

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: P546737

Luminaire Tested: **FMR-24-4-LD4-2HI-40-UNV-93-86-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: P546737
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-LD4-2HI-40-UNV-93-86-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

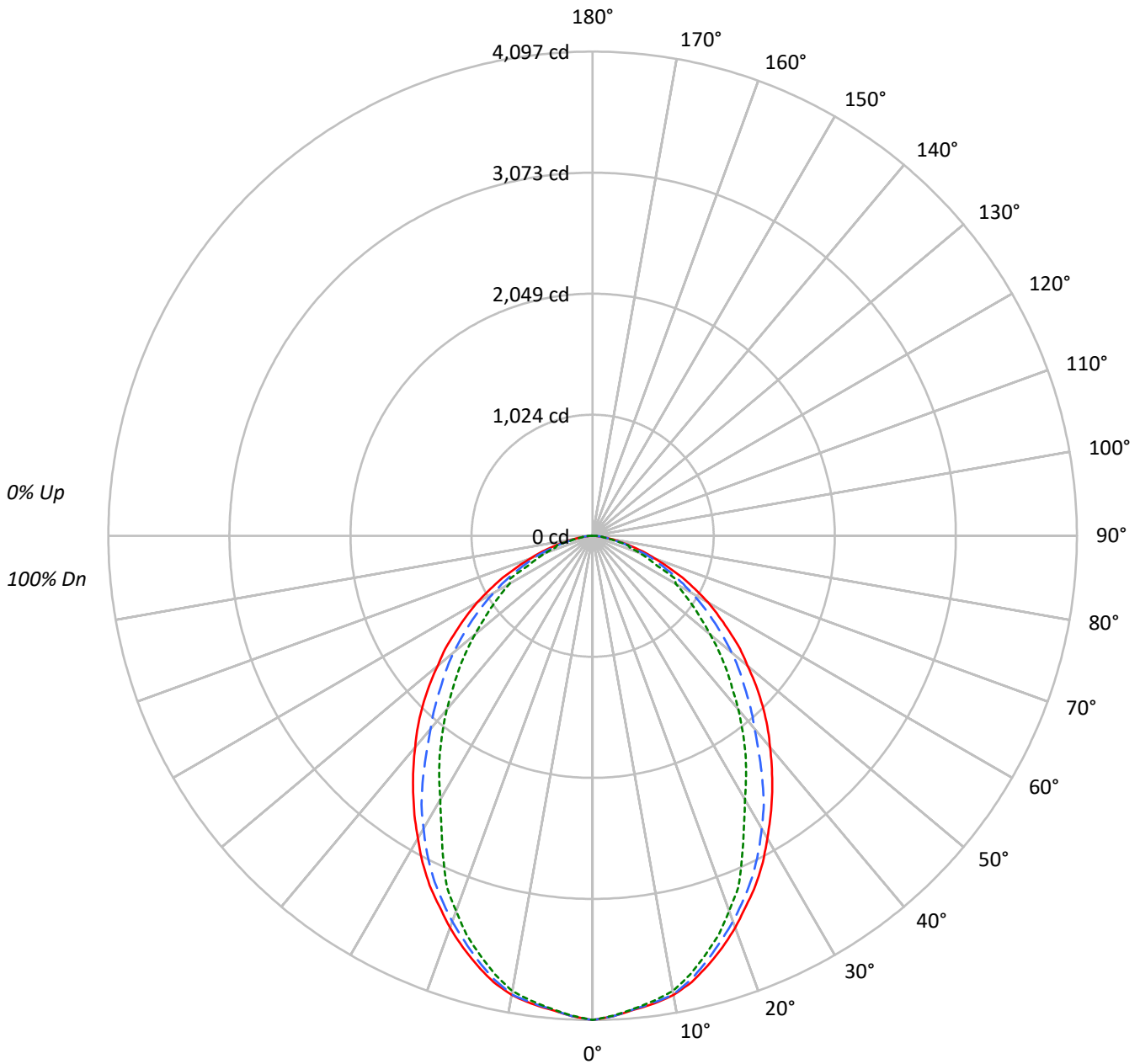
Lumens per Lamp: N/A
Luminaire Lumens: 8043.0 lumens
Efficiency: N/A
Efficacy: 93.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 86.4
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				20				20
RC	80				70				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	100	100	100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87	87	87	87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75	75	75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65	65	65	65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56	56	56	56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50	50	50	50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44	44	44	44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40	40	40	40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36	36	36	36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33	33	33	33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30	30	30	30

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5512	5512	5512
5°	5438	5431	5425
10°	5390	5384	5345
15°	5245	5192	5120
20°	5052	4971	4835
25°	4845	4739	4444
30°	4592	4445	4003
35°	4349	4108	3703
40°	4101	3744	3369
45°	3866	3461	3046
50°	3579	3212	2717
55°	3311	2911	2433
60°	3034	2600	2179
65°	2669	2277	1930
70°	2199	1994	1640
75°	1748	1527	1601
80°	1175	1101	1027
85°	732	877	1024



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	381.4	4.7
10°-20°	1046.7	13.0
20°-30°	1449.0	18.0
30°-40°	1545.1	19.2
40°-50°	1409.5	17.5
50°-60°	1104.3	13.7
60°-70°	719.7	8.9
70°-80°	318.9	4.0
80°-90°	68.5	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°	2877.0	35.8
0°-40°	4422.1	55.0
0°-60°	6935.9	86.2
0°-90°	8043.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8043.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4097	4097	4097	4097	4097	
5°	4026	4021	4021	4016	4016	382
15°	3765	3765	3728	3690	3676	1059
25°	3263	3244	3192	3079	2993	1498
35°	2648	2629	2501	2311	2254	1655
45°	2032	1989	1819	1667	1601	1565
55°	1412	1369	1241	1094	1037	1266
65°	838	791	715	729	606	826
75°	336	313	294	279	308	360
85°	47	52	57	62	66	66
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4097.0	4097.0	4097.0	4097.0	4097.0
2.5°	4068.6	4068.6	4068.6	4063.8	4063.8
5°	4026.0	4021.2	4021.2	4016.5	4016.5
7.5°	3992.8	3988.1	3983.3	3978.6	3969.1
10°	3945.4	3945.4	3940.7	3917.0	3912.3
12.5°	3869.6	3864.9	3846.0	3812.8	3803.3
15°	3765.4	3765.4	3727.6	3689.7	3675.5
17.5°	3651.8	3647.0	3599.7	3561.8	3542.8
20°	3528.6	3519.2	3471.8	3410.2	3377.1
22.5°	3391.3	3391.3	3334.4	3253.9	3220.8
25°	3263.4	3244.4	3192.3	3078.7	2993.4
27.5°	3116.6	3088.1	3031.3	2870.3	2770.8
30°	2955.5	2941.3	2860.8	2652.4	2576.6
32.5°	2804.0	2780.3	2695.0	2477.1	2415.6
35°	2647.7	2628.7	2500.8	2311.4	2254.5
37.5°	2491.4	2467.7	2306.6	2155.1	2084.0
40°	2335.1	2306.6	2131.4	1994.0	1918.2
42.5°	2188.2	2150.3	1979.8	1833.0	1747.7
45°	2031.9	1989.3	1818.8	1667.2	1600.9
47.5°	1875.6	1837.7	1681.4	1525.1	1449.3
50°	1709.8	1676.7	1534.6	1378.3	1297.8
52.5°	1572.5	1520.4	1383.0	1226.7	1160.4
55°	1411.5	1368.8	1240.9	1094.1	1037.3
57.5°	1264.6	1222.0	1103.6	966.2	918.9
60°	1127.3	1065.7	966.2	847.8	809.9
62.5°	975.7	928.3	843.1	743.6	791.0
65°	838.3	791.0	715.2	729.4	606.3
67.5°	686.8	663.1	596.8	530.5	511.5
70°	558.9	530.5	506.8	435.7	416.8
72.5°	445.2	416.8	383.6	345.8	331.5
75°	336.3	312.6	293.7	279.4	307.9
77.5°	232.1	222.6	208.4	194.2	189.5
80°	151.6	146.8	142.1	137.4	132.6
82.5°	90.0	90.0	90.0	90.0	90.0
85°	47.4	52.1	56.8	61.6	66.3
87.5°	28.4	28.4	33.2	37.9	42.6
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)