

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: P588848

Luminaire Tested: **FMR-24-2-LD4-1LO-40-UNV-93-87-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P588848  
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-LD4-1LO-40-UNV-93-87-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

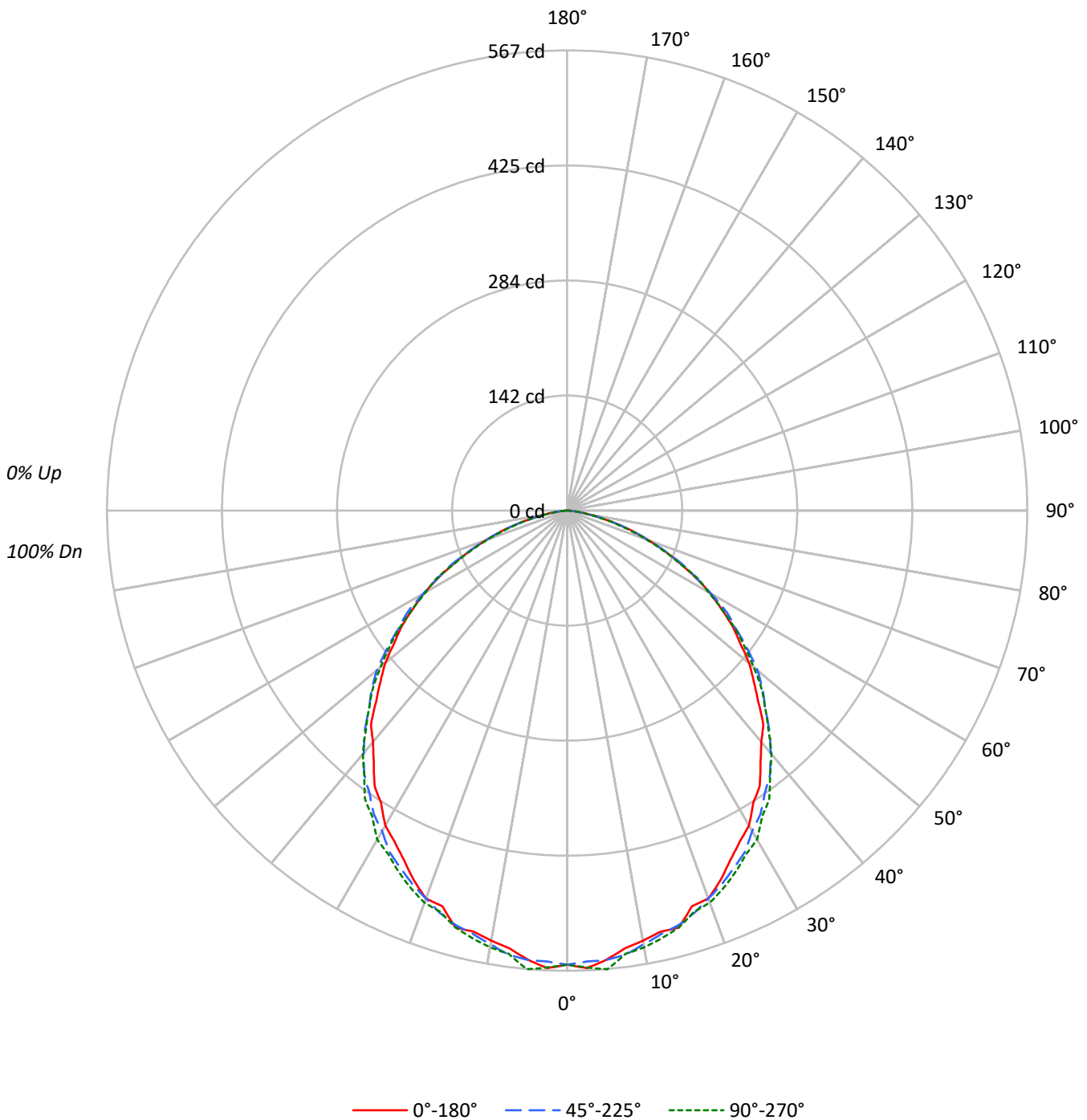
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1410.0 lumens  
Efficiency: N/A  
Efficacy: 120.5 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): 11.7  
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	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°	1506	1506	1506
5°	1501	1501	1533
10°	1470	1483	1493
15°	1482	1474	1482
20°	1457	1457	1472
25°	1412	1443	1459
30°	1392	1417	1455
35°	1360	1395	1427
40°	1307	1370	1376
45°	1267	1312	1314
50°	1226	1281	1256
55°	1168	1191	1182
60°	1092	1103	1083
65°	974	998	967
70°	836	838	815
75°	661	660	634
80°	443	431	414
85°	241	238	222



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	52.6	3.7
10°-20°	149.1	10.6
20°-30°	223.4	15.8
30°-40°	264.8	18.8
40°-50°	265.3	18.8
50°-60°	225.2	16.0
60°-70°	151.8	10.8
70°-80°	66.7	4.7
80°-90°	10.8	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°	425.2	30.2
0°-40°	690.1	48.9
0°-60°	1180.6	83.7
0°-90°	1410.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1410.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	560	560	560	560	560	
5°	556	554	556	554	567	52
15°	532	526	529	532	532	148
25°	476	478	486	492	491	220
35°	414	415	425	435	434	257
45°	333	339	345	354	345	258
55°	249	247	254	252	252	221
65°	153	151	157	151	152	152
75°	64	62	64	59	61	68
85°	8	8	8	8	7	11
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	559.5	559.5	559.5	559.5	559.5
2.5°	564.3	560.0	556.1	560.7	563.5
5°	555.5	554.2	555.7	554.0	567.4
7.5°	544.1	549.1	551.9	550.1	550.9
10°	538.0	536.3	542.7	547.2	546.5
12.5°	531.5	534.1	534.5	539.3	539.7
15°	531.9	525.7	529.0	531.7	531.9
17.5°	511.2	517.8	520.1	526.4	518.6
20°	508.7	503.8	508.7	515.1	514.1
22.5°	493.1	487.7	498.1	503.8	503.5
25°	475.5	478.1	485.9	492.3	491.3
27.5°	460.1	463.1	474.2	483.0	477.3
30°	448.1	446.6	456.0	463.8	468.1
32.5°	426.8	432.3	443.3	451.0	446.9
35°	413.9	415.1	424.7	434.6	434.3
37.5°	391.3	397.0	410.5	413.3	410.7
40°	372.0	377.7	389.9	392.9	391.7
42.5°	357.8	358.8	369.3	372.7	367.2
45°	333.0	339.2	344.8	353.7	345.4
47.5°	311.9	314.8	326.9	329.3	324.9
50°	292.8	293.8	306.0	303.0	300.1
52.5°	268.7	273.0	279.8	279.3	275.9
55°	248.9	247.3	253.8	252.0	252.0
57.5°	225.2	228.0	233.4	230.6	226.2
60°	202.9	203.0	204.9	201.8	201.2
62.5°	178.1	179.0	179.4	175.6	181.8
65°	152.9	150.9	156.8	150.8	151.8
67.5°	129.7	130.7	130.2	126.4	127.9
70°	106.2	107.5	106.5	102.3	103.6
72.5°	84.7	83.1	84.1	78.7	81.2
75°	63.6	62.3	63.5	59.0	61.0
77.5°	43.3	44.4	43.6	41.2	42.6
80°	28.6	27.8	27.8	26.4	26.7
82.5°	16.7	15.9	15.7	15.2	15.9
85°	7.8	7.6	7.7	7.5	7.2
87.5°	2.8	2.9	2.9	2.7	2.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)