

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-32-34L940-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-32-34L940-UNV-ASY  
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient and Exam Light  
w/ ASYMMETRIC Lens  
Light Source: 4000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

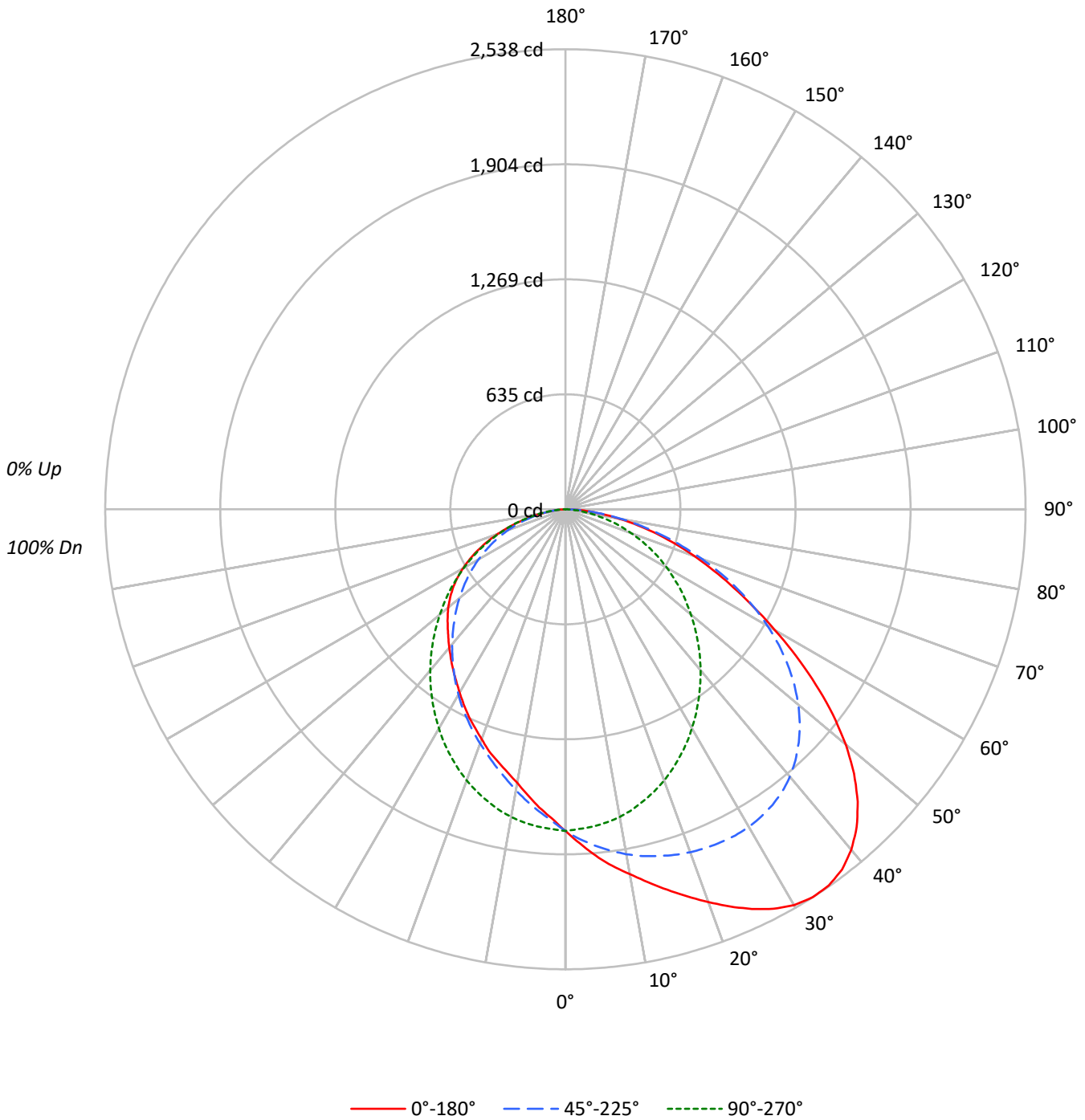
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5497.0 lumens  
Efficiency: N/A  
Efficacy: 75.3 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°	17086	17086	17086
5°	18540	16982	15959
10°	19974	16851	14975
15°	21665	16605	14358
20°	23623	16314	13826
25°	25842	15931	13397
30°	28033	15512	12967
35°	29773	15054	12688
40°	30830	14576	12522
45°	31045	14073	12493
50°	30231	13537	12629
55°	28307	13052	12709
60°	25730	12458	12585
65°	23329	11782	12096
70°	21353	10924	11107
75°	19372	9824	9552
80°	16943	8211	7363
85°	14261	5965	5479



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	168.5	3.1
10°-20°	490.2	8.9
20°-30°	768.0	14.0
30°-40°	962.8	17.5
40°-50°	1025.0	18.6
50°-60°	925.3	16.8
60°-70°	685.0	12.5
70°-80°	375.8	6.8
80°-90°	96.5	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°	1426.7	26.0
0°-40°	2389.5	43.5
0°-60°	4339.8	78.9
0°-90°	5497.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5497.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1775	1775	1775	1775	1775	
5°	1918	1862	1757	1673	1651	187
15°	2174	1980	1666	1471	1441	620
25°	2433	2027	1500	1279	1261	1126
35°	2533	1991	1281	1076	1080	1580
45°	2280	1820	1034	866	918	1748
55°	1686	1498	778	659	757	1504
65°	1024	1055	517	446	531	1022
75°	521	552	264	228	257	554
85°	129	127	54	50	50	153
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°	1774.7	1774.7	1774.7	1774.7	1774.7	1774.7	1774.7	1774.7	1774.7	1774.7	1774.7
2.5°	1846.2	1842.6	1838.2	1836.7	1830.2	1821.4	1813.4	1813.4	1803.9	1781.3	1765.2
5°	1918.4	1912.6	1901.6	1892.9	1879.0	1862.3	1845.5	1835.3	1812.7	1778.4	1757.2
7.5°	1984.8	1977.5	1963.6	1946.9	1924.3	1899.5	1871.7	1849.9	1815.6	1769.6	1742.6
10°	2043.2	2036.6	2019.8	1999.4	1967.3	1932.3	1891.4	1858.6	1811.9	1755.0	1723.7
12.5°	2107.3	2100.8	2077.4	2049.7	2006.0	1959.3	1905.3	1860.1	1802.4	1733.9	1698.1
15°	2173.7	2165.0	2138.7	2101.5	2043.2	1980.4	1914.0	1855.7	1787.1	1708.3	1666.0
17.5°	2239.4	2230.6	2197.8	2150.4	2077.4	1999.4	1917.7	1845.5	1765.2	1677.0	1631.0
20°	2305.8	2297.0	2255.4	2195.6	2107.3	2013.2	1917.0	1830.2	1739.0	1641.2	1592.4
22.5°	2372.1	2361.9	2311.6	2238.6	2132.1	2022.7	1908.9	1809.0	1706.2	1600.4	1547.9
25°	2432.7	2422.5	2367.0	2280.9	2158.4	2027.1	1895.1	1779.8	1669.7	1555.2	1499.7
27.5°	2485.2	2472.8	2415.2	2320.3	2181.0	2028.6	1876.8	1747.0	1627.4	1506.3	1450.1
30°	2521.7	2510.7	2449.4	2348.1	2194.1	2023.5	1853.5	1708.3	1578.5	1453.8	1395.4
32.5°	2537.7	2528.2	2467.7	2361.2	2196.3	2010.3	1825.1	1665.3	1527.4	1398.3	1339.2
35°	2533.3	2523.9	2466.2	2359.0	2189.8	1991.4	1789.3	1616.4	1472.7	1340.7	1280.9
37.5°	2505.6	2494.7	2442.2	2339.3	2170.8	1963.6	1748.5	1563.2	1413.6	1281.6	1221.1
40°	2453.1	2442.2	2396.9	2302.1	2138.7	1926.4	1701.8	1506.3	1353.1	1219.6	1159.8
42.5°	2378.0	2366.3	2330.6	2243.7	2092.8	1877.6	1648.5	1445.7	1288.9	1159.8	1097.1
45°	2280.2	2268.5	2244.5	2170.8	2032.9	1819.9	1588.0	1380.1	1221.8	1092.0	1033.6
47.5°	2159.1	2148.9	2137.3	2080.4	1959.3	1753.6	1520.1	1310.1	1151.8	1028.5	968.7
50°	2018.4	2008.1	2011.8	1973.1	1873.9	1677.0	1445.7	1236.4	1079.6	957.8	903.8
52.5°	1858.6	1850.6	1868.1	1851.3	1774.7	1591.6	1366.2	1160.5	1005.9	890.6	838.9
55°	1686.5	1677.7	1711.3	1716.4	1663.8	1497.5	1275.8	1081.8	931.5	825.0	777.6
57.5°	1509.2	1501.9	1544.9	1569.0	1542.8	1396.1	1184.6	1000.8	854.9	756.4	709.0
60°	1336.3	1330.5	1375.7	1415.1	1412.2	1288.9	1089.8	913.3	778.3	687.1	647.0
62.5°	1173.7	1167.1	1212.3	1259.0	1275.8	1174.4	995.7	827.2	701.7	617.8	582.1
65°	1024.1	1017.6	1056.2	1104.4	1135.0	1054.8	894.3	738.2	624.4	547.8	517.2
67.5°	887.0	887.0	911.1	955.6	992.8	932.2	790.7	653.6	544.9	482.9	452.3
70°	758.6	757.9	775.4	806.8	849.8	800.9	685.7	564.6	469.8	415.0	388.1
72.5°	636.8	641.9	648.5	672.5	717.8	675.5	581.4	477.1	396.1	347.9	325.3
75°	520.8	520.1	529.6	550.7	583.5	552.2	477.1	391.7	323.1	283.8	264.1
77.5°	409.9	409.2	417.2	429.6	457.4	432.6	376.4	312.9	251.7	218.8	205.0
80°	305.6	305.6	312.9	319.5	339.9	320.2	280.8	234.1	184.5	159.0	148.1
82.5°	212.3	216.6	213.7	222.5	234.1	217.4	192.6	160.5	122.5	105.0	97.7
85°	129.1	132.8	129.1	136.4	141.5	126.9	114.5	95.6	70.8	59.1	54.0
87.5°	66.4	65.6	64.9	68.6	70.0	61.3	54.0	46.0	31.4	24.1	20.4
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°	1774.7	1774.7	1774.7	1774.7	1774.7	1774.7	1774.7	1774.7	1774.7	1774.7
2.5°	1755.8	1760.1	1753.6	1729.5	1720.0	1709.8	1705.4	1701.0	1709.1	1706.9
5°	1741.2	1736.1	1719.3	1688.6	1672.6	1655.8	1647.8	1642.7	1653.6	1651.4
7.5°	1721.5	1706.9	1682.1	1644.9	1624.5	1601.8	1590.9	1584.3	1591.6	1590.2
10°	1696.7	1672.6	1642.0	1597.5	1573.4	1548.6	1536.2	1526.7	1532.5	1531.8
12.5°	1665.3	1633.9	1596.7	1546.4	1521.6	1496.1	1485.1	1478.6	1485.9	1483.7
15°	1630.3	1592.4	1549.3	1498.3	1471.3	1447.9	1439.9	1434.8	1440.6	1440.6
17.5°	1591.6	1547.1	1499.7	1447.9	1422.4	1404.2	1396.1	1392.5	1395.4	1399.8
20°	1548.6	1499.0	1447.9	1397.6	1375.7	1356.8	1349.5	1345.8	1352.4	1349.5
22.5°	1501.2	1448.7	1395.4	1348.0	1328.3	1309.3	1302.0	1299.9	1307.2	1304.2
25°	1450.9	1394.0	1341.4	1298.4	1278.7	1262.7	1256.1	1253.9	1257.5	1261.2
27.5°	1403.4	1339.2	1287.5	1248.8	1231.3	1216.0	1210.1	1206.5	1209.4	1213.8
30°	1345.8	1283.8	1232.7	1197.0	1180.2	1165.6	1161.3	1158.3	1162.7	1166.4
32.5°	1291.8	1229.1	1178.0	1143.0	1128.4	1114.6	1113.9	1112.4	1117.5	1121.9
35°	1233.5	1172.2	1122.6	1089.8	1075.9	1064.2	1066.4	1068.6	1074.5	1079.6
37.5°	1174.4	1114.6	1067.2	1037.3	1024.1	1014.6	1021.2	1024.1	1032.2	1037.3
40°	1114.6	1054.8	1011.0	984.0	970.9	966.5	976.0	982.6	992.0	996.4
42.5°	1053.3	997.9	954.1	929.3	918.4	918.4	930.8	941.0	951.9	956.3
45°	992.0	938.1	896.5	873.9	865.8	871.7	886.3	899.4	913.3	917.6
47.5°	930.0	877.5	839.6	819.2	814.8	823.5	841.8	859.3	875.3	881.2
50°	868.0	820.6	782.7	763.7	763.7	774.7	798.0	819.9	837.4	843.2
52.5°	806.0	760.8	722.1	708.3	711.2	726.5	753.5	776.1	795.8	801.7
55°	743.3	698.8	665.2	653.6	658.7	677.6	705.4	731.6	750.6	757.2
57.5°	681.3	639.0	608.4	598.9	606.2	627.3	659.4	682.0	701.7	707.6
60°	618.6	575.5	551.5	544.2	553.6	575.5	608.4	629.5	647.7	653.6
62.5°	556.6	516.4	495.3	488.7	499.7	523.0	555.1	574.1	587.9	593.8
65°	493.8	458.1	438.4	434.0	445.7	468.3	498.9	515.0	525.2	531.0
67.5°	431.8	401.2	383.0	379.3	391.7	412.1	440.6	449.3	458.8	464.7
70°	370.6	342.8	327.5	325.3	336.3	356.0	380.0	384.4	389.5	394.6
72.5°	310.0	288.1	272.8	272.1	282.3	298.3	318.0	318.8	320.2	325.3
75°	251.7	232.0	220.3	222.5	228.3	241.4	256.8	252.4	253.1	256.8
77.5°	195.5	179.4	171.4	172.9	177.3	186.7	196.9	191.8	188.9	192.6
80°	140.8	126.9	124.0	124.7	127.7	134.2	140.1	135.7	129.8	132.8
82.5°	92.6	83.9	82.4	83.2	85.3	89.0	90.5	83.9	82.4	84.6
85°	51.1	47.4	47.4	49.6	50.3	51.1	51.1	47.4	48.1	49.6
87.5°	20.4	20.4	22.6	24.8	23.3	20.4	17.5	11.7	11.7	13.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)