

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: P589073

Luminaire Tested: **FMR-24-2-LD4-2HI-50-UNV-93-88-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589073  
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-LD4-2HI-50-UNV-93-88-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

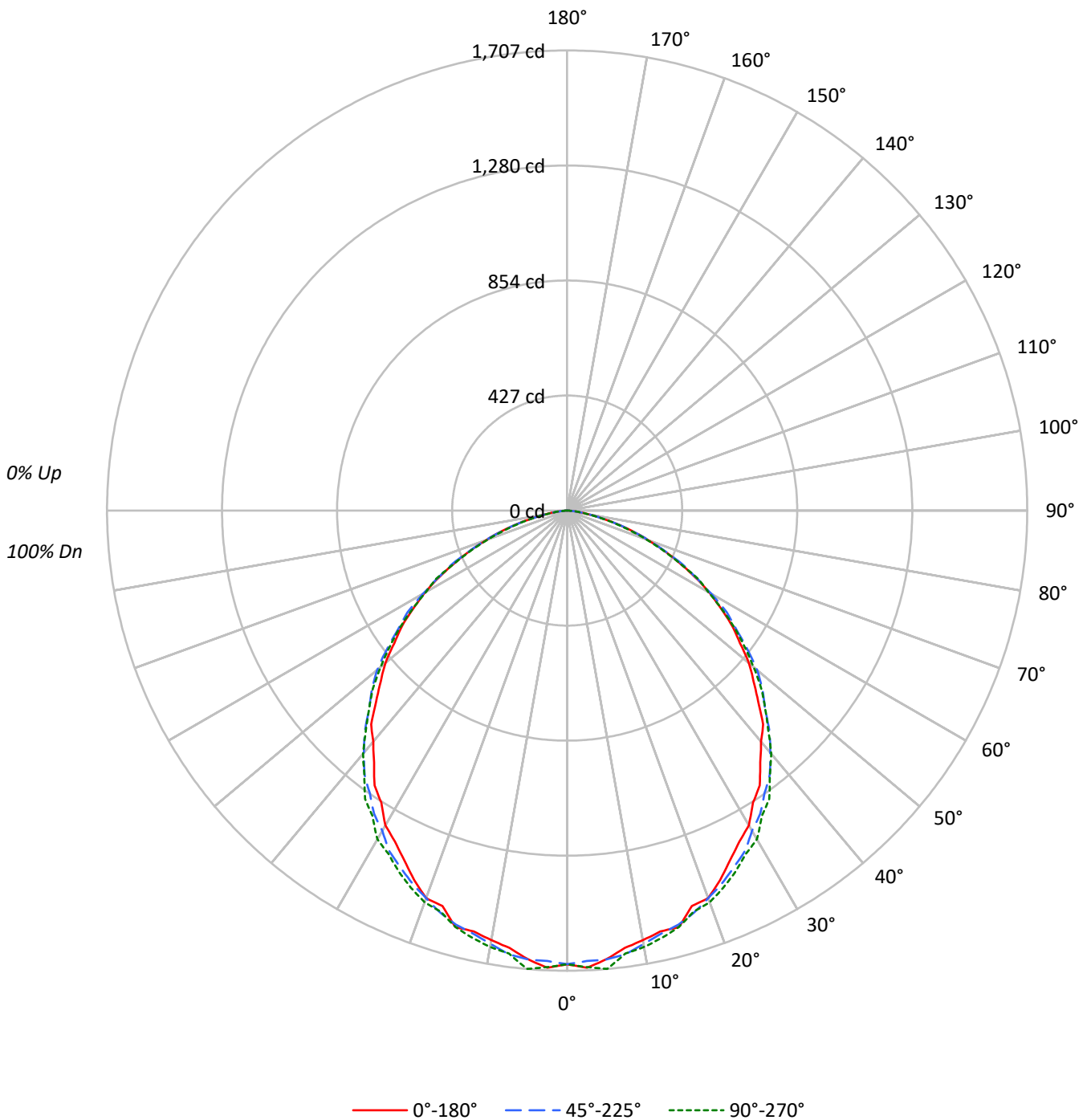
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4241.0 lumens  
Efficiency: N/A  
Efficacy: 98.2 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): 43.2  
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: P589073

CATALOG NUMBER: FMR-24-2-LD4-2HI-50-UNV-93-88-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P589073

CATALOG NUMBER: FMR-24-2-LD4-2HI-50-UNV-93-88-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°	4528	4528	4528
5°	4513	4515	4610
10°	4422	4460	4492
15°	4457	4432	4457
20°	4381	4381	4428
25°	4247	4339	4387
30°	4188	4262	4375
35°	4090	4197	4291
40°	3930	4120	4138
45°	3812	3947	3953
50°	3687	3853	3779
55°	3513	3581	3555
60°	3285	3317	3258
65°	2929	3004	2908
70°	2513	2522	2452
75°	1990	1986	1909
80°	1333	1296	1246
85°	726	716	670



TEST NUMBER: P589073

CATALOG NUMBER: FMR-24-2-LD4-2HI-50-UNV-93-88-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	158.3	3.7
10°-20°	448.6	10.6
20°-30°	672.1	15.8
30°-40°	796.6	18.8
40°-50°	798.0	18.8
50°-60°	677.4	16.0
60°-70°	456.7	10.8
70°-80°	200.7	4.7
80°-90°	32.6	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°	1279.0	30.2
0°-40°	2075.5	48.9
0°-60°	3551.0	83.7
0°-90°	4241.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4241.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1683	1683	1683	1683	1683	
5°	1671	1667	1671	1666	1707	158
15°	1600	1581	1591	1599	1600	446
25°	1430	1438	1462	1481	1478	661
35°	1245	1249	1278	1307	1306	773
45°	1002	1020	1037	1064	1039	775
55°	749	744	763	758	758	666
65°	460	454	472	454	457	457
75°	191	188	191	178	184	205
85°	24	23	23	23	22	34
90°	0	0	0	0	0	



TEST NUMBER: P589073

CATALOG NUMBER: FMR-24-2-LD4-2HI-50-UNV-93-88-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1682.7	1682.7	1682.7	1682.7	1682.7
2.5°	1697.3	1684.5	1672.5	1686.4	1694.9
5°	1670.8	1666.9	1671.4	1666.4	1706.6
7.5°	1636.4	1651.4	1660.1	1654.7	1657.1
10°	1618.2	1613.0	1632.3	1645.8	1643.8
12.5°	1598.6	1606.5	1607.5	1622.1	1623.4
15°	1599.7	1581.3	1591.0	1599.3	1599.9
17.5°	1537.6	1557.6	1564.3	1583.2	1559.7
20°	1530.0	1515.4	1530.0	1549.3	1546.3
22.5°	1483.3	1467.0	1498.3	1515.4	1514.3
25°	1430.3	1438.1	1461.5	1480.7	1477.6
27.5°	1383.8	1392.9	1426.3	1452.6	1435.7
30°	1347.9	1343.4	1371.6	1395.1	1408.1
32.5°	1283.8	1300.3	1333.4	1356.6	1344.2
35°	1244.9	1248.6	1277.5	1307.1	1306.2
37.5°	1176.9	1194.1	1234.7	1243.0	1235.4
40°	1118.9	1136.1	1172.8	1181.7	1178.0
42.5°	1076.1	1079.2	1110.7	1120.9	1104.6
45°	1001.6	1020.3	1037.2	1063.9	1038.7
47.5°	938.2	946.8	983.3	990.5	977.3
50°	880.6	883.6	920.3	911.4	902.7
52.5°	808.2	821.0	841.7	839.9	829.7
55°	748.7	743.7	763.3	758.0	757.8
57.5°	677.2	685.9	702.0	693.7	680.5
60°	610.3	610.5	616.4	607.0	605.3
62.5°	535.8	538.4	539.7	528.2	546.9
65°	460.0	453.9	471.7	453.7	456.7
67.5°	390.2	393.3	391.5	380.2	384.6
70°	319.4	323.3	320.5	307.6	311.6
72.5°	254.6	249.9	252.9	236.8	244.2
75°	191.4	187.5	191.0	177.5	183.6
77.5°	130.4	133.4	131.2	124.1	128.2
80°	86.0	83.6	83.6	79.5	80.4
82.5°	50.2	47.8	47.1	45.8	47.8
85°	23.5	22.8	23.2	22.6	21.7
87.5°	8.5	8.7	8.7	8.3	7.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)