

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: P563635

Luminaire Tested: FSR-24-4-LD4-4HI-35-UNV-80-85-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563635  
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-LD4-4HI-35-UNV-80-85-EDD  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR PC ENVIRONM  
SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

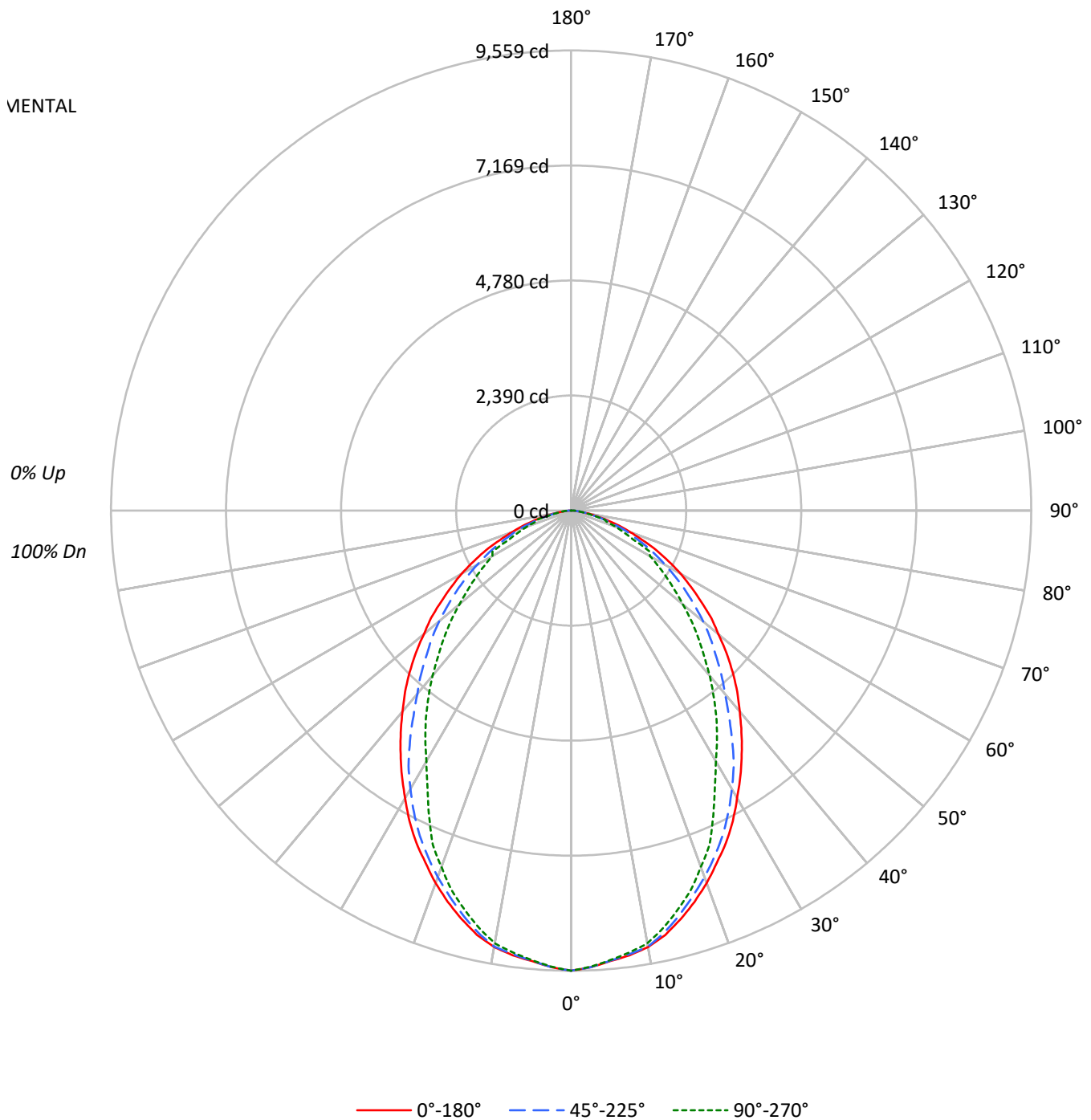
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 18766.0 lumens  
Efficiency: N/A  
Efficacy: 108.6 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): 172.8  
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°	12862	12862	12862
5°	12687	12672	12657
10°	12577	12562	12471
15°	12238	12115	11945
20°	11788	11598	11282
25°	11304	11058	10369
30°	10714	10370	9340
35°	10147	9584	8640
40°	9569	8735	7861
45°	9021	8075	7108
50°	8351	7495	6338
55°	7725	6792	5677
60°	7078	6067	5085
65°	6227	5313	4503
70°	5130	4652	3826
75°	4079	3562	3734
80°	2740	2569	2397
85°	1706	2047	2388

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 9021 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	889.8	4.7
10°-20°	2442.1	13.0
20°-30°	3380.9	18.0
30°-40°	3605.0	19.2
40°-50°	3288.8	17.5
50°-60°	2576.5	13.7
60°-70°	1679.2	8.9
70°-80°	744.0	4.0
80°-90°	159.7	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°	6712.8	35.8
0°-40°	10317.7	55.0
0°-60°	16183.1	86.2
0°-90°	18766.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	18766.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	9559	9559	9559	9559	9559	
5°	9393	9382	9382	9371	9371	892
15°	8786	8786	8697	8609	8576	2470
25°	7614	7570	7448	7183	6984	3496
35°	6178	6133	5835	5393	5260	3862
45°	4741	4641	4244	3890	3735	3652
55°	3293	3194	2895	2553	2420	2954
65°	1956	1846	1669	1702	1414	1928
75°	785	729	685	652	718	841
85°	110	122	133	144	155	153
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	9559.1	9559.1	9559.1	9559.1	9559.1
2.5°	9492.8	9492.8	9492.8	9481.8	9481.8
5°	9393.4	9382.3	9382.3	9371.3	9371.3
7.5°	9316.0	9305.0	9293.9	9282.9	9260.8
10°	9205.5	9205.5	9194.5	9139.2	9128.2
12.5°	9028.7	9017.6	8973.4	8896.1	8874.0
15°	8785.6	8785.6	8697.2	8608.8	8575.6
17.5°	8520.4	8509.3	8398.8	8310.4	8266.2
20°	8233.0	8210.9	8100.4	7956.7	7879.4
22.5°	7912.5	7912.5	7779.9	7592.1	7514.7
25°	7614.2	7570.0	7448.4	7183.2	6984.3
27.5°	7271.6	7205.3	7072.7	6696.9	6464.9
30°	6895.8	6862.7	6674.8	6188.6	6011.8
32.5°	6542.2	6487.0	6288.0	5779.7	5636.0
35°	6177.5	6133.3	5834.9	5392.9	5260.3
37.5°	5812.8	5757.6	5381.9	5028.2	4862.5
40°	5448.2	5381.9	4973.0	4652.5	4475.7
42.5°	5105.6	5017.2	4619.3	4276.8	4077.8
45°	4740.9	4641.4	4243.6	3890.0	3735.3
47.5°	4376.2	4287.8	3923.1	3558.4	3381.6
50°	3989.4	3912.1	3580.5	3215.9	3028.0
52.5°	3668.9	3547.4	3226.9	2862.2	2707.5
55°	3293.2	3193.8	2895.4	2552.8	2420.2
57.5°	2950.6	2851.2	2574.9	2254.4	2143.9
60°	2630.1	2486.5	2254.4	1978.1	1889.7
62.5°	2276.5	2166.0	1967.1	1735.0	1845.5
65°	1956.0	1845.5	1668.7	1701.9	1414.5
67.5°	1602.4	1547.1	1392.4	1237.7	1193.5
70°	1304.0	1237.7	1182.5	1016.7	972.5
72.5°	1038.8	972.5	895.1	806.7	773.6
75°	784.6	729.4	685.2	652.0	718.3
77.5°	541.5	519.4	486.2	453.1	442.0
80°	353.6	342.6	331.5	320.5	309.4
82.5°	210.0	210.0	210.0	210.0	210.0
85°	110.5	121.6	132.6	143.7	154.7
87.5°	66.3	66.3	77.4	88.4	99.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)