

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: P589635

Luminaire Tested: **FMR-24-2-LD4-4HI-50-UNV-81-96-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589635  
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-81-96-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

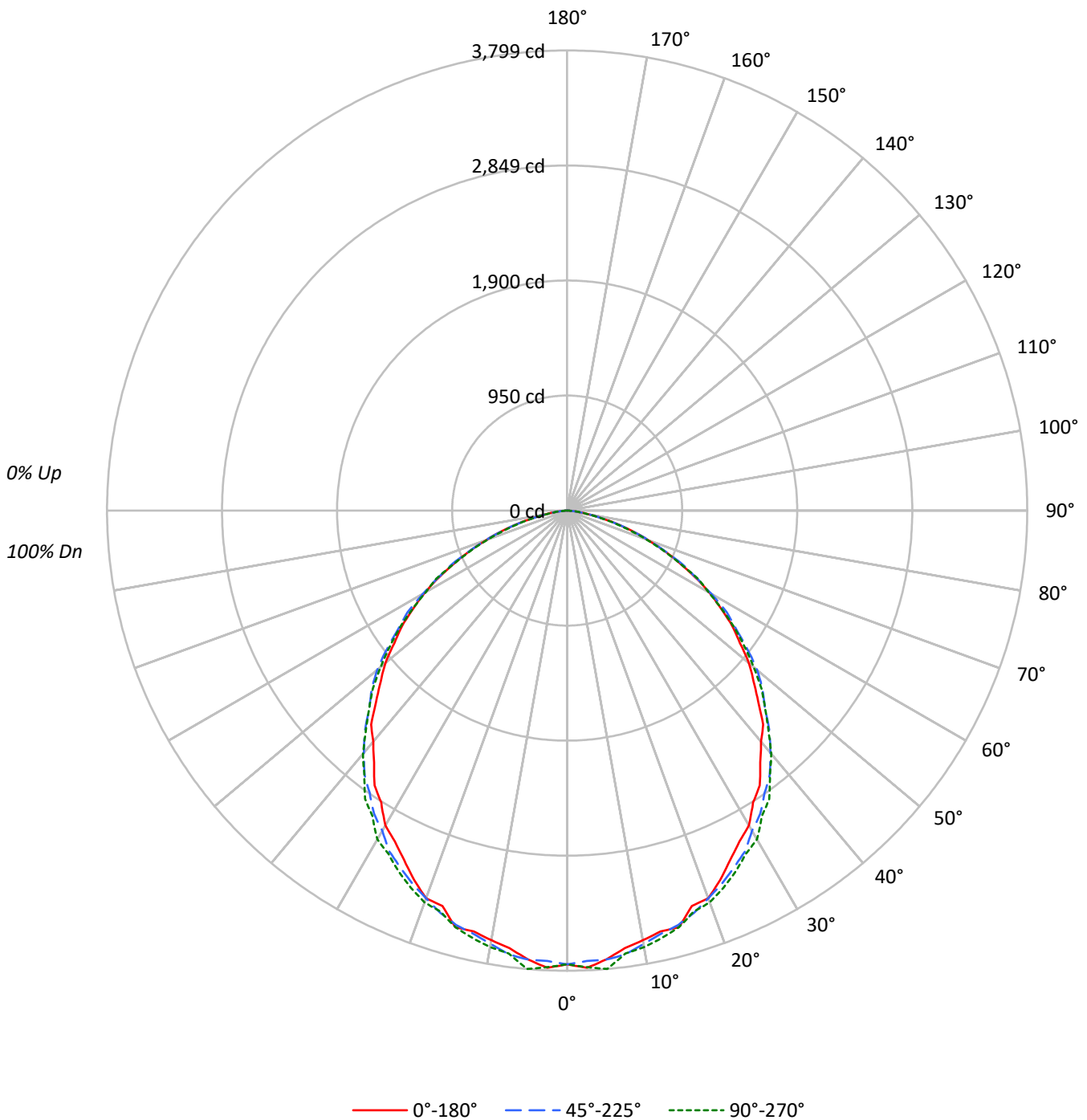
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9440.0 lumens  
Efficiency: N/A  
Efficacy: 109.3 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

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### Luminous Intensity Polar Plot





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**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°	10079	10079	10079
5°	10046	10050	10262
10°	9842	9928	9998
15°	9920	9866	9921
20°	9753	9753	9856
25°	9453	9659	9766
30°	9323	9487	9739
35°	9103	9341	9551
40°	8749	9170	9211
45°	8484	8786	8799
50°	8206	8576	8412
55°	7819	7971	7914
60°	7311	7384	7251
65°	6519	6685	6472
70°	5593	5612	5456
75°	4430	4420	4248
80°	2968	2885	2772
85°	1612	1596	1494



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	352.3	3.7
10°-20°	998.5	10.6
20°-30°	1496.0	15.8
30°-40°	1773.1	18.8
40°-50°	1776.4	18.8
50°-60°	1507.8	16.0
60°-70°	1016.6	10.8
70°-80°	446.7	4.7
80°-90°	72.6	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°	2846.9	30.2
0°-40°	4620.0	48.9
0°-60°	7904.1	83.7
0°-90°	9440.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9440.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3746	3746	3746	3746	3746	
5°	3719	3710	3720	3709	3799	351
15°	3561	3520	3542	3560	3561	992
25°	3184	3201	3253	3296	3289	1472
35°	2771	2779	2844	2909	2908	1721
45°	2229	2271	2309	2368	2312	1725
55°	1666	1655	1699	1687	1687	1482
65°	1024	1010	1050	1010	1016	1018
75°	426	417	425	395	409	457
85°	52	51	52	50	48	76
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3745.6	3745.6	3745.6	3745.6	3745.6
2.5°	3778.0	3749.4	3722.8	3753.8	3772.6
5°	3719.0	3710.3	3720.4	3709.3	3798.8
7.5°	3642.5	3675.9	3695.3	3683.2	3688.5
10°	3601.9	3590.3	3633.4	3663.3	3659.0
12.5°	3558.4	3575.8	3578.2	3610.6	3613.5
15°	3560.8	3519.7	3541.5	3559.8	3561.3
17.5°	3422.5	3467.0	3482.0	3524.1	3471.8
20°	3405.6	3373.2	3405.6	3448.6	3441.8
22.5°	3301.6	3265.3	3335.0	3373.2	3370.8
25°	3183.6	3201.0	3253.2	3295.8	3289.0
27.5°	3080.1	3100.4	3174.9	3233.4	3195.7
30°	3000.3	2990.2	3053.0	3105.3	3134.3
32.5°	2857.6	2894.4	2967.9	3019.7	2992.1
35°	2771.1	2779.3	2843.6	2909.4	2907.5
37.5°	2619.7	2657.9	2748.4	2766.7	2749.8
40°	2490.6	2528.8	2610.5	2630.4	2622.1
42.5°	2395.3	2402.1	2472.2	2494.9	2458.7
45°	2229.4	2271.0	2308.8	2368.2	2312.1
47.5°	2088.2	2107.6	2188.8	2204.8	2175.3
50°	1960.1	1966.8	2048.6	2028.7	2009.4
52.5°	1799.0	1827.6	1873.5	1869.6	1846.9
55°	1666.5	1655.4	1698.9	1687.3	1686.8
57.5°	1507.4	1526.8	1562.5	1544.2	1514.7
60°	1358.5	1358.9	1372.0	1351.2	1347.3
62.5°	1192.6	1198.4	1201.3	1175.7	1217.2
65°	1023.8	1010.3	1049.9	1009.8	1016.5
67.5°	868.6	875.3	871.5	846.3	856.0
70°	710.9	719.6	713.3	684.8	693.5
72.5°	566.8	556.2	562.9	527.1	543.6
75°	426.1	417.4	425.1	395.1	408.6
77.5°	290.2	296.9	292.1	276.1	285.3
80°	191.5	186.2	186.2	177.0	178.9
82.5°	111.7	106.4	104.9	102.0	106.4
85°	52.2	50.8	51.7	50.3	48.4
87.5°	18.9	19.3	19.3	18.4	17.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)