

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: P589586

Luminaire Tested: **FMR-24-2-LD4-4HI-35-UNV-93-94-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589586  
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-35-UNV-93-94-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

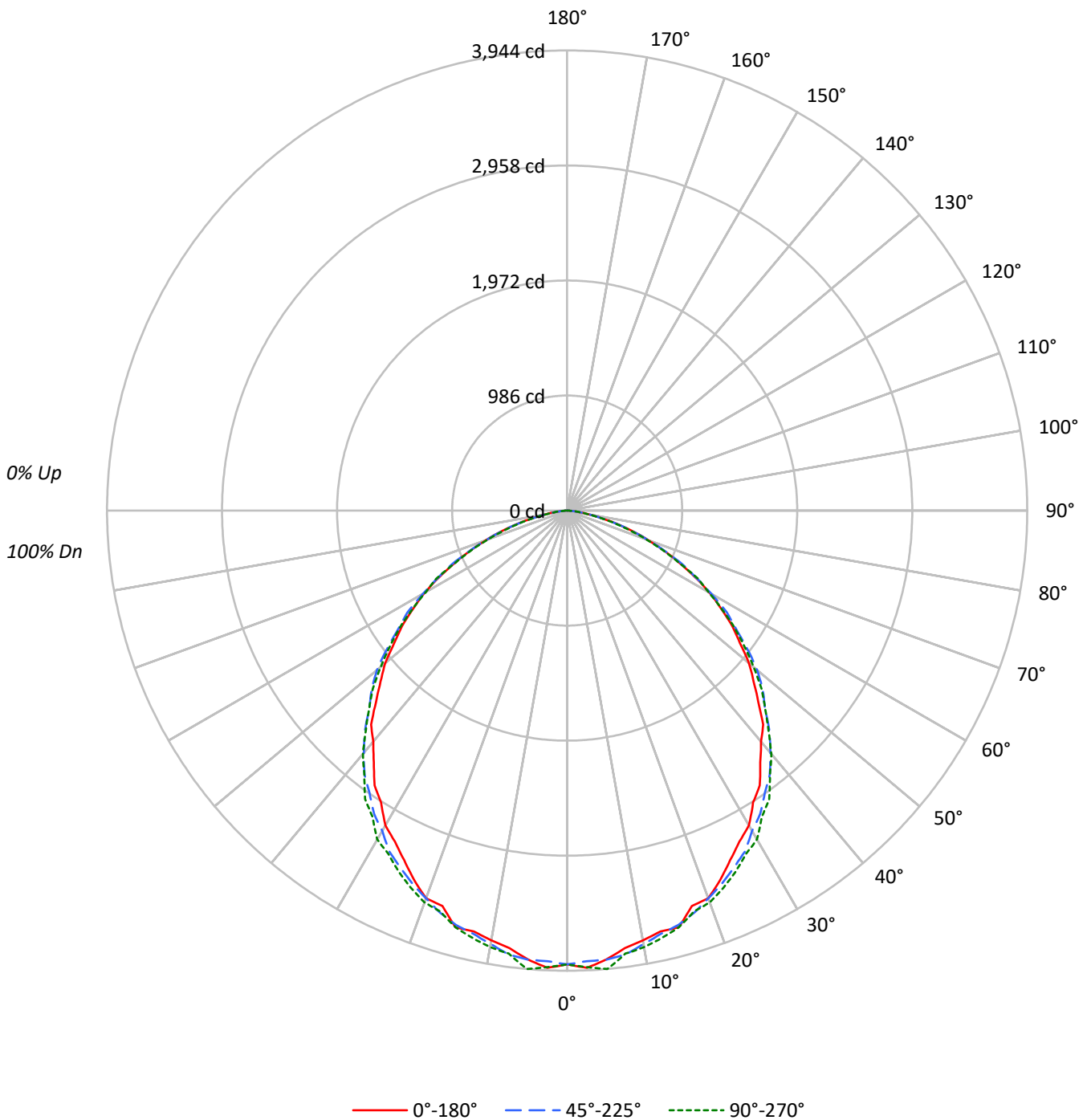
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9802.0 lumens  
Efficiency: N/A  
Efficacy: 113.4 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 (A<sub>in</sub>): 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°	10466	10466	10466
5°	10431	10435	10655
10°	10220	10309	10382
15°	10301	10245	10302
20°	10127	10127	10234
25°	9815	10030	10140
30°	9680	9850	10113
35°	9452	9700	9918
40°	9085	9522	9564
45°	8810	9123	9137
50°	8520	8905	8735
55°	8118	8276	8217
60°	7592	7667	7529
65°	6769	6942	6721
70°	5808	5828	5666
75°	4600	4589	4412
80°	3082	2996	2879
85°	1673	1658	1550



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	365.8	3.7
10°-20°	1036.8	10.6
20°-30°	1553.4	15.8
30°-40°	1841.1	18.8
40°-50°	1844.5	18.8
50°-60°	1565.7	16.0
60°-70°	1055.6	10.8
70°-80°	463.8	4.7
80°-90°	75.4	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°	2956.0	30.2
0°-40°	4797.1	48.9
0°-60°	8207.2	83.7
0°-90°	9802.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9802.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3889	3889	3889	3889	3889	
5°	3862	3852	3863	3852	3944	364
15°	3697	3655	3677	3696	3698	1030
25°	3306	3324	3378	3422	3415	1528
35°	2877	2886	2953	3021	3019	1786
45°	2315	2358	2397	2459	2401	1791
55°	1730	1719	1764	1752	1752	1539
65°	1063	1049	1090	1048	1056	1057
75°	442	433	441	410	424	474
85°	54	53	54	52	50	79
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3889.2	3889.2	3889.2	3889.2	3889.2
2.5°	3922.8	3893.2	3865.6	3897.7	3917.3
5°	3861.6	3852.5	3863.1	3851.5	3944.4
7.5°	3782.2	3816.9	3837.0	3824.4	3829.9
10°	3740.0	3728.0	3772.7	3803.8	3799.3
12.5°	3694.9	3712.9	3715.4	3749.1	3752.1
15°	3697.4	3654.7	3677.3	3696.4	3697.9
17.5°	3553.7	3599.9	3615.5	3659.2	3605.0
20°	3536.2	3502.5	3536.2	3580.9	3573.8
22.5°	3428.2	3390.5	3462.9	3502.5	3500.0
25°	3305.7	3323.8	3378.0	3422.2	3415.2
27.5°	3198.2	3219.3	3296.6	3357.4	3318.2
30°	3115.4	3104.8	3170.1	3224.3	3254.5
32.5°	2967.2	3005.4	3081.7	3135.5	3106.8
35°	2877.3	2885.9	2952.7	3021.0	3019.0
37.5°	2720.2	2759.8	2853.7	2872.8	2855.3
40°	2586.1	2625.8	2710.6	2731.2	2722.7
42.5°	2487.2	2494.2	2567.0	2590.6	2553.0
45°	2314.9	2358.1	2397.3	2459.1	2400.8
47.5°	2168.3	2188.4	2272.8	2289.3	2258.7
50°	2035.2	2042.3	2127.1	2106.5	2086.5
52.5°	1868.0	1897.6	1945.3	1941.3	1917.7
55°	1730.4	1718.9	1764.1	1752.0	1751.5
57.5°	1565.2	1585.3	1622.5	1603.4	1572.7
60°	1410.6	1411.1	1424.6	1403.0	1399.0
62.5°	1238.3	1244.3	1247.4	1220.7	1263.9
65°	1063.1	1049.0	1090.2	1048.5	1055.5
67.5°	901.9	908.9	904.9	878.8	888.8
70°	738.2	747.2	740.7	711.1	720.1
72.5°	588.5	577.5	584.5	547.3	564.4
75°	442.4	433.4	441.4	410.3	424.3
77.5°	301.3	308.3	303.3	286.7	296.3
80°	198.9	193.3	193.3	183.8	185.8
82.5°	116.0	110.5	109.0	106.0	110.5
85°	54.2	52.7	53.7	52.2	50.2
87.5°	19.6	20.1	20.1	19.1	18.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)