

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: P546705

Luminaire Tested: **FMR-24-4-LD4-2HI-35-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: P546705
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-35-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 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

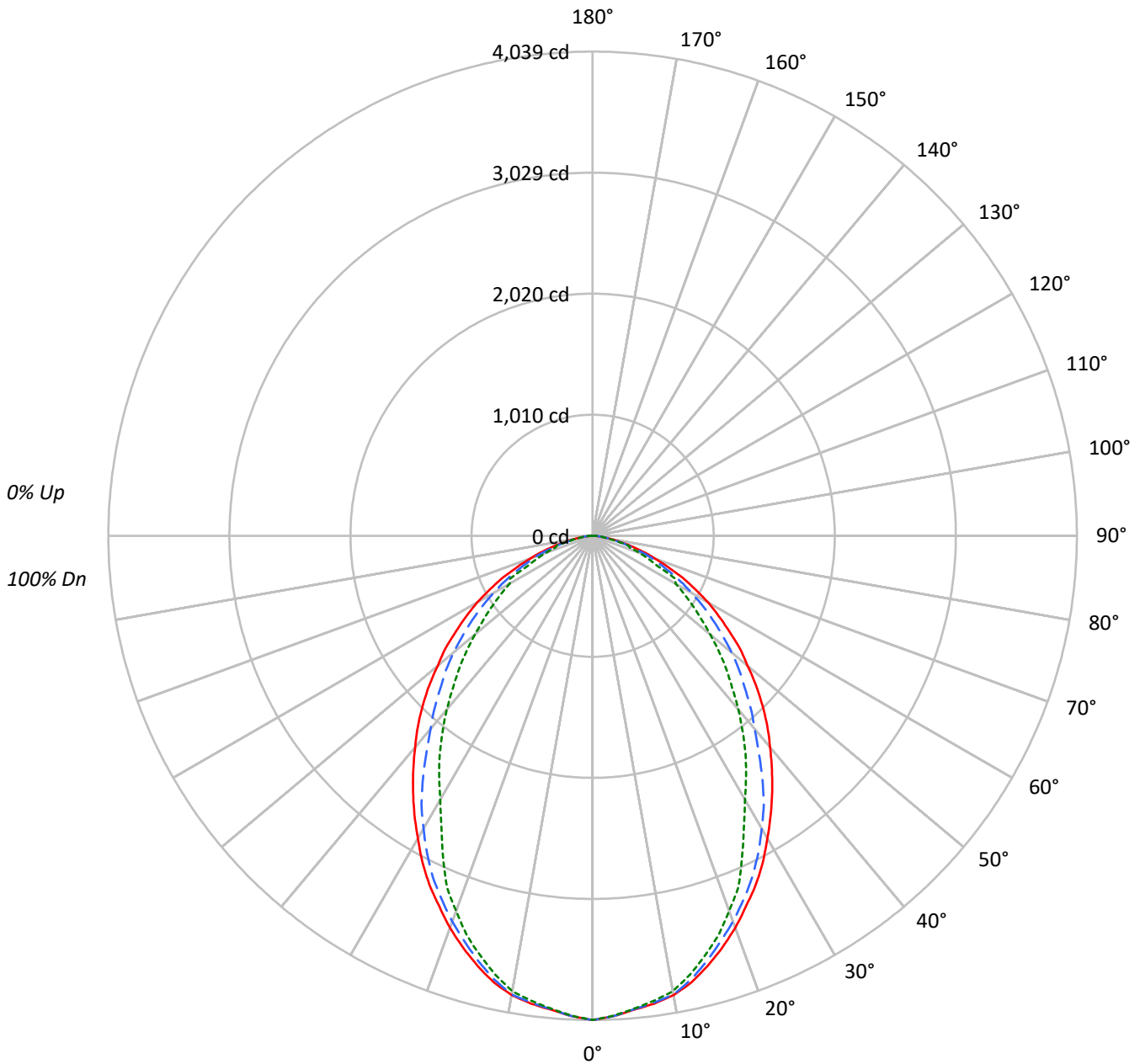
Lumens per Lamp: N/A
Luminaire Lumens: 7930.0 lumens
Efficiency: N/A
Efficacy: 91.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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									
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°	5435	5435	5435
5°	5361	5355	5348
10°	5315	5308	5270
15°	5171	5119	5048
20°	4982	4901	4767
25°	4777	4673	4382
30°	4527	4382	3947
35°	4288	4050	3651
40°	4044	3691	3322
45°	3812	3412	3003
50°	3529	3167	2678
55°	3264	2870	2399
60°	2991	2564	2149
65°	2632	2245	1903
70°	2168	1966	1616
75°	1724	1505	1578
80°	1158	1086	1013
85°	721	865	1010



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	376.0	4.7
10°-20°	1031.9	13.0
20°-30°	1428.7	18.0
30°-40°	1523.4	19.2
40°-50°	1389.7	17.5
50°-60°	1088.8	13.7
60°-70°	709.6	8.9
70°-80°	314.4	4.0
80°-90°	67.5	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°	2836.6	35.8
0°-40°	4360.0	55.0
0°-60°	6838.5	86.2
0°-90°	7930.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7930.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4039	4039	4039	4039	4039	
5°	3969	3965	3965	3960	3960	377
15°	3712	3712	3675	3638	3624	1044
25°	3218	3199	3148	3035	2951	1477
35°	2610	2592	2466	2279	2223	1632
45°	2003	1961	1793	1644	1578	1543
55°	1392	1350	1224	1079	1023	1248
65°	827	780	705	719	598	815
75°	332	308	290	276	304	355
85°	47	51	56	61	65	65
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4039.4	4039.4	4039.4	4039.4	4039.4
2.5°	4011.4	4011.4	4011.4	4006.7	4006.7
5°	3969.4	3964.7	3964.7	3960.0	3960.0
7.5°	3936.7	3932.0	3927.4	3922.7	3913.3
10°	3890.0	3890.0	3885.3	3862.0	3857.3
12.5°	3815.3	3810.6	3791.9	3759.2	3749.9
15°	3712.5	3712.5	3675.2	3637.8	3623.8
17.5°	3600.5	3595.8	3549.1	3511.7	3493.1
20°	3479.1	3469.7	3423.0	3362.3	3329.6
22.5°	3343.6	3343.6	3287.6	3208.2	3175.5
25°	3217.5	3198.9	3147.5	3035.4	2951.4
27.5°	3072.8	3044.8	2988.7	2829.9	2731.9
30°	2914.0	2900.0	2820.6	2615.1	2540.4
32.5°	2764.6	2741.2	2657.2	2442.3	2381.6
35°	2610.5	2591.8	2465.7	2278.9	2222.9
37.5°	2456.4	2433.0	2274.2	2124.8	2054.7
40°	2302.2	2274.2	2101.4	1966.0	1891.3
42.5°	2157.5	2120.1	1952.0	1807.2	1723.2
45°	2003.4	1961.3	1793.2	1643.8	1578.4
47.5°	1849.3	1811.9	1657.8	1503.7	1429.0
50°	1685.8	1653.1	1513.0	1358.9	1279.5
52.5°	1550.4	1499.0	1363.6	1209.5	1144.1
55°	1391.6	1349.6	1223.5	1078.7	1022.7
57.5°	1246.9	1204.8	1088.1	952.7	906.0
60°	1111.4	1050.7	952.7	835.9	798.5
62.5°	962.0	915.3	831.2	733.2	779.9
65°	826.6	779.9	705.2	719.2	597.7
67.5°	677.1	653.8	588.4	523.0	504.3
70°	551.0	523.0	499.7	429.6	410.9
72.5°	439.0	410.9	378.3	340.9	326.9
75°	331.6	308.2	289.5	275.5	303.5
77.5°	228.8	219.5	205.5	191.5	186.8
80°	149.4	144.8	140.1	135.4	130.8
82.5°	88.7	88.7	88.7	88.7	88.7
85°	46.7	51.4	56.0	60.7	65.4
87.5°	28.0	28.0	32.7	37.4	42.0
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)