

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: P546040

Luminaire Tested: **FMR-12-4-LD4-1STD-40-UNV-80-85-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: P546040
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-12-4-LD4-1STD-40-UNV-80-85-EDD
Description: 1X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

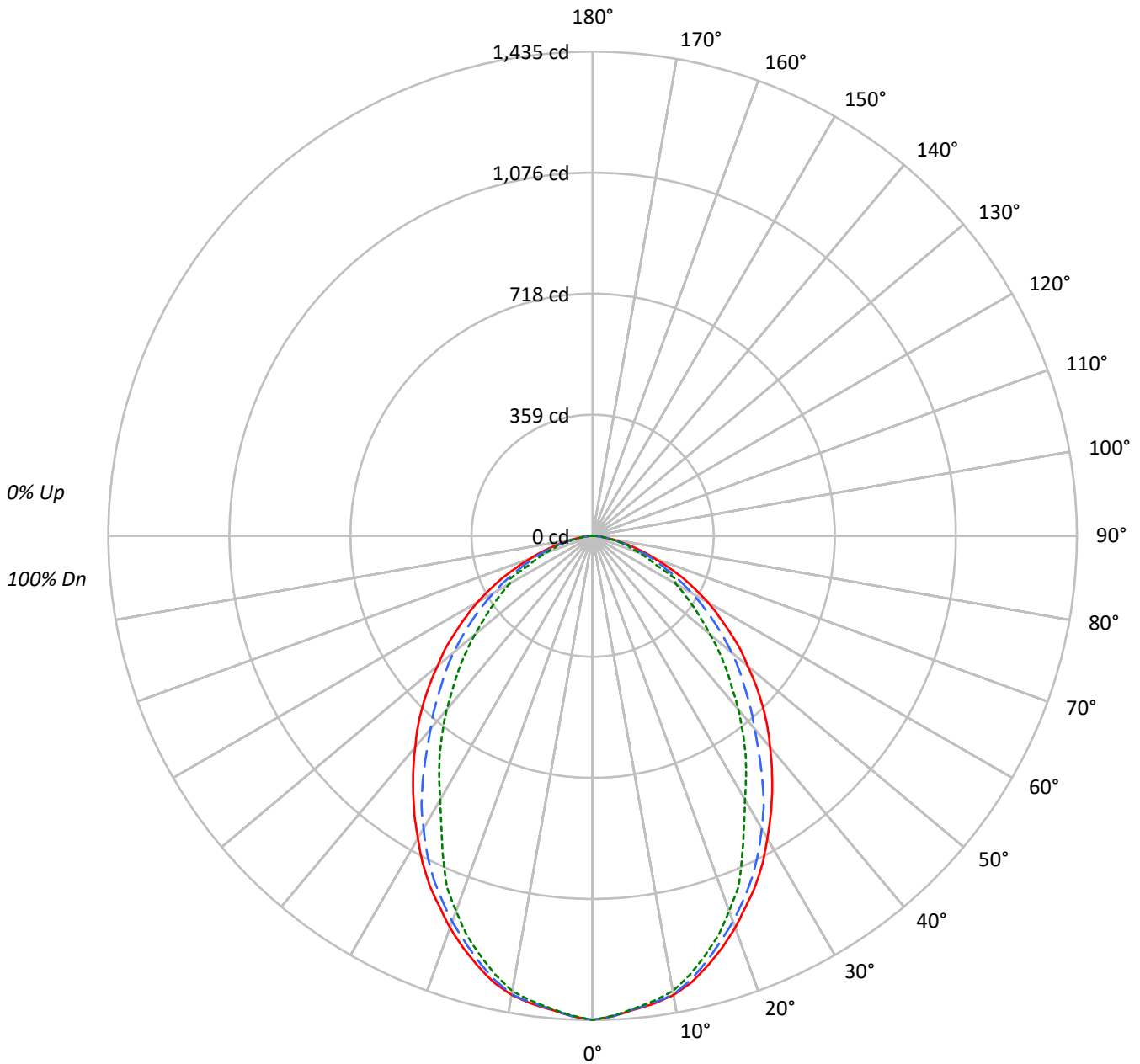
Lumens per Lamp: N/A
Luminaire Lumens: 2817.0 lumens
Efficiency: N/A
Efficacy: 84.6 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 33.3
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: P546040

CATALOG NUMBER: FMR-12-4-LD4-1STD-40-UNV-80-85-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P546040

CATALOG NUMBER: FMR-12-4-LD4-1STD-40-UNV-80-85-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°	3861	3861	3861
5°	3809	3804	3800
10°	3776	3771	3744
15°	3674	3637	3586
20°	3539	3482	3387
25°	3394	3320	3113
30°	3216	3113	2804
35°	3046	2877	2594
40°	2873	2622	2360
45°	2708	2424	2134
50°	2507	2250	1903
55°	2320	2039	1704
60°	2125	1821	1527
65°	1869	1595	1352
70°	1540	1397	1149
75°	1225	1070	1121
80°	823	772	719
85°	513	614	716



TEST NUMBER: P546040

CATALOG NUMBER: FMR-12-4-LD4-1STD-40-UNV-80-85-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	133.6	4.7
10°-20°	366.6	13.0
20°-30°	507.5	18.0
30°-40°	541.2	19.2
40°-50°	493.7	17.5
50°-60°	386.8	13.7
60°-70°	252.1	8.9
70°-80°	111.7	4.0
80°-90°	24.0	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°	1007.7	35.8
0°-40°	1548.8	55.0
0°-60°	2429.3	86.2
0°-90°	2817.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2817.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1435	1435	1435	1435	1435	
5°	1410	1408	1408	1407	1407	134
15°	1319	1319	1306	1292	1287	371
25°	1143	1136	1118	1078	1048	525
35°	927	921	876	810	790	580
45°	712	697	637	584	561	548
55°	494	479	435	383	363	443
65°	294	277	250	256	212	289
75°	118	110	103	98	108	126
85°	17	18	20	22	23	23
90°	0	0	0	0	0	



TEST NUMBER: P546040

CATALOG NUMBER: FMR-12-4-LD4-1STD-40-UNV-80-85-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1434.9	1434.9	1434.9	1434.9	1434.9
2.5°	1425.0	1425.0	1425.0	1423.3	1423.3
5°	1410.1	1408.4	1408.4	1406.7	1406.7
7.5°	1398.4	1396.8	1395.1	1393.5	1390.2
10°	1381.9	1381.9	1380.2	1371.9	1370.2
12.5°	1355.3	1353.7	1347.0	1335.4	1332.1
15°	1318.8	1318.8	1305.5	1292.3	1287.3
17.5°	1279.0	1277.3	1260.8	1247.5	1240.9
20°	1235.9	1232.6	1216.0	1194.4	1182.8
22.5°	1187.8	1187.8	1167.9	1139.7	1128.0
25°	1143.0	1136.3	1118.1	1078.3	1048.4
27.5°	1091.6	1081.6	1061.7	1005.3	970.5
30°	1035.1	1030.2	1002.0	929.0	902.4
32.5°	982.1	973.8	943.9	867.6	846.0
35°	927.3	920.7	875.9	809.5	789.6
37.5°	872.6	864.3	807.9	754.8	729.9
40°	817.8	807.9	746.5	698.4	671.9
42.5°	766.4	753.1	693.4	642.0	612.1
45°	711.7	696.7	637.0	583.9	560.7
47.5°	656.9	643.7	588.9	534.2	507.6
50°	598.9	587.2	537.5	482.7	454.5
52.5°	550.8	532.5	484.4	429.7	406.4
55°	494.4	479.4	434.6	383.2	363.3
57.5°	442.9	428.0	386.5	338.4	321.8
60°	394.8	373.3	338.4	296.9	283.7
62.5°	341.7	325.1	295.3	260.4	277.0
65°	293.6	277.0	250.5	255.5	212.3
67.5°	240.5	232.2	209.0	185.8	179.2
70°	195.7	185.8	177.5	152.6	146.0
72.5°	155.9	146.0	134.4	121.1	116.1
75°	117.8	109.5	102.9	97.9	107.8
77.5°	81.3	78.0	73.0	68.0	66.4
80°	53.1	51.4	49.8	48.1	46.4
82.5°	31.5	31.5	31.5	31.5	31.5
85°	16.6	18.2	19.9	21.6	23.2
87.5°	10.0	10.0	11.6	13.3	14.9
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)