

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: P563252

Luminaire Tested: FSR-24-4-LD4-3LO-35-UNV-80-86-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563252  
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-80-86-EDD-90  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRONM  
SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

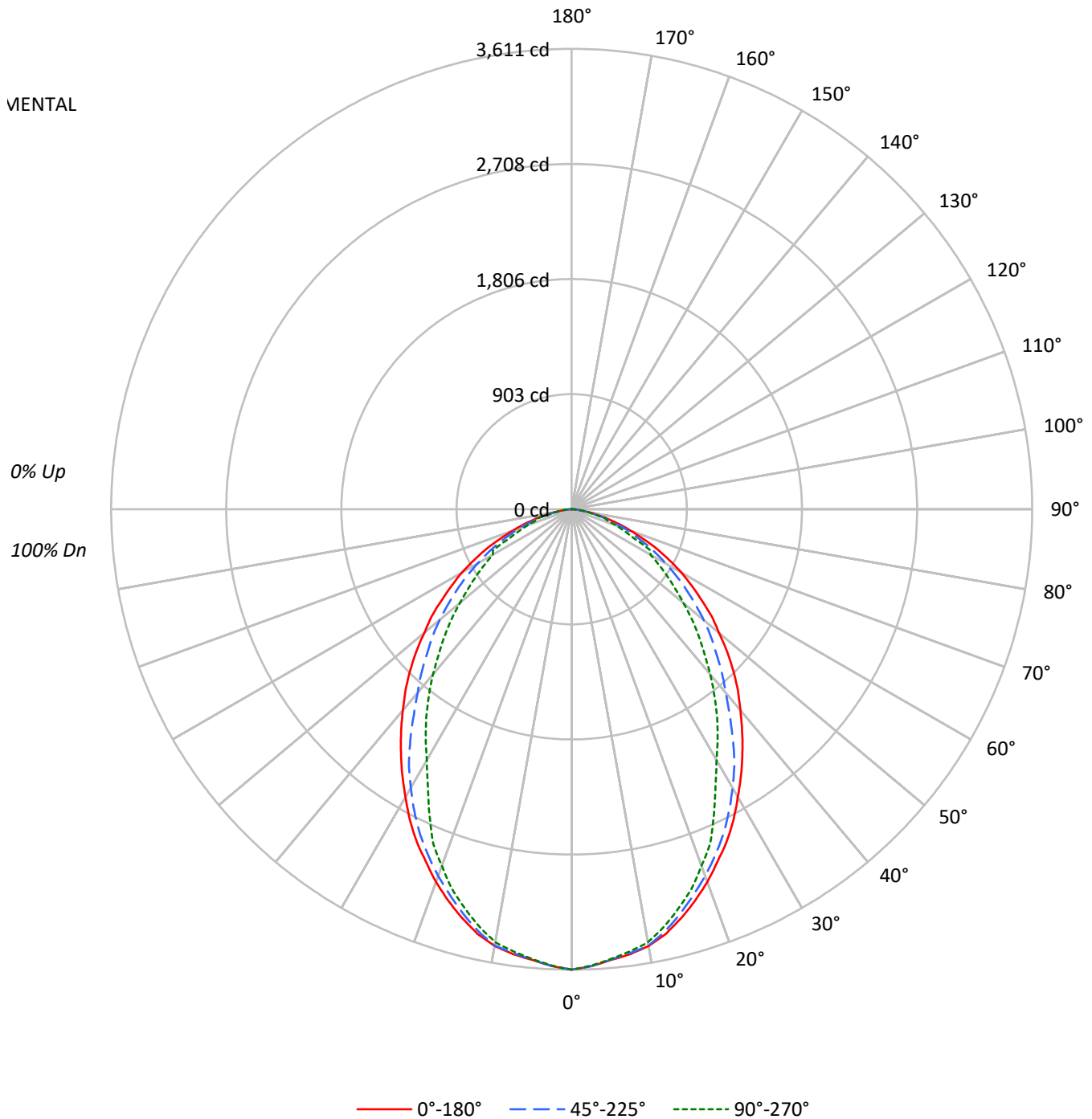
Lumens per Lamp: N/A  
Luminaire Lumens: 7089.0 lumens  
Efficiency: N/A  
Efficacy: 101.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 70.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	4859	4859	4859
5°	4793	4787	4781
10°	4751	4745	4711
15°	4623	4576	4512
20°	4453	4381	4262
25°	4270	4177	3917
30°	4047	3917	3528
35°	3833	3620	3264
40°	3615	3300	2970
45°	3408	3050	2685
50°	3154	2831	2394
55°	2918	2566	2145
60°	2674	2292	1921
65°	2352	2007	1701
70°	1938	1757	1445
75°	1541	1345	1410
80°	1035	970	906
85°	644	773	902

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3408 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	336.1	4.7
10°-20°	922.5	13.0
20°-30°	1277.1	18.0
30°-40°	1361.8	19.2
40°-50°	1242.4	17.5
50°-60°	973.3	13.7
60°-70°	634.4	8.9
70°-80°	281.0	4.0
80°-90°	60.3	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°	2535.8	35.8
0°-40°	3897.6	55.0
0°-60°	6113.3	86.2
0°-90°	7089.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7089.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3611	3611	3611	3611	3611	
5°	3548	3544	3544	3540	3540	337
15°	3319	3319	3285	3252	3240	933
25°	2876	2860	2814	2714	2638	1321
35°	2334	2317	2204	2037	1987	1459
45°	1791	1753	1603	1470	1411	1380
55°	1244	1206	1094	964	914	1116
65°	739	697	630	643	534	728
75°	296	276	259	246	271	318
85°	42	46	50	54	58	58
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3611.0	3611.0	3611.0	3611.0	3611.0
2.5°	3586.0	3586.0	3586.0	3581.8	3581.8
5°	3548.4	3544.2	3544.2	3540.1	3540.1
7.5°	3519.2	3515.0	3510.9	3506.7	3498.3
10°	3477.5	3477.5	3473.3	3452.4	3448.2
12.5°	3410.7	3406.5	3389.8	3360.6	3352.2
15°	3318.8	3318.8	3285.4	3252.0	3239.5
17.5°	3218.6	3214.5	3172.7	3139.3	3122.6
20°	3110.1	3101.7	3060.0	3005.7	2976.5
22.5°	2989.0	2989.0	2938.9	2868.0	2838.7
25°	2876.3	2859.6	2813.7	2713.5	2638.4
27.5°	2746.9	2721.8	2671.8	2529.8	2442.1
30°	2605.0	2592.4	2521.5	2337.8	2271.0
32.5°	2471.4	2450.5	2375.4	2183.3	2129.1
35°	2333.6	2316.9	2204.2	2037.2	1987.1
37.5°	2195.8	2175.0	2033.0	1899.4	1836.8
40°	2058.1	2033.0	1878.6	1757.5	1690.7
42.5°	1928.7	1895.3	1745.0	1615.6	1540.4
45°	1790.9	1753.3	1603.1	1469.5	1411.0
47.5°	1653.1	1619.8	1482.0	1344.2	1277.4
50°	1507.0	1477.8	1352.6	1214.8	1143.8
52.5°	1386.0	1340.1	1219.0	1081.2	1022.8
55°	1244.0	1206.5	1093.7	964.3	914.2
57.5°	1114.6	1077.1	972.7	851.6	809.9
60°	993.6	939.3	851.6	747.3	713.9
62.5°	860.0	818.2	743.1	655.4	697.2
65°	738.9	697.2	630.4	642.9	534.4
67.5°	605.3	584.4	526.0	467.6	450.9
70°	492.6	467.6	446.7	384.1	367.4
72.5°	392.4	367.4	338.1	304.7	292.2
75°	296.4	275.5	258.8	246.3	271.3
77.5°	204.6	196.2	183.7	171.2	167.0
80°	133.6	129.4	125.2	121.1	116.9
82.5°	79.3	79.3	79.3	79.3	79.3
85°	41.7	45.9	50.1	54.3	58.4
87.5°	25.0	25.0	29.2	33.4	37.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)