

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: P589007

Luminaire Tested: **FMR-24-2-LD4-2HI-35-UNV-93-86-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589007  
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-93-86-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

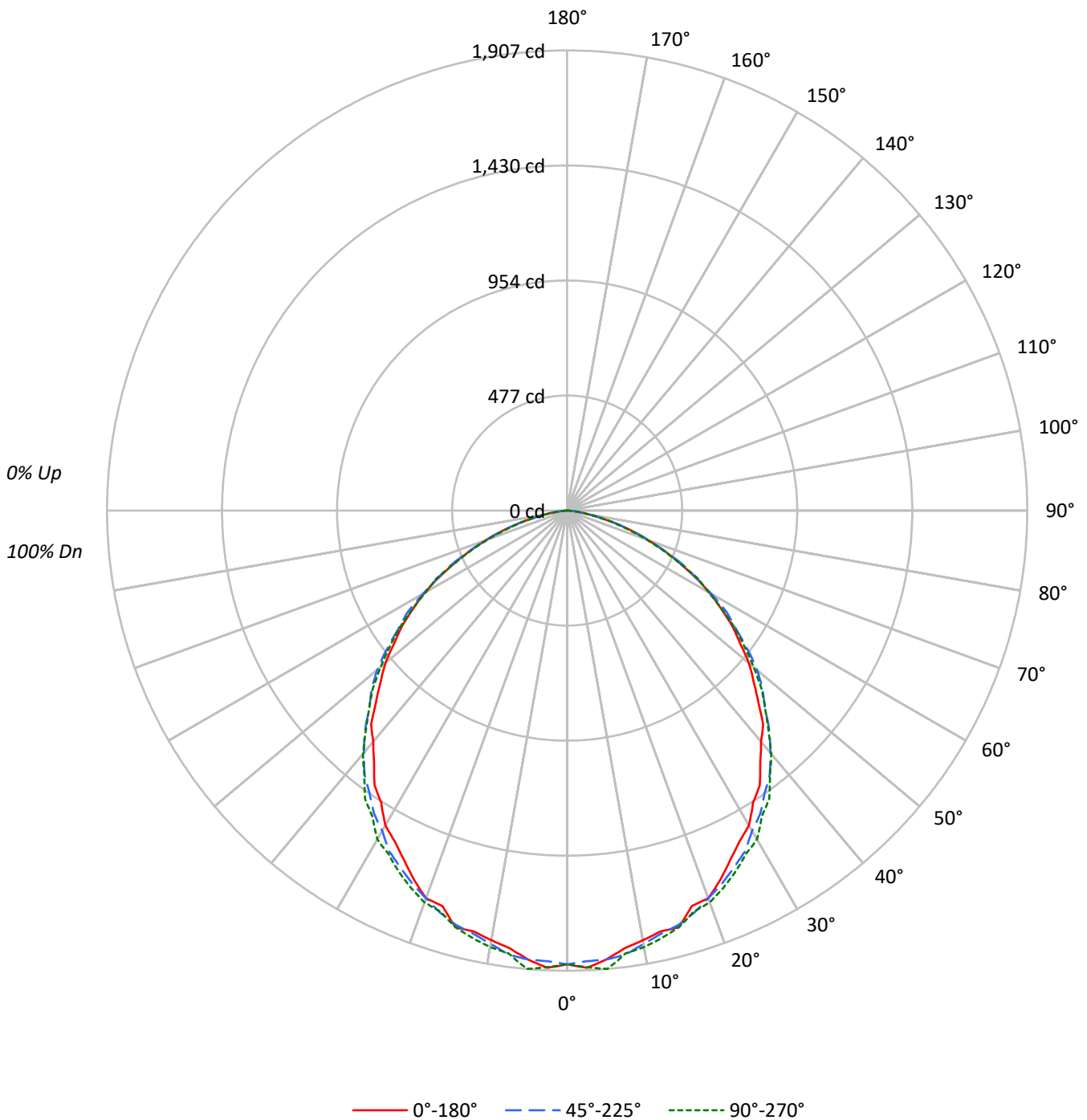
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4739.0 lumens  
Efficiency: N/A  
Efficacy: 109.7 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): 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°	5060	5060	5060
5°	5043	5045	5151
10°	4941	4984	5019
15°	4980	4953	4981
20°	4896	4896	4948
25°	4745	4849	4902
30°	4680	4763	4889
35°	4570	4689	4795
40°	4392	4604	4624
45°	4259	4411	4417
50°	4119	4305	4223
55°	3925	4001	3973
60°	3670	3707	3640
65°	3273	3356	3249
70°	2808	2817	2739
75°	2224	2219	2132
80°	1489	1449	1392
85°	809	803	750



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	176.9	3.7
10°-20°	501.3	10.6
20°-30°	751.0	15.8
30°-40°	890.1	18.8
40°-50°	891.8	18.8
50°-60°	757.0	16.0
60°-70°	510.3	10.8
70°-80°	224.2	4.7
80°-90°	36.4	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°	1429.2	30.2
0°-40°	2319.3	48.9
0°-60°	3968.0	83.7
0°-90°	4739.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4739.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1880	1880	1880	1880	1880	
5°	1867	1863	1868	1862	1907	176
15°	1788	1767	1778	1787	1788	498
25°	1598	1607	1633	1654	1651	739
35°	1391	1395	1428	1461	1460	864
45°	1119	1140	1159	1189	1161	866
55°	837	831	853	847	847	744
65°	514	507	527	507	510	511
75°	214	210	213	198	205	229
85°	26	26	26	25	24	38
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1880.3	1880.3	1880.3	1880.3	1880.3
2.5°	1896.6	1882.3	1868.9	1884.4	1893.9
5°	1867.0	1862.6	1867.7	1862.1	1907.0
7.5°	1828.6	1845.4	1855.1	1849.0	1851.7
10°	1808.2	1802.4	1824.0	1839.0	1836.9
12.5°	1786.4	1795.1	1796.3	1812.6	1814.0
15°	1787.6	1766.9	1777.9	1787.1	1787.8
17.5°	1718.1	1740.5	1748.0	1769.1	1742.9
20°	1709.6	1693.4	1709.6	1731.2	1727.9
22.5°	1657.4	1639.2	1674.2	1693.4	1692.2
25°	1598.2	1606.9	1633.2	1654.5	1651.1
27.5°	1546.3	1556.4	1593.8	1623.2	1604.3
30°	1506.2	1501.1	1532.7	1558.9	1573.4
32.5°	1434.6	1453.0	1489.9	1515.9	1502.1
35°	1391.1	1395.2	1427.5	1460.6	1459.6
37.5°	1315.1	1334.3	1379.7	1388.9	1380.4
40°	1250.3	1269.5	1310.5	1320.5	1316.3
42.5°	1202.5	1205.9	1241.1	1252.5	1234.3
45°	1119.2	1140.1	1159.0	1188.9	1160.7
47.5°	1048.3	1058.0	1098.8	1106.8	1092.0
50°	984.0	987.4	1028.4	1018.5	1008.7
52.5°	903.1	917.5	940.5	938.6	927.2
55°	836.6	831.0	852.9	847.1	846.8
57.5°	756.7	766.5	784.4	775.2	760.4
60°	682.0	682.2	688.8	678.3	676.4
62.5°	598.7	601.6	603.1	590.2	611.1
65°	514.0	507.2	527.1	506.9	510.3
67.5°	436.0	439.4	437.5	424.9	429.7
70°	356.9	361.3	358.1	343.8	348.1
72.5°	284.5	279.2	282.6	264.6	272.9
75°	213.9	209.5	213.4	198.3	205.1
77.5°	145.7	149.1	146.6	138.6	143.2
80°	96.1	93.5	93.5	88.9	89.8
82.5°	56.1	53.4	52.7	51.2	53.4
85°	26.2	25.5	26.0	25.2	24.3
87.5°	9.5	9.7	9.7	9.2	8.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)