

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: P546489

Luminaire Tested: **FMR-24-4-LD4-1HI-50-UNV-80-86-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: P546489  
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-50-UNV-80-86-EDD  
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

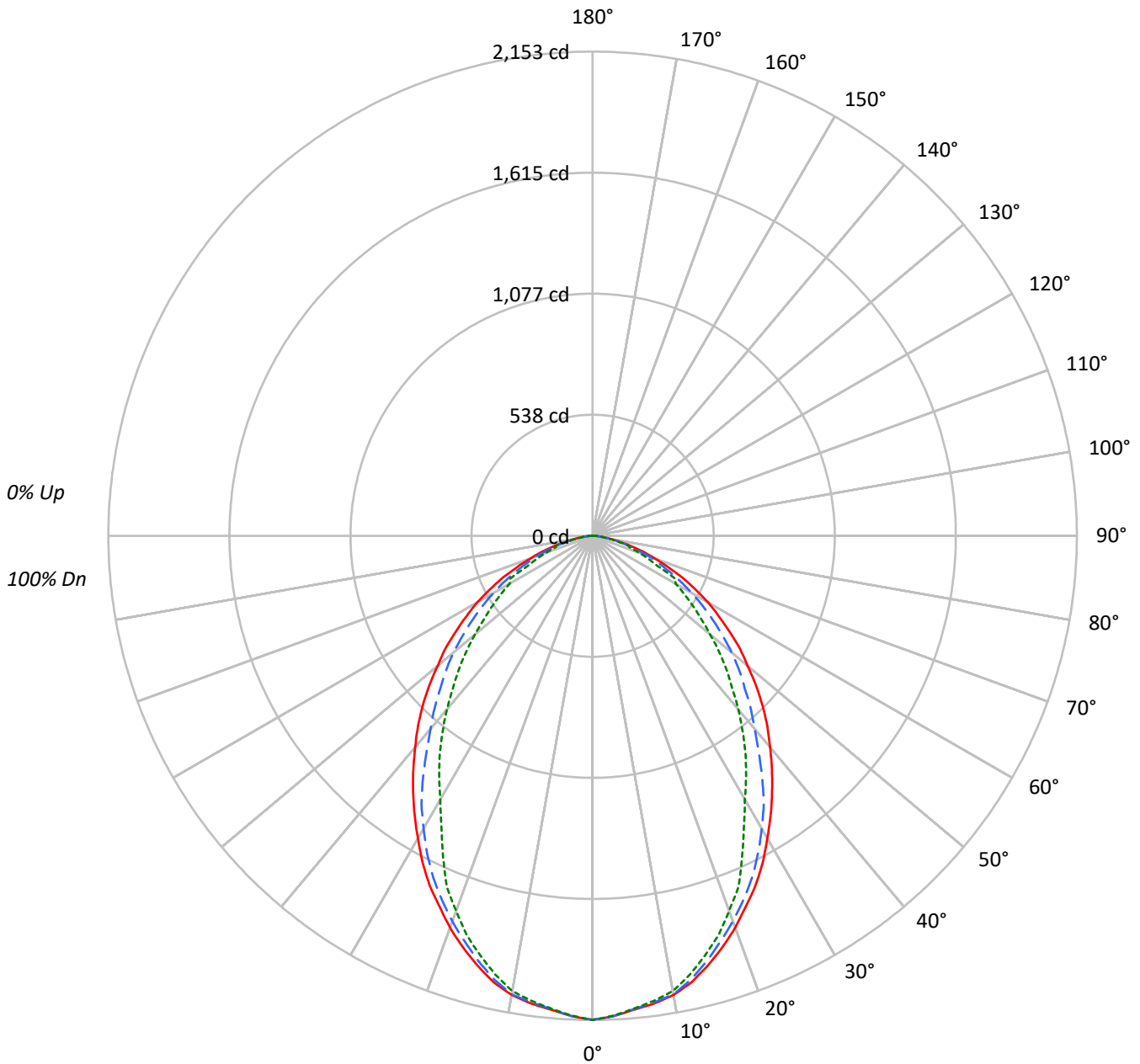
Lumens per Lamp: N/A  
Luminaire Lumens: 4226.0 lumens  
Efficiency: N/A  
Efficacy: 97.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 43.2  
Input Voltage (V): NR  
Input Current (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°	2896	2896	2896
5°	2857	2854	2850
10°	2832	2829	2808
15°	2756	2728	2690
20°	2655	2612	2541
25°	2546	2490	2335
30°	2413	2335	2103
35°	2285	2158	1946
40°	2155	1967	1770
45°	2031	1818	1601
50°	1881	1688	1427
55°	1740	1529	1278
60°	1594	1366	1145
65°	1402	1196	1014
70°	1155	1048	862
75°	919	802	841
80°	617	579	540
85°	384	462	537



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	200.4	4.7
10°-20°	549.9	13.0
20°-30°	761.4	18.0
30°-40°	811.8	19.2
40°-50°	740.6	17.5
50°-60°	580.2	13.7
60°-70°	378.2	8.9
70°-80°	167.5	4.0
80°-90°	36.0	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°	1511.7	35.8
0°-40°	2323.5	55.0
0°-60°	3644.3	86.2
0°-90°	4226.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4226.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2153	2153	2153	2153	2153	
5°	2115	2113	2113	2110	2110	201
15°	1978	1978	1959	1939	1931	556
25°	1715	1705	1677	1618	1573	787
35°	1391	1381	1314	1214	1185	870
45°	1068	1045	956	876	841	822
55°	742	719	652	575	545	665
65°	440	416	376	383	318	434
75°	177	164	154	147	162	189
85°	25	27	30	32	35	35
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2152.7	2152.7	2152.7	2152.7	2152.7
2.5°	2137.7	2137.7	2137.7	2135.2	2135.2
5°	2115.3	2112.8	2112.8	2110.4	2110.4
7.5°	2097.9	2095.4	2092.9	2090.5	2085.5
10°	2073.0	2073.0	2070.5	2058.1	2055.6
12.5°	2033.2	2030.7	2020.8	2003.3	1998.4
15°	1978.5	1978.5	1958.6	1938.6	1931.2
17.5°	1918.7	1916.2	1891.4	1871.5	1861.5
20°	1854.0	1849.1	1824.2	1791.8	1774.4
22.5°	1781.9	1781.9	1752.0	1709.7	1692.3
25°	1714.7	1704.7	1677.3	1617.6	1572.8
27.5°	1637.5	1622.6	1592.7	1508.1	1455.9
30°	1552.9	1545.4	1503.1	1393.6	1353.8
32.5°	1473.3	1460.8	1416.0	1301.6	1269.2
35°	1391.1	1381.2	1314.0	1214.5	1184.6
37.5°	1309.0	1296.6	1212.0	1132.3	1095.0
40°	1226.9	1212.0	1119.9	1047.7	1007.9
42.5°	1149.7	1129.8	1040.2	963.1	918.3
45°	1067.6	1045.2	955.6	876.0	841.2
47.5°	985.5	965.6	883.5	801.3	761.5
50°	898.4	881.0	806.3	724.2	681.9
52.5°	826.2	798.9	726.7	644.6	609.7
55°	741.6	719.2	652.0	574.9	545.0
57.5°	664.5	642.1	579.9	507.7	482.8
60°	592.3	559.9	507.7	445.5	425.6
62.5°	512.7	487.8	443.0	390.7	415.6
65°	440.5	415.6	375.8	383.2	318.5
67.5°	360.9	348.4	313.6	278.7	268.8
70°	293.7	278.7	266.3	229.0	219.0
72.5°	233.9	219.0	201.6	181.7	174.2
75°	176.7	164.2	154.3	146.8	161.8
77.5°	121.9	117.0	109.5	102.0	99.5
80°	79.6	77.1	74.7	72.2	69.7
82.5°	47.3	47.3	47.3	47.3	47.3
85°	24.9	27.4	29.9	32.4	34.8
87.5°	14.9	14.9	17.4	19.9	22.4
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)