

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: P589172

Luminaire Tested: **FMR-24-2-LD4-2LO-50-UNV-93-97-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589172  
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-50-UNV-93-97-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

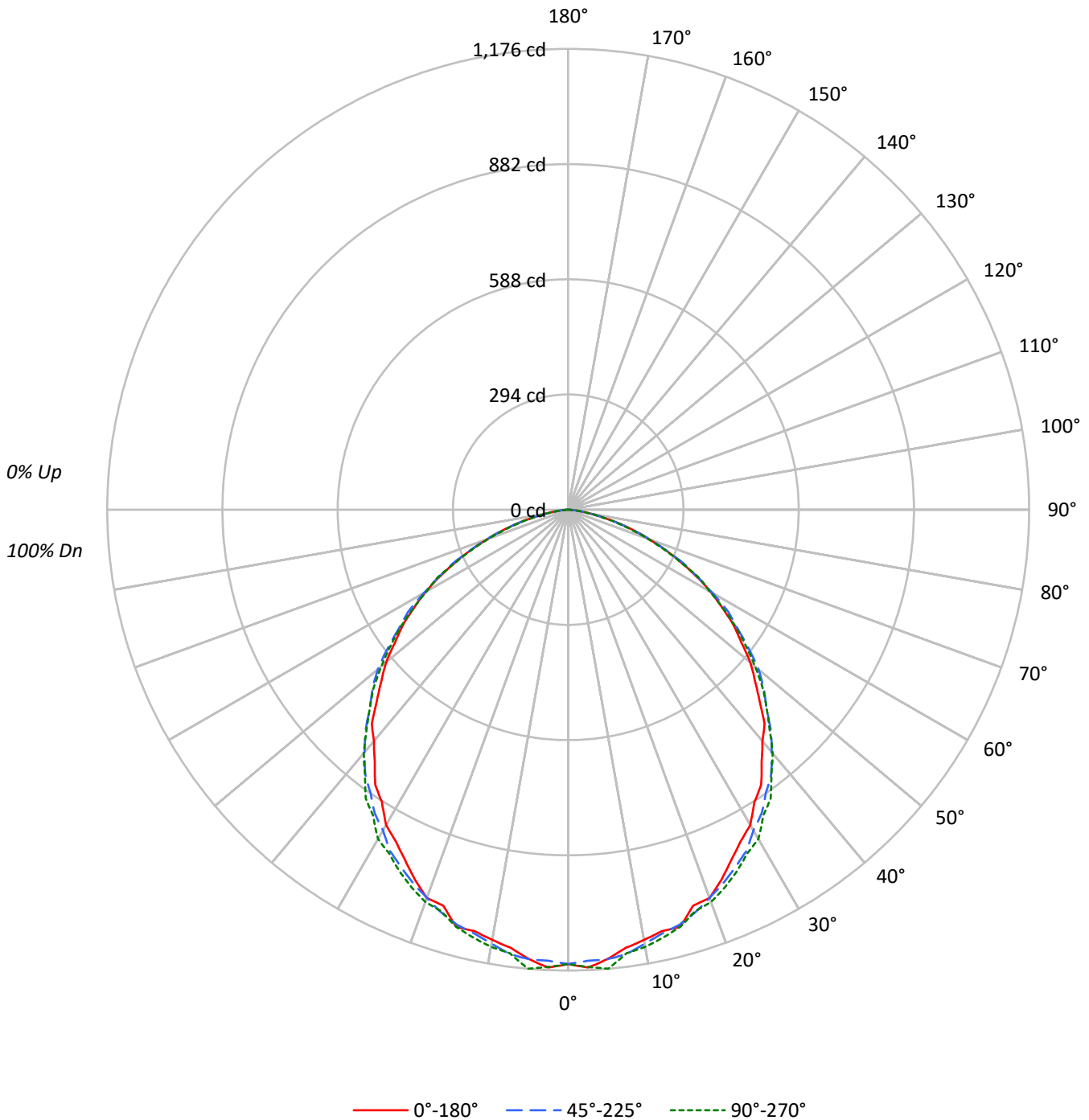
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2922.0 lumens  
Efficiency: N/A  
Efficacy: 124.9 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 (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

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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°	3120	3120	3120
5°	3109	3111	3176
10°	3046	3073	3095
15°	3071	3054	3071
20°	3019	3019	3051
25°	2926	2990	3023
30°	2886	2936	3015
35°	2818	2892	2957
40°	2708	2838	2851
45°	2626	2719	2724
50°	2540	2655	2604
55°	2420	2467	2449
60°	2263	2286	2244
65°	2018	2069	2004
70°	1731	1737	1689
75°	1371	1368	1315
80°	919	893	859
85°	500	494	463



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	109.1	3.7
10°-20°	309.1	10.6
20°-30°	463.1	15.8
30°-40°	548.8	18.8
40°-50°	549.8	18.8
50°-60°	466.7	16.0
60°-70°	314.7	10.8
70°-80°	138.3	4.7
80°-90°	22.5	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°	881.2	30.2
0°-40°	1430.0	48.9
0°-60°	2446.6	83.7
0°-90°	2922.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2922.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1159	1159	1159	1159	1159	
5°	1151	1148	1152	1148	1176	109
15°	1102	1090	1096	1102	1102	307
25°	985	991	1007	1020	1018	456
35°	858	860	880	901	900	533
45°	690	703	715	733	716	534
55°	516	512	526	522	522	459
65°	317	313	325	313	315	315
75°	132	129	132	122	126	141
85°	16	16	16	16	15	23
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1159.4	1159.4	1159.4	1159.4	1159.4
2.5°	1169.4	1160.6	1152.3	1161.9	1167.8
5°	1151.1	1148.4	1151.6	1148.1	1175.8
7.5°	1127.5	1137.8	1143.8	1140.1	1141.7
10°	1114.9	1111.3	1124.6	1133.9	1132.6
12.5°	1101.4	1106.8	1107.6	1117.6	1118.5
15°	1102.2	1089.5	1096.2	1101.9	1102.3
17.5°	1059.4	1073.2	1077.8	1090.8	1074.6
20°	1054.1	1044.1	1054.1	1067.5	1065.4
22.5°	1022.0	1010.7	1032.3	1044.1	1043.4
25°	985.4	990.8	1007.0	1020.2	1018.1
27.5°	953.4	959.7	982.7	1000.9	989.2
30°	928.7	925.6	945.0	961.2	970.2
32.5°	884.5	895.9	918.7	934.7	926.2
35°	857.7	860.3	880.2	900.6	900.0
37.5°	810.9	822.7	850.7	856.4	851.2
40°	770.9	782.7	808.0	814.2	811.6
42.5°	741.4	743.5	765.2	772.3	761.0
45°	690.1	703.0	714.6	733.0	715.7
47.5°	646.4	652.4	677.5	682.5	673.3
50°	606.7	608.8	634.1	628.0	622.0
52.5°	556.9	565.7	579.9	578.7	571.7
55°	515.8	512.4	525.9	522.3	522.1
57.5°	466.6	472.6	483.7	478.0	468.8
60°	420.5	420.6	424.7	418.2	417.0
62.5°	369.1	370.9	371.8	363.9	376.8
65°	316.9	312.7	325.0	312.6	314.7
67.5°	268.8	270.9	269.7	262.0	265.0
70°	220.0	222.7	220.8	212.0	214.7
72.5°	175.4	172.1	174.2	163.2	168.3
75°	131.9	129.2	131.6	122.3	126.5
77.5°	89.8	91.9	90.4	85.5	88.3
80°	59.3	57.6	57.6	54.8	55.4
82.5°	34.6	32.9	32.5	31.6	32.9
85°	16.2	15.7	16.0	15.6	15.0
87.5°	5.8	6.0	6.0	5.7	5.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)