

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: P589398

Luminaire Tested: **FMR-24-2-LD4-3LO-40-UNV-80-85-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589398  
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-LD4-3LO-40-UNV-80-85-EDD  
Description: 2X2 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

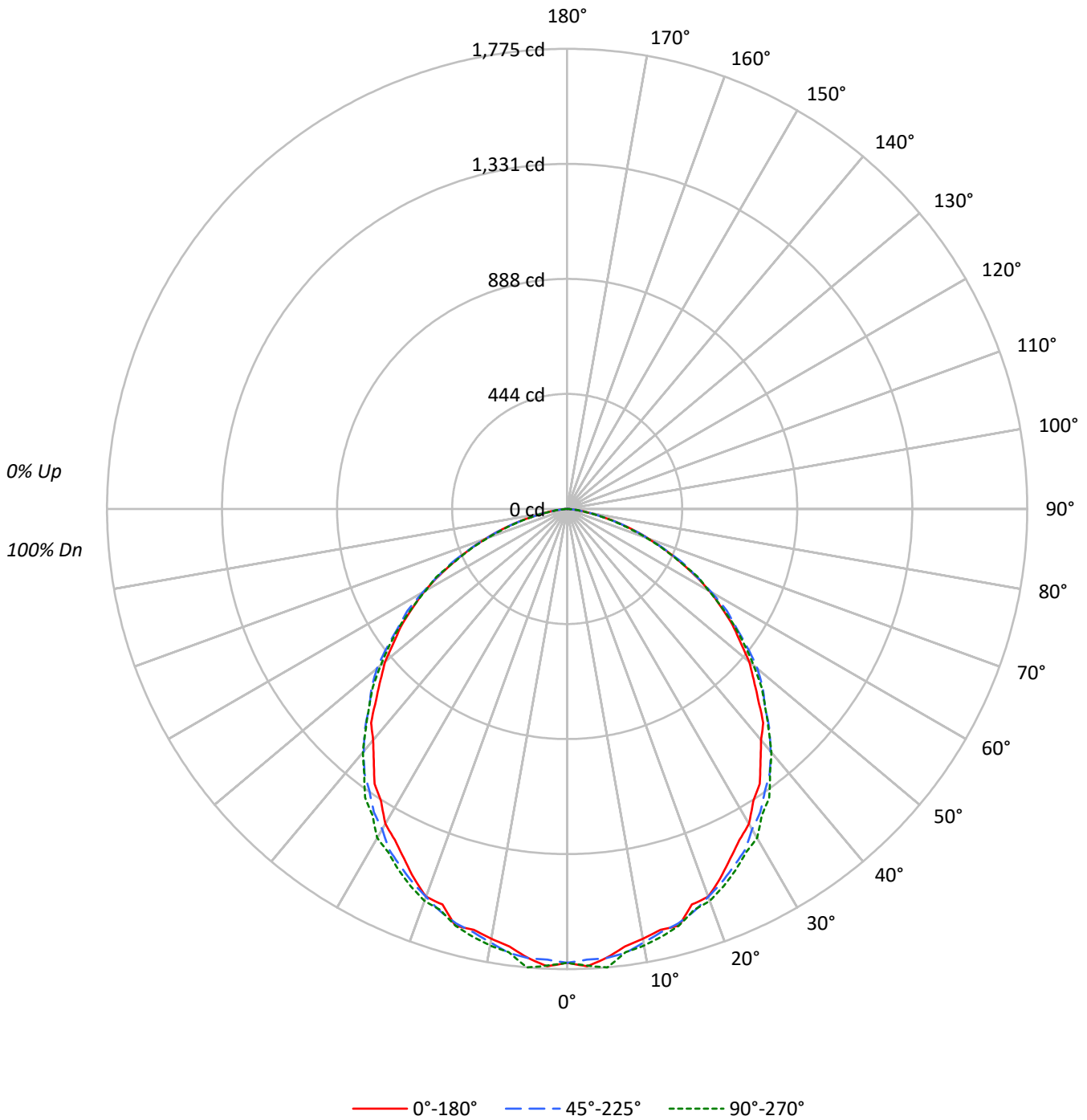
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4412.0 lumens  
Efficiency: N/A  
Efficacy: 125.7 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): 35.1  
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°	4711	4711	4711
5°	4695	4697	4796
10°	4600	4640	4673
15°	4636	4611	4637
20°	4558	4558	4607
25°	4418	4515	4564
30°	4357	4434	4552
35°	4255	4366	4464
40°	4089	4286	4305
45°	3965	4106	4112
50°	3835	4008	3931
55°	3654	3725	3699
60°	3417	3451	3389
65°	3047	3124	3025
70°	2615	2623	2550
75°	2070	2066	1986
80°	1387	1348	1296
85°	753	747	698



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	164.7	3.7
10°-20°	466.7	10.6
20°-30°	699.2	15.8
30°-40°	828.7	18.8
40°-50°	830.2	18.8
50°-60°	704.7	16.0
60°-70°	475.1	10.8
70°-80°	208.8	4.7
80°-90°	33.9	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°	1330.6	30.2
0°-40°	2159.2	48.9
0°-60°	3694.2	83.7
0°-90°	4412.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4412.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1751	1751	1751	1751	1751	
5°	1738	1734	1739	1734	1775	164
15°	1664	1645	1655	1664	1664	464
25°	1488	1496	1520	1540	1537	688
35°	1295	1299	1329	1360	1359	804
45°	1042	1061	1079	1107	1081	806
55°	779	774	794	789	788	693
65°	478	472	491	472	475	476
75°	199	195	199	185	191	213
85°	24	24	24	24	23	35
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1750.6	1750.6	1750.6	1750.6	1750.6
2.5°	1765.7	1752.4	1739.9	1754.4	1763.2
5°	1738.1	1734.1	1738.8	1733.6	1775.4
7.5°	1702.4	1718.0	1727.1	1721.4	1723.9
10°	1683.4	1678.0	1698.1	1712.1	1710.1
12.5°	1663.1	1671.2	1672.4	1687.5	1688.9
15°	1664.2	1645.0	1655.2	1663.8	1664.5
17.5°	1599.6	1620.4	1627.4	1647.1	1622.6
20°	1591.7	1576.5	1591.7	1611.8	1608.6
22.5°	1543.1	1526.1	1558.7	1576.5	1575.4
25°	1487.9	1496.1	1520.5	1540.4	1537.2
27.5°	1439.6	1449.1	1483.9	1511.2	1493.6
30°	1402.3	1397.5	1426.9	1451.3	1464.9
32.5°	1335.6	1352.8	1387.1	1411.3	1398.4
35°	1295.1	1299.0	1329.0	1359.8	1358.9
37.5°	1224.4	1242.2	1284.5	1293.1	1285.2
40°	1164.0	1181.9	1220.1	1229.4	1225.5
42.5°	1119.5	1122.7	1155.4	1166.1	1149.1
45°	1042.0	1061.4	1079.0	1106.8	1080.6
47.5°	976.0	985.0	1023.0	1030.5	1016.7
50°	916.1	919.2	957.4	948.2	939.1
52.5°	840.8	854.2	875.6	873.8	863.2
55°	778.9	773.7	794.0	788.6	788.4
57.5°	704.5	713.6	730.3	721.7	707.9
60°	634.9	635.1	641.2	631.5	629.7
62.5°	557.4	560.1	561.4	549.5	568.9
65°	478.5	472.2	490.7	471.9	475.1
67.5°	405.9	409.1	407.3	395.5	400.1
70°	332.3	336.3	333.4	320.1	324.1
72.5°	264.9	259.9	263.1	246.4	254.1
75°	199.1	195.1	198.7	184.7	191.0
77.5°	135.6	138.8	136.5	129.1	133.4
80°	89.5	87.0	87.0	82.7	83.6
82.5°	52.2	49.7	49.0	47.7	49.7
85°	24.4	23.7	24.2	23.5	22.6
87.5°	8.8	9.0	9.0	8.6	8.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)