

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: P546949

Luminaire Tested: **FMR-24-4-LD4-2STD-50-UNV-81-96-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: P546949  
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-81-96-EDD  
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC 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**

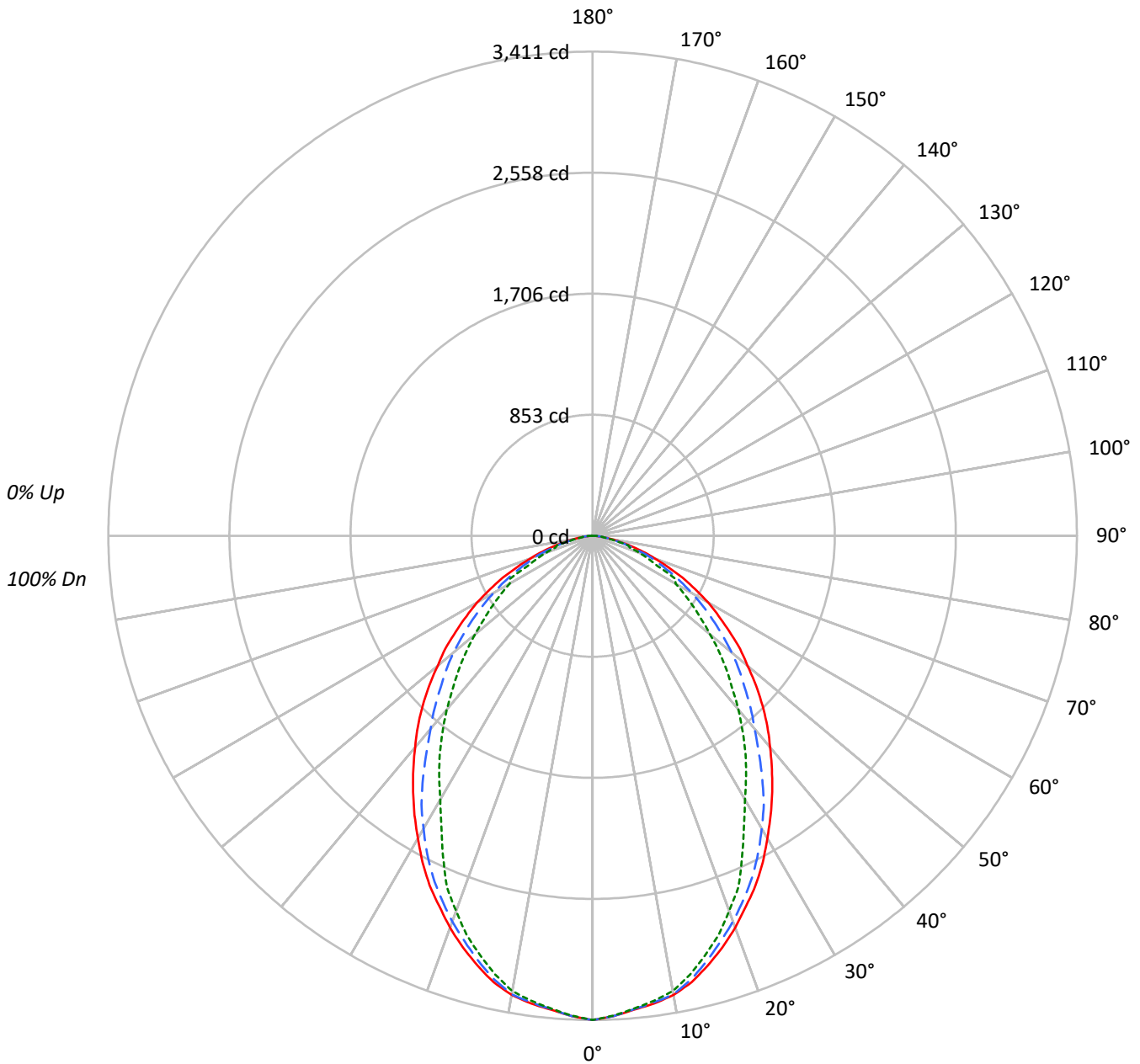
Lumens per Lamp: N/A  
Luminaire Lumens: 6696.0 lumens  
Efficiency: N/A  
Efficacy: 100.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 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									
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°	4589	4589	4589
5°	4527	4522	4516
10°	4488	4482	4450
15°	4367	4323	4262
20°	4206	4139	4026
25°	4033	3946	3700
30°	3823	3700	3333
35°	3620	3420	3083
40°	3414	3117	2805
45°	3219	2881	2536
50°	2980	2674	2262
55°	2757	2423	2026
60°	2525	2165	1815
65°	2222	1896	1607
70°	1830	1660	1365
75°	1456	1271	1332
80°	978	917	855
85°	608	730	852



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	317.5	4.7
10°-20°	871.4	13.0
20°-30°	1206.4	18.0
30°-40°	1286.3	19.2
40°-50°	1173.5	17.5
50°-60°	919.3	13.7
60°-70°	599.2	8.9
70°-80°	265.5	4.0
80°-90°	57.0	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°	2395.2	35.8
0°-40°	3681.5	55.0
0°-60°	5774.4	86.2
0°-90°	6696.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6696.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3411	3411	3411	3411	3411	
5°	3352	3348	3348	3344	3344	318
15°	3135	3135	3103	3072	3060	881
25°	2717	2701	2658	2563	2492	1247
35°	2204	2188	2082	1924	1877	1378
45°	1692	1656	1514	1388	1333	1303
55°	1175	1140	1033	911	864	1054
65°	698	658	595	607	505	688
75°	280	260	244	233	256	300
85°	39	43	47	51	55	55
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3410.9	3410.9	3410.9	3410.9	3410.9
2.5°	3387.2	3387.2	3387.2	3383.3	3383.3
5°	3351.7	3347.8	3347.8	3343.8	3343.8
7.5°	3324.1	3320.2	3316.2	3312.3	3304.4
10°	3284.7	3284.7	3280.7	3261.0	3257.1
12.5°	3221.6	3217.6	3201.9	3174.3	3166.4
15°	3134.8	3134.8	3103.3	3071.7	3059.9
17.5°	3040.2	3036.3	2996.8	2965.3	2949.5
20°	2937.7	2929.8	2890.4	2839.1	2811.5
22.5°	2823.3	2823.3	2776.0	2709.0	2681.4
25°	2716.9	2701.1	2657.7	2563.1	2492.1
27.5°	2594.6	2571.0	2523.6	2389.6	2306.8
30°	2460.5	2448.7	2381.7	2208.2	2145.1
32.5°	2334.4	2314.6	2243.7	2062.3	2011.0
35°	2204.2	2188.5	2082.0	1924.3	1877.0
37.5°	2074.1	2054.4	1920.3	1794.1	1735.0
40°	1944.0	1920.3	1774.4	1660.1	1597.0
42.5°	1821.8	1790.2	1648.3	1526.0	1455.0
45°	1691.6	1656.1	1514.2	1388.0	1332.8
47.5°	1561.5	1530.0	1399.8	1269.7	1206.6
50°	1423.5	1395.9	1277.6	1147.5	1080.4
52.5°	1309.1	1265.8	1151.4	1021.3	966.1
55°	1175.1	1139.6	1033.1	910.9	863.6
57.5°	1052.8	1017.3	918.8	804.4	765.0
60°	938.5	887.2	804.4	705.8	674.3
62.5°	812.3	772.9	701.9	619.1	658.5
65°	697.9	658.5	595.4	607.3	504.7
67.5°	571.8	552.0	496.8	441.6	425.9
70°	465.3	441.6	421.9	362.8	347.0
72.5°	370.7	347.0	319.4	287.9	276.0
75°	280.0	260.3	244.5	232.6	256.3
77.5°	193.2	185.3	173.5	161.7	157.7
80°	126.2	122.2	118.3	114.4	110.4
82.5°	74.9	74.9	74.9	74.9	74.9
85°	39.4	43.4	47.3	51.3	55.2
87.5°	23.7	23.7	27.6	31.5	35.5
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)