

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: P547346

Luminaire Tested: **FMR-24-4-LD4-4HI-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: P547346
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-LD4-4HI-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

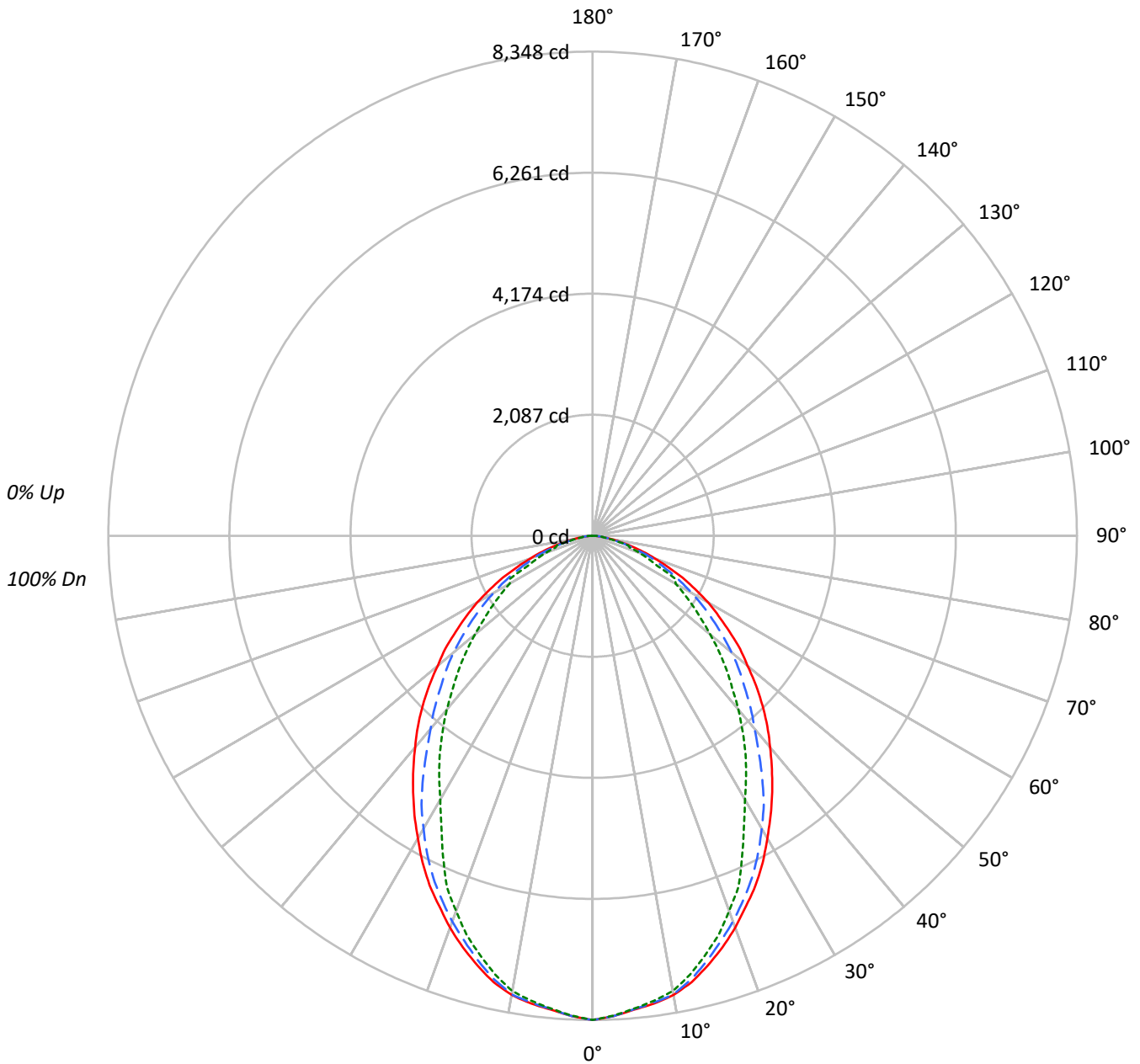
Lumens per Lamp: N/A
Luminaire Lumens: 16388.0 lumens
Efficiency: N/A
Efficacy: 94.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 172.8
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°	11232	11232	11232
5°	11079	11066	11053
10°	10983	10970	10891
15°	10687	10580	10432
20°	10294	10129	9852
25°	9871	9657	9055
30°	9356	9056	8157
35°	8861	8370	7545
40°	8357	7628	6865
45°	7878	7052	6207
50°	7293	6545	5535
55°	6746	5931	4958
60°	6181	5298	4441
65°	5438	4640	3933
70°	4480	4062	3341
75°	3562	3110	3261
80°	2393	2243	2094
85°	1490	1788	2086



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	777.1	4.7
10°-20°	2132.6	13.0
20°-30°	2952.4	18.0
30°-40°	3148.2	19.2
40°-50°	2872.0	17.5
50°-60°	2250.0	13.7
60°-70°	1466.5	8.9
70°-80°	649.7	4.0
80°-90°	139.5	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°	5862.1	35.8
0°-40°	9010.3	55.0
0°-60°	14132.3	86.2
0°-90°	16388.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	16388.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	8348	8348	8348	8348	8348	
5°	8203	8193	8193	8184	8184	779
15°	7672	7672	7595	7518	7489	2157
25°	6649	6611	6505	6273	6099	3053
35°	5395	5356	5096	4710	4594	3373
45°	4140	4053	3706	3397	3262	3189
55°	2876	2789	2528	2229	2114	2579
65°	1708	1612	1457	1486	1235	1683
75°	685	637	598	569	627	734
85°	96	106	116	126	135	134
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	8347.8	8347.8	8347.8	8347.8	8347.8
2.5°	8289.9	8289.9	8289.9	8280.3	8280.3
5°	8203.1	8193.4	8193.4	8183.8	8183.8
7.5°	8135.5	8125.9	8116.2	8106.6	8087.3
10°	8039.0	8039.0	8029.4	7981.1	7971.5
12.5°	7884.6	7874.9	7836.3	7768.8	7749.5
15°	7672.3	7672.3	7595.1	7517.9	7488.9
17.5°	7440.7	7431.0	7334.5	7257.3	7218.7
20°	7189.7	7170.4	7073.9	6948.5	6880.9
22.5°	6909.9	6909.9	6794.1	6630.0	6562.5
25°	6649.3	6610.7	6504.6	6272.9	6099.2
27.5°	6350.1	6292.2	6176.4	5848.3	5645.6
30°	6022.0	5993.1	5829.0	5404.4	5250.0
32.5°	5713.2	5664.9	5491.2	5047.3	4921.8
35°	5394.7	5356.1	5095.6	4709.5	4593.7
37.5°	5076.3	5028.0	4699.9	4391.1	4246.3
40°	4757.8	4699.9	4342.8	4062.9	3908.5
42.5°	4458.6	4381.4	4034.0	3734.8	3561.1
45°	4140.1	4053.3	3705.9	3397.0	3261.9
47.5°	3821.7	3744.5	3426.0	3107.5	2953.1
50°	3483.9	3416.3	3126.8	2808.3	2644.3
52.5°	3204.0	3097.9	2818.0	2499.5	2364.4
55°	2875.9	2789.0	2528.5	2229.3	2113.5
57.5°	2576.7	2489.9	2248.6	1968.7	1872.2
60°	2296.9	2171.4	1968.7	1727.5	1650.3
62.5°	1988.0	1891.5	1717.8	1515.2	1611.7
65°	1708.2	1611.7	1457.3	1486.2	1235.3
67.5°	1399.3	1351.1	1216.0	1080.9	1042.3
70°	1138.8	1080.9	1032.6	887.9	849.3
72.5°	907.2	849.3	781.7	704.5	675.5
75°	685.2	636.9	598.3	569.4	627.3
77.5°	472.9	453.6	424.6	395.7	386.0
80°	308.8	299.2	289.5	279.9	270.2
82.5°	183.4	183.4	183.4	183.4	183.4
85°	96.5	106.2	115.8	125.5	135.1
87.5°	57.9	57.9	67.6	77.2	86.9
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)