

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: P546920

Luminaire Tested: **FMR-24-4-LD4-2STD-40-UNV-82-85-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: P546920  
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-LD4-2STD-40-UNV-82-85-EDD  
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

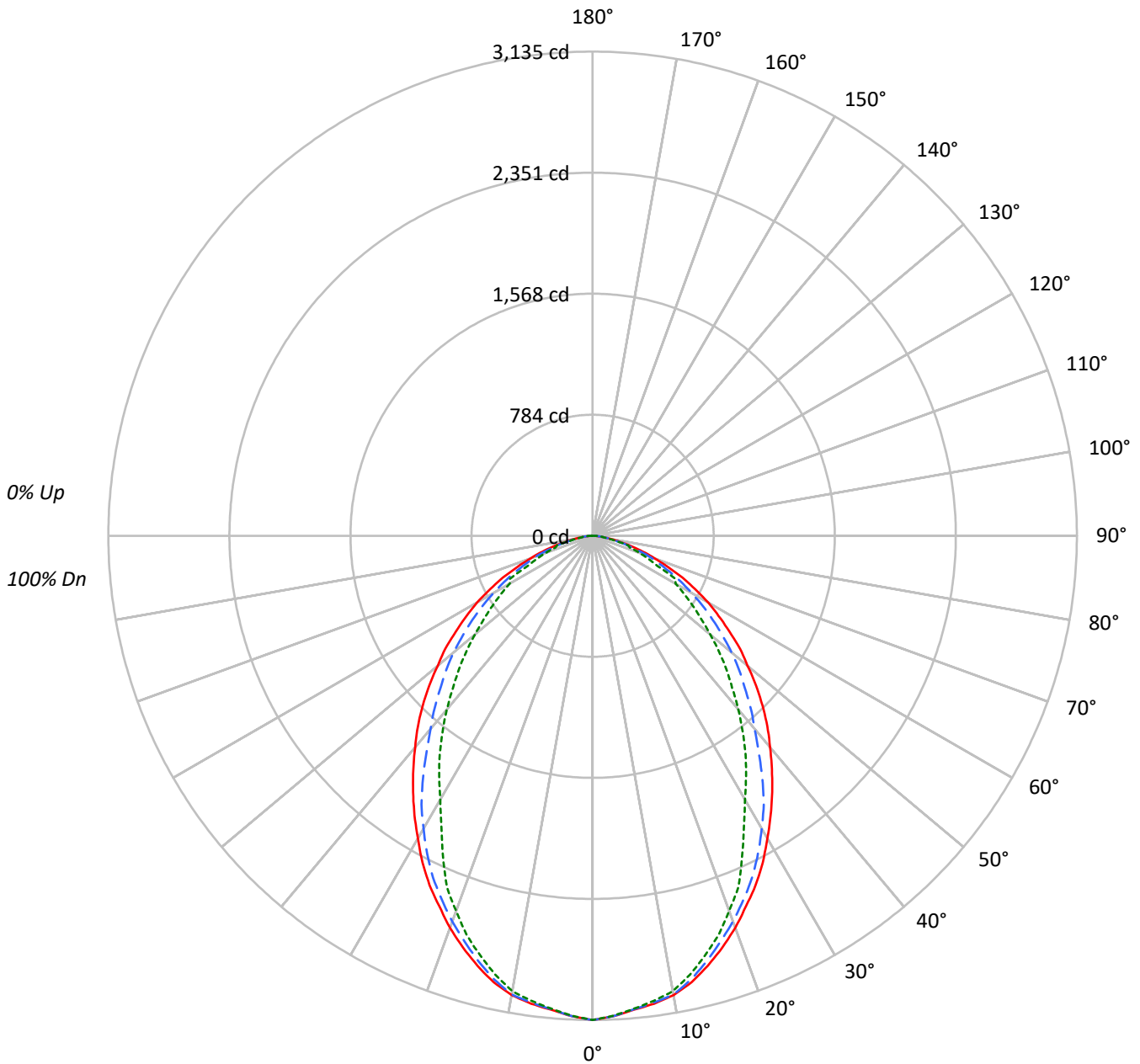
Lumens per Lamp: N/A  
Luminaire Lumens: 6155.0 lumens  
Efficiency: N/A  
Efficacy: 92.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 66.6  
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
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87				87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75				75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65				65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56				56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50				50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44				44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40				40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36				36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33				33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30				30

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	4219	4219	4219
5°	4161	4156	4151
10°	4125	4120	4090
15°	4014	3974	3918
20°	3866	3804	3700
25°	3707	3627	3401
30°	3514	3401	3063
35°	3328	3143	2834
40°	3139	2865	2578
45°	2959	2648	2331
50°	2739	2458	2079
55°	2534	2228	1862
60°	2322	1990	1668
65°	2043	1742	1477
70°	1683	1526	1255
75°	1338	1168	1225
80°	899	842	786
85°	559	672	783



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	291.9	4.7
10°-20°	801.0	13.0
20°-30°	1108.9	18.0
30°-40°	1182.4	19.2
40°-50°	1078.7	17.5
50°-60°	845.1	13.7
60°-70°	550.8	8.9
70°-80°	244.0	4.0
80°-90°	52.4	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°	2201.7	35.8
0°-40°	3384.1	55.0
0°-60°	5307.8	86.2
0°-90°	6155.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6155.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3135	3135	3135	3135	3135	
5°	3081	3077	3077	3074	3074	292
15°	2882	2882	2853	2824	2813	810
25°	2497	2483	2443	2356	2291	1147
35°	2026	2012	1914	1769	1725	1267
45°	1555	1522	1392	1276	1225	1198
55°	1080	1048	950	837	794	969
65°	642	605	547	558	464	632
75°	257	239	225	214	236	276
85°	36	40	44	47	51	50
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3135.3	3135.3	3135.3	3135.3	3135.3
2.5°	3113.5	3113.5	3113.5	3109.9	3109.9
5°	3080.9	3077.3	3077.3	3073.7	3073.7
7.5°	3055.5	3051.9	3048.3	3044.7	3037.4
10°	3019.3	3019.3	3015.7	2997.5	2993.9
12.5°	2961.3	2957.7	2943.2	2917.8	2910.5
15°	2881.6	2881.6	2852.6	2823.6	2812.7
17.5°	2794.6	2790.9	2754.7	2725.7	2711.2
20°	2700.3	2693.1	2656.8	2609.7	2584.3
22.5°	2595.2	2595.2	2551.7	2490.1	2464.7
25°	2497.3	2482.8	2443.0	2356.0	2290.7
27.5°	2385.0	2363.2	2319.7	2196.5	2120.4
30°	2261.7	2250.9	2189.3	2029.8	1971.8
32.5°	2145.8	2127.6	2062.4	1895.7	1848.5
35°	2026.1	2011.7	1913.8	1768.8	1725.3
37.5°	1906.5	1888.4	1765.2	1649.2	1594.8
40°	1786.9	1765.2	1631.1	1526.0	1468.0
42.5°	1674.6	1645.6	1515.1	1402.7	1337.5
45°	1555.0	1522.3	1391.8	1275.9	1225.1
47.5°	1435.3	1406.3	1286.7	1167.1	1109.1
50°	1308.5	1283.1	1174.4	1054.8	993.1
52.5°	1203.4	1163.5	1058.4	938.8	888.0
55°	1080.1	1047.5	949.6	837.3	793.8
57.5°	967.8	935.1	844.5	739.4	703.2
60°	862.7	815.5	739.4	648.8	619.8
62.5°	746.7	710.4	645.2	569.1	605.3
65°	641.6	605.3	547.3	558.2	463.9
67.5°	525.6	507.4	456.7	406.0	391.5
70°	427.7	406.0	387.8	333.5	319.0
72.5°	340.7	319.0	293.6	264.6	253.7
75°	257.3	239.2	224.7	213.9	235.6
77.5°	177.6	170.4	159.5	148.6	145.0
80°	116.0	112.4	108.7	105.1	101.5
82.5°	68.9	68.9	68.9	68.9	68.9
85°	36.2	39.9	43.5	47.1	50.7
87.5°	21.7	21.7	25.4	29.0	32.6
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)