

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: P589008

Luminaire Tested: **FMR-24-2-LD4-2HI-35-UNV-93-87-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589008  
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-35-UNV-93-87-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

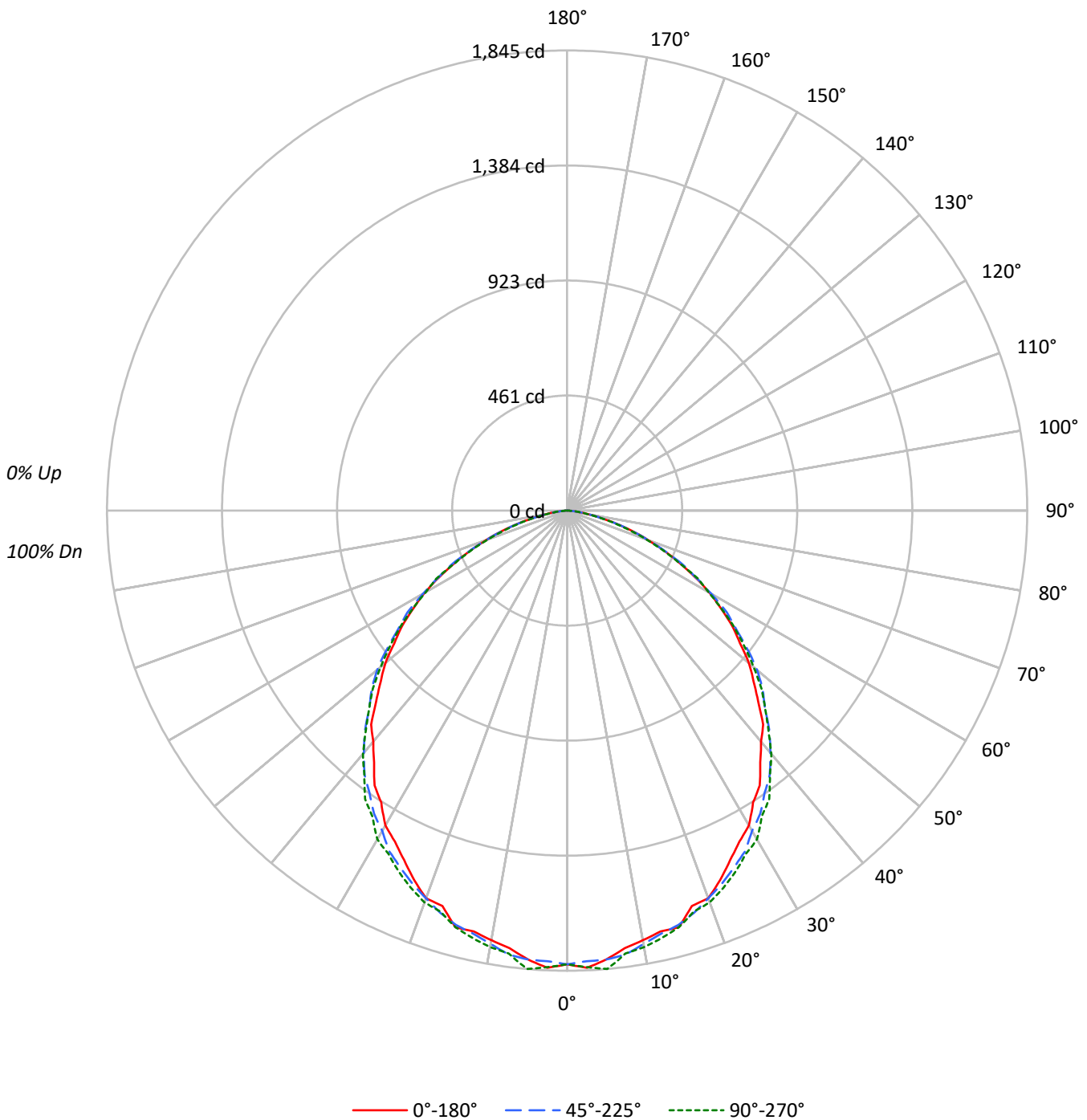
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4585.0 lumens  
Efficiency: N/A  
Efficacy: 106.1 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°	4895	4895	4895
5°	4879	4881	4984
10°	4780	4822	4856
15°	4818	4792	4819
20°	4737	4737	4787
25°	4591	4692	4743
30°	4528	4608	4730
35°	4421	4537	4639
40°	4249	4454	4474
45°	4121	4268	4274
50°	3985	4165	4086
55°	3797	3871	3844
60°	3551	3587	3522
65°	3167	3247	3144
70°	2717	2726	2650
75°	2151	2147	2064
80°	1441	1401	1347
85°	784	775	726



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	171.1	3.7
10°-20°	485.0	10.6
20°-30°	726.6	15.8
30°-40°	861.2	18.8
40°-50°	862.8	18.8
50°-60°	732.4	16.0
60°-70°	493.8	10.8
70°-80°	217.0	4.7
80°-90°	35.3	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°	1382.7	30.2
0°-40°	2243.9	48.9
0°-60°	3839.0	83.7
0°-90°	4585.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4585.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1819	1819	1819	1819	1819	
5°	1806	1802	1807	1802	1845	170
15°	1730	1710	1720	1729	1730	482
25°	1546	1555	1580	1601	1598	715
35°	1346	1350	1381	1413	1412	836
45°	1083	1103	1121	1150	1123	838
55°	809	804	825	820	819	720
65°	497	491	510	490	494	495
75°	207	203	206	192	198	222
85°	25	25	25	24	24	37
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1819.2	1819.2	1819.2	1819.2	1819.2
2.5°	1834.9	1821.1	1808.2	1823.2	1832.4
5°	1806.3	1802.1	1807.0	1801.6	1845.0
7.5°	1769.2	1785.4	1794.8	1788.9	1791.5
10°	1749.5	1743.8	1764.7	1779.3	1777.2
12.5°	1728.3	1736.8	1737.9	1753.7	1755.1
15°	1729.5	1709.5	1720.1	1729.0	1729.7
17.5°	1662.3	1683.9	1691.2	1711.6	1686.3
20°	1654.1	1638.3	1654.1	1675.0	1671.7
22.5°	1603.6	1586.0	1619.8	1638.3	1637.2
25°	1546.3	1554.7	1580.1	1600.8	1597.5
27.5°	1496.0	1505.9	1542.0	1570.5	1552.1
30°	1457.2	1452.3	1482.9	1508.2	1522.3
32.5°	1388.0	1405.8	1441.5	1466.6	1453.3
35°	1345.9	1349.9	1381.1	1413.1	1412.2
37.5°	1272.4	1290.9	1334.9	1343.8	1335.6
40°	1209.7	1228.2	1267.9	1277.6	1273.6
42.5°	1163.4	1166.7	1200.8	1211.8	1194.2
45°	1082.8	1103.0	1121.4	1150.2	1123.0
47.5°	1014.2	1023.6	1063.1	1070.9	1056.5
50°	952.0	955.3	995.0	985.4	976.0
52.5°	873.8	887.6	910.0	908.1	897.0
55°	809.4	804.0	825.2	819.5	819.3
57.5°	732.1	741.5	758.9	750.0	735.7
60°	659.8	660.0	666.4	656.3	654.4
62.5°	579.2	582.1	583.5	571.0	591.2
65°	497.3	490.7	509.9	490.4	493.7
67.5°	421.9	425.1	423.3	411.1	415.8
70°	345.3	349.5	346.5	332.6	336.8
72.5°	275.3	270.1	273.4	256.0	264.0
75°	206.9	202.7	206.5	191.9	198.5
77.5°	140.9	144.2	141.9	134.1	138.6
80°	93.0	90.4	90.4	86.0	86.9
82.5°	54.3	51.7	51.0	49.6	51.7
85°	25.4	24.7	25.1	24.4	23.5
87.5°	9.2	9.4	9.4	8.9	8.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)