

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: P563061

Luminaire Tested: FSR-24-4-LD4-3HI-35-UNV-80-86-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563061  
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-35-UNV-80-86-EDD  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRON  
SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

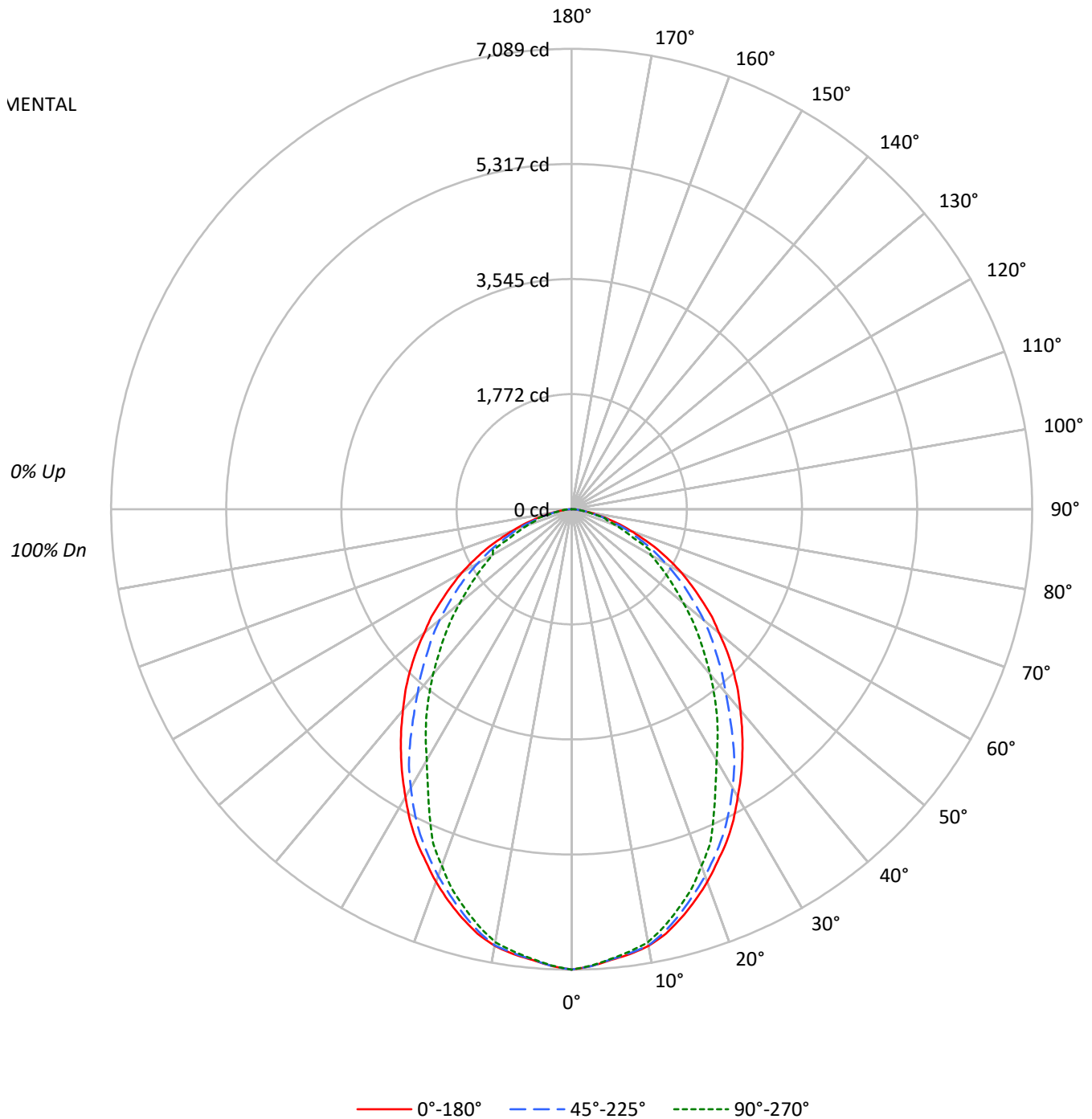
Lumens per Lamp: N/A  
Luminaire Lumens: 13916.0 lumens  
Efficiency: N/A  
Efficacy: 107.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 129.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	9538	9538	9538
5°	9408	9397	9386
10°	9327	9315	9248
15°	9075	8984	8858
20°	8742	8601	8366
25°	8382	8200	7689
30°	7945	7690	6926
35°	7524	7107	6407
40°	7096	6477	5830
45°	6690	5988	5271
50°	6193	5558	4700
55°	5729	5037	4210
60°	5248	4499	3771
65°	4618	3940	3340
70°	3804	3450	2837
75°	3025	2641	2769
80°	2032	1905	1778
85°	1264	1518	1771

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6690 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	659.9	4.7
10°-20°	1810.9	13.0
20°-30°	2507.1	18.0
30°-40°	2673.3	19.2
40°-50°	2438.8	17.5
50°-60°	1910.6	13.7
60°-70°	1245.3	8.9
70°-80°	551.7	4.0
80°-90°	118.4	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°	4977.9	35.8
0°-40°	7651.2	55.0
0°-60°	12000.6	86.2
0°-90°	13916.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13916.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	7089	7089	7089	7089	7089	
5°	6966	6958	6958	6949	6949	661
15°	6515	6515	6449	6384	6359	1832
25°	5646	5614	5523	5327	5179	2592
35°	4581	4548	4327	3999	3901	2864
45°	3516	3442	3147	2885	2770	2708
55°	2442	2368	2147	1893	1795	2190
65°	1450	1369	1237	1262	1049	1429
75°	582	541	508	484	533	624
85°	82	90	98	106	115	114
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	7088.6	7088.6	7088.6	7088.6	7088.6
2.5°	7039.5	7039.5	7039.5	7031.3	7031.3
5°	6965.7	6957.5	6957.5	6949.3	6949.3
7.5°	6908.3	6900.1	6891.9	6883.8	6867.4
10°	6826.4	6826.4	6818.2	6777.2	6769.0
12.5°	6695.3	6687.1	6654.3	6596.9	6580.5
15°	6515.0	6515.0	6449.4	6383.9	6359.3
17.5°	6318.3	6310.1	6228.2	6162.6	6129.8
20°	6105.2	6088.8	6006.9	5900.4	5843.0
22.5°	5867.6	5867.6	5769.2	5629.9	5572.6
25°	5646.3	5613.5	5523.4	5326.7	5179.2
27.5°	5392.3	5343.1	5244.8	4966.1	4794.0
30°	5113.6	5089.1	4949.7	4589.2	4458.0
32.5°	4851.4	4810.4	4662.9	4286.0	4179.4
35°	4581.0	4548.2	4326.9	3999.1	3900.8
37.5°	4310.5	4269.6	3990.9	3728.7	3605.8
40°	4040.1	3990.9	3687.7	3450.1	3319.0
42.5°	3786.1	3720.5	3425.5	3171.4	3023.9
45°	3515.6	3441.9	3146.9	2884.6	2769.9
47.5°	3245.2	3179.6	2909.2	2638.8	2507.7
50°	2958.4	2901.0	2655.2	2384.7	2245.4
52.5°	2720.7	2630.6	2392.9	2122.5	2007.8
55°	2442.1	2368.3	2147.1	1893.0	1794.7
57.5°	2188.0	2114.3	1909.4	1671.8	1589.8
60°	1950.4	1843.9	1671.8	1466.9	1401.3
62.5°	1688.2	1606.2	1458.7	1286.6	1368.6
65°	1450.5	1368.6	1237.4	1262.0	1049.0
67.5°	1188.3	1147.3	1032.6	917.8	885.1
70°	967.0	917.8	876.9	753.9	721.2
72.5°	770.3	721.2	663.8	598.2	573.6
75°	581.8	540.9	508.1	483.5	532.7
77.5°	401.6	385.2	360.6	336.0	327.8
80°	262.2	254.0	245.8	237.7	229.5
82.5°	155.7	155.7	155.7	155.7	155.7
85°	81.9	90.1	98.3	106.5	114.7
87.5°	49.2	49.2	57.4	65.6	73.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)