

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: P546346

Luminaire Tested: **FMR-12-4-LD4-2STD-40-UNV-82-87-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: P546346
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-82-87-EDD
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

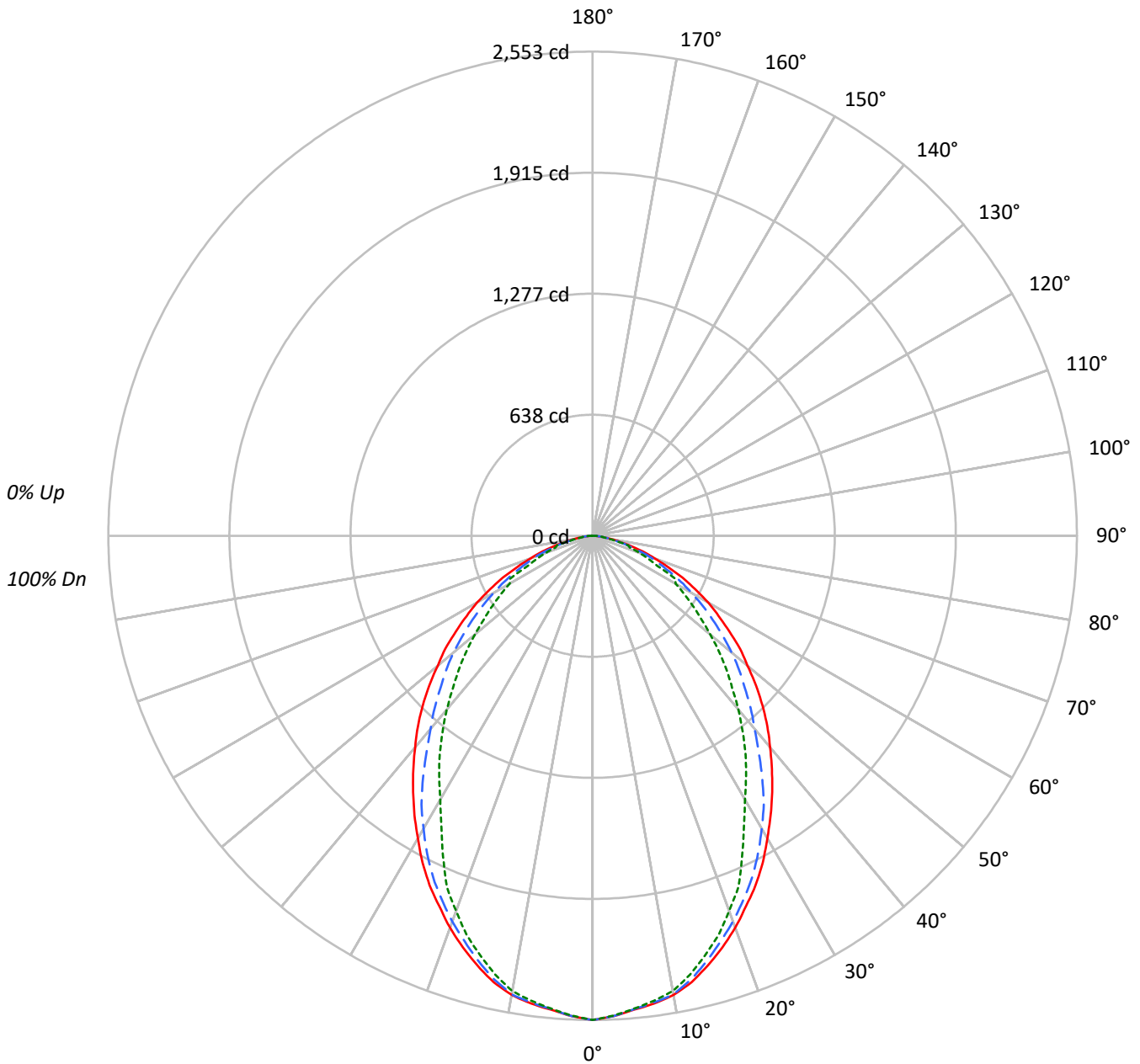
Lumens per Lamp: N/A
Luminaire Lumens: 5012.0 lumens
Efficiency: N/A
Efficacy: 75.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 66.6
Input Voltage (V): NR
Input Current (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: P546346

CATALOG NUMBER: FMR-12-4-LD4-2STD-40-UNV-82-87-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P546346

CATALOG NUMBER: FMR-12-4-LD4-2STD-40-UNV-82-87-EDD

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					20					
RC	80					70					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°	6870	6870	6870
5°	6777	6769	6761
10°	6718	6710	6662
15°	6537	6471	6381
20°	6297	6195	6026
25°	6038	5907	5538
30°	5723	5539	4989
35°	5420	5119	4615
40°	5112	4666	4199
45°	4819	4313	3796
50°	4461	4003	3386
55°	4126	3628	3033
60°	3781	3240	2716
65°	3326	2838	2406
70°	2740	2485	2043
75°	2179	1903	1994
80°	1463	1371	1280
85°	911	1093	1275



TEST NUMBER: P546346

CATALOG NUMBER: FMR-12-4-LD4-2STD-40-UNV-82-87-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	237.7	4.7
10°-20°	652.2	13.0
20°-30°	903.0	18.0
30°-40°	962.8	19.2
40°-50°	878.4	17.5
50°-60°	688.1	13.7
60°-70°	448.5	8.9
70°-80°	198.7	4.0
80°-90°	42.7	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°	1792.8	35.8
0°-40°	2755.7	55.0
0°-60°	4322.1	86.2
0°-90°	5012.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5012.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2553	2553	2553	2553	2553	
5°	2509	2506	2506	2503	2503	238
15°	2346	2346	2323	2299	2290	660
25°	2034	2022	1989	1918	1865	934
35°	1650	1638	1558	1440	1405	1031
45°	1266	1240	1133	1039	998	975
55°	880	853	773	682	646	789
65°	522	493	446	454	378	515
75°	210	195	183	174	192	225
85°	30	32	35	38	41	41
90°	0	0	0	0	0	



TEST NUMBER: P546346

CATALOG NUMBER: FMR-12-4-LD4-2STD-40-UNV-82-87-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2553.0	2553.0	2553.0	2553.0	2553.0
2.5°	2535.3	2535.3	2535.3	2532.4	2532.4
5°	2508.8	2505.8	2505.8	2502.9	2502.9
7.5°	2488.1	2485.2	2482.2	2479.3	2473.4
10°	2458.6	2458.6	2455.6	2440.9	2437.9
12.5°	2411.4	2408.4	2396.6	2376.0	2370.1
15°	2346.4	2346.4	2322.8	2299.2	2290.4
17.5°	2275.6	2272.7	2243.1	2219.5	2207.7
20°	2198.9	2193.0	2163.4	2125.1	2104.4
22.5°	2113.3	2113.3	2077.9	2027.7	2007.0
25°	2033.6	2021.8	1989.3	1918.5	1865.3
27.5°	1942.1	1924.4	1889.0	1788.6	1726.6
30°	1841.7	1832.9	1782.7	1652.8	1605.6
32.5°	1747.3	1732.5	1679.4	1543.6	1505.3
35°	1649.9	1638.1	1558.4	1440.3	1404.9
37.5°	1552.5	1537.7	1437.4	1342.9	1298.7
40°	1455.1	1437.4	1328.2	1242.6	1195.4
42.5°	1363.6	1340.0	1233.7	1142.2	1089.1
45°	1266.2	1239.6	1133.4	1038.9	997.6
47.5°	1168.8	1145.2	1047.8	950.4	903.2
50°	1065.5	1044.8	956.3	858.9	808.7
52.5°	979.9	947.4	861.8	764.4	723.1
55°	879.5	853.0	773.3	681.8	646.4
57.5°	788.0	761.5	687.7	602.1	572.6
60°	702.5	664.1	602.1	528.3	504.7
62.5°	608.0	578.5	525.4	463.4	492.9
65°	522.4	492.9	445.7	454.5	377.8
67.5°	428.0	413.2	371.9	330.6	318.8
70°	348.3	330.6	315.8	271.5	259.7
72.5°	277.4	259.7	239.1	215.5	206.6
75°	209.6	194.8	183.0	174.1	191.8
77.5°	144.6	138.7	129.9	121.0	118.1
80°	94.4	91.5	88.5	85.6	82.6
82.5°	56.1	56.1	56.1	56.1	56.1
85°	29.5	32.5	35.4	38.4	41.3
87.5°	17.7	17.7	20.7	23.6	26.6
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)