

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: P546852

Luminaire Tested: **FMR-24-4-LD4-2LO-50-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: P546852  
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-LD4-2LO-50-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 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

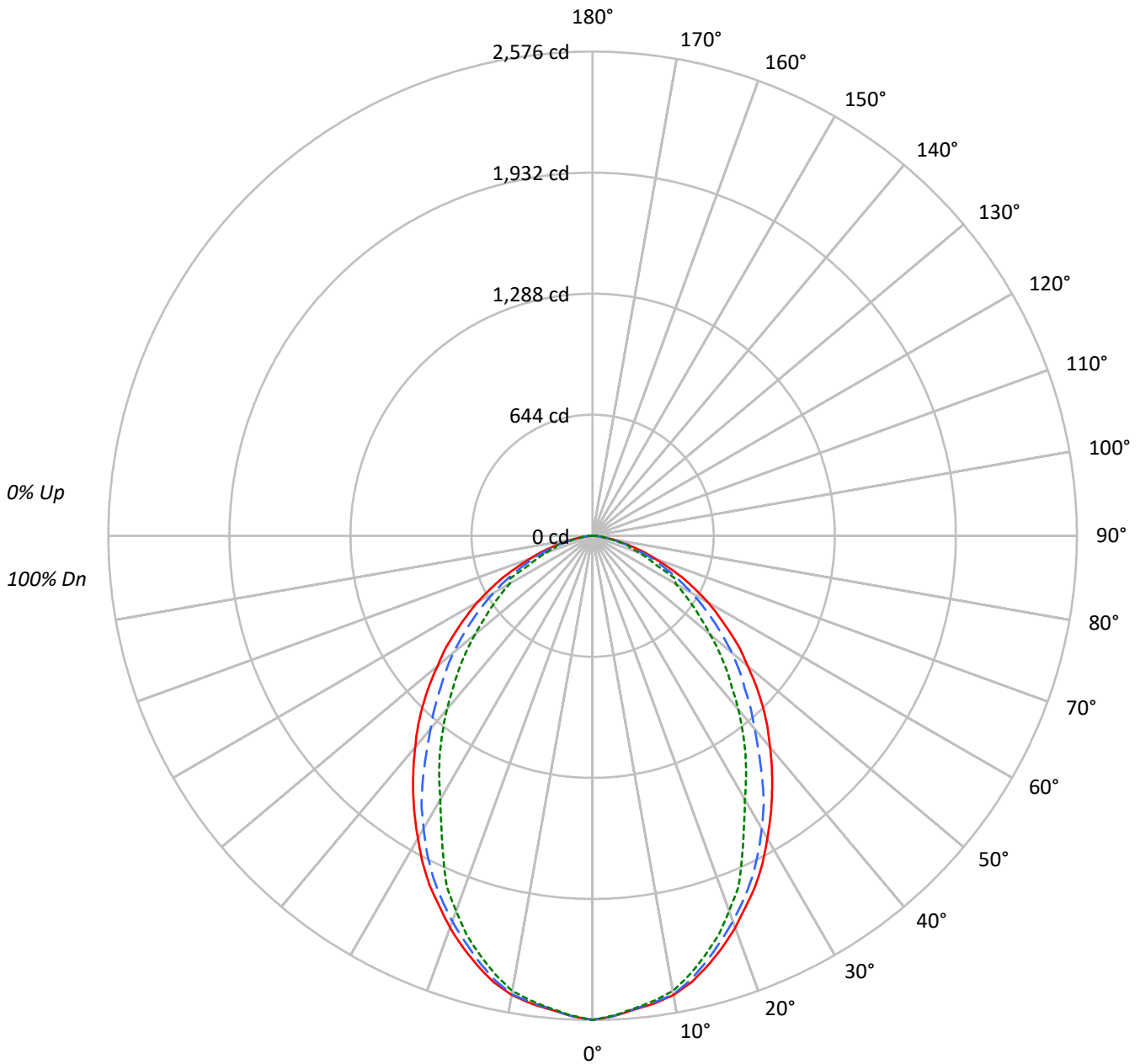
Lumens per Lamp: N/A  
Luminaire Lumens: 5056.0 lumens  
Efficiency: N/A  
Efficacy: 108.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 46.8  
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									
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°	3465	3465	3465
5°	3418	3414	3410
10°	3389	3384	3360
15°	3297	3264	3218
20°	3176	3125	3040
25°	3045	2979	2794
30°	2887	2794	2516
35°	2734	2582	2328
40°	2578	2353	2118
45°	2430	2175	1915
50°	2250	2019	1708
55°	2081	1830	1530
60°	1907	1635	1370
65°	1678	1431	1213
70°	1382	1253	1031
75°	1099	960	1006
80°	738	692	646
85°	460	551	644



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	239.7	4.7
10°-20°	657.9	13.0
20°-30°	910.9	18.0
30°-40°	971.3	19.2
40°-50°	886.1	17.5
50°-60°	694.2	13.7
60°-70°	452.4	8.9
70°-80°	200.4	4.0
80°-90°	43.0	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°	1808.6	35.8
0°-40°	2779.8	55.0
0°-60°	4360.1	86.2
0°-90°	5056.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5056.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2576	2576	2576	2576	2576	
5°	2531	2528	2528	2525	2525	240
15°	2367	2367	2343	2319	2310	665
25°	2051	2040	2007	1935	1882	942
35°	1664	1652	1572	1453	1417	1041
45°	1277	1250	1143	1048	1006	984
55°	887	860	780	688	652	796
65°	527	497	450	458	381	519
75°	211	196	185	176	194	227
85°	30	33	36	39	42	41
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2575.5	2575.5	2575.5	2575.5	2575.5
2.5°	2557.6	2557.6	2557.6	2554.6	2554.6
5°	2530.8	2527.8	2527.8	2524.8	2524.8
7.5°	2510.0	2507.0	2504.0	2501.0	2495.1
10°	2480.2	2480.2	2477.2	2462.3	2459.3
12.5°	2432.5	2429.6	2417.7	2396.8	2390.9
15°	2367.0	2367.0	2343.2	2319.4	2310.5
17.5°	2295.6	2292.6	2262.8	2239.0	2227.1
20°	2218.2	2212.2	2182.4	2143.7	2122.9
22.5°	2131.8	2131.8	2096.1	2045.5	2024.6
25°	2051.4	2039.5	2006.8	1935.3	1881.7
27.5°	1959.1	1941.3	1905.5	1804.3	1741.8
30°	1857.9	1849.0	1798.4	1667.3	1619.7
32.5°	1762.6	1747.7	1694.1	1557.2	1518.5
35°	1664.4	1652.5	1572.1	1453.0	1417.2
37.5°	1566.1	1551.2	1450.0	1354.7	1310.1
40°	1467.9	1450.0	1339.8	1253.5	1205.9
42.5°	1375.6	1351.7	1244.6	1152.3	1098.7
45°	1277.3	1250.5	1143.3	1048.0	1006.4
47.5°	1179.1	1155.2	1057.0	958.7	911.1
50°	1074.8	1054.0	964.7	866.4	815.8
52.5°	988.5	955.7	869.4	771.1	729.5
55°	887.3	860.5	780.1	687.8	652.1
57.5°	795.0	768.2	693.7	607.4	577.6
60°	708.6	669.9	607.4	533.0	509.1
62.5°	613.3	583.6	530.0	467.5	497.2
65°	527.0	497.2	449.6	458.5	381.1
67.5°	431.7	416.8	375.2	333.5	321.6
70°	351.3	333.5	318.6	273.9	262.0
72.5°	279.9	262.0	241.2	217.4	208.4
75°	211.4	196.5	184.6	175.7	193.5
77.5°	145.9	139.9	131.0	122.1	119.1
80°	95.3	92.3	89.3	86.3	83.4
82.5°	56.6	56.6	56.6	56.6	56.6
85°	29.8	32.8	35.7	38.7	41.7
87.5°	17.9	17.9	20.8	23.8	26.8
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)