

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: P589342

Luminaire Tested: **FMR-24-2-LD4-3HI-50-UNV-81-85-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589342  
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-81-85-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

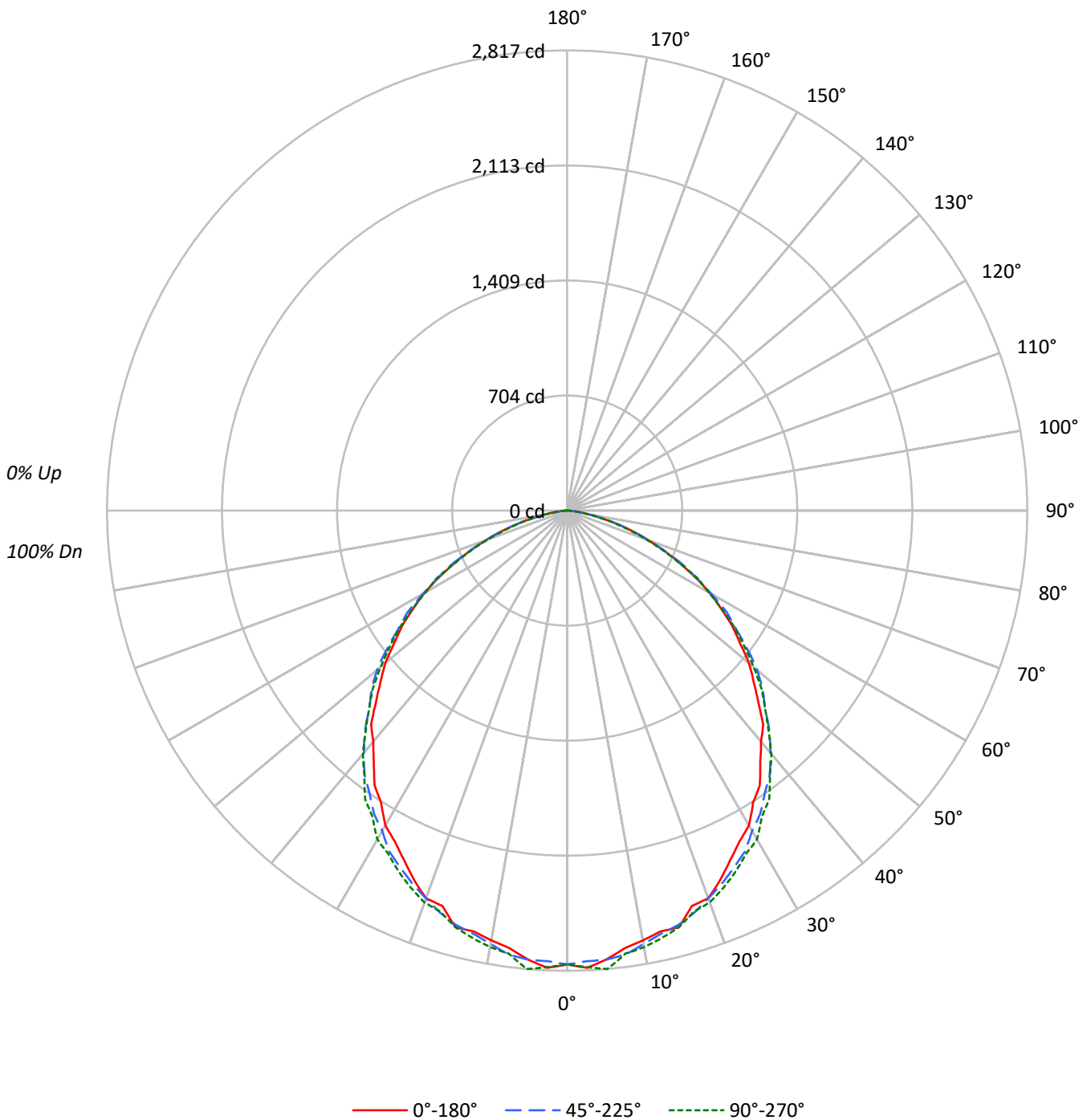
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7001.0 lumens  
Efficiency: N/A  
Efficacy: 108.0 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																		
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	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°	7475	7475	7475
5°	7450	7453	7610
10°	7299	7363	7415
15°	7357	7317	7358
20°	7233	7233	7310
25°	7010	7164	7242
30°	6914	7035	7223
35°	6751	6928	7084
40°	6489	6801	6831
45°	6292	6516	6526
50°	6085	6360	6239
55°	5798	5911	5869
60°	5422	5476	5378
65°	4835	4958	4800
70°	4148	4162	4046
75°	3285	3278	3151
80°	2201	2140	2056
85°	1195	1186	1108



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	261.3	3.7
10°-20°	740.5	10.6
20°-30°	1109.5	15.8
30°-40°	1315.0	18.8
40°-50°	1317.4	18.8
50°-60°	1118.3	16.0
60°-70°	753.9	10.8
70°-80°	331.3	4.7
80°-90°	53.8	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°	2111.3	30.2
0°-40°	3426.3	48.9
0°-60°	5862.0	83.7
0°-90°	7001.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7001.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2778	2778	2778	2778	2778	
5°	2758	2752	2759	2751	2817	260
15°	2641	2610	2626	2640	2641	736
25°	2361	2374	2413	2444	2439	1092
35°	2055	2061	2109	2158	2156	1276
45°	1653	1684	1712	1756	1715	1279
55°	1236	1228	1260	1251	1251	1099
65°	759	749	779	749	754	755
75°	316	310	315	293	303	339
85°	39	38	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°	2777.8	2777.8	2777.8	2777.8	2777.8
2.5°	2801.9	2780.7	2761.0	2783.9	2797.9
5°	2758.1	2751.6	2759.2	2750.9	2817.3
7.5°	2701.4	2726.2	2740.5	2731.6	2735.5
10°	2671.3	2662.7	2694.6	2716.8	2713.6
12.5°	2639.0	2651.9	2653.7	2677.8	2679.9
15°	2640.8	2610.3	2626.5	2640.1	2641.2
17.5°	2538.2	2571.2	2582.4	2613.6	2574.8
20°	2525.7	2501.7	2525.7	2557.6	2552.6
22.5°	2448.6	2421.7	2473.3	2501.7	2499.9
25°	2361.1	2374.0	2412.7	2444.3	2439.2
27.5°	2284.3	2299.4	2354.6	2398.0	2370.0
30°	2225.1	2217.6	2264.2	2303.0	2324.5
32.5°	2119.3	2146.6	2201.1	2239.5	2219.0
35°	2055.1	2061.2	2108.9	2157.7	2156.3
37.5°	1942.9	1971.2	2038.3	2051.9	2039.3
40°	1847.1	1875.4	1936.0	1950.8	1944.7
42.5°	1776.4	1781.5	1833.5	1850.3	1823.4
45°	1653.4	1684.3	1712.2	1756.4	1714.8
47.5°	1548.7	1563.0	1623.3	1635.1	1613.3
50°	1453.6	1458.7	1519.3	1504.6	1490.2
52.5°	1334.2	1355.4	1389.4	1386.6	1369.7
55°	1235.9	1227.7	1260.0	1251.4	1251.0
57.5°	1117.9	1132.3	1158.8	1145.2	1123.3
60°	1007.5	1007.8	1017.5	1002.1	999.2
62.5°	884.5	888.8	890.9	871.9	902.7
65°	759.3	749.2	778.7	748.9	753.9
67.5°	644.2	649.2	646.3	627.7	634.8
70°	527.2	533.7	529.0	507.9	514.3
72.5°	420.3	412.5	417.5	390.9	403.1
75°	316.0	309.5	315.3	293.0	303.1
77.5°	215.2	220.2	216.6	204.8	211.6
80°	142.0	138.1	138.1	131.3	132.7
82.5°	82.9	78.9	77.8	75.7	78.9
85°	38.7	37.7	38.4	37.3	35.9
87.5°	14.0	14.3	14.3	13.6	12.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)