

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: P546764

Luminaire Tested: **FMR-24-4-LD4-2HI-50-UNV-82-94-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: P546764
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-LD4-2HI-50-UNV-82-94-EDD
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

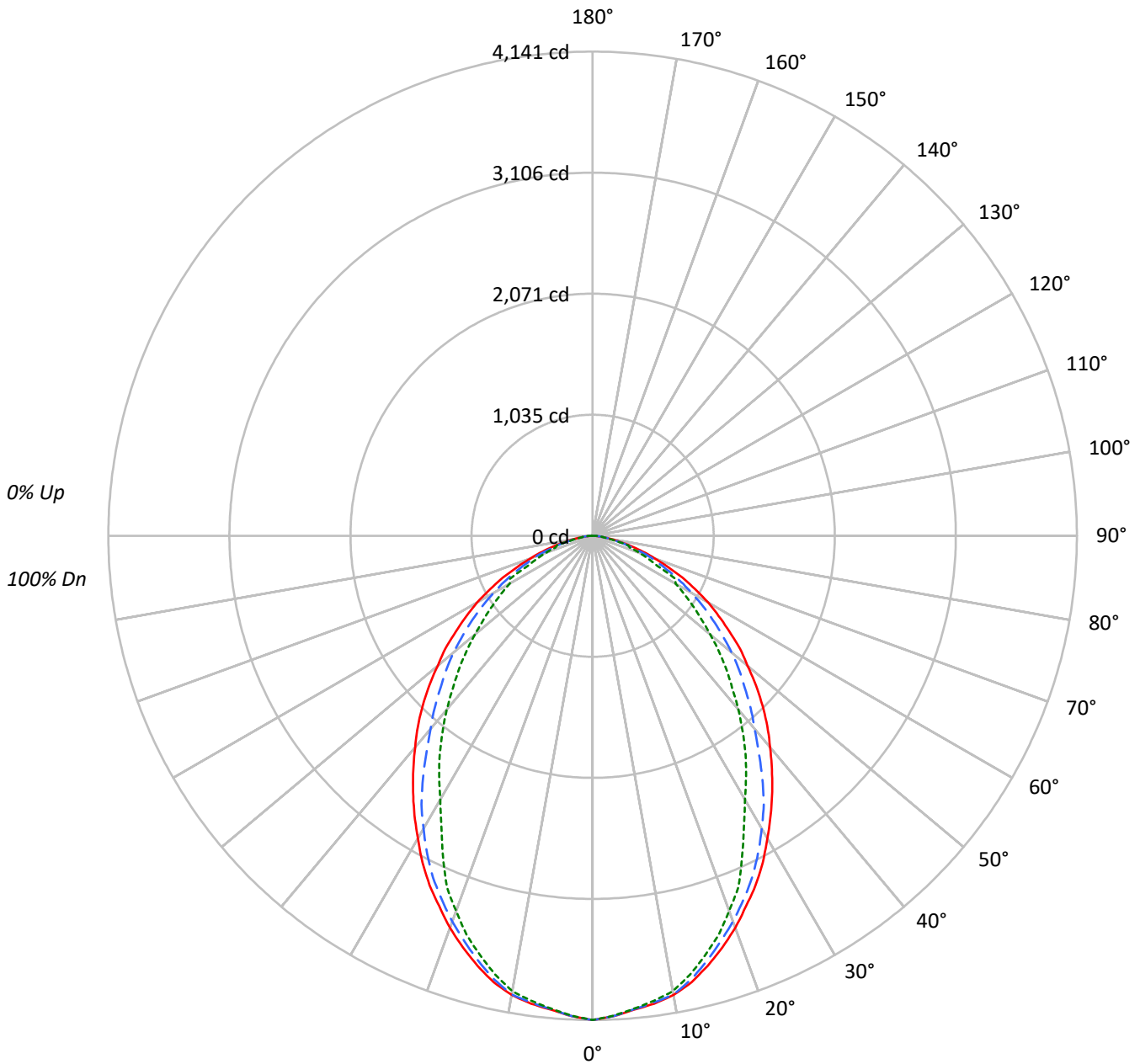
Lumens per Lamp: N/A
Luminaire Lumens: 8130.0 lumens
Efficiency: N/A
Efficacy: 94.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 86.4
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: P546764

CATALOG NUMBER: FMR-24-4-LD4-2HI-50-UNV-82-94-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P546764

CATALOG NUMBER: FMR-24-4-LD4-2HI-50-UNV-82-94-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°	5572	5572	5572
5°	5496	5490	5483
10°	5449	5442	5403
15°	5302	5249	5175
20°	5107	5025	4888
25°	4897	4791	4492
30°	4641	4493	4046
35°	4396	4152	3743
40°	4146	3784	3406
45°	3908	3498	3079
50°	3618	3247	2746
55°	3347	2943	2460
60°	3066	2628	2203
65°	2698	2301	1951
70°	2222	2015	1657
75°	1767	1543	1618
80°	1187	1113	1039
85°	739	888	1034



TEST NUMBER: P546764

CATALOG NUMBER: FMR-24-4-LD4-2HI-50-UNV-82-94-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	385.5	4.7
10°-20°	1058.0	13.0
20°-30°	1464.7	18.0
30°-40°	1561.8	19.2
40°-50°	1424.8	17.5
50°-60°	1116.2	13.7
60°-70°	727.5	8.9
70°-80°	322.3	4.0
80°-90°	69.2	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°	2908.2	35.8
0°-40°	4470.0	55.0
0°-60°	7011.0	86.2
0°-90°	8130.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8130.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4141	4141	4141	4141	4141	
5°	4070	4065	4065	4060	4060	386
15°	3806	3806	3768	3730	3715	1070
25°	3299	3280	3227	3112	3026	1514
35°	2676	2657	2528	2336	2279	1673
45°	2054	2011	1838	1685	1618	1582
55°	1427	1384	1254	1106	1048	1280
65°	847	800	723	737	613	835
75°	340	316	297	282	311	364
85°	48	53	58	62	67	66
90°	0	0	0	0	0	



TEST NUMBER: P546764

CATALOG NUMBER: FMR-24-4-LD4-2HI-50-UNV-82-94-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4141.3	4141.3	4141.3	4141.3	4141.3
2.5°	4112.6	4112.6	4112.6	4107.8	4107.8
5°	4069.5	4064.7	4064.7	4059.9	4059.9
7.5°	4036.0	4031.2	4026.4	4021.6	4012.0
10°	3988.1	3988.1	3983.3	3959.4	3954.6
12.5°	3911.5	3906.7	3887.6	3854.1	3844.5
15°	3806.2	3806.2	3767.9	3729.6	3715.2
17.5°	3691.3	3686.5	3638.6	3600.3	3581.2
20°	3566.8	3557.2	3509.3	3447.1	3413.6
22.5°	3428.0	3428.0	3370.5	3289.1	3255.6
25°	3298.7	3279.5	3226.9	3112.0	3025.8
27.5°	3150.3	3121.5	3064.1	2901.3	2800.8
30°	2987.5	2973.1	2891.7	2681.1	2604.5
32.5°	2834.3	2810.3	2724.2	2503.9	2441.7
35°	2676.3	2657.1	2527.9	2336.4	2278.9
37.5°	2518.3	2494.4	2331.6	2178.4	2106.6
40°	2360.3	2331.6	2154.4	2015.6	1939.0
42.5°	2211.9	2173.6	2001.2	1852.8	1766.6
45°	2053.9	2010.8	1838.5	1685.3	1618.2
47.5°	1895.9	1857.6	1699.6	1541.6	1465.0
50°	1728.3	1694.8	1551.2	1393.2	1311.8
52.5°	1589.5	1536.8	1398.0	1240.0	1173.0
55°	1426.7	1383.6	1254.4	1105.9	1048.5
57.5°	1278.3	1235.2	1115.5	976.7	928.8
60°	1139.5	1077.2	976.7	857.0	818.7
62.5°	986.3	938.4	852.2	751.7	799.5
65°	847.4	799.5	722.9	737.3	612.8
67.5°	694.2	670.3	603.2	536.2	517.1
70°	564.9	536.2	512.3	440.5	421.3
72.5°	450.0	421.3	387.8	349.5	335.1
75°	339.9	316.0	296.8	282.5	311.2
77.5°	234.6	225.0	210.7	196.3	191.5
80°	153.2	148.4	143.6	138.8	134.1
82.5°	91.0	91.0	91.0	91.0	91.0
85°	47.9	52.7	57.5	62.2	67.0
87.5°	28.7	28.7	33.5	38.3	43.1
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)