

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: P589164

Luminaire Tested: **FMR-24-2-LD4-2LO-50-UNV-82-97-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589164  
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-82-97-EDD  
Description: 2X2 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

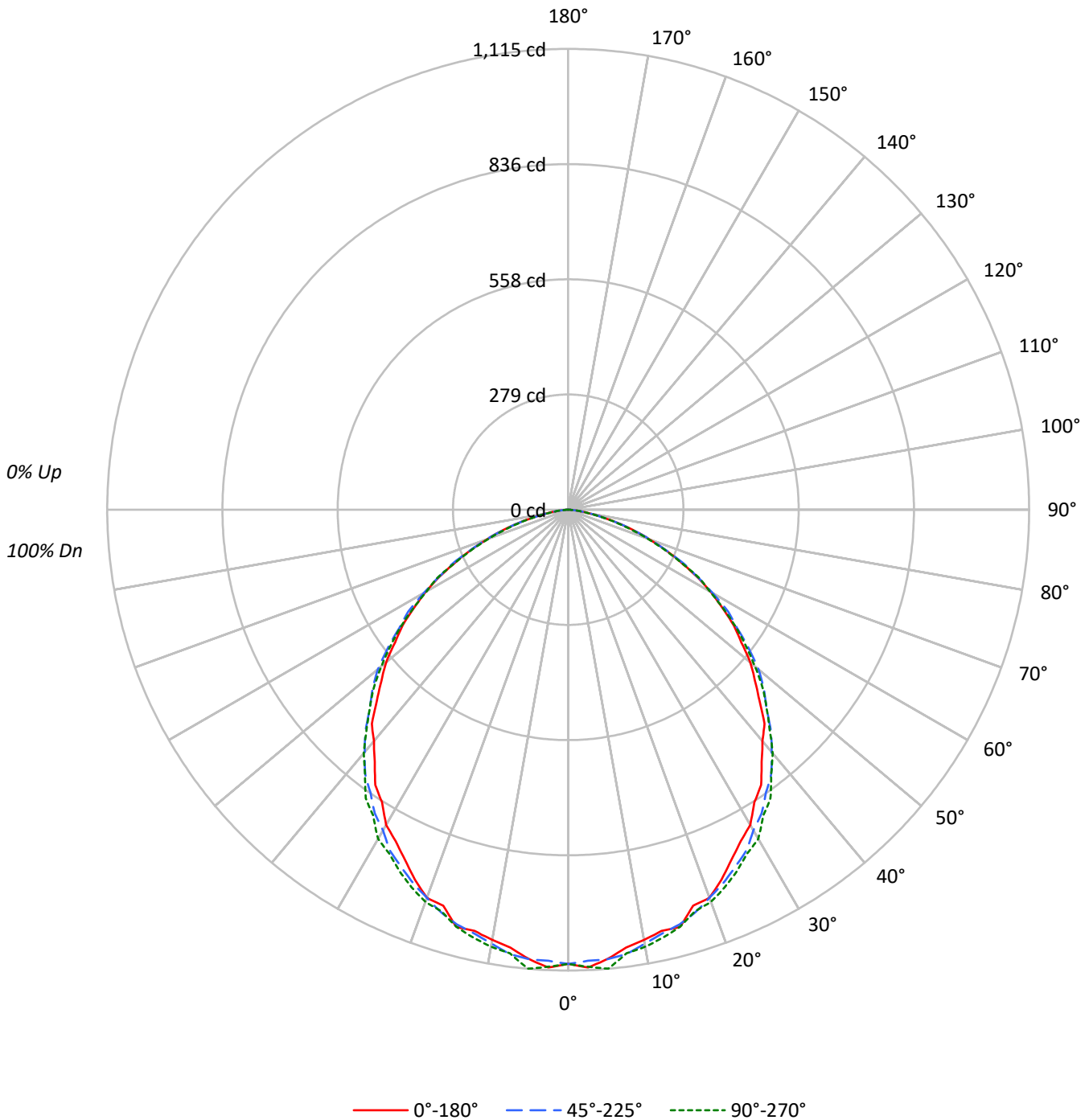
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2770.0 lumens  
Efficiency: N/A  
Efficacy: 118.4 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	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°	2958	2958	2958
5°	2948	2949	3011
10°	2888	2913	2934
15°	2911	2895	2911
20°	2862	2862	2892
25°	2774	2834	2866
30°	2736	2784	2858
35°	2671	2741	2803
40°	2567	2691	2703
45°	2490	2578	2582
50°	2408	2516	2468
55°	2294	2339	2322
60°	2145	2167	2128
65°	1913	1962	1899
70°	1641	1647	1601
75°	1300	1297	1247
80°	871	846	814
85°	472	469	438



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	103.4	3.7
10°-20°	293.0	10.6
20°-30°	439.0	15.8
30°-40°	520.3	18.8
40°-50°	521.2	18.8
50°-60°	442.4	16.0
60°-70°	298.3	10.8
70°-80°	131.1	4.7
80°-90°	21.3	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°	835.4	30.2
0°-40°	1355.6	48.9
0°-60°	2319.3	83.7
0°-90°	2770.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2770.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1099	1099	1099	1099	1099	
5°	1091	1089	1092	1088	1115	103
15°	1045	1033	1039	1045	1045	291
25°	934	939	955	967	965	432
35°	813	816	834	854	853	505
45°	654	666	678	695	678	506
55°	489	486	498	495	495	435
65°	300	296	308	296	298	299
75°	125	122	125	116	120	134
85°	15	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°	1099.1	1099.1	1099.1	1099.1	1099.1
2.5°	1108.6	1100.2	1092.4	1101.5	1107.0
5°	1091.3	1088.7	1091.7	1088.4	1114.7
7.5°	1068.8	1078.6	1084.3	1080.8	1082.3
10°	1056.9	1053.5	1066.1	1074.9	1073.7
12.5°	1044.1	1049.3	1050.0	1059.5	1060.3
15°	1044.9	1032.8	1039.2	1044.6	1045.0
17.5°	1004.3	1017.3	1021.7	1034.1	1018.7
20°	999.3	989.8	999.3	1011.9	1009.9
22.5°	968.8	958.2	978.6	989.8	989.1
25°	934.2	939.3	954.6	967.1	965.1
27.5°	903.8	909.8	931.6	948.8	937.7
30°	880.4	877.4	895.9	911.2	919.7
32.5°	838.5	849.3	870.9	886.1	878.0
35°	813.1	815.5	834.4	853.7	853.1
37.5°	768.7	779.9	806.5	811.8	806.9
40°	730.8	742.0	766.0	771.8	769.4
42.5°	702.9	704.8	725.4	732.1	721.5
45°	654.2	666.4	677.5	694.9	678.5
47.5°	612.8	618.4	642.3	647.0	638.3
50°	575.1	577.1	601.1	595.3	589.6
52.5°	527.9	536.3	549.7	548.6	541.9
55°	489.0	485.7	498.5	495.1	495.0
57.5°	442.3	448.0	458.5	453.1	444.5
60°	398.6	398.8	402.6	396.5	395.4
62.5°	349.9	351.6	352.5	345.0	357.2
65°	300.4	296.4	308.1	296.3	298.3
67.5°	254.9	256.9	255.7	248.3	251.2
70°	208.6	211.2	209.3	200.9	203.5
72.5°	166.3	163.2	165.2	154.7	159.5
75°	125.0	122.5	124.7	115.9	119.9
77.5°	85.1	87.1	85.7	81.0	83.7
80°	56.2	54.6	54.6	51.9	52.5
82.5°	32.8	31.2	30.8	29.9	31.2
85°	15.3	14.9	15.2	14.8	14.2
87.5°	5.5	5.7	5.7	5.4	5.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)