

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: P590520

Luminaire Tested: FSR-24-2-LD4-3LO-35-UNV-80-87-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590520  
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-LD4-3LO-35-UNV-80-87-EDD  
Description: 2X2 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR PC ENVIRONM  
SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

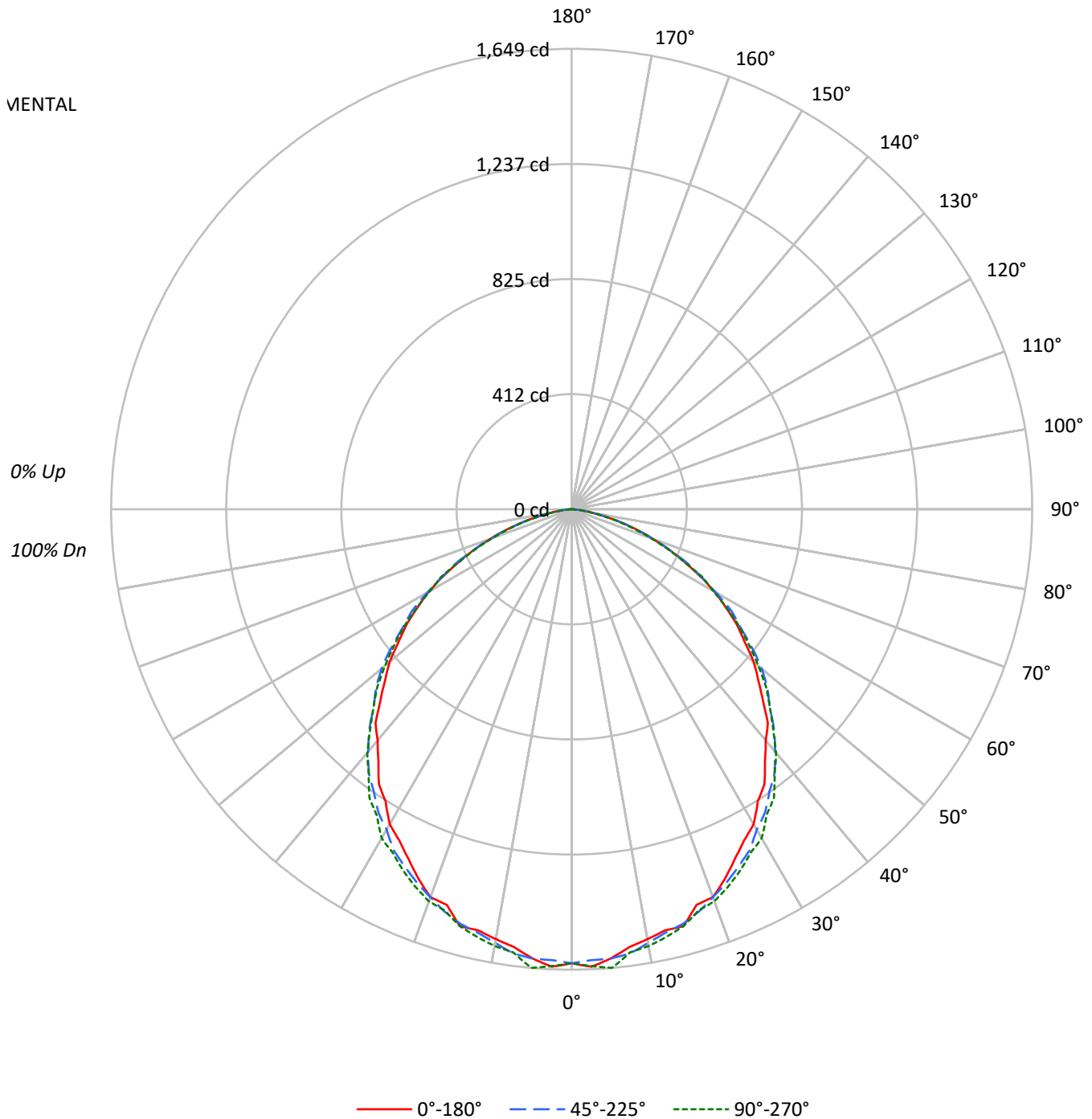
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4098.0 lumens  
Efficiency: N/A  
Efficacy: 116.8 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): 35.1  
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°	4376	4376	4376
5°	4361	4363	4455
10°	4273	4310	4340
15°	4306	4283	4307
20°	4234	4234	4279
25°	4103	4193	4239
30°	4047	4118	4228
35°	3952	4055	4146
40°	3798	3981	3999
45°	3683	3814	3820
50°	3562	3723	3652
55°	3394	3460	3436
60°	3174	3205	3148
65°	2830	2902	2810
70°	2428	2437	2369
75°	1923	1918	1844
80°	1288	1252	1204
85°	701	695	648

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 3913 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	152.9	3.7
10°-20°	433.5	10.6
20°-30°	649.4	15.8
30°-40°	769.7	18.8
40°-50°	771.1	18.8
50°-60°	654.6	16.0
60°-70°	441.3	10.8
70°-80°	193.9	4.7
80°-90°	31.5	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°	1235.9	30.2
0°-40°	2005.6	48.9
0°-60°	3431.3	83.7
0°-90°	4098.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4098.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1626	1626	1626	1626	1626	
5°	1614	1611	1615	1610	1649	152
15°	1546	1528	1537	1545	1546	431
25°	1382	1390	1412	1431	1428	639
35°	1203	1206	1234	1263	1262	747
45°	968	986	1002	1028	1004	749
55°	724	719	738	732	732	644
65°	444	439	456	438	441	442
75°	185	181	184	172	177	198
85°	23	22	22	22	21	33
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1626.0	1626.0	1626.0	1626.0	1626.0
2.5°	1640.0	1627.7	1616.1	1629.6	1637.7
5°	1614.4	1610.7	1615.1	1610.2	1649.1
7.5°	1581.3	1595.8	1604.1	1598.9	1601.2
10°	1563.6	1558.6	1577.3	1590.3	1588.4
12.5°	1544.7	1552.3	1553.3	1567.4	1568.7
15°	1545.8	1527.9	1537.4	1545.4	1546.0
17.5°	1485.7	1505.1	1511.6	1529.8	1507.2
20°	1478.4	1464.3	1478.4	1497.1	1494.1
22.5°	1433.3	1417.5	1447.7	1464.3	1463.3
25°	1382.0	1389.6	1412.3	1430.7	1427.8
27.5°	1337.1	1345.9	1378.3	1403.7	1387.3
30°	1302.5	1298.1	1325.3	1348.0	1360.6
32.5°	1240.5	1256.5	1288.4	1310.9	1298.9
35°	1203.0	1206.5	1234.4	1263.0	1262.2
37.5°	1137.2	1153.8	1193.1	1201.1	1193.7
40°	1081.2	1097.8	1133.3	1141.9	1138.3
42.5°	1039.8	1042.8	1073.2	1083.1	1067.3
45°	967.8	985.9	1002.3	1028.1	1003.7
47.5°	906.5	914.9	950.2	957.1	944.3
50°	850.9	853.8	889.3	880.7	872.3
52.5°	781.0	793.4	813.3	811.6	801.8
55°	723.5	718.6	737.5	732.5	732.3
57.5°	654.4	662.8	678.3	670.3	657.5
60°	589.7	589.9	595.6	586.6	584.9
62.5°	517.7	520.2	521.5	510.4	528.4
65°	444.4	438.6	455.8	438.4	441.3
67.5°	377.1	380.0	378.3	367.4	371.6
70°	308.6	312.4	309.7	297.3	301.1
72.5°	246.0	241.4	244.4	228.8	236.0
75°	185.0	181.2	184.5	171.5	177.4
77.5°	126.0	128.9	126.8	119.9	123.9
80°	83.1	80.8	80.8	76.8	77.7
82.5°	48.5	46.2	45.6	44.3	46.2
85°	22.7	22.0	22.5	21.8	21.0
87.5°	8.2	8.4	8.4	8.0	7.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)