

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: P561776

Luminaire Tested: FSR-12-4-LD4-2STD-40-UNV-80-84-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561776  
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-40-UNV-80-84-EDD-90  
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .125 CLEAR PC ENVIRONM  
SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

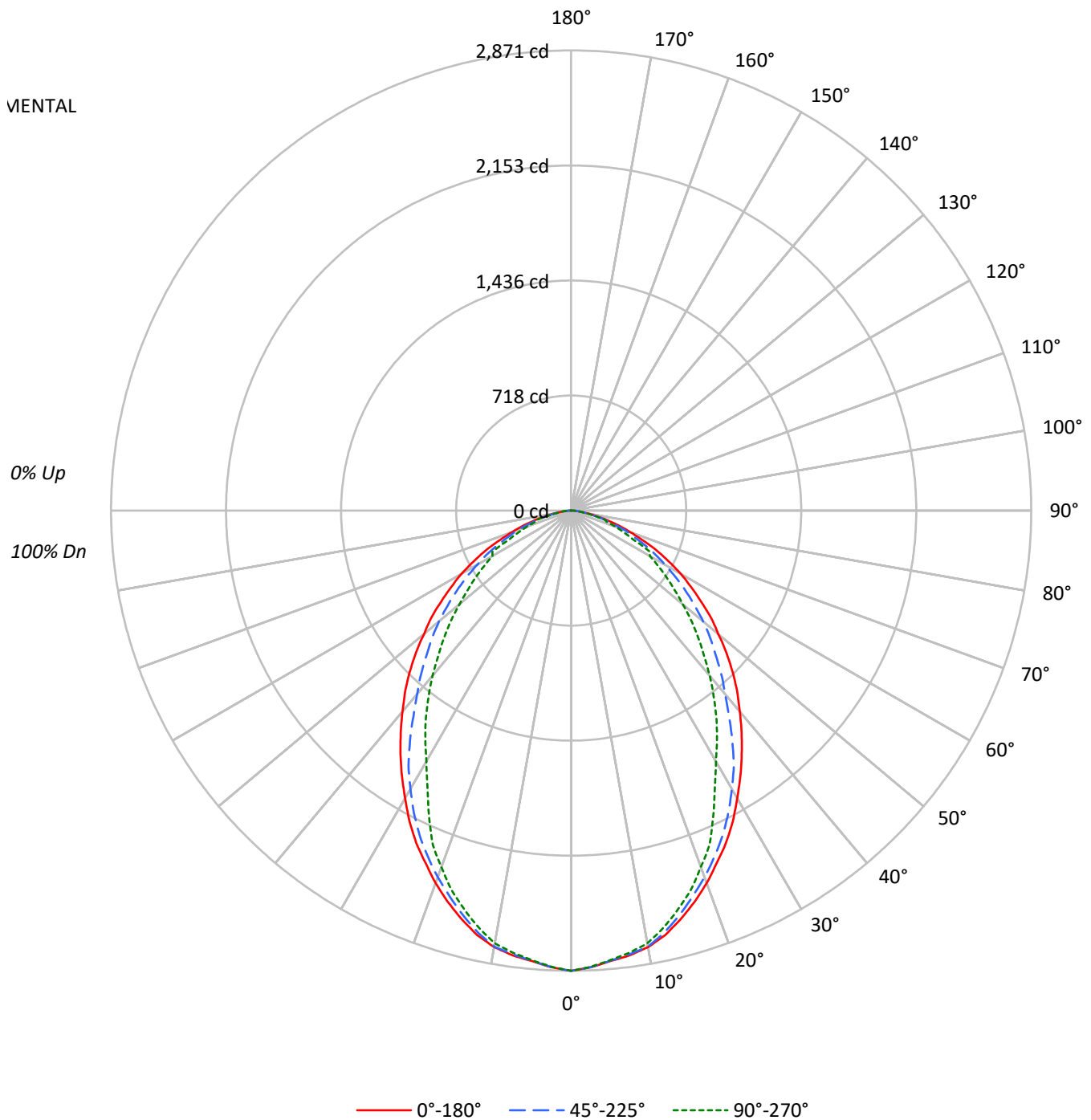
Lumens per Lamp: N/A  
Luminaire Lumens: 5637.0 lumens  
Efficiency: N/A  
Efficacy: 84.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	7727	7727	7727
5°	7622	7613	7604
10°	7556	7547	7492
15°	7352	7278	7176
20°	7082	6968	6778
25°	6791	6643	6229
30°	6436	6230	5611
35°	6096	5758	5191
40°	5749	5247	4723
45°	5420	4851	4270
50°	5017	4502	3808
55°	4641	4080	3411
60°	4252	3645	3055
65°	3741	3192	2706
70°	3082	2795	2298
75°	2451	2140	2244
80°	1646	1543	1440
85°	1025	1229	1436

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5420 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	267.3	4.7
10°-20°	733.6	13.0
20°-30°	1015.6	18.0
30°-40°	1082.9	19.2
40°-50°	987.9	17.5
50°-60°	773.9	13.7
60°-70°	504.4	8.9
70°-80°	223.5	4.0
80°-90°	48.0	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°	2016.4	35.8
0°-40°	3099.3	55.0
0°-60°	4861.1	86.2
0°-90°	5637.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5637.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2871	2871	2871	2871	2871	
5°	2822	2818	2818	2815	2815	268
15°	2639	2639	2612	2586	2576	742
25°	2287	2274	2237	2158	2098	1050
35°	1856	1842	1753	1620	1580	1160
45°	1424	1394	1275	1168	1122	1097
55°	989	959	870	767	727	887
65°	588	554	501	511	425	579
75°	236	219	206	196	216	253
85°	33	36	40	43	46	46
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2871.4	2871.4	2871.4	2871.4	2871.4
2.5°	2851.5	2851.5	2851.5	2848.2	2848.2
5°	2821.6	2818.3	2818.3	2815.0	2815.0
7.5°	2798.4	2795.1	2791.7	2788.4	2781.8
10°	2765.2	2765.2	2761.9	2745.3	2741.9
12.5°	2712.1	2708.8	2695.5	2672.2	2665.6
15°	2639.0	2639.0	2612.5	2585.9	2576.0
17.5°	2559.4	2556.1	2522.9	2496.3	2483.0
20°	2473.1	2466.4	2433.2	2390.1	2366.8
22.5°	2376.8	2376.8	2337.0	2280.5	2257.3
25°	2287.2	2273.9	2237.4	2157.7	2098.0
27.5°	2184.3	2164.3	2124.5	2011.6	1941.9
30°	2071.4	2061.4	2005.0	1858.9	1805.8
32.5°	1965.2	1948.6	1888.8	1736.1	1693.0
35°	1855.6	1842.4	1752.7	1619.9	1580.1
37.5°	1746.1	1729.5	1616.6	1510.4	1460.6
40°	1636.5	1616.6	1493.8	1397.5	1344.4
42.5°	1533.6	1507.1	1387.6	1284.7	1224.9
45°	1424.1	1394.2	1274.7	1168.5	1122.0
47.5°	1314.5	1288.0	1178.4	1068.9	1015.8
50°	1198.4	1175.1	1075.5	966.0	909.6
52.5°	1102.1	1065.6	969.3	859.8	813.3
55°	989.2	959.4	869.7	766.8	727.0
57.5°	886.3	856.4	773.5	677.2	644.0
60°	790.1	746.9	677.2	594.2	567.6
62.5°	683.8	650.6	590.9	521.2	554.4
65°	587.6	554.4	501.3	511.2	424.9
67.5°	481.3	464.7	418.3	371.8	358.5
70°	391.7	371.8	355.2	305.4	292.1
72.5°	312.0	292.1	268.9	242.3	232.4
75°	235.7	219.1	205.8	195.9	215.8
77.5°	162.7	156.0	146.1	136.1	132.8
80°	106.2	102.9	99.6	96.3	92.9
82.5°	63.1	63.1	63.1	63.1	63.1
85°	33.2	36.5	39.8	43.2	46.5
87.5°	19.9	19.9	23.2	26.6	29.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)