

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: P561387

Luminaire Tested: FSR-12-4-LD4-2HI-35-UNV-93-94-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561387  
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-12-4-LD4-2HI-35-UNV-93-94-EDD  
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPER  
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

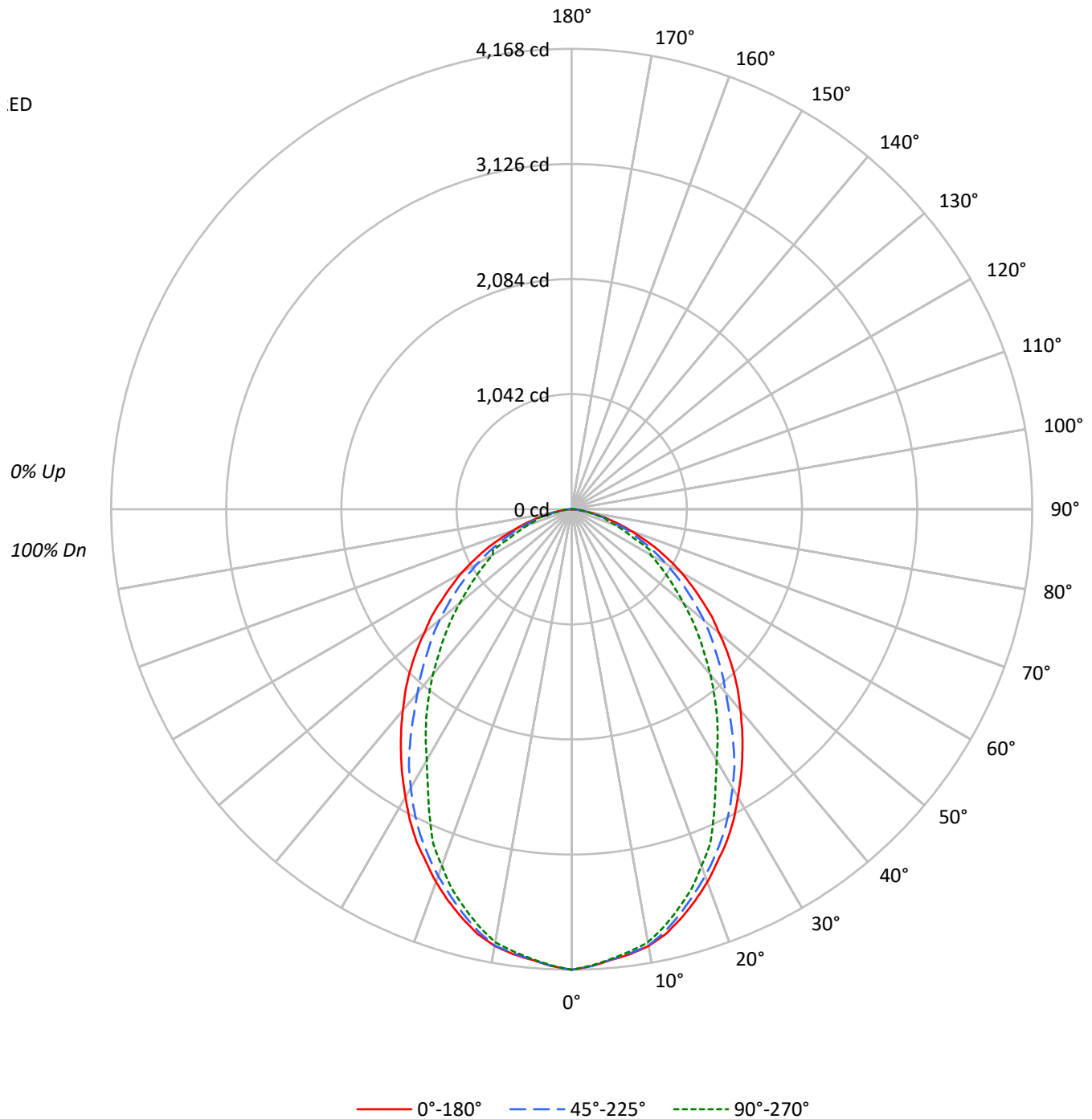
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8183.0 lumens  
Efficiency: N/A  
Efficacy: 94.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 86.4  
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	100	100	100	100	100		
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87	87	87	87	87	87	87		
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75	75	75	75	75	75		
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65	65	65	65	65	65	65		
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56	56	56	56	56	56	56		
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50	50	50	50	50	50	50		
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44	44	44	44	44	44	44		
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40	40	40	40	40	40	40		
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36	36	36	36	36	36	36		
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33	33	33	33	33	33	33		
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30	30	30	30	30	30	30		

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

	0°	45°	90°
0°	11217	11217	11217
5°	11064	11051	11038
10°	10968	10955	10876
15°	10673	10565	10418
20°	10281	10115	9839
25°	9858	9644	9043
30°	9344	9044	8146
35°	8849	8359	7535
40°	8345	7618	6856
45°	7867	7042	6199
50°	7283	6536	5528
55°	6737	5923	4951
60°	6173	5290	4435
65°	5431	4633	3927
70°	4474	4057	3337
75°	3557	3107	3256
80°	2390	2241	2091
85°	1488	1785	2084

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 7867 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	388.0	4.7
10°-20°	1064.9	13.0
20°-30°	1474.2	18.0
30°-40°	1572.0	19.2
40°-50°	1434.1	17.5
50°-60°	1123.5	13.7
60°-70°	732.2	8.9
70°-80°	324.4	4.0
80°-90°	69.7	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°	2927.1	35.8
0°-40°	4499.1	55.0
0°-60°	7056.7	86.2
0°-90°	8183.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8183.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4168	4168	4168	4168	4168	
5°	4096	4091	4091	4086	4086	389
15°	3831	3831	3792	3754	3739	1077
25°	3320	3301	3248	3132	3046	1524
35°	2694	2674	2544	2352	2294	1684
45°	2067	2024	1850	1696	1629	1592
55°	1436	1393	1262	1113	1055	1288
65°	853	805	728	742	617	841
75°	342	318	299	284	313	367
85°	48	53	58	63	68	67
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4168.3	4168.3	4168.3	4168.3	4168.3
2.5°	4139.4	4139.4	4139.4	4134.6	4134.6
5°	4096.0	4091.2	4091.2	4086.4	4086.4
7.5°	4062.3	4057.5	4052.7	4047.8	4038.2
10°	4014.1	4014.1	4009.3	3985.2	3980.4
12.5°	3937.0	3932.2	3912.9	3879.2	3869.5
15°	3831.0	3831.0	3792.4	3753.9	3739.4
17.5°	3715.3	3710.5	3662.3	3623.8	3604.5
20°	3590.0	3580.4	3532.2	3469.6	3435.8
22.5°	3450.3	3450.3	3392.5	3310.6	3276.8
25°	3320.2	3300.9	3247.9	3132.3	3045.5
27.5°	3170.8	3141.9	3084.1	2920.2	2819.0
30°	3007.0	2992.5	2910.6	2698.6	2621.5
32.5°	2852.8	2828.7	2741.9	2520.3	2457.6
35°	2693.7	2674.5	2544.4	2351.6	2293.8
37.5°	2534.7	2510.6	2346.8	2192.6	2120.3
40°	2375.7	2346.8	2168.5	2028.7	1951.6
42.5°	2226.3	2187.8	2014.3	1864.9	1778.2
45°	2067.3	2023.9	1850.4	1696.2	1628.8
47.5°	1908.3	1869.7	1710.7	1551.7	1474.6
50°	1739.6	1705.9	1561.3	1402.3	1320.4
52.5°	1599.9	1546.9	1407.1	1248.1	1180.6
55°	1436.0	1392.6	1262.5	1113.2	1055.3
57.5°	1286.6	1243.3	1122.8	983.0	934.9
60°	1146.9	1084.2	983.0	862.6	824.0
62.5°	992.7	944.5	857.8	756.6	804.7
65°	852.9	804.7	727.6	742.1	616.8
67.5°	698.7	674.6	607.2	539.7	520.4
70°	568.6	539.7	515.6	443.3	424.1
72.5°	453.0	424.1	390.3	351.8	337.3
75°	342.1	318.0	298.8	284.3	313.2
77.5°	236.1	226.5	212.0	197.6	192.8
80°	154.2	149.4	144.6	139.7	134.9
82.5°	91.6	91.6	91.6	91.6	91.6
85°	48.2	53.0	57.8	62.6	67.5
87.5°	28.9	28.9	33.7	38.6	43.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)