

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: P589811

Luminaire Tested: **FMR-24-2-LD4-4STD-40-UNV-93-96-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589811  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/8/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: FMR-24-2-LD4-4STD-40-UNV-93-96-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

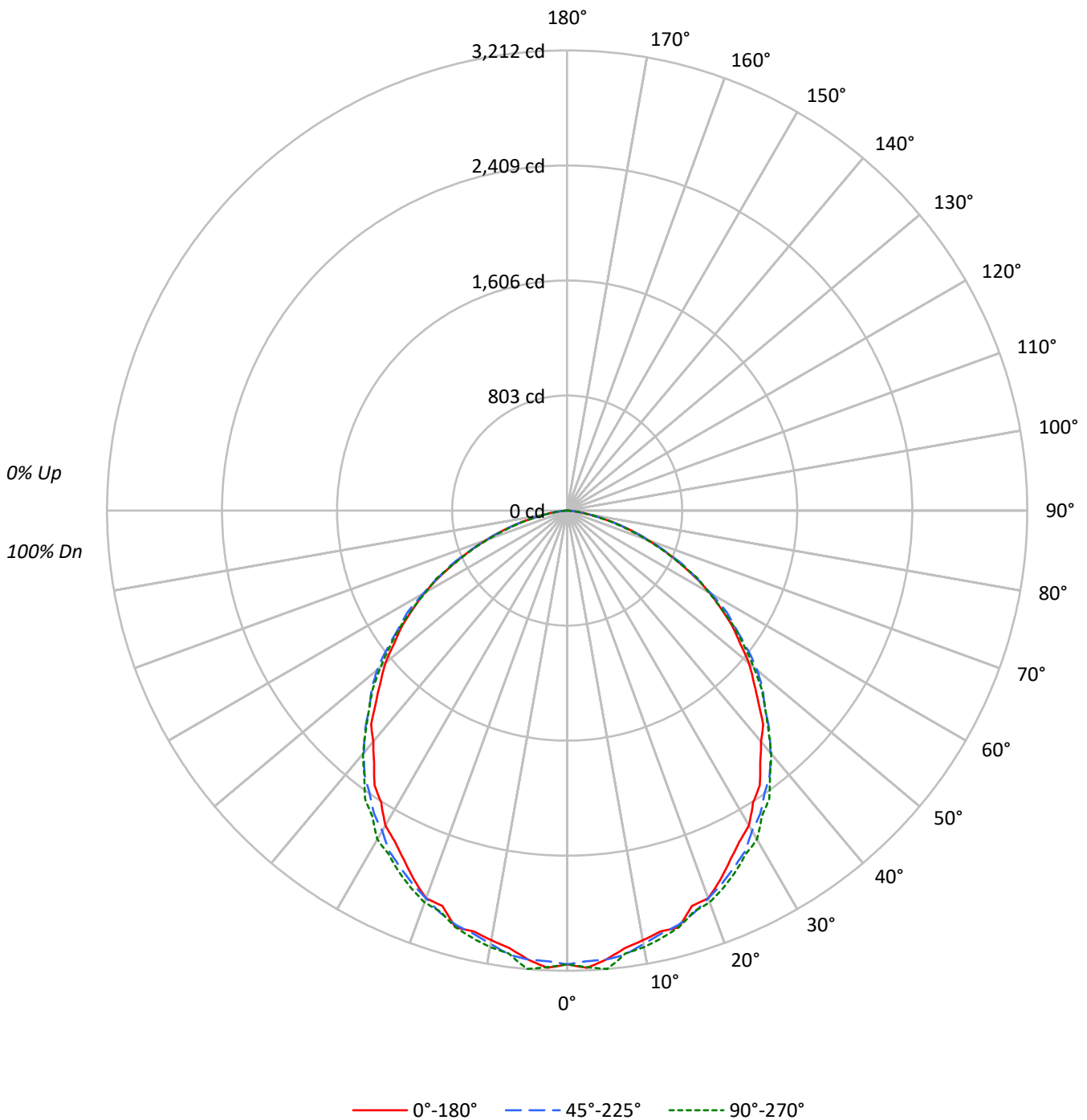
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7982.0 lumens  
Efficiency: N/A  
Efficacy: 119.9 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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	
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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26

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

	0°	45°	90°
0°	8523	8523	8523
5°	8494	8498	8676
10°	8322	8395	8454
15°	8388	8342	8389
20°	8246	8246	8334
25°	7993	8168	8257
30°	7883	8021	8235
35°	7697	7899	8076
40°	7398	7754	7788
45°	7174	7429	7440
50°	6938	7252	7113
55°	6611	6739	6692
60°	6182	6244	6131
65°	5512	5653	5473
70°	4729	4746	4614
75°	3746	3737	3592
80°	2509	2439	2345
85°	1365	1352	1263



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	297.9	3.7
10°-20°	844.3	10.6
20°-30°	1265.0	15.8
30°-40°	1499.2	18.8
40°-50°	1502.0	18.8
50°-60°	1274.9	16.0
60°-70°	859.6	10.8
70°-80°	377.7	4.7
80°-90°	61.4	0.8
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°	2407.2	30.2
0°-40°	3906.4	48.9
0°-60°	6683.4	83.7
0°-90°	7982.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7982.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3167	3167	3167	3167	3167	
5°	3145	3137	3146	3136	3212	296
15°	3011	2976	2994	3010	3011	839
25°	2692	2707	2751	2787	2781	1244
35°	2343	2350	2404	2460	2458	1455
45°	1885	1920	1952	2002	1955	1458
55°	1409	1400	1436	1427	1426	1253
65°	866	854	888	854	860	861
75°	360	353	359	334	346	386
85°	44	43	44	42	41	64
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3167.1	3167.1	3167.1	3167.1	3167.1
2.5°	3194.5	3170.3	3147.8	3174.0	3190.0
5°	3144.6	3137.2	3145.8	3136.4	3212.0
7.5°	3080.0	3108.2	3124.5	3114.3	3118.8
10°	3045.6	3035.8	3072.2	3097.5	3093.9
12.5°	3008.8	3023.5	3025.6	3053.0	3055.4
15°	3010.8	2976.1	2994.5	3010.0	3011.3
17.5°	2893.9	2931.5	2944.2	2979.8	2935.6
20°	2879.6	2852.2	2879.6	2916.0	2910.3
22.5°	2791.7	2761.0	2819.9	2852.2	2850.1
25°	2691.9	2706.6	2750.8	2786.8	2781.0
27.5°	2604.4	2621.6	2684.5	2734.0	2702.1
30°	2536.9	2528.3	2581.5	2625.7	2650.2
32.5°	2416.3	2447.4	2509.5	2553.3	2530.0
35°	2343.1	2350.0	2404.4	2460.0	2458.4
37.5°	2215.1	2247.4	2323.9	2339.4	2325.1
40°	2105.9	2138.2	2207.3	2224.1	2217.1
42.5°	2025.4	2031.1	2090.4	2109.6	2078.9
45°	1885.1	1920.3	1952.2	2002.5	1955.0
47.5°	1765.7	1782.1	1850.8	1864.2	1839.3
50°	1657.3	1663.1	1732.2	1715.4	1699.0
52.5°	1521.2	1545.3	1584.1	1580.9	1561.7
55°	1409.1	1399.7	1436.5	1426.7	1426.3
57.5°	1274.6	1290.9	1321.2	1305.7	1280.7
60°	1148.6	1149.1	1160.1	1142.5	1139.2
62.5°	1008.4	1013.3	1015.7	994.1	1029.2
65°	865.7	854.2	887.8	853.8	859.5
67.5°	734.4	740.1	736.9	715.6	723.8
70°	601.1	608.5	603.2	579.0	586.4
72.5°	479.2	470.3	476.0	445.7	459.6
75°	360.3	352.9	359.4	334.1	345.5
77.5°	245.3	251.1	247.0	233.5	241.3
80°	161.9	157.4	157.4	149.7	151.3
82.5°	94.5	90.0	88.7	86.3	90.0
85°	44.2	42.9	43.8	42.5	40.9
87.5°	15.9	16.4	16.4	15.5	14.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)