

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: P562872

Luminaire Tested: FSR-24-4-LD4-2STD-35-UNV-80-88-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562872  
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-35-UNV-80-88-EDD-90  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .500 CLEAR PC ENVIRONM  
SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

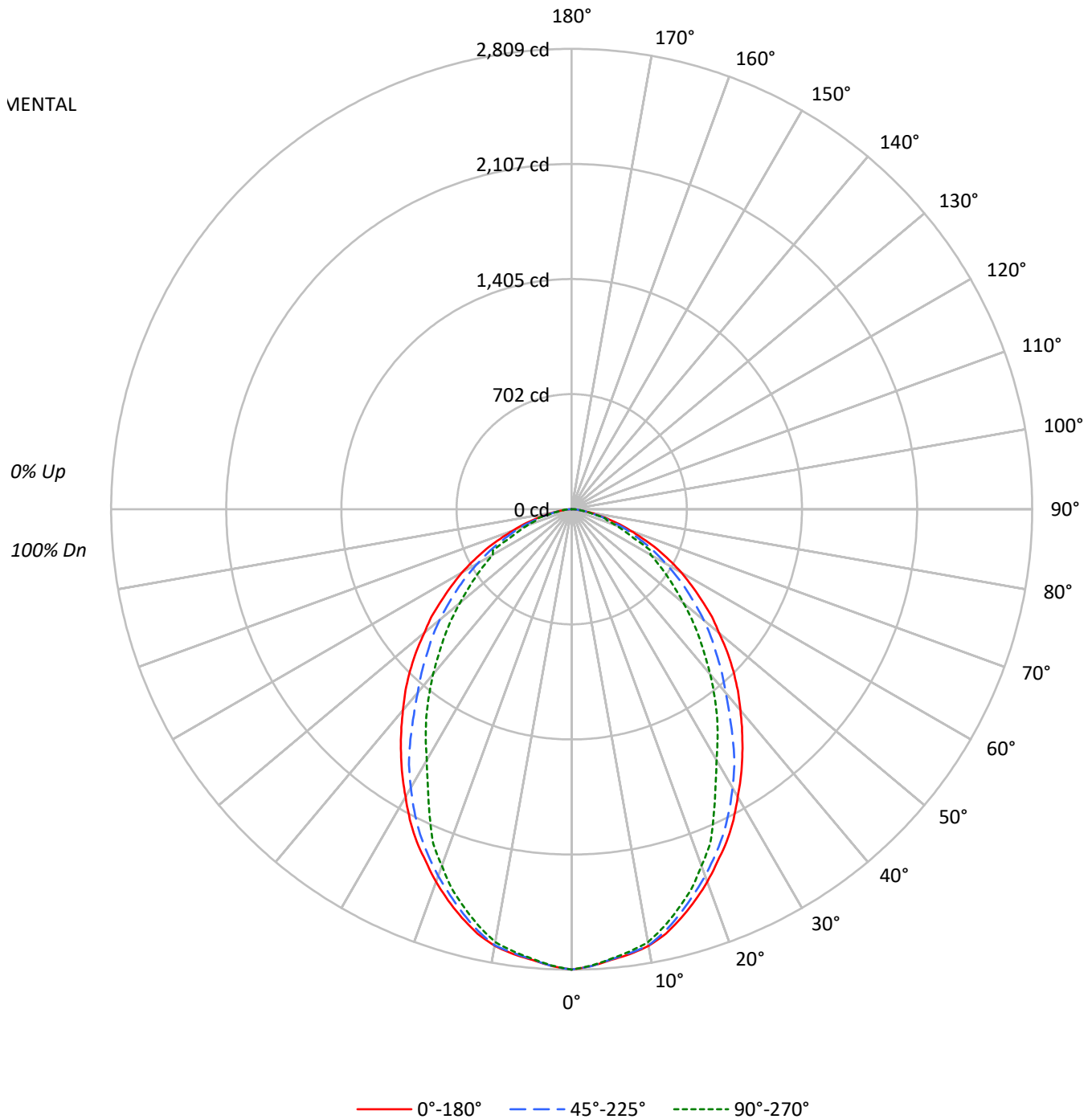
Lumens per Lamp: N/A  
Luminaire Lumens: 5514.0 lumens  
Efficiency: N/A  
Efficacy: 82.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	3779	3779	3779
5°	3728	3723	3719
10°	3696	3691	3664
15°	3596	3560	3510
20°	3464	3408	3315
25°	3321	3249	3047
30°	3148	3047	2744
35°	2981	2816	2539
40°	2812	2566	2310
45°	2651	2373	2088
50°	2454	2202	1862
55°	2270	1996	1668
60°	2080	1783	1494
65°	1830	1561	1323
70°	1507	1367	1124
75°	1198	1046	1097
80°	805	755	704
85°	502	602	702

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2651 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	261.5	4.7
10°-20°	717.5	13.0
20°-30°	993.4	18.0
30°-40°	1059.2	19.2
40°-50°	966.3	17.5
50°-60°	757.1	13.7
60°-70°	493.4	8.9
70°-80°	218.6	4.0
80°-90°	46.9	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°	1972.4	35.8
0°-40°	3031.7	55.0
0°-60°	4755.0	86.2
0°-90°	5514.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5514.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2809	2809	2809	2809	2809	
5°	2760	2757	2757	2754	2754	262
15°	2582	2582	2556	2530	2520	726
25°	2237	2224	2189	2111	2052	1027
35°	1815	1802	1714	1585	1546	1135
45°	1393	1364	1247	1143	1098	1073
55°	968	938	851	750	711	868
65°	575	542	490	500	416	566
75°	230	214	201	192	211	247
85°	32	36	39	42	46	45
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2808.8	2808.8	2808.8	2808.8	2808.8
2.5°	2789.3	2789.3	2789.3	2786.0	2786.0
5°	2760.1	2756.8	2756.8	2753.6	2753.6
7.5°	2737.3	2734.1	2730.8	2727.6	2721.1
10°	2704.9	2704.9	2701.6	2685.4	2682.1
12.5°	2652.9	2649.6	2636.7	2613.9	2607.4
15°	2581.5	2581.5	2555.5	2529.5	2519.8
17.5°	2503.5	2500.3	2467.8	2441.8	2428.8
20°	2419.1	2412.6	2380.1	2337.9	2315.2
22.5°	2324.9	2324.9	2286.0	2230.8	2208.0
25°	2237.3	2224.3	2188.6	2110.6	2052.2
27.5°	2136.6	2117.1	2078.2	1967.8	1899.6
30°	2026.2	2016.5	1961.3	1818.4	1766.4
32.5°	1922.3	1906.1	1847.6	1698.2	1656.0
35°	1815.1	1802.2	1714.5	1584.6	1545.6
37.5°	1708.0	1691.7	1581.3	1477.4	1428.7
40°	1600.8	1581.3	1461.2	1367.0	1315.1
42.5°	1500.2	1474.2	1357.3	1256.6	1198.2
45°	1393.0	1363.8	1246.9	1143.0	1097.5
47.5°	1285.9	1259.9	1152.7	1045.6	993.6
50°	1172.2	1149.5	1052.1	944.9	889.7
52.5°	1078.0	1042.3	948.2	841.0	795.5
55°	967.6	938.4	850.7	750.1	711.1
57.5°	867.0	837.8	756.6	662.4	629.9
60°	772.8	730.6	662.4	581.2	555.3
62.5°	668.9	636.4	578.0	509.8	542.3
65°	574.7	542.3	490.3	500.1	415.6
67.5°	470.8	454.6	409.1	363.7	350.7
70°	383.2	363.7	347.4	298.7	285.7
72.5°	305.2	285.7	263.0	237.0	227.3
75°	230.5	214.3	201.3	191.6	211.1
77.5°	159.1	152.6	142.9	133.1	129.9
80°	103.9	100.7	97.4	94.2	90.9
82.5°	61.7	61.7	61.7	61.7	61.7
85°	32.5	35.7	39.0	42.2	45.5
87.5°	19.5	19.5	22.7	26.0	29.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)