

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: P546704

Luminaire Tested: **FMR-24-4-LD4-2HI-35-UNV-93-85-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: P546704
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-93-85-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

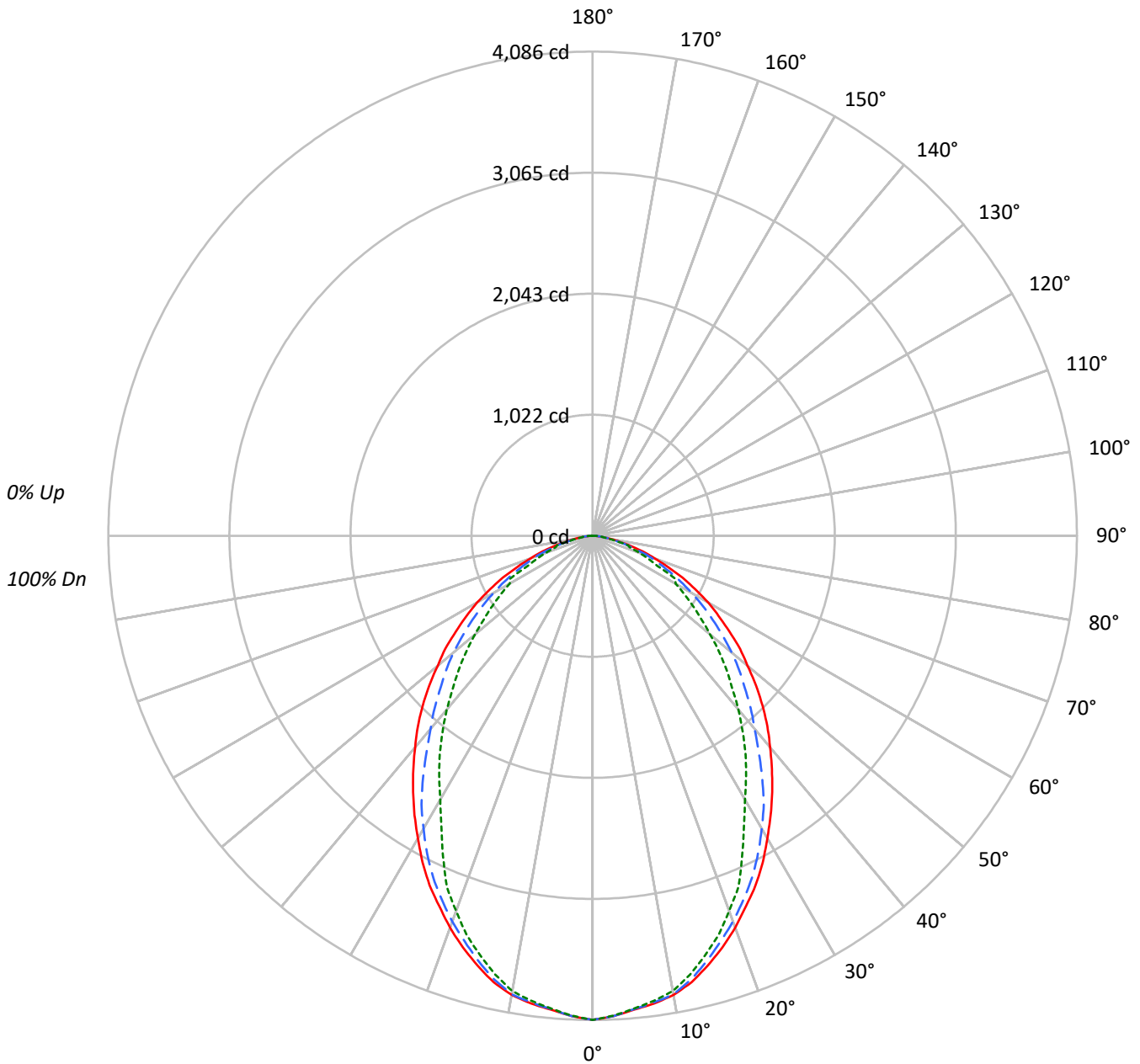
Lumens per Lamp: N/A
Luminaire Lumens: 8021.0 lumens
Efficiency: N/A
Efficacy: 92.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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°	5497	5497	5497
5°	5423	5416	5410
10°	5376	5369	5331
15°	5231	5178	5106
20°	5039	4957	4822
25°	4832	4726	4432
30°	4579	4433	3992
35°	4337	4096	3693
40°	4090	3733	3360
45°	3856	3451	3038
50°	3569	3203	2709
55°	3302	2903	2426
60°	3025	2593	2174
65°	2662	2271	1925
70°	2193	1988	1635
75°	1744	1523	1596
80°	1172	1098	1025
85°	729	875	1020



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	380.3	4.7
10°-20°	1043.8	13.0
20°-30°	1445.1	18.0
30°-40°	1540.9	19.2
40°-50°	1405.7	17.5
50°-60°	1101.3	13.7
60°-70°	717.7	8.9
70°-80°	318.0	4.0
80°-90°	68.3	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°	2869.2	35.8
0°-40°	4410.0	55.0
0°-60°	6917.0	86.2
0°-90°	8021.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8021.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4086	4086	4086	4086	4086	
5°	4015	4010	4010	4006	4006	381
15°	3755	3755	3717	3680	3665	1056
25°	3254	3236	3184	3070	2985	1494
35°	2640	2622	2494	2305	2248	1651
45°	2026	1984	1814	1663	1596	1561
55°	1408	1365	1238	1091	1034	1263
65°	836	789	713	727	605	824
75°	335	312	293	279	307	359
85°	47	52	57	61	66	65
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4085.8	4085.8	4085.8	4085.8	4085.8
2.5°	4057.4	4057.4	4057.4	4052.7	4052.7
5°	4014.9	4010.2	4010.2	4005.5	4005.5
7.5°	3981.9	3977.2	3972.4	3967.7	3958.3
10°	3934.6	3934.6	3929.9	3906.3	3901.6
12.5°	3859.1	3854.3	3835.4	3802.4	3792.9
15°	3755.1	3755.1	3717.4	3679.6	3665.4
17.5°	3641.8	3637.1	3589.8	3552.0	3533.1
20°	3519.0	3509.5	3462.3	3400.9	3367.8
22.5°	3382.0	3382.0	3325.3	3245.0	3212.0
25°	3254.5	3235.6	3183.6	3070.2	2985.2
27.5°	3108.0	3079.7	3023.0	2862.4	2763.2
30°	2947.4	2933.3	2853.0	2645.1	2569.6
32.5°	2796.3	2772.7	2687.6	2470.4	2409.0
35°	2640.4	2621.5	2494.0	2305.0	2248.4
37.5°	2484.5	2460.9	2300.3	2149.2	2078.3
40°	2328.7	2300.3	2125.6	1988.6	1913.0
42.5°	2182.2	2144.4	1974.4	1828.0	1743.0
45°	2026.4	1983.9	1813.8	1662.7	1596.5
47.5°	1870.5	1832.7	1676.8	1521.0	1445.4
50°	1705.2	1672.1	1530.4	1374.5	1294.2
52.5°	1568.2	1516.2	1379.2	1223.4	1157.2
55°	1407.6	1365.1	1237.5	1091.1	1034.4
57.5°	1261.2	1218.7	1100.6	963.6	916.4
60°	1124.2	1062.8	963.6	845.5	807.7
62.5°	973.0	925.8	840.8	741.6	788.8
65°	836.1	788.8	713.2	727.4	604.6
67.5°	684.9	661.3	595.2	529.0	510.1
70°	557.4	529.0	505.4	434.6	415.7
72.5°	444.0	415.7	382.6	344.8	330.6
75°	335.4	311.7	292.9	278.7	307.0
77.5°	231.4	222.0	207.8	193.7	188.9
80°	151.2	146.4	141.7	137.0	132.3
82.5°	89.7	89.7	89.7	89.7	89.7
85°	47.2	52.0	56.7	61.4	66.1
87.5°	28.3	28.3	33.1	37.8	42.5
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)