

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: P590049

Luminaire Tested: FSR-24-2-LD4-1STD-35-UNV-81-88-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590049  
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-LD4-1STD-35-UNV-81-88-EDD  
Description: 2X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

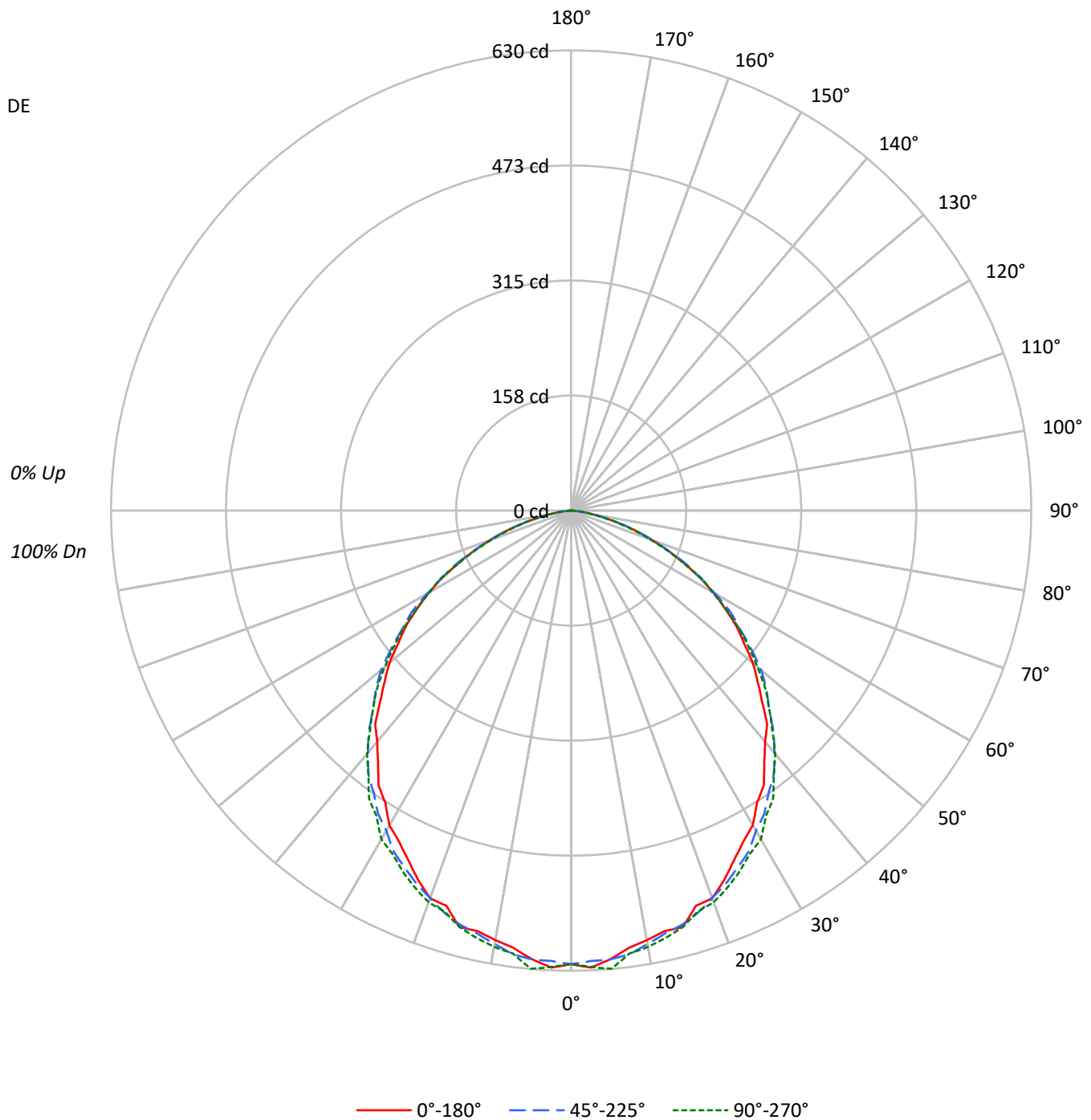
Lumens per Lamp: N/A  
Luminaire Lumens: 1565.0 lumens  
Efficiency: N/A  
Efficacy: 94.3 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 16.6  
Input Voltage (V):  
Input Current (Ain): NR  
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	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°	1671	1671	1671
5°	1665	1666	1701
10°	1632	1646	1658
15°	1645	1636	1645
20°	1617	1617	1634
25°	1567	1601	1619
30°	1546	1573	1615
35°	1509	1549	1583
40°	1450	1520	1527
45°	1407	1457	1459
50°	1360	1422	1394
55°	1296	1322	1312
60°	1212	1224	1202
65°	1081	1109	1073
70°	928	931	905
75°	734	733	704
80°	491	479	460
85°	269	266	247

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 1494 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	58.4	3.7
10°-20°	165.5	10.6
20°-30°	248.0	15.8
30°-40°	293.9	18.8
40°-50°	294.5	18.8
50°-60°	250.0	16.0
60°-70°	168.5	10.8
70°-80°	74.1	4.7
80°-90°	12.0	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°	472.0	30.2
0°-40°	765.9	48.9
0°-60°	1310.4	83.7
0°-90°	1565.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1565.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	621	621	621	621	621	
5°	616	615	617	615	630	58
15°	590	584	587	590	590	164
25°	528	531	539	546	545	244
35°	459	461	471	482	482	285
45°	370	376	383	393	383	286
55°	276	274	282	280	280	246
65°	170	168	174	167	168	169
75°	71	69	70	66	68	76
85°	9	8	9	8	8	13
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	621.0	621.0	621.0	621.0	621.0
2.5°	626.3	621.6	617.2	622.3	625.4
5°	616.5	615.1	616.8	614.9	629.8
7.5°	603.9	609.4	612.6	610.6	611.5
10°	597.1	595.2	602.4	607.3	606.6
12.5°	589.9	592.8	593.2	598.6	599.1
15°	590.3	583.5	587.1	590.2	590.4
17.5°	567.4	574.8	577.3	584.2	575.6
20°	564.6	559.2	564.6	571.7	570.6
22.5°	547.4	541.3	552.9	559.2	558.8
25°	527.8	530.7	539.3	546.4	545.3
27.5°	510.6	514.0	526.3	536.0	529.8
30°	497.4	495.7	506.1	514.8	519.6
32.5°	473.8	479.8	492.0	500.6	496.0
35°	459.4	460.8	471.4	482.3	482.0
37.5°	434.3	440.6	455.6	458.7	455.9
40°	412.9	419.2	432.8	436.1	434.7
42.5°	397.1	398.2	409.9	413.6	407.6
45°	369.6	376.5	382.8	392.6	383.3
47.5°	346.2	349.4	362.9	365.5	360.6
50°	324.9	326.1	339.6	336.3	333.1
52.5°	298.2	303.0	310.6	310.0	306.2
55°	276.3	274.4	281.7	279.7	279.6
57.5°	249.9	253.1	259.0	256.0	251.1
60°	225.2	225.3	227.5	224.0	223.4
62.5°	197.7	198.7	199.2	194.9	201.8
65°	169.7	167.5	174.1	167.4	168.5
67.5°	144.0	145.1	144.5	140.3	141.9
70°	117.9	119.3	118.3	113.5	115.0
72.5°	94.0	92.2	93.3	87.4	90.1
75°	70.6	69.2	70.5	65.5	67.7
77.5°	48.1	49.2	48.4	45.8	47.3
80°	31.7	30.9	30.9	29.3	29.7
82.5°	18.5	17.6	17.4	16.9	17.6
85°	8.7	8.4	8.6	8.3	8.0
87.5°	3.1	3.2	3.2	3.0	2.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)