

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: P546228

Luminaire Tested: **FMR-12-4-LD4-2LO-35-UNV-93-94-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: P546228
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-35-UNV-93-94-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

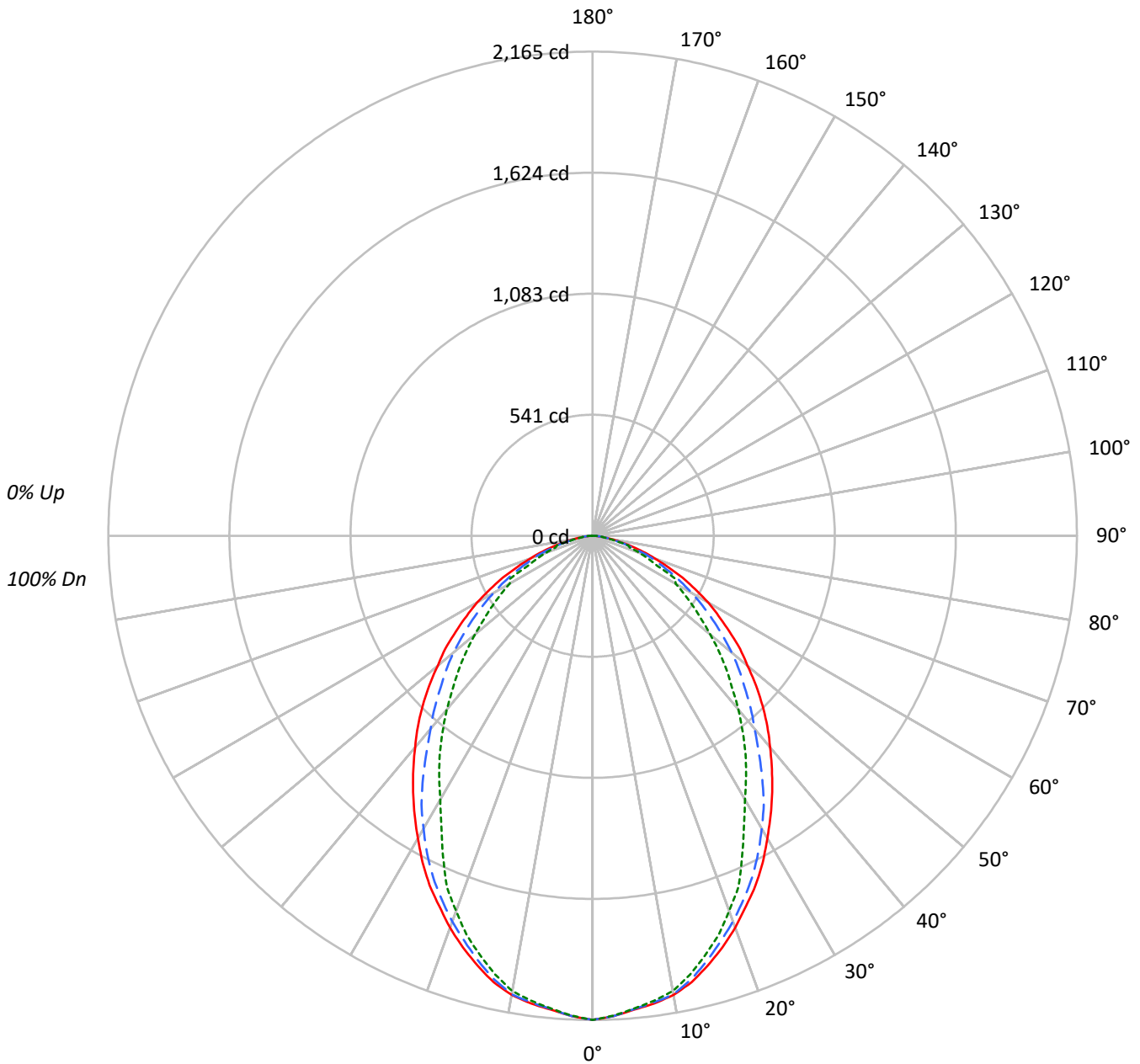
Lumens per Lamp: N/A
Luminaire Lumens: 4250.0 lumens
Efficiency: N/A
Efficacy: 90.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 46.8
Input Voltage (V): NR
Input Current (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: P546228

CATALOG NUMBER: FMR-12-4-LD4-2LO-35-UNV-93-94-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P546228

CATALOG NUMBER: FMR-12-4-LD4-2LO-35-UNV-93-94-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°	5826	5826	5826
5°	5747	5740	5733
10°	5697	5690	5649
15°	5543	5487	5411
20°	5340	5253	5110
25°	5120	5009	4696
30°	4853	4697	4231
35°	4596	4341	3914
40°	4334	3956	3561
45°	4086	3658	3219
50°	3782	3395	2871
55°	3499	3076	2571
60°	3206	2748	2303
65°	2821	2406	2040
70°	2323	2107	1733
75°	1848	1614	1692
80°	1241	1164	1086
85°	772	926	1081



TEST NUMBER: P546228

CATALOG NUMBER: FMR-12-4-LD4-2LO-35-UNV-93-94-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	201.5	4.7
10°-20°	553.1	13.0
20°-30°	765.7	18.0
30°-40°	816.4	19.2
40°-50°	744.8	17.5
50°-60°	583.5	13.7
60°-70°	380.3	8.9
70°-80°	168.5	4.0
80°-90°	36.2	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°	1520.3	35.8
0°-40°	2336.7	55.0
0°-60°	3665.0	86.2
0°-90°	4250.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4250.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2165	2165	2165	2165	2165	
5°	2127	2125	2125	2122	2122	202
15°	1990	1990	1970	1950	1942	559
25°	1724	1714	1687	1627	1582	792
35°	1399	1389	1322	1221	1191	875
45°	1074	1051	961	881	846	827
55°	746	723	656	578	548	669
65°	443	418	378	385	320	437
75°	178	165	155	148	163	190
85°	25	28	30	32	35	35
90°	0	0	0	0	0	



TEST NUMBER: P546228

CATALOG NUMBER: FMR-12-4-LD4-2LO-35-UNV-93-94-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2164.9	2164.9	2164.9	2164.9	2164.9
2.5°	2149.9	2149.9	2149.9	2147.4	2147.4
5°	2127.4	2124.8	2124.8	2122.3	2122.3
7.5°	2109.8	2107.3	2104.8	2102.3	2097.3
10°	2084.8	2084.8	2082.3	2069.8	2067.3
12.5°	2044.8	2042.3	2032.2	2014.7	2009.7
15°	1989.7	1989.7	1969.7	1949.7	1942.1
17.5°	1929.6	1927.1	1902.1	1882.1	1872.1
20°	1864.6	1859.6	1834.5	1802.0	1784.5
22.5°	1792.0	1792.0	1761.9	1719.4	1701.9
25°	1724.4	1714.4	1686.9	1626.8	1581.7
27.5°	1646.8	1631.8	1601.8	1516.7	1464.1
30°	1561.7	1554.2	1511.7	1401.5	1361.5
32.5°	1481.6	1469.1	1424.1	1308.9	1276.4
35°	1399.0	1389.0	1321.5	1221.4	1191.3
37.5°	1316.5	1303.9	1218.8	1138.8	1101.2
40°	1233.9	1218.8	1126.2	1053.7	1013.6
42.5°	1156.3	1136.3	1046.2	968.6	923.5
45°	1073.7	1051.2	961.1	881.0	845.9
47.5°	991.1	971.1	888.5	805.9	765.8
50°	903.5	886.0	810.9	728.3	685.8
52.5°	830.9	803.4	730.8	648.2	613.2
55°	745.8	723.3	655.7	578.1	548.1
57.5°	668.2	645.7	583.1	510.6	485.5
60°	595.7	563.1	510.6	448.0	428.0
62.5°	515.6	490.5	445.5	392.9	418.0
65°	443.0	418.0	377.9	385.4	320.4
67.5°	362.9	350.4	315.3	280.3	270.3
70°	295.3	280.3	267.8	230.3	220.2
72.5°	235.3	220.2	202.7	182.7	175.2
75°	177.7	165.2	155.2	147.7	162.7
77.5°	122.6	117.6	110.1	102.6	100.1
80°	80.1	77.6	75.1	72.6	70.1
82.5°	47.6	47.6	47.6	47.6	47.6
85°	25.0	27.5	30.0	32.5	35.0
87.5°	15.0	15.0	17.5	20.0	22.5
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)