

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: P589349

Luminaire Tested: **FMR-24-2-LD4-3HI-50-UNV-82-84-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589349  
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-82-84-EDD  
Description: 2X2 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

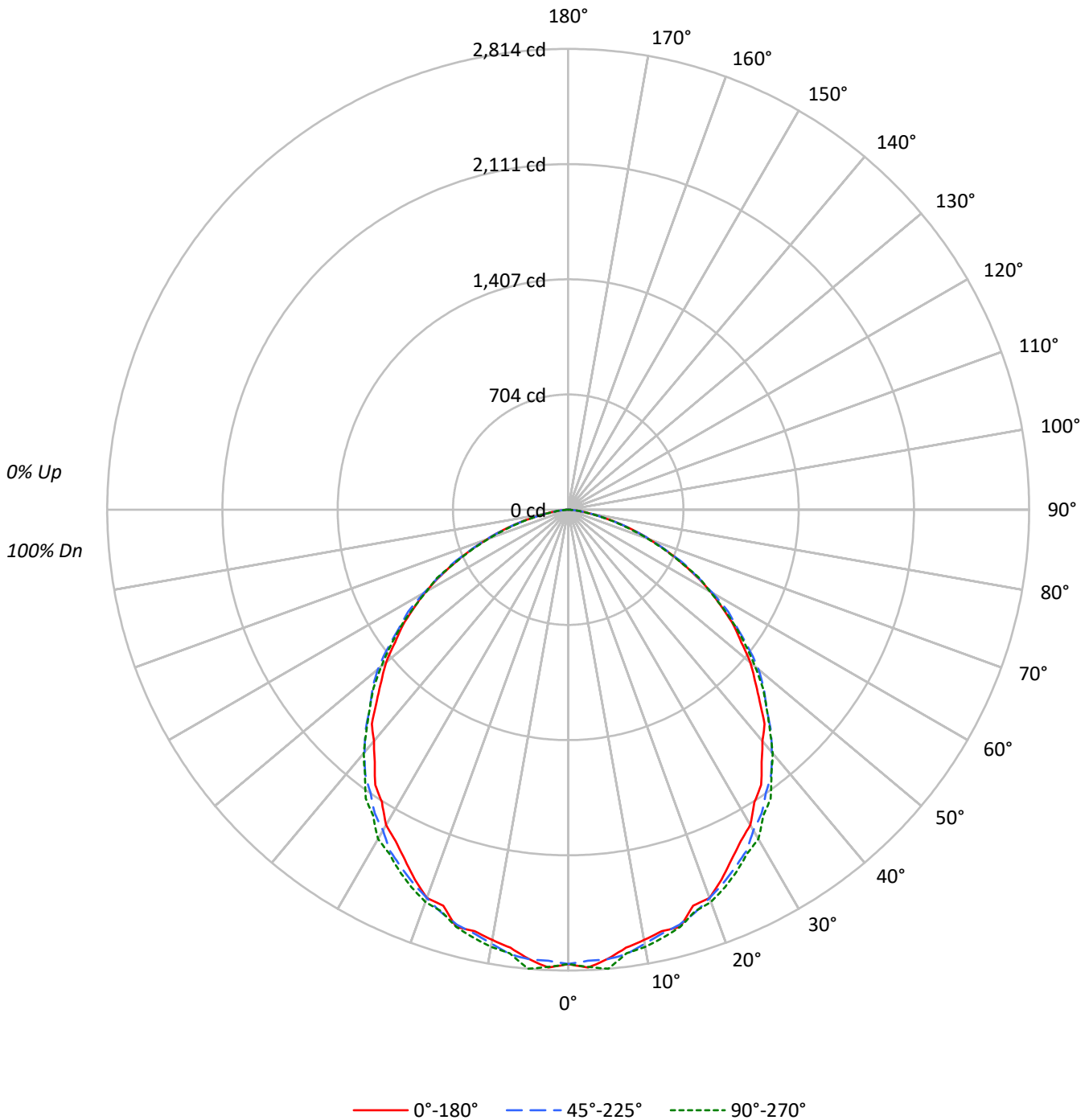
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6992.0 lumens  
Efficiency: N/A  
Efficacy: 107.9 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): 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°	7465	7465	7465
5°	7441	7444	7601
10°	7290	7353	7405
15°	7348	7308	7349
20°	7223	7223	7300
25°	7001	7155	7233
30°	6905	7026	7214
35°	6743	6919	7074
40°	6480	6792	6823
45°	6284	6508	6517
50°	6078	6352	6231
55°	5791	5904	5862
60°	5415	5469	5371
65°	4828	4951	4794
70°	4143	4157	4042
75°	3281	3274	3147
80°	2197	2137	2053
85°	1195	1183	1105



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	261.0	3.7
10°-20°	739.6	10.6
20°-30°	1108.1	15.8
30°-40°	1313.3	18.8
40°-50°	1315.7	18.8
50°-60°	1116.8	16.0
60°-70°	753.0	10.8
70°-80°	330.8	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°	2108.6	30.2
0°-40°	3421.9	48.9
0°-60°	5854.4	83.7
0°-90°	6992.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6992.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2774	2774	2774	2774	2774	
5°	2754	2748	2756	2747	2814	260
15°	2637	2607	2623	2637	2638	735
25°	2358	2371	2410	2441	2436	1090
35°	2052	2059	2106	2155	2154	1274
45°	1651	1682	1710	1754	1712	1277
55°	1234	1226	1258	1250	1249	1098
65°	758	748	778	748	753	754
75°	316	309	315	293	303	338
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°	2774.2	2774.2	2774.2	2774.2	2774.2
2.5°	2798.2	2777.1	2757.4	2780.3	2794.3
5°	2754.5	2748.1	2755.6	2747.4	2813.7
7.5°	2698.0	2722.7	2737.0	2728.0	2732.0
10°	2667.9	2659.3	2691.1	2713.4	2710.1
12.5°	2635.6	2648.5	2650.3	2674.3	2676.5
15°	2637.4	2607.0	2623.1	2636.7	2637.8
17.5°	2535.0	2567.9	2579.0	2610.2	2571.5
20°	2522.4	2498.4	2522.4	2554.3	2549.3
22.5°	2445.4	2418.6	2470.1	2498.4	2496.6
25°	2358.0	2370.9	2409.6	2441.1	2436.1
27.5°	2281.4	2296.4	2351.6	2394.9	2367.0
30°	2222.3	2214.7	2261.3	2300.0	2321.5
32.5°	2116.6	2143.8	2198.3	2236.6	2216.2
35°	2052.5	2058.6	2106.2	2154.9	2153.5
37.5°	1940.4	1968.7	2035.6	2049.3	2036.7
40°	1844.7	1873.0	1933.6	1948.2	1942.2
42.5°	1774.2	1779.2	1831.1	1847.9	1821.1
45°	1651.3	1682.1	1710.0	1754.1	1712.5
47.5°	1546.7	1561.0	1621.2	1633.0	1611.2
50°	1451.8	1456.8	1517.3	1502.6	1488.3
52.5°	1332.5	1353.6	1387.7	1384.8	1368.0
55°	1234.4	1226.1	1258.4	1249.8	1249.4
57.5°	1116.5	1130.8	1157.3	1143.7	1121.9
60°	1006.2	1006.5	1016.2	1000.8	997.9
62.5°	883.3	887.6	889.8	870.8	901.6
65°	758.3	748.3	777.6	747.9	752.9
67.5°	643.3	648.3	645.5	626.8	634.0
70°	526.6	533.0	528.3	507.2	513.7
72.5°	419.8	411.9	416.9	390.4	402.6
75°	315.6	309.1	314.9	292.6	302.7
77.5°	214.9	219.9	216.4	204.5	211.3
80°	141.8	137.9	137.9	131.1	132.5
82.5°	82.7	78.8	77.7	75.6	78.8
85°	38.7	37.6	38.3	37.3	35.8
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)