

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: P590769

Luminaire Tested: FSR-24-2-LD4-4HI-40-UNV-93-88-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590769
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-LD4-4HI-40-UNV-93-88-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8180.0 lumens
Efficiency: N/A
Efficacy: 94.7 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

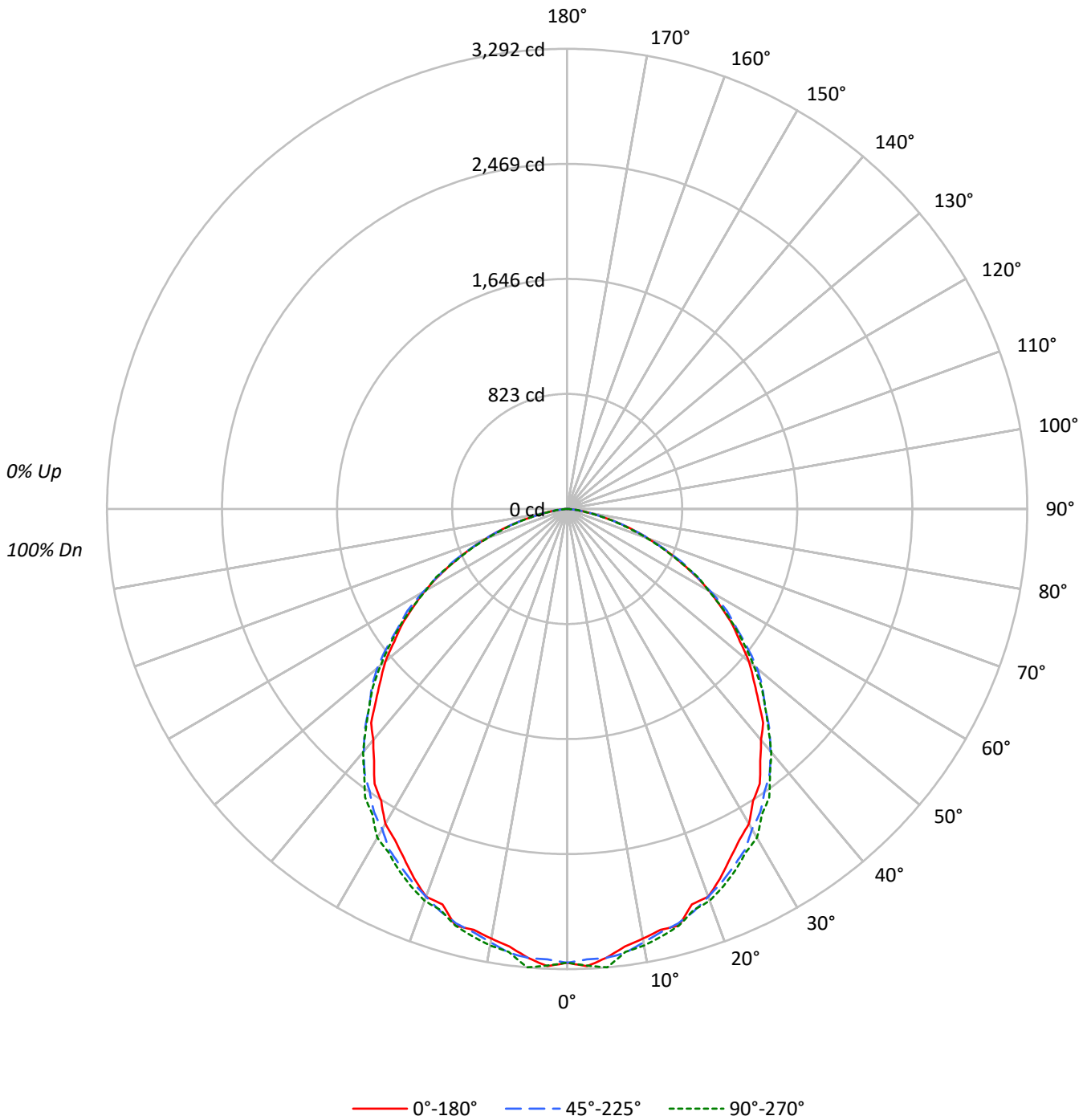
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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									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°	8734	8734	8734
5°	8705	8708	8892
10°	8529	8603	8664
15°	8596	8549	8597
20°	8451	8451	8541
25°	8191	8370	8462
30°	8078	8220	8439
35°	7888	8095	8276
40°	7581	7946	7981
45°	7352	7614	7625
50°	7110	7431	7289
55°	6775	6907	6858
60°	6335	6399	6283
65°	5649	5793	5609
70°	4847	4863	4728
75°	3839	3830	3682
80°	2571	2500	2404
85°	1399	1383	1294

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 7810 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	305.3	3.7
10°-20°	865.3	10.6
20°-30°	1296.3	15.8
30°-40°	1536.4	18.8
40°-50°	1539.3	18.8
50°-60°	1306.6	16.0
60°-70°	880.9	10.8
70°-80°	387.1	4.7
80°-90°	62.9	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°	2466.9	30.2
0°-40°	4003.3	48.9
0°-60°	6849.1	83.7
0°-90°	8180.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8180.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3246	3246	3246	3246	3246	
5°	3223	3215	3224	3214	3292	304
15°	3086	3050	3069	3085	3086	860
25°	2759	2774	2819	2856	2850	1275
35°	2401	2408	2464	2521	2519	1491
45°	1932	1968	2001	2052	2004	1494
55°	1444	1434	1472	1462	1462	1285
65°	887	875	910	875	881	882
75°	369	362	368	342	354	396
85°	45	44	45	44	42	66
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3245.6	3245.6	3245.6	3245.6	3245.6
2.5°	3273.7	3249.0	3225.9	3252.7	3269.1
5°	3222.6	3215.0	3223.8	3214.2	3291.7
7.5°	3156.4	3185.3	3202.0	3191.6	3196.2
10°	3121.2	3111.1	3148.4	3174.4	3170.6
12.5°	3083.4	3098.5	3100.6	3128.7	3131.2
15°	3085.5	3049.9	3068.8	3084.7	3086.0
17.5°	2965.7	3004.2	3017.2	3053.7	3008.4
20°	2951.0	2922.9	2951.0	2988.3	2982.4
22.5°	2860.9	2829.5	2889.8	2922.9	2920.8
25°	2758.7	2773.8	2819.0	2855.9	2850.0
27.5°	2669.0	2686.6	2751.1	2801.8	2769.1
30°	2599.8	2591.0	2645.5	2690.8	2715.9
32.5°	2476.2	2508.1	2571.8	2616.6	2592.7
35°	2401.2	2408.3	2464.1	2521.1	2519.4
37.5°	2270.0	2303.2	2381.5	2397.4	2382.8
40°	2158.2	2191.3	2262.1	2279.3	2272.1
42.5°	2075.6	2081.5	2142.2	2161.9	2130.5
45°	1931.9	1967.9	2000.6	2052.1	2003.5
47.5°	1809.5	1826.3	1896.7	1910.5	1884.9
50°	1698.4	1704.3	1775.1	1758.0	1741.2
52.5°	1558.9	1583.6	1623.4	1620.1	1600.4
55°	1444.1	1434.4	1472.2	1462.1	1461.7
57.5°	1306.2	1323.0	1354.0	1338.1	1312.5
60°	1177.1	1177.6	1188.9	1170.9	1167.5
62.5°	1033.4	1038.4	1040.9	1018.7	1054.8
65°	887.1	875.4	909.8	875.0	880.9
67.5°	752.6	758.5	755.1	733.4	741.7
70°	616.0	623.6	618.1	593.4	600.9
72.5°	491.1	481.9	487.8	456.8	471.0
75°	369.2	361.6	368.4	342.4	354.1
77.5°	251.4	257.3	253.1	239.3	247.2
80°	165.9	161.3	161.3	153.4	155.1
82.5°	96.8	92.2	90.9	88.4	92.2
85°	45.3	44.0	44.8	43.6	41.9
87.5°	16.3	16.8	16.8	15.9	15.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)