

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: P589298

Luminaire Tested: **FMR-24-2-LD4-3HI-35-UNV-93-94-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589298  
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-LD4-3HI-35-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 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

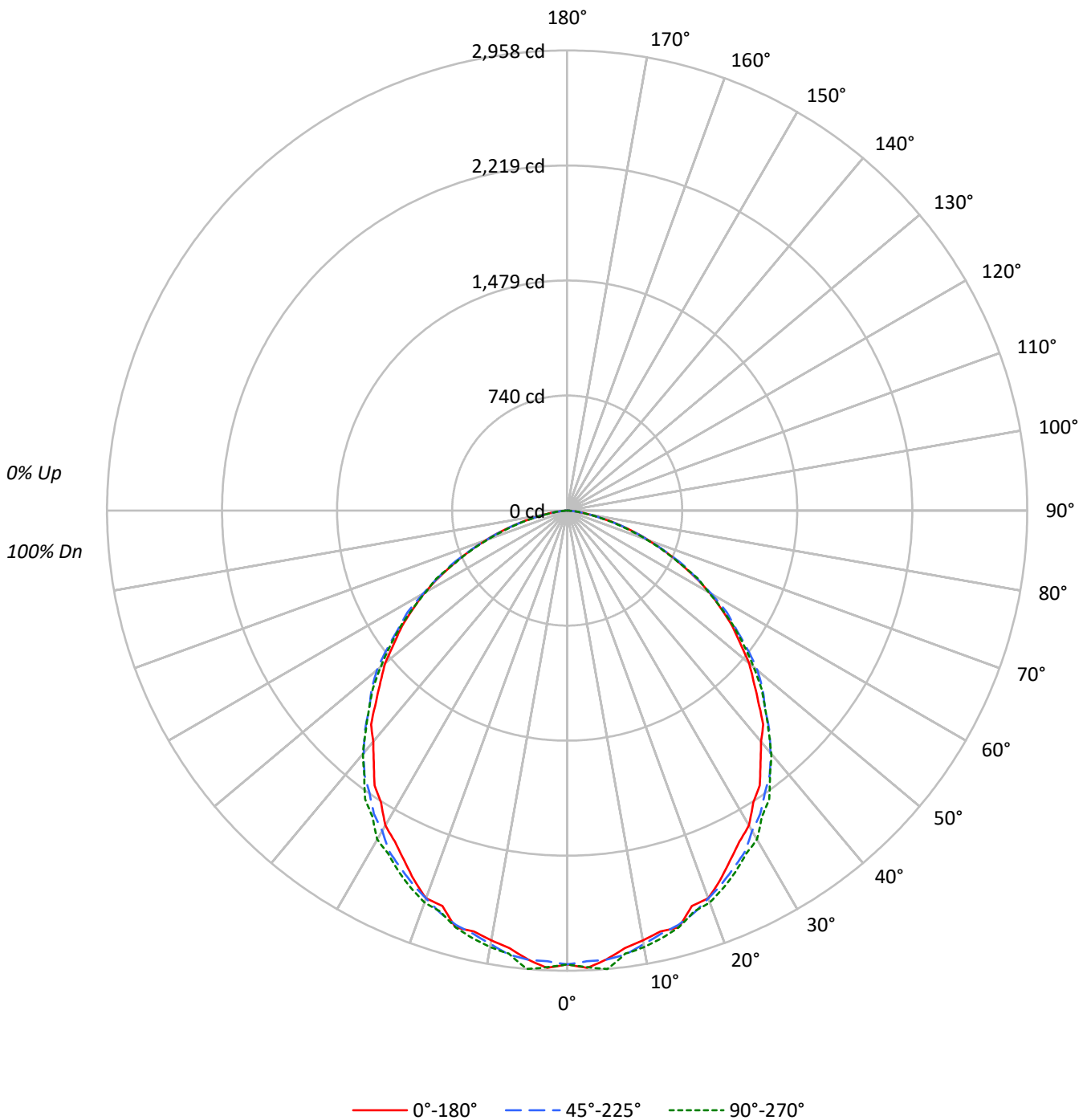
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7352.0 lumens  
Efficiency: N/A  
Efficacy: 113.5 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): 64.8  
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

TEST NUMBER: P589298

CATALOG NUMBER: FMR-24-2-LD4-3HI-35-UNV-93-94-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P589298

CATALOG NUMBER: FMR-24-2-LD4-3HI-35-UNV-93-94-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°	7850	7850	7850
5°	7824	7827	7992
10°	7665	7732	7787
15°	7726	7684	7727
20°	7595	7595	7676
25°	7362	7523	7606
30°	7261	7388	7585
35°	7090	7275	7439
40°	6814	7142	7174
45°	6608	6843	6853
50°	6391	6679	6551
55°	6089	6207	6163
60°	5694	5751	5647
65°	5077	5207	5041
70°	4356	4371	4249
75°	3450	3442	3309
80°	2312	2247	2160
85°	1257	1244	1164



TEST NUMBER: P589298

CATALOG NUMBER: FMR-24-2-LD4-3HI-35-UNV-93-94-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	274.4	3.7
10°-20°	777.7	10.6
20°-30°	1165.1	15.8
30°-40°	1380.9	18.8
40°-50°	1383.4	18.8
50°-60°	1174.3	16.0
60°-70°	791.7	10.8
70°-80°	347.9	4.7
80°-90°	56.5	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°	2217.2	30.2
0°-40°	3598.1	48.9
0°-60°	6155.8	83.7
0°-90°	7352.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7352.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2917	2917	2917	2917	2917	
5°	2896	2890	2898	2889	2958	273
15°	2773	2741	2758	2772	2774	773
25°	2479	2493	2534	2567	2562	1146
35°	2158	2165	2215	2266	2264	1340
45°	1736	1769	1798	1844	1801	1343
55°	1298	1289	1323	1314	1314	1155
65°	797	787	818	786	792	793
75°	332	325	331	308	318	356
85°	41	40	40	39	38	59
90°	0	0	0	0	0	



TEST NUMBER: P589298

CATALOG NUMBER: FMR-24-2-LD4-3HI-35-UNV-93-94-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2917.1	2917.1	2917.1	2917.1	2917.1
2.5°	2942.3	2920.1	2899.4	2923.5	2938.2
5°	2896.4	2889.6	2897.5	2888.8	2958.5
7.5°	2836.9	2862.9	2877.9	2868.5	2872.6
10°	2805.2	2796.2	2829.7	2853.1	2849.7
12.5°	2771.3	2784.9	2786.8	2812.0	2814.3
15°	2773.2	2741.2	2758.1	2772.5	2773.6
17.5°	2665.5	2700.1	2711.8	2744.6	2703.9
20°	2652.3	2627.1	2652.3	2685.8	2680.6
22.5°	2571.3	2543.1	2597.3	2627.1	2625.2
25°	2479.4	2493.0	2533.7	2566.8	2561.5
27.5°	2398.8	2414.6	2472.7	2518.2	2488.8
30°	2336.7	2328.8	2377.7	2418.4	2441.0
32.5°	2225.6	2254.2	2311.4	2351.7	2330.3
35°	2158.2	2164.6	2214.7	2265.9	2264.4
37.5°	2040.3	2070.0	2140.5	2154.8	2141.6
40°	1939.7	1969.5	2033.1	2048.6	2042.1
42.5°	1865.5	1870.8	1925.4	1943.1	1914.8
45°	1736.3	1768.7	1798.1	1844.4	1800.7
47.5°	1626.3	1641.4	1704.7	1717.1	1694.1
50°	1526.5	1531.8	1595.5	1580.0	1564.9
52.5°	1401.1	1423.3	1459.1	1456.1	1438.4
55°	1297.9	1289.2	1323.1	1314.1	1313.7
57.5°	1174.0	1189.1	1216.9	1202.6	1179.6
60°	1058.0	1058.4	1068.5	1052.3	1049.3
62.5°	928.8	933.3	935.6	915.6	948.0
65°	797.3	786.8	817.7	786.4	791.7
67.5°	676.4	681.7	678.7	659.1	666.7
70°	553.7	560.4	555.5	533.3	540.1
72.5°	441.4	433.1	438.4	410.5	423.3
75°	331.8	325.0	331.1	307.7	318.3
77.5°	226.0	231.3	227.5	215.1	222.2
80°	149.2	145.0	145.0	137.9	139.4
82.5°	87.0	82.9	81.7	79.5	82.9
85°	40.7	39.5	40.3	39.2	37.7
87.5°	14.7	15.1	15.1	14.3	13.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)