

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: P589999

Luminaire Tested: FSR-24-2-LD4-1LO-40-UNV-93-86-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P589999  
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-40-UNV-93-86-EDD  
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

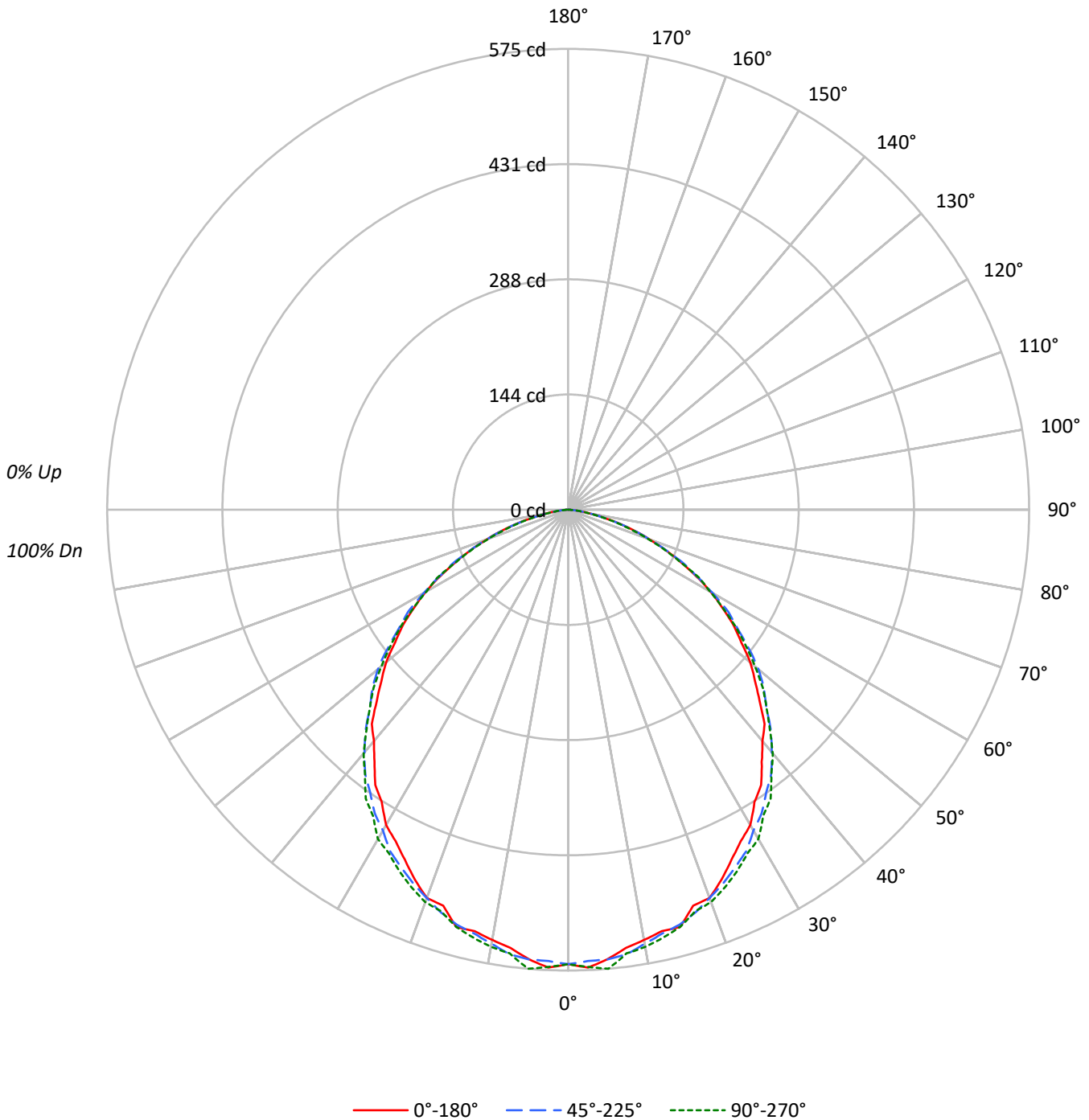
Lumens per Lamp: N/A  
Luminaire Lumens: 1429.0 lumens  
Efficiency: N/A  
Efficacy: 122.1 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 11.7  
Input Voltage (V):  
Input Current (Ain): NR  
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°	1526	1526	1526
5°	1521	1521	1553
10°	1490	1503	1514
15°	1502	1494	1502
20°	1476	1476	1492
25°	1431	1462	1478
30°	1411	1436	1474
35°	1378	1414	1446
40°	1324	1388	1394
45°	1284	1330	1332
50°	1242	1298	1274
55°	1184	1207	1198
60°	1107	1118	1098
65°	987	1012	980
70°	847	850	826
75°	671	669	644
80°	449	437	420
85°	244	241	225

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 1364 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	53.3	3.7
10°-20°	151.2	10.6
20°-30°	226.5	15.8
30°-40°	268.4	18.8
40°-50°	268.9	18.8
50°-60°	228.3	16.0
60°-70°	153.9	10.8
70°-80°	67.6	4.7
80°-90°	11.0	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°	431.0	30.2
0°-40°	699.4	48.9
0°-60°	1196.5	83.7
0°-90°	1429.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1429.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	567	567	567	567	567	
5°	563	562	563	562	575	53
15°	539	533	536	539	539	150
25°	482	485	492	499	498	223
35°	420	421	430	440	440	260
45°	338	344	350	358	350	261
55°	252	251	257	255	255	224
65°	155	153	159	153	154	154
75°	64	63	64	60	62	69
85°	8	8	8	8	7	11
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	567.0	567.0	567.0	567.0	567.0
2.5°	571.9	567.6	563.6	568.2	571.1
5°	563.0	561.6	563.2	561.5	575.0
7.5°	551.4	556.4	559.4	557.5	558.4
10°	545.2	543.5	550.0	554.5	553.9
12.5°	538.7	541.3	541.7	546.6	547.0
15°	539.0	532.8	536.1	538.9	539.1
17.5°	518.1	524.8	527.1	533.5	525.6
20°	515.5	510.6	515.5	522.0	521.0
22.5°	499.8	494.3	504.8	510.6	510.3
25°	481.9	484.6	492.5	498.9	497.9
27.5°	466.3	469.3	480.6	489.5	483.8
30°	454.2	452.6	462.2	470.1	474.5
32.5°	432.6	438.1	449.3	457.1	452.9
35°	419.5	420.7	430.5	440.4	440.1
37.5°	396.6	402.3	416.0	418.8	416.3
40°	377.0	382.8	395.2	398.2	396.9
42.5°	362.6	363.6	374.2	377.7	372.2
45°	337.5	343.8	349.5	358.5	350.0
47.5°	316.1	319.0	331.3	333.8	329.3
50°	296.7	297.7	310.1	307.1	304.2
52.5°	272.3	276.7	283.6	283.0	279.6
55°	252.3	250.6	257.2	255.4	255.3
57.5°	228.2	231.1	236.5	233.8	229.3
60°	205.6	205.7	207.7	204.5	204.0
62.5°	180.5	181.4	181.8	178.0	184.3
65°	155.0	152.9	158.9	152.9	153.9
67.5°	131.5	132.5	131.9	128.1	129.6
70°	107.6	108.9	108.0	103.7	105.0
72.5°	85.8	84.2	85.2	79.8	82.3
75°	64.5	63.2	64.3	59.8	61.9
77.5°	43.9	44.9	44.2	41.8	43.2
80°	29.0	28.2	28.2	26.8	27.1
82.5°	16.9	16.1	15.9	15.4	16.1
85°	7.9	7.7	7.8	7.6	7.3
87.5°	2.9	2.9	2.9	2.8	2.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)