

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: P547256

Luminaire Tested: **FMR-24-4-LD4-4HI-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: P547256  
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-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**

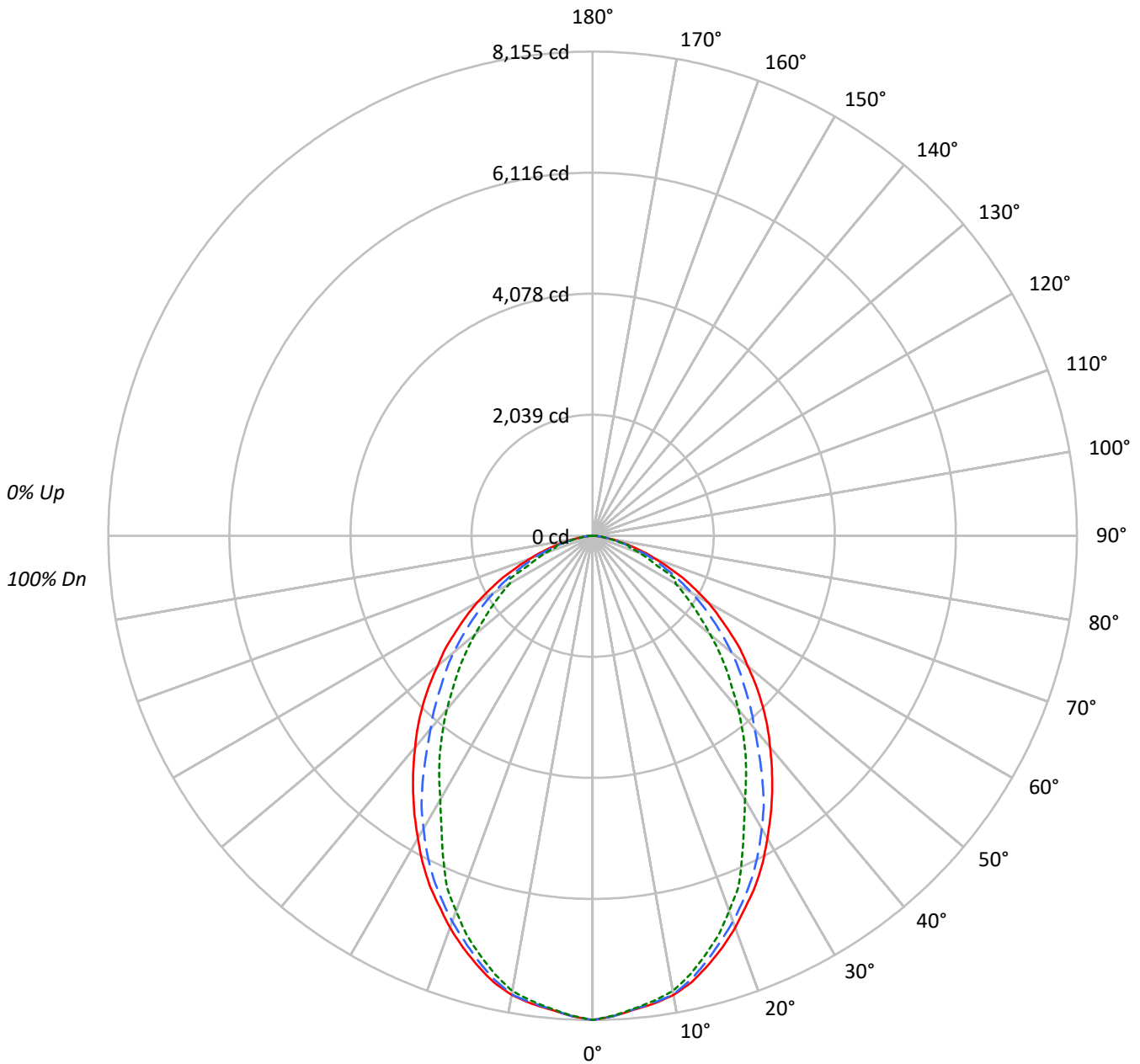
Lumens per Lamp: N/A  
Luminaire Lumens: 16009.0 lumens  
Efficiency: N/A  
Efficacy: 92.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

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°	10972	10972	10972
5°	10823	10810	10798
10°	10729	10716	10639
15°	10440	10335	10190
20°	10057	9894	9625
25°	9643	9433	8845
30°	9140	8847	7968
35°	8656	8176	7371
40°	8163	7451	6706
45°	7696	6889	6063
50°	7124	6394	5407
55°	6590	5794	4843
60°	6038	5175	4338
65°	5313	4532	3842
70°	4376	3968	3264
75°	3480	3039	3186
80°	2338	2191	2046
85°	1456	1746	2038



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	759.1	4.7
10°-20°	2083.3	13.0
20°-30°	2884.2	18.0
30°-40°	3075.4	19.2
40°-50°	2805.6	17.5
50°-60°	2198.0	13.7
60°-70°	1432.5	8.9
70°-80°	634.7	4.0
80°-90°	136.3	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°	5726.6	35.8
0°-40°	8801.9	55.0
0°-60°	13805.5	86.2
0°-90°	16009.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	16009.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	8155	8155	8155	8155	8155	
5°	8013	8004	8004	7994	7994	761
15°	7495	7495	7419	7344	7316	2107
25°	6496	6458	6354	6128	5958	2982
35°	5270	5232	4978	4601	4488	3295
45°	4044	3960	3620	3318	3186	3115
55°	2809	2724	2470	2178	2065	2520
65°	1669	1574	1424	1452	1207	1644
75°	669	622	584	556	613	717
85°	94	104	113	123	132	131
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	8154.8	8154.8	8154.8	8154.8	8154.8
2.5°	8098.2	8098.2	8098.2	8088.8	8088.8
5°	8013.4	8003.9	8003.9	7994.5	7994.5
7.5°	7947.4	7937.9	7928.5	7919.1	7900.2
10°	7853.1	7853.1	7843.7	7796.5	7787.1
12.5°	7702.3	7692.8	7655.1	7589.1	7570.3
15°	7494.8	7494.8	7419.4	7344.0	7315.7
17.5°	7268.6	7259.2	7164.9	7089.5	7051.8
20°	7023.5	7004.6	6910.3	6787.8	6721.8
22.5°	6750.1	6750.1	6636.9	6476.7	6410.7
25°	6495.5	6457.8	6354.1	6127.9	5958.2
27.5°	6203.3	6146.7	6033.6	5713.1	5515.1
30°	5882.7	5854.5	5694.2	5279.4	5128.5
32.5°	5581.1	5533.9	5364.2	4930.6	4808.0
35°	5270.0	5232.3	4977.7	4600.6	4487.5
37.5°	4958.9	4911.7	4591.2	4289.5	4148.1
40°	4647.7	4591.2	4242.4	3969.0	3818.1
42.5°	4355.5	4280.1	3940.7	3648.4	3478.7
45°	4044.4	3959.5	3620.2	3318.5	3186.5
47.5°	3733.3	3657.9	3346.8	3035.6	2884.8
50°	3403.3	3337.3	3054.5	2743.4	2583.1
52.5°	3129.9	3026.2	2752.8	2441.7	2309.7
55°	2809.4	2724.5	2470.0	2177.7	2064.6
57.5°	2517.1	2432.3	2196.6	1923.2	1828.9
60°	2243.7	2121.2	1923.2	1687.5	1612.1
62.5°	1942.1	1847.8	1678.1	1480.1	1574.4
65°	1668.7	1574.4	1423.5	1451.8	1206.7
67.5°	1367.0	1319.8	1187.9	1055.9	1018.2
70°	1112.4	1055.9	1008.7	867.3	829.6
72.5°	886.2	829.6	763.6	688.2	659.9
75°	669.4	622.2	584.5	556.2	612.8
77.5°	461.9	443.1	414.8	386.5	377.1
80°	301.7	292.3	282.8	273.4	264.0
82.5°	179.1	179.1	179.1	179.1	179.1
85°	94.3	103.7	113.1	122.6	132.0
87.5°	56.6	56.6	66.0	75.4	84.8
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)