

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: P545843

Luminaire Tested: **FMR-12-4-LD4-1HI-35-UNV-93-88-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: P545843
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-LD4-1HI-35-UNV-93-88-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

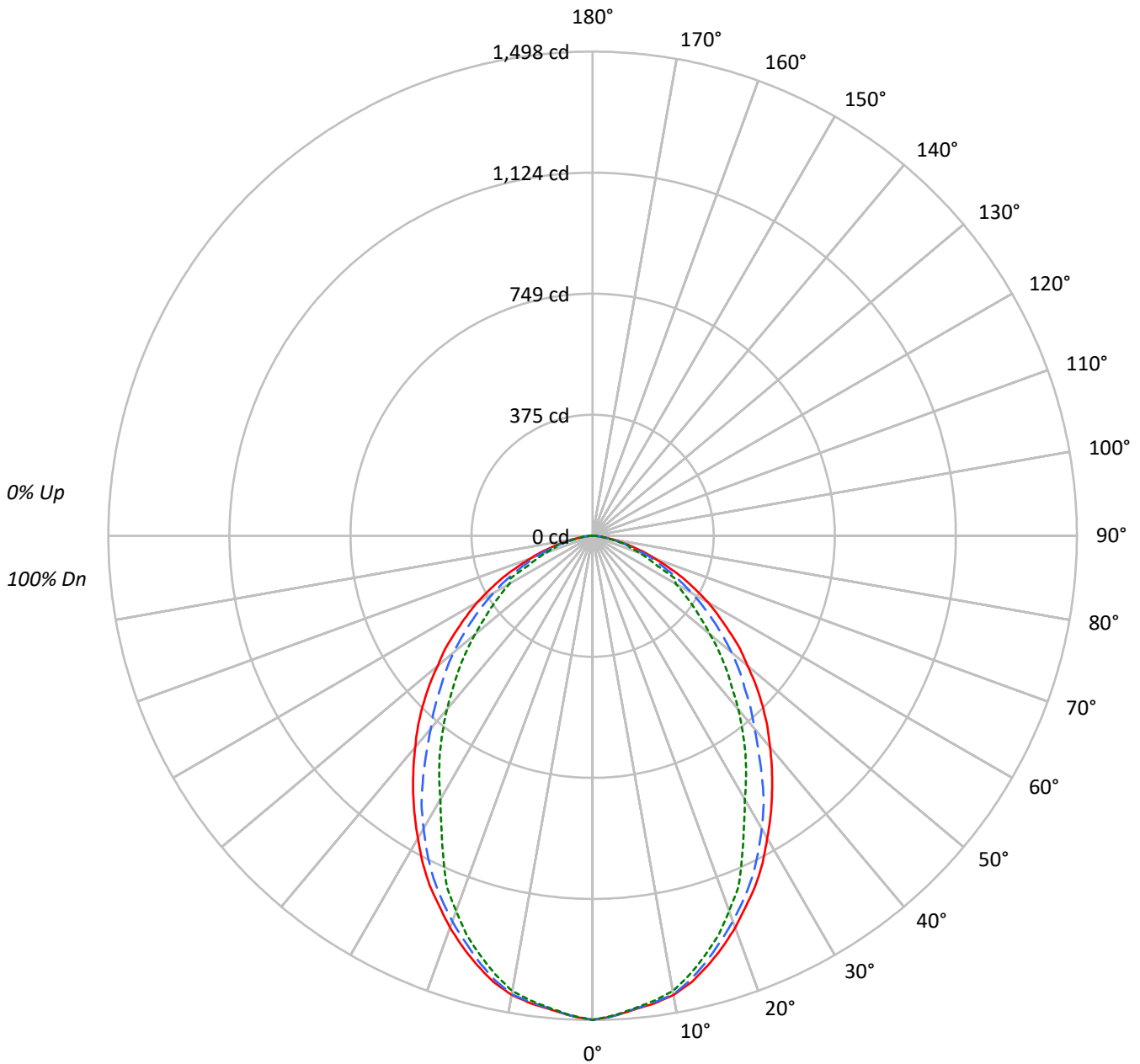
Lumens per Lamp: N/A
Luminaire Lumens: 2940.0 lumens
Efficiency: N/A
Efficacy: 68.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 43.2
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: P545843

CATALOG NUMBER: FMR-12-4-LD4-1HI-35-UNV-93-88-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P545843

CATALOG NUMBER: FMR-12-4-LD4-1HI-35-UNV-93-88-EDD

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20				
RC	80				70				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	100	100	100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87	87	87	87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75	75	75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65	65	65	65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56	56	56	56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50	50	50	50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44	44	44	44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40	40	40	40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36	36	36	36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33	33	33	33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30	30	30	30

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4030	4030	4030
5°	3975	3971	3966
10°	3941	3936	3908
15°	3835	3796	3743
20°	3694	3634	3535
25°	3542	3465	3249
30°	3357	3249	2926
35°	3179	3003	2707
40°	2998	2737	2463
45°	2826	2530	2227
50°	2617	2348	1986
55°	2420	2128	1779
60°	2218	1901	1594
65°	1951	1664	1411
70°	1607	1458	1199
75°	1278	1116	1170
80°	859	804	752
85°	534	642	747



TEST NUMBER: P545843

CATALOG NUMBER: FMR-12-4-LD4-1HI-35-UNV-93-88-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	139.4	4.7
10°-20°	382.6	13.0
20°-30°	529.7	18.0
30°-40°	564.8	19.2
40°-50°	515.2	17.5
50°-60°	403.7	13.7
60°-70°	263.1	8.9
70°-80°	116.6	4.0
80°-90°	25.0	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°	1051.7	35.8
0°-40°	1616.4	55.0
0°-60°	2535.3	86.2
0°-90°	2940.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2940.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1498	1498	1498	1498	1498	
5°	1472	1470	1470	1468	1468	140
15°	1376	1376	1363	1349	1344	387
25°	1193	1186	1167	1125	1094	548
35°	968	961	914	845	824	605
45°	743	727	665	609	585	572
55°	516	500	454	400	379	463
65°	306	289	261	267	222	302
75°	123	114	107	102	112	132
85°	17	19	21	22	24	24
90°	0	0	0	0	0	



TEST NUMBER: P545843

CATALOG NUMBER: FMR-12-4-LD4-1HI-35-UNV-93-88-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1497.6	1497.6	1497.6	1497.6	1497.6
2.5°	1487.2	1487.2	1487.2	1485.5	1485.5
5°	1471.6	1469.9	1469.9	1468.2	1468.2
7.5°	1459.5	1457.8	1456.0	1454.3	1450.9
10°	1442.2	1442.2	1440.5	1431.8	1430.1
12.5°	1414.5	1412.8	1405.8	1393.7	1390.3
15°	1376.4	1376.4	1362.6	1348.7	1343.5
17.5°	1334.9	1333.1	1315.8	1302.0	1295.0
20°	1289.8	1286.4	1269.1	1246.6	1234.4
22.5°	1239.6	1239.6	1218.9	1189.4	1177.3
25°	1192.9	1186.0	1166.9	1125.4	1094.2
27.5°	1139.2	1128.8	1108.0	1049.2	1012.8
30°	1080.3	1075.2	1045.7	969.5	941.8
32.5°	1024.9	1016.3	985.1	905.5	883.0
35°	967.8	960.9	914.1	844.9	824.1
37.5°	910.7	902.0	843.2	787.8	761.8
40°	853.5	843.2	779.1	728.9	701.2
42.5°	799.9	786.0	723.7	670.0	638.9
45°	742.7	727.2	664.8	609.4	585.2
47.5°	685.6	671.8	614.6	557.5	529.8
50°	625.0	612.9	560.9	503.8	474.4
52.5°	574.8	555.8	505.5	448.4	424.2
55°	515.9	500.4	453.6	399.9	379.2
57.5°	462.3	446.7	403.4	353.2	335.9
60°	412.1	389.5	353.2	309.9	296.1
62.5°	356.7	339.3	308.2	271.8	289.1
65°	306.4	289.1	261.4	266.6	221.6
67.5°	251.0	242.4	218.1	193.9	187.0
70°	204.3	193.9	185.3	159.3	152.4
72.5°	162.7	152.4	140.2	126.4	121.2
75°	122.9	114.3	107.3	102.1	112.5
77.5°	84.8	81.4	76.2	71.0	69.3
80°	55.4	53.7	51.9	50.2	48.5
82.5°	32.9	32.9	32.9	32.9	32.9
85°	17.3	19.0	20.8	22.5	24.2
87.5°	10.4	10.4	12.1	13.9	15.6
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)