

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: P589293

Luminaire Tested: **FMR-24-2-LD4-3HI-35-UNV-93-84-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589293  
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-LD4-3HI-35-UNV-93-84-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

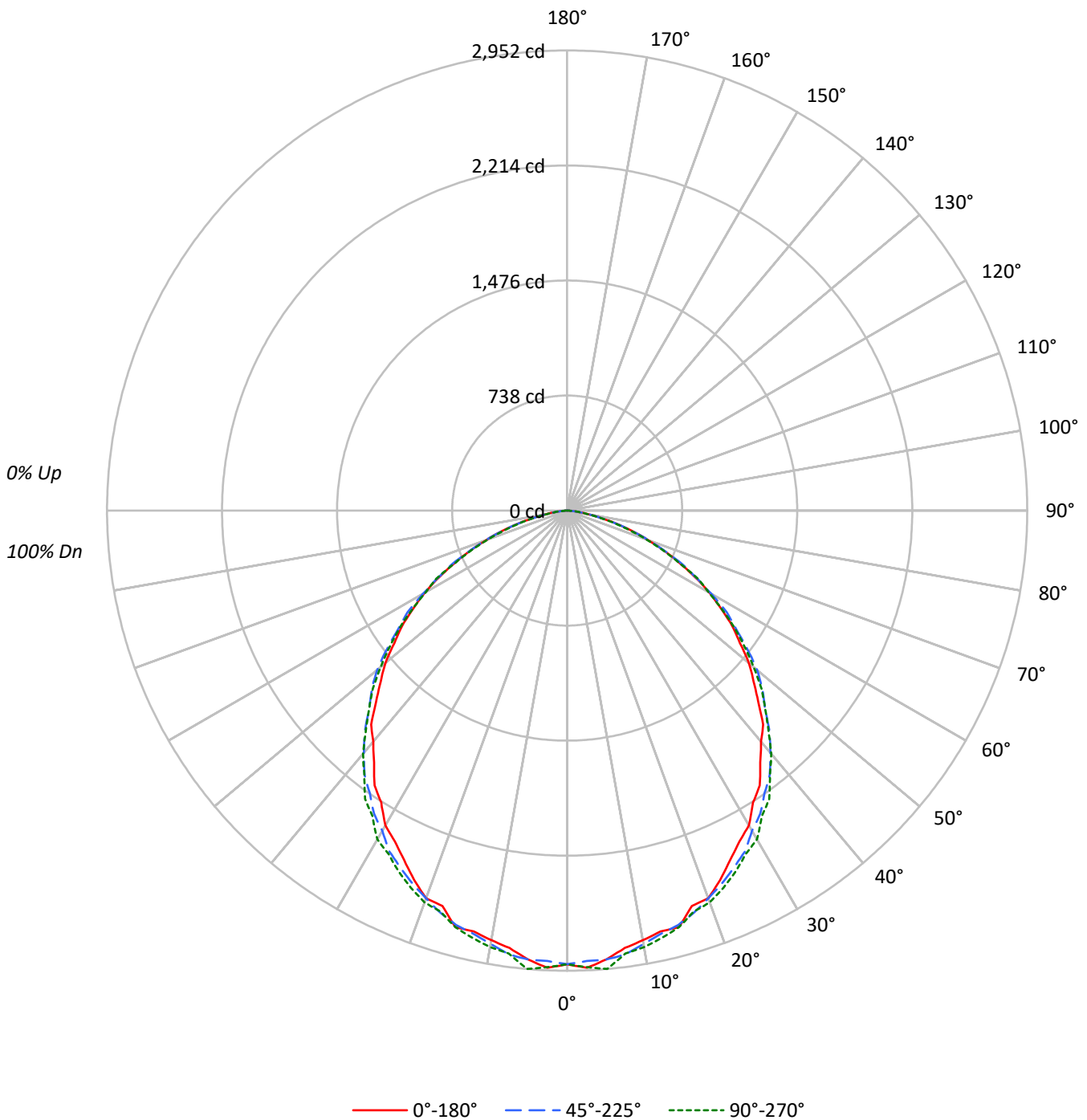
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7335.0 lumens  
Efficiency: N/A  
Efficacy: 113.2 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): 64.8  
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	
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°	7832	7832	7832
5°	7806	7809	7973
10°	7647	7714	7769
15°	7708	7666	7709
20°	7578	7578	7659
25°	7345	7505	7588
30°	7244	7371	7567
35°	7073	7258	7421
40°	6798	7125	7157
45°	6592	6827	6837
50°	6376	6664	6536
55°	6075	6193	6149
60°	5681	5738	5634
65°	5065	5195	5030
70°	4346	4361	4240
75°	3442	3434	3301
80°	2306	2242	2154
85°	1254	1241	1161



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	273.8	3.7
10°-20°	775.9	10.6
20°-30°	1162.4	15.8
30°-40°	1377.7	18.8
40°-50°	1380.2	18.8
50°-60°	1171.6	16.0
60°-70°	789.9	10.8
70°-80°	347.1	4.7
80°-90°	56.4	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°	2212.1	30.2
0°-40°	3589.8	48.9
0°-60°	6141.6	83.7
0°-90°	7335.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7335.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2910	2910	2910	2910	2910	
5°	2890	2883	2891	2882	2952	272
15°	2767	2735	2752	2766	2767	771
25°	2474	2487	2528	2561	2556	1144
35°	2153	2160	2210	2261	2259	1337
45°	1732	1765	1794	1840	1797	1340
55°	1295	1286	1320	1311	1311	1152
65°	796	785	816	785	790	791
75°	331	324	330	307	318	355
85°	41	40	40	39	38	59
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2910.3	2910.3	2910.3	2910.3	2910.3
2.5°	2935.5	2913.3	2892.7	2916.7	2931.4
5°	2889.7	2882.9	2890.8	2882.2	2951.7
7.5°	2830.3	2856.2	2871.3	2861.9	2866.0
10°	2798.7	2789.7	2823.2	2846.5	2843.1
12.5°	2764.9	2778.4	2780.3	2805.5	2807.8
15°	2766.8	2734.9	2751.8	2766.0	2767.2
17.5°	2659.3	2693.9	2705.5	2738.2	2697.7
20°	2646.2	2621.0	2646.2	2679.6	2674.4
22.5°	2565.4	2537.2	2591.3	2621.0	2619.1
25°	2473.7	2487.2	2527.8	2560.9	2555.6
27.5°	2393.3	2409.1	2466.9	2512.4	2483.1
30°	2331.3	2323.4	2372.2	2412.8	2435.4
32.5°	2220.4	2249.0	2306.1	2346.3	2324.9
35°	2153.2	2159.6	2209.5	2260.6	2259.1
37.5°	2035.5	2065.2	2135.5	2149.8	2136.6
40°	1935.2	1964.9	2028.4	2043.8	2037.4
42.5°	1861.2	1866.5	1920.9	1938.6	1910.4
45°	1732.3	1764.6	1793.9	1840.1	1796.6
47.5°	1622.6	1637.6	1700.7	1713.1	1690.2
50°	1523.0	1528.3	1591.8	1576.4	1561.3
52.5°	1397.9	1420.0	1455.7	1452.7	1435.1
55°	1294.9	1286.3	1320.1	1311.1	1310.7
57.5°	1171.3	1186.3	1214.1	1199.8	1176.9
60°	1055.5	1055.9	1066.1	1049.9	1046.9
62.5°	926.7	931.2	933.4	913.5	945.8
65°	795.5	785.0	815.8	784.6	789.9
67.5°	674.9	680.1	677.1	657.6	665.1
70°	552.4	559.1	554.3	532.1	538.9
72.5°	440.4	432.1	437.4	409.6	422.4
75°	331.1	324.3	330.3	307.0	317.5
77.5°	225.5	230.7	227.0	214.6	221.7
80°	148.8	144.7	144.7	137.5	139.0
82.5°	86.8	82.7	81.5	79.3	82.7
85°	40.6	39.5	40.2	39.1	37.6
87.5°	14.7	15.0	15.0	14.3	13.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)