

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: P546565

Luminaire Tested: **FMR-24-4-LD4-1LO-50-UNV-81-96-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: P546565  
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-81-96-EDD  
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

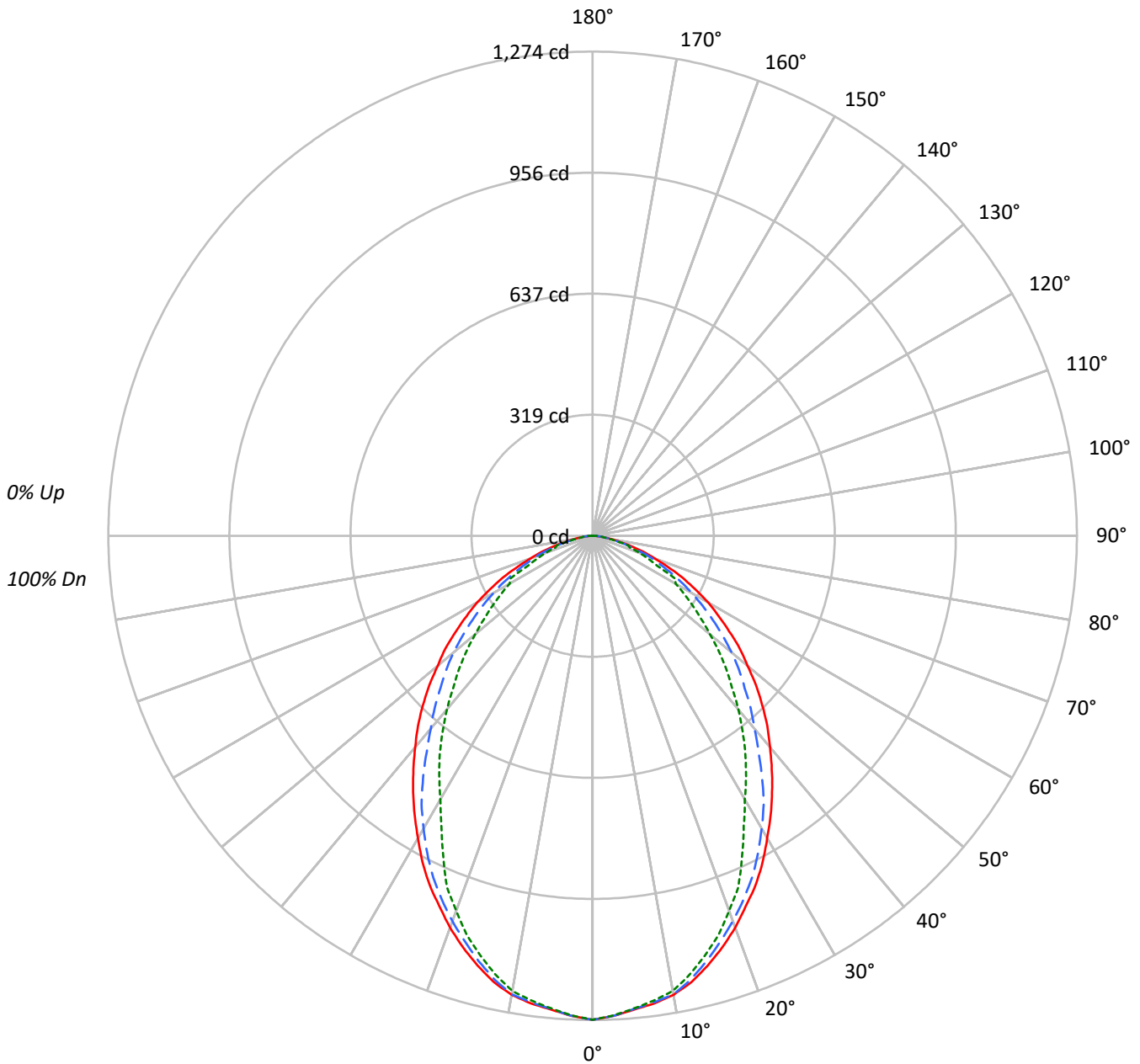
Lumens per Lamp: N/A  
Luminaire Lumens: 2500.0 lumens  
Efficiency: N/A  
Efficacy: 106.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

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: P546565

CATALOG NUMBER: FMR-24-4-LD4-1LO-50-UNV-81-96-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P546565

CATALOG NUMBER: FMR-24-4-LD4-1LO-50-UNV-81-96-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°	1713	1713	1713
5°	1690	1688	1686
10°	1676	1674	1661
15°	1630	1614	1591
20°	1570	1545	1503
25°	1506	1473	1381
30°	1427	1381	1244
35°	1352	1277	1151
40°	1275	1164	1047
45°	1202	1076	947
50°	1113	998	844
55°	1029	905	756
60°	943	808	677
65°	830	708	600
70°	683	620	510
75°	543	475	498
80°	365	342	319
85°	227	273	318



TEST NUMBER: P546565

CATALOG NUMBER: FMR-24-4-LD4-1LO-50-UNV-81-96-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	118.5	4.7
10°-20°	325.3	13.0
20°-30°	450.4	18.0
30°-40°	480.3	19.2
40°-50°	438.1	17.5
50°-60°	343.2	13.7
60°-70°	223.7	8.9
70°-80°	99.1	4.0
80°-90°	21.3	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°	894.3	35.8
0°-40°	1374.5	55.0
0°-60°	2155.9	86.2
0°-90°	2500.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2500.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1274	1274	1274	1274	1274	
5°	1251	1250	1250	1248	1248	119
15°	1170	1170	1159	1147	1142	329
25°	1014	1008	992	957	930	466
35°	823	817	777	718	701	515
45°	632	618	565	518	498	487
55°	439	426	386	340	322	394
65°	261	246	222	227	188	257
75°	104	97	91	87	96	112
85°	15	16	18	19	21	20
90°	0	0	0	0	0	



TEST NUMBER: P546565

CATALOG NUMBER: FMR-24-4-LD4-1LO-50-UNV-81-96-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1273.5	1273.5	1273.5	1273.5	1273.5
2.5°	1264.6	1264.6	1264.6	1263.2	1263.2
5°	1251.4	1249.9	1249.9	1248.4	1248.4
7.5°	1241.1	1239.6	1238.1	1236.7	1233.7
10°	1226.4	1226.4	1224.9	1217.5	1216.1
12.5°	1202.8	1201.3	1195.4	1185.1	1182.2
15°	1170.4	1170.4	1158.6	1146.9	1142.4
17.5°	1135.1	1133.6	1118.9	1107.1	1101.2
20°	1096.8	1093.9	1079.1	1060.0	1049.7
22.5°	1054.1	1054.1	1036.4	1011.4	1001.1
25°	1014.4	1008.5	992.3	956.9	930.4
27.5°	968.7	959.9	942.2	892.2	861.2
30°	918.7	914.2	889.2	824.4	800.9
32.5°	871.6	864.2	837.7	770.0	750.8
35°	823.0	817.1	777.3	718.4	700.8
37.5°	774.4	767.0	717.0	669.9	647.8
40°	725.8	717.0	662.5	619.8	596.2
42.5°	680.2	668.4	615.4	569.7	543.2
45°	631.6	618.3	565.3	518.2	497.6
47.5°	583.0	571.2	522.6	474.1	450.5
50°	531.5	521.2	477.0	428.4	403.4
52.5°	488.8	472.6	429.9	381.3	360.7
55°	438.7	425.5	385.7	340.1	322.4
57.5°	393.1	379.8	343.0	300.3	285.6
60°	350.4	331.2	300.3	263.5	251.7
62.5°	303.3	288.6	262.1	231.1	245.9
65°	260.6	245.9	222.3	226.7	188.4
67.5°	213.5	206.1	185.5	164.9	159.0
70°	173.7	164.9	157.5	135.4	129.6
72.5°	138.4	129.6	119.2	107.5	103.1
75°	104.5	97.2	91.3	86.9	95.7
77.5°	72.1	69.2	64.8	60.4	58.9
80°	47.1	45.6	44.2	42.7	41.2
82.5°	28.0	28.0	28.0	28.0	28.0
85°	14.7	16.2	17.7	19.1	20.6
87.5°	8.8	8.8	10.3	11.8	13.2
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)