

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: P546828

Luminaire Tested: **FMR-24-4-LD4-2LO-40-UNV-82-94-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: P546828
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-LD4-2LO-40-UNV-82-94-EDD
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

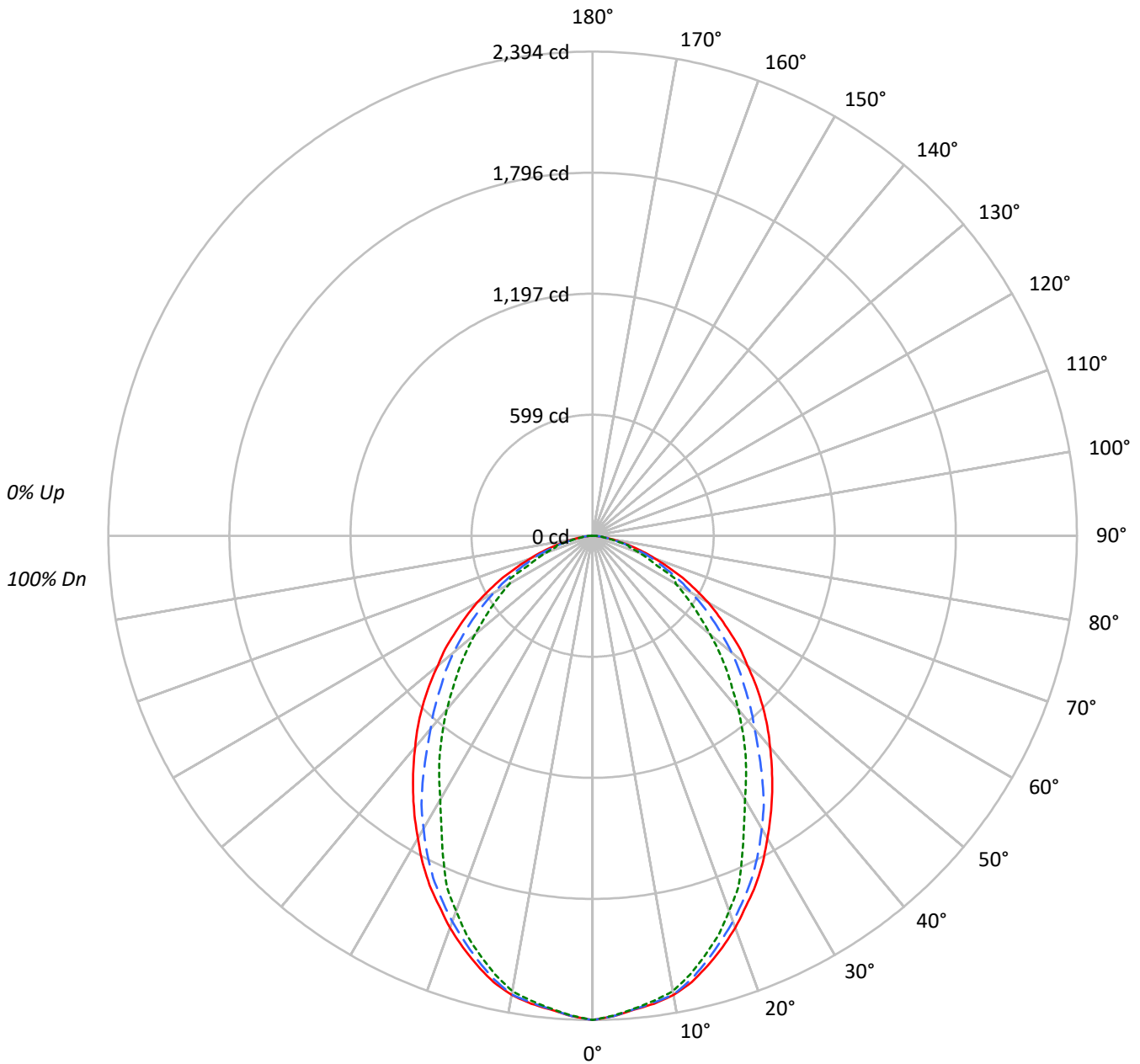
Lumens per Lamp: N/A
Luminaire Lumens: 4700.0 lumens
Efficiency: N/A
Efficacy: 100.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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: P546828

CATALOG NUMBER: FMR-24-4-LD4-2LO-40-UNV-82-94-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P546828

CATALOG NUMBER: FMR-24-4-LD4-2LO-40-UNV-82-94-EDD

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3221	3221	3221
5°	3177	3174	3170
10°	3150	3146	3124
15°	3065	3034	2992
20°	2952	2905	2826
25°	2831	2769	2597
30°	2683	2597	2339
35°	2541	2400	2164
40°	2397	2188	1969
45°	2259	2022	1780
50°	2092	1877	1587
55°	1935	1701	1422
60°	1773	1519	1274
65°	1560	1330	1128
70°	1285	1165	958
75°	1022	892	935
80°	687	643	600
85°	428	513	597



TEST NUMBER: P546828

CATALOG NUMBER: FMR-24-4-LD4-2LO-40-UNV-82-94-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	222.9	4.7
10°-20°	611.6	13.0
20°-30°	846.7	18.0
30°-40°	902.9	19.2
40°-50°	823.7	17.5
50°-60°	645.3	13.7
60°-70°	420.6	8.9
70°-80°	186.3	4.0
80°-90°	40.0	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°	1681.2	35.8
0°-40°	2584.1	55.0
0°-60°	4053.1	86.2
0°-90°	4700.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4700.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2394	2394	2394	2394	2394	
5°	2353	2350	2350	2347	2347	223
15°	2200	2200	2178	2156	2148	619
25°	1907	1896	1866	1799	1749	875
35°	1547	1536	1461	1351	1318	967
45°	1187	1162	1063	974	936	915
55°	825	800	725	639	606	740
65°	490	462	418	426	354	483
75°	196	183	172	163	180	211
85°	28	30	33	36	39	38
90°	0	0	0	0	0	



TEST NUMBER: P546828

CATALOG NUMBER: FMR-24-4-LD4-2LO-40-UNV-82-94-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2394.1	2394.1	2394.1	2394.1	2394.1
2.5°	2377.5	2377.5	2377.5	2374.7	2374.7
5°	2352.6	2349.8	2349.8	2347.1	2347.1
7.5°	2333.2	2330.5	2327.7	2324.9	2319.4
10°	2305.5	2305.5	2302.8	2288.9	2286.2
12.5°	2261.3	2258.5	2247.4	2228.1	2222.5
15°	2200.4	2200.4	2178.2	2156.1	2147.8
17.5°	2133.9	2131.2	2103.5	2081.4	2070.3
20°	2062.0	2056.4	2028.8	1992.8	1973.4
22.5°	1981.7	1981.7	1948.5	1901.5	1882.1
25°	1907.0	1895.9	1865.5	1799.0	1749.2
27.5°	1821.2	1804.6	1771.4	1677.3	1619.1
30°	1727.1	1718.8	1671.7	1549.9	1505.7
32.5°	1638.5	1624.7	1574.9	1447.5	1411.6
35°	1547.2	1536.1	1461.4	1350.7	1317.5
37.5°	1455.8	1442.0	1347.9	1259.3	1217.8
40°	1364.5	1347.9	1245.5	1165.2	1120.9
42.5°	1278.7	1256.6	1156.9	1071.1	1021.3
45°	1187.4	1162.5	1062.8	974.3	935.5
47.5°	1096.0	1073.9	982.6	891.2	846.9
50°	999.2	979.8	896.8	805.4	758.4
52.5°	918.9	888.5	808.2	716.9	678.1
55°	824.8	799.9	725.2	639.4	606.1
57.5°	739.0	714.1	644.9	564.6	536.9
60°	658.7	622.7	564.6	495.4	473.3
62.5°	570.2	542.5	492.7	434.5	462.2
65°	489.9	462.2	417.9	426.2	354.3
67.5°	401.3	387.5	348.7	310.0	298.9
70°	326.6	310.0	296.2	254.6	243.6
72.5°	260.2	243.6	224.2	202.0	193.7
75°	196.5	182.7	171.6	163.3	179.9
77.5°	135.6	130.1	121.8	113.5	110.7
80°	88.6	85.8	83.0	80.3	77.5
82.5°	52.6	52.6	52.6	52.6	52.6
85°	27.7	30.4	33.2	36.0	38.7
87.5°	16.6	16.6	19.4	22.1	24.9
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)