

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: P546941

Luminaire Tested: **FMR-24-4-LD4-2STD-50-UNV-80-96-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: P546941  
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-LD4-2STD-50-UNV-80-96-EDD  
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

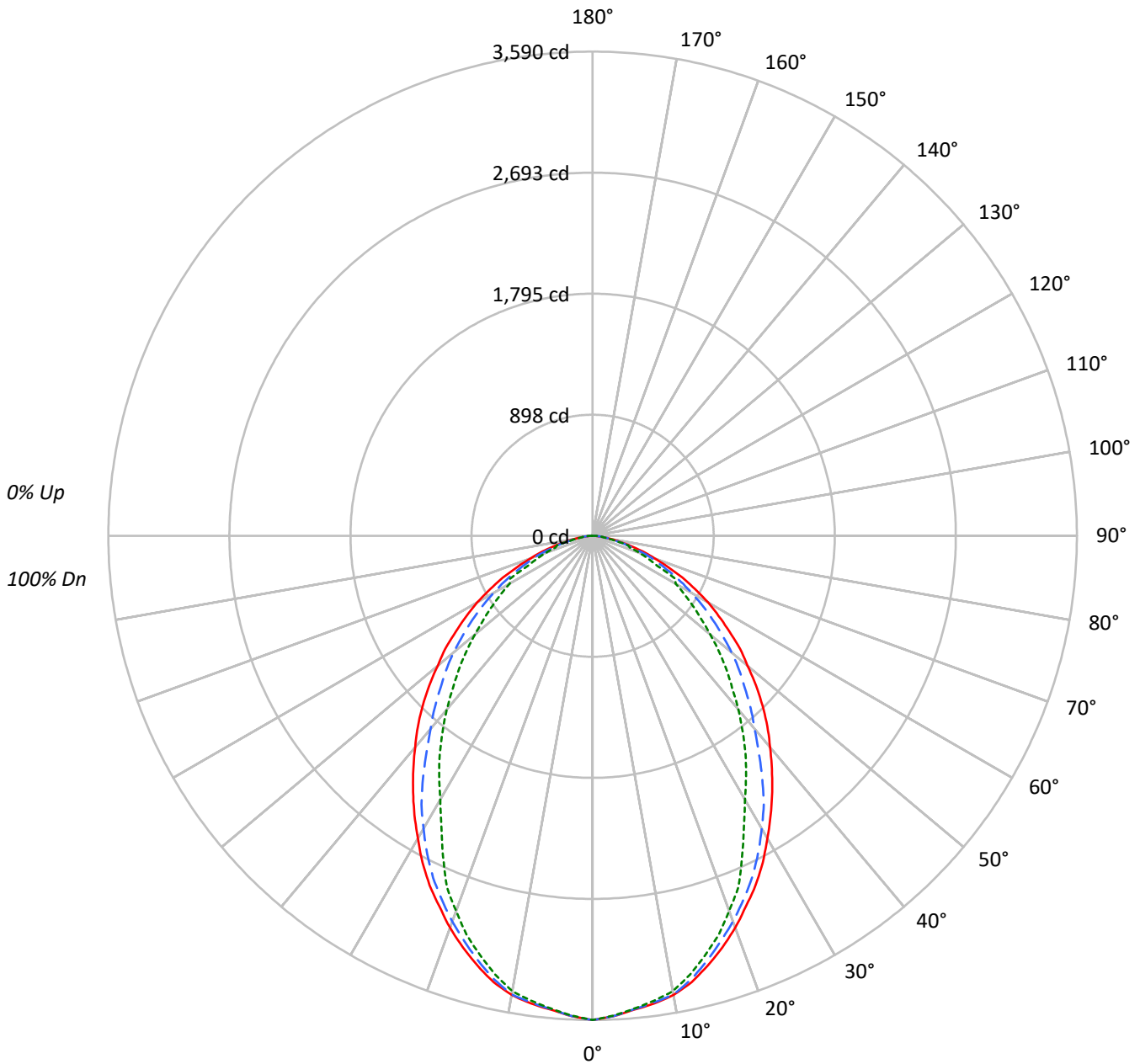
Lumens per Lamp: N/A  
Luminaire Lumens: 7048.0 lumens  
Efficiency: N/A  
Efficacy: 105.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 66.6  
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°	4831	4831	4831
5°	4765	4759	4754
10°	4724	4718	4684
15°	4596	4550	4486
20°	4427	4356	4237
25°	4245	4153	3894
30°	4024	3895	3508
35°	3811	3599	3245
40°	3594	3280	2952
45°	3388	3033	2669
50°	3136	2815	2380
55°	2901	2551	2132
60°	2658	2278	1910
65°	2339	1995	1691
70°	1927	1747	1437
75°	1532	1338	1403
80°	1029	965	900
85°	641	769	897



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	334.2	4.7
10°-20°	917.2	13.0
20°-30°	1269.8	18.0
30°-40°	1353.9	19.2
40°-50°	1235.2	17.5
50°-60°	967.7	13.7
60°-70°	630.7	8.9
70°-80°	279.4	4.0
80°-90°	60.0	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°	2521.1	35.8
0°-40°	3875.1	55.0
0°-60°	6077.9	86.2
0°-90°	7048.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7048.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3590	3590	3590	3590	3590	
5°	3528	3524	3524	3520	3520	335
15°	3300	3300	3266	3233	3221	928
25°	2860	2843	2797	2698	2623	1313
35°	2320	2304	2191	2025	1976	1450
45°	1781	1743	1594	1461	1403	1372
55°	1237	1200	1087	959	909	1109
65°	735	693	627	639	531	724
75°	295	274	257	245	270	316
85°	42	46	50	54	58	58
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3590.2	3590.2	3590.2	3590.2	3590.2
2.5°	3565.3	3565.3	3565.3	3561.1	3561.1
5°	3527.9	3523.7	3523.7	3519.6	3519.6
7.5°	3498.8	3494.7	3490.5	3486.4	3478.1
10°	3457.3	3457.3	3453.2	3432.4	3428.3
12.5°	3390.9	3386.8	3370.2	3341.1	3332.8
15°	3299.6	3299.6	3266.4	3233.2	3220.8
17.5°	3200.0	3195.9	3154.4	3121.2	3104.6
20°	3092.1	3083.8	3042.3	2988.3	2959.3
22.5°	2971.7	2971.7	2921.9	2851.4	2822.3
25°	2859.7	2843.1	2797.4	2697.8	2623.1
27.5°	2731.0	2706.1	2656.3	2515.2	2428.0
30°	2589.9	2577.4	2506.9	2324.3	2257.9
32.5°	2457.1	2436.3	2361.6	2170.7	2116.7
35°	2320.1	2303.5	2191.4	2025.4	1975.6
37.5°	2183.1	2162.4	2021.3	1888.5	1826.2
40°	2046.2	2021.3	1867.7	1747.3	1680.9
42.5°	1917.5	1884.3	1734.9	1606.2	1531.5
45°	1780.6	1743.2	1593.8	1461.0	1402.9
47.5°	1643.6	1610.4	1473.4	1336.5	1270.0
50°	1498.3	1469.3	1344.8	1207.8	1137.2
52.5°	1378.0	1332.3	1211.9	1075.0	1016.9
55°	1236.8	1199.5	1087.4	958.8	909.0
57.5°	1108.2	1070.8	967.1	846.7	805.2
60°	987.8	933.9	846.7	742.9	709.7
62.5°	855.0	813.5	738.8	651.6	693.1
65°	734.6	693.1	626.7	639.2	531.3
67.5°	601.8	581.1	523.0	464.9	448.3
70°	489.8	464.9	444.1	381.8	365.2
72.5°	390.1	365.2	336.2	303.0	290.5
75°	294.7	273.9	257.3	244.9	269.8
77.5°	203.4	195.1	182.6	170.2	166.0
80°	132.8	128.7	124.5	120.4	116.2
82.5°	78.9	78.9	78.9	78.9	78.9
85°	41.5	45.7	49.8	54.0	58.1
87.5°	24.9	24.9	29.1	33.2	37.4
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)