

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: P547448

Luminaire Tested: **FMR-24-4-LD4-4STD-35-UNV-80-85-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: P547448  
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-LD4-4STD-35-UNV-80-85-EDD  
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

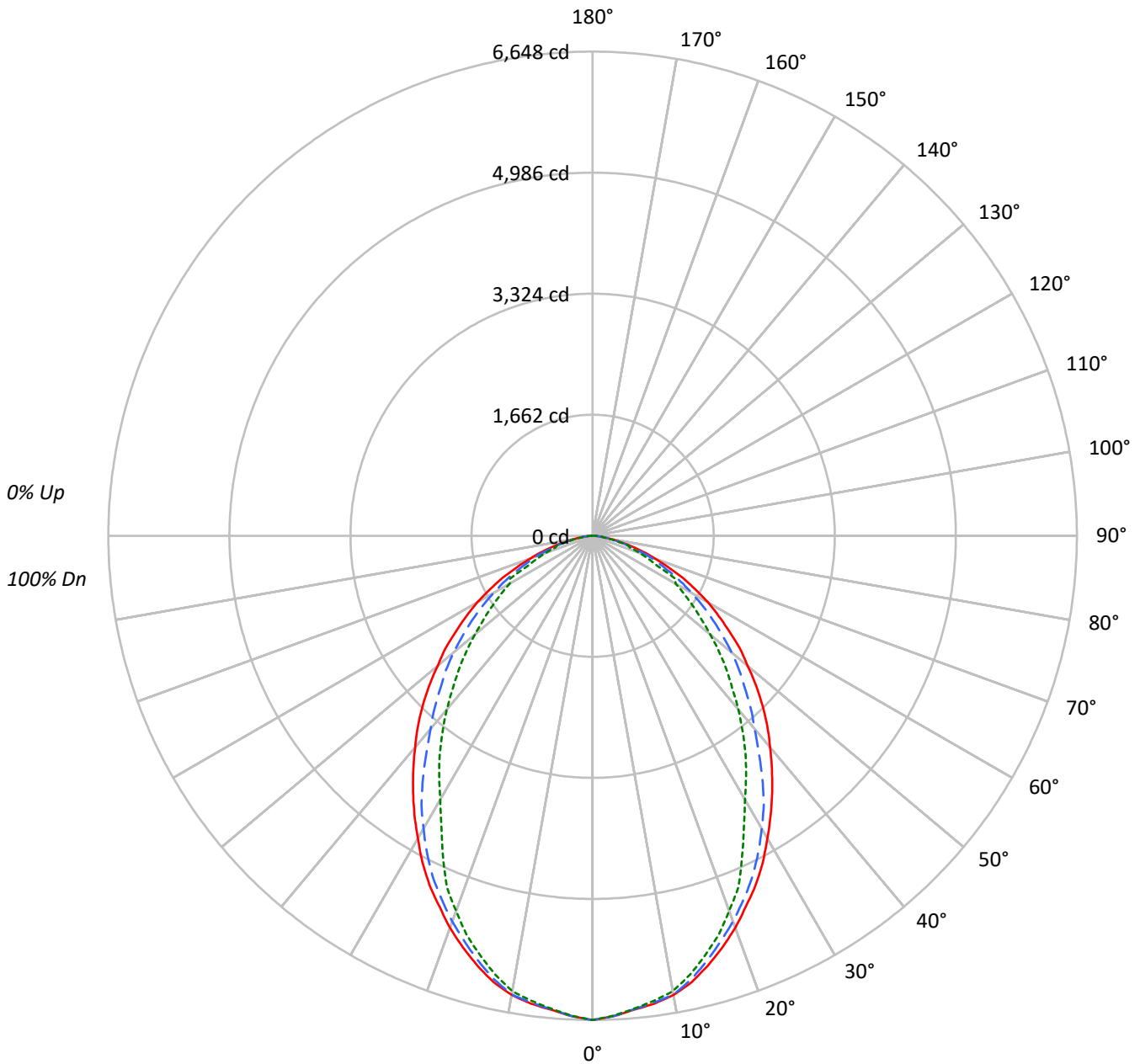
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 13052.0 lumens  
Efficiency: N/A  
Efficacy: 98.0 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): 133.2  
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

TEST NUMBER: P547448

CATALOG NUMBER: FMR-24-4-LD4-4STD-35-UNV-80-85-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P547448

CATALOG NUMBER: FMR-24-4-LD4-4STD-35-UNV-80-85-EDD

**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°	8945	8945	8945
5°	8824	8814	8803
10°	8748	8737	8674
15°	8512	8426	8308
20°	8199	8067	7847
25°	7862	7691	7212
30°	7452	7213	6496
35°	7057	6666	6009
40°	6656	6075	5468
45°	6274	5616	4943
50°	5808	5213	4408
55°	5373	4724	3949
60°	4923	4219	3537
65°	4331	3695	3132
70°	3568	3235	2661
75°	2837	2477	2597
80°	1906	1787	1667
85°	1187	1423	1661



TEST NUMBER: P547448

CATALOG NUMBER: FMR-24-4-LD4-4STD-35-UNV-80-85-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	618.9	4.7
10°-20°	1698.5	13.0
20°-30°	2351.4	18.0
30°-40°	2507.3	19.2
40°-50°	2287.4	17.5
50°-60°	1792.0	13.7
60°-70°	1167.9	8.9
70°-80°	517.4	4.0
80°-90°	111.1	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°	4668.8	35.8
0°-40°	7176.1	55.0
0°-60°	11255.5	86.2
0°-90°	13052.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13052.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	6648	6648	6648	6648	6648	
5°	6533	6526	6526	6518	6518	620
15°	6110	6110	6049	5988	5964	1718
25°	5296	5265	5180	4996	4858	2431
35°	4297	4266	4058	3751	3659	2686
45°	3297	3228	2952	2706	2598	2540
55°	2290	2221	2014	1776	1683	2054
65°	1360	1284	1161	1184	984	1341
75°	546	507	476	454	500	585
85°	77	84	92	100	108	107
90°	0	0	0	0	0	



TEST NUMBER: P547448

CATALOG NUMBER: FMR-24-4-LD4-4STD-35-UNV-80-85-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	6648.5	6648.5	6648.5	6648.5	6648.5
2.5°	6602.4	6602.4	6602.4	6594.7	6594.7
5°	6533.2	6525.5	6525.5	6517.8	6517.8
7.5°	6479.4	6471.7	6464.0	6456.4	6441.0
10°	6402.6	6402.6	6394.9	6356.4	6348.8
12.5°	6279.6	6271.9	6241.1	6187.3	6172.0
15°	6110.5	6110.5	6049.0	5987.5	5964.4
17.5°	5926.0	5918.3	5841.5	5780.0	5749.2
20°	5726.2	5710.8	5633.9	5534.0	5480.2
22.5°	5503.3	5503.3	5411.0	5280.4	5226.6
25°	5295.8	5265.0	5180.5	4996.0	4857.6
27.5°	5057.5	5011.4	4919.1	4657.8	4496.4
30°	4796.2	4773.1	4642.4	4304.2	4181.3
32.5°	4550.2	4511.8	4373.4	4019.9	3919.9
35°	4296.6	4265.8	4058.3	3750.8	3658.6
37.5°	4042.9	4004.5	3743.2	3497.2	3381.9
40°	3789.3	3743.2	3458.8	3235.9	3112.9
42.5°	3551.0	3489.5	3212.8	2974.5	2836.2
45°	3297.4	3228.2	2951.5	2705.5	2597.9
47.5°	3043.7	2982.2	2728.6	2474.9	2352.0
50°	2774.7	2720.9	2490.3	2236.7	2106.0
52.5°	2551.8	2467.3	2244.4	1990.7	1883.1
55°	2290.5	2221.3	2013.8	1775.5	1683.3
57.5°	2052.2	1983.0	1790.9	1568.0	1491.1
60°	1829.3	1729.4	1568.0	1375.8	1314.3
62.5°	1583.3	1506.5	1368.1	1206.7	1283.6
65°	1360.4	1283.6	1160.6	1183.7	983.8
67.5°	1114.5	1076.1	968.5	860.8	830.1
70°	907.0	860.8	822.4	707.1	676.4
72.5°	722.5	676.4	622.6	561.1	538.0
75°	545.7	507.3	476.5	453.5	499.6
77.5°	376.6	361.2	338.2	315.1	307.4
80°	246.0	238.3	230.6	222.9	215.2
82.5°	146.0	146.0	146.0	146.0	146.0
85°	76.9	84.5	92.2	99.9	107.6
87.5°	46.1	46.1	53.8	61.5	69.2
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)