

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: P545821

Luminaire Tested: **FMR-12-4-LD4-1HI-35-UNV-80-96-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: P545821  
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-12-4-LD4-1HI-35-UNV-80-96-EDD  
Description: 1X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

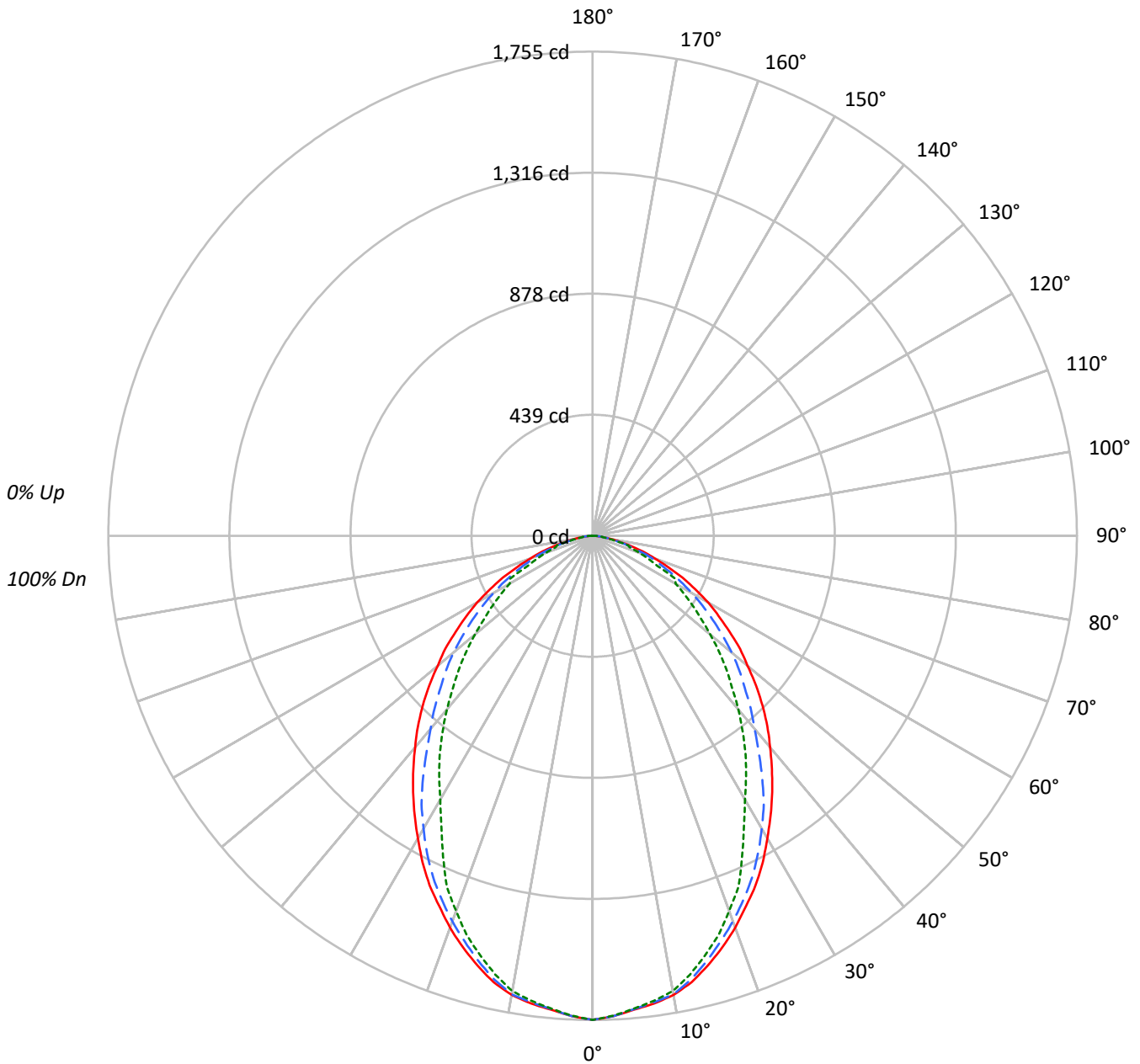
Lumens per Lamp: N/A  
Luminaire Lumens: 3445.0 lumens  
Efficiency: N/A  
Efficacy: 79.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 43.2  
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				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			
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°	4722	4722	4722
5°	4658	4653	4647
10°	4618	4612	4579
15°	4493	4448	4386
20°	4328	4258	4142
25°	4150	4060	3807
30°	3933	3807	3429
35°	3726	3519	3172
40°	3514	3207	2886
45°	3312	2965	2610
50°	3066	2752	2327
55°	2837	2494	2084
60°	2598	2228	1867
65°	2287	1950	1654
70°	1884	1708	1404
75°	1497	1308	1371
80°	1006	944	880
85°	627	750	877



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	163.4	4.7
10°-20°	448.3	13.0
20°-30°	620.6	18.0
30°-40°	661.8	19.2
40°-50°	603.7	17.5
50°-60°	473.0	13.7
60°-70°	308.3	8.9
70°-80°	136.6	4.0
80°-90°	29.3	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°	1232.3	35.8
0°-40°	1894.1	55.0
0°-60°	2970.8	86.2
0°-90°	3445.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3445.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1755	1755	1755	1755	1755	
5°	1724	1722	1722	1720	1720	164
15°	1613	1613	1597	1580	1574	453
25°	1398	1390	1367	1319	1282	642
35°	1134	1126	1071	990	966	709
45°	870	852	779	714	686	670
55°	605	586	532	469	444	542
65°	359	339	306	312	260	354
75°	144	134	126	120	132	154
85°	20	22	24	26	28	28
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1754.8	1754.8	1754.8	1754.8	1754.8
2.5°	1742.7	1742.7	1742.7	1740.6	1740.6
5°	1724.4	1722.4	1722.4	1720.3	1720.3
7.5°	1710.2	1708.2	1706.1	1704.1	1700.1
10°	1689.9	1689.9	1687.9	1677.7	1675.7
12.5°	1657.5	1655.4	1647.3	1633.1	1629.1
15°	1612.8	1612.8	1596.6	1580.4	1574.3
17.5°	1564.1	1562.1	1541.8	1525.6	1517.5
20°	1511.4	1507.3	1487.0	1460.7	1446.5
22.5°	1452.6	1452.6	1428.2	1393.7	1379.5
25°	1397.8	1389.7	1367.4	1318.7	1282.1
27.5°	1334.9	1322.7	1298.4	1229.4	1186.8
30°	1265.9	1259.8	1225.3	1136.1	1103.6
32.5°	1201.0	1190.9	1154.3	1061.0	1034.6
35°	1134.1	1125.9	1071.2	990.0	965.7
37.5°	1067.1	1057.0	988.0	923.1	892.6
40°	1000.2	988.0	912.9	854.1	821.6
42.5°	937.3	921.0	848.0	785.1	748.6
45°	870.3	852.1	779.0	714.1	685.7
47.5°	803.4	787.1	720.2	653.2	620.8
50°	732.4	718.2	657.3	590.4	555.9
52.5°	673.5	651.2	592.4	525.4	497.0
55°	604.6	586.3	531.5	468.6	444.3
57.5°	541.7	523.4	472.7	413.9	393.6
60°	482.8	456.5	413.9	363.1	346.9
62.5°	417.9	397.6	361.1	318.5	338.8
65°	359.1	338.8	306.3	312.4	259.7
67.5°	294.2	284.0	255.6	227.2	219.1
70°	239.4	227.2	217.1	186.6	178.5
72.5°	190.7	178.5	164.3	148.1	142.0
75°	144.0	133.9	125.8	119.7	131.9
77.5°	99.4	95.3	89.3	83.2	81.1
80°	64.9	62.9	60.9	58.8	56.8
82.5°	38.5	38.5	38.5	38.5	38.5
85°	20.3	22.3	24.3	26.4	28.4
87.5°	12.2	12.2	14.2	16.2	18.3
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)