

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: P590971

Luminaire Tested: FSR-24-2-LD4-4STD-50-UNV-80-96-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590971  
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-80-96-EDD  
Description: 2X2 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

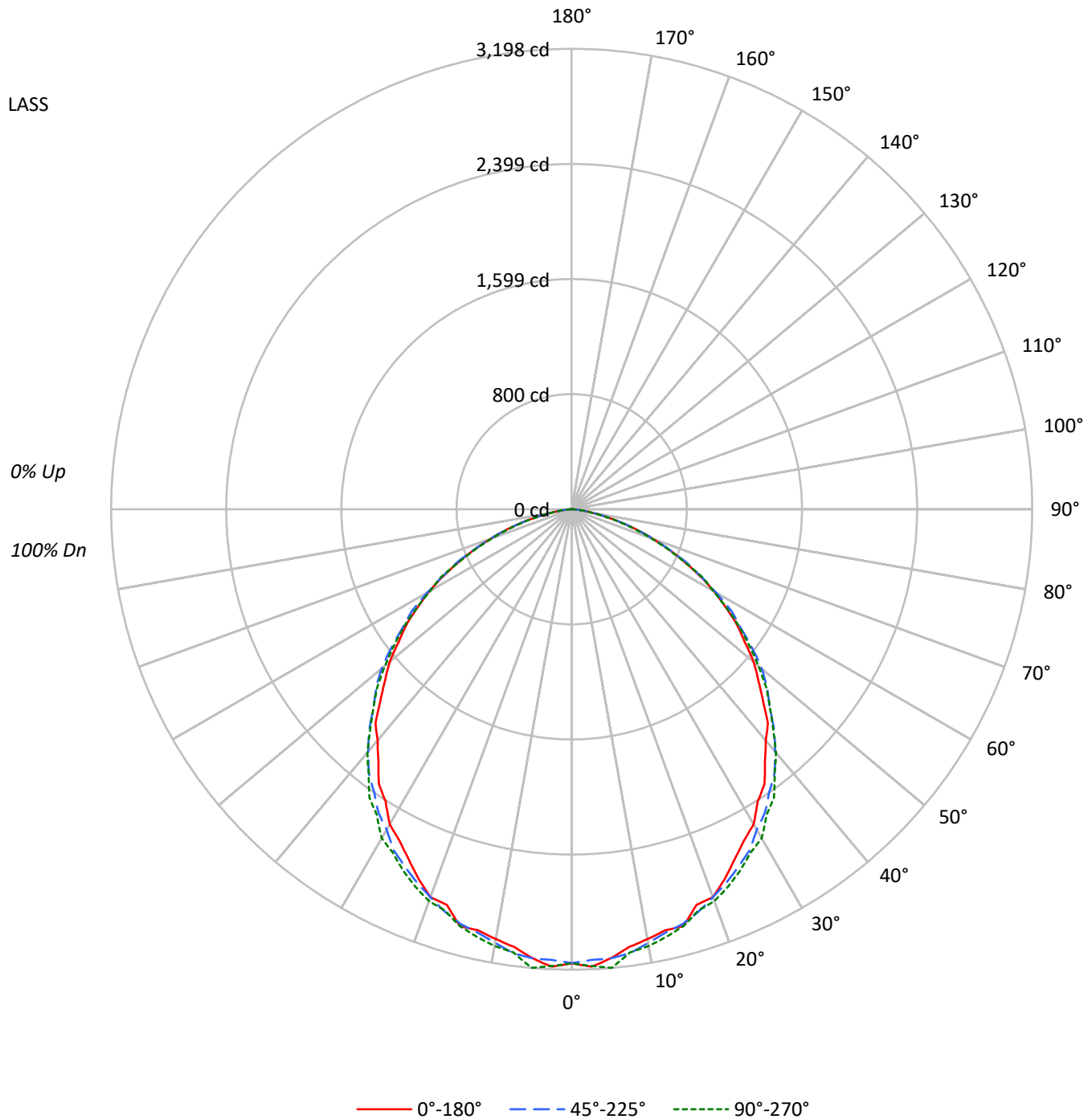
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7946.0 lumens  
Efficiency: N/A  
Efficacy: 119.3 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					86			
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73					73			
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62					62			
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53					53			
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46					46			
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41					41			
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36					36			
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32					32			
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29					29			
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26					26			

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

	0°	45°	90°
0°	8484	8484	8484
5°	8456	8459	8638
10°	8285	8357	8416
15°	8350	8305	8351
20°	8209	8209	8296
25°	7957	8131	8220
30°	7847	7985	8198
35°	7662	7863	8040
40°	7364	7719	7753
45°	7142	7396	7406
50°	6907	7219	7081
55°	6581	6709	6662
60°	6154	6216	6104
65°	5487	5628	5449
70°	4708	4724	4592
75°	3728	3720	3577
80°	2498	2428	2334
85°	1359	1346	1257

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 7586 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	296.6	3.7
10°-20°	840.5	10.6
20°-30°	1259.2	15.8
30°-40°	1492.5	18.8
40°-50°	1495.2	18.8
50°-60°	1269.2	16.0
60°-70°	855.7	10.8
70°-80°	376.0	4.7
80°-90°	61.1	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°	2396.3	30.2
0°-40°	3888.8	48.9
0°-60°	6653.2	83.7
0°-90°	7946.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7946.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3153	3153	3153	3153	3153	
5°	3130	3123	3132	3122	3198	295
15°	2997	2963	2981	2996	2998	835
25°	2680	2694	2738	2774	2768	1239
35°	2332	2339	2394	2449	2447	1448
45°	1877	1912	1943	1993	1946	1452
55°	1403	1393	1430	1420	1420	1248
65°	862	850	884	850	856	857
75°	359	351	358	333	344	384
85°	44	43	44	42	41	64
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3152.8	3152.8	3152.8	3152.8	3152.8
2.5°	3180.0	3156.0	3133.6	3159.7	3175.6
5°	3130.4	3123.1	3131.6	3122.2	3197.6
7.5°	3066.1	3094.2	3110.4	3100.3	3104.7
10°	3031.9	3022.1	3058.3	3083.6	3079.9
12.5°	2995.2	3009.9	3011.9	3039.2	3041.6
15°	2997.3	2962.7	2981.0	2996.5	2997.7
17.5°	2880.8	2918.3	2930.9	2966.3	2922.4
20°	2866.6	2839.3	2866.6	2902.8	2897.1
22.5°	2779.1	2748.5	2807.2	2839.3	2837.3
25°	2679.8	2694.4	2738.4	2774.2	2768.5
27.5°	2592.6	2609.7	2672.4	2721.7	2689.9
30°	2525.5	2516.9	2569.8	2613.8	2638.2
32.5°	2405.4	2436.3	2498.2	2541.8	2518.6
35°	2332.5	2339.4	2393.6	2448.9	2447.3
37.5°	2205.1	2237.3	2313.4	2328.9	2314.6
40°	2096.4	2128.6	2197.4	2214.1	2207.1
42.5°	2016.2	2021.9	2081.0	2100.1	2069.6
45°	1876.6	1911.6	1943.4	1993.4	1946.2
47.5°	1757.7	1774.0	1842.4	1855.8	1831.0
50°	1649.9	1655.6	1724.4	1707.7	1691.4
52.5°	1514.3	1538.3	1577.0	1573.7	1554.6
55°	1402.8	1393.4	1430.0	1420.3	1419.9
57.5°	1268.8	1285.1	1315.2	1299.8	1274.9
60°	1143.5	1143.9	1154.9	1137.4	1134.1
62.5°	1003.8	1008.7	1011.2	989.6	1024.6
65°	861.8	850.4	883.8	850.0	855.7
67.5°	731.1	736.8	733.5	712.4	720.5
70°	598.4	605.7	600.4	576.4	583.7
72.5°	477.1	468.1	473.8	443.7	457.5
75°	358.6	351.3	357.8	332.6	344.0
77.5°	244.2	249.9	245.9	232.4	240.2
80°	161.2	156.7	156.7	149.0	150.6
82.5°	94.0	89.6	88.3	85.9	89.6
85°	44.0	42.7	43.6	42.3	40.7
87.5°	15.9	16.3	16.3	15.5	14.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)