

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: P562522

Luminaire Tested: FSR-24-4-LD4-2HI-35-UNV-82-94-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562522  
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-LD4-2HI-35-UNV-82-94-EDD-90  
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

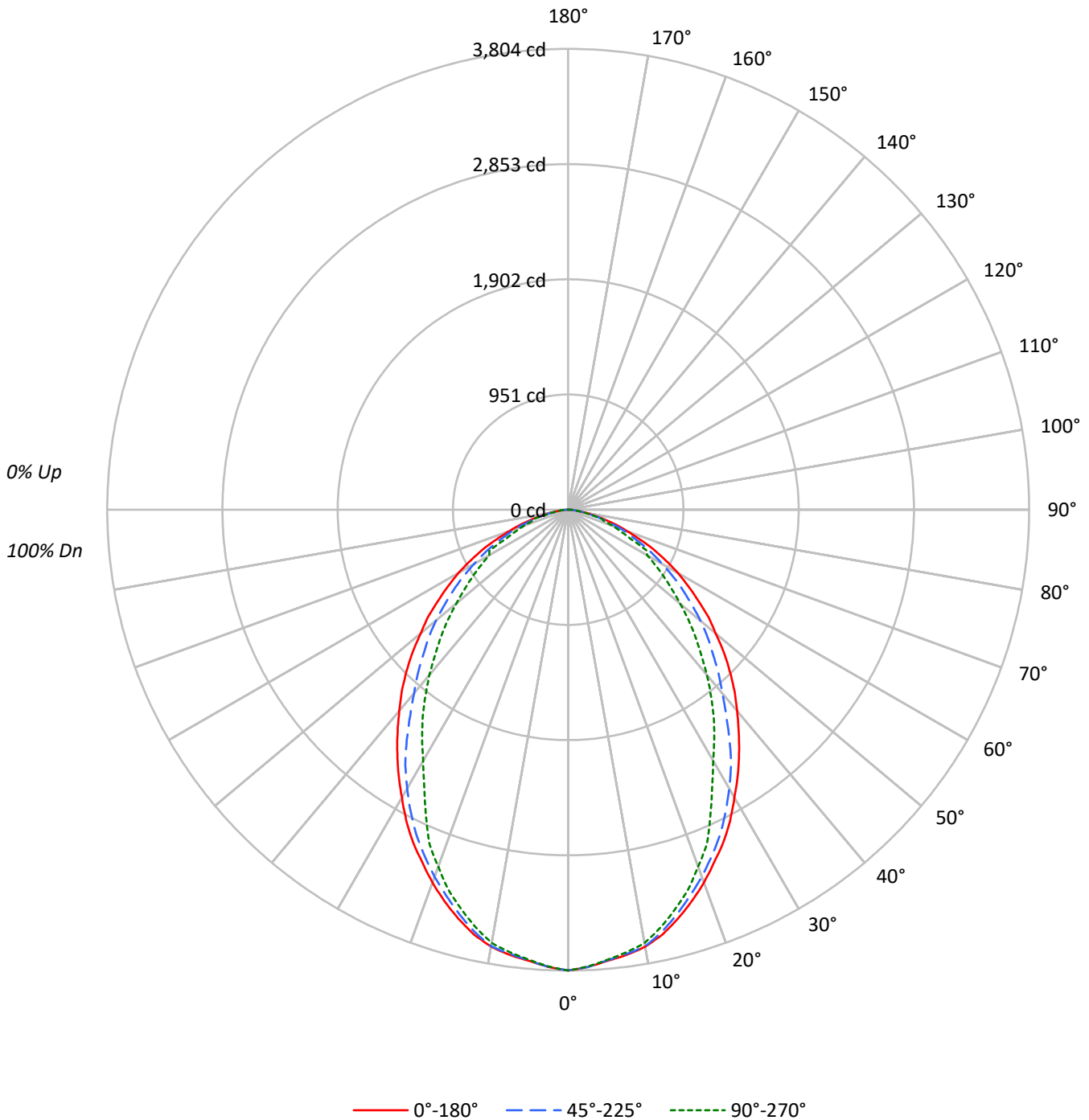
Lumens per Lamp: N/A  
Luminaire Lumens: 7467.0 lumens  
Efficiency: N/A  
Efficacy: 86.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 86.4  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	50	30	10	0																			
RCR																																														
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																												
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87																												
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																												
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																												
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																												
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																												
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44																												
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																												
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																												
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																												
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																												

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

	0°	45°	90°
0°	5118	5118	5118
5°	5048	5042	5036
10°	5004	4998	4962
15°	4869	4820	4753
20°	4691	4615	4489
25°	4498	4400	4126
30°	4263	4126	3716
35°	4037	3813	3438
40°	3808	3475	3128
45°	3589	3213	2828
50°	3323	2982	2522
55°	3074	2703	2259
60°	2816	2414	2023
65°	2478	2114	1792
70°	2041	1851	1522
75°	1623	1417	1486
80°	1090	1022	954
85°	679	815	951

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3589 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	354.1	4.7
10°-20°	971.7	13.0
20°-30°	1345.2	18.0
30°-40°	1434.4	19.2
40°-50°	1308.6	17.5
50°-60°	1025.2	13.7
60°-70°	668.2	8.9
70°-80°	296.0	4.0
80°-90°	63.6	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°	2671.0	35.8
0°-40°	4105.4	55.0
0°-60°	6439.2	86.2
0°-90°	7467.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7467.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3804	3804	3804	3804	3804	
5°	3738	3733	3733	3729	3729	355
15°	3496	3496	3461	3425	3412	983
25°	3030	3012	2964	2858	2779	1391
35°	2458	2440	2322	2146	2093	1537
45°	1886	1847	1688	1548	1486	1453
55°	1310	1271	1152	1016	963	1175
65°	778	734	664	677	563	767
75°	312	290	273	259	286	335
85°	44	48	53	57	62	61
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3803.6	3803.6	3803.6	3803.6	3803.6
2.5°	3777.2	3777.2	3777.2	3772.8	3772.8
5°	3737.6	3733.2	3733.2	3728.8	3728.8
7.5°	3706.9	3702.5	3698.1	3693.7	3684.9
10°	3662.9	3662.9	3658.5	3636.5	3632.1
12.5°	3592.5	3588.1	3570.5	3539.8	3531.0
15°	3495.8	3495.8	3460.6	3425.4	3412.2
17.5°	3390.3	3385.9	3341.9	3306.7	3289.1
20°	3275.9	3267.1	3223.2	3166.0	3135.2
22.5°	3148.4	3148.4	3095.6	3020.9	2990.1
25°	3029.7	3012.1	2963.7	2858.2	2779.0
27.5°	2893.4	2867.0	2814.2	2664.7	2572.4
30°	2743.9	2730.7	2655.9	2462.4	2392.1
32.5°	2603.2	2581.2	2502.0	2299.7	2242.6
35°	2458.0	2440.5	2321.7	2145.8	2093.1
37.5°	2312.9	2290.9	2141.4	2000.7	1934.8
40°	2167.8	2141.4	1978.7	1851.2	1780.9
42.5°	2031.5	1996.3	1838.0	1701.7	1622.6
45°	1886.4	1846.8	1688.5	1547.8	1486.3
47.5°	1741.3	1706.1	1561.0	1415.9	1345.5
50°	1587.4	1556.6	1424.7	1279.6	1204.8
52.5°	1459.9	1411.5	1284.0	1138.9	1077.3
55°	1310.4	1270.8	1152.1	1015.8	963.0
57.5°	1174.1	1134.5	1024.6	897.0	853.1
60°	1046.5	989.4	897.0	787.1	751.9
62.5°	905.8	861.9	782.7	690.4	734.3
65°	778.3	734.3	664.0	677.2	562.8
67.5°	637.6	615.6	554.0	492.5	474.9
70°	518.9	492.5	470.5	404.5	387.0
72.5°	413.3	387.0	356.2	321.0	307.8
75°	312.2	290.2	272.6	259.4	285.8
77.5°	215.5	206.7	193.5	180.3	175.9
80°	140.7	136.3	131.9	127.5	123.1
82.5°	83.5	83.5	83.5	83.5	83.5
85°	44.0	48.4	52.8	57.2	61.6
87.5°	26.4	26.4	30.8	35.2	39.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)