

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: P546779

Luminaire Tested: **FMR-24-4-LD4-2LO-35-UNV-80-88-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: P546779  
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-LD4-2LO-35-UNV-80-88-EDD  
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

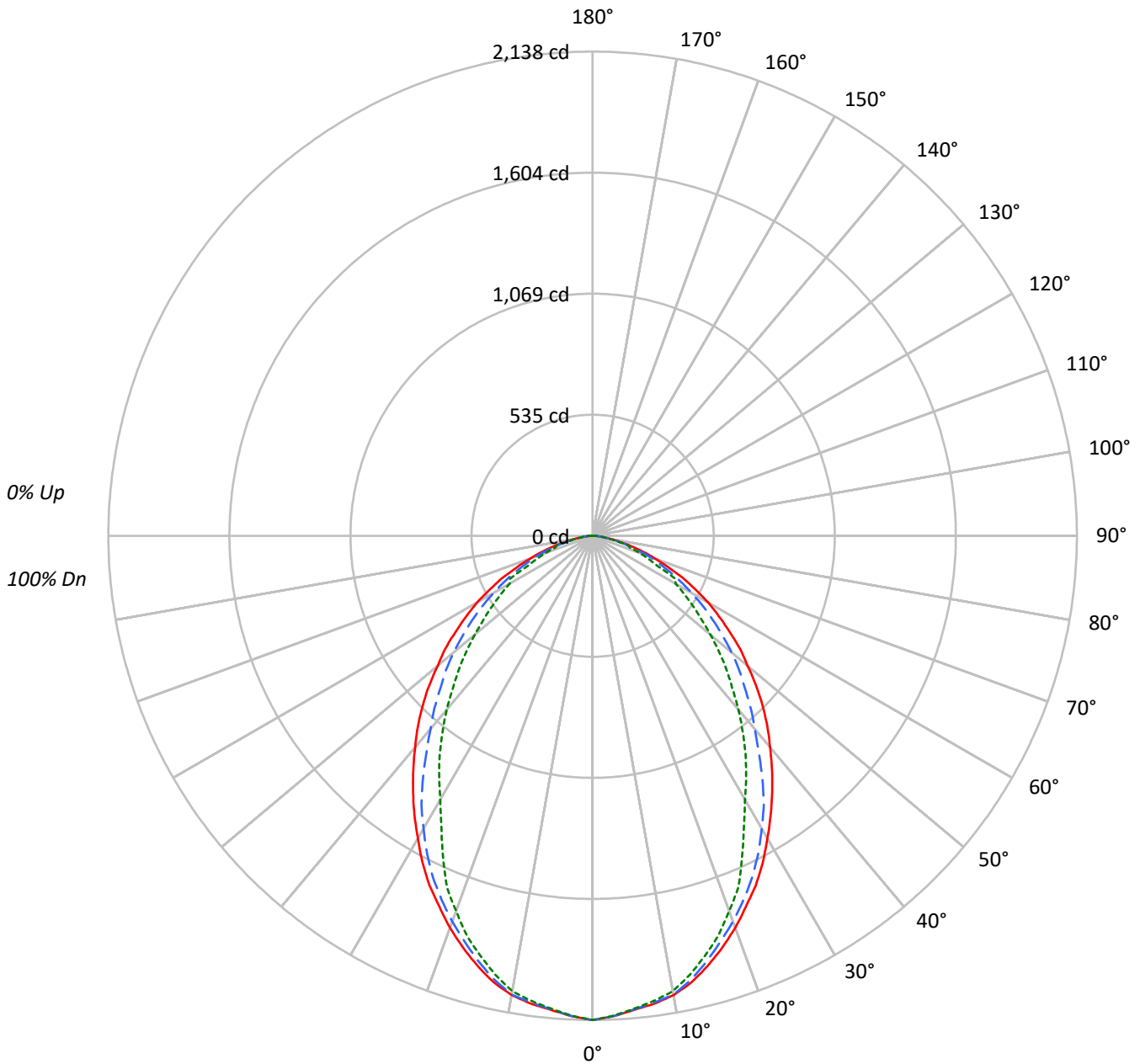
Lumens per Lamp: N/A  
Luminaire Lumens: 4198.0 lumens  
Efficiency: N/A  
Efficacy: 89.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 46.8  
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°	2877	2877	2877
5°	2838	2835	2831
10°	2814	2810	2790
15°	2738	2710	2672
20°	2637	2595	2524
25°	2529	2474	2320
30°	2397	2320	2089
35°	2270	2144	1933
40°	2141	1954	1759
45°	2018	1806	1590
50°	1868	1677	1418
55°	1728	1519	1270
60°	1583	1357	1137
65°	1393	1188	1007
70°	1148	1041	856
75°	912	797	835
80°	613	575	536
85°	381	459	534



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	199.1	4.7
10°-20°	546.3	13.0
20°-30°	756.3	18.0
30°-40°	806.4	19.2
40°-50°	735.7	17.5
50°-60°	576.4	13.7
60°-70°	375.6	8.9
70°-80°	166.4	4.0
80°-90°	35.7	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°	1501.7	35.8
0°-40°	2308.1	55.0
0°-60°	3620.2	86.2
0°-90°	4198.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4198.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2138	2138	2138	2138	2138	
5°	2101	2099	2099	2096	2096	199
15°	1965	1965	1946	1926	1918	553
25°	1703	1693	1666	1607	1562	782
35°	1382	1372	1305	1206	1177	864
45°	1061	1038	949	870	836	817
55°	737	714	648	571	541	661
65°	438	413	373	381	316	431
75°	176	163	153	146	161	188
85°	25	27	30	32	35	34
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2138.4	2138.4	2138.4	2138.4	2138.4
2.5°	2123.6	2123.6	2123.6	2121.1	2121.1
5°	2101.3	2098.9	2098.9	2096.4	2096.4
7.5°	2084.0	2081.5	2079.1	2076.6	2071.7
10°	2059.3	2059.3	2056.8	2044.5	2042.0
12.5°	2019.7	2017.3	2007.4	1990.1	1985.1
15°	1965.4	1965.4	1945.6	1925.8	1918.4
17.5°	1906.0	1903.6	1878.8	1859.1	1849.2
20°	1841.7	1836.8	1812.1	1779.9	1762.6
22.5°	1770.1	1770.1	1740.4	1698.4	1681.1
25°	1703.3	1693.4	1666.2	1606.9	1562.4
27.5°	1626.7	1611.8	1582.2	1498.1	1446.2
30°	1542.6	1535.2	1493.2	1384.4	1344.8
32.5°	1463.5	1451.1	1406.7	1292.9	1260.8
35°	1381.9	1372.0	1305.3	1206.4	1176.7
37.5°	1300.3	1288.0	1203.9	1124.8	1087.7
40°	1218.8	1203.9	1112.5	1040.8	1001.2
42.5°	1142.1	1122.4	1033.4	956.7	912.2
45°	1060.6	1038.3	949.3	870.2	835.6
47.5°	979.0	959.2	877.6	796.0	756.5
50°	892.4	875.1	801.0	719.4	677.4
52.5°	820.8	793.6	721.9	640.3	605.7
55°	736.7	714.4	647.7	571.1	541.4
57.5°	660.1	637.8	576.0	504.3	479.6
60°	588.4	556.2	504.3	442.5	422.7
62.5°	509.3	484.5	440.0	388.1	412.8
65°	437.6	412.8	373.3	380.7	316.4
67.5°	358.5	346.1	311.5	276.9	267.0
70°	291.7	276.9	264.5	227.4	217.5
72.5°	232.4	217.5	200.2	180.5	173.1
75°	175.5	163.2	153.3	145.9	160.7
77.5°	121.1	116.2	108.8	101.4	98.9
80°	79.1	76.6	74.2	71.7	69.2
82.5°	47.0	47.0	47.0	47.0	47.0
85°	24.7	27.2	29.7	32.1	34.6
87.5°	14.8	14.8	17.3	19.8	22.2
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)