

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: P708827

Luminaire Tested: **24APR-X-89L850-UNV**

Issue Date: 09/12/2023



**Test Information**

Test Method: LM-79-08  
Report Number: P708827  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 09/12/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 24APR-X-89L850-UNV  
Description: ArcMed Patient Recessed 2x2 Fixture EXAM Light  
Light Source: 5000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

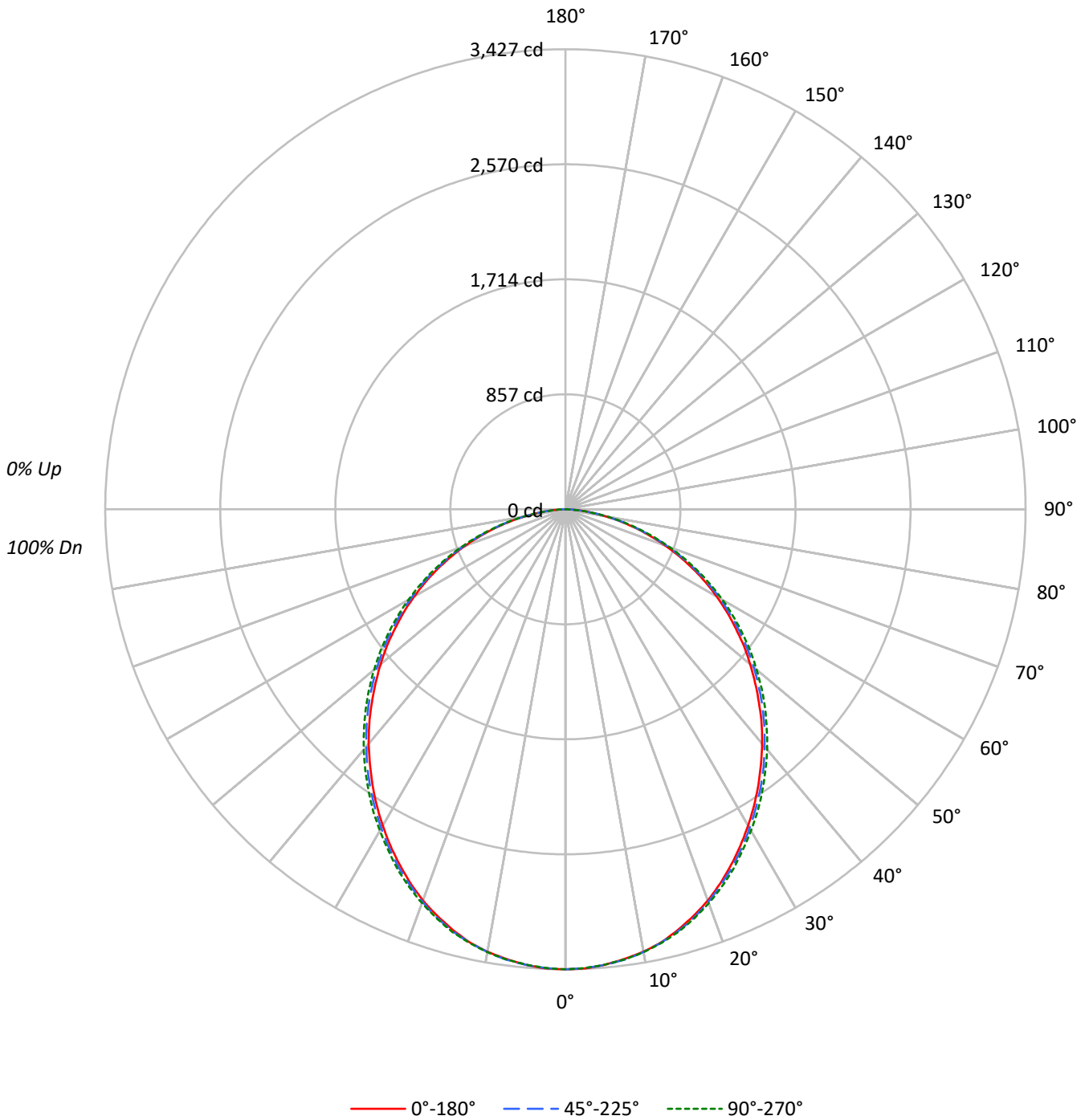
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8981.1 lumens  
Efficiency: N/A  
Efficacy: 115.6 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.2 / 1.31  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 77.7  
Input Voltage (V): 120  
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				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	0
RCR																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	102	102	102	100
1	109	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88	86	86	86	86	84
2	99	91	84	79	97	89	83	78	86	80	76	82	78	74	79	76	73	73	73	73	70
3	91	80	72	66	88	79	71	65	76	69	64	73	67	63	70	66	62	62	62	62	60
4	83	71	62	56	81	70	62	55	67	60	55	65	59	54	63	58	53	53	53	53	51
5	76	64	55	48	74	63	54	48	60	53	47	58	52	47	57	51	46	46	46	46	44
6	71	57	49	42	69	56	48	42	55	47	42	53	46	41	51	45	41	41	41	41	39
7	66	52	43	37	64	51	43	37	50	42	37	48	42	37	47	41	36	36	36	36	34
8	61	48	39	33	60	47	39	33	46	38	33	44	38	33	43	37	33	33	33	33	31
9	57	44	36	30	56	43	35	30	42	35	30	41	34	30	40	34	30	30	30	30	28
10	54	40	33	27	52	40	32	27	39	32	27	38	32	27	37	31	27	27	27	27	25

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	9222	9222	9222
5°	9199	9202	9196
10°	9143	9152	9154
15°	9034	9060	9077
20°	8883	8912	8941
25°	8673	8731	8782
30°	8454	8524	8587
35°	8229	8320	8400
40°	8006	8100	8207
45°	7755	7896	8004
50°	7522	7663	7783
55°	7264	7418	7547
60°	7002	7145	7283
65°	6664	6814	6944
70°	6240	6377	6505
75°	5632	5770	5876
80°	4751	4926	4973
85°	3535	3754	3693



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	323.4	3.6
10°-20°	916.2	10.2
20°-30°	1353.4	15.1
30°-40°	1583.5	17.6
40°-50°	1599.4	17.8
50°-60°	1413.6	15.7
60°-70°	1058.2	11.8
70°-80°	588.1	6.5
80°-90°	145.4	1.6
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°	2592.9	28.9
0°-40°	4176.4	46.5
0°-60°	7189.4	80.1
0°-90°	8981.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8981.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3427	3427	3427	3427	3427	
5°	3405	3406	3406	3407	3404	323
15°	3243	3245	3252	3258	3258	914
25°	2921	2925	2940	2950	2958	1345
35°	2505	2512	2533	2550	2557	1567
45°	2038	2053	2075	2096	2103	1574
55°	1548	1561	1581	1600	1609	1387
65°	1047	1054	1070	1084	1090	1037
75°	542	545	555	565	565	574
85°	114	119	122	120	120	140
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3426.9	3426.9	3426.9	3426.9	3426.9
2.5°	3423.8	3423.8	3420.7	3421.7	3419.7
5°	3405.4	3406.4	3406.4	3407.4	3404.4
7.5°	3378.8	3380.9	3383.9	3385.0	3381.9
10°	3346.1	3348.2	3349.2	3353.3	3350.2
12.5°	3303.2	3304.2	3305.2	3311.4	3308.3
15°	3242.9	3244.9	3252.1	3258.2	3258.2
17.5°	3175.4	3179.5	3187.7	3195.9	3193.8
20°	3101.9	3104.9	3112.1	3123.3	3122.3
22.5°	3015.0	3018.0	3028.3	3040.5	3043.6
25°	2921.0	2925.0	2940.4	2949.6	2957.7
27.5°	2823.9	2829.0	2843.3	2857.6	2861.7
30°	2720.6	2728.8	2743.1	2758.5	2763.6
32.5°	2615.4	2619.5	2638.9	2655.2	2665.4
35°	2505.0	2512.1	2532.6	2550.0	2557.1
37.5°	2391.5	2401.8	2423.2	2441.6	2447.8
40°	2279.1	2287.3	2305.7	2329.2	2336.4
42.5°	2162.6	2169.8	2192.3	2212.7	2219.8
45°	2037.9	2053.3	2074.7	2096.2	2103.3
47.5°	1917.3	1931.6	1953.1	1974.6	1982.7
50°	1796.7	1812.1	1830.5	1852.9	1859.1
52.5°	1676.1	1688.4	1707.8	1727.2	1736.4
55°	1548.4	1560.6	1581.1	1600.5	1608.7
57.5°	1427.8	1435.9	1455.4	1473.8	1480.9
60°	1301.0	1309.2	1327.6	1347.0	1353.2
62.5°	1176.4	1181.5	1198.8	1217.2	1221.3
65°	1046.6	1053.7	1070.1	1084.4	1090.5
67.5°	919.8	926.0	940.3	955.6	958.7
70°	793.1	797.2	810.5	821.7	826.8
72.5°	665.3	669.4	683.7	689.9	695.0
75°	541.7	544.7	555.0	565.2	565.2
77.5°	421.1	426.2	434.4	438.5	440.5
80°	306.6	311.7	317.9	321.9	320.9
82.5°	202.4	207.5	211.6	213.6	211.6
85°	114.5	118.6	121.6	119.6	119.6
87.5°	45.0	47.0	49.1	48.0	46.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)