

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: P561872

Luminaire Tested: FSR-12-4-LD4-2STD-50-UNV-82-84-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561872  
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-82-84-EDD-90  
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

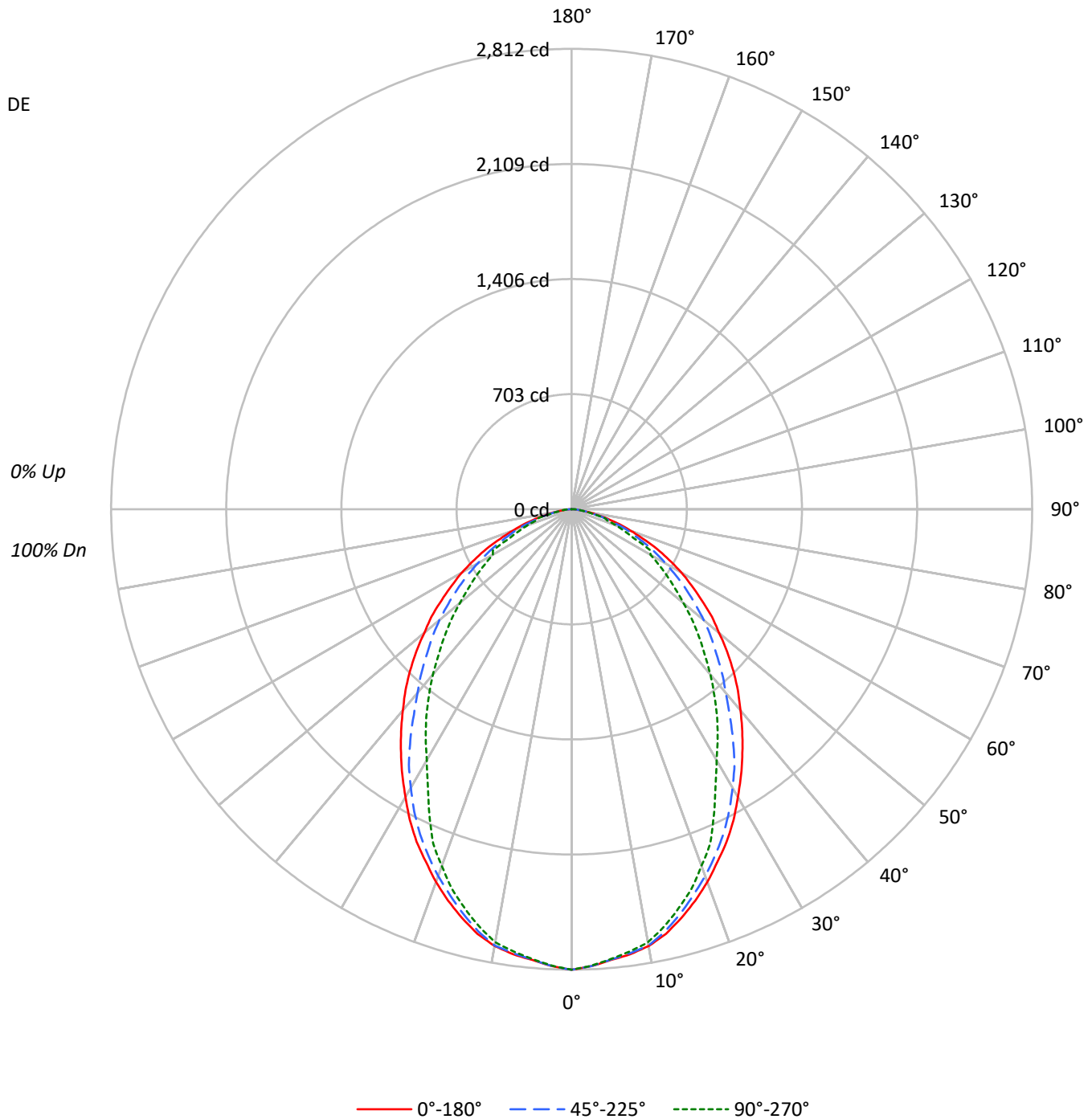
Lumens per Lamp: N/A  
Luminaire Lumens: 5521.0 lumens  
Efficiency: N/A  
Efficacy: 82.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	7568	7568	7568
5°	7465	7456	7448
10°	7400	7391	7338
15°	7201	7128	7029
20°	6936	6825	6638
25°	6651	6506	6101
30°	6304	6102	5496
35°	5970	5639	5084
40°	5631	5140	4626
45°	5308	4751	4182
50°	4914	4410	3729
55°	4546	3996	3340
60°	4165	3570	2992
65°	3664	3126	2650
70°	3018	2737	2251
75°	2400	2096	2197
80°	1612	1511	1410
85°	1003	1204	1405

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5308 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	261.8	4.7
10°-20°	718.5	13.0
20°-30°	994.7	18.0
30°-40°	1060.6	19.2
40°-50°	967.6	17.5
50°-60°	758.0	13.7
60°-70°	494.0	8.9
70°-80°	218.9	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°	1974.9	35.8
0°-40°	3035.5	55.0
0°-60°	4761.1	86.2
0°-90°	5521.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5521.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2812	2812	2812	2812	2812	
5°	2764	2760	2760	2757	2757	262
15°	2585	2585	2559	2533	2523	727
25°	2240	2227	2191	2113	2055	1028
35°	1817	1804	1717	1587	1548	1136
45°	1395	1366	1248	1144	1099	1074
55°	969	940	852	751	712	869
65°	576	543	491	501	416	567
75°	231	215	202	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°	2812.3	2812.3	2812.3	2812.3	2812.3
2.5°	2792.8	2792.8	2792.8	2789.6	2789.6
5°	2763.6	2760.3	2760.3	2757.1	2757.1
7.5°	2740.8	2737.5	2734.3	2731.0	2724.5
10°	2708.3	2708.3	2705.0	2688.8	2685.5
12.5°	2656.3	2653.0	2640.0	2617.2	2610.7
15°	2584.7	2584.7	2558.7	2532.7	2523.0
17.5°	2506.7	2503.5	2470.9	2444.9	2431.9
20°	2422.2	2415.7	2383.2	2340.9	2318.1
22.5°	2327.9	2327.9	2288.9	2233.6	2210.8
25°	2240.1	2227.1	2191.3	2113.3	2054.8
27.5°	2139.3	2119.8	2080.8	1970.3	1902.0
30°	2028.8	2019.0	1963.7	1820.7	1768.7
32.5°	1924.7	1908.5	1850.0	1700.4	1658.1
35°	1817.4	1804.4	1716.7	1586.6	1547.6
37.5°	1710.2	1693.9	1583.4	1479.3	1430.5
40°	1602.9	1583.4	1463.1	1368.8	1316.8
42.5°	1502.1	1476.1	1359.0	1258.2	1199.7
45°	1394.8	1365.5	1248.5	1144.4	1098.9
47.5°	1287.5	1261.5	1154.2	1046.9	994.9
50°	1173.7	1150.9	1053.4	946.1	890.8
52.5°	1079.4	1043.6	949.4	842.1	796.6
55°	968.9	939.6	851.8	751.0	712.0
57.5°	868.1	838.8	757.5	663.3	630.7
60°	773.8	731.5	663.3	582.0	556.0
62.5°	669.8	637.2	578.7	510.4	543.0
65°	575.5	543.0	490.9	500.7	416.2
67.5°	471.4	455.2	409.7	364.1	351.1
70°	383.6	364.1	347.9	299.1	286.1
72.5°	305.6	286.1	263.4	237.3	227.6
75°	230.8	214.6	201.6	191.8	211.3
77.5°	159.3	152.8	143.1	133.3	130.0
80°	104.0	100.8	97.5	94.3	91.0
82.5°	61.8	61.8	61.8	61.8	61.8
85°	32.5	35.8	39.0	42.3	45.5
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)