

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: P562503

Luminaire Tested: FSR-24-4-LD4-2HI-35-UNV-81-87-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562503  
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-LD4-2HI-35-UNV-81-87-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

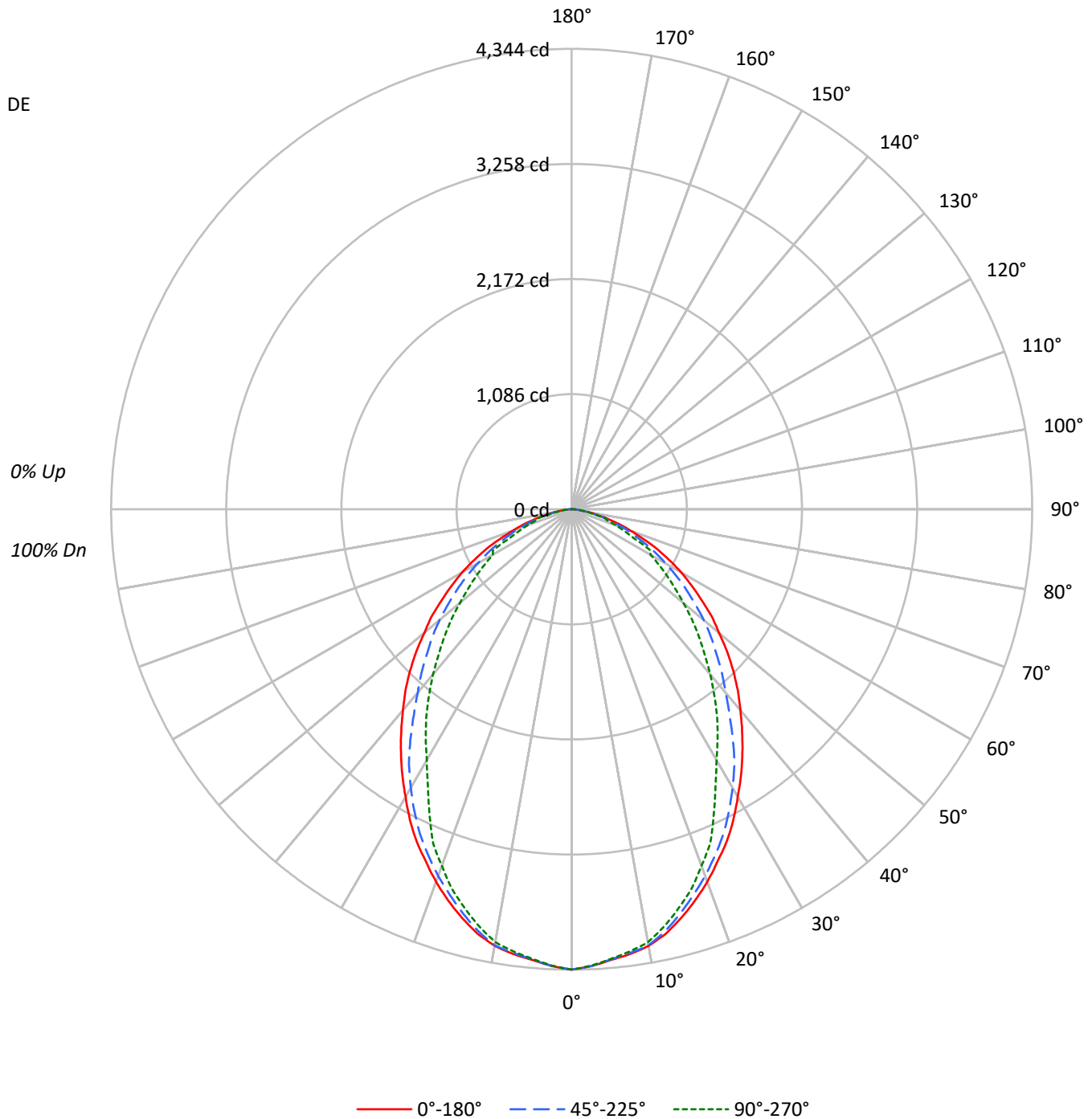
Lumens per Lamp: N/A  
Luminaire Lumens: 8527.0 lumens  
Efficiency: N/A  
Efficacy: 98.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 86.4  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	5844	5844	5844
5°	5765	5758	5751
10°	5715	5708	5667
15°	5561	5505	5428
20°	5357	5270	5126
25°	5136	5024	4711
30°	4868	4712	4244
35°	4611	4355	3926
40°	4348	3969	3572
45°	4099	3669	3229
50°	3794	3405	2880
55°	3510	3086	2580
60°	3216	2757	2311
65°	2830	2414	2046
70°	2331	2114	1738
75°	1853	1618	1697
80°	1245	1167	1089
85°	775	931	1085

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4099 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	404.3	4.7
10°-20°	1109.6	13.0
20°-30°	1536.2	18.0
30°-40°	1638.1	19.2
40°-50°	1494.4	17.5
50°-60°	1170.7	13.7
60°-70°	763.0	8.9
70°-80°	338.1	4.0
80°-90°	72.6	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°	3050.2	35.8
0°-40°	4688.2	55.0
0°-60°	7353.3	86.2
0°-90°	8527.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8527.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4344	4344	4344	4344	4344	
5°	4268	4263	4263	4258	4258	405
15°	3992	3992	3952	3912	3897	1122
25°	3460	3440	3384	3264	3174	1588
35°	2807	2787	2651	2450	2390	1755
45°	2154	2109	1928	1768	1697	1659
55°	1496	1451	1316	1160	1100	1342
65°	889	839	758	773	643	876
75°	356	331	311	296	326	382
85°	50	55	60	65	70	70
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4343.5	4343.5	4343.5	4343.5	4343.5
2.5°	4313.4	4313.4	4313.4	4308.4	4308.4
5°	4268.2	4263.2	4263.2	4258.2	4258.2
7.5°	4233.1	4228.0	4223.0	4218.0	4208.0
10°	4182.9	4182.9	4177.8	4152.7	4147.7
12.5°	4102.5	4097.5	4077.4	4042.3	4032.2
15°	3992.0	3992.0	3951.9	3911.7	3896.6
17.5°	3871.5	3866.5	3816.3	3776.1	3756.0
20°	3741.0	3730.9	3680.7	3615.4	3580.3
22.5°	3595.3	3595.3	3535.1	3449.7	3414.6
25°	3459.8	3439.7	3384.4	3263.9	3173.5
27.5°	3304.1	3274.0	3213.7	3043.0	2937.5
30°	3133.4	3118.3	3032.9	2812.0	2731.7
32.5°	2972.7	2947.6	2857.2	2626.2	2560.9
35°	2807.0	2786.9	2651.3	2450.5	2390.2
37.5°	2641.3	2616.2	2445.4	2284.8	2209.4
40°	2475.6	2445.4	2259.6	2114.0	2033.7
42.5°	2319.9	2279.7	2099.0	1943.3	1852.9
45°	2154.2	2109.0	1928.2	1767.5	1697.2
47.5°	1988.5	1948.3	1782.6	1616.9	1536.6
50°	1812.7	1777.6	1626.9	1461.2	1375.9
52.5°	1667.1	1611.9	1466.3	1300.6	1230.3
55°	1496.4	1451.2	1315.6	1160.0	1099.7
57.5°	1340.7	1295.5	1170.0	1024.4	974.2
60°	1195.1	1129.8	1024.4	898.8	858.7
62.5°	1034.4	984.2	893.8	788.4	838.6
65°	888.8	838.6	758.2	773.3	642.7
67.5°	728.1	703.0	632.7	562.4	542.3
70°	592.5	562.4	537.3	462.0	441.9
72.5°	472.0	441.9	406.7	366.6	351.5
75°	356.5	331.4	311.3	296.3	326.4
77.5°	246.1	236.0	220.9	205.9	200.9
80°	160.7	155.7	150.6	145.6	140.6
82.5°	95.4	95.4	95.4	95.4	95.4
85°	50.2	55.2	60.3	65.3	70.3
87.5°	30.1	30.1	35.2	40.2	45.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)