

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: P589606

Luminaire Tested: **FMR-24-2-LD4-4HI-40-UNV-82-85-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589606  
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-82-85-EDD  
Description: 2X2 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

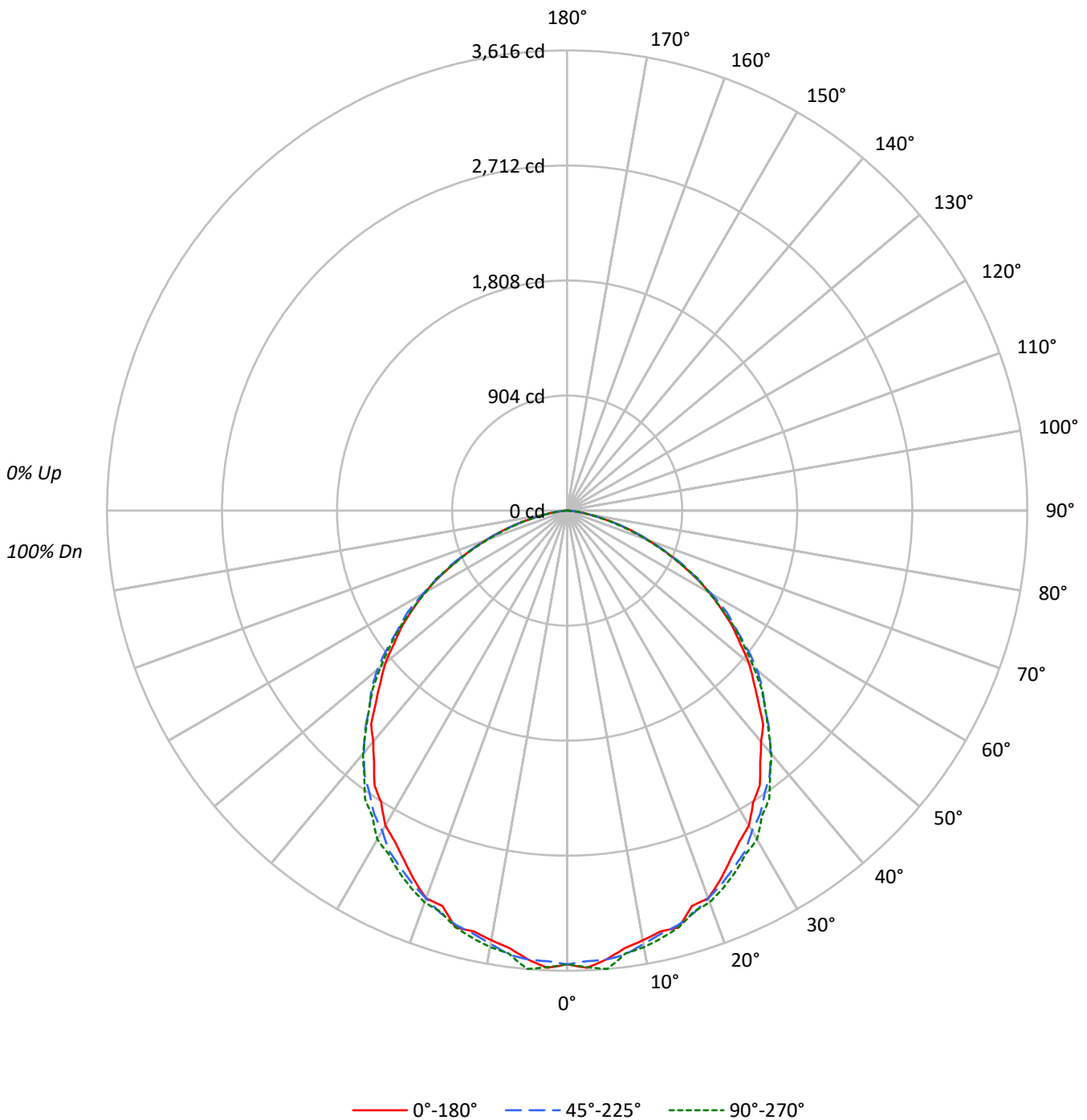
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8986.0 lumens  
Efficiency: N/A  
Efficacy: 104.0 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°	9594	9594	9594
5°	9563	9567	9768
10°	9369	9451	9517
15°	9443	9392	9444
20°	9283	9283	9382
25°	8998	9195	9296
30°	8874	9030	9271
35°	8665	8892	9092
40°	8328	8729	8768
45°	8076	8364	8376
50°	7811	8164	8008
55°	7443	7587	7533
60°	6959	7029	6902
65°	6206	6364	6162
70°	5324	5342	5194
75°	4217	4207	4044
80°	2825	2746	2639
85°	1535	1522	1420



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	335.4	3.7
10°-20°	950.5	10.6
20°-30°	1424.1	15.8
30°-40°	1687.8	18.8
40°-50°	1690.9	18.8
50°-60°	1435.3	16.0
60°-70°	967.7	10.8
70°-80°	425.2	4.7
80°-90°	69.1	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°	2710.0	30.2
0°-40°	4397.8	48.9
0°-60°	7524.0	83.7
0°-90°	8986.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8986.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3565	3565	3565	3565	3565	
5°	3540	3532	3542	3531	3616	334
15°	3390	3350	3371	3389	3390	944
25°	3030	3047	3097	3137	3131	1401
35°	2638	2646	2707	2770	2768	1638
45°	2122	2162	2198	2254	2201	1642
55°	1586	1576	1617	1606	1606	1411
65°	975	962	999	961	968	969
75°	406	397	405	376	389	435
85°	50	48	49	48	46	72
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3565.4	3565.4	3565.4	3565.4	3565.4
2.5°	3596.3	3569.1	3543.8	3573.2	3591.2
5°	3540.1	3531.8	3541.5	3530.9	3616.1
7.5°	3467.4	3499.1	3517.5	3506.0	3511.1
10°	3428.7	3417.6	3458.6	3487.2	3483.0
12.5°	3387.3	3403.8	3406.1	3437.0	3439.7
15°	3389.6	3350.4	3371.1	3388.6	3390.0
17.5°	3257.9	3300.3	3314.5	3354.6	3304.9
20°	3241.8	3210.9	3241.8	3282.8	3276.3
22.5°	3142.8	3108.3	3174.6	3210.9	3208.6
25°	3030.5	3047.1	3096.8	3137.3	3130.8
27.5°	2932.0	2951.3	3022.2	3077.9	3042.0
30°	2856.0	2846.3	2906.2	2955.9	2983.5
32.5°	2720.2	2755.2	2825.2	2874.4	2848.2
35°	2637.8	2645.6	2706.9	2769.5	2767.6
37.5°	2493.7	2530.1	2616.2	2633.7	2617.6
40°	2370.8	2407.2	2485.0	2503.8	2496.0
42.5°	2280.1	2286.6	2353.3	2375.0	2340.4
45°	2122.2	2161.8	2197.7	2254.3	2200.9
47.5°	1987.8	2006.2	2083.5	2098.7	2070.7
50°	1865.8	1872.2	1950.0	1931.2	1912.8
52.5°	1712.5	1739.7	1783.4	1779.7	1758.1
55°	1586.4	1575.8	1617.2	1606.2	1605.7
57.5°	1434.9	1453.3	1487.4	1469.9	1441.8
60°	1293.1	1293.6	1306.0	1286.2	1282.5
62.5°	1135.2	1140.7	1143.5	1119.1	1158.7
65°	974.6	961.7	999.4	961.2	967.7
67.5°	826.8	833.2	829.6	805.6	814.8
70°	676.7	685.0	679.0	651.9	660.1
72.5°	539.5	529.4	535.8	501.8	517.4
75°	405.6	397.3	404.6	376.1	389.0
77.5°	276.2	282.7	278.1	262.9	271.6
80°	182.3	177.2	177.2	168.5	170.3
82.5°	106.3	101.3	99.9	97.1	101.3
85°	49.7	48.3	49.3	47.9	46.0
87.5°	18.0	18.4	18.4	17.5	16.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)