

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: P545949

Luminaire Tested: **FMR-12-4-LD4-1LO-40-UNV-80-96-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: P545949  
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-LD4-1LO-40-UNV-80-96-EDD  
Description: 1X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

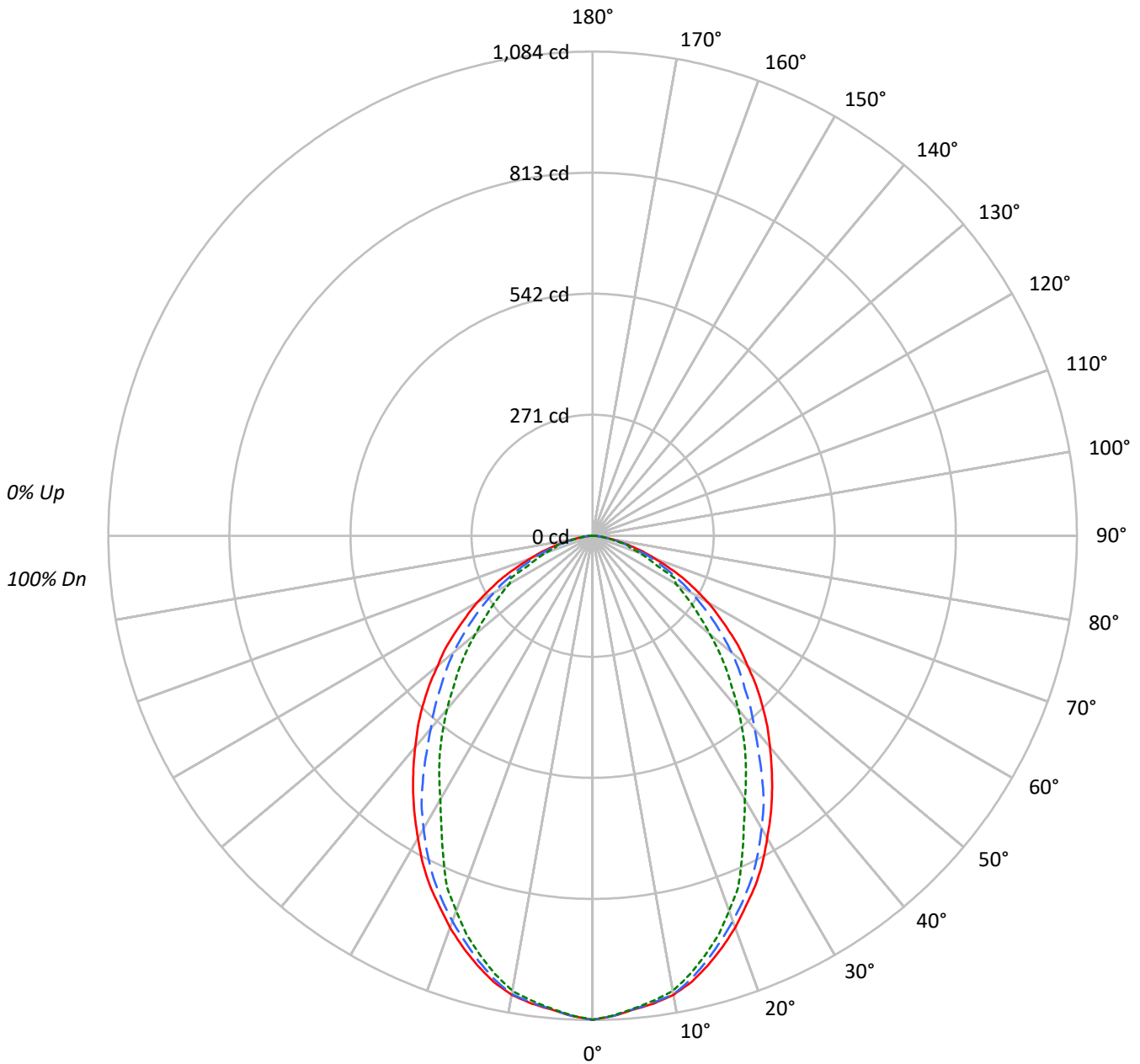
Lumens per Lamp: N/A  
Luminaire Lumens: 2127.0 lumens  
Efficiency: N/A  
Efficacy: 90.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 23.4  
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°	2916	2916	2916
5°	2876	2873	2869
10°	2851	2848	2827
15°	2774	2746	2708
20°	2672	2629	2558
25°	2562	2507	2350
30°	2429	2351	2117
35°	2300	2173	1959
40°	2169	1980	1782
45°	2045	1831	1611
50°	1893	1699	1437
55°	1751	1540	1287
60°	1604	1375	1153
65°	1412	1204	1021
70°	1163	1054	867
75°	924	808	846
80°	621	583	544
85°	386	463	540



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	100.9	4.7
10°-20°	276.8	13.0
20°-30°	383.2	18.0
30°-40°	408.6	19.2
40°-50°	372.8	17.5
50°-60°	292.0	13.7
60°-70°	190.3	8.9
70°-80°	84.3	4.0
80°-90°	18.1	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°	760.8	35.8
0°-40°	1169.4	55.0
0°-60°	1834.2	86.2
0°-90°	2127.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2127.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1084	1084	1084	1084	1084	
5°	1065	1063	1063	1062	1062	101
15°	996	996	986	976	972	280
25°	863	858	844	814	792	396
35°	700	695	661	611	596	438
45°	537	526	481	441	423	414
55°	373	362	328	289	274	335
65°	222	209	189	193	160	218
75°	89	83	78	74	81	95
85°	12	14	15	16	18	17
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1083.5	1083.5	1083.5	1083.5	1083.5
2.5°	1076.0	1076.0	1076.0	1074.7	1074.7
5°	1064.7	1063.4	1063.4	1062.2	1062.2
7.5°	1055.9	1054.7	1053.4	1052.2	1049.6
10°	1043.4	1043.4	1042.1	1035.9	1034.6
12.5°	1023.3	1022.1	1017.1	1008.3	1005.8
15°	995.8	995.8	985.8	975.7	972.0
17.5°	965.7	964.5	951.9	941.9	936.9
20°	933.2	930.7	918.1	901.8	893.1
22.5°	896.8	896.8	881.8	860.5	851.7
25°	863.0	858.0	844.2	814.2	791.6
27.5°	824.2	816.7	801.6	759.1	732.7
30°	781.6	777.8	756.5	701.4	681.4
32.5°	741.5	735.3	712.7	655.1	638.8
35°	700.2	695.2	661.4	611.2	596.2
37.5°	658.8	652.6	610.0	569.9	551.1
40°	617.5	610.0	563.7	527.3	507.3
42.5°	578.7	568.7	523.6	484.7	462.2
45°	537.3	526.1	481.0	440.9	423.4
47.5°	496.0	486.0	444.7	403.3	383.3
50°	452.2	443.4	405.8	364.5	343.2
52.5°	415.9	402.1	365.7	324.4	306.9
55°	373.3	362.0	328.2	289.3	274.3
57.5°	334.4	323.2	291.8	255.5	243.0
60°	298.1	281.8	255.5	224.2	214.2
62.5°	258.0	245.5	223.0	196.7	209.2
65°	221.7	209.2	189.1	192.9	160.3
67.5°	181.6	175.4	157.8	140.3	135.3
70°	147.8	140.3	134.0	115.2	110.2
72.5°	117.7	110.2	101.5	91.4	87.7
75°	88.9	82.7	77.7	73.9	81.4
77.5°	61.4	58.9	55.1	51.4	50.1
80°	40.1	38.8	37.6	36.3	35.1
82.5°	23.8	23.8	23.8	23.8	23.8
85°	12.5	13.8	15.0	16.3	17.5
87.5°	7.5	7.5	8.8	10.0	11.3
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)