

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: P589638

Luminaire Tested: **FMR-24-2-LD4-4HI-50-UNV-82-85-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589638  
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-82-85-EDD  
Description: 2X2 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

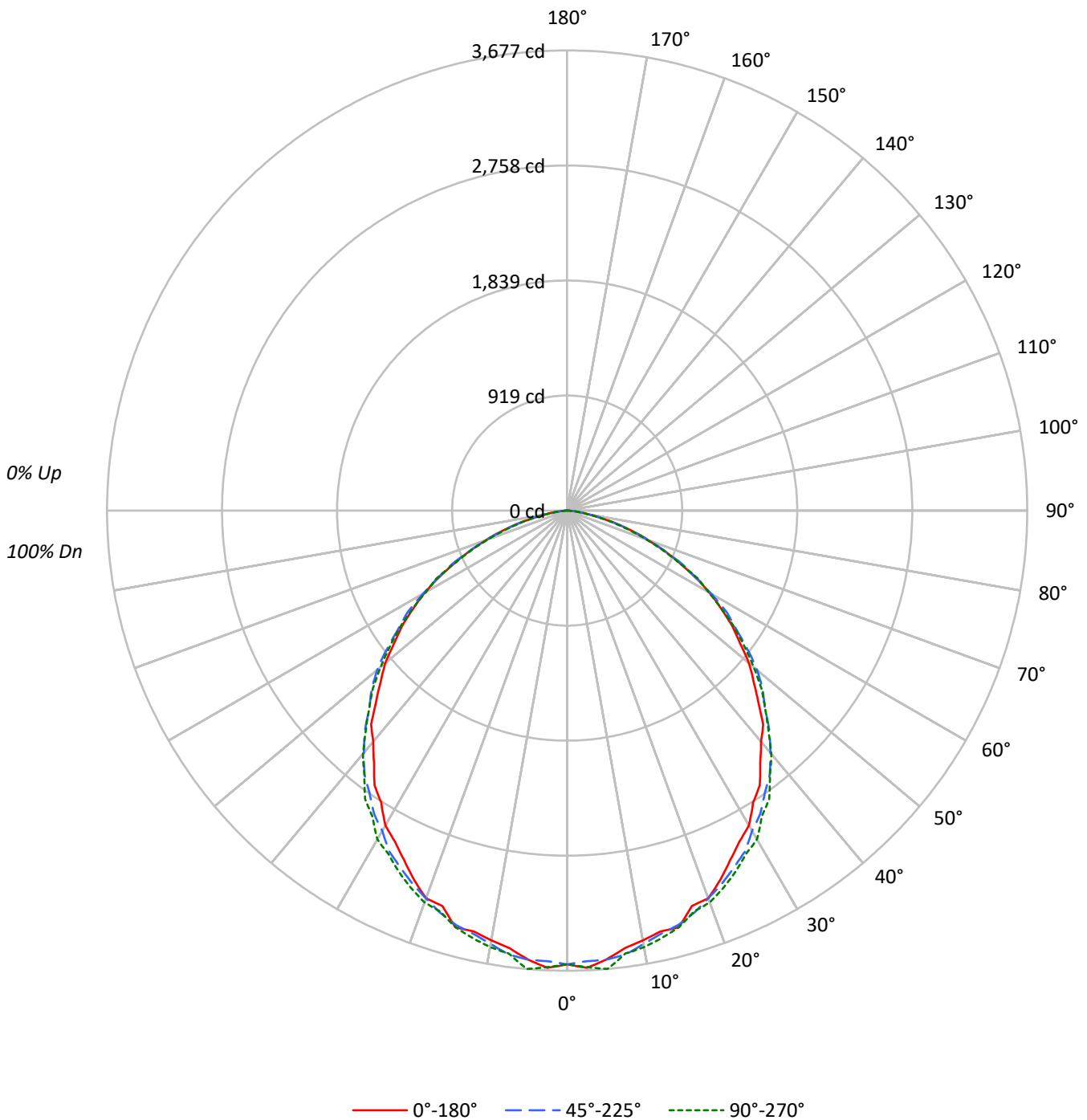
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9138.0 lumens  
Efficiency: N/A  
Efficacy: 105.8 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: P589638

CATALOG NUMBER: FMR-24-2-LD4-4HI-50-UNV-82-85-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P589638

CATALOG NUMBER: FMR-24-2-LD4-4HI-50-UNV-82-85-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°	9757	9757	9757
5°	9725	9728	9933
10°	9527	9610	9678
15°	9603	9551	9604
20°	9440	9440	9541
25°	9150	9350	9453
30°	9024	9183	9427
35°	8812	9043	9246
40°	8469	8877	8916
45°	8213	8505	8518
50°	7943	8302	8143
55°	7568	7716	7661
60°	7077	7148	7019
65°	6310	6471	6266
70°	5415	5433	5282
75°	4288	4278	4113
80°	2873	2793	2684
85°	1562	1547	1445



TEST NUMBER: P589638

CATALOG NUMBER: FMR-24-2-LD4-4HI-50-UNV-82-85-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	341.1	3.7
10°-20°	966.6	10.6
20°-30°	1448.2	15.8
30°-40°	1716.4	18.8
40°-50°	1719.5	18.8
50°-60°	1459.6	16.0
60°-70°	984.1	10.8
70°-80°	432.4	4.7
80°-90°	70.3	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°	2755.8	30.2
0°-40°	4472.2	48.9
0°-60°	7651.3	83.7
0°-90°	9138.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9138.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3626	3626	3626	3626	3626	
5°	3600	3592	3601	3591	3677	339
15°	3447	3407	3428	3446	3447	960
25°	3082	3099	3149	3190	3184	1425
35°	2682	2690	2753	2816	2814	1665
45°	2158	2198	2235	2292	2238	1669
55°	1613	1602	1645	1633	1633	1435
65°	991	978	1016	978	984	986
75°	412	404	412	382	396	442
85°	51	49	50	49	47	73
90°	0	0	0	0	0	



TEST NUMBER: P589638

CATALOG NUMBER: FMR-24-2-LD4-4HI-50-UNV-82-85-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3625.7	3625.7	3625.7	3625.7	3625.7
2.5°	3657.1	3629.5	3603.7	3633.7	3651.9
5°	3600.0	3591.6	3601.4	3590.6	3677.2
7.5°	3526.0	3558.3	3577.0	3565.3	3570.5
10°	3486.7	3475.5	3517.1	3546.1	3541.9
12.5°	3444.6	3461.4	3463.8	3495.1	3497.9
15°	3446.9	3407.1	3428.2	3446.0	3447.4
17.5°	3313.0	3356.1	3370.6	3411.3	3360.8
20°	3296.6	3265.3	3296.6	3338.3	3331.7
22.5°	3196.0	3160.9	3228.3	3265.3	3262.9
25°	3081.8	3098.6	3149.2	3190.4	3183.8
27.5°	2981.6	3001.2	3073.3	3130.0	3093.5
30°	2904.3	2894.5	2955.4	3005.9	3034.0
32.5°	2766.2	2801.8	2873.0	2923.1	2896.4
35°	2682.4	2690.4	2752.7	2816.3	2814.4
37.5°	2535.9	2572.9	2660.4	2678.2	2661.8
40°	2410.9	2447.9	2527.0	2546.2	2538.2
42.5°	2318.7	2325.2	2393.1	2415.1	2380.0
45°	2158.1	2198.4	2234.9	2292.5	2238.2
47.5°	2021.4	2040.1	2118.8	2134.2	2105.7
50°	1897.4	1903.9	1983.0	1963.8	1945.1
52.5°	1741.5	1769.1	1813.6	1809.8	1787.8
55°	1613.2	1602.4	1644.6	1633.3	1632.9
57.5°	1459.2	1477.9	1512.6	1494.8	1466.2
60°	1315.0	1315.5	1328.1	1308.0	1304.2
62.5°	1154.4	1160.0	1162.9	1138.0	1178.3
65°	991.0	977.9	1016.3	977.5	984.0
67.5°	840.8	847.3	843.6	819.2	828.6
70°	688.2	696.6	690.5	662.9	671.3
72.5°	548.7	538.4	544.9	510.3	526.2
75°	412.4	404.0	411.5	382.5	395.6
77.5°	280.9	287.4	282.8	267.3	276.2
80°	185.4	180.2	180.2	171.3	173.2
82.5°	108.1	103.0	101.6	98.8	103.0
85°	50.6	49.2	50.1	48.7	46.8
87.5°	18.3	18.7	18.7	17.8	16.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)