

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: P546343

Luminaire Tested: **FMR-12-4-LD4-2STD-40-UNV-82-84-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: P546343
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-82-84-EDD
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

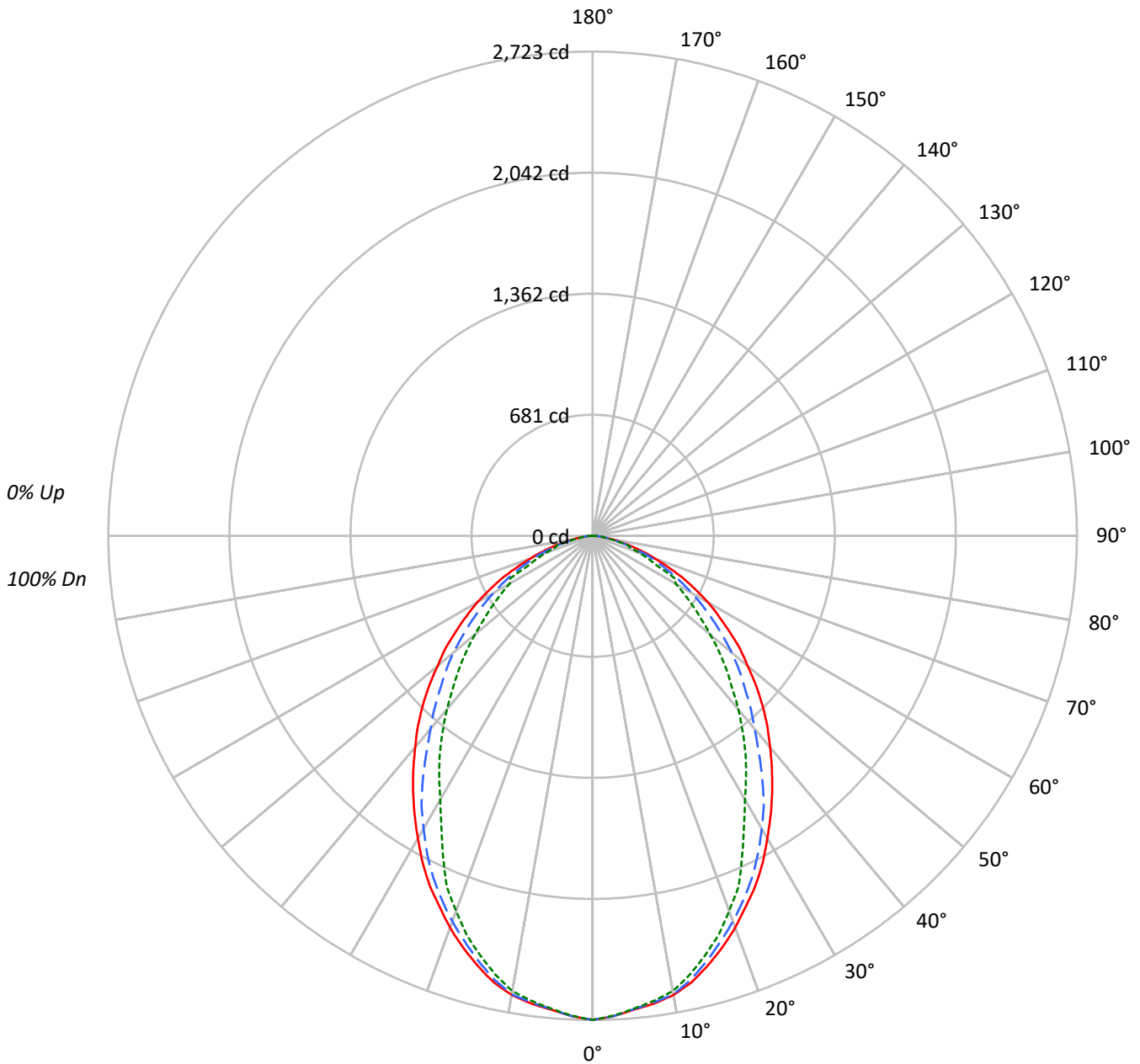
Lumens per Lamp: N/A
Luminaire Lumens: 5345.0 lumens
Efficiency: N/A
Efficacy: 80.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 66.6
Input Voltage (V): NR
Input Current (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: P546343

CATALOG NUMBER: FMR-12-4-LD4-2STD-40-UNV-82-84-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P546343

CATALOG NUMBER: FMR-12-4-LD4-2STD-40-UNV-82-84-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°	7327	7327	7327
5°	7227	7219	7210
10°	7164	7156	7104
15°	6971	6901	6805
20°	6715	6607	6427
25°	6439	6299	5907
30°	6103	5907	5321
35°	5780	5459	4922
40°	5451	4976	4478
45°	5139	4600	4049
50°	4757	4269	3610
55°	4401	3869	3234
60°	4032	3456	2897
65°	3547	3026	2565
70°	2922	2650	2179
75°	2324	2030	2127
80°	1561	1463	1365
85°	973	1167	1362



TEST NUMBER: P546343

CATALOG NUMBER: FMR-12-4-LD4-2STD-40-UNV-82-84-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	253.4	4.7
10°-20°	695.6	13.0
20°-30°	963.0	18.0
30°-40°	1026.8	19.2
40°-50°	936.7	17.5
50°-60°	733.9	13.7
60°-70°	478.3	8.9
70°-80°	211.9	4.0
80°-90°	45.5	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°	1911.9	35.8
0°-40°	2938.7	55.0
0°-60°	4609.3	86.2
0°-90°	5345.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5345.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2723	2723	2723	2723	2723	
5°	2676	2672	2672	2669	2669	254
15°	2502	2502	2477	2452	2442	703
25°	2169	2156	2122	2046	1989	996
35°	1760	1747	1662	1536	1498	1100
45°	1350	1322	1209	1108	1064	1040
55°	938	910	825	727	689	841
65°	557	526	475	485	403	549
75°	224	208	195	186	205	240
85°	32	35	38	41	44	44
90°	0	0	0	0	0	



TEST NUMBER: P546343

CATALOG NUMBER: FMR-12-4-LD4-2STD-40-UNV-82-84-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2722.7	2722.7	2722.7	2722.7	2722.7
2.5°	2703.8	2703.8	2703.8	2700.6	2700.6
5°	2675.5	2672.3	2672.3	2669.2	2669.2
7.5°	2653.4	2650.3	2647.1	2644.0	2637.7
10°	2621.9	2621.9	2618.8	2603.1	2599.9
12.5°	2571.6	2568.4	2555.8	2533.8	2527.5
15°	2502.3	2502.3	2477.2	2452.0	2442.5
17.5°	2426.8	2423.6	2392.2	2367.0	2354.4
20°	2345.0	2338.7	2307.2	2266.3	2244.2
22.5°	2253.7	2253.7	2215.9	2162.4	2140.4
25°	2168.7	2156.1	2121.5	2045.9	1989.3
27.5°	2071.1	2052.2	2014.5	1907.4	1841.3
30°	1964.1	1954.7	1901.1	1762.7	1712.3
32.5°	1863.4	1847.6	1791.0	1646.2	1605.3
35°	1759.5	1746.9	1661.9	1536.0	1498.3
37.5°	1655.6	1639.9	1532.9	1432.2	1384.9
40°	1551.8	1532.9	1416.4	1325.1	1274.8
42.5°	1454.2	1429.0	1315.7	1218.1	1161.5
45°	1350.3	1322.0	1208.7	1108.0	1063.9
47.5°	1246.4	1221.3	1117.4	1013.5	963.2
50°	1136.3	1114.2	1019.8	916.0	862.4
52.5°	1045.0	1010.4	919.1	815.2	771.2
55°	938.0	909.7	824.7	727.1	689.3
57.5°	840.4	812.1	733.4	642.1	610.6
60°	749.1	708.2	642.1	563.4	538.2
62.5°	648.4	616.9	560.3	494.2	525.6
65°	557.1	525.6	475.3	484.7	402.9
67.5°	456.4	440.7	396.6	352.5	339.9
70°	371.4	352.5	336.8	289.6	277.0
72.5°	295.9	277.0	255.0	229.8	220.3
75°	223.5	207.7	195.2	185.7	204.6
77.5°	154.2	147.9	138.5	129.1	125.9
80°	100.7	97.6	94.4	91.3	88.1
82.5°	59.8	59.8	59.8	59.8	59.8
85°	31.5	34.6	37.8	40.9	44.1
87.5°	18.9	18.9	22.0	25.2	28.3
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)