

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: P547441

Luminaire Tested: **FMR-24-4-LD4-4LO-50-UNV-93-86-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: P547441
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-LD4-4LO-50-UNV-93-86-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

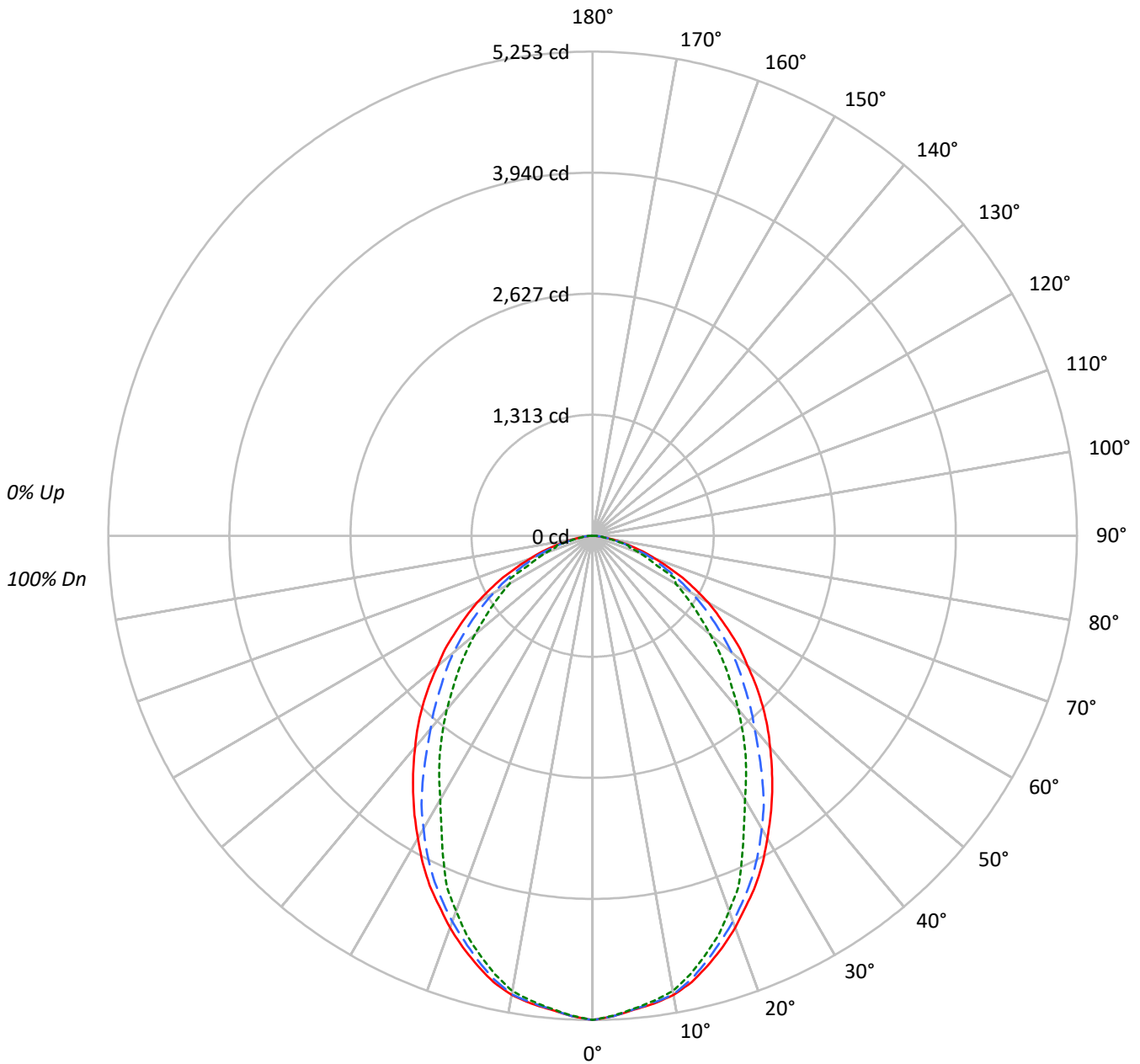
Lumens per Lamp: N/A
Luminaire Lumens: 10312.0 lumens
Efficiency: N/A
Efficacy: 110.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 93.6
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

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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°	7068	7068	7068
5°	6972	6963	6955
10°	6911	6903	6853
15°	6725	6657	6564
20°	6478	6373	6200
25°	6211	6076	5698
30°	5887	5698	5132
35°	5576	5266	4748
40°	5258	4800	4320
45°	4957	4437	3906
50°	4589	4118	3483
55°	4245	3732	3120
60°	3889	3334	2794
65°	3422	2919	2475
70°	2819	2556	2102
75°	2242	1957	2052
80°	1506	1412	1317
85°	937	1125	1312



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	489.0	4.7
10°-20°	1341.9	13.0
20°-30°	1857.8	18.0
30°-40°	1981.0	19.2
40°-50°	1807.2	17.5
50°-60°	1415.8	13.7
60°-70°	922.7	8.9
70°-80°	408.8	4.0
80°-90°	87.8	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°	3688.7	35.8
0°-40°	5669.6	55.0
0°-60°	8892.7	86.2
0°-90°	10312.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10312.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5253	5253	5253	5253	5253	
5°	5162	5156	5156	5150	5150	490
15°	4828	4828	4779	4731	4712	1357
25°	4184	4160	4093	3947	3838	1921
35°	3395	3370	3206	2963	2891	2122
45°	2605	2550	2332	2138	2052	2007
55°	1810	1755	1591	1403	1330	1623
65°	1075	1014	917	935	777	1059
75°	431	401	376	358	395	462
85°	61	67	73	79	85	84
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5252.8	5252.8	5252.8	5252.8	5252.8
2.5°	5216.4	5216.4	5216.4	5210.3	5210.3
5°	5161.7	5155.6	5155.6	5149.6	5149.6
7.5°	5119.2	5113.1	5107.1	5101.0	5088.8
10°	5058.5	5058.5	5052.4	5022.0	5016.0
12.5°	4961.3	4955.2	4930.9	4888.4	4876.3
15°	4827.7	4827.7	4779.1	4730.6	4712.3
17.5°	4682.0	4675.9	4615.2	4566.6	4542.3
20°	4524.1	4511.9	4451.2	4372.3	4329.8
22.5°	4348.0	4348.0	4275.1	4171.9	4129.4
25°	4184.0	4159.7	4092.9	3947.2	3837.9
27.5°	3995.8	3959.3	3886.5	3680.0	3552.5
30°	3789.3	3771.1	3667.8	3400.7	3303.5
32.5°	3595.0	3564.6	3455.3	3176.0	3097.0
35°	3394.6	3370.3	3206.3	2963.4	2890.6
37.5°	3194.2	3163.8	2957.4	2763.0	2671.9
40°	2993.8	2957.4	2732.7	2556.6	2459.4
42.5°	2805.5	2757.0	2538.3	2350.1	2240.8
45°	2605.1	2550.5	2331.9	2137.6	2052.5
47.5°	2404.7	2356.2	2155.8	1955.4	1858.2
50°	2192.2	2149.7	1967.5	1767.1	1663.9
52.5°	2016.1	1949.3	1773.2	1572.8	1487.8
55°	1809.6	1755.0	1591.0	1402.8	1329.9
57.5°	1621.4	1566.7	1414.9	1238.8	1178.1
60°	1445.3	1366.3	1238.8	1087.0	1038.4
62.5°	1251.0	1190.2	1080.9	953.4	1014.1
65°	1074.8	1014.1	917.0	935.2	777.3
67.5°	880.5	850.2	765.1	680.1	655.8
70°	716.6	680.1	649.8	558.7	534.4
72.5°	570.8	534.4	491.9	443.3	425.1
75°	431.2	400.8	376.5	358.3	394.7
77.5°	297.6	285.4	267.2	249.0	242.9
80°	194.3	188.3	182.2	176.1	170.0
82.5°	115.4	115.4	115.4	115.4	115.4
85°	60.7	66.8	72.9	78.9	85.0
87.5°	36.4	36.4	42.5	48.6	54.7
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)