

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: P546540

Luminaire Tested: **FMR-24-4-LD4-1LO-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: P546540
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-40-UNV-82-94-EDD
Description: 2X4 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

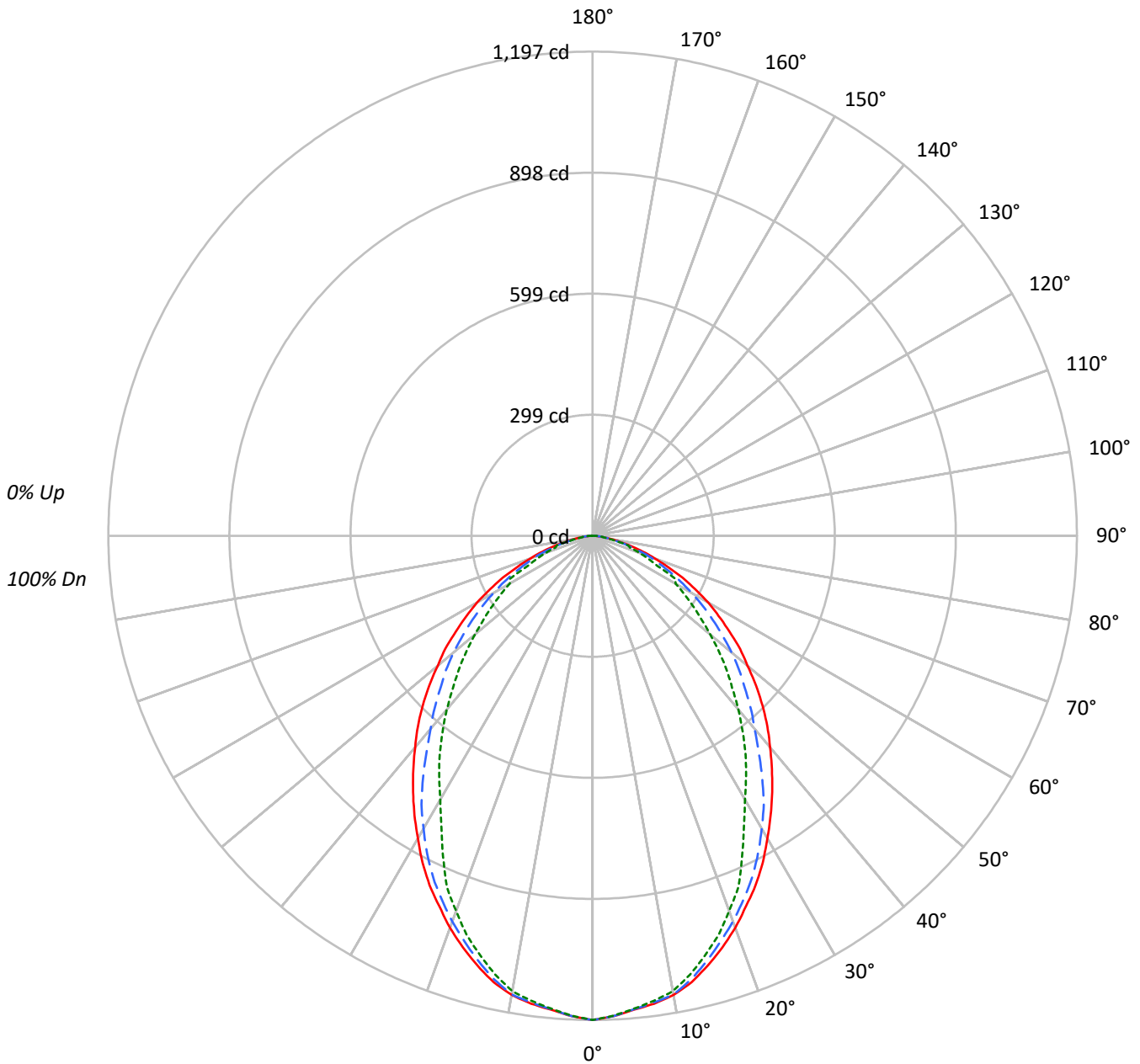
Lumens per Lamp: N/A
Luminaire Lumens: 2350.0 lumens
Efficiency: N/A
Efficacy: 100.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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: P546540

CATALOG NUMBER: FMR-24-4-LD4-1LO-40-UNV-82-94-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P546540

CATALOG NUMBER: FMR-24-4-LD4-1LO-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°	1611	1611	1611
5°	1589	1587	1585
10°	1575	1573	1562
15°	1533	1517	1496
20°	1476	1452	1413
25°	1416	1385	1298
30°	1342	1299	1170
35°	1271	1200	1082
40°	1198	1094	984
45°	1130	1011	890
50°	1046	939	794
55°	967	851	711
60°	886	760	637
65°	780	665	564
70°	642	583	479
75°	511	446	468
80°	343	322	300
85°	213	256	299



TEST NUMBER: P546540

CATALOG NUMBER: FMR-24-4-LD4-1LO-40-UNV-82-94-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	111.4	4.7
10°-20°	305.8	13.0
20°-30°	423.4	18.0
30°-40°	451.4	19.2
40°-50°	411.8	17.5
50°-60°	322.6	13.7
60°-70°	210.3	8.9
70°-80°	93.2	4.0
80°-90°	20.0	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°	840.6	35.8
0°-40°	1292.1	55.0
0°-60°	2026.6	86.2
0°-90°	2350.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2350.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1197	1197	1197	1197	1197	
5°	1176	1175	1175	1174	1174	112
15°	1100	1100	1089	1078	1074	309
25°	954	948	933	900	875	438
35°	774	768	731	675	659	484
45°	594	581	531	487	468	457
55°	412	400	363	320	303	370
65°	245	231	209	213	177	241
75°	98	91	86	82	90	105
85°	14	15	17	18	19	19
90°	0	0	0	0	0	



TEST NUMBER: P546540

CATALOG NUMBER: FMR-24-4-LD4-1LO-40-UNV-82-94-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1197.1	1197.1	1197.1	1197.1	1197.1
2.5°	1188.8	1188.8	1188.8	1187.4	1187.4
5°	1176.3	1174.9	1174.9	1173.5	1173.5
7.5°	1166.6	1165.2	1163.8	1162.5	1159.7
10°	1152.8	1152.8	1151.4	1144.5	1143.1
12.5°	1130.6	1129.2	1123.7	1114.0	1111.3
15°	1100.2	1100.2	1089.1	1078.0	1073.9
17.5°	1067.0	1065.6	1051.8	1040.7	1035.1
20°	1031.0	1028.2	1014.4	996.4	986.7
22.5°	990.9	990.9	974.3	950.7	941.0
25°	953.5	948.0	932.7	899.5	874.6
27.5°	910.6	902.3	885.7	838.6	809.6
30°	863.5	859.4	835.9	775.0	752.8
32.5°	819.3	812.3	787.4	723.8	705.8
35°	773.6	768.1	730.7	675.3	658.7
37.5°	727.9	721.0	674.0	629.7	608.9
40°	682.3	674.0	622.7	582.6	560.5
42.5°	639.4	628.3	578.5	535.6	510.7
45°	593.7	581.2	531.4	487.1	467.8
47.5°	548.0	536.9	491.3	445.6	423.5
50°	499.6	489.9	448.4	402.7	379.2
52.5°	459.4	444.2	404.1	358.4	339.1
55°	412.4	399.9	362.6	319.7	303.1
57.5°	369.5	357.0	322.4	282.3	268.5
60°	329.4	311.4	282.3	247.7	236.6
62.5°	285.1	271.2	246.3	217.3	231.1
65°	244.9	231.1	209.0	213.1	177.1
67.5°	200.7	193.7	174.4	155.0	149.5
70°	163.3	155.0	148.1	127.3	121.8
72.5°	130.1	121.8	112.1	101.0	96.9
75°	98.3	91.3	85.8	81.6	90.0
77.5°	67.8	65.0	60.9	56.7	55.4
80°	44.3	42.9	41.5	40.1	38.7
82.5°	26.3	26.3	26.3	26.3	26.3
85°	13.8	15.2	16.6	18.0	19.4
87.5°	8.3	8.3	9.7	11.1	12.5
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)