

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: P563384

Luminaire Tested: FSR-24-4-LD4-3LO-50-UNV-80-88-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563384  
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-80-88-EDD-90  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .500 CLEAR PC ENVIRON  
SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

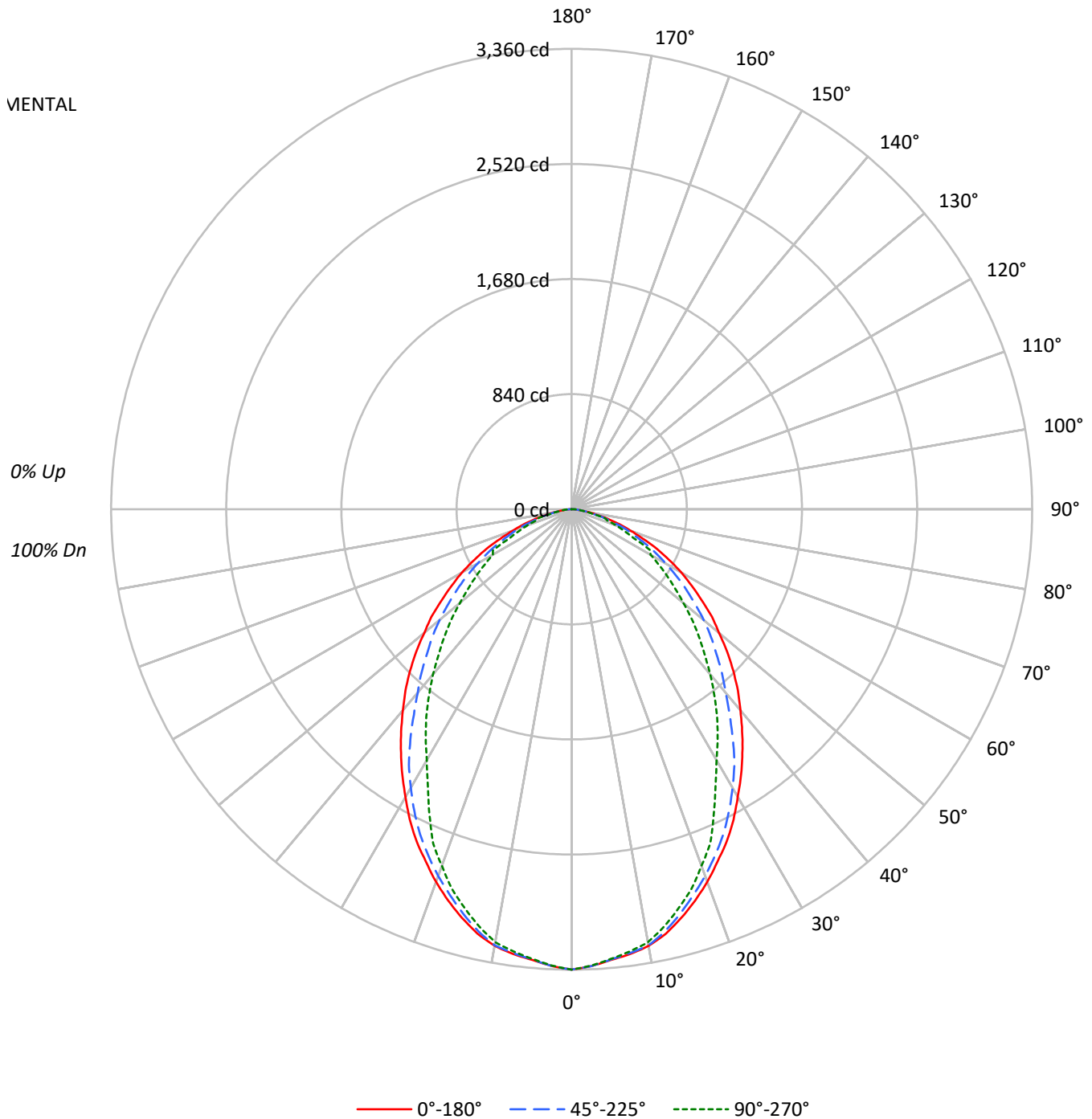
Lumens per Lamp: N/A  
Luminaire Lumens: 6596.0 lumens  
Efficiency: N/A  
Efficacy: 94.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 70.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	4521	4521	4521
5°	4459	4454	4449
10°	4421	4415	4383
15°	4301	4258	4199
20°	4143	4077	3965
25°	3973	3887	3645
30°	3766	3645	3283
35°	3566	3369	3037
40°	3364	3070	2763
45°	3171	2838	2498
50°	2935	2634	2228
55°	2715	2387	1996
60°	2488	2132	1787
65°	2189	1867	1583
70°	1803	1635	1345
75°	1434	1252	1313
80°	963	903	843
85°	599	719	840

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3171 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	312.8	4.7
10°-20°	858.4	13.0
20°-30°	1188.3	18.0
30°-40°	1267.1	19.2
40°-50°	1156.0	17.5
50°-60°	905.6	13.7
60°-70°	590.2	8.9
70°-80°	261.5	4.0
80°-90°	56.1	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°	2359.4	35.8
0°-40°	3626.6	55.0
0°-60°	5688.1	86.2
0°-90°	6596.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6596.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3360	3360	3360	3360	3360	
5°	3302	3298	3298	3294	3294	313
15°	3088	3088	3057	3026	3014	868
25°	2676	2661	2618	2525	2455	1229
35°	2171	2156	2051	1896	1849	1357
45°	1666	1631	1492	1367	1313	1284
55°	1158	1123	1018	897	851	1038
65°	688	649	586	598	497	678
75°	276	256	241	229	252	296
85°	39	43	47	50	54	54
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3359.9	3359.9	3359.9	3359.9	3359.9
2.5°	3336.6	3336.6	3336.6	3332.7	3332.7
5°	3301.6	3297.8	3297.8	3293.9	3293.9
7.5°	3274.5	3270.6	3266.7	3262.8	3255.0
10°	3235.6	3235.6	3231.7	3212.3	3208.4
12.5°	3173.5	3169.6	3154.0	3126.9	3119.1
15°	3088.0	3088.0	3056.9	3025.9	3014.2
17.5°	2994.8	2990.9	2952.1	2921.0	2905.5
20°	2893.8	2886.0	2847.2	2796.7	2769.5
22.5°	2781.2	2781.2	2734.5	2668.5	2641.3
25°	2676.3	2660.7	2618.0	2524.8	2454.9
27.5°	2555.9	2532.6	2485.9	2353.9	2272.3
30°	2423.8	2412.1	2346.1	2175.2	2113.1
32.5°	2299.5	2280.1	2210.2	2031.5	1981.0
35°	2171.3	2155.8	2050.9	1895.5	1848.9
37.5°	2043.1	2023.7	1891.7	1767.4	1709.1
40°	1915.0	1891.7	1747.9	1635.3	1573.1
42.5°	1794.5	1763.5	1623.6	1503.2	1433.3
45°	1666.4	1631.4	1491.6	1367.3	1312.9
47.5°	1538.2	1507.1	1378.9	1250.7	1188.6
50°	1402.2	1375.0	1258.5	1130.3	1064.3
52.5°	1289.6	1246.9	1134.2	1006.0	951.7
55°	1157.5	1122.6	1017.7	897.3	850.7
57.5°	1037.1	1002.1	905.0	792.4	753.6
60°	924.5	874.0	792.4	695.3	664.2
62.5°	800.2	761.3	691.4	609.8	648.7
65°	687.5	648.7	586.5	598.2	497.2
67.5°	563.2	543.8	489.4	435.0	419.5
70°	458.3	435.0	415.6	357.4	341.8
72.5°	365.1	341.8	314.6	283.6	271.9
75°	275.8	256.4	240.8	229.2	252.5
77.5°	190.3	182.6	170.9	159.3	155.4
80°	124.3	120.4	116.5	112.6	108.8
82.5°	73.8	73.8	73.8	73.8	73.8
85°	38.8	42.7	46.6	50.5	54.4
87.5°	23.3	23.3	27.2	31.1	35.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)