

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: P563908

Luminaire Tested: FSR-24-4-LD4-4LO-40-UNV-81-86-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563908  
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-LD4-4LO-40-UNV-81-86-EDD-90  
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

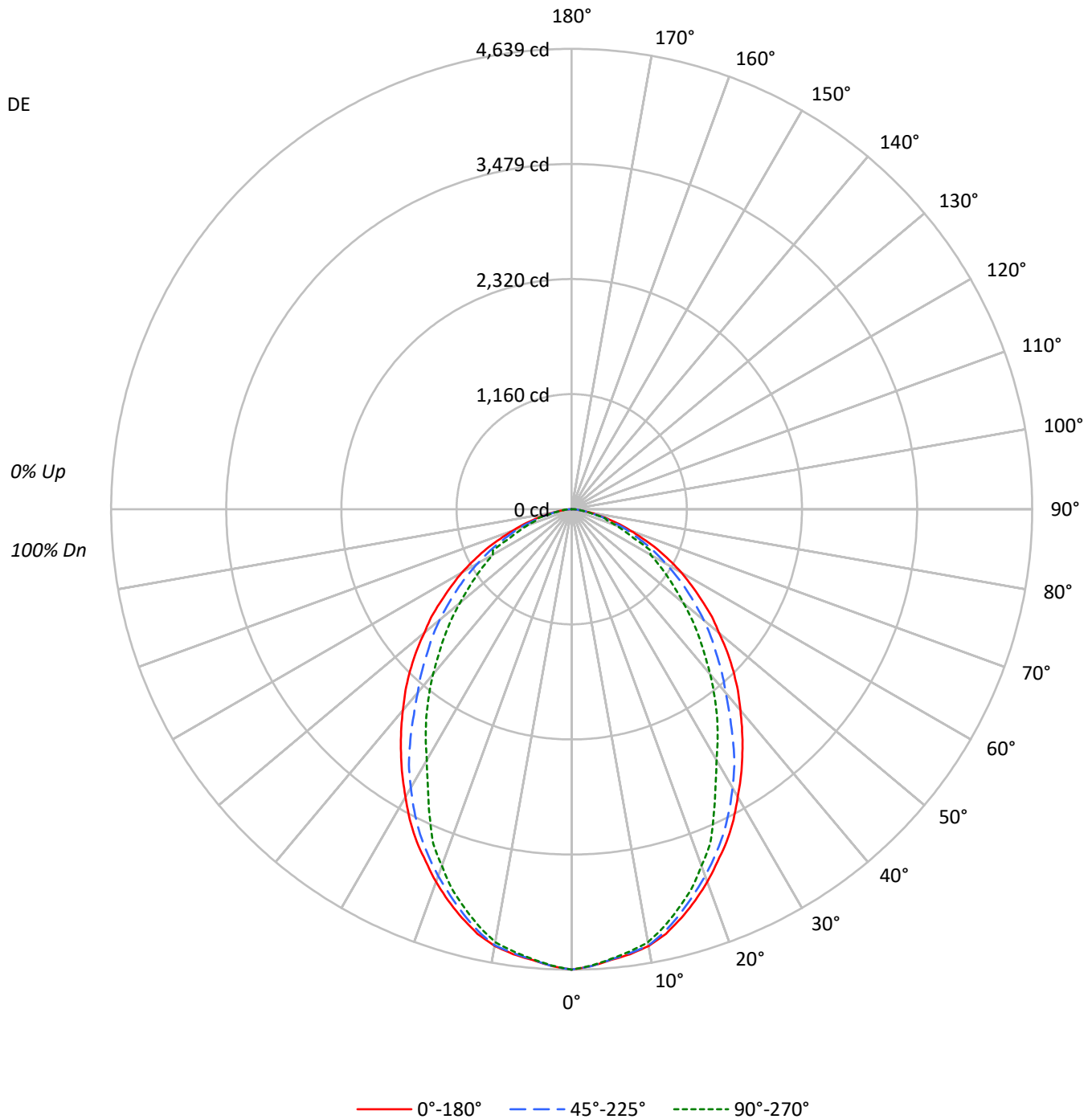
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9107.0 lumens  
Efficiency: N/A  
Efficacy: 97.3 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): 93.6  
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°	6242	6242	6242
5°	6157	6150	6142
10°	6104	6096	6052
15°	5939	5879	5797
20°	5721	5629	5475
25°	5486	5366	5032
30°	5199	5033	4533
35°	4924	4651	4193
40°	4644	4239	3815
45°	4378	3919	3449
50°	4052	3637	3076
55°	3749	3296	2755
60°	3435	2944	2468
65°	3022	2578	2186
70°	2489	2257	1856
75°	1980	1729	1812
80°	1330	1247	1164
85°	827	994	1159

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4378 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	431.8	4.7
10°-20°	1185.1	13.0
20°-30°	1640.7	18.0
30°-40°	1749.5	19.2
40°-50°	1596.0	17.5
50°-60°	1250.4	13.7
60°-70°	814.9	8.9
70°-80°	361.1	4.0
80°-90°	77.5	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°	3257.7	35.8
0°-40°	5007.1	55.0
0°-60°	7853.5	86.2
0°-90°	9107.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9107.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4639	4639	4639	4639	4639	
5°	4558	4553	4553	4548	4548	433
15°	4264	4264	4221	4178	4162	1199
25°	3695	3674	3615	3486	3389	1696
35°	2998	2976	2832	2617	2553	1874
45°	2301	2252	2059	1888	1813	1772
55°	1598	1550	1405	1239	1174	1433
65°	949	896	810	826	686	935
75°	381	354	332	316	349	408
85°	54	59	64	70	75	74
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4639.0	4639.0	4639.0	4639.0	4639.0
2.5°	4606.8	4606.8	4606.8	4601.4	4601.4
5°	4558.5	4553.2	4553.2	4547.8	4547.8
7.5°	4521.0	4515.6	4510.3	4504.9	4494.2
10°	4467.4	4467.4	4462.0	4435.2	4429.8
12.5°	4381.6	4376.2	4354.7	4317.2	4306.5
15°	4263.6	4263.6	4220.7	4177.8	4161.7
17.5°	4134.9	4129.5	4075.9	4033.0	4011.5
20°	3995.4	3984.7	3931.1	3861.4	3823.8
22.5°	3839.9	3839.9	3775.5	3684.4	3646.8
25°	3695.1	3673.6	3614.7	3485.9	3389.4
27.5°	3528.8	3496.7	3432.3	3250.0	3137.3
30°	3346.5	3330.4	3239.2	3003.3	2917.5
32.5°	3174.9	3148.1	3051.5	2804.8	2735.1
35°	2997.9	2976.5	2831.7	2617.1	2552.8
37.5°	2820.9	2794.1	2611.8	2440.2	2359.7
40°	2644.0	2611.8	2413.3	2257.8	2172.0
42.5°	2477.7	2434.8	2241.7	2075.5	1978.9
45°	2300.7	2252.5	2059.4	1887.8	1812.7
47.5°	2123.7	2080.8	1903.9	1726.9	1641.1
50°	1936.0	1898.5	1737.6	1560.6	1469.5
52.5°	1780.5	1721.5	1566.0	1389.0	1313.9
55°	1598.2	1549.9	1405.1	1238.9	1174.5
57.5°	1431.9	1383.7	1249.6	1094.0	1040.4
60°	1276.4	1206.7	1094.0	960.0	917.1
62.5°	1104.8	1051.1	954.6	842.0	895.6
65°	949.2	895.6	809.8	825.9	686.5
67.5°	777.6	750.8	675.7	600.7	579.2
70°	632.8	600.7	573.8	493.4	471.9
72.5°	504.1	471.9	434.4	391.5	375.4
75°	380.8	354.0	332.5	316.4	348.6
77.5°	262.8	252.1	236.0	219.9	214.5
80°	171.6	166.3	160.9	155.5	150.2
82.5°	101.9	101.9	101.9	101.9	101.9
85°	53.6	59.0	64.4	69.7	75.1
87.5°	32.2	32.2	37.5	42.9	48.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)