

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: P564154

Luminaire Tested: FSR-24-4-LD4-4STD-50-UNV-80-94-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P564154  
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-LD4-4STD-50-UNV-80-94-EDD-90  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

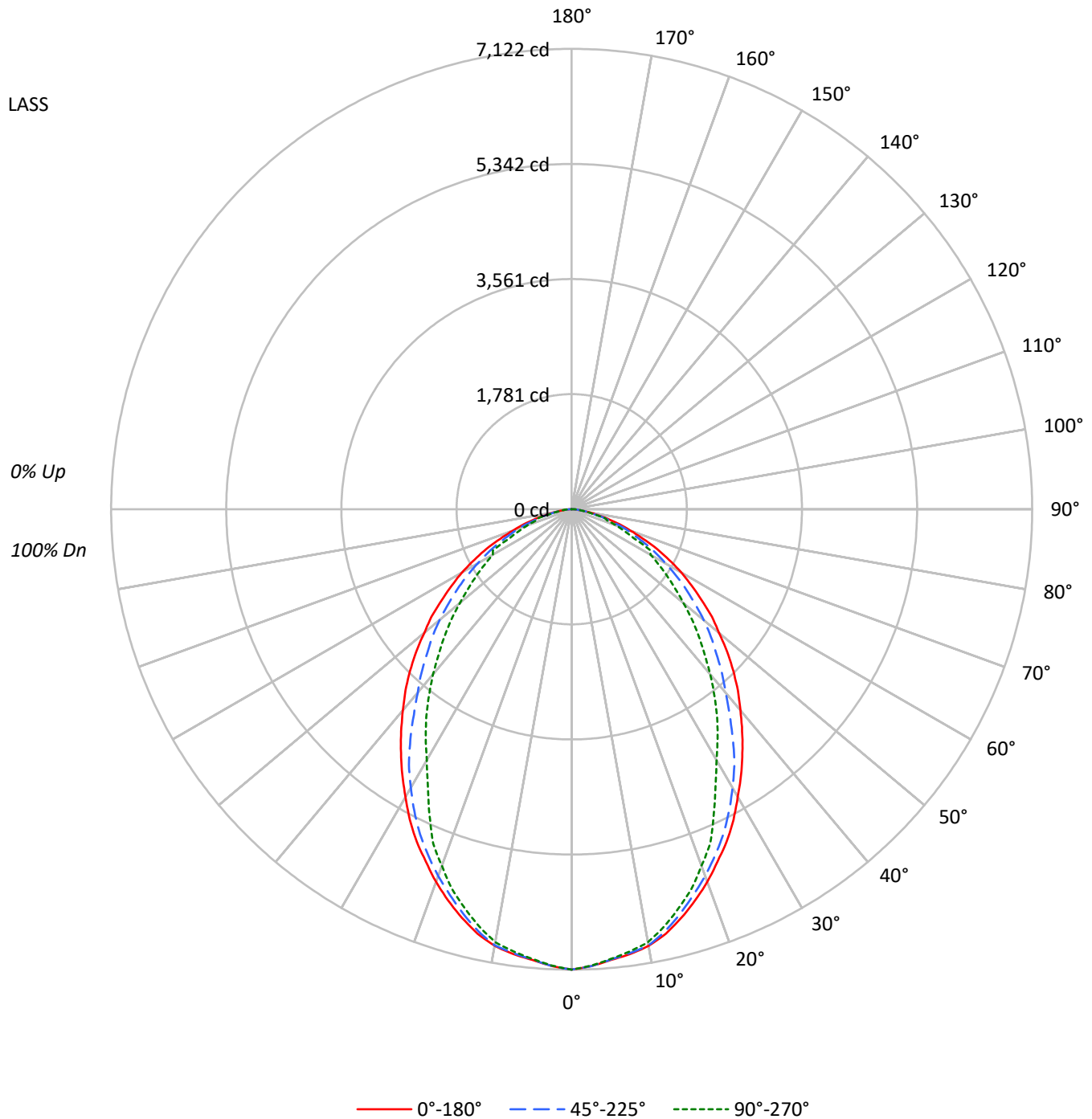
Lumens per Lamp: N/A  
Luminaire Lumens: 13981.0 lumens  
Efficiency: N/A  
Efficacy: 105.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 133.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	9582	9582	9582
5°	9452	9441	9430
10°	9370	9359	9291
15°	9117	9026	8900
20°	8782	8641	8405
25°	8422	8238	7725
30°	7982	7726	6959
35°	7560	7140	6437
40°	7129	6507	5857
45°	6721	6016	5295
50°	6221	5584	4722
55°	5755	5060	4230
60°	5273	4520	3789
65°	4640	3958	3355
70°	3822	3466	2850
75°	3039	2654	2782
80°	2042	1914	1786
85°	1271	1525	1780

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6721 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	662.9	4.7
10°-20°	1819.4	13.0
20°-30°	2518.8	18.0
30°-40°	2685.8	19.2
40°-50°	2450.2	17.5
50°-60°	1919.6	13.7
60°-70°	1251.1	8.9
70°-80°	554.3	4.0
80°-90°	119.0	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°	5001.1	35.8
0°-40°	7686.9	55.0
0°-60°	12056.7	86.2
0°-90°	13981.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13981.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	7122	7122	7122	7122	7122	
5°	6998	6990	6990	6982	6982	664
15°	6545	6545	6480	6414	6389	1840
25°	5673	5640	5549	5352	5203	2604
35°	4602	4569	4347	4018	3919	2877
45°	3532	3458	3162	2898	2783	2721
55°	2454	2379	2157	1902	1803	2201
65°	1457	1375	1243	1268	1054	1436
75°	585	543	510	486	535	627
85°	82	91	99	107	115	114
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	7121.7	7121.7	7121.7	7121.7	7121.7
2.5°	7072.3	7072.3	7072.3	7064.1	7064.1
5°	6998.2	6990.0	6990.0	6981.8	6981.8
7.5°	6940.6	6932.4	6924.1	6915.9	6899.4
10°	6858.3	6858.3	6850.0	6808.9	6800.6
12.5°	6726.5	6718.3	6685.4	6627.7	6611.3
15°	6545.4	6545.4	6479.5	6413.7	6389.0
17.5°	6347.8	6339.6	6257.2	6191.4	6158.4
20°	6133.7	6117.3	6034.9	5927.9	5870.3
22.5°	5895.0	5895.0	5796.2	5656.2	5598.6
25°	5672.7	5639.8	5549.2	5351.6	5203.4
27.5°	5417.5	5368.1	5269.3	4989.3	4816.4
30°	5137.5	5112.8	4972.9	4610.6	4478.9
32.5°	4874.1	4832.9	4684.7	4306.0	4198.9
35°	4602.4	4569.4	4347.1	4017.8	3919.0
37.5°	4330.7	4289.5	4009.6	3746.1	3622.6
40°	4059.0	4009.6	3704.9	3466.2	3334.5
42.5°	3803.7	3737.9	3441.5	3186.3	3038.1
45°	3532.1	3458.0	3161.6	2898.1	2782.8
47.5°	3260.4	3194.5	2922.8	2651.1	2519.4
50°	2972.2	2914.6	2667.6	2395.9	2255.9
52.5°	2733.4	2642.9	2404.1	2132.4	2017.1
55°	2453.5	2379.4	2157.1	1901.9	1803.1
57.5°	2198.3	2124.2	1918.3	1679.6	1597.2
60°	1959.5	1852.5	1679.6	1473.7	1407.9
62.5°	1696.0	1613.7	1465.5	1292.6	1374.9
65°	1457.3	1374.9	1243.2	1267.9	1053.9
67.5°	1193.8	1152.7	1037.4	922.1	889.2
70°	971.5	922.1	881.0	757.5	724.5
72.5°	773.9	724.5	666.9	601.0	576.3
75°	584.6	543.4	510.5	485.8	535.2
77.5°	403.4	387.0	362.3	337.6	329.3
80°	263.5	255.2	247.0	238.8	230.5
82.5°	156.4	156.4	156.4	156.4	156.4
85°	82.3	90.6	98.8	107.0	115.3
87.5°	49.4	49.4	57.6	65.9	74.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)