

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: P547501

Luminaire Tested: **FMR-24-4-LD4-4STD-40-UNV-82-96-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: P547501  
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-40-UNV-82-96-EDD  
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

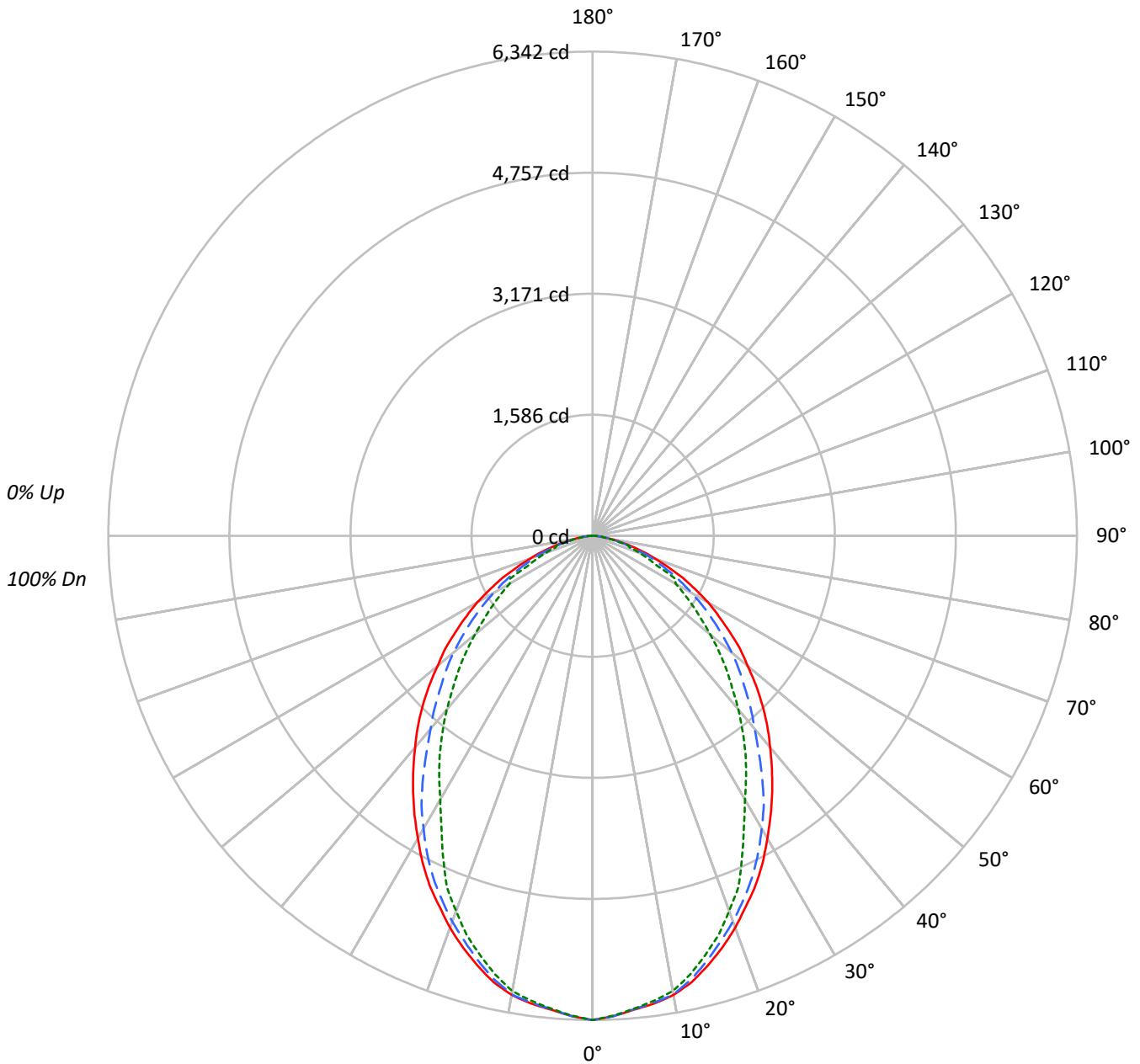
Lumens per Lamp: N/A  
Luminaire Lumens: 12450.0 lumens  
Efficiency: N/A  
Efficacy: 93.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

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

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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	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								
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°	8533	8533	8533
5°	8417	8407	8397
10°	8344	8334	8274
15°	8119	8037	7925
20°	7821	7695	7485
25°	7499	7336	6879
30°	7108	6880	6197
35°	6732	6358	5732
40°	6349	5795	5215
45°	5985	5357	4715
50°	5540	4972	4205
55°	5125	4506	3766
60°	4695	4025	3374
65°	4131	3525	2988
70°	3403	3086	2538
75°	2706	2363	2478
80°	1818	1704	1591
85°	1132	1359	1584



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	590.3	4.7
10°-20°	1620.1	13.0
20°-30°	2243.0	18.0
30°-40°	2391.7	19.2
40°-50°	2181.9	17.5
50°-60°	1709.3	13.7
60°-70°	1114.1	8.9
70°-80°	493.6	4.0
80°-90°	106.0	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°	4453.5	35.8
0°-40°	6845.1	55.0
0°-60°	10736.4	86.2
0°-90°	12450.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12450.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	6342	6342	6342	6342	6342	
5°	6232	6225	6225	6217	6217	592
15°	5829	5829	5770	5711	5689	1639
25°	5052	5022	4942	4766	4634	2319
35°	4098	4069	3871	3578	3490	2562
45°	3145	3079	2815	2581	2478	2423
55°	2185	2119	1921	1694	1606	1960
65°	1298	1224	1107	1129	938	1279
75°	520	484	455	433	477	558
85°	73	81	88	95	103	102
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	6341.9	6341.9	6341.9	6341.9	6341.9
2.5°	6297.9	6297.9	6297.9	6290.5	6290.5
5°	6231.9	6224.6	6224.6	6217.2	6217.2
7.5°	6180.6	6173.2	6165.9	6158.6	6143.9
10°	6107.3	6107.3	6099.9	6063.3	6055.9
12.5°	5989.9	5982.6	5953.3	5902.0	5887.3
15°	5828.6	5828.6	5770.0	5711.3	5689.3
17.5°	5652.7	5645.4	5572.0	5513.4	5484.1
20°	5462.1	5447.4	5374.1	5278.8	5227.5
22.5°	5249.5	5249.5	5161.5	5036.8	4985.5
25°	5051.5	5022.2	4941.5	4765.6	4633.6
27.5°	4824.2	4780.2	4692.2	4443.0	4289.0
30°	4574.9	4552.9	4428.3	4105.7	3988.4
32.5°	4340.3	4303.7	4171.7	3834.4	3739.1
35°	4098.4	4069.1	3871.1	3577.8	3489.9
37.5°	3856.4	3819.8	3570.5	3335.9	3225.9
40°	3614.5	3570.5	3299.2	3086.6	2969.3
42.5°	3387.2	3328.6	3064.6	2837.3	2705.4
45°	3145.3	3079.3	2815.3	2580.7	2478.1
47.5°	2903.3	2844.7	2602.7	2360.8	2243.5
50°	2646.7	2595.4	2375.4	2133.5	2008.9
52.5°	2434.1	2353.5	2140.8	1898.9	1796.3
55°	2184.8	2118.8	1920.9	1693.6	1605.6
57.5°	1957.5	1891.6	1708.3	1495.7	1422.3
60°	1744.9	1649.6	1495.7	1312.4	1253.7
62.5°	1510.3	1437.0	1305.0	1151.1	1224.4
65°	1297.7	1224.4	1107.1	1129.1	938.4
67.5°	1063.1	1026.4	923.8	821.1	791.8
70°	865.1	821.1	784.5	674.5	645.2
72.5°	689.2	645.2	593.9	535.2	513.2
75°	520.5	483.9	454.6	432.6	476.6
77.5°	359.3	344.6	322.6	300.6	293.3
80°	234.6	227.3	219.9	212.6	205.3
82.5°	139.3	139.3	139.3	139.3	139.3
85°	73.3	80.6	88.0	95.3	102.6
87.5°	44.0	44.0	51.3	58.7	66.0
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)