

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: P562800

Luminaire Tested: FSR-24-4-LD4-2LO-50-UNV-80-84-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562800  
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-80-84-EDD-90  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .125 CLEAR PC ENVIRON  
SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

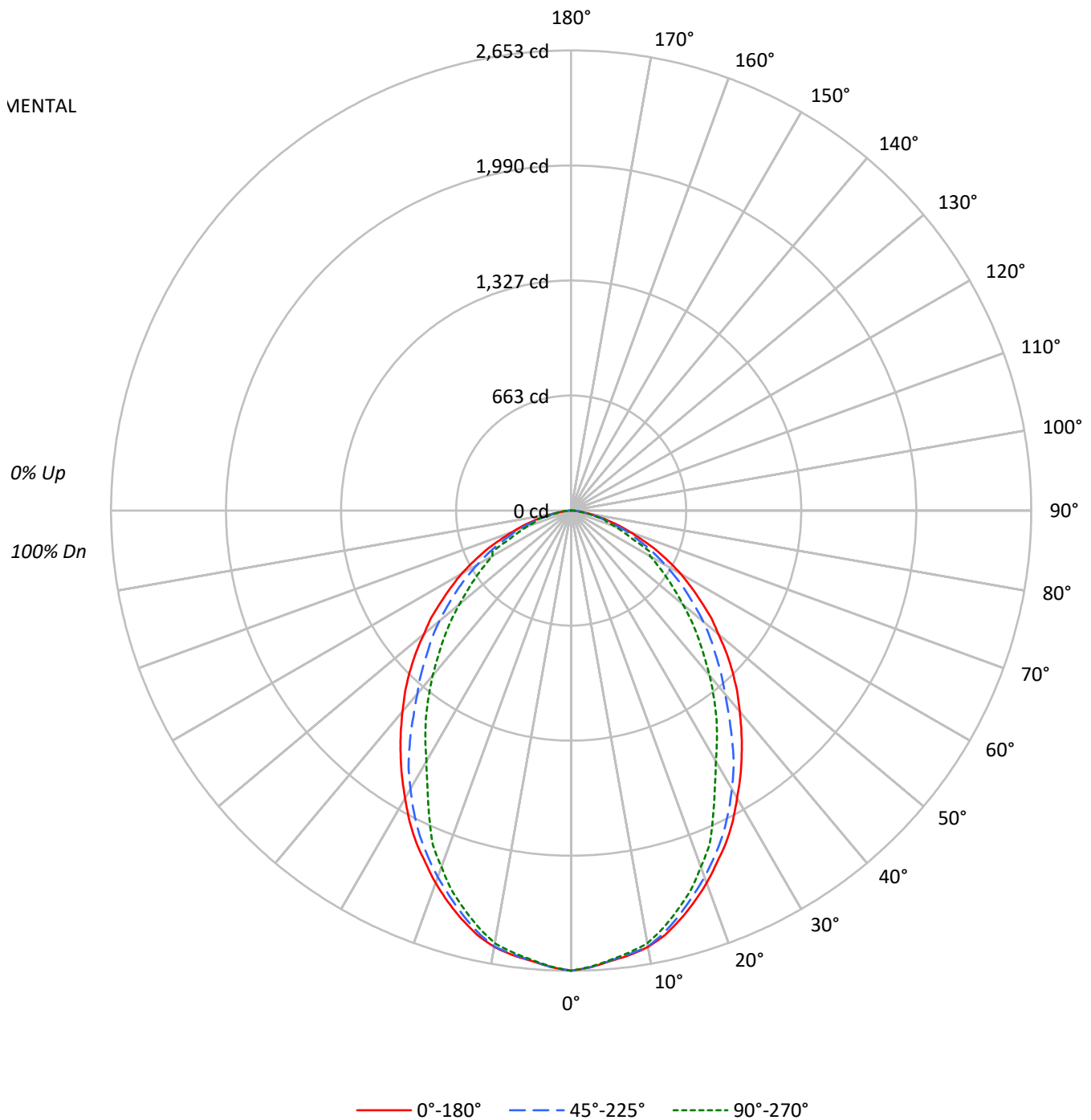
Lumens per Lamp: N/A  
Luminaire Lumens: 5208.0 lumens  
Efficiency: N/A  
Efficacy: 111.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 46.8  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	3569	3569	3569
5°	3521	3517	3513
10°	3490	3486	3461
15°	3396	3362	3315
20°	3272	3219	3131
25°	3137	3069	2878
30°	2973	2878	2592
35°	2816	2660	2398
40°	2656	2424	2182
45°	2504	2241	1972
50°	2318	2080	1759
55°	2144	1885	1576
60°	1964	1684	1411
65°	1728	1474	1250
70°	1424	1291	1062
75°	1132	988	1036
80°	760	713	666
85°	474	568	662

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2504 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	246.9	4.7
10°-20°	677.7	13.0
20°-30°	938.3	18.0
30°-40°	1000.5	19.2
40°-50°	912.7	17.5
50°-60°	715.0	13.7
60°-70°	466.0	8.9
70°-80°	206.5	4.0
80°-90°	44.3	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°	1862.9	35.8
0°-40°	2863.4	55.0
0°-60°	4491.2	86.2
0°-90°	5208.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5208.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2653	2653	2653	2653	2653	
5°	2607	2604	2604	2601	2601	247
15°	2438	2438	2414	2389	2380	685
25°	2113	2101	2067	1994	1938	970
35°	1714	1702	1619	1497	1460	1072
45°	1316	1288	1178	1080	1037	1013
55°	914	886	804	708	672	820
65°	543	512	463	472	393	535
75°	218	202	190	181	199	233
85°	31	34	37	40	43	43
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2652.9	2652.9	2652.9	2652.9	2652.9
2.5°	2634.5	2634.5	2634.5	2631.4	2631.4
5°	2606.9	2603.8	2603.8	2600.7	2600.7
7.5°	2585.4	2582.3	2579.3	2576.2	2570.1
10°	2554.7	2554.7	2551.7	2536.3	2533.3
12.5°	2505.7	2502.6	2490.3	2468.9	2462.7
15°	2438.2	2438.2	2413.7	2389.1	2379.9
17.5°	2364.6	2361.5	2330.9	2306.3	2294.1
20°	2284.9	2278.7	2248.1	2208.2	2186.7
22.5°	2195.9	2195.9	2159.1	2107.0	2085.5
25°	2113.1	2100.8	2067.1	1993.5	1938.3
27.5°	2018.0	1999.6	1962.8	1858.6	1794.1
30°	1913.8	1904.6	1852.4	1717.5	1668.4
32.5°	1815.6	1800.3	1745.1	1604.0	1564.1
35°	1714.4	1702.1	1619.3	1496.7	1459.9
37.5°	1613.2	1597.9	1493.6	1395.4	1349.4
40°	1512.0	1493.6	1380.1	1291.2	1242.1
42.5°	1416.9	1392.4	1282.0	1186.9	1131.7
45°	1315.7	1288.1	1177.7	1079.6	1036.6
47.5°	1214.5	1190.0	1088.8	987.5	938.5
50°	1107.2	1085.7	993.7	892.5	840.3
52.5°	1018.2	984.5	895.5	794.3	751.4
55°	913.9	886.3	803.5	708.5	671.7
57.5°	818.9	791.3	714.6	625.7	595.0
60°	729.9	690.1	625.7	549.0	524.4
62.5°	631.8	601.1	545.9	481.5	512.2
65°	542.8	512.2	463.1	472.3	392.6
67.5°	444.7	429.4	386.4	343.5	331.2
70°	361.9	343.5	328.2	282.2	269.9
72.5°	288.3	269.9	248.4	223.9	214.7
75°	217.8	202.4	190.1	180.9	199.3
77.5°	150.3	144.1	134.9	125.7	122.7
80°	98.1	95.1	92.0	88.9	85.9
82.5°	58.3	58.3	58.3	58.3	58.3
85°	30.7	33.7	36.8	39.9	42.9
87.5°	18.4	18.4	21.5	24.5	27.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)