

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: P589091

Luminaire Tested: **FMR-24-2-LD4-2LO-35-UNV-81-96-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589091  
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-81-96-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

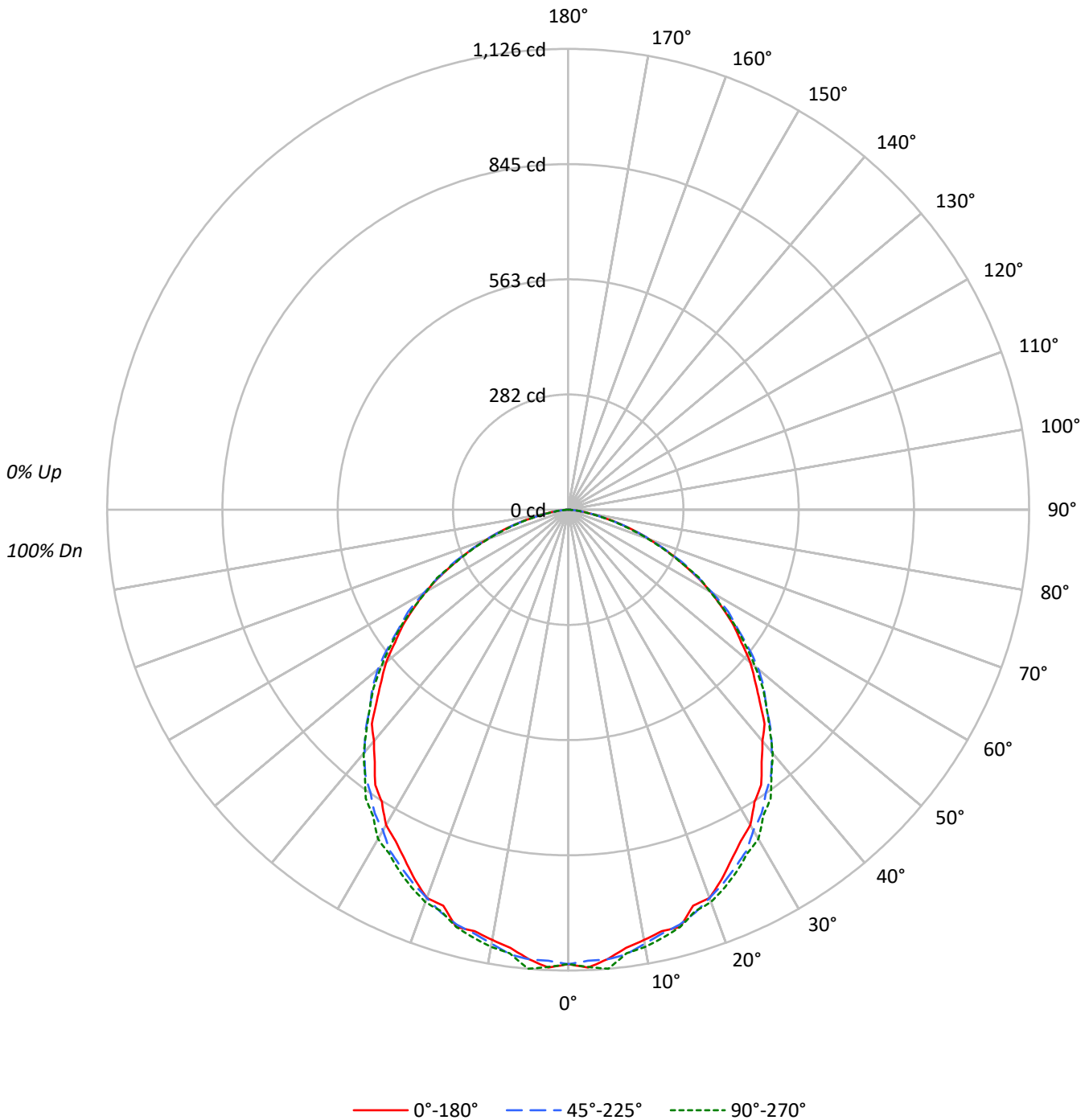
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2798.0 lumens  
Efficiency: N/A  
Efficacy: 119.6 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 (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°	2988	2988	2988
5°	2978	2979	3041
10°	2917	2943	2963
15°	2940	2924	2941
20°	2891	2891	2922
25°	2802	2863	2895
30°	2763	2812	2887
35°	2698	2769	2831
40°	2593	2718	2730
45°	2515	2604	2608
50°	2432	2542	2493
55°	2318	2363	2346
60°	2167	2189	2149
65°	1933	1982	1918
70°	1658	1663	1618
75°	1313	1310	1259
80°	880	855	821
85°	479	472	442



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	104.4	3.7
10°-20°	296.0	10.6
20°-30°	443.4	15.8
30°-40°	525.5	18.8
40°-50°	526.5	18.8
50°-60°	446.9	16.0
60°-70°	301.3	10.8
70°-80°	132.4	4.7
80°-90°	21.5	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°	843.8	30.2
0°-40°	1369.3	48.9
0°-60°	2342.8	83.7
0°-90°	2798.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2798.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1110	1110	1110	1110	1110	
5°	1102	1100	1103	1099	1126	104
15°	1055	1043	1050	1055	1056	294
25°	944	949	964	977	975	436
35°	821	824	843	862	862	510
45°	661	673	684	702	685	511
55°	494	491	504	500	500	439
65°	304	299	311	299	301	302
75°	126	124	126	117	121	135
85°	16	15	15	15	14	22
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1110.2	1110.2	1110.2	1110.2	1110.2
2.5°	1119.8	1111.3	1103.4	1112.6	1118.2
5°	1102.3	1099.7	1102.7	1099.4	1125.9
7.5°	1079.6	1089.5	1095.3	1091.7	1093.3
10°	1067.6	1064.2	1076.9	1085.8	1084.5
12.5°	1054.7	1059.9	1060.6	1070.2	1071.0
15°	1055.4	1043.2	1049.7	1055.1	1055.6
17.5°	1014.4	1027.6	1032.1	1044.5	1029.0
20°	1009.4	999.8	1009.4	1022.2	1020.2
22.5°	978.6	967.8	988.5	999.8	999.1
25°	943.6	948.8	964.3	976.9	974.9
27.5°	912.9	919.0	941.0	958.4	947.2
30°	889.3	886.3	904.9	920.4	929.0
32.5°	847.0	857.9	879.7	895.0	886.9
35°	821.3	823.8	842.8	862.3	861.8
37.5°	776.5	787.8	814.6	820.1	815.0
40°	738.2	749.5	773.8	779.6	777.2
42.5°	710.0	712.0	732.8	739.5	728.7
45°	660.8	673.1	684.3	701.9	685.3
47.5°	618.9	624.7	648.8	653.5	644.7
50°	581.0	583.0	607.2	601.3	595.6
52.5°	533.2	541.7	555.3	554.2	547.4
55°	494.0	490.7	503.6	500.1	500.0
57.5°	446.8	452.5	463.1	457.7	448.9
60°	402.6	402.8	406.7	400.5	399.3
62.5°	353.5	355.2	356.1	348.5	360.8
65°	303.5	299.4	311.2	299.3	301.3
67.5°	257.4	259.4	258.3	250.8	253.7
70°	210.7	213.3	211.4	203.0	205.6
72.5°	168.0	164.8	166.8	156.2	161.1
75°	126.3	123.7	126.0	117.1	121.1
77.5°	86.0	88.0	86.6	81.8	84.6
80°	56.8	55.2	55.2	52.5	53.0
82.5°	33.1	31.5	31.1	30.2	31.5
85°	15.5	15.1	15.3	14.9	14.3
87.5°	5.6	5.7	5.7	5.4	5.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)