

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: P562934

Luminaire Tested: FSR-24-4-LD4-2STD-40-UNV-80-87-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562934  
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-LD4-2STD-40-UNV-80-87-EDD-90  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR PC ENVIRONM  
SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

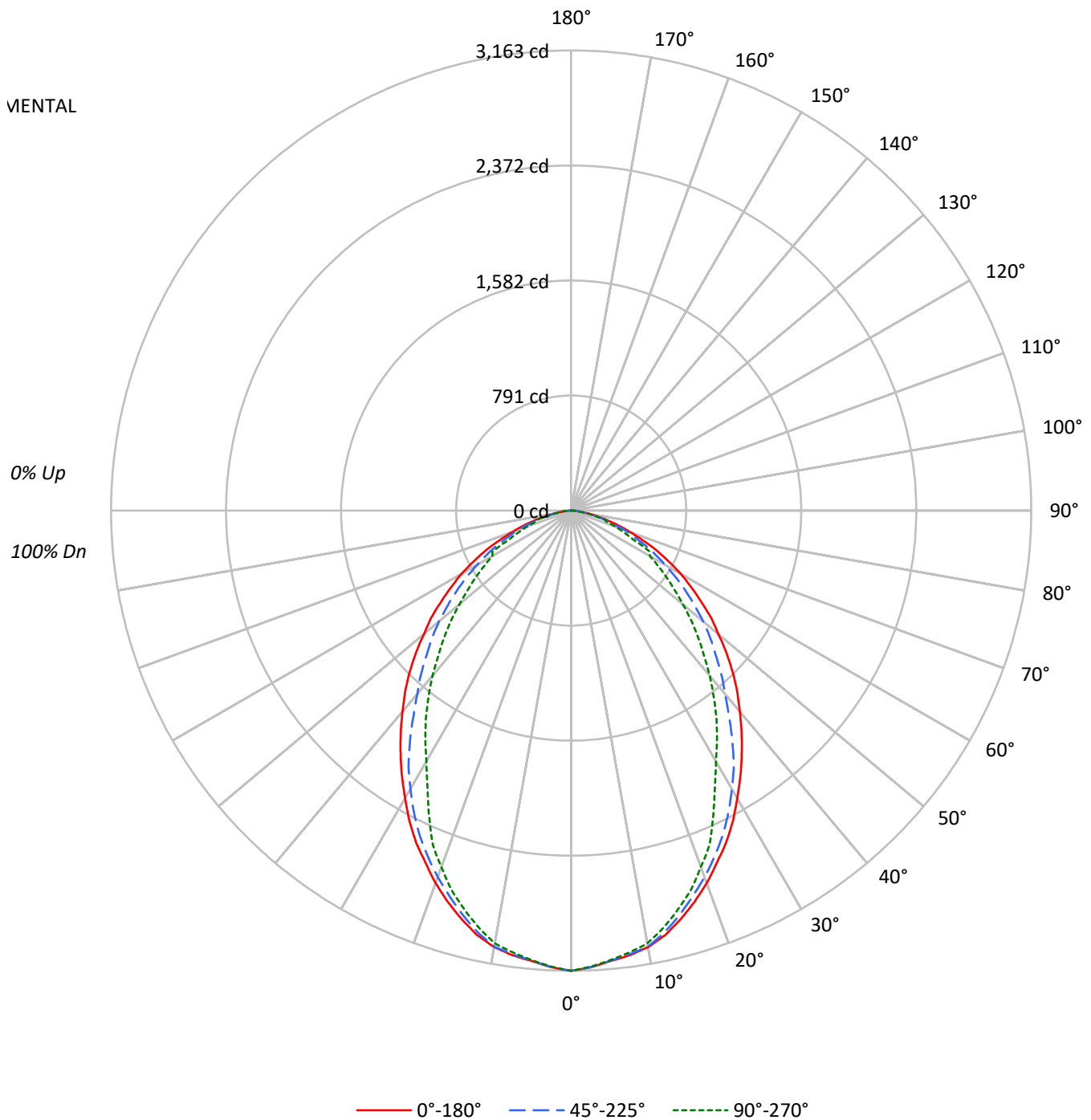
Lumens per Lamp: N/A  
Luminaire Lumens: 6210.0 lumens  
Efficiency: N/A  
Efficacy: 93.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87									87																			
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75									75																			
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65									65																			
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56									56																			
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50									50																			
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44									44																			
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40									40																			
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36									36																			
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33									33																			
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30									30																			

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

	0°	45°	90°
0°	4256	4256	4256
5°	4198	4193	4188
10°	4162	4157	4127
15°	4050	4009	3953
20°	3901	3838	3733
25°	3741	3659	3431
30°	3545	3432	3091
35°	3358	3172	2859
40°	3167	2890	2601
45°	2985	2672	2352
50°	2763	2480	2097
55°	2556	2248	1879
60°	2342	2007	1683
65°	2061	1758	1490
70°	1697	1539	1266
75°	1350	1179	1236
80°	907	850	793
85°	565	678	790

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2985 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	294.5	4.7
10°-20°	808.1	13.0
20°-30°	1118.8	18.0
30°-40°	1193.0	19.2
40°-50°	1088.3	17.5
50°-60°	852.6	13.7
60°-70°	555.7	8.9
70°-80°	246.2	4.0
80°-90°	52.9	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°	2221.4	35.8
0°-40°	3414.3	55.0
0°-60°	5355.3	86.2
0°-90°	6210.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6210.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3163	3163	3163	3163	3163	
5°	3108	3105	3105	3101	3101	295
15°	2907	2907	2878	2849	2838	817
25°	2520	2505	2465	2377	2311	1157
35°	2044	2030	1931	1785	1741	1278
45°	1569	1536	1404	1287	1236	1208
55°	1090	1057	958	845	801	977
65°	647	611	552	563	468	638
75°	260	241	227	216	238	278
85°	37	40	44	48	51	51
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3163.3	3163.3	3163.3	3163.3	3163.3
2.5°	3141.3	3141.3	3141.3	3137.7	3137.7
5°	3108.4	3104.8	3104.8	3101.1	3101.1
7.5°	3082.8	3079.2	3075.5	3071.9	3064.6
10°	3046.3	3046.3	3042.6	3024.3	3020.7
12.5°	2987.8	2984.1	2969.5	2943.9	2936.6
15°	2907.3	2907.3	2878.0	2848.8	2837.8
17.5°	2819.5	2815.9	2779.3	2750.1	2735.4
20°	2724.5	2717.1	2680.6	2633.0	2607.4
22.5°	2618.4	2618.4	2574.5	2512.3	2486.7
25°	2519.7	2505.0	2464.8	2377.0	2311.2
27.5°	2406.3	2384.4	2340.5	2216.1	2139.3
30°	2282.0	2271.0	2208.8	2047.9	1989.4
32.5°	2164.9	2146.6	2080.8	1912.6	1865.1
35°	2044.3	2029.6	1930.9	1784.6	1740.7
37.5°	1923.6	1905.3	1781.0	1663.9	1609.1
40°	1802.9	1781.0	1645.6	1539.6	1481.1
42.5°	1689.5	1660.3	1528.6	1415.3	1349.4
45°	1568.8	1535.9	1404.3	1287.3	1236.1
47.5°	1448.2	1418.9	1298.2	1177.5	1119.0
50°	1320.2	1294.6	1184.9	1064.2	1002.0
52.5°	1214.1	1173.9	1067.8	947.2	896.0
55°	1089.8	1056.9	958.1	844.8	800.9
57.5°	976.4	943.5	852.1	746.0	709.5
60°	870.4	822.8	746.0	654.6	625.3
62.5°	753.3	716.8	650.9	574.1	610.7
65°	647.3	610.7	552.2	563.2	468.1
67.5°	530.3	512.0	460.8	409.6	395.0
70°	431.5	409.6	391.3	336.4	321.8
72.5°	343.8	321.8	296.2	267.0	256.0
75°	259.6	241.4	226.7	215.8	237.7
77.5°	179.2	171.9	160.9	149.9	146.3
80°	117.0	113.4	109.7	106.1	102.4
82.5°	69.5	69.5	69.5	69.5	69.5
85°	36.6	40.2	43.9	47.5	51.2
87.5°	21.9	21.9	25.6	29.3	32.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)