

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: P589596

Luminaire Tested: **FMR-24-2-LD4-4HI-40-UNV-80-97-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589596  
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-LD4-4HI-40-UNV-80-97-EDD  
Description: 2X2 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

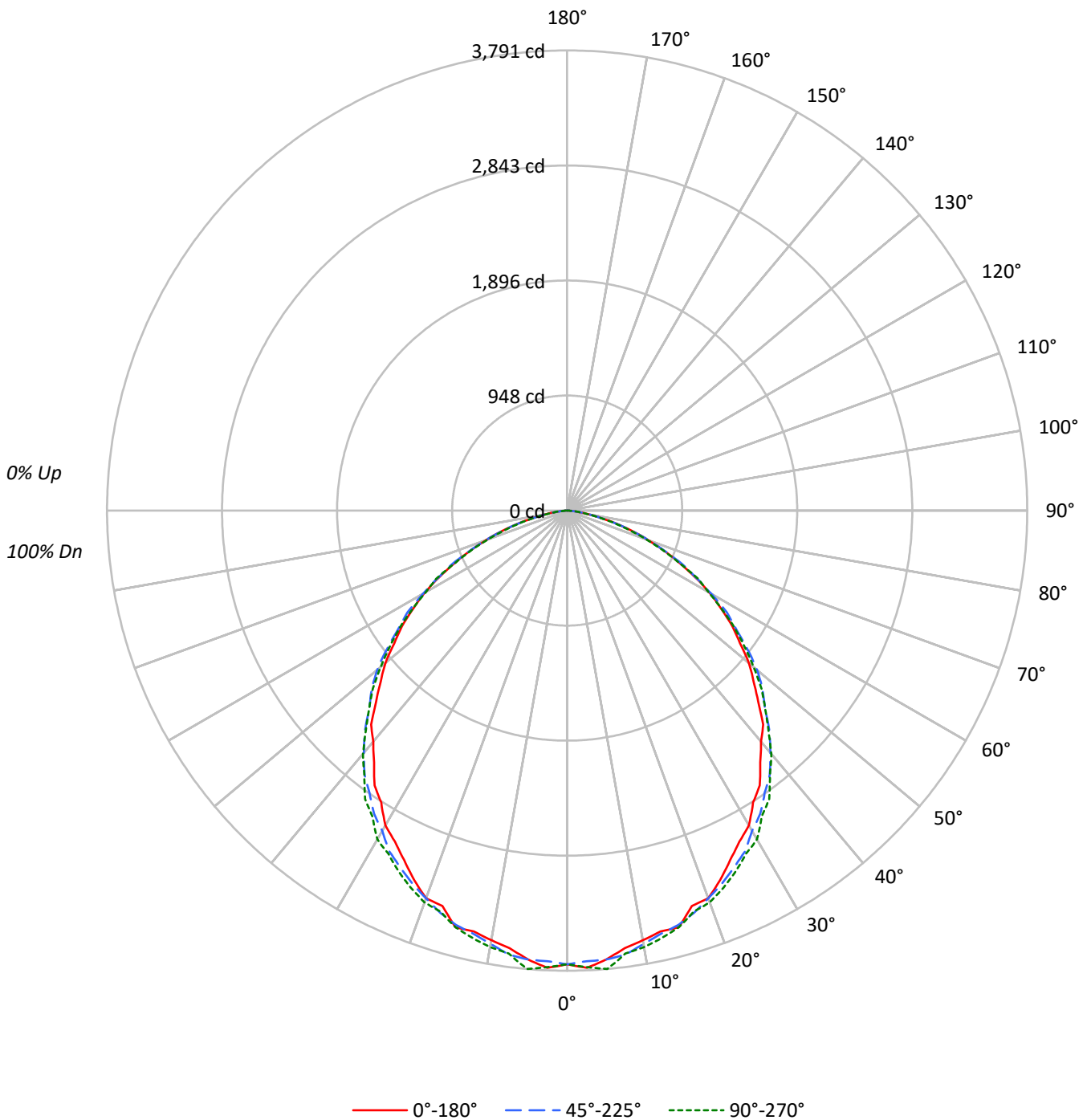
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9421.0 lumens  
Efficiency: N/A  
Efficacy: 109.0 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): 86.4  
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°	10059	10059	10059
5°	10026	10030	10241
10°	9822	9908	9978
15°	9900	9846	9901
20°	9733	9733	9836
25°	9434	9640	9746
30°	9304	9468	9720
35°	9085	9323	9532
40°	8731	9152	9193
45°	8468	8769	8781
50°	8189	8559	8395
55°	7803	7955	7898
60°	7296	7369	7237
65°	6506	6672	6460
70°	5582	5601	5445
75°	4421	4410	4240
80°	2961	2879	2768
85°	1609	1593	1491



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	351.6	3.7
10°-20°	996.5	10.6
20°-30°	1493.0	15.8
30°-40°	1769.5	18.8
40°-50°	1772.8	18.8
50°-60°	1504.8	16.0
60°-70°	1014.5	10.8
70°-80°	445.8	4.7
80°-90°	72.4	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°	2841.1	30.2
0°-40°	4610.7	48.9
0°-60°	7888.2	83.7
0°-90°	9421.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9421.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3738	3738	3738	3738	3738	
5°	3712	3703	3713	3702	3791	350
15°	3554	3513	3534	3553	3554	990
25°	3177	3195	3247	3289	3282	1469
35°	2766	2774	2838	2904	2902	1717
45°	2225	2266	2304	2364	2308	1721
55°	1663	1652	1696	1684	1683	1479
65°	1022	1008	1048	1008	1014	1016
75°	425	416	424	394	408	456
85°	52	51	52	50	48	76
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3738.0	3738.0	3738.0	3738.0	3738.0
2.5°	3770.4	3741.9	3715.3	3746.2	3765.0
5°	3711.5	3702.8	3712.9	3701.8	3791.1
7.5°	3635.2	3668.5	3687.8	3675.8	3681.1
10°	3594.7	3583.1	3626.0	3656.0	3651.6
12.5°	3551.2	3568.6	3571.0	3603.4	3606.3
15°	3553.6	3512.6	3534.3	3552.7	3554.1
17.5°	3415.6	3460.0	3475.0	3517.0	3464.8
20°	3398.7	3366.4	3398.7	3441.7	3434.9
22.5°	3295.0	3258.8	3328.3	3366.4	3364.0
25°	3177.2	3194.6	3246.7	3289.2	3282.4
27.5°	3073.9	3094.2	3168.5	3226.9	3189.3
30°	2994.3	2984.1	3046.9	3099.0	3128.0
32.5°	2851.9	2888.6	2961.9	3013.6	2986.1
35°	2765.5	2773.7	2837.9	2903.5	2901.6
37.5°	2614.4	2652.6	2742.8	2761.2	2744.3
40°	2485.6	2523.7	2605.3	2625.1	2616.9
42.5°	2390.5	2397.3	2467.2	2489.9	2453.7
45°	2225.0	2266.5	2304.1	2363.5	2307.5
47.5°	2084.0	2103.3	2184.4	2200.3	2170.9
50°	1956.1	1962.9	2044.4	2024.7	2005.4
52.5°	1795.4	1823.9	1869.7	1865.9	1843.2
55°	1663.2	1652.1	1695.5	1683.9	1683.4
57.5°	1504.4	1523.7	1559.4	1541.1	1511.6
60°	1355.7	1356.2	1369.2	1348.5	1344.6
62.5°	1190.2	1196.0	1198.9	1173.3	1214.8
65°	1021.7	1008.2	1047.8	1007.7	1014.5
67.5°	866.8	873.6	869.7	844.6	854.3
70°	709.5	718.2	711.9	683.4	692.1
72.5°	565.6	555.0	561.8	526.1	542.5
75°	425.2	416.5	424.2	394.3	407.8
77.5°	289.6	296.3	291.5	275.6	284.8
80°	191.1	185.8	185.8	176.6	178.6
82.5°	111.5	106.2	104.7	101.8	106.2
85°	52.1	50.7	51.6	50.2	48.3
87.5°	18.8	19.3	19.3	18.3	17.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)