

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: P589331

Luminaire Tested: **FMR-24-2-LD4-3HI-40-UNV-93-96-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589331  
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-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: -

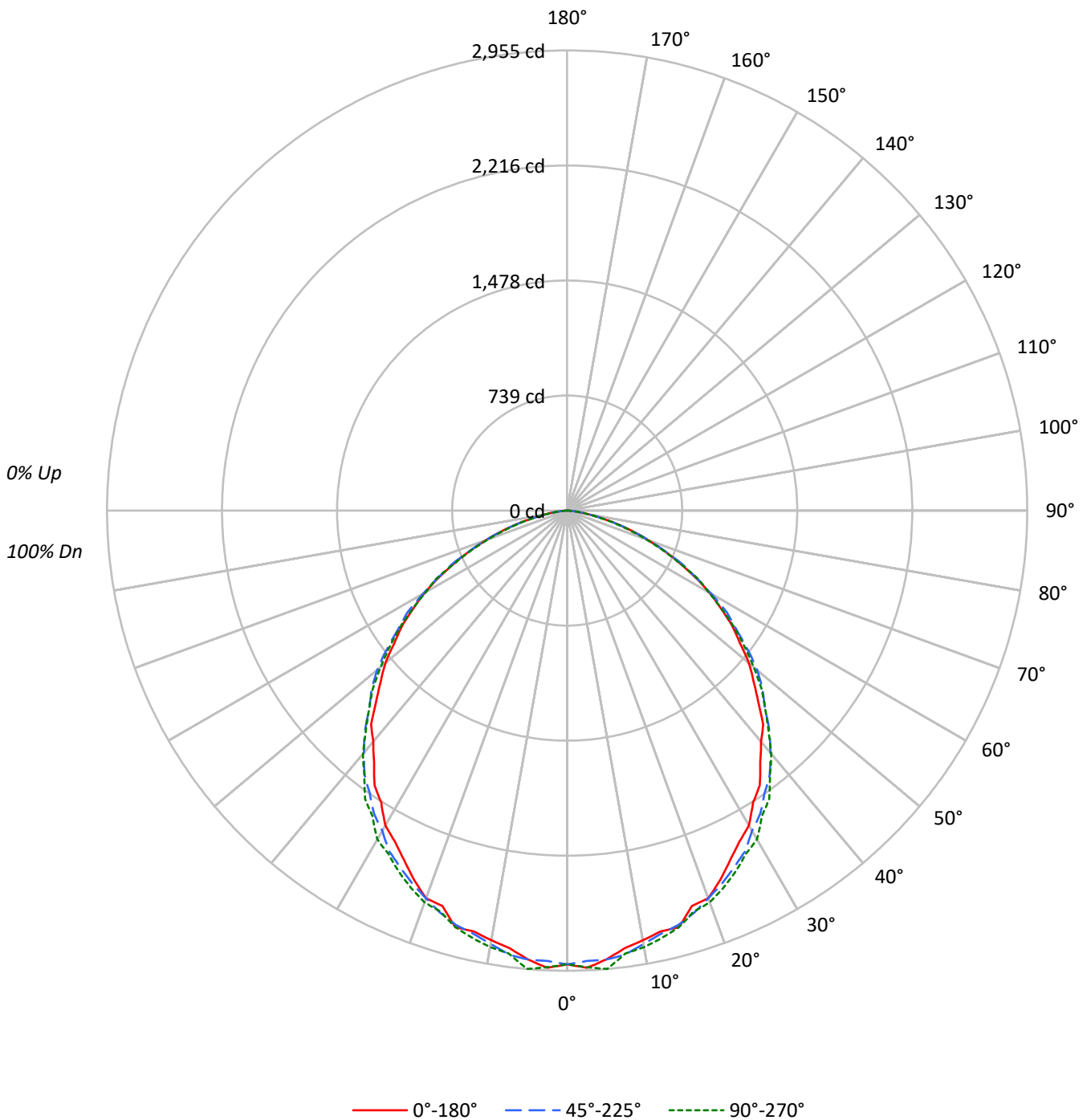
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7343.0 lumens  
Efficiency: N/A  
Efficacy: 113.3 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	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					100			
1	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86					86			
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73					73			
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62					62			
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53					53			
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46					46			
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41					41			
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36					36			
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32					32			
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29					29			
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26					26			

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

	0°	45°	90°
0°	7840	7840	7840
5°	7814	7817	7982
10°	7656	7723	7777
15°	7716	7675	7718
20°	7586	7586	7667
25°	7353	7514	7596
30°	7252	7379	7576
35°	7081	7266	7430
40°	6805	7133	7165
45°	6600	6835	6844
50°	6383	6671	6543
55°	6082	6200	6156
60°	5687	5744	5640
65°	5071	5200	5035
70°	4351	4366	4244
75°	3446	3438	3305
80°	2309	2244	2157
85°	1254	1244	1161



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	274.1	3.7
10°-20°	776.7	10.6
20°-30°	1163.7	15.8
30°-40°	1379.2	18.8
40°-50°	1381.8	18.8
50°-60°	1172.9	16.0
60°-70°	790.8	10.8
70°-80°	347.5	4.7
80°-90°	56.5	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°	2214.5	30.2
0°-40°	3593.7	48.9
0°-60°	6148.3	83.7
0°-90°	7343.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7343.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2914	2914	2914	2914	2914	
5°	2893	2886	2894	2885	2955	273
15°	2770	2738	2755	2769	2770	772
25°	2476	2490	2531	2564	2558	1145
35°	2156	2162	2212	2263	2262	1338
45°	1734	1766	1796	1842	1798	1341
55°	1296	1288	1322	1312	1312	1153
65°	796	786	817	786	791	792
75°	331	325	331	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°	2913.5	2913.5	2913.5	2913.5	2913.5
2.5°	2938.7	2916.5	2895.8	2919.9	2934.6
5°	2892.8	2886.1	2894.0	2885.3	2954.9
7.5°	2833.4	2859.3	2874.4	2865.0	2869.1
10°	2801.8	2792.8	2826.2	2849.6	2846.2
12.5°	2767.9	2781.5	2783.4	2808.6	2810.8
15°	2769.8	2737.8	2754.8	2769.1	2770.2
17.5°	2662.2	2696.8	2708.5	2741.2	2700.6
20°	2649.1	2623.9	2649.1	2682.5	2677.3
22.5°	2568.2	2540.0	2594.1	2623.9	2622.0
25°	2476.4	2489.9	2530.6	2563.7	2558.4
27.5°	2395.9	2411.7	2469.6	2515.1	2485.8
30°	2333.8	2325.9	2374.8	2415.5	2438.0
32.5°	2222.8	2251.4	2308.6	2348.9	2327.4
35°	2155.5	2161.9	2211.9	2263.1	2261.6
37.5°	2037.8	2067.5	2137.8	2152.1	2139.0
40°	1937.3	1967.0	2030.6	2046.0	2039.6
42.5°	1863.2	1868.5	1923.0	1940.7	1912.5
45°	1734.2	1766.5	1795.9	1842.2	1798.5
47.5°	1624.3	1639.4	1702.6	1715.0	1692.1
50°	1524.7	1529.9	1593.5	1578.1	1563.0
52.5°	1399.4	1421.6	1457.3	1454.3	1436.6
55°	1296.3	1287.7	1321.5	1312.5	1312.1
57.5°	1172.6	1187.6	1215.4	1201.1	1178.2
60°	1056.7	1057.1	1067.2	1051.0	1048.0
62.5°	927.7	932.2	934.4	914.5	946.8
65°	796.4	785.8	816.7	785.5	790.7
67.5°	675.6	680.9	677.9	658.3	665.8
70°	553.0	559.8	554.9	532.7	539.4
72.5°	440.9	432.6	437.9	410.0	422.8
75°	331.4	324.6	330.7	307.3	317.9
77.5°	225.7	231.0	227.2	214.8	221.9
80°	149.0	144.8	144.8	137.7	139.2
82.5°	86.9	82.8	81.6	79.4	82.8
85°	40.6	39.5	40.3	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)