

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: P589085

Luminaire Tested: **FMR-24-2-LD4-2LO-35-UNV-81-84-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589085  
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-LD4-2LO-35-UNV-81-84-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

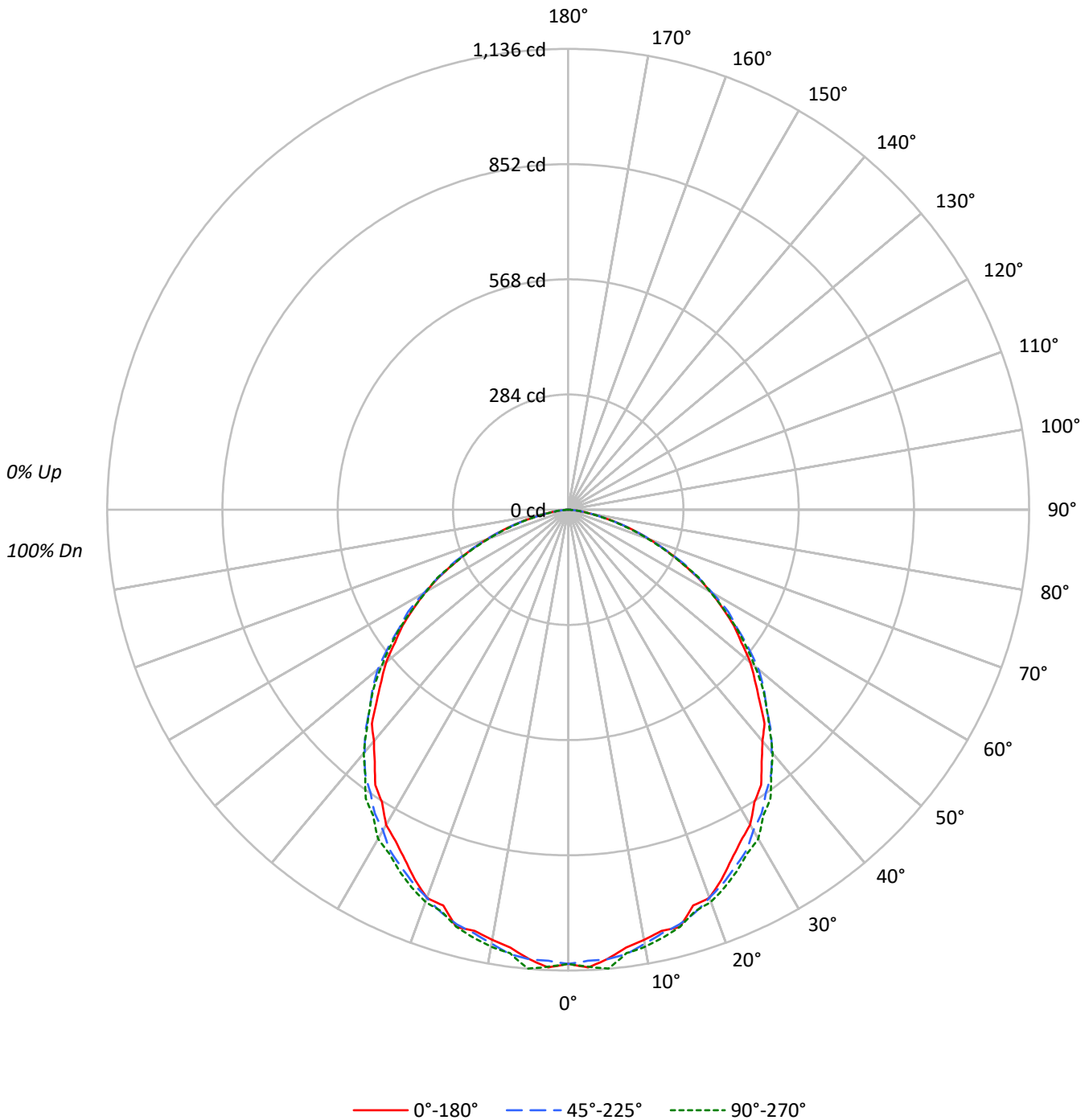
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2822.0 lumens  
Efficiency: N/A  
Efficacy: 120.6 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): 23.4  
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°	3013	3013	3013
5°	3003	3004	3068
10°	2942	2968	2989
15°	2966	2949	2966
20°	2916	2916	2946
25°	2826	2888	2919
30°	2787	2836	2912
35°	2721	2793	2855
40°	2615	2741	2754
45°	2536	2627	2630
50°	2453	2564	2515
55°	2337	2383	2366
60°	2186	2207	2168
65°	1949	1999	1935
70°	1672	1677	1631
75°	1325	1321	1271
80°	886	863	829
85°	482	479	448



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	105.3	3.7
10°-20°	298.5	10.6
20°-30°	447.2	15.8
30°-40°	530.0	18.8
40°-50°	531.0	18.8
50°-60°	450.8	16.0
60°-70°	303.9	10.8
70°-80°	133.5	4.7
80°-90°	21.7	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°	851.0	30.2
0°-40°	1381.1	48.9
0°-60°	2362.9	83.7
0°-90°	2822.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2822.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1120	1120	1120	1120	1120	
5°	1112	1109	1112	1109	1136	105
15°	1064	1052	1059	1064	1065	297
25°	952	957	972	985	983	440
35°	828	831	850	870	869	514
45°	666	679	690	708	691	516
55°	498	495	508	504	504	443
65°	306	302	314	302	304	304
75°	127	125	127	118	122	136
85°	16	15	16	15	14	23
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1119.7	1119.7	1119.7	1119.7	1119.7
2.5°	1129.4	1120.9	1112.9	1122.2	1127.8
5°	1111.7	1109.1	1112.2	1108.9	1135.6
7.5°	1088.9	1098.9	1104.7	1101.0	1102.6
10°	1076.8	1073.3	1086.2	1095.1	1093.8
12.5°	1063.7	1069.0	1069.7	1079.4	1080.2
15°	1064.5	1052.2	1058.7	1064.2	1064.6
17.5°	1023.1	1036.4	1040.9	1053.5	1037.9
20°	1018.1	1008.4	1018.1	1030.9	1028.9
22.5°	987.0	976.1	997.0	1008.4	1007.7
25°	951.7	956.9	972.5	985.2	983.2
27.5°	920.8	926.8	949.1	966.6	955.3
30°	896.9	893.9	912.7	928.3	937.0
32.5°	854.3	865.3	887.2	902.7	894.5
35°	828.4	830.8	850.1	869.7	869.2
37.5°	783.1	794.6	821.6	827.1	822.0
40°	744.5	756.0	780.4	786.3	783.9
42.5°	716.1	718.1	739.0	745.8	735.0
45°	666.5	678.9	690.2	708.0	691.2
47.5°	624.3	630.0	654.3	659.1	650.3
50°	585.9	588.0	612.4	606.5	600.7
52.5°	537.8	546.3	560.1	558.9	552.1
55°	498.2	494.9	507.9	504.4	504.3
57.5°	450.6	456.4	467.1	461.6	452.8
60°	406.1	406.2	410.1	403.9	402.8
62.5°	356.5	358.2	359.1	351.5	363.9
65°	306.1	302.0	313.9	301.9	303.9
67.5°	259.6	261.7	260.5	253.0	255.9
70°	212.5	215.1	213.2	204.7	207.3
72.5°	169.4	166.3	168.3	157.6	162.5
75°	127.4	124.8	127.1	118.1	122.2
77.5°	86.7	88.8	87.3	82.5	85.3
80°	57.2	55.7	55.7	52.9	53.5
82.5°	33.4	31.8	31.4	30.5	31.8
85°	15.6	15.2	15.5	15.0	14.5
87.5°	5.6	5.8	5.8	5.5	5.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)