

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: P547509

Luminaire Tested: **FMR-24-4-LD4-4STD-40-UNV-93-96-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: P547509
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-LD4-4STD-40-UNV-93-96-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

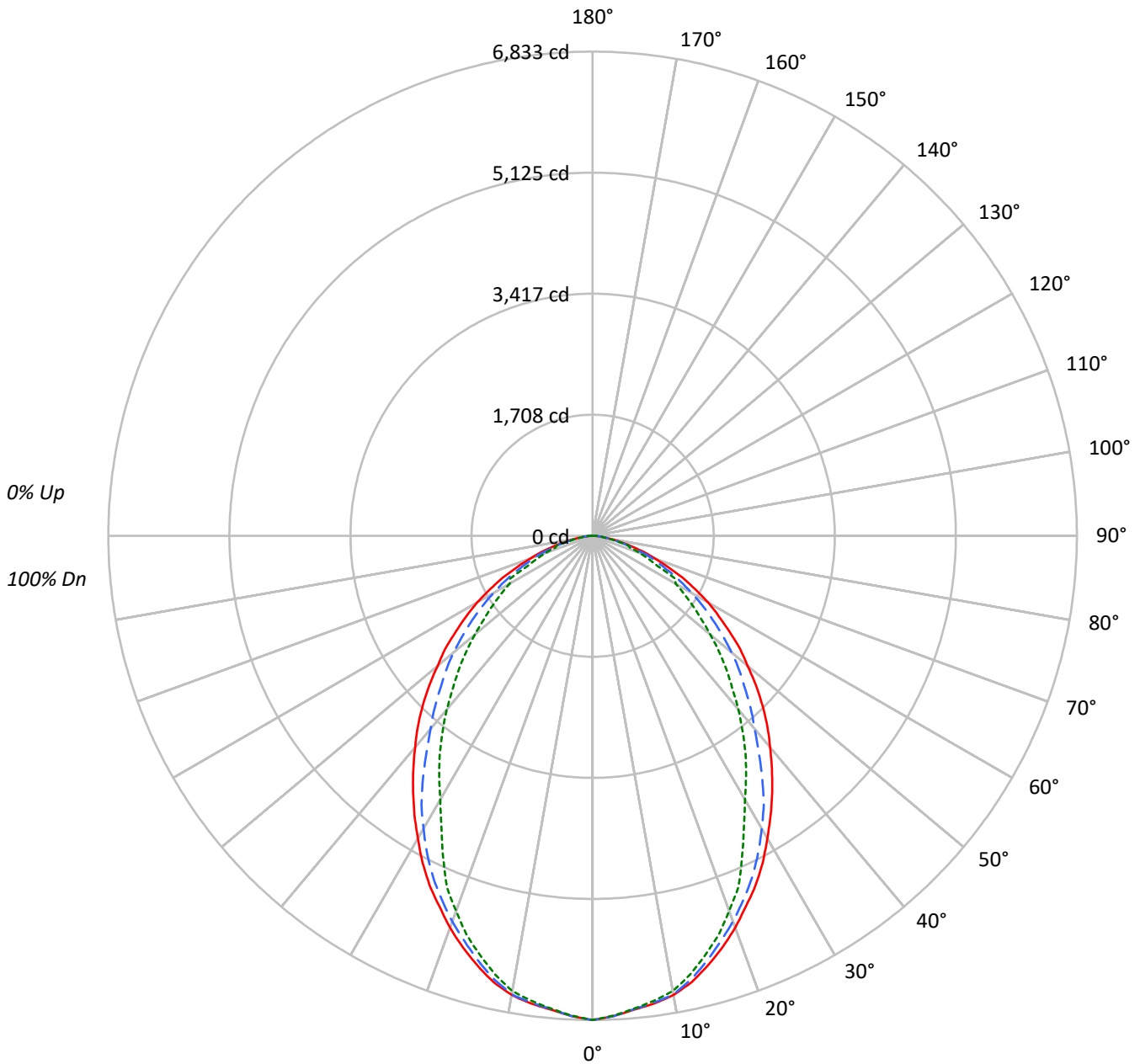
Lumens per Lamp: N/A
Luminaire Lumens: 13414.0 lumens
Efficiency: N/A
Efficacy: 100.7 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 133.2
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

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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°	9194	9194	9194
5°	9069	9058	9047
10°	8990	8979	8914
15°	8748	8660	8539
20°	8426	8291	8064
25°	8080	7904	7412
30°	7658	7413	6676
35°	7253	6851	6176
40°	6840	6244	5619
45°	6448	5772	5081
50°	5969	5357	4531
55°	5522	4855	4058
60°	5059	4337	3635
65°	4451	3798	3219
70°	3667	3325	2734
75°	2916	2546	2669
80°	1959	1836	1714
85°	1220	1463	1707



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	636.0	4.7
10°-20°	1745.6	13.0
20°-30°	2416.7	18.0
30°-40°	2576.9	19.2
40°-50°	2350.8	17.5
50°-60°	1841.7	13.7
60°-70°	1200.3	8.9
70°-80°	531.8	4.0
80°-90°	114.2	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°	4798.3	35.8
0°-40°	7375.2	55.0
0°-60°	11567.7	86.2
0°-90°	13414.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13414.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6833	6833	6833	6833	6833	
5°	6714	6706	6706	6699	6699	637
15°	6280	6280	6217	6154	6130	1765
25°	5443	5411	5324	5135	4992	2499
35°	4416	4384	4171	3855	3760	2761
45°	3389	3318	3033	2781	2670	2610
55°	2354	2283	2070	1825	1730	2111
65°	1398	1319	1193	1216	1011	1378
75°	561	521	490	466	514	601
85°	79	87	95	103	111	110
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6832.9	6832.9	6832.9	6832.9	6832.9
2.5°	6785.5	6785.5	6785.5	6777.6	6777.6
5°	6714.4	6706.5	6706.5	6698.6	6698.6
7.5°	6659.1	6651.2	6643.3	6635.4	6619.6
10°	6580.1	6580.1	6572.2	6532.7	6524.8
12.5°	6453.7	6445.8	6414.2	6359.0	6343.2
15°	6280.0	6280.0	6216.8	6153.6	6129.9
17.5°	6090.4	6082.5	6003.5	5940.3	5908.7
20°	5885.0	5869.2	5790.2	5687.5	5632.2
22.5°	5655.9	5655.9	5561.1	5426.8	5371.5
25°	5442.6	5411.0	5324.1	5134.6	4992.4
27.5°	5197.8	5150.4	5055.6	4787.0	4621.1
30°	4929.2	4905.5	4771.2	4423.6	4297.2
32.5°	4676.4	4636.9	4494.7	4131.3	4028.7
35°	4415.7	4384.1	4170.8	3854.9	3760.1
37.5°	4155.0	4115.5	3847.0	3594.2	3475.7
40°	3894.4	3847.0	3554.7	3325.6	3199.2
42.5°	3649.5	3586.3	3301.9	3057.0	2914.8
45°	3388.8	3317.7	3033.3	2780.6	2670.0
47.5°	3128.1	3064.9	2804.3	2543.6	2417.2
50°	2851.7	2796.4	2559.4	2298.7	2164.4
52.5°	2622.6	2535.7	2306.6	2045.9	1935.3
55°	2354.0	2282.9	2069.6	1824.7	1730.0
57.5°	2109.1	2038.0	1840.5	1611.5	1532.5
60°	1880.0	1777.3	1611.5	1414.0	1350.8
62.5°	1627.3	1548.3	1406.1	1240.2	1319.2
65°	1398.2	1319.2	1192.8	1216.5	1011.1
67.5°	1145.4	1105.9	995.3	884.7	853.1
70°	932.1	884.7	845.2	726.7	695.1
72.5°	742.5	695.1	639.8	576.7	553.0
75°	560.9	521.4	489.8	466.1	513.5
77.5°	387.1	371.3	347.6	323.9	316.0
80°	252.8	244.9	237.0	229.1	221.2
82.5°	150.1	150.1	150.1	150.1	150.1
85°	79.0	86.9	94.8	102.7	110.6
87.5°	47.4	47.4	55.3	63.2	71.1
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)