

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: P564017

Luminaire Tested: FSR-24-4-LD4-4STD-35-UNV-80-84-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P564017  
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-35-UNV-80-84-EDD  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .125 CLEAR PC ENVIRON  
SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

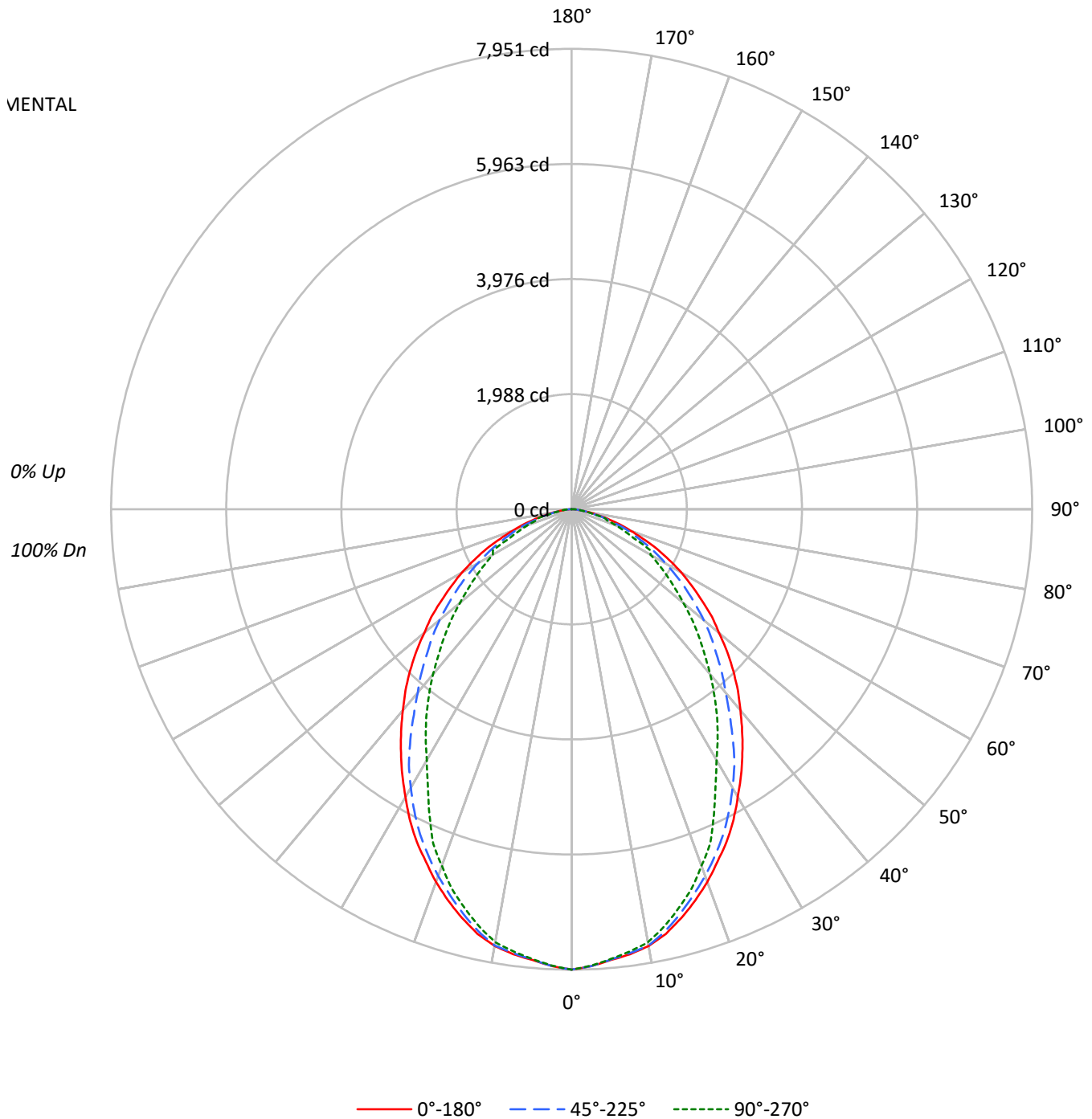
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 15609.0 lumens  
Efficiency: N/A  
Efficacy: 117.2 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					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°	10698	10698	10698
5°	10553	10540	10528
10°	10461	10449	10373
15°	10179	10077	9936
20°	9805	9647	9384
25°	9402	9198	8624
30°	8911	8626	7769
35°	8440	7972	7187
40°	7959	7265	6539
45°	7503	6716	5912
50°	6946	6234	5272
55°	6426	5649	4722
60°	5887	5046	4230
65°	5180	4419	3746
70°	4267	3869	3182
75°	3393	2963	3106
80°	2279	2137	1994
85°	1419	1703	1987

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 7503 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	740.1	4.7
10°-20°	2031.2	13.0
20°-30°	2812.1	18.0
30°-40°	2998.5	19.2
40°-50°	2735.5	17.5
50°-60°	2143.1	13.7
60°-70°	1396.8	8.9
70°-80°	618.8	4.0
80°-90°	132.8	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°	5583.5	35.8
0°-40°	8582.0	55.0
0°-60°	13460.6	86.2
0°-90°	15609.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	15609.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	7951	7951	7951	7951	7951	
5°	7813	7804	7804	7795	7795	742
15°	7308	7308	7234	7160	7133	2054
25°	6333	6296	6195	5975	5809	2908
35°	5138	5102	4853	4486	4375	3212
45°	3943	3861	3530	3236	3107	3038
55°	2739	2656	2408	2123	2013	2457
65°	1627	1535	1388	1416	1177	1603
75°	653	607	570	542	598	699
85°	92	101	110	120	129	127
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	7951.0	7951.0	7951.0	7951.0	7951.0
2.5°	7895.9	7895.9	7895.9	7886.7	7886.7
5°	7813.1	7803.9	7803.9	7794.8	7794.8
7.5°	7748.8	7739.6	7730.4	7721.2	7702.8
10°	7656.9	7656.9	7647.7	7601.7	7592.5
12.5°	7509.8	7500.6	7463.8	7399.5	7381.1
15°	7307.6	7307.6	7234.0	7160.5	7132.9
17.5°	7087.0	7077.8	6985.9	6912.3	6875.6
20°	6848.0	6829.6	6737.7	6618.2	6553.8
22.5°	6581.4	6581.4	6471.1	6314.9	6250.5
25°	6333.2	6296.5	6195.4	5974.8	5809.3
27.5°	6048.3	5993.1	5882.8	5570.3	5377.3
30°	5735.8	5708.2	5551.9	5147.5	5000.4
32.5°	5441.6	5395.7	5230.2	4807.4	4687.9
35°	5138.3	5101.5	4853.3	4485.7	4375.4
37.5°	4835.0	4789.0	4476.5	4182.3	4044.4
40°	4531.6	4476.5	4136.4	3869.8	3722.7
42.5°	4246.7	4173.1	3842.2	3557.3	3391.8
45°	3943.3	3860.6	3529.7	3235.6	3106.9
47.5°	3640.0	3566.5	3263.1	2959.8	2812.7
50°	3318.3	3253.9	2978.2	2674.9	2518.6
52.5°	3051.7	2950.6	2684.0	2380.7	2252.0
55°	2739.2	2656.5	2408.3	2123.3	2013.0
57.5°	2454.2	2371.5	2141.7	1875.2	1783.2
60°	2187.7	2068.2	1875.2	1645.4	1571.8
62.5°	1893.5	1801.6	1636.2	1443.1	1535.1
65°	1627.0	1535.1	1388.0	1415.6	1176.6
67.5°	1332.8	1286.9	1158.2	1029.5	992.7
70°	1084.6	1029.5	983.5	845.7	808.9
72.5°	864.0	808.9	744.5	671.0	643.4
75°	652.6	606.7	569.9	542.3	597.5
77.5°	450.4	432.0	404.4	376.9	367.7
80°	294.1	284.9	275.8	266.6	257.4
82.5°	174.6	174.6	174.6	174.6	174.6
85°	91.9	101.1	110.3	119.5	128.7
87.5°	55.2	55.2	64.3	73.5	82.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)