

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: P547009

Luminaire Tested: **FMR-24-4-LD4-3HI-40-UNV-81-86-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: P547009
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-LD4-3HI-40-UNV-81-86-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC 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

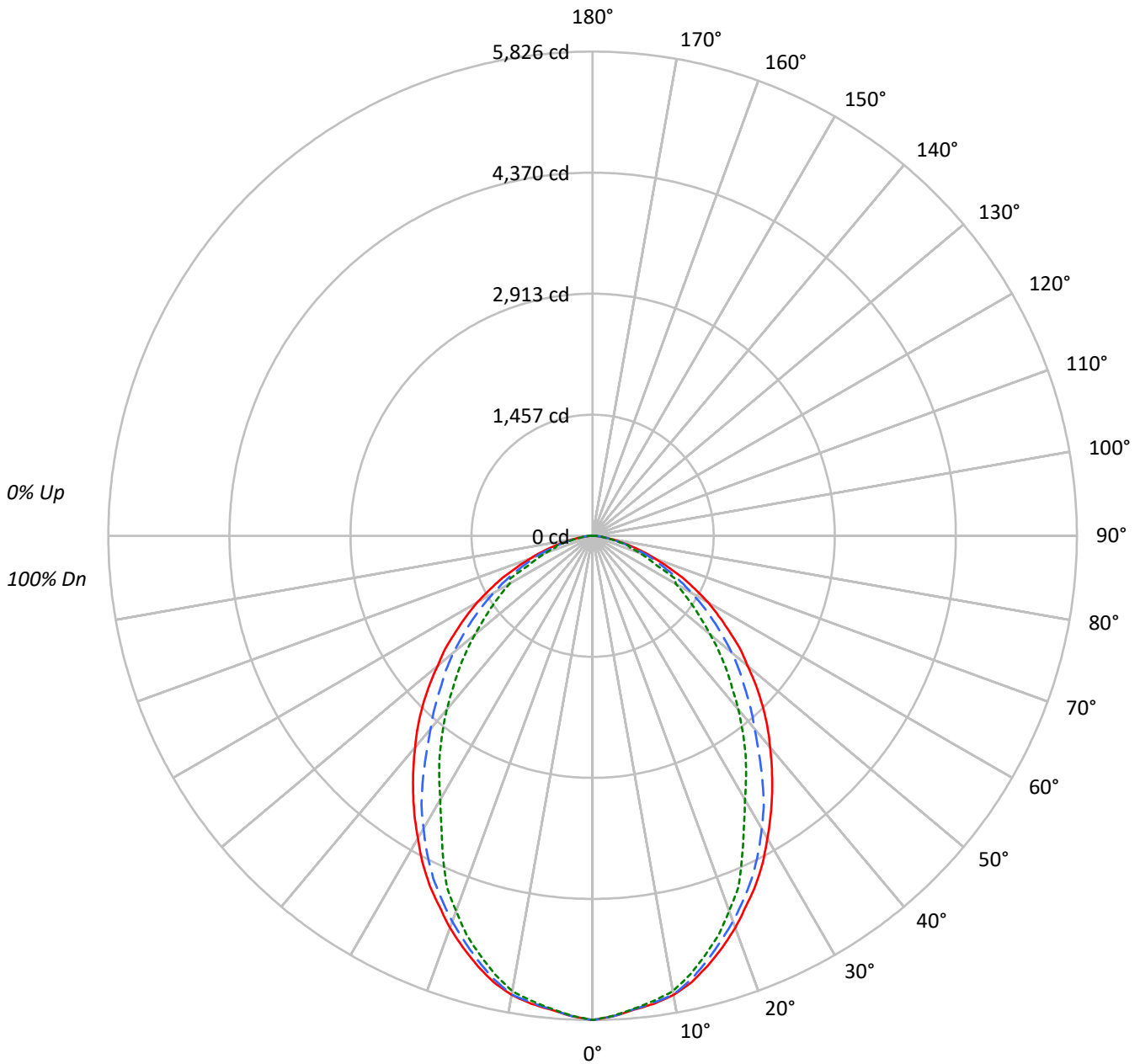
Lumens per Lamp: N/A
Luminaire Lumens: 11438.0 lumens
Efficiency: N/A
Efficacy: 88.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 129.6
Input Voltage (V): NR
Input Current (A_{in}): 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: P547009

CATALOG NUMBER: FMR-24-4-LD4-3HI-40-UNV-81-86-EDD

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°	7839	7839	7839
5°	7733	7724	7715
10°	7666	7657	7601
15°	7459	7384	7281
20°	7185	7069	6876
25°	6890	6740	6320
30°	6530	6321	5693
35°	6184	5842	5266
40°	5833	5324	4791
45°	5498	4922	4332
50°	5090	4568	3863
55°	4708	4140	3460
60°	4314	3698	3099
65°	3796	3238	2745
70°	3127	2835	2332
75°	2486	2171	2276
80°	1670	1566	1461
85°	1041	1247	1456



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	542.4	4.7
10°-20°	1488.5	13.0
20°-30°	2060.7	18.0
30°-40°	2197.3	19.2
40°-50°	2004.5	17.5
50°-60°	1570.4	13.7
60°-70°	1023.5	8.9
70°-80°	453.5	4.0
80°-90°	97.4	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°	4091.5	35.8
0°-40°	6288.7	55.0
0°-60°	9863.7	86.2
0°-90°	11438.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11438.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5826	5826	5826	5826	5826	
5°	5725	5719	5719	5712	5712	543
15°	5355	5355	5301	5247	5227	1505
25°	4641	4614	4540	4378	4257	2131
35°	3765	3738	3556	3287	3206	2354
45°	2890	2829	2586	2371	2277	2226
55°	2007	1947	1765	1556	1475	1800
65°	1192	1125	1017	1037	862	1175
75°	478	445	418	397	438	513
85°	67	74	81	88	94	93
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5826.4	5826.4	5826.4	5826.4	5826.4
2.5°	5786.0	5786.0	5786.0	5779.2	5779.2
5°	5725.3	5718.6	5718.6	5711.9	5711.9
7.5°	5678.2	5671.4	5664.7	5658.0	5644.5
10°	5610.8	5610.8	5604.1	5570.4	5563.7
12.5°	5503.1	5496.3	5469.4	5422.2	5408.8
15°	5354.9	5354.9	5301.0	5247.1	5226.9
17.5°	5193.2	5186.5	5119.1	5065.2	5038.3
20°	5018.1	5004.6	4937.3	4849.7	4802.5
22.5°	4822.7	4822.7	4741.9	4627.4	4580.3
25°	4640.9	4613.9	4539.8	4378.2	4257.0
27.5°	4432.1	4391.7	4310.8	4081.8	3940.4
30°	4203.1	4182.9	4068.4	3772.0	3664.2
32.5°	3987.5	3953.8	3832.6	3522.8	3435.2
35°	3765.2	3738.3	3556.4	3287.0	3206.2
37.5°	3543.0	3509.3	3280.3	3064.7	2963.7
40°	3320.7	3280.3	3031.1	2835.7	2728.0
42.5°	3111.9	3058.0	2815.5	2606.7	2485.5
45°	2889.6	2829.0	2586.5	2371.0	2276.7
47.5°	2667.3	2613.4	2391.2	2168.9	2061.1
50°	2431.6	2384.4	2182.4	1960.1	1845.6
52.5°	2236.2	2162.2	1966.8	1744.5	1650.2
55°	2007.2	1946.6	1764.7	1555.9	1475.1
57.5°	1798.4	1737.8	1569.4	1374.1	1306.7
60°	1603.1	1515.5	1374.1	1205.7	1151.8
62.5°	1387.6	1320.2	1199.0	1057.5	1124.9
65°	1192.2	1124.9	1017.1	1037.3	862.2
67.5°	976.7	943.0	848.7	754.4	727.5
70°	794.8	754.4	720.7	619.7	592.7
72.5°	633.2	592.7	545.6	491.7	471.5
75°	478.2	444.6	417.6	397.4	437.8
77.5°	330.0	316.6	296.4	276.2	269.4
80°	215.5	208.8	202.1	195.3	188.6
82.5°	128.0	128.0	128.0	128.0	128.0
85°	67.4	74.1	80.8	87.6	94.3
87.5°	40.4	40.4	47.1	53.9	60.6
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)