

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-24-26L830-UNV-NP**

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-24-26L830-UNV-NP
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient and Exam Light
w/ Nature Pattern Lens
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

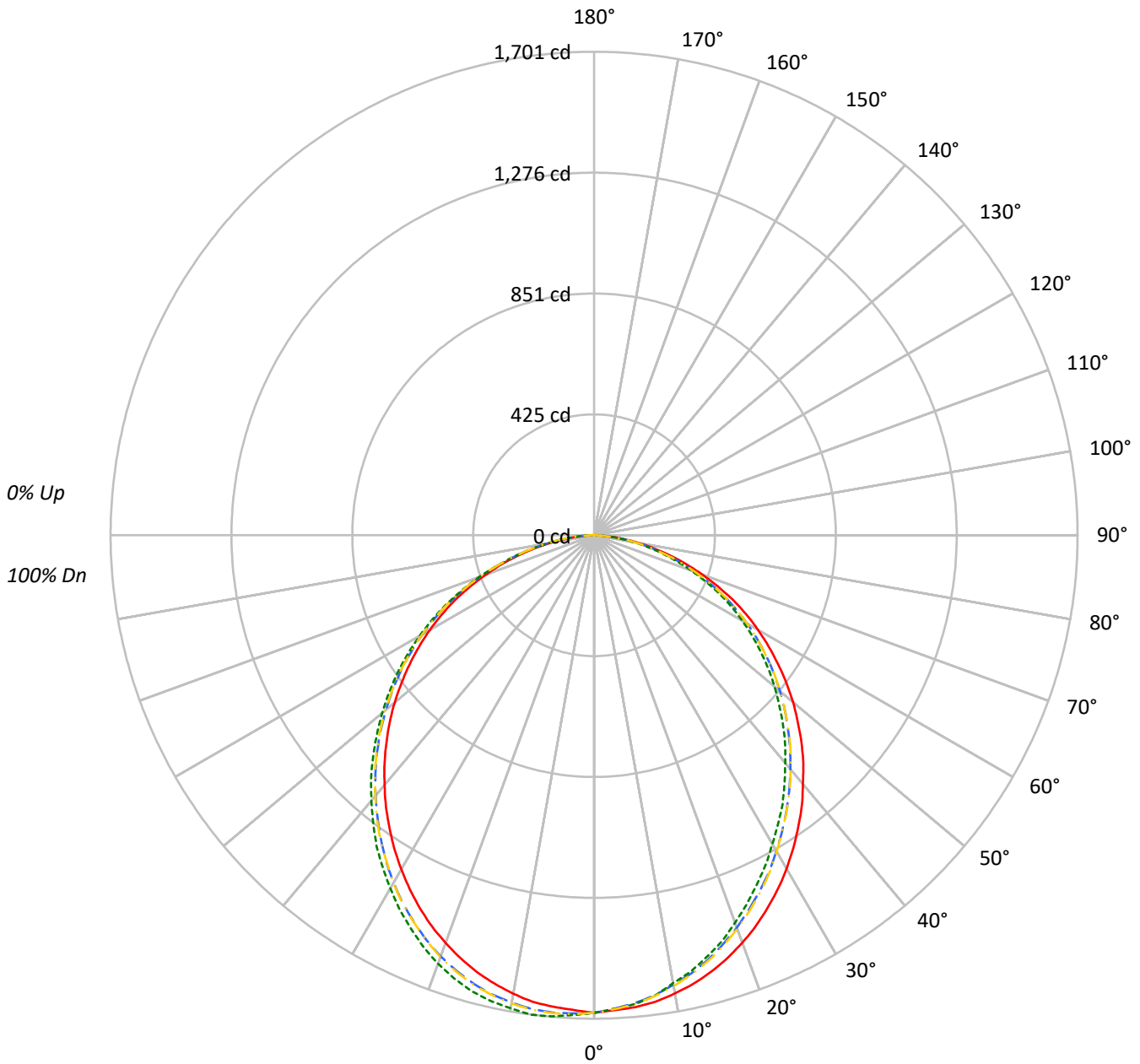
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4442.1 lumens
Efficiency: N/A
Efficacy: 79.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.19 / 1.32
Luminous Opening: Rectangular (W 0.29' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 56
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-24-26L830-UNV-NP

Luminous Intensity Polar Plot



— 0°-180° - - 45°-225° - - - 90°-270° - · - 135°-315°



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 CATALOG NUMBER: 4APN-24-26L830-UNV-NP

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	95	98	95	92	94	91	89	90	88	86	86	86	86	84
2	99	91	84	79	97	89	83	78	86	80	76	82	78	74	79	76	72	72	72	72	70
3	90	80	72	66	88	78	71	65	75	69	64	73	67	63	70	66	62	62	62	62	59
4	83	71	62	56	81	70	62	55	67	60	54	65	59	54	63	57	53	53	53	53	51
5	76	64	55	48	74	62	54	48	60	53	47	58	52	47	56	51	46	46	46	46	44
6	71	57	48	42	69	56	48	42	55	47	41	53	46	41	51	45	41	41	41	41	39
7	65	52	43	37	64	51	43	37	50	42	37	48	41	36	47	41	36	36	36	36	34
8	61	48	39	33	59	47	39	33	45	38	33	44	38	33	43	37	32	32	32	32	31
9	57	44	35	30	56	43	35	30	42	35	30	41	34	30	40	34	29	29	29	29	28
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	27	27	27	25

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	15504	15504	15504	15504
5°	15435	15335	15418	15737
10°	15336	14994	15346	15836
15°	15193	14666	15202	15862
20°	14978	14242	14989	15753
25°	14716	13792	14747	15530
30°	14433	13362	14455	15275
35°	14104	13015	14137	15026
40°	13761	12598	13810	14678
45°	13468	12257	13480	14343
50°	13115	11898	13143	13966
55°	12698	11507	12746	13571
60°	12291	11107	12310	13074
65°	11782	10619	11782	12494
70°	10941	9822	10914	11605
75°	9921	8901	9849	10448
80°	8549	7656	8384	8963
85°	6574	5843	6373	7198



TEST NUMBER: P
 CATALOG NUMBER: 4APN-24-26L830-UNV-NP

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	158.7	3.6
10°-20°	449.3	10.1
20°-30°	665.2	15.0
30°-40°	780.5	17.6
40°-50°	791.0	17.8
50°-60°	702.0	15.8
60°-70°	527.1	11.9
70°-80°	292.7	6.6
80°-90°	75.6	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°	1273.3	28.7
0°-40°	2053.8	46.2
0°-60°	3546.8	79.8
0°-90°	4442.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4442.1	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1680	1680	1680	1680	1680	
5°	1667	1656	1665	1699	1667	158
15°	1591	1535	1592	1661	1591	448
25°	1446	1355	1449	1526	1446	666
35°	1252	1156	1255	1334	1252	784
45°	1032	939	1033	1099	1032	796
55°	789	715	792	844	789	707
65°	540	486	540	572	540	532
75°	278	250	276	293	278	296
85°	62	55	60	68	62	75
90°	0	0	0	0	0	



TEST NUMBER: P

CATALOG NUMBER: 4APN-24-26L830-UNV-NP

CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	100°
0°	1680.4	1680.4	1680.4	1680.4	1680.4	1680.4	1680.4	1680.4	1680.4	1680.4	1680.4
2.5°	1672.6	1676.5	1681.5	1676.5	1668.6	1664.7	1664.7	1663.7	1666.6	1667.6	1666.6
5°	1666.6	1668.6	1669.6	1663.7	1654.8	1649.9	1647.9	1646.9	1650.8	1655.8	1650.8
7.5°	1655.8	1654.8	1653.8	1646.0	1636.1	1629.2	1626.2	1625.2	1629.2	1634.1	1630.1
10°	1637.0	1636.1	1633.1	1623.3	1610.4	1601.5	1598.6	1595.6	1598.6	1600.5	1598.6
12.5°	1616.4	1612.4	1608.4	1597.5	1583.7	1573.9	1569.0	1565.0	1569.0	1571.9	1570.0
15°	1590.6	1584.7	1577.8	1566.0	1552.2	1541.3	1535.4	1531.4	1534.4	1535.4	1535.4
17.5°	1560.1	1553.2	1546.3	1531.4	1514.7	1502.9	1495.9	1491.0	1494.9	1497.0	1497.0
20°	1525.5	1517.6	1508.8	1493.0	1475.2	1462.4	1454.5	1448.6	1449.6	1450.6	1450.6
22.5°	1488.0	1478.2	1467.4	1450.6	1431.8	1417.9	1410.1	1403.2	1403.2	1404.2	1404.2
25°	1445.6	1434.7	1423.9	1407.2	1387.4	1372.6	1362.7	1355.8	1355.8	1354.8	1356.8
27.5°	1402.2	1390.4	1379.5	1361.7	1341.0	1326.2	1316.3	1309.4	1308.4	1307.5	1309.4
30°	1354.8	1341.0	1329.2	1310.4	1290.7	1275.9	1266.0	1258.2	1256.1	1254.2	1256.1
32.5°	1304.5	1291.7	1278.8	1259.1	1239.4	1224.6	1214.7	1206.8	1205.8	1204.9	1206.8
35°	1252.2	1238.4	1226.5	1207.8	1188.1	1173.2	1162.4	1155.5	1155.5	1155.5	1155.5
37.5°	1200.9	1187.1	1174.3	1155.5	1135.8	1121.0	1110.1	1103.2	1101.2	1100.2	1101.2
40°	1142.6	1130.8	1119.0	1101.2	1081.5	1066.7	1057.8	1049.9	1047.9	1046.0	1049.0
42.5°	1089.4	1077.5	1064.7	1047.9	1028.2	1013.4	1003.5	996.6	995.7	994.7	995.7
45°	1032.2	1018.3	1005.5	989.8	972.0	958.1	948.3	941.4	940.3	939.4	940.3
47.5°	972.0	961.1	950.2	934.4	916.7	902.9	894.0	886.1	884.1	882.2	884.1
50°	913.7	901.9	891.0	876.3	859.5	846.7	838.7	831.8	829.9	828.9	829.9
52.5°	852.6	841.7	831.8	817.1	803.2	790.4	781.5	775.6	774.6	773.7	774.6
55°	789.4	779.6	770.7	758.8	745.0	733.2	725.2	718.3	717.4	715.4	717.4
57.5°	728.2	720.4	711.4	698.6	685.8	674.9	668.1	662.1	661.2	660.2	661.2
60°	666.1	658.2	650.3	639.4	626.6	615.7	609.8	604.9	602.9	601.9	602.9
62.5°	603.9	596.0	590.1	579.2	567.4	558.5	552.6	547.7	545.6	544.7	545.6
65°	539.7	532.8	525.9	516.0	507.2	500.3	494.4	489.4	487.5	486.4	486.4
67.5°	471.7	465.8	460.8	452.0	442.1	435.2	429.3	425.3	423.3	422.4	423.3
70°	405.6	400.6	395.7	388.8	380.9	375.0	371.0	367.0	365.1	364.1	364.1
72.5°	342.4	338.5	333.5	327.6	321.7	315.8	311.8	308.9	306.8	305.9	305.9
75°	278.3	274.3	272.4	267.4	261.5	257.5	253.6	251.6	249.7	249.7	249.7
77.5°	218.1	216.1	214.1	209.2	205.2	201.3	198.3	197.3	195.4	195.4	195.4
80°	160.9	159.9	158.9	155.9	151.9	148.0	146.0	145.0	144.1	144.1	144.1
82.5°	108.5	108.5	107.6	104.6	101.6	100.7	98.7	97.7	97.7	97.7	97.7
85°	62.1	62.1	62.1	61.2	59.2	59.2	57.3	56.2	55.2	55.2	55.2
87.5°	24.7	25.6	26.6	25.6	23.7	23.7	23.7	23.7	23.7	23.7	23.7
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-24-26L830-UNV-NP

CANDELA DISTRIBUTION (continued):

	110°	120°	130°	140°	150°	160°	170°	180°	190°	200°	210°
0°	1680.4	1680.4	1680.4	1680.4	1680.4	1680.4	1680.4	1680.4	1680.4	1680.4	1680.4
2.5°	1663.7	1665.7	1666.6	1671.6	1677.5	1681.5	1676.5	1671.6	1679.5	1688.4	1688.4
5°	1646.9	1648.9	1651.9	1657.8	1665.7	1670.6	1668.6	1664.7	1676.5	1686.3	1687.4
7.5°	1626.2	1628.2	1632.1	1638.0	1647.9	1654.8	1654.8	1655.8	1666.6	1678.5	1681.5
10°	1595.6	1600.5	1606.5	1615.3	1625.2	1634.1	1637.0	1638.0	1651.9	1664.7	1668.6
12.5°	1566.9	1571.9	1577.8	1587.7	1599.6	1609.4	1612.4	1616.4	1631.1	1646.0	1651.9
15°	1534.4	1539.4	1546.3	1556.2	1569.0	1579.8	1585.7	1591.6	1606.5	1622.3	1629.2
17.5°	1495.9	1500.8	1507.7	1519.6	1534.4	1547.2	1554.1	1561.0	1577.8	1594.6	1601.5
20°	1450.6	1457.5	1467.4	1479.2	1495.9	1510.7	1518.6	1526.6	1544.3	1561.0	1569.0
22.5°	1404.2	1412.0	1422.9	1436.8	1454.5	1470.3	1480.2	1490.0	1507.7	1524.5	1533.5
25°	1357.8	1366.7	1377.6	1392.3	1409.1	1424.9	1436.8	1448.6	1466.3	1484.1	1493.0
27.5°	1310.4	1318.3	1329.2	1344.0	1362.7	1379.5	1391.3	1404.2	1421.9	1440.7	1449.6
30°	1258.2	1267.0	1276.9	1291.7	1312.4	1331.2	1343.0	1356.8	1374.6	1393.3	1402.2
32.5°	1207.8	1215.7	1225.5	1240.4	1261.1	1280.8	1293.7	1307.5	1325.2	1344.0	1351.8
35°	1155.5	1163.4	1174.3	1189.0	1209.8	1228.6	1241.4	1255.2	1271.9	1289.7	1298.5
37.5°	1104.2	1112.1	1122.9	1137.7	1157.5	1176.2	1189.0	1202.8	1219.6	1236.4	1244.3
40°	1050.9	1058.8	1067.7	1082.5	1102.3	1121.0	1132.8	1146.6	1163.4	1181.2	1189.0
42.5°	996.6	1004.5	1015.4	1030.2	1049.0	1065.7	1078.6	1091.4	1107.1	1122.9	1130.8
45°	942.4	949.3	960.1	973.9	991.7	1007.5	1020.3	1033.1	1047.9	1062.8	1070.6
47.5°	886.1	894.0	902.9	916.7	934.4	951.2	964.0	975.9	989.8	1004.5	1011.4
50°	831.8	838.7	847.6	860.5	877.2	893.0	903.8	915.7	928.5	942.4	948.3
52.5°	775.6	782.5	791.4	804.3	818.0	832.8	842.7	853.6	866.4	879.2	885.1
55°	718.3	723.3	731.2	743.0	757.8	771.6	781.5	792.4	803.2	814.1	820.9
57.5°	662.1	668.1	675.9	686.8	699.6	712.4	721.3	730.2	741.1	751.9	756.9
60°	604.9	609.8	615.7	625.6	638.4	649.3	658.2	667.1	675.9	685.8	690.8
62.5°	546.7	551.6	557.5	567.4	578.3	588.1	596.0	603.9	611.8	620.7	625.6
65°	488.5	493.4	499.3	506.2	515.1	524.0	531.9	539.7	545.6	551.6	556.5
67.5°	425.3	430.2	436.1	442.1	449.9	458.9	464.8	471.7	477.6	484.5	487.5
70°	366.1	370.0	376.0	380.9	387.8	393.7	398.7	404.6	408.5	414.4	419.4
72.5°	307.9	311.8	316.7	321.7	325.7	330.5	336.5	341.4	346.4	352.3	354.2
75°	251.6	253.6	257.5	261.5	265.4	269.4	272.4	276.3	280.2	284.2	287.1
77.5°	196.4	198.3	202.3	205.2	208.2	211.1	213.2	215.1	219.1	222.0	225.0
80°	144.1	146.0	149.0	151.9	154.9	157.8	157.8	157.8	162.8	166.8	167.7
82.5°	97.7	98.7	100.7	102.6	104.6	106.6	106.6	105.6	108.5	111.5	113.5
85°	56.2	57.3	59.2	59.2	60.2	60.2	60.2	60.2	62.1	65.1	67.1
87.5°	22.7	22.7	23.7	23.7	24.7	24.7	23.7	22.7	24.7	27.7	28.6
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-24-26L830-UNV-NP

CANDELA DISTRIBUTION (continued):

	220°	230°	240°	250°	260°	270°	280°	290°	300°	310°	320°
0°	1680.4	1680.4	1680.4	1680.4	1680.4	1680.4	1680.4	1680.4	1680.4	1680.4	1680.4
2.5°	1684.4	1683.4	1686.3	1687.4	1689.4	1689.4	1690.3	1690.3	1688.4	1685.4	1686.3
5°	1685.4	1685.4	1688.4	1691.3	1695.3	1699.2	1696.3	1693.3	1691.3	1688.4	1687.4
7.5°	1680.4	1682.5	1685.4	1690.3	1695.3	1701.2	1697.2	1693.3	1688.4	1684.4	1682.5
10°	1668.6	1670.6	1675.6	1680.4	1685.4	1690.3	1686.3	1682.5	1678.5	1673.5	1671.6
12.5°	1653.8	1656.7	1662.7	1667.6	1672.6	1678.5	1673.5	1668.6	1663.7	1658.8	1655.8
15°	1632.1	1636.1	1643.0	1648.9	1655.8	1660.7	1656.7	1652.9	1646.9	1640.0	1635.1
17.5°	1604.5	1610.4	1617.3	1624.2	1630.1	1635.1	1632.1	1628.2	1621.2	1613.4	1607.4
20°	1573.9	1579.8	1585.7	1592.7	1599.6	1604.5	1600.5	1595.6	1588.7	1582.8	1576.9
22.5°	1538.4	1544.3	1551.2	1557.1	1563.1	1568.0	1563.1	1557.1	1551.2	1545.3	1539.4
25°	1497.9	1503.9	1511.7	1517.6	1521.6	1525.5	1521.6	1516.7	1510.7	1504.8	1498.9
27.5°	1455.5	1461.4	1469.3	1475.2	1479.2	1483.1	1479.2	1474.2	1468.3	1462.4	1456.5
30°	1408.1	1414.1	1421.9	1427.8	1430.9	1433.8	1429.8	1425.9	1421.0	1415.0	1409.1
32.5°	1357.8	1363.7	1369.6	1375.5	1380.5	1384.5	1380.5	1376.5	1370.6	1362.7	1356.8
35°	1304.5	1310.4	1317.4	1323.3	1329.2	1334.1	1328.2	1321.3	1316.3	1311.5	1306.5
37.5°	1248.3	1255.2	1263.0	1270.0	1271.9	1275.9	1271.9	1268.0	1263.0	1258.2	1252.2
40°	1193.0	1198.9	1205.8	1212.7	1215.7	1218.7	1214.7	1210.8	1204.9	1199.9	1194.0
42.5°	1135.8	1141.7	1147.6	1153.5	1157.5	1161.4	1157.5	1151.6	1147.6	1143.6	1138.8
45°	1076.5	1082.5	1087.4	1093.3	1096.3	1099.3	1095.3	1090.4	1086.4	1083.4	1078.6
47.5°	1016.4	1021.3	1026.3	1031.2	1033.1	1036.1	1032.2	1029.2	1026.3	1023.2	1019.4
50°	953.3	958.1	964.0	969.0	970.0	973.0	969.0	966.1	963.1	960.1	957.1
52.5°	891.0	895.0	900.0	904.9	906.9	908.8	904.9	900.9	897.9	896.0	893.0
55°	825.9	829.9	834.8	838.7	841.7	843.7	839.8	835.8	832.8	831.8	828.9
57.5°	760.8	764.7	769.7	773.7	775.6	777.6	773.7	769.7	767.7	765.7	763.8
60°	694.7	698.6	702.6	705.5	707.5	708.5	704.6	701.5	700.6	699.6	697.7
62.5°	629.5	631.6	635.4	637.5	639.4	640.4	637.5	635.4	634.5	633.5	632.5
65°	561.5	566.4	569.3	571.4	571.4	572.3	569.3	568.4	567.4	566.4	564.4
67.5°	491.4	495.4	497.3	499.3	499.3	499.3	499.3	499.3	498.3	496.3	494.4
70°	424.3	427.3	429.3	430.2	430.2	430.2	428.3	427.3	428.3	428.3	427.3
72.5°	356.3	358.2	359.2	360.1	359.2	359.2	359.2	361.1	361.1	360.1	358.2
75°	290.2	292.1	293.1	294.0	293.1	293.1	293.1	295.0	294.0	294.0	293.1
77.5°	227.9	228.9	228.9	229.9	228.9	228.9	229.9	231.9	230.9	230.9	230.9
80°	168.7	168.7	168.7	169.7	168.7	168.7	169.7	171.7	170.8	170.8	170.8
82.5°	114.4	115.4	115.4	115.4	116.4	117.5	117.5	117.5	117.5	117.5	116.4
85°	68.0	69.1	68.0	68.0	68.0	68.0	69.1	70.1	70.1	70.1	70.1
87.5°	29.6	30.6	29.6	28.6	27.7	27.7	29.6	31.5	31.5	30.6	30.6
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-24-26L830-UNV-NP

CANDELA DISTRIBUTION (continued):

	330°	340°	350°	360°
0°	1680.4	1680.4	1680.4	1680.4
2.5°	1690.3	1690.3	1681.5	1672.6
5°	1689.4	1687.4	1677.5	1666.6
7.5°	1683.4	1680.4	1667.6	1655.8
10°	1669.6	1665.7	1651.9	1637.0
12.5°	1652.9	1646.9	1631.1	1616.4
15°	1631.1	1624.2	1607.4	1590.6
17.5°	1602.5	1594.6	1577.8	1560.1
20°	1571.9	1563.1	1544.3	1525.5
22.5°	1534.4	1526.6	1506.8	1488.0
25°	1494.0	1485.1	1465.3	1445.6
27.5°	1450.6	1440.7	1421.0	1402.2
30°	1403.2	1393.3	1373.6	1354.8
32.5°	1352.9	1344.9	1325.2	1304.5
35°	1301.6	1291.7	1271.9	1252.2
37.5°	1247.3	1238.4	1219.6	1200.9
40°	1190.0	1181.2	1161.4	1142.6
42.5°	1133.8	1125.9	1107.1	1089.4
45°	1073.6	1065.7	1047.9	1032.2
47.5°	1013.4	1005.5	988.8	972.0
50°	952.2	944.3	928.5	913.7
52.5°	888.1	882.2	867.3	852.6
55°	824.0	817.1	802.2	789.4
57.5°	759.8	754.8	741.1	728.2
60°	693.7	687.8	676.9	666.1
62.5°	629.5	624.7	613.8	603.9
65°	561.5	557.5	548.7	539.7
67.5°	491.4	488.5	479.5	471.7
70°	424.3	419.4	412.5	405.6
72.5°	356.3	354.2	348.3	342.4
75°	291.1	289.1	283.2	278.3
77.5°	229.9	227.9	223.0	218.1
80°	169.7	168.7	164.8	160.9
82.5°	116.4	115.4	112.5	108.5
85°	70.1	68.0	65.1	62.1
87.5°	30.6	29.6	26.6	24.7
90°	0.0	0.0	0.0	0.0

(END OF REPORT)