

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: P563324

Luminaire Tested: FSR-24-4-LD4-3LO-40-UNV-80-96-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563324  
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-40-UNV-80-96-EDD-90  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

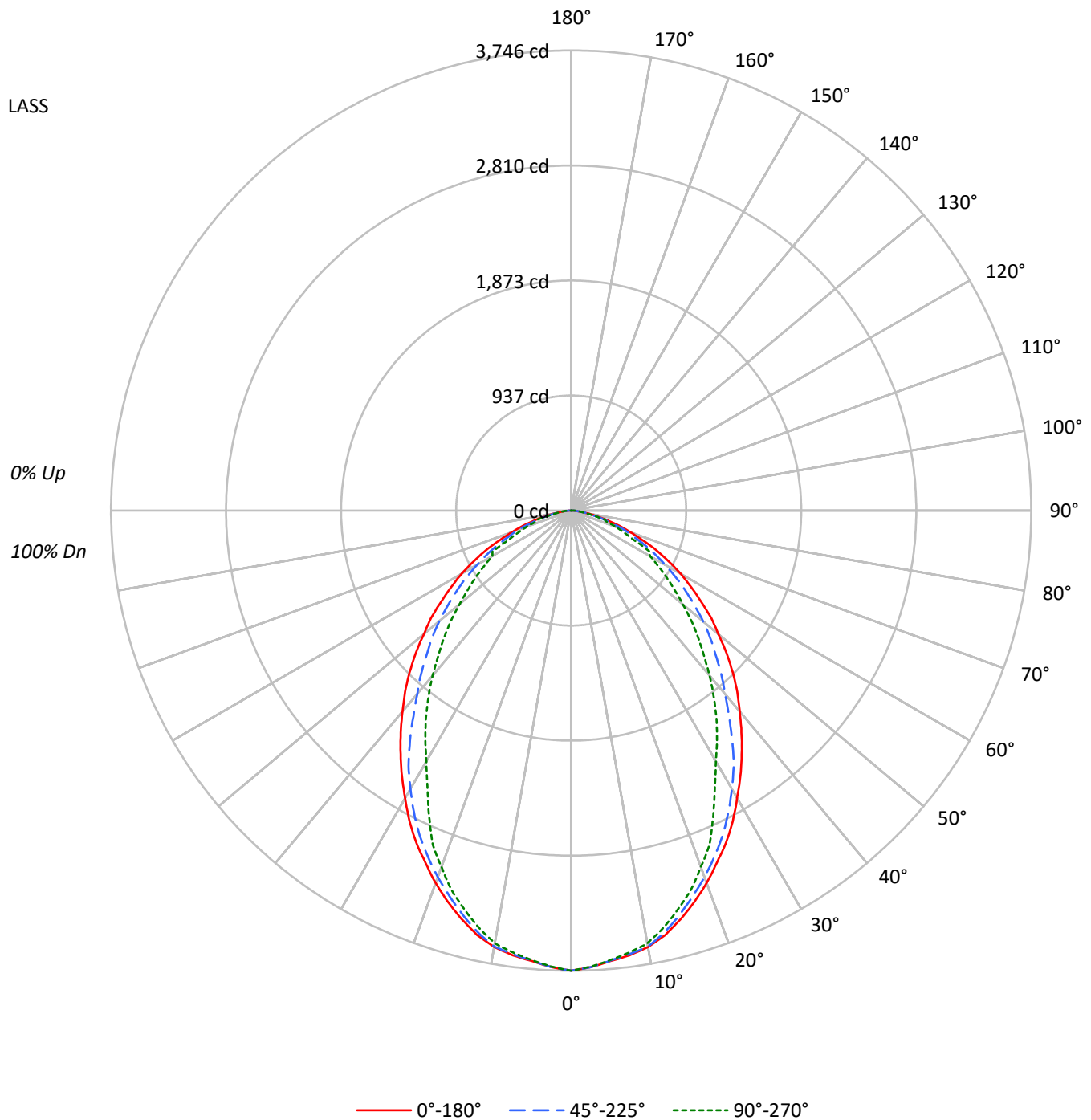
Lumens per Lamp: N/A  
Luminaire Lumens: 7354.0 lumens  
Efficiency: N/A  
Efficacy: 104.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 70.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	5040	5040	5040
5°	4972	4966	4960
10°	4929	4923	4887
15°	4796	4747	4681
20°	4620	4545	4421
25°	4430	4333	4063
30°	4198	4064	3660
35°	3976	3756	3386
40°	3750	3423	3081
45°	3535	3164	2785
50°	3273	2937	2484
55°	3027	2662	2225
60°	2774	2377	1993
65°	2440	2082	1765
70°	2010	1823	1499
75°	1599	1396	1463
80°	1074	1007	940
85°	668	803	936

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3535 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	348.7	4.7
10°-20°	957.0	13.0
20°-30°	1324.9	18.0
30°-40°	1412.7	19.2
40°-50°	1288.8	17.5
50°-60°	1009.7	13.7
60°-70°	658.1	8.9
70°-80°	291.5	4.0
80°-90°	62.6	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°	2630.6	35.8
0°-40°	4043.3	55.0
0°-60°	6341.8	86.2
0°-90°	7354.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7354.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3746	3746	3746	3746	3746	
5°	3681	3677	3677	3672	3672	349
15°	3443	3443	3408	3374	3361	968
25°	2984	2966	2919	2815	2737	1370
35°	2421	2404	2287	2113	2061	1513
45°	1858	1819	1663	1524	1464	1431
55°	1290	1252	1135	1000	948	1158
65°	766	723	654	667	554	755
75°	308	286	268	256	282	330
85°	43	48	52	56	61	60
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3746.0	3746.0	3746.0	3746.0	3746.0
2.5°	3720.0	3720.0	3720.0	3715.7	3715.7
5°	3681.1	3676.7	3676.7	3672.4	3672.4
7.5°	3650.8	3646.4	3642.1	3637.8	3629.1
10°	3607.4	3607.4	3603.1	3581.5	3577.1
12.5°	3538.2	3533.8	3516.5	3486.2	3477.5
15°	3442.9	3442.9	3408.2	3373.6	3360.6
17.5°	3338.9	3334.6	3291.3	3256.7	3239.3
20°	3226.3	3217.7	3174.4	3118.1	3087.8
22.5°	3100.8	3100.8	3048.8	2975.2	2944.9
25°	2983.8	2966.5	2918.9	2814.9	2737.0
27.5°	2849.6	2823.6	2771.6	2624.4	2533.4
30°	2702.3	2689.3	2615.7	2425.2	2355.9
32.5°	2563.8	2542.1	2464.2	2264.9	2208.6
35°	2420.8	2403.5	2286.6	2113.4	2061.4
37.5°	2277.9	2256.3	2109.0	1970.5	1905.5
40°	2135.0	2109.0	1948.8	1823.2	1753.9
42.5°	2000.8	1966.1	1810.2	1676.0	1598.0
45°	1857.9	1818.9	1663.0	1524.4	1463.8
47.5°	1714.9	1680.3	1537.4	1394.5	1325.2
50°	1563.4	1533.1	1403.1	1260.2	1186.6
52.5°	1437.8	1390.1	1264.6	1121.6	1061.0
55°	1290.5	1251.6	1134.6	1000.4	948.4
57.5°	1156.3	1117.3	1009.0	883.5	840.1
60°	1030.7	974.4	883.5	775.2	740.5
62.5°	892.1	848.8	770.9	679.9	723.2
65°	766.5	723.2	653.9	666.9	554.3
67.5°	627.9	606.3	545.7	485.0	467.7
70°	511.0	485.0	463.4	398.4	381.1
72.5°	407.1	381.1	350.8	316.1	303.1
75°	307.5	285.8	268.5	255.5	281.5
77.5°	212.2	203.5	190.5	177.6	173.2
80°	138.6	134.3	129.9	125.6	121.3
82.5°	82.3	82.3	82.3	82.3	82.3
85°	43.3	47.6	52.0	56.3	60.6
87.5°	26.0	26.0	30.3	34.6	39.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)