

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: P546178

Luminaire Tested: **FMR-12-4-LD4-2HI-50-UNV-81-87-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: P546178
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-LD4-2HI-50-UNV-81-87-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

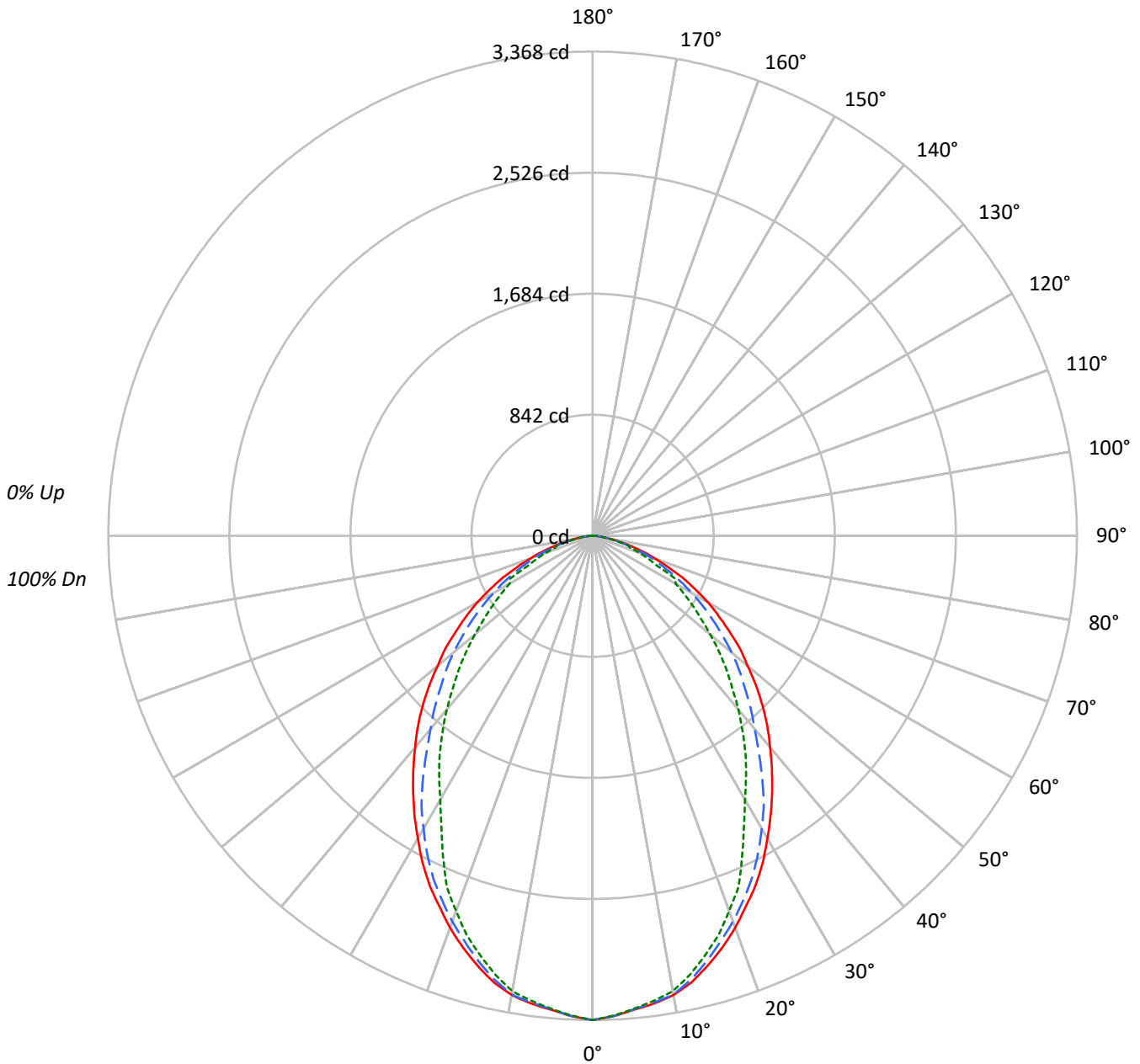
Lumens per Lamp: N/A
Luminaire Lumens: 6612.0 lumens
Efficiency: N/A
Efficacy: 76.5 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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: P546178

CATALOG NUMBER: FMR-12-4-LD4-2HI-50-UNV-81-87-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P546178

CATALOG NUMBER: FMR-12-4-LD4-2HI-50-UNV-81-87-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°	9063	9063	9063
5°	8940	8930	8919
10°	8863	8852	8788
15°	8624	8537	8418
20°	8307	8173	7950
25°	7966	7792	7307
30°	7550	7308	6582
35°	7150	6754	6089
40°	6743	6155	5540
45°	6357	5690	5009
50°	5884	5282	4466
55°	5444	4786	4001
60°	4987	4275	3583
65°	4388	3744	3174
70°	3615	3278	2696
75°	2875	2510	2632
80°	1931	1810	1689
85°	1201	1442	1683



TEST NUMBER: P546178

CATALOG NUMBER: FMR-12-4-LD4-2HI-50-UNV-81-87-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	313.5	4.7
10°-20°	860.4	13.0
20°-30°	1191.2	18.0
30°-40°	1270.2	19.2
40°-50°	1158.8	17.5
50°-60°	907.8	13.7
60°-70°	591.7	8.9
70°-80°	262.1	4.0
80°-90°	56.3	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°	2365.2	35.8
0°-40°	3635.3	55.0
0°-60°	5701.9	86.2
0°-90°	6612.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6612.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3368	3368	3368	3368	3368	
5°	3310	3306	3306	3302	3302	314
15°	3096	3096	3064	3033	3022	870
25°	2683	2667	2624	2531	2461	1232
35°	2177	2161	2056	1900	1853	1361
45°	1670	1635	1495	1371	1316	1287
55°	1160	1125	1020	899	853	1041
65°	689	650	588	600	498	679
75°	276	257	241	230	253	296
85°	39	43	47	51	54	54
90°	0	0	0	0	0	



TEST NUMBER: P546178

CATALOG NUMBER: FMR-12-4-LD4-2HI-50-UNV-81-87-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3368.1	3368.1	3368.1	3368.1	3368.1
2.5°	3344.7	3344.7	3344.7	3340.8	3340.8
5°	3309.7	3305.8	3305.8	3301.9	3301.9
7.5°	3282.4	3278.5	3274.6	3270.7	3262.9
10°	3243.5	3243.5	3239.6	3220.1	3216.2
12.5°	3181.2	3177.3	3161.7	3134.4	3126.7
15°	3095.5	3095.5	3064.4	3033.2	3021.5
17.5°	3002.1	2998.2	2959.2	2928.1	2912.5
20°	2900.8	2893.0	2854.1	2803.5	2776.2
22.5°	2787.9	2787.9	2741.2	2675.0	2647.7
25°	2682.8	2667.2	2624.4	2530.9	2460.8
27.5°	2562.1	2538.7	2492.0	2359.6	2277.8
30°	2429.7	2418.0	2351.8	2180.5	2118.2
32.5°	2305.1	2285.6	2215.5	2036.4	1985.8
35°	2176.6	2161.0	2055.9	1900.1	1853.4
37.5°	2048.1	2028.6	1896.2	1771.6	1713.2
40°	1919.6	1896.2	1752.2	1639.3	1577.0
42.5°	1798.9	1767.7	1627.6	1506.9	1436.8
45°	1670.4	1635.4	1495.2	1370.6	1316.1
47.5°	1541.9	1510.8	1382.3	1253.8	1191.5
50°	1405.6	1378.4	1261.6	1133.1	1066.9
52.5°	1292.7	1249.9	1137.0	1008.5	954.0
55°	1160.3	1125.3	1020.2	899.4	852.7
57.5°	1039.6	1004.6	907.2	794.3	755.4
60°	926.7	876.1	794.3	697.0	665.8
62.5°	802.1	763.2	693.1	611.3	650.3
65°	689.2	650.3	588.0	599.6	498.4
67.5°	564.6	545.1	490.6	436.1	420.5
70°	459.5	436.1	416.6	358.2	342.6
72.5°	366.0	342.6	315.4	284.2	272.6
75°	276.5	257.0	241.4	229.7	253.1
77.5°	190.8	183.0	171.3	159.6	155.7
80°	124.6	120.7	116.8	112.9	109.0
82.5°	74.0	74.0	74.0	74.0	74.0
85°	38.9	42.8	46.7	50.6	54.5
87.5°	23.4	23.4	27.3	31.1	35.0
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)