

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: P563254

Luminaire Tested: FSR-24-4-LD4-3LO-35-UNV-80-87-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563254  
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-80-87-EDD-90  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR PC ENVIRONM  
SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

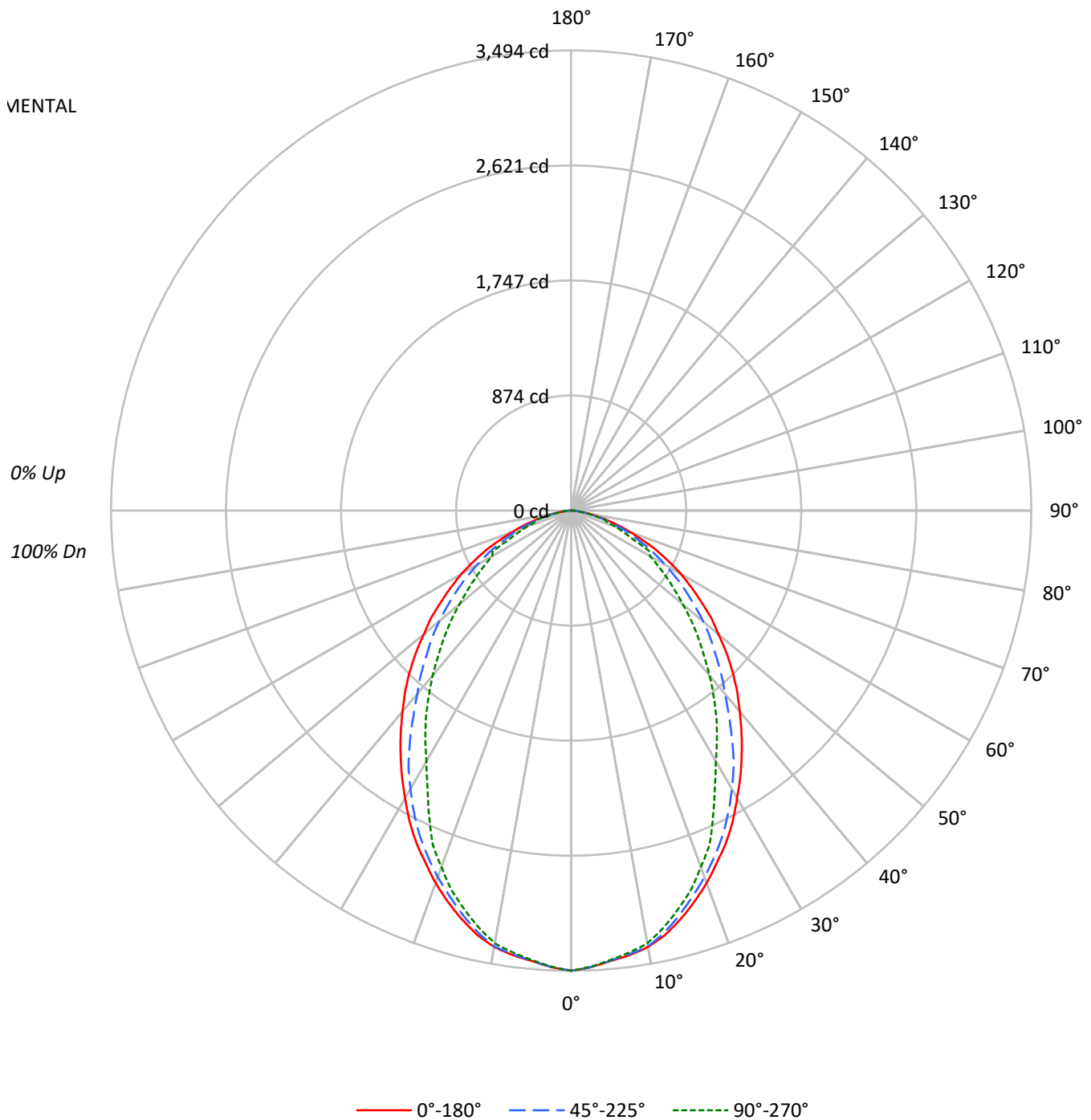
Lumens per Lamp: N/A  
Luminaire Lumens: 6859.0 lumens  
Efficiency: N/A  
Efficacy: 97.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 70.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	4701	4701	4701
5°	4637	4632	4626
10°	4597	4591	4558
15°	4473	4428	4366
20°	4309	4239	4124
25°	4132	4042	3790
30°	3916	3790	3414
35°	3709	3503	3158
40°	3498	3192	2873
45°	3297	2951	2598
50°	3052	2739	2317
55°	2824	2483	2075
60°	2587	2217	1859
65°	2276	1942	1646
70°	1875	1700	1398
75°	1491	1302	1365
80°	1002	939	876
85°	624	749	872

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3297 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	325.2	4.7
10°-20°	892.6	13.0
20°-30°	1235.7	18.0
30°-40°	1317.6	19.2
40°-50°	1202.1	17.5
50°-60°	941.7	13.7
60°-70°	613.8	8.9
70°-80°	271.9	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°	2453.5	35.8
0°-40°	3771.1	55.0
0°-60°	5914.9	86.2
0°-90°	6859.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6859.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3494	3494	3494	3494	3494	
5°	3433	3429	3429	3425	3425	326
15°	3211	3211	3179	3146	3134	903
25°	2783	2767	2722	2626	2553	1278
35°	2258	2242	2133	1971	1923	1412
45°	1733	1696	1551	1422	1365	1335
55°	1204	1167	1058	933	885	1080
65°	715	674	610	622	517	705
75°	287	267	250	238	262	307
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°	3493.9	3493.9	3493.9	3493.9	3493.9
2.5°	3469.6	3469.6	3469.6	3465.6	3465.6
5°	3433.3	3429.3	3429.3	3425.2	3425.2
7.5°	3405.0	3401.0	3396.9	3392.9	3384.8
10°	3364.6	3364.6	3360.6	3340.4	3336.4
12.5°	3300.0	3296.0	3279.8	3251.5	3243.5
15°	3211.1	3211.1	3178.8	3146.5	3134.4
17.5°	3114.2	3110.2	3069.8	3037.5	3021.3
20°	3009.2	3001.1	2960.7	2908.2	2879.9
22.5°	2892.0	2892.0	2843.6	2774.9	2746.6
25°	2783.0	2766.8	2722.4	2625.5	2552.8
27.5°	2657.8	2633.5	2585.1	2447.7	2362.9
30°	2520.4	2508.3	2439.7	2261.9	2197.3
32.5°	2391.2	2371.0	2298.3	2112.5	2060.0
35°	2257.9	2241.7	2132.7	1971.1	1922.6
37.5°	2124.6	2104.4	1967.1	1837.8	1777.2
40°	1991.3	1967.1	1817.6	1700.5	1635.9
42.5°	1866.1	1833.8	1688.4	1563.2	1490.5
45°	1732.8	1696.5	1551.0	1421.8	1365.2
47.5°	1599.5	1567.2	1433.9	1300.6	1236.0
50°	1458.1	1429.9	1308.7	1175.4	1106.7
52.5°	1341.0	1296.6	1179.4	1046.1	989.6
55°	1203.7	1167.3	1058.3	933.0	884.6
57.5°	1078.5	1042.1	941.1	824.0	783.6
60°	961.3	908.8	824.0	723.0	690.7
62.5°	832.1	791.7	719.0	634.1	674.5
65°	714.9	674.5	609.9	622.0	517.0
67.5°	585.7	565.5	508.9	452.4	436.2
70°	476.6	452.4	432.2	371.6	355.4
72.5°	379.7	355.4	327.2	294.9	282.7
75°	286.8	266.6	250.4	238.3	262.5
77.5°	197.9	189.8	177.7	165.6	161.6
80°	129.3	125.2	121.2	117.1	113.1
82.5°	76.7	76.7	76.7	76.7	76.7
85°	40.4	44.4	48.5	52.5	56.5
87.5°	24.2	24.2	28.3	32.3	36.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)