

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: P564090

Luminaire Tested: FSR-24-4-LD4-4STD-40-UNV-80-94-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P564090  
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-LD4-4STD-40-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 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

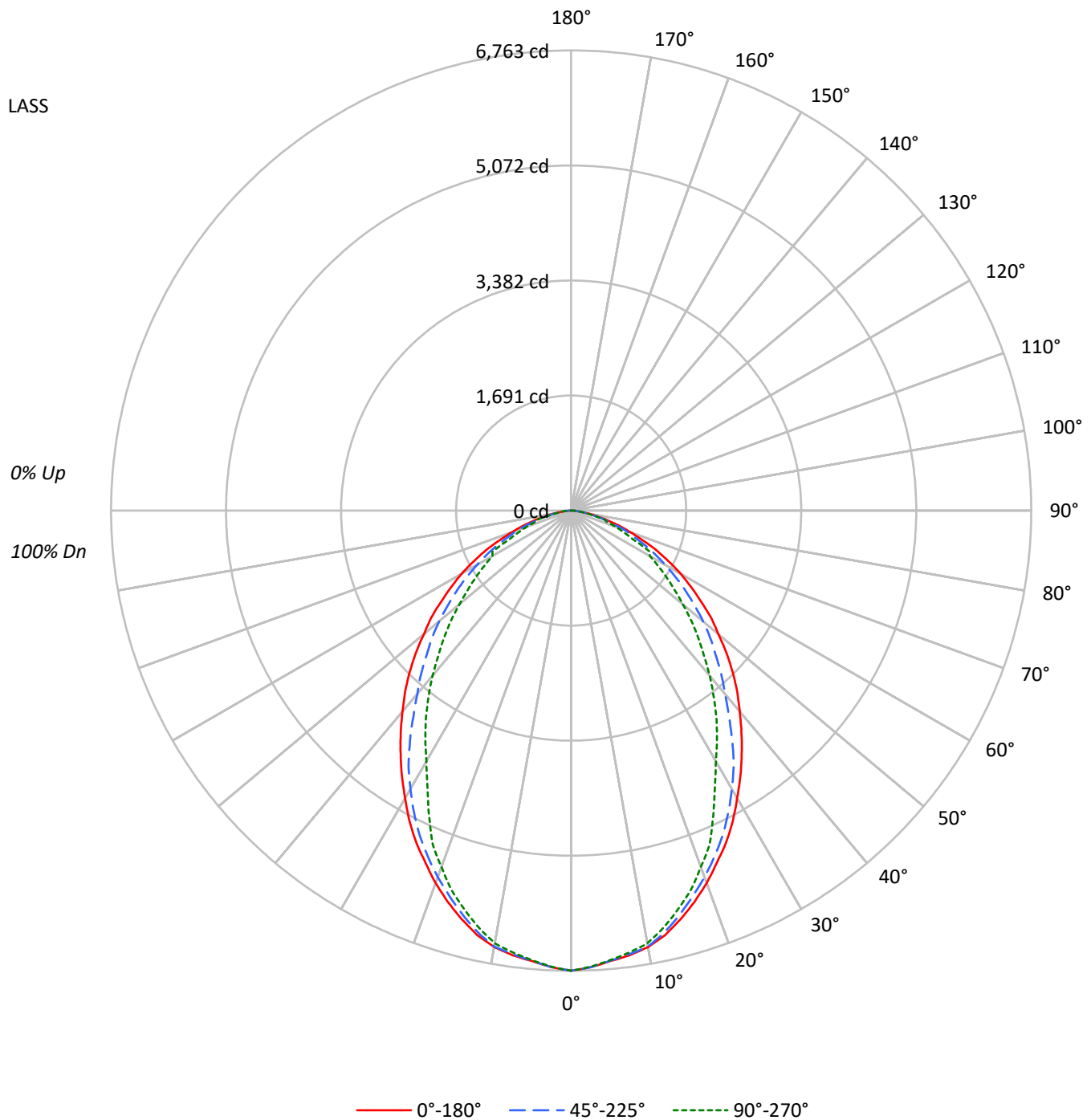
Lumens per Lamp: N/A  
Luminaire Lumens: 13277.0 lumens  
Efficiency: N/A  
Efficacy: 99.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 133.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	9100	9100	9100
5°	8976	8965	8955
10°	8898	8888	8823
15°	8658	8571	8451
20°	8340	8206	7982
25°	7997	7823	7336
30°	7580	7337	6608
35°	7179	6781	6113
40°	6770	6180	5562
45°	6382	5713	5029
50°	5908	5303	4484
55°	5466	4805	4017
60°	5007	4292	3598
65°	4406	3759	3186
70°	3629	3291	2707
75°	2886	2520	2642
80°	1939	1818	1696
85°	1207	1448	1690

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6382 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	629.6	4.7
10°-20°	1727.8	13.0
20°-30°	2392.0	18.0
30°-40°	2550.5	19.2
40°-50°	2326.8	17.5
50°-60°	1822.9	13.7
60°-70°	1188.1	8.9
70°-80°	526.4	4.0
80°-90°	113.0	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°	4749.3	35.8
0°-40°	7299.8	55.0
0°-60°	11449.5	86.2
0°-90°	13277.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13277.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	6763	6763	6763	6763	6763	
5°	6646	6638	6638	6630	6630	631
15°	6216	6216	6153	6091	6067	1747
25°	5387	5356	5270	5082	4941	2473
35°	4371	4339	4128	3816	3722	2732
45°	3354	3284	3002	2752	2643	2584
55°	2330	2260	2048	1806	1712	2090
65°	1384	1306	1181	1204	1001	1364
75°	555	516	485	461	508	595
85°	78	86	94	102	110	108
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	6763.1	6763.1	6763.1	6763.1	6763.1
2.5°	6716.2	6716.2	6716.2	6708.4	6708.4
5°	6645.8	6638.0	6638.0	6630.2	6630.2
7.5°	6591.1	6583.3	6575.5	6567.7	6552.0
10°	6512.9	6512.9	6505.1	6466.0	6458.2
12.5°	6387.8	6380.0	6348.7	6294.0	6278.4
15°	6215.8	6215.8	6153.3	6090.7	6067.3
17.5°	6028.2	6020.4	5942.2	5879.6	5848.3
20°	5824.9	5809.3	5731.1	5629.4	5574.7
22.5°	5598.1	5598.1	5504.3	5371.4	5316.7
25°	5387.0	5355.8	5269.8	5082.1	4941.4
27.5°	5144.7	5097.8	5003.9	4738.1	4573.9
30°	4878.8	4855.4	4722.5	4378.4	4253.3
32.5°	4628.6	4589.5	4448.8	4089.2	3987.5
35°	4370.6	4339.3	4128.2	3815.5	3721.7
37.5°	4112.6	4073.5	3807.7	3557.5	3440.2
40°	3854.6	3807.7	3518.4	3291.6	3166.6
42.5°	3612.2	3549.7	3268.2	3025.8	2885.1
45°	3354.2	3283.8	3002.4	2752.2	2642.7
47.5°	3096.2	3033.6	2775.6	2517.6	2392.5
50°	2822.5	2767.8	2533.2	2275.2	2142.3
52.5°	2595.8	2509.8	2283.0	2025.0	1915.6
55°	2330.0	2259.6	2048.5	1806.1	1712.3
57.5°	2087.6	2017.2	1821.7	1595.0	1516.8
60°	1860.8	1759.2	1595.0	1399.5	1337.0
62.5°	1610.6	1532.5	1391.7	1227.5	1305.7
65°	1383.9	1305.7	1180.6	1204.1	1000.8
67.5°	1133.7	1094.6	985.1	875.7	844.4
70°	922.6	875.7	836.6	719.3	688.0
72.5°	735.0	688.0	633.3	570.8	547.3
75°	555.1	516.0	484.8	461.3	508.2
77.5°	383.1	367.5	344.0	320.6	312.7
80°	250.2	242.4	234.6	226.7	218.9
82.5°	148.6	148.6	148.6	148.6	148.6
85°	78.2	86.0	93.8	101.6	109.5
87.5°	46.9	46.9	54.7	62.5	70.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)