

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: P589063

Luminaire Tested: **FMR-24-2-LD4-2HI-50-UNV-82-86-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589063  
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-82-86-EDD  
Description: 2X2 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

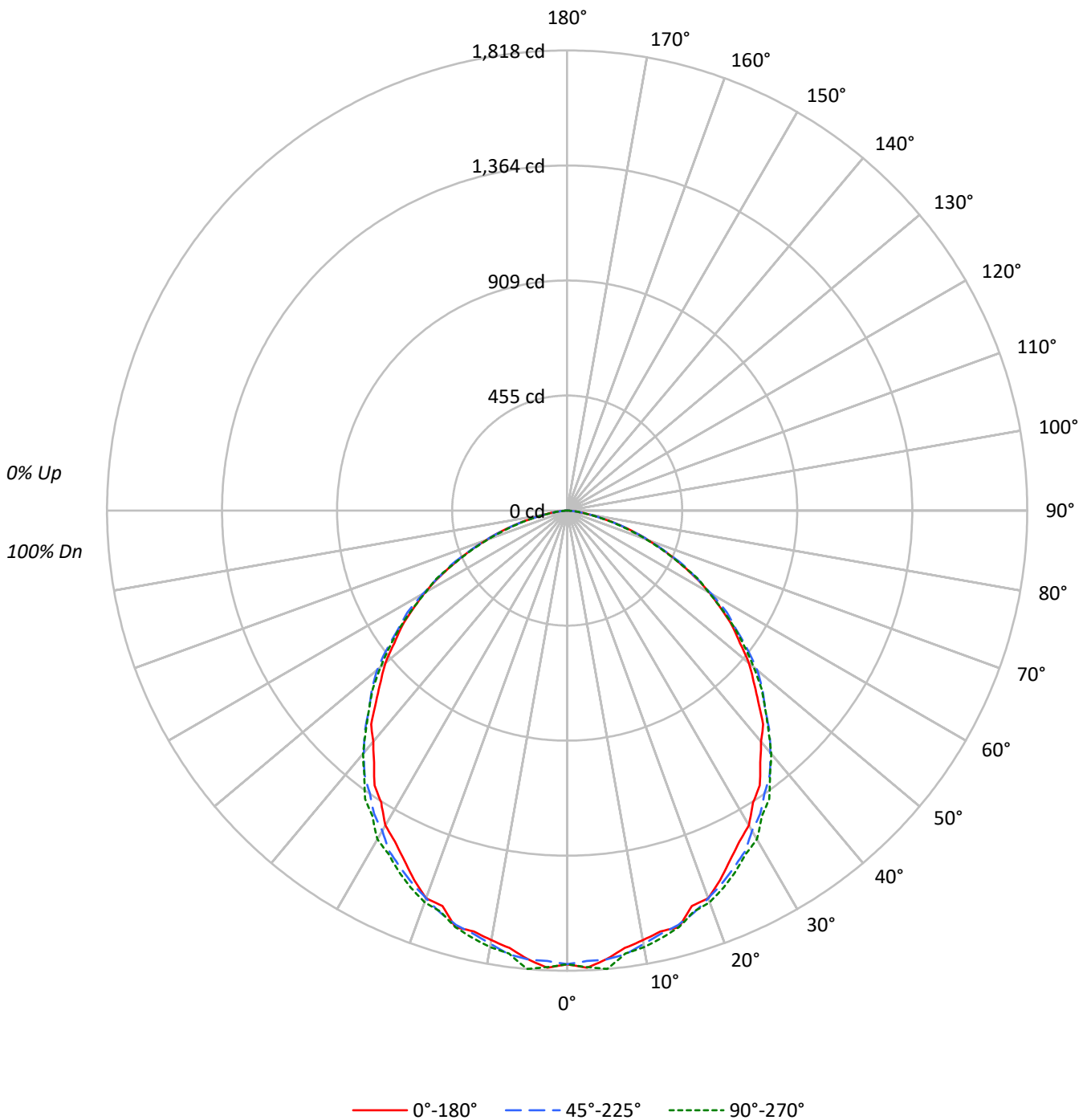
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4517.0 lumens  
Efficiency: N/A  
Efficacy: 104.6 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

TEST NUMBER: P589063

CATALOG NUMBER: FMR-24-2-LD4-2HI-50-UNV-82-86-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P589063

CATALOG NUMBER: FMR-24-2-LD4-2HI-50-UNV-82-86-EDD

**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°	4823	4823	4823
5°	4807	4809	4910
10°	4709	4750	4784
15°	4747	4721	4747
20°	4667	4667	4716
25°	4523	4622	4673
30°	4461	4539	4660
35°	4356	4470	4570
40°	4186	4388	4408
45°	4060	4204	4210
50°	3926	4104	4025
55°	3741	3814	3787
60°	3498	3533	3470
65°	3119	3199	3097
70°	2677	2685	2611
75°	2120	2115	2033
80°	1420	1381	1327
85°	772	766	713



TEST NUMBER: P589063

CATALOG NUMBER: FMR-24-2-LD4-2HI-50-UNV-82-86-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	168.6	3.7
10°-20°	477.8	10.6
20°-30°	715.8	15.8
30°-40°	848.4	18.8
40°-50°	850.0	18.8
50°-60°	721.5	16.0
60°-70°	486.4	10.8
70°-80°	213.7	4.7
80°-90°	34.7	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°	1362.2	30.2
0°-40°	2210.6	48.9
0°-60°	3782.1	83.7
0°-90°	4517.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4517.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1792	1792	1792	1792	1792	
5°	1780	1775	1780	1775	1818	168
15°	1704	1684	1695	1703	1704	475
25°	1523	1532	1557	1577	1574	704
35°	1326	1330	1361	1392	1391	823
45°	1067	1087	1105	1133	1106	825
55°	797	792	813	807	807	709
65°	490	483	502	483	486	487
75°	204	200	203	189	196	218
85°	25	24	25	24	23	36
90°	0	0	0	0	0	



TEST NUMBER: P589063

CATALOG NUMBER: FMR-24-2-LD4-2HI-50-UNV-82-86-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1792.2	1792.2	1792.2	1792.2	1792.2
2.5°	1807.7	1794.1	1781.4	1796.2	1805.2
5°	1779.5	1775.3	1780.2	1774.9	1817.7
7.5°	1742.9	1758.9	1768.2	1762.4	1764.9
10°	1723.5	1718.0	1738.5	1752.9	1750.8
12.5°	1702.7	1711.0	1712.2	1727.7	1729.1
15°	1703.8	1684.2	1694.6	1703.4	1704.1
17.5°	1637.7	1658.9	1666.1	1686.2	1661.3
20°	1629.6	1614.0	1629.6	1650.1	1646.9
22.5°	1579.8	1562.4	1595.8	1614.0	1612.9
25°	1523.3	1531.7	1556.7	1577.0	1573.8
27.5°	1473.8	1483.5	1519.2	1547.2	1529.1
30°	1435.6	1430.8	1460.9	1485.9	1499.7
32.5°	1367.4	1385.0	1420.1	1444.9	1431.7
35°	1326.0	1329.9	1360.7	1392.1	1391.2
37.5°	1253.5	1271.8	1315.1	1323.9	1315.8
40°	1191.7	1210.0	1249.1	1258.6	1254.7
42.5°	1146.1	1149.4	1182.9	1193.8	1176.5
45°	1066.8	1086.7	1104.7	1133.2	1106.3
47.5°	999.2	1008.5	1047.3	1055.0	1040.9
50°	937.9	941.1	980.2	970.7	961.5
52.5°	860.8	874.5	896.5	894.6	883.7
55°	797.4	792.1	812.9	807.4	807.1
57.5°	721.3	730.5	747.7	738.9	724.8
60°	650.0	650.2	656.5	646.5	644.7
62.5°	570.6	573.4	574.8	562.5	582.4
65°	489.9	483.4	502.4	483.2	486.4
67.5°	415.6	418.8	417.0	405.0	409.6
70°	340.2	344.3	341.3	327.7	331.8
72.5°	271.2	266.1	269.4	252.2	260.1
75°	203.9	199.7	203.4	189.1	195.5
77.5°	138.8	142.1	139.8	132.1	136.5
80°	91.6	89.1	89.1	84.7	85.6
82.5°	53.5	50.9	50.2	48.8	50.9
85°	25.0	24.3	24.8	24.1	23.1
87.5°	9.0	9.3	9.3	8.8	8.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)