

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: P589098

Luminaire Tested: **FMR-24-2-LD4-2LO-35-UNV-82-94-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589098  
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-82-94-EDD  
Description: 2X2 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

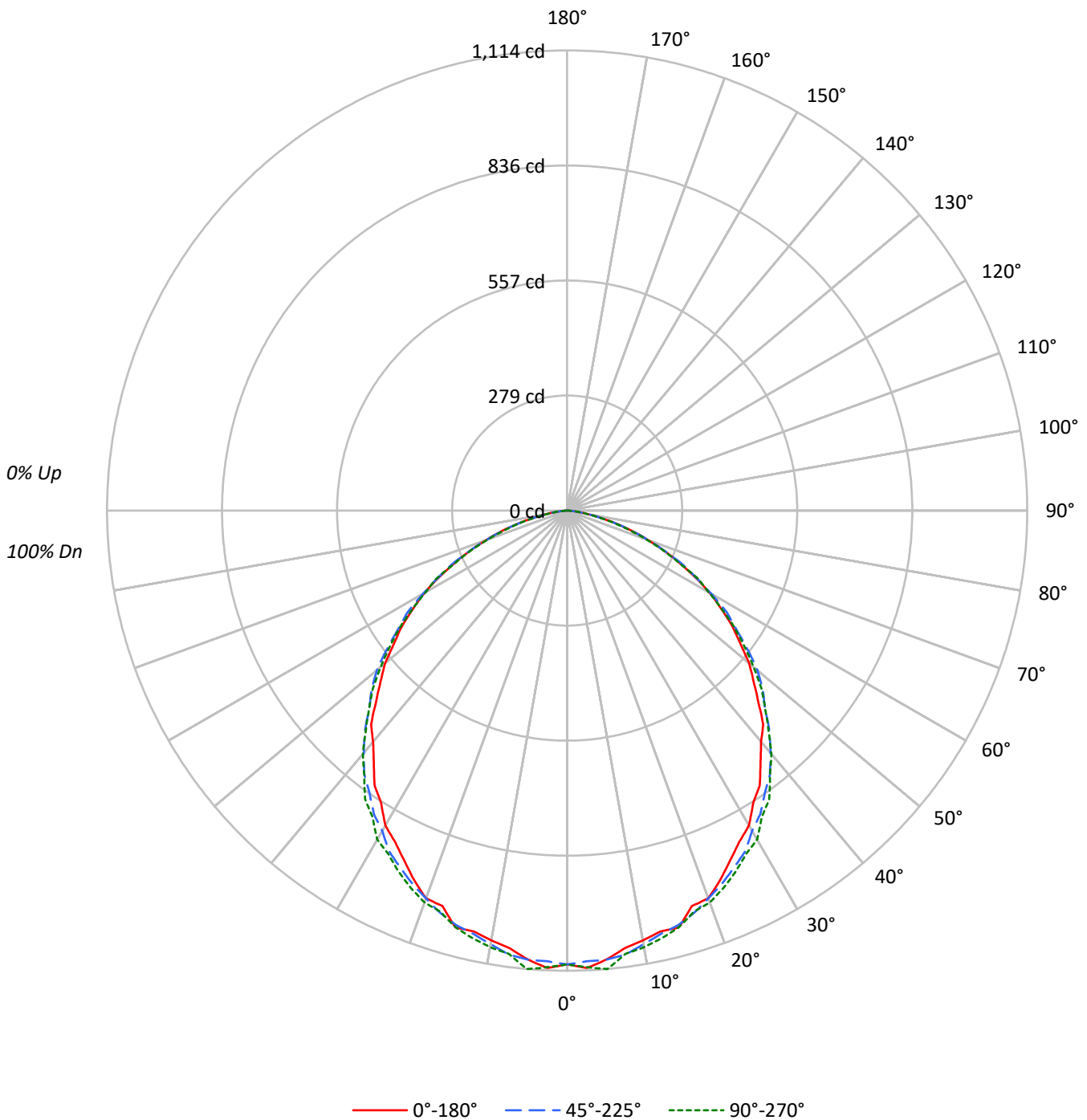
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2769.0 lumens  
Efficiency: N/A  
Efficacy: 118.3 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°	2957	2957	2957
5°	2947	2948	3010
10°	2887	2912	2933
15°	2910	2894	2910
20°	2861	2861	2891
25°	2773	2833	2865
30°	2735	2783	2857
35°	2670	2740	2802
40°	2566	2690	2702
45°	2489	2577	2581
50°	2407	2516	2467
55°	2293	2338	2321
60°	2145	2166	2127
65°	1912	1961	1899
70°	1640	1646	1600
75°	1300	1297	1247
80°	871	846	814
85°	472	469	438



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	103.3	3.7
10°-20°	292.9	10.6
20°-30°	438.8	15.8
30°-40°	520.1	18.8
40°-50°	521.1	18.8
50°-60°	442.3	16.0
60°-70°	298.2	10.8
70°-80°	131.0	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°	835.1	30.2
0°-40°	1355.1	48.9
0°-60°	2318.5	83.7
0°-90°	2769.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2769.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1099	1099	1099	1099	1099	
5°	1091	1088	1091	1088	1114	103
15°	1044	1032	1039	1044	1045	291
25°	934	939	954	967	965	432
35°	813	815	834	853	853	505
45°	654	666	677	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°	1098.7	1098.7	1098.7	1098.7	1098.7
2.5°	1108.2	1099.8	1092.0	1101.1	1106.6
5°	1090.9	1088.3	1091.3	1088.0	1114.3
7.5°	1068.5	1078.2	1083.9	1080.4	1081.9
10°	1056.5	1053.1	1065.8	1074.6	1073.3
12.5°	1043.8	1048.9	1049.6	1059.1	1059.9
15°	1044.5	1032.4	1038.8	1044.2	1044.6
17.5°	1003.9	1017.0	1021.4	1033.7	1018.4
20°	998.9	989.4	998.9	1011.6	1009.6
22.5°	968.4	957.8	978.2	989.4	988.7
25°	933.8	938.9	954.3	966.7	964.8
27.5°	903.5	909.4	931.3	948.4	937.4
30°	880.1	877.1	895.5	910.9	919.4
32.5°	838.2	849.0	870.6	885.7	877.7
35°	812.8	815.2	834.1	853.4	852.8
37.5°	768.4	779.6	806.2	811.6	806.6
40°	730.6	741.8	765.7	771.6	769.1
42.5°	702.6	704.6	725.2	731.8	721.2
45°	654.0	666.2	677.2	694.7	678.2
47.5°	612.5	618.2	642.0	646.7	638.1
50°	574.9	576.9	600.9	595.1	589.4
52.5°	527.7	536.1	549.5	548.4	541.7
55°	488.8	485.6	498.3	494.9	494.8
57.5°	442.2	447.8	458.3	452.9	444.3
60°	398.5	398.6	402.4	396.3	395.2
62.5°	349.8	351.5	352.4	344.9	357.0
65°	300.3	296.3	308.0	296.2	298.2
67.5°	254.8	256.8	255.6	248.2	251.1
70°	208.5	211.1	209.2	200.9	203.4
72.5°	166.3	163.1	165.1	154.6	159.4
75°	125.0	122.4	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)