

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: P546344

Luminaire Tested: **FMR-12-4-LD4-2STD-40-UNV-82-85-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: P546344
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-12-4-LD4-2STD-40-UNV-82-85-EDD
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

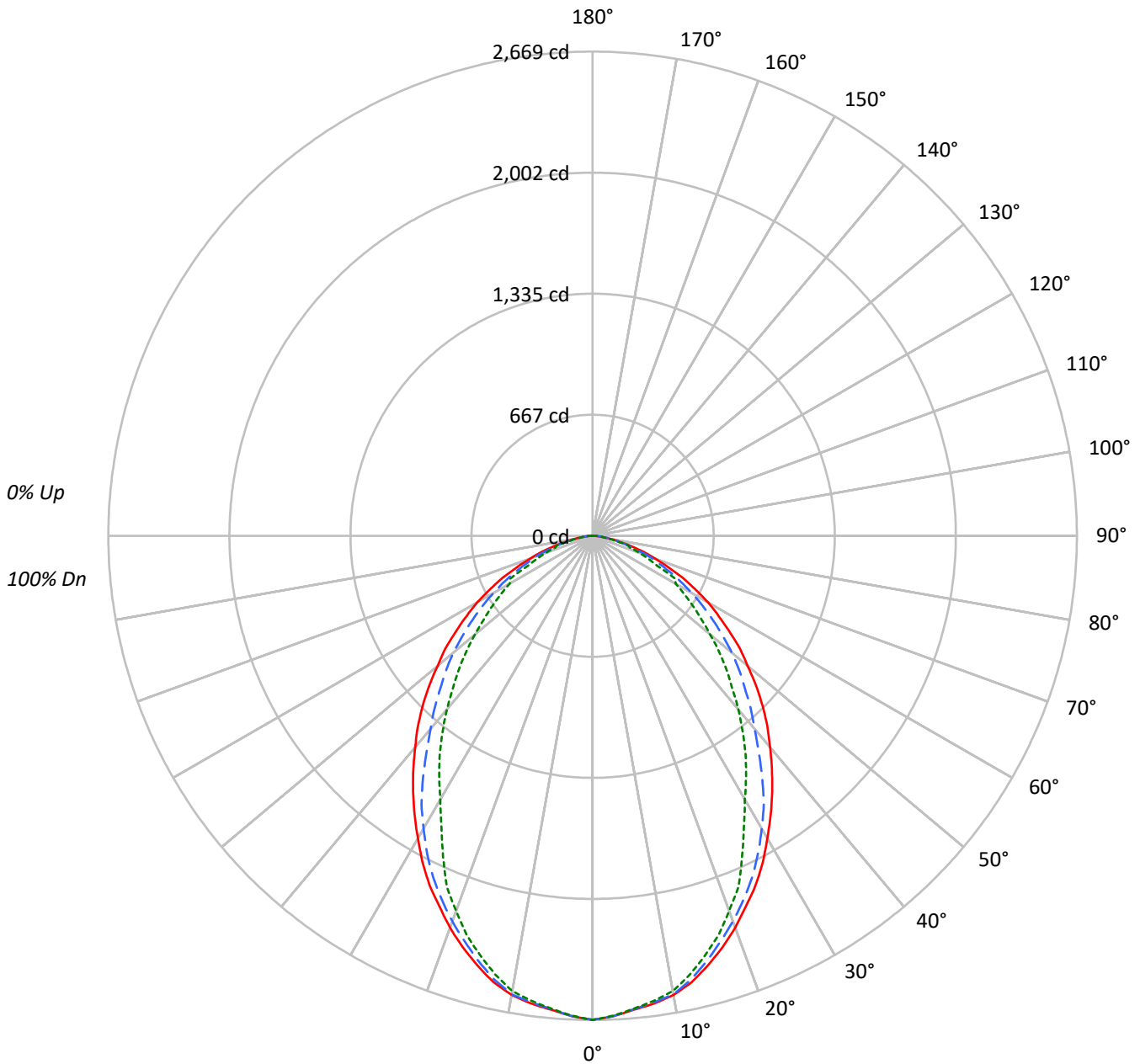
Lumens per Lamp: N/A
Luminaire Lumens: 5239.0 lumens
Efficiency: N/A
Efficacy: 78.7 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 66.6
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: P546344

CATALOG NUMBER: FMR-12-4-LD4-2STD-40-UNV-82-85-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P546344

CATALOG NUMBER: FMR-12-4-LD4-2STD-40-UNV-82-85-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°	7181	7181	7181
5°	7084	7075	7067
10°	7023	7014	6963
15°	6833	6764	6670
20°	6582	6476	6299
25°	6312	6174	5789
30°	5982	5790	5215
35°	5665	5351	4824
40°	5343	4877	4389
45°	5037	4509	3968
50°	4662	4185	3539
55°	4313	3792	3170
60°	3952	3387	2840
65°	3477	2967	2514
70°	2865	2597	2136
75°	2277	1989	2085
80°	1530	1435	1339
85°	954	1142	1334



TEST NUMBER: P546344

CATALOG NUMBER: FMR-12-4-LD4-2STD-40-UNV-82-85-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	248.4	4.7
10°-20°	681.8	13.0
20°-30°	943.8	18.0
30°-40°	1006.4	19.2
40°-50°	918.2	17.5
50°-60°	719.3	13.7
60°-70°	468.8	8.9
70°-80°	207.7	4.0
80°-90°	44.6	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°	1874.0	35.8
0°-40°	2880.5	55.0
0°-60°	4517.9	86.2
0°-90°	5239.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5239.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2669	2669	2669	2669	2669	
5°	2622	2619	2619	2616	2616	249
15°	2453	2453	2428	2403	2394	690
25°	2126	2113	2079	2005	1950	976
35°	1725	1712	1629	1506	1468	1078
45°	1324	1296	1185	1086	1043	1020
55°	919	892	808	713	676	825
65°	546	515	466	475	395	538
75°	219	204	191	182	200	235
85°	31	34	37	40	43	43
90°	0	0	0	0	0	



TEST NUMBER: P546344

CATALOG NUMBER: FMR-12-4-LD4-2STD-40-UNV-82-85-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2668.7	2668.7	2668.7	2668.7	2668.7
2.5°	2650.2	2650.2	2650.2	2647.1	2647.1
5°	2622.4	2619.3	2619.3	2616.2	2616.2
7.5°	2600.8	2597.7	2594.6	2591.5	2585.4
10°	2570.0	2570.0	2566.9	2551.4	2548.4
12.5°	2520.6	2517.5	2505.2	2483.6	2477.4
15°	2452.7	2452.7	2428.0	2403.4	2394.1
17.5°	2378.7	2375.6	2344.7	2320.1	2307.7
20°	2298.5	2292.3	2261.4	2221.3	2199.7
22.5°	2209.0	2209.0	2172.0	2119.5	2097.9
25°	2125.7	2113.3	2079.4	2005.4	1949.8
27.5°	2030.0	2011.5	1974.5	1869.6	1804.8
30°	1925.1	1915.9	1863.4	1727.7	1678.3
32.5°	1826.4	1811.0	1755.5	1613.5	1573.4
35°	1724.6	1712.3	1629.0	1505.6	1468.5
37.5°	1622.8	1607.4	1502.5	1403.8	1357.5
40°	1521.0	1502.5	1388.3	1298.9	1249.5
42.5°	1425.4	1400.7	1289.6	1194.0	1138.4
45°	1323.5	1295.8	1184.7	1086.0	1042.8
47.5°	1221.7	1197.0	1095.2	993.4	944.1
50°	1113.7	1092.2	999.6	897.8	845.3
52.5°	1024.3	990.3	900.9	799.1	755.9
55°	919.4	891.6	808.3	712.7	675.7
57.5°	823.7	796.0	718.8	629.4	598.5
60°	734.3	694.2	629.4	552.2	527.6
62.5°	635.5	604.7	549.2	484.4	515.2
65°	546.1	515.2	465.9	475.1	394.9
67.5°	447.4	431.9	388.7	345.5	333.2
70°	364.1	345.5	330.1	283.8	271.5
72.5°	290.0	271.5	249.9	225.2	216.0
75°	219.0	203.6	191.3	182.0	200.5
77.5°	151.2	145.0	135.7	126.5	123.4
80°	98.7	95.6	92.6	89.5	86.4
82.5°	58.6	58.6	58.6	58.6	58.6
85°	30.9	33.9	37.0	40.1	43.2
87.5°	18.5	18.5	21.6	24.7	27.8
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)