

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: P563141

Luminaire Tested: FSR-24-4-LD4-3HI-40-UNV-81-86-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563141  
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-LD4-3HI-40-UNV-81-86-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

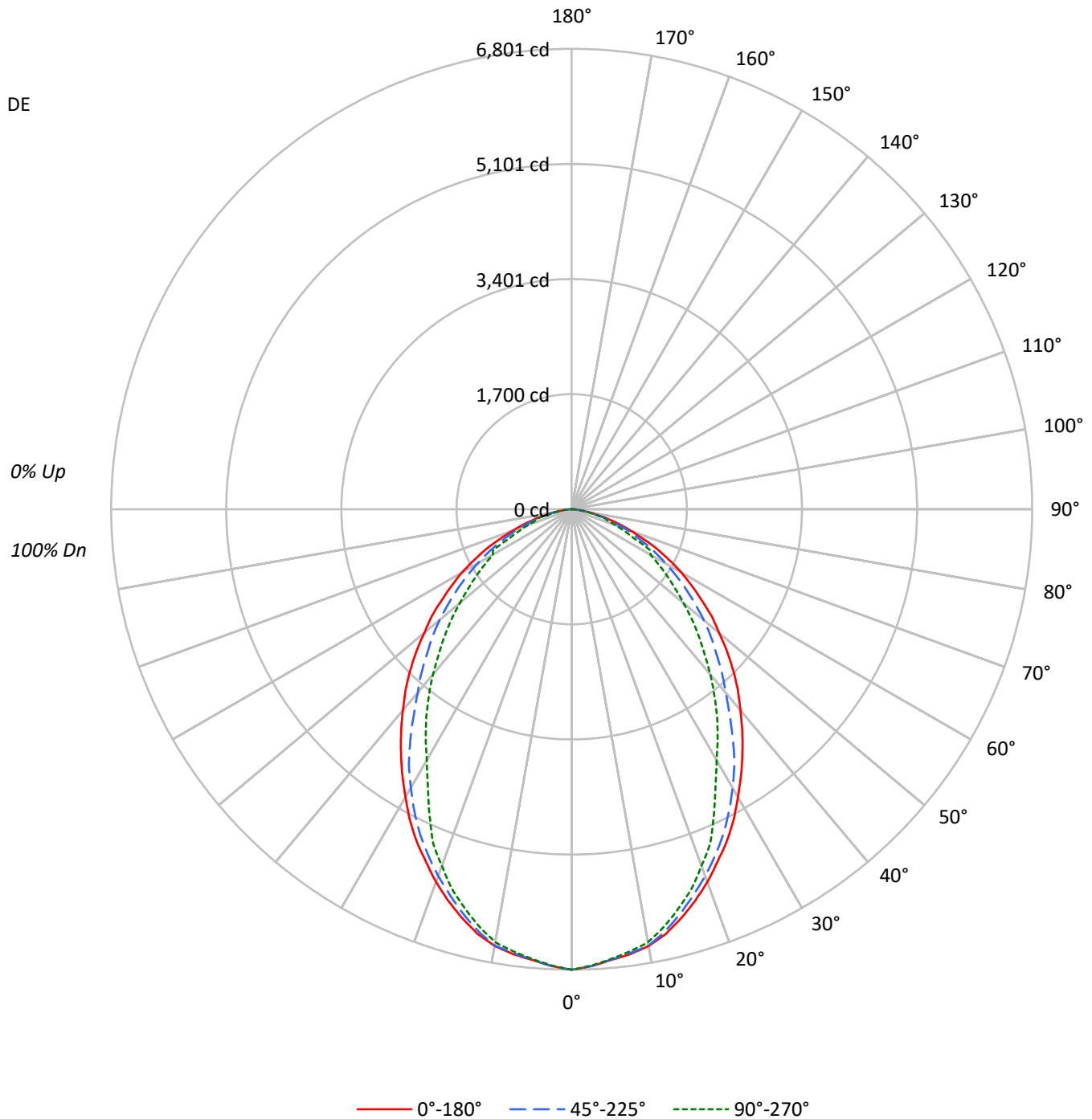
Lumens per Lamp: N/A  
Luminaire Lumens: 13352.0 lumens  
Efficiency: N/A  
Efficacy: 103.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 129.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	9151	9151	9151
5°	9027	9016	9006
10°	8948	8938	8873
15°	8707	8620	8499
20°	8387	8252	8027
25°	8043	7868	7377
30°	7623	7378	6646
35°	7219	6819	6148
40°	6809	6215	5593
45°	6418	5745	5057
50°	5942	5333	4510
55°	5496	4833	4039
60°	5036	4316	3618
65°	4431	3780	3204
70°	3650	3310	2722
75°	2902	2534	2657
80°	1949	1828	1706
85°	1213	1457	1700

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6418 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	633.1	4.7
10°-20°	1737.5	13.0
20°-30°	2405.5	18.0
30°-40°	2564.9	19.2
40°-50°	2340.0	17.5
50°-60°	1833.2	13.7
60°-70°	1194.8	8.9
70°-80°	529.3	4.0
80°-90°	113.7	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°	4776.1	35.8
0°-40°	7341.1	55.0
0°-60°	11514.2	86.2
0°-90°	13352.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13352.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	6801	6801	6801	6801	6801	
5°	6683	6676	6676	6668	6668	634
15°	6251	6251	6188	6125	6102	1757
25°	5418	5386	5300	5111	4969	2487
35°	4395	4364	4152	3837	3743	2748
45°	3373	3302	3019	2768	2658	2598
55°	2343	2272	2060	1816	1722	2102
65°	1392	1313	1187	1211	1006	1372
75°	558	519	488	464	511	598
85°	79	86	94	102	110	109
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	6801.3	6801.3	6801.3	6801.3	6801.3
2.5°	6754.2	6754.2	6754.2	6746.3	6746.3
5°	6683.4	6675.5	6675.5	6667.7	6667.7
7.5°	6628.3	6620.5	6612.6	6604.8	6589.0
10°	6549.7	6549.7	6541.9	6502.5	6494.7
12.5°	6423.9	6416.1	6384.6	6329.6	6313.8
15°	6250.9	6250.9	6188.0	6125.1	6101.5
17.5°	6062.2	6054.4	5975.7	5912.8	5881.4
20°	5857.8	5842.1	5763.4	5661.2	5606.2
22.5°	5629.8	5629.8	5535.4	5401.8	5346.7
25°	5417.5	5386.0	5299.5	5110.8	4969.3
27.5°	5173.7	5126.6	5032.2	4764.9	4599.7
30°	4906.4	4882.8	4749.1	4403.2	4277.4
32.5°	4654.8	4615.5	4473.9	4112.2	4010.0
35°	4395.3	4363.9	4151.6	3837.1	3742.7
37.5°	4135.8	4096.5	3829.2	3577.6	3459.6
40°	3876.4	3829.2	3538.3	3310.2	3184.4
42.5°	3632.6	3569.7	3286.7	3042.9	2901.4
45°	3373.1	3302.4	3019.3	2767.7	2657.6
47.5°	3113.7	3050.8	2791.3	2531.8	2406.0
50°	2838.5	2783.4	2547.6	2288.1	2154.4
52.5°	2610.5	2524.0	2295.9	2036.5	1926.4
55°	2343.1	2272.4	2060.1	1816.3	1722.0
57.5°	2099.4	2028.6	1832.0	1604.0	1525.4
60°	1871.3	1769.1	1604.0	1407.4	1344.5
62.5°	1619.7	1541.1	1399.6	1234.5	1313.1
65°	1391.7	1313.1	1187.3	1210.9	1006.4
67.5°	1140.1	1100.8	990.7	880.6	849.2
70°	927.8	880.6	841.3	723.4	691.9
72.5°	739.1	691.9	636.9	574.0	550.4
75°	558.3	518.9	487.5	463.9	511.1
77.5°	385.3	369.6	346.0	322.4	314.5
80°	251.6	243.7	235.9	228.0	220.2
82.5°	149.4	149.4	149.4	149.4	149.4
85°	78.6	86.5	94.4	102.2	110.1
87.5°	47.2	47.2	55.0	62.9	70.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)