

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: P563208

Luminaire Tested: FSR-24-4-LD4-3HI-50-UNV-81-88-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563208  
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-LD4-3HI-50-UNV-81-88-EDD-90  
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

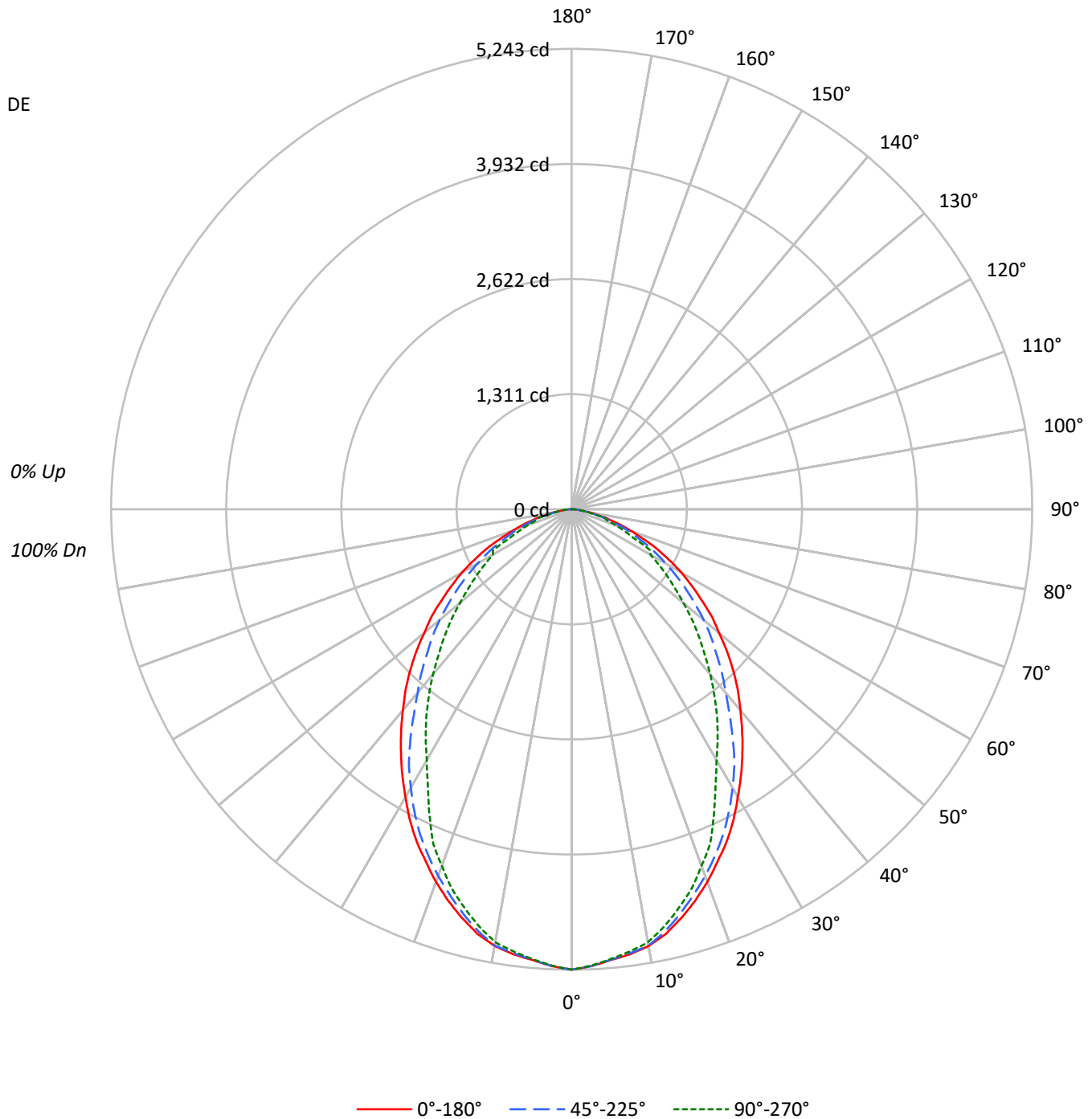
Lumens per Lamp: N/A  
Luminaire Lumens: 10293.0 lumens  
Efficiency: N/A  
Efficacy: 79.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 129.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	7055	7055	7055
5°	6959	6950	6942
10°	6898	6890	6840
15°	6712	6645	6552
20°	6466	6362	6188
25°	6200	6065	5687
30°	5876	5688	5123
35°	5565	5257	4739
40°	5249	4791	4312
45°	4948	4429	3898
50°	4580	4111	3476
55°	4237	3725	3114
60°	3882	3327	2789
65°	3416	2914	2470
70°	2814	2552	2098
75°	2237	1954	2048
80°	1503	1409	1315
85°	936	1122	1311

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4948 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	488.1	4.7
10°-20°	1339.4	13.0
20°-30°	1854.4	18.0
30°-40°	1977.3	19.2
40°-50°	1803.9	17.5
50°-60°	1413.2	13.7
60°-70°	921.1	8.9
70°-80°	408.1	4.0
80°-90°	87.6	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°	3681.9	35.8
0°-40°	5659.2	55.0
0°-60°	8876.3	86.2
0°-90°	10293.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10293.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5243	5243	5243	5243	5243	
5°	5152	5146	5146	5140	5140	489
15°	4819	4819	4770	4722	4704	1355
25°	4176	4152	4085	3940	3831	1917
35°	3388	3364	3200	2958	2885	2118
45°	2600	2546	2328	2134	2049	2003
55°	1806	1752	1588	1400	1327	1620
65°	1073	1012	915	934	776	1057
75°	430	400	376	358	394	461
85°	61	67	73	79	85	84
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5243.1	5243.1	5243.1	5243.1	5243.1
2.5°	5206.7	5206.7	5206.7	5200.7	5200.7
5°	5152.2	5146.1	5146.1	5140.1	5140.1
7.5°	5109.8	5103.7	5097.6	5091.6	5079.5
10°	5049.2	5049.2	5043.1	5012.8	5006.7
12.5°	4952.2	4946.1	4921.9	4879.4	4867.3
15°	4818.8	4818.8	4770.3	4721.8	4703.7
17.5°	4673.3	4667.3	4606.7	4558.2	4533.9
20°	4515.7	4503.6	4443.0	4364.2	4321.8
22.5°	4340.0	4340.0	4267.2	4164.2	4121.8
25°	4176.3	4152.1	4085.4	3939.9	3830.8
27.5°	3988.4	3952.0	3879.3	3673.2	3545.9
30°	3782.3	3764.1	3661.1	3394.4	3297.4
32.5°	3588.4	3558.0	3448.9	3170.1	3091.3
35°	3388.3	3364.1	3200.4	2958.0	2885.2
37.5°	3188.3	3158.0	2951.9	2757.9	2667.0
40°	2988.3	2951.9	2727.6	2551.9	2454.9
42.5°	2800.4	2751.9	2533.7	2345.8	2236.7
45°	2600.3	2545.8	2327.6	2133.6	2048.8
47.5°	2400.3	2351.8	2151.8	1951.8	1854.8
50°	2188.2	2145.7	1963.9	1763.9	1660.8
52.5°	2012.4	1945.7	1769.9	1569.9	1485.0
55°	1806.3	1751.7	1588.1	1400.2	1327.4
57.5°	1618.4	1563.8	1412.3	1236.5	1175.9
60°	1442.6	1363.8	1236.5	1085.0	1036.5
62.5°	1248.6	1188.0	1078.9	951.6	1012.3
65°	1072.9	1012.3	915.3	933.5	775.9
67.5°	878.9	848.6	763.7	678.9	654.6
70°	715.2	678.9	648.6	557.6	533.4
72.5°	569.8	533.4	491.0	442.5	424.3
75°	430.4	400.1	375.8	357.6	394.0
77.5°	297.0	284.9	266.7	248.5	242.5
80°	194.0	187.9	181.8	175.8	169.7
82.5°	115.2	115.2	115.2	115.2	115.2
85°	60.6	66.7	72.7	78.8	84.9
87.5°	36.4	36.4	42.4	48.5	54.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)