

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: P547122

Luminaire Tested: **FMR-24-4-LD4-3LO-40-UNV-93-87-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: P547122
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-LD4-3LO-40-UNV-93-87-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS 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

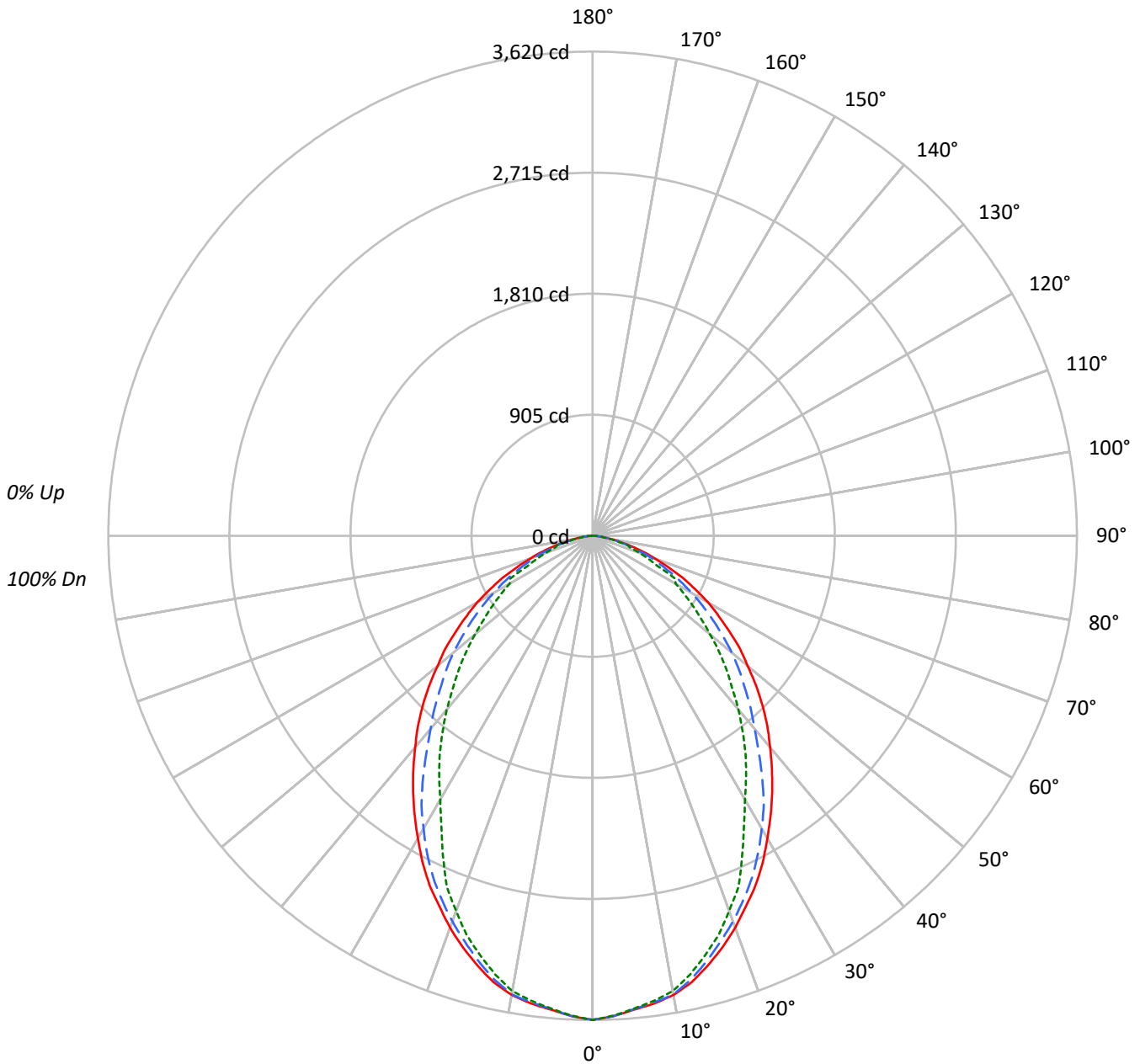
Lumens per Lamp: N/A
Luminaire Lumens: 7106.0 lumens
Efficiency: N/A
Efficacy: 101.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 70.2
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: P547122

CATALOG NUMBER: FMR-24-4-LD4-3LO-40-UNV-93-87-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P547122

CATALOG NUMBER: FMR-24-4-LD4-3LO-40-UNV-93-87-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°	4870	4870	4870
5°	4804	4798	4793
10°	4762	4757	4722
15°	4634	4587	4523
20°	4464	4392	4272
25°	4280	4187	3926
30°	4057	3927	3537
35°	3842	3629	3272
40°	3623	3307	2977
45°	3416	3058	2691
50°	3162	2838	2400
55°	2925	2572	2150
60°	2680	2297	1926
65°	2358	2012	1705
70°	1943	1762	1448
75°	1544	1349	1414
80°	1038	972	908
85°	645	775	905



TEST NUMBER: P547122

CATALOG NUMBER: FMR-24-4-LD4-3LO-40-UNV-93-87-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	336.9	4.7
10°-20°	924.7	13.0
20°-30°	1280.2	18.0
30°-40°	1365.1	19.2
40°-50°	1245.3	17.5
50°-60°	975.6	13.7
60°-70°	635.9	8.9
70°-80°	281.7	4.0
80°-90°	60.5	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°	2541.9	35.8
0°-40°	3907.0	55.0
0°-60°	6127.9	86.2
0°-90°	7106.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7106.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3620	3620	3620	3620	3620	
5°	3557	3553	3553	3549	3549	338
15°	3327	3327	3293	3260	3247	935
25°	2883	2866	2820	2720	2645	1324
35°	2339	2322	2210	2042	1992	1462
45°	1795	1758	1607	1473	1414	1383
55°	1247	1209	1096	967	916	1118
65°	741	699	632	644	536	730
75°	297	276	259	247	272	318
85°	42	46	50	54	59	58
90°	0	0	0	0	0	



TEST NUMBER: P547122

CATALOG NUMBER: FMR-24-4-LD4-3LO-40-UNV-93-87-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3619.7	3619.7	3619.7	3619.7	3619.7
2.5°	3594.6	3594.6	3594.6	3590.4	3590.4
5°	3556.9	3552.7	3552.7	3548.6	3548.6
7.5°	3527.6	3523.5	3519.3	3515.1	3506.7
10°	3485.8	3485.8	3481.6	3460.7	3456.5
12.5°	3418.8	3414.7	3397.9	3368.6	3360.3
15°	3326.8	3326.8	3293.3	3259.8	3247.3
17.5°	3226.3	3222.2	3180.3	3146.8	3130.1
20°	3117.5	3109.2	3067.3	3012.9	2983.6
22.5°	2996.2	2996.2	2946.0	2874.8	2845.5
25°	2883.2	2866.5	2820.4	2720.0	2644.7
27.5°	2753.5	2728.4	2678.2	2535.9	2448.0
30°	2611.2	2598.7	2527.5	2343.4	2276.4
32.5°	2477.3	2456.4	2381.1	2188.6	2134.2
35°	2339.2	2322.5	2209.5	2042.1	1991.9
37.5°	2201.1	2180.2	2037.9	1904.0	1841.2
40°	2063.0	2037.9	1883.1	1761.7	1694.8
42.5°	1933.3	1899.8	1749.2	1619.5	1544.1
45°	1795.2	1757.5	1606.9	1473.0	1414.4
47.5°	1657.1	1623.6	1485.5	1347.4	1280.5
50°	1510.6	1481.4	1355.8	1217.7	1146.6
52.5°	1389.3	1343.3	1221.9	1083.8	1025.2
55°	1247.0	1209.4	1096.4	966.6	916.4
57.5°	1117.3	1079.6	975.0	853.7	811.8
60°	995.9	941.5	853.7	749.0	715.6
62.5°	862.0	820.2	744.9	657.0	698.8
65°	740.7	698.8	631.9	644.4	535.6
67.5°	606.8	585.8	527.3	468.7	451.9
70°	493.8	468.7	447.8	385.0	368.2
72.5°	393.4	368.2	339.0	305.5	292.9
75°	297.1	276.2	259.4	246.9	272.0
77.5°	205.0	196.7	184.1	171.6	167.4
80°	133.9	129.7	125.5	121.4	117.2
82.5°	79.5	79.5	79.5	79.5	79.5
85°	41.8	46.0	50.2	54.4	58.6
87.5°	25.1	25.1	29.3	33.5	37.7
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)