

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: P589594

Luminaire Tested: **FMR-24-2-LD4-4HI-40-UNV-80-94-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589594  
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-40-UNV-80-94-EDD  
Description: 2X2 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

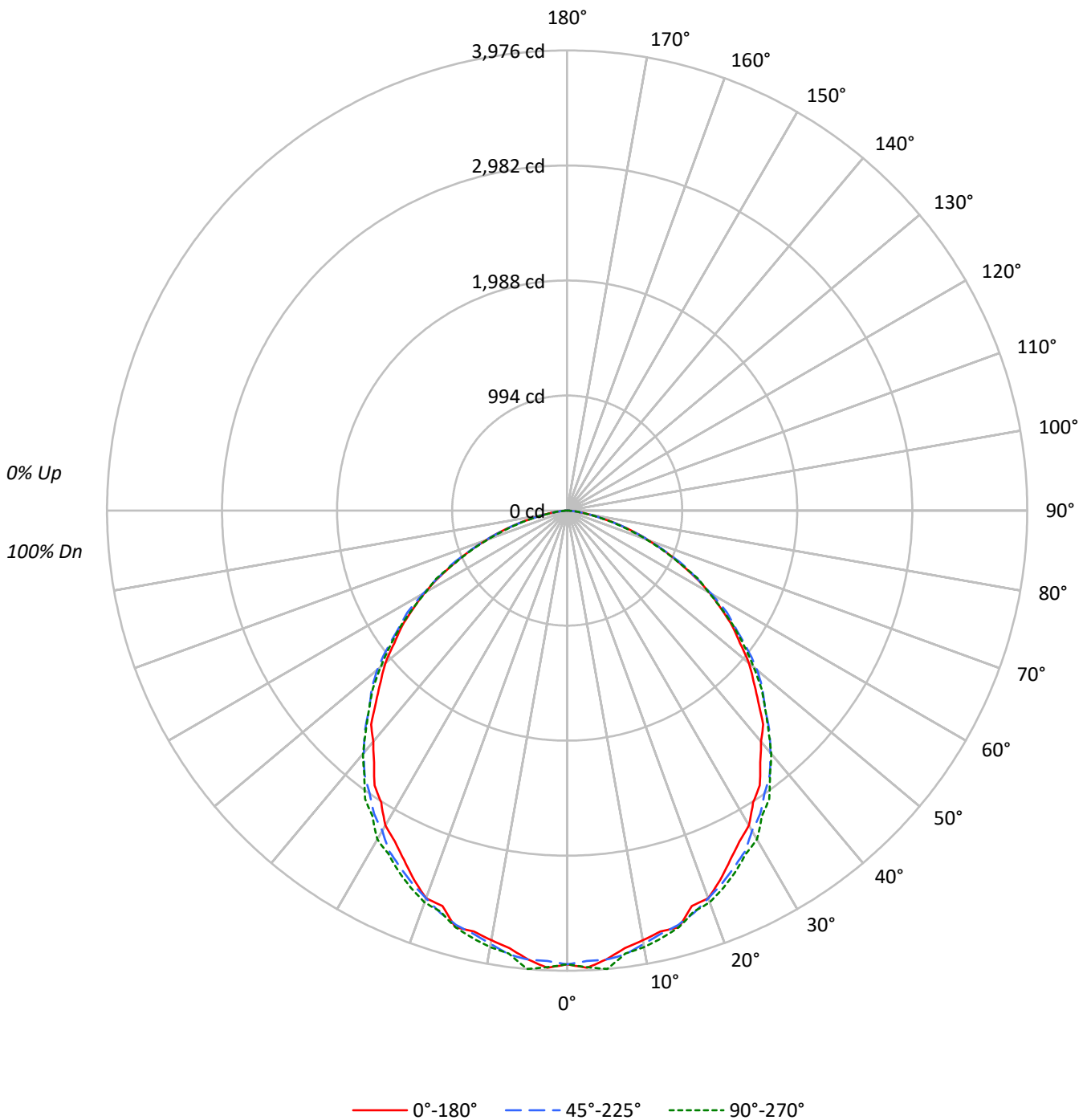
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9880.0 lumens  
Efficiency: N/A  
Efficacy: 114.4 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 (A<sub>in</sub>): 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: P589594

CATALOG NUMBER: FMR-24-2-LD4-4HI-40-UNV-80-94-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P589594

CATALOG NUMBER: FMR-24-2-LD4-4HI-40-UNV-80-94-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°	10549	10549	10549
5°	10514	10518	10740
10°	10301	10391	10464
15°	10383	10326	10384
20°	10207	10207	10316
25°	9893	10110	10221
30°	9757	9929	10193
35°	9527	9777	9996
40°	9157	9598	9640
45°	8880	9196	9209
50°	8588	8976	8804
55°	8183	8342	8283
60°	7652	7728	7589
65°	6823	6997	6774
70°	5854	5874	5711
75°	4636	4626	4447
80°	3106	3020	2903
85°	1689	1673	1562



TEST NUMBER: P589594

CATALOG NUMBER: FMR-24-2-LD4-4HI-40-UNV-80-94-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	368.7	3.7
10°-20°	1045.1	10.6
20°-30°	1565.7	15.8
30°-40°	1855.7	18.8
40°-50°	1859.2	18.8
50°-60°	1578.1	16.0
60°-70°	1064.0	10.8
70°-80°	467.5	4.7
80°-90°	76.0	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°	2979.6	30.2
0°-40°	4835.3	48.9
0°-60°	8272.6	83.7
0°-90°	9880.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9880.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3920	3920	3920	3920	3920	
5°	3892	3883	3894	3882	3976	367
15°	3727	3684	3706	3726	3727	1038
25°	3332	3350	3405	3449	3442	1540
35°	2900	2909	2976	3045	3043	1801
45°	2333	2377	2416	2479	2420	1805
55°	1744	1733	1778	1766	1766	1552
65°	1072	1057	1099	1057	1064	1066
75°	446	437	445	414	428	478
85°	55	53	54	53	51	79
90°	0	0	0	0	0	



TEST NUMBER: P589594

CATALOG NUMBER: FMR-24-2-LD4-4HI-40-UNV-80-94-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3920.1	3920.1	3920.1	3920.1	3920.1
2.5°	3954.0	3924.2	3896.3	3928.7	3948.5
5°	3892.3	3883.2	3893.8	3882.2	3975.8
7.5°	3812.3	3847.2	3867.5	3854.8	3860.4
10°	3769.8	3757.7	3802.7	3834.1	3829.5
12.5°	3724.3	3742.5	3745.0	3778.9	3782.0
15°	3726.8	3683.8	3706.5	3725.8	3727.3
17.5°	3582.0	3628.6	3644.3	3688.3	3633.7
20°	3564.3	3530.4	3564.3	3609.4	3602.3
22.5°	3455.5	3417.5	3490.4	3530.4	3527.9
25°	3332.0	3350.2	3404.9	3449.4	3442.3
27.5°	3223.7	3244.9	3322.9	3384.1	3344.6
30°	3140.2	3129.5	3195.3	3250.0	3280.4
32.5°	2990.8	3029.3	3106.2	3160.4	3131.6
35°	2900.2	2908.8	2976.2	3045.0	3043.0
37.5°	2741.8	2781.8	2876.5	2895.7	2878.0
40°	2606.7	2646.7	2732.2	2753.0	2744.3
42.5°	2507.0	2514.0	2587.4	2611.2	2573.3
45°	2333.4	2376.9	2416.4	2478.6	2419.9
47.5°	2185.6	2205.8	2290.8	2307.5	2276.7
50°	2051.4	2058.5	2144.1	2123.3	2103.1
52.5°	1882.9	1912.7	1960.8	1956.8	1933.0
55°	1744.2	1732.6	1778.1	1766.0	1765.5
57.5°	1577.7	1597.9	1635.4	1616.1	1585.3
60°	1421.8	1422.3	1435.9	1414.2	1410.1
62.5°	1248.2	1254.2	1257.3	1230.5	1274.0
65°	1071.5	1057.3	1098.9	1056.8	1063.9
67.5°	909.0	916.1	912.1	885.8	895.9
70°	744.0	753.2	746.6	716.7	725.8
72.5°	593.2	582.1	589.2	551.7	568.9
75°	445.9	436.8	444.9	413.5	427.7
77.5°	303.7	310.8	305.7	289.0	298.6
80°	200.4	194.9	194.9	185.3	187.3
82.5°	116.9	111.4	109.8	106.8	111.4
85°	54.7	53.1	54.2	52.6	50.6
87.5°	19.7	20.2	20.2	19.2	18.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)