

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: P588847

Luminaire Tested: **FMR-24-2-LD4-1LO-40-UNV-93-86-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P588847  
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-93-86-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

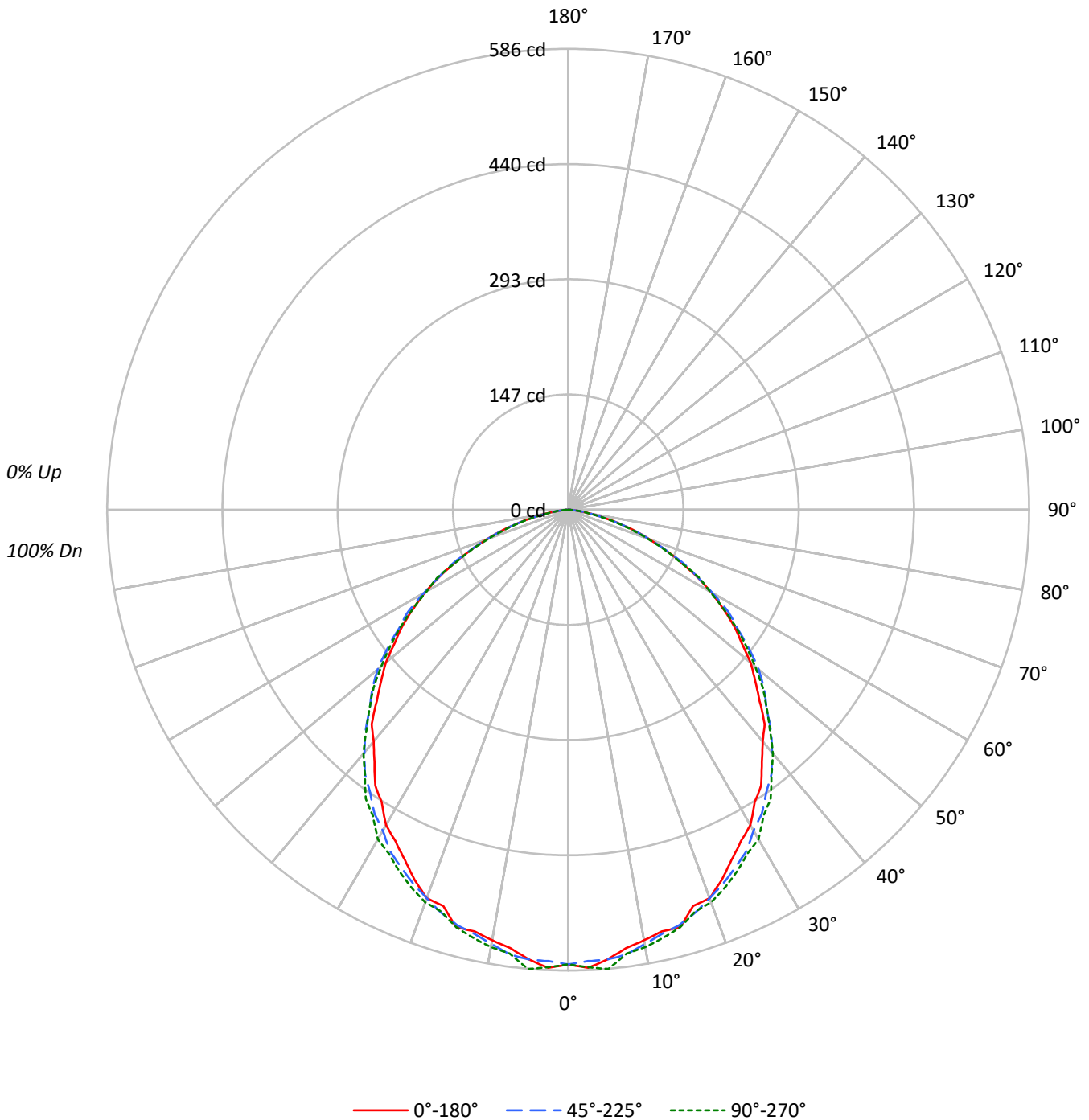
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1457.0 lumens  
Efficiency: N/A  
Efficacy: 124.5 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°	1556	1556	1556
5°	1551	1551	1584
10°	1519	1532	1543
15°	1531	1523	1531
20°	1505	1505	1521
25°	1459	1491	1507
30°	1439	1464	1503
35°	1405	1442	1474
40°	1350	1415	1422
45°	1310	1356	1358
50°	1266	1324	1298
55°	1207	1230	1222
60°	1129	1140	1119
65°	1006	1032	999
70°	863	866	842
75°	684	682	656
80°	459	445	428
85°	250	247	232



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	54.4	3.7
10°-20°	154.1	10.6
20°-30°	230.9	15.8
30°-40°	273.7	18.8
40°-50°	274.2	18.8
50°-60°	232.7	16.0
60°-70°	156.9	10.8
70°-80°	68.9	4.7
80°-90°	11.2	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°	439.4	30.2
0°-40°	713.1	48.9
0°-60°	1219.9	83.7
0°-90°	1457.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1457.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	578	578	578	578	578	
5°	574	573	574	572	586	54
15°	550	543	547	549	550	153
25°	491	494	502	509	508	227
35°	428	429	439	449	449	266
45°	344	350	356	366	357	266
55°	257	256	262	260	260	229
65°	158	156	162	156	157	157
75°	66	64	66	61	63	70
85°	8	8	8	8	8	12
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	578.1	578.1	578.1	578.1	578.1
2.5°	583.1	578.7	574.6	579.4	582.3
5°	574.0	572.7	574.2	572.5	586.3
7.5°	562.2	567.4	570.3	568.5	569.3
10°	555.9	554.1	560.8	565.4	564.7
12.5°	549.2	551.9	552.3	557.3	557.7
15°	549.6	543.2	546.6	549.4	549.7
17.5°	528.2	535.1	537.4	543.9	535.9
20°	525.6	520.6	525.6	532.3	531.2
22.5°	509.6	504.0	514.7	520.6	520.3
25°	491.4	494.1	502.1	508.7	507.6
27.5°	475.4	478.5	490.0	499.1	493.2
30°	463.1	461.5	471.2	479.3	483.8
32.5°	441.1	446.7	458.1	466.1	461.8
35°	427.7	429.0	438.9	449.0	448.7
37.5°	404.3	410.2	424.2	427.0	424.4
40°	384.4	390.3	402.9	406.0	404.7
42.5°	369.7	370.7	381.6	385.1	379.5
45°	344.1	350.5	356.3	365.5	356.9
47.5°	322.3	325.3	337.8	340.3	335.7
50°	302.5	303.6	316.2	313.1	310.1
52.5°	277.7	282.1	289.2	288.6	285.1
55°	257.2	255.5	262.2	260.4	260.4
57.5°	232.7	235.6	241.2	238.3	233.8
60°	209.7	209.7	211.8	208.5	208.0
62.5°	184.1	185.0	185.4	181.5	187.9
65°	158.0	155.9	162.0	155.9	156.9
67.5°	134.1	135.1	134.5	130.6	132.1
70°	109.7	111.1	110.1	105.7	107.0
72.5°	87.5	85.8	86.9	81.4	83.9
75°	65.8	64.4	65.6	61.0	63.1
77.5°	44.8	45.8	45.1	42.6	44.0
80°	29.6	28.7	28.7	27.3	27.6
82.5°	17.2	16.4	16.2	15.7	16.4
85°	8.1	7.8	8.0	7.8	7.5
87.5°	2.9	3.0	3.0	2.8	2.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)