

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: P589797

Luminaire Tested: **FMR-24-2-LD4-4STD-40-UNV-82-84-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589797  
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-40-UNV-82-84-EDD  
Description: 2X2 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

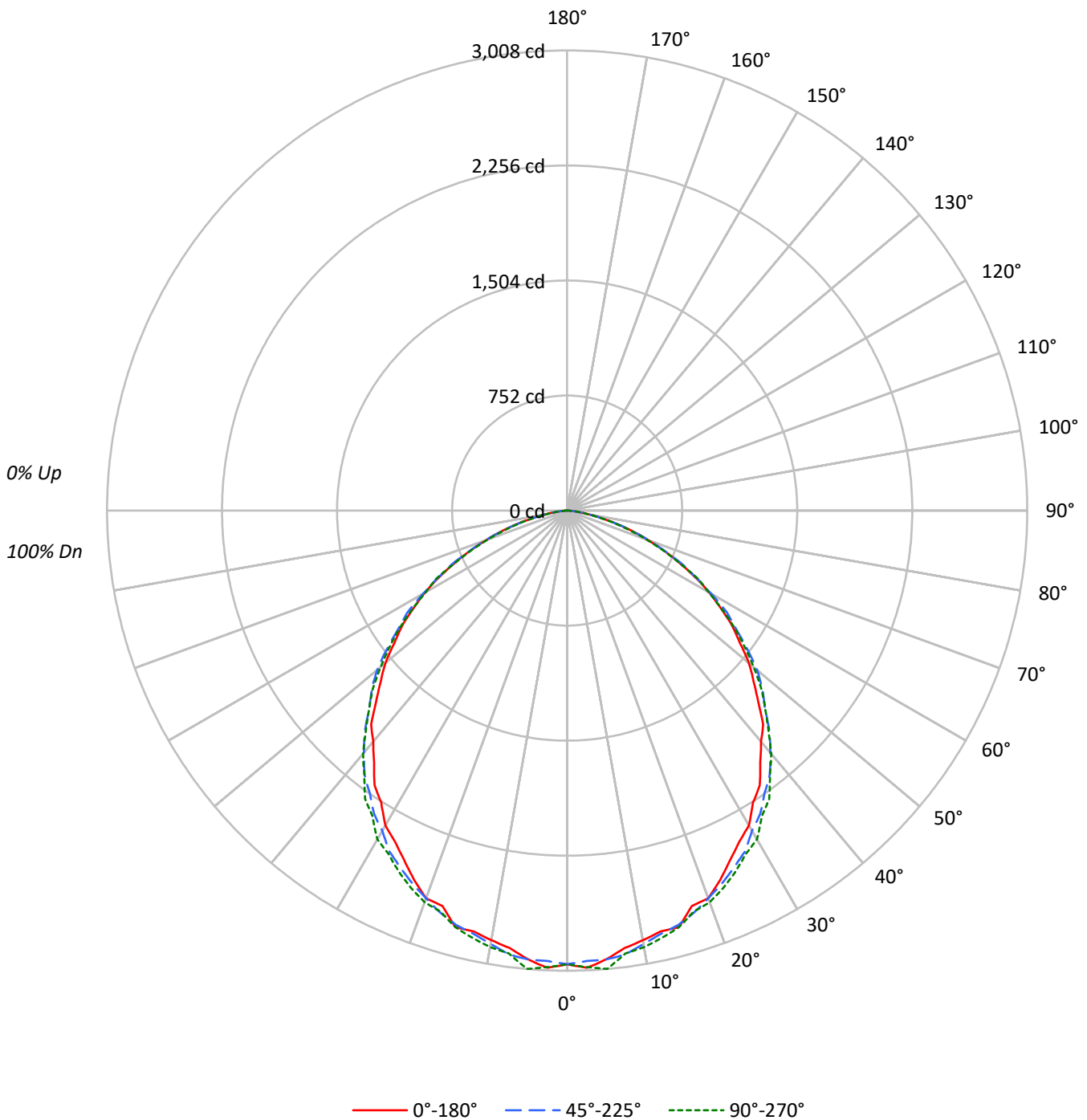
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7474.0 lumens  
Efficiency: N/A  
Efficacy: 112.2 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°	7980	7980	7980
5°	7954	7957	8124
10°	7793	7861	7916
15°	7854	7811	7855
20°	7721	7721	7804
25°	7484	7648	7732
30°	7381	7511	7711
35°	7207	7396	7562
40°	6927	7260	7293
45°	6717	6956	6967
50°	6497	6790	6660
55°	6190	6311	6266
60°	5788	5846	5741
65°	5161	5293	5124
70°	4429	4444	4320
75°	3507	3500	3363
80°	2349	2284	2196
85°	1278	1266	1183



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	278.9	3.7
10°-20°	790.6	10.6
20°-30°	1184.4	15.8
30°-40°	1403.8	18.8
40°-50°	1406.4	18.8
50°-60°	1193.8	16.0
60°-70°	804.9	10.8
70°-80°	353.7	4.7
80°-90°	57.5	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°	2254.0	30.2
0°-40°	3657.8	48.9
0°-60°	6258.0	83.7
0°-90°	7474.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7474.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2966	2966	2966	2966	2966	
5°	2944	2938	2946	2937	3008	278
15°	2819	2787	2804	2818	2820	785
25°	2521	2534	2576	2609	2604	1165
35°	2194	2200	2251	2304	2302	1362
45°	1765	1798	1828	1875	1831	1365
55°	1319	1311	1345	1336	1336	1174
65°	811	800	831	800	805	806
75°	337	330	337	313	324	361
85°	41	40	41	40	38	60
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2965.5	2965.5	2965.5	2965.5	2965.5
2.5°	2991.1	2968.6	2947.5	2972.0	2986.9
5°	2944.4	2937.5	2945.6	2936.8	3007.6
7.5°	2883.9	2910.4	2925.7	2916.1	2920.3
10°	2851.8	2842.6	2876.7	2900.4	2897.0
12.5°	2817.3	2831.1	2833.0	2858.7	2861.0
15°	2819.2	2786.7	2803.9	2818.5	2819.6
17.5°	2709.7	2744.9	2756.8	2790.1	2748.8
20°	2696.3	2670.7	2696.3	2730.4	2725.0
22.5°	2614.0	2585.3	2640.4	2670.7	2668.8
25°	2520.6	2534.4	2575.7	2609.4	2604.0
27.5°	2438.6	2454.7	2513.7	2560.0	2530.1
30°	2375.5	2367.4	2417.2	2458.5	2481.5
32.5°	2262.5	2291.6	2349.8	2390.8	2368.9
35°	2194.0	2200.5	2251.4	2303.5	2301.9
37.5°	2074.1	2104.4	2176.0	2190.5	2177.1
40°	1971.9	2002.1	2066.8	2082.5	2076.0
42.5°	1896.5	1901.8	1957.3	1975.3	1946.6
45°	1765.1	1798.1	1827.9	1875.0	1830.6
47.5°	1653.3	1668.6	1733.0	1745.6	1722.2
50°	1551.9	1557.2	1621.9	1606.2	1590.9
52.5°	1424.4	1446.9	1483.3	1480.3	1462.3
55°	1319.4	1310.6	1345.1	1335.9	1335.5
57.5°	1193.5	1208.8	1237.1	1222.6	1199.2
60°	1075.5	1075.9	1086.3	1069.8	1066.7
62.5°	944.2	948.8	951.1	930.8	963.7
65°	810.6	799.9	831.3	799.5	804.8
67.5°	687.7	693.0	690.0	670.1	677.7
70°	562.9	569.7	564.8	542.2	549.1
72.5°	448.7	440.3	445.7	417.4	430.4
75°	337.3	330.4	336.6	312.8	323.5
77.5°	229.7	235.1	231.3	218.6	225.9
80°	151.6	147.4	147.4	140.1	141.7
82.5°	88.4	84.2	83.1	80.8	84.2
85°	41.4	40.2	41.0	39.8	38.3
87.5°	14.9	15.3	15.3	14.5	13.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)