

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: P546700

Luminaire Tested: **FMR-24-4-LD4-2HI-35-UNV-82-94-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: P546700  
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-LD4-2HI-35-UNV-82-94-EDD  
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

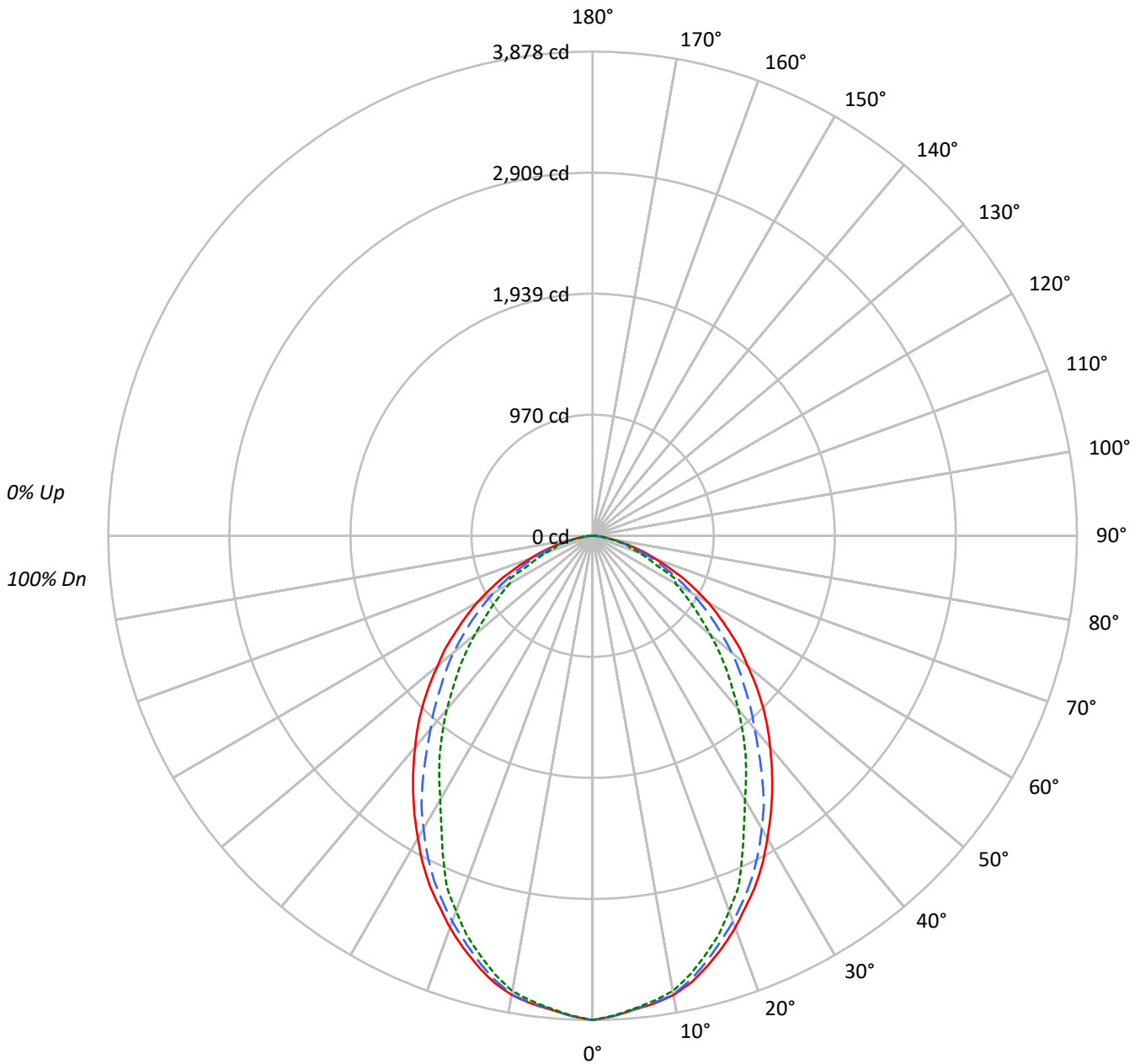
Lumens per Lamp: N/A  
Luminaire Lumens: 7613.0 lumens  
Efficiency: N/A  
Efficacy: 88.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 86.4  
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				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°	5218	5218	5218
5°	5147	5141	5135
10°	5102	5096	5059
15°	4965	4915	4846
20°	4782	4705	4577
25°	4586	4486	4206
30°	4346	4207	3789
35°	4116	3888	3505
40°	3882	3543	3189
45°	3660	3276	2883
50°	3388	3041	2571
55°	3134	2755	2303
60°	2871	2461	2063
65°	2526	2155	1827
70°	2081	1887	1552
75°	1655	1445	1515
80°	1112	1042	972
85°	692	831	969



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	361.0	4.7
10°-20°	990.7	13.0
20°-30°	1371.6	18.0
30°-40°	1462.5	19.2
40°-50°	1334.2	17.5
50°-60°	1045.2	13.7
60°-70°	681.2	8.9
70°-80°	301.8	4.0
80°-90°	64.8	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°	2723.2	35.8
0°-40°	4185.7	55.0
0°-60°	6565.1	86.2
0°-90°	7613.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7613.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3878	3878	3878	3878	3878	
5°	3811	3806	3806	3802	3802	362
15°	3564	3564	3528	3492	3479	1002
25°	3089	3071	3022	2914	2833	1418
35°	2506	2488	2367	2188	2134	1567
45°	1923	1883	1722	1578	1515	1481
55°	1336	1296	1175	1036	982	1198
65°	794	749	677	690	574	782
75°	318	296	278	264	291	341
85°	45	49	54	58	63	62
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3878.0	3878.0	3878.0	3878.0	3878.0
2.5°	3851.1	3851.1	3851.1	3846.6	3846.6
5°	3810.7	3806.2	3806.2	3801.7	3801.7
7.5°	3779.3	3774.8	3770.4	3765.9	3756.9
10°	3734.5	3734.5	3730.0	3707.6	3703.1
12.5°	3662.8	3658.3	3640.4	3609.0	3600.0
15°	3564.1	3564.1	3528.3	3492.4	3479.0
17.5°	3456.5	3452.1	3407.2	3371.4	3353.4
20°	3340.0	3331.0	3286.2	3227.9	3196.5
22.5°	3210.0	3210.0	3156.2	3080.0	3048.6
25°	3088.9	3071.0	3021.7	2914.1	2833.4
27.5°	2949.9	2923.0	2869.2	2716.8	2622.7
30°	2797.5	2784.1	2707.8	2510.6	2438.9
32.5°	2654.0	2631.6	2550.9	2344.7	2286.4
35°	2506.1	2488.2	2367.1	2187.8	2134.0
37.5°	2358.2	2335.7	2183.3	2039.9	1972.6
40°	2210.2	2183.3	2017.4	1887.4	1815.7
42.5°	2071.2	2035.4	1874.0	1735.0	1654.3
45°	1923.3	1882.9	1721.5	1578.1	1515.3
47.5°	1775.3	1739.5	1591.5	1443.6	1371.9
50°	1618.4	1587.0	1452.6	1304.6	1228.4
52.5°	1488.4	1439.1	1309.1	1161.1	1098.4
55°	1336.0	1295.6	1174.6	1035.6	981.8
57.5°	1197.0	1156.7	1044.6	914.6	869.7
60°	1067.0	1008.7	914.6	802.5	766.6
62.5°	923.5	878.7	798.0	703.9	748.7
65°	793.5	748.7	677.0	690.4	573.8
67.5°	650.1	627.6	564.9	502.1	484.2
70°	529.0	502.1	479.7	412.5	394.5
72.5°	421.4	394.5	363.1	327.3	313.8
75°	318.3	295.9	278.0	264.5	291.4
77.5°	219.7	210.7	197.3	183.8	179.3
80°	143.5	139.0	134.5	130.0	125.5
82.5°	85.2	85.2	85.2	85.2	85.2
85°	44.8	49.3	53.8	58.3	62.8
87.5°	26.9	26.9	31.4	35.9	40.3
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)