

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: P590718

Luminaire Tested: FSR-24-2-LD4-4HI-35-UNV-81-85-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590718  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/8/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: FAIL-SAFE  
Catalog Number: FSR-24-2-LD4-4HI-35-UNV-81-85-EDD  
Description: 2X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

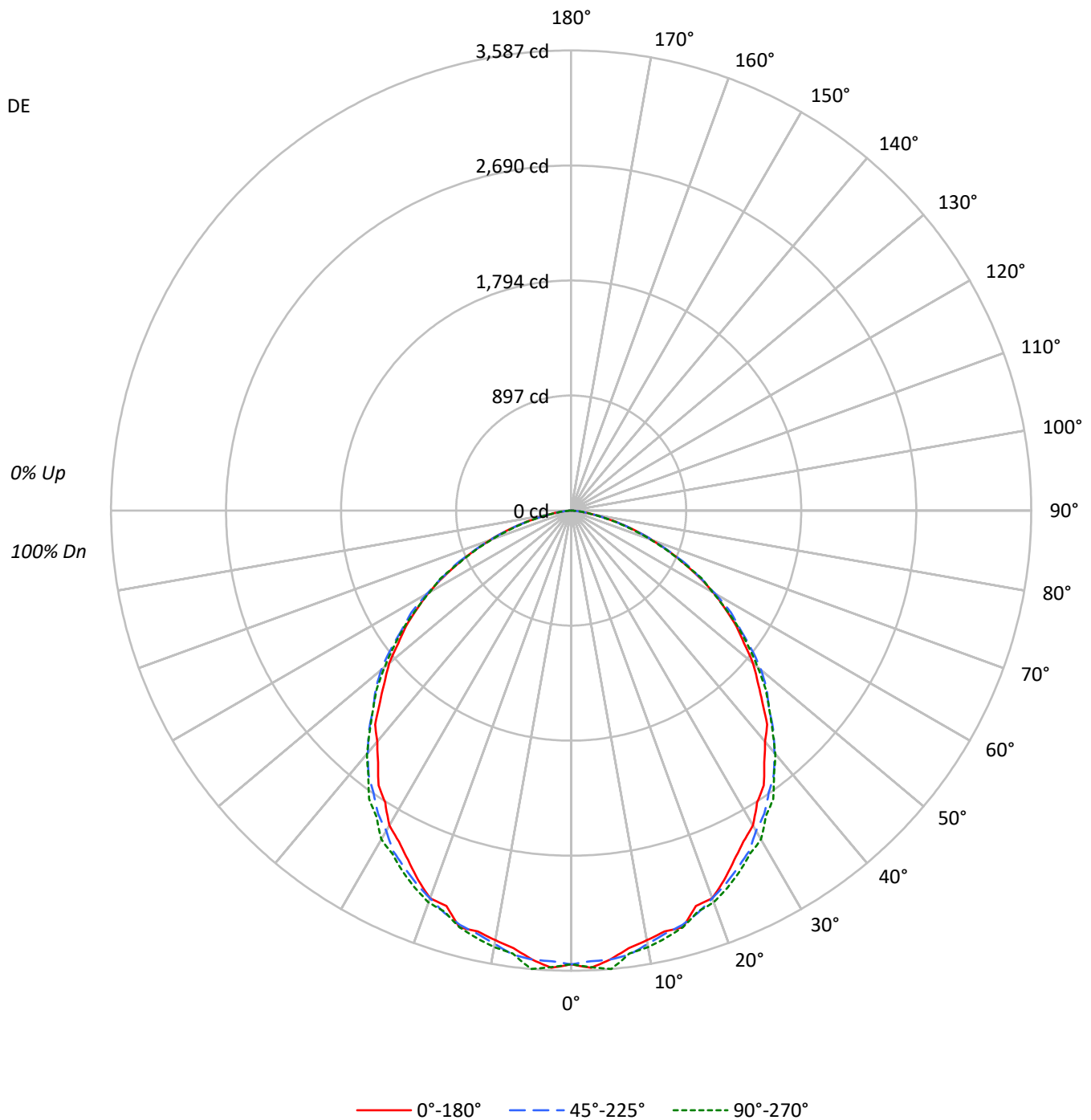
Lumens per Lamp: N/A  
Luminaire Lumens: 8914.0 lumens  
Efficiency: N/A  
Efficacy: 103.2 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 86.4  
Input Voltage (V):  
Input Current (Ain): NR  
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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26

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

	0°	45°	90°
0°	9518	9518	9518
5°	9486	9490	9690
10°	9294	9375	9441
15°	9367	9316	9369
20°	9209	9209	9307
25°	8926	9121	9222
30°	8803	8958	9196
35°	8596	8821	9019
40°	8261	8659	8698
45°	8012	8297	8309
50°	7749	8098	7943
55°	7383	7527	7473
60°	6904	6973	6847
65°	6156	6313	6112
70°	5282	5300	5153
75°	4183	4173	4012
80°	2802	2724	2619
85°	1522	1510	1411

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 8511 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	332.7	3.7
10°-20°	942.9	10.6
20°-30°	1412.7	15.8
30°-40°	1674.3	18.8
40°-50°	1677.4	18.8
50°-60°	1423.8	16.0
60°-70°	959.9	10.8
70°-80°	421.8	4.7
80°-90°	68.6	0.8
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°	2688.2	30.2
0°-40°	4362.5	48.9
0°-60°	7463.7	83.7
0°-90°	8914.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8914.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3537	3537	3537	3537	3537	
5°	3512	3504	3513	3503	3587	331
15°	3362	3324	3344	3362	3363	937
25°	3006	3023	3072	3112	3106	1390
35°	2617	2624	2685	2747	2746	1625
45°	2105	2144	2180	2236	2183	1629
55°	1574	1563	1604	1593	1593	1400
65°	967	954	991	954	960	961
75°	402	394	401	373	386	431
85°	49	48	49	48	46	71
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3536.9	3536.9	3536.9	3536.9	3536.9
2.5°	3567.4	3540.5	3515.4	3544.6	3562.4
5°	3511.7	3503.5	3513.1	3502.6	3587.1
7.5°	3439.6	3471.1	3489.4	3477.9	3483.0
10°	3401.2	3390.3	3430.9	3459.2	3455.1
12.5°	3360.1	3376.6	3378.8	3409.4	3412.2
15°	3362.4	3323.6	3344.1	3361.5	3362.9
17.5°	3231.8	3273.8	3288.0	3327.7	3278.4
20°	3215.8	3185.2	3215.8	3256.5	3250.1
22.5°	3117.6	3083.4	3149.1	3185.2	3182.9
25°	3006.2	3022.6	3072.0	3112.2	3105.8
27.5°	2908.5	2927.7	2998.0	3053.2	3017.6
30°	2833.1	2823.5	2882.9	2932.2	2959.6
32.5°	2698.4	2733.1	2802.5	2851.4	2825.4
35°	2616.7	2624.4	2685.2	2747.3	2745.5
37.5°	2473.7	2509.8	2595.2	2612.6	2596.6
40°	2351.8	2387.9	2465.1	2483.8	2476.0
42.5°	2261.8	2268.2	2334.5	2355.9	2321.7
45°	2105.2	2144.5	2180.1	2236.3	2183.3
47.5°	1971.9	1990.1	2066.9	2081.9	2054.1
50°	1850.9	1857.2	1934.4	1915.7	1897.4
52.5°	1698.8	1725.7	1769.1	1765.5	1744.0
55°	1573.7	1563.2	1604.3	1593.3	1592.8
57.5°	1423.4	1441.7	1475.5	1458.1	1430.3
60°	1282.8	1283.2	1295.6	1275.9	1272.3
62.5°	1126.1	1131.6	1134.3	1110.1	1149.4
65°	966.8	954.0	991.4	953.5	959.9
67.5°	820.2	826.6	822.9	799.2	808.3
70°	671.3	679.5	673.6	646.6	654.9
72.5°	535.2	525.2	531.6	497.8	513.3
75°	402.3	394.1	401.4	373.1	385.9
77.5°	274.0	280.4	275.8	260.8	269.4
80°	180.8	175.8	175.8	167.1	169.0
82.5°	105.5	100.5	99.1	96.4	100.5
85°	49.3	47.9	48.9	47.5	45.7
87.5°	17.8	18.3	18.3	17.4	16.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)