

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: P562804

Luminaire Tested: FSR-24-4-LD4-2LO-50-UNV-80-86-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562804  
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-24-4-LD4-2LO-50-UNV-80-86-EDD-90  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRON  
SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

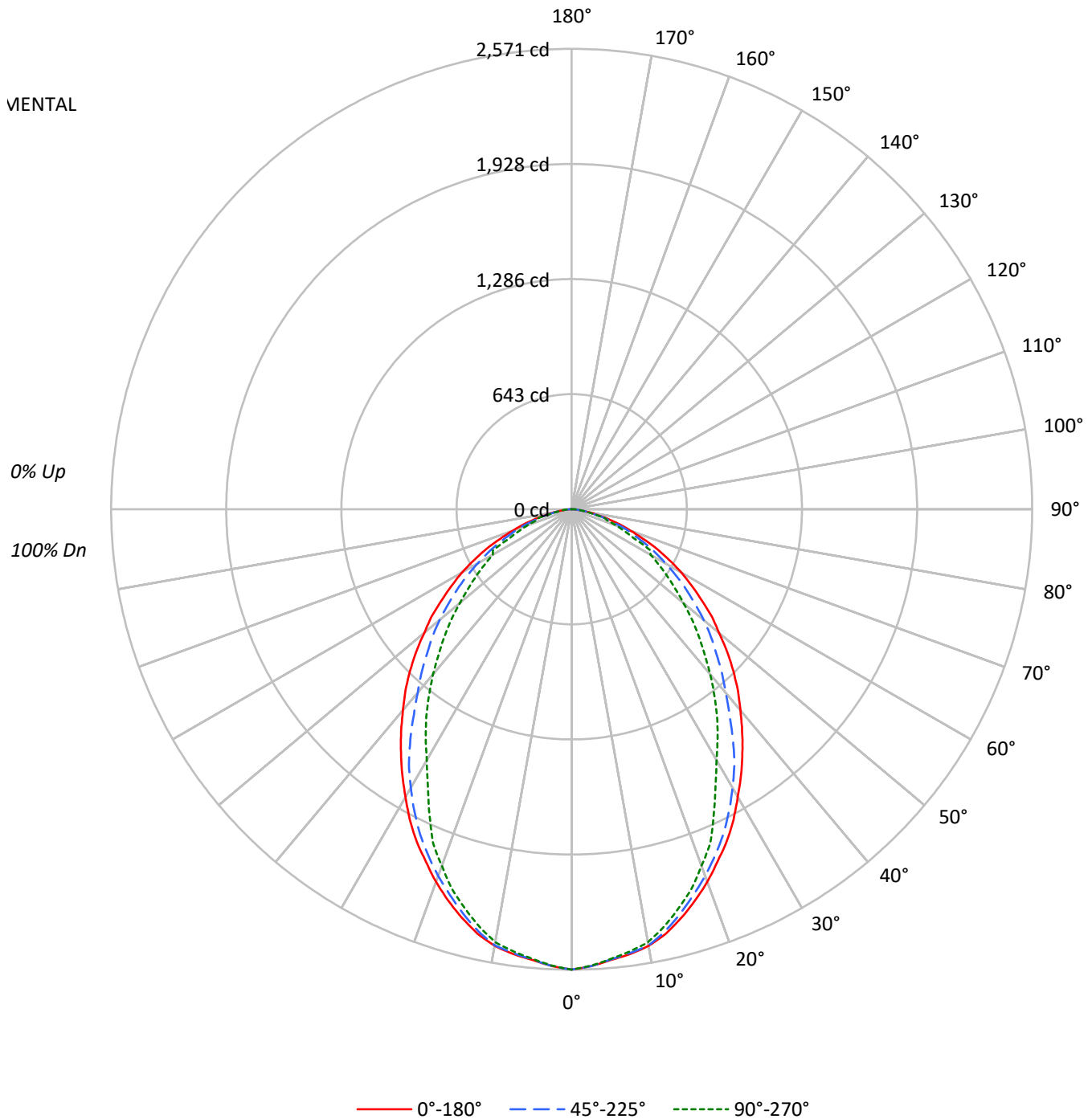
Lumens per Lamp: N/A  
Luminaire Lumens: 5047.0 lumens  
Efficiency: N/A  
Efficacy: 107.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 46.8  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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									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°	3459	3459	3459
5°	3412	3408	3404
10°	3383	3378	3354
15°	3291	3258	3213
20°	3170	3119	3034
25°	3040	2974	2789
30°	2881	2789	2512
35°	2729	2578	2324
40°	2573	2349	2114
45°	2426	2172	1912
50°	2246	2016	1705
55°	2078	1827	1527
60°	1904	1632	1368
65°	1675	1429	1211
70°	1380	1251	1029
75°	1097	958	1004
80°	737	691	645
85°	459	551	642

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2426 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	239.3	4.7
10°-20°	656.8	13.0
20°-30°	909.3	18.0
30°-40°	969.5	19.2
40°-50°	884.5	17.5
50°-60°	692.9	13.7
60°-70°	451.6	8.9
70°-80°	200.1	4.0
80°-90°	43.0	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°	1805.3	35.8
0°-40°	2774.9	55.0
0°-60°	4352.3	86.2
0°-90°	5047.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5047.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2571	2571	2571	2571	2571	
5°	2526	2523	2523	2520	2520	240
15°	2363	2363	2339	2315	2306	664
25°	2048	2036	2003	1932	1878	940
35°	1661	1650	1569	1450	1415	1039
45°	1275	1248	1141	1046	1005	982
55°	886	859	779	687	651	794
65°	526	496	449	458	380	518
75°	211	196	184	175	193	226
85°	30	33	36	39	42	41
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2570.9	2570.9	2570.9	2570.9	2570.9
2.5°	2553.0	2553.0	2553.0	2550.1	2550.1
5°	2526.3	2523.3	2523.3	2520.3	2520.3
7.5°	2505.5	2502.5	2499.5	2496.6	2490.6
10°	2475.8	2475.8	2472.8	2457.9	2455.0
12.5°	2428.2	2425.2	2413.4	2392.5	2386.6
15°	2362.8	2362.8	2339.0	2315.3	2306.4
17.5°	2291.5	2288.5	2258.8	2235.0	2223.1
20°	2214.2	2208.3	2178.6	2139.9	2119.1
22.5°	2128.0	2128.0	2092.4	2041.8	2021.0
25°	2047.8	2035.9	2003.2	1931.9	1878.4
27.5°	1955.6	1937.8	1902.1	1801.1	1738.7
30°	1854.6	1845.7	1795.2	1664.4	1616.8
32.5°	1759.5	1744.6	1691.1	1554.4	1515.8
35°	1661.4	1649.5	1569.3	1450.4	1414.7
37.5°	1563.3	1548.5	1447.4	1352.3	1307.7
40°	1465.2	1447.4	1337.4	1251.3	1203.7
42.5°	1373.1	1349.3	1242.3	1150.2	1096.7
45°	1275.0	1248.3	1141.3	1046.2	1004.6
47.5°	1177.0	1153.2	1055.1	957.0	909.5
50°	1072.9	1052.1	963.0	864.9	814.4
52.5°	986.7	954.0	867.9	769.8	728.2
55°	885.7	858.9	778.7	686.6	650.9
57.5°	793.6	766.8	692.5	606.3	576.6
60°	707.4	668.7	606.3	532.0	508.2
62.5°	612.3	582.5	529.0	466.6	496.3
65°	526.1	496.3	448.8	457.7	380.4
67.5°	431.0	416.1	374.5	332.9	321.0
70°	350.7	332.9	318.0	273.4	261.5
72.5°	279.4	261.5	240.7	217.0	208.0
75°	211.0	196.2	184.3	175.4	193.2
77.5°	145.6	139.7	130.8	121.9	118.9
80°	95.1	92.1	89.2	86.2	83.2
82.5°	56.5	56.5	56.5	56.5	56.5
85°	29.7	32.7	35.7	38.6	41.6
87.5°	17.8	17.8	20.8	23.8	26.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)