

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: P589458

Luminaire Tested: **FMR-24-2-LD4-3LO-50-UNV-93-94-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589458  
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-LD4-3LO-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: -

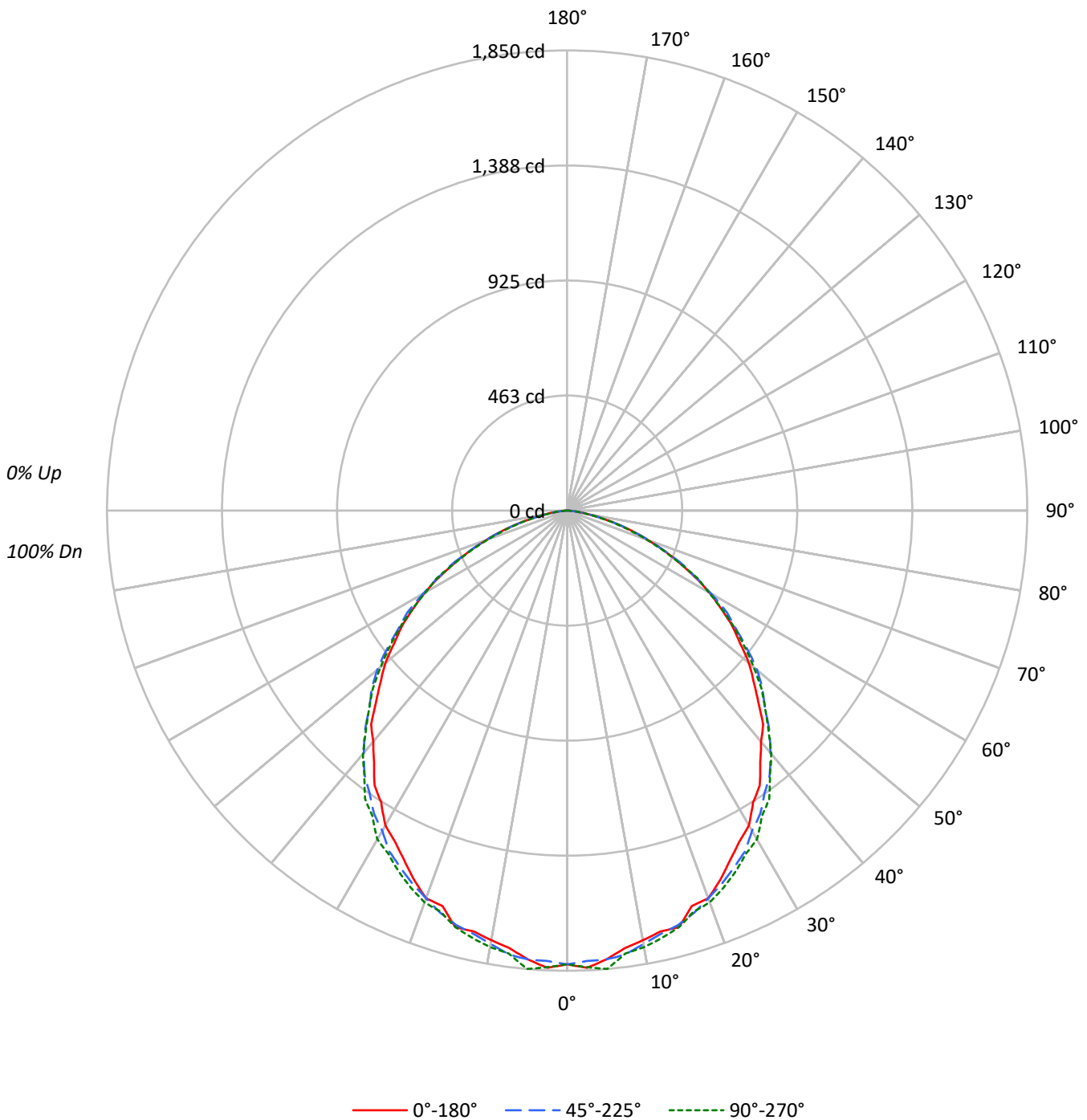
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4597.0 lumens  
Efficiency: N/A  
Efficacy: 131.0 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): 35.1  
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°	4908	4908	4908
5°	4892	4894	4997
10°	4793	4835	4869
15°	4831	4805	4831
20°	4749	4749	4800
25°	4603	4704	4756
30°	4540	4620	4743
35°	4433	4549	4651
40°	4260	4466	4486
45°	4132	4279	4285
50°	3996	4176	4096
55°	3807	3881	3854
60°	3560	3596	3531
65°	3175	3256	3152
70°	2724	2733	2657
75°	2157	2152	2069
80°	1446	1406	1350
85°	784	778	729



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	171.6	3.7
10°-20°	486.3	10.6
20°-30°	728.5	15.8
30°-40°	863.4	18.8
40°-50°	865.0	18.8
50°-60°	734.3	16.0
60°-70°	495.1	10.8
70°-80°	217.5	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°	1386.3	30.2
0°-40°	2249.8	48.9
0°-60°	3849.1	83.7
0°-90°	4597.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4597.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1824	1824	1824	1824	1824	
5°	1811	1807	1812	1806	1850	171
15°	1734	1714	1725	1734	1734	483
25°	1550	1559	1584	1605	1602	717
35°	1349	1353	1385	1417	1416	838
45°	1086	1106	1124	1153	1126	840
55°	812	806	827	822	821	722
65°	499	492	511	492	495	496
75°	208	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°	1824.0	1824.0	1824.0	1824.0	1824.0
2.5°	1839.8	1825.9	1812.9	1828.0	1837.2
5°	1811.0	1806.8	1811.7	1806.3	1849.9
7.5°	1773.8	1790.1	1799.5	1793.6	1796.2
10°	1754.0	1748.4	1769.3	1783.9	1781.8
12.5°	1732.8	1741.3	1742.5	1758.3	1759.7
15°	1734.0	1714.0	1724.6	1733.5	1734.2
17.5°	1666.7	1688.3	1695.6	1716.1	1690.7
20°	1658.4	1642.6	1658.4	1679.4	1676.1
22.5°	1607.8	1590.1	1624.0	1642.6	1641.5
25°	1550.3	1558.8	1584.2	1605.0	1601.7
27.5°	1499.9	1509.8	1546.1	1574.6	1556.2
30°	1461.1	1456.1	1486.7	1512.2	1526.3
32.5°	1391.6	1409.5	1445.3	1470.5	1457.1
35°	1349.4	1353.4	1384.8	1416.8	1415.8
37.5°	1275.7	1294.3	1338.4	1347.3	1339.1
40°	1212.8	1231.4	1271.2	1280.9	1276.9
42.5°	1166.4	1169.7	1203.9	1215.0	1197.3
45°	1085.7	1105.9	1124.3	1153.3	1125.9
47.5°	1016.9	1026.3	1065.9	1073.7	1059.3
50°	954.5	957.8	997.6	987.9	978.5
52.5°	876.1	890.0	912.3	910.5	899.4
55°	811.5	806.1	827.3	821.7	821.4
57.5°	734.1	743.5	760.9	752.0	737.6
60°	661.5	661.8	668.1	658.0	656.1
62.5°	580.8	583.6	585.0	572.5	592.8
65°	498.6	492.0	511.3	491.7	495.0
67.5°	423.0	426.3	424.4	412.1	416.8
70°	346.2	350.4	347.4	333.5	337.7
72.5°	276.0	270.8	274.1	256.7	264.7
75°	207.5	203.2	207.0	192.4	199.0
77.5°	141.3	144.6	142.2	134.5	138.9
80°	93.3	90.7	90.7	86.2	87.1
82.5°	54.4	51.8	51.1	49.7	51.8
85°	25.4	24.7	25.2	24.5	23.6
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)