

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: P547332

Luminaire Tested: **FMR-24-4-LD4-4HI-50-UNV-81-94-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: P547332
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-81-94-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

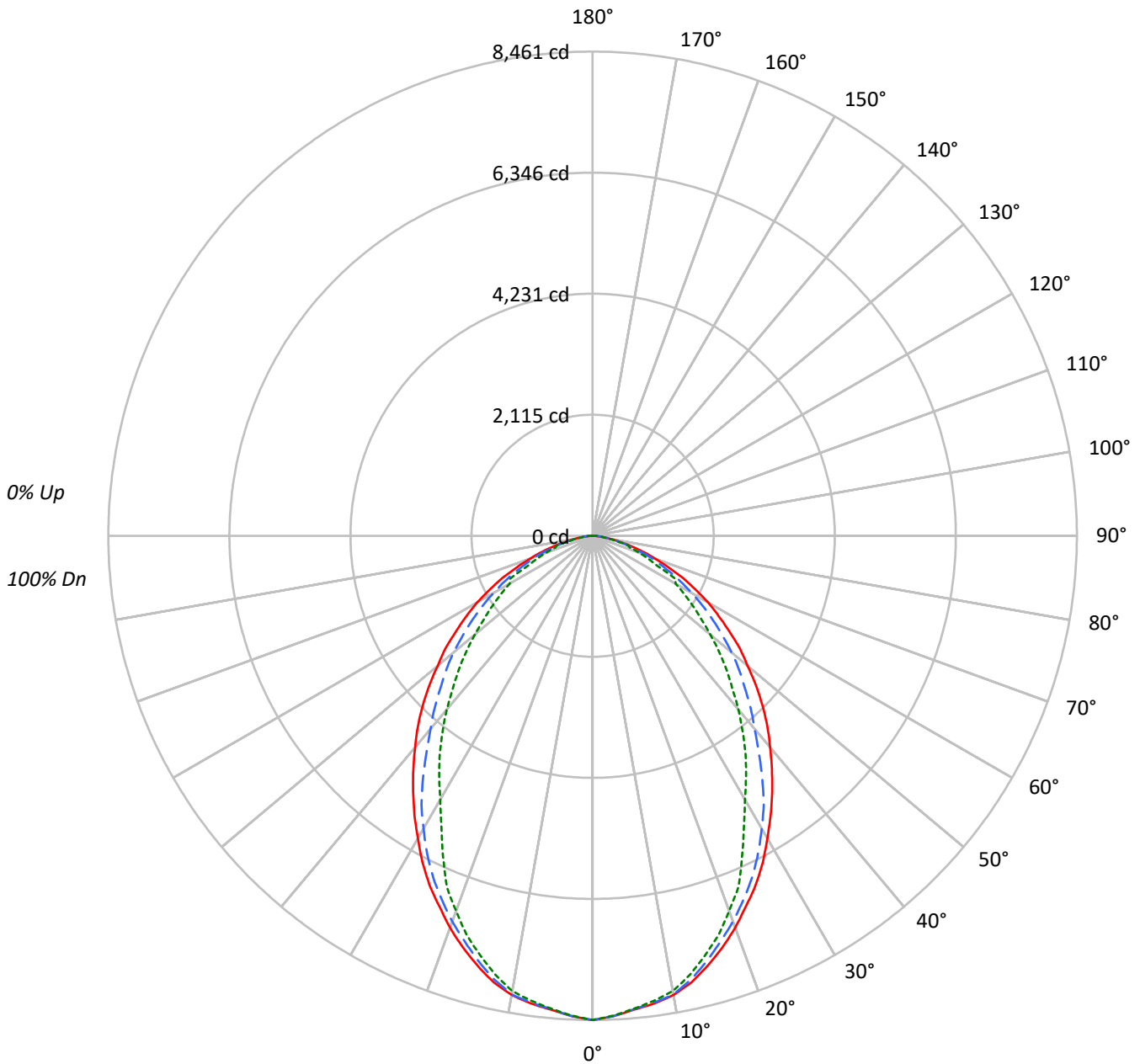
Lumens per Lamp: N/A
Luminaire Lumens: 16610.0 lumens
Efficiency: N/A
Efficacy: 96.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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°	11384	11384	11384
5°	11229	11216	11203
10°	11132	11119	11038
15°	10832	10723	10573
20°	10434	10266	9986
25°	10005	9787	9177
30°	9483	9179	8267
35°	8981	8483	7647
40°	8470	7731	6958
45°	7985	7147	6291
50°	7391	6634	5610
55°	6838	6012	5025
60°	6265	5370	4501
65°	5512	4702	3986
70°	4541	4117	3386
75°	3610	3152	3305
80°	2425	2273	2122
85°	1510	1812	2113



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	787.6	4.7
10°-20°	2161.5	13.0
20°-30°	2992.4	18.0
30°-40°	3190.8	19.2
40°-50°	2911.0	17.5
50°-60°	2280.5	13.7
60°-70°	1486.3	8.9
70°-80°	658.5	4.0
80°-90°	141.4	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°	5941.5	35.8
0°-40°	9132.3	55.0
0°-60°	14323.8	86.2
0°-90°	16610.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	16610.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	8461	8461	8461	8461	8461	
5°	8314	8304	8304	8295	8295	789
15°	7776	7776	7698	7620	7590	2186
25°	6739	6700	6593	6358	6182	3094
35°	5468	5429	5165	4773	4656	3418
45°	4196	4108	3756	3443	3306	3232
55°	2915	2827	2563	2260	2142	2614
65°	1731	1634	1477	1506	1252	1706
75°	694	646	606	577	636	744
85°	98	108	117	127	137	136
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	8460.9	8460.9	8460.9	8460.9	8460.9
2.5°	8402.2	8402.2	8402.2	8392.4	8392.4
5°	8314.2	8304.4	8304.4	8294.6	8294.6
7.5°	8245.7	8235.9	8226.2	8216.4	8196.8
10°	8147.9	8147.9	8138.1	8089.2	8079.4
12.5°	7991.4	7981.6	7942.5	7874.0	7854.5
15°	7776.2	7776.2	7698.0	7619.7	7590.4
17.5°	7541.5	7531.7	7433.9	7355.6	7316.5
20°	7287.1	7267.6	7169.8	7042.6	6974.1
22.5°	7003.5	7003.5	6886.1	6719.8	6651.4
25°	6739.4	6700.3	6592.7	6357.9	6181.8
27.5°	6436.2	6377.5	6260.1	5927.5	5722.1
30°	6103.6	6074.3	5908.0	5477.6	5321.1
32.5°	5790.6	5741.7	5565.6	5115.7	4988.5
35°	5467.8	5428.7	5164.6	4773.3	4655.9
37.5°	5145.0	5096.1	4763.5	4450.5	4303.8
40°	4822.2	4763.5	4401.6	4118.0	3961.5
42.5°	4519.0	4440.8	4088.6	3785.4	3609.3
45°	4196.2	4108.2	3756.1	3443.1	3306.1
47.5°	3873.4	3795.2	3472.4	3149.6	2993.1
50°	3531.1	3462.6	3169.2	2846.4	2680.1
52.5°	3247.4	3139.8	2856.2	2533.4	2396.4
55°	2914.9	2826.8	2562.7	2259.5	2142.1
57.5°	2611.6	2523.6	2279.1	1995.4	1897.6
60°	2328.0	2200.8	1995.4	1750.9	1672.6
62.5°	2015.0	1917.2	1741.1	1535.7	1633.5
65°	1731.3	1633.5	1477.0	1506.3	1252.0
67.5°	1418.3	1369.4	1232.5	1095.5	1056.4
70°	1154.2	1095.5	1046.6	899.9	860.8
72.5°	919.5	860.8	792.3	714.0	684.7
75°	694.5	645.6	606.4	577.1	635.8
77.5°	479.3	459.7	430.4	401.0	391.3
80°	313.0	303.2	293.4	283.7	273.9
82.5°	185.8	185.8	185.8	185.8	185.8
85°	97.8	107.6	117.4	127.2	136.9
87.5°	58.7	58.7	68.5	78.3	88.0
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)