

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: P590970

Luminaire Tested: FSR-24-2-LD4-4STD-50-UNV-80-94-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590970  
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-LD4-4STD-50-UNV-80-94-EDD  
Description: 2X2 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

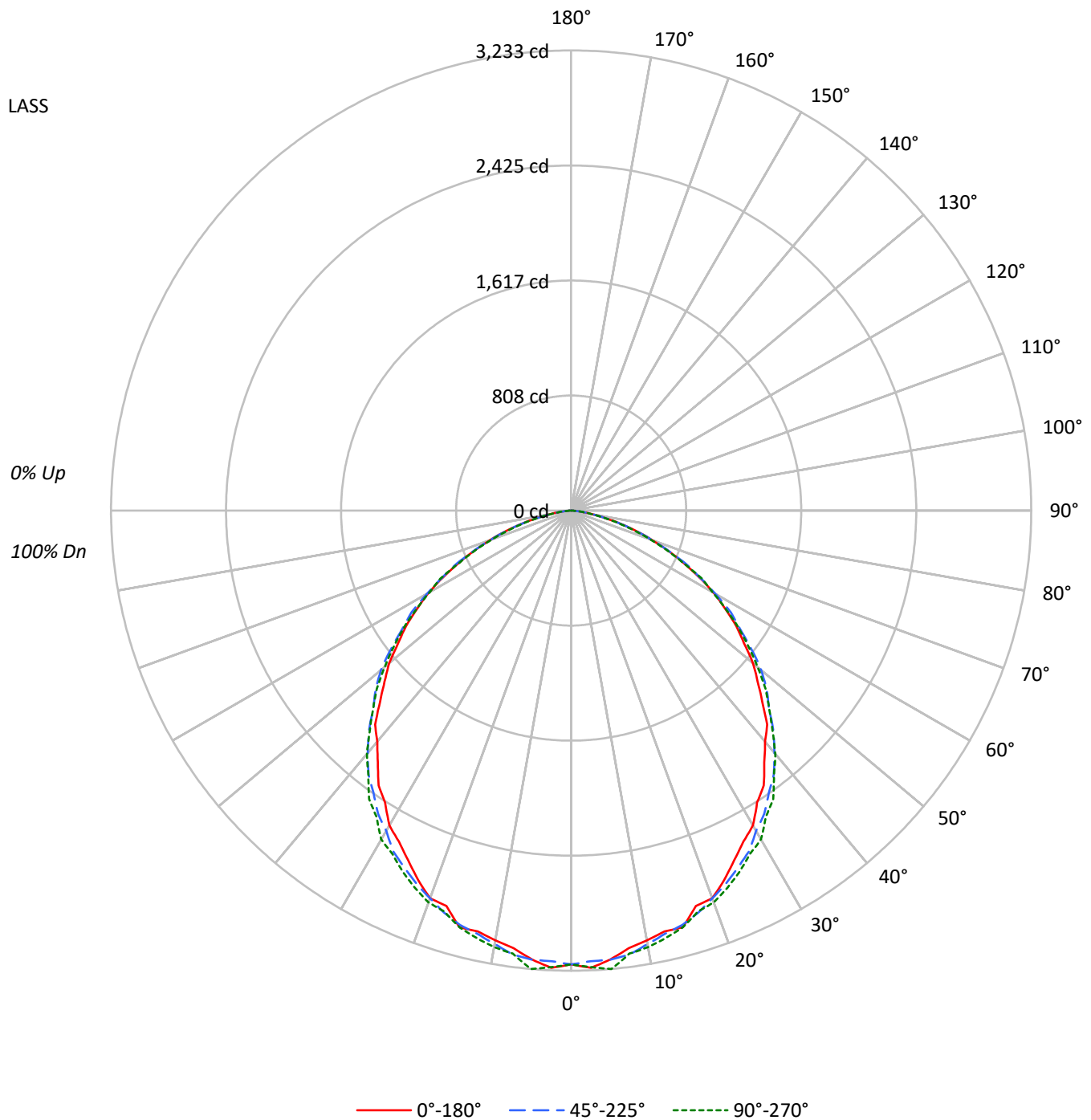
Lumens per Lamp: N/A  
Luminaire Lumens: 8035.0 lumens  
Efficiency: N/A  
Efficacy: 120.6 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
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	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					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°	8579	8579	8579
5°	8551	8554	8734
10°	8377	8451	8510
15°	8444	8398	8445
20°	8301	8301	8389
25°	8046	8222	8312
30°	7935	8075	8290
35°	7748	7951	8130
40°	7447	7805	7840
45°	7222	7478	7489
50°	6984	7300	7160
55°	6655	6784	6736
60°	6223	6285	6172
65°	5549	5691	5509
70°	4761	4777	4644
75°	3770	3762	3616
80°	2526	2456	2360
85°	1374	1359	1272

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 7671 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	299.9	3.7
10°-20°	849.9	10.6
20°-30°	1273.4	15.8
30°-40°	1509.2	18.8
40°-50°	1512.0	18.8
50°-60°	1283.4	16.0
60°-70°	865.3	10.8
70°-80°	380.2	4.7
80°-90°	61.8	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°	2423.2	30.2
0°-40°	3932.3	48.9
0°-60°	6727.7	83.7
0°-90°	8035.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8035.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3188	3188	3188	3188	3188	
5°	3165	3158	3167	3157	3233	298
15°	3031	2996	3014	3030	3031	844
25°	2710	2725	2769	2805	2800	1253
35°	2359	2366	2420	2476	2475	1464
45°	1898	1933	1965	2016	1968	1468
55°	1418	1409	1446	1436	1436	1262
65°	871	860	894	860	865	867
75°	363	355	362	336	348	389
85°	44	43	44	43	41	64
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3188.1	3188.1	3188.1	3188.1	3188.1
2.5°	3215.7	3191.4	3168.7	3195.1	3211.1
5°	3165.4	3158.0	3166.7	3157.2	3233.4
7.5°	3100.4	3128.8	3145.3	3135.0	3139.5
10°	3065.8	3056.0	3092.6	3118.1	3114.4
12.5°	3028.8	3043.6	3045.7	3073.2	3075.7
15°	3030.8	2995.9	3014.4	3030.0	3031.3
17.5°	2913.1	2951.0	2963.7	2999.6	2955.1
20°	2898.7	2871.1	2898.7	2935.3	2929.6
22.5°	2810.2	2779.3	2838.6	2871.1	2869.1
25°	2709.8	2724.6	2769.0	2805.3	2799.5
27.5°	2621.7	2639.0	2702.4	2752.2	2720.1
30°	2553.8	2545.1	2598.6	2643.1	2667.8
32.5°	2432.3	2463.6	2526.2	2570.2	2546.8
35°	2358.6	2365.6	2420.4	2476.4	2474.7
37.5°	2229.8	2262.3	2339.3	2354.9	2340.5
40°	2119.9	2152.4	2222.0	2238.9	2231.9
42.5°	2038.8	2044.6	2104.3	2123.6	2092.7
45°	1897.6	1933.0	1965.1	2015.8	1968.0
47.5°	1777.4	1793.9	1863.0	1876.6	1851.5
50°	1668.3	1674.1	1743.7	1726.8	1710.3
52.5°	1531.3	1555.6	1594.7	1591.4	1572.0
55°	1418.5	1409.0	1446.1	1436.2	1435.8
57.5°	1283.1	1299.5	1330.0	1314.3	1289.2
60°	1156.3	1156.7	1167.8	1150.1	1146.8
62.5°	1015.1	1020.0	1022.5	1000.7	1036.1
65°	871.4	859.9	893.7	859.5	865.2
67.5°	739.3	745.1	741.8	720.4	728.6
70°	605.1	612.5	607.2	582.9	590.3
72.5°	482.4	473.4	479.1	448.7	462.7
75°	362.6	355.2	361.8	336.3	347.8
77.5°	247.0	252.7	248.6	235.0	242.9
80°	163.0	158.5	158.5	150.7	152.3
82.5°	95.1	90.6	89.3	86.9	90.6
85°	44.5	43.2	44.0	42.8	41.2
87.5°	16.1	16.5	16.5	15.6	14.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)