

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: P561848

Luminaire Tested: FSR-12-4-LD4-2STD-50-UNV-80-88-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561848  
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-12-4-LD4-2STD-50-UNV-80-88-EDD-90  
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .500 CLEAR PC ENVIRON  
SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

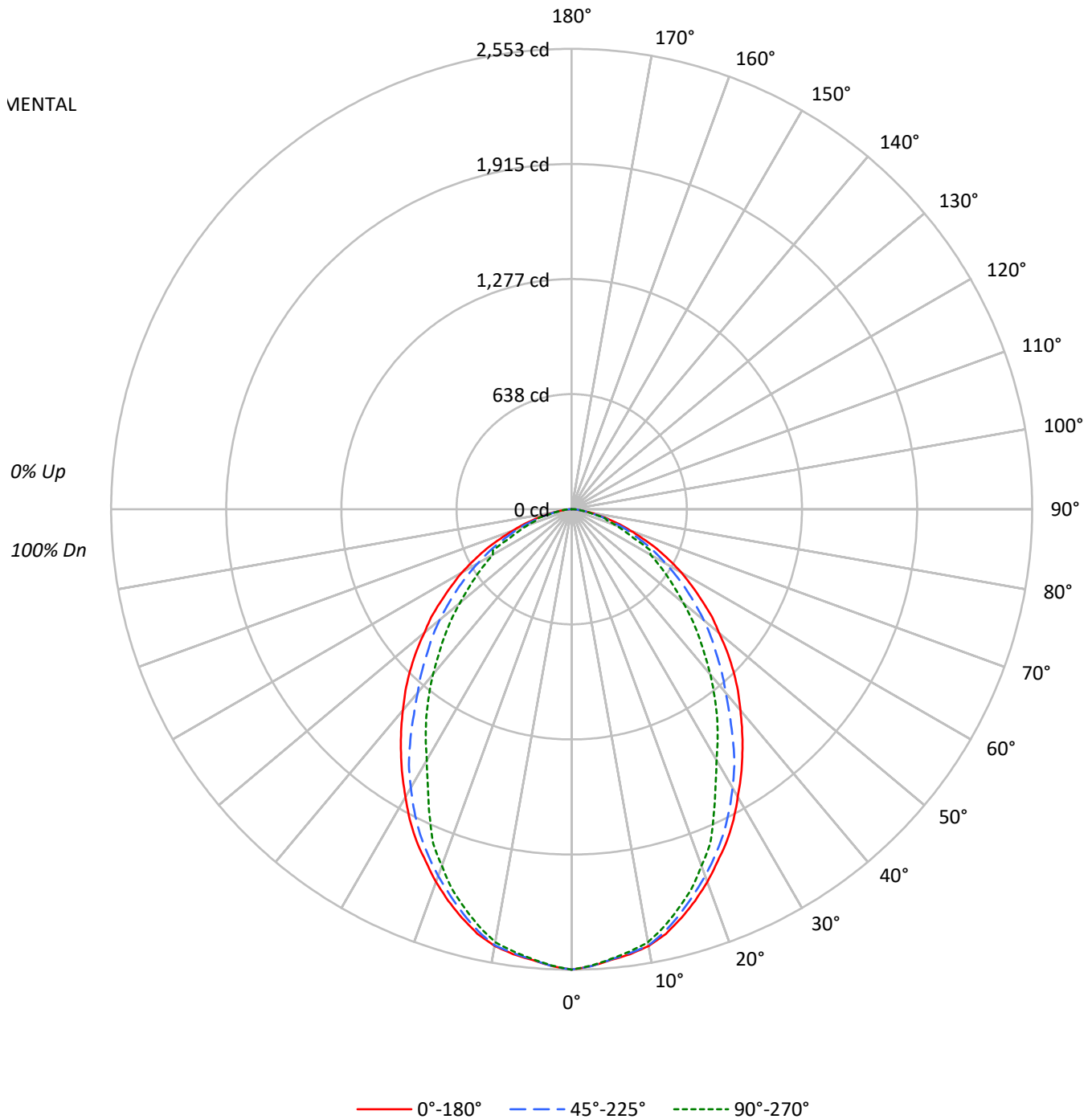
Lumens per Lamp: N/A  
Luminaire Lumens: 5012.0 lumens  
Efficiency: N/A  
Efficacy: 75.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	6870	6870	6870
5°	6777	6769	6761
10°	6718	6710	6662
15°	6537	6471	6381
20°	6297	6195	6026
25°	6038	5907	5538
30°	5723	5539	4989
35°	5420	5119	4615
40°	5112	4666	4199
45°	4819	4313	3796
50°	4461	4003	3386
55°	4126	3628	3033
60°	3781	3240	2716
65°	3326	2838	2406
70°	2740	2485	2043
75°	2179	1903	1994
80°	1463	1371	1280
85°	911	1093	1275

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4819 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	237.7	4.7
10°-20°	652.2	13.0
20°-30°	903.0	18.0
30°-40°	962.8	19.2
40°-50°	878.4	17.5
50°-60°	688.1	13.7
60°-70°	448.5	8.9
70°-80°	198.7	4.0
80°-90°	42.7	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°	1792.8	35.8
0°-40°	2755.7	55.0
0°-60°	4322.1	86.2
0°-90°	5012.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5012.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2553	2553	2553	2553	2553	
5°	2509	2506	2506	2503	2503	238
15°	2346	2346	2323	2299	2290	660
25°	2034	2022	1989	1918	1865	934
35°	1650	1638	1558	1440	1405	1031
45°	1266	1240	1133	1039	998	975
55°	880	853	773	682	646	789
65°	522	493	446	454	378	515
75°	210	195	183	174	192	225
85°	30	32	35	38	41	41
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2553.0	2553.0	2553.0	2553.0	2553.0
2.5°	2535.3	2535.3	2535.3	2532.4	2532.4
5°	2508.8	2505.8	2505.8	2502.9	2502.9
7.5°	2488.1	2485.2	2482.2	2479.3	2473.4
10°	2458.6	2458.6	2455.6	2440.9	2437.9
12.5°	2411.4	2408.4	2396.6	2376.0	2370.1
15°	2346.4	2346.4	2322.8	2299.2	2290.4
17.5°	2275.6	2272.7	2243.1	2219.5	2207.7
20°	2198.9	2193.0	2163.4	2125.1	2104.4
22.5°	2113.3	2113.3	2077.9	2027.7	2007.0
25°	2033.6	2021.8	1989.3	1918.5	1865.3
27.5°	1942.1	1924.4	1889.0	1788.6	1726.6
30°	1841.7	1832.9	1782.7	1652.8	1605.6
32.5°	1747.3	1732.5	1679.4	1543.6	1505.3
35°	1649.9	1638.1	1558.4	1440.3	1404.9
37.5°	1552.5	1537.7	1437.4	1342.9	1298.7
40°	1455.1	1437.4	1328.2	1242.6	1195.4
42.5°	1363.6	1340.0	1233.7	1142.2	1089.1
45°	1266.2	1239.6	1133.4	1038.9	997.6
47.5°	1168.8	1145.2	1047.8	950.4	903.2
50°	1065.5	1044.8	956.3	858.9	808.7
52.5°	979.9	947.4	861.8	764.4	723.1
55°	879.5	853.0	773.3	681.8	646.4
57.5°	788.0	761.5	687.7	602.1	572.6
60°	702.5	664.1	602.1	528.3	504.7
62.5°	608.0	578.5	525.4	463.4	492.9
65°	522.4	492.9	445.7	454.5	377.8
67.5°	428.0	413.2	371.9	330.6	318.8
70°	348.3	330.6	315.8	271.5	259.7
72.5°	277.4	259.7	239.1	215.5	206.6
75°	209.6	194.8	183.0	174.1	191.8
77.5°	144.6	138.7	129.9	121.0	118.1
80°	94.4	91.5	88.5	85.6	82.6
82.5°	56.1	56.1	56.1	56.1	56.1
85°	29.5	32.5	35.4	38.4	41.3
87.5°	17.7	17.7	20.7	23.6	26.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)