

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: P563280

Luminaire Tested: FSR-24-4-LD4-3LO-35-UNV-82-84-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563280  
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-82-84-EDD-90  
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

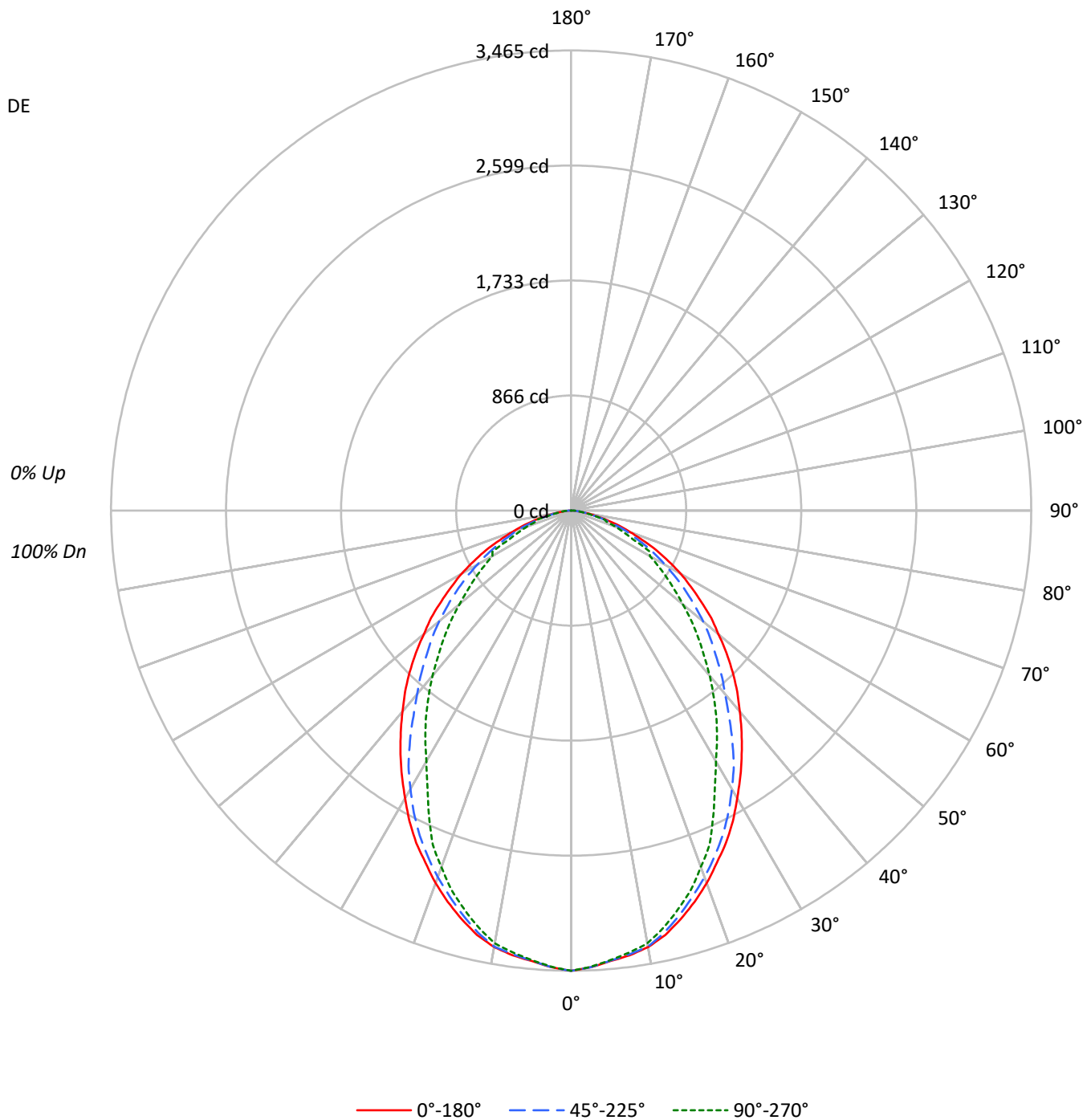
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6803.0 lumens  
Efficiency: N/A  
Efficacy: 96.9 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	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°	4663	4663	4663
5°	4599	4594	4588
10°	4559	4554	4521
15°	4436	4392	4330
20°	4273	4205	4090
25°	4098	4009	3759
30°	3884	3759	3386
35°	3678	3474	3132
40°	3469	3166	2850
45°	3270	2927	2577
50°	3027	2717	2298
55°	2800	2462	2058
60°	2566	2199	1844
65°	2258	1926	1633
70°	1860	1686	1387
75°	1478	1291	1354
80°	993	931	869
85°	619	743	866

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3270 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	322.6	4.7
10°-20°	885.3	13.0
20°-30°	1225.6	18.0
30°-40°	1306.9	19.2
40°-50°	1192.3	17.5
50°-60°	934.0	13.7
60°-70°	608.8	8.9
70°-80°	269.7	4.0
80°-90°	57.9	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°	2433.5	35.8
0°-40°	3740.4	55.0
0°-60°	5866.6	86.2
0°-90°	6803.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6803.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3465	3465	3465	3465	3465	
5°	3405	3401	3401	3397	3397	323
15°	3185	3185	3153	3121	3109	895
25°	2760	2744	2700	2604	2532	1267
35°	2240	2223	2115	1955	1907	1400
45°	1719	1683	1538	1410	1354	1324
55°	1194	1158	1050	925	877	1071
65°	709	669	605	617	513	699
75°	284	264	248	236	260	305
85°	40	44	48	52	56	56
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3465.4	3465.4	3465.4	3465.4	3465.4
2.5°	3441.3	3441.3	3441.3	3437.3	3437.3
5°	3405.3	3401.3	3401.3	3397.3	3397.3
7.5°	3377.2	3373.2	3369.2	3365.2	3357.2
10°	3337.2	3337.2	3333.2	3313.1	3309.1
12.5°	3273.1	3269.1	3253.0	3225.0	3217.0
15°	3184.9	3184.9	3152.9	3120.8	3108.8
17.5°	3088.8	3084.8	3044.7	3012.7	2996.6
20°	2984.6	2976.6	2936.5	2884.5	2856.4
22.5°	2868.4	2868.4	2820.4	2752.3	2724.2
25°	2760.3	2744.2	2700.2	2604.0	2531.9
27.5°	2636.1	2612.0	2564.0	2427.8	2343.6
30°	2499.9	2487.8	2419.7	2243.5	2179.4
32.5°	2371.7	2351.6	2279.5	2095.2	2043.2
35°	2239.5	2223.4	2115.3	1955.0	1906.9
37.5°	2107.3	2087.2	1951.0	1822.8	1762.7
40°	1975.1	1951.0	1802.8	1686.6	1622.5
42.5°	1850.9	1818.8	1674.6	1550.4	1478.3
45°	1718.7	1682.6	1538.4	1410.2	1354.1
47.5°	1586.5	1554.4	1422.2	1290.0	1225.9
50°	1446.2	1418.2	1298.0	1165.8	1097.7
52.5°	1330.1	1286.0	1169.8	1037.6	981.5
55°	1193.8	1157.8	1049.6	925.4	877.4
57.5°	1069.7	1033.6	933.4	817.3	777.2
60°	953.5	901.4	817.3	717.1	685.1
62.5°	825.3	785.2	713.1	629.0	669.0
65°	709.1	669.0	604.9	617.0	512.8
67.5°	580.9	560.9	504.8	448.7	432.7
70°	472.7	448.7	428.7	368.6	352.5
72.5°	376.6	352.5	324.5	292.5	280.4
75°	284.4	264.4	248.4	236.4	260.4
77.5°	196.3	188.3	176.3	164.3	160.2
80°	128.2	124.2	120.2	116.2	112.2
82.5°	76.1	76.1	76.1	76.1	76.1
85°	40.1	44.1	48.1	52.1	56.1
87.5°	24.0	24.0	28.0	32.0	36.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)