

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: P563380

Luminaire Tested: FSR-24-4-LD4-3LO-50-UNV-80-86-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563380  
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-24-4-LD4-3LO-50-UNV-80-86-EDD-90  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRON  
SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

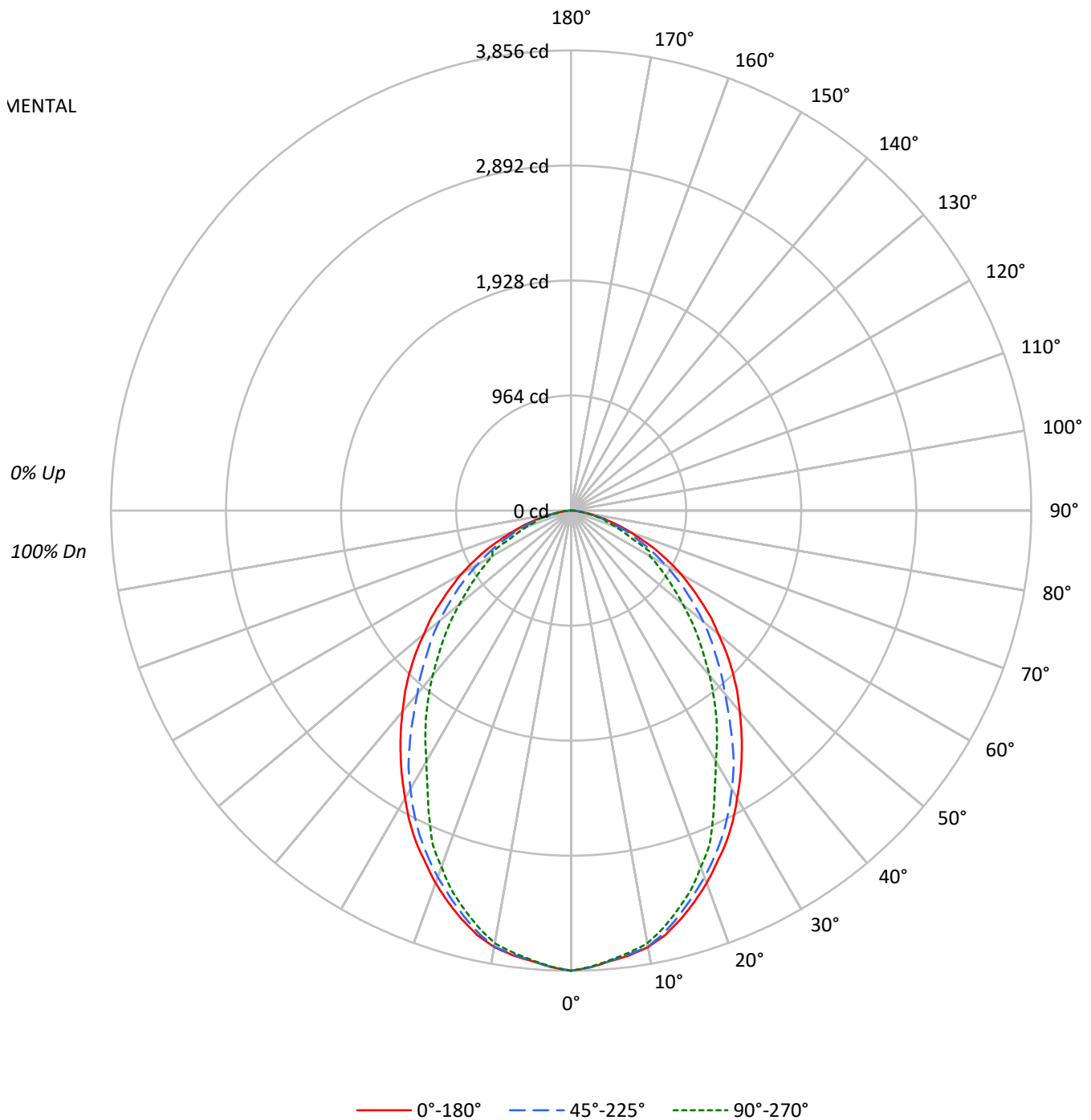
Lumens per Lamp: N/A  
Luminaire Lumens: 7570.0 lumens  
Efficiency: N/A  
Efficacy: 107.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 70.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87									87																			
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75									75																			
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65									65																			
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56									56																			
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50									50																			
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44									44																			
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40									40																			
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36									36																			
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33									33																			
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30									30																			

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

	0°	45°	90°
0°	5188	5188	5188
5°	5118	5112	5106
10°	5073	5067	5031
15°	4937	4887	4819
20°	4755	4679	4551
25°	4560	4461	4183
30°	4322	4183	3768
35°	4093	3866	3485
40°	3860	3523	3171
45°	3639	3257	2867
50°	3369	3023	2557
55°	3116	2740	2290
60°	2855	2447	2051
65°	2512	2143	1817
70°	2069	1876	1543
75°	1645	1437	1507
80°	1106	1036	967
85°	689	826	963

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3639 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	358.9	4.7
10°-20°	985.1	13.0
20°-30°	1363.8	18.0
30°-40°	1454.2	19.2
40°-50°	1326.7	17.5
50°-60°	1039.3	13.7
60°-70°	677.4	8.9
70°-80°	300.1	4.0
80°-90°	64.4	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°	2707.9	35.8
0°-40°	4162.1	55.0
0°-60°	6528.1	86.2
0°-90°	7570.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7570.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3856	3856	3856	3856	3856	
5°	3789	3785	3785	3780	3780	360
15°	3544	3544	3508	3473	3459	996
25°	3072	3054	3005	2898	2817	1410
35°	2492	2474	2354	2175	2122	1558
45°	1912	1872	1712	1569	1507	1473
55°	1328	1288	1168	1030	976	1192
65°	789	744	673	686	571	778
75°	316	294	276	263	290	339
85°	45	49	54	58	62	62
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3856.1	3856.1	3856.1	3856.1	3856.1
2.5°	3829.3	3829.3	3829.3	3824.9	3824.9
5°	3789.2	3784.7	3784.7	3780.3	3780.3
7.5°	3758.0	3753.5	3749.1	3744.6	3735.7
10°	3713.4	3713.4	3708.9	3686.7	3682.2
12.5°	3642.1	3637.6	3619.8	3588.6	3579.7
15°	3544.0	3544.0	3508.3	3472.7	3459.3
17.5°	3437.0	3432.6	3388.0	3352.3	3334.5
20°	3321.1	3312.2	3267.6	3209.7	3178.5
22.5°	3191.8	3191.8	3138.3	3062.6	3031.4
25°	3071.5	3053.6	3004.6	2897.6	2817.4
27.5°	2933.3	2906.5	2853.0	2701.5	2607.9
30°	2781.7	2768.3	2692.6	2496.4	2425.1
32.5°	2639.1	2616.8	2536.5	2331.5	2273.5
35°	2491.9	2474.1	2353.8	2175.4	2121.9
37.5°	2344.8	2322.5	2171.0	2028.3	1961.5
40°	2197.7	2171.0	2006.0	1876.8	1805.4
42.5°	2059.5	2023.9	1863.4	1725.2	1645.0
45°	1912.4	1872.3	1711.8	1569.2	1506.8
47.5°	1765.3	1729.7	1582.5	1435.4	1364.1
50°	1609.3	1578.1	1444.3	1297.2	1221.5
52.5°	1480.0	1431.0	1301.7	1154.6	1092.2
55°	1328.4	1288.3	1168.0	1029.8	976.3
57.5°	1190.3	1150.1	1038.7	909.4	864.8
60°	1061.0	1003.0	909.4	798.0	762.3
62.5°	918.3	873.7	793.5	699.9	744.5
65°	789.0	744.5	673.1	686.5	570.6
67.5°	646.4	624.1	561.7	499.3	481.4
70°	526.0	499.3	477.0	410.1	392.3
72.5°	419.0	392.3	361.1	325.4	312.1
75°	316.5	294.2	276.4	263.0	289.8
77.5°	218.4	209.5	196.1	182.8	178.3
80°	142.7	138.2	133.7	129.3	124.8
82.5°	84.7	84.7	84.7	84.7	84.7
85°	44.6	49.0	53.5	58.0	62.4
87.5°	26.7	26.7	31.2	35.7	40.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)