

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: P546581

Luminaire Tested: **FMR-24-4-LD4-1LO-50-UNV-93-96-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: P546581
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-93-96-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS 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

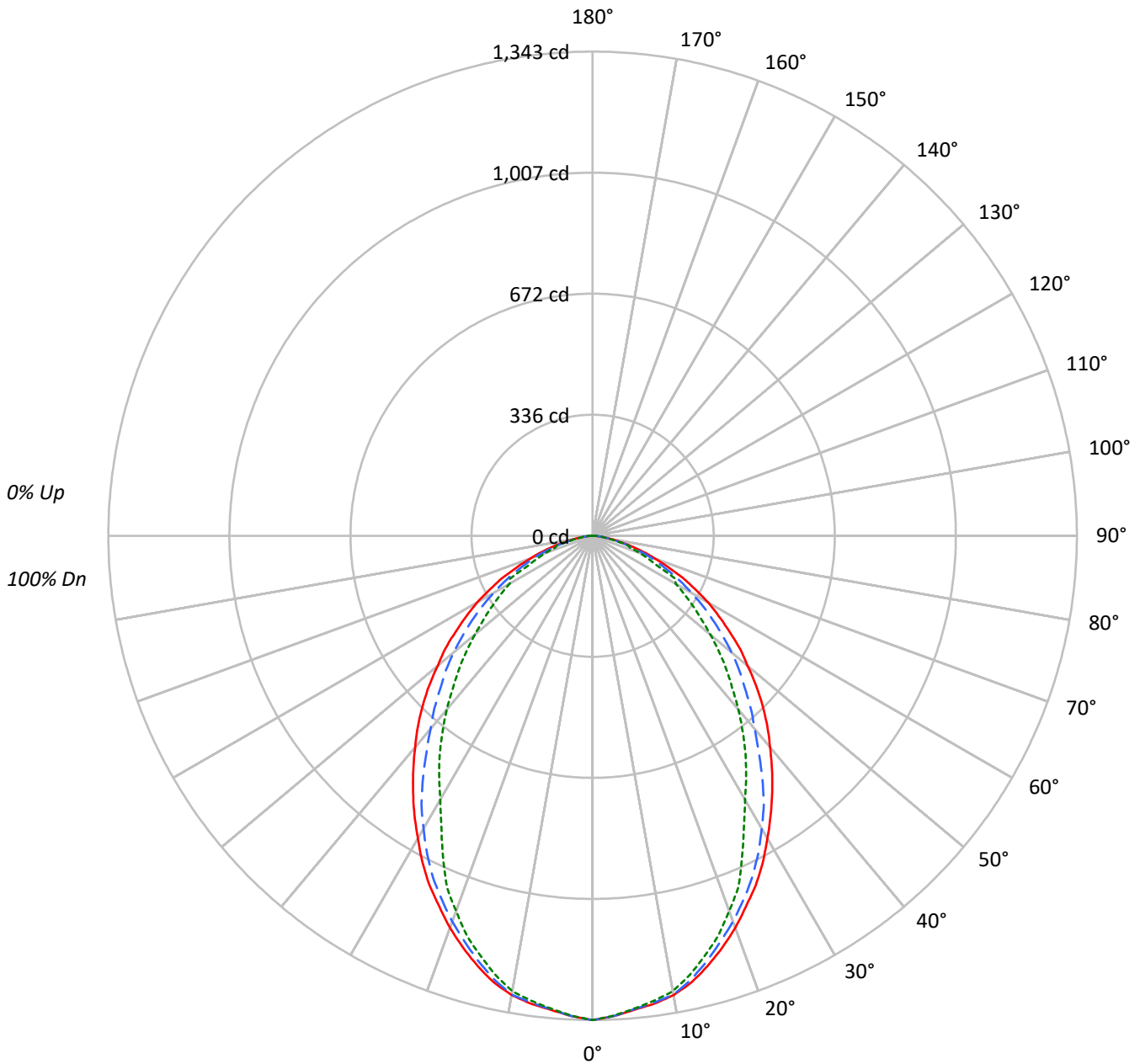
Lumens per Lamp: N/A
Luminaire Lumens: 2637.0 lumens
Efficiency: N/A
Efficacy: 112.7 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 23.4
Input Voltage (V): NR
Input Current (A_{in}): 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: P546581

CATALOG NUMBER: FMR-24-4-LD4-1LO-50-UNV-93-96-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P546581

CATALOG NUMBER: FMR-24-4-LD4-1LO-50-UNV-93-96-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°	1807	1807	1807
5°	1783	1781	1779
10°	1767	1765	1752
15°	1720	1702	1679
20°	1656	1630	1585
25°	1588	1554	1457
30°	1505	1457	1313
35°	1426	1347	1214
40°	1345	1227	1105
45°	1268	1135	999
50°	1173	1053	891
55°	1086	955	798
60°	995	853	714
65°	875	747	633
70°	721	654	538
75°	573	501	525
80°	385	361	337
85°	239	287	335



TEST NUMBER: P546581

CATALOG NUMBER: FMR-24-4-LD4-1LO-50-UNV-93-96-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	125.0	4.7
10°-20°	343.2	13.0
20°-30°	475.1	18.0
30°-40°	506.6	19.2
40°-50°	462.1	17.5
50°-60°	362.1	13.7
60°-70°	236.0	8.9
70°-80°	104.6	4.0
80°-90°	22.4	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°	943.3	35.8
0°-40°	1449.9	55.0
0°-60°	2274.0	86.2
0°-90°	2637.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2637.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1343	1343	1343	1343	1343	
5°	1320	1318	1318	1317	1317	125
15°	1235	1235	1222	1210	1205	347
25°	1070	1064	1047	1009	981	491
35°	868	862	820	758	739	543
45°	666	652	596	547	525	513
55°	463	449	407	359	340	415
65°	275	259	234	239	199	271
75°	110	102	96	92	101	118
85°	16	17	19	20	22	22
90°	0	0	0	0	0	



TEST NUMBER: P546581

CATALOG NUMBER: FMR-24-4-LD4-1LO-50-UNV-93-96-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1343.3	1343.3	1343.3	1343.3	1343.3
2.5°	1333.9	1333.9	1333.9	1332.4	1332.4
5°	1320.0	1318.4	1318.4	1316.9	1316.9
7.5°	1309.1	1307.5	1306.0	1304.4	1301.3
10°	1293.6	1293.6	1292.0	1284.2	1282.7
12.5°	1268.7	1267.2	1260.9	1250.1	1247.0
15°	1234.6	1234.6	1222.1	1209.7	1205.0
17.5°	1197.3	1195.7	1180.2	1167.8	1161.6
20°	1156.9	1153.8	1138.3	1118.1	1107.2
22.5°	1111.9	1111.9	1093.2	1066.8	1056.0
25°	1069.9	1063.7	1046.6	1009.4	981.4
27.5°	1021.8	1012.5	993.9	941.1	908.4
30°	969.0	964.3	937.9	869.6	844.8
32.5°	919.3	911.5	883.6	812.2	792.0
35°	868.1	861.9	819.9	757.8	739.2
37.5°	816.8	809.1	756.3	706.6	683.3
40°	765.6	756.3	698.8	653.8	628.9
42.5°	717.4	705.0	649.1	601.0	573.0
45°	666.2	652.2	596.3	546.6	524.9
47.5°	614.9	602.5	551.3	500.0	475.2
50°	560.6	549.7	503.1	451.9	425.5
52.5°	515.6	498.5	453.4	402.2	380.5
55°	462.8	448.8	406.9	358.7	340.1
57.5°	414.6	400.6	361.8	316.8	301.3
60°	369.6	349.4	316.8	278.0	265.5
62.5°	319.9	304.4	276.4	243.8	259.3
65°	274.9	259.3	234.5	239.1	198.8
67.5°	225.2	217.4	195.7	173.9	167.7
70°	183.2	173.9	166.2	142.9	136.7
72.5°	146.0	136.7	125.8	113.4	108.7
75°	110.3	102.5	96.3	91.6	100.9
77.5°	76.1	73.0	68.3	63.7	62.1
80°	49.7	48.1	46.6	45.0	43.5
82.5°	29.5	29.5	29.5	29.5	29.5
85°	15.5	17.1	18.6	20.2	21.7
87.5°	9.3	9.3	10.9	12.4	14.0
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)