

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: P546092

Luminaire Tested: **FMR-12-4-LD4-1STD-50-UNV-82-94-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: P546092
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-LD4-1STD-50-UNV-82-94-EDD
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

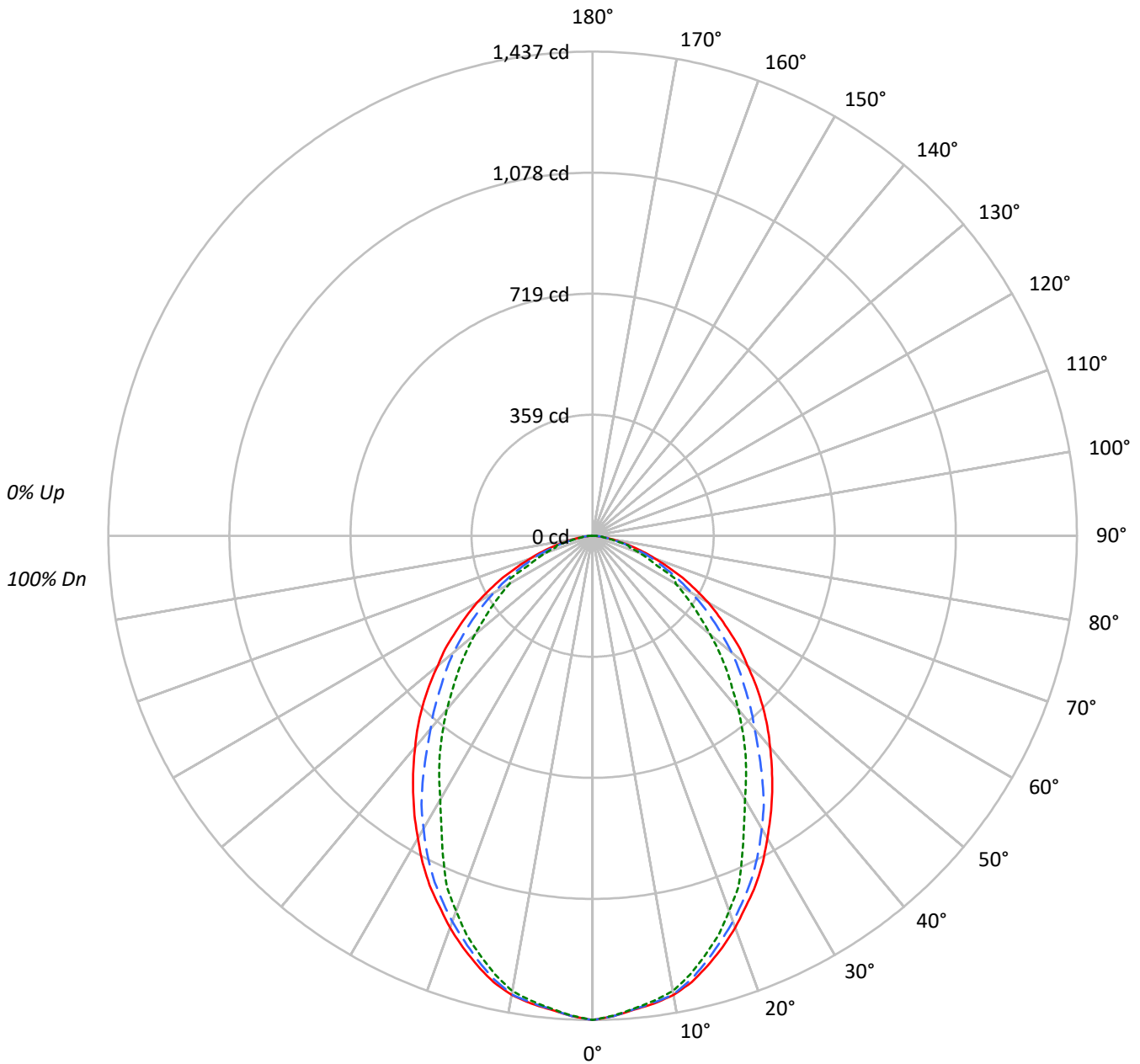
Lumens per Lamp: N/A
Luminaire Lumens: 2821.0 lumens
Efficiency: N/A
Efficacy: 84.7 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 33.3
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: P546092

CATALOG NUMBER: FMR-12-4-LD4-1STD-50-UNV-82-94-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P546092

CATALOG NUMBER: FMR-12-4-LD4-1STD-50-UNV-82-94-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°	3867	3867	3867
5°	3814	3810	3805
10°	3781	3777	3750
15°	3679	3642	3591
20°	3544	3487	3392
25°	3399	3325	3117
30°	3221	3118	2808
35°	3051	2881	2598
40°	2877	2626	2363
45°	2712	2428	2137
50°	2511	2253	1906
55°	2323	2042	1707
60°	2128	1824	1529
65°	1872	1597	1354
70°	1542	1399	1150
75°	1226	1071	1123
80°	824	772	721
85°	513	614	719



TEST NUMBER: P546092

CATALOG NUMBER: FMR-12-4-LD4-1STD-50-UNV-82-94-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	133.8	4.7
10°-20°	367.1	13.0
20°-30°	508.2	18.0
30°-40°	541.9	19.2
40°-50°	494.4	17.5
50°-60°	387.3	13.7
60°-70°	252.4	8.9
70°-80°	111.8	4.0
80°-90°	24.0	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°	1009.1	35.8
0°-40°	1551.0	55.0
0°-60°	2432.7	86.2
0°-90°	2821.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2821.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1437	1437	1437	1437	1437	
5°	1412	1410	1410	1409	1409	134
15°	1321	1321	1307	1294	1289	371
25°	1145	1138	1120	1080	1050	525
35°	929	922	877	811	791	581
45°	713	698	638	585	562	549
55°	495	480	435	384	364	444
65°	294	277	251	256	213	290
75°	118	110	103	98	108	126
85°	17	18	20	22	23	23
90°	0	0	0	0	0	



TEST NUMBER: P546092

CATALOG NUMBER: FMR-12-4-LD4-1STD-50-UNV-82-94-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1437.0	1437.0	1437.0	1437.0	1437.0
2.5°	1427.0	1427.0	1427.0	1425.4	1425.4
5°	1412.1	1410.4	1410.4	1408.7	1408.7
7.5°	1400.4	1398.8	1397.1	1395.4	1392.1
10°	1383.8	1383.8	1382.2	1373.9	1372.2
12.5°	1357.2	1355.6	1348.9	1337.3	1334.0
15°	1320.7	1320.7	1307.4	1294.1	1289.1
17.5°	1280.8	1279.2	1262.5	1249.3	1242.6
20°	1237.6	1234.3	1217.7	1196.1	1184.5
22.5°	1189.5	1189.5	1169.5	1141.3	1129.6
25°	1144.6	1138.0	1119.7	1079.8	1049.9
27.5°	1093.1	1083.1	1063.2	1006.7	971.8
30°	1036.6	1031.6	1003.4	930.3	903.7
32.5°	983.5	975.2	945.3	868.8	847.2
35°	928.6	922.0	877.1	810.7	790.8
37.5°	873.8	865.5	809.0	755.9	730.9
40°	819.0	809.0	747.6	699.4	672.8
42.5°	767.5	754.2	694.4	642.9	613.0
45°	712.7	697.7	637.9	584.8	561.5
47.5°	657.9	644.6	589.7	534.9	508.3
50°	599.7	588.1	538.2	483.4	455.2
52.5°	551.5	533.3	485.1	430.3	407.0
55°	495.1	480.1	435.2	383.7	363.8
57.5°	443.6	428.6	387.1	338.9	322.3
60°	395.4	373.8	338.9	297.4	284.1
62.5°	342.2	325.6	295.7	260.8	277.4
65°	294.0	277.4	250.8	255.8	212.6
67.5°	240.9	232.6	209.3	186.1	179.4
70°	196.0	186.1	177.8	152.8	146.2
72.5°	156.2	146.2	134.6	121.3	116.3
75°	117.9	109.6	103.0	98.0	108.0
77.5°	81.4	78.1	73.1	68.1	66.4
80°	53.2	51.5	49.8	48.2	46.5
82.5°	31.6	31.6	31.6	31.6	31.6
85°	16.6	18.3	19.9	21.6	23.3
87.5°	10.0	10.0	11.6	13.3	15.0
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)