

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: P546835

Luminaire Tested: **FMR-24-4-LD4-2LO-40-UNV-93-88-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: P546835
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-40-UNV-93-88-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

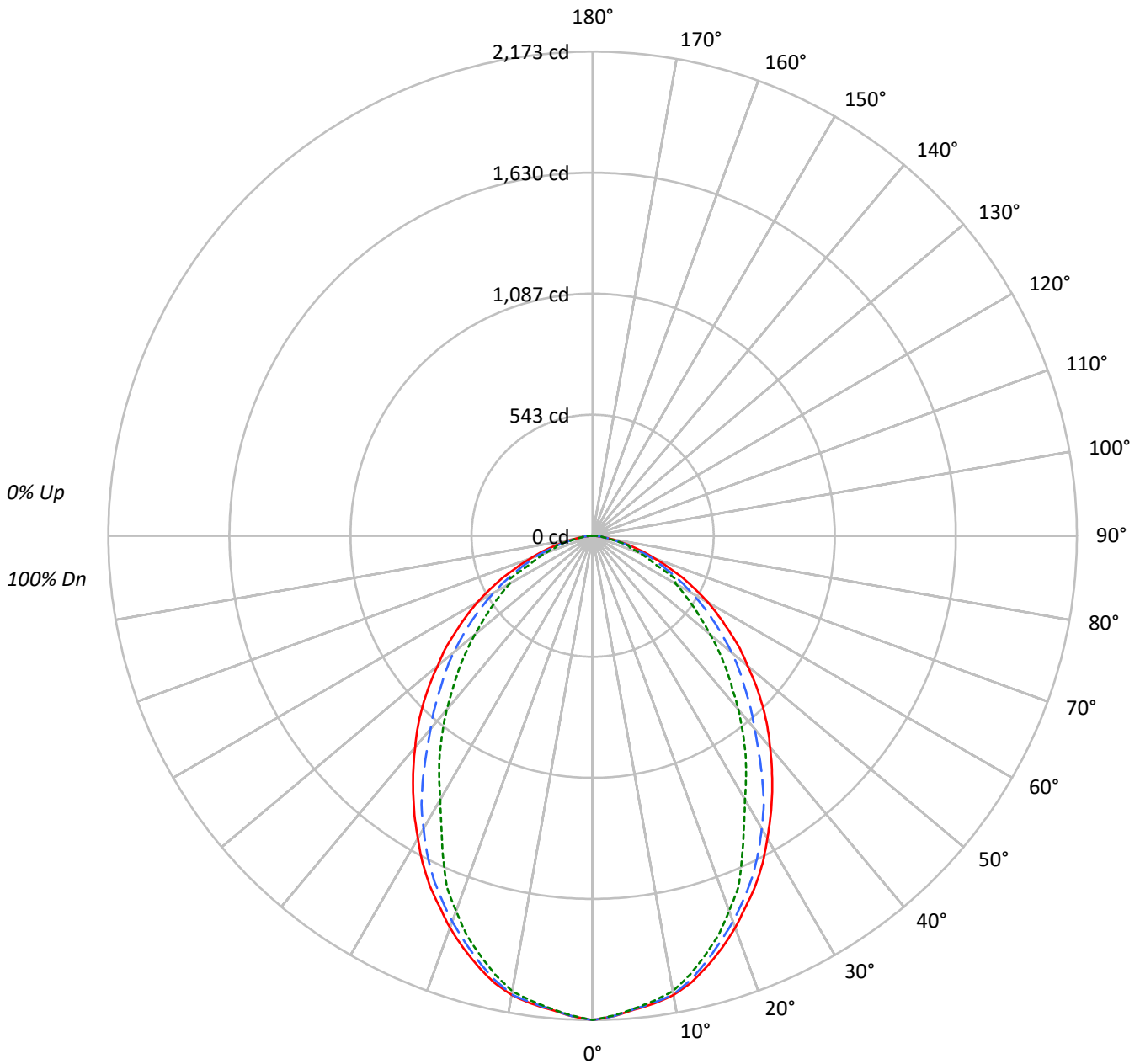
Lumens per Lamp: N/A
Luminaire Lumens: 4266.0 lumens
Efficiency: N/A
Efficacy: 91.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P546835

CATALOG NUMBER: FMR-24-4-LD4-2LO-40-UNV-93-88-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P546835

CATALOG NUMBER: FMR-24-4-LD4-2LO-40-UNV-93-88-EDD

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°	2924	2924	2924
5°	2884	2881	2877
10°	2859	2856	2835
15°	2782	2754	2716
20°	2680	2637	2565
25°	2570	2514	2357
30°	2435	2357	2123
35°	2307	2179	1964
40°	2175	1986	1787
45°	2051	1836	1616
50°	1898	1704	1441
55°	1756	1544	1291
60°	1609	1379	1156
65°	1416	1208	1024
70°	1166	1057	870
75°	927	810	849
80°	623	584	545
85°	387	465	543



TEST NUMBER: P546835

CATALOG NUMBER: FMR-24-4-LD4-2LO-40-UNV-93-88-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	202.3	4.7
10°-20°	555.1	13.0
20°-30°	768.6	18.0
30°-40°	819.5	19.2
40°-50°	747.6	17.5
50°-60°	585.7	13.7
60°-70°	381.7	8.9
70°-80°	169.1	4.0
80°-90°	36.3	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°	1526.0	35.8
0°-40°	2345.5	55.0
0°-60°	3678.8	86.2
0°-90°	4266.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4266.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2173	2173	2173	2173	2173	
5°	2135	2133	2133	2130	2130	203
15°	1997	1997	1977	1957	1950	561
25°	1731	1721	1693	1633	1588	795
35°	1404	1394	1326	1226	1196	878
45°	1078	1055	965	884	849	830
55°	749	726	658	580	550	671
65°	445	420	379	387	322	438
75°	178	166	156	148	163	191
85°	25	28	30	33	35	35
90°	0	0	0	0	0	



TEST NUMBER: P546835

CATALOG NUMBER: FMR-24-4-LD4-2LO-40-UNV-93-88-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2173.0	2173.0	2173.0	2173.0	2173.0
2.5°	2158.0	2158.0	2158.0	2155.5	2155.5
5°	2135.4	2132.8	2132.8	2130.3	2130.3
7.5°	2117.8	2115.3	2112.8	2110.2	2105.2
10°	2092.7	2092.7	2090.1	2077.6	2075.1
12.5°	2052.5	2049.9	2039.9	2022.3	2017.3
15°	1997.2	1997.2	1977.1	1957.0	1949.5
17.5°	1936.9	1934.4	1909.3	1889.2	1879.1
20°	1871.6	1866.6	1841.4	1808.8	1791.2
22.5°	1798.7	1798.7	1768.6	1725.9	1708.3
25°	1730.9	1720.8	1693.2	1632.9	1587.7
27.5°	1653.0	1637.9	1607.8	1522.4	1469.6
30°	1567.6	1560.1	1517.4	1406.8	1366.6
32.5°	1487.2	1474.7	1429.4	1313.9	1281.2
35°	1404.3	1394.3	1326.4	1225.9	1195.8
37.5°	1321.4	1308.9	1223.4	1143.0	1105.4
40°	1238.5	1223.4	1130.5	1057.6	1017.4
42.5°	1160.6	1140.5	1050.1	972.2	927.0
45°	1077.7	1055.1	964.7	884.3	849.1
47.5°	994.8	974.7	891.8	808.9	768.7
50°	906.9	889.3	813.9	731.0	688.3
52.5°	834.0	806.4	733.6	650.7	615.5
55°	748.6	726.0	658.2	580.3	550.2
57.5°	670.8	648.1	585.3	512.5	487.4
60°	597.9	565.2	512.5	449.7	429.6
62.5°	517.5	492.4	447.2	394.4	419.5
65°	444.7	419.5	379.3	386.9	321.6
67.5°	364.3	351.7	316.5	281.4	271.3
70°	296.4	281.4	268.8	231.1	221.1
72.5°	236.1	221.1	203.5	183.4	175.9
75°	178.4	165.8	155.8	148.2	163.3
77.5°	123.1	118.1	110.5	103.0	100.5
80°	80.4	77.9	75.4	72.9	70.3
82.5°	47.7	47.7	47.7	47.7	47.7
85°	25.1	27.6	30.1	32.7	35.2
87.5°	15.1	15.1	17.6	20.1	22.6
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)