

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: P564171

Luminaire Tested: FSR-24-4-LD4-4STD-50-UNV-81-94-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P564171  
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-81-94-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

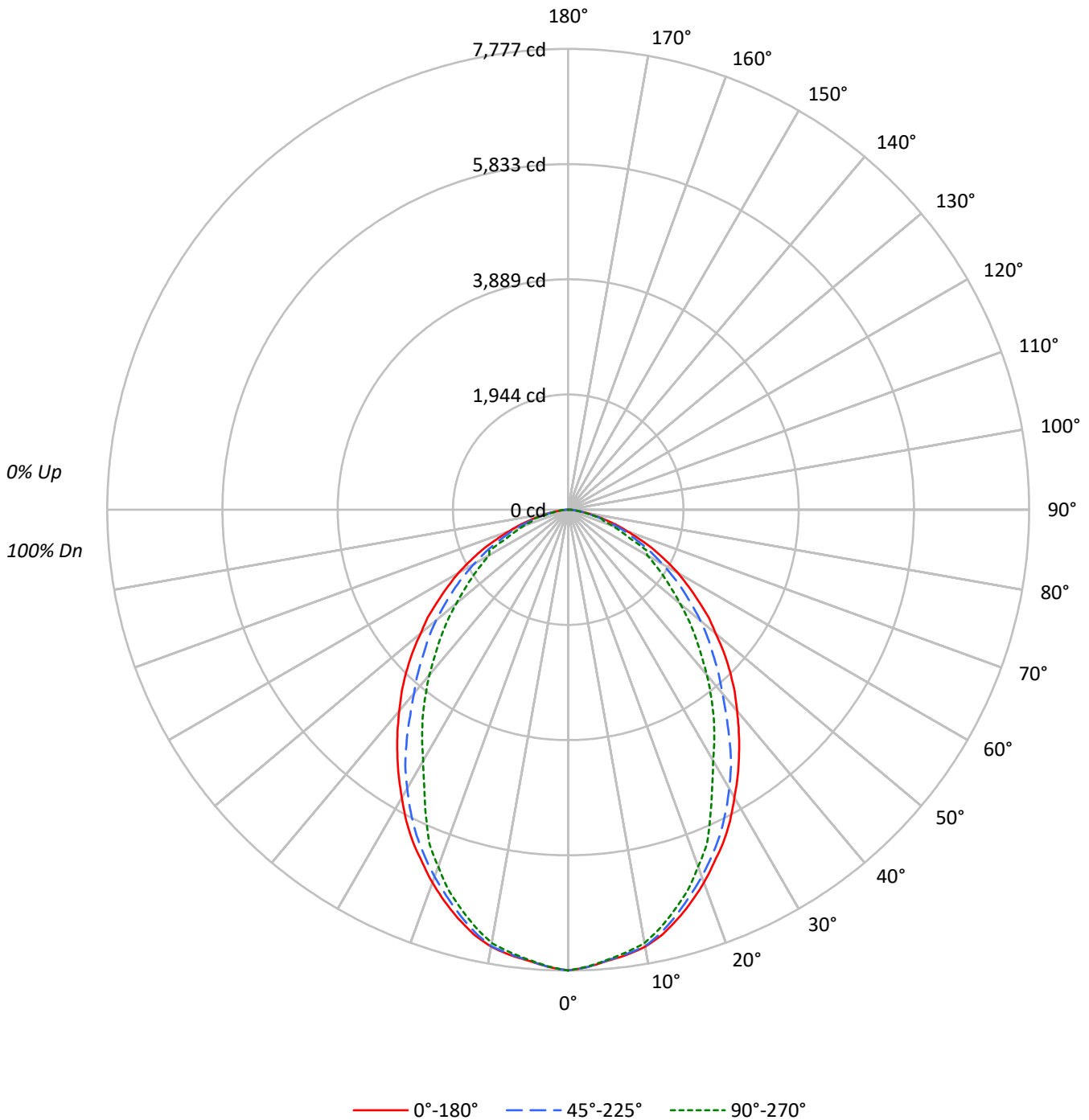
Lumens per Lamp: N/A  
Luminaire Lumens: 15267.0 lumens  
Efficiency: N/A  
Efficacy: 114.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 133.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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				
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77					75				
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67					65				
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58					56				
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52					50				
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46					44				
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42					40				
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38					36				
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34					33				
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32					30				

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	10464	10464	10464
5°	10321	10309	10297
10°	10232	10220	10146
15°	9956	9856	9718
20°	9590	9436	9178
25°	9196	8996	8435
30°	8716	8437	7599
35°	8255	7797	7029
40°	7785	7106	6395
45°	7339	6569	5782
50°	6794	6097	5156
55°	6285	5526	4619
60°	5758	4936	4137
65°	5066	4322	3664
70°	4174	3784	3113
75°	3318	2898	3038
80°	2229	2090	1950
85°	1388	1666	1944

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 7339 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	723.9	4.7
10°-20°	1986.7	13.0
20°-30°	2750.5	18.0
30°-40°	2932.8	19.2
40°-50°	2675.6	17.5
50°-60°	2096.1	13.7
60°-70°	1366.1	8.9
70°-80°	605.3	4.0
80°-90°	129.9	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°	5461.1	35.8
0°-40°	8394.0	55.0
0°-60°	13165.6	86.2
0°-90°	15267.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	15267.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	7777	7777	7777	7777	7777	
5°	7642	7633	7633	7624	7624	725
15°	7148	7148	7076	7004	6977	2009
25°	6194	6158	6060	5844	5682	2844
35°	5026	4990	4747	4387	4280	3142
45°	3857	3776	3452	3165	3039	2971
55°	2679	2598	2356	2077	1969	2403
65°	1591	1501	1358	1384	1151	1568
75°	638	593	557	530	584	684
85°	90	99	108	117	126	125
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	7776.8	7776.8	7776.8	7776.8	7776.8
2.5°	7722.9	7722.9	7722.9	7713.9	7713.9
5°	7641.9	7633.0	7633.0	7624.0	7624.0
7.5°	7579.0	7570.0	7561.0	7552.0	7534.1
10°	7489.1	7489.1	7480.1	7435.2	7426.2
12.5°	7345.3	7336.3	7300.3	7237.4	7219.4
15°	7147.5	7147.5	7075.5	7003.6	6976.6
17.5°	6931.7	6922.7	6832.8	6760.9	6724.9
20°	6697.9	6680.0	6590.1	6473.2	6410.2
22.5°	6437.2	6437.2	6329.3	6176.5	6113.6
25°	6194.5	6158.5	6059.6	5843.8	5682.0
27.5°	5915.8	5861.8	5753.9	5448.3	5259.5
30°	5610.1	5583.1	5430.3	5034.7	4890.8
32.5°	5322.4	5277.4	5115.6	4702.0	4585.2
35°	5025.7	4989.7	4747.0	4387.4	4279.5
37.5°	4729.0	4684.1	4378.4	4090.7	3955.8
40°	4432.3	4378.4	4045.7	3785.0	3641.2
42.5°	4153.6	4081.7	3758.0	3479.3	3317.5
45°	3856.9	3776.0	3452.4	3164.7	3038.8
47.5°	3560.2	3488.3	3191.6	2894.9	2751.1
50°	3245.6	3182.6	2912.9	2616.2	2463.4
52.5°	2984.9	2886.0	2625.2	2328.5	2202.7
55°	2679.2	2598.3	2355.5	2076.8	1968.9
57.5°	2400.5	2319.6	2094.8	1834.1	1744.2
60°	2139.7	2022.9	1834.1	1609.3	1537.4
62.5°	1852.0	1762.1	1600.3	1411.5	1501.4
65°	1591.3	1501.4	1357.6	1384.5	1150.8
67.5°	1303.6	1258.7	1132.8	1006.9	971.0
70°	1060.9	1006.9	962.0	827.1	791.2
72.5°	845.1	791.2	728.2	656.3	629.3
75°	638.3	593.4	557.4	530.4	584.4
77.5°	440.5	422.6	395.6	368.6	359.6
80°	287.7	278.7	269.7	260.7	251.7
82.5°	170.8	170.8	170.8	170.8	170.8
85°	89.9	98.9	107.9	116.9	125.9
87.5°	53.9	53.9	62.9	71.9	80.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)