

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: P547076

Luminaire Tested: **FMR-24-4-LD4-3LO-35-UNV-81-94-EDD**

Issue Date: 6/15/2021

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.



**Test Information**

Test Method: LM-79-08  
Report Number: P547076  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 6/15/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: FMR-24-4-LD4-3LO-35-UNV-81-94-EDD  
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

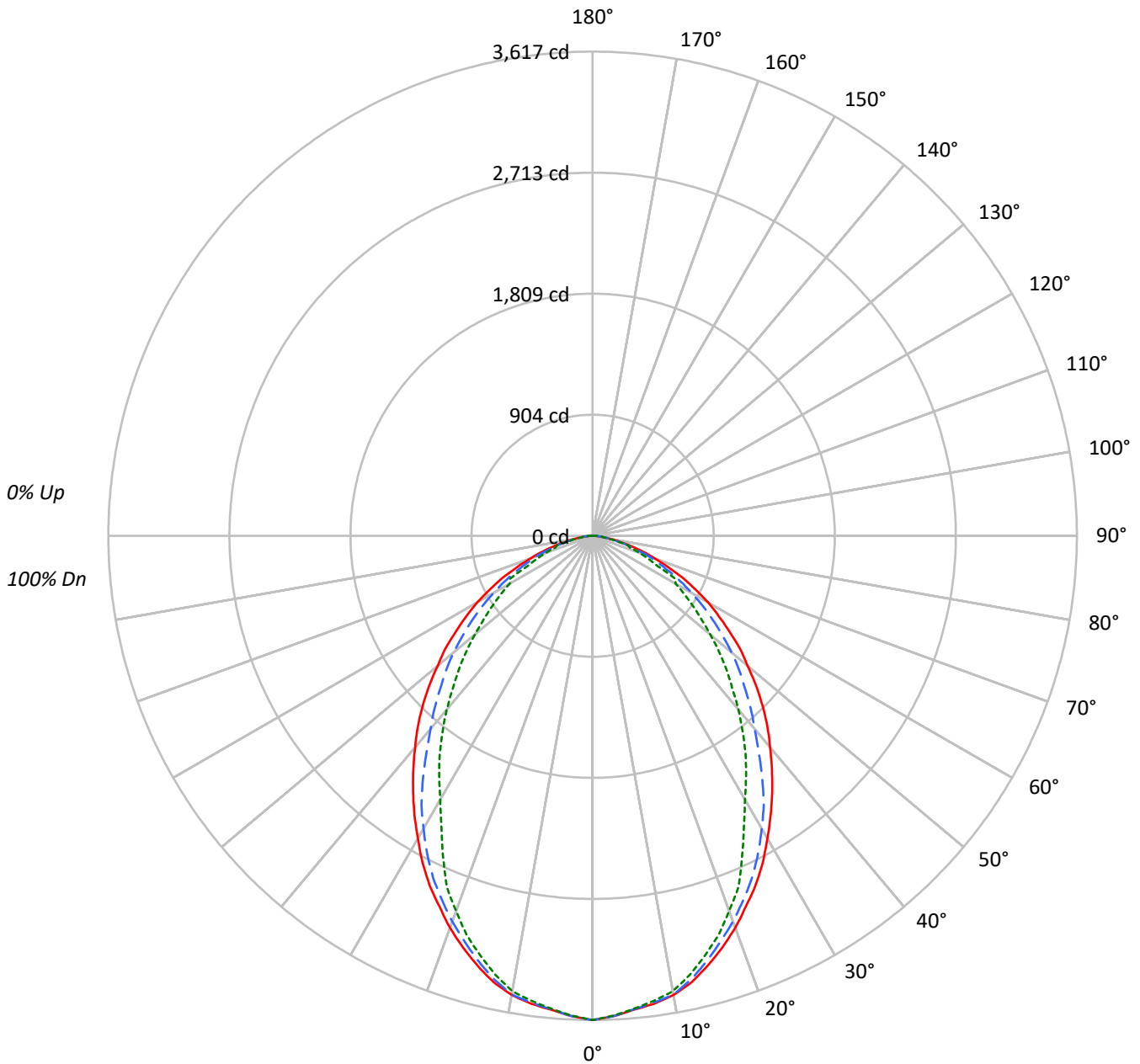
Lumens per Lamp: N/A  
Luminaire Lumens: 7101.0 lumens  
Efficiency: N/A  
Efficacy: 101.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 70.2  
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									
RC	80									50									30									10									0
RW	70	50	30	10	70	50	30	10	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	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87																			
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																			
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																			
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																			
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																			
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44																			
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																			
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																			
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																			
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	4867	4867	4867
5°	4801	4795	4789
10°	4759	4753	4719
15°	4631	4584	4520
20°	4461	4389	4269
25°	4277	4184	3923
30°	4054	3924	3534
35°	3840	3627	3269
40°	3621	3305	2975
45°	3413	3056	2689
50°	3160	2836	2398
55°	2923	2570	2148
60°	2678	2296	1924
65°	2357	2010	1704
70°	1941	1760	1448
75°	1543	1348	1413
80°	1037	972	907
85°	645	775	903



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	336.7	4.7
10°-20°	924.1	13.0
20°-30°	1279.3	18.0
30°-40°	1364.1	19.2
40°-50°	1244.5	17.5
50°-60°	975.0	13.7
60°-70°	635.4	8.9
70°-80°	281.5	4.0
80°-90°	60.5	0.9
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°	2540.1	35.8
0°-40°	3904.2	55.0
0°-60°	6123.6	86.2
0°-90°	7101.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7101.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3617	3617	3617	3617	3617	
5°	3554	3550	3550	3546	3546	337
15°	3324	3324	3291	3258	3245	935
25°	2881	2864	2818	2718	2643	1323
35°	2338	2321	2208	2041	1990	1461
45°	1794	1756	1606	1472	1413	1382
55°	1246	1208	1096	966	916	1118
65°	740	698	631	644	535	729
75°	297	276	259	247	272	318
85°	42	46	50	54	58	58
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3617.2	3617.2	3617.2	3617.2	3617.2
2.5°	3592.1	3592.1	3592.1	3587.9	3587.9
5°	3554.4	3550.2	3550.2	3546.1	3546.1
7.5°	3525.2	3521.0	3516.8	3512.6	3504.2
10°	3483.3	3483.3	3479.2	3458.3	3454.1
12.5°	3416.4	3412.3	3395.5	3366.3	3357.9
15°	3324.4	3324.4	3291.0	3257.5	3245.0
17.5°	3224.1	3219.9	3178.1	3144.6	3127.9
20°	3115.4	3107.0	3065.2	3010.8	2981.5
22.5°	2994.1	2994.1	2943.9	2872.8	2843.5
25°	2881.2	2864.5	2818.5	2718.1	2642.8
27.5°	2751.5	2726.5	2676.3	2534.1	2446.3
30°	2609.4	2596.8	2525.7	2341.7	2274.8
32.5°	2475.6	2454.6	2379.4	2187.0	2132.7
35°	2337.6	2320.8	2207.9	2040.7	1990.5
37.5°	2199.6	2178.7	2036.5	1902.7	1839.9
40°	2061.6	2036.5	1881.8	1760.5	1693.6
42.5°	1931.9	1898.5	1747.9	1618.3	1543.0
45°	1793.9	1756.3	1605.8	1472.0	1413.4
47.5°	1655.9	1622.5	1484.5	1346.5	1279.6
50°	1509.6	1480.3	1354.9	1216.9	1145.8
52.5°	1388.3	1342.3	1221.1	1083.1	1024.5
55°	1246.1	1208.5	1095.6	966.0	915.8
57.5°	1116.5	1078.9	974.3	853.1	811.2
60°	995.2	940.9	853.1	748.5	715.1
62.5°	861.4	819.6	744.3	656.5	698.3
65°	740.2	698.3	631.4	644.0	535.3
67.5°	606.3	585.4	526.9	468.3	451.6
70°	493.4	468.3	447.4	384.7	368.0
72.5°	393.1	368.0	338.7	305.3	292.7
75°	296.9	276.0	259.3	246.7	271.8
77.5°	204.9	196.5	184.0	171.4	167.3
80°	133.8	129.6	125.5	121.3	117.1
82.5°	79.5	79.5	79.5	79.5	79.5
85°	41.8	46.0	50.2	54.4	58.5
87.5°	25.1	25.1	29.3	33.5	37.6
90°	0.0	0.0	0.0	0.0	0.0



Report Generated By 670246072 / DESKTOP-MV3F9LC







— 0°-180°    - - 45°-225°    - - - - 90°-270°







(END OF REPORT)