

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: P563289

Luminaire Tested: FSR-24-4-LD4-3LO-35-UNV-82-88-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563289  
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-LD4-3LO-35-UNV-82-88-EDD  
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

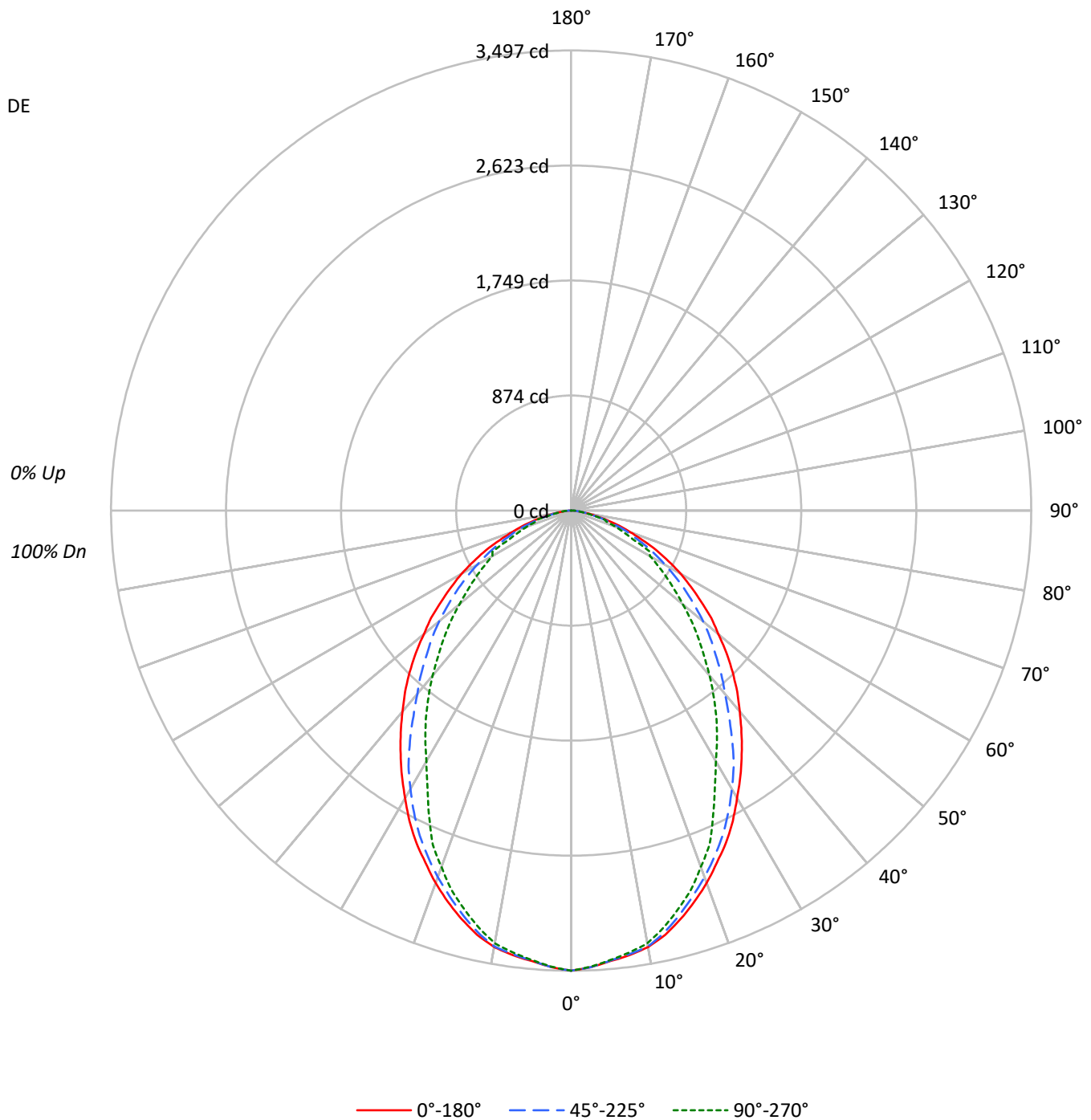
Lumens per Lamp: N/A  
Luminaire Lumens: 6865.0 lumens  
Efficiency: N/A  
Efficacy: 97.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 70.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	4705	4705	4705
5°	4641	4636	4630
10°	4601	4595	4562
15°	4477	4432	4370
20°	4312	4243	4127
25°	4135	4045	3793
30°	3919	3794	3417
35°	3712	3506	3161
40°	3501	3195	2876
45°	3300	2954	2600
50°	3055	2742	2319
55°	2826	2485	2077
60°	2589	2219	1860
65°	2278	1943	1648
70°	1876	1702	1400
75°	1492	1303	1366
80°	1003	940	877
85°	624	749	874

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3300 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	325.5	4.7
10°-20°	893.4	13.0
20°-30°	1236.8	18.0
30°-40°	1318.8	19.2
40°-50°	1203.1	17.5
50°-60°	942.5	13.7
60°-70°	614.3	8.9
70°-80°	272.2	4.0
80°-90°	58.4	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°	2455.7	35.8
0°-40°	3774.4	55.0
0°-60°	5920.1	86.2
0°-90°	6865.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6865.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3497	3497	3497	3497	3497	
5°	3436	3432	3432	3428	3428	326
15°	3214	3214	3182	3149	3137	904
25°	2785	2769	2725	2628	2555	1279
35°	2260	2244	2134	1973	1924	1413
45°	1734	1698	1552	1423	1366	1336
55°	1205	1168	1059	934	885	1081
65°	716	675	610	623	518	705
75°	287	267	251	238	263	308
85°	40	44	48	53	57	56
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3496.9	3496.9	3496.9	3496.9	3496.9
2.5°	3472.7	3472.7	3472.7	3468.6	3468.6
5°	3436.3	3432.3	3432.3	3428.2	3428.2
7.5°	3408.0	3404.0	3399.9	3395.9	3387.8
10°	3367.6	3367.6	3363.5	3343.3	3339.3
12.5°	3302.9	3298.8	3282.7	3254.4	3246.3
15°	3213.9	3213.9	3181.6	3149.3	3137.1
17.5°	3116.9	3112.9	3072.5	3040.1	3023.9
20°	3011.8	3003.7	2963.3	2910.7	2882.4
22.5°	2894.6	2894.6	2846.1	2777.3	2749.0
25°	2785.4	2769.3	2724.8	2627.8	2555.0
27.5°	2660.1	2635.8	2587.3	2449.9	2365.0
30°	2522.6	2510.5	2441.8	2263.9	2199.2
32.5°	2393.3	2373.1	2300.3	2114.3	2061.8
35°	2259.9	2243.7	2134.5	1972.8	1924.3
37.5°	2126.5	2106.2	1968.8	1839.4	1778.8
40°	1993.1	1968.8	1819.2	1702.0	1637.3
42.5°	1867.7	1835.4	1689.9	1564.5	1491.8
45°	1734.3	1697.9	1552.4	1423.0	1366.4
47.5°	1600.9	1568.6	1435.2	1301.8	1237.1
50°	1459.4	1431.1	1309.8	1176.4	1107.7
52.5°	1342.2	1297.7	1180.5	1047.1	990.5
55°	1204.7	1168.3	1059.2	933.9	885.4
57.5°	1079.4	1043.0	942.0	824.7	784.3
60°	962.2	909.6	824.7	723.6	691.3
62.5°	832.8	792.4	719.6	634.7	675.1
65°	715.6	675.1	610.4	622.6	517.5
67.5°	586.2	566.0	509.4	452.8	436.6
70°	477.0	452.8	432.6	371.9	355.8
72.5°	380.0	355.8	327.5	295.1	283.0
75°	287.0	266.8	250.6	238.5	262.8
77.5°	198.1	190.0	177.9	165.8	161.7
80°	129.4	125.3	121.3	117.2	113.2
82.5°	76.8	76.8	76.8	76.8	76.8
85°	40.4	44.5	48.5	52.6	56.6
87.5°	24.3	24.3	28.3	32.3	36.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)