

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: P546488

Luminaire Tested: **FMR-24-4-LD4-1HI-50-UNV-80-85-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: P546488  
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-80-85-EDD  
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

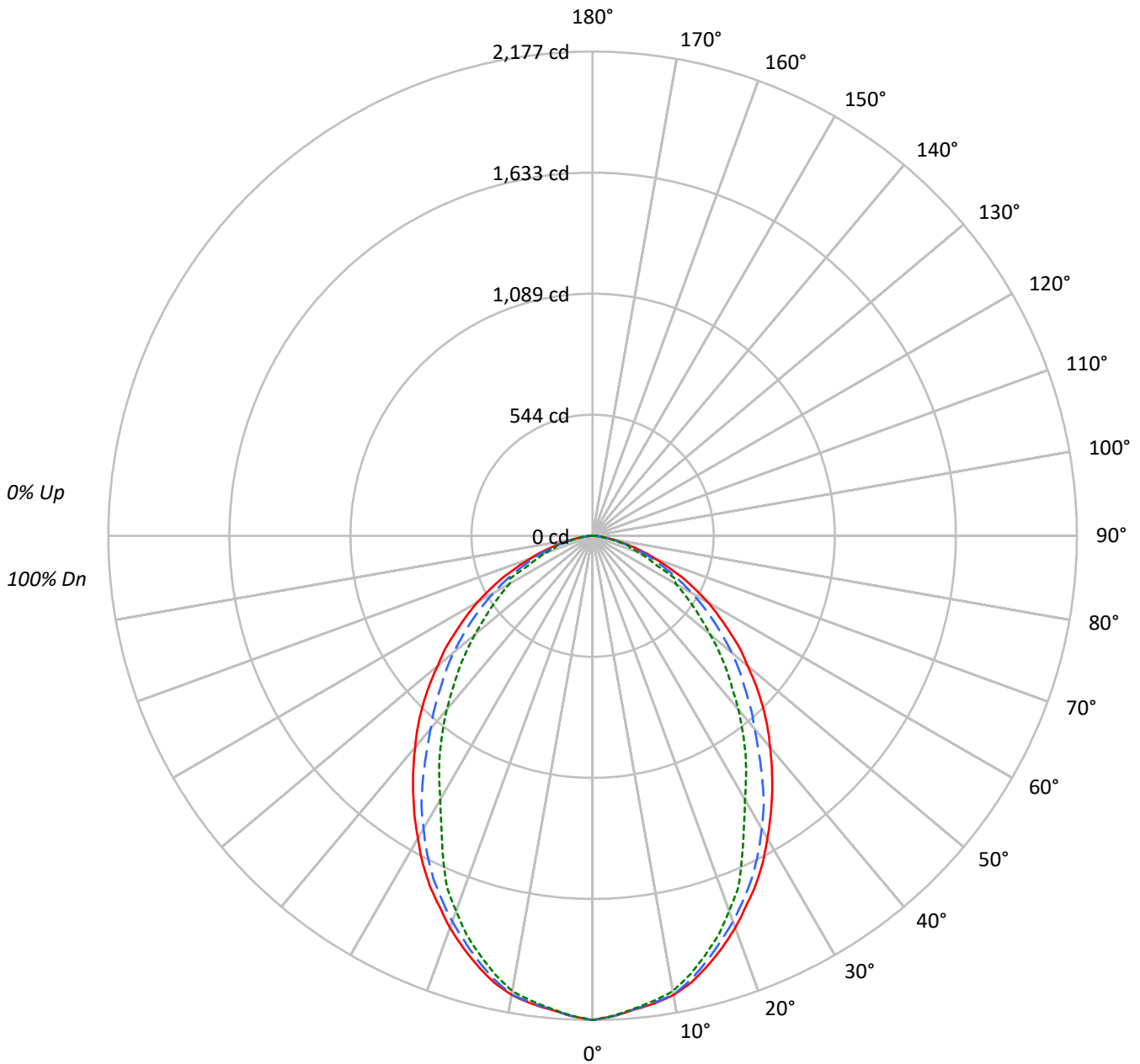
Lumens per Lamp: N/A  
Luminaire Lumens: 4274.0 lumens  
Efficiency: N/A  
Efficacy: 98.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

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				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°	2929	2929	2929
5°	2890	2886	2883
10°	2864	2861	2840
15°	2787	2759	2721
20°	2685	2642	2569
25°	2574	2518	2362
30°	2440	2362	2127
35°	2311	2183	1968
40°	2179	1989	1790
45°	2055	1839	1619
50°	1902	1707	1443
55°	1759	1547	1293
60°	1612	1382	1158
65°	1418	1210	1026
70°	1168	1059	871
75°	929	811	850
80°	624	585	546
85°	389	466	543



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	202.7	4.7
10°-20°	556.2	13.0
20°-30°	770.0	18.0
30°-40°	821.0	19.2
40°-50°	749.0	17.5
50°-60°	586.8	13.7
60°-70°	382.5	8.9
70°-80°	169.4	4.0
80°-90°	36.4	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°	1528.8	35.8
0°-40°	2349.9	55.0
0°-60°	3685.7	86.2
0°-90°	4274.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4274.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2177	2177	2177	2177	2177	
5°	2139	2137	2137	2134	2134	203
15°	2001	2001	1981	1961	1953	563
25°	1734	1724	1696	1636	1591	796
35°	1407	1397	1329	1228	1198	880
45°	1080	1057	966	886	851	832
55°	750	727	659	581	551	673
65°	446	420	380	388	322	439
75°	179	166	156	148	164	192
85°	25	28	30	33	35	35
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2177.1	2177.1	2177.1	2177.1	2177.1
2.5°	2162.0	2162.0	2162.0	2159.5	2159.5
5°	2139.4	2136.8	2136.8	2134.3	2134.3
7.5°	2121.7	2119.2	2116.7	2114.2	2109.2
10°	2096.6	2096.6	2094.1	2081.5	2079.0
12.5°	2056.3	2053.8	2043.7	2026.1	2021.1
15°	2000.9	2000.9	1980.8	1960.7	1953.1
17.5°	1940.5	1938.0	1912.8	1892.7	1882.6
20°	1875.1	1870.1	1844.9	1812.2	1794.5
22.5°	1802.1	1802.1	1771.9	1729.1	1711.5
25°	1734.1	1724.1	1696.4	1636.0	1590.7
27.5°	1656.1	1641.0	1610.8	1525.2	1472.4
30°	1570.5	1563.0	1520.2	1409.5	1369.2
32.5°	1490.0	1477.4	1432.1	1316.3	1283.6
35°	1406.9	1396.9	1328.9	1228.2	1198.0
37.5°	1323.9	1311.3	1225.7	1145.2	1107.4
40°	1240.8	1225.7	1132.6	1059.6	1019.3
42.5°	1162.8	1142.7	1052.1	974.0	928.7
45°	1079.8	1057.1	966.5	885.9	850.7
47.5°	996.7	976.6	893.5	810.4	770.2
50°	908.6	891.0	815.5	732.4	689.6
52.5°	835.6	807.9	734.9	651.9	616.6
55°	750.0	727.4	659.4	581.4	551.2
57.5°	672.0	649.4	586.4	513.4	488.3
60°	599.0	566.3	513.4	450.5	430.4
62.5°	518.5	493.3	448.0	395.2	420.3
65°	445.5	420.3	380.1	387.6	322.2
67.5°	365.0	352.4	317.1	281.9	271.8
70°	297.0	281.9	269.3	231.6	221.5
72.5°	236.6	221.5	203.9	183.7	176.2
75°	178.7	166.1	156.0	148.5	163.6
77.5°	123.3	118.3	110.7	103.2	100.7
80°	80.5	78.0	75.5	73.0	70.5
82.5°	47.8	47.8	47.8	47.8	47.8
85°	25.2	27.7	30.2	32.7	35.2
87.5°	15.1	15.1	17.6	20.1	22.7
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)