

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: P563002

Luminaire Tested: FSR-24-4-LD4-2STD-50-UNV-80-94-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563002  
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-LD4-2STD-50-UNV-80-94-EDD-90  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

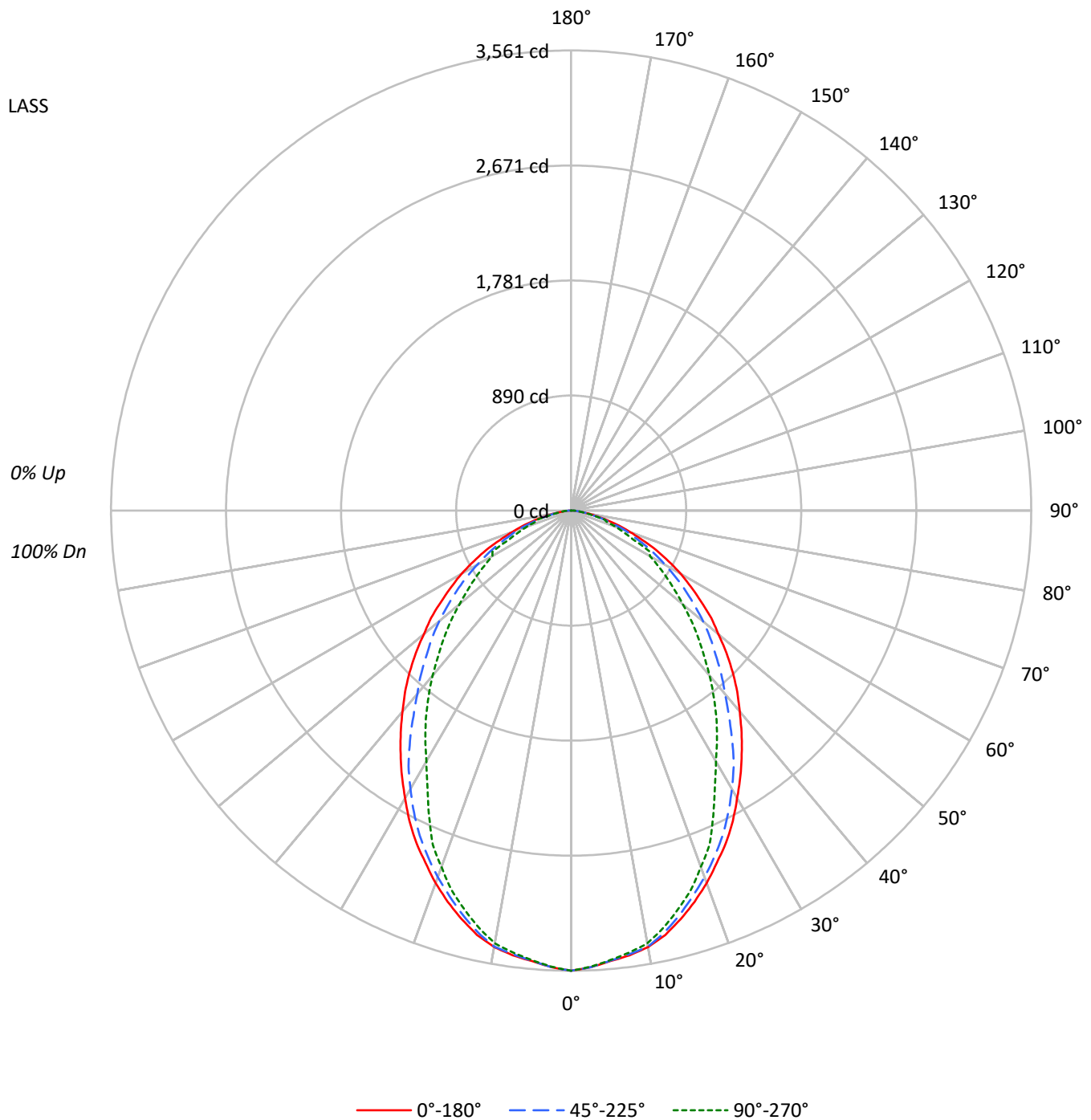
Lumens per Lamp: N/A  
Luminaire Lumens: 6991.0 lumens  
Efficiency: N/A  
Efficacy: 105.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	4791	4791	4791
5°	4726	4721	4715
10°	4685	4680	4646
15°	4559	4513	4450
20°	4392	4321	4203
25°	4211	4119	3863
30°	3991	3863	3480
35°	3780	3570	3219
40°	3565	3254	2928
45°	3361	3008	2648
50°	3111	2792	2361
55°	2878	2530	2115
60°	2637	2260	1894
65°	2320	1979	1678
70°	1911	1733	1425
75°	1520	1327	1391
80°	1020	957	893
85°	636	763	889

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3361 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	331.5	4.7
10°-20°	909.8	13.0
20°-30°	1259.5	18.0
30°-40°	1343.0	19.2
40°-50°	1225.2	17.5
50°-60°	959.8	13.7
60°-70°	625.6	8.9
70°-80°	277.2	4.0
80°-90°	59.5	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°	2500.7	35.8
0°-40°	3843.7	55.0
0°-60°	6028.7	86.2
0°-90°	6991.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6991.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3561	3561	3561	3561	3561	
5°	3499	3495	3495	3491	3491	332
15°	3273	3273	3240	3207	3195	920
25°	2836	2820	2775	2676	2602	1302
35°	2301	2285	2174	2009	1960	1439
45°	1766	1729	1581	1449	1392	1360
55°	1227	1190	1079	951	902	1100
65°	729	688	622	634	527	718
75°	292	272	255	243	268	313
85°	41	45	49	54	58	57
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3561.1	3561.1	3561.1	3561.1	3561.1
2.5°	3536.4	3536.4	3536.4	3532.3	3532.3
5°	3499.4	3495.3	3495.3	3491.1	3491.1
7.5°	3470.6	3466.4	3462.3	3458.2	3450.0
10°	3429.4	3429.4	3425.3	3404.7	3400.6
12.5°	3363.5	3359.4	3342.9	3314.1	3305.9
15°	3272.9	3272.9	3240.0	3207.1	3194.7
17.5°	3174.1	3170.0	3128.8	3095.9	3079.4
20°	3067.1	3058.9	3017.7	2964.2	2935.4
22.5°	2947.7	2947.7	2898.3	2828.3	2799.5
25°	2836.5	2820.1	2774.8	2676.0	2601.9
27.5°	2708.9	2684.2	2634.8	2494.8	2408.4
30°	2568.9	2556.6	2486.6	2305.5	2239.6
32.5°	2437.2	2416.6	2342.5	2153.1	2099.6
35°	2301.3	2284.9	2173.7	2009.0	1959.6
37.5°	2165.5	2144.9	2004.9	1873.2	1811.4
40°	2029.6	2004.9	1852.6	1733.2	1667.3
42.5°	1902.0	1869.1	1720.9	1593.2	1519.1
45°	1766.2	1729.1	1580.9	1449.2	1391.5
47.5°	1630.3	1597.4	1461.5	1325.6	1259.8
50°	1486.2	1457.4	1333.9	1198.0	1128.0
52.5°	1366.8	1321.5	1202.1	1066.3	1008.6
55°	1226.8	1189.8	1078.6	951.0	901.6
57.5°	1099.2	1062.2	959.2	839.8	798.7
60°	979.8	926.3	839.8	736.9	704.0
62.5°	848.1	806.9	732.8	646.4	687.5
65°	728.7	687.5	621.7	634.0	527.0
67.5°	597.0	576.4	518.7	461.1	444.6
70°	485.8	461.1	440.5	378.8	362.3
72.5°	387.0	362.3	333.5	300.5	288.2
75°	292.3	271.7	255.2	242.9	267.6
77.5°	201.7	193.5	181.1	168.8	164.7
80°	131.7	127.6	123.5	119.4	115.3
82.5°	78.2	78.2	78.2	78.2	78.2
85°	41.2	45.3	49.4	53.5	57.6
87.5°	24.7	24.7	28.8	32.9	37.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)