

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: P588904

Luminaire Tested: **FMR-24-2-LD4-1STD-35-UNV-82-87-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P588904  
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-LD4-1STD-35-UNV-82-87-EDD  
Description: 2X2 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

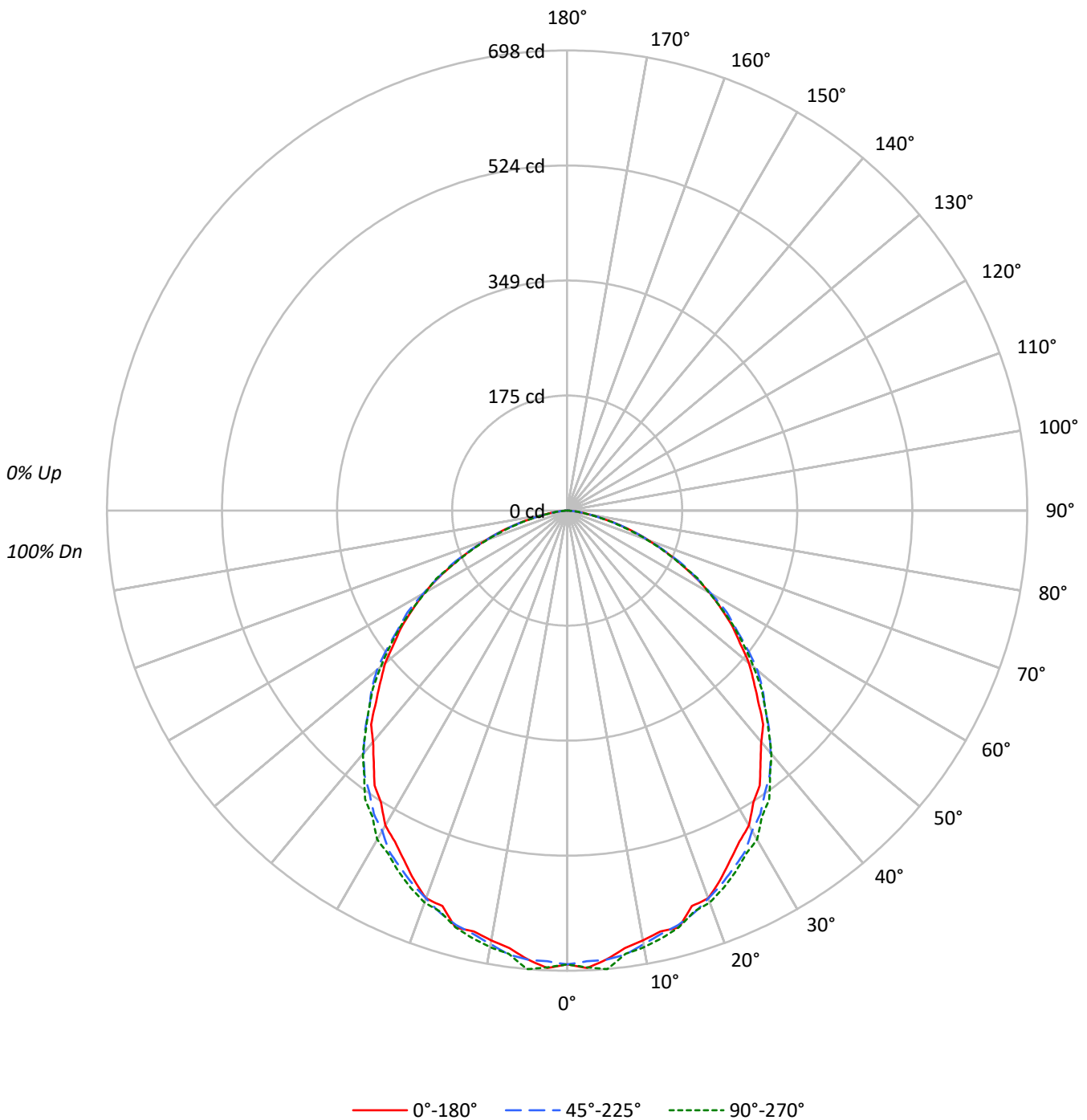
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1735.0 lumens  
Efficiency: N/A  
Efficacy: 104.5 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): 16.6  
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°	1852	1852	1852
5°	1846	1847	1886
10°	1809	1825	1838
15°	1823	1813	1823
20°	1792	1792	1812
25°	1737	1775	1795
30°	1713	1743	1790
35°	1673	1717	1756
40°	1608	1685	1693
45°	1560	1615	1617
50°	1508	1576	1546
55°	1437	1465	1454
60°	1344	1357	1333
65°	1198	1229	1189
70°	1028	1031	1003
75°	814	812	781
80°	545	530	510
85°	296	293	275



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	64.8	3.7
10°-20°	183.5	10.6
20°-30°	274.9	15.8
30°-40°	325.9	18.8
40°-50°	326.5	18.8
50°-60°	277.1	16.0
60°-70°	186.9	10.8
70°-80°	82.1	4.7
80°-90°	13.3	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°	523.2	30.2
0°-40°	849.1	48.9
0°-60°	1452.7	83.7
0°-90°	1735.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1735.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	688	688	688	688	688	
5°	684	682	684	682	698	64
15°	654	647	651	654	654	182
25°	585	588	598	606	604	270
35°	509	511	523	535	534	316
45°	410	417	424	435	425	317
55°	306	304	312	310	310	272
65°	188	186	193	186	187	187
75°	78	77	78	73	75	84
85°	10	9	10	9	9	14
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	688.4	688.4	688.4	688.4	688.4
2.5°	694.4	689.1	684.2	689.9	693.4
5°	683.5	681.9	683.8	681.7	698.2
7.5°	669.5	675.6	679.2	676.9	677.9
10°	662.0	659.9	667.8	673.3	672.5
12.5°	654.0	657.2	657.7	663.6	664.1
15°	654.5	646.9	650.9	654.3	654.5
17.5°	629.0	637.2	640.0	647.7	638.1
20°	625.9	620.0	625.9	633.8	632.6
22.5°	606.8	600.1	612.9	620.0	619.5
25°	585.1	588.3	597.9	605.7	604.5
27.5°	566.1	569.8	583.5	594.3	587.3
30°	551.4	549.6	561.1	570.7	576.1
32.5°	525.2	532.0	545.5	555.0	549.9
35°	509.3	510.8	522.6	534.7	534.4
37.5°	481.5	488.5	505.1	508.5	505.4
40°	457.8	464.8	479.8	483.4	481.9
42.5°	440.2	441.5	454.4	458.6	451.9
45°	409.8	417.4	424.3	435.3	425.0
47.5°	383.8	387.4	402.3	405.2	399.8
50°	360.2	361.5	376.5	372.9	369.3
52.5°	330.6	335.9	344.3	343.6	339.4
55°	306.3	304.2	312.2	310.1	310.0
57.5°	277.1	280.6	287.2	283.8	278.4
60°	249.7	249.8	252.2	248.3	247.6
62.5°	219.2	220.3	220.8	216.1	223.7
65°	188.2	185.7	193.0	185.6	186.8
67.5°	159.6	160.9	160.2	155.5	157.3
70°	130.7	132.3	131.1	125.9	127.5
72.5°	104.2	102.2	103.5	96.9	99.9
75°	78.3	76.7	78.1	72.6	75.1
77.5°	53.3	54.6	53.7	50.8	52.4
80°	35.2	34.2	34.2	32.5	32.9
82.5°	20.5	19.6	19.3	18.8	19.6
85°	9.6	9.3	9.5	9.2	8.9
87.5°	3.5	3.6	3.6	3.4	3.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)