

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: P589971

Luminaire Tested: FSR-24-2-LD4-1LO-35-UNV-93-96-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P589971  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/8/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: FAIL-SAFE  
Catalog Number: FSR-24-2-LD4-1LO-35-UNV-93-96-EDD  
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER  
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

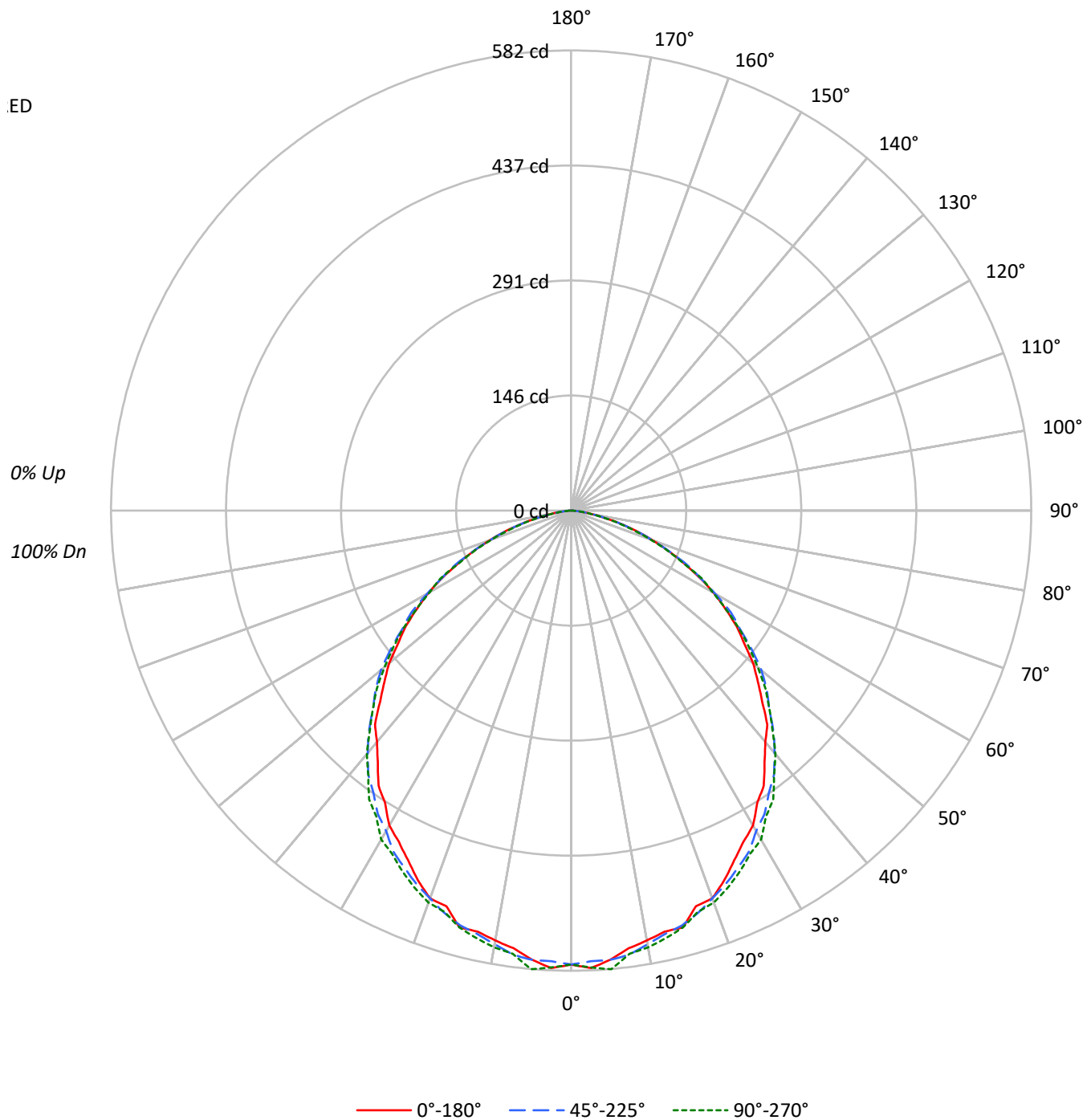
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1447.0 lumens  
Efficiency: N/A  
Efficacy: 123.7 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' 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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26

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

	0°	45°	90°
0°	1545	1545	1545
5°	1540	1541	1573
10°	1509	1522	1533
15°	1521	1512	1521
20°	1495	1495	1511
25°	1449	1481	1497
30°	1429	1454	1493
35°	1396	1432	1464
40°	1341	1406	1412
45°	1300	1347	1349
50°	1258	1315	1289
55°	1199	1222	1213
60°	1121	1132	1111
65°	999	1025	992
70°	858	860	836
75°	679	678	651
80°	456	442	425
85°	247	244	228

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 1381 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	54.0	3.7
10°-20°	153.1	10.6
20°-30°	229.3	15.8
30°-40°	271.8	18.8
40°-50°	272.3	18.8
50°-60°	231.1	16.0
60°-70°	155.8	10.8
70°-80°	68.5	4.7
80°-90°	11.1	0.8
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°	436.4	30.2
0°-40°	708.2	48.9
0°-60°	1211.6	83.7
0°-90°	1447.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1447.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	574	574	574	574	574	
5°	570	569	570	569	582	54
15°	546	540	543	546	546	152
25°	488	491	499	505	504	226
35°	425	426	436	446	446	264
45°	342	348	354	363	354	264
55°	256	254	260	259	259	227
65°	157	155	161	155	156	156
75°	65	64	65	61	63	70
85°	8	8	8	8	7	12
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	574.1	574.1	574.1	574.1	574.1
2.5°	579.1	574.7	570.6	575.4	578.3
5°	570.1	568.7	570.3	568.6	582.3
7.5°	558.3	563.5	566.4	564.6	565.4
10°	552.1	550.3	556.9	561.5	560.9
12.5°	545.4	548.1	548.5	553.5	553.9
15°	545.8	539.5	542.9	545.7	545.9
17.5°	524.6	531.4	533.7	540.2	532.2
20°	522.0	517.1	522.0	528.6	527.6
22.5°	506.1	500.5	511.2	517.1	516.7
25°	488.0	490.7	498.7	505.2	504.2
27.5°	472.1	475.2	486.7	495.6	489.8
30°	459.9	458.3	468.0	476.0	480.4
32.5°	438.0	443.7	454.9	462.9	458.6
35°	424.8	426.0	435.9	446.0	445.7
37.5°	401.6	407.4	421.3	424.1	421.5
40°	381.8	387.6	400.2	403.2	401.9
42.5°	367.2	368.2	379.0	382.4	376.9
45°	341.7	348.1	353.9	363.0	354.4
47.5°	320.1	323.1	335.5	338.0	333.4
50°	300.4	301.5	314.0	311.0	308.0
52.5°	275.8	280.1	287.2	286.6	283.1
55°	255.5	253.7	260.4	258.6	258.6
57.5°	231.1	234.0	239.5	236.7	232.2
60°	208.2	208.3	210.3	207.1	206.5
62.5°	182.8	183.7	184.1	180.2	186.6
65°	156.9	154.9	160.9	154.8	155.8
67.5°	133.1	134.2	133.6	129.7	131.2
70°	109.0	110.3	109.3	105.0	106.3
72.5°	86.9	85.2	86.3	80.8	83.3
75°	65.3	64.0	65.2	60.6	62.6
77.5°	44.5	45.5	44.8	42.3	43.7
80°	29.4	28.5	28.5	27.1	27.4
82.5°	17.1	16.3	16.1	15.6	16.3
85°	8.0	7.8	7.9	7.7	7.4
87.5°	2.9	3.0	3.0	2.8	2.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)