

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: P708946

Luminaire Tested: **24APR-X-160L930-UNV**

Issue Date: 09/12/2023



**Test Information**

Test Method: LM-79-08  
Report Number: P708946  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 09/12/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 24APR-X-160L930-UNV  
Description: ArcMed Patient Recessed 2x4 Fixture EXAM Light  
Light Source: 3000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

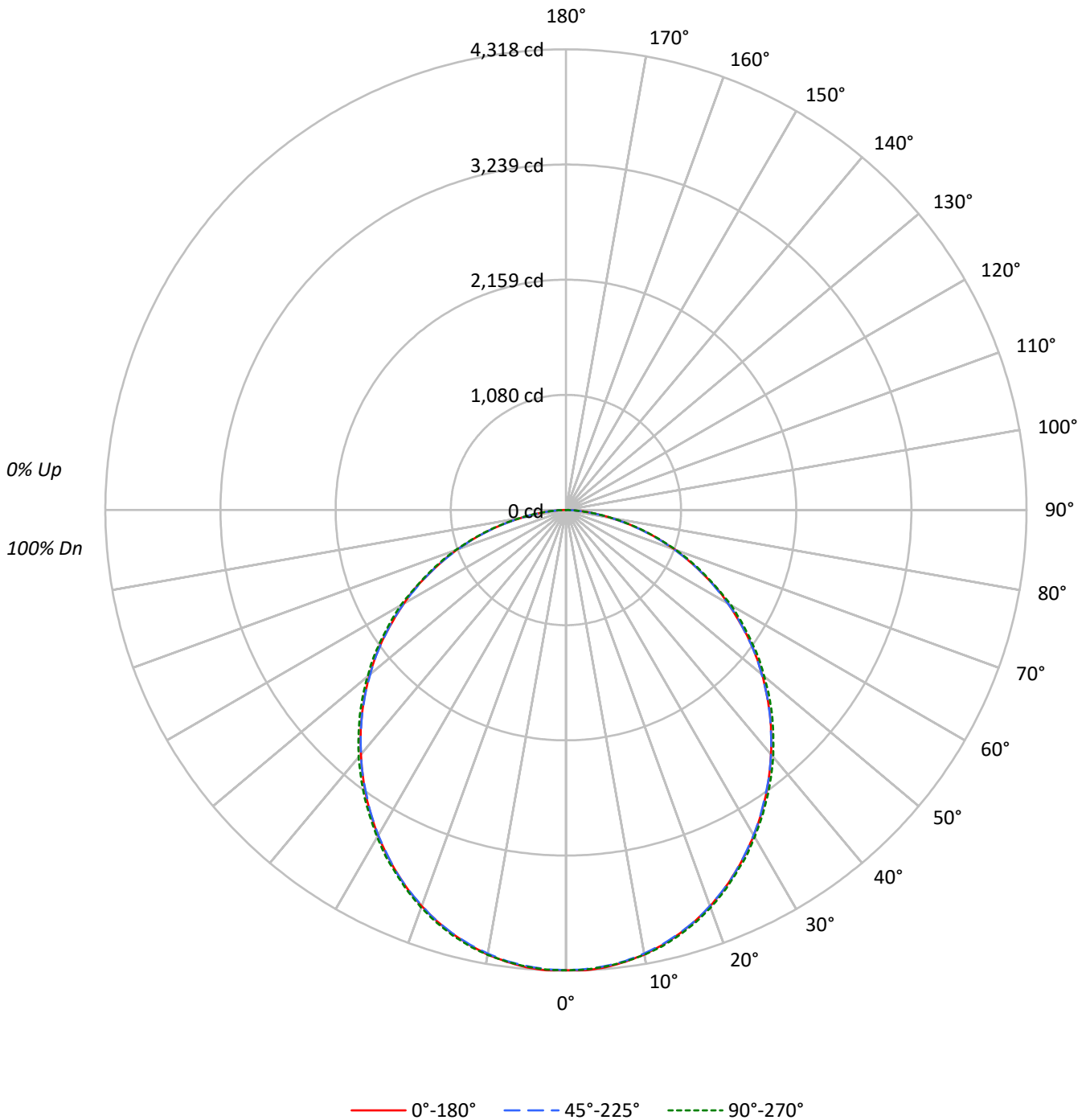
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 11705.5 lumens  
Efficiency: N/A  
Efficacy: 96.6 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.22 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 121.2  
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

TEST NUMBER: P708946  
CATALOG NUMBER: 24APR-X-160L930-UNV

### Luminous Intensity Polar Plot





TEST NUMBER: P708946  
 CATALOG NUMBER: 24APR-X-160L930-UNV

**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	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	94	98	94	91	94	91	89	90	88	86	86	86	86	84
2	99	91	84	78	96	89	83	77	85	80	76	82	78	74	79	75	72	72	72	72	70
3	90	80	72	65	88	78	71	65	75	69	63	72	67	62	70	65	61	61	61	61	59
4	83	71	62	55	80	69	61	55	67	60	54	65	58	53	62	57	53	53	53	53	50
5	76	63	54	48	74	62	54	47	60	53	47	58	51	46	56	50	46	46	46	46	44
6	70	57	48	42	68	56	48	41	54	47	41	53	46	41	51	45	40	40	40	40	38
7	65	52	43	37	63	51	43	37	49	42	36	48	41	36	47	40	36	36	36	36	34
8	61	47	39	33	59	47	38	33	45	38	33	44	37	32	43	37	32	32	32	32	30
9	57	43	35	30	55	43	35	30	42	34	29	41	34	29	39	33	29	29	29	29	27
10	53	40	32	27	52	39	32	27	39	32	27	38	31	27	37	31	26	26	26	26	25

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

	0°	45°	90°
0°	5804	5804	5804
5°	5810	5795	5800
10°	5781	5768	5783
15°	5726	5722	5744
20°	5658	5654	5679
25°	5568	5570	5588
30°	5471	5467	5498
35°	5367	5355	5403
40°	5254	5251	5310
45°	5145	5141	5203
50°	5026	5016	5083
55°	4889	4882	4950
60°	4728	4725	4816
65°	4514	4521	4574
70°	4279	4244	4332
75°	3911	3881	3955
80°	3383	3342	3411
85°	2661	2634	2708



TEST NUMBER: P708946  
 CATALOG NUMBER: 24APR-X-160L930-UNV

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	407.8	3.5
10°-20°	1159.4	9.9
20°-30°	1729.1	14.8
30°-40°	2046.0	17.5
40°-50°	2090.6	17.9
50°-60°	1868.3	16.0
60°-70°	1408.2	12.0
70°-80°	792.7	6.8
80°-90°	203.6	1.7
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°	3296.2	28.2
0°-40°	5342.1	45.6
0°-60°	9301.1	79.5
0°-90°	11705.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11705.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4313	4313	4313	4313	4313	
5°	4302	4296	4290	4294	4294	408
15°	4111	4106	4108	4116	4124	1159
25°	3751	3745	3752	3764	3764	1728
35°	3268	3261	3260	3282	3290	2043
45°	2704	2701	2702	2723	2735	2085
55°	2084	2084	2081	2100	2110	1861
65°	1418	1411	1420	1434	1437	1408
75°	752	738	746	743	761	796
85°	172	165	171	173	175	206
90°	0	0	0	0	0	



TEST NUMBER: P708946

CATALOG NUMBER: 24APR-X-160L930-UNV

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4313.4	4313.4	4313.4	4313.4	4313.4
2.5°	4318.2	4311.6	4306.9	4309.3	4311.0
5°	4301.6	4295.6	4290.3	4294.5	4294.5
7.5°	4270.2	4267.2	4263.1	4266.6	4267.8
10°	4231.1	4224.6	4221.6	4229.9	4232.8
12.5°	4176.0	4168.3	4170.6	4181.3	4186.0
15°	4110.8	4105.5	4107.8	4116.1	4123.8
17.5°	4036.8	4030.8	4036.2	4043.3	4050.4
20°	3951.4	3945.5	3948.5	3958.6	3966.3
22.5°	3856.7	3850.7	3854.3	3863.2	3871.5
25°	3750.6	3745.3	3751.8	3763.6	3764.2
27.5°	3639.8	3633.9	3635.7	3648.1	3659.4
30°	3521.3	3513.6	3519.0	3531.4	3538.5
32.5°	3396.9	3389.8	3394.0	3408.2	3416.5
35°	3267.8	3260.7	3260.1	3282.0	3289.7
37.5°	3130.9	3126.8	3130.4	3148.1	3157.6
40°	2991.1	2985.2	2989.4	3011.9	3023.1
42.5°	2849.5	2846.0	2846.6	2869.1	2878.0
45°	2703.8	2701.4	2702.0	2722.8	2734.6
47.5°	2553.3	2548.0	2550.4	2571.7	2584.1
50°	2401.1	2399.9	2396.3	2417.7	2428.3
52.5°	2244.7	2242.3	2242.3	2261.3	2276.7
55°	2084.1	2084.1	2081.2	2099.5	2110.2
57.5°	1915.9	1917.1	1921.8	1938.4	1949.1
60°	1757.1	1751.2	1755.9	1770.7	1789.7
62.5°	1598.9	1581.2	1585.9	1599.5	1607.2
65°	1417.7	1411.1	1420.0	1433.7	1436.6
67.5°	1251.2	1244.7	1249.4	1258.9	1271.9
70°	1087.7	1070.5	1078.8	1088.9	1101.3
72.5°	915.9	901.1	912.9	921.2	930.1
75°	752.4	738.2	746.5	742.9	760.7
77.5°	588.3	578.2	585.3	592.4	606.0
80°	436.6	425.4	431.3	434.2	440.2
82.5°	297.4	289.1	290.9	302.7	299.2
85°	172.4	165.3	170.6	173.0	175.4
87.5°	68.1	61.6	66.9	68.7	69.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)