

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-32-34L930-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-32-34L930-UNV-ASY
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient and Exam Light
w/ ASYMMETRIC Lens
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

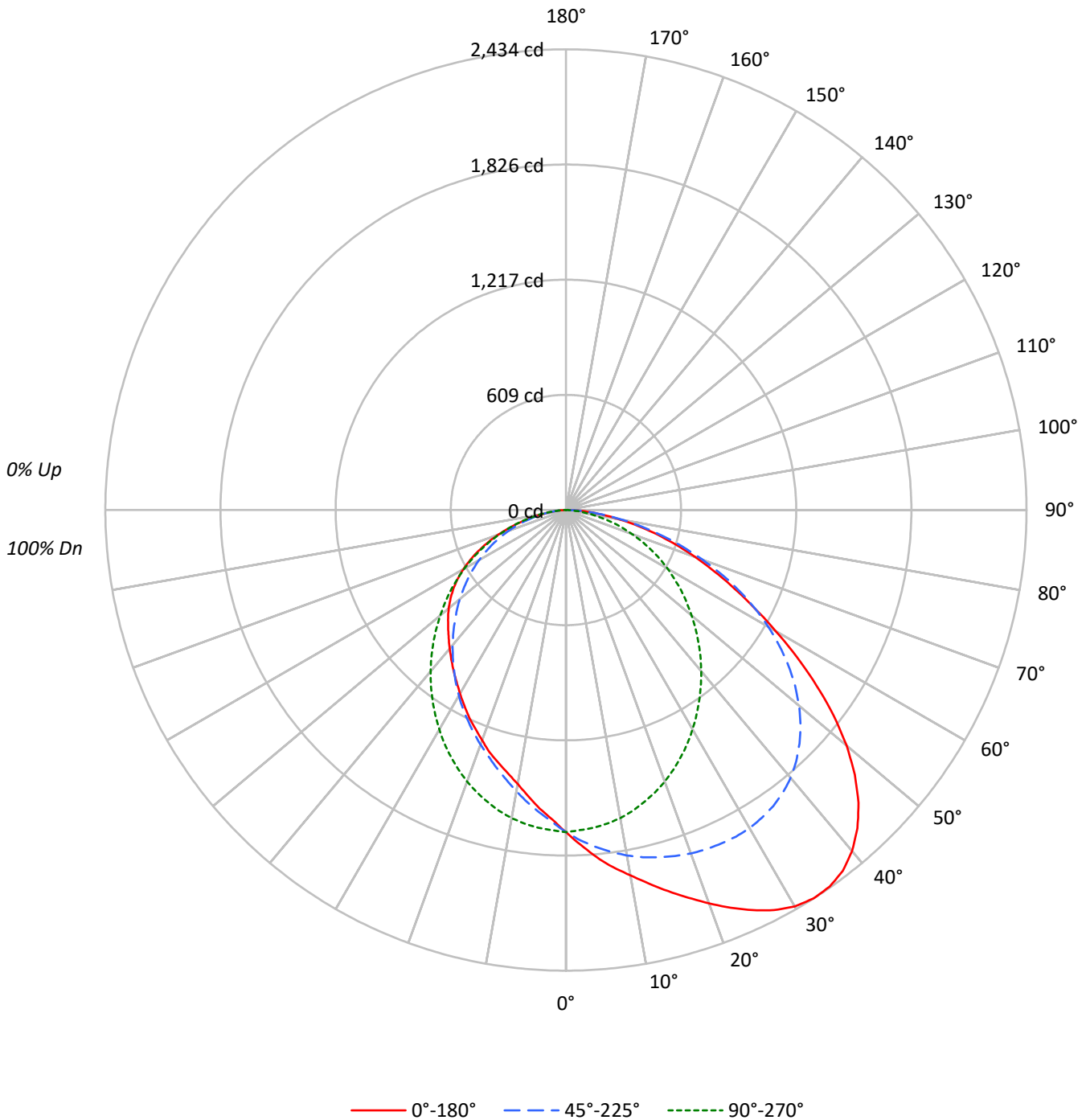
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5271.4 lumens
Efficiency: N/A
Efficacy: 72.2 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_{in}): 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: P
CATALOG NUMBER: 4APN-32-34L930-UNV-ASY

Luminous Intensity Polar Plot





TEST NUMBER: P
 CATALOG NUMBER: 4APN-32-34L930-UNV-ASY

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°	16385	16385	16385
5°	17779	16285	15305
10°	19154	16159	14360
15°	20776	15923	13769
20°	22653	15644	13258
25°	24780	15277	12847
30°	26881	14875	12434
35°	28551	14436	12167
40°	29564	13978	12008
45°	29771	13495	11981
50°	28989	12981	12111
55°	27144	12516	12187
60°	24675	11948	12067
65°	22372	11297	11600
70°	20478	10474	10651
75°	18576	9418	9158
80°	16250	7873	7058
85°	13675	5722	5258



TEST NUMBER: P
 CATALOG NUMBER: 4APN-32-34L930-UNV-ASY

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	161.6	3.1
10°-20°	470.1	8.9
20°-30°	736.4	14.0
30°-40°	923.3	17.5
40°-50°	982.9	18.6
50°-60°	887.3	16.8
60°-70°	656.8	12.5
70°-80°	360.4	6.8
80°-90°	92.5	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°	1368.2	26.0
0°-40°	2291.4	43.5
0°-60°	4161.6	78.9
0°-90°	5271.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5271.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1702	1702	1702	1702	1702	
5°	1840	1786	1685	1604	1584	179
15°	2084	1899	1598	1411	1382	595
25°	2333	1944	1438	1226	1209	1080
35°	2429	1910	1228	1032	1035	1515
45°	2187	1745	991	830	880	1676
55°	1617	1436	746	632	726	1442
65°	982	1012	496	427	509	980
75°	499	530	253	219	246	531
85°	124	122	52	48	48	146
90°	0	0	0	0	0	



TEST NUMBER: P

CATALOG NUMBER: 4APN-32-34L930-UNV-ASY

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	1701.9	1701.9	1701.9	1701.9	1701.9	1701.9	1701.9	1701.9	1701.9	1701.9	1701.9
2.5°	1770.4	1766.9	1762.7	1761.3	1755.0	1746.6	1738.9	1738.9	1729.8	1708.2	1692.8
5°	1839.7	1834.1	1823.6	1815.2	1801.9	1785.8	1769.7	1759.9	1738.2	1705.4	1685.1
7.5°	1903.3	1896.3	1883.0	1866.9	1845.3	1821.5	1794.9	1773.9	1741.0	1697.0	1671.1
10°	1959.3	1953.0	1936.9	1917.3	1886.5	1853.0	1813.8	1782.3	1737.5	1683.0	1652.9
12.5°	2020.8	2014.5	1992.2	1965.6	1923.6	1878.8	1827.1	1783.7	1728.4	1662.7	1628.4
15°	2084.5	2076.1	2050.9	2015.2	1959.3	1899.1	1835.5	1779.5	1713.8	1638.2	1597.6
17.5°	2147.4	2139.0	2107.6	2062.1	1992.2	1917.3	1839.0	1769.7	1692.8	1608.1	1564.1
20°	2211.1	2202.7	2162.8	2105.5	2020.8	1930.6	1838.3	1755.0	1667.6	1573.9	1527.0
22.5°	2274.8	2265.0	2216.7	2146.7	2044.6	1939.7	1830.6	1734.7	1636.1	1534.7	1484.3
25°	2332.8	2323.0	2269.9	2187.3	2069.8	1943.9	1817.3	1706.8	1601.1	1491.3	1438.2
27.5°	2383.2	2371.3	2316.0	2225.1	2091.5	1945.3	1799.8	1675.3	1560.6	1444.5	1390.6
30°	2418.1	2407.7	2348.9	2251.7	2104.1	1940.4	1777.4	1638.2	1513.7	1394.1	1338.1
32.5°	2433.5	2424.4	2366.4	2264.3	2106.2	1927.8	1750.1	1596.9	1464.7	1340.9	1284.3
35°	2429.3	2420.2	2365.0	2262.2	2099.9	1909.6	1715.9	1550.1	1412.3	1285.7	1228.3
37.5°	2402.8	2392.3	2341.9	2243.3	2081.7	1883.0	1676.7	1499.0	1355.6	1229.0	1171.0
40°	2352.4	2341.9	2298.5	2207.6	2050.9	1847.4	1631.9	1444.5	1297.6	1169.6	1112.2
42.5°	2280.3	2269.2	2234.9	2151.6	2006.8	1800.5	1580.9	1386.4	1236.0	1112.2	1052.0
45°	2186.6	2175.4	2152.3	2081.7	1949.5	1745.2	1522.8	1323.4	1171.7	1047.1	991.2
47.5°	2070.5	2060.7	2049.5	1995.0	1878.8	1681.6	1457.7	1256.3	1104.5	986.3	928.9
50°	1935.5	1925.7	1929.2	1892.1	1797.0	1608.1	1386.4	1185.6	1035.2	918.4	866.7
52.5°	1782.3	1774.6	1791.4	1775.3	1701.9	1526.3	1310.2	1112.9	964.6	854.1	804.4
55°	1617.2	1608.8	1641.0	1645.9	1595.5	1436.1	1223.4	1037.3	893.3	791.1	745.7
57.5°	1447.3	1440.3	1481.5	1504.6	1479.4	1338.8	1136.0	959.7	819.8	725.4	679.9
60°	1281.5	1275.9	1319.2	1357.0	1354.2	1236.0	1045.0	875.8	746.4	658.9	620.5
62.5°	1125.5	1119.2	1162.6	1207.3	1223.4	1126.2	954.8	793.2	672.9	592.5	558.2
65°	982.1	975.8	1012.9	1059.0	1088.4	1011.5	857.6	707.9	598.8	525.3	495.9
67.5°	850.6	850.6	873.7	916.3	952.0	894.0	758.3	626.7	522.5	463.1	433.7
70°	727.5	726.8	743.6	773.6	814.9	768.0	657.5	541.4	450.5	398.0	372.1
72.5°	610.7	615.6	621.8	644.9	688.3	647.7	557.5	457.5	379.8	333.7	312.0
75°	499.4	498.7	507.8	528.1	559.6	529.5	457.5	375.6	309.9	272.1	253.2
77.5°	393.1	392.4	400.1	412.0	438.6	414.8	360.9	300.1	241.3	209.8	196.6
80°	293.1	293.1	300.1	306.4	326.0	307.1	269.3	224.5	177.0	152.5	142.0
82.5°	203.6	207.7	205.0	213.3	224.5	208.4	184.7	153.9	117.5	100.7	93.7
85°	123.8	127.3	123.8	130.8	135.7	121.7	109.8	91.6	67.9	56.7	51.8
87.5°	63.7	63.0	62.3	65.8	67.2	58.8	51.8	44.1	30.1	23.1	19.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P

CATALOG NUMBER: 4APN-32-34L930-UNV-ASY

CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1701.9	1701.9	1701.9	1701.9	1701.9	1701.9	1701.9	1701.9	1701.9	1701.9
2.5°	1683.7	1687.9	1681.6	1658.5	1649.4	1639.6	1635.4	1631.2	1638.9	1636.8
5°	1669.7	1664.8	1648.7	1619.3	1603.9	1587.8	1580.2	1575.3	1585.8	1583.7
7.5°	1650.8	1636.8	1613.0	1577.4	1557.8	1536.1	1525.6	1519.3	1526.3	1524.9
10°	1627.0	1603.9	1574.6	1531.9	1508.8	1485.0	1473.1	1464.0	1469.6	1468.9
12.5°	1596.9	1566.9	1531.2	1482.9	1459.1	1434.7	1424.2	1417.9	1424.9	1422.8
15°	1563.4	1527.0	1485.7	1436.8	1410.9	1388.5	1380.8	1375.9	1381.5	1381.5
17.5°	1526.3	1483.6	1438.2	1388.5	1364.0	1346.5	1338.8	1335.3	1338.1	1342.3
20°	1485.0	1437.5	1388.5	1340.2	1319.2	1301.1	1294.1	1290.6	1296.9	1294.1
22.5°	1439.6	1389.2	1338.1	1292.7	1273.8	1255.6	1248.6	1246.5	1253.5	1250.7
25°	1391.3	1336.7	1286.4	1245.1	1226.2	1210.8	1204.5	1202.4	1205.9	1209.4
27.5°	1345.8	1284.3	1234.6	1197.5	1180.7	1166.1	1160.5	1157.0	1159.8	1164.0
30°	1290.6	1231.1	1182.1	1147.9	1131.8	1117.8	1113.6	1110.8	1115.0	1118.5
32.5°	1238.8	1178.6	1129.7	1096.1	1082.1	1068.8	1068.1	1066.7	1071.6	1075.8
35°	1182.8	1124.1	1076.5	1045.0	1031.8	1020.6	1022.7	1024.8	1030.4	1035.2
37.5°	1126.2	1068.8	1023.4	994.7	982.1	973.0	979.3	982.1	989.8	994.7
40°	1068.8	1011.5	969.5	943.6	931.0	926.8	935.9	942.2	951.3	955.5
42.5°	1010.1	956.9	914.9	891.2	880.7	880.7	892.6	902.3	912.8	917.0
45°	951.3	899.5	859.7	838.0	830.3	835.9	849.9	862.5	875.8	880.0
47.5°	891.9	841.5	805.1	785.5	781.3	789.7	807.2	824.0	839.4	845.0
50°	832.4	786.9	750.6	732.4	732.4	742.9	765.2	786.2	803.0	808.6
52.5°	772.9	729.6	692.5	679.2	682.0	696.7	722.6	744.3	763.1	768.7
55°	712.8	670.1	637.9	626.7	631.6	649.8	676.4	701.6	719.8	726.1
57.5°	653.3	612.8	583.4	574.3	581.3	601.6	632.3	654.0	672.9	678.5
60°	593.2	551.9	528.8	521.8	530.9	551.9	583.4	603.7	621.1	626.7
62.5°	533.7	495.2	475.0	468.7	479.2	501.5	532.3	550.5	563.8	569.4
65°	473.6	439.3	420.4	416.2	427.4	449.1	478.5	493.8	503.6	509.2
67.5°	414.1	384.7	367.2	363.7	375.6	395.2	422.5	430.9	440.0	445.6
70°	355.3	328.8	314.1	312.0	322.5	341.4	364.4	368.6	373.5	378.4
72.5°	297.3	276.3	261.6	260.9	270.7	286.1	305.0	305.7	307.1	312.0
75°	241.3	222.4	211.2	213.3	218.9	231.5	246.2	242.0	242.7	246.2
77.5°	187.5	172.1	164.4	165.8	170.0	179.1	188.9	184.0	181.2	184.7
80°	135.0	121.7	118.9	119.6	122.4	128.7	134.3	130.1	124.5	127.3
82.5°	88.8	80.4	79.0	79.7	81.8	85.3	86.7	80.4	79.0	81.1
85°	49.0	45.5	45.5	47.6	48.3	49.0	49.0	45.5	46.2	47.6
87.5°	19.6	19.6	21.7	23.8	22.4	19.6	16.8	11.2	11.2	13.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)