

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: P547521

Luminaire Tested: **FMR-24-4-LD4-4STD-50-UNV-81-86-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: P547521
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-LD4-4STD-50-UNV-81-86-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC 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

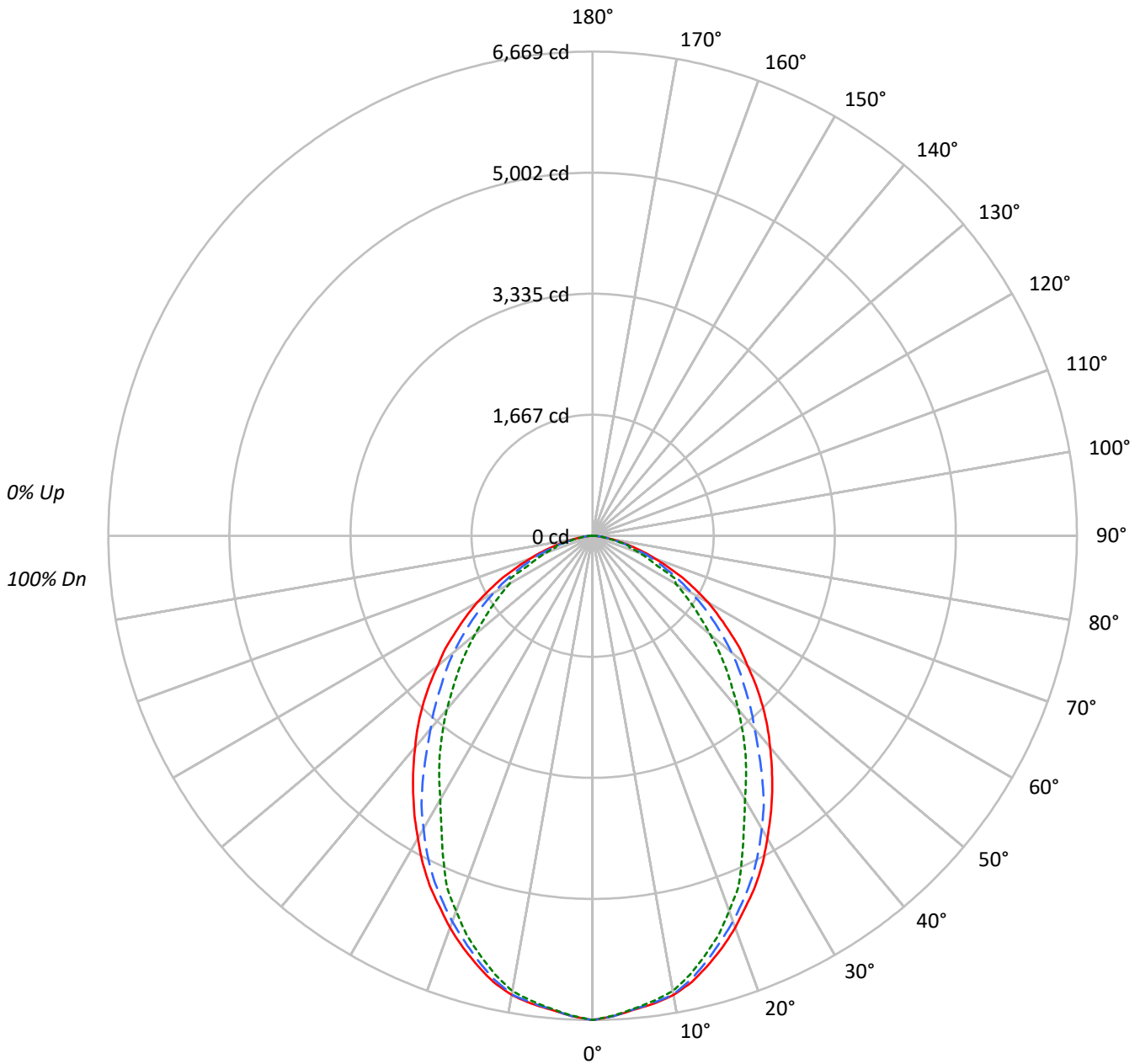
Lumens per Lamp: N/A
Luminaire Lumens: 13092.0 lumens
Efficiency: N/A
Efficacy: 98.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 133.2
Input Voltage (V): NR
Input Current (A_{in}): 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: P547521

CATALOG NUMBER: FMR-24-4-LD4-4STD-50-UNV-81-86-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P547521

CATALOG NUMBER: FMR-24-4-LD4-4STD-50-UNV-81-86-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°	8973	8973	8973
5°	8851	8841	8830
10°	8774	8764	8701
15°	8538	8452	8334
20°	8224	8092	7871
25°	7886	7714	7234
30°	7474	7235	6516
35°	7079	6686	6028
40°	6676	6094	5484
45°	6294	5633	4959
50°	5826	5229	4422
55°	5389	4738	3961
60°	4938	4232	3548
65°	4344	3706	3142
70°	3579	3245	2669
75°	2846	2485	2605
80°	1912	1792	1673
85°	1190	1428	1666



TEST NUMBER: P547521

CATALOG NUMBER: FMR-24-4-LD4-4STD-50-UNV-81-86-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	620.8	4.7
10°-20°	1703.7	13.0
20°-30°	2358.6	18.0
30°-40°	2515.0	19.2
40°-50°	2294.4	17.5
50°-60°	1797.5	13.7
60°-70°	1171.5	8.9
70°-80°	519.0	4.0
80°-90°	111.4	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°	4683.1	35.8
0°-40°	7198.1	55.0
0°-60°	11290.0	86.2
0°-90°	13092.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13092.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6669	6669	6669	6669	6669	
5°	6553	6546	6546	6538	6538	622
15°	6129	6129	6068	6006	5983	1723
25°	5312	5281	5196	5011	4872	2439
35°	4310	4279	4071	3762	3670	2694
45°	3308	3238	2960	2714	2606	2548
55°	2298	2228	2020	1781	1688	2061
65°	1365	1288	1164	1187	987	1345
75°	547	509	478	455	501	587
85°	77	85	92	100	108	107
90°	0	0	0	0	0	



TEST NUMBER: P547521

CATALOG NUMBER: FMR-24-4-LD4-4STD-50-UNV-81-86-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6668.9	6668.9	6668.9	6668.9	6668.9
2.5°	6622.6	6622.6	6622.6	6614.9	6614.9
5°	6553.2	6545.5	6545.5	6537.8	6537.8
7.5°	6499.3	6491.6	6483.9	6476.1	6460.7
10°	6422.2	6422.2	6414.5	6375.9	6368.2
12.5°	6298.8	6291.1	6260.3	6206.3	6190.9
15°	6129.2	6129.2	6067.5	6005.9	5982.7
17.5°	5944.2	5936.5	5859.4	5797.7	5766.9
20°	5743.7	5728.3	5651.2	5551.0	5497.0
22.5°	5520.1	5520.1	5427.6	5296.6	5242.6
25°	5312.0	5281.1	5196.3	5011.3	4872.5
27.5°	5073.0	5026.7	4934.2	4672.1	4510.2
30°	4810.9	4787.7	4656.7	4317.4	4194.1
32.5°	4564.1	4525.6	4386.8	4032.2	3931.9
35°	4309.7	4278.9	4070.7	3762.3	3669.8
37.5°	4055.3	4016.8	3754.6	3507.9	3392.3
40°	3800.9	3754.6	3469.4	3245.8	3122.4
42.5°	3561.9	3500.2	3222.7	2983.7	2844.9
45°	3307.5	3238.1	2960.5	2713.8	2605.9
47.5°	3053.0	2991.4	2736.9	2482.5	2359.2
50°	2783.2	2729.2	2497.9	2243.5	2112.5
52.5°	2559.6	2474.8	2251.2	1996.8	1888.9
55°	2297.5	2228.1	2019.9	1780.9	1688.4
57.5°	2058.5	1989.1	1796.4	1572.8	1495.7
60°	1834.9	1734.7	1572.8	1380.0	1318.4
62.5°	1588.2	1511.1	1372.3	1210.4	1287.5
65°	1364.6	1287.5	1164.2	1187.3	986.8
67.5°	1117.9	1079.4	971.4	863.5	832.6
70°	909.7	863.5	824.9	709.3	678.5
72.5°	724.7	678.5	624.5	562.8	539.7
75°	547.4	508.8	478.0	454.9	501.1
77.5°	377.8	362.4	339.2	316.1	308.4
80°	246.7	239.0	231.3	223.6	215.9
82.5°	146.5	146.5	146.5	146.5	146.5
85°	77.1	84.8	92.5	100.2	107.9
87.5°	46.3	46.3	54.0	61.7	69.4
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)