

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: P589640

Luminaire Tested: **FMR-24-2-LD4-4HI-50-UNV-82-87-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589640  
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-82-87-EDD  
Description: 2X2 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

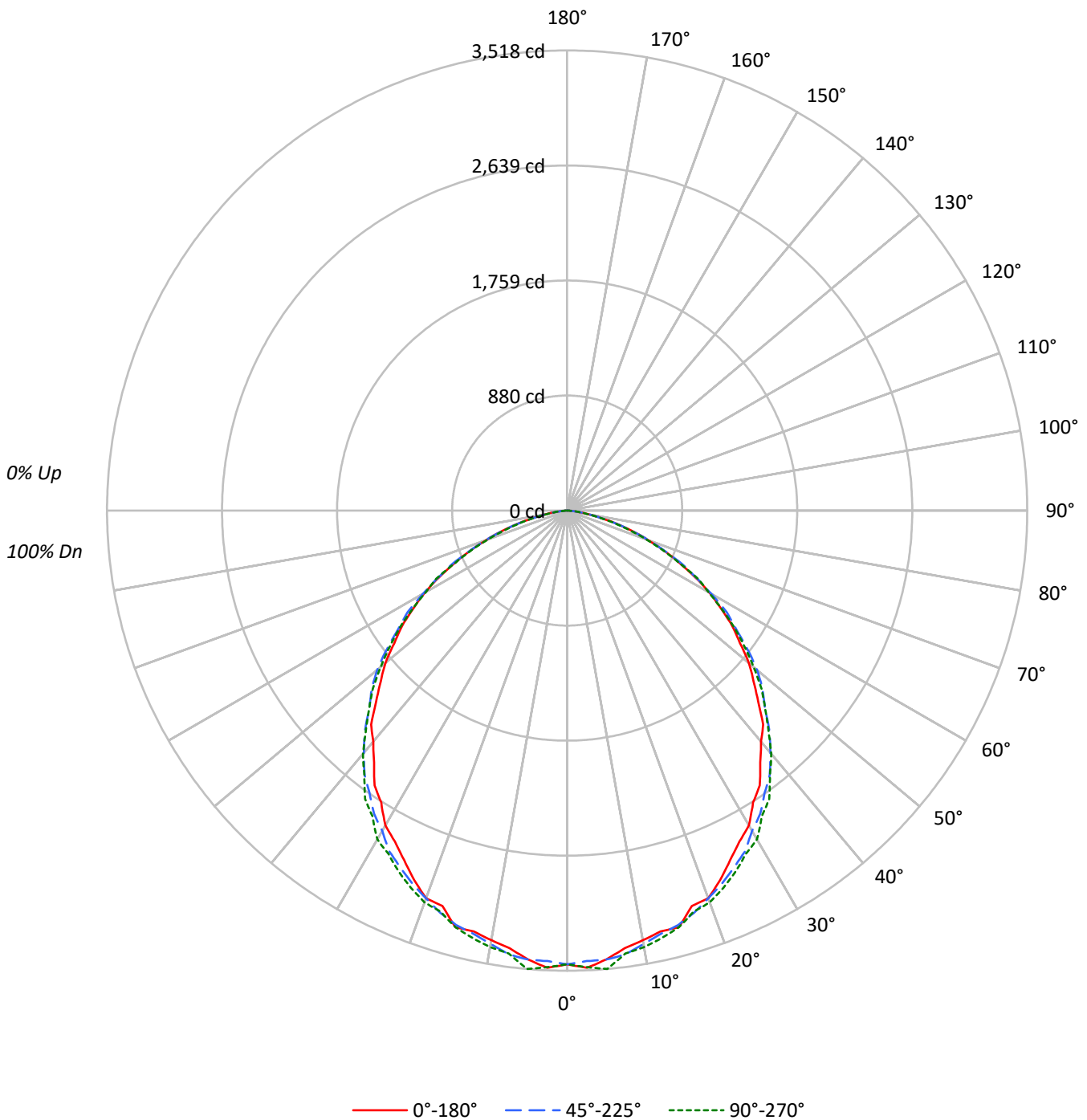
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8742.0 lumens  
Efficiency: N/A  
Efficacy: 101.2 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

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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°	9334	9334	9334
5°	9303	9307	9503
10°	9114	9194	9259
15°	9187	9137	9188
20°	9031	9031	9128
25°	8754	8945	9043
30°	8634	8785	9019
35°	8430	8651	8845
40°	8102	8492	8530
45°	7857	8136	8149
50°	7599	7942	7790
55°	7241	7381	7329
60°	6771	6838	6715
65°	6037	6191	5994
70°	5179	5198	5053
75°	4103	4093	3934
80°	2748	2672	2568
85°	1494	1479	1383



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	326.3	3.7
10°-20°	924.7	10.6
20°-30°	1385.4	15.8
30°-40°	1642.0	18.8
40°-50°	1645.0	18.8
50°-60°	1396.4	16.0
60°-70°	941.4	10.8
70°-80°	413.7	4.7
80°-90°	67.2	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°	2636.4	30.2
0°-40°	4278.4	48.9
0°-60°	7319.7	83.7
0°-90°	8742.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8742.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3469	3469	3469	3469	3469	
5°	3444	3436	3445	3435	3518	325
15°	3298	3260	3280	3297	3298	919
25°	2948	2964	3013	3052	3046	1363
35°	2566	2574	2633	2694	2692	1593
45°	2065	2103	2138	2193	2141	1597
55°	1543	1533	1573	1563	1562	1373
65°	948	936	972	935	941	943
75°	395	386	394	366	378	423
85°	48	47	48	47	45	70
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3468.6	3468.6	3468.6	3468.6	3468.6
2.5°	3498.6	3472.2	3447.6	3476.2	3493.7
5°	3444.0	3435.9	3445.3	3435.0	3517.9
7.5°	3373.2	3404.1	3422.0	3410.8	3415.8
10°	3335.6	3324.8	3364.7	3392.5	3388.4
12.5°	3295.3	3311.4	3313.6	3343.7	3346.3
15°	3297.5	3259.5	3279.6	3296.6	3298.0
17.5°	3169.4	3210.6	3224.5	3263.5	3215.1
20°	3153.8	3123.8	3153.8	3193.6	3187.4
22.5°	3057.5	3023.9	3088.4	3123.8	3121.5
25°	2948.2	2964.3	3012.7	3052.1	3045.8
27.5°	2852.4	2871.2	2940.1	2994.3	2959.4
30°	2778.5	2769.1	2827.3	2875.7	2902.5
32.5°	2646.4	2680.4	2748.5	2796.4	2770.9
35°	2566.2	2573.8	2633.4	2694.3	2692.5
37.5°	2426.0	2461.4	2545.1	2562.2	2546.5
40°	2306.4	2341.8	2417.5	2435.9	2428.2
42.5°	2218.2	2224.5	2289.4	2310.5	2276.9
45°	2064.6	2103.1	2138.0	2193.1	2141.2
47.5°	1933.8	1951.7	2027.0	2041.8	2014.4
50°	1815.1	1821.4	1897.1	1878.7	1860.8
52.5°	1666.0	1692.4	1735.0	1731.4	1710.3
55°	1543.3	1533.0	1573.3	1562.6	1562.1
57.5°	1396.0	1413.9	1447.0	1430.0	1402.7
60°	1258.0	1258.5	1270.6	1251.3	1247.7
62.5°	1104.4	1109.8	1112.5	1088.7	1127.2
65°	948.1	935.6	972.3	935.1	941.4
67.5°	804.3	810.6	807.0	783.7	792.7
70°	658.3	666.4	660.6	634.2	642.2
72.5°	524.9	515.0	521.3	488.2	503.4
75°	394.6	386.5	393.7	365.9	378.4
77.5°	268.7	275.0	270.5	255.7	264.2
80°	177.3	172.4	172.4	163.9	165.7
82.5°	103.5	98.5	97.2	94.5	98.5
85°	48.4	47.0	47.9	46.6	44.8
87.5°	17.5	17.9	17.9	17.0	16.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)