

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: P589826

Luminaire Tested: **FMR-24-2-LD4-4STD-50-UNV-81-94-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589826  
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-LD4-4STD-50-UNV-81-94-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

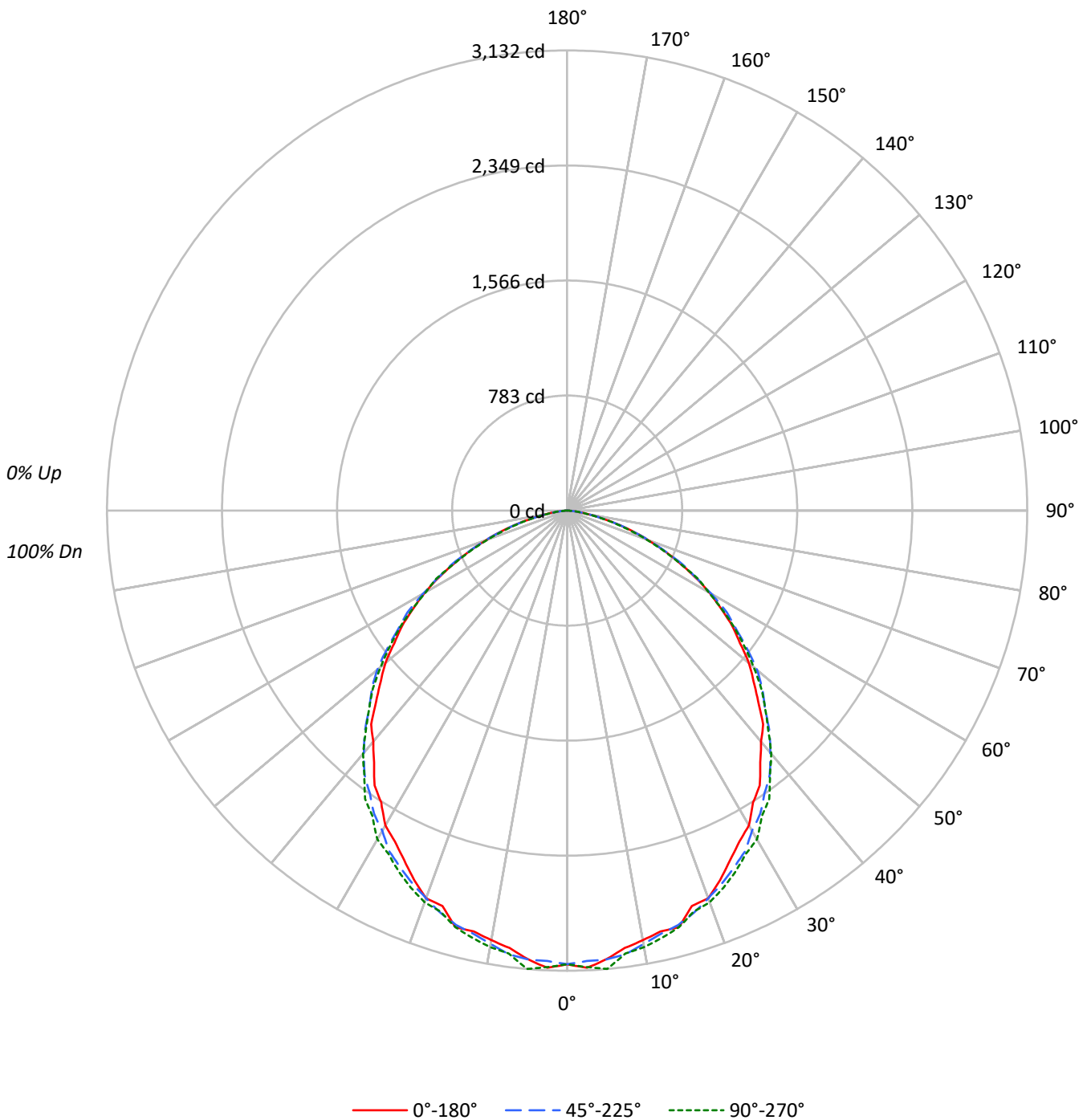
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7782.0 lumens  
Efficiency: N/A  
Efficacy: 116.8 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): 66.6  
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°	8309	8309	8309
5°	8282	8285	8459
10°	8114	8184	8242
15°	8178	8133	8179
20°	8039	8039	8125
25°	7792	7963	8051
30°	7686	7820	8029
35°	7504	7701	7874
40°	7213	7560	7593
45°	6994	7243	7254
50°	6764	7070	6935
55°	6445	6571	6524
60°	6027	6087	5978
65°	5374	5511	5336
70°	4611	4626	4498
75°	3651	3643	3503
80°	2447	2379	2286
85°	1331	1318	1232



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	290.4	3.7
10°-20°	823.2	10.6
20°-30°	1233.3	15.8
30°-40°	1461.7	18.8
40°-50°	1464.4	18.8
50°-60°	1243.0	16.0
60°-70°	838.0	10.8
70°-80°	368.2	4.7
80°-90°	59.8	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°	2346.9	30.2
0°-40°	3808.5	48.9
0°-60°	6515.9	83.7
0°-90°	7782.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7782.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3088	3088	3088	3088	3088	
5°	3066	3059	3067	3058	3132	289
15°	2935	2902	2920	2935	2936	818
25°	2624	2639	2682	2717	2711	1213
35°	2284	2291	2344	2398	2397	1418
45°	1838	1872	1903	1952	1906	1422
55°	1374	1365	1400	1391	1391	1222
65°	844	833	866	832	838	839
75°	351	344	350	326	337	376
85°	43	42	43	42	40	62
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3087.7	3087.7	3087.7	3087.7	3087.7
2.5°	3114.4	3090.9	3069.0	3094.5	3110.0
5°	3065.8	3058.6	3067.0	3057.8	3131.6
7.5°	3002.8	3030.3	3046.2	3036.3	3040.7
10°	2969.3	2959.7	2995.2	3019.9	3016.3
12.5°	2933.4	2947.8	2949.8	2976.5	2978.9
15°	2935.4	2901.5	2919.5	2934.6	2935.8
17.5°	2821.4	2858.1	2870.4	2905.1	2862.1
20°	2807.4	2780.7	2807.4	2842.9	2837.3
22.5°	2721.7	2691.8	2749.2	2780.7	2778.7
25°	2624.4	2638.8	2681.9	2716.9	2711.4
27.5°	2539.1	2555.9	2617.3	2665.5	2634.4
30°	2473.4	2465.0	2516.8	2559.9	2583.8
32.5°	2355.7	2386.0	2446.6	2489.3	2466.6
35°	2284.4	2291.2	2344.2	2398.4	2396.8
37.5°	2159.6	2191.1	2265.6	2280.8	2266.8
40°	2053.2	2084.6	2152.0	2168.4	2161.6
42.5°	1974.6	1980.2	2038.0	2056.7	2026.8
45°	1837.9	1872.2	1903.3	1952.3	1906.0
47.5°	1721.5	1737.4	1804.4	1817.5	1793.2
50°	1615.8	1621.4	1688.8	1672.4	1656.5
52.5°	1483.1	1506.6	1544.4	1541.3	1522.5
55°	1373.8	1364.6	1400.5	1391.0	1390.6
57.5°	1242.7	1258.6	1288.1	1273.0	1248.6
60°	1119.9	1120.3	1131.0	1113.9	1110.7
62.5°	983.1	987.9	990.3	969.2	1003.5
65°	844.0	832.8	865.5	832.4	838.0
67.5°	716.0	721.6	718.4	697.7	705.6
70°	586.0	593.2	588.0	564.5	571.7
72.5°	467.2	458.5	464.1	434.6	448.1
75°	351.2	344.1	350.4	325.7	336.9
77.5°	239.2	244.8	240.8	227.6	235.2
80°	157.9	153.5	153.5	145.9	147.5
82.5°	92.1	87.7	86.5	84.1	87.7
85°	43.1	41.9	42.7	41.5	39.9
87.5°	15.5	15.9	15.9	15.1	14.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)