

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: P547278

Luminaire Tested: **FMR-24-4-LD4-4HI-35-UNV-82-97-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: P547278  
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-LD4-4HI-35-UNV-82-97-EDD  
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

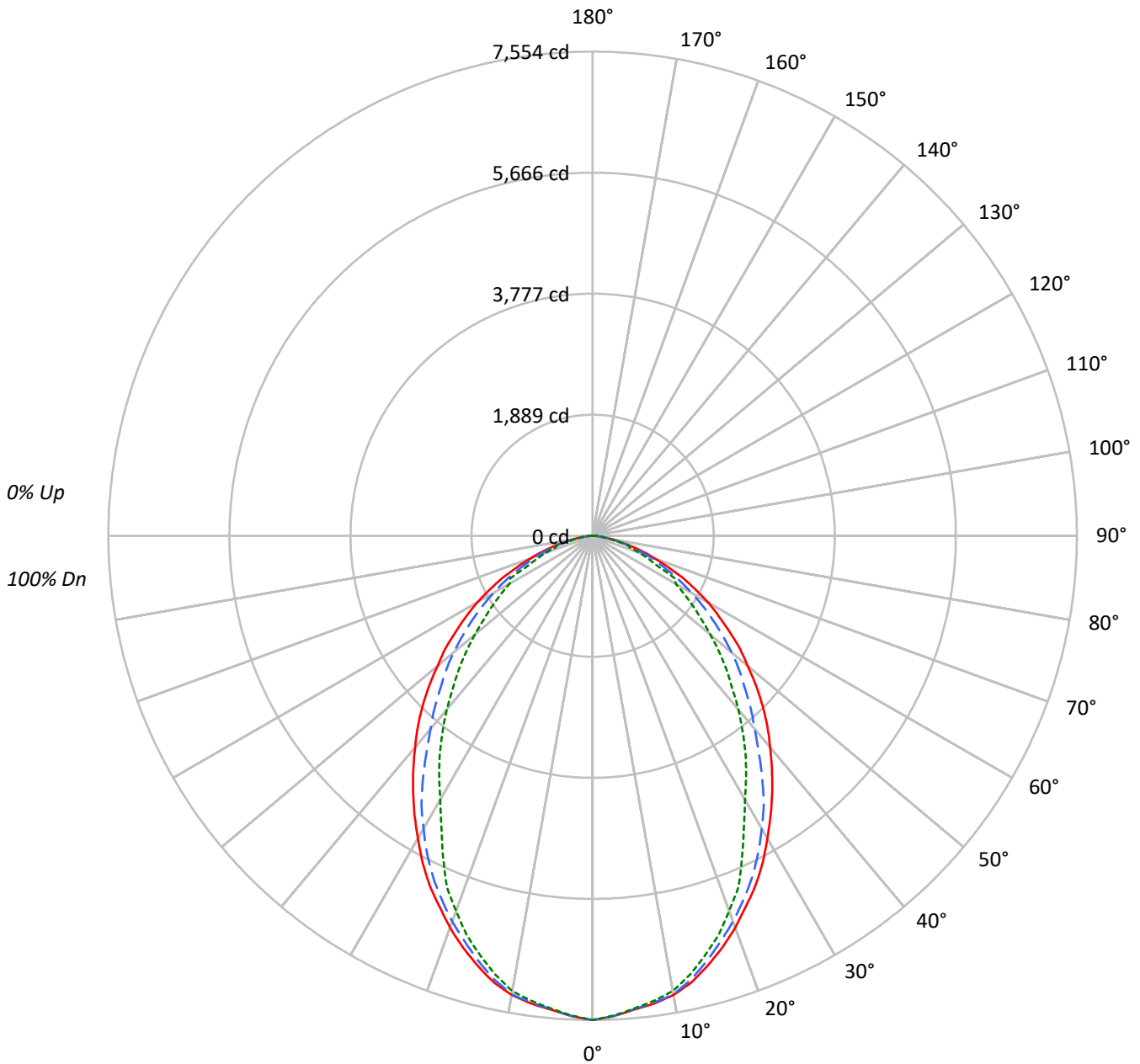
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 14829.0 lumens  
Efficiency: N/A  
Efficacy: 85.8 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): 172.8  
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	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°	10163	10163	10163
5°	10025	10014	10002
10°	9938	9926	9855
15°	9670	9573	9439
20°	9315	9165	8915
25°	8932	8738	8193
30°	8466	8195	7381
35°	8018	7573	6828
40°	7562	6902	6212
45°	7128	6381	5616
50°	6599	5923	5008
55°	6104	5367	4486
60°	5593	4794	4018
65°	4921	4198	3559
70°	4054	3676	3023
75°	3223	2815	2951
80°	2165	2030	1894
85°	1348	1618	1888



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	703.1	4.7
10°-20°	1929.7	13.0
20°-30°	2671.6	18.0
30°-40°	2848.7	19.2
40°-50°	2598.8	17.5
50°-60°	2036.0	13.7
60°-70°	1326.9	8.9
70°-80°	587.9	4.0
80°-90°	126.2	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°	5304.5	35.8
0°-40°	8153.1	55.0
0°-60°	12787.9	86.2
0°-90°	14829.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	14829.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	7554	7554	7554	7554	7554	
5°	7423	7414	7414	7405	7405	705
15°	6942	6942	6873	6803	6776	1952
25°	6017	5982	5886	5676	5519	2762
35°	4882	4847	4611	4262	4157	3052
45°	3746	3668	3353	3074	2952	2886
55°	2602	2524	2288	2017	1912	2334
65°	1546	1458	1319	1345	1118	1523
75°	620	576	541	515	568	664
85°	87	96	105	114	122	121
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	7553.7	7553.7	7553.7	7553.7	7553.7
2.5°	7501.3	7501.3	7501.3	7492.6	7492.6
5°	7422.7	7414.0	7414.0	7405.2	7405.2
7.5°	7361.6	7352.8	7344.1	7335.4	7317.9
10°	7274.3	7274.3	7265.5	7221.9	7213.1
12.5°	7134.5	7125.8	7090.9	7029.7	7012.3
15°	6942.4	6942.4	6872.6	6802.7	6776.5
17.5°	6732.8	6724.1	6636.8	6566.9	6532.0
20°	6505.8	6488.3	6401.0	6287.5	6226.3
22.5°	6252.5	6252.5	6147.7	5999.3	5938.2
25°	6016.8	5981.8	5885.8	5676.2	5519.0
27.5°	5746.0	5693.7	5588.9	5292.0	5108.6
30°	5449.1	5422.9	5274.5	4890.3	4750.5
32.5°	5169.7	5126.0	4968.8	4567.1	4453.6
35°	4881.5	4846.6	4610.8	4261.5	4156.7
37.5°	4593.3	4549.7	4252.8	3973.3	3842.3
40°	4305.2	4252.8	3929.7	3676.4	3536.7
42.5°	4034.5	3964.6	3650.2	3379.5	3222.3
45°	3746.3	3667.7	3353.3	3073.9	2951.6
47.5°	3458.1	3388.2	3100.1	2811.9	2672.2
50°	3152.5	3091.3	2829.4	2541.2	2392.7
52.5°	2899.2	2803.2	2549.9	2261.7	2139.5
55°	2602.3	2523.7	2287.9	2017.2	1912.4
57.5°	2331.6	2253.0	2034.7	1781.4	1694.1
60°	2078.4	1964.8	1781.4	1563.1	1493.3
62.5°	1798.9	1711.6	1554.4	1371.0	1458.3
65°	1545.7	1458.3	1318.6	1344.8	1117.8
67.5°	1266.2	1222.6	1100.3	978.1	943.1
70°	1030.4	978.1	934.4	803.4	768.5
72.5°	820.9	768.5	707.3	637.5	611.3
75°	620.0	576.4	541.4	515.2	567.6
77.5°	427.9	410.4	384.2	358.0	349.3
80°	279.4	270.7	262.0	253.2	244.5
82.5°	165.9	165.9	165.9	165.9	165.9
85°	87.3	96.1	104.8	113.5	122.3
87.5°	52.4	52.4	61.1	69.9	78.6
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)