

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: P547080

Luminaire Tested: **FMR-24-4-LD4-3LO-35-UNV-82-85-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: P547080  
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-LD4-3LO-35-UNV-82-85-EDD  
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

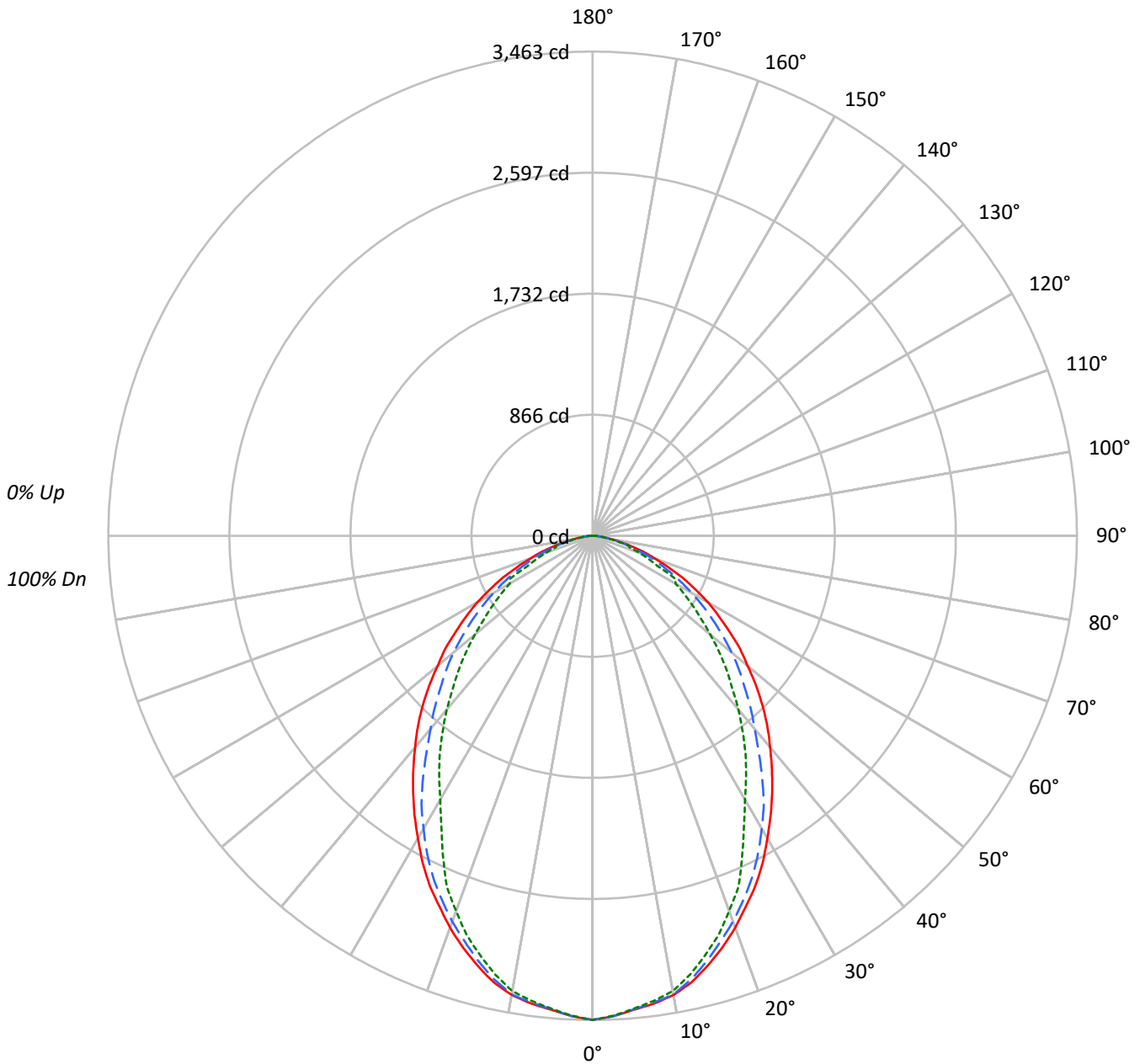
Lumens per Lamp: N/A  
Luminaire Lumens: 6798.0 lumens  
Efficiency: N/A  
Efficacy: 96.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 70.2  
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									
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°	4659	4659	4659
5°	4596	4591	4585
10°	4556	4551	4518
15°	4433	4389	4327
20°	4270	4202	4087
25°	4095	4006	3756
30°	3881	3757	3384
35°	3676	3472	3130
40°	3466	3164	2848
45°	3268	2925	2575
50°	3025	2715	2296
55°	2799	2460	2057
60°	2564	2198	1842
65°	2256	1925	1631
70°	1858	1685	1386
75°	1477	1290	1353
80°	993	931	869
85°	618	741	865



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	322.3	4.7
10°-20°	884.6	13.0
20°-30°	1224.7	18.0
30°-40°	1305.9	19.2
40°-50°	1191.4	17.5
50°-60°	933.3	13.7
60°-70°	608.3	8.9
70°-80°	269.5	4.0
80°-90°	57.9	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°	2431.7	35.8
0°-40°	3737.6	55.0
0°-60°	5862.3	86.2
0°-90°	6798.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6798.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3463	3463	3463	3463	3463	
5°	3403	3399	3399	3395	3395	323
15°	3183	3183	3151	3118	3106	895
25°	2758	2742	2698	2602	2530	1266
35°	2238	2222	2114	1954	1906	1399
45°	1717	1681	1537	1409	1353	1323
55°	1193	1157	1049	925	877	1070
65°	709	668	604	616	512	698
75°	284	264	248	236	260	305
85°	40	44	48	52	56	56
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3462.8	3462.8	3462.8	3462.8	3462.8
2.5°	3438.8	3438.8	3438.8	3434.8	3434.8
5°	3402.8	3398.8	3398.8	3394.8	3394.8
7.5°	3374.7	3370.7	3366.7	3362.7	3354.7
10°	3334.7	3334.7	3330.7	3310.7	3306.7
12.5°	3270.7	3266.7	3250.6	3222.6	3214.6
15°	3182.6	3182.6	3150.6	3118.5	3106.5
17.5°	3086.5	3082.5	3042.5	3010.4	2994.4
20°	2982.4	2974.4	2934.4	2882.3	2854.3
22.5°	2866.3	2866.3	2818.3	2750.2	2722.2
25°	2758.2	2742.2	2698.2	2602.1	2530.1
27.5°	2634.1	2610.1	2562.1	2426.0	2341.9
30°	2498.0	2486.0	2418.0	2241.8	2177.8
32.5°	2369.9	2349.9	2277.8	2093.7	2041.7
35°	2237.8	2221.8	2113.7	1953.6	1905.5
37.5°	2105.7	2085.7	1949.6	1821.5	1761.4
40°	1973.6	1949.6	1801.5	1685.4	1621.3
42.5°	1849.5	1817.5	1673.4	1549.3	1477.2
45°	1717.4	1681.4	1537.2	1409.1	1353.1
47.5°	1585.3	1553.3	1421.2	1289.0	1225.0
50°	1445.2	1417.2	1297.1	1164.9	1096.9
52.5°	1329.1	1285.0	1168.9	1036.8	980.8
55°	1193.0	1156.9	1048.9	924.8	876.7
57.5°	1068.9	1032.8	932.8	816.7	776.6
60°	952.8	900.7	816.7	716.6	684.6
62.5°	824.7	784.6	712.6	628.5	668.5
65°	708.6	668.5	604.5	616.5	512.4
67.5°	580.5	560.5	504.4	448.4	432.4
70°	472.4	448.4	428.3	368.3	352.3
72.5°	376.3	352.3	324.3	292.2	280.2
75°	284.2	264.2	248.2	236.2	260.2
77.5°	196.2	188.2	176.1	164.1	160.1
80°	128.1	124.1	120.1	116.1	112.1
82.5°	76.1	76.1	76.1	76.1	76.1
85°	40.0	44.0	48.0	52.0	56.0
87.5°	24.0	24.0	28.0	32.0	36.0
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)