

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: P590581

Luminaire Tested: FSR-24-2-LD4-3LO-50-UNV-80-84-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590581  
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-80-84-EDD  
Description: 2X2 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .125 CLEAR PC ENVIRONM  
SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

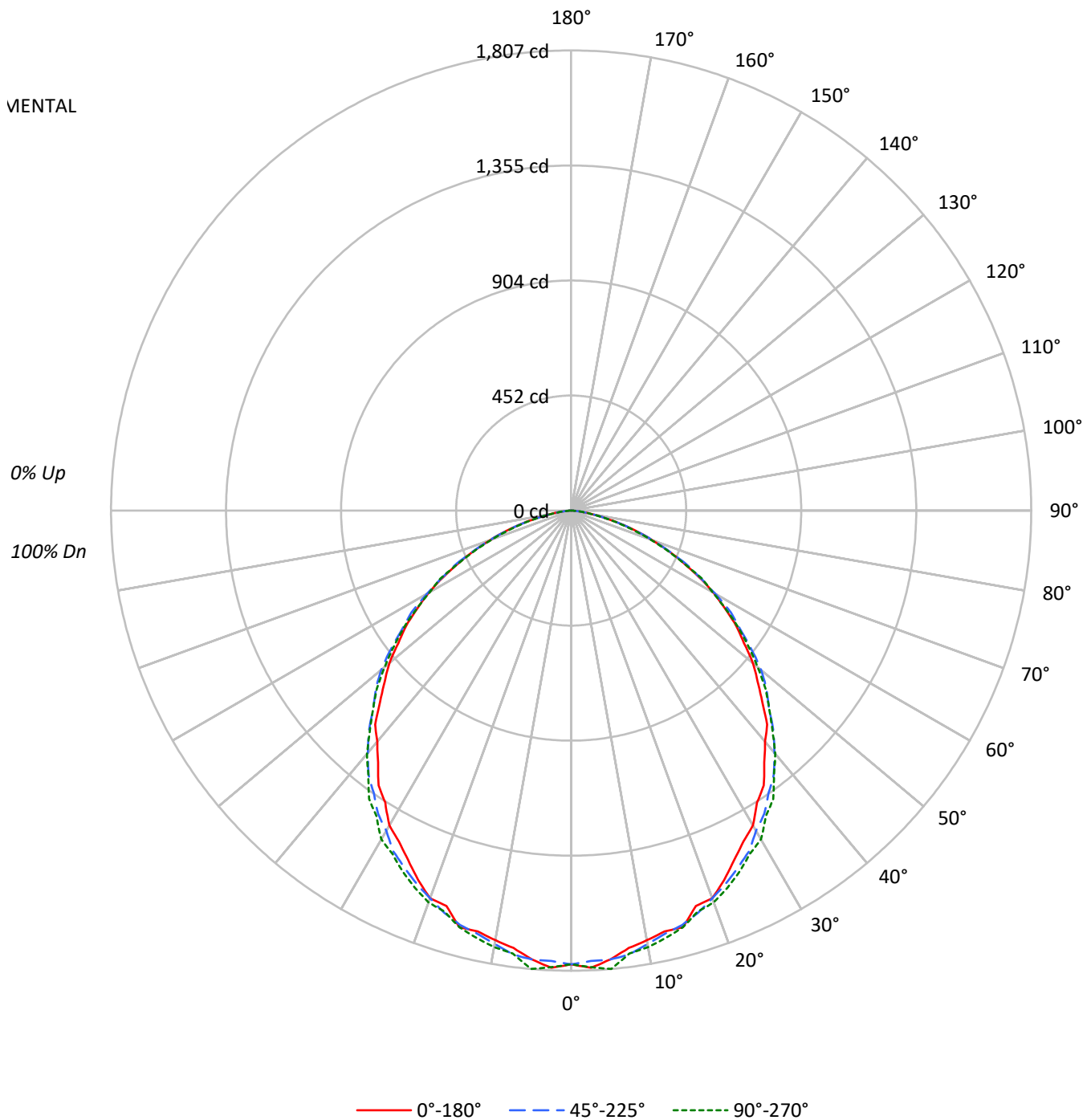
Lumens per Lamp: N/A  
Luminaire Lumens: 4490.0 lumens  
Efficiency: N/A  
Efficacy: 127.9 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 35.1  
Input Voltage (V):  
Input Current (Ain): NR  
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	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°	4794	4794	4794
5°	4778	4780	4881
10°	4681	4722	4755
15°	4718	4693	4719
20°	4639	4639	4688
25°	4496	4594	4645
30°	4434	4512	4632
35°	4330	4443	4543
40°	4161	4362	4381
45°	4035	4179	4185
50°	3903	4079	4001
55°	3719	3791	3764
60°	3477	3512	3449
65°	3101	3180	3079
70°	2660	2670	2596
75°	2106	2102	2021
80°	1412	1373	1319
85°	766	760	710

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 4287 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	167.6	3.7
10°-20°	474.9	10.6
20°-30°	711.6	15.8
30°-40°	843.3	18.8
40°-50°	844.9	18.8
50°-60°	717.2	16.0
60°-70°	483.5	10.8
70°-80°	212.4	4.7
80°-90°	34.5	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°	1354.1	30.2
0°-40°	2197.4	48.9
0°-60°	3759.5	83.7
0°-90°	4490.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4490.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1782	1782	1782	1782	1782	
5°	1769	1765	1770	1764	1807	167
15°	1694	1674	1684	1693	1694	472
25°	1514	1522	1547	1568	1564	700
35°	1318	1322	1352	1384	1383	818
45°	1060	1080	1098	1126	1100	820
55°	793	787	808	802	802	705
65°	487	480	499	480	484	484
75°	203	198	202	188	194	217
85°	25	24	25	24	23	36
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1781.5	1781.5	1781.5	1781.5	1781.5
2.5°	1796.9	1783.4	1770.7	1785.4	1794.4
5°	1768.9	1764.7	1769.6	1764.3	1806.8
7.5°	1732.5	1748.4	1757.6	1751.8	1754.4
10°	1713.2	1707.7	1728.2	1742.4	1740.3
12.5°	1692.5	1700.8	1701.9	1717.3	1718.7
15°	1693.7	1674.1	1684.4	1693.2	1693.9
17.5°	1627.9	1649.0	1656.2	1676.2	1651.3
20°	1619.8	1604.4	1619.8	1640.3	1637.1
22.5°	1570.4	1553.1	1586.2	1604.4	1603.3
25°	1514.2	1522.5	1547.4	1567.6	1564.4
27.5°	1465.0	1474.7	1510.1	1537.9	1520.0
30°	1427.1	1422.2	1452.1	1477.0	1490.8
32.5°	1359.2	1376.7	1411.6	1436.3	1423.1
35°	1318.0	1321.9	1352.5	1383.8	1382.9
37.5°	1246.0	1264.2	1307.2	1316.0	1307.9
40°	1184.6	1202.8	1241.7	1251.1	1247.2
42.5°	1139.3	1142.5	1175.9	1186.7	1169.4
45°	1060.4	1080.2	1098.1	1126.4	1099.7
47.5°	993.2	1002.4	1041.1	1048.7	1034.6
50°	932.3	935.5	974.4	964.9	955.7
52.5°	855.7	869.3	891.1	889.3	878.5
55°	792.7	787.4	808.1	802.5	802.3
57.5°	717.0	726.2	743.2	734.5	720.4
60°	646.1	646.4	652.6	642.7	640.8
62.5°	567.2	570.0	571.4	559.2	579.0
65°	487.0	480.5	499.4	480.3	483.5
67.5°	413.1	416.3	414.5	402.5	407.1
70°	338.1	342.3	339.3	325.7	329.9
72.5°	269.6	264.5	267.7	250.7	258.5
75°	202.6	198.5	202.2	187.9	194.4
77.5°	138.0	141.2	138.9	131.3	135.7
80°	91.1	88.6	88.6	84.2	85.1
82.5°	53.1	50.6	49.9	48.5	50.6
85°	24.8	24.2	24.6	23.9	23.0
87.5°	9.0	9.2	9.2	8.7	8.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)