

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: P545868

Luminaire Tested: **FMR-12-4-LD4-1HI-40-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: P545868
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-LD4-1HI-40-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 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

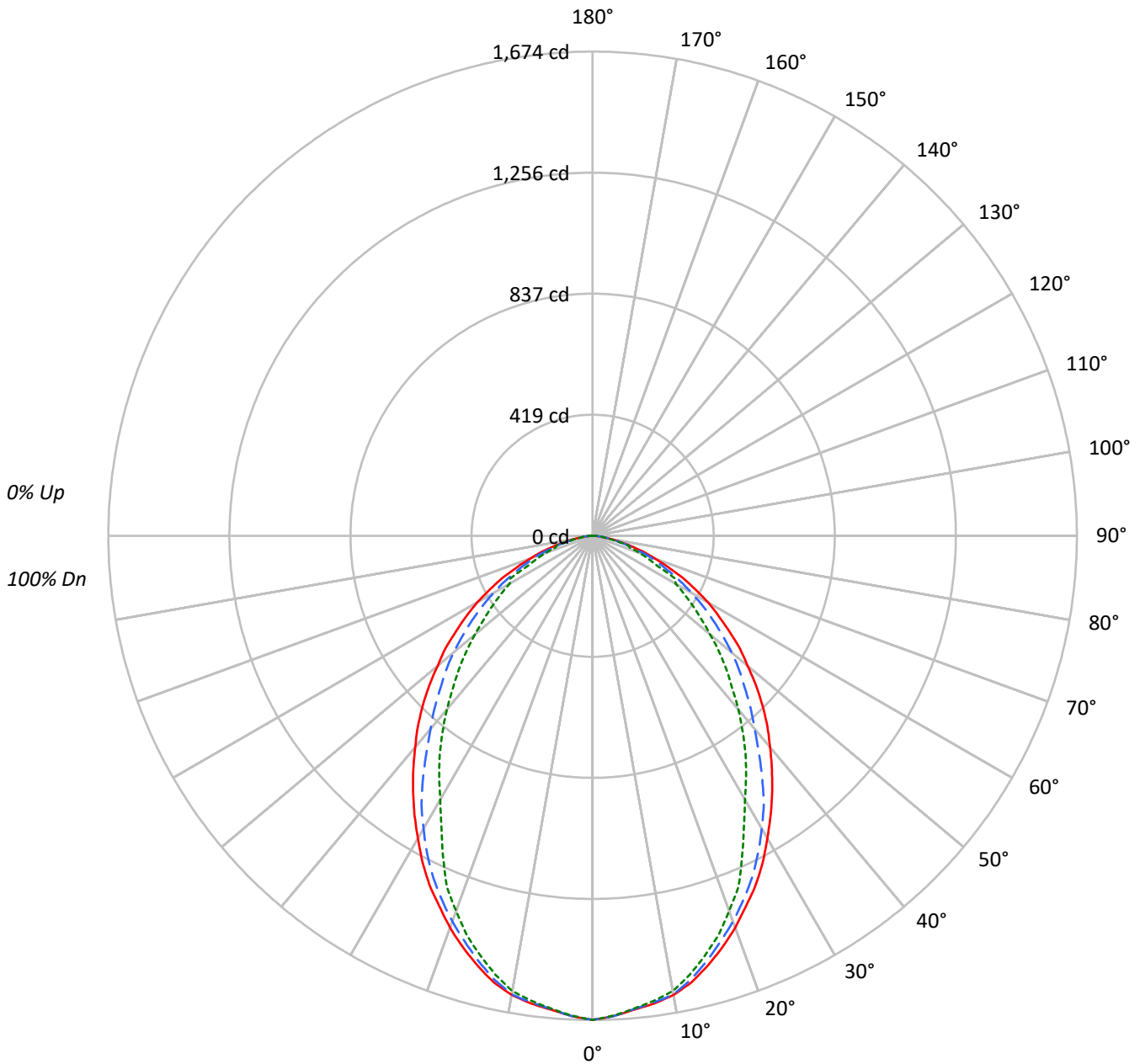
Lumens per Lamp: N/A
Luminaire Lumens: 3286.0 lumens
Efficiency: N/A
Efficacy: 76.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 43.2
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: P545868

CATALOG NUMBER: FMR-12-4-LD4-1HI-40-UNV-82-94-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P545868

CATALOG NUMBER: FMR-12-4-LD4-1HI-40-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°	4504	4504	4504
5°	4443	4438	4432
10°	4405	4399	4368
15°	4286	4243	4183
20°	4128	4062	3951
25°	3959	3872	3631
30°	3752	3632	3271
35°	3553	3356	3026
40°	3351	3059	2753
45°	3159	2828	2489
50°	2925	2625	2220
55°	2706	2379	1988
60°	2478	2125	1781
65°	2181	1861	1577
70°	1796	1629	1340
75°	1429	1248	1308
80°	959	900	840
85°	599	716	837



TEST NUMBER: P545868

CATALOG NUMBER: FMR-12-4-LD4-1HI-40-UNV-82-94-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	155.8	4.7
10°-20°	427.6	13.0
20°-30°	592.0	18.0
30°-40°	631.3	19.2
40°-50°	575.9	17.5
50°-60°	451.2	13.7
60°-70°	294.0	8.9
70°-80°	130.3	4.0
80°-90°	28.0	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°	1175.4	35.8
0°-40°	1806.7	55.0
0°-60°	2833.7	86.2
0°-90°	3286.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3286.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1674	1674	1674	1674	1674	
5°	1645	1643	1643	1641	1641	156
15°	1538	1538	1523	1507	1502	432
25°	1333	1326	1304	1258	1223	612
35°	1082	1074	1022	944	921	676
45°	830	813	743	681	654	639
55°	577	559	507	447	424	517
65°	342	323	292	298	248	338
75°	137	128	120	114	126	147
85°	19	21	23	25	27	27
90°	0	0	0	0	0	



TEST NUMBER: P545868

CATALOG NUMBER: FMR-12-4-LD4-1HI-40-UNV-82-94-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1673.8	1673.8	1673.8	1673.8	1673.8
2.5°	1662.2	1662.2	1662.2	1660.3	1660.3
5°	1644.8	1642.9	1642.9	1640.9	1640.9
7.5°	1631.3	1629.3	1627.4	1625.5	1621.6
10°	1611.9	1611.9	1610.0	1600.3	1598.4
12.5°	1581.0	1579.0	1571.3	1557.7	1553.9
15°	1538.4	1538.4	1522.9	1507.4	1501.6
17.5°	1491.9	1490.0	1470.7	1455.2	1447.4
20°	1441.6	1437.8	1418.4	1393.3	1379.7
22.5°	1385.5	1385.5	1362.3	1329.4	1315.9
25°	1333.3	1325.5	1304.2	1257.8	1223.0
27.5°	1273.3	1261.7	1238.5	1172.7	1132.0
30°	1207.5	1201.7	1168.8	1083.6	1052.7
32.5°	1145.6	1135.9	1101.1	1012.0	986.9
35°	1081.7	1074.0	1021.7	944.3	921.1
37.5°	1017.9	1008.2	942.4	880.5	851.4
40°	954.0	942.4	870.8	814.7	783.7
42.5°	894.0	878.5	808.9	748.9	714.0
45°	830.1	812.7	743.1	681.1	654.1
47.5°	766.3	750.8	687.0	623.1	592.1
50°	698.6	685.0	627.0	563.1	530.2
52.5°	642.4	621.2	565.0	501.2	474.1
55°	576.7	559.2	507.0	447.0	423.8
57.5°	516.7	499.3	450.9	394.8	375.4
60°	460.5	435.4	394.8	346.4	330.9
62.5°	398.6	379.3	344.4	303.8	323.2
65°	342.5	323.2	292.2	298.0	247.7
67.5°	280.6	270.9	243.8	216.7	209.0
70°	228.3	216.7	207.1	178.0	170.3
72.5°	181.9	170.3	156.7	141.3	135.5
75°	137.4	127.7	120.0	114.2	125.8
77.5°	94.8	90.9	85.1	79.3	77.4
80°	61.9	60.0	58.1	56.1	54.2
82.5°	36.8	36.8	36.8	36.8	36.8
85°	19.4	21.3	23.2	25.2	27.1
87.5°	11.6	11.6	13.5	15.5	17.4
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)