

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: P590751

Luminaire Tested: FSR-24-2-LD4-4HI-40-UNV-81-86-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590751
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-81-86-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8901.0 lumens
Efficiency: N/A
Efficacy: 103.0 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

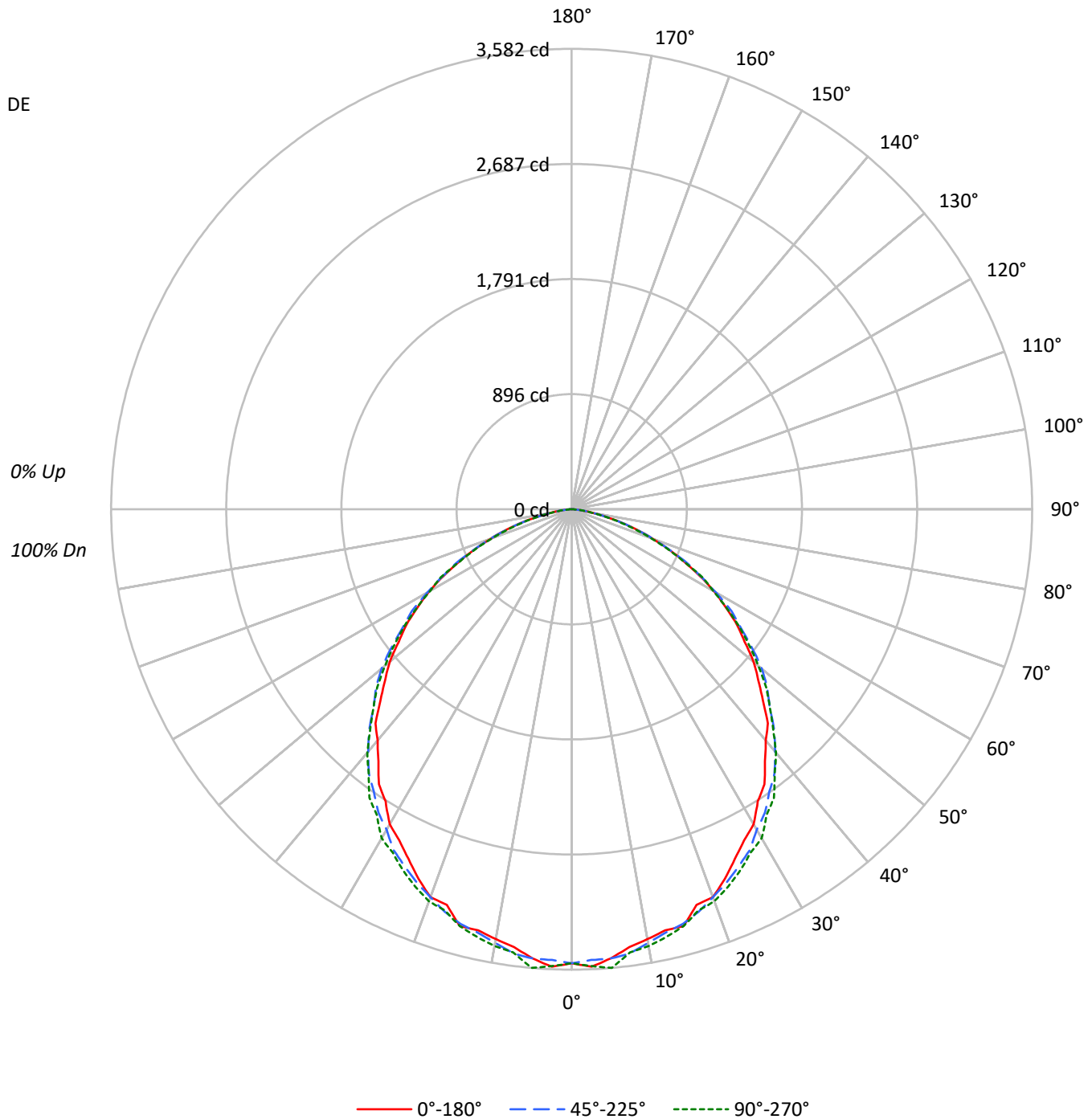
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	9504	9504	9504
5°	9472	9476	9676
10°	9280	9361	9427
15°	9354	9303	9355
20°	9196	9196	9294
25°	8913	9108	9208
30°	8790	8945	9183
35°	8584	8808	9006
40°	8250	8647	8685
45°	8000	8284	8297
50°	7737	8086	7932
55°	7372	7515	7462
60°	6894	6963	6837
65°	6146	6304	6103
70°	5274	5292	5145
75°	4177	4167	4006
80°	2799	2721	2614
85°	1519	1507	1408

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 8498 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	332.2	3.7
10°-20°	941.5	10.6
20°-30°	1410.6	15.8
30°-40°	1671.8	18.8
40°-50°	1674.9	18.8
50°-60°	1421.7	16.0
60°-70°	958.5	10.8
70°-80°	421.2	4.7
80°-90°	68.4	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°	2684.3	30.2
0°-40°	4356.2	48.9
0°-60°	7452.8	83.7
0°-90°	8901.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8901.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3532	3532	3532	3532	3532	
5°	3507	3498	3508	3498	3582	331
15°	3358	3319	3339	3357	3358	935
25°	3002	3018	3068	3108	3101	1388
35°	2613	2621	2681	2743	2742	1622
45°	2102	2141	2177	2233	2180	1626
55°	1571	1561	1602	1591	1590	1398
65°	965	953	990	952	958	960
75°	402	394	401	372	385	431
85°	49	48	49	47	46	71
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3531.7	3531.7	3531.7	3531.7	3531.7
2.5°	3562.2	3535.3	3510.3	3539.4	3557.2
5°	3506.6	3498.4	3508.0	3497.5	3581.9
7.5°	3434.6	3466.0	3484.3	3472.9	3477.9
10°	3396.3	3385.3	3425.9	3454.2	3450.1
12.5°	3355.2	3371.6	3373.9	3404.5	3407.2
15°	3357.5	3318.7	3339.3	3356.6	3358.0
17.5°	3227.1	3269.0	3283.2	3322.8	3273.6
20°	3211.1	3180.6	3211.1	3251.7	3245.3
22.5°	3113.1	3078.9	3144.6	3180.6	3178.3
25°	3001.8	3018.2	3067.5	3107.6	3101.2
27.5°	2904.2	2923.4	2993.6	3048.8	3013.2
30°	2829.0	2819.4	2878.7	2928.0	2955.3
32.5°	2694.5	2729.1	2798.4	2847.2	2821.2
35°	2612.9	2620.6	2681.3	2743.3	2741.5
37.5°	2470.1	2506.2	2591.4	2608.8	2592.8
40°	2348.4	2384.4	2461.5	2480.2	2472.4
42.5°	2258.6	2264.9	2331.1	2352.5	2318.3
45°	2102.1	2141.4	2176.9	2233.0	2180.1
47.5°	1969.0	1987.2	2063.8	2078.9	2051.1
50°	1848.2	1854.5	1931.6	1912.9	1894.7
52.5°	1696.3	1723.2	1766.5	1762.9	1741.5
55°	1571.4	1560.9	1601.9	1591.0	1590.5
57.5°	1421.3	1439.6	1473.3	1456.0	1428.2
60°	1280.9	1281.3	1293.7	1274.1	1270.4
62.5°	1124.5	1130.0	1132.7	1108.5	1147.7
65°	965.3	952.6	990.0	952.1	958.5
67.5°	819.0	825.4	821.7	798.0	807.1
70°	670.3	678.5	672.6	645.7	653.9
72.5°	534.4	524.4	530.8	497.0	512.5
75°	401.7	393.5	400.8	372.5	385.3
77.5°	273.6	280.0	275.4	260.4	269.0
80°	180.6	175.6	175.6	166.9	168.7
82.5°	105.3	100.3	99.0	96.2	100.3
85°	49.2	47.9	48.8	47.4	45.6
87.5°	17.8	18.2	18.2	17.3	16.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)