

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: P589151

Luminaire Tested: **FMR-24-2-LD4-2LO-50-UNV-81-86-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589151  
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-81-86-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

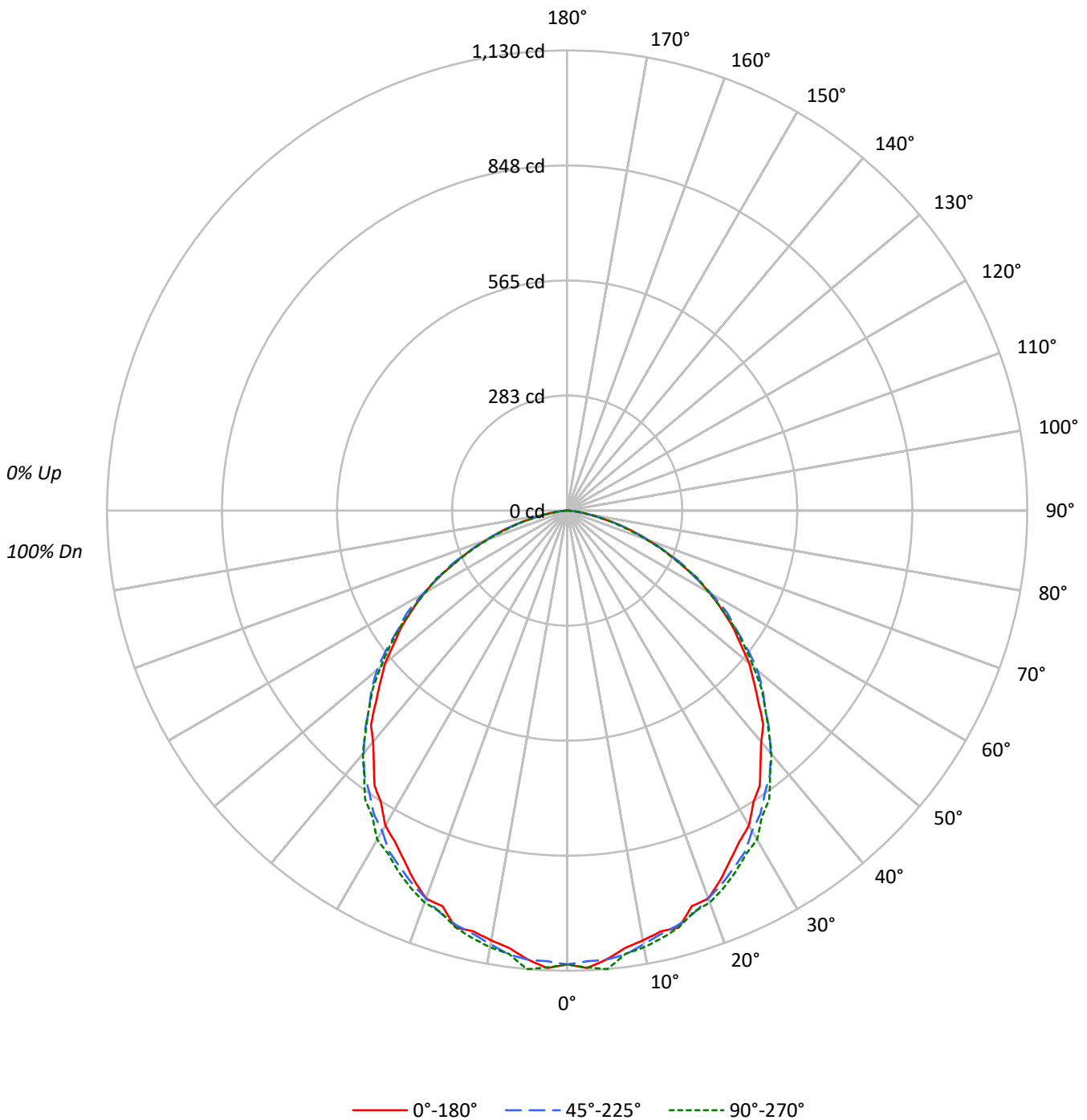
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2809.0 lumens  
Efficiency: N/A  
Efficacy: 120.0 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°	2999	2999	2999
5°	2989	2991	3054
10°	2929	2954	2975
15°	2952	2936	2952
20°	2902	2902	2933
25°	2813	2874	2906
30°	2774	2823	2898
35°	2709	2780	2842
40°	2603	2729	2741
45°	2525	2614	2618
50°	2442	2552	2503
55°	2327	2372	2355
60°	2175	2197	2158
65°	1940	1989	1926
70°	1664	1670	1624
75°	1318	1315	1264
80°	883	859	824
85°	479	475	445



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	104.8	3.7
10°-20°	297.1	10.6
20°-30°	445.2	15.8
30°-40°	527.6	18.8
40°-50°	528.6	18.8
50°-60°	448.7	16.0
60°-70°	302.5	10.8
70°-80°	132.9	4.7
80°-90°	21.6	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°	847.1	30.2
0°-40°	1374.7	48.9
0°-60°	2352.0	83.7
0°-90°	2809.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2809.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1114	1114	1114	1114	1114	
5°	1107	1104	1107	1104	1130	104
15°	1060	1047	1054	1059	1060	295
25°	947	952	968	981	979	438
35°	825	827	846	866	865	512
45°	663	676	687	705	688	513
55°	496	493	506	502	502	441
65°	305	301	312	300	302	303
75°	127	124	126	118	122	136
85°	16	15	15	15	14	23
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1114.5	1114.5	1114.5	1114.5	1114.5
2.5°	1124.2	1115.7	1107.8	1117.0	1122.6
5°	1106.6	1104.0	1107.1	1103.7	1130.4
7.5°	1083.9	1093.8	1099.6	1096.0	1097.6
10°	1071.8	1068.3	1081.2	1090.1	1088.8
12.5°	1058.8	1064.0	1064.7	1074.4	1075.3
15°	1059.6	1047.3	1053.8	1059.3	1059.7
17.5°	1018.4	1031.7	1036.1	1048.6	1033.1
20°	1013.4	1003.7	1013.4	1026.2	1024.2
22.5°	982.4	971.6	992.4	1003.7	1003.0
25°	947.3	952.5	968.0	980.7	978.7
27.5°	916.5	922.6	944.7	962.1	950.9
30°	892.8	889.8	908.5	924.0	932.6
32.5°	850.3	861.3	883.1	898.5	890.3
35°	824.6	827.0	846.2	865.7	865.2
37.5°	779.5	790.9	817.8	823.3	818.2
40°	741.1	752.5	776.8	782.7	780.3
42.5°	712.8	714.8	735.6	742.4	731.6
45°	663.4	675.8	687.0	704.7	688.0
47.5°	621.4	627.1	651.3	656.1	647.3
50°	583.2	585.3	609.6	603.7	597.9
52.5°	535.3	543.8	557.5	556.3	549.6
55°	495.9	492.6	505.5	502.1	501.9
57.5°	448.6	454.3	465.0	459.5	450.7
60°	404.2	404.4	408.3	402.1	400.9
62.5°	354.9	356.6	357.5	349.8	362.2
65°	304.6	300.6	312.4	300.5	302.5
67.5°	258.5	260.5	259.3	251.8	254.7
70°	211.5	214.1	212.3	203.8	206.4
72.5°	168.7	165.5	167.5	156.9	161.7
75°	126.8	124.2	126.5	117.6	121.6
77.5°	86.3	88.4	86.9	82.2	84.9
80°	57.0	55.4	55.4	52.7	53.2
82.5°	33.2	31.7	31.2	30.4	31.7
85°	15.5	15.1	15.4	15.0	14.4
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)