

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: P589095

Luminaire Tested: **FMR-24-2-LD4-2LO-35-UNV-82-86-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589095  
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-LD4-2LO-35-UNV-82-86-EDD  
Description: 2X2 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

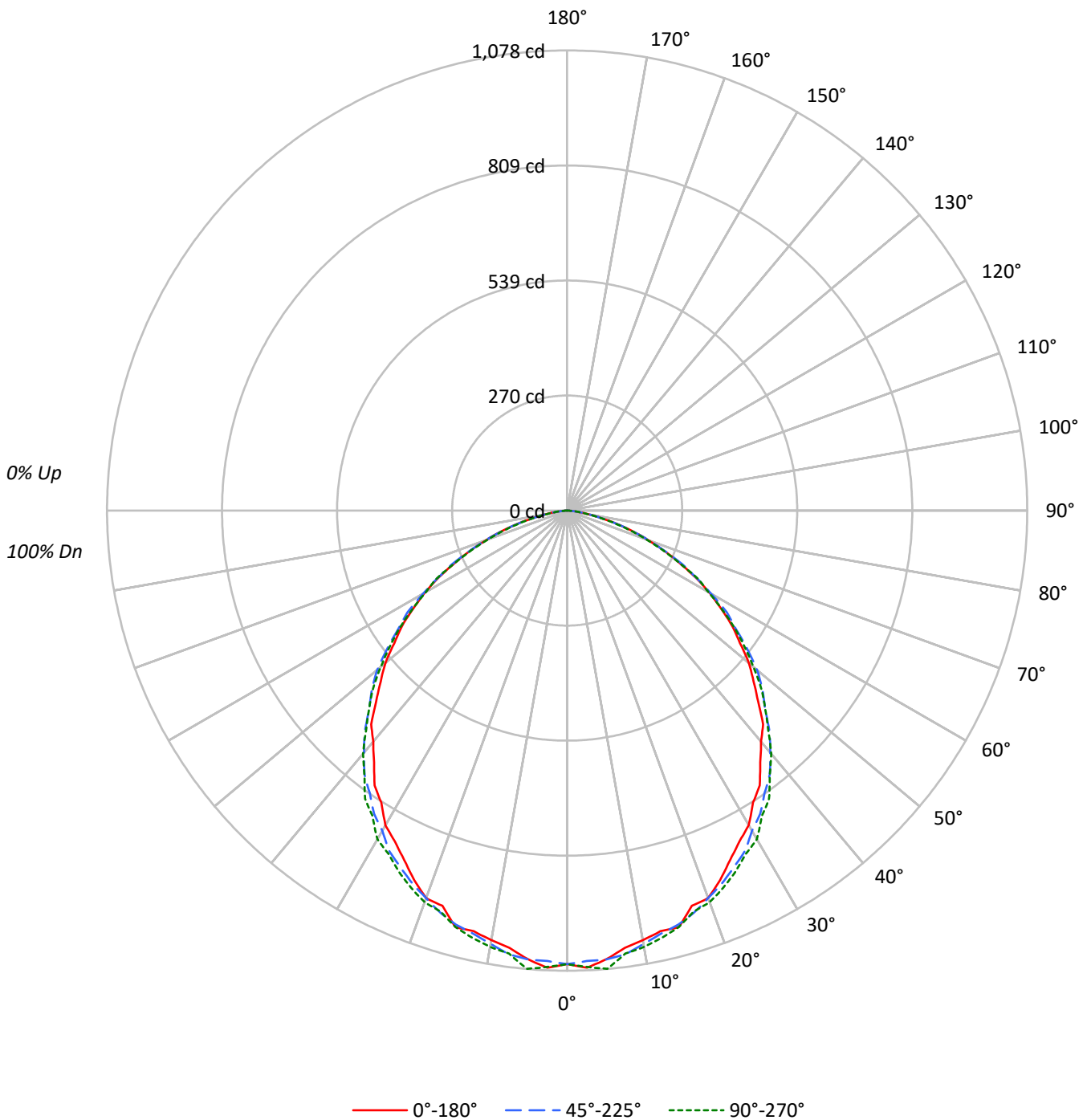
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2678.0 lumens  
Efficiency: N/A  
Efficacy: 114.4 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): 23.4  
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

TEST NUMBER: P589095

CATALOG NUMBER: FMR-24-2-LD4-2LO-35-UNV-82-86-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P589095

CATALOG NUMBER: FMR-24-2-LD4-2LO-35-UNV-82-86-EDD

**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°	2859	2859	2859
5°	2850	2851	2911
10°	2792	2816	2836
15°	2814	2799	2815
20°	2767	2767	2796
25°	2681	2740	2771
30°	2645	2691	2763
35°	2582	2650	2710
40°	2482	2602	2613
45°	2407	2493	2496
50°	2328	2433	2386
55°	2218	2261	2245
60°	2074	2095	2057
65°	1849	1896	1836
70°	1587	1592	1548
75°	1257	1254	1205
80°	841	818	787
85°	457	454	423



TEST NUMBER: P589095

CATALOG NUMBER: FMR-24-2-LD4-2LO-35-UNV-82-86-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	99.9	3.7
10°-20°	283.3	10.6
20°-30°	424.4	15.8
30°-40°	503.0	18.8
40°-50°	503.9	18.8
50°-60°	427.8	16.0
60°-70°	288.4	10.8
70°-80°	126.7	4.7
80°-90°	20.6	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°	807.6	30.2
0°-40°	1310.6	48.9
0°-60°	2242.3	83.7
0°-90°	2678.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2678.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1063	1063	1063	1063	1063	
5°	1055	1052	1055	1052	1078	99
15°	1010	998	1005	1010	1010	281
25°	903	908	923	935	933	418
35°	786	788	807	825	825	488
45°	632	644	655	672	656	489
55°	473	470	482	479	478	421
65°	290	287	298	286	288	289
75°	121	118	121	112	116	130
85°	15	14	15	14	14	21
90°	0	0	0	0	0	



TEST NUMBER: P589095

CATALOG NUMBER: FMR-24-2-LD4-2LO-35-UNV-82-86-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1062.6	1062.6	1062.6	1062.6	1062.6
2.5°	1071.8	1063.7	1056.1	1064.9	1070.2
5°	1055.0	1052.5	1055.4	1052.3	1077.7
7.5°	1033.3	1042.8	1048.3	1044.9	1046.4
10°	1021.8	1018.5	1030.7	1039.2	1038.0
12.5°	1009.5	1014.4	1015.1	1024.3	1025.1
15°	1010.2	998.5	1004.7	1009.9	1010.3
17.5°	970.9	983.5	987.8	999.7	984.9
20°	966.1	956.9	966.1	978.3	976.4
22.5°	936.6	926.3	946.1	956.9	956.2
25°	903.1	908.1	922.9	935.0	933.1
27.5°	873.8	879.5	900.7	917.3	906.6
30°	851.1	848.3	866.1	880.9	889.2
32.5°	810.7	821.1	842.0	856.6	848.8
35°	786.1	788.5	806.7	825.4	824.8
37.5°	743.2	754.0	779.7	784.9	780.1
40°	706.5	717.4	740.6	746.2	743.9
42.5°	679.5	681.4	701.3	707.8	697.5
45°	632.5	644.3	655.0	671.8	655.9
47.5°	592.4	597.9	620.9	625.5	617.1
50°	556.0	558.0	581.2	575.5	570.0
52.5°	510.4	518.5	531.5	530.4	523.9
55°	472.8	469.6	482.0	478.7	478.5
57.5°	427.6	433.1	443.3	438.1	429.7
60°	385.4	385.5	389.2	383.3	382.2
62.5°	338.3	340.0	340.8	333.5	345.3
65°	290.4	286.6	297.8	286.5	288.4
67.5°	246.4	248.3	247.2	240.1	242.8
70°	201.7	204.1	202.4	194.3	196.7
72.5°	160.8	157.8	159.7	149.5	154.2
75°	120.9	118.4	120.6	112.1	115.9
77.5°	82.3	84.2	82.9	78.3	80.9
80°	54.3	52.8	52.8	50.2	50.8
82.5°	31.7	30.2	29.8	28.9	30.2
85°	14.8	14.4	14.7	14.3	13.7
87.5°	5.4	5.5	5.5	5.2	4.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)