

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: P546735

Luminaire Tested: **FMR-24-4-LD4-2HI-40-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: P546735
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-40-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 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

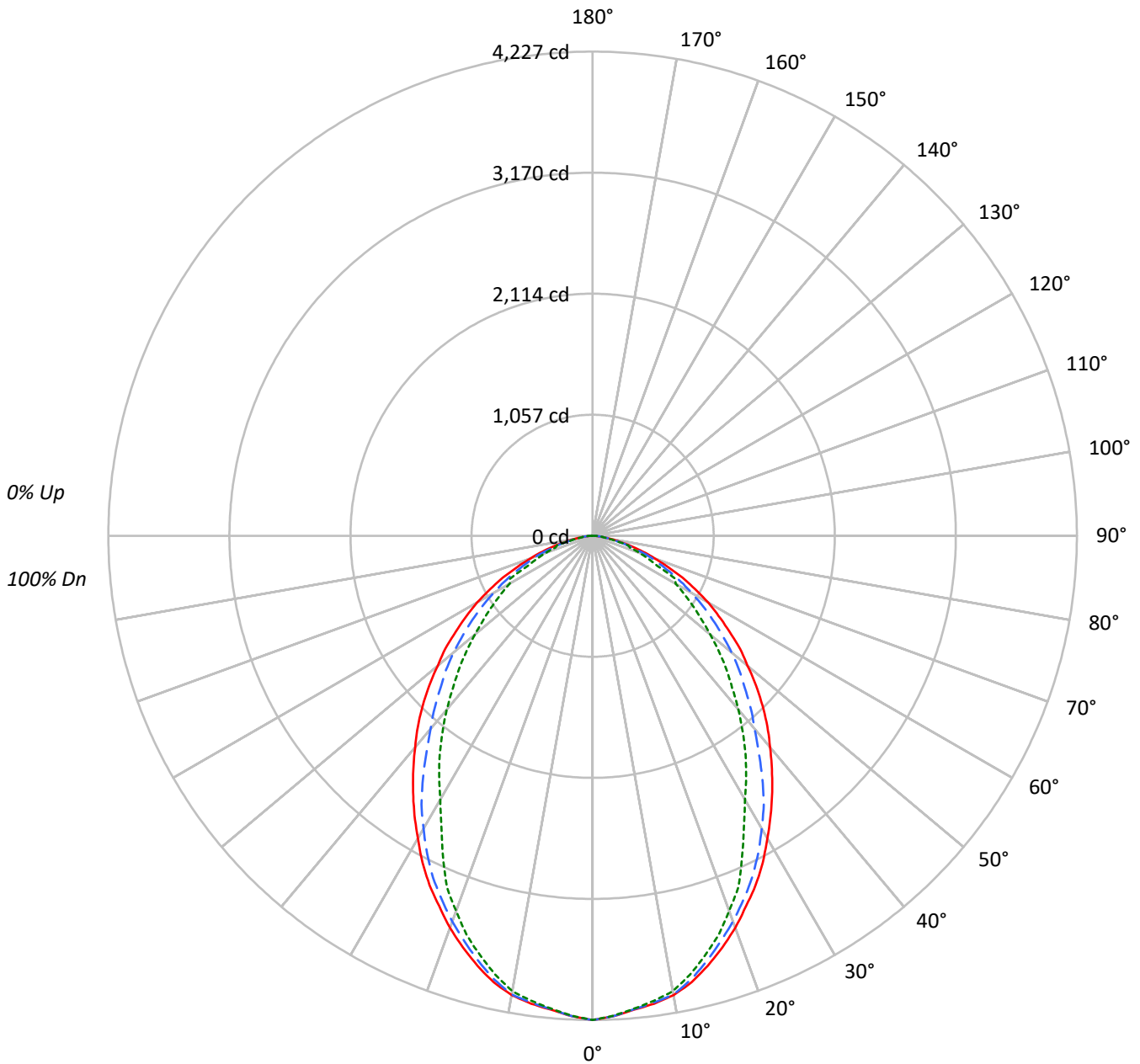
Lumens per Lamp: N/A
Luminaire Lumens: 8299.0 lumens
Efficiency: N/A
Efficacy: 96.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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°	5688	5688	5688
5°	5611	5604	5597
10°	5562	5555	5515
15°	5412	5358	5283
20°	5213	5129	4989
25°	4999	4890	4585
30°	4738	4586	4131
35°	4487	4238	3821
40°	4232	3863	3476
45°	3989	3571	3143
50°	3693	3314	2803
55°	3416	3004	2511
60°	3130	2683	2249
65°	2754	2350	1992
70°	2269	2057	1692
75°	1804	1575	1652
80°	1212	1136	1060
85°	755	905	1056



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	393.5	4.7
10°-20°	1080.0	13.0
20°-30°	1495.1	18.0
30°-40°	1594.3	19.2
40°-50°	1454.4	17.5
50°-60°	1139.4	13.7
60°-70°	742.6	8.9
70°-80°	329.0	4.0
80°-90°	70.6	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°	2968.6	35.8
0°-40°	4562.9	55.0
0°-60°	7156.7	86.2
0°-90°	8299.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8299.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4227	4227	4227	4227	4227	
5°	4154	4149	4149	4144	4144	394
15°	3885	3885	3846	3807	3792	1092
25°	3367	3348	3294	3177	3089	1546
35°	2732	2712	2580	2385	2326	1708
45°	2097	2053	1877	1720	1652	1615
55°	1456	1412	1280	1129	1070	1306
65°	865	816	738	753	626	852
75°	347	323	303	288	318	372
85°	49	54	59	64	68	68
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4227.4	4227.4	4227.4	4227.4	4227.4
2.5°	4198.1	4198.1	4198.1	4193.2	4193.2
5°	4154.1	4149.2	4149.2	4144.3	4144.3
7.5°	4119.9	4115.0	4110.1	4105.2	4095.4
10°	4071.0	4071.0	4066.1	4041.7	4036.8
12.5°	3992.8	3987.9	3968.4	3934.2	3924.4
15°	3885.3	3885.3	3846.2	3807.1	3792.4
17.5°	3768.0	3763.1	3714.2	3675.1	3655.6
20°	3640.9	3631.2	3582.3	3518.8	3484.6
22.5°	3499.2	3499.2	3440.6	3357.5	3323.3
25°	3367.3	3347.7	3294.0	3176.7	3088.7
27.5°	3215.8	3186.4	3127.8	2961.6	2859.0
30°	3049.6	3034.9	2951.8	2736.8	2658.6
32.5°	2893.2	2868.8	2780.8	2556.0	2492.5
35°	2731.9	2712.4	2580.4	2384.9	2326.3
37.5°	2570.7	2546.2	2380.1	2223.7	2150.4
40°	2409.4	2380.1	2199.2	2057.5	1979.3
42.5°	2257.9	2218.8	2042.8	1891.3	1803.4
45°	2096.6	2052.6	1876.7	1720.3	1651.9
47.5°	1935.3	1896.2	1734.9	1573.7	1495.5
50°	1764.3	1730.1	1583.4	1422.2	1339.1
52.5°	1622.5	1568.8	1427.1	1265.8	1197.4
55°	1456.4	1412.4	1280.4	1128.9	1070.3
57.5°	1304.9	1260.9	1138.7	997.0	948.1
60°	1163.1	1099.6	997.0	874.8	835.7
62.5°	1006.8	957.9	869.9	767.3	816.2
65°	865.0	816.2	738.0	752.6	625.6
67.5°	708.6	684.2	615.8	547.4	527.8
70°	576.7	547.4	522.9	449.6	430.1
72.5°	459.4	430.1	395.9	356.8	342.1
75°	347.0	322.6	303.0	288.3	317.7
77.5°	239.5	229.7	215.0	200.4	195.5
80°	156.4	151.5	146.6	141.7	136.8
82.5°	92.9	92.9	92.9	92.9	92.9
85°	48.9	53.8	58.6	63.5	68.4
87.5°	29.3	29.3	34.2	39.1	44.0
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)