

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: P589017

Luminaire Tested: **FMR-24-2-LD4-2HI-40-UNV-80-88-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589017  
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-LD4-2HI-40-UNV-80-88-EDD  
Description: 2X2 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

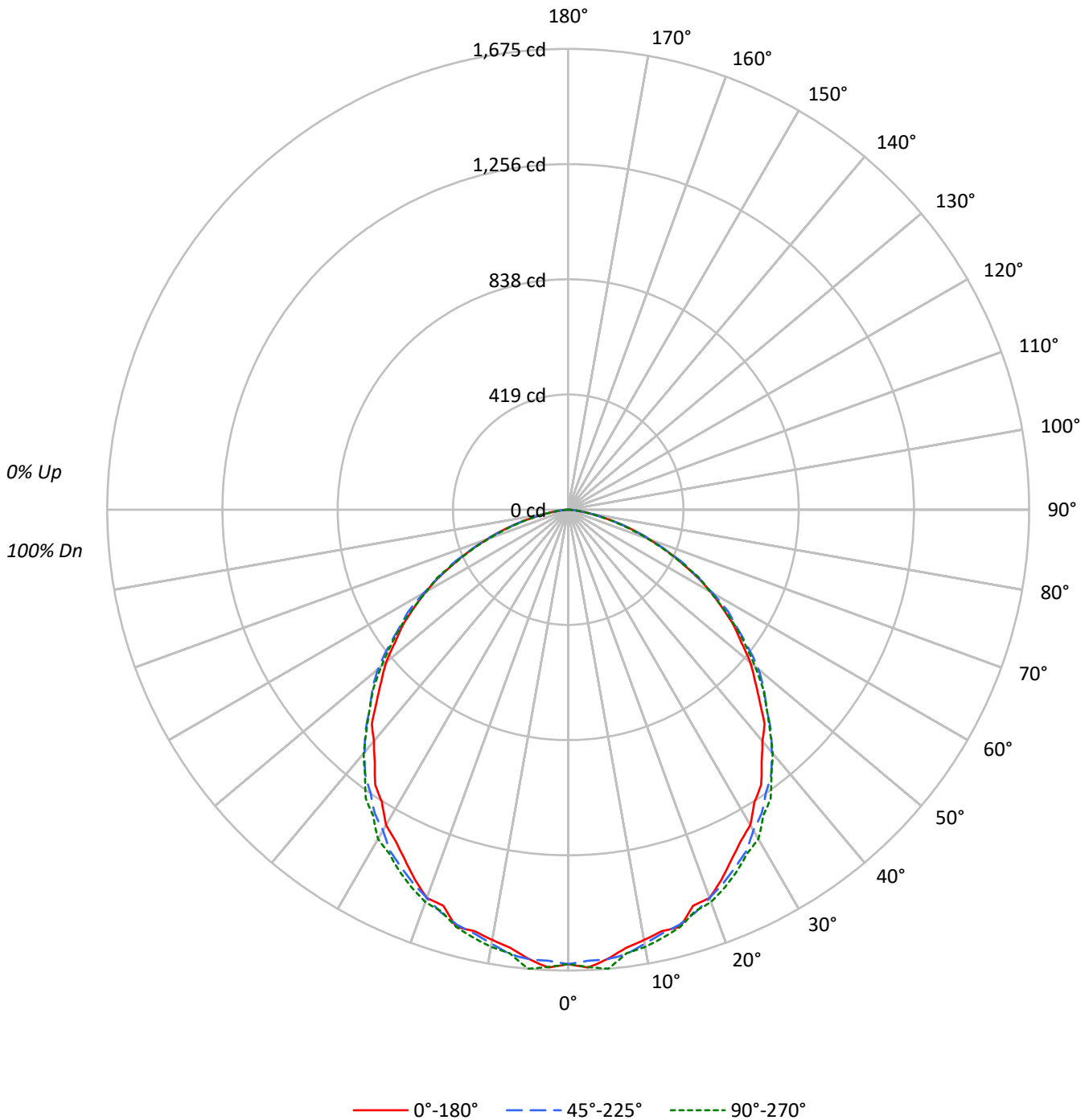
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4162.0 lumens  
Efficiency: N/A  
Efficacy: 96.3 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): 43.2  
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°	4444	4444	4444
5°	4429	4431	4524
10°	4339	4377	4408
15°	4374	4350	4374
20°	4300	4300	4346
25°	4168	4259	4306
30°	4110	4182	4294
35°	4013	4119	4211
40°	3857	4043	4061
45°	3741	3874	3879
50°	3618	3781	3709
55°	3447	3514	3489
60°	3223	3256	3197
65°	2874	2947	2854
70°	2466	2474	2406
75°	1953	1948	1874
80°	1308	1272	1223
85°	710	704	658



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	155.3	3.7
10°-20°	440.2	10.6
20°-30°	659.6	15.8
30°-40°	781.7	18.8
40°-50°	783.2	18.8
50°-60°	664.8	16.0
60°-70°	448.2	10.8
70°-80°	196.9	4.7
80°-90°	32.0	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°	1255.2	30.2
0°-40°	2036.9	48.9
0°-60°	3484.9	83.7
0°-90°	4162.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4162.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1651	1651	1651	1651	1651	
5°	1640	1636	1640	1635	1675	155
15°	1570	1552	1561	1570	1570	437
25°	1404	1411	1434	1453	1450	649
35°	1222	1225	1254	1283	1282	759
45°	983	1001	1018	1044	1019	760
55°	735	730	749	744	744	654
65°	451	445	463	445	448	449
75°	188	184	187	174	180	201
85°	23	22	23	22	21	33
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1651.4	1651.4	1651.4	1651.4	1651.4
2.5°	1665.7	1653.1	1641.4	1655.0	1663.3
5°	1639.6	1635.8	1640.3	1635.4	1674.8
7.5°	1606.0	1620.7	1629.2	1623.9	1626.2
10°	1588.1	1582.9	1601.9	1615.1	1613.2
12.5°	1568.9	1576.5	1577.6	1591.9	1593.2
15°	1569.9	1551.8	1561.4	1569.5	1570.1
17.5°	1508.9	1528.6	1535.2	1553.7	1530.7
20°	1501.5	1487.2	1501.5	1520.5	1517.5
22.5°	1455.6	1439.7	1470.4	1487.2	1486.1
25°	1403.6	1411.3	1434.3	1453.1	1450.1
27.5°	1358.0	1366.9	1399.8	1425.6	1408.9
30°	1322.8	1318.3	1346.0	1369.1	1381.9
32.5°	1259.9	1276.1	1308.5	1331.3	1319.2
35°	1221.7	1225.4	1253.7	1282.7	1281.9
37.5°	1155.0	1171.8	1211.7	1219.8	1212.4
40°	1098.1	1114.9	1151.0	1159.7	1156.1
42.5°	1056.1	1059.1	1090.0	1100.0	1084.0
45°	982.9	1001.3	1017.9	1044.1	1019.4
47.5°	920.7	929.2	965.0	972.1	959.1
50°	864.2	867.2	903.2	894.5	885.9
52.5°	793.2	805.8	826.0	824.3	814.3
55°	734.8	729.8	749.0	743.9	743.7
57.5°	664.6	673.1	688.9	680.8	667.8
60°	598.9	599.1	604.9	595.7	594.0
62.5°	525.8	528.4	529.6	518.3	536.7
65°	451.4	445.4	462.9	445.2	448.2
67.5°	382.9	385.9	384.2	373.1	377.4
70°	313.4	317.3	314.5	301.9	305.8
72.5°	249.9	245.2	248.2	232.4	239.7
75°	187.8	184.0	187.4	174.2	180.2
77.5°	127.9	130.9	128.8	121.7	125.8
80°	84.4	82.1	82.1	78.0	78.9
82.5°	49.3	46.9	46.3	45.0	46.9
85°	23.0	22.4	22.8	22.2	21.3
87.5°	8.3	8.5	8.5	8.1	7.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)