

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: P561847

Luminaire Tested: FSR-12-4-LD4-2STD-50-UNV-80-87-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561847  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/20/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: FAIL-SAFE  
Catalog Number: FSR-12-4-LD4-2STD-50-UNV-80-87-EDD  
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR PC ENVIRON  
SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

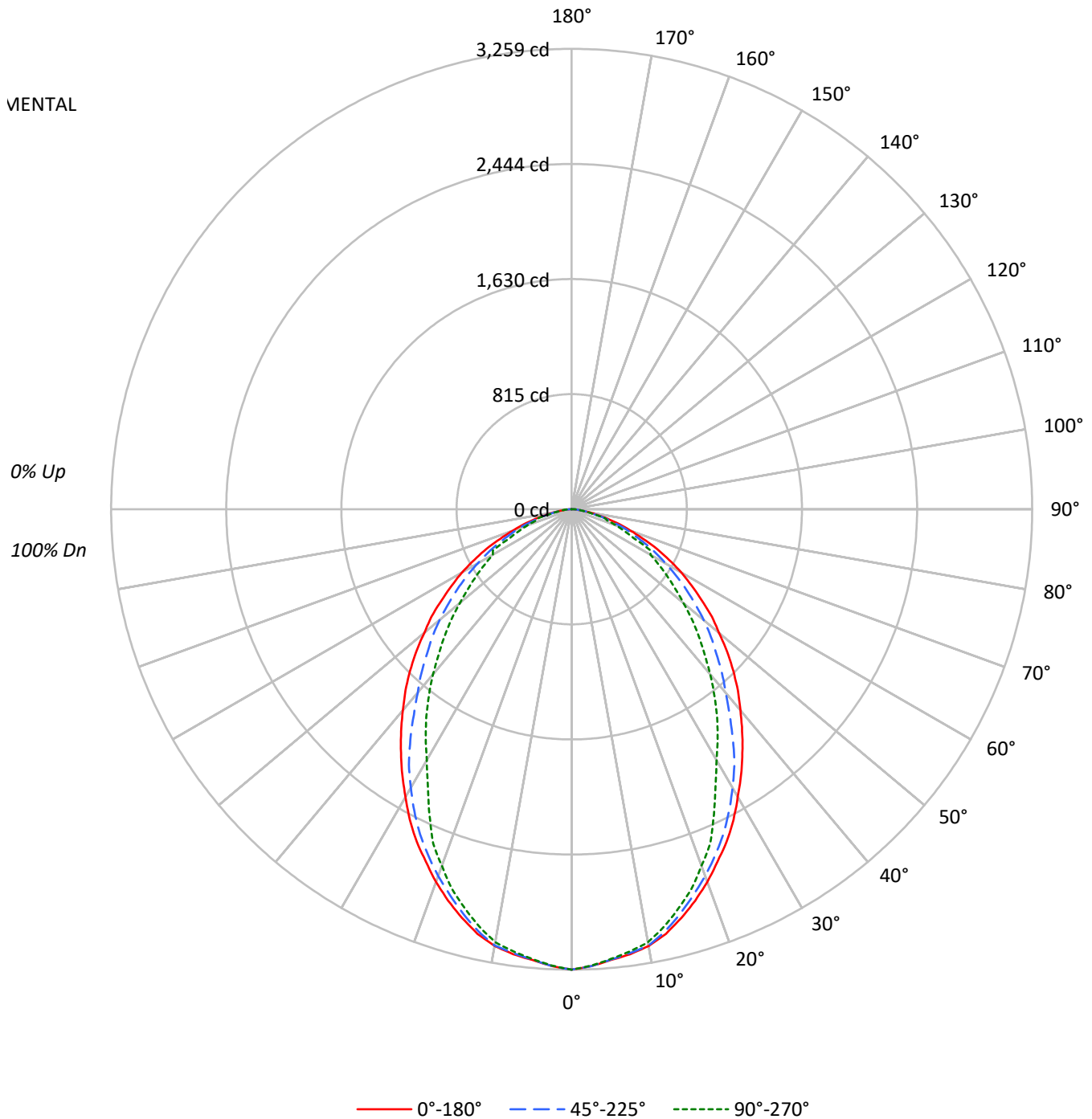
Lumens per Lamp: N/A  
Luminaire Lumens: 6398.0 lumens  
Efficiency: N/A  
Efficacy: 96.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87																												
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																												
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																												
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																												
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																												
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44																												
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																												
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																												
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																												
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																												

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	8770	8770	8770
5°	8651	8641	8631
10°	8576	8566	8504
15°	8345	8261	8145
20°	8038	7909	7693
25°	7708	7540	7070
30°	7305	7071	6369
35°	6919	6535	5891
40°	6525	5956	5360
45°	6151	5506	4846
50°	5694	5110	4322
55°	5268	4631	3871
60°	4826	4137	3468
65°	4246	3622	3071
70°	3498	3172	2609
75°	2781	2429	2546
80°	1869	1751	1635
85°	1164	1396	1627

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6151 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	303.4	4.7
10°-20°	832.6	13.0
20°-30°	1152.7	18.0
30°-40°	1229.1	19.2
40°-50°	1121.3	17.5
50°-60°	878.4	13.7
60°-70°	572.5	8.9
70°-80°	253.7	4.0
80°-90°	54.5	0.9
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°	2288.6	35.8
0°-40°	3517.7	55.0
0°-60°	5517.4	86.2
0°-90°	6398.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6398.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3259	3259	3259	3259	3259	
5°	3202	3199	3199	3195	3195	304
15°	2995	2995	2965	2935	2924	842
25°	2596	2581	2539	2449	2381	1192
35°	2106	2091	1989	1839	1793	1317
45°	1616	1582	1447	1326	1274	1245
55°	1123	1089	987	870	825	1007
65°	667	629	569	580	482	657
75°	268	249	234	222	245	287
85°	38	41	45	49	53	52
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3259.1	3259.1	3259.1	3259.1	3259.1
2.5°	3236.4	3236.4	3236.4	3232.7	3232.7
5°	3202.5	3198.8	3198.8	3195.0	3195.0
7.5°	3176.2	3172.4	3168.6	3164.9	3157.3
10°	3138.5	3138.5	3134.7	3115.9	3112.1
12.5°	3078.2	3074.4	3059.4	3033.0	3025.5
15°	2995.3	2995.3	2965.2	2935.0	2923.7
17.5°	2904.9	2901.1	2863.4	2833.3	2818.2
20°	2806.9	2799.4	2761.7	2712.7	2686.4
22.5°	2697.7	2697.7	2652.5	2588.4	2562.0
25°	2595.9	2580.9	2539.4	2449.0	2381.2
27.5°	2479.1	2456.5	2411.3	2283.2	2204.1
30°	2351.0	2339.7	2275.7	2109.9	2049.6
32.5°	2230.5	2211.6	2143.8	1970.5	1921.5
35°	2106.1	2091.1	1989.3	1838.6	1793.4
37.5°	1981.8	1963.0	1834.9	1714.3	1657.8
40°	1857.5	1834.9	1695.5	1586.2	1525.9
42.5°	1740.7	1710.5	1574.9	1458.1	1390.3
45°	1616.3	1582.4	1446.8	1326.2	1273.5
47.5°	1492.0	1461.9	1337.5	1213.2	1152.9
50°	1360.1	1333.8	1220.7	1096.4	1032.3
52.5°	1250.9	1209.4	1100.2	975.8	923.1
55°	1122.8	1088.9	987.1	870.3	825.1
57.5°	1006.0	972.1	877.9	768.6	730.9
60°	896.7	847.7	768.6	674.4	644.3
62.5°	776.1	738.5	670.6	591.5	629.2
65°	666.9	629.2	568.9	580.2	482.3
67.5°	546.3	527.5	474.7	422.0	406.9
70°	444.6	422.0	403.1	346.6	331.6
72.5°	354.2	331.6	305.2	275.0	263.7
75°	267.5	248.7	233.6	222.3	244.9
77.5°	184.6	177.1	165.8	154.5	150.7
80°	120.6	116.8	113.0	109.3	105.5
82.5°	71.6	71.6	71.6	71.6	71.6
85°	37.7	41.4	45.2	49.0	52.7
87.5°	22.6	22.6	26.4	30.1	33.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)