

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: P589117

Luminaire Tested: **FMR-24-2-LD4-2LO-40-UNV-81-84-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589117  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/8/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: FMR-24-2-LD4-2LO-40-UNV-81-84-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

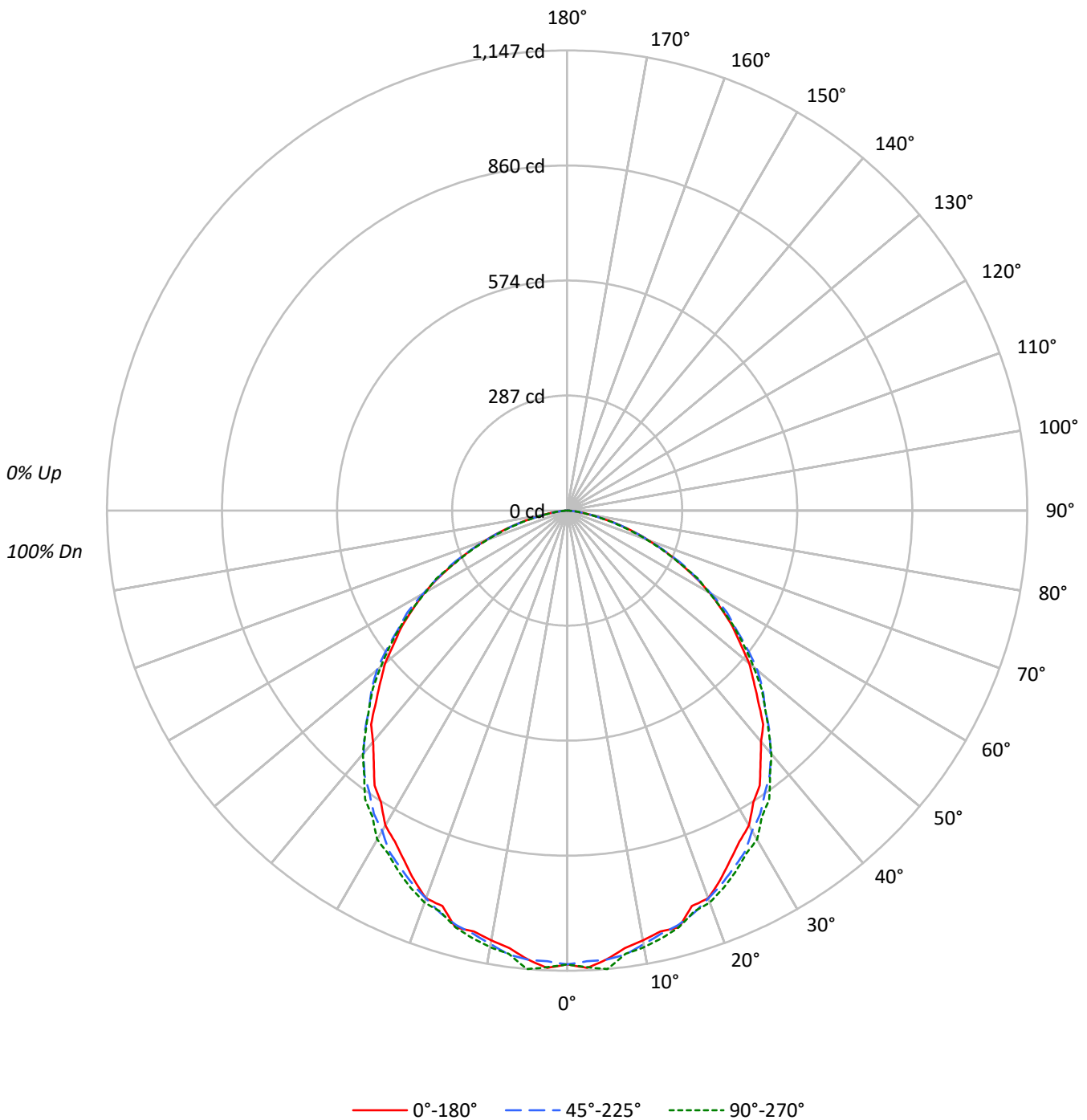
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2851.0 lumens  
Efficiency: N/A  
Efficacy: 121.8 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.4  
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				20	
RC	80				70				50				30				10	0
RW	70	50	30	10	70	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	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	3044	3044	3044
5°	3034	3035	3099
10°	2972	2998	3020
15°	2996	2980	2997
20°	2945	2945	2977
25°	2855	2917	2949
30°	2816	2865	2941
35°	2749	2821	2885
40°	2642	2770	2782
45°	2562	2654	2657
50°	2478	2590	2541
55°	2361	2407	2390
60°	2208	2230	2190
65°	1969	2019	1955
70°	1689	1695	1648
75°	1338	1335	1283
80°	896	871	837
85°	488	482	451



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	106.4	3.7
10°-20°	301.6	10.6
20°-30°	451.8	15.8
30°-40°	535.5	18.8
40°-50°	536.5	18.8
50°-60°	455.4	16.0
60°-70°	307.0	10.8
70°-80°	134.9	4.7
80°-90°	21.9	0.8
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°	859.8	30.2
0°-40°	1395.3	48.9
0°-60°	2387.2	83.7
0°-90°	2851.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2851.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1131	1131	1131	1131	1131	
5°	1123	1120	1124	1120	1147	106
15°	1075	1063	1070	1075	1076	300
25°	962	967	982	995	993	444
35°	837	839	859	879	878	520
45°	673	686	697	715	698	521
55°	503	500	513	510	509	448
65°	309	305	317	305	307	308
75°	129	126	128	119	123	138
85°	16	15	16	15	15	23
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1131.2	1131.2	1131.2	1131.2	1131.2
2.5°	1141.0	1132.4	1124.3	1133.7	1139.4
5°	1123.2	1120.5	1123.6	1120.3	1147.3
7.5°	1100.1	1110.2	1116.0	1112.4	1114.0
10°	1087.8	1084.3	1097.3	1106.4	1105.1
12.5°	1074.7	1079.9	1080.7	1090.5	1091.3
15°	1075.4	1063.0	1069.6	1075.1	1075.6
17.5°	1033.6	1047.1	1051.6	1064.3	1048.5
20°	1028.5	1018.7	1028.5	1041.5	1039.5
22.5°	997.1	986.2	1007.2	1018.7	1018.0
25°	961.5	966.7	982.5	995.4	993.3
27.5°	930.2	936.4	958.9	976.5	965.1
30°	906.1	903.1	922.1	937.8	946.6
32.5°	863.0	874.1	896.3	912.0	903.6
35°	836.9	839.4	858.8	878.7	878.1
37.5°	791.2	802.7	830.0	835.6	830.5
40°	752.2	763.7	788.4	794.4	791.9
42.5°	723.4	725.5	746.6	753.5	742.5
45°	673.3	685.9	697.3	715.2	698.3
47.5°	630.7	636.5	661.1	665.9	657.0
50°	592.0	594.0	618.7	612.7	606.9
52.5°	543.3	551.9	565.8	564.7	557.8
55°	503.3	500.0	513.1	509.6	509.4
57.5°	455.3	461.1	471.9	466.4	457.4
60°	410.3	410.4	414.4	408.1	406.9
62.5°	360.2	361.9	362.8	355.1	367.6
65°	309.2	305.1	317.1	305.0	307.0
67.5°	262.3	264.4	263.2	255.6	258.5
70°	214.7	217.3	215.4	206.8	209.4
72.5°	171.2	168.0	170.0	159.2	164.2
75°	128.7	126.0	128.4	119.3	123.4
77.5°	87.6	89.7	88.2	83.4	86.2
80°	57.8	56.2	56.2	53.5	54.0
82.5°	33.7	32.1	31.7	30.8	32.1
85°	15.8	15.3	15.6	15.2	14.6
87.5°	5.7	5.8	5.8	5.6	5.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)