

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: P563767

Luminaire Tested: FSR-24-4-LD4-4HI-50-UNV-80-87-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563767  
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-50-UNV-80-87-EDD  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR PC ENVIRONM  
SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

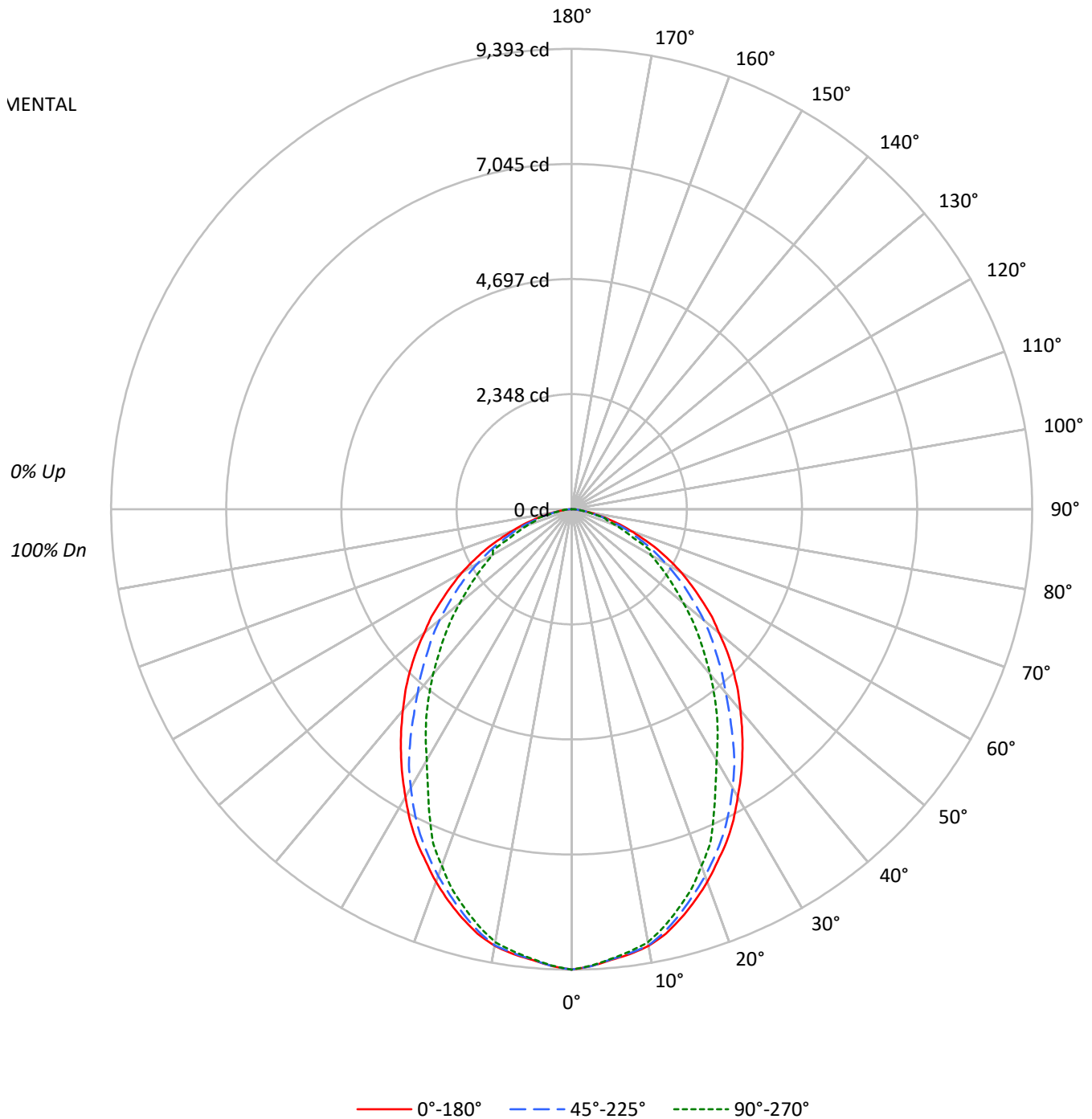
Lumens per Lamp: N/A  
Luminaire Lumens: 18439.0 lumens  
Efficiency: N/A  
Efficacy: 106.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 172.8  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	12638	12638	12638
5°	12466	12451	12437
10°	12358	12343	12254
15°	12025	11904	11737
20°	11583	11396	11085
25°	11107	10865	10188
30°	10527	10190	9177
35°	9970	9417	8490
40°	9402	8582	7724
45°	8864	7934	6984
50°	8205	7364	6228
55°	7591	6674	5578
60°	6954	5961	4997
65°	6119	5220	4425
70°	5041	4571	3759
75°	4008	3500	3669
80°	2693	2524	2356
85°	1677	2012	2347

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 8864 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	874.3	4.7
10°-20°	2399.5	13.0
20°-30°	3322.0	18.0
30°-40°	3542.2	19.2
40°-50°	3231.5	17.5
50°-60°	2531.6	13.7
60°-70°	1650.0	8.9
70°-80°	731.0	4.0
80°-90°	157.0	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°	6595.8	35.8
0°-40°	10138.0	55.0
0°-60°	15901.1	86.2
0°-90°	18439.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	18439.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	9393	9393	9393	9393	9393	
5°	9230	9219	9219	9208	9208	876
15°	8632	8632	8546	8459	8426	2427
25°	7482	7438	7319	7058	6863	3435
35°	6070	6026	5733	5299	5169	3795
45°	4658	4561	4170	3822	3670	3588
55°	3236	3138	2845	2508	2378	2902
65°	1922	1813	1640	1672	1390	1894
75°	771	717	673	641	706	826
85°	109	119	130	141	152	151
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	9392.6	9392.6	9392.6	9392.6	9392.6
2.5°	9327.4	9327.4	9327.4	9316.6	9316.6
5°	9229.7	9218.8	9218.8	9208.0	9208.0
7.5°	9153.7	9142.8	9132.0	9121.1	9099.4
10°	9045.1	9045.1	9034.3	8980.0	8969.1
12.5°	8871.4	8860.5	8817.1	8741.1	8719.4
15°	8632.5	8632.5	8545.6	8458.8	8426.2
17.5°	8371.9	8361.0	8252.4	8165.6	8122.1
20°	8089.6	8067.8	7959.3	7818.1	7742.1
22.5°	7774.7	7774.7	7644.4	7459.8	7383.8
25°	7481.5	7438.1	7318.6	7058.0	6862.6
27.5°	7144.9	7079.7	6949.4	6580.2	6352.2
30°	6775.7	6743.1	6558.5	6080.7	5907.0
32.5°	6428.2	6373.9	6178.5	5679.0	5537.8
35°	6069.9	6026.5	5733.3	5298.9	5168.6
37.5°	5711.6	5657.3	5288.1	4940.6	4777.7
40°	5353.2	5288.1	4886.3	4571.4	4397.7
42.5°	5016.6	4929.7	4538.8	4202.2	4006.8
45°	4658.3	4560.6	4169.7	3822.2	3670.2
47.5°	4300.0	4213.1	3854.8	3496.4	3322.7
50°	3919.9	3843.9	3518.1	3159.8	2975.2
52.5°	3605.0	3485.6	3170.7	2812.3	2660.3
55°	3235.8	3138.1	2844.9	2508.3	2378.0
57.5°	2899.2	2801.5	2530.0	2215.1	2106.5
60°	2584.3	2443.2	2215.1	1943.7	1856.8
62.5°	2236.8	2128.3	1932.8	1704.8	1813.4
65°	1921.9	1813.4	1639.6	1672.2	1389.9
67.5°	1574.5	1520.2	1368.2	1216.1	1172.7
70°	1281.3	1216.1	1161.9	999.0	955.5
72.5°	1020.7	955.5	879.5	792.7	760.1
75°	771.0	716.7	673.2	640.6	705.8
77.5°	532.1	510.3	477.8	445.2	434.3
80°	347.5	336.6	325.8	314.9	304.0
82.5°	206.3	206.3	206.3	206.3	206.3
85°	108.6	119.4	130.3	141.2	152.0
87.5°	65.2	65.2	76.0	86.9	97.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)