

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: P547322

Luminaire Tested: **FMR-24-4-LD4-4HI-50-UNV-80-87-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: P547322  
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-LD4-4HI-50-UNV-80-87-EDD  
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

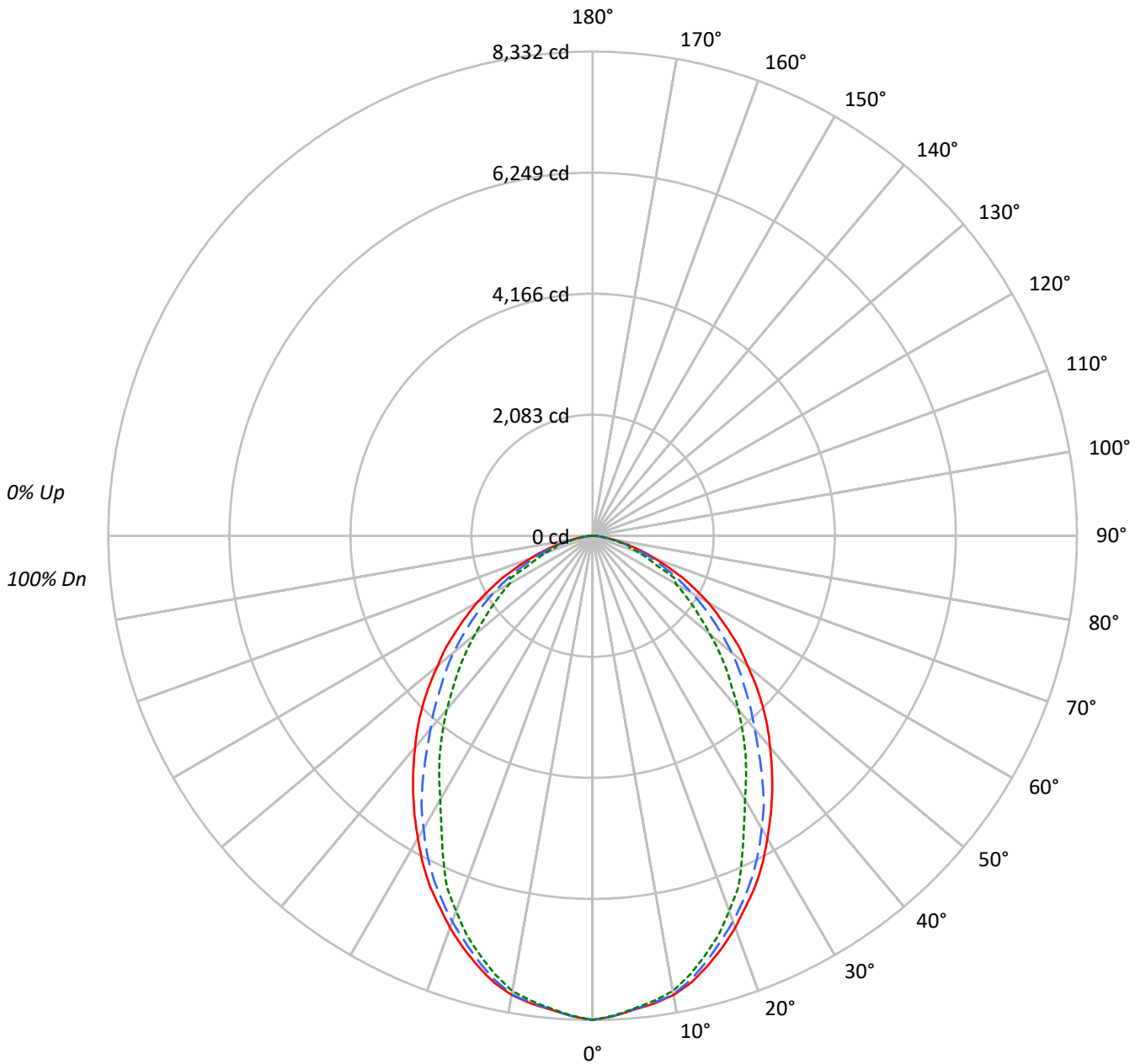
Lumens per Lamp: N/A  
Luminaire Lumens: 16356.0 lumens  
Efficiency: N/A  
Efficacy: 94.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 172.8  
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°	11210	11210	11210
5°	11058	11045	11032
10°	10962	10949	10870
15°	10666	10559	10411
20°	10274	10109	9833
25°	9852	9638	9037
30°	9338	9038	8141
35°	8844	8353	7531
40°	8340	7613	6852
45°	7863	7038	6195
50°	7278	6532	5524
55°	6733	5920	4948
60°	6169	5288	4432
65°	5428	4630	3925
70°	4471	4054	3334
75°	3555	3105	3255
80°	2388	2239	2090
85°	1487	1785	2081



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	775.6	4.7
10°-20°	2128.4	13.0
20°-30°	2946.7	18.0
30°-40°	3142.0	19.2
40°-50°	2866.4	17.5
50°-60°	2245.6	13.7
60°-70°	1463.6	8.9
70°-80°	648.4	4.0
80°-90°	139.2	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°	5850.7	35.8
0°-40°	8992.7	55.0
0°-60°	14104.7	86.2
0°-90°	16356.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	16356.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	8332	8332	8332	8332	8332	
5°	8187	8177	8177	8168	8168	777
15°	7657	7657	7580	7503	7474	2153
25°	6636	6598	6492	6261	6087	3047
35°	5384	5346	5086	4700	4585	3366
45°	4132	4045	3699	3390	3256	3183
55°	2870	2784	2524	2225	2109	2574
65°	1705	1608	1454	1483	1233	1680
75°	684	636	597	568	626	733
85°	96	106	116	125	135	134
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	8331.5	8331.5	8331.5	8331.5	8331.5
2.5°	8273.7	8273.7	8273.7	8264.1	8264.1
5°	8187.1	8177.4	8177.4	8167.8	8167.8
7.5°	8119.6	8110.0	8100.4	8090.7	8071.5
10°	8023.3	8023.3	8013.7	7965.5	7955.9
12.5°	7869.2	7859.6	7821.0	7753.6	7734.4
15°	7657.3	7657.3	7580.2	7503.2	7474.3
17.5°	7426.1	7416.5	7320.2	7243.1	7204.6
20°	7175.7	7156.4	7060.1	6934.9	6867.5
22.5°	6896.4	6896.4	6780.8	6617.1	6549.6
25°	6636.3	6597.8	6491.8	6260.7	6087.3
27.5°	6337.7	6279.9	6164.4	5836.9	5634.6
30°	6010.3	5981.4	5817.6	5393.8	5239.7
32.5°	5702.0	5653.9	5480.5	5037.4	4912.2
35°	5384.2	5345.7	5085.6	4700.3	4584.7
37.5°	5066.3	5018.2	4690.7	4382.5	4238.0
40°	4748.5	4690.7	4334.3	4055.0	3900.9
42.5°	4449.9	4372.8	4026.1	3727.5	3554.1
45°	4132.1	4045.4	3698.6	3390.4	3255.6
47.5°	3814.2	3737.1	3419.3	3101.4	2947.3
50°	3477.1	3409.7	3120.7	2802.9	2639.1
52.5°	3197.8	3091.8	2812.5	2494.6	2359.8
55°	2870.3	2783.6	2523.5	2225.0	2109.4
57.5°	2571.7	2485.0	2244.2	1964.9	1868.6
60°	2292.4	2167.2	1964.9	1724.1	1647.0
62.5°	1984.2	1887.8	1714.5	1512.2	1608.5
65°	1704.8	1608.5	1454.4	1483.3	1232.9
67.5°	1396.6	1348.5	1213.6	1078.8	1040.2
70°	1136.6	1078.8	1030.6	886.1	847.6
72.5°	905.4	847.6	780.2	703.1	674.2
75°	683.9	635.7	597.2	568.3	626.1
77.5°	472.0	452.7	423.8	394.9	385.3
80°	308.2	298.6	289.0	279.3	269.7
82.5°	183.0	183.0	183.0	183.0	183.0
85°	96.3	106.0	115.6	125.2	134.8
87.5°	57.8	57.8	67.4	77.1	86.7
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)