

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: P708936

Luminaire Tested: **24APR-X-160L840-UNV**

Issue Date: 09/12/2023



**Test Information**

Test Method: LM-79-08  
Report Number: P708936  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 09/12/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 24APR-X-160L840-UNV  
Description: ArcMed Patient Recessed 2x4 Fixture EXAM Light  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

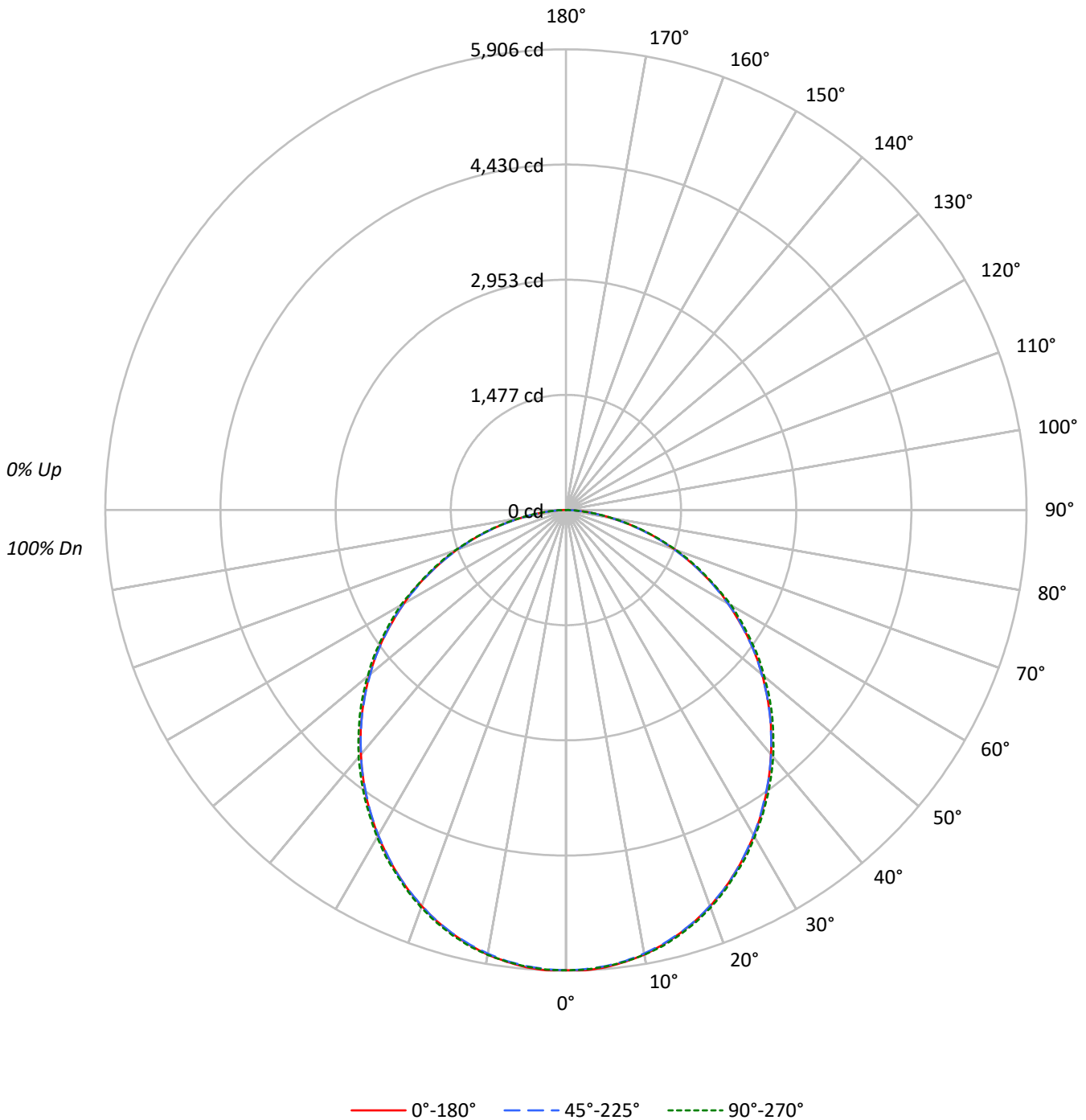
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 16010.9 lumens  
Efficiency: N/A  
Efficacy: 132.1 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

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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	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°	7938	7938	7938
5°	7947	7926	7934
10°	7907	7889	7910
15°	7832	7827	7857
20°	7739	7733	7768
25°	7616	7618	7644
30°	7483	7478	7520
35°	7342	7324	7391
40°	7186	7182	7263
45°	7037	7032	7117
50°	6875	6861	6953
55°	6687	6678	6771
60°	6467	6463	6588
65°	6174	6184	6256
70°	5853	5805	5926
75°	5350	5308	5409
80°	4627	4571	4665
85°	3640	3603	3704



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	557.8	3.5
10°-20°	1585.8	9.9
20°-30°	2365.0	14.8
30°-40°	2798.5	17.5
40°-50°	2859.5	17.9
50°-60°	2555.5	16.0
60°-70°	1926.2	12.0
70°-80°	1084.2	6.8
80°-90°	278.5	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°	4508.5	28.2
0°-40°	7307.0	45.6
0°-60°	12722.0	79.5
0°-90°	16010.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	16010.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5900	5900	5900	5900	5900	
5°	5884	5876	5868	5874	5874	558
15°	5623	5616	5619	5630	5641	1586
25°	5130	5123	5132	5148	5149	2364
35°	4470	4460	4459	4489	4500	2795
45°	3698	3695	3696	3724	3740	2852
55°	2851	2851	2847	2872	2886	2546
65°	1939	1930	1942	1961	1965	1926
75°	1029	1010	1021	1016	1040	1089
85°	236	226	233	237	240	281
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5899.9	5899.9	5899.9	5899.9	5899.9
2.5°	5906.4	5897.5	5891.0	5894.2	5896.7
5°	5883.7	5875.6	5868.3	5874.0	5874.0
7.5°	5840.7	5836.7	5831.0	5835.9	5837.5
10°	5787.3	5778.4	5774.3	5785.6	5789.7
12.5°	5711.9	5701.4	5704.6	5719.2	5725.7
15°	5622.8	5615.5	5618.7	5630.1	5640.6
17.5°	5521.5	5513.4	5520.7	5530.4	5540.1
20°	5404.8	5396.7	5400.7	5414.5	5425.1
22.5°	5275.1	5267.0	5271.9	5284.1	5295.4
25°	5130.1	5122.8	5131.7	5147.9	5148.7
27.5°	4978.6	4970.5	4972.9	4989.9	5005.3
30°	4816.5	4806.0	4813.3	4830.3	4840.0
32.5°	4646.3	4636.6	4642.3	4661.7	4673.1
35°	4469.7	4460.0	4459.2	4489.1	4499.7
37.5°	4282.5	4276.8	4281.7	4306.0	4319.0
40°	4091.3	4083.2	4088.8	4119.6	4135.0
42.5°	3897.6	3892.7	3893.6	3924.4	3936.5
45°	3698.3	3695.0	3695.8	3724.2	3740.4
47.5°	3492.5	3485.2	3488.4	3517.6	3534.6
50°	3284.2	3282.6	3277.7	3306.9	3321.5
52.5°	3070.3	3067.0	3067.0	3093.0	3114.0
55°	2850.7	2850.7	2846.6	2871.8	2886.3
57.5°	2620.6	2622.2	2628.7	2651.3	2665.9
60°	2403.4	2395.3	2401.8	2422.0	2448.0
62.5°	2187.0	2162.7	2169.2	2187.8	2198.4
65°	1939.1	1930.2	1942.3	1961.0	1965.0
67.5°	1711.4	1702.5	1709.0	1721.9	1739.7
70°	1487.7	1464.2	1475.6	1489.4	1506.4
72.5°	1252.7	1232.5	1248.7	1260.0	1272.2
75°	1029.1	1009.7	1021.0	1016.1	1040.4
77.5°	804.6	790.9	800.6	810.3	829.0
80°	597.2	581.8	589.9	594.0	602.1
82.5°	406.8	395.4	397.9	414.1	409.2
85°	235.8	226.1	233.4	236.6	239.9
87.5°	93.2	84.3	91.6	94.0	94.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)