

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: P589834

Luminaire Tested: **FMR-24-2-LD4-4STD-50-UNV-82-94-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589834  
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-82-94-EDD  
Description: 2X2 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

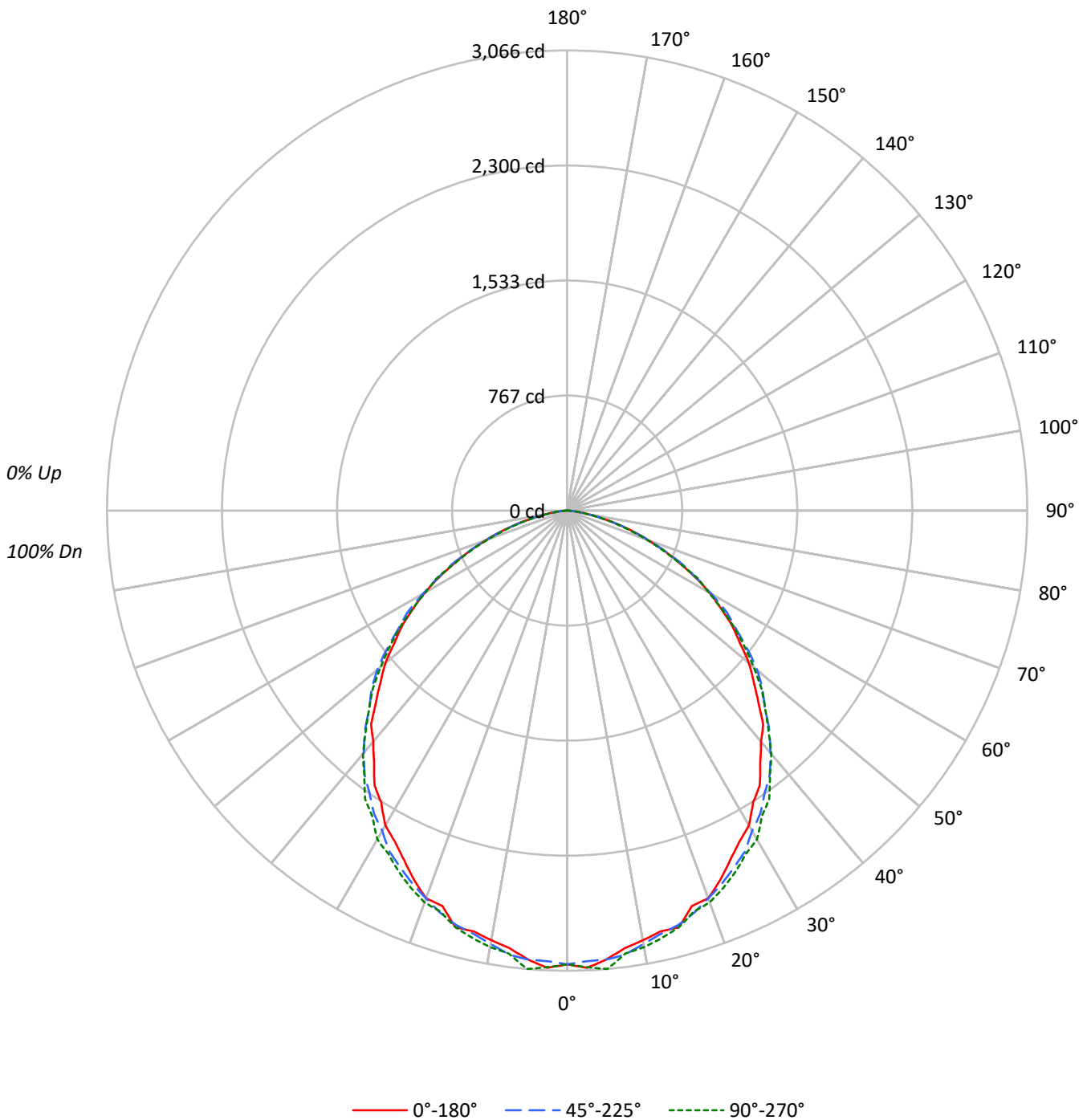
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7619.0 lumens  
Efficiency: N/A  
Efficacy: 114.4 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°	8135	8135	8135
5°	8108	8111	8282
10°	7944	8013	8070
15°	8006	7963	8008
20°	7871	7871	7955
25°	7629	7796	7882
30°	7524	7657	7860
35°	7347	7540	7709
40°	7061	7401	7434
45°	6848	7091	7102
50°	6623	6922	6790
55°	6310	6433	6387
60°	5901	5959	5852
65°	5261	5396	5224
70°	4515	4530	4404
75°	3576	3567	3429
80°	2396	2329	2238
85°	1303	1291	1204



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	284.4	3.7
10°-20°	805.9	10.6
20°-30°	1207.4	15.8
30°-40°	1431.0	18.8
40°-50°	1433.7	18.8
50°-60°	1217.0	16.0
60°-70°	820.5	10.8
70°-80°	360.5	4.7
80°-90°	58.6	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°	2297.7	30.2
0°-40°	3728.7	48.9
0°-60°	6379.4	83.7
0°-90°	7619.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7619.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3023	3023	3023	3023	3023	
5°	3002	2994	3003	2994	3066	283
15°	2874	2841	2858	2873	2874	801
25°	2570	2584	2626	2660	2655	1188
35°	2236	2243	2295	2348	2347	1389
45°	1799	1833	1863	1911	1866	1392
55°	1345	1336	1371	1362	1361	1196
65°	826	815	847	815	820	822
75°	344	337	343	319	330	369
85°	42	41	42	41	39	61
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3023.0	3023.0	3023.0	3023.0	3023.0
2.5°	3049.2	3026.1	3004.7	3029.7	3044.9
5°	3001.6	2994.5	3002.7	2993.8	3066.0
7.5°	2939.9	2966.8	2982.4	2972.7	2977.0
10°	2907.1	2897.7	2932.5	2956.7	2953.2
12.5°	2872.0	2886.0	2888.0	2914.1	2916.5
15°	2873.9	2840.7	2858.3	2873.1	2874.3
17.5°	2762.3	2798.2	2810.3	2844.3	2802.1
20°	2748.6	2722.5	2748.6	2783.4	2777.9
22.5°	2664.7	2635.4	2691.6	2722.5	2720.5
25°	2569.5	2583.5	2625.7	2660.0	2654.6
27.5°	2485.9	2502.3	2562.4	2609.7	2579.2
30°	2421.5	2413.3	2464.1	2506.2	2529.7
32.5°	2306.4	2336.1	2395.4	2437.2	2414.9
35°	2236.5	2243.2	2295.1	2348.2	2346.6
37.5°	2114.4	2145.2	2218.2	2233.0	2219.4
40°	2010.1	2041.0	2106.9	2122.9	2116.3
42.5°	1933.3	1938.7	1995.3	2013.7	1984.4
45°	1799.4	1832.9	1863.4	1911.4	1866.1
47.5°	1685.4	1701.0	1766.6	1779.5	1755.7
50°	1582.0	1587.4	1653.4	1637.4	1621.8
52.5°	1452.0	1475.0	1512.1	1509.0	1490.6
55°	1345.0	1336.1	1371.2	1361.8	1361.4
57.5°	1216.6	1232.2	1261.1	1246.3	1222.5
60°	1096.4	1096.8	1107.3	1090.6	1087.4
62.5°	962.5	967.2	969.6	948.9	982.4
65°	826.3	815.4	847.4	815.0	820.5
67.5°	701.0	706.5	703.4	683.1	690.9
70°	573.8	580.8	575.7	552.7	559.7
72.5°	457.5	448.9	454.3	425.4	438.7
75°	343.9	336.8	343.1	318.9	329.8
77.5°	234.2	239.7	235.8	222.9	230.3
80°	154.6	150.3	150.3	142.9	144.4
82.5°	90.2	85.9	84.7	82.4	85.9
85°	42.2	41.0	41.8	40.6	39.0
87.5°	15.2	15.6	15.6	14.8	14.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)