

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: P563587

Luminaire Tested: FSR-24-4-LD4-3STD-50-UNV-81-85-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563587  
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-LD4-3STD-50-UNV-81-85-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

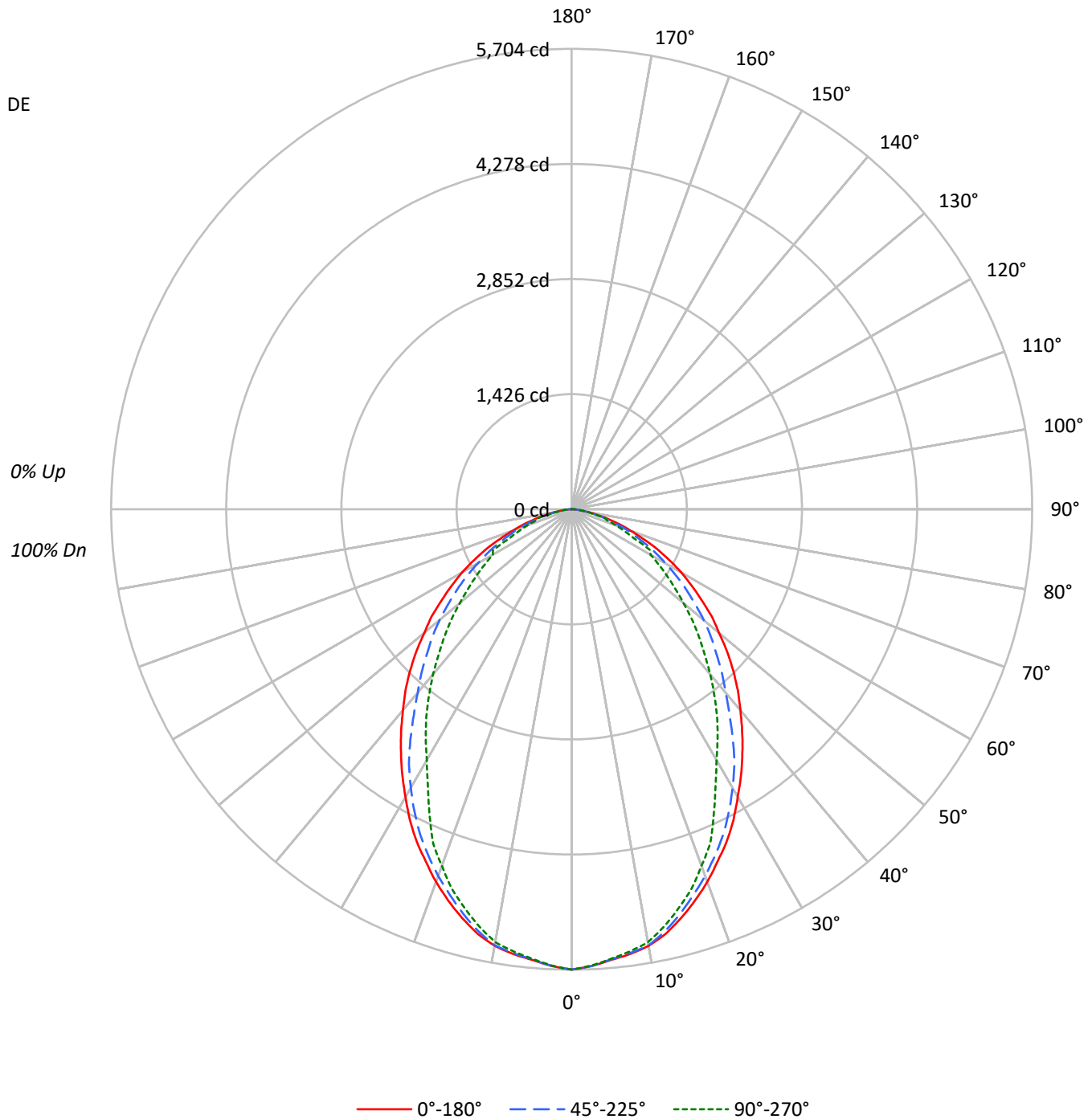
Lumens per Lamp: N/A  
Luminaire Lumens: 11197.0 lumens  
Efficiency: N/A  
Efficacy: 112.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 99.9  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	7674	7674	7674
5°	7570	7561	7552
10°	7504	7495	7441
15°	7302	7228	7127
20°	7034	6920	6732
25°	6745	6598	6187
30°	6392	6188	5573
35°	6054	5719	5155
40°	5710	5212	4690
45°	5382	4818	4241
50°	4982	4472	3782
55°	4609	4053	3387
60°	4223	3620	3034
65°	3716	3170	2687
70°	3061	2775	2283
75°	2434	2125	2228
80°	1635	1533	1430
85°	1017	1221	1425

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5382 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	530.9	4.7
10°-20°	1457.1	13.0
20°-30°	2017.2	18.0
30°-40°	2151.0	19.2
40°-50°	1962.3	17.5
50°-60°	1537.3	13.7
60°-70°	1001.9	8.9
70°-80°	443.9	4.0
80°-90°	95.3	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°	4005.3	35.8
0°-40°	6156.2	55.0
0°-60°	9655.8	86.2
0°-90°	11197.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11197.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5704	5704	5704	5704	5704	
5°	5605	5598	5598	5592	5592	532
15°	5242	5242	5189	5136	5117	1474
25°	4543	4517	4444	4286	4167	2086
35°	3686	3660	3482	3218	3139	2304
45°	2829	2769	2532	2321	2229	2179
55°	1965	1906	1728	1523	1444	1762
65°	1167	1101	996	1015	844	1150
75°	468	435	409	389	429	502
85°	66	72	79	86	92	91
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5703.6	5703.6	5703.6	5703.6	5703.6
2.5°	5664.0	5664.0	5664.0	5657.4	5657.4
5°	5604.7	5598.1	5598.1	5591.5	5591.5
7.5°	5558.5	5551.9	5545.4	5538.8	5525.6
10°	5492.6	5492.6	5486.0	5453.0	5446.4
12.5°	5387.1	5380.5	5354.1	5308.0	5294.8
15°	5242.0	5242.0	5189.3	5136.5	5116.8
17.5°	5083.8	5077.2	5011.3	4958.5	4932.1
20°	4912.4	4899.2	4833.2	4747.5	4701.4
22.5°	4721.1	4721.1	4642.0	4529.9	4483.8
25°	4543.1	4516.7	4444.2	4285.9	4167.3
27.5°	4338.7	4299.1	4220.0	3995.8	3857.3
30°	4114.5	4094.7	3982.6	3692.5	3587.0
32.5°	3903.5	3870.5	3751.8	3448.5	3362.8
35°	3685.9	3659.5	3481.5	3217.8	3138.6
37.5°	3468.3	3435.3	3211.2	3000.2	2901.3
40°	3250.7	3211.2	2967.2	2776.0	2670.5
42.5°	3046.3	2993.6	2756.2	2551.8	2433.1
45°	2828.7	2769.4	2532.0	2321.0	2228.7
47.5°	2611.1	2558.4	2340.8	2123.2	2017.7
50°	2380.3	2334.2	2136.4	1918.8	1806.7
52.5°	2189.1	2116.6	1925.4	1707.8	1615.5
55°	1964.9	1905.6	1727.6	1523.2	1444.0
57.5°	1760.5	1701.2	1536.3	1345.1	1279.2
60°	1569.3	1483.6	1345.1	1180.3	1127.5
62.5°	1358.3	1292.4	1173.7	1035.2	1101.2
65°	1167.1	1101.2	995.7	1015.4	844.0
67.5°	956.1	923.1	830.8	738.5	712.1
70°	778.1	738.5	705.5	606.6	580.3
72.5°	619.8	580.3	534.1	481.3	461.6
75°	468.2	435.2	408.8	389.0	428.6
77.5°	323.1	309.9	290.1	270.3	263.8
80°	211.0	204.4	197.8	191.2	184.6
82.5°	125.3	125.3	125.3	125.3	125.3
85°	65.9	72.5	79.1	85.7	92.3
87.5°	39.6	39.6	46.2	52.8	59.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)