

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: P590782

Luminaire Tested: FSR-24-2-LD4-4HI-50-UNV-81-85-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590782
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-50-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 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9156.0 lumens
Efficiency: N/A
Efficacy: 106.0 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

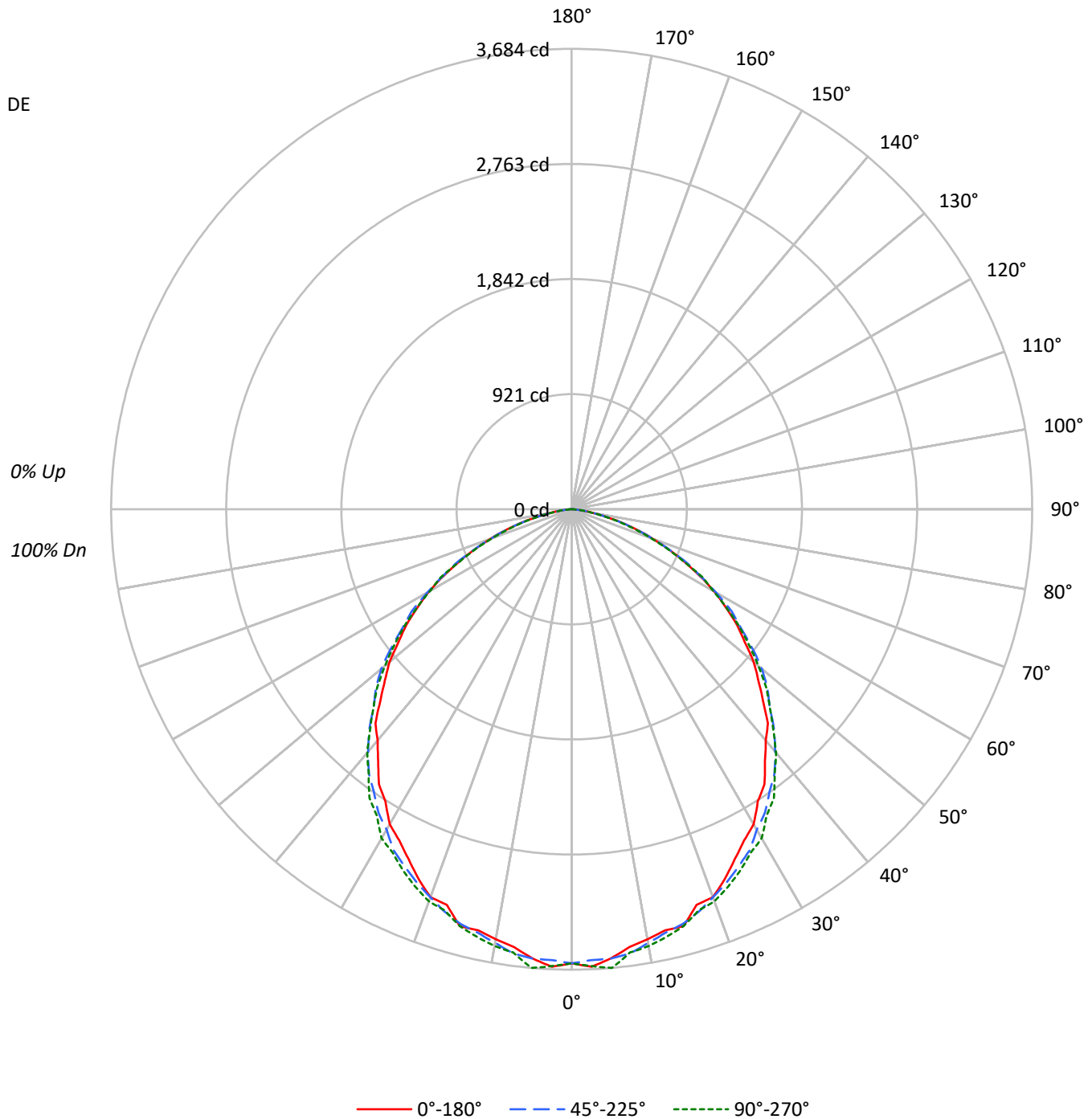
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20																		
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	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°	9776	9776	9776
5°	9744	9747	9953
10°	9546	9629	9697
15°	9622	9569	9623
20°	9459	9459	9560
25°	9168	9369	9472
30°	9042	9201	9446
35°	8829	9061	9264
40°	8486	8894	8934
45°	8229	8522	8534
50°	7959	8318	8159
55°	7583	7731	7676
60°	7091	7162	7033
65°	6323	6484	6278
70°	5425	5444	5292
75°	4296	4287	4121
80°	2878	2799	2690
85°	1565	1550	1448

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 8742 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	341.7	3.7
10°-20°	968.5	10.6
20°-30°	1451.0	15.8
30°-40°	1719.7	18.8
40°-50°	1722.9	18.8
50°-60°	1462.5	16.0
60°-70°	986.0	10.8
70°-80°	433.2	4.7
80°-90°	70.4	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°	2761.2	30.2
0°-40°	4481.0	48.9
0°-60°	7666.3	83.7
0°-90°	9156.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9156.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3633	3633	3633	3633	3633	
5°	3607	3599	3608	3598	3684	340
15°	3454	3414	3435	3453	3454	962
25°	3088	3105	3155	3197	3190	1428
35°	2688	2696	2758	2822	2820	1669
45°	2162	2203	2239	2297	2243	1673
55°	1616	1606	1648	1637	1636	1438
65°	993	980	1018	979	986	988
75°	413	405	412	383	396	443
85°	51	49	50	49	47	73
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3632.9	3632.9	3632.9	3632.9	3632.9
2.5°	3664.3	3636.6	3610.8	3640.8	3659.1
5°	3607.1	3598.6	3608.5	3597.7	3684.5
7.5°	3533.0	3565.3	3584.1	3572.4	3577.5
10°	3493.6	3482.3	3524.0	3553.1	3548.9
12.5°	3451.3	3468.2	3470.6	3502.0	3504.8
15°	3453.7	3413.8	3434.9	3452.8	3454.2
17.5°	3319.5	3362.7	3377.2	3418.0	3367.4
20°	3303.1	3271.7	3303.1	3344.9	3338.3
22.5°	3202.3	3167.1	3234.6	3271.7	3269.3
25°	3087.8	3104.7	3155.4	3196.6	3190.1
27.5°	2987.4	3007.1	3079.4	3136.1	3099.5
30°	2910.0	2900.2	2961.2	3011.8	3040.0
32.5°	2771.7	2807.3	2878.6	2928.8	2902.1
35°	2687.7	2695.7	2758.1	2821.9	2820.0
37.5°	2540.9	2578.0	2665.7	2683.5	2667.1
40°	2415.7	2452.7	2532.0	2551.2	2543.2
42.5°	2323.3	2329.8	2397.8	2419.9	2384.7
45°	2162.4	2202.7	2239.3	2297.0	2242.6
47.5°	2025.4	2044.2	2123.0	2138.4	2109.8
50°	1901.1	1907.7	1986.9	1967.7	1948.9
52.5°	1744.9	1772.6	1817.1	1813.4	1791.3
55°	1616.4	1605.6	1647.8	1636.6	1636.1
57.5°	1462.1	1480.8	1515.5	1497.7	1469.1
60°	1317.6	1318.1	1330.7	1310.6	1306.8
62.5°	1156.7	1162.3	1165.1	1140.3	1180.6
65°	993.0	979.9	1018.3	979.4	986.0
67.5°	842.4	849.0	845.2	820.9	830.2
70°	689.5	698.0	691.9	664.2	672.6
72.5°	549.7	539.4	546.0	511.3	527.2
75°	413.2	404.8	412.3	383.2	396.4
77.5°	281.4	288.0	283.3	267.8	276.7
80°	185.7	180.6	180.6	171.7	173.6
82.5°	108.4	103.2	101.8	99.0	103.2
85°	50.7	49.3	50.2	48.8	46.9
87.5°	18.3	18.8	18.8	17.8	16.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)