

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: P546081

Luminaire Tested: **FMR-12-4-LD4-1STD-50-UNV-81-86-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: P546081
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-81-86-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

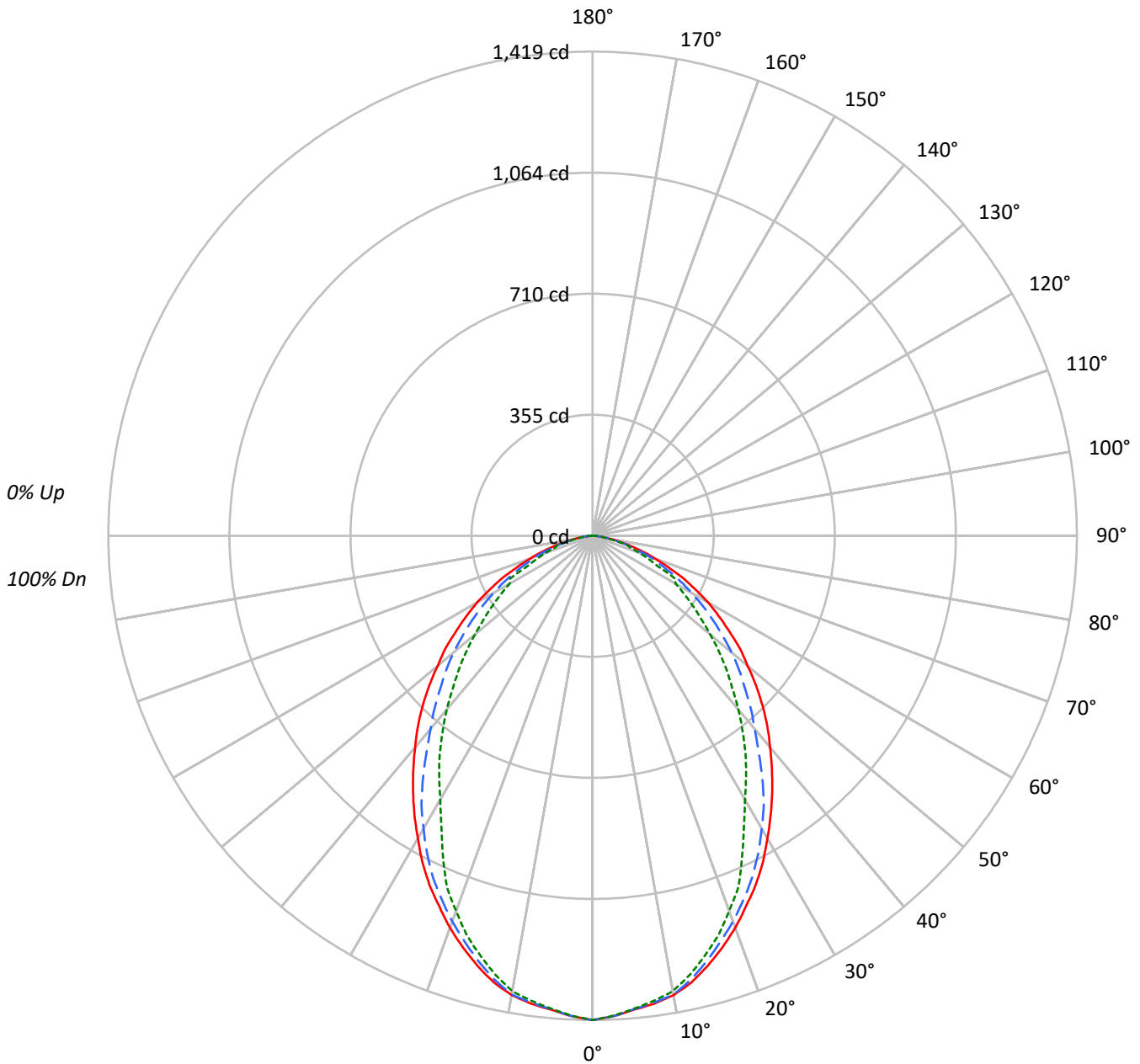
Lumens per Lamp: N/A
Luminaire Lumens: 2786.0 lumens
Efficiency: N/A
Efficacy: 83.7 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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: P546081

CATALOG NUMBER: FMR-12-4-LD4-1STD-50-UNV-81-86-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P546081

CATALOG NUMBER: FMR-12-4-LD4-1STD-50-UNV-81-86-EDD

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20				20	
RC	80				70				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				100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87				87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75				75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65				65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56				56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50				50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44				44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40				40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36				36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33				33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30				30

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3819	3819	3819
5°	3767	3763	3758
10°	3734	3730	3703
15°	3634	3597	3547
20°	3500	3444	3350
25°	3356	3283	3079
30°	3181	3079	2773
35°	3013	2846	2565
40°	2841	2594	2334
45°	2678	2398	2110
50°	2480	2226	1882
55°	2294	2016	1686
60°	2102	1801	1510
65°	1849	1577	1337
70°	1523	1381	1136
75°	1211	1057	1108
80°	814	762	711
85°	506	608	710



TEST NUMBER: P546081

CATALOG NUMBER: FMR-12-4-LD4-1STD-50-UNV-81-86-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	132.1	4.7
10°-20°	362.6	13.0
20°-30°	501.9	18.0
30°-40°	535.2	19.2
40°-50°	488.3	17.5
50°-60°	382.5	13.7
60°-70°	249.3	8.9
70°-80°	110.5	4.0
80°-90°	23.7	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°	996.6	35.8
0°-40°	1531.8	55.0
0°-60°	2402.5	86.2
0°-90°	2786.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2786.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1419	1419	1419	1419	1419	
5°	1394	1393	1393	1391	1391	132
15°	1304	1304	1291	1278	1273	367
25°	1130	1124	1106	1066	1037	519
35°	917	911	866	801	781	573
45°	704	689	630	578	554	542
55°	489	474	430	379	359	439
65°	290	274	248	253	210	286
75°	116	108	102	97	107	125
85°	16	18	20	21	23	23
90°	0	0	0	0	0	



TEST NUMBER: P546081

CATALOG NUMBER: FMR-12-4-LD4-1STD-50-UNV-81-86-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1419.2	1419.2	1419.2	1419.2	1419.2
2.5°	1409.3	1409.3	1409.3	1407.7	1407.7
5°	1394.5	1392.9	1392.9	1391.3	1391.3
7.5°	1383.1	1381.4	1379.8	1378.1	1374.9
10°	1366.7	1366.7	1365.0	1356.8	1355.2
12.5°	1340.4	1338.8	1332.2	1320.7	1317.4
15°	1304.3	1304.3	1291.2	1278.1	1273.1
17.5°	1264.9	1263.3	1246.9	1233.8	1227.2
20°	1222.3	1219.0	1202.6	1181.3	1169.8
22.5°	1174.7	1174.7	1155.0	1127.1	1115.6
25°	1130.4	1123.8	1105.8	1066.4	1036.9
27.5°	1079.5	1069.7	1050.0	994.2	959.8
30°	1023.8	1018.8	990.9	918.8	892.5
32.5°	971.3	963.1	933.5	858.1	836.7
35°	917.1	910.6	866.3	800.6	780.9
37.5°	863.0	854.8	799.0	746.5	721.9
40°	808.8	799.0	738.3	690.7	664.5
42.5°	758.0	744.8	685.8	634.9	605.4
45°	703.8	689.1	630.0	577.5	554.5
47.5°	649.7	636.6	582.4	528.3	502.0
50°	592.3	580.8	531.6	477.4	449.5
52.5°	544.7	526.6	479.1	424.9	402.0
55°	488.9	474.1	429.8	379.0	359.3
57.5°	438.1	423.3	382.3	334.7	318.3
60°	390.5	369.1	334.7	293.7	280.5
62.5°	338.0	321.6	292.0	257.6	274.0
65°	290.4	274.0	247.7	252.7	210.0
67.5°	237.9	229.7	206.7	183.8	177.2
70°	193.6	183.8	175.5	150.9	144.4
72.5°	154.2	144.4	132.9	119.8	114.8
75°	116.5	108.3	101.7	96.8	106.6
77.5°	80.4	77.1	72.2	67.3	65.6
80°	52.5	50.9	49.2	47.6	45.9
82.5°	31.2	31.2	31.2	31.2	31.2
85°	16.4	18.0	19.7	21.3	23.0
87.5°	9.8	9.8	11.5	13.1	14.8
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)