

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: P590552

Luminaire Tested: FSR-24-2-LD4-3LO-40-UNV-80-87-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590552  
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-40-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 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

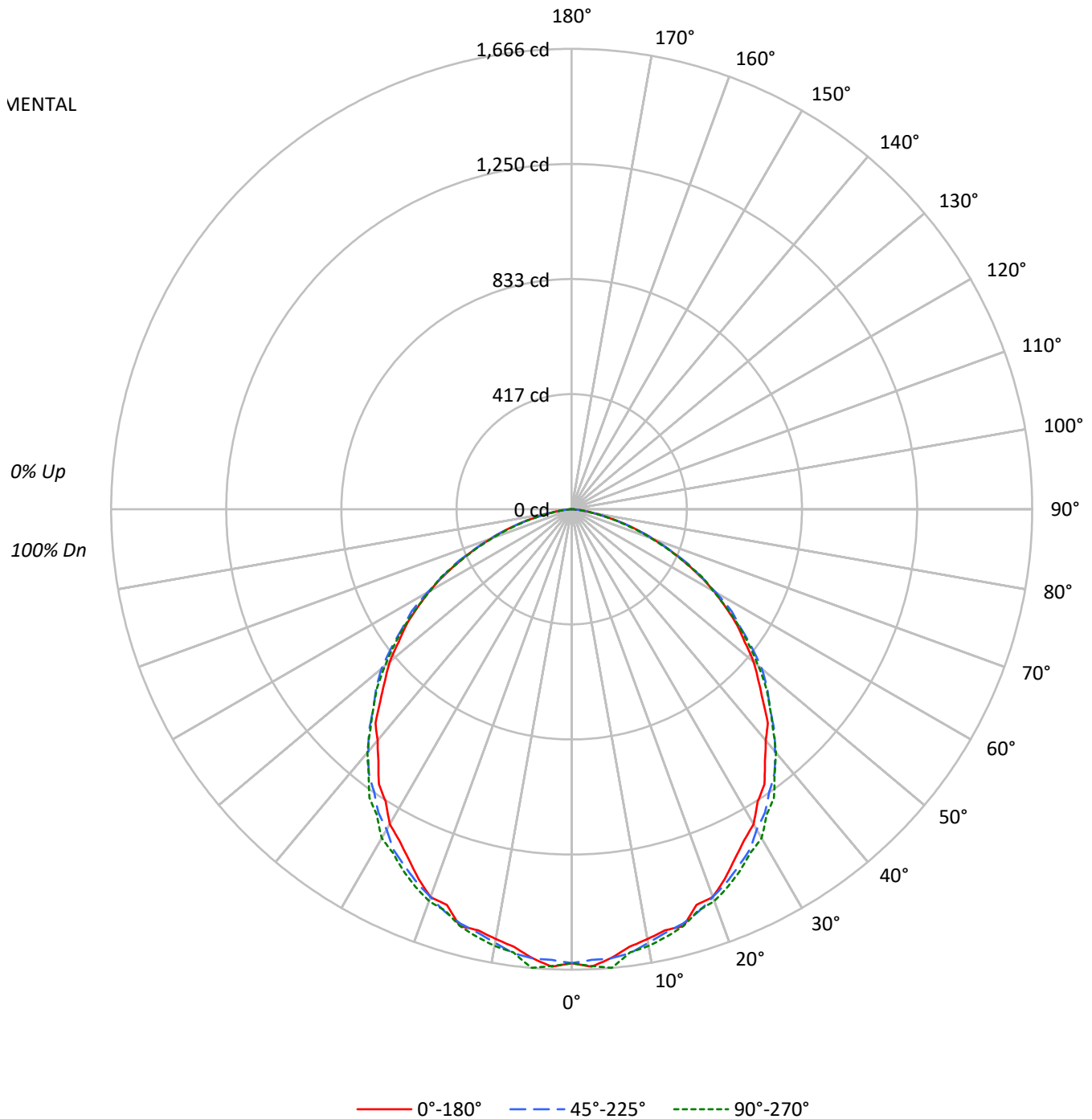
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4139.0 lumens  
Efficiency: N/A  
Efficacy: 117.9 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



TEST NUMBER: P590552  
CATALOG NUMBER: FSR-24-2-LD4-3LO-40-UNV-80-87-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P590552

CATALOG NUMBER: FSR-24-2-LD4-3LO-40-UNV-80-87-EDD

**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°	4419	4419	4419
5°	4405	4406	4499
10°	4315	4353	4384
15°	4350	4326	4350
20°	4276	4276	4322
25°	4145	4235	4282
30°	4088	4159	4270
35°	3991	4096	4188
40°	3836	4021	4039
45°	3720	3852	3858
50°	3598	3760	3688
55°	3428	3495	3470
60°	3205	3238	3179
65°	2858	2931	2838
70°	2452	2461	2393
75°	1942	1938	1863
80°	1302	1265	1216
85°	707	701	655

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 3952 cd/sqm



TEST NUMBER: P590552

CATALOG NUMBER: FSR-24-2-LD4-3LO-40-UNV-80-87-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	154.5	3.7
10°-20°	437.8	10.6
20°-30°	655.9	15.8
30°-40°	777.4	18.8
40°-50°	778.9	18.8
50°-60°	661.1	16.0
60°-70°	445.7	10.8
70°-80°	195.8	4.7
80°-90°	31.8	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°	1248.2	30.2
0°-40°	2025.6	48.9
0°-60°	3465.6	83.7
0°-90°	4139.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4139.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1642	1642	1642	1642	1642	
5°	1631	1627	1631	1626	1666	154
15°	1561	1543	1553	1561	1562	435
25°	1396	1404	1426	1445	1442	645
35°	1215	1219	1247	1276	1275	754
45°	978	996	1012	1038	1014	756
55°	731	726	745	740	740	650
65°	449	443	460	443	446	446
75°	187	183	186	173	179	200
85°	23	22	23	22	21	33
90°	0	0	0	0	0	



TEST NUMBER: P590552

CATALOG NUMBER: FSR-24-2-LD4-3LO-40-UNV-80-87-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1642.3	1642.3	1642.3	1642.3	1642.3
2.5°	1656.5	1643.9	1632.3	1645.9	1654.1
5°	1630.6	1626.8	1631.2	1626.3	1665.6
7.5°	1597.1	1611.7	1620.2	1614.9	1617.2
10°	1579.3	1574.2	1593.1	1606.2	1604.3
12.5°	1560.2	1567.8	1568.9	1583.1	1584.4
15°	1561.3	1543.2	1552.8	1560.8	1561.5
17.5°	1500.6	1520.1	1526.7	1545.1	1522.2
20°	1493.2	1479.0	1493.2	1512.1	1509.1
22.5°	1447.6	1431.7	1462.2	1479.0	1477.9
25°	1395.9	1403.5	1426.4	1445.1	1442.1
27.5°	1350.5	1359.4	1392.0	1417.7	1401.2
30°	1315.5	1311.0	1338.6	1361.5	1374.2
32.5°	1252.9	1269.1	1301.3	1324.0	1311.9
35°	1215.0	1218.6	1246.8	1275.6	1274.8
37.5°	1148.6	1165.4	1205.0	1213.1	1205.7
40°	1092.0	1108.8	1144.6	1153.3	1149.7
42.5°	1050.2	1053.2	1083.9	1093.9	1078.0
45°	977.5	995.7	1012.3	1038.4	1013.8
47.5°	915.6	924.1	959.7	966.7	953.8
50°	859.4	862.4	898.2	889.5	881.0
52.5°	788.8	801.3	821.4	819.7	809.8
55°	730.7	725.8	744.9	739.8	739.6
57.5°	660.9	669.4	685.1	677.0	664.1
60°	595.6	595.8	601.6	592.4	590.7
62.5°	522.9	525.4	526.7	515.5	533.7
65°	448.9	443.0	460.3	442.7	445.7
67.5°	380.8	383.8	382.1	371.1	375.3
70°	311.7	315.5	312.8	300.2	304.1
72.5°	248.5	243.8	246.8	231.1	238.3
75°	186.8	183.0	186.4	173.2	179.2
77.5°	127.2	130.2	128.1	121.1	125.1
80°	84.0	81.6	81.6	77.6	78.5
82.5°	49.0	46.6	46.0	44.7	46.6
85°	22.9	22.3	22.7	22.1	21.2
87.5°	8.3	8.5	8.5	8.1	7.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)