

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: P590445

Luminaire Tested: FSR-24-2-LD4-3HI-35-UNV-93-84-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590445
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-LD4-3HI-35-UNV-93-84-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7194.0 lumens
Efficiency: N/A
Efficacy: 111.0 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

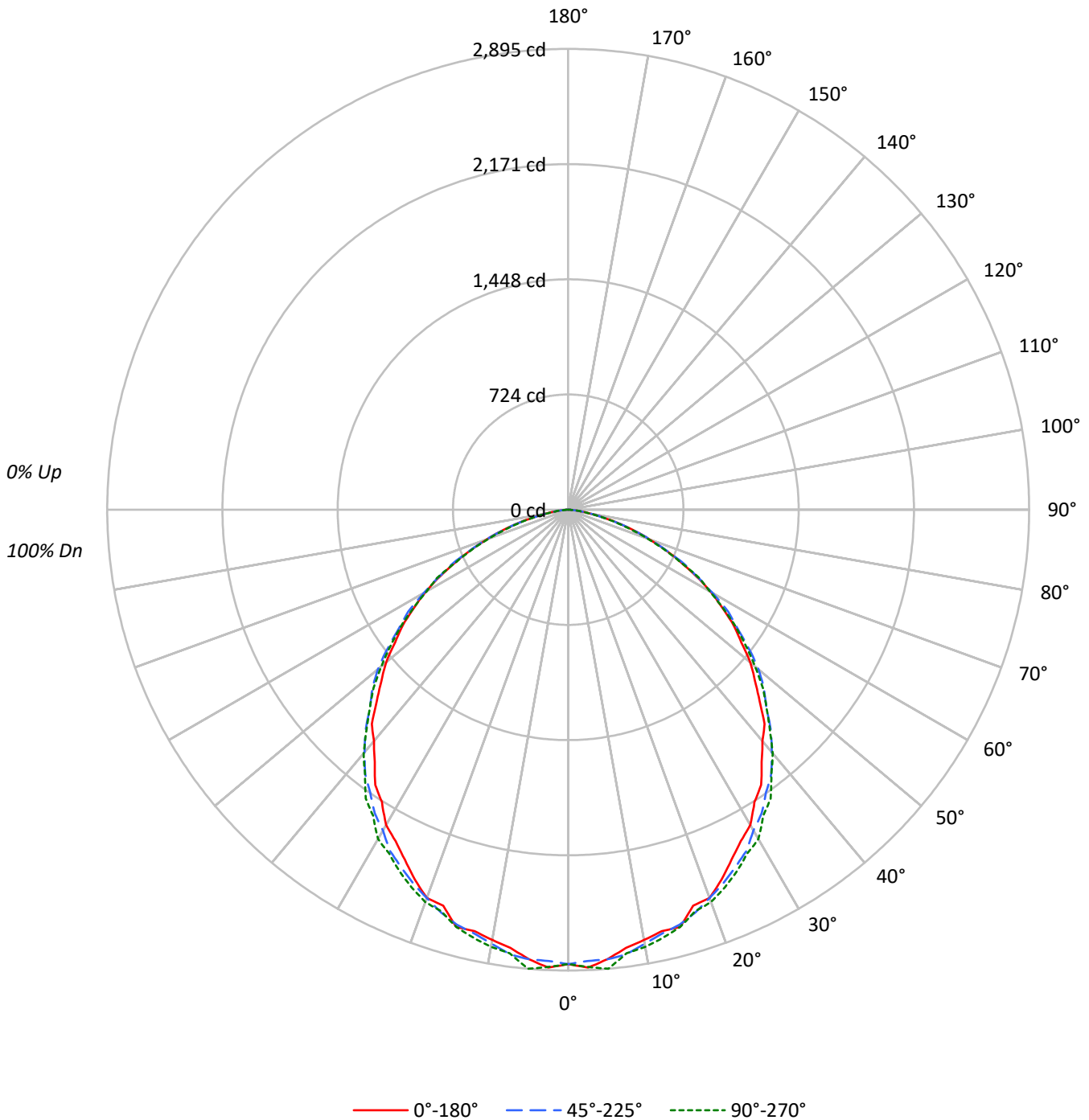
Input Watts (W): 64.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7681	7681	7681
5°	7656	7659	7820
10°	7500	7566	7619
15°	7560	7519	7561
20°	7432	7432	7511
25°	7203	7361	7442
30°	7105	7229	7422
35°	6937	7119	7279
40°	6667	6988	7020
45°	6466	6696	6706
50°	6253	6536	6411
55°	5958	6074	6031
60°	5571	5627	5526
65°	4968	5095	4933
70°	4263	4277	4158
75°	3376	3369	3238
80°	2261	2199	2114
85°	1229	1216	1139

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 6868 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	268.5	3.7
10°-20°	761.0	10.6
20°-30°	1140.1	15.8
30°-40°	1351.2	18.8
40°-50°	1353.7	18.8
50°-60°	1149.1	16.0
60°-70°	774.7	10.8
70°-80°	340.4	4.7
80°-90°	55.3	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°	2169.5	30.2
0°-40°	3520.8	48.9
0°-60°	6023.6	83.7
0°-90°	7194.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7194.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2854	2854	2854	2854	2854	
5°	2834	2828	2835	2827	2895	267
15°	2714	2682	2699	2713	2714	756
25°	2426	2439	2479	2512	2506	1122
35°	2112	2118	2167	2217	2216	1311
45°	1699	1731	1759	1805	1762	1314
55°	1270	1262	1295	1286	1286	1130
65°	780	770	800	770	775	776
75°	325	318	324	301	311	348
85°	40	39	39	38	37	58
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2854.4	2854.4	2854.4	2854.4	2854.4
2.5°	2879.1	2857.3	2837.1	2860.7	2875.0
5°	2834.1	2827.5	2835.2	2826.8	2894.9
7.5°	2775.9	2801.3	2816.1	2806.9	2810.9
10°	2744.9	2736.1	2768.9	2791.7	2788.4
12.5°	2711.8	2725.0	2726.9	2751.6	2753.8
15°	2713.6	2682.3	2698.9	2712.9	2714.0
17.5°	2608.2	2642.1	2653.5	2685.6	2645.8
20°	2595.3	2570.6	2595.3	2628.1	2622.9
22.5°	2516.1	2488.4	2541.5	2570.6	2568.8
25°	2426.1	2439.4	2479.2	2511.6	2506.5
27.5°	2347.3	2362.8	2419.5	2464.1	2435.4
30°	2286.5	2278.7	2326.6	2366.4	2388.6
32.5°	2177.7	2205.8	2261.8	2301.2	2280.2
35°	2111.8	2118.0	2167.1	2217.2	2215.7
37.5°	1996.4	2025.5	2094.5	2108.5	2095.6
40°	1898.0	1927.1	1989.4	2004.5	1998.3
42.5°	1825.4	1830.6	1884.0	1901.3	1873.7
45°	1699.0	1730.7	1759.4	1804.8	1762.0
47.5°	1591.4	1606.1	1668.0	1680.2	1657.7
50°	1493.7	1498.9	1561.2	1546.1	1531.3
52.5°	1371.0	1392.7	1427.8	1424.8	1407.5
55°	1270.0	1261.5	1294.7	1285.9	1285.5
57.5°	1148.8	1163.5	1190.8	1176.8	1154.3
60°	1035.2	1035.6	1045.6	1029.7	1026.8
62.5°	908.8	913.3	915.5	895.9	927.6
65°	780.2	769.9	800.1	769.5	774.7
67.5°	661.9	667.1	664.1	645.0	652.3
70°	541.8	548.4	543.6	521.9	528.5
72.5°	431.9	423.8	429.0	401.7	414.2
75°	324.7	318.1	324.0	301.1	311.4
77.5°	221.1	226.3	222.6	210.4	217.4
80°	145.9	141.9	141.9	134.9	136.4
82.5°	85.1	81.1	80.0	77.8	81.1
85°	39.8	38.7	39.4	38.3	36.9
87.5°	14.4	14.7	14.7	14.0	13.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)