

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: P546716

Luminaire Tested: **FMR-24-4-LD4-2HI-40-UNV-80-94-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: P546716  
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-40-UNV-80-94-EDD  
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

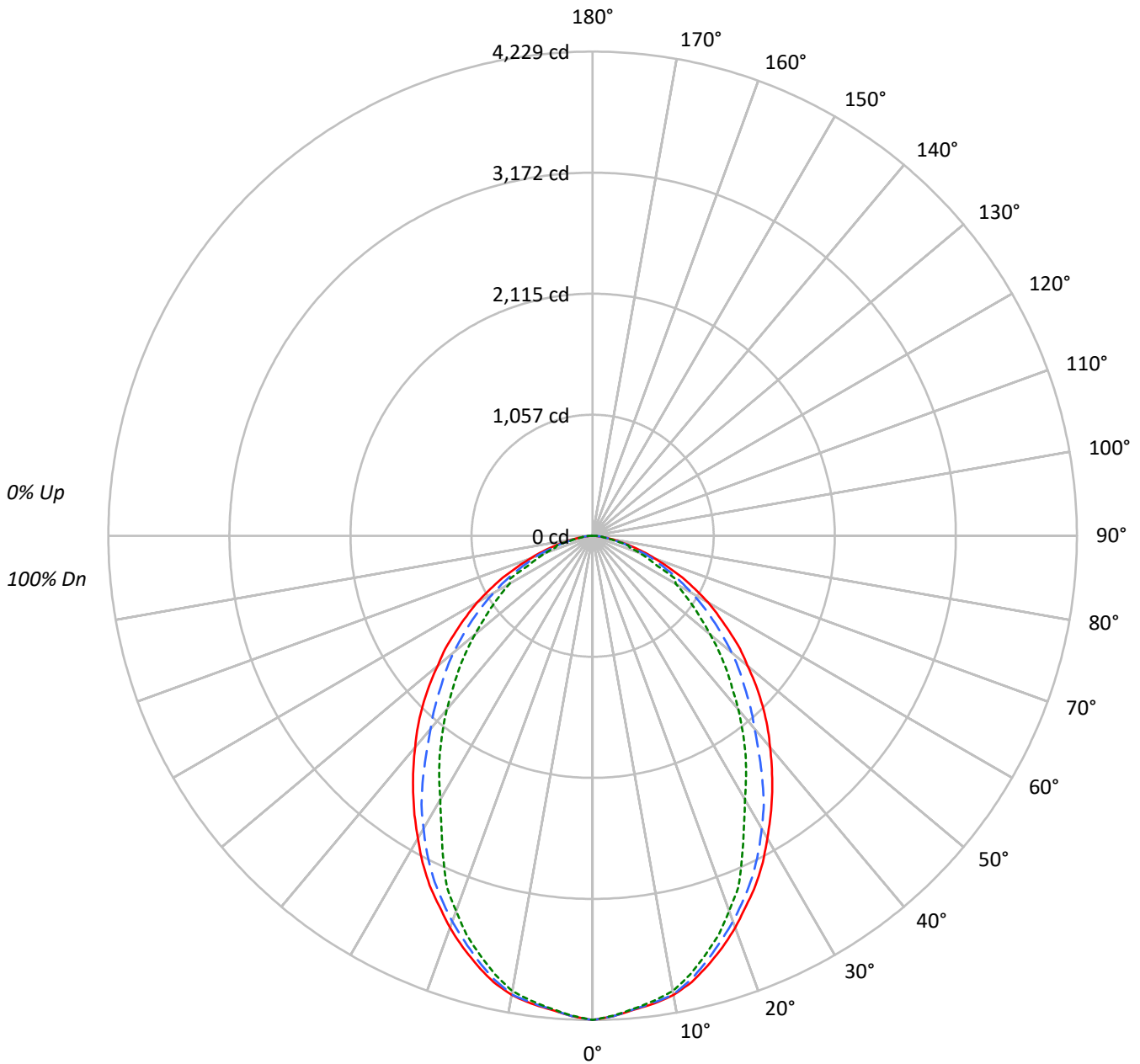
Lumens per Lamp: N/A  
Luminaire Lumens: 8302.0 lumens  
Efficiency: N/A  
Efficacy: 96.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

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					
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°	5690	5690	5690
5°	5613	5606	5599
10°	5564	5557	5517
15°	5414	5360	5285
20°	5215	5131	4991
25°	5001	4892	4587
30°	4740	4588	4132
35°	4489	4240	3822
40°	4233	3864	3478
45°	3991	3572	3144
50°	3694	3316	2804
55°	3418	3005	2512
60°	3131	2684	2250
65°	2755	2350	1992
70°	2269	2058	1692
75°	1804	1576	1652
80°	1212	1137	1061
85°	755	906	1056



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	393.7	4.7
10°-20°	1080.4	13.0
20°-30°	1495.7	18.0
30°-40°	1594.8	19.2
40°-50°	1455.0	17.5
50°-60°	1139.8	13.7
60°-70°	742.9	8.9
70°-80°	329.1	4.0
80°-90°	70.7	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°	2969.7	35.8
0°-40°	4564.5	55.0
0°-60°	7159.3	86.2
0°-90°	8302.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8302.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4229	4229	4229	4229	4229	
5°	4156	4151	4151	4146	4146	394
15°	3887	3887	3848	3808	3794	1093
25°	3368	3349	3295	3178	3090	1546
35°	2733	2713	2581	2386	2327	1709
45°	2097	2053	1877	1721	1652	1616
55°	1457	1413	1281	1129	1071	1307
65°	865	816	738	753	626	853
75°	347	323	303	288	318	372
85°	49	54	59	64	68	68
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4228.9	4228.9	4228.9	4228.9	4228.9
2.5°	4199.6	4199.6	4199.6	4194.7	4194.7
5°	4155.6	4150.7	4150.7	4145.8	4145.8
7.5°	4121.4	4116.5	4111.6	4106.7	4096.9
10°	4072.5	4072.5	4067.6	4043.1	4038.3
12.5°	3994.3	3989.4	3969.8	3935.6	3925.8
15°	3886.7	3886.7	3847.6	3808.5	3793.8
17.5°	3769.4	3764.5	3715.6	3676.5	3656.9
20°	3642.3	3632.5	3583.6	3520.0	3485.8
22.5°	3500.5	3500.5	3441.8	3358.7	3324.5
25°	3368.5	3348.9	3295.1	3177.8	3089.8
27.5°	3216.9	3187.6	3128.9	2962.7	2860.0
30°	3050.7	3036.0	2952.9	2737.8	2659.6
32.5°	2894.2	2869.8	2781.8	2556.9	2493.4
35°	2732.9	2713.4	2581.4	2385.8	2327.1
37.5°	2571.6	2547.1	2380.9	2224.5	2151.1
40°	2410.2	2380.9	2200.0	2058.2	1980.0
42.5°	2258.7	2219.6	2043.6	1892.0	1804.0
45°	2097.4	2053.4	1877.4	1720.9	1652.5
47.5°	1936.0	1896.9	1735.6	1574.2	1496.0
50°	1764.9	1730.7	1584.0	1422.7	1339.6
52.5°	1623.1	1569.3	1427.6	1266.2	1197.8
55°	1456.9	1412.9	1280.9	1129.3	1070.7
57.5°	1305.3	1261.3	1139.1	997.3	948.5
60°	1163.6	1100.0	997.3	875.1	836.0
62.5°	1007.1	958.2	870.2	767.6	816.5
65°	865.3	816.5	738.2	752.9	625.8
67.5°	708.9	684.5	616.0	547.6	528.0
70°	576.9	547.6	523.1	449.8	430.2
72.5°	459.6	430.2	396.0	356.9	342.2
75°	347.1	322.7	303.1	288.4	317.8
77.5°	239.6	229.8	215.1	200.4	195.6
80°	156.4	151.6	146.7	141.8	136.9
82.5°	92.9	92.9	92.9	92.9	92.9
85°	48.9	53.8	58.7	63.6	68.4
87.5°	29.3	29.3	34.2	39.1	44.0
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)