

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: P547542

Luminaire Tested: **FMR-24-4-LD4-4STD-50-UNV-93-97-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: P547542
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-50-UNV-93-97-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

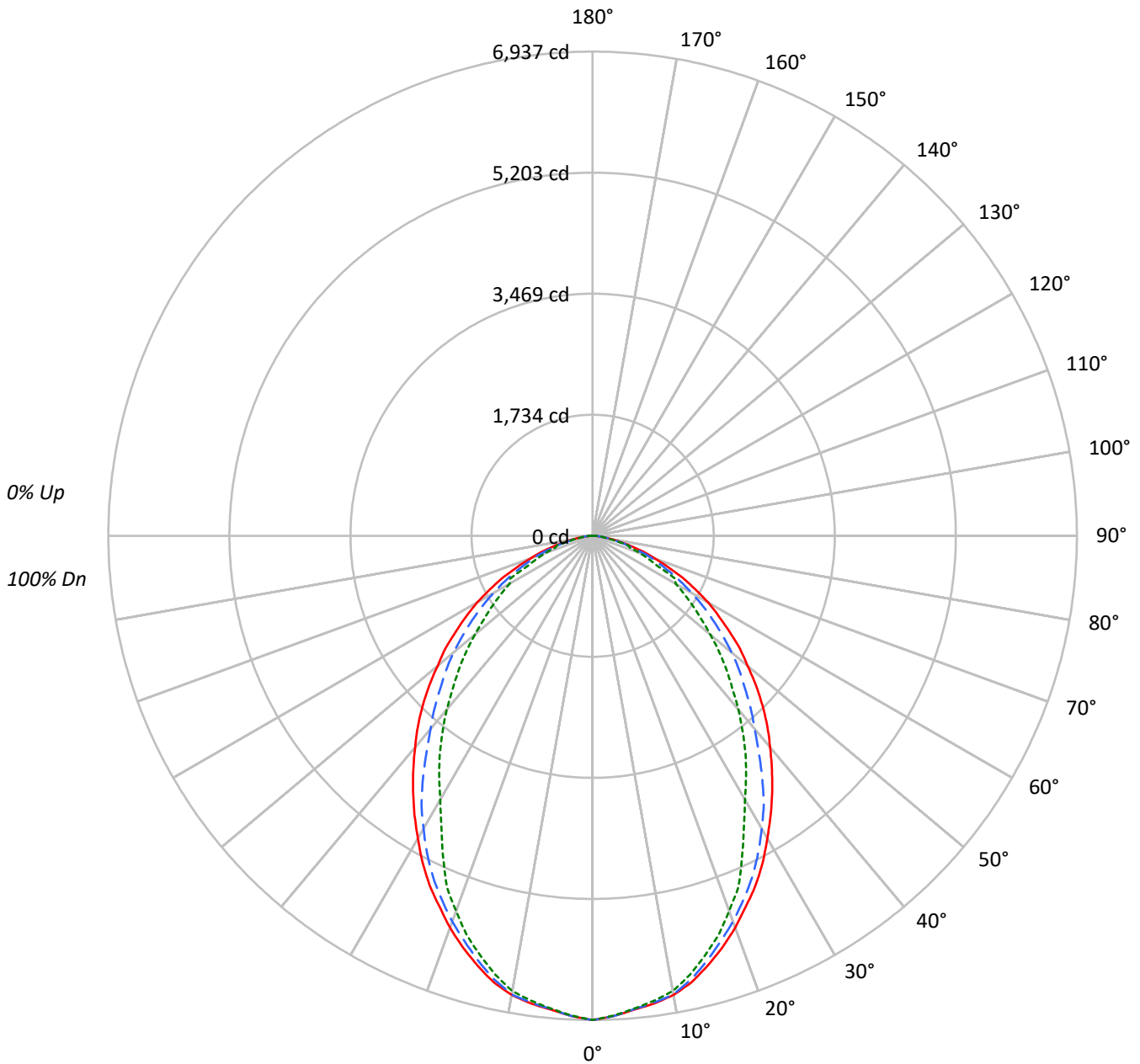
Lumens per Lamp: N/A
Luminaire Lumens: 13618.0 lumens
Efficiency: N/A
Efficacy: 102.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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°	9333	9333	9333
5°	9207	9196	9185
10°	9127	9116	9050
15°	8881	8791	8668
20°	8555	8417	8187
25°	8203	8024	7524
30°	7775	7525	6778
35°	7363	6955	6270
40°	6944	6339	5705
45°	6546	5860	5158
50°	6060	5439	4599
55°	5606	4929	4120
60°	5136	4402	3690
65°	4519	3855	3268
70°	3723	3376	2776
75°	2960	2585	2710
80°	1988	1864	1740
85°	1238	1485	1734



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	645.7	4.7
10°-20°	1772.1	13.0
20°-30°	2453.4	18.0
30°-40°	2616.1	19.2
40°-50°	2386.6	17.5
50°-60°	1869.7	13.7
60°-70°	1218.6	8.9
70°-80°	539.9	4.0
80°-90°	115.9	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°	4871.3	35.8
0°-40°	7487.3	55.0
0°-60°	11743.6	86.2
0°-90°	13618.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13618.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6937	6937	6937	6937	6937	
5°	6816	6808	6808	6800	6800	647
15°	6376	6376	6311	6247	6223	1792
25°	5525	5493	5405	5213	5068	2537
35°	4483	4451	4234	3914	3817	2803
45°	3440	3368	3080	2823	2711	2650
55°	2390	2318	2101	1852	1756	2143
65°	1419	1339	1211	1235	1026	1399
75°	569	529	497	473	521	610
85°	80	88	96	104	112	111
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6936.8	6936.8	6936.8	6936.8	6936.8
2.5°	6888.7	6888.7	6888.7	6880.7	6880.7
5°	6816.5	6808.5	6808.5	6800.5	6800.5
7.5°	6760.4	6752.4	6744.4	6736.3	6720.3
10°	6680.2	6680.2	6672.2	6632.1	6624.1
12.5°	6551.9	6543.9	6511.8	6455.7	6439.6
15°	6375.5	6375.5	6311.3	6247.2	6223.1
17.5°	6183.0	6175.0	6094.8	6030.6	5998.6
20°	5974.5	5958.5	5878.3	5774.0	5717.9
22.5°	5741.9	5741.9	5645.7	5509.4	5453.2
25°	5525.4	5493.3	5405.1	5212.6	5068.3
27.5°	5276.8	5228.7	5132.5	4859.8	4691.4
30°	5004.1	4980.1	4843.7	4490.9	4362.6
32.5°	4747.5	4707.4	4563.1	4194.2	4089.9
35°	4482.9	4450.8	4234.3	3913.5	3817.3
37.5°	4218.2	4178.1	3905.5	3648.9	3528.6
40°	3953.6	3905.5	3608.8	3376.2	3247.9
42.5°	3705.0	3640.8	3352.1	3103.5	2959.2
45°	3440.3	3368.2	3079.5	2822.8	2710.6
47.5°	3175.7	3111.5	2846.9	2582.3	2454.0
50°	2895.0	2838.9	2598.3	2333.7	2197.3
52.5°	2662.5	2574.2	2341.7	2077.0	1964.8
55°	2389.8	2317.6	2101.1	1852.5	1756.3
57.5°	2141.2	2069.0	1868.5	1636.0	1555.8
60°	1908.6	1804.4	1636.0	1435.5	1371.3
62.5°	1652.0	1571.8	1427.5	1259.1	1339.2
65°	1419.4	1339.2	1210.9	1235.0	1026.5
67.5°	1162.8	1122.7	1010.5	898.2	866.1
70°	946.3	898.2	858.1	737.8	705.7
72.5°	753.8	705.7	649.6	585.4	561.4
75°	569.4	529.3	497.2	473.1	521.3
77.5°	393.0	376.9	352.9	328.8	320.8
80°	256.6	248.6	240.6	232.6	224.5
82.5°	152.4	152.4	152.4	152.4	152.4
85°	80.2	88.2	96.2	104.3	112.3
87.5°	48.1	48.1	56.1	64.2	72.2
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)