60°-70°	789.7	10.8
70°-80°	347.0	4.7
80°-90°	56.4	0.8
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	2211.5	30.2
0°-40°	3588.8	48.9
0°-60°	6139.9	83.7
0°-90°	7333.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7333.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2910	2910	2910	2910	2910	
5°	2889	2882	2890	2881	2951	272
15°	2766	2734	2751	2765	2766	771
25°	2473	2486	2527	2560	2555	1143
35°	2153	2159	2209	2260	2258	1336
45°	1732	1764	1793	1840	1796	1340
55°	1295	1286	1320	1311	1310	1152
65°	795	785	816	784	790	791
75°	331	324	330	307	317	355
85°	41	39	40	39	38	59
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2909.5	2909.5	2909.5	2909.5	2909.5
2.5°	2934.7	2912.6	2891.9	2915.9	2930.6
5°	2888.9	2882.1	2890.0	2881.4	2950.9
7.5°	2829.5	2855.5	2870.5	2861.1	2865.2
10°	2798.0	2789.0	2822.4	2845.7	2842.3
12.5°	2764.2	2777.7	2779.6	2804.7	2807.0
15°	2766.0	2734.1	2751.0	2765.3	2766.4
17.5°	2658.6	2693.2	2704.8	2737.5	2696.9
20°	2645.5	2620.3	2645.5	2678.9	2673.6
22.5°	2564.7	2536.5	2590.6	2620.3	2618.4
25°	2473.0	2486.5	2527.1	2560.2	2554.9
27.5°	2392.6	2408.4	2466.3	2511.7	2482.4
30°	2330.6	2322.8	2371.6	2412.2	2434.7
32.5°	2219.8	2248.4	2305.5	2345.7	2324.3
35°	2152.6	2159.0	2208.9	2260.0	2258.5
37.5°	2035.0	2064.7	2134.9	2149.2	2136.0
40°	1934.7	1964.4	2027.9	2043.3	2036.9
42.5°	1860.7	1865.9	1920.4	1938.1	1909.9
45°	1731.8	1764.1	1793.4	1839.6	1796.1
47.5°	1622.1	1637.2	1700.3	1712.7	1689.8
50°	1522.6	1527.8	1591.3	1575.9	1560.9
52.5°	1397.5	1419.6	1455.3	1452.3	1434.7
55°	1294.6	1285.9	1319.7	1310.7	1310.3
57.5°	1171.0	1186.0	1213.8	1199.5	1176.6
60°	1055.3	1055.6	1065.8	1049.6	1046.6
62.5°	926.4	930.9	933.2	913.2	945.6
65°	795.3	784.8	815.6	784.4	789.7
67.5°	674.7	680.0	677.0	657.4	664.9
70°	552.2	559.0	554.1	531.9	538.7
72.5°	440.3	432.0	437.3	409.5	422.3
75°	331.0	324.2	330.2	306.9	317.4
77.5°	225.4	230.7	226.9	214.5	221.6
80°	148.8	144.6	144.6	137.5	139.0
82.5°	86.8	82.6	81.5	79.3	82.6
85°	40.6	39.4	40.2	39.1	37.6
87.5°	14.7	15.0	15.0	14.3	13.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)