

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: P547481

Luminaire Tested: **FMR-24-4-LD4-4STD-40-UNV-80-86-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: P547481
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-LD4-4STD-40-UNV-80-86-EDD
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

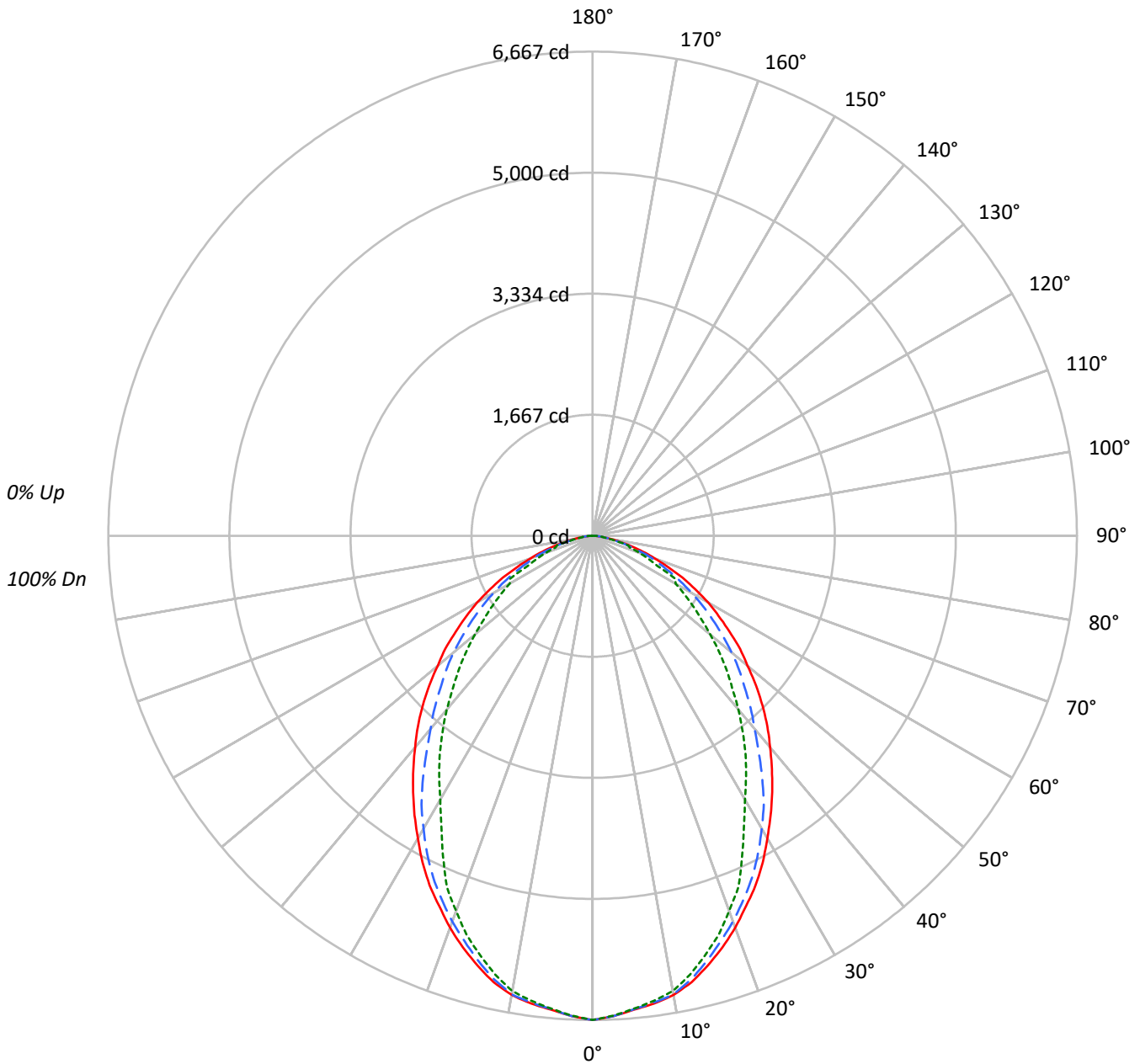
Lumens per Lamp: N/A
Luminaire Lumens: 13088.0 lumens
Efficiency: N/A
Efficacy: 98.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 133.2
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: P547481

CATALOG NUMBER: FMR-24-4-LD4-4STD-40-UNV-80-86-EDD

Luminous Intensity Polar Plot





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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°	8970	8970	8970
5°	8848	8838	8827
10°	8772	8761	8698
15°	8535	8449	8331
20°	8222	8089	7868
25°	7884	7712	7231
30°	7472	7232	6514
35°	7077	6684	6026
40°	6674	6092	5483
45°	6292	5632	4957
50°	5824	5227	4420
55°	5388	4737	3959
60°	4936	4231	3547
65°	4343	3705	3141
70°	3578	3244	2668
75°	2845	2484	2604
80°	1911	1791	1672
85°	1190	1428	1666



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	620.6	4.7
10°-20°	1703.2	13.0
20°-30°	2357.9	18.0
30°-40°	2514.2	19.2
40°-50°	2293.7	17.5
50°-60°	1796.9	13.7
60°-70°	1171.1	8.9
70°-80°	518.9	4.0
80°-90°	111.4	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°	4681.7	35.8
0°-40°	7195.9	55.0
0°-60°	11286.6	86.2
0°-90°	13088.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13088.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6667	6667	6667	6667	6667	
5°	6551	6544	6544	6536	6536	622
15°	6127	6127	6066	6004	5981	1723
25°	5310	5280	5195	5010	4871	2438
35°	4308	4278	4070	3761	3669	2694
45°	3306	3237	2960	2713	2605	2547
55°	2297	2227	2019	1780	1688	2060
65°	1364	1287	1164	1187	986	1344
75°	547	509	478	455	501	586
85°	77	85	92	100	108	107
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6666.9	6666.9	6666.9	6666.9	6666.9
2.5°	6620.6	6620.6	6620.6	6612.9	6612.9
5°	6551.2	6543.5	6543.5	6535.8	6535.8
7.5°	6497.3	6489.6	6481.9	6474.2	6458.8
10°	6420.2	6420.2	6412.5	6374.0	6366.3
12.5°	6296.9	6289.2	6258.4	6204.4	6189.0
15°	6127.3	6127.3	6065.7	6004.0	5980.9
17.5°	5942.4	5934.7	5857.6	5795.9	5765.1
20°	5742.0	5726.6	5649.5	5549.3	5495.3
22.5°	5518.5	5518.5	5426.0	5294.9	5241.0
25°	5310.4	5279.5	5194.7	5009.8	4871.0
27.5°	5071.4	5025.2	4932.7	4670.7	4508.8
30°	4809.4	4786.3	4655.2	4316.1	4192.8
32.5°	4562.7	4524.2	4385.5	4030.9	3930.7
35°	4308.4	4277.6	4069.5	3761.2	3668.7
37.5°	4054.1	4015.5	3753.5	3506.8	3391.2
40°	3799.7	3753.5	3468.3	3244.8	3121.5
42.5°	3560.8	3499.1	3221.7	2982.7	2844.0
45°	3306.5	3237.1	2959.6	2713.0	2605.1
47.5°	3052.1	2990.4	2736.1	2481.8	2358.4
50°	2782.4	2728.4	2497.2	2242.8	2111.8
52.5°	2558.8	2474.1	2250.5	1996.2	1888.3
55°	2296.8	2227.4	2019.3	1780.4	1687.9
57.5°	2057.9	1988.5	1795.8	1572.3	1495.2
60°	1834.3	1734.2	1572.3	1379.6	1318.0
62.5°	1587.7	1510.6	1371.9	1210.1	1287.1
65°	1364.2	1287.1	1163.8	1186.9	986.5
67.5°	1117.6	1079.0	971.1	863.2	832.4
70°	909.5	863.2	824.7	709.1	678.2
72.5°	724.5	678.2	624.3	562.6	539.5
75°	547.2	508.7	477.9	454.7	501.0
77.5°	377.7	362.2	339.1	316.0	308.3
80°	246.6	238.9	231.2	223.5	215.8
82.5°	146.4	146.4	146.4	146.4	146.4
85°	77.1	84.8	92.5	100.2	107.9
87.5°	46.2	46.2	54.0	61.7	69.4
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)