

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: P547137

Luminaire Tested: **FMR-24-4-LD4-3LO-50-UNV-81-86-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: P547137  
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-50-UNV-81-86-EDD  
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

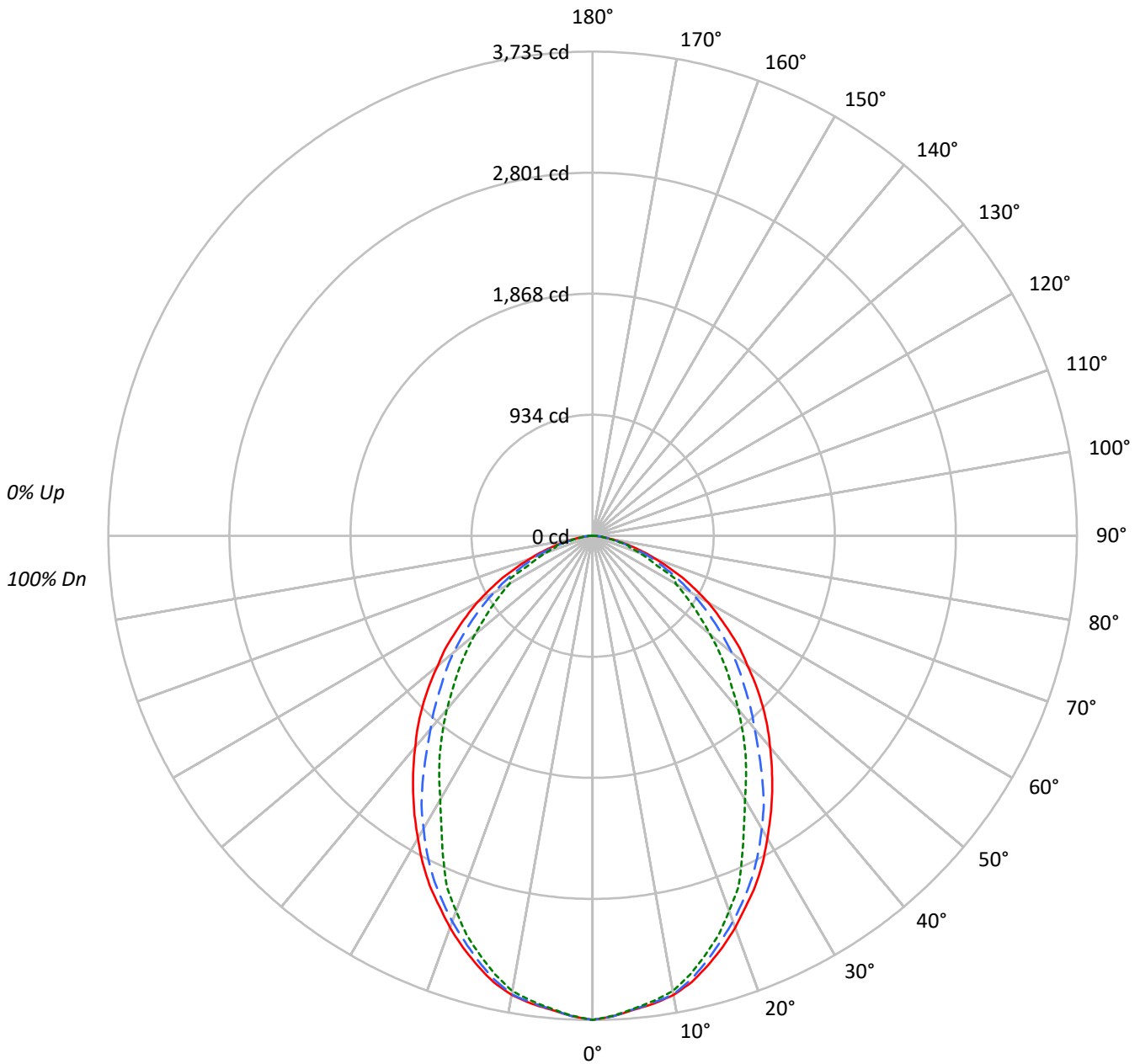
Lumens per Lamp: N/A  
Luminaire Lumens: 7332.0 lumens  
Efficiency: N/A  
Efficacy: 104.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

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°	5025	5025	5025
5°	4957	4951	4945
10°	4914	4908	4873
15°	4781	4733	4667
20°	4606	4532	4408
25°	4416	4320	4051
30°	4186	4052	3649
35°	3964	3745	3376
40°	3739	3413	3071
45°	3525	3155	2777
50°	3263	2928	2476
55°	3018	2654	2218
60°	2765	2370	1987
65°	2433	2076	1760
70°	2004	1817	1495
75°	1594	1392	1459
80°	1071	1003	937
85°	667	800	932



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	347.7	4.7
10°-20°	954.1	13.0
20°-30°	1320.9	18.0
30°-40°	1408.5	19.2
40°-50°	1285.0	17.5
50°-60°	1006.7	13.7
60°-70°	656.1	8.9
70°-80°	290.7	4.0
80°-90°	62.4	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°	2622.7	35.8
0°-40°	4031.2	55.0
0°-60°	6322.8	86.2
0°-90°	7332.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7332.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3735	3735	3735	3735	3735	
5°	3670	3666	3666	3661	3661	348
15°	3433	3433	3398	3364	3350	965
25°	2975	2958	2910	2806	2729	1366
35°	2414	2396	2280	2107	2055	1509
45°	1852	1813	1658	1520	1459	1427
55°	1287	1248	1131	997	946	1154
65°	764	721	652	665	553	753
75°	307	285	268	255	281	329
85°	43	48	52	56	60	60
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3734.8	3734.8	3734.8	3734.8	3734.8
2.5°	3708.9	3708.9	3708.9	3704.6	3704.6
5°	3670.1	3665.7	3665.7	3661.4	3661.4
7.5°	3639.8	3635.5	3631.2	3626.9	3618.2
10°	3596.7	3596.7	3592.3	3570.7	3566.4
12.5°	3527.6	3523.3	3506.0	3475.8	3467.1
15°	3432.6	3432.6	3398.0	3363.5	3350.5
17.5°	3329.0	3324.6	3281.5	3246.9	3229.7
20°	3216.7	3208.1	3164.9	3108.8	3078.5
22.5°	3091.5	3091.5	3039.7	2966.3	2936.0
25°	2974.9	2957.6	2910.1	2806.5	2728.8
27.5°	2841.1	2815.1	2763.3	2616.5	2525.9
30°	2694.3	2681.3	2607.9	2417.9	2348.8
32.5°	2556.1	2534.5	2456.8	2258.2	2202.0
35°	2413.6	2396.3	2279.8	2107.0	2055.2
37.5°	2271.1	2249.5	2102.7	1964.6	1899.8
40°	2128.6	2102.7	1943.0	1817.8	1748.7
42.5°	1994.8	1960.2	1804.8	1671.0	1593.2
45°	1852.3	1813.4	1658.0	1519.8	1459.4
47.5°	1709.8	1675.3	1532.8	1390.3	1321.2
50°	1558.7	1528.5	1398.9	1256.5	1183.1
52.5°	1433.5	1386.0	1260.8	1118.3	1057.8
55°	1286.7	1247.8	1131.2	997.4	945.6
57.5°	1152.8	1114.0	1006.0	880.8	837.6
60°	1027.6	971.5	880.8	772.9	738.3
62.5°	889.4	846.3	768.6	677.9	721.1
65°	764.2	721.1	652.0	664.9	552.7
67.5°	626.1	604.5	544.0	483.6	466.3
70°	509.5	483.6	462.0	397.2	380.0
72.5°	405.9	380.0	349.7	315.2	302.2
75°	306.6	285.0	267.7	254.7	280.7
77.5°	211.6	202.9	190.0	177.0	172.7
80°	138.2	133.8	129.5	125.2	120.9
82.5°	82.0	82.0	82.0	82.0	82.0
85°	43.2	47.5	51.8	56.1	60.4
87.5°	25.9	25.9	30.2	34.5	38.9
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)