

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: P546972

Luminaire Tested: **FMR-24-4-LD4-3HI-35-UNV-80-94-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: P546972  
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-LD4-3HI-35-UNV-80-94-EDD  
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDES  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

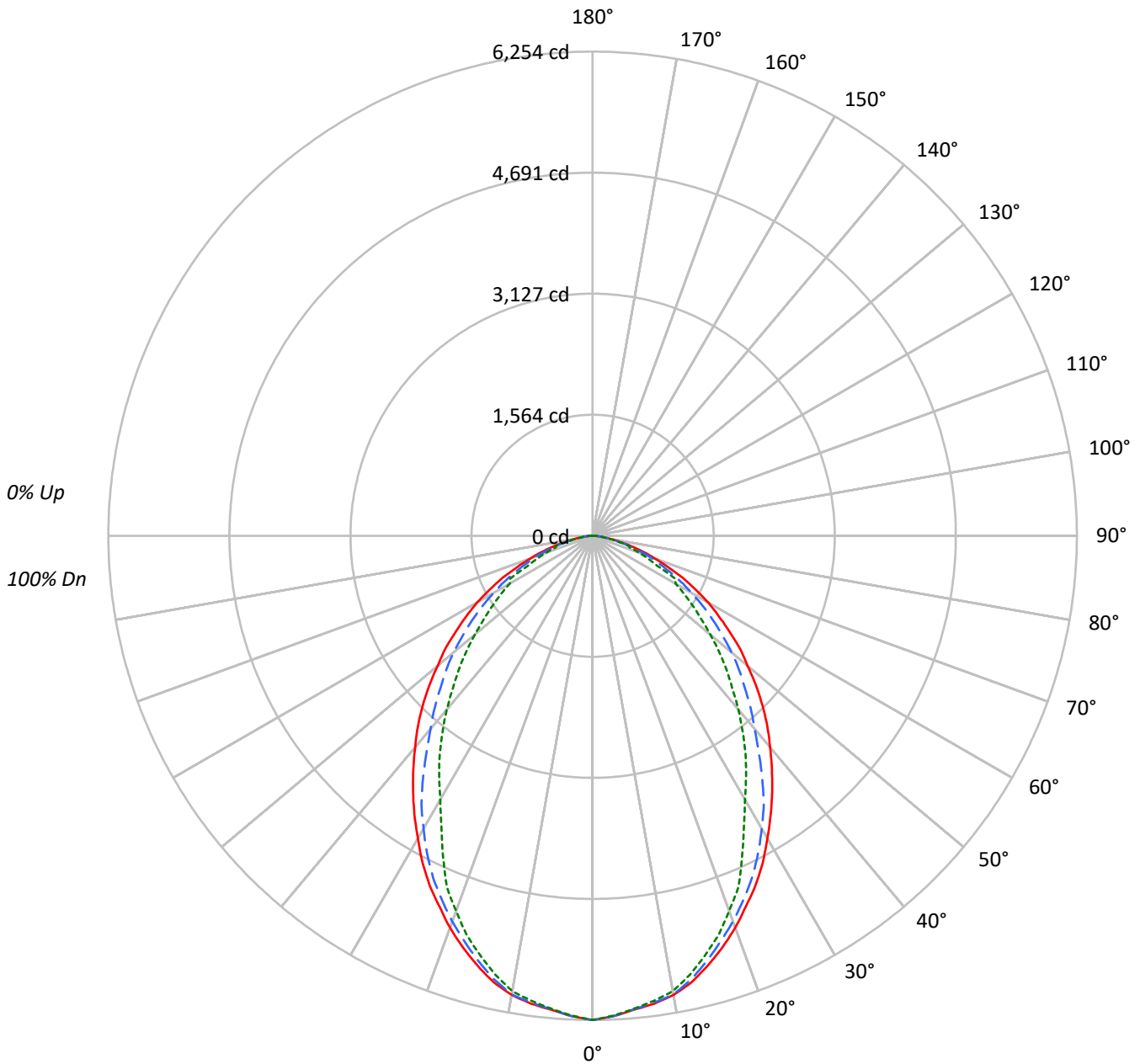
Lumens per Lamp: N/A  
Luminaire Lumens: 12278.0 lumens  
Efficiency: N/A  
Efficacy: 94.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 129.6  
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				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	50	30	10	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87				87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75				75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65				65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56				56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50				50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44				44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40				40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36				36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33				33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30				30

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

	0°	45°	90°
0°	8415	8415	8415
5°	8301	8291	8281
10°	8229	8219	8160
15°	8007	7926	7815
20°	7713	7588	7381
25°	7396	7235	6784
30°	7010	6785	6111
35°	6639	6271	5653
40°	6261	5715	5143
45°	5902	5283	4650
50°	5464	4904	4147
55°	5054	4444	3714
60°	4631	3969	3327
65°	4074	3476	2947
70°	3356	3043	2503
75°	2669	2331	2443
80°	1793	1681	1568
85°	1116	1340	1562



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	582.2	4.7
10°-20°	1597.8	13.0
20°-30°	2212.0	18.0
30°-40°	2358.6	19.2
40°-50°	2151.8	17.5
50°-60°	1685.7	13.7
60°-70°	1098.7	8.9
70°-80°	486.8	4.0
80°-90°	104.5	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°	4391.9	35.8
0°-40°	6750.6	55.0
0°-60°	10588.1	86.2
0°-90°	12278.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12278.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	6254	6254	6254	6254	6254	
5°	6146	6139	6139	6131	6131	583
15°	5748	5748	5690	5632	5611	1616
25°	4982	4953	4873	4700	4570	2287
35°	4042	4013	3818	3528	3442	2527
45°	3102	3037	2776	2545	2444	2389
55°	2155	2090	1894	1670	1583	1933
65°	1280	1208	1092	1114	926	1261
75°	513	477	448	427	470	550
85°	72	80	87	94	101	100
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	6254.2	6254.2	6254.2	6254.2	6254.2
2.5°	6210.9	6210.9	6210.9	6203.6	6203.6
5°	6145.8	6138.6	6138.6	6131.3	6131.3
7.5°	6095.2	6088.0	6080.7	6073.5	6059.0
10°	6022.9	6022.9	6015.6	5979.5	5972.3
12.5°	5907.2	5900.0	5871.0	5820.4	5806.0
15°	5748.1	5748.1	5690.3	5632.4	5610.7
17.5°	5574.6	5567.4	5495.1	5437.2	5408.3
20°	5386.6	5372.1	5299.8	5205.8	5155.2
22.5°	5176.9	5176.9	5090.2	4967.2	4916.6
25°	4981.7	4952.8	4873.3	4699.7	4569.6
27.5°	4757.6	4714.2	4627.4	4381.6	4229.8
30°	4511.7	4490.0	4367.1	4049.0	3933.3
32.5°	4280.4	4244.2	4114.1	3781.5	3687.5
35°	4041.8	4012.8	3817.6	3528.4	3441.6
37.5°	3803.2	3767.0	3521.2	3289.8	3181.4
40°	3564.6	3521.2	3253.7	3044.0	2928.3
42.5°	3340.4	3282.6	3022.3	2798.1	2668.0
45°	3101.8	3036.7	2776.5	2545.1	2443.9
47.5°	2863.2	2805.4	2566.8	2328.2	2212.5
50°	2610.2	2559.5	2342.6	2104.0	1981.1
52.5°	2400.5	2320.9	2111.3	1872.7	1771.4
55°	2154.6	2089.6	1894.4	1670.2	1583.4
57.5°	1930.5	1865.4	1684.7	1475.0	1402.7
60°	1720.8	1626.8	1475.0	1294.2	1236.4
62.5°	1489.5	1417.1	1287.0	1135.2	1207.5
65°	1279.8	1207.5	1091.8	1113.5	925.5
67.5°	1048.4	1012.2	911.0	809.8	780.9
70°	853.2	809.8	773.6	665.2	636.3
72.5°	679.7	636.3	585.7	527.8	506.1
75°	513.4	477.2	448.3	426.6	470.0
77.5°	354.3	339.8	318.1	296.4	289.2
80°	231.4	224.1	216.9	209.7	202.4
82.5°	137.4	137.4	137.4	137.4	137.4
85°	72.3	79.5	86.8	94.0	101.2
87.5°	43.4	43.4	50.6	57.8	65.1
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)