

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: P546521

Luminaire Tested: **FMR-24-4-LD4-1LO-40-UNV-80-86-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: P546521
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-80-86-EDD
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

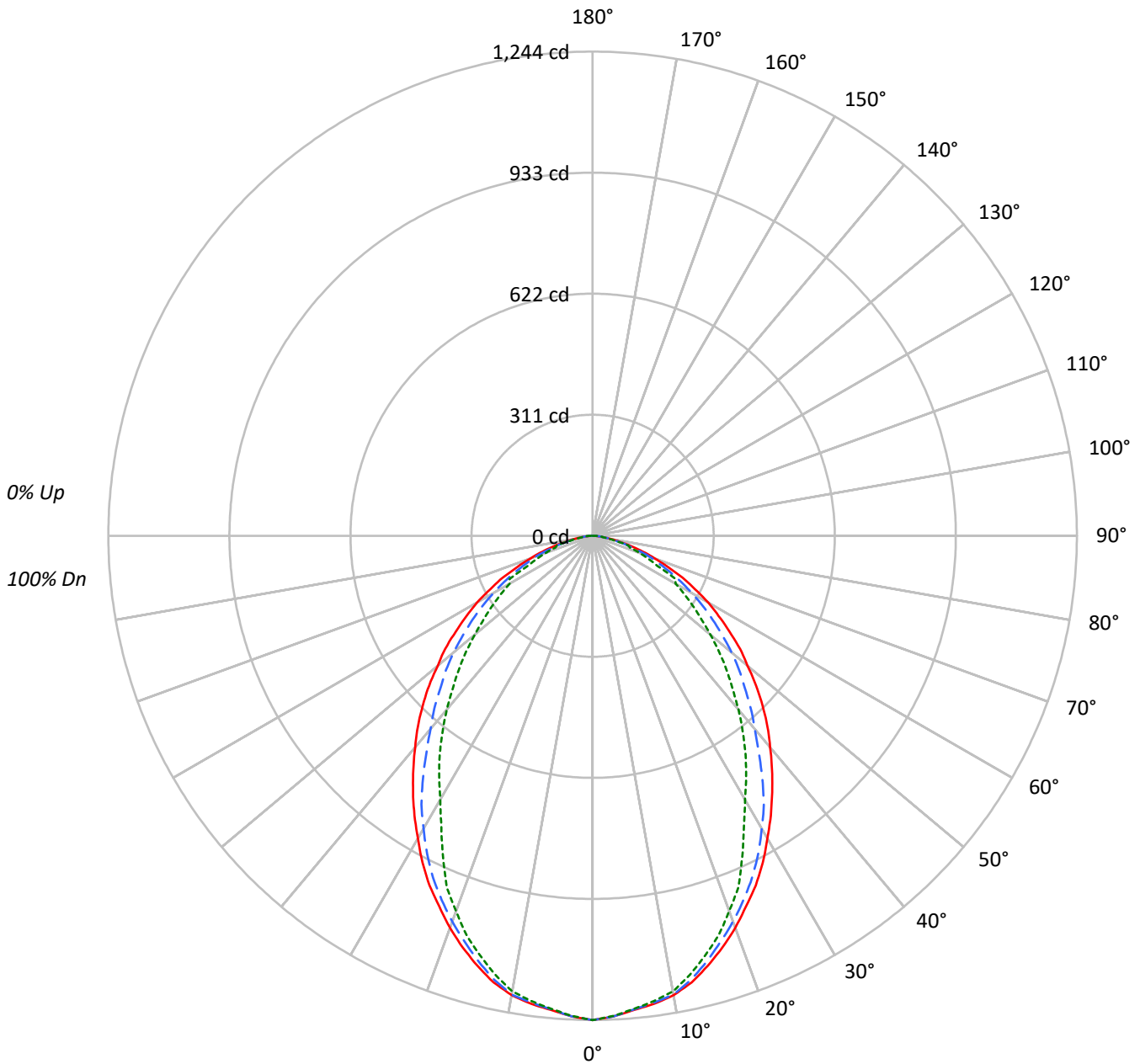
Lumens per Lamp: N/A
Luminaire Lumens: 2443.0 lumens
Efficiency: N/A
Efficacy: 104.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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: P546521

CATALOG NUMBER: FMR-24-4-LD4-1LO-40-UNV-80-86-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P546521

CATALOG NUMBER: FMR-24-4-LD4-1LO-40-UNV-80-86-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°	1674	1674	1674
5°	1652	1650	1648
10°	1637	1635	1624
15°	1593	1577	1555
20°	1535	1510	1469
25°	1472	1439	1350
30°	1395	1350	1216
35°	1321	1248	1125
40°	1246	1137	1023
45°	1174	1051	925
50°	1087	976	825
55°	1006	884	739
60°	921	790	662
65°	811	691	586
70°	668	605	498
75°	531	464	486
80°	356	335	312
85°	222	267	310



TEST NUMBER: P546521

CATALOG NUMBER: FMR-24-4-LD4-1LO-40-UNV-80-86-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	115.8	4.7
10°-20°	317.9	13.0
20°-30°	440.1	18.0
30°-40°	469.3	19.2
40°-50°	428.1	17.5
50°-60°	335.4	13.7
60°-70°	218.6	8.9
70°-80°	96.8	4.0
80°-90°	20.8	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°	873.9	35.8
0°-40°	1343.2	55.0
0°-60°	2106.7	86.2
0°-90°	2443.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2443.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1244	1244	1244	1244	1244	
5°	1223	1221	1221	1220	1220	116
15°	1144	1144	1132	1121	1116	322
25°	991	986	970	935	909	455
35°	804	798	760	702	685	503
45°	617	604	552	506	486	475
55°	429	416	377	332	315	385
65°	255	240	217	222	184	251
75°	102	95	89	85	94	109
85°	14	16	17	19	20	20
90°	0	0	0	0	0	



TEST NUMBER: P546521

CATALOG NUMBER: FMR-24-4-LD4-1LO-40-UNV-80-86-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1244.4	1244.4	1244.4	1244.4	1244.4
2.5°	1235.8	1235.8	1235.8	1234.4	1234.4
5°	1222.9	1221.4	1221.4	1220.0	1220.0
7.5°	1212.8	1211.3	1209.9	1208.5	1205.6
10°	1198.4	1198.4	1197.0	1189.8	1188.3
12.5°	1175.4	1173.9	1168.2	1158.1	1155.2
15°	1143.7	1143.7	1132.2	1120.7	1116.4
17.5°	1109.2	1107.8	1093.4	1081.9	1076.1
20°	1071.8	1068.9	1054.5	1035.8	1025.8
22.5°	1030.1	1030.1	1012.8	988.4	978.3
25°	991.2	985.5	969.6	935.1	909.2
27.5°	946.6	938.0	920.7	871.8	841.6
30°	897.7	893.4	868.9	805.6	782.6
32.5°	851.7	844.5	818.6	752.4	733.7
35°	804.2	798.5	759.6	702.1	684.8
37.5°	756.7	749.5	700.6	654.6	633.0
40°	709.3	700.6	647.4	605.7	582.7
42.5°	664.7	653.1	601.4	556.8	530.9
45°	617.2	604.2	552.4	506.4	486.3
47.5°	569.7	558.2	510.7	463.2	440.2
50°	519.4	509.3	466.1	418.6	394.2
52.5°	477.6	461.8	420.1	372.6	352.5
55°	428.7	415.8	376.9	332.3	315.1
57.5°	384.1	371.2	335.2	293.5	279.1
60°	342.4	323.7	293.5	257.5	246.0
62.5°	296.4	282.0	256.1	225.9	240.3
65°	254.6	240.3	217.2	221.6	184.1
67.5°	208.6	201.4	181.3	161.1	155.4
70°	169.8	161.1	153.9	132.4	126.6
72.5°	135.2	126.6	116.5	105.0	100.7
75°	102.1	95.0	89.2	84.9	93.5
77.5°	70.5	67.6	63.3	59.0	57.5
80°	46.0	44.6	43.2	41.7	40.3
82.5°	27.3	27.3	27.3	27.3	27.3
85°	14.4	15.8	17.3	18.7	20.1
87.5°	8.6	8.6	10.1	11.5	12.9
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)