

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: P709016

Luminaire Tested: **24APR-67-160L840-UNV**

Issue Date: 09/12/2023



**Test Information**

Test Method: LM-79-08  
Report Number: P709016  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 09/12/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 24APR-67-160L840-UNV  
Description: ArcMed Patient Recessed 2x4 Fixture Ambient and Exam Light  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

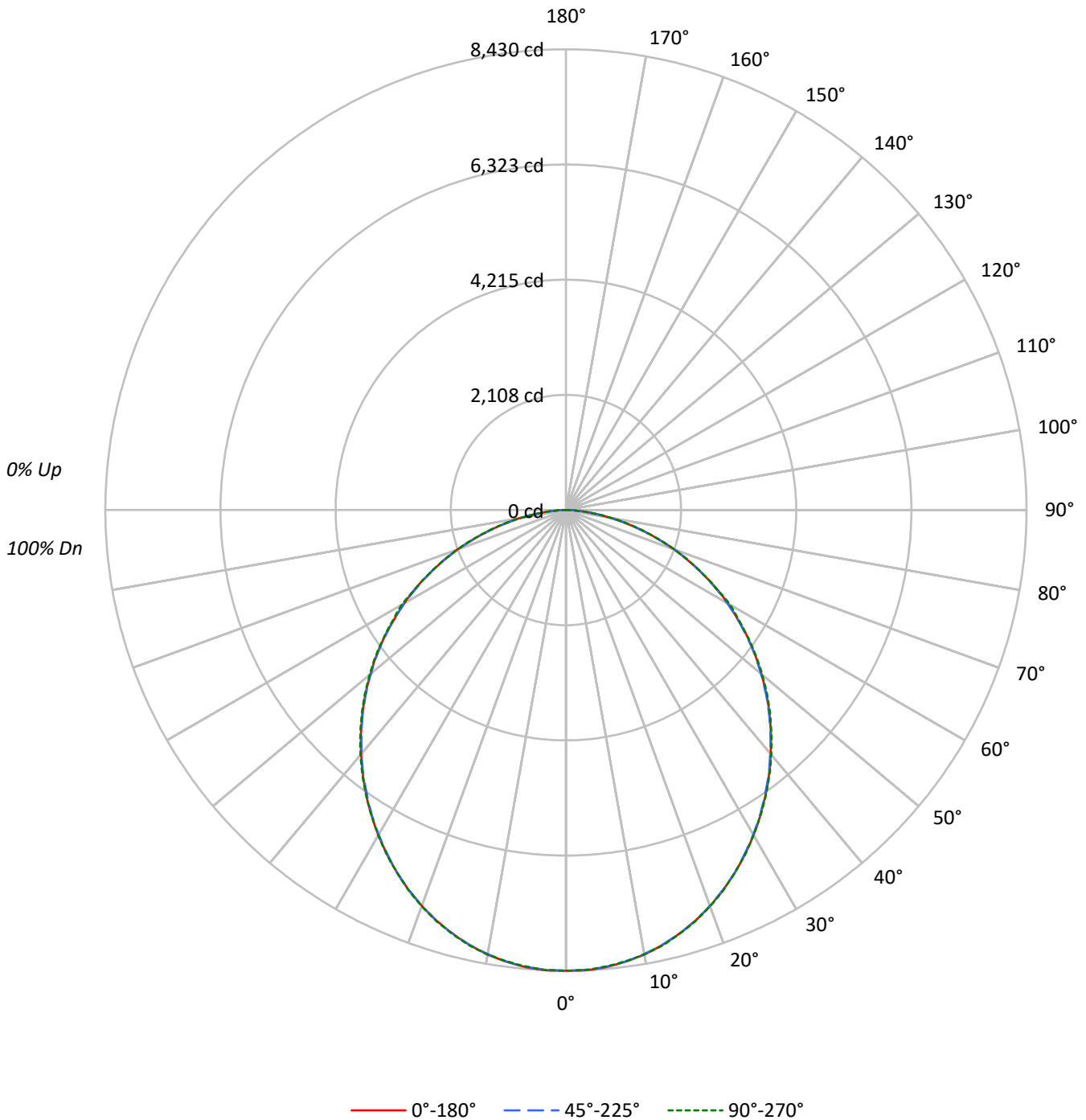
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 22749.4 lumens  
Efficiency: N/A  
Efficacy: 125.3 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.21 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 181.5  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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	94	98	94	92	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	73	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	51
5	76	63	54	48	74	62	54	47	60	53	47	58	52	46	56	51	46	46	46	46	44
6	70	57	48	42	68	56	48	42	54	47	41	53	46	41	51	45	40	40	40	40	38
7	65	52	43	37	64	51	43	37	49	42	36	48	41	36	47	41	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	40	34	29	29	29	29	27
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	26	26	26	26	25

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

	0°	45°	90°
0°	11342	11342	11342
5°	11343	11332	11326
10°	11284	11274	11283
15°	11177	11177	11190
20°	11040	11033	11049
25°	10867	10862	10862
30°	10671	10654	10672
35°	10462	10434	10475
40°	10240	10220	10274
45°	10022	10002	10055
50°	9782	9757	9819
55°	9515	9491	9547
60°	9201	9179	9340
65°	8782	8784	8808
70°	8300	8256	8310
75°	7572	7513	7563
80°	6537	6455	6499
85°	5099	5050	5037



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	796.7	3.5
10°-20°	2262.7	9.9
20°-30°	3369.8	14.8
30°-40°	3981.2	17.5
40°-50°	4061.4	17.9
50°-60°	3623.9	15.9
60°-70°	2732.1	12.0
70°-80°	1531.8	6.7
80°-90°	389.8	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°	6429.2	28.3
0°-40°	10410.4	45.8
0°-60°	18095.7	79.5
0°-90°	22749.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	22749.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	8430	8430	8430	8430	8430	
5°	8398	8394	8390	8392	8385	797
15°	8024	8020	8024	8030	8033	2263
25°	7320	7311	7317	7323	7317	3371
35°	6369	6360	6352	6371	6378	3984
45°	5267	5264	5256	5272	5284	4062
55°	4056	4047	4046	4058	4070	3623
65°	2758	2745	2759	2767	2766	2737
75°	1456	1431	1445	1437	1455	1542
85°	330	318	327	326	326	395
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	8429.9	8429.9	8429.9	8429.9	8429.9
2.5°	8429.9	8425.9	8422.7	8421.8	8423.5
5°	8398.4	8394.3	8390.3	8391.9	8385.4
7.5°	8337.6	8338.5	8335.2	8336.0	8328.7
10°	8259.1	8255.1	8251.8	8259.1	8258.3
12.5°	8153.0	8145.8	8149.0	8160.3	8161.1
15°	8024.3	8019.5	8024.3	8030.0	8033.2
17.5°	7877.8	7873.7	7879.4	7880.2	7886.7
20°	7710.2	7705.3	7705.3	7713.4	7716.7
22.5°	7524.8	7517.5	7519.1	7524.8	7528.8
25°	7319.9	7311.0	7316.7	7323.2	7316.7
27.5°	7098.9	7094.0	7088.4	7096.5	7107.0
30°	6868.2	6858.4	6857.6	6863.3	6869.0
32.5°	6624.5	6613.1	6613.1	6620.4	6625.3
35°	6369.4	6360.5	6352.4	6371.0	6377.5
37.5°	6106.3	6095.8	6094.9	6106.3	6116.8
40°	5830.2	5821.3	5818.9	5838.3	5849.6
42.5°	5551.7	5546.0	5540.3	5559.8	5568.7
45°	5266.7	5263.5	5256.2	5271.5	5284.5
47.5°	4973.6	4963.1	4960.6	4978.5	4991.4
50°	4673.2	4669.2	4661.1	4677.3	4691.0
52.5°	4368.8	4363.9	4358.3	4372.9	4387.4
55°	4056.3	4047.4	4045.8	4057.9	4070.0
57.5°	3730.8	3723.5	3734.9	3746.2	3755.9
60°	3419.1	3402.1	3411.0	3424.0	3470.9
62.5°	3105.8	3075.8	3082.3	3117.9	3097.7
65°	2758.4	2744.7	2759.2	2767.3	2766.5
67.5°	2433.0	2416.8	2438.6	2432.2	2441.9
70°	2109.9	2081.6	2098.6	2101.0	2112.3
72.5°	1776.3	1752.1	1766.6	1773.9	1781.2
75°	1456.5	1431.4	1445.2	1437.1	1454.9
77.5°	1138.4	1123.0	1131.9	1137.5	1151.3
80°	843.6	826.6	833.1	833.9	838.8
82.5°	571.6	558.6	560.3	574.8	569.2
85°	330.3	318.2	327.1	326.3	326.3
87.5°	128.7	119.0	127.9	127.1	125.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)