

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: P589155

Luminaire Tested: **FMR-24-2-LD4-2LO-50-UNV-81-96-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589155  
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-50-UNV-81-96-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

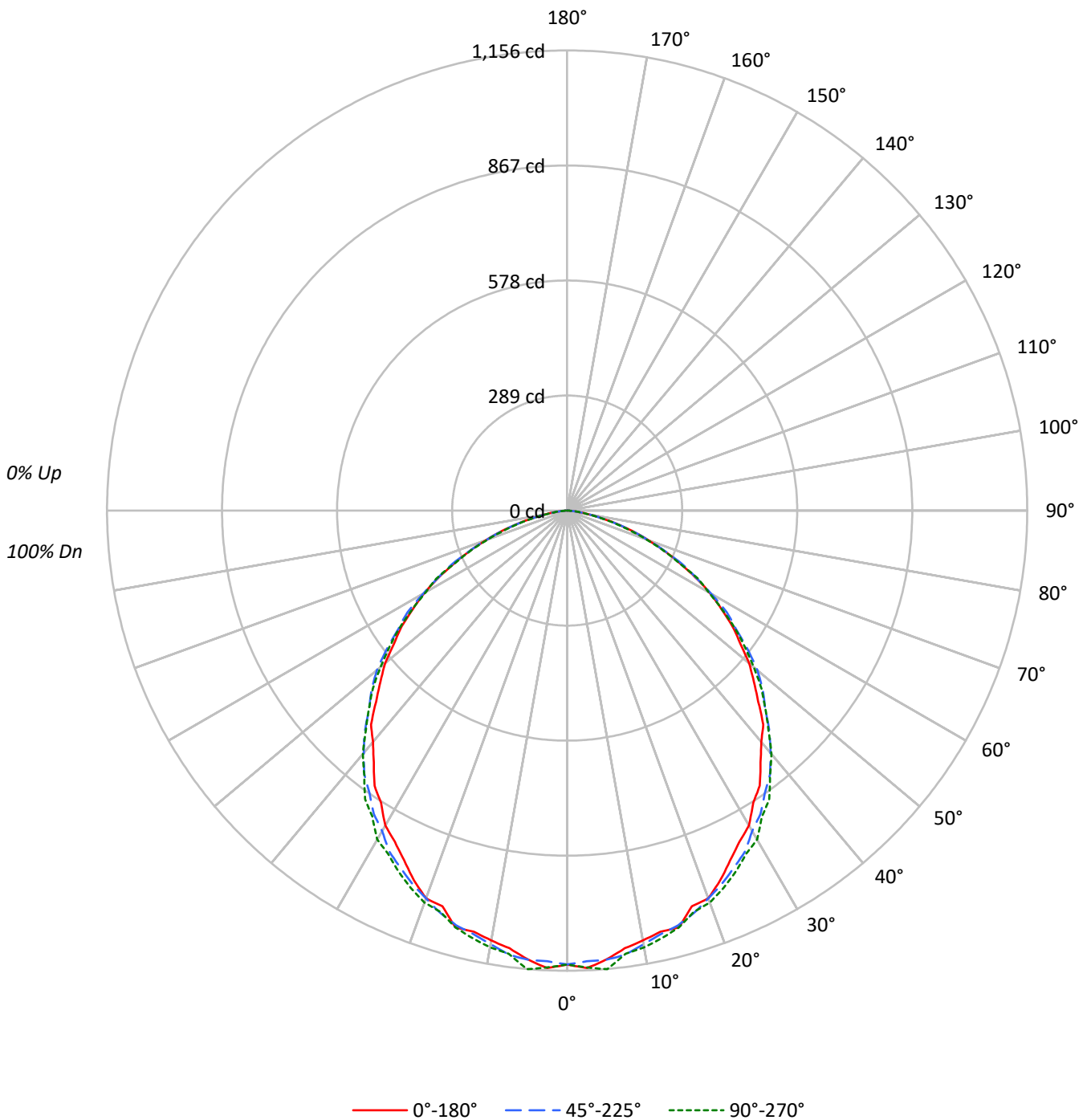
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2874.0 lumens  
Efficiency: N/A  
Efficacy: 122.8 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: P589155

CATALOG NUMBER: FMR-24-2-LD4-2LO-50-UNV-81-96-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P589155

CATALOG NUMBER: FMR-24-2-LD4-2LO-50-UNV-81-96-EDD

**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°	3069	3069	3069
5°	3058	3060	3124
10°	2996	3023	3044
15°	3020	3004	3020
20°	2969	2969	3001
25°	2878	2941	2973
30°	2838	2888	2965
35°	2772	2844	2908
40°	2664	2792	2804
45°	2583	2675	2679
50°	2498	2611	2561
55°	2381	2426	2410
60°	2226	2248	2208
65°	1985	2035	1971
70°	1703	1709	1661
75°	1349	1345	1293
80°	903	879	845
85°	491	488	454



TEST NUMBER: P589155

CATALOG NUMBER: FMR-24-2-LD4-2LO-50-UNV-81-96-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	107.3	3.7
10°-20°	304.0	10.6
20°-30°	455.5	15.8
30°-40°	539.8	18.8
40°-50°	540.8	18.8
50°-60°	459.1	16.0
60°-70°	309.5	10.8
70°-80°	136.0	4.7
80°-90°	22.1	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°	866.7	30.2
0°-40°	1406.5	48.9
0°-60°	2406.4	83.7
0°-90°	2874.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2874.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1140	1140	1140	1140	1140	
5°	1132	1130	1133	1129	1156	107
15°	1084	1072	1078	1084	1084	302
25°	969	974	990	1003	1001	448
35°	844	846	866	886	885	524
45°	679	691	703	721	704	525
55°	507	504	517	514	514	451
65°	312	308	320	307	310	310
75°	130	127	129	120	124	139
85°	16	16	16	15	15	23
90°	0	0	0	0	0	



TEST NUMBER: P589155

CATALOG NUMBER: FMR-24-2-LD4-2LO-50-UNV-81-96-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1140.3	1140.3	1140.3	1140.3	1140.3
2.5°	1150.2	1141.5	1133.4	1142.8	1148.6
5°	1132.2	1129.6	1132.7	1129.3	1156.5
7.5°	1109.0	1119.1	1125.0	1121.3	1123.0
10°	1096.6	1093.1	1106.2	1115.3	1114.0
12.5°	1083.4	1088.7	1089.4	1099.3	1100.1
15°	1084.1	1071.6	1078.2	1083.8	1084.2
17.5°	1042.0	1055.5	1060.1	1072.9	1057.0
20°	1036.8	1027.0	1036.8	1049.9	1047.9
22.5°	1005.2	994.1	1015.3	1027.0	1026.2
25°	969.2	974.5	990.4	1003.4	1001.3
27.5°	937.7	943.9	966.6	984.4	972.9
30°	913.4	910.4	929.5	945.4	954.2
32.5°	870.0	881.2	903.6	919.3	910.9
35°	843.7	846.2	865.7	885.8	885.2
37.5°	797.6	809.2	836.7	842.3	837.2
40°	758.3	769.9	794.8	800.8	798.3
42.5°	729.3	731.3	752.7	759.6	748.5
45°	678.8	691.4	702.9	721.0	703.9
47.5°	635.8	641.6	666.4	671.2	662.3
50°	596.7	598.8	623.7	617.6	611.8
52.5°	547.7	556.4	570.4	569.2	562.3
55°	507.4	504.0	517.2	513.7	513.6
57.5°	458.9	464.8	475.7	470.1	461.1
60°	413.6	413.7	417.7	411.4	410.2
62.5°	363.1	364.8	365.7	357.9	370.6
65°	311.7	307.6	319.6	307.4	309.5
67.5°	264.4	266.5	265.3	257.7	260.6
70°	216.4	219.1	217.2	208.5	211.1
72.5°	172.6	169.3	171.4	160.5	165.5
75°	129.7	127.1	129.4	120.3	124.4
77.5°	88.3	90.4	88.9	84.1	86.9
80°	58.3	56.7	56.7	53.9	54.5
82.5°	34.0	32.4	31.9	31.1	32.4
85°	15.9	15.5	15.8	15.3	14.7
87.5°	5.7	5.9	5.9	5.6	5.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)