

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: P546846

Luminaire Tested: **FMR-24-4-LD4-2LO-50-UNV-80-97-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: P546846  
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-80-97-EDD  
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375  
CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT  
LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

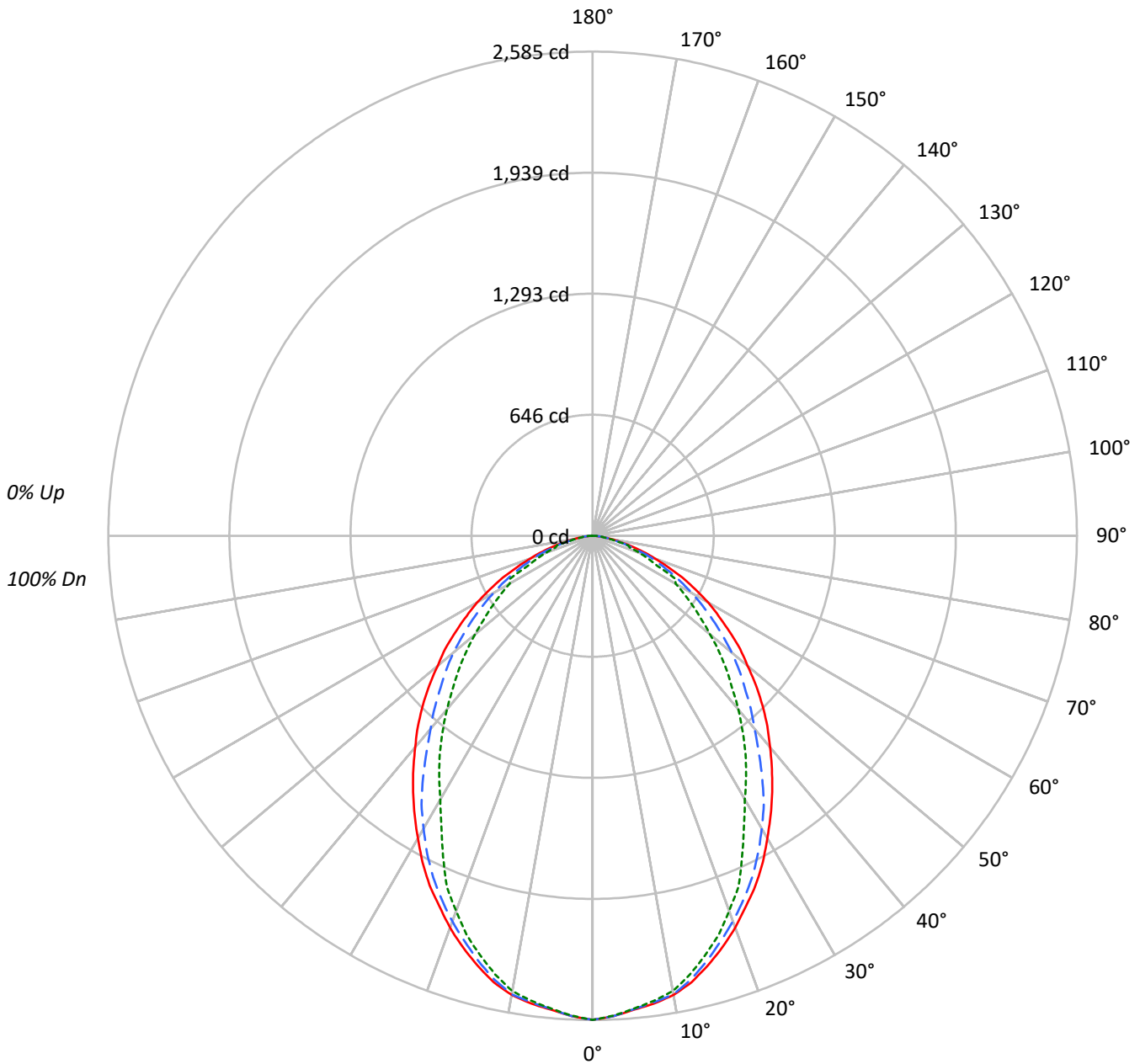
Lumens per Lamp: N/A  
Luminaire Lumens: 5074.0 lumens  
Efficiency: N/A  
Efficacy: 108.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 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°	3478	3478	3478
5°	3430	3426	3422
10°	3401	3396	3372
15°	3309	3276	3230
20°	3187	3136	3051
25°	3056	2990	2803
30°	2897	2804	2525
35°	2744	2591	2336
40°	2587	2362	2125
45°	2439	2183	1922
50°	2258	2026	1714
55°	2089	1837	1535
60°	1914	1640	1375
65°	1684	1436	1218
70°	1387	1258	1034
75°	1103	963	1010
80°	741	694	649
85°	462	554	645



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	240.6	4.7
10°-20°	660.3	13.0
20°-30°	914.1	18.0
30°-40°	974.7	19.2
40°-50°	889.2	17.5
50°-60°	696.7	13.7
60°-70°	454.0	8.9
70°-80°	201.2	4.0
80°-90°	43.2	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°	1815.0	35.8
0°-40°	2789.7	55.0
0°-60°	4375.6	86.2
0°-90°	5074.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5074.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2585	2585	2585	2585	2585	
5°	2540	2537	2537	2534	2534	241
15°	2376	2376	2352	2328	2319	668
25°	2059	2047	2014	1942	1888	945
35°	1670	1658	1578	1458	1422	1044
45°	1282	1255	1147	1052	1010	987
55°	890	864	783	690	654	799
65°	529	499	451	460	382	521
75°	212	197	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°	2584.6	2584.6	2584.6	2584.6	2584.6
2.5°	2566.7	2566.7	2566.7	2563.7	2563.7
5°	2539.8	2536.8	2536.8	2533.8	2533.8
7.5°	2518.9	2515.9	2512.9	2509.9	2504.0
10°	2489.0	2489.0	2486.0	2471.1	2468.1
12.5°	2441.2	2438.2	2426.3	2405.3	2399.4
15°	2375.5	2375.5	2351.6	2327.7	2318.7
17.5°	2303.8	2300.8	2270.9	2247.0	2235.0
20°	2226.1	2220.1	2190.2	2151.4	2130.5
22.5°	2139.4	2139.4	2103.6	2052.8	2031.8
25°	2058.7	2046.8	2013.9	1942.2	1888.4
27.5°	1966.1	1948.2	1912.3	1810.7	1748.0
30°	1864.5	1855.6	1804.8	1673.3	1625.5
32.5°	1768.9	1754.0	1700.2	1562.7	1523.9
35°	1670.3	1658.3	1577.7	1458.1	1422.3
37.5°	1571.7	1556.8	1455.2	1359.5	1314.7
40°	1473.1	1455.2	1344.6	1258.0	1210.1
42.5°	1380.5	1356.6	1249.0	1156.4	1102.6
45°	1281.9	1255.0	1147.4	1051.8	1009.9
47.5°	1183.3	1159.3	1060.7	962.1	914.3
50°	1078.7	1057.8	968.1	869.5	818.7
52.5°	992.0	959.2	872.5	773.9	732.1
55°	890.4	863.5	782.9	690.2	654.4
57.5°	797.8	770.9	696.2	609.6	579.7
60°	711.1	672.3	609.6	534.9	510.9
62.5°	615.5	585.6	531.9	469.1	499.0
65°	528.9	499.0	451.2	460.2	382.5
67.5°	433.3	418.3	376.5	334.7	322.7
70°	352.6	334.7	319.7	274.9	262.9
72.5°	280.9	262.9	242.0	218.1	209.2
75°	212.1	197.2	185.3	176.3	194.2
77.5°	146.4	140.4	131.5	122.5	119.5
80°	95.6	92.6	89.6	86.7	83.7
82.5°	56.8	56.8	56.8	56.8	56.8
85°	29.9	32.9	35.9	38.8	41.8
87.5°	17.9	17.9	20.9	23.9	26.9
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)