

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: P547098

Luminaire Tested: **FMR-24-4-LD4-3LO-40-UNV-80-87-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: P547098  
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-40-UNV-80-87-EDD  
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

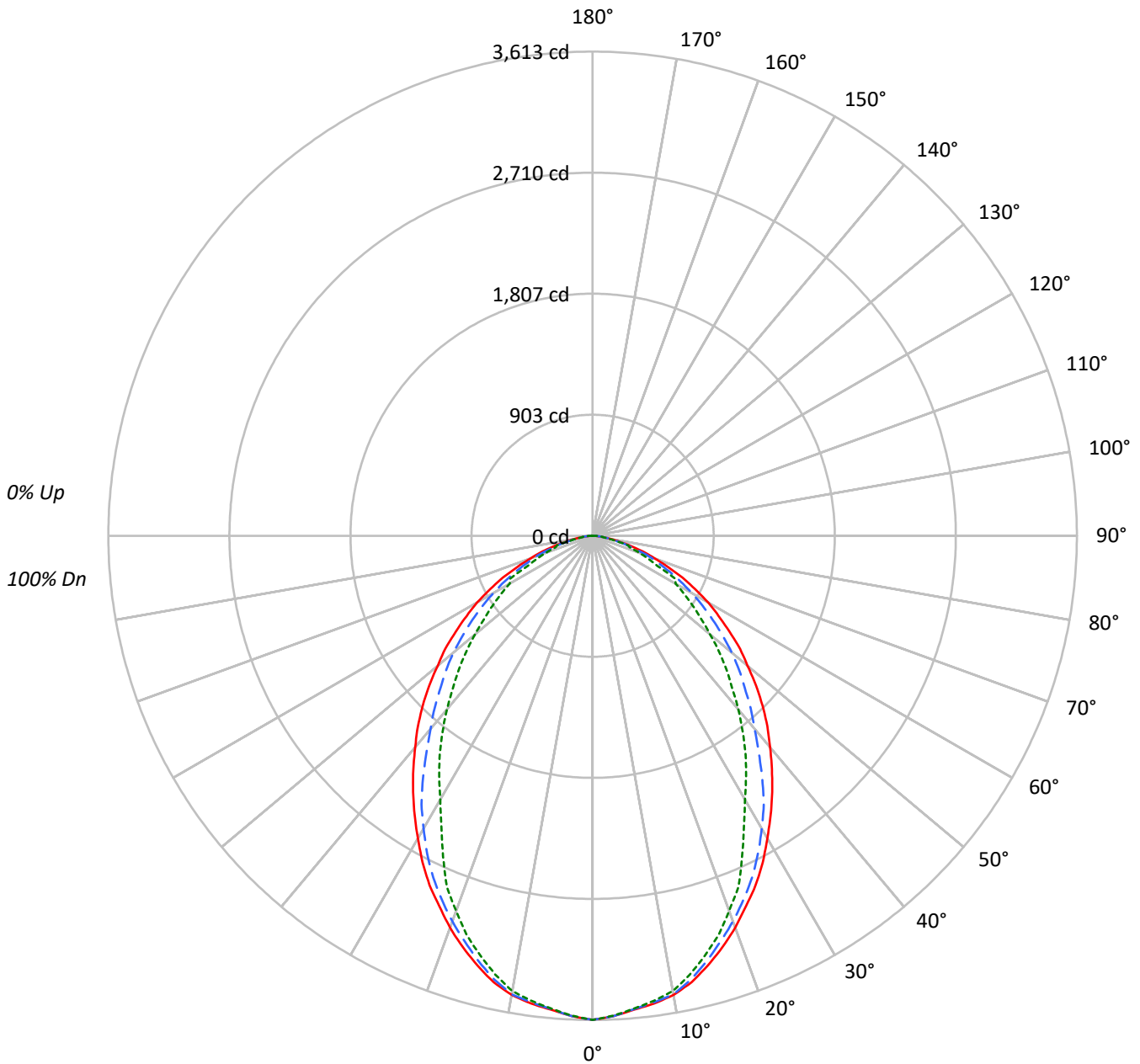
Lumens per Lamp: N/A  
Luminaire Lumens: 7092.0 lumens  
Efficiency: N/A  
Efficacy: 101.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

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°	4861	4861	4861
5°	4795	4789	4783
10°	4753	4747	4713
15°	4625	4578	4514
20°	4455	4383	4264
25°	4272	4179	3919
30°	4049	3919	3530
35°	3835	3622	3265
40°	3616	3301	2971
45°	3409	3052	2686
50°	3156	2832	2395
55°	2920	2567	2145
60°	2675	2293	1922
65°	2353	2008	1702
70°	1939	1758	1446
75°	1541	1346	1411
80°	1035	971	906
85°	645	773	903



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	336.3	4.7
10°-20°	922.9	13.0
20°-30°	1277.7	18.0
30°-40°	1362.4	19.2
40°-50°	1242.9	17.5
50°-60°	973.7	13.7
60°-70°	634.6	8.9
70°-80°	281.2	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°	2536.9	35.8
0°-40°	3899.3	55.0
0°-60°	6115.9	86.2
0°-90°	7092.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7092.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3613	3613	3613	3613	3613	
5°	3550	3546	3546	3542	3542	337
15°	3320	3320	3287	3253	3241	933
25°	2878	2861	2815	2715	2640	1321
35°	2335	2318	2205	2038	1988	1460
45°	1792	1754	1604	1470	1412	1380
55°	1245	1207	1094	965	915	1116
65°	739	698	631	643	535	728
75°	296	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°	3612.6	3612.6	3612.6	3612.6	3612.6
2.5°	3587.5	3587.5	3587.5	3583.3	3583.3
5°	3549.9	3545.7	3545.7	3541.6	3541.6
7.5°	3520.7	3516.5	3512.3	3508.2	3499.8
10°	3478.9	3478.9	3474.7	3453.9	3449.7
12.5°	3412.1	3407.9	3391.2	3362.0	3353.6
15°	3320.2	3320.2	3286.8	3253.4	3240.9
17.5°	3220.0	3215.8	3174.0	3140.6	3123.9
20°	3111.4	3103.1	3061.3	3007.0	2977.8
22.5°	2990.3	2990.3	2940.2	2869.2	2839.9
25°	2877.5	2860.8	2814.9	2714.6	2639.5
27.5°	2748.1	2723.0	2672.9	2530.9	2443.2
30°	2606.1	2593.5	2522.5	2338.8	2272.0
32.5°	2472.4	2451.5	2376.4	2184.2	2130.0
35°	2334.6	2317.9	2205.1	2038.1	1988.0
37.5°	2196.8	2175.9	2033.9	1900.3	1837.6
40°	2059.0	2033.9	1879.4	1758.3	1691.4
42.5°	1929.5	1896.1	1745.7	1616.3	1541.1
45°	1791.7	1754.1	1603.7	1470.1	1411.6
47.5°	1653.8	1620.4	1482.6	1344.8	1278.0
50°	1507.7	1478.4	1353.1	1215.3	1144.3
52.5°	1386.6	1340.6	1219.5	1081.7	1023.2
55°	1244.6	1207.0	1094.2	964.7	914.6
57.5°	1115.1	1077.5	973.1	852.0	810.2
60°	994.0	939.7	852.0	747.6	714.2
62.5°	860.3	818.6	743.4	655.7	697.5
65°	739.2	697.5	630.6	643.2	534.6
67.5°	605.6	584.7	526.2	467.8	451.0
70°	492.8	467.8	446.9	384.2	367.5
72.5°	392.6	367.5	338.3	304.9	292.3
75°	296.5	275.6	258.9	246.4	271.5
77.5°	204.6	196.3	183.8	171.2	167.1
80°	133.6	129.5	125.3	121.1	116.9
82.5°	79.4	79.4	79.4	79.4	79.4
85°	41.8	45.9	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)