

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: P559490

Luminaire Tested: FSR-12-1-LD4-2STD-40-UNV-81-85-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559490  
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-12-1-LD4-2STD-40-UNV-81-85-EDD-90  
Description: 1X1 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

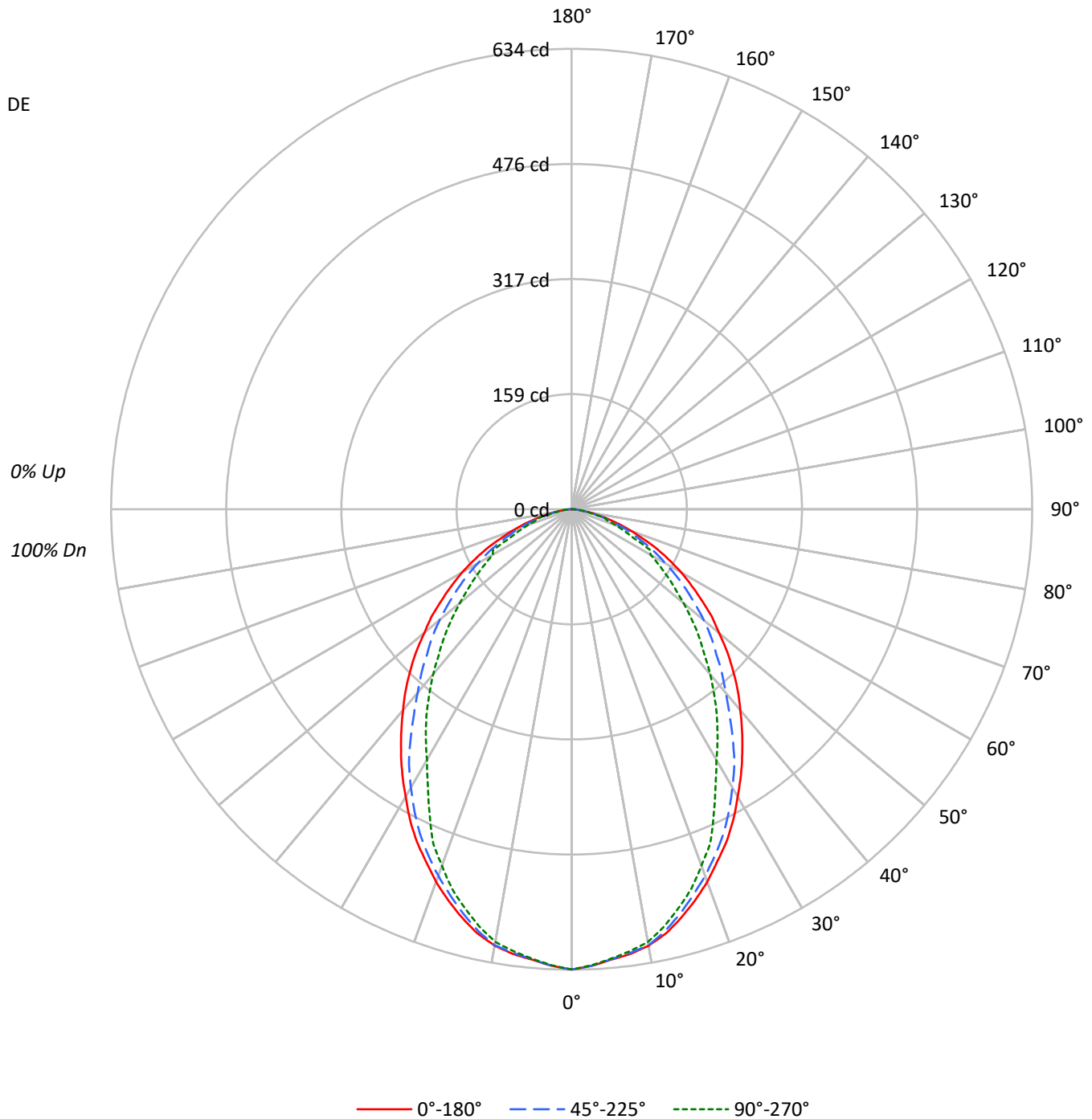
Lumens per Lamp: N/A  
Luminaire Lumens: 1244.0 lumens  
Efficiency: N/A  
Efficacy: 74.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 16.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	50	30	10	0																
RCR																																														
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100												100																
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87												87																
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75												75																
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65												65																
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56												56																
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50												50																
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44												44																
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40												40																
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36												36																
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33												33																
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30												30																

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	6821	6821	6821
5°	6728	6721	6712
10°	6669	6662	6614
15°	6490	6424	6335
20°	6252	6151	5983
25°	5994	5865	5499
30°	5681	5500	4953
35°	5381	5083	4582
40°	5075	4633	4169
45°	4784	4282	3769
50°	4429	3975	3361
55°	4097	3601	3010
60°	3754	3216	2697
65°	3303	2817	2389
70°	2719	2467	2030
75°	2163	1888	1980
80°	1450	1364	1271
85°	902	1087	1272

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4784 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	59.0	4.7
10°-20°	161.9	13.0
20°-30°	224.1	18.0
30°-40°	239.0	19.2
40°-50°	218.0	17.5
50°-60°	170.8	13.7
60°-70°	111.3	8.9
70°-80°	49.3	4.0
80°-90°	10.6	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°	445.0	35.8
0°-40°	684.0	55.0
0°-60°	1072.8	86.2
0°-90°	1244.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1244.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	634	634	634	634	634	
5°	623	622	622	621	621	59
15°	582	582	576	571	568	164
25°	505	502	494	476	463	232
35°	410	407	387	358	349	256
45°	314	308	281	258	248	242
55°	218	212	192	169	160	196
65°	130	122	111	113	94	128
75°	52	48	45	43	48	56
85°	7	8	9	10	10	10
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	633.7	633.7	633.7	633.7	633.7
2.5°	629.3	629.3	629.3	628.5	628.5
5°	622.7	622.0	622.0	621.2	621.2
7.5°	617.6	616.8	616.1	615.4	613.9
10°	610.2	610.2	609.5	605.8	605.1
12.5°	598.5	597.8	594.9	589.7	588.3
15°	582.4	582.4	576.5	570.7	568.5
17.5°	564.8	564.1	556.8	550.9	548.0
20°	545.8	544.3	537.0	527.5	522.3
22.5°	524.5	524.5	515.7	503.3	498.2
25°	504.7	501.8	493.8	476.2	463.0
27.5°	482.0	477.6	468.8	443.9	428.6
30°	457.1	454.9	442.5	410.2	398.5
32.5°	433.7	430.0	416.8	383.1	373.6
35°	409.5	406.6	386.8	357.5	348.7
37.5°	385.3	381.7	356.8	333.3	322.3
40°	361.2	356.8	329.7	308.4	296.7
42.5°	338.4	332.6	306.2	283.5	270.3
45°	314.3	307.7	281.3	257.9	247.6
47.5°	290.1	284.2	260.1	235.9	224.2
50°	264.5	259.3	237.4	213.2	200.7
52.5°	243.2	235.2	213.9	189.7	179.5
55°	218.3	211.7	191.9	169.2	160.4
57.5°	195.6	189.0	170.7	149.4	142.1
60°	174.4	164.8	149.4	131.1	125.3
62.5°	150.9	143.6	130.4	115.0	122.3
65°	129.7	122.3	110.6	112.8	93.8
67.5°	106.2	102.6	92.3	82.0	79.1
70°	86.4	82.0	78.4	67.4	64.5
72.5°	68.9	64.5	59.3	53.5	51.3
75°	52.0	48.3	45.4	43.2	47.6
77.5°	35.9	34.4	32.2	30.0	29.3
80°	23.4	22.7	22.0	21.2	20.5
82.5°	13.9	13.9	13.9	13.9	13.9
85°	7.3	8.1	8.8	9.5	10.3
87.5°	4.4	4.4	5.1	5.9	6.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)