

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: P589074

Luminaire Tested: **FMR-24-2-LD4-2HI-50-UNV-93-94-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589074  
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-93-94-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

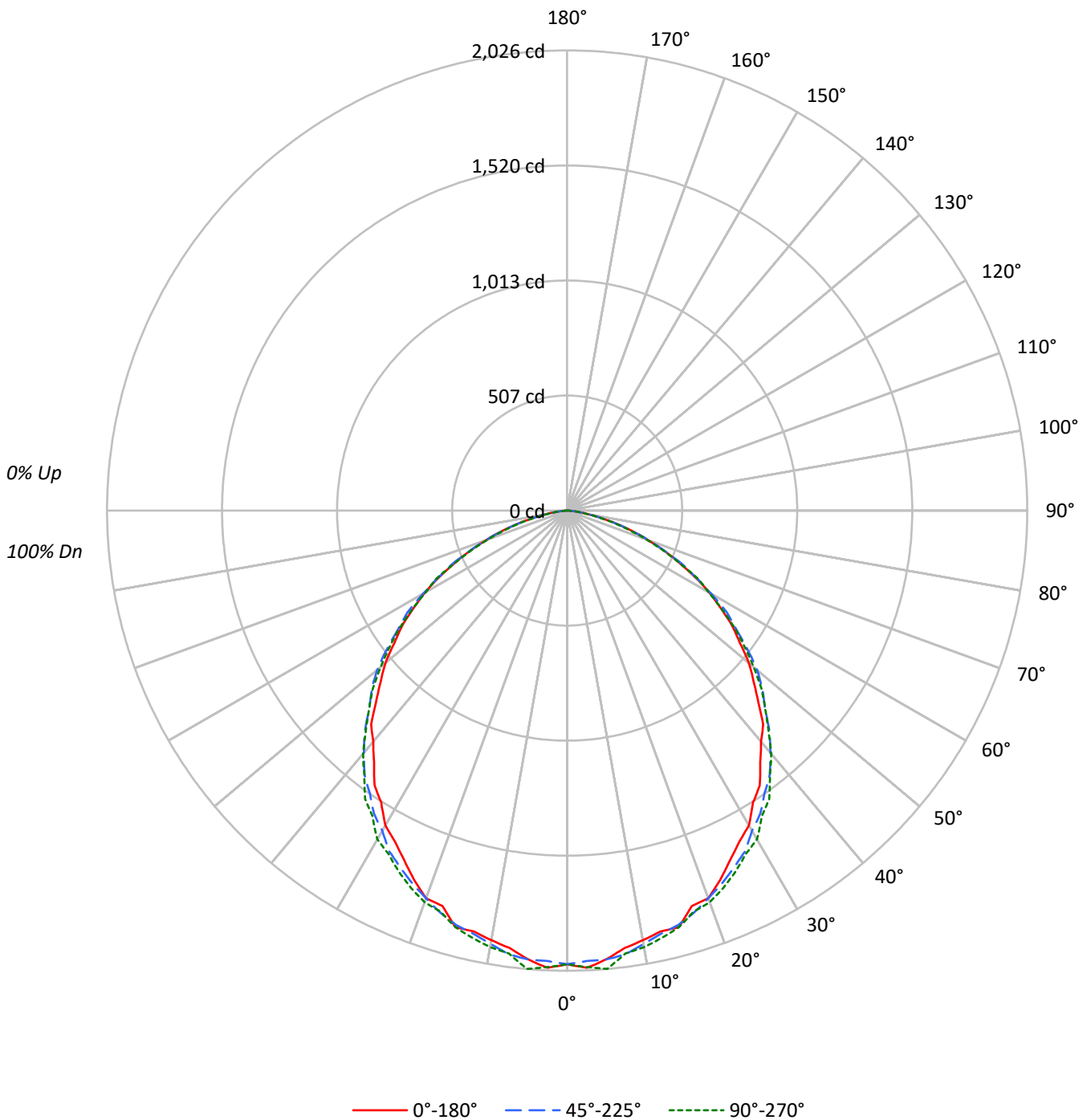
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5034.0 lumens  
Efficiency: N/A  
Efficacy: 116.5 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 (A<sub>in</sub>): 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°	5375	5375	5375
5°	5357	5359	5472
10°	5249	5294	5332
15°	5290	5261	5291
20°	5201	5201	5256
25°	5041	5151	5208
30°	4972	5059	5193
35°	4854	4981	5093
40°	4665	4890	4912
45°	4525	4685	4692
50°	4376	4573	4486
55°	4169	4251	4220
60°	3899	3937	3867
65°	3477	3565	3452
70°	2983	2993	2910
75°	2362	2357	2266
80°	1582	1539	1478
85°	861	852	797



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	187.9	3.7
10°-20°	532.5	10.6
20°-30°	797.8	15.8
30°-40°	945.5	18.8
40°-50°	947.3	18.8
50°-60°	804.1	16.0
60°-70°	542.1	10.8
70°-80°	238.2	4.7
80°-90°	38.7	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°	1518.1	30.2
0°-40°	2463.7	48.9
0°-60°	4215.0	83.7
0°-90°	5034.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5034.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1997	1997	1997	1997	1997	
5°	1983	1978	1984	1978	2026	187
15°	1899	1877	1888	1898	1899	529
25°	1698	1707	1735	1758	1754	785
35°	1478	1482	1516	1552	1550	917
45°	1189	1211	1231	1263	1233	920
55°	889	883	906	900	900	791
65°	546	539	560	538	542	543
75°	227	223	227	211	218	243
85°	28	27	28	27	26	40
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1997.4	1997.4	1997.4	1997.4	1997.4
2.5°	2014.6	1999.4	1985.2	2001.7	2011.8
5°	1983.2	1978.5	1984.0	1978.0	2025.7
7.5°	1942.4	1960.2	1970.5	1964.1	1966.9
10°	1920.8	1914.6	1937.5	1953.5	1951.2
12.5°	1897.6	1906.8	1908.1	1925.4	1927.0
15°	1898.8	1876.9	1888.5	1898.3	1899.1
17.5°	1825.1	1848.8	1856.8	1879.3	1851.4
20°	1816.1	1798.8	1816.1	1839.0	1835.4
22.5°	1760.6	1741.3	1778.4	1798.8	1797.5
25°	1697.7	1707.0	1734.8	1757.5	1753.9
27.5°	1642.5	1653.3	1693.1	1724.3	1704.1
30°	1600.0	1594.5	1628.1	1655.9	1671.4
32.5°	1523.9	1543.5	1582.7	1610.3	1595.6
35°	1477.7	1482.1	1516.4	1551.5	1550.4
37.5°	1397.0	1417.4	1465.6	1475.4	1466.4
40°	1328.1	1348.5	1392.1	1402.7	1398.3
42.5°	1277.3	1280.9	1318.3	1330.5	1311.1
45°	1188.9	1211.1	1231.2	1262.9	1233.0
47.5°	1113.6	1123.9	1167.2	1175.7	1160.0
50°	1045.2	1048.8	1092.4	1081.9	1071.5
52.5°	959.4	974.6	999.1	997.0	984.9
55°	888.7	882.8	906.0	899.8	899.5
57.5°	803.8	814.2	833.2	823.4	807.7
60°	724.4	724.7	731.6	720.5	718.5
62.5°	636.0	639.1	640.6	626.9	649.1
65°	546.0	538.7	559.9	538.5	542.1
67.5°	463.2	466.8	464.7	451.3	456.5
70°	379.1	383.7	380.4	365.2	369.8
72.5°	302.2	296.6	300.2	281.1	289.9
75°	227.2	222.6	226.7	210.7	217.9
77.5°	154.7	158.3	155.8	147.3	152.2
80°	102.1	99.3	99.3	94.4	95.4
82.5°	59.6	56.7	56.0	54.4	56.7
85°	27.9	27.1	27.6	26.8	25.8
87.5°	10.1	10.3	10.3	9.8	9.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)