

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: P547138

Luminaire Tested: **FMR-24-4-LD4-3LO-50-UNV-81-87-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: P547138  
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-50-UNV-81-87-EDD  
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

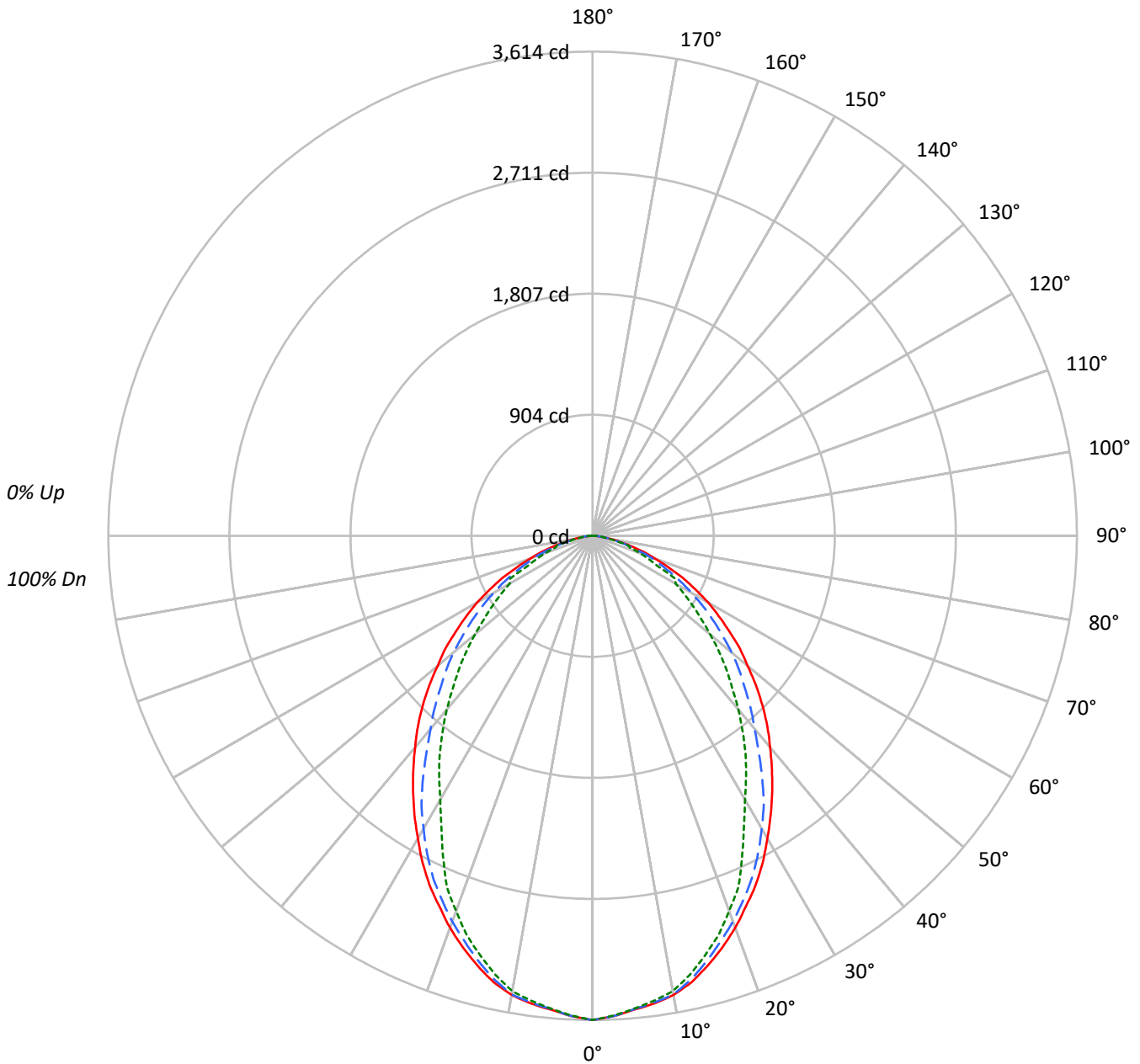
Lumens per Lamp: N/A  
Luminaire Lumens: 7095.0 lumens  
Efficiency: N/A  
Efficacy: 101.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 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°	4863	4863	4863
5°	4797	4791	4785
10°	4755	4749	4715
15°	4627	4580	4516
20°	4457	4385	4265
25°	4274	4181	3920
30°	4051	3921	3531
35°	3836	3624	3267
40°	3618	3302	2972
45°	3411	3053	2687
50°	3157	2834	2396
55°	2921	2568	2146
60°	2676	2294	1923
65°	2354	2009	1703
70°	1939	1759	1447
75°	1542	1346	1412
80°	1036	971	907
85°	645	773	903



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	336.4	4.7
10°-20°	923.3	13.0
20°-30°	1278.2	18.0
30°-40°	1363.0	19.2
40°-50°	1243.4	17.5
50°-60°	974.1	13.7
60°-70°	634.9	8.9
70°-80°	281.3	4.0
80°-90°	60.4	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°	2537.9	35.8
0°-40°	3900.9	55.0
0°-60°	6118.5	86.2
0°-90°	7095.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7095.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3614	3614	3614	3614	3614	
5°	3551	3547	3547	3543	3543	337
15°	3322	3322	3288	3255	3242	934
25°	2879	2862	2816	2716	2641	1322
35°	2336	2319	2206	2039	1989	1460
45°	1792	1755	1604	1471	1412	1381
55°	1245	1208	1095	965	915	1117
65°	740	698	631	643	535	729
75°	297	276	259	246	272	318
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°	3614.1	3614.1	3614.1	3614.1	3614.1
2.5°	3589.0	3589.0	3589.0	3584.9	3584.9
5°	3551.4	3547.2	3547.2	3543.1	3543.1
7.5°	3522.2	3518.0	3513.8	3509.6	3501.3
10°	3480.4	3480.4	3476.2	3455.3	3451.2
12.5°	3413.5	3409.4	3392.7	3363.4	3355.1
15°	3321.6	3321.6	3288.2	3254.8	3242.2
17.5°	3221.4	3217.2	3175.4	3142.0	3125.3
20°	3112.7	3104.4	3062.6	3008.3	2979.0
22.5°	2991.6	2991.6	2941.4	2870.4	2841.1
25°	2878.7	2862.0	2816.1	2715.8	2640.6
27.5°	2749.2	2724.2	2674.0	2532.0	2444.2
30°	2607.2	2594.6	2523.6	2339.8	2272.9
32.5°	2473.5	2452.6	2377.4	2185.2	2130.9
35°	2335.6	2318.9	2206.1	2038.9	1988.8
37.5°	2197.7	2176.8	2034.8	1901.1	1838.4
40°	2059.8	2034.8	1880.2	1759.0	1692.2
42.5°	1930.3	1896.9	1746.5	1616.9	1541.7
45°	1792.4	1754.8	1604.4	1470.7	1412.2
47.5°	1654.5	1621.1	1483.2	1345.4	1278.5
50°	1508.3	1479.1	1353.7	1215.8	1144.8
52.5°	1387.1	1341.2	1220.0	1082.1	1023.6
55°	1245.1	1207.5	1094.7	965.2	915.0
57.5°	1115.6	1078.0	973.5	852.3	810.6
60°	994.4	940.1	852.3	747.9	714.5
62.5°	860.7	818.9	743.7	656.0	697.8
65°	739.5	697.8	630.9	643.4	534.8
67.5°	605.8	584.9	526.4	468.0	451.2
70°	493.0	468.0	447.1	384.4	367.7
72.5°	392.7	367.7	338.4	305.0	292.5
75°	296.6	275.8	259.0	246.5	271.6
77.5°	204.7	196.4	183.8	171.3	167.1
80°	133.7	129.5	125.3	121.2	117.0
82.5°	79.4	79.4	79.4	79.4	79.4
85°	41.8	46.0	50.1	54.3	58.5
87.5°	25.1	25.1	29.2	33.4	37.6
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)