

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: P547305

Luminaire Tested: **FMR-24-4-LD4-4HI-40-UNV-82-86-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: P547305
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-LD4-4HI-40-UNV-82-86-EDD
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

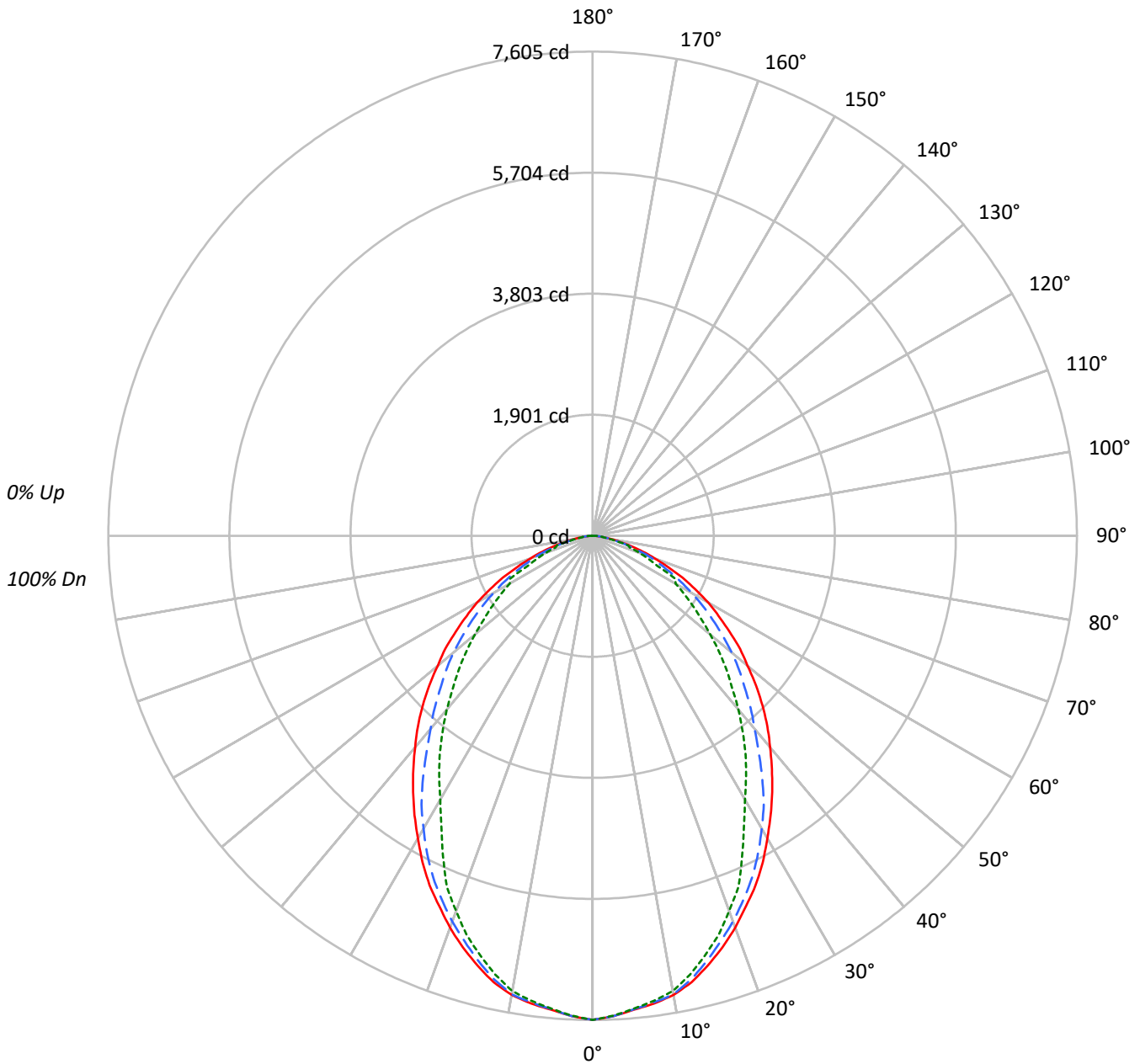
Lumens per Lamp: N/A
Luminaire Lumens: 14929.0 lumens
Efficiency: N/A
Efficacy: 86.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 172.8
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: P547305

CATALOG NUMBER: FMR-24-4-LD4-4HI-40-UNV-82-86-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P547305

CATALOG NUMBER: FMR-24-4-LD4-4HI-40-UNV-82-86-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°	10232	10232	10232
5°	10093	10081	10069
10°	10005	9993	9921
15°	9736	9638	9503
20°	9378	9227	8975
25°	8993	8797	8249
30°	8523	8250	7430
35°	8072	7625	6874
40°	7613	6949	6254
45°	7176	6424	5654
50°	6643	5962	5042
55°	6146	5403	4516
60°	5631	4826	4045
65°	4954	4226	3583
70°	4081	3701	3044
75°	3245	2834	2970
80°	2180	2043	1908
85°	1357	1629	1900



TEST NUMBER: P547305

CATALOG NUMBER: FMR-24-4-LD4-4HI-40-UNV-82-86-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	707.9	4.7
10°-20°	1942.7	13.0
20°-30°	2689.6	18.0
30°-40°	2867.9	19.2
40°-50°	2616.4	17.5
50°-60°	2049.7	13.7
60°-70°	1335.9	8.9
70°-80°	591.9	4.0
80°-90°	127.1	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°	5340.2	35.8
0°-40°	8208.1	55.0
0°-60°	12874.2	86.2
0°-90°	14929.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	14929.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7605	7605	7605	7605	7605	
5°	7473	7464	7464	7455	7455	709
15°	6989	6989	6919	6849	6822	1965
25°	6057	6022	5926	5714	5556	2781
35°	4914	4879	4642	4290	4185	3072
45°	3772	3692	3376	3095	2972	2905
55°	2620	2541	2303	2031	1925	2350
65°	1556	1468	1328	1354	1125	1534
75°	624	580	545	519	571	669
85°	88	97	106	114	123	122
90°	0	0	0	0	0	



TEST NUMBER: P547305

CATALOG NUMBER: FMR-24-4-LD4-4HI-40-UNV-82-86-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7604.6	7604.6	7604.6	7604.6	7604.6
2.5°	7551.9	7551.9	7551.9	7543.1	7543.1
5°	7472.8	7464.0	7464.0	7455.2	7455.2
7.5°	7411.2	7402.4	7393.6	7384.8	7367.3
10°	7323.3	7323.3	7314.5	7270.6	7261.8
12.5°	7182.6	7173.9	7138.7	7077.1	7059.6
15°	6989.2	6989.2	6918.9	6848.6	6822.2
17.5°	6778.2	6769.4	6681.5	6611.2	6576.0
20°	6549.7	6532.1	6444.2	6329.9	6268.3
22.5°	6294.7	6294.7	6189.2	6039.7	5978.2
25°	6057.3	6022.2	5925.5	5714.5	5556.2
27.5°	5784.8	5732.0	5626.5	5327.6	5143.0
30°	5485.9	5459.5	5310.1	4923.2	4782.6
32.5°	5204.6	5160.6	5002.4	4597.9	4483.7
35°	4914.4	4879.3	4641.9	4290.2	4184.7
37.5°	4624.3	4580.4	4281.5	4000.1	3868.3
40°	4334.2	4281.5	3956.2	3701.2	3560.6
42.5°	4061.7	3991.3	3674.8	3402.3	3244.1
45°	3771.5	3692.4	3375.9	3094.6	2971.5
47.5°	3481.4	3411.1	3121.0	2830.9	2690.2
50°	3173.7	3112.2	2848.4	2558.3	2408.9
52.5°	2918.8	2822.1	2567.1	2277.0	2153.9
55°	2619.9	2540.7	2303.4	2030.8	1925.3
57.5°	2347.3	2268.2	2048.4	1793.5	1705.5
60°	2092.4	1978.1	1793.5	1573.7	1503.3
62.5°	1811.0	1723.1	1564.9	1380.3	1468.2
65°	1556.1	1468.2	1327.5	1353.9	1125.3
67.5°	1274.8	1230.8	1107.7	984.6	949.5
70°	1037.4	984.6	940.7	808.8	773.7
72.5°	826.4	773.7	712.1	641.8	615.4
75°	624.2	580.2	545.1	518.7	571.4
77.5°	430.8	413.2	386.8	360.5	351.7
80°	281.3	272.5	263.7	255.0	246.2
82.5°	167.0	167.0	167.0	167.0	167.0
85°	87.9	96.7	105.5	114.3	123.1
87.5°	52.7	52.7	61.5	70.3	79.1
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)