

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: P589422

Luminaire Tested: **FMR-24-2-LD4-3LO-40-UNV-93-85-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589422  
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-40-UNV-93-85-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

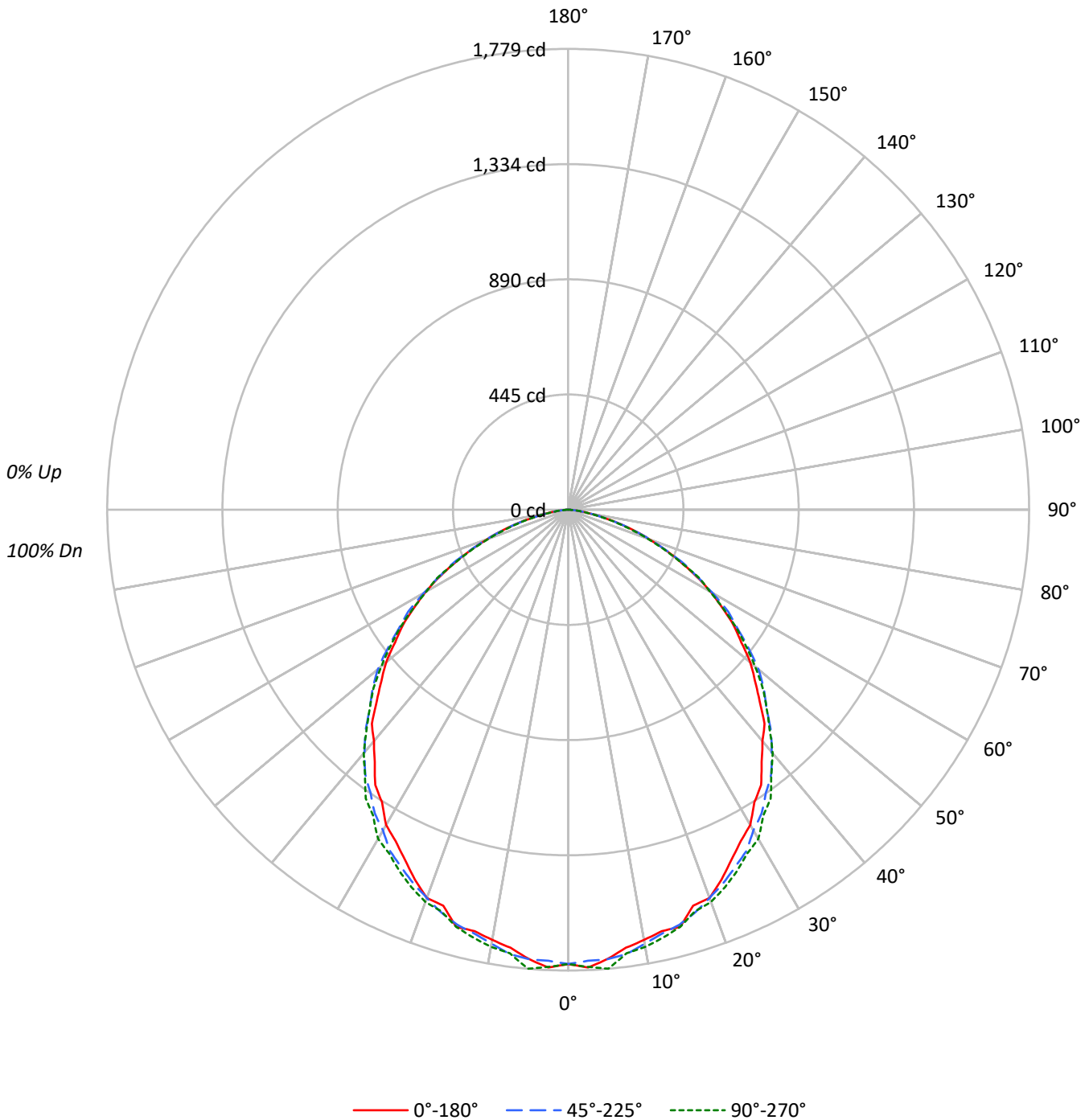
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4420.0 lumens  
Efficiency: N/A  
Efficacy: 125.9 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 (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°	4719	4719	4719
5°	4704	4706	4805
10°	4608	4649	4681
15°	4645	4620	4645
20°	4566	4566	4615
25°	4426	4523	4573
30°	4365	4442	4560
35°	4262	4374	4472
40°	4096	4294	4313
45°	3973	4114	4120
50°	3842	4016	3939
55°	3661	3732	3705
60°	3423	3457	3395
65°	3053	3130	3031
70°	2619	2628	2555
75°	2074	2069	1989
80°	1390	1351	1299
85°	756	747	698



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	165.0	3.7
10°-20°	467.5	10.6
20°-30°	700.5	15.8
30°-40°	830.2	18.8
40°-50°	831.7	18.8
50°-60°	706.0	16.0
60°-70°	476.0	10.8
70°-80°	209.2	4.7
80°-90°	34.0	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°	1333.0	30.2
0°-40°	2163.1	48.9
0°-60°	3700.9	83.7
0°-90°	4420.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4420.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1754	1754	1754	1754	1754	
5°	1741	1737	1742	1737	1779	164
15°	1667	1648	1658	1667	1668	465
25°	1491	1499	1523	1543	1540	689
35°	1298	1301	1331	1362	1361	806
45°	1044	1063	1081	1109	1083	807
55°	780	775	796	790	790	694
65°	479	473	492	473	476	477
75°	200	195	199	185	191	214
85°	24	24	24	24	23	35
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1753.7	1753.7	1753.7	1753.7	1753.7
2.5°	1768.9	1755.6	1743.1	1757.6	1766.4
5°	1741.3	1737.2	1742.0	1736.8	1778.7
7.5°	1705.5	1721.1	1730.2	1724.5	1727.0
10°	1686.5	1681.1	1701.2	1715.3	1713.2
12.5°	1666.1	1674.3	1675.4	1690.6	1691.9
15°	1667.2	1648.0	1658.2	1666.8	1667.5
17.5°	1602.5	1623.3	1630.3	1650.0	1625.6
20°	1594.6	1579.4	1594.6	1614.7	1611.5
22.5°	1545.9	1528.9	1561.5	1579.4	1578.3
25°	1490.6	1498.8	1523.2	1543.2	1540.0
27.5°	1442.2	1451.7	1486.6	1513.9	1496.3
30°	1404.8	1400.1	1429.5	1453.9	1467.5
32.5°	1338.0	1355.2	1389.6	1413.9	1401.0
35°	1297.5	1301.3	1331.4	1362.2	1361.3
37.5°	1226.6	1244.5	1286.8	1295.4	1287.5
40°	1166.1	1184.0	1222.3	1231.6	1227.7
42.5°	1121.5	1124.7	1157.5	1168.2	1151.2
45°	1043.9	1063.3	1081.0	1108.9	1082.6
47.5°	977.7	986.8	1024.8	1032.3	1018.5
50°	917.7	920.9	959.2	949.9	940.8
52.5°	842.3	855.7	877.2	875.4	864.8
55°	780.3	775.1	795.5	790.0	789.8
57.5°	705.8	714.9	731.6	723.0	709.2
60°	636.1	636.3	642.4	632.7	630.8
62.5°	558.4	561.1	562.5	550.5	569.9
65°	479.4	473.0	491.6	472.8	476.0
67.5°	406.7	409.8	408.0	396.3	400.8
70°	332.9	336.9	334.0	320.6	324.7
72.5°	265.4	260.4	263.6	246.8	254.5
75°	199.5	195.4	199.0	185.0	191.3
77.5°	135.9	139.0	136.8	129.3	133.6
80°	89.7	87.2	87.2	82.9	83.8
82.5°	52.3	49.8	49.1	47.8	49.8
85°	24.5	23.8	24.2	23.5	22.6
87.5°	8.8	9.1	9.1	8.6	8.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)