

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: P546095

Luminaire Tested: **FMR-12-4-LD4-1STD-50-UNV-93-84-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: P546095
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-93-84-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

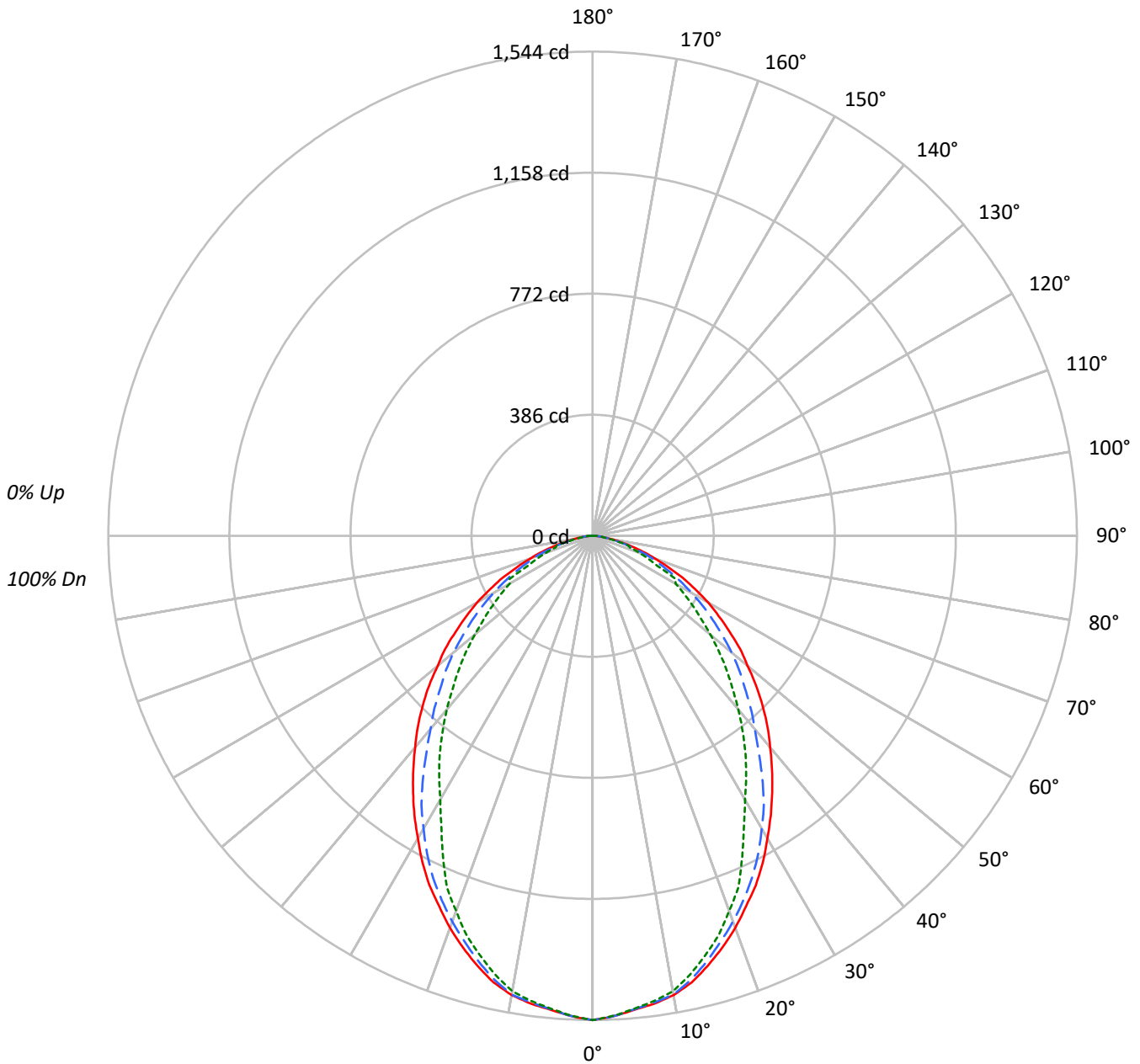
Lumens per Lamp: N/A
Luminaire Lumens: 3032.0 lumens
Efficiency: N/A
Efficacy: 91.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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: P546095

CATALOG NUMBER: FMR-12-4-LD4-1STD-50-UNV-93-84-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P546095

CATALOG NUMBER: FMR-12-4-LD4-1STD-50-UNV-93-84-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°	4156	4156	4156
5°	4100	4095	4090
10°	4064	4059	4030
15°	3955	3915	3860
20°	3809	3748	3646
25°	3653	3573	3350
30°	3462	3351	3018
35°	3279	3097	2792
40°	3092	2823	2540
45°	2915	2609	2297
50°	2699	2422	2048
55°	2496	2195	1834
60°	2287	1960	1643
65°	2012	1717	1455
70°	1658	1503	1236
75°	1318	1151	1207
80°	885	831	775
85°	553	661	772



TEST NUMBER: P546095

CATALOG NUMBER: FMR-12-4-LD4-1STD-50-UNV-93-84-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	143.8	4.7
10°-20°	394.6	13.0
20°-30°	546.2	18.0
30°-40°	582.4	19.2
40°-50°	531.4	17.5
50°-60°	416.3	13.7
60°-70°	271.3	8.9
70°-80°	120.2	4.0
80°-90°	25.8	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°	1084.6	35.8
0°-40°	1667.0	55.0
0°-60°	2614.7	86.2
0°-90°	3032.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3032.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1544	1544	1544	1544	1544	
5°	1518	1516	1516	1514	1514	144
15°	1420	1420	1405	1391	1386	399
25°	1230	1223	1203	1161	1128	565
35°	998	991	943	871	850	624
45°	766	750	686	628	604	590
55°	532	516	468	412	391	477
65°	316	298	270	275	228	311
75°	127	118	111	105	116	136
85°	18	20	21	23	25	25
90°	0	0	0	0	0	



TEST NUMBER: P546095

CATALOG NUMBER: FMR-12-4-LD4-1STD-50-UNV-93-84-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1544.5	1544.5	1544.5	1544.5	1544.5
2.5°	1533.7	1533.7	1533.7	1532.0	1532.0
5°	1517.7	1515.9	1515.9	1514.1	1514.1
7.5°	1505.2	1503.4	1501.6	1499.8	1496.3
10°	1487.3	1487.3	1485.5	1476.6	1474.8
12.5°	1458.8	1457.0	1449.8	1437.3	1433.8
15°	1419.5	1419.5	1405.2	1390.9	1385.6
17.5°	1376.6	1374.8	1357.0	1342.7	1335.6
20°	1330.2	1326.6	1308.8	1285.6	1273.1
22.5°	1278.4	1278.4	1257.0	1226.6	1214.1
25°	1230.2	1223.1	1203.4	1160.6	1128.4
27.5°	1174.9	1164.1	1142.7	1082.0	1044.5
30°	1114.2	1108.8	1078.4	999.9	971.3
32.5°	1057.0	1048.1	1016.0	933.8	910.6
35°	998.1	991.0	942.7	871.3	849.9
37.5°	939.2	930.2	869.5	812.4	785.6
40°	880.3	869.5	803.5	751.7	723.1
42.5°	824.9	810.6	746.3	691.0	658.9
45°	766.0	749.9	685.6	628.5	603.5
47.5°	707.1	692.8	633.9	574.9	546.4
50°	644.6	632.1	578.5	519.6	489.2
52.5°	592.8	573.1	521.4	462.4	437.4
55°	532.1	516.0	467.8	412.5	391.0
57.5°	476.7	460.7	416.0	364.2	346.4
60°	424.9	401.7	364.2	319.6	305.3
62.5°	367.8	350.0	317.8	280.3	298.2
65°	316.0	298.2	269.6	275.0	228.5
67.5°	258.9	250.0	225.0	200.0	192.8
70°	210.7	200.0	191.0	164.3	157.1
72.5°	167.8	157.1	144.6	130.3	125.0
75°	126.8	117.8	110.7	105.3	116.1
77.5°	87.5	83.9	78.6	73.2	71.4
80°	57.1	55.4	53.6	51.8	50.0
82.5°	33.9	33.9	33.9	33.9	33.9
85°	17.9	19.6	21.4	23.2	25.0
87.5°	10.7	10.7	12.5	14.3	16.1
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)