

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: P546770

Luminaire Tested: **FMR-24-4-LD4-2HI-50-UNV-93-87-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: P546770
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-50-UNV-93-87-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

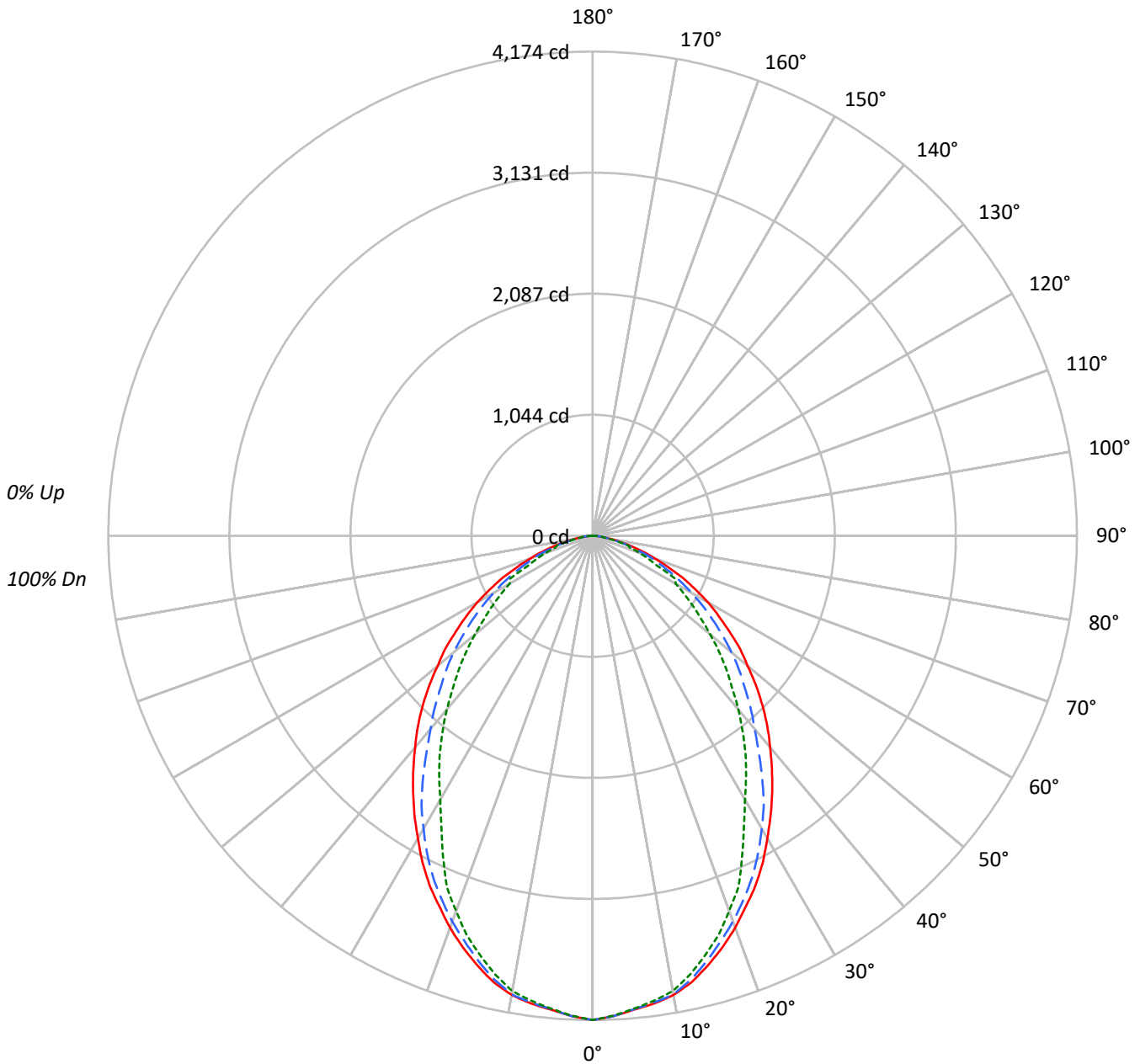
Lumens per Lamp: N/A
Luminaire Lumens: 8194.0 lumens
Efficiency: N/A
Efficacy: 94.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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°	5616	5616	5616
5°	5540	5533	5527
10°	5492	5485	5445
15°	5344	5290	5216
20°	5147	5064	4926
25°	4936	4828	4527
30°	4678	4528	4078
35°	4431	4185	3773
40°	4178	3814	3433
45°	3939	3526	3103
50°	3646	3273	2767
55°	3373	2966	2479
60°	3090	2649	2220
65°	2719	2320	1966
70°	2240	2031	1670
75°	1781	1555	1630
80°	1196	1122	1047
85°	746	894	1044



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	388.5	4.7
10°-20°	1066.3	13.0
20°-30°	1476.2	18.0
30°-40°	1574.1	19.2
40°-50°	1436.0	17.5
50°-60°	1125.0	13.7
60°-70°	733.2	8.9
70°-80°	324.8	4.0
80°-90°	69.8	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°	2931.1	35.8
0°-40°	4505.1	55.0
0°-60°	7066.2	86.2
0°-90°	8194.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8194.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4174	4174	4174	4174	4174	
5°	4102	4097	4097	4092	4092	389
15°	3836	3836	3798	3759	3744	1078
25°	3325	3305	3252	3136	3050	1526
35°	2697	2678	2548	2355	2297	1686
45°	2070	2027	1853	1698	1631	1595
55°	1438	1394	1264	1115	1057	1290
65°	854	806	729	743	618	842
75°	343	318	299	285	314	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°	4173.9	4173.9	4173.9	4173.9	4173.9
2.5°	4145.0	4145.0	4145.0	4140.1	4140.1
5°	4101.5	4096.7	4096.7	4091.9	4091.9
7.5°	4067.8	4062.9	4058.1	4053.3	4043.6
10°	4019.5	4019.5	4014.7	3990.6	3985.7
12.5°	3942.3	3937.5	3918.2	3884.4	3874.7
15°	3836.1	3836.1	3797.5	3758.9	3744.5
17.5°	3720.3	3715.5	3667.3	3628.7	3609.4
20°	3594.9	3585.2	3537.0	3474.2	3440.5
22.5°	3454.9	3454.9	3397.0	3315.0	3281.2
25°	3324.7	3305.4	3252.3	3136.5	3049.6
27.5°	3175.1	3146.1	3088.2	2924.2	2822.8
30°	3011.0	2996.5	2914.5	2702.2	2625.0
32.5°	2856.6	2832.5	2745.6	2523.6	2460.9
35°	2697.4	2678.1	2547.8	2354.8	2296.9
37.5°	2538.1	2514.0	2349.9	2195.5	2123.1
40°	2378.9	2349.9	2171.4	2031.5	1954.3
42.5°	2229.3	2190.7	2017.0	1867.4	1780.5
45°	2070.1	2026.6	1852.9	1698.5	1631.0
47.5°	1910.8	1872.2	1713.0	1553.8	1476.6
50°	1741.9	1708.2	1563.4	1404.2	1322.1
52.5°	1602.0	1548.9	1409.0	1249.8	1182.2
55°	1437.9	1394.5	1264.2	1114.7	1056.7
57.5°	1288.4	1244.9	1124.3	984.4	936.1
60°	1148.4	1085.7	984.4	863.7	825.1
62.5°	994.0	945.8	858.9	757.6	805.8
65°	854.1	805.8	728.6	743.1	617.6
67.5°	699.7	675.5	608.0	540.4	521.1
70°	569.4	540.4	516.3	443.9	424.6
72.5°	453.6	424.6	390.9	352.2	337.8
75°	342.6	318.5	299.2	284.7	313.6
77.5°	236.4	226.8	212.3	197.8	193.0
80°	154.4	149.6	144.8	139.9	135.1
82.5°	91.7	91.7	91.7	91.7	91.7
85°	48.3	53.1	57.9	62.7	67.6
87.5°	29.0	29.0	33.8	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)