

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: P590584

Luminaire Tested: FSR-24-2-LD4-3LO-50-UNV-80-87-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590584  
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-50-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 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

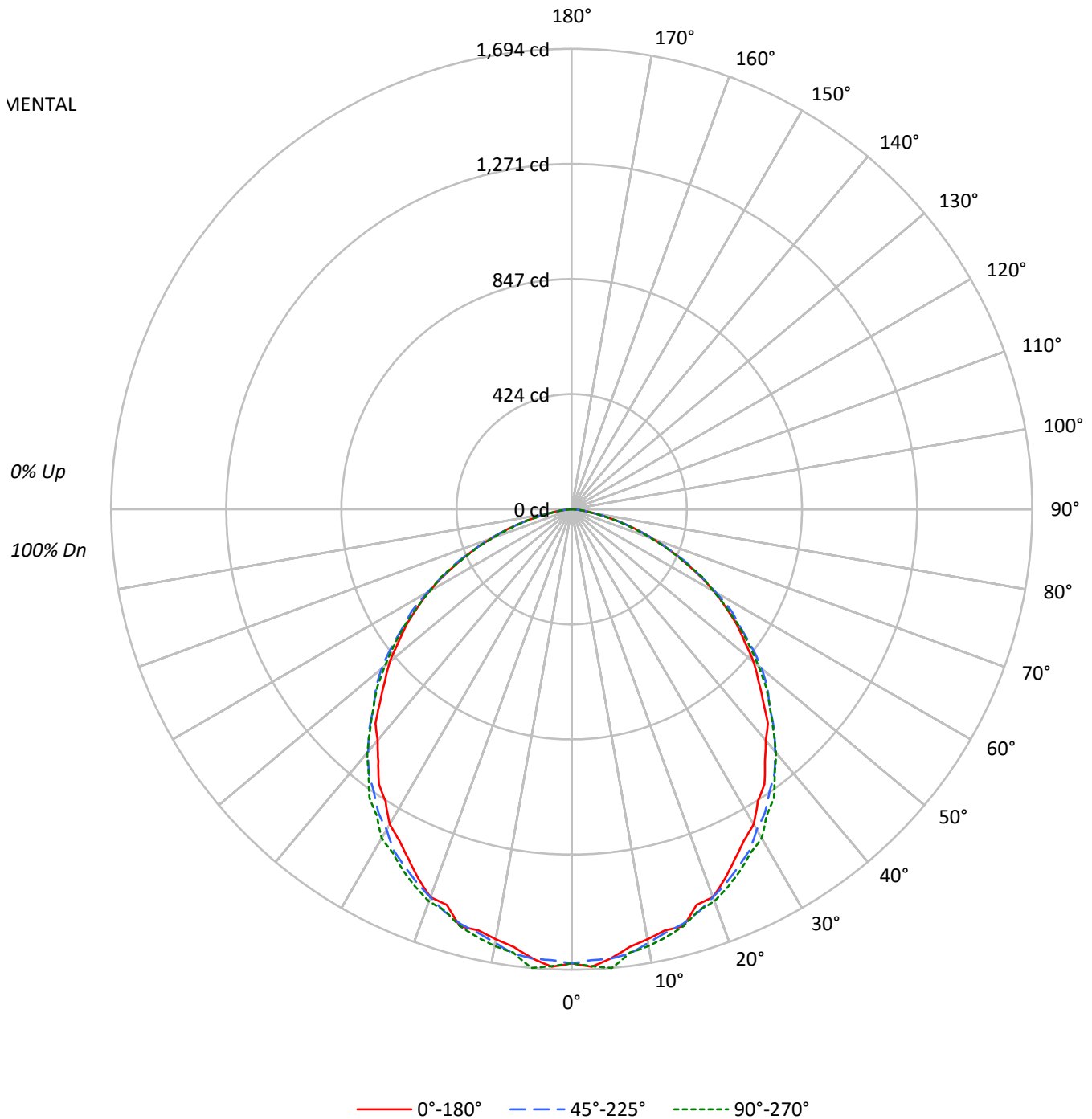
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4210.0 lumens  
Efficiency: N/A  
Efficacy: 119.9 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	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									100																			
1	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86									86																			
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73									73																			
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62									62																			
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53									53																			
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46									46																			
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41									41																			
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36									36																			
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32									32																			
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29									29																			
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26									26																			

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

	0°	45°	90°
0°	4495	4495	4495
5°	4480	4482	4576
10°	4389	4428	4459
15°	4424	4400	4425
20°	4349	4349	4396
25°	4216	4308	4355
30°	4158	4231	4343
35°	4060	4166	4260
40°	3902	4090	4108
45°	3784	3918	3924
50°	3659	3825	3751
55°	3487	3555	3529
60°	3260	3293	3234
65°	2907	2981	2887
70°	2494	2503	2434
75°	1975	1971	1894
80°	1323	1286	1237
85°	719	713	667

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 4019 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	157.1	3.7
10°-20°	445.3	10.6
20°-30°	667.2	15.8
30°-40°	790.7	18.8
40°-50°	792.2	18.8
50°-60°	672.5	16.0
60°-70°	453.4	10.8
70°-80°	199.2	4.7
80°-90°	32.4	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°	1269.6	30.2
0°-40°	2060.4	48.9
0°-60°	3525.1	83.7
0°-90°	4210.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4210.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1670	1670	1670	1670	1670	
5°	1659	1655	1659	1654	1694	156
15°	1588	1570	1579	1588	1588	442
25°	1420	1428	1451	1470	1467	656
35°	1236	1240	1268	1298	1297	767
45°	994	1013	1030	1056	1031	769
55°	743	738	758	752	752	661
65°	457	451	468	450	453	454
75°	190	186	190	176	182	204
85°	23	23	23	22	22	34
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1670.4	1670.4	1670.4	1670.4	1670.4
2.5°	1684.9	1672.1	1660.3	1674.1	1682.5
5°	1658.6	1654.7	1659.2	1654.2	1694.1
7.5°	1624.5	1639.4	1648.0	1642.6	1645.0
10°	1606.4	1601.2	1620.4	1633.8	1631.8
12.5°	1587.0	1594.7	1595.8	1610.2	1611.5
15°	1588.0	1569.7	1579.4	1587.6	1588.2
17.5°	1526.3	1546.2	1552.9	1571.6	1548.3
20°	1518.8	1504.4	1518.8	1538.0	1535.0
22.5°	1472.4	1456.3	1487.3	1504.4	1503.3
25°	1419.8	1427.6	1450.9	1469.8	1466.8
27.5°	1373.6	1382.7	1415.9	1442.0	1425.2
30°	1338.1	1333.5	1361.6	1384.9	1397.8
32.5°	1274.4	1290.8	1323.6	1346.7	1334.4
35°	1235.8	1239.5	1268.2	1297.5	1296.7
37.5°	1168.3	1185.4	1225.7	1233.9	1226.3
40°	1110.7	1127.8	1164.2	1173.1	1169.4
42.5°	1068.3	1071.3	1102.5	1112.7	1096.5
45°	994.3	1012.8	1029.6	1056.2	1031.2
47.5°	931.3	939.9	976.2	983.3	970.1
50°	874.1	877.2	913.6	904.8	896.1
52.5°	802.3	815.0	835.5	833.8	823.7
55°	743.2	738.3	757.7	752.5	752.3
57.5°	672.3	680.9	696.9	688.7	675.5
60°	605.8	606.1	611.9	602.6	600.9
62.5°	531.9	534.4	535.7	524.3	542.9
65°	456.6	450.6	468.2	450.3	453.4
67.5°	387.4	390.4	388.7	377.4	381.7
70°	317.0	320.9	318.1	305.4	309.3
72.5°	252.8	248.0	251.0	235.1	242.4
75°	190.0	186.1	189.6	176.2	182.2
77.5°	129.4	132.4	130.3	123.2	127.2
80°	85.4	83.0	83.0	78.9	79.8
82.5°	49.8	47.4	46.8	45.5	47.4
85°	23.3	22.6	23.1	22.4	21.6
87.5°	8.4	8.6	8.6	8.2	7.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)