

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: P589651

Luminaire Tested: **FMR-24-2-LD4-4HI-50-UNV-93-96-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589651  
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-LD4-4HI-50-UNV-93-96-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

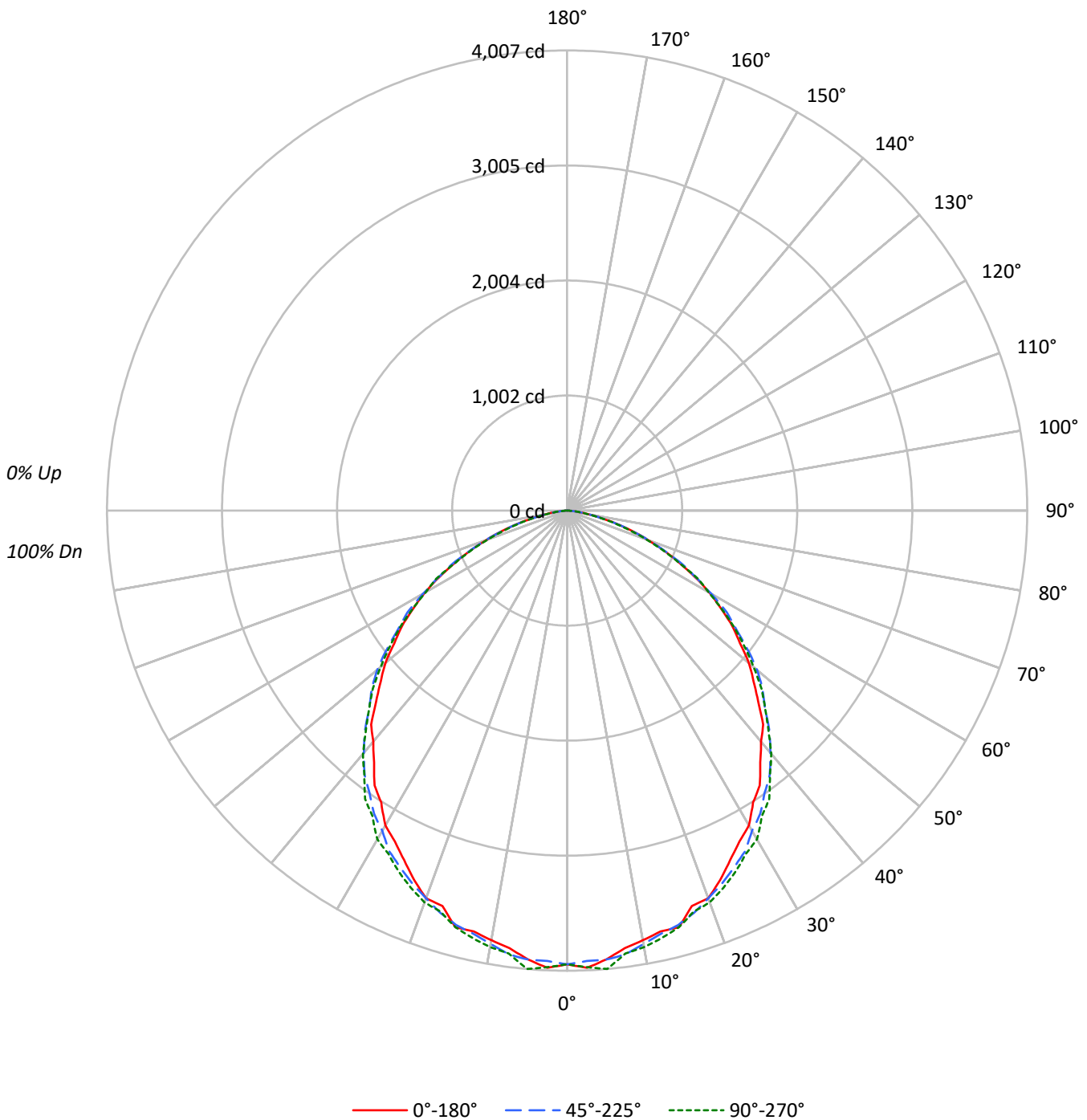
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9957.0 lumens  
Efficiency: N/A  
Efficacy: 115.2 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): 86.4  
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: P589651

CATALOG NUMBER: FMR-24-2-LD4-4HI-50-UNV-93-96-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P589651

CATALOG NUMBER: FMR-24-2-LD4-4HI-50-UNV-93-96-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°	10631	10631	10631
5°	10596	10600	10823
10°	10381	10472	10546
15°	10463	10406	10465
20°	10287	10287	10396
25°	9970	10188	10301
30°	9833	10006	10272
35°	9602	9853	10074
40°	9228	9673	9715
45°	8949	9267	9281
50°	8655	9046	8873
55°	8247	8407	8347
60°	7712	7788	7648
65°	6876	7051	6827
70°	5899	5920	5755
75°	4672	4662	4481
80°	3130	3044	2924
85°	1701	1686	1575



TEST NUMBER: P589651

CATALOG NUMBER: FMR-24-2-LD4-4HI-50-UNV-93-96-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	371.6	3.7
10°-20°	1053.2	10.6
20°-30°	1577.9	15.8
30°-40°	1870.2	18.8
40°-50°	1873.6	18.8
50°-60°	1590.4	16.0
60°-70°	1072.3	10.8
70°-80°	471.2	4.7
80°-90°	76.6	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°	3002.8	30.2
0°-40°	4873.0	48.9
0°-60°	8337.0	83.7
0°-90°	9957.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9957.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3951	3951	3951	3951	3951	
5°	3923	3913	3924	3912	4007	370
15°	3756	3712	3735	3755	3756	1046
25°	3358	3376	3431	3476	3469	1552
35°	2923	2932	2999	3069	3067	1815
45°	2352	2395	2435	2498	2439	1819
55°	1758	1746	1792	1780	1779	1564
65°	1080	1066	1107	1065	1072	1074
75°	449	440	448	417	431	482
85°	55	54	55	53	51	80
90°	0	0	0	0	0	



TEST NUMBER: P589651

CATALOG NUMBER: FMR-24-2-LD4-4HI-50-UNV-93-96-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3950.7	3950.7	3950.7	3950.7	3950.7
2.5°	3984.9	3954.8	3926.7	3959.4	3979.3
5°	3922.6	3913.4	3924.2	3912.4	4006.8
7.5°	3842.0	3877.2	3897.6	3884.9	3890.5
10°	3799.2	3786.9	3832.3	3864.0	3859.4
12.5°	3753.3	3771.6	3774.2	3808.4	3811.4
15°	3755.8	3712.5	3735.4	3754.8	3756.3
17.5°	3609.9	3656.9	3672.7	3717.1	3662.0
20°	3592.1	3557.9	3592.1	3637.5	3630.3
22.5°	3482.4	3444.2	3517.6	3557.9	3555.4
25°	3358.0	3376.3	3431.4	3476.3	3469.2
27.5°	3248.8	3270.2	3348.8	3410.5	3370.7
30°	3164.6	3153.9	3220.2	3275.3	3305.9
32.5°	3014.2	3052.9	3130.5	3185.0	3156.0
35°	2922.8	2931.5	2999.4	3068.7	3066.7
37.5°	2763.2	2803.5	2898.9	2918.3	2900.4
40°	2627.0	2667.3	2753.5	2774.4	2765.7
42.5°	2526.5	2533.6	2607.6	2631.6	2593.3
45°	2351.5	2395.4	2435.2	2497.9	2438.8
47.5°	2202.6	2223.0	2308.7	2325.5	2294.4
50°	2067.4	2074.6	2160.8	2139.8	2119.4
52.5°	1897.6	1927.6	1976.1	1972.0	1948.1
55°	1757.8	1746.1	1792.0	1779.7	1779.2
57.5°	1590.0	1610.4	1648.1	1628.7	1597.6
60°	1432.9	1433.4	1447.1	1425.2	1421.1
62.5°	1257.9	1264.0	1267.1	1240.0	1283.9
65°	1079.9	1065.6	1107.4	1065.1	1072.2
67.5°	916.1	923.3	919.2	892.7	902.9
70°	749.8	759.0	752.4	722.3	731.5
72.5°	597.8	586.6	593.8	556.0	573.3
75°	449.4	440.2	448.4	416.7	431.0
77.5°	306.1	313.2	308.1	291.3	301.0
80°	202.0	196.4	196.4	186.7	188.7
82.5°	117.8	112.2	110.7	107.6	112.2
85°	55.1	53.6	54.6	53.0	51.0
87.5°	19.9	20.4	20.4	19.4	18.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)