

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: P590750

Luminaire Tested: FSR-24-2-LD4-4HI-40-UNV-81-85-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590750
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-81-85-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9003.0 lumens
Efficiency: N/A
Efficacy: 104.2 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

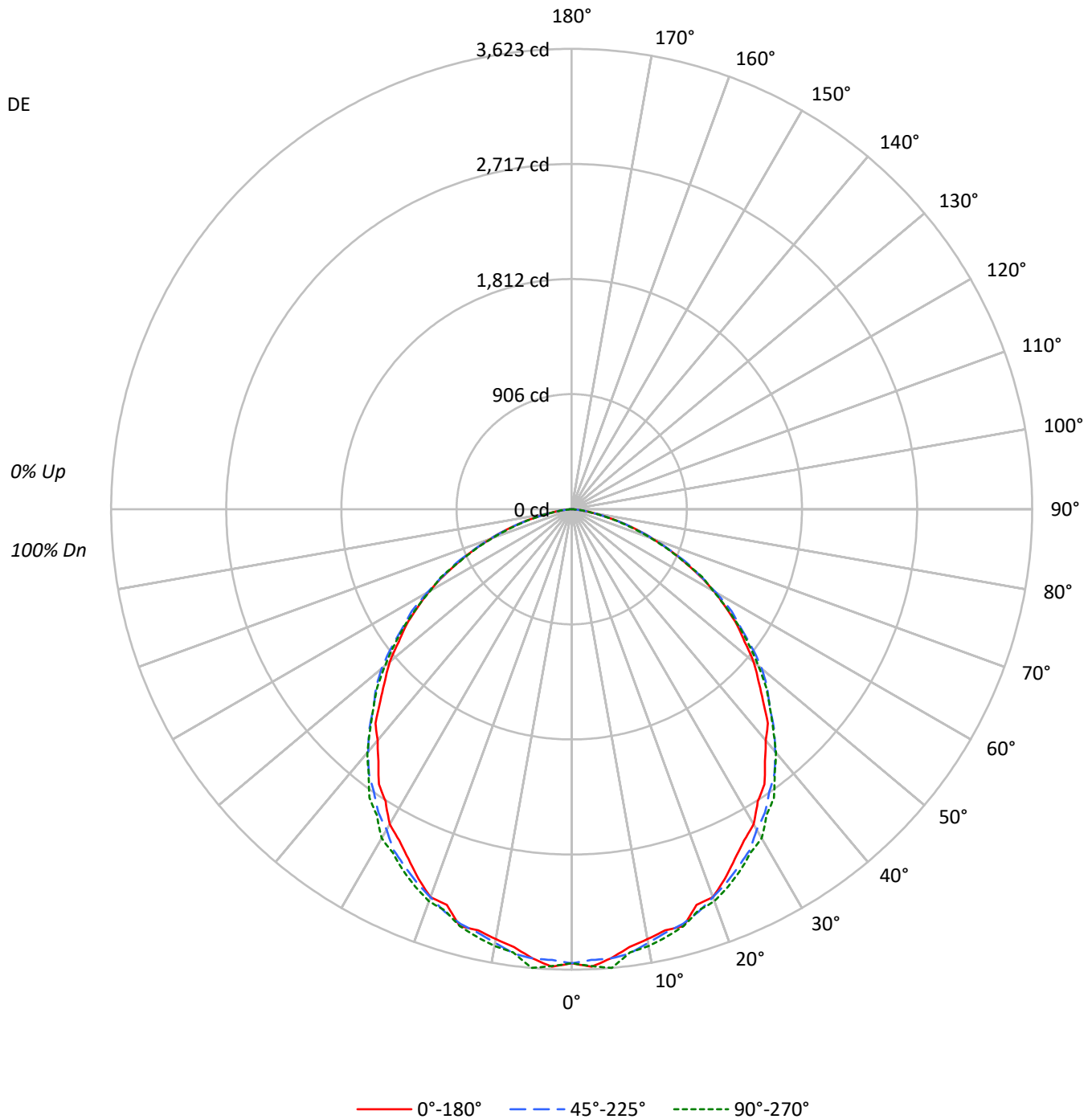
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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																												
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°	9613	9613	9613
5°	9581	9585	9786
10°	9387	9469	9535
15°	9461	9409	9462
20°	9301	9301	9400
25°	9015	9212	9314
30°	8891	9047	9288
35°	8682	8909	9109
40°	8344	8746	8785
45°	8092	8380	8392
50°	7826	8179	8023
55°	7457	7602	7547
60°	6973	7042	6916
65°	6217	6376	6173
70°	5334	5353	5204
75°	4224	4215	4052
80°	2830	2752	2645
85°	1538	1525	1423

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 8595 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	336.0	3.7
10°-20°	952.3	10.6
20°-30°	1426.8	15.8
30°-40°	1691.0	18.8
40°-50°	1694.1	18.8
50°-60°	1438.0	16.0
60°-70°	969.5	10.8
70°-80°	426.0	4.7
80°-90°	69.2	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°	2715.1	30.2
0°-40°	4406.1	48.9
0°-60°	7538.2	83.7
0°-90°	9003.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9003.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3572	3572	3572	3572	3572	
5°	3547	3538	3548	3538	3623	334
15°	3396	3357	3378	3395	3396	946
25°	3036	3053	3103	3143	3137	1404
35°	2643	2651	2712	2775	2773	1641
45°	2126	2166	2202	2259	2205	1645
55°	1589	1579	1620	1609	1609	1414
65°	976	964	1001	963	970	971
75°	406	398	405	377	390	435
85°	50	48	49	48	46	72
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3572.2	3572.2	3572.2	3572.2	3572.2
2.5°	3603.1	3575.9	3550.5	3580.0	3598.0
5°	3546.8	3538.5	3548.2	3537.6	3622.9
7.5°	3473.9	3505.7	3524.2	3512.7	3517.7
10°	3435.2	3424.1	3465.2	3493.8	3489.6
12.5°	3393.7	3410.3	3412.6	3443.5	3446.2
15°	3396.0	3356.8	3377.5	3395.1	3396.4
17.5°	3264.1	3306.5	3320.8	3360.9	3311.1
20°	3247.9	3217.0	3247.9	3289.0	3282.5
22.5°	3148.8	3114.2	3180.6	3217.0	3214.7
25°	3036.2	3052.8	3102.6	3143.2	3136.8
27.5°	2937.5	2956.9	3027.9	3083.7	3047.8
30°	2861.4	2851.7	2911.7	2961.5	2989.2
32.5°	2725.4	2760.4	2830.5	2879.9	2853.6
35°	2642.8	2650.6	2712.0	2774.7	2772.9
37.5°	2498.4	2534.9	2621.1	2638.7	2622.5
40°	2375.3	2411.7	2489.7	2508.6	2500.7
42.5°	2284.4	2290.9	2357.8	2379.4	2344.9
45°	2126.2	2165.9	2201.9	2258.6	2205.1
47.5°	1991.6	2010.0	2087.5	2102.7	2074.6
50°	1869.3	1875.8	1953.7	1934.8	1916.4
52.5°	1715.7	1743.0	1786.8	1783.1	1761.4
55°	1589.4	1578.8	1620.3	1609.2	1608.7
57.5°	1437.6	1456.1	1490.2	1472.7	1444.5
60°	1295.6	1296.0	1308.5	1288.7	1285.0
62.5°	1137.4	1142.9	1145.7	1121.2	1160.9
65°	976.4	963.5	1001.3	963.0	969.5
67.5°	828.4	834.8	831.1	807.1	816.4
70°	678.0	686.3	680.3	653.1	661.4
72.5°	540.6	530.4	536.9	502.7	518.4
75°	406.3	398.0	405.4	376.8	389.7
77.5°	276.7	283.2	278.6	263.4	272.1
80°	182.6	177.6	177.6	168.8	170.7
82.5°	106.5	101.5	100.1	97.3	101.5
85°	49.8	48.4	49.4	48.0	46.1
87.5°	18.0	18.4	18.4	17.5	16.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)