

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: P547275

Luminaire Tested: **FMR-24-4-LD4-4HI-35-UNV-82-88-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: P547275  
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-82-88-EDD  
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

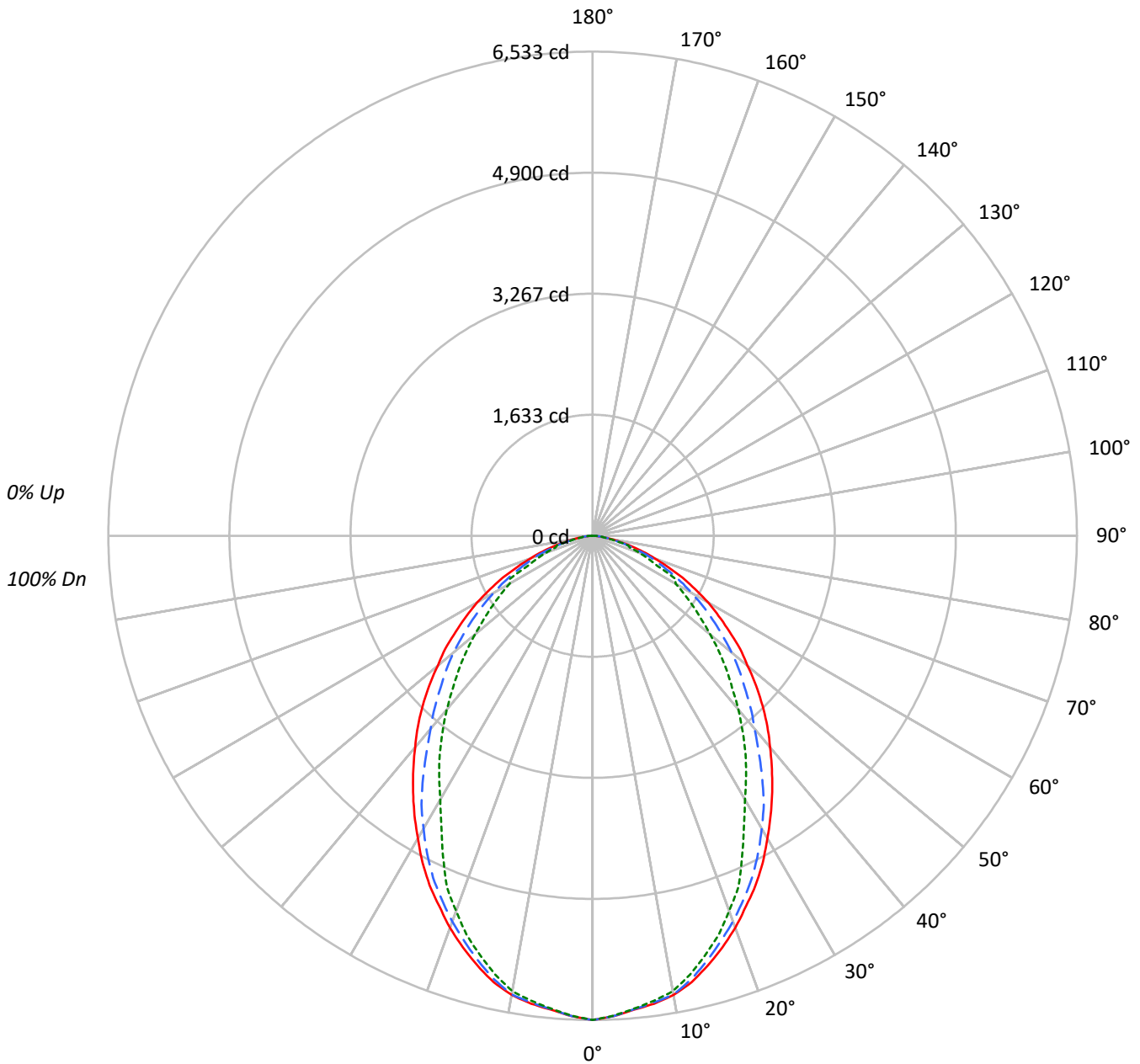
Lumens per Lamp: N/A  
Luminaire Lumens: 12826.0 lumens  
Efficiency: N/A  
Efficacy: 74.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

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°	8791	8791	8791
5°	8671	8661	8651
10°	8596	8586	8524
15°	8364	8280	8164
20°	8057	7927	7711
25°	7726	7558	7087
30°	7322	7088	6384
35°	6935	6550	5905
40°	6540	5970	5373
45°	6166	5519	4858
50°	5708	5123	4332
55°	5280	4642	3880
60°	4837	4146	3476
65°	4256	3631	3078
70°	3506	3179	2615
75°	2788	2434	2552
80°	1873	1756	1639
85°	1166	1399	1632



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	608.2	4.7
10°-20°	1669.1	13.0
20°-30°	2310.7	18.0
30°-40°	2463.9	19.2
40°-50°	2247.8	17.5
50°-60°	1761.0	13.7
60°-70°	1147.7	8.9
70°-80°	508.5	4.0
80°-90°	109.2	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°	4588.0	35.8
0°-40°	7051.9	55.0
0°-60°	11060.6	86.2
0°-90°	12826.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12826.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	6533	6533	6533	6533	6533	
5°	6420	6412	6412	6405	6405	609
15°	6005	6005	5944	5884	5861	1688
25°	5204	5174	5091	4910	4774	2389
35°	4222	4192	3988	3686	3595	2640
45°	3240	3172	2900	2659	2553	2496
55°	2251	2183	1979	1745	1654	2019
65°	1337	1261	1140	1163	967	1318
75°	536	498	468	446	491	575
85°	76	83	91	98	106	105
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	6533.4	6533.4	6533.4	6533.4	6533.4
2.5°	6488.1	6488.1	6488.1	6480.5	6480.5
5°	6420.1	6412.5	6412.5	6405.0	6405.0
7.5°	6367.2	6359.7	6352.1	6344.6	6329.5
10°	6291.7	6291.7	6284.1	6246.4	6238.8
12.5°	6170.8	6163.3	6133.1	6080.2	6065.1
15°	6004.7	6004.7	5944.3	5883.8	5861.2
17.5°	5823.4	5815.9	5740.3	5679.9	5649.7
20°	5627.0	5611.9	5536.4	5438.2	5385.3
22.5°	5408.0	5408.0	5317.4	5188.9	5136.1
25°	5204.1	5173.8	5090.8	4909.5	4773.5
27.5°	4969.9	4924.6	4834.0	4577.2	4418.5
30°	4713.1	4690.4	4562.0	4229.7	4108.9
32.5°	4471.4	4433.6	4297.7	3950.2	3852.1
35°	4222.2	4191.9	3988.0	3685.9	3595.3
37.5°	3972.9	3935.1	3678.3	3436.6	3323.3
40°	3723.7	3678.3	3398.9	3179.8	3059.0
42.5°	3489.5	3429.1	3157.2	2923.0	2787.1
45°	3240.3	3172.3	2900.4	2658.7	2552.9
47.5°	2991.0	2930.6	2681.3	2432.1	2311.2
50°	2726.7	2673.8	2447.2	2197.9	2069.5
52.5°	2507.6	2424.5	2205.5	1956.2	1850.5
55°	2250.8	2182.8	1978.9	1744.8	1654.1
57.5°	2016.7	1948.7	1759.9	1540.8	1465.3
60°	1797.6	1699.4	1540.8	1352.0	1291.6
62.5°	1555.9	1480.4	1344.4	1185.8	1261.4
65°	1336.9	1261.4	1140.5	1163.2	966.8
67.5°	1095.2	1057.4	951.7	845.9	815.7
70°	891.3	845.9	808.2	694.9	664.7
72.5°	710.0	664.7	611.8	551.4	528.7
75°	536.3	498.5	468.3	445.6	490.9
77.5°	370.1	355.0	332.3	309.7	302.1
80°	241.7	234.1	226.6	219.0	211.5
82.5°	143.5	143.5	143.5	143.5	143.5
85°	75.5	83.1	90.6	98.2	105.7
87.5°	45.3	45.3	52.9	60.4	68.0
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)