

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: P561714

Luminaire Tested: FSR-12-4-LD4-2STD-35-UNV-80-85-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561714  
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-35-UNV-80-85-EDD-90  
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR PC ENVIRON  
SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

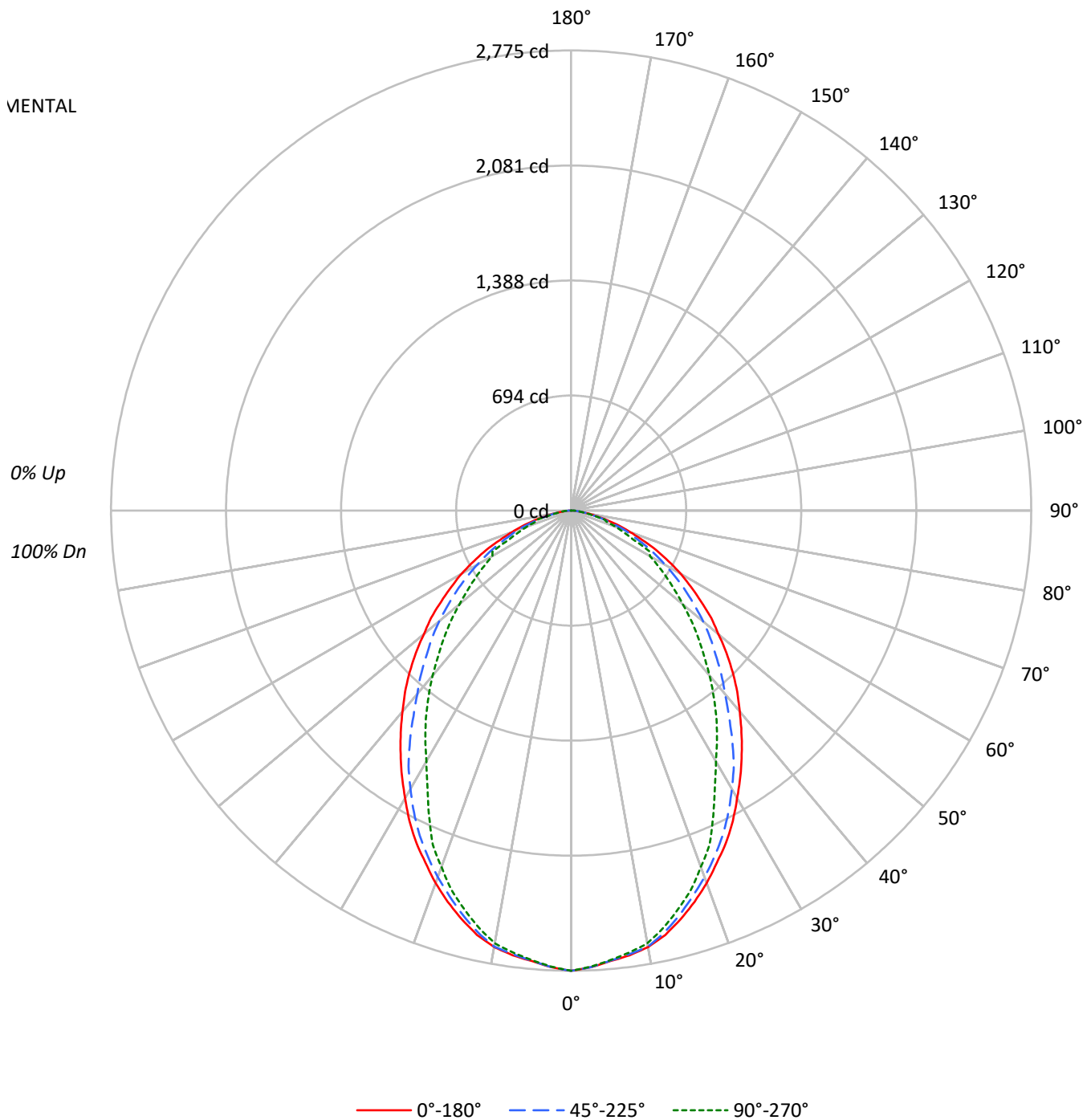
Lumens per Lamp: N/A  
Luminaire Lumens: 5448.0 lumens  
Efficiency: N/A  
Efficacy: 81.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	7468	7468	7468
5°	7366	7358	7349
10°	7303	7294	7241
15°	7106	7034	6936
20°	6844	6734	6551
25°	6563	6421	6020
30°	6220	6021	5423
35°	5891	5565	5017
40°	5556	5071	4564
45°	5238	4689	4127
50°	4849	4352	3680
55°	4486	3944	3296
60°	4110	3522	2953
65°	3616	3084	2615
70°	2979	2701	2221
75°	2368	2068	2168
80°	1592	1491	1392
85°	991	1189	1386

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5238 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	258.3	4.7
10°-20°	709.0	13.0
20°-30°	981.5	18.0
30°-40°	1046.6	19.2
40°-50°	954.8	17.5
50°-60°	748.0	13.7
60°-70°	487.5	8.9
70°-80°	216.0	4.0
80°-90°	46.4	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°	1948.8	35.8
0°-40°	2995.4	55.0
0°-60°	4698.1	86.2
0°-90°	5448.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5448.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2775	2775	2775	2775	2775	
5°	2727	2724	2724	2721	2721	259
15°	2551	2551	2525	2499	2490	717
25°	2210	2198	2162	2085	2028	1015
35°	1793	1781	1694	1566	1527	1121
45°	1376	1348	1232	1129	1084	1060
55°	956	927	841	741	703	858
65°	568	536	484	494	411	560
75°	228	212	199	189	208	244
85°	32	35	38	42	45	45
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2775.1	2775.1	2775.1	2775.1	2775.1
2.5°	2755.9	2755.9	2755.9	2752.7	2752.7
5°	2727.0	2723.8	2723.8	2720.6	2720.6
7.5°	2704.6	2701.3	2698.1	2694.9	2688.5
10°	2672.5	2672.5	2669.3	2653.2	2650.0
12.5°	2621.1	2617.9	2605.1	2582.6	2576.2
15°	2550.6	2550.6	2524.9	2499.2	2489.6
17.5°	2473.6	2470.4	2438.3	2412.6	2399.8
20°	2390.1	2383.7	2351.6	2309.9	2287.5
22.5°	2297.1	2297.1	2258.6	2204.1	2181.6
25°	2210.5	2197.7	2162.4	2085.4	2027.6
27.5°	2111.0	2091.8	2053.3	1944.2	1876.8
30°	2001.9	1992.3	1937.8	1796.6	1745.3
32.5°	1899.3	1883.2	1825.5	1677.9	1636.2
35°	1793.4	1780.6	1694.0	1565.6	1527.1
37.5°	1687.5	1671.5	1562.4	1459.8	1411.6
40°	1581.7	1562.4	1443.7	1350.7	1299.3
42.5°	1482.2	1456.5	1341.0	1241.6	1183.8
45°	1376.3	1347.5	1232.0	1129.3	1084.4
47.5°	1270.5	1244.8	1138.9	1033.1	981.7
50°	1158.2	1135.7	1039.5	933.6	879.1
52.5°	1065.1	1029.8	936.8	830.9	786.0
55°	956.1	927.2	840.6	741.1	702.6
57.5°	856.6	827.7	747.5	654.5	622.4
60°	763.6	721.9	654.5	574.3	548.6
62.5°	660.9	628.8	571.1	503.7	535.8
65°	567.9	535.8	484.4	494.1	410.7
67.5°	465.2	449.2	404.2	359.3	346.5
70°	378.6	359.3	343.3	295.2	282.3
72.5°	301.6	282.3	259.9	234.2	224.6
75°	227.8	211.7	198.9	189.3	208.5
77.5°	157.2	150.8	141.2	131.5	128.3
80°	102.7	99.5	96.2	93.0	89.8
82.5°	61.0	61.0	61.0	61.0	61.0
85°	32.1	35.3	38.5	41.7	44.9
87.5°	19.2	19.2	22.5	25.7	28.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)