

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: P561778

Luminaire Tested: FSR-12-4-LD4-2STD-40-UNV-80-85-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561778  
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-40-UNV-80-85-EDD-90  
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR PC ENVIRONM  
SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

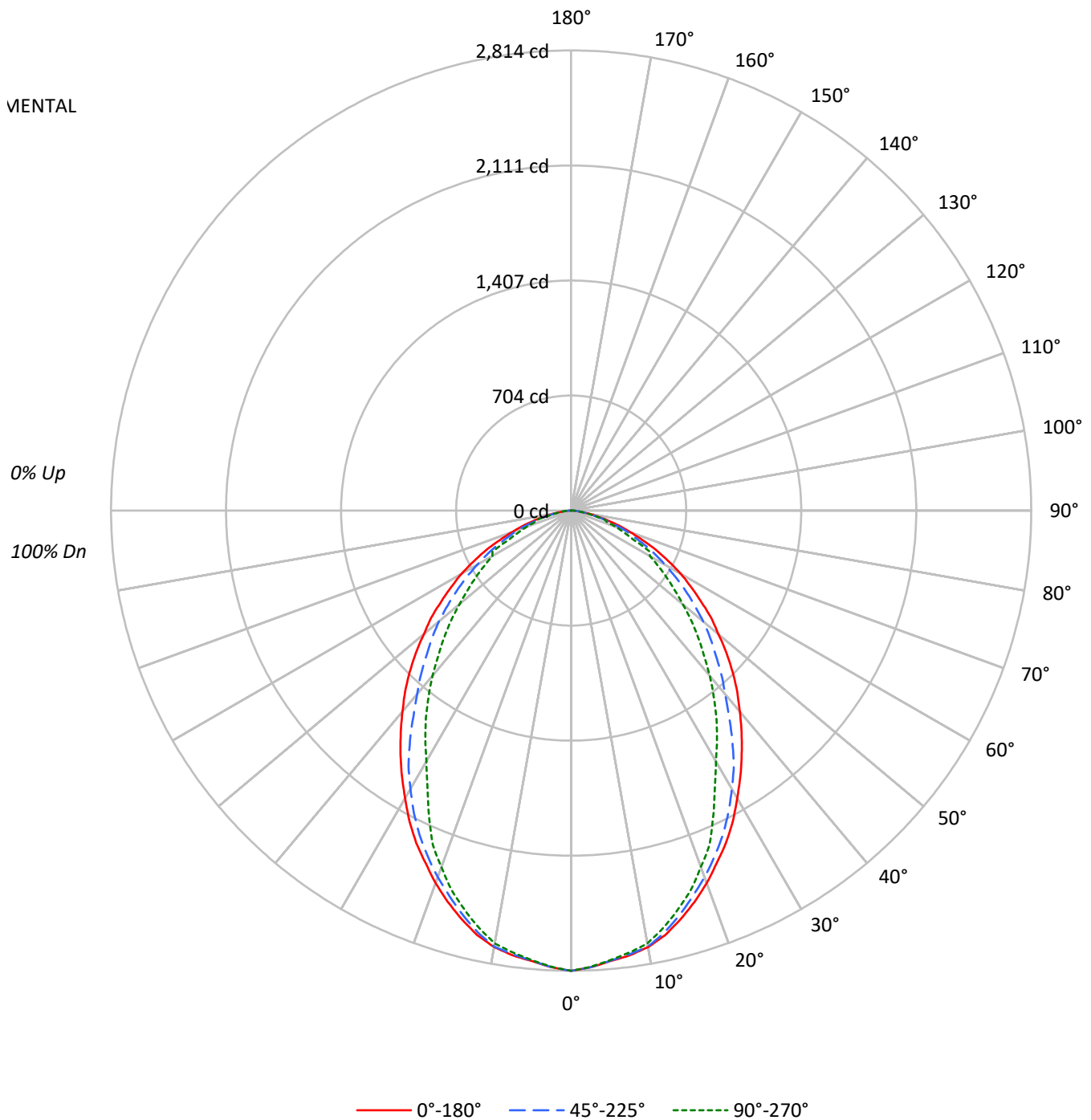
Lumens per Lamp: N/A  
Luminaire Lumens: 5525.0 lumens  
Efficiency: N/A  
Efficacy: 83.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	7573	7573	7573
5°	7471	7462	7453
10°	7406	7397	7344
15°	7206	7134	7034
20°	6941	6830	6643
25°	6656	6511	6105
30°	6308	6106	5500
35°	5975	5643	5088
40°	5635	5143	4629
45°	5312	4755	4185
50°	4917	4413	3732
55°	4549	3999	3343
60°	4168	3572	2995
65°	3667	3128	2652
70°	3020	2739	2253
75°	2402	2097	2199
80°	1613	1512	1412
85°	1003	1204	1408

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5312 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	262.0	4.7
10°-20°	719.0	13.0
20°-30°	995.4	18.0
30°-40°	1061.4	19.2
40°-50°	968.3	17.5
50°-60°	758.6	13.7
60°-70°	494.4	8.9
70°-80°	219.0	4.0
80°-90°	47.0	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°	1976.3	35.8
0°-40°	3037.7	55.0
0°-60°	4764.5	86.2
0°-90°	5525.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5525.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2814	2814	2814	2814	2814	
5°	2766	2762	2762	2759	2759	263
15°	2587	2587	2561	2535	2525	727
25°	2242	2229	2193	2115	2056	1029
35°	1819	1806	1718	1588	1549	1137
45°	1396	1366	1249	1145	1100	1075
55°	970	940	852	752	712	870
65°	576	543	491	501	416	568
75°	231	215	202	192	212	248
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°	2814.4	2814.4	2814.4	2814.4	2814.4
2.5°	2794.8	2794.8	2794.8	2791.6	2791.6
5°	2765.6	2762.3	2762.3	2759.1	2759.1
7.5°	2742.8	2739.5	2736.3	2733.0	2726.5
10°	2710.2	2710.2	2707.0	2690.7	2687.5
12.5°	2658.2	2654.9	2641.9	2619.1	2612.6
15°	2586.6	2586.6	2560.6	2534.6	2524.8
17.5°	2508.5	2505.3	2472.7	2446.7	2433.7
20°	2423.9	2417.4	2384.9	2342.6	2319.8
22.5°	2329.6	2329.6	2290.5	2235.2	2212.4
25°	2241.7	2228.7	2192.9	2114.8	2056.3
27.5°	2140.9	2121.3	2082.3	1971.7	1903.4
30°	2030.2	2020.5	1965.2	1822.0	1770.0
32.5°	1926.1	1909.9	1851.3	1701.6	1659.3
35°	1818.8	1805.7	1717.9	1587.8	1548.7
37.5°	1711.4	1695.1	1584.5	1480.4	1431.6
40°	1604.0	1584.5	1464.1	1369.8	1317.7
42.5°	1503.2	1477.1	1360.0	1259.1	1200.6
45°	1395.8	1366.5	1249.4	1145.3	1099.7
47.5°	1288.4	1262.4	1155.0	1047.7	995.6
50°	1174.5	1151.8	1054.2	946.8	891.5
52.5°	1080.2	1044.4	950.1	842.7	797.1
55°	969.6	940.3	852.4	751.6	712.5
57.5°	868.7	839.4	758.1	663.7	631.2
60°	774.4	732.1	663.7	582.4	556.4
62.5°	670.2	637.7	579.1	510.8	543.4
65°	575.9	543.4	491.3	501.1	416.5
67.5°	471.8	455.5	410.0	364.4	351.4
70°	383.9	364.4	348.1	299.3	286.3
72.5°	305.8	286.3	263.5	237.5	227.8
75°	231.0	214.7	201.7	192.0	211.5
77.5°	159.4	152.9	143.2	133.4	130.1
80°	104.1	100.9	97.6	94.4	91.1
82.5°	61.8	61.8	61.8	61.8	61.8
85°	32.5	35.8	39.0	42.3	45.6
87.5°	19.5	19.5	22.8	26.0	29.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)