

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: P546122

Luminaire Tested: **FMR-12-4-LD4-2HI-35-UNV-82-87-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: P546122
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-12-4-LD4-2HI-35-UNV-82-87-EDD
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

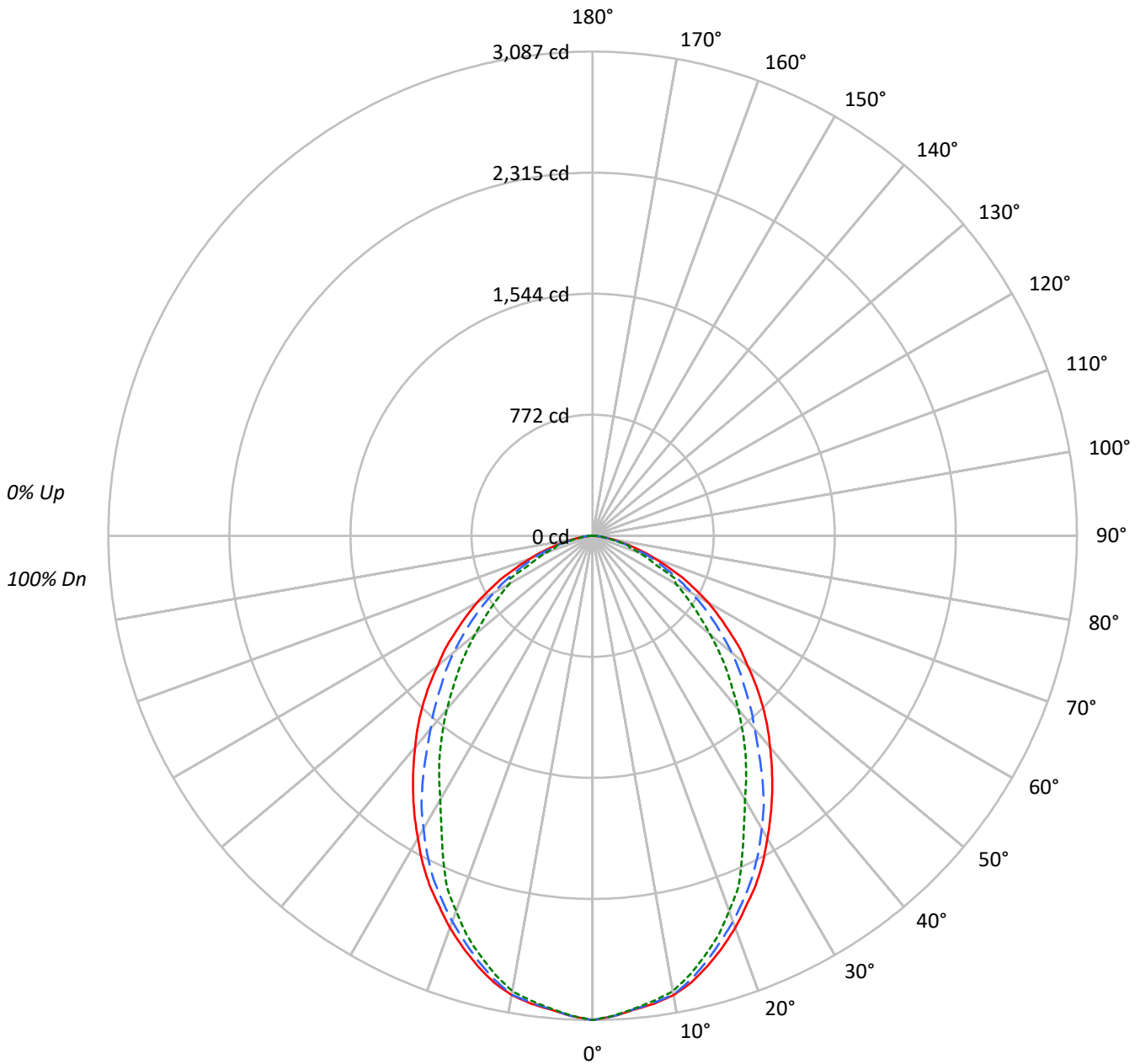
Lumens per Lamp: N/A
Luminaire Lumens: 6061.0 lumens
Efficiency: N/A
Efficacy: 70.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	8308	8308	8308
5°	8195	8186	8176
10°	8124	8114	8056
15°	7905	7826	7716
20°	7615	7492	7288
25°	7302	7143	6698
30°	6921	6699	6033
35°	6554	6191	5581
40°	6181	5642	5078
45°	5827	5216	4591
50°	5394	4841	4094
55°	4990	4387	3667
60°	4572	3919	3285
65°	4023	3432	2909
70°	3314	3005	2471
75°	2635	2301	2412
80°	1770	1660	1548
85°	1102	1321	1544



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	287.4	4.7
10°-20°	788.7	13.0
20°-30°	1091.9	18.0
30°-40°	1164.3	19.2
40°-50°	1062.2	17.5
50°-60°	832.1	13.7
60°-70°	542.4	8.9
70°-80°	240.3	4.0
80°-90°	51.6	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°	2168.1	35.8
0°-40°	3332.4	55.0
0°-60°	5226.8	86.2
0°-90°	6061.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6061.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3087	3087	3087	3087	3087	
5°	3034	3030	3030	3027	3027	288
15°	2838	2838	2809	2780	2770	798
25°	2459	2445	2406	2320	2256	1129
35°	1995	1981	1885	1742	1699	1247
45°	1531	1499	1371	1256	1206	1179
55°	1064	1032	935	824	782	954
65°	632	596	539	550	457	623
75°	253	236	221	211	232	272
85°	36	39	43	46	50	50
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3087.4	3087.4	3087.4	3087.4	3087.4
2.5°	3066.0	3066.0	3066.0	3062.4	3062.4
5°	3033.9	3030.3	3030.3	3026.7	3026.7
7.5°	3008.9	3005.3	3001.7	2998.2	2991.0
10°	2973.2	2973.2	2969.6	2951.8	2948.2
12.5°	2916.1	2912.5	2898.2	2873.2	2866.1
15°	2837.5	2837.5	2809.0	2780.4	2769.7
17.5°	2751.9	2748.3	2712.6	2684.1	2669.8
20°	2659.1	2651.9	2616.3	2569.9	2544.9
22.5°	2555.6	2555.6	2512.7	2452.1	2427.1
25°	2459.2	2444.9	2405.7	2320.0	2255.8
27.5°	2348.6	2327.1	2284.3	2163.0	2088.0
30°	2227.2	2216.5	2155.8	1998.8	1941.7
32.5°	2113.0	2095.1	2030.9	1866.7	1820.3
35°	1995.2	1980.9	1884.6	1741.8	1699.0
37.5°	1877.4	1859.6	1738.2	1624.0	1570.5
40°	1759.6	1738.2	1606.2	1502.6	1445.5
42.5°	1649.0	1620.4	1491.9	1381.3	1317.0
45°	1531.2	1499.1	1370.6	1256.4	1206.4
47.5°	1413.4	1384.9	1267.1	1149.3	1092.2
50°	1288.5	1263.5	1156.4	1038.6	978.0
52.5°	1185.0	1145.7	1042.2	924.4	874.5
55°	1063.6	1031.5	935.1	824.5	781.7
57.5°	953.0	920.9	831.6	728.1	692.4
60°	849.5	803.1	728.1	638.9	610.3
62.5°	735.3	699.6	635.3	560.4	596.1
65°	631.8	596.1	539.0	549.7	456.9
67.5°	517.5	499.7	449.7	399.8	385.5
70°	421.2	399.8	381.9	328.4	314.1
72.5°	335.5	314.1	289.1	260.6	249.8
75°	253.4	235.6	221.3	210.6	232.0
77.5°	174.9	167.8	157.0	146.3	142.8
80°	114.2	110.6	107.1	103.5	99.9
82.5°	67.8	67.8	67.8	67.8	67.8
85°	35.7	39.3	42.8	46.4	50.0
87.5°	21.4	21.4	25.0	28.6	32.1
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)