

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: P589072

Luminaire Tested: **FMR-24-2-LD4-2HI-50-UNV-93-87-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589072  
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-50-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 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

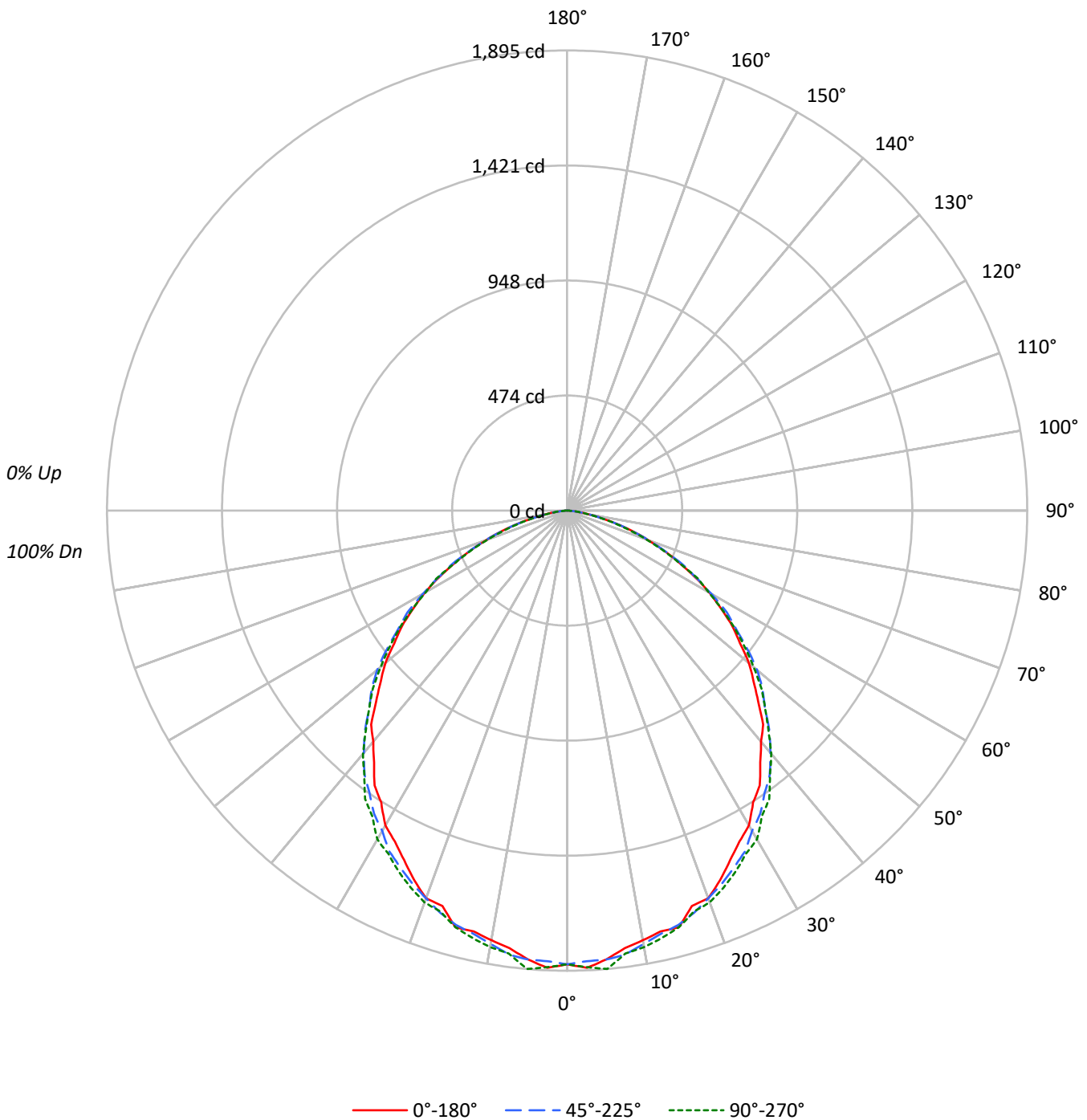
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4709.0 lumens  
Efficiency: N/A  
Efficacy: 109.0 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°	5028	5028	5028
5°	5011	5013	5119
10°	4910	4952	4987
15°	4949	4922	4949
20°	4865	4865	4917
25°	4715	4818	4872
30°	4651	4732	4858
35°	4541	4660	4764
40°	4364	4574	4595
45°	4232	4383	4389
50°	4093	4278	4196
55°	3900	3976	3947
60°	3647	3683	3617
65°	3252	3335	3229
70°	2790	2799	2722
75°	2209	2205	2119
80°	1480	1440	1384
85°	806	797	744



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	175.8	3.7
10°-20°	498.1	10.6
20°-30°	746.3	15.8
30°-40°	884.5	18.8
40°-50°	886.1	18.8
50°-60°	752.2	16.0
60°-70°	507.1	10.8
70°-80°	222.8	4.7
80°-90°	36.2	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°	1420.1	30.2
0°-40°	2304.6	48.9
0°-60°	3942.9	83.7
0°-90°	4709.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4709.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1868	1868	1868	1868	1868	
5°	1855	1851	1856	1850	1895	175
15°	1776	1756	1767	1776	1776	495
25°	1588	1597	1623	1644	1641	734
35°	1382	1386	1418	1451	1450	858
45°	1112	1133	1152	1181	1153	860
55°	831	826	848	842	841	739
65°	511	504	524	504	507	508
75°	212	208	212	197	204	228
85°	26	25	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°	1868.4	1868.4	1868.4	1868.4	1868.4
2.5°	1884.6	1870.3	1857.1	1872.5	1881.9
5°	1855.1	1850.8	1855.9	1850.3	1894.9
7.5°	1817.0	1833.7	1843.3	1837.3	1839.9
10°	1796.8	1791.0	1812.4	1827.4	1825.2
12.5°	1775.1	1783.7	1784.9	1801.1	1802.6
15°	1776.3	1755.8	1766.6	1775.8	1776.5
17.5°	1707.3	1729.5	1736.9	1757.9	1731.9
20°	1698.8	1682.7	1698.8	1720.3	1716.9
22.5°	1647.0	1628.9	1663.6	1682.7	1681.5
25°	1588.1	1596.8	1622.8	1644.1	1640.7
27.5°	1536.5	1546.6	1583.7	1612.9	1594.1
30°	1496.7	1491.6	1523.0	1549.0	1563.5
32.5°	1425.5	1443.8	1480.5	1506.3	1492.6
35°	1382.3	1386.4	1418.5	1451.3	1450.3
37.5°	1306.8	1325.9	1371.0	1380.1	1371.7
40°	1242.4	1261.4	1302.2	1312.1	1308.0
42.5°	1194.9	1198.2	1233.2	1244.6	1226.5
45°	1112.1	1132.9	1151.7	1181.4	1153.4
47.5°	1041.7	1051.3	1091.9	1099.8	1085.1
50°	977.8	981.1	1021.9	1012.0	1002.4
52.5°	897.4	911.7	934.6	932.6	921.3
55°	831.3	825.8	847.5	841.7	841.4
57.5°	751.9	761.6	779.4	770.3	755.6
60°	677.6	677.9	684.4	674.0	672.1
62.5°	594.9	597.8	599.2	586.5	607.2
65°	510.7	504.0	523.7	503.7	507.1
67.5°	433.3	436.6	434.7	422.2	427.0
70°	354.6	359.0	355.8	341.6	345.9
72.5°	282.7	277.4	280.8	263.0	271.2
75°	212.5	208.2	212.1	197.1	203.8
77.5°	144.7	148.1	145.7	137.7	142.3
80°	95.5	92.9	92.9	88.3	89.3
82.5°	55.7	53.1	52.3	50.9	53.1
85°	26.1	25.3	25.8	25.1	24.1
87.5°	9.4	9.6	9.6	9.2	8.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)