

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: P559299

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

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559299  
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-LD4-2LO-40-UNV-81-85-EDD  
Description: 1X1 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

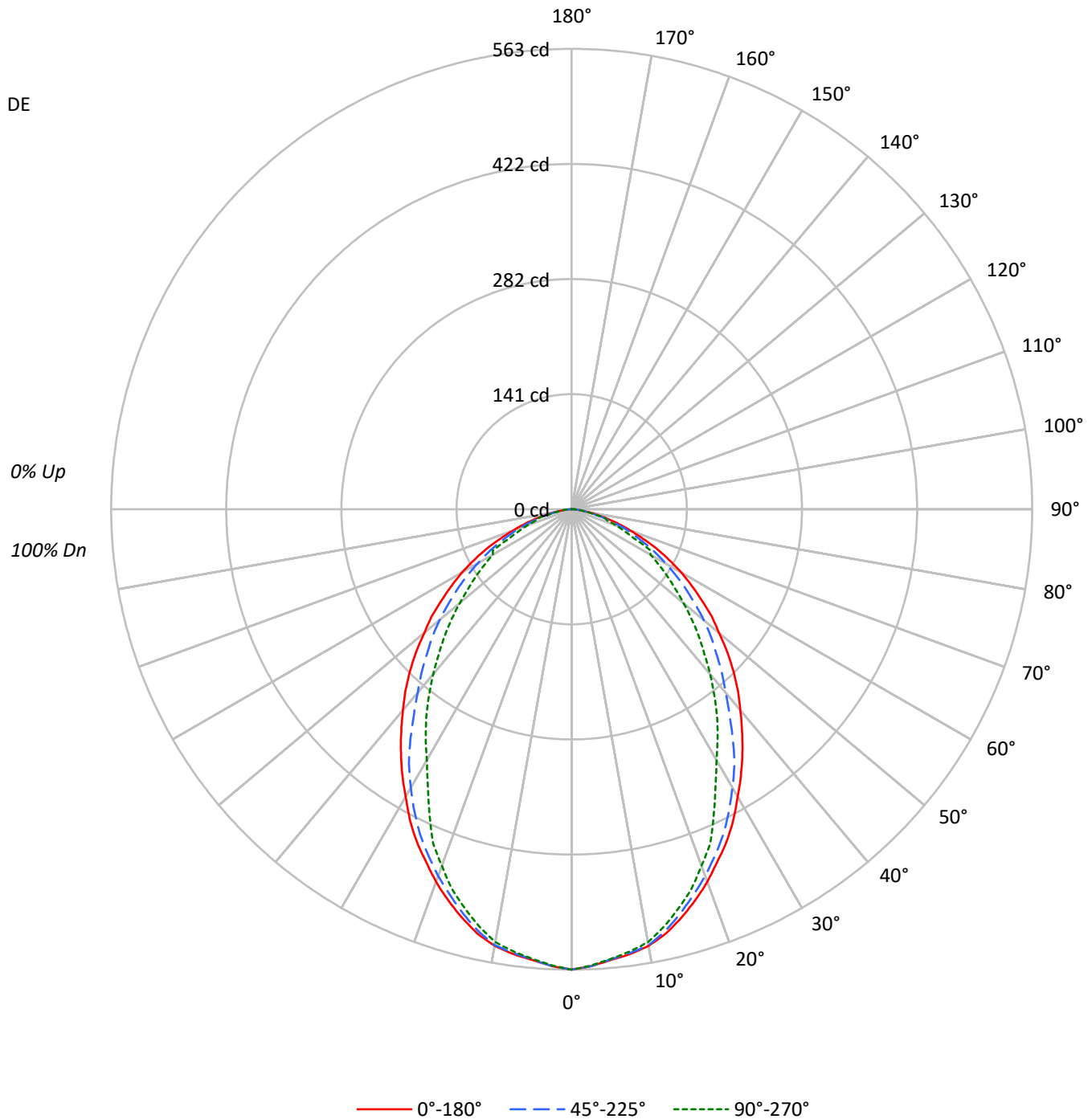
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1105.0 lumens  
Efficiency: N/A  
Efficacy: 94.4 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): 11.7  
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°	6059	6059	6059
5°	5976	5970	5962
10°	5924	5917	5875
15°	5765	5707	5628
20°	5553	5464	5315
25°	5324	5209	4885
30°	5046	4885	4400
35°	4780	4515	4070
40°	4508	4114	3703
45°	4250	3804	3347
50°	3934	3530	2986
55°	3639	3200	2674
60°	3335	2857	2396
65°	2934	2504	2122
70°	2417	2190	1803
75°	1921	1676	1759
80°	1289	1209	1128
85°	803	963	1124

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4250 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	52.4	4.7
10°-20°	143.8	13.0
20°-30°	199.1	18.0
30°-40°	212.3	19.2
40°-50°	193.7	17.5
50°-60°	151.7	13.7
60°-70°	98.9	8.9
70°-80°	43.8	4.0
80°-90°	9.4	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°	395.3	35.8
0°-40°	607.5	55.0
0°-60°	952.9	86.2
0°-90°	1105.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1105.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	563	563	563	563	563	
5°	553	552	552	552	552	53
15°	517	517	512	507	505	145
25°	448	446	439	423	411	206
35°	364	361	344	318	310	227
45°	279	273	250	229	220	215
55°	194	188	170	150	142	174
65°	115	109	98	100	83	114
75°	46	43	40	38	42	50
85°	6	7	8	8	9	9
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	562.9	562.9	562.9	562.9	562.9
2.5°	559.0	559.0	559.0	558.3	558.3
5°	553.1	552.5	552.5	551.8	551.8
7.5°	548.6	547.9	547.3	546.6	545.3
10°	542.0	542.0	541.4	538.1	537.5
12.5°	531.6	531.0	528.4	523.8	522.5
15°	517.3	517.3	512.1	506.9	505.0
17.5°	501.7	501.1	494.5	489.3	486.7
20°	484.8	483.5	477.0	468.5	464.0
22.5°	465.9	465.9	458.1	447.0	442.5
25°	448.3	445.7	438.6	423.0	411.3
27.5°	428.2	424.3	416.5	394.3	380.7
30°	406.0	404.1	393.0	364.4	354.0
32.5°	385.2	382.0	370.3	340.3	331.9
35°	363.8	361.1	343.6	317.6	309.7
37.5°	342.3	339.0	316.9	296.1	286.3
40°	320.8	316.9	292.8	274.0	263.5
42.5°	300.6	295.4	272.0	251.8	240.1
45°	279.2	273.3	249.9	229.1	219.9
47.5°	257.7	252.5	231.0	209.5	199.1
50°	234.9	230.4	210.8	189.4	178.3
52.5°	216.0	208.9	190.0	168.5	159.4
55°	193.9	188.1	170.5	150.3	142.5
57.5°	173.7	167.9	151.6	132.7	126.2
60°	154.9	146.4	132.7	116.5	111.3
62.5°	134.0	127.5	115.8	102.2	108.7
65°	115.2	108.7	98.3	100.2	83.3
67.5°	94.4	91.1	82.0	72.9	70.3
70°	76.8	72.9	69.6	59.9	57.3
72.5°	61.2	57.3	52.7	47.5	45.6
75°	46.2	42.9	40.3	38.4	42.3
77.5°	31.9	30.6	28.6	26.7	26.0
80°	20.8	20.2	19.5	18.9	18.2
82.5°	12.4	12.4	12.4	12.4	12.4
85°	6.5	7.2	7.8	8.5	9.1
87.5°	3.9	3.9	4.6	5.2	5.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)