

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: P589031

Luminaire Tested: **FMR-24-2-LD4-2HI-40-UNV-82-86-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589031  
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-82-86-EDD  
Description: 2X2 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

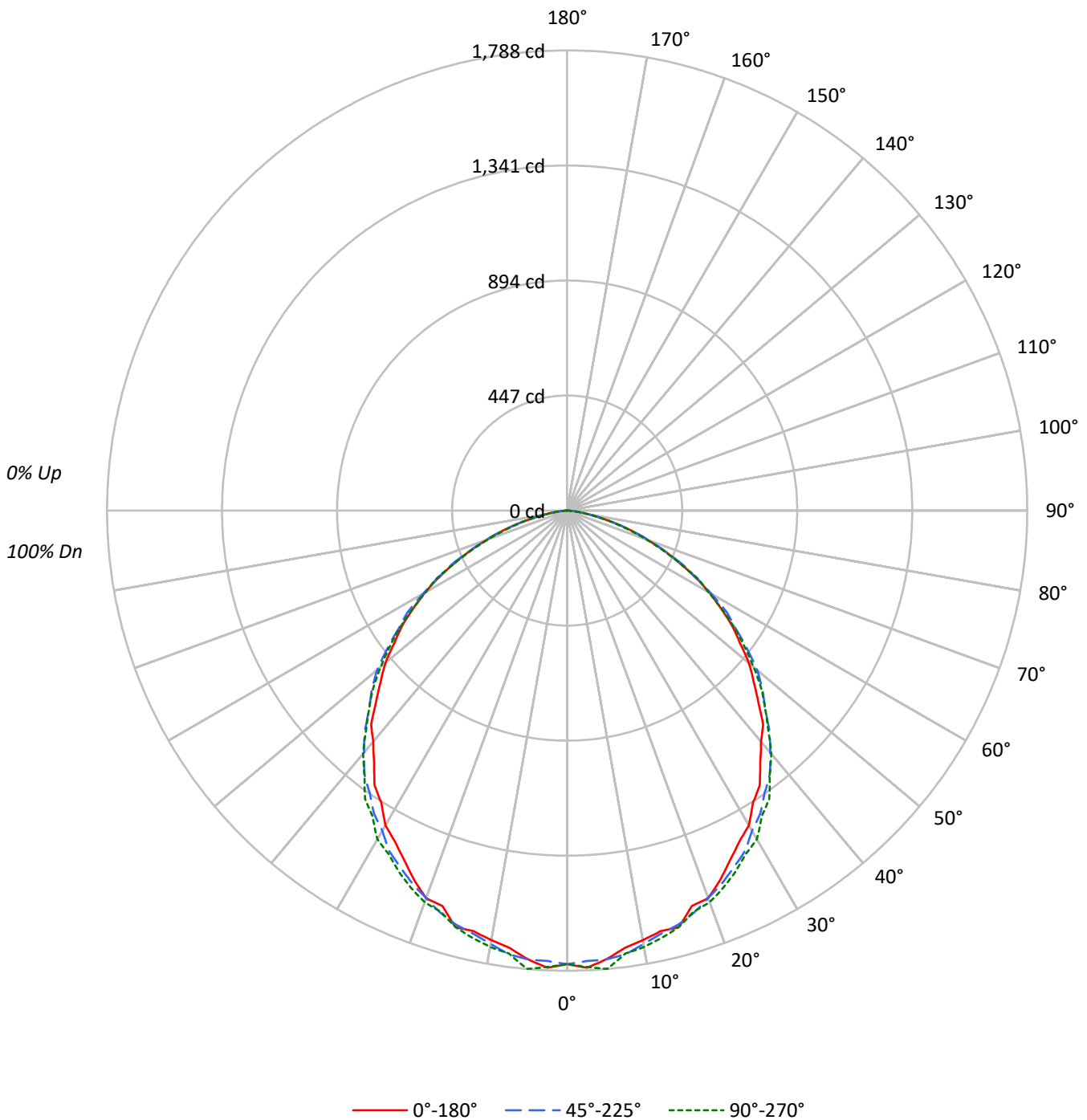
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4442.0 lumens  
Efficiency: N/A  
Efficacy: 102.8 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°	4743	4743	4743
5°	4727	4729	4828
10°	4631	4672	4705
15°	4668	4642	4669
20°	4589	4589	4638
25°	4448	4545	4595
30°	4387	4464	4583
35°	4283	4396	4494
40°	4117	4315	4334
45°	3992	4134	4141
50°	3861	4036	3958
55°	3679	3750	3724
60°	3440	3475	3412
65°	3068	3145	3046
70°	2632	2641	2567
75°	2085	2079	1999
80°	1396	1358	1305
85°	760	750	704



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	165.8	3.7
10°-20°	469.9	10.6
20°-30°	703.9	15.8
30°-40°	834.3	18.8
40°-50°	835.9	18.8
50°-60°	709.5	16.0
60°-70°	478.4	10.8
70°-80°	210.2	4.7
80°-90°	34.2	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°	1339.6	30.2
0°-40°	2173.9	48.9
0°-60°	3719.3	83.7
0°-90°	4442.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4442.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1762	1762	1762	1762	1762	
5°	1750	1746	1751	1745	1788	165
15°	1676	1656	1666	1675	1676	467
25°	1498	1506	1531	1551	1548	693
35°	1304	1308	1338	1369	1368	810
45°	1049	1069	1086	1114	1088	812
55°	784	779	799	794	794	698
65°	482	475	494	475	478	479
75°	200	196	200	186	192	215
85°	25	24	24	24	23	36
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1762.5	1762.5	1762.5	1762.5	1762.5
2.5°	1777.7	1764.3	1751.8	1766.3	1775.2
5°	1750.0	1745.9	1750.6	1745.4	1787.5
7.5°	1714.0	1729.7	1738.8	1733.1	1735.6
10°	1694.9	1689.4	1709.7	1723.8	1721.7
12.5°	1674.4	1682.6	1683.7	1699.0	1700.3
15°	1675.5	1656.2	1666.4	1675.1	1675.8
17.5°	1610.5	1631.4	1638.5	1658.2	1633.7
20°	1602.5	1587.3	1602.5	1622.7	1619.6
22.5°	1553.6	1536.5	1569.3	1587.3	1586.1
25°	1498.0	1506.2	1530.8	1550.8	1547.7
27.5°	1449.3	1458.9	1493.9	1521.5	1503.7
30°	1411.8	1407.0	1436.6	1461.2	1474.8
32.5°	1344.7	1362.0	1396.6	1420.9	1407.9
35°	1303.9	1307.8	1338.1	1369.0	1368.1
37.5°	1232.7	1250.7	1293.2	1301.9	1293.9
40°	1171.9	1189.9	1228.4	1237.7	1233.8
42.5°	1127.1	1130.3	1163.3	1174.0	1156.9
45°	1049.1	1068.6	1086.4	1114.4	1088.0
47.5°	982.6	991.7	1029.9	1037.5	1023.6
50°	922.3	925.5	964.0	954.6	945.5
52.5°	846.5	860.0	881.6	879.8	869.1
55°	784.2	778.9	799.4	794.0	793.7
57.5°	709.3	718.4	735.3	726.6	712.7
60°	639.2	639.5	645.6	635.8	634.0
62.5°	561.2	563.9	565.3	553.2	572.8
65°	481.8	475.4	494.0	475.2	478.3
67.5°	408.7	411.9	410.1	398.2	402.8
70°	334.5	338.6	335.7	322.2	326.3
72.5°	266.7	261.7	264.9	248.0	255.8
75°	200.5	196.4	200.0	185.9	192.3
77.5°	136.5	139.7	137.4	129.9	134.3
80°	90.1	87.6	87.6	83.3	84.2
82.5°	52.6	50.1	49.4	48.0	50.1
85°	24.6	23.9	24.3	23.7	22.8
87.5°	8.9	9.1	9.1	8.6	8.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)