

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: P

Luminaire Tested: **4APN-32-34L830-UNV-ASY**

Issue Date: 06/06/2024



**Test Information**

Test Method: LM-79-08  
Report Number: P  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 06/06/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 4APN-32-34L830-UNV-ASY  
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient and Exam Light  
w/ ASYMMETRIC Lens  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

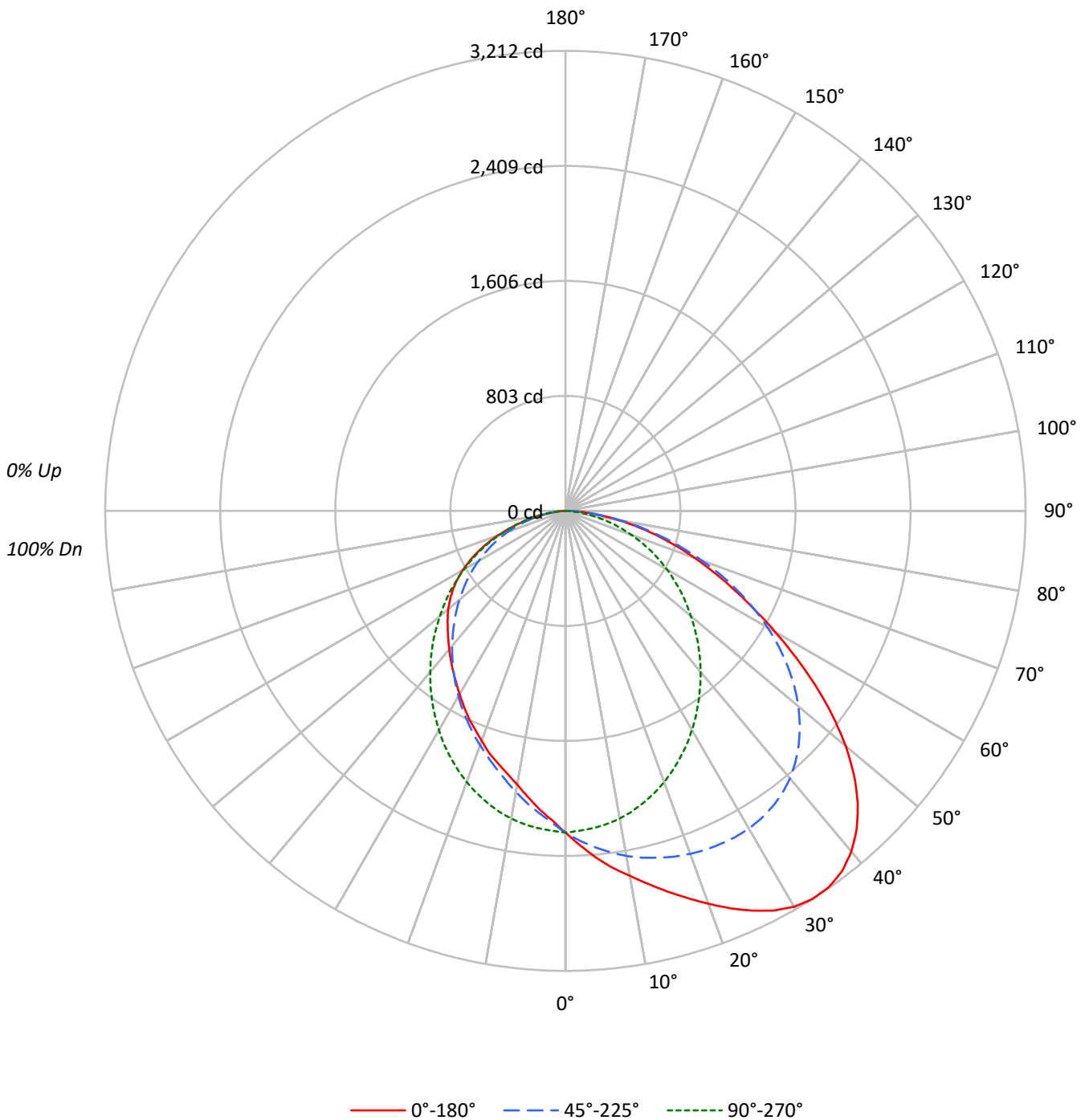
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6957.8 lumens  
Efficiency: N/A  
Efficacy: 95.3 lumens/watt  
Spacing Criteria (0/90/45): 1.53 / 1.18 / 1.46  
Luminous Opening: Rectangular (W 0.29' x L: 3.83' x H: 0')  
CIE Type: Direct

Input Watts (W): 73  
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				
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	97	94	91	93	91	88	90	88	86	86	86	86	84
2	99	90	83	78	96	88	82	77	85	80	75	82	77	73	79	75	72	72	72	72	69
3	90	79	71	64	87	78	70	64	75	68	63	72	66	61	69	64	60	60	60	60	58
4	82	70	61	54	80	69	60	54	66	59	53	64	57	52	62	56	52	52	52	52	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	45	45	45	43
6	69	56	47	40	68	55	46	40	53	46	40	51	45	39	50	44	39	39	39	39	37
7	64	51	42	36	63	50	41	35	48	41	35	47	40	35	45	39	35	35	35	35	33
8	60	46	37	32	58	45	37	31	44	37	31	43	36	31	42	35	31	31	31	31	29
9	56	42	34	28	54	42	34	28	40	33	28	39	33	28	38	32	28	28	28	28	26
10	52	39	31	26	51	38	31	26	37	30	25	36	30	25	36	30	25	25	25	25	23

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

	0°	90°	180°
0°	21626	21626	21626
5°	23466	21495	20201
10°	25281	21328	18954
15°	27423	21018	18175
20°	29901	20649	17500
25°	32708	20165	16958
30°	35482	19634	16412
35°	37687	19055	16060
40°	39022	18449	15850
45°	39296	17813	15814
50°	38263	17133	15985
55°	35829	16520	16087
60°	32569	15770	15929
65°	29530	14912	15311
70°	27028	13827	14060
75°	24520	12431	12089
80°	21450	10390	9314
85°	18049	7545	6937



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	213.3	3.1
10°-20°	620.5	8.9
20°-30°	972.1	14.0
30°-40°	1218.6	17.5
40°-50°	1297.3	18.6
50°-60°	1171.2	16.8
60°-70°	867.0	12.5
70°-80°	475.7	6.8
80°-90°	122.1	1.8
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°	1805.9	26.0
0°-40°	3024.5	43.5
0°-60°	5493.0	78.9
0°-90°	6957.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6957.8	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2246	2246	2246	2246	2246	
5°	2428	2357	2224	2117	2090	236
15°	2751	2507	2109	1862	1824	785
25°	3079	2566	1898	1618	1596	1425
35°	3207	2521	1621	1362	1366	2000
45°	2886	2304	1308	1096	1162	2213
55°	2135	1896	984	834	958	1904
65°	1296	1335	655	564	672	1293
75°	659	699	334	289	325	701
85°	163	161	68	64	63	193
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	2246.3	2246.3	2246.3	2246.3	2246.3	2246.3	2246.3	2246.3	2246.3	2246.3	2246.3
2.5°	2336.8	2332.2	2326.7	2324.8	2316.5	2305.4	2295.3	2295.3	2283.3	2254.7	2234.3
5°	2428.2	2420.8	2407.0	2395.9	2378.4	2357.1	2335.9	2323.0	2294.4	2251.0	2224.2
7.5°	2512.2	2503.0	2485.5	2464.2	2435.6	2404.2	2369.1	2341.4	2298.0	2239.9	2205.7
10°	2586.1	2577.8	2556.6	2530.7	2490.1	2445.8	2394.1	2352.5	2293.4	2221.4	2181.7
12.5°	2667.4	2659.1	2629.5	2594.4	2539.0	2479.9	2411.6	2354.4	2281.4	2194.6	2149.4
15°	2751.4	2740.3	2707.1	2660.0	2586.1	2506.7	2422.7	2348.8	2262.0	2162.3	2108.8
17.5°	2834.5	2823.4	2781.8	2721.8	2629.5	2530.7	2427.3	2335.9	2234.3	2122.6	2064.5
20°	2918.5	2907.4	2854.8	2779.1	2667.4	2548.3	2426.4	2316.5	2201.1	2077.4	2015.5
22.5°	3002.5	2989.6	2925.9	2833.6	2698.8	2560.3	2416.2	2289.7	2159.6	2025.7	1959.2
25°	3079.1	3066.2	2996.0	2887.1	2732.0	2565.8	2398.7	2252.8	2113.4	1968.4	1898.3
27.5°	3145.6	3129.9	3057.0	2937.0	2760.6	2567.6	2375.6	2211.3	2059.8	1906.6	1835.5
30°	3191.8	3177.9	3100.4	2972.0	2777.2	2561.2	2346.1	2162.3	1998.0	1840.1	1766.2
32.5°	3212.1	3200.1	3123.5	2988.7	2780.0	2544.6	2310.1	2107.9	1933.4	1769.9	1695.1
35°	3206.6	3194.6	3121.6	2985.9	2771.7	2520.6	2264.8	2046.0	1864.1	1697.0	1621.3
37.5°	3171.5	3157.6	3091.1	2961.0	2747.7	2485.5	2213.1	1978.6	1789.3	1622.2	1545.6
40°	3105.0	3091.1	3033.9	2913.9	2707.1	2438.4	2154.0	1906.6	1712.7	1543.7	1468.0
42.5°	3009.9	2995.1	2949.9	2840.0	2648.9	2376.5	2086.6	1829.9	1631.4	1468.0	1388.6
45°	2886.2	2871.4	2840.9	2747.7	2573.2	2303.6	2010.0	1746.8	1546.5	1382.2	1308.3
47.5°	2732.9	2720.0	2705.2	2633.2	2479.9	2219.6	1924.1	1658.2	1457.9	1301.8	1226.1
50°	2554.7	2541.8	2546.4	2497.5	2371.9	2122.6	1829.9	1565.0	1366.5	1212.3	1143.9
52.5°	2352.5	2342.4	2364.5	2343.3	2246.3	2014.6	1729.3	1468.9	1273.2	1127.3	1061.8
55°	2134.6	2123.5	2166.0	2172.5	2106.0	1895.5	1614.8	1369.2	1179.0	1044.2	984.2
57.5°	1910.3	1901.0	1955.5	1986.0	1952.7	1767.2	1499.4	1266.7	1082.1	957.4	897.4
60°	1691.5	1684.1	1741.3	1791.2	1787.5	1631.4	1379.4	1155.9	985.1	869.7	819.0
62.5°	1485.6	1477.3	1534.5	1593.6	1614.8	1486.5	1260.3	1047.0	888.2	782.0	736.8
65°	1296.3	1288.0	1336.9	1397.8	1436.6	1335.1	1131.9	934.4	790.3	693.4	654.6
67.5°	1122.7	1122.7	1153.2	1209.5	1256.6	1180.0	1000.8	827.3	689.7	611.2	572.4
70°	960.2	959.3	981.4	1021.1	1075.6	1013.8	867.9	714.6	594.6	525.3	491.2
72.5°	806.0	812.5	820.8	851.3	908.5	855.0	735.9	603.8	501.3	440.4	411.8
75°	659.2	658.3	670.3	697.1	738.6	698.9	603.8	495.8	409.0	359.2	334.2
77.5°	518.9	518.0	528.1	543.8	578.9	547.5	476.4	396.1	318.5	277.0	259.4
80°	386.9	386.9	396.1	404.4	430.2	405.3	355.5	296.4	233.6	201.3	187.4
82.5°	268.7	274.2	270.5	281.6	296.4	275.1	243.7	203.1	155.1	133.0	123.7
85°	163.4	168.0	163.4	172.7	179.1	160.7	145.0	120.9	89.6	74.8	68.3
87.5°	84.0	83.1	82.2	86.8	88.6	77.6	68.3	58.2	39.7	30.5	25.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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**CANDELA DISTRIBUTION (continued):**

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2246.3	2246.3	2246.3	2246.3	2246.3	2246.3	2246.3	2246.3	2246.3	2246.3
2.5°	2222.3	2227.9	2219.6	2189.1	2177.1	2164.2	2158.6	2153.1	2163.2	2160.5
5°	2203.9	2197.4	2176.2	2137.4	2117.1	2095.8	2085.7	2079.2	2093.1	2090.3
7.5°	2178.9	2160.5	2129.1	2082.0	2056.1	2027.5	2013.7	2005.4	2014.6	2012.8
10°	2147.6	2117.1	2078.3	2022.0	1991.5	1960.1	1944.4	1932.4	1939.8	1938.9
12.5°	2107.9	2068.2	2021.1	1957.4	1926.0	1893.7	1879.8	1871.5	1880.7	1878.0
15°	2063.5	2015.5	1961.0	1896.4	1862.3	1832.7	1822.6	1816.1	1823.5	1823.5
17.5°	2014.6	1958.3	1898.3	1832.7	1800.4	1777.3	1767.2	1762.5	1766.2	1771.8
20°	1960.1	1897.3	1832.7	1769.0	1741.3	1717.3	1708.1	1703.5	1711.8	1708.1
22.5°	1900.1	1833.6	1766.2	1706.2	1681.3	1657.3	1648.1	1645.3	1654.5	1650.8
25°	1836.4	1764.4	1697.9	1643.4	1618.5	1598.2	1589.9	1587.1	1591.7	1596.4
27.5°	1776.4	1695.1	1629.6	1580.7	1558.5	1539.1	1531.7	1527.1	1530.8	1536.3
30°	1703.5	1625.0	1560.3	1515.1	1493.9	1475.4	1469.9	1466.2	1471.7	1476.3
32.5°	1635.1	1555.7	1491.1	1446.8	1428.3	1410.8	1409.9	1408.0	1414.5	1420.0
35°	1561.3	1483.7	1420.9	1379.4	1361.8	1347.1	1349.8	1352.6	1360.0	1366.5
37.5°	1486.5	1410.8	1350.8	1312.9	1296.3	1284.3	1292.6	1296.3	1306.4	1312.9
40°	1410.8	1335.1	1279.7	1245.5	1228.9	1223.3	1235.4	1243.7	1255.7	1261.2
42.5°	1333.2	1263.0	1207.7	1176.3	1162.4	1162.4	1178.1	1191.0	1204.9	1210.4
45°	1255.7	1187.3	1134.7	1106.1	1095.9	1103.3	1121.8	1138.4	1155.9	1161.5
47.5°	1177.2	1110.7	1062.7	1036.8	1031.3	1042.4	1065.5	1087.6	1107.9	1115.3
50°	1098.7	1038.7	990.7	966.7	966.7	980.5	1010.1	1037.8	1059.9	1067.3
52.5°	1020.2	963.0	914.0	896.5	900.2	919.6	953.7	982.4	1007.3	1014.7
55°	940.8	884.5	842.0	827.3	833.7	857.7	892.8	926.1	950.1	958.4
57.5°	862.3	808.8	770.0	758.0	767.2	794.0	834.6	863.3	888.2	895.6
60°	782.9	728.5	698.0	688.8	700.8	728.5	770.0	796.8	819.9	827.3
62.5°	704.5	653.7	626.9	618.6	632.4	662.0	702.6	726.6	744.2	751.6
65°	625.1	579.8	554.9	549.4	564.1	592.7	631.5	651.8	664.8	672.1
67.5°	546.6	507.8	484.7	480.1	495.8	521.7	557.7	568.7	580.7	588.1
70°	469.0	433.9	414.6	411.8	425.6	450.6	481.0	486.6	493.0	499.5
72.5°	392.4	364.7	345.3	344.4	357.3	377.6	402.6	403.5	405.3	411.8
75°	318.5	293.6	278.8	281.6	289.0	305.6	325.0	319.5	320.4	325.0
77.5°	247.4	227.1	217.0	218.8	224.4	236.4	249.3	242.8	239.1	243.7
80°	178.2	160.7	157.0	157.9	161.6	169.9	177.3	171.7	164.3	168.0
82.5°	117.3	106.2	104.3	105.3	108.0	112.6	114.5	106.2	104.3	107.1
85°	64.6	60.0	60.0	62.8	63.7	64.6	64.6	60.0	60.9	62.8
87.5°	25.9	25.9	28.6	31.4	29.5	25.9	22.2	14.8	14.8	17.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)