

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions  
(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P589451

Luminaire Tested: **FMR-24-2-LD4-3LO-50-UNV-82-96-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589451  
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 (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: FMR-24-2-LD4-3LO-50-UNV-82-96-EDD  
Description: 2X2 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

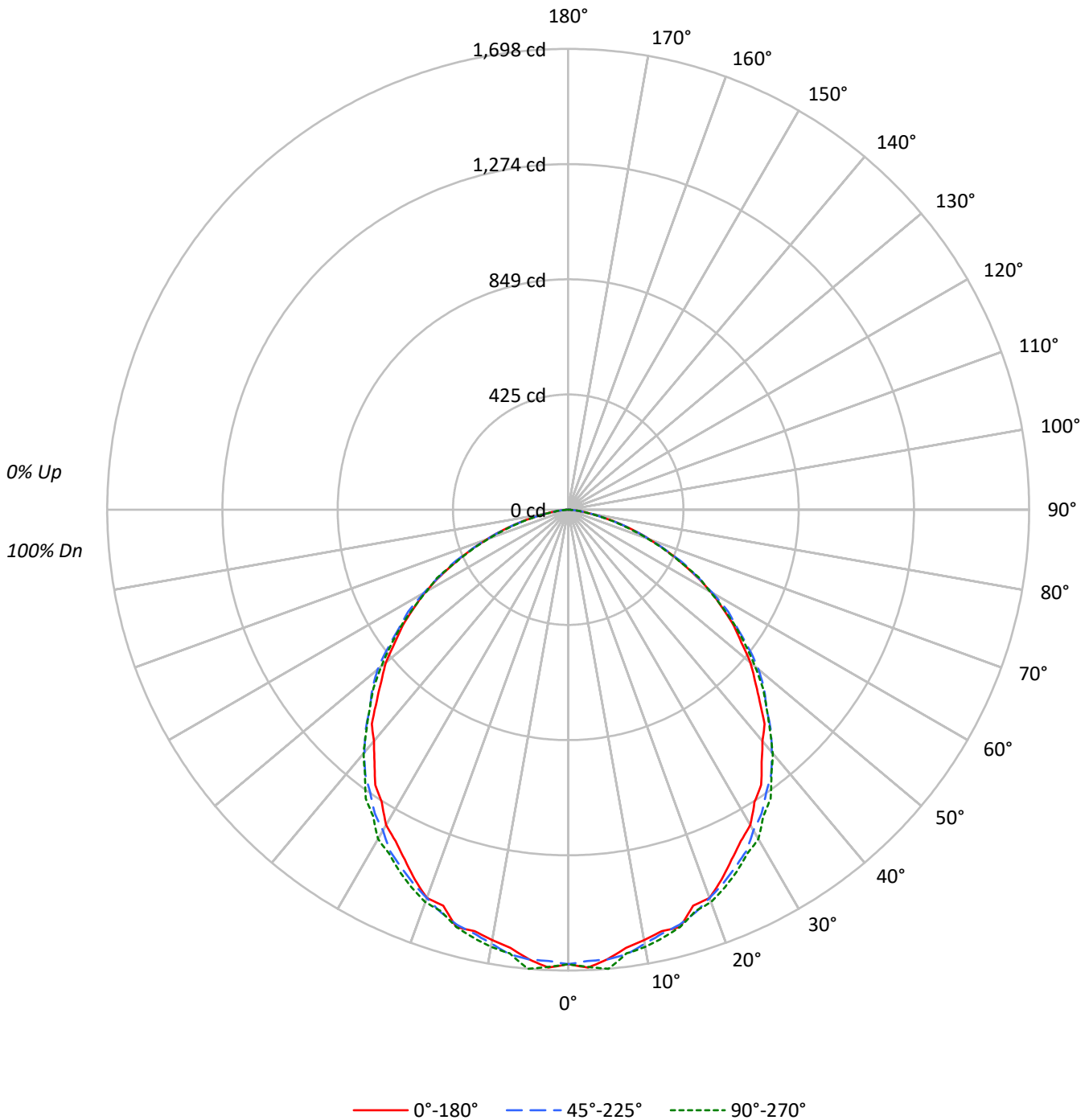
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4220.0 lumens  
Efficiency: N/A  
Efficacy: 120.2 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): NR  
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: 25 FT

TEST NUMBER: P589451

CATALOG NUMBER: FMR-24-2-LD4-3LO-50-UNV-82-96-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P589451

CATALOG NUMBER: FMR-24-2-LD4-3LO-50-UNV-82-96-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°	4506	4506	4506
5°	4491	4492	4587
10°	4400	4438	4470
15°	4435	4411	4435
20°	4360	4360	4406
25°	4226	4318	4366
30°	4167	4241	4354
35°	4070	4176	4270
40°	3911	4099	4118
45°	3793	3928	3933
50°	3668	3834	3761
55°	3495	3563	3538
60°	3268	3301	3242
65°	2914	2988	2893
70°	2500	2509	2439
75°	1981	1975	1900
80°	1327	1289	1240
85°	719	713	667



TEST NUMBER: P589451

CATALOG NUMBER: FMR-24-2-LD4-3LO-50-UNV-82-96-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	157.5	3.7
10°-20°	446.4	10.6
20°-30°	668.8	15.8
30°-40°	792.6	18.8
40°-50°	794.1	18.8
50°-60°	674.1	16.0
60°-70°	454.4	10.8
70°-80°	199.7	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°	1272.6	30.2
0°-40°	2065.3	48.9
0°-60°	3533.4	83.7
0°-90°	4220.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4220.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1674	1674	1674	1674	1674	
5°	1662	1659	1663	1658	1698	157
15°	1592	1573	1583	1591	1592	443
25°	1423	1431	1454	1473	1470	658
35°	1239	1242	1271	1301	1300	769
45°	997	1015	1032	1059	1034	771
55°	745	740	760	754	754	663
65°	458	452	469	451	454	455
75°	190	187	190	177	183	204
85°	23	23	23	22	22	34
90°	0	0	0	0	0	



TEST NUMBER: P589451

CATALOG NUMBER: FMR-24-2-LD4-3LO-50-UNV-82-96-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1674.4	1674.4	1674.4	1674.4	1674.4
2.5°	1688.9	1676.1	1664.2	1678.1	1686.5
5°	1662.5	1658.6	1663.1	1658.2	1698.2
7.5°	1628.3	1643.3	1651.9	1646.5	1648.9
10°	1610.2	1605.0	1624.2	1637.6	1635.7
12.5°	1590.7	1598.5	1599.6	1614.1	1615.4
15°	1591.8	1573.4	1583.2	1591.4	1592.0
17.5°	1530.0	1549.9	1556.6	1575.4	1552.0
20°	1522.4	1507.9	1522.4	1541.6	1538.6
22.5°	1475.9	1459.7	1490.8	1507.9	1506.8
25°	1423.2	1431.0	1454.3	1473.3	1470.3
27.5°	1376.9	1386.0	1419.3	1445.4	1428.6
30°	1341.2	1336.7	1364.8	1388.2	1401.1
32.5°	1277.5	1293.9	1326.8	1349.9	1337.6
35°	1238.8	1242.4	1271.2	1300.6	1299.7
37.5°	1171.1	1188.2	1228.6	1236.8	1229.3
40°	1113.4	1130.5	1167.0	1175.9	1172.2
42.5°	1070.8	1073.8	1105.2	1115.3	1099.1
45°	996.6	1015.2	1032.1	1058.7	1033.6
47.5°	933.5	942.2	978.5	985.6	972.4
50°	876.2	879.2	915.8	906.9	898.3
52.5°	804.2	817.0	837.5	835.8	825.6
55°	745.0	740.0	759.5	754.3	754.1
57.5°	673.9	682.5	698.5	690.3	677.1
60°	607.3	607.5	613.3	604.0	602.3
62.5°	533.1	535.7	537.0	525.6	544.1
65°	457.7	451.6	469.3	451.4	454.4
67.5°	388.3	391.3	389.6	378.3	382.7
70°	317.8	321.7	318.9	306.1	310.0
72.5°	253.4	248.6	251.6	235.6	243.0
75°	190.5	186.6	190.0	176.6	182.7
77.5°	129.7	132.7	130.6	123.4	127.6
80°	85.6	83.2	83.2	79.1	80.0
82.5°	49.9	47.6	46.9	45.6	47.6
85°	23.3	22.7	23.1	22.5	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)