

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: P546106

Luminaire Tested: **FMR-12-4-LD4-2HI-35-UNV-80-87-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: P546106  
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-80-87-EDD  
Description: 1X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC 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**

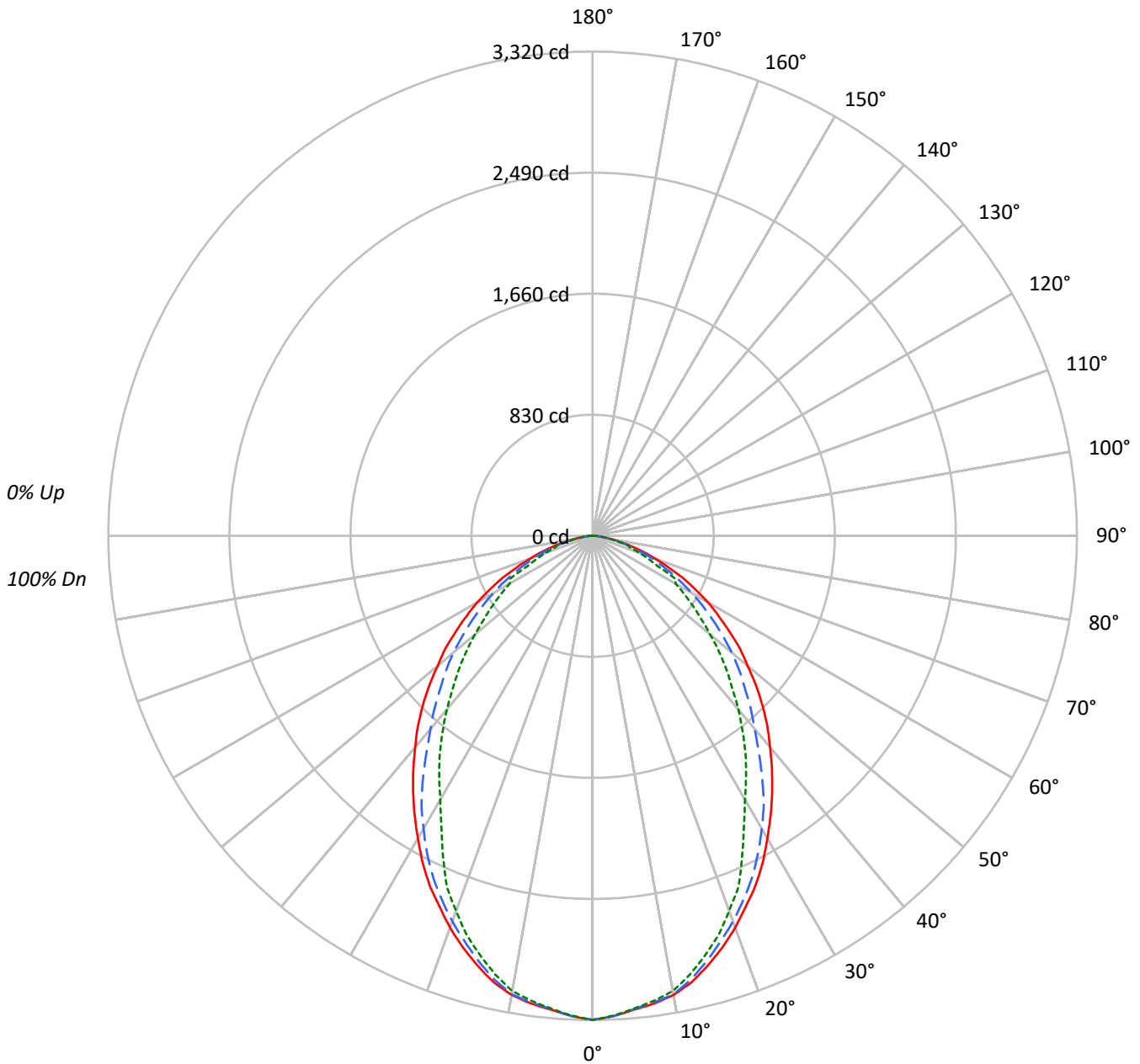
Lumens per Lamp: N/A  
Luminaire Lumens: 6517.0 lumens  
Efficiency: N/A  
Efficacy: 75.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

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°	8933	8933	8933
5°	8812	8802	8791
10°	8736	8725	8662
15°	8500	8414	8297
20°	8188	8056	7836
25°	7851	7680	7202
30°	7441	7203	6487
35°	7047	6657	6001
40°	6646	6067	5460
45°	6266	5608	4937
50°	5800	5205	4402
55°	5366	4717	3943
60°	4916	4214	3532
65°	4325	3690	3128
70°	3563	3231	2657
75°	2833	2473	2594
80°	1903	1784	1666
85°	1186	1423	1658



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	309.0	4.7
10°-20°	848.1	13.0
20°-30°	1174.1	18.0
30°-40°	1251.9	19.2
40°-50°	1142.1	17.5
50°-60°	894.8	13.7
60°-70°	583.2	8.9
70°-80°	258.4	4.0
80°-90°	55.5	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°	2331.2	35.8
0°-40°	3583.1	55.0
0°-60°	5620.0	86.2
0°-90°	6517.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6517.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3320	3320	3320	3320	3320	
5°	3262	3258	3258	3254	3254	310
15°	3051	3051	3020	2990	2978	858
25°	2644	2629	2587	2495	2426	1214
35°	2145	2130	2026	1873	1827	1341
45°	1646	1612	1474	1351	1297	1268
55°	1144	1109	1006	886	840	1026
65°	679	641	580	591	491	669
75°	272	253	238	226	250	292
85°	38	42	46	50	54	53
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3319.7	3319.7	3319.7	3319.7	3319.7
2.5°	3296.6	3296.6	3296.6	3292.8	3292.8
5°	3262.1	3258.3	3258.3	3254.4	3254.4
7.5°	3235.2	3231.4	3227.6	3223.7	3216.1
10°	3196.9	3196.9	3193.0	3173.8	3170.0
12.5°	3135.5	3131.6	3116.3	3089.4	3081.7
15°	3051.0	3051.0	3020.3	2989.6	2978.1
17.5°	2958.9	2955.1	2916.7	2886.0	2870.7
20°	2859.1	2851.5	2813.1	2763.2	2736.3
22.5°	2747.8	2747.8	2701.8	2636.5	2609.7
25°	2644.2	2628.9	2586.7	2494.6	2425.5
27.5°	2525.3	2502.2	2456.2	2325.7	2245.1
30°	2394.8	2383.3	2318.0	2149.2	2087.7
32.5°	2272.0	2252.8	2183.7	2007.2	1957.3
35°	2145.3	2130.0	2026.3	1872.8	1826.8
37.5°	2018.7	1999.5	1869.0	1746.2	1688.6
40°	1892.0	1869.0	1727.0	1615.7	1554.3
42.5°	1773.1	1742.3	1604.2	1485.2	1416.1
45°	1646.4	1611.9	1473.7	1350.9	1297.2
47.5°	1519.8	1489.1	1362.4	1235.8	1174.4
50°	1385.4	1358.6	1243.4	1116.8	1051.5
52.5°	1274.1	1231.9	1120.6	994.0	940.3
55°	1143.7	1109.1	1005.5	886.5	840.5
57.5°	1024.7	990.1	894.2	782.9	744.5
60°	913.4	863.5	782.9	687.0	656.3
62.5°	790.6	752.2	683.1	602.5	640.9
65°	679.3	640.9	579.5	591.0	491.2
67.5°	556.5	537.3	483.6	429.8	414.5
70°	452.9	429.8	410.6	353.1	337.7
72.5°	360.8	337.7	310.9	280.2	268.6
75°	272.5	253.3	237.9	226.4	249.5
77.5°	188.1	180.4	168.9	157.3	153.5
80°	122.8	119.0	115.1	111.3	107.5
82.5°	72.9	72.9	72.9	72.9	72.9
85°	38.4	42.2	46.1	49.9	53.7
87.5°	23.0	23.0	26.9	30.7	34.5
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)