

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: P589229

Luminaire Tested: **FMR-24-2-LD4-2STD-40-UNV-93-84-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589229  
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-LD4-2STD-40-UNV-93-84-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

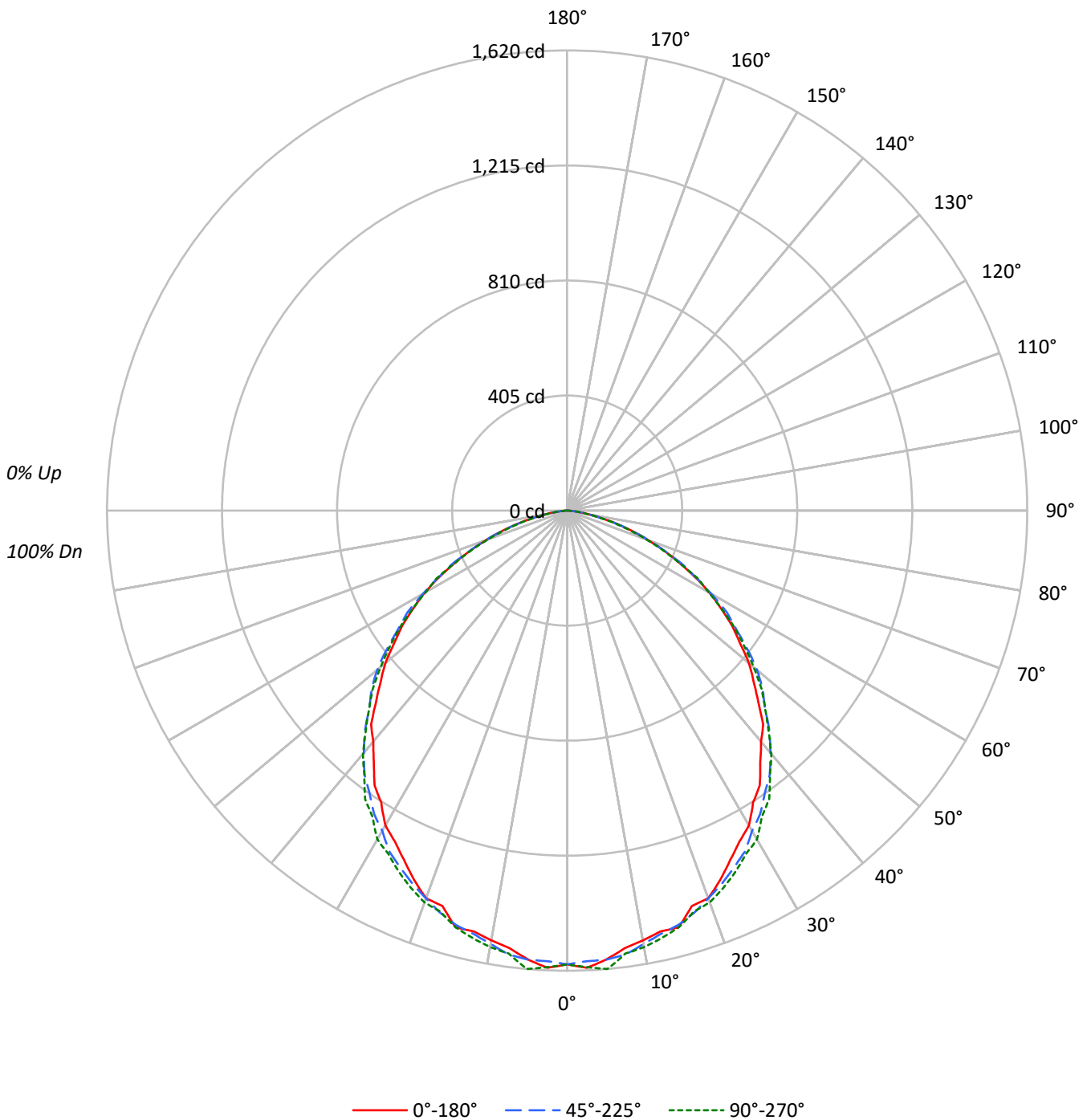
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4026.0 lumens  
Efficiency: N/A  
Efficacy: 120.9 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): 33.3  
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: P589229

CATALOG NUMBER: FMR-24-2-LD4-2STD-40-UNV-93-84-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P589229

CATALOG NUMBER: FMR-24-2-LD4-2STD-40-UNV-93-84-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	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					100			
1	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86					86			
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73					73			
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62					62			
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53					53			
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46					46			
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41					41			
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36					36			
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32					32			
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29					29			
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26					26			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	4299	4299	4299
5°	4284	4286	4376
10°	4198	4234	4264
15°	4231	4208	4231
20°	4159	4159	4204
25°	4032	4120	4165
30°	3976	4046	4153
35°	3882	3984	4073
40°	3731	3911	3928
45°	3618	3747	3753
50°	3499	3658	3588
55°	3334	3400	3375
60°	3118	3149	3092
65°	2780	2851	2760
70°	2386	2393	2327
75°	1889	1885	1812
80°	1266	1230	1182
85°	689	682	636



TEST NUMBER: P589229

CATALOG NUMBER: FMR-24-2-LD4-2STD-40-UNV-93-84-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	150.3	3.7
10°-20°	425.9	10.6
20°-30°	638.0	15.8
30°-40°	756.2	18.8
40°-50°	757.6	18.8
50°-60°	643.1	16.0
60°-70°	433.6	10.8
70°-80°	190.5	4.7
80°-90°	31.0	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°	1214.1	30.2
0°-40°	1970.3	48.9
0°-60°	3371.0	83.7
0°-90°	4026.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4026.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1597	1597	1597	1597	1597	
5°	1586	1582	1587	1582	1620	150
15°	1519	1501	1510	1518	1519	423
25°	1358	1365	1388	1406	1403	628
35°	1182	1185	1213	1241	1240	734
45°	951	969	985	1010	986	736
55°	711	706	725	720	719	632
65°	437	431	448	431	434	434
75°	182	178	181	168	174	195
85°	22	22	22	22	21	32
90°	0	0	0	0	0	



TEST NUMBER: P589229

CATALOG NUMBER: FMR-24-2-LD4-2STD-40-UNV-93-84-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1597.4	1597.4	1597.4	1597.4	1597.4
2.5°	1611.2	1599.1	1587.7	1600.9	1609.0
5°	1586.1	1582.4	1586.7	1581.9	1620.1
7.5°	1553.5	1567.7	1576.0	1570.8	1573.1
10°	1536.2	1531.2	1549.6	1562.4	1560.5
12.5°	1517.6	1525.0	1526.1	1539.9	1541.1
15°	1518.6	1501.1	1510.4	1518.2	1518.8
17.5°	1459.6	1478.6	1485.0	1503.0	1480.7
20°	1452.4	1438.6	1452.4	1470.8	1467.9
22.5°	1408.1	1392.6	1422.3	1438.6	1437.6
25°	1357.8	1365.2	1387.5	1405.6	1402.7
27.5°	1313.6	1322.3	1354.0	1379.0	1362.9
30°	1279.6	1275.3	1302.1	1324.3	1336.7
32.5°	1218.7	1234.4	1265.8	1287.8	1276.1
35°	1181.8	1185.3	1212.8	1240.8	1240.0
37.5°	1117.3	1133.6	1172.1	1180.0	1172.7
40°	1062.2	1078.5	1113.3	1121.8	1118.3
42.5°	1021.6	1024.4	1054.4	1064.0	1048.6
45°	950.8	968.6	984.6	1010.0	986.1
47.5°	890.6	898.8	933.5	940.3	927.7
50°	835.9	838.8	873.7	865.2	857.0
52.5°	767.3	779.4	799.0	797.4	787.7
55°	710.7	706.0	724.6	719.6	719.4
57.5°	642.9	651.1	666.4	658.6	646.0
60°	579.4	579.6	585.1	576.3	574.6
62.5°	508.6	511.1	512.3	501.4	519.1
65°	436.6	430.9	447.8	430.7	433.5
67.5°	370.4	373.3	371.7	360.9	365.1
70°	303.2	306.9	304.2	292.1	295.8
72.5°	241.7	237.2	240.1	224.8	231.8
75°	181.7	178.0	181.3	168.5	174.3
77.5°	123.8	126.6	124.6	117.8	121.7
80°	81.7	79.4	79.4	75.5	76.3
82.5°	47.6	45.4	44.8	43.5	45.4
85°	22.3	21.7	22.1	21.5	20.6
87.5°	8.0	8.3	8.3	7.8	7.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)