

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: P589034

Luminaire Tested: **FMR-24-2-LD4-2HI-40-UNV-82-94-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589034  
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-82-94-EDD  
Description: 2X2 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

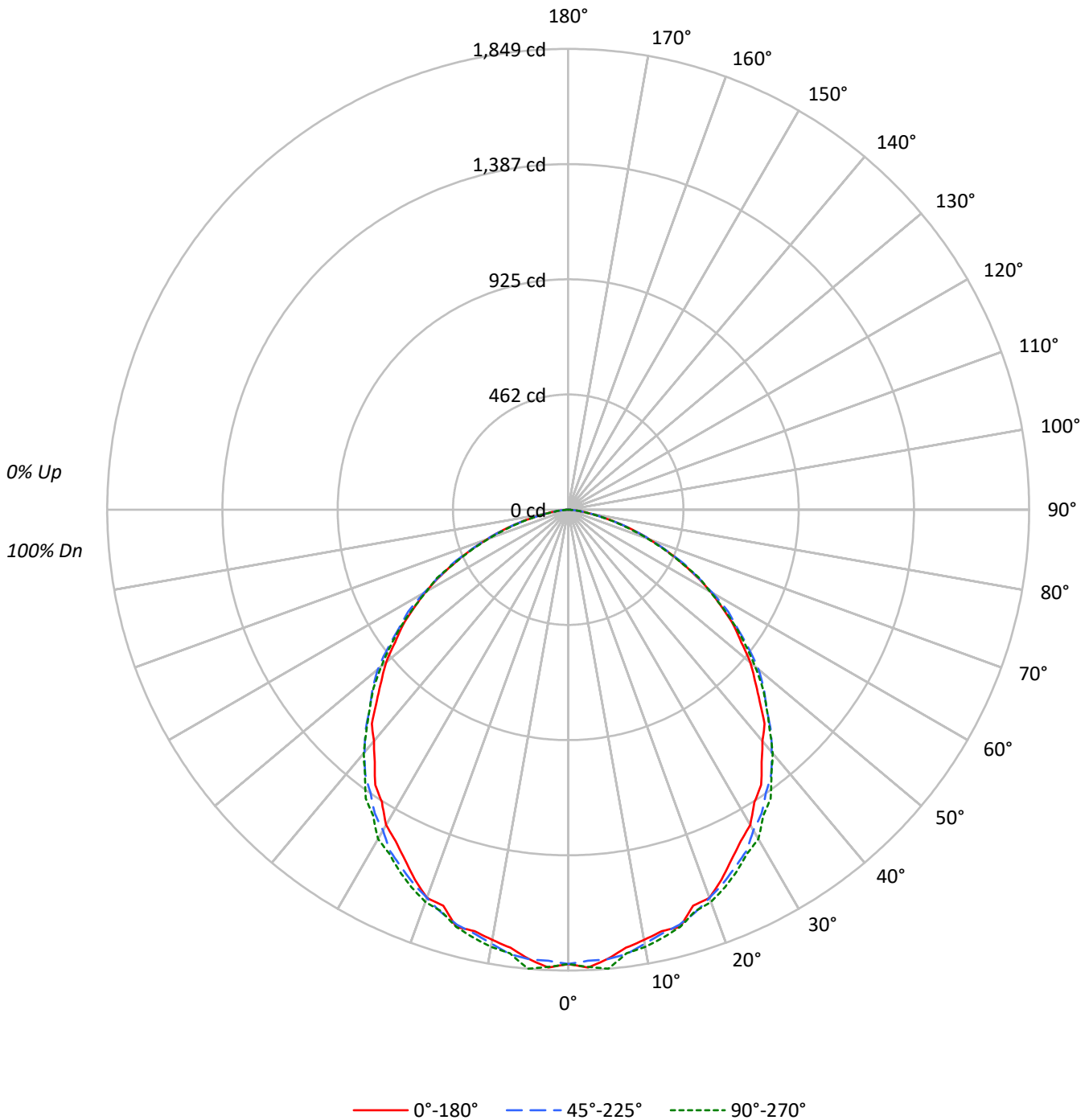
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4594.0 lumens  
Efficiency: N/A  
Efficacy: 106.3 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°	4905	4905	4905
5°	4889	4891	4994
10°	4790	4832	4866
15°	4828	4802	4828
20°	4746	4746	4797
25°	4600	4701	4752
30°	4537	4617	4740
35°	4430	4546	4648
40°	4258	4463	4483
45°	4129	4276	4282
50°	3993	4173	4094
55°	3805	3879	3851
60°	3558	3594	3529
65°	3172	3253	3150
70°	2722	2731	2655
75°	2155	2151	2068
80°	1444	1404	1350
85°	784	778	726



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	171.5	3.7
10°-20°	485.9	10.6
20°-30°	728.0	15.8
30°-40°	862.9	18.8
40°-50°	864.5	18.8
50°-60°	733.8	16.0
60°-70°	494.7	10.8
70°-80°	217.4	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°	1385.4	30.2
0°-40°	2248.3	48.9
0°-60°	3846.6	83.7
0°-90°	4594.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4594.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1823	1823	1823	1823	1823	
5°	1810	1806	1810	1805	1849	171
15°	1733	1713	1724	1732	1733	483
25°	1549	1558	1583	1604	1601	716
35°	1349	1353	1384	1416	1415	837
45°	1085	1105	1124	1152	1125	839
55°	811	806	827	821	821	721
65°	498	492	511	491	495	496
75°	207	203	207	192	199	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°	1822.8	1822.8	1822.8	1822.8	1822.8
2.5°	1838.6	1824.7	1811.7	1826.8	1836.0
5°	1809.8	1805.6	1810.5	1805.1	1848.7
7.5°	1772.7	1788.9	1798.3	1792.4	1795.0
10°	1752.9	1747.2	1768.2	1782.8	1780.7
12.5°	1731.7	1740.2	1741.4	1757.1	1758.5
15°	1732.9	1712.9	1723.5	1732.4	1733.1
17.5°	1665.6	1687.2	1694.5	1715.0	1689.6
20°	1657.3	1641.6	1657.3	1678.3	1675.0
22.5°	1606.7	1589.1	1623.0	1641.6	1640.4
25°	1549.3	1557.8	1583.2	1603.9	1600.6
27.5°	1498.9	1508.8	1545.1	1573.5	1555.2
30°	1460.1	1455.2	1485.8	1511.2	1525.3
32.5°	1390.7	1408.6	1444.3	1469.5	1456.1
35°	1348.6	1352.6	1383.9	1415.9	1414.9
37.5°	1274.9	1293.5	1337.5	1346.4	1338.2
40°	1212.1	1230.6	1270.4	1280.1	1276.1
42.5°	1165.7	1169.0	1203.1	1214.2	1196.5
45°	1085.0	1105.2	1123.6	1152.5	1125.2
47.5°	1016.2	1025.7	1065.2	1073.0	1058.6
50°	953.9	957.2	996.9	987.3	977.9
52.5°	875.5	889.4	911.7	909.9	898.8
55°	811.0	805.6	826.8	821.1	820.9
57.5°	733.6	743.0	760.4	751.5	737.1
60°	661.1	661.3	667.7	657.6	655.7
62.5°	580.4	583.2	584.6	572.1	592.4
65°	498.2	491.6	510.9	491.4	494.7
67.5°	422.7	426.0	424.1	411.9	416.6
70°	346.0	350.2	347.1	333.3	337.5
72.5°	275.8	270.7	273.9	256.5	264.5
75°	207.3	203.1	206.9	192.3	198.9
77.5°	141.2	144.5	142.2	134.4	138.9
80°	93.2	90.6	90.6	86.1	87.1
82.5°	54.4	51.8	51.1	49.7	51.8
85°	25.4	24.7	25.2	24.5	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)