

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: P589595

Luminaire Tested: **FMR-24-2-LD4-4HI-40-UNV-80-96-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589595  
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-80-96-EDD  
Description: 2X2 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

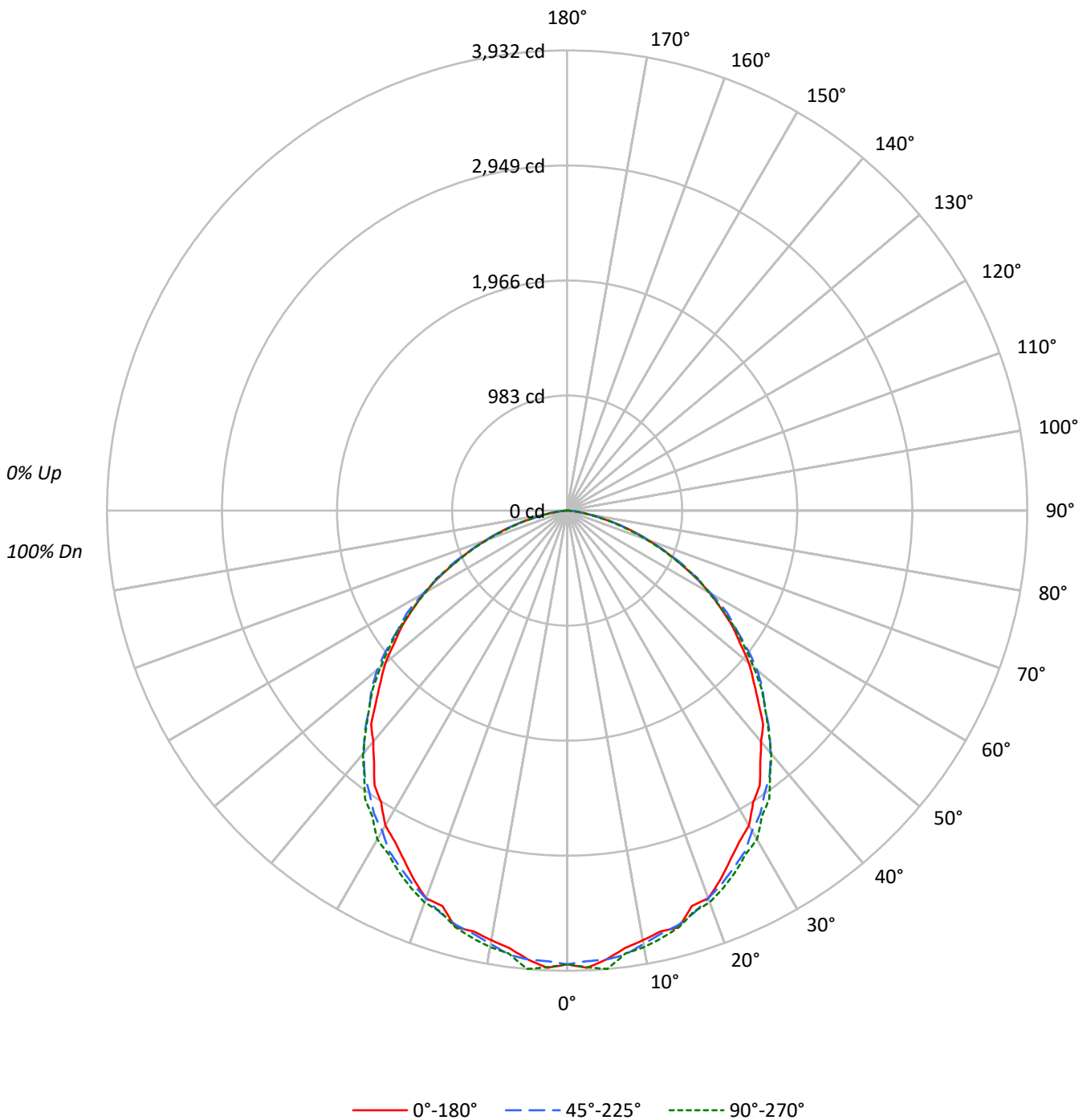
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9771.0 lumens  
Efficiency: N/A  
Efficacy: 113.1 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°	10433	10433	10433
5°	10398	10402	10621
10°	10187	10276	10349
15°	10268	10212	10269
20°	10094	10094	10202
25°	9784	9998	10108
30°	9650	9819	10081
35°	9422	9669	9886
40°	9056	9492	9534
45°	8782	9094	9108
50°	8493	8877	8707
55°	8093	8250	8191
60°	7568	7643	7506
65°	6748	6919	6700
70°	5789	5809	5648
75°	4585	4575	4398
80°	3071	2986	2870
85°	1670	1655	1547



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	364.7	3.7
10°-20°	1033.5	10.6
20°-30°	1548.5	15.8
30°-40°	1835.2	18.8
40°-50°	1838.6	18.8
50°-60°	1560.7	16.0
60°-70°	1052.2	10.8
70°-80°	462.3	4.7
80°-90°	75.1	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°	2946.7	30.2
0°-40°	4781.9	48.9
0°-60°	8181.3	83.7
0°-90°	9771.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9771.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3877	3877	3877	3877	3877	
5°	3849	3840	3851	3839	3932	363
15°	3686	3643	3666	3685	3686	1027
25°	3295	3313	3367	3411	3404	1523
35°	2868	2877	2943	3011	3009	1781
45°	2308	2351	2390	2451	2393	1785
55°	1725	1713	1758	1746	1746	1534
65°	1060	1046	1087	1045	1052	1054
75°	441	432	440	409	423	473
85°	54	53	54	52	50	78
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3876.9	3876.9	3876.9	3876.9	3876.9
2.5°	3910.4	3880.9	3853.4	3885.4	3904.9
5°	3849.4	3840.3	3850.9	3839.3	3931.9
7.5°	3770.3	3804.8	3824.8	3812.3	3817.8
10°	3728.2	3716.2	3760.8	3791.8	3787.3
12.5°	3683.2	3701.2	3703.7	3737.2	3740.2
15°	3685.7	3643.1	3665.6	3684.7	3686.2
17.5°	3542.5	3588.6	3604.1	3647.6	3593.6
20°	3525.0	3491.4	3525.0	3569.5	3562.5
22.5°	3417.4	3379.8	3451.9	3491.4	3488.9
25°	3295.2	3313.2	3367.3	3411.4	3404.4
27.5°	3188.1	3209.1	3286.2	3346.8	3307.7
30°	3105.5	3095.0	3160.1	3214.1	3244.2
32.5°	2957.8	2995.9	3072.0	3125.5	3097.0
35°	2868.2	2876.8	2943.3	3011.4	3009.4
37.5°	2711.6	2751.1	2844.7	2863.7	2846.2
40°	2577.9	2617.5	2702.1	2722.6	2714.1
42.5°	2479.3	2486.3	2558.9	2582.4	2544.9
45°	2307.6	2350.7	2389.7	2451.3	2393.2
47.5°	2161.4	2181.5	2265.6	2282.1	2251.5
50°	2028.8	2035.8	2120.4	2099.9	2079.9
52.5°	1862.1	1891.6	1939.2	1935.2	1911.7
55°	1725.0	1713.4	1758.5	1746.5	1746.0
57.5°	1560.3	1580.3	1617.3	1598.3	1567.8
60°	1406.1	1406.6	1420.1	1398.6	1394.6
62.5°	1234.4	1240.4	1243.4	1216.9	1259.9
65°	1059.7	1045.7	1086.7	1045.2	1052.2
67.5°	899.0	906.0	902.0	876.0	886.0
70°	735.8	744.8	738.3	708.8	717.8
72.5°	586.7	575.7	582.7	545.6	562.6
75°	441.0	432.0	440.0	409.0	423.0
77.5°	300.3	307.3	302.3	285.8	295.3
80°	198.2	192.7	192.7	183.2	185.2
82.5°	115.6	110.1	108.6	105.6	110.1
85°	54.1	52.6	53.6	52.1	50.1
87.5°	19.5	20.0	20.0	19.0	18.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)