

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: P590965

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

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590965  
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-80-84-EDD  
Description: 2X2 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .125 CLEAR PC ENVIRONM  
SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

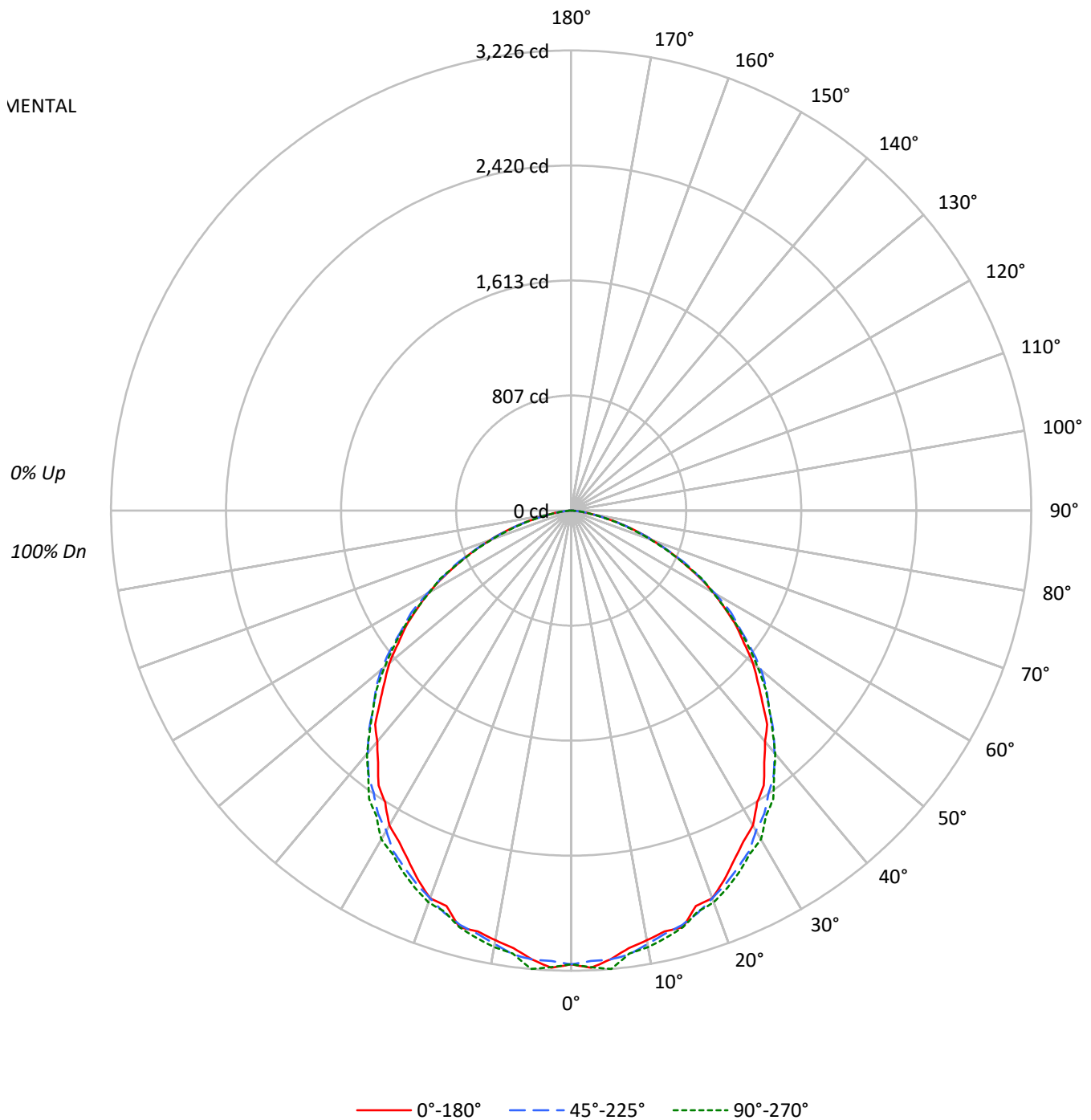
Lumens per Lamp: N/A  
Luminaire Lumens: 8016.0 lumens  
Efficiency: N/A  
Efficacy: 120.4 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
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	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°	8559	8559	8559
5°	8531	8534	8713
10°	8358	8431	8490
15°	8424	8378	8425
20°	8281	8281	8370
25°	8027	8202	8293
30°	7916	8056	8270
35°	7730	7932	8111
40°	7429	7787	7822
45°	7204	7461	7472
50°	6968	7282	7143
55°	6639	6768	6720
60°	6208	6270	6157
65°	5536	5677	5496
70°	4750	4766	4633
75°	3762	3753	3608
80°	2520	2450	2354
85°	1371	1355	1269

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 7653 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	299.2	3.7
10°-20°	847.9	10.6
20°-30°	1270.3	15.8
30°-40°	1505.6	18.8
40°-50°	1508.4	18.8
50°-60°	1280.4	16.0
60°-70°	863.2	10.8
70°-80°	379.3	4.7
80°-90°	61.6	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°	2417.4	30.2
0°-40°	3923.0	48.9
0°-60°	6711.8	83.7
0°-90°	8016.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8016.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3180	3180	3180	3180	3180	
5°	3158	3151	3159	3150	3226	298
15°	3024	2989	3007	3023	3024	842
25°	2703	2718	2762	2799	2793	1250
35°	2353	2360	2415	2470	2469	1461
45°	1893	1928	1960	2011	1963	1464
55°	1415	1406	1443	1433	1432	1259
65°	869	858	892	858	863	865
75°	362	354	361	336	347	388
85°	44	43	44	43	41	64
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3180.5	3180.5	3180.5	3180.5	3180.5
2.5°	3208.1	3183.8	3161.2	3187.5	3203.5
5°	3158.0	3150.6	3159.2	3149.7	3225.7
7.5°	3093.1	3121.4	3137.8	3127.6	3132.1
10°	3058.6	3048.7	3085.3	3110.7	3107.0
12.5°	3021.6	3036.4	3038.5	3066.0	3068.4
15°	3023.7	2988.8	3007.2	3022.9	3024.1
17.5°	2906.2	2944.0	2956.7	2992.5	2948.1
20°	2891.9	2864.3	2891.9	2928.4	2922.7
22.5°	2803.6	2772.8	2831.9	2864.3	2862.3
25°	2703.4	2718.1	2762.5	2798.6	2792.9
27.5°	2615.5	2632.7	2696.0	2745.7	2713.6
30°	2547.7	2539.1	2592.5	2636.8	2661.5
32.5°	2426.6	2457.8	2520.2	2564.1	2540.7
35°	2353.1	2360.1	2414.7	2470.5	2468.9
37.5°	2224.5	2257.0	2333.8	2349.4	2335.0
40°	2114.9	2147.3	2216.7	2233.6	2226.6
42.5°	2034.0	2039.7	2099.3	2118.6	2087.8
45°	1893.1	1928.5	1960.5	2011.0	1963.4
47.5°	1773.2	1789.6	1858.6	1872.2	1847.1
50°	1664.4	1670.1	1739.5	1722.7	1706.3
52.5°	1527.6	1551.9	1590.9	1587.6	1568.3
55°	1415.1	1405.7	1442.6	1432.8	1432.4
57.5°	1280.0	1296.4	1326.8	1311.2	1286.2
60°	1153.5	1153.9	1165.0	1147.4	1144.1
62.5°	1012.7	1017.6	1020.1	998.3	1033.6
65°	869.4	857.9	891.5	857.5	863.2
67.5°	737.5	743.3	740.0	718.7	726.9
70°	603.7	611.1	605.7	581.5	588.9
72.5°	481.3	472.3	478.0	447.6	461.6
75°	361.8	354.4	361.0	335.5	347.0
77.5°	246.4	252.1	248.0	234.5	242.3
80°	162.6	158.1	158.1	150.3	151.9
82.5°	94.9	90.3	89.1	86.6	90.3
85°	44.4	43.1	43.9	42.7	41.1
87.5°	16.0	16.4	16.4	15.6	14.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)