

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: P547102

Luminaire Tested: **FMR-24-4-LD4-3LO-40-UNV-80-97-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: P547102  
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-80-97-EDD  
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

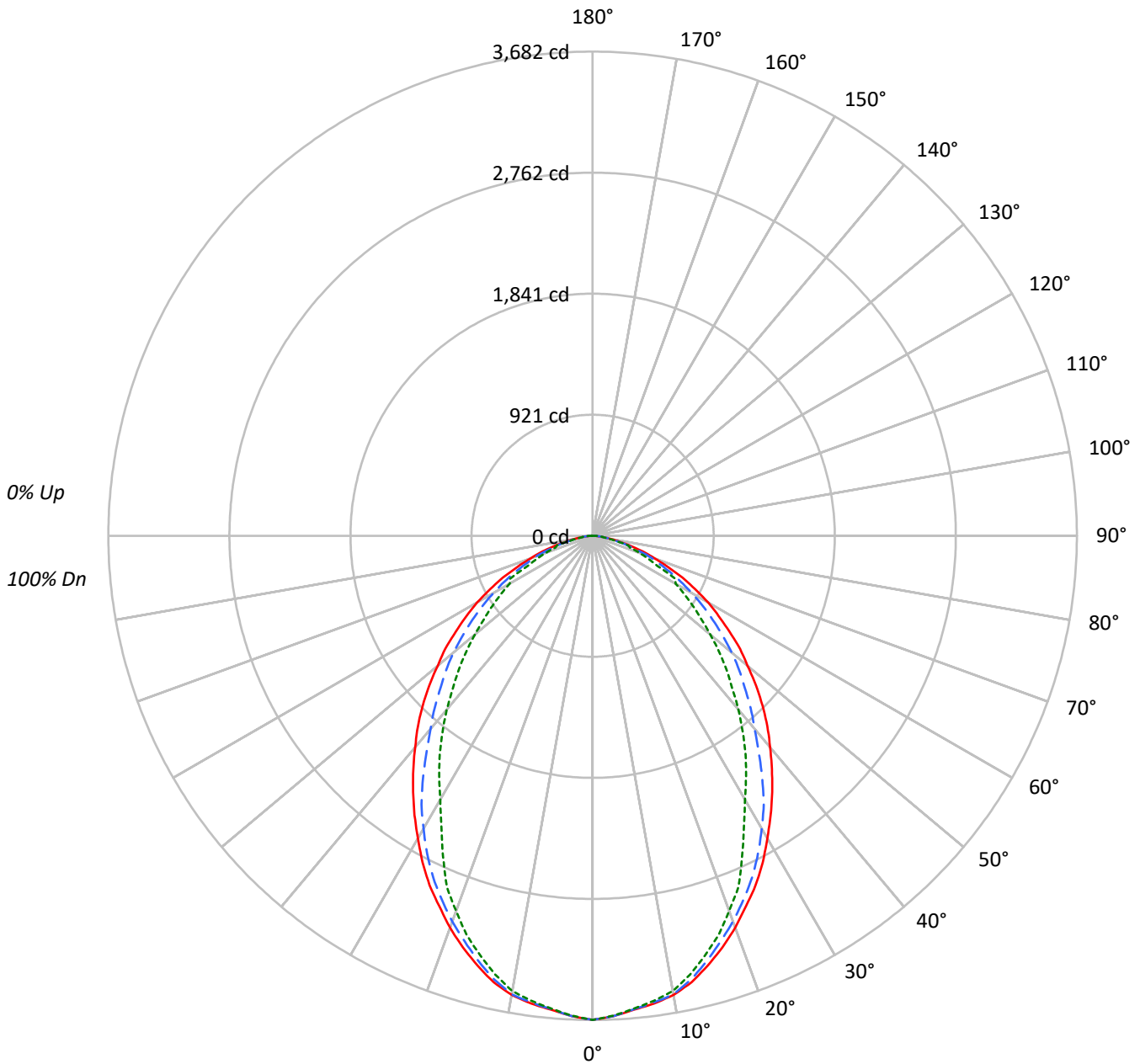
Lumens per Lamp: N/A  
Luminaire Lumens: 7228.0 lumens  
Efficiency: N/A  
Efficacy: 103.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 70.2  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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			100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87			87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75			75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65			65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56			56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50			50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44			44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40			40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36			36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33			33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30			30

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	4954	4954	4954
5°	4887	4881	4875
10°	4844	4838	4803
15°	4714	4666	4601
20°	4541	4467	4345
25°	4354	4259	3994
30°	4126	3994	3597
35°	3908	3691	3328
40°	3686	3364	3028
45°	3475	3110	2738
50°	3216	2887	2441
55°	2975	2616	2187
60°	2726	2337	1959
65°	2399	2046	1734
70°	1976	1792	1474
75°	1571	1372	1438
80°	1055	989	924
85°	658	789	920



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	342.7	4.7
10°-20°	940.6	13.0
20°-30°	1302.2	18.0
30°-40°	1388.5	19.2
40°-50°	1266.7	17.5
50°-60°	992.4	13.7
60°-70°	646.8	8.9
70°-80°	286.6	4.0
80°-90°	61.5	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°	2585.5	35.8
0°-40°	3974.0	55.0
0°-60°	6233.1	86.2
0°-90°	7228.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7228.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3682	3682	3682	3682	3682	
5°	3618	3614	3614	3610	3610	343
15°	3384	3384	3350	3316	3303	951
25°	2933	2916	2869	2767	2690	1346
35°	2379	2362	2247	2077	2026	1488
45°	1826	1788	1634	1498	1439	1407
55°	1268	1230	1115	983	932	1138
65°	753	711	643	656	545	742
75°	302	281	264	251	277	324
85°	43	47	51	55	60	59
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3681.8	3681.8	3681.8	3681.8	3681.8
2.5°	3656.3	3656.3	3656.3	3652.1	3652.1
5°	3618.0	3613.7	3613.7	3609.5	3609.5
7.5°	3588.2	3583.9	3579.7	3575.4	3566.9
10°	3545.6	3545.6	3541.4	3520.1	3515.8
12.5°	3477.5	3473.3	3456.3	3426.5	3417.9
15°	3383.9	3383.9	3349.8	3315.8	3303.0
17.5°	3281.7	3277.5	3234.9	3200.9	3183.8
20°	3171.1	3162.6	3120.0	3064.7	3034.9
22.5°	3047.6	3047.6	2996.6	2924.2	2894.4
25°	2932.7	2915.7	2868.9	2766.7	2690.1
27.5°	2800.8	2775.2	2724.1	2579.4	2490.0
30°	2656.0	2643.3	2570.9	2383.6	2315.5
32.5°	2519.8	2498.5	2421.9	2226.1	2170.8
35°	2379.4	2362.3	2247.4	2077.2	2026.1
37.5°	2238.9	2217.6	2072.9	1936.7	1872.8
40°	2098.4	2072.9	1915.4	1792.0	1723.9
42.5°	1966.5	1932.4	1779.2	1647.3	1570.6
45°	1826.0	1787.7	1634.5	1498.3	1438.7
47.5°	1685.6	1651.5	1511.0	1370.6	1302.5
50°	1536.6	1506.8	1379.1	1238.6	1166.3
52.5°	1413.1	1366.3	1242.9	1102.4	1042.8
55°	1268.4	1230.1	1115.2	983.2	932.2
57.5°	1136.5	1098.2	991.8	868.3	825.8
60°	1013.0	957.7	868.3	761.9	727.9
62.5°	876.8	834.3	757.7	668.3	710.8
65°	753.4	710.8	642.7	655.5	544.8
67.5°	617.2	595.9	536.3	476.7	459.7
70°	502.3	476.7	455.4	391.6	374.6
72.5°	400.1	374.6	344.8	310.7	298.0
75°	302.2	280.9	263.9	251.1	276.7
77.5°	208.6	200.1	187.3	174.5	170.3
80°	136.2	132.0	127.7	123.4	119.2
82.5°	80.9	80.9	80.9	80.9	80.9
85°	42.6	46.8	51.1	55.3	59.6
87.5°	25.5	25.5	29.8	34.1	38.3
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)