

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: P546564

Luminaire Tested: **FMR-24-4-LD4-1LO-50-UNV-81-94-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: P546564
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-LD4-1LO-50-UNV-81-94-EDD
Description: 2X4 FMR TROFFER WITH .156 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

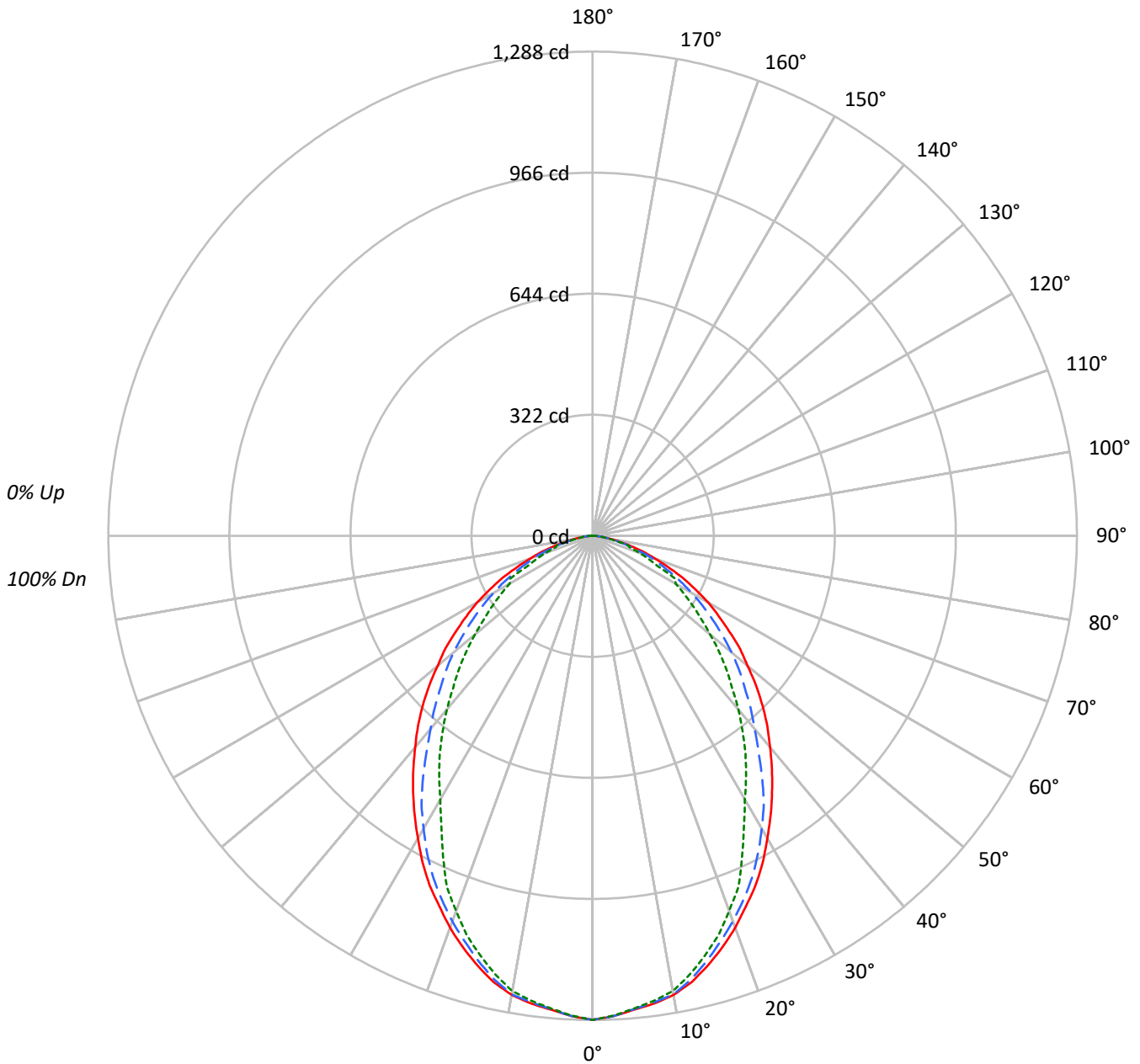
Lumens per Lamp: N/A
Luminaire Lumens: 2528.0 lumens
Efficiency: N/A
Efficacy: 108.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 23.4
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: P546564

CATALOG NUMBER: FMR-24-4-LD4-1LO-50-UNV-81-94-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P546564

CATALOG NUMBER: FMR-24-4-LD4-1LO-50-UNV-81-94-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°	1733	1733	1733
5°	1709	1707	1705
10°	1694	1692	1680
15°	1649	1632	1609
20°	1588	1562	1520
25°	1523	1490	1397
30°	1443	1397	1258
35°	1367	1291	1164
40°	1289	1177	1059
45°	1215	1088	957
50°	1125	1010	854
55°	1041	915	765
60°	953	817	685
65°	839	716	607
70°	691	627	515
75°	549	480	503
80°	369	346	323
85°	230	276	321



TEST NUMBER: P546564

CATALOG NUMBER: FMR-24-4-LD4-1LO-50-UNV-81-94-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	119.9	4.7
10°-20°	329.0	13.0
20°-30°	455.4	18.0
30°-40°	485.6	19.2
40°-50°	443.0	17.5
50°-60°	347.1	13.7
60°-70°	226.2	8.9
70°-80°	100.2	4.0
80°-90°	21.5	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°	904.3	35.8
0°-40°	1389.9	55.0
0°-60°	2180.0	86.2
0°-90°	2528.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2528.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1288	1288	1288	1288	1288	
5°	1265	1264	1264	1262	1262	120
15°	1184	1184	1172	1160	1155	333
25°	1026	1020	1003	968	941	471
35°	832	826	786	726	709	520
45°	639	625	572	524	503	492
55°	444	430	390	344	326	398
65°	264	249	225	229	191	260
75°	106	98	92	88	97	113
85°	15	16	18	19	21	21
90°	0	0	0	0	0	



TEST NUMBER: P546564

CATALOG NUMBER: FMR-24-4-LD4-1LO-50-UNV-81-94-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1287.7	1287.7	1287.7	1287.7	1287.7
2.5°	1278.8	1278.8	1278.8	1277.3	1277.3
5°	1265.4	1263.9	1263.9	1262.4	1262.4
7.5°	1255.0	1253.5	1252.0	1250.5	1247.5
10°	1240.1	1240.1	1238.6	1231.2	1229.7
12.5°	1216.3	1214.8	1208.8	1198.4	1195.4
15°	1183.5	1183.5	1171.6	1159.7	1155.2
17.5°	1147.8	1146.3	1131.4	1119.5	1113.6
20°	1109.1	1106.1	1091.2	1071.9	1061.4
22.5°	1065.9	1065.9	1048.0	1022.7	1012.3
25°	1025.7	1019.8	1003.4	967.7	940.9
27.5°	979.6	970.6	952.8	902.2	870.9
30°	929.0	924.5	899.2	833.7	809.9
32.5°	881.3	873.9	847.1	778.6	759.2
35°	832.2	826.2	786.0	726.5	708.6
37.5°	783.1	775.6	725.0	677.4	655.0
40°	733.9	725.0	669.9	626.7	602.9
42.5°	687.8	675.9	622.3	576.1	549.3
45°	638.7	625.3	571.7	524.0	503.2
47.5°	589.5	577.6	528.5	479.4	455.5
50°	537.4	527.0	482.3	433.2	407.9
52.5°	494.2	477.9	434.7	385.6	364.7
55°	443.6	430.2	390.0	343.9	326.0
57.5°	397.5	384.1	346.9	303.7	288.8
60°	354.3	335.0	303.7	266.5	254.6
62.5°	306.7	291.8	265.0	233.7	248.6
65°	263.5	248.6	224.8	229.3	190.6
67.5°	215.9	208.4	187.6	166.7	160.8
70°	175.7	166.7	159.3	137.0	131.0
72.5°	139.9	131.0	120.6	108.7	104.2
75°	105.7	98.3	92.3	87.8	96.8
77.5°	72.9	70.0	65.5	61.0	59.5
80°	47.6	46.1	44.7	43.2	41.7
82.5°	28.3	28.3	28.3	28.3	28.3
85°	14.9	16.4	17.9	19.4	20.8
87.5°	8.9	8.9	10.4	11.9	13.4
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)