

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: P547118

Luminaire Tested: **FMR-24-4-LD4-3LO-40-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: P547118  
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-40-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 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

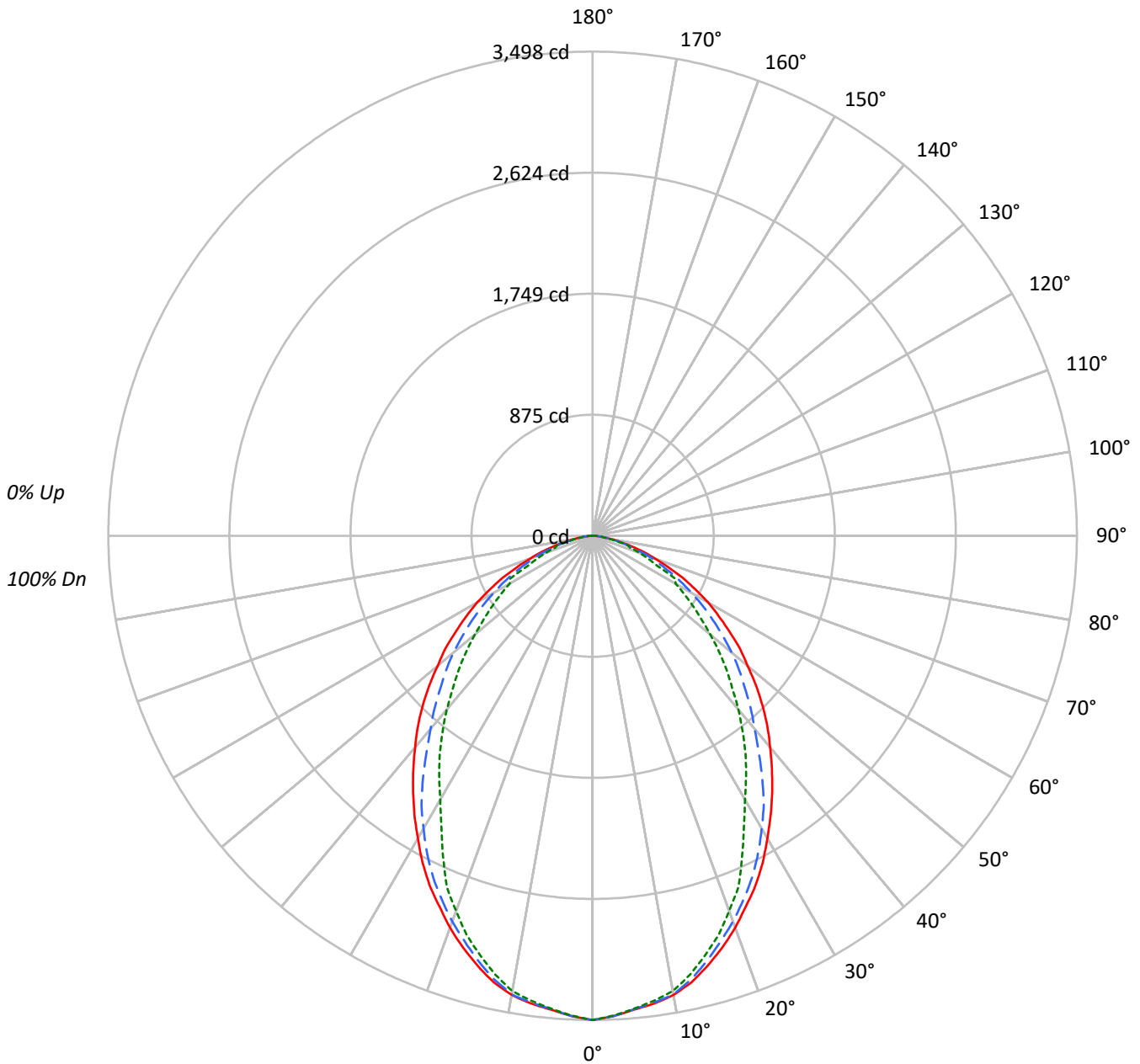
Lumens per Lamp: N/A  
Luminaire Lumens: 6867.0 lumens  
Efficiency: N/A  
Efficacy: 97.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 70.2  
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									
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°	4707	4707	4707
5°	4643	4637	4632
10°	4602	4597	4564
15°	4478	4433	4371
20°	4314	4244	4128
25°	4136	4046	3794
30°	3920	3795	3418
35°	3713	3507	3162
40°	3502	3196	2877
45°	3301	2955	2601
50°	3056	2743	2319
55°	2827	2485	2077
60°	2590	2220	1861
65°	2279	1944	1648
70°	1877	1702	1400
75°	1493	1303	1367
80°	1003	940	877
85°	624	749	874



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	325.6	4.7
10°-20°	893.6	13.0
20°-30°	1237.2	18.0
30°-40°	1319.2	19.2
40°-50°	1203.5	17.5
50°-60°	942.8	13.7
60°-70°	614.5	8.9
70°-80°	272.3	4.0
80°-90°	58.4	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°	2456.4	35.8
0°-40°	3775.6	55.0
0°-60°	5921.8	86.2
0°-90°	6867.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6867.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3498	3498	3498	3498	3498	
5°	3437	3433	3433	3429	3429	326
15°	3215	3215	3182	3150	3138	904
25°	2786	2770	2726	2628	2556	1279
35°	2260	2244	2135	1973	1925	1413
45°	1735	1698	1553	1423	1367	1336
55°	1205	1169	1060	934	886	1081
65°	716	675	611	623	518	705
75°	287	267	251	239	263	308
85°	40	44	48	53	57	56
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3498.0	3498.0	3498.0	3498.0	3498.0
2.5°	3473.7	3473.7	3473.7	3469.7	3469.7
5°	3437.3	3433.3	3433.3	3429.2	3429.2
7.5°	3409.0	3404.9	3400.9	3396.9	3388.8
10°	3368.6	3368.6	3364.5	3344.3	3340.2
12.5°	3303.9	3299.8	3283.6	3255.3	3247.2
15°	3214.9	3214.9	3182.5	3150.2	3138.1
17.5°	3117.8	3113.8	3073.4	3041.0	3024.8
20°	3012.7	3004.6	2964.2	2911.6	2883.3
22.5°	2895.4	2895.4	2846.9	2778.1	2749.8
25°	2786.2	2770.1	2725.6	2628.5	2555.7
27.5°	2660.9	2636.6	2588.1	2450.6	2365.7
30°	2523.4	2511.3	2442.5	2264.6	2199.9
32.5°	2394.0	2373.8	2301.0	2115.0	2062.4
35°	2260.5	2244.4	2135.2	1973.4	1924.9
37.5°	2127.1	2106.9	1969.4	1840.0	1779.3
40°	1993.6	1969.4	1819.7	1702.5	1637.8
42.5°	1868.3	1835.9	1690.3	1565.0	1492.2
45°	1734.8	1698.4	1552.9	1423.4	1366.8
47.5°	1601.4	1569.0	1435.6	1302.1	1237.4
50°	1459.8	1431.5	1310.2	1176.8	1108.0
52.5°	1342.6	1298.1	1180.8	1047.4	990.8
55°	1205.1	1168.7	1059.5	934.1	885.6
57.5°	1079.7	1043.3	942.2	825.0	784.5
60°	962.4	909.9	825.0	723.9	691.5
62.5°	833.0	792.6	719.8	634.9	675.3
65°	715.8	675.3	610.6	622.8	517.6
67.5°	586.4	566.1	509.5	452.9	436.7
70°	477.2	452.9	432.7	372.0	355.9
72.5°	380.1	355.9	327.6	295.2	283.1
75°	287.1	266.9	250.7	238.6	262.9
77.5°	198.2	190.1	177.9	165.8	161.8
80°	129.4	125.4	121.3	117.3	113.2
82.5°	76.8	76.8	76.8	76.8	76.8
85°	40.4	44.5	48.5	52.6	56.6
87.5°	24.3	24.3	28.3	32.4	36.4
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)