

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: P546624

Luminaire Tested: **FMR-24-4-LD4-1STD-40-UNV-81-85-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: P546624
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-LD4-1STD-40-UNV-81-85-EDD
Description: 2X4 FMR TROFFER WITH .156 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

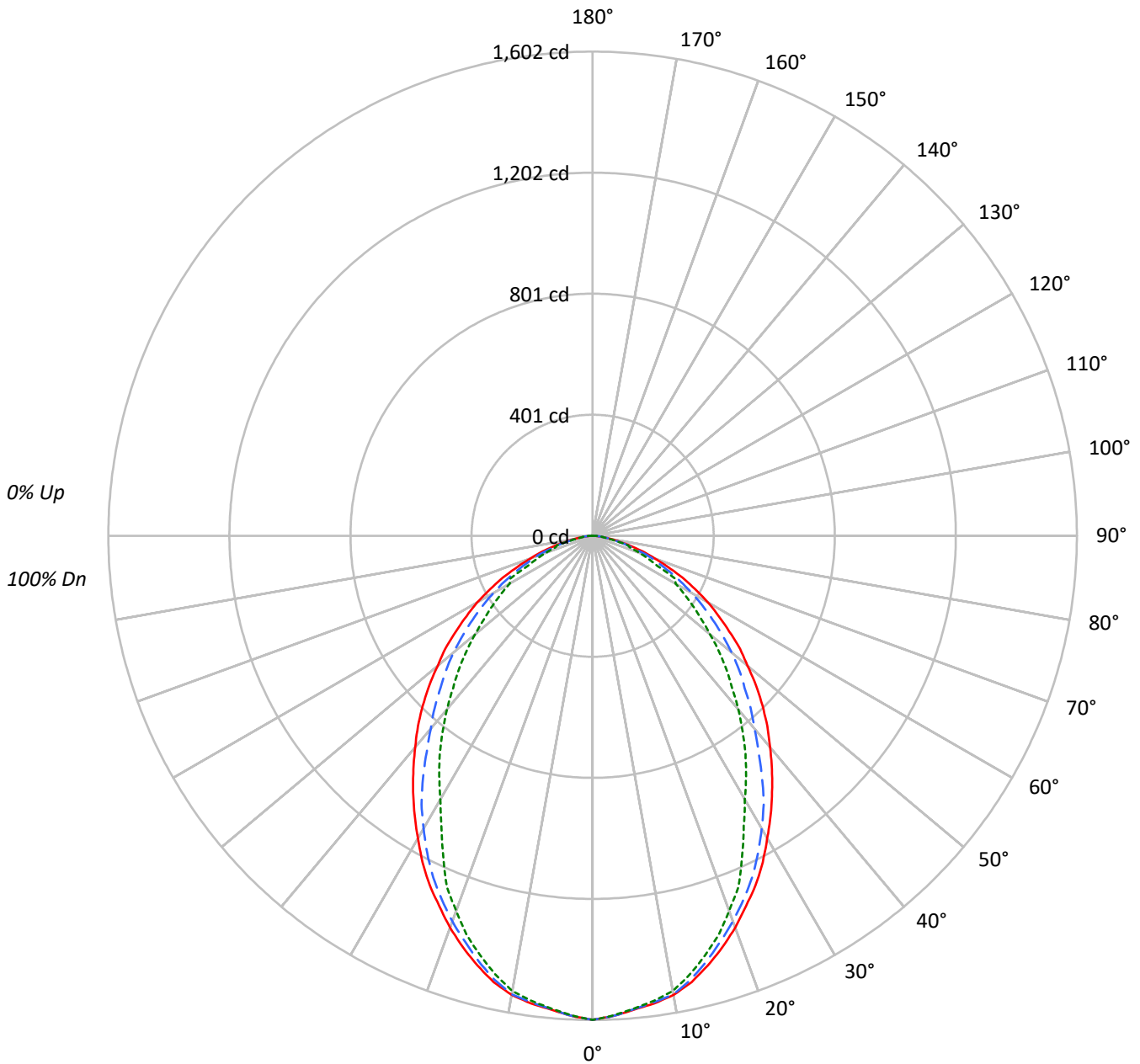
Lumens per Lamp: N/A
Luminaire Lumens: 3144.0 lumens
Efficiency: N/A
Efficacy: 94.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 33.3
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: P546624

CATALOG NUMBER: FMR-24-4-LD4-1STD-40-UNV-81-85-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P546624

CATALOG NUMBER: FMR-24-4-LD4-1STD-40-UNV-81-85-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°	2155	2155	2155
5°	2125	2123	2120
10°	2107	2105	2089
15°	2050	2030	2001
20°	1975	1943	1890
25°	1894	1853	1737
30°	1795	1737	1565
35°	1700	1606	1448
40°	1603	1463	1317
45°	1511	1353	1191
50°	1399	1256	1062
55°	1294	1138	951
60°	1186	1016	852
65°	1043	890	755
70°	860	779	641
75°	684	597	625
80°	459	430	401
85°	286	343	400



TEST NUMBER: P546624

CATALOG NUMBER: FMR-24-4-LD4-1STD-40-UNV-81-85-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	149.1	4.7
10°-20°	409.1	13.0
20°-30°	566.4	18.0
30°-40°	604.0	19.2
40°-50°	551.0	17.5
50°-60°	431.7	13.7
60°-70°	281.3	8.9
70°-80°	124.6	4.0
80°-90°	26.8	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°	1124.6	35.8
0°-40°	1728.6	55.0
0°-60°	2711.3	86.2
0°-90°	3144.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3144.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1602	1602	1602	1602	1602	
5°	1574	1572	1572	1570	1570	149
15°	1472	1472	1457	1442	1437	414
25°	1276	1268	1248	1203	1170	586
35°	1035	1028	978	904	881	647
45°	794	778	711	652	626	612
55°	552	535	485	428	406	495
65°	328	309	280	285	237	323
75°	132	122	115	109	120	141
85°	18	20	22	24	26	26
90°	0	0	0	0	0	



TEST NUMBER: P546624

CATALOG NUMBER: FMR-24-4-LD4-1STD-40-UNV-81-85-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1601.5	1601.5	1601.5	1601.5	1601.5
2.5°	1590.4	1590.4	1590.4	1588.6	1588.6
5°	1573.7	1571.9	1571.9	1570.0	1570.0
7.5°	1560.8	1558.9	1557.1	1555.2	1551.5
10°	1542.3	1542.3	1540.4	1531.2	1529.3
12.5°	1512.6	1510.8	1503.4	1490.4	1486.7
15°	1471.9	1471.9	1457.1	1442.3	1436.7
17.5°	1427.5	1425.6	1407.1	1392.3	1384.9
20°	1379.3	1375.6	1357.1	1333.1	1320.1
22.5°	1325.6	1325.6	1303.4	1272.0	1259.0
25°	1275.7	1268.2	1247.9	1203.4	1170.1
27.5°	1218.3	1207.2	1184.9	1122.0	1083.1
30°	1155.3	1149.8	1118.3	1036.8	1007.2
32.5°	1096.1	1086.8	1053.5	968.3	944.2
35°	1035.0	1027.6	977.6	903.5	881.3
37.5°	973.9	964.6	901.7	842.4	814.6
40°	912.8	901.7	833.2	779.5	749.8
42.5°	855.4	840.6	773.9	716.5	683.2
45°	794.3	777.6	711.0	651.7	625.8
47.5°	733.2	718.4	657.3	596.2	566.5
50°	668.4	655.4	599.9	538.8	507.3
52.5°	614.7	594.3	540.6	479.5	453.6
55°	551.7	535.1	485.1	427.7	405.5
57.5°	494.3	477.7	431.4	377.7	359.2
60°	440.6	416.6	377.7	331.4	316.6
62.5°	381.4	362.9	329.6	290.7	309.2
65°	327.7	309.2	279.6	285.1	237.0
67.5°	268.5	259.2	233.3	207.4	200.0
70°	218.5	207.4	198.1	170.3	162.9
72.5°	174.0	162.9	150.0	135.2	129.6
75°	131.5	122.2	114.8	109.2	120.3
77.5°	90.7	87.0	81.5	75.9	74.1
80°	59.2	57.4	55.5	53.7	51.8
82.5°	35.2	35.2	35.2	35.2	35.2
85°	18.5	20.4	22.2	24.1	25.9
87.5°	11.1	11.1	13.0	14.8	16.7
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)