

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: P589943

Luminaire Tested: FSR-24-2-LD4-1LO-35-UNV-80-86-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P589943  
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-80-86-EDD  
Description: 2X2 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRONM  
SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

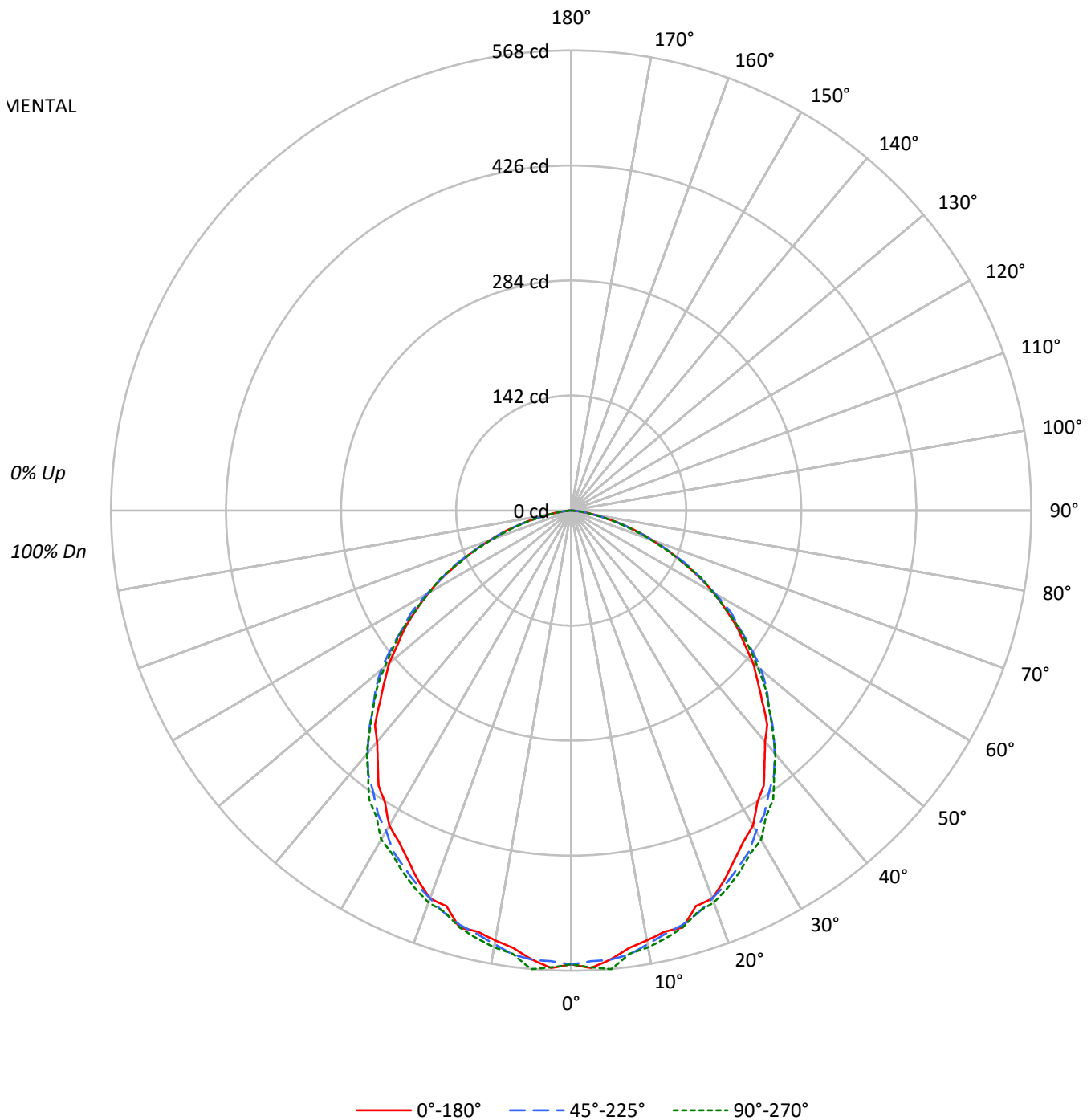
Lumens per Lamp: N/A  
Luminaire Lumens: 1412.0 lumens  
Efficiency: N/A  
Efficacy: 120.7 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 11.7  
Input Voltage (V):  
Input Current (Ain): NR  
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°	1507	1507	1507
5°	1503	1503	1535
10°	1472	1485	1495
15°	1484	1476	1484
20°	1459	1459	1474
25°	1414	1445	1461
30°	1395	1419	1457
35°	1362	1397	1429
40°	1309	1372	1378
45°	1269	1314	1316
50°	1227	1283	1258
55°	1170	1192	1184
60°	1094	1104	1084
65°	975	1000	968
70°	836	840	816
75°	662	661	635
80°	443	431	415
85°	241	238	222

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 1348 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	52.7	3.7
10°-20°	149.4	10.6
20°-30°	223.8	15.8
30°-40°	265.2	18.8
40°-50°	265.7	18.8
50°-60°	225.5	16.0
60°-70°	152.0	10.8
70°-80°	66.8	4.7
80°-90°	10.8	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°	425.8	30.2
0°-40°	691.0	48.9
0°-60°	1182.3	83.7
0°-90°	1412.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1412.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	560	560	560	560	560	
5°	556	555	556	555	568	52
15°	533	526	530	532	533	148
25°	476	479	487	493	492	220
35°	414	416	425	435	435	257
45°	334	340	345	354	346	258
55°	249	248	254	252	252	222
65°	153	151	157	151	152	152
75°	64	62	64	59	61	68
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°	560.2	560.2	560.2	560.2	560.2
2.5°	565.1	560.8	556.8	561.5	564.3
5°	556.3	555.0	556.5	554.8	568.2
7.5°	544.8	549.8	552.7	550.9	551.7
10°	538.8	537.0	543.5	547.9	547.3
12.5°	532.3	534.9	535.2	540.1	540.5
15°	532.6	526.5	529.7	532.5	532.7
17.5°	511.9	518.6	520.8	527.1	519.3
20°	509.4	504.5	509.4	515.8	514.8
22.5°	493.8	488.4	498.8	504.5	504.2
25°	476.2	478.8	486.6	493.0	492.0
27.5°	460.7	463.7	474.9	483.6	478.0
30°	448.8	447.3	456.7	464.5	468.8
32.5°	427.4	432.9	443.9	451.7	447.5
35°	414.5	415.7	425.3	435.2	434.9
37.5°	391.8	397.6	411.1	413.8	411.3
40°	372.5	378.2	390.5	393.4	392.2
42.5°	358.3	359.3	369.8	373.2	367.8
45°	333.5	339.7	345.3	354.2	345.8
47.5°	312.3	315.2	327.4	329.8	325.4
50°	293.2	294.2	306.4	303.5	300.6
52.5°	269.1	273.4	280.2	279.7	276.3
55°	249.3	247.6	254.1	252.4	252.3
57.5°	225.5	228.4	233.7	231.0	226.6
60°	203.2	203.3	205.2	202.1	201.5
62.5°	178.4	179.2	179.7	175.8	182.1
65°	153.1	151.1	157.0	151.0	152.1
67.5°	129.9	130.9	130.4	126.6	128.0
70°	106.3	107.6	106.7	102.4	103.7
72.5°	84.8	83.2	84.2	78.8	81.3
75°	63.7	62.4	63.6	59.1	61.1
77.5°	43.4	44.4	43.7	41.3	42.7
80°	28.6	27.8	27.8	26.5	26.8
82.5°	16.7	15.9	15.7	15.3	15.9
85°	7.8	7.6	7.7	7.5	7.2
87.5°	2.8	2.9	2.9	2.7	2.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)