

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: P546331

Luminaire Tested: **FMR-12-4-LD4-2STD-40-UNV-80-88-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: P546331  
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-12-4-LD4-2STD-40-UNV-80-88-EDD  
Description: 1X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

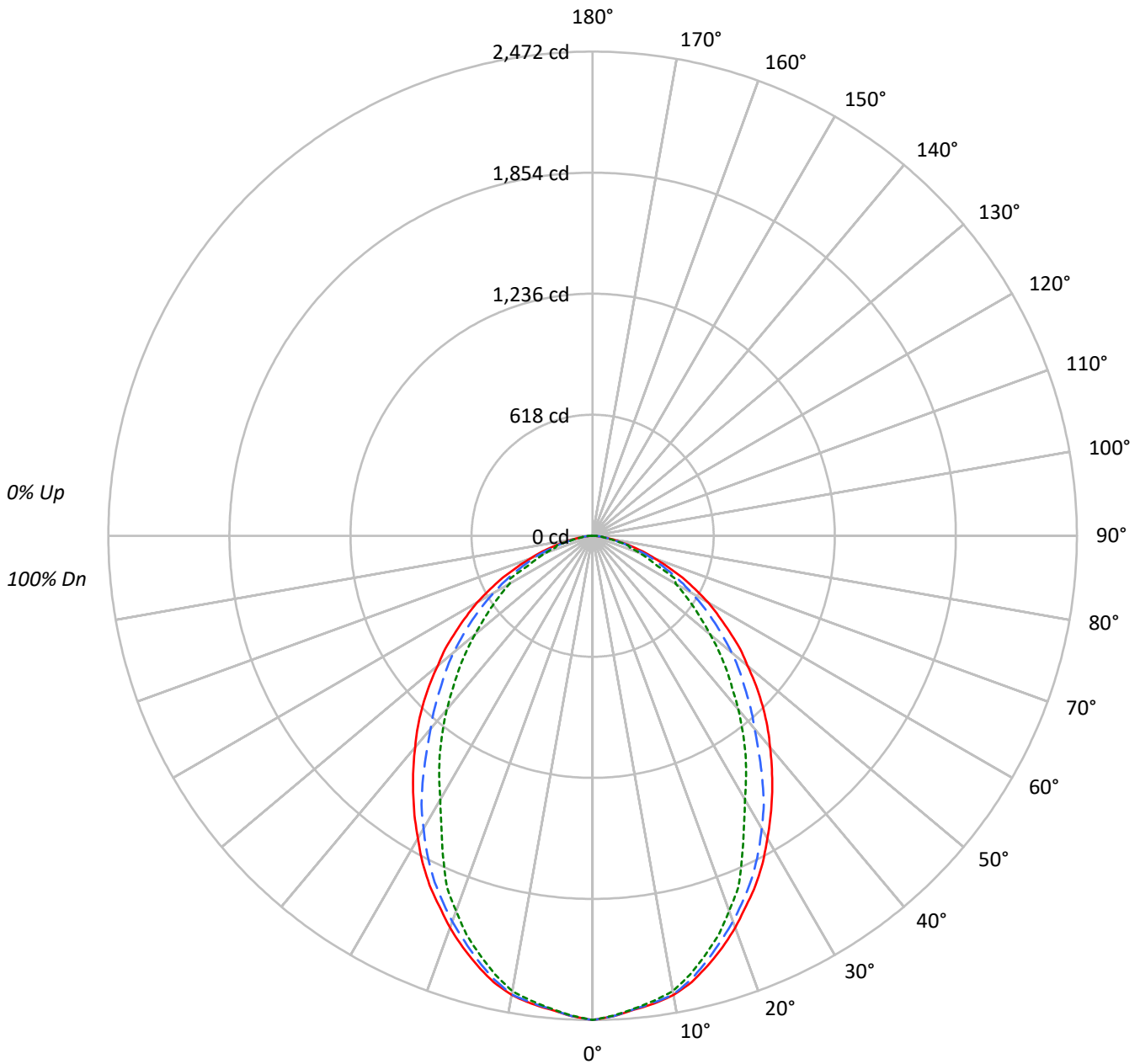
Lumens per Lamp: N/A  
Luminaire Lumens: 4853.0 lumens  
Efficiency: N/A  
Efficacy: 72.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 66.6  
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°	6652	6652	6652
5°	6562	6554	6546
10°	6505	6497	6450
15°	6330	6266	6178
20°	6097	5999	5835
25°	5847	5719	5363
30°	5541	5364	4831
35°	5248	4957	4469
40°	4949	4517	4066
45°	4666	4176	3676
50°	4319	3876	3278
55°	3995	3513	2936
60°	3661	3138	2630
65°	3221	2748	2329
70°	2653	2406	1979
75°	2110	1842	1932
80°	1418	1328	1240
85°	883	1059	1235



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	230.1	4.7
10°-20°	631.5	13.0
20°-30°	874.3	18.0
30°-40°	932.3	19.2
40°-50°	850.5	17.5
50°-60°	666.3	13.7
60°-70°	434.3	8.9
70°-80°	192.4	4.0
80°-90°	41.3	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°	1736.0	35.8
0°-40°	2668.2	55.0
0°-60°	4185.0	86.2
0°-90°	4853.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4853.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2472	2472	2472	2472	2472	
5°	2429	2426	2426	2424	2424	231
15°	2272	2272	2249	2226	2218	639
25°	1969	1958	1926	1858	1806	904
35°	1598	1586	1509	1395	1360	999
45°	1226	1200	1097	1006	966	944
55°	852	826	749	660	626	764
65°	506	477	432	440	366	498
75°	203	189	177	169	186	217
85°	29	31	34	37	40	40
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2472.1	2472.1	2472.1	2472.1	2472.1
2.5°	2454.9	2454.9	2454.9	2452.0	2452.0
5°	2429.2	2426.3	2426.3	2423.5	2423.5
7.5°	2409.2	2406.3	2403.5	2400.6	2394.9
10°	2380.6	2380.6	2377.7	2363.5	2360.6
12.5°	2334.9	2332.0	2320.6	2300.6	2294.9
15°	2272.0	2272.0	2249.1	2226.3	2217.7
17.5°	2203.4	2200.6	2172.0	2149.1	2137.7
20°	2129.1	2123.4	2094.8	2057.7	2037.7
22.5°	2046.2	2046.2	2011.9	1963.4	1943.3
25°	1969.1	1957.6	1926.2	1857.6	1806.2
27.5°	1880.5	1863.3	1829.0	1731.9	1671.9
30°	1783.3	1774.7	1726.2	1600.4	1554.7
32.5°	1691.9	1677.6	1626.1	1494.7	1457.5
35°	1597.5	1586.1	1509.0	1394.6	1360.3
37.5°	1503.2	1488.9	1391.8	1300.3	1257.5
40°	1408.9	1391.8	1286.0	1203.2	1157.4
42.5°	1320.3	1297.5	1194.6	1106.0	1054.6
45°	1226.0	1200.3	1097.4	1006.0	966.0
47.5°	1131.7	1108.9	1014.5	920.2	874.5
50°	1031.7	1011.7	925.9	831.6	783.1
52.5°	948.8	917.4	834.5	740.2	700.2
55°	851.6	825.9	748.8	660.2	625.9
57.5°	763.0	737.3	665.9	583.0	554.4
60°	680.2	643.0	583.0	511.6	488.7
62.5°	588.7	560.1	508.7	448.7	477.3
65°	505.8	477.3	431.5	440.1	365.8
67.5°	414.4	400.1	360.1	320.1	308.6
70°	337.2	320.1	305.8	262.9	251.5
72.5°	268.6	251.5	231.5	208.6	200.1
75°	202.9	188.6	177.2	168.6	185.8
77.5°	140.0	134.3	125.7	117.2	114.3
80°	91.5	88.6	85.7	82.9	80.0
82.5°	54.3	54.3	54.3	54.3	54.3
85°	28.6	31.4	34.3	37.2	40.0
87.5°	17.1	17.1	20.0	22.9	25.7
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)