

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: P590793

Luminaire Tested: FSR-24-2-LD4-4HI-50-UNV-82-88-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590793  
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-LD4-4HI-50-UNV-82-88-EDD  
Description: 2X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

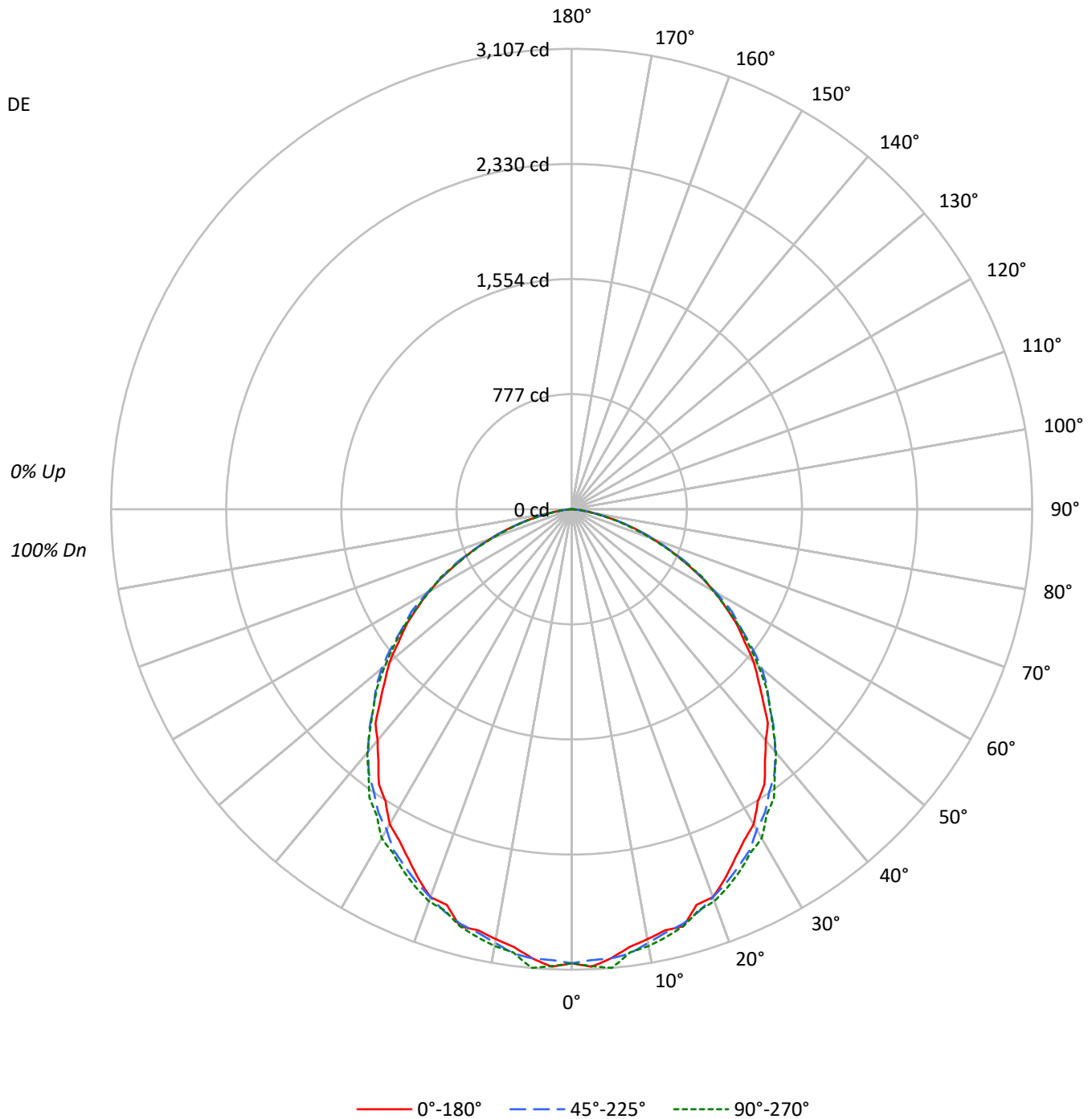
Lumens per Lamp: N/A  
Luminaire Lumens: 7721.0 lumens  
Efficiency: N/A  
Efficacy: 89.4 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 86.4  
Input Voltage (V):  
Input Current (Ain): NR  
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																		
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	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°	8244	8244	8244
5°	8216	8220	8393
10°	8050	8120	8178
15°	8114	8070	8115
20°	7976	7976	8062
25°	7731	7900	7987
30°	7625	7759	7965
35°	7446	7640	7812
40°	7156	7501	7534
45°	6940	7186	7197
50°	6711	7014	6880
55°	6395	6519	6473
60°	5980	6040	5931
65°	5332	5468	5294
70°	4575	4590	4463
75°	3623	3615	3475
80°	2427	2360	2269
85°	1318	1306	1223

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 7371 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	288.2	3.7
10°-20°	816.7	10.6
20°-30°	1223.6	15.8
30°-40°	1450.2	18.8
40°-50°	1452.9	18.8
50°-60°	1233.3	16.0
60°-70°	831.5	10.8
70°-80°	365.4	4.7
80°-90°	59.4	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°	2328.5	30.2
0°-40°	3778.7	48.9
0°-60°	6464.8	83.7
0°-90°	7721.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7721.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3064	3064	3064	3064	3064	
5°	3042	3035	3043	3034	3107	287
15°	2912	2879	2897	2912	2913	811
25°	2604	2618	2661	2696	2690	1204
35°	2266	2273	2326	2380	2378	1407
45°	1824	1858	1888	1937	1891	1411
55°	1363	1354	1390	1380	1380	1212
65°	837	826	859	826	831	833
75°	348	341	348	323	334	373
85°	43	42	42	41	40	62
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3063.5	3063.5	3063.5	3063.5	3063.5
2.5°	3090.0	3066.7	3044.9	3070.2	3085.6
5°	3041.7	3034.6	3042.9	3033.8	3107.0
7.5°	2979.2	3006.5	3022.4	3012.5	3016.8
10°	2946.0	2936.5	2971.7	2996.3	2992.7
12.5°	2910.4	2924.7	2926.6	2953.1	2955.5
15°	2912.4	2878.8	2896.6	2911.6	2912.8
17.5°	2799.3	2835.7	2847.9	2882.3	2839.6
20°	2785.4	2758.9	2785.4	2820.6	2815.1
22.5°	2700.4	2670.7	2727.7	2758.9	2757.0
25°	2603.9	2618.1	2660.8	2695.6	2690.1
27.5°	2519.2	2535.8	2596.8	2644.6	2613.8
30°	2454.0	2445.7	2497.1	2539.8	2563.5
32.5°	2337.3	2367.3	2427.5	2469.8	2447.2
35°	2266.5	2273.2	2325.8	2379.6	2378.0
37.5°	2142.7	2173.9	2247.9	2262.9	2249.1
40°	2037.1	2068.3	2135.2	2151.4	2144.6
42.5°	1959.1	1964.7	2022.0	2040.6	2011.0
45°	1823.5	1857.5	1888.3	1937.0	1891.1
47.5°	1708.0	1723.8	1790.2	1803.3	1779.2
50°	1603.1	1608.7	1675.5	1659.3	1643.5
52.5°	1471.4	1494.8	1532.3	1529.2	1510.6
55°	1363.0	1354.0	1389.6	1380.1	1379.7
57.5°	1232.9	1248.7	1278.0	1263.0	1238.8
60°	1111.1	1111.5	1122.2	1105.2	1102.0
62.5°	975.4	980.2	982.5	961.6	995.6
65°	837.4	826.3	858.7	825.9	831.4
67.5°	710.4	715.9	712.8	692.2	700.1
70°	581.5	588.6	583.4	560.1	567.2
72.5°	463.6	454.9	460.4	431.1	444.6
75°	348.5	341.4	347.7	323.2	334.2
77.5°	237.3	242.9	238.9	225.9	233.4
80°	156.6	152.3	152.3	144.8	146.4
82.5°	91.4	87.0	85.8	83.5	87.0
85°	42.7	41.5	42.3	41.1	39.6
87.5°	15.4	15.8	15.8	15.0	14.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)