

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: P589607

Luminaire Tested: **FMR-24-2-LD4-4HI-40-UNV-82-86-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589607  
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-82-86-EDD  
Description: 2X2 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

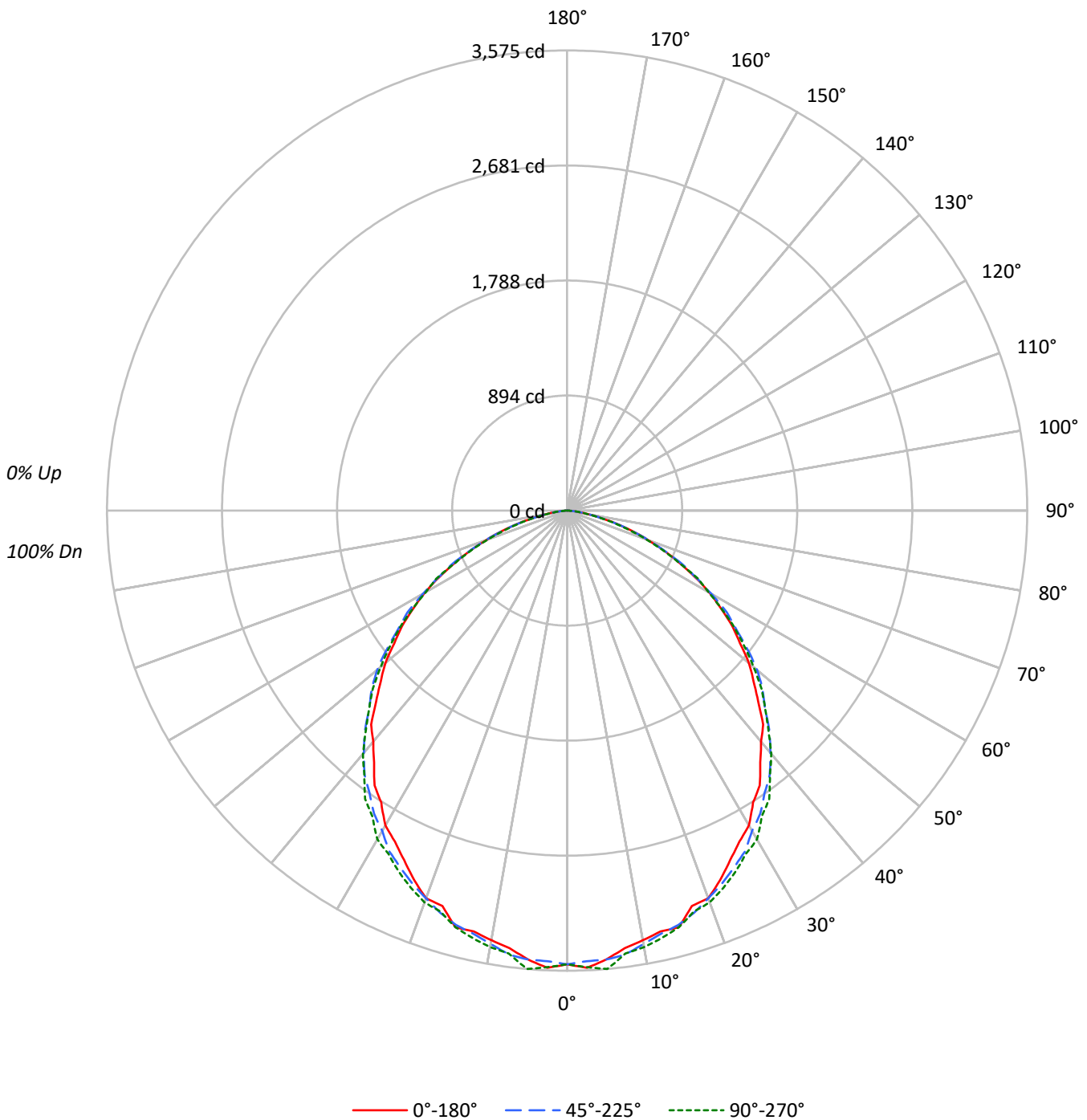
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8884.0 lumens  
Efficiency: N/A  
Efficacy: 102.8 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

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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°	9485	9485	9485
5°	9454	9458	9657
10°	9263	9343	9409
15°	9336	9285	9337
20°	9178	9178	9276
25°	8896	9090	9190
30°	8774	8928	9166
35°	8567	8791	8989
40°	8234	8630	8669
45°	7985	8269	8281
50°	7722	8071	7917
55°	7358	7501	7448
60°	6880	6949	6824
65°	6135	6292	6092
70°	5264	5282	5135
75°	4169	4160	3999
80°	2793	2715	2610
85°	1519	1504	1405



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	331.6	3.7
10°-20°	939.7	10.6
20°-30°	1407.9	15.8
30°-40°	1668.6	18.8
40°-50°	1671.7	18.8
50°-60°	1419.0	16.0
60°-70°	956.7	10.8
70°-80°	420.4	4.7
80°-90°	68.3	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°	2679.2	30.2
0°-40°	4347.8	48.9
0°-60°	7438.6	83.7
0°-90°	8884.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8884.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3525	3525	3525	3525	3525	
5°	3500	3492	3501	3491	3575	330
15°	3351	3312	3333	3350	3352	934
25°	2996	3012	3062	3102	3095	1385
35°	2608	2616	2676	2738	2736	1619
45°	2098	2137	2173	2229	2176	1623
55°	1568	1558	1599	1588	1588	1395
65°	964	951	988	950	957	958
75°	401	393	400	372	385	430
85°	49	48	49	47	46	71
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3524.9	3524.9	3524.9	3524.9	3524.9
2.5°	3555.4	3528.6	3503.6	3532.7	3550.4
5°	3499.9	3491.7	3501.3	3490.8	3575.0
7.5°	3428.0	3459.4	3477.6	3466.2	3471.2
10°	3389.8	3378.9	3419.4	3447.6	3443.5
12.5°	3348.8	3365.2	3367.5	3398.0	3400.7
15°	3351.1	3312.4	3332.9	3350.2	3351.5
17.5°	3220.9	3262.8	3276.9	3316.5	3267.3
20°	3205.0	3174.5	3205.0	3245.5	3239.1
22.5°	3107.1	3073.0	3138.5	3174.5	3172.2
25°	2996.1	3012.5	3061.6	3101.7	3095.3
27.5°	2898.7	2917.8	2987.9	3043.0	3007.5
30°	2823.6	2814.0	2873.2	2922.4	2949.7
32.5°	2689.3	2723.9	2793.1	2841.8	2815.9
35°	2607.9	2615.6	2676.1	2738.0	2736.2
37.5°	2465.4	2501.4	2586.5	2603.8	2587.8
40°	2343.9	2379.9	2456.8	2475.4	2467.7
42.5°	2254.2	2260.6	2326.6	2348.0	2313.9
45°	2098.1	2137.3	2172.8	2228.7	2176.0
47.5°	1965.2	1983.4	2059.9	2074.9	2047.2
50°	1844.6	1851.0	1927.9	1909.3	1891.0
52.5°	1693.1	1719.9	1763.2	1759.5	1738.1
55°	1568.4	1557.9	1598.9	1587.9	1587.5
57.5°	1418.6	1436.8	1470.5	1453.2	1425.5
60°	1278.4	1278.9	1291.2	1271.6	1268.0
62.5°	1122.3	1127.8	1130.5	1106.4	1145.6
65°	963.5	950.8	988.1	950.3	956.7
67.5°	817.4	823.8	820.1	796.5	805.6
70°	669.0	677.2	671.3	644.5	652.6
72.5°	533.4	523.4	529.8	496.1	511.6
75°	401.0	392.8	400.1	371.8	384.6
77.5°	273.1	279.4	274.9	259.9	268.5
80°	180.2	175.2	175.2	166.6	168.4
82.5°	105.1	100.1	98.8	96.0	100.1
85°	49.2	47.8	48.7	47.3	45.5
87.5°	17.7	18.2	18.2	17.3	16.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)