

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: P546703

Luminaire Tested: **FMR-24-4-LD4-2HI-35-UNV-93-84-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: P546703
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-LD4-2HI-35-UNV-93-84-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

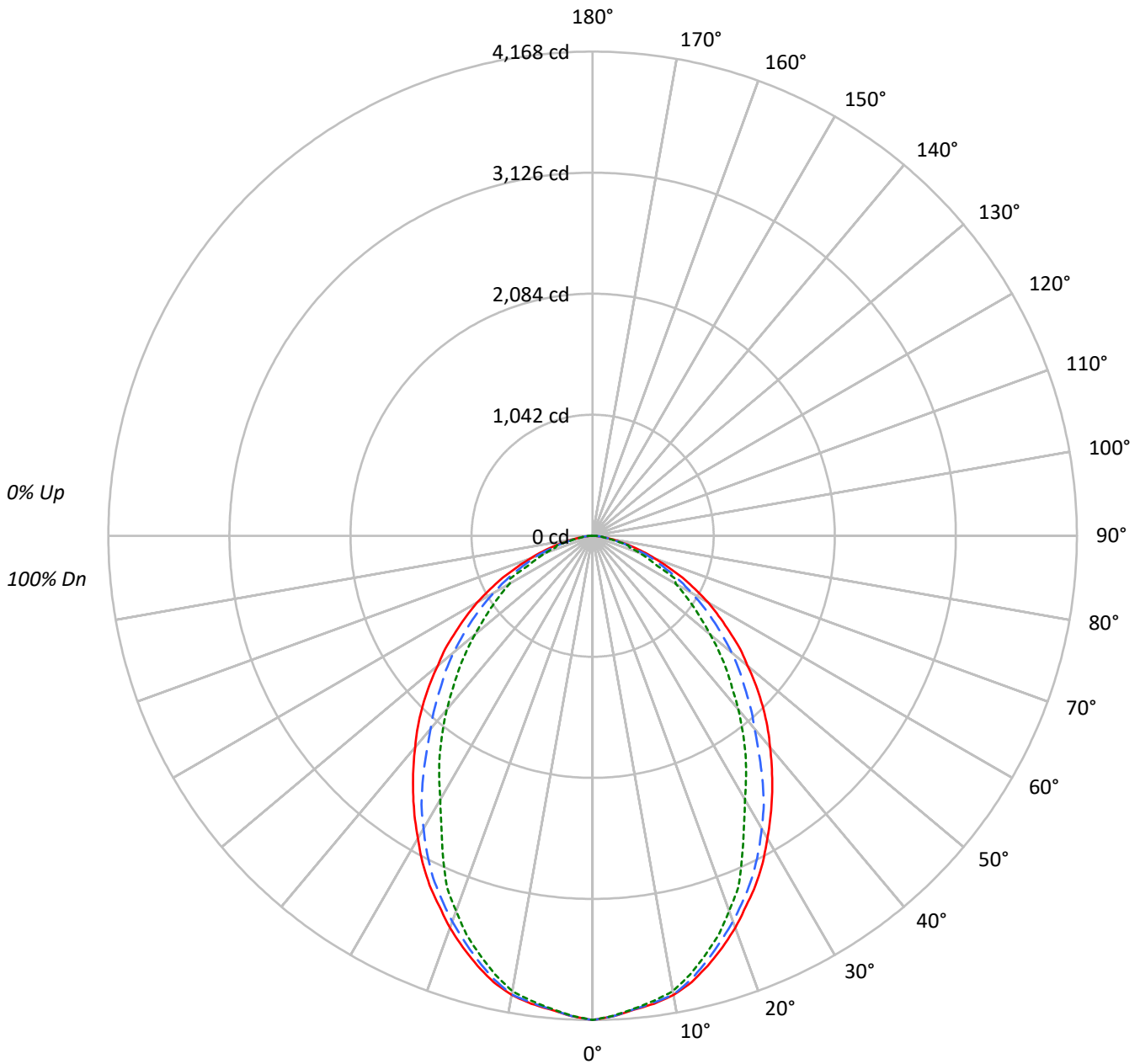
Lumens per Lamp: N/A
Luminaire Lumens: 8183.0 lumens
Efficiency: N/A
Efficacy: 94.7 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 86.4
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									
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°	5608	5608	5608
5°	5532	5526	5519
10°	5484	5478	5438
15°	5336	5283	5209
20°	5140	5058	4920
25°	4929	4822	4521
30°	4672	4522	4073
35°	4425	4179	3768
40°	4173	3809	3428
45°	3934	3521	3099
50°	3641	3268	2764
55°	3369	2962	2476
60°	3086	2645	2217
65°	2715	2316	1964
70°	2237	2028	1668
75°	1778	1553	1628
80°	1195	1120	1045
85°	744	892	1042



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	388.0	4.7
10°-20°	1064.9	13.0
20°-30°	1474.2	18.0
30°-40°	1572.0	19.2
40°-50°	1434.1	17.5
50°-60°	1123.5	13.7
60°-70°	732.2	8.9
70°-80°	324.4	4.0
80°-90°	69.7	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°	2927.1	35.8
0°-40°	4499.1	55.0
0°-60°	7056.7	86.2
0°-90°	8183.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8183.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4168	4168	4168	4168	4168	
5°	4096	4091	4091	4086	4086	389
15°	3831	3831	3792	3754	3739	1077
25°	3320	3301	3248	3132	3046	1524
35°	2694	2674	2544	2352	2294	1684
45°	2067	2024	1850	1696	1629	1592
55°	1436	1393	1262	1113	1055	1288
65°	853	805	728	742	617	841
75°	342	318	299	284	313	367
85°	48	53	58	63	68	67
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4168.3	4168.3	4168.3	4168.3	4168.3
2.5°	4139.4	4139.4	4139.4	4134.6	4134.6
5°	4096.0	4091.2	4091.2	4086.4	4086.4
7.5°	4062.3	4057.5	4052.7	4047.8	4038.2
10°	4014.1	4014.1	4009.3	3985.2	3980.4
12.5°	3937.0	3932.2	3912.9	3879.2	3869.5
15°	3831.0	3831.0	3792.4	3753.9	3739.4
17.5°	3715.3	3710.5	3662.3	3623.8	3604.5
20°	3590.0	3580.4	3532.2	3469.6	3435.8
22.5°	3450.3	3450.3	3392.5	3310.6	3276.8
25°	3320.2	3300.9	3247.9	3132.3	3045.5
27.5°	3170.8	3141.9	3084.1	2920.2	2819.0
30°	3007.0	2992.5	2910.6	2698.6	2621.5
32.5°	2852.8	2828.7	2741.9	2520.3	2457.6
35°	2693.7	2674.5	2544.4	2351.6	2293.8
37.5°	2534.7	2510.6	2346.8	2192.6	2120.3
40°	2375.7	2346.8	2168.5	2028.7	1951.6
42.5°	2226.3	2187.8	2014.3	1864.9	1778.2
45°	2067.3	2023.9	1850.4	1696.2	1628.8
47.5°	1908.3	1869.7	1710.7	1551.7	1474.6
50°	1739.6	1705.9	1561.3	1402.3	1320.4
52.5°	1599.9	1546.9	1407.1	1248.1	1180.6
55°	1436.0	1392.6	1262.5	1113.2	1055.3
57.5°	1286.6	1243.3	1122.8	983.0	934.9
60°	1146.9	1084.2	983.0	862.6	824.0
62.5°	992.7	944.5	857.8	756.6	804.7
65°	852.9	804.7	727.6	742.1	616.8
67.5°	698.7	674.6	607.2	539.7	520.4
70°	568.6	539.7	515.6	443.3	424.1
72.5°	453.0	424.1	390.3	351.8	337.3
75°	342.1	318.0	298.8	284.3	313.2
77.5°	236.1	226.5	212.0	197.6	192.8
80°	154.2	149.4	144.6	139.7	134.9
82.5°	91.6	91.6	91.6	91.6	91.6
85°	48.2	53.0	57.8	62.6	67.5
87.5°	28.9	28.9	33.7	38.6	43.4
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)