

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: P547333

Luminaire Tested: **FMR-24-4-LD4-4HI-50-UNV-81-96-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: P547333
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-81-96-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

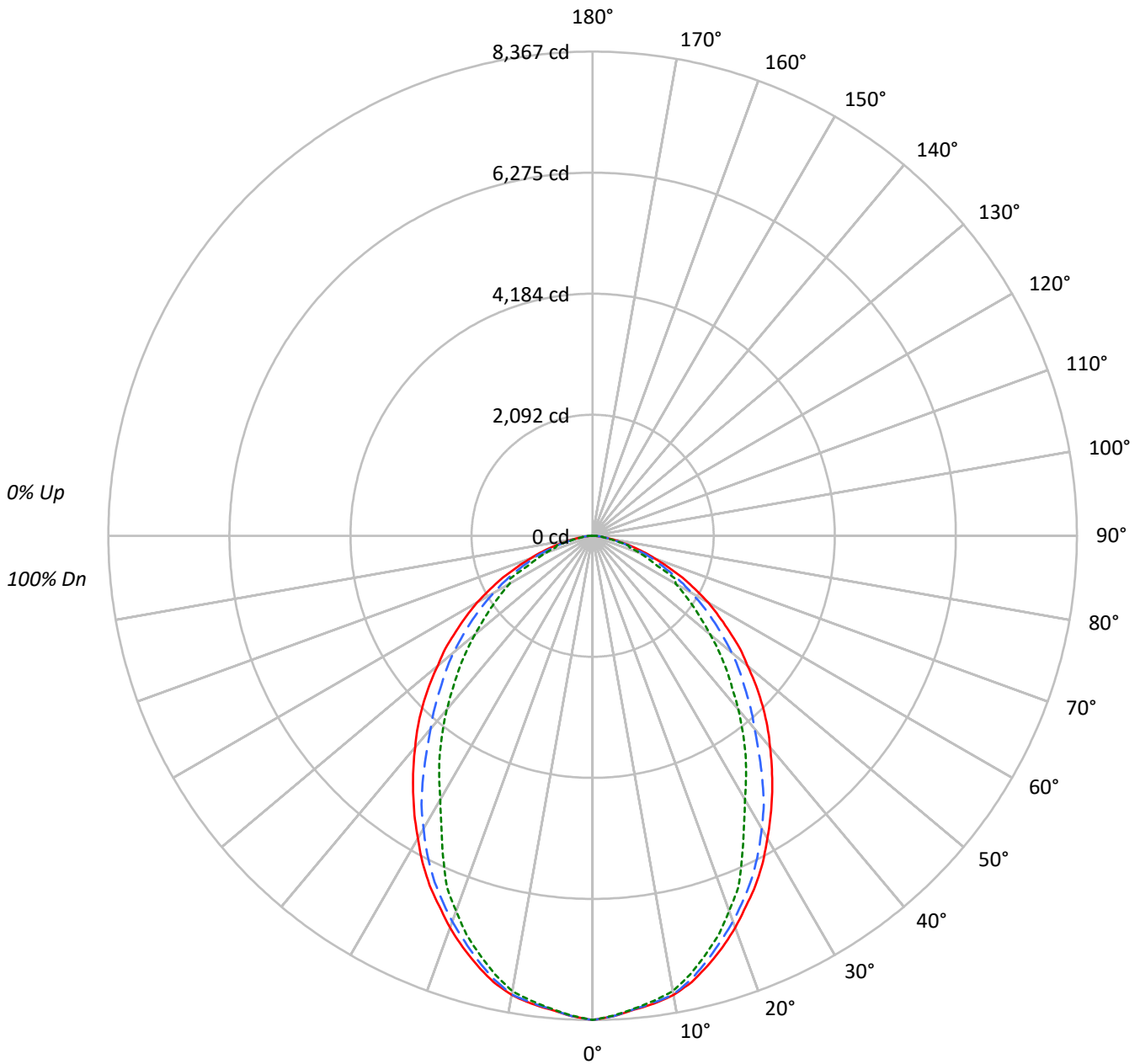
Lumens per Lamp: N/A
Luminaire Lumens: 16426.0 lumens
Efficiency: N/A
Efficacy: 95.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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°	11258	11258	11258
5°	11105	11092	11079
10°	11009	10996	10916
15°	10712	10604	10456
20°	10318	10152	9875
25°	9894	9679	9076
30°	9378	9077	8175
35°	8882	8389	7563
40°	8376	7645	6881
45°	7896	7068	6221
50°	7309	6560	5548
55°	6762	5945	4969
60°	6195	5310	4451
65°	5451	4650	3942
70°	4490	4072	3349
75°	3570	3118	3268
80°	2398	2249	2098
85°	1493	1792	2090



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	778.9	4.7
10°-20°	2137.5	13.0
20°-30°	2959.3	18.0
30°-40°	3155.5	19.2
40°-50°	2878.7	17.5
50°-60°	2255.2	13.7
60°-70°	1469.8	8.9
70°-80°	651.2	4.0
80°-90°	139.8	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°	5875.7	35.8
0°-40°	9031.2	55.0
0°-60°	14165.1	86.2
0°-90°	16426.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	16426.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	8367	8367	8367	8367	8367	
5°	8222	8212	8212	8203	8203	780
15°	7690	7690	7613	7535	7506	2162
25°	6665	6626	6520	6288	6113	3060
35°	5407	5368	5107	4720	4604	3380
45°	4150	4063	3714	3405	3270	3196
55°	2883	2796	2534	2234	2118	2585
65°	1712	1615	1461	1490	1238	1687
75°	687	638	600	571	629	736
85°	97	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°	8367.2	8367.2	8367.2	8367.2	8367.2
2.5°	8309.1	8309.1	8309.1	8299.5	8299.5
5°	8222.1	8212.4	8212.4	8202.7	8202.7
7.5°	8154.4	8144.7	8135.0	8125.4	8106.0
10°	8057.6	8057.6	8048.0	7999.6	7989.9
12.5°	7902.9	7893.2	7854.5	7786.8	7767.5
15°	7690.1	7690.1	7612.7	7535.3	7506.3
17.5°	7457.9	7448.2	7351.5	7274.1	7235.4
20°	7206.4	7187.1	7090.3	6964.6	6896.9
22.5°	6925.9	6925.9	6809.8	6645.4	6577.7
25°	6664.7	6626.0	6519.6	6287.5	6113.4
27.5°	6364.9	6306.8	6190.7	5861.9	5658.7
30°	6036.0	6007.0	5842.5	5416.9	5262.1
32.5°	5726.4	5678.1	5504.0	5059.0	4933.3
35°	5407.2	5368.5	5107.4	4720.4	4604.4
37.5°	5088.0	5039.7	4710.8	4401.2	4256.1
40°	4768.8	4710.8	4352.9	4072.4	3917.6
42.5°	4468.9	4391.6	4043.3	3743.5	3569.4
45°	4149.7	4062.7	3714.4	3404.9	3269.5
47.5°	3830.5	3753.1	3433.9	3114.7	2960.0
50°	3492.0	3424.3	3134.1	2814.9	2650.4
52.5°	3211.5	3105.0	2824.5	2505.3	2369.9
55°	2882.6	2795.5	2534.3	2234.5	2118.4
57.5°	2582.7	2495.6	2253.8	1973.3	1876.6
60°	2302.2	2176.4	1973.3	1731.5	1654.1
62.5°	1992.6	1895.9	1721.8	1518.7	1615.4
65°	1712.1	1615.4	1460.6	1489.6	1238.1
67.5°	1402.6	1354.2	1218.8	1083.4	1044.7
70°	1141.4	1083.4	1035.0	889.9	851.2
72.5°	909.3	851.2	783.5	706.1	677.1
75°	686.8	638.4	599.7	570.7	628.7
77.5°	474.0	454.6	425.6	396.6	386.9
80°	309.5	299.9	290.2	280.5	270.8
82.5°	183.8	183.8	183.8	183.8	183.8
85°	96.7	106.4	116.1	125.7	135.4
87.5°	58.0	58.0	67.7	77.4	87.1
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)