

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: P589343

Luminaire Tested: **FMR-24-2-LD4-3HI-50-UNV-81-86-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589343  
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-50-UNV-81-86-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

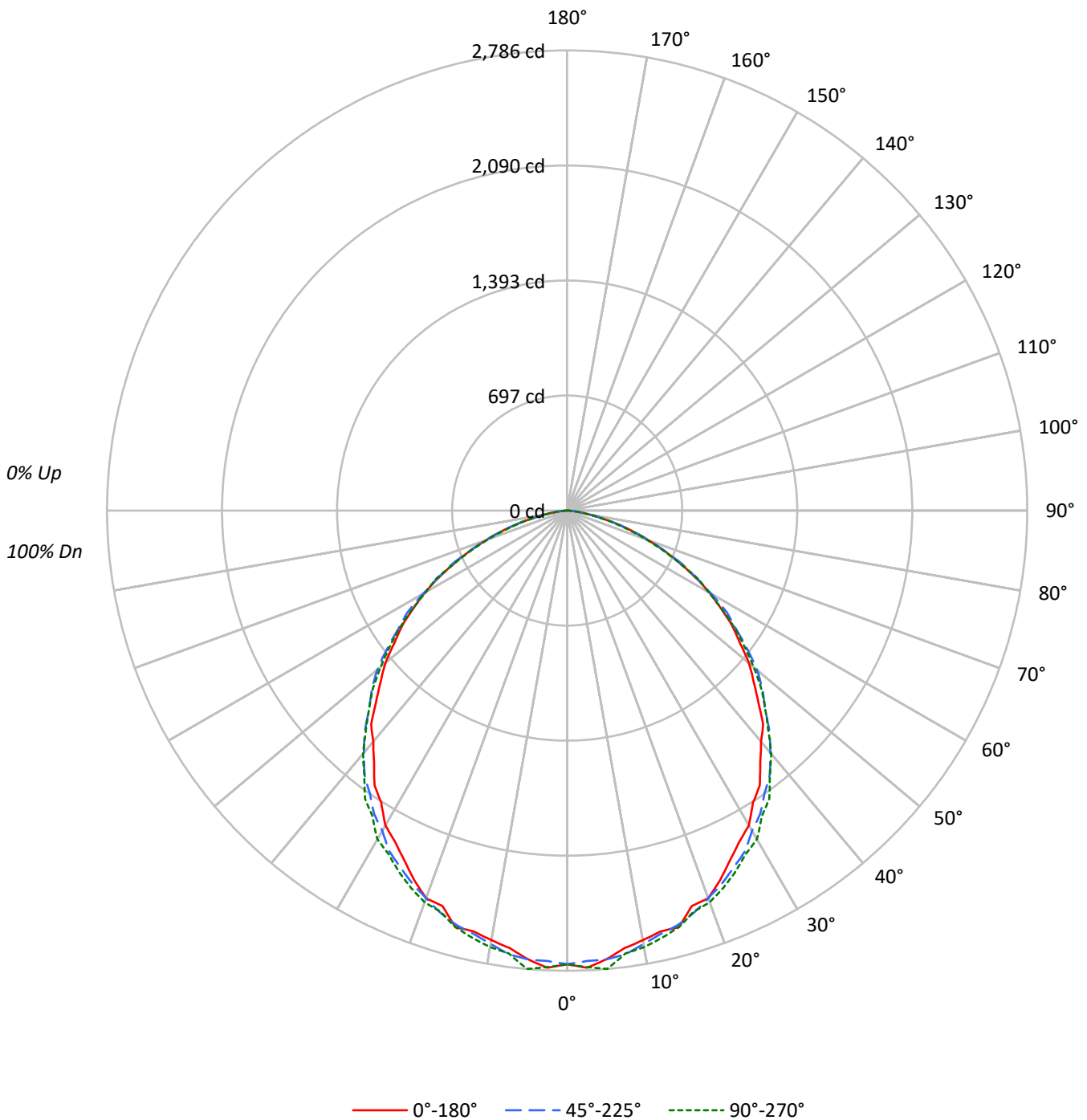
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6922.0 lumens  
Efficiency: N/A  
Efficacy: 106.8 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°	7391	7391	7391
5°	7366	7369	7524
10°	7217	7280	7331
15°	7274	7234	7275
20°	7151	7151	7227
25°	6931	7083	7161
30°	6836	6956	7141
35°	6675	6850	7003
40°	6415	6724	6754
45°	6221	6443	6452
50°	6017	6288	6168
55°	5733	5845	5803
60°	5361	5414	5317
65°	4780	4902	4746
70°	4102	4116	4001
75°	3248	3241	3115
80°	2176	2115	2033
85°	1183	1170	1096



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	258.3	3.7
10°-20°	732.2	10.6
20°-30°	1097.0	15.8
30°-40°	1300.1	18.8
40°-50°	1302.5	18.8
50°-60°	1105.6	16.0
60°-70°	745.4	10.8
70°-80°	327.5	4.7
80°-90°	53.2	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°	2087.5	30.2
0°-40°	3387.6	48.9
0°-60°	5795.8	83.7
0°-90°	6922.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6922.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2746	2746	2746	2746	2746	
5°	2727	2721	2728	2720	2786	257
15°	2611	2581	2597	2610	2611	727
25°	2334	2347	2386	2417	2412	1079
35°	2032	2038	2085	2133	2132	1262
45°	1635	1665	1693	1736	1695	1265
55°	1222	1214	1246	1237	1237	1087
65°	751	741	770	740	745	747
75°	312	306	312	290	300	335
85°	38	37	38	37	36	56
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2746.5	2746.5	2746.5	2746.5	2746.5
2.5°	2770.2	2749.3	2729.8	2752.5	2766.3
5°	2727.0	2720.6	2728.0	2719.9	2785.5
7.5°	2670.9	2695.4	2709.6	2700.7	2704.6
10°	2641.2	2632.6	2664.2	2686.2	2683.0
12.5°	2609.2	2622.0	2623.8	2647.5	2649.7
15°	2611.0	2580.9	2596.8	2610.3	2611.4
17.5°	2509.6	2542.2	2553.2	2584.1	2545.8
20°	2497.2	2473.4	2497.2	2528.7	2523.8
22.5°	2420.9	2394.3	2445.4	2473.4	2471.6
25°	2334.4	2347.2	2385.5	2416.7	2411.7
27.5°	2258.5	2273.4	2328.0	2370.9	2343.3
30°	2200.0	2192.6	2238.7	2277.0	2298.2
32.5°	2095.4	2122.4	2176.3	2214.2	2194.0
35°	2031.9	2038.0	2085.1	2133.3	2131.9
37.5°	1920.9	1949.0	2015.3	2028.7	2016.3
40°	1826.3	1854.3	1914.2	1928.7	1922.7
42.5°	1756.4	1761.4	1812.8	1829.4	1802.9
45°	1634.8	1665.3	1692.9	1736.5	1695.4
47.5°	1531.2	1545.4	1605.0	1616.7	1595.0
50°	1437.2	1442.2	1502.1	1487.6	1473.4
52.5°	1319.2	1340.1	1373.8	1370.9	1354.3
55°	1222.0	1213.8	1245.8	1237.2	1236.9
57.5°	1105.3	1119.5	1145.8	1132.3	1110.6
60°	996.1	996.5	1006.0	990.8	988.0
62.5°	874.5	878.7	880.9	862.1	892.6
65°	750.7	740.8	769.9	740.4	745.4
67.5°	636.9	641.8	639.0	620.6	627.7
70°	521.3	527.7	523.1	502.1	508.5
72.5°	415.6	407.8	412.8	386.5	398.6
75°	312.4	306.0	311.7	289.7	299.6
77.5°	212.8	217.7	214.2	202.5	209.2
80°	140.4	136.5	136.5	129.8	131.2
82.5°	81.9	78.0	77.0	74.8	78.0
85°	38.3	37.2	37.9	36.9	35.5
87.5°	13.8	14.2	14.2	13.5	12.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)