

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: P590498

Luminaire Tested: FSR-24-2-LD4-3HI-50-UNV-81-94-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590498  
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-LD4-3HI-50-UNV-81-94-EDD  
Description: 2X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

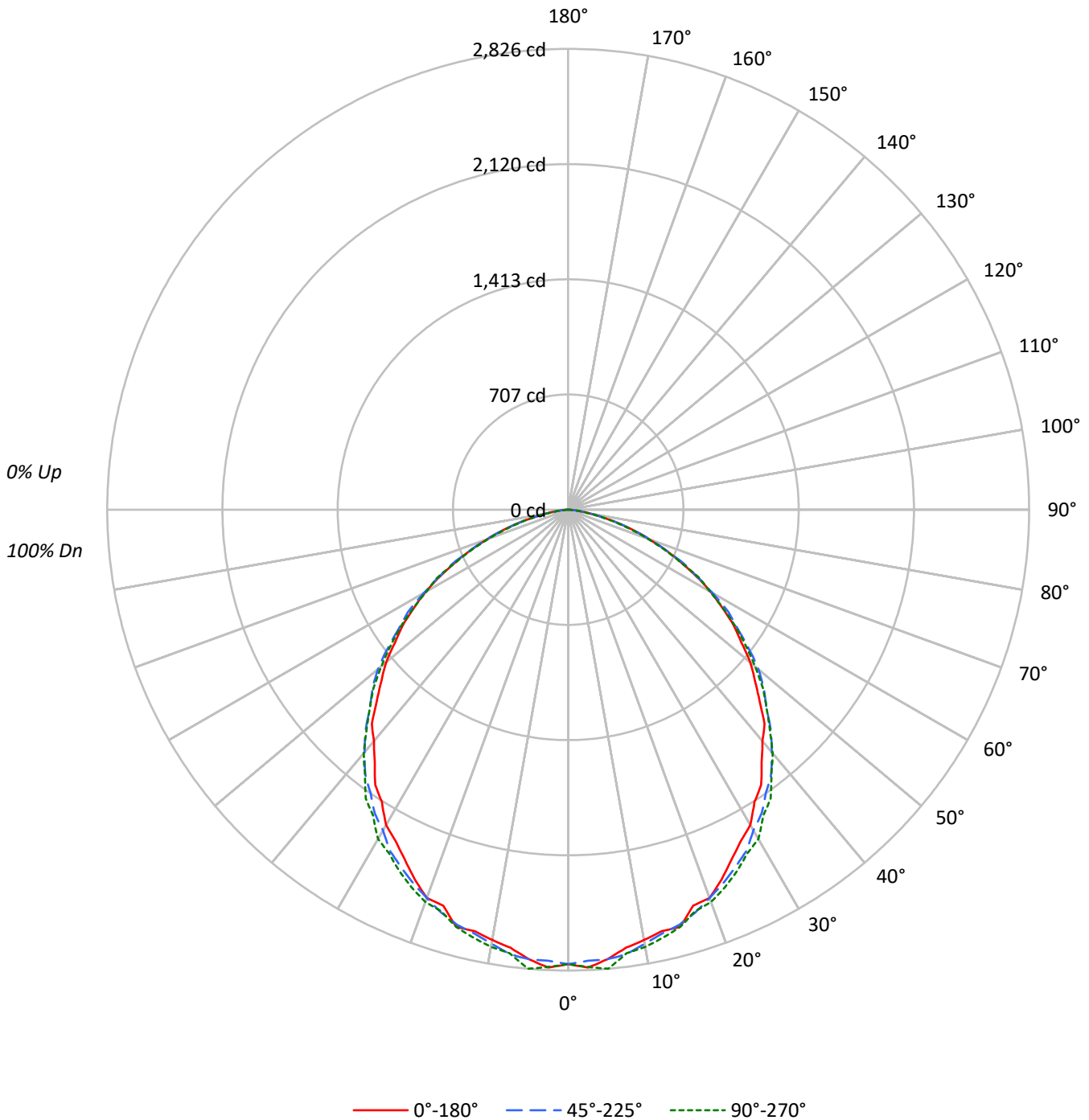
Lumens per Lamp: N/A  
Luminaire Lumens: 7022.0 lumens  
Efficiency: N/A  
Efficacy: 108.4 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 64.8  
Input Voltage (V):  
Input Current (Ain): NR  
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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102
1	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28

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

	0°	45°	90°
0°	7498	7498	7498
5°	7473	7475	7633
10°	7321	7385	7437
15°	7379	7339	7380
20°	7255	7255	7332
25°	7031	7185	7264
30°	6935	7057	7244
35°	6772	6949	7105
40°	6508	6822	6852
45°	6311	6536	6545
50°	6104	6379	6257
55°	5816	5929	5887
60°	5438	5493	5394
65°	4849	4973	4815
70°	4161	4175	4059
75°	3295	3288	3161
80°	2208	2146	2063
85°	1201	1189	1112

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 6704 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	262.1	3.7
10°-20°	742.8	10.6
20°-30°	1112.8	15.8
30°-40°	1318.9	18.8
40°-50°	1321.4	18.8
50°-60°	1121.6	16.0
60°-70°	756.2	10.8
70°-80°	332.3	4.7
80°-90°	54.0	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°	2117.7	30.2
0°-40°	3436.6	48.9
0°-60°	5879.5	83.7
0°-90°	7022.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7022.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2786	2786	2786	2786	2786	
5°	2766	2760	2767	2759	2826	261
15°	2649	2618	2634	2648	2649	738
25°	2368	2381	2420	2452	2447	1095
35°	2061	2067	2115	2164	2163	1280
45°	1658	1689	1717	1762	1720	1283
55°	1240	1231	1264	1255	1255	1103
65°	762	752	781	751	756	757
75°	317	310	316	294	304	340
85°	39	38	38	37	36	56
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2786.2	2786.2	2786.2	2786.2	2786.2
2.5°	2810.3	2789.0	2769.2	2792.3	2806.3
5°	2766.4	2759.9	2767.4	2759.2	2825.7
7.5°	2709.5	2734.4	2748.7	2739.7	2743.7
10°	2679.3	2670.7	2702.7	2725.0	2721.8
12.5°	2646.9	2659.9	2661.7	2685.8	2687.9
15°	2648.7	2618.2	2634.3	2648.0	2649.1
17.5°	2545.8	2578.9	2590.1	2621.4	2582.5
20°	2533.3	2509.2	2533.3	2565.3	2560.2
22.5°	2455.9	2428.9	2480.7	2509.2	2507.4
25°	2368.1	2381.1	2419.9	2451.6	2446.6
27.5°	2291.2	2306.3	2361.7	2405.2	2377.1
30°	2231.8	2224.2	2271.0	2309.9	2331.4
32.5°	2125.7	2153.0	2207.7	2246.2	2225.7
35°	2061.3	2067.4	2115.2	2164.2	2162.7
37.5°	1948.7	1977.1	2044.4	2058.0	2045.5
40°	1852.6	1881.1	1941.9	1956.6	1950.5
42.5°	1781.8	1786.8	1839.0	1855.9	1828.9
45°	1658.4	1689.3	1717.4	1761.6	1719.9
47.5°	1553.3	1567.7	1628.2	1640.0	1618.1
50°	1458.0	1463.0	1523.8	1509.1	1494.7
52.5°	1338.2	1359.4	1393.6	1390.7	1373.8
55°	1239.6	1231.4	1263.8	1255.1	1254.8
57.5°	1121.3	1135.7	1162.3	1148.6	1126.7
60°	1010.5	1010.9	1020.6	1005.1	1002.2
62.5°	887.1	891.4	893.6	874.5	905.5
65°	761.6	751.5	781.0	751.1	756.2
67.5°	646.1	651.1	648.2	629.5	636.7
70°	528.8	535.3	530.6	509.4	515.9
72.5°	421.6	413.7	418.7	392.1	404.3
75°	316.9	310.5	316.2	293.9	304.0
77.5°	215.8	220.9	217.3	205.4	212.2
80°	142.5	138.5	138.5	131.7	133.1
82.5°	83.1	79.1	78.1	75.9	79.1
85°	38.9	37.8	38.5	37.4	36.0
87.5°	14.0	14.4	14.4	13.7	13.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)