

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: P588723

Luminaire Tested: **FMR-24-2-LD4-1HI-35-UNV-93-96-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P588723  
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-LD4-1HI-35-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 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

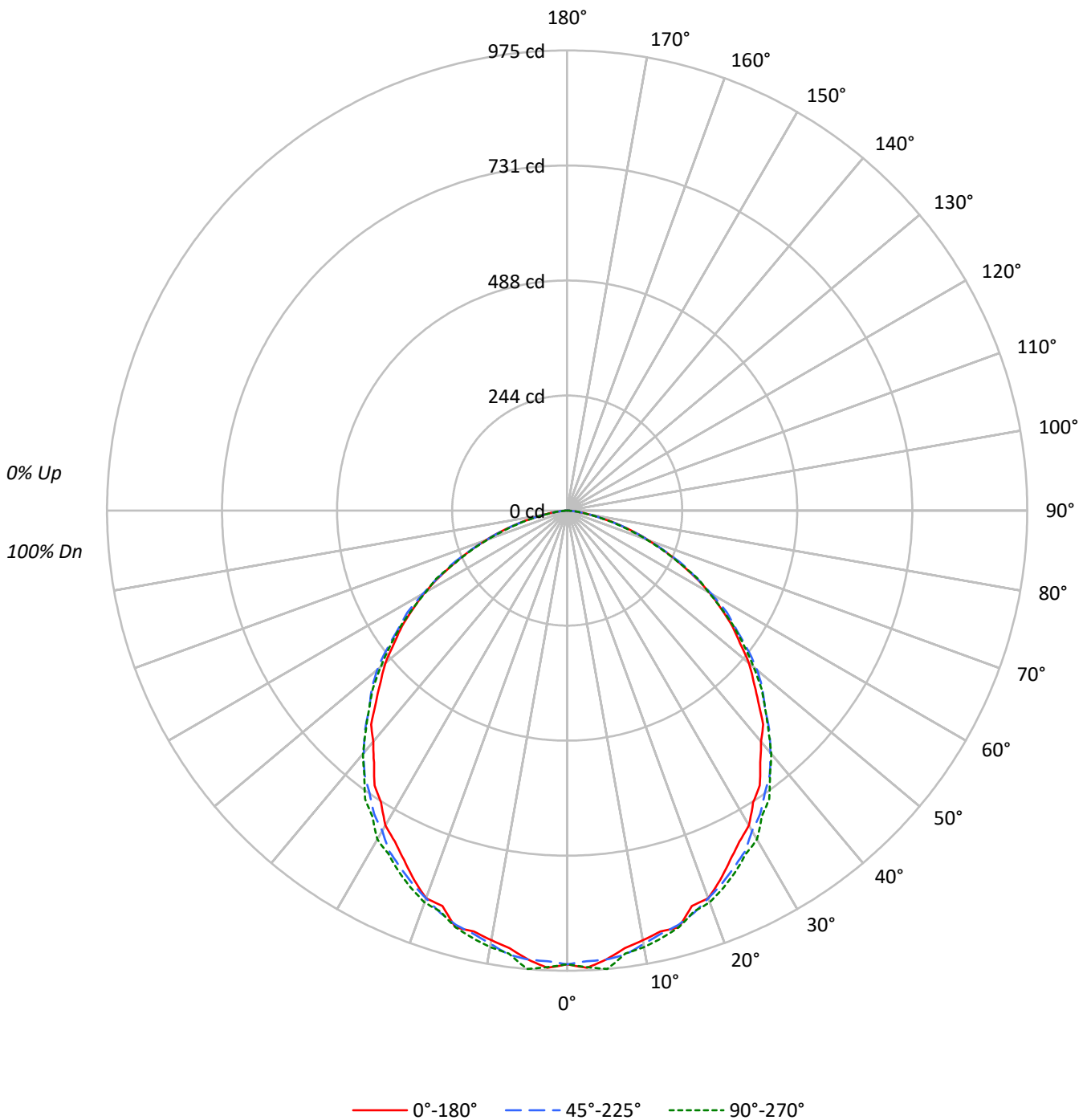
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2423.0 lumens  
Efficiency: N/A  
Efficacy: 112.2 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): 21.6  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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°	2587	2587	2587
5°	2579	2579	2634
10°	2526	2548	2566
15°	2546	2532	2547
20°	2503	2503	2530
25°	2426	2479	2507
30°	2393	2435	2500
35°	2337	2398	2452
40°	2246	2354	2364
45°	2178	2255	2259
50°	2106	2201	2159
55°	2007	2046	2031
60°	1877	1896	1861
65°	1673	1716	1661
70°	1436	1441	1400
75°	1137	1134	1091
80°	762	741	711
85°	414	411	383



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	90.4	3.7
10°-20°	256.3	10.6
20°-30°	384.0	15.8
30°-40°	455.1	18.8
40°-50°	456.0	18.8
50°-60°	387.0	16.0
60°-70°	260.9	10.8
70°-80°	114.7	4.7
80°-90°	18.6	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°	730.7	30.2
0°-40°	1185.8	48.9
0°-60°	2028.8	83.7
0°-90°	2423.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2423.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	961	961	961	961	961	
5°	955	952	955	952	975	90
15°	914	903	909	914	914	255
25°	817	822	835	846	844	378
35°	711	713	730	747	746	442
45°	572	583	593	608	594	443
55°	428	425	436	433	433	381
65°	263	259	270	259	261	261
75°	109	107	109	101	105	117
85°	13	13	13	13	12	19
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	961.4	961.4	961.4	961.4	961.4
2.5°	969.7	962.4	955.6	963.5	968.3
5°	954.6	952.3	954.9	952.1	975.0
7.5°	934.9	943.5	948.5	945.4	946.7
10°	924.5	921.5	932.6	940.3	939.2
12.5°	913.3	917.8	918.4	926.8	927.5
15°	914.0	903.4	909.0	913.7	914.1
17.5°	878.5	889.9	893.7	904.5	891.1
20°	874.1	865.8	874.1	885.2	883.4
22.5°	847.4	838.1	856.0	865.8	865.2
25°	817.1	821.6	835.0	845.9	844.2
27.5°	790.6	795.8	814.9	829.9	820.2
30°	770.1	767.5	783.6	797.0	804.5
32.5°	733.5	742.9	761.8	775.1	768.0
35°	711.3	713.4	729.9	746.8	746.3
37.5°	672.4	682.2	705.4	710.1	705.8
40°	639.3	649.1	670.1	675.1	673.0
42.5°	614.8	616.6	634.6	640.4	631.1
45°	572.2	582.9	592.6	607.9	593.5
47.5°	536.0	541.0	561.8	565.9	558.3
50°	503.1	504.8	525.8	520.7	515.8
52.5°	461.8	469.1	480.9	479.9	474.1
55°	427.8	424.9	436.1	433.1	433.0
57.5°	386.9	391.9	401.1	396.3	388.8
60°	348.7	348.8	352.2	346.8	345.8
62.5°	306.1	307.6	308.3	301.8	312.4
65°	262.8	259.3	269.5	259.2	260.9
67.5°	222.9	224.7	223.7	217.2	219.7
70°	182.5	184.7	183.1	175.8	178.0
72.5°	145.5	142.7	144.5	135.3	139.5
75°	109.4	107.1	109.1	101.4	104.9
77.5°	74.5	76.2	75.0	70.9	73.2
80°	49.2	47.8	47.8	45.4	45.9
82.5°	28.7	27.3	26.9	26.2	27.3
85°	13.4	13.0	13.3	12.9	12.4
87.5°	4.8	5.0	5.0	4.7	4.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)