

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: P546429

Luminaire Tested: **FMR-24-4-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: P546429  
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-LD4-1HI-35-UNV-80-96-EDD  
Description: 2X4 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**

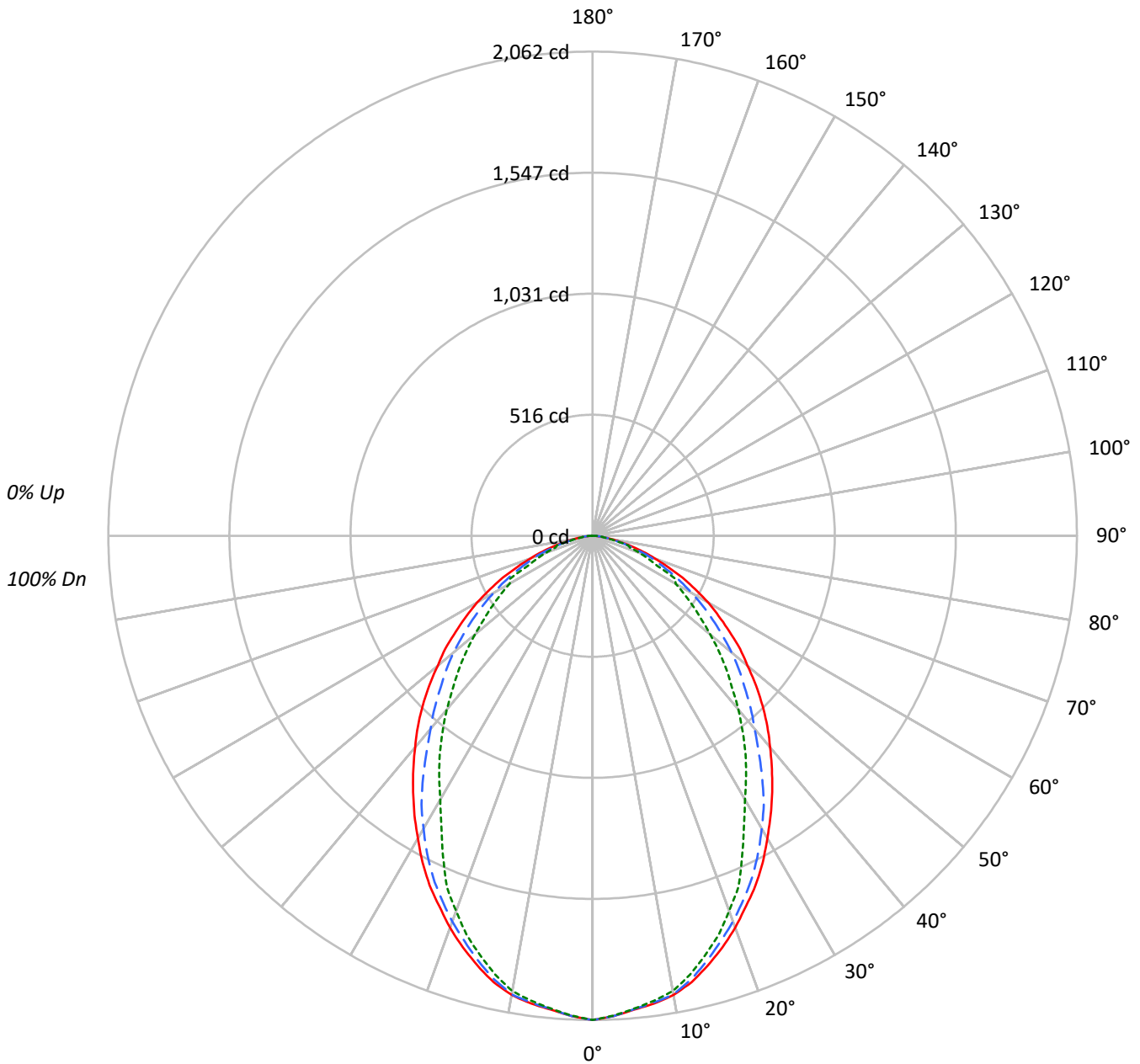
Lumens per Lamp: N/A  
Luminaire Lumens: 4048.0 lumens  
Efficiency: N/A  
Efficacy: 93.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 43.2  
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									
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°	2774	2774	2774
5°	2737	2734	2730
10°	2713	2710	2690
15°	2640	2613	2577
20°	2543	2502	2434
25°	2438	2385	2237
30°	2311	2237	2015
35°	2189	2067	1864
40°	2064	1884	1696
45°	1946	1742	1533
50°	1801	1617	1367
55°	1666	1465	1225
60°	1527	1309	1097
65°	1343	1146	971
70°	1107	1004	825
75°	880	768	805
80°	591	554	517
85°	367	442	516



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	191.9	4.7
10°-20°	526.8	13.0
20°-30°	729.3	18.0
30°-40°	777.6	19.2
40°-50°	709.4	17.5
50°-60°	555.8	13.7
60°-70°	362.2	8.9
70°-80°	160.5	4.0
80°-90°	34.5	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°	1448.0	35.8
0°-40°	2225.6	55.0
0°-60°	3490.8	86.2
0°-90°	4048.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4048.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2062	2062	2062	2062	2062	
5°	2026	2024	2024	2022	2022	192
15°	1895	1895	1876	1857	1850	533
25°	1642	1633	1607	1550	1507	754
35°	1333	1323	1259	1163	1135	833
45°	1023	1001	915	839	806	788
55°	710	689	625	551	522	637
65°	422	398	360	367	305	416
75°	169	157	148	141	155	181
85°	24	26	29	31	33	33
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2062.0	2062.0	2062.0	2062.0	2062.0
2.5°	2047.7	2047.7	2047.7	2045.3	2045.3
5°	2026.2	2023.9	2023.9	2021.5	2021.5
7.5°	2009.6	2007.2	2004.8	2002.4	1997.6
10°	1985.7	1985.7	1983.3	1971.4	1969.0
12.5°	1947.6	1945.2	1935.7	1919.0	1914.2
15°	1895.1	1895.1	1876.1	1857.0	1849.8
17.5°	1837.9	1835.5	1811.7	1792.6	1783.1
20°	1775.9	1771.2	1747.3	1716.3	1699.7
22.5°	1706.8	1706.8	1678.2	1637.7	1621.0
25°	1642.4	1632.9	1606.7	1549.5	1506.6
27.5°	1568.5	1554.2	1525.6	1444.6	1394.5
30°	1487.5	1480.3	1439.8	1334.9	1296.8
32.5°	1411.2	1399.3	1356.4	1246.7	1215.7
35°	1332.6	1323.0	1258.7	1163.3	1134.7
37.5°	1253.9	1242.0	1160.9	1084.6	1048.9
40°	1175.2	1160.9	1072.7	1003.6	965.4
42.5°	1101.3	1082.3	996.4	922.5	879.6
45°	1022.7	1001.2	915.4	839.1	805.7
47.5°	944.0	924.9	846.3	767.6	729.4
50°	860.6	843.9	772.4	693.7	653.2
52.5°	791.4	765.2	696.1	617.4	584.0
55°	710.4	688.9	624.6	550.7	522.1
57.5°	636.5	615.0	555.4	486.3	462.5
60°	567.3	536.4	486.3	426.7	407.6
62.5°	491.1	467.2	424.3	374.3	398.1
65°	421.9	398.1	360.0	367.1	305.1
67.5°	345.7	333.7	300.4	267.0	257.5
70°	281.3	267.0	255.1	219.3	209.8
72.5°	224.1	209.8	193.1	174.0	166.9
75°	169.3	157.3	147.8	140.6	154.9
77.5°	116.8	112.0	104.9	97.7	95.4
80°	76.3	73.9	71.5	69.1	66.7
82.5°	45.3	45.3	45.3	45.3	45.3
85°	23.8	26.2	28.6	31.0	33.4
87.5°	14.3	14.3	16.7	19.1	21.5
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)