

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: P589058

Luminaire Tested: **FMR-24-2-LD4-2HI-50-UNV-81-94-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589058  
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-81-94-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

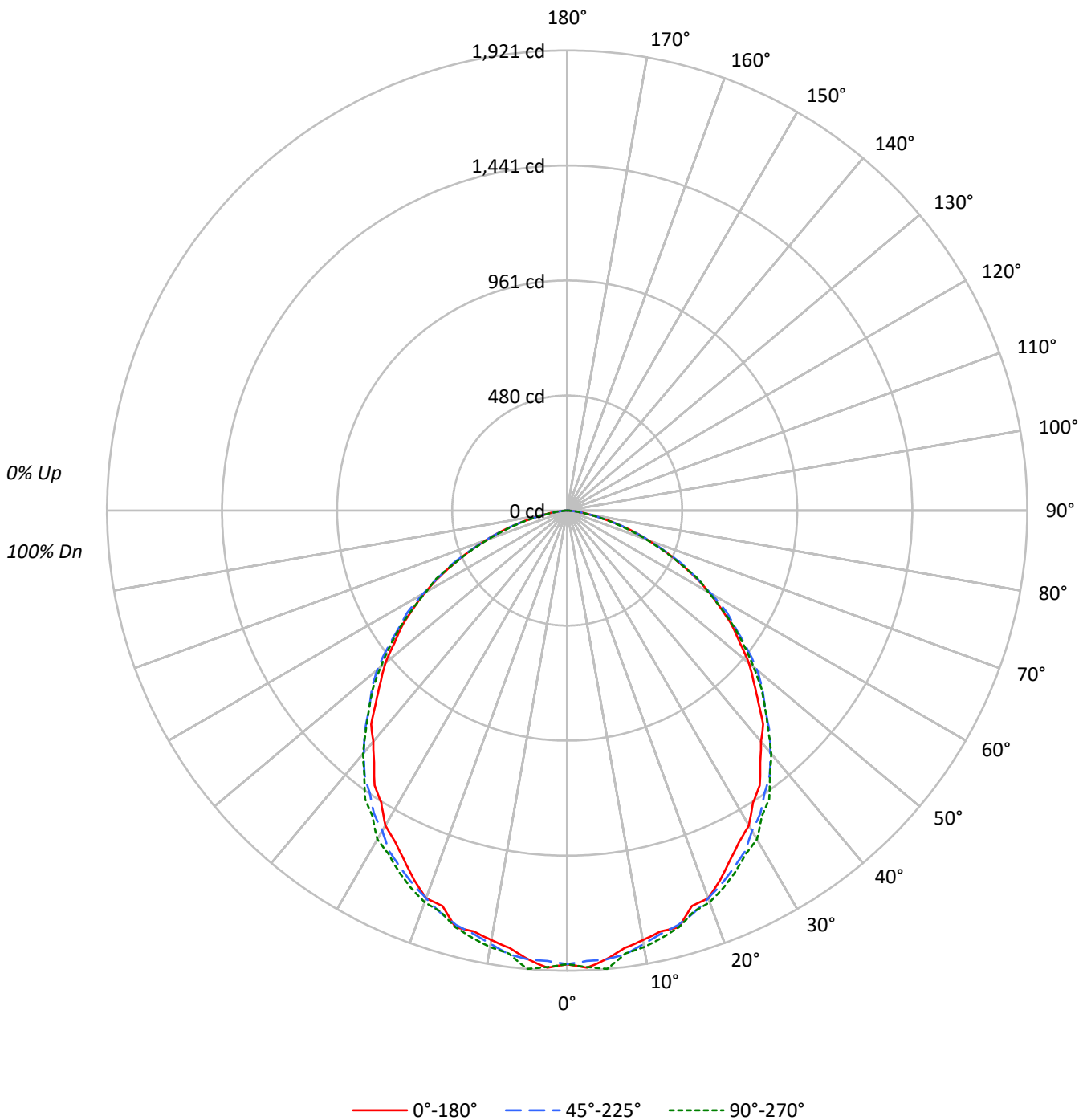
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4773.0 lumens  
Efficiency: N/A  
Efficacy: 110.5 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 (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°	5096	5096	5096
5°	5079	5081	5188
10°	4976	5020	5055
15°	5016	4988	5016
20°	4931	4931	4983
25°	4779	4884	4938
30°	4714	4797	4924
35°	4603	4723	4829
40°	4424	4637	4657
45°	4290	4442	4449
50°	4149	4336	4253
55°	3953	4030	4001
60°	3697	3733	3666
65°	3296	3380	3273
70°	2828	2838	2758
75°	2240	2234	2148
80°	1500	1458	1402
85°	815	809	756



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	178.1	3.7
10°-20°	504.9	10.6
20°-30°	756.4	15.8
30°-40°	896.5	18.8
40°-50°	898.2	18.8
50°-60°	762.4	16.0
60°-70°	514.0	10.8
70°-80°	225.8	4.7
80°-90°	36.7	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°	1439.4	30.2
0°-40°	2335.9	48.9
0°-60°	3996.5	83.7
0°-90°	4773.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4773.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1894	1894	1894	1894	1894	
5°	1880	1876	1881	1876	1921	177
15°	1800	1780	1791	1800	1801	502
25°	1610	1618	1645	1666	1663	744
35°	1401	1405	1438	1471	1470	870
45°	1127	1148	1167	1197	1169	872
55°	843	837	859	853	853	750
65°	518	511	531	511	514	515
75°	215	211	215	200	207	231
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°	1893.8	1893.8	1893.8	1893.8	1893.8
2.5°	1910.2	1895.8	1882.3	1898.0	1907.5
5°	1880.4	1876.0	1881.1	1875.5	1920.7
7.5°	1841.7	1858.6	1868.4	1862.3	1865.0
10°	1821.2	1815.3	1837.1	1852.2	1850.0
12.5°	1799.2	1808.0	1809.2	1825.6	1827.1
15°	1800.4	1779.6	1790.6	1799.9	1800.6
17.5°	1730.5	1753.0	1760.5	1781.8	1755.4
20°	1721.9	1705.5	1721.9	1743.7	1740.2
22.5°	1669.3	1651.0	1686.2	1705.5	1704.3
25°	1609.7	1618.5	1644.9	1666.4	1663.0
27.5°	1557.3	1567.6	1605.3	1634.9	1615.8
30°	1517.0	1511.9	1543.7	1570.1	1584.7
32.5°	1444.9	1463.5	1500.6	1526.8	1512.8
35°	1401.1	1405.3	1437.8	1471.0	1470.1
37.5°	1324.6	1343.9	1389.6	1398.9	1390.3
40°	1259.3	1278.6	1319.9	1329.9	1325.8
42.5°	1211.1	1214.5	1250.0	1261.5	1243.1
45°	1127.2	1148.3	1167.3	1197.4	1169.0
47.5°	1055.8	1065.6	1106.7	1114.8	1099.9
50°	991.0	994.5	1035.8	1025.8	1016.0
52.5°	909.6	924.0	947.3	945.3	933.8
55°	842.6	837.0	859.0	853.1	852.9
57.5°	762.2	771.9	790.0	780.8	765.8
60°	686.9	687.1	693.7	683.2	681.2
62.5°	603.0	605.9	607.4	594.4	615.5
65°	517.6	510.8	530.9	510.6	514.0
67.5°	439.2	442.6	440.6	427.9	432.8
70°	359.4	363.8	360.7	346.2	350.6
72.5°	286.6	281.2	284.6	266.5	274.8
75°	215.4	211.0	214.9	199.8	206.6
77.5°	146.7	150.1	147.7	139.6	144.3
80°	96.8	94.1	94.1	89.5	90.5
82.5°	56.5	53.8	53.1	51.6	53.8
85°	26.4	25.7	26.2	25.4	24.5
87.5°	9.5	9.8	9.8	9.3	8.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)