

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: P546258

Luminaire Tested: **FMR-12-4-LD4-2LO-40-UNV-93-87-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: P546258
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-LD4-2LO-40-UNV-93-87-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

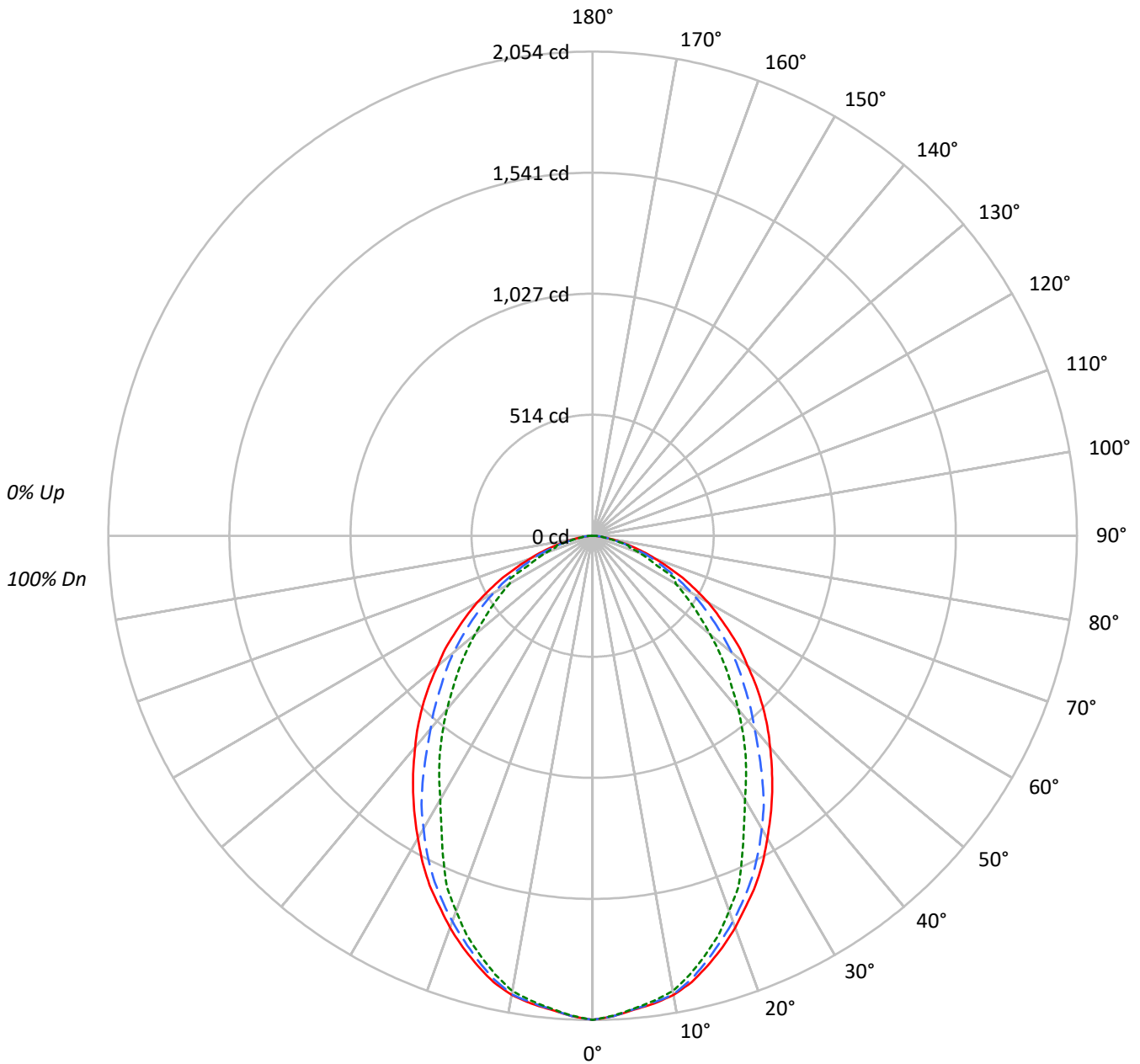
Lumens per Lamp: N/A
Luminaire Lumens: 4032.0 lumens
Efficiency: N/A
Efficacy: 86.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 46.8
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: P546258

CATALOG NUMBER: FMR-12-4-LD4-2LO-40-UNV-93-87-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P546258

CATALOG NUMBER: FMR-12-4-LD4-2LO-40-UNV-93-87-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°	5527	5527	5527
5°	5452	5445	5439
10°	5405	5398	5359
15°	5259	5206	5133
20°	5066	4984	4848
25°	4858	4752	4456
30°	4604	4456	4014
35°	4360	4119	3713
40°	4112	3753	3378
45°	3876	3470	3054
50°	3589	3221	2724
55°	3320	2919	2440
60°	3041	2607	2185
65°	2676	2283	1935
70°	2205	1999	1644
75°	1753	1530	1604
80°	1178	1103	1031
85°	732	880	1025



TEST NUMBER: P546258

CATALOG NUMBER: FMR-12-4-LD4-2LO-40-UNV-93-87-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	191.2	4.7
10°-20°	524.7	13.0
20°-30°	726.4	18.0
30°-40°	774.6	19.2
40°-50°	706.6	17.5
50°-60°	553.6	13.7
60°-70°	360.8	8.9
70°-80°	159.8	4.0
80°-90°	34.3	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°	1442.3	35.8
0°-40°	2216.8	55.0
0°-60°	3477.0	86.2
0°-90°	4032.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4032.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2054	2054	2054	2054	2054	
5°	2018	2016	2016	2014	2014	192
15°	1888	1888	1869	1850	1842	531
25°	1636	1626	1600	1543	1501	751
35°	1327	1318	1254	1159	1130	830
45°	1019	997	912	836	802	785
55°	708	686	622	548	520	635
65°	420	396	358	366	304	414
75°	169	157	147	140	154	181
85°	24	26	28	31	33	33
90°	0	0	0	0	0	



TEST NUMBER: P546258

CATALOG NUMBER: FMR-12-4-LD4-2LO-40-UNV-93-87-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2053.8	2053.8	2053.8	2053.8	2053.8
2.5°	2039.6	2039.6	2039.6	2037.2	2037.2
5°	2018.2	2015.9	2015.9	2013.5	2013.5
7.5°	2001.6	1999.2	1996.9	1994.5	1989.7
10°	1977.9	1977.9	1975.5	1963.6	1961.2
12.5°	1939.9	1937.5	1928.0	1911.4	1906.6
15°	1887.6	1887.6	1868.6	1849.6	1842.5
17.5°	1830.7	1828.3	1804.5	1785.5	1776.0
20°	1768.9	1764.2	1740.4	1709.6	1692.9
22.5°	1700.1	1700.1	1671.6	1631.2	1614.6
25°	1636.0	1626.5	1600.3	1543.4	1500.6
27.5°	1562.3	1548.1	1519.6	1438.9	1389.0
30°	1481.6	1474.5	1434.1	1329.7	1291.7
32.5°	1405.6	1393.8	1351.0	1241.8	1210.9
35°	1327.3	1317.8	1253.7	1158.7	1130.2
37.5°	1248.9	1237.1	1156.3	1080.3	1044.7
40°	1170.6	1156.3	1068.5	999.6	961.6
42.5°	1097.0	1078.0	992.5	918.9	876.1
45°	1018.6	997.2	911.8	835.8	802.5
47.5°	940.3	921.3	842.9	764.6	726.6
50°	857.2	840.5	769.3	690.9	650.6
52.5°	788.3	762.2	693.3	615.0	581.7
55°	707.6	686.2	622.1	548.5	520.0
57.5°	634.0	612.6	553.2	484.4	460.6
60°	565.1	534.2	484.4	425.0	406.0
62.5°	489.1	465.4	422.6	372.8	396.5
65°	420.3	396.5	358.5	365.7	303.9
67.5°	344.3	332.4	299.2	265.9	256.4
70°	280.2	265.9	254.1	218.4	208.9
72.5°	223.2	208.9	192.3	173.3	166.2
75°	168.6	156.7	147.2	140.1	154.3
77.5°	116.3	111.6	104.5	97.3	95.0
80°	76.0	73.6	71.2	68.9	66.5
82.5°	45.1	45.1	45.1	45.1	45.1
85°	23.7	26.1	28.5	30.9	33.2
87.5°	14.2	14.2	16.6	19.0	21.4
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)