

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

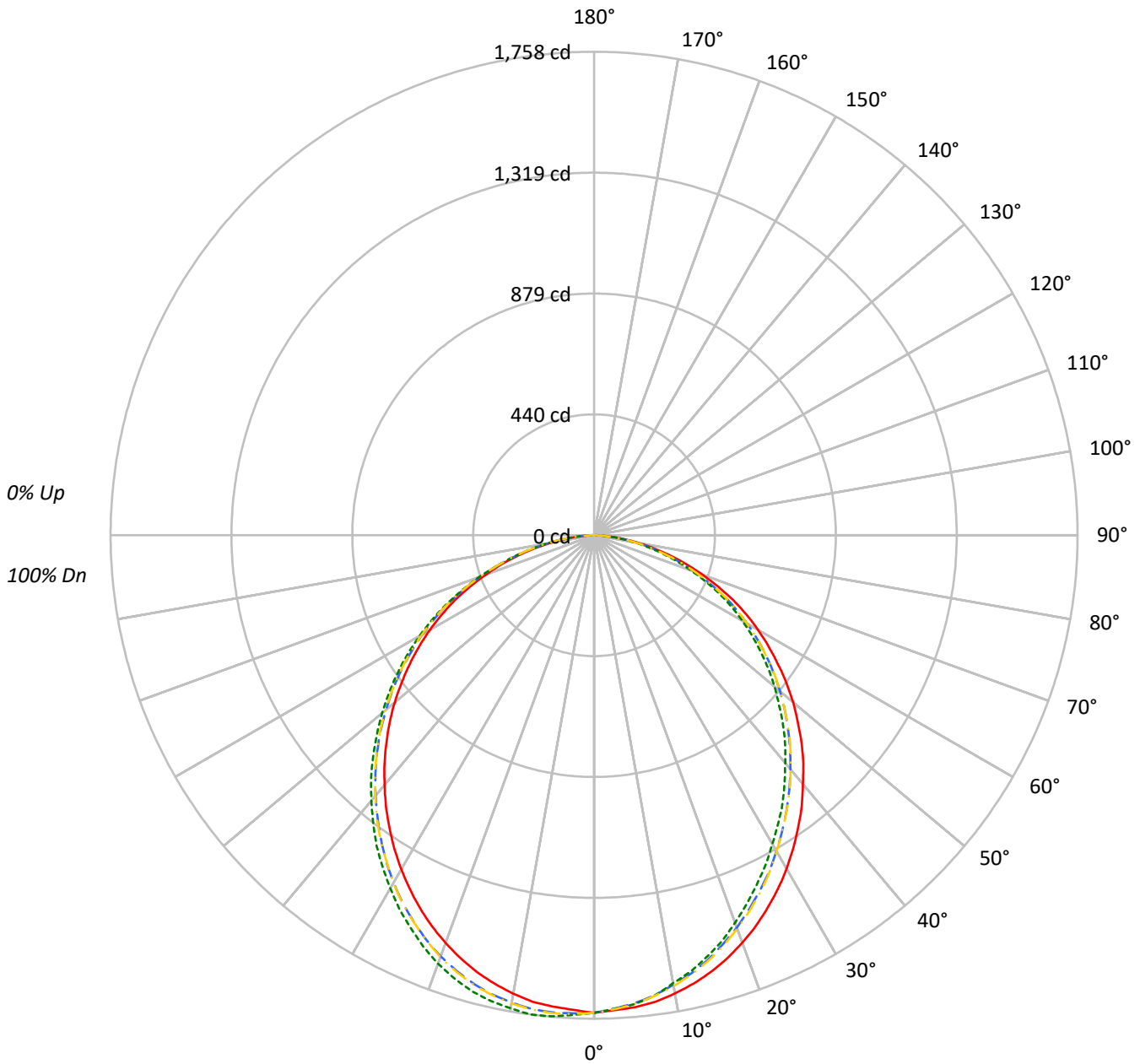
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4590.5 lumens
Efficiency: N/A
Efficacy: 62.9 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): 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

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Luminous Intensity Polar Plot



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



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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	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°	16022	16022	16022	16022
5°	15951	15847	15932	16262
10°	15850	15496	15859	16365
15°	15701	15156	15711	16393
20°	15479	14718	15488	16280
25°	15208	14253	15239	16049
30°	14916	13808	14938	15785
35°	14574	13449	14609	15528
40°	14223	13020	14272	15168
45°	13918	12667	13931	14822
50°	13554	12294	13583	14431
55°	13122	11894	13171	14023
60°	12703	11479	12721	13511
65°	12177	10977	12177	12913
70°	11305	10151	11279	11993
75°	10252	9197	10177	10798
80°	8830	7911	8671	9266
85°	6807	6045	6584	7442



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	164.0	3.6
10°-20°	464.3	10.1
20°-30°	687.5	15.0
30°-40°	806.6	17.6
40°-50°	817.4	17.8
50°-60°	725.5	15.8
60°-70°	544.7	11.9
70°-80°	302.4	6.6
80°-90°	78.1	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°	1315.8	28.7
0°-40°	2122.4	46.2
0°-60°	3665.3	79.8
0°-90°	4590.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4590.5	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1737	1737	1737	1737	1737	
5°	1722	1711	1720	1756	1722	163
15°	1644	1587	1645	1716	1644	463
25°	1494	1400	1497	1576	1494	688
35°	1294	1194	1297	1379	1294	810
45°	1067	971	1068	1136	1067	822
55°	816	739	819	872	816	730
65°	558	503	558	592	558	550
75°	288	258	286	303	288	306
85°	64	57	62	70	64	78
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	100°
0°	1736.6	1736.6	1736.6	1736.6	1736.6	1736.6	1736.6	1736.6	1736.6	1736.6	1736.6
2.5°	1728.5	1732.5	1737.6	1732.5	1724.4	1720.3	1720.3	1719.3	1722.3	1723.3	1722.3
5°	1722.3	1724.4	1725.4	1719.3	1710.1	1705.0	1702.9	1701.9	1706.0	1711.1	1706.0
7.5°	1711.1	1710.1	1709.1	1700.9	1690.8	1683.6	1680.5	1679.5	1683.6	1688.6	1684.6
10°	1691.8	1690.8	1687.6	1677.5	1664.2	1655.0	1651.9	1648.9	1651.9	1654.0	1651.9
12.5°	1670.3	1666.2	1662.2	1650.9	1636.6	1626.5	1621.3	1617.3	1621.3	1624.5	1622.4
15°	1643.8	1637.7	1630.6	1618.3	1604.0	1592.8	1586.7	1582.6	1585.7	1586.7	1586.7
17.5°	1612.2	1605.1	1597.9	1582.6	1565.3	1553.0	1545.9	1540.8	1544.9	1546.9	1546.9
20°	1576.5	1568.3	1559.2	1542.9	1524.5	1511.3	1503.1	1497.0	1498.0	1499.0	1499.0
22.5°	1537.8	1527.6	1516.3	1499.0	1479.6	1465.3	1457.2	1450.0	1450.0	1451.0	1451.0
25°	1493.9	1482.7	1471.5	1454.2	1433.7	1418.5	1408.3	1401.2	1401.2	1400.1	1402.2
27.5°	1449.0	1436.8	1425.6	1407.2	1385.9	1370.6	1360.3	1353.2	1352.2	1351.2	1353.2
30°	1400.1	1385.9	1373.6	1354.2	1333.9	1318.6	1308.3	1300.2	1298.1	1296.1	1298.1
32.5°	1348.1	1334.9	1321.6	1301.2	1280.8	1265.5	1255.3	1247.1	1246.1	1245.1	1247.1
35°	1294.0	1279.7	1267.6	1248.2	1227.7	1212.4	1201.3	1194.1	1194.1	1194.1	1194.1
37.5°	1241.0	1226.7	1213.4	1194.1	1173.7	1158.4	1147.2	1140.1	1138.0	1137.0	1138.0
40°	1180.9	1168.6	1156.4	1138.0	1117.6	1102.3	1093.1	1085.0	1083.0	1081.0	1084.0
42.5°	1125.8	1113.6	1100.3	1083.0	1062.6	1047.3	1037.1	1030.0	1029.0	1027.9	1029.0
45°	1066.7	1052.4	1039.1	1022.8	1004.4	990.1	980.0	972.8	971.8	970.8	971.8
47.5°	1004.4	993.2	982.0	965.7	947.4	933.1	923.8	915.7	913.7	911.7	913.7
50°	944.3	932.0	920.8	905.5	888.2	875.0	866.8	859.7	857.6	856.5	857.6
52.5°	881.1	869.8	859.7	844.4	830.1	816.8	807.7	801.5	800.5	799.5	800.5
55°	815.8	805.6	796.4	784.2	769.9	757.7	749.5	742.4	741.4	739.4	741.4
57.5°	752.5	744.4	735.2	722.0	708.7	697.5	690.4	684.2	683.2	682.2	683.2
60°	688.4	680.2	672.0	660.8	647.5	636.3	630.2	625.1	623.1	622.1	623.1
62.5°	624.1	615.9	609.8	598.6	586.4	577.2	571.1	565.9	563.9	562.9	563.9
65°	557.8	550.6	543.5	533.3	524.2	517.0	510.9	505.8	503.8	502.8	502.8
67.5°	487.5	481.3	476.2	467.1	456.9	449.7	443.6	439.5	437.5	436.5	437.5
70°	419.1	414.0	408.9	401.8	393.6	387.5	383.5	379.3	377.3	376.3	376.3
72.5°	353.9	349.8	344.6	338.6	332.5	326.3	322.2	319.2	317.2	316.2	316.2
75°	287.6	283.5	281.5	276.3	270.2	266.2	262.0	260.0	258.0	258.0	258.0
77.5°	225.3	223.3	221.3	216.2	212.1	208.0	205.0	203.9	201.9	201.9	201.9
80°	166.2	165.2	164.2	161.1	157.0	153.0	150.9	149.9	148.9	148.9	148.9
82.5°	112.2	112.2	111.2	108.1	105.0	104.0	102.0	101.0	101.0	101.0	101.0
85°	64.3	64.3	64.3	63.2	61.2	61.2	59.1	58.1	57.1	57.1	57.1
87.5°	25.5	26.6	27.6	26.6	24.4	24.4	24.4	24.4	24.4	24.4	24.4
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):

	110°	120°	130°	140°	150°	160°	170°	180°	190°	200°	210°
0°	1736.6	1736.6	1736.6	1736.6	1736.6	1736.6	1736.6	1736.6	1736.6	1736.6	1736.6
2.5°	1719.3	1721.3	1722.3	1727.5	1733.5	1737.6	1732.5	1727.5	1735.6	1744.8	1744.8
5°	1701.9	1703.9	1707.1	1713.2	1721.3	1726.4	1724.4	1720.3	1732.5	1742.8	1743.8
7.5°	1680.5	1682.6	1686.6	1692.8	1702.9	1710.1	1710.1	1711.1	1722.3	1734.6	1737.6
10°	1648.9	1654.0	1660.2	1669.3	1679.5	1688.6	1691.8	1692.8	1707.1	1720.3	1724.4
12.5°	1619.3	1624.5	1630.6	1640.8	1653.0	1663.2	1666.2	1670.3	1685.6	1700.9	1707.1
15°	1585.7	1590.8	1597.9	1608.2	1621.3	1632.6	1638.7	1644.8	1660.2	1676.5	1683.6
17.5°	1545.9	1551.0	1558.2	1570.4	1585.7	1598.9	1606.1	1613.2	1630.6	1647.9	1655.0
20°	1499.0	1506.2	1516.3	1528.6	1545.9	1561.2	1569.3	1577.5	1595.9	1613.2	1621.3
22.5°	1451.0	1459.2	1470.5	1484.7	1503.1	1519.4	1529.6	1539.8	1558.2	1575.5	1584.6
25°	1403.2	1412.3	1423.6	1438.9	1456.2	1472.5	1484.7	1497.0	1515.3	1533.7	1542.9
27.5°	1354.2	1362.3	1373.6	1388.9	1408.3	1425.6	1437.9	1451.0	1469.5	1488.8	1498.0
30°	1300.2	1309.3	1319.6	1334.9	1356.3	1375.6	1387.9	1402.2	1420.5	1439.9	1449.0
32.5°	1248.2	1256.3	1266.6	1281.8	1303.2	1323.6	1336.9	1351.2	1369.5	1388.9	1397.0
35°	1194.1	1202.3	1213.4	1228.7	1250.2	1269.6	1282.9	1297.1	1314.4	1332.8	1342.0
37.5°	1141.1	1149.3	1160.4	1175.7	1196.1	1215.6	1228.7	1243.0	1260.4	1277.7	1285.9
40°	1086.0	1094.1	1103.4	1118.7	1139.0	1158.4	1170.7	1185.0	1202.3	1220.6	1228.7
42.5°	1030.0	1038.1	1049.3	1064.6	1084.0	1101.3	1114.6	1127.8	1144.1	1160.4	1168.6
45°	973.8	981.0	992.2	1006.5	1024.8	1041.1	1054.4	1067.7	1083.0	1098.3	1106.4
47.5°	915.7	923.8	933.1	947.4	965.7	983.0	996.3	1008.5	1022.8	1038.1	1045.3
50°	859.7	866.8	876.0	889.2	906.5	922.8	934.1	946.3	959.6	973.8	980.0
52.5°	801.5	808.7	817.8	831.1	845.4	860.7	870.8	882.1	895.4	908.6	914.7
55°	742.4	747.5	755.6	767.8	783.1	797.4	807.7	818.8	830.1	841.3	848.4
57.5°	684.2	690.4	698.5	709.8	723.0	736.2	745.4	754.6	765.8	777.1	782.1
60°	625.1	630.2	636.3	646.5	659.8	671.0	680.2	689.4	698.5	708.7	713.8
62.5°	564.9	570.1	576.2	586.4	597.5	607.8	615.9	624.1	632.2	641.4	646.5
65°	504.8	509.9	516.0	523.1	532.3	541.5	549.6	557.8	563.9	570.1	575.1
67.5°	439.5	444.6	450.8	456.9	465.0	474.2	480.3	487.5	493.5	500.6	503.8
70°	378.3	382.4	388.5	393.6	400.8	406.9	411.9	418.1	422.2	428.3	433.4
72.5°	318.2	322.2	327.3	332.5	336.5	341.6	347.7	352.8	357.9	364.0	366.1
75°	260.0	262.0	266.2	270.2	274.3	278.4	281.5	285.5	289.6	293.7	296.7
77.5°	202.9	205.0	209.0	212.1	215.2	218.2	220.3	222.3	226.4	229.5	232.5
80°	148.9	150.9	154.0	157.0	160.1	163.2	163.2	163.2	168.3	172.3	173.3
82.5°	101.0	102.0	104.0	106.0	108.1	110.1	110.1	109.1	112.2	115.2	117.3
85°	58.1	59.1	61.2	61.2	62.2	62.2	62.2	62.2	64.3	67.3	69.3
87.5°	23.4	23.4	24.4	24.4	25.5	25.5	24.4	23.4	25.5	28.6	29.6
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):

	220°	230°	240°	250°	260°	270°	280°	290°	300°	310°	320°
0°	1736.6	1736.6	1736.6	1736.6	1736.6	1736.6	1736.6	1736.6	1736.6	1736.6	1736.6
2.5°	1740.7	1739.6	1742.8	1743.8	1745.8	1745.8	1746.8	1746.8	1744.8	1741.8	1742.8
5°	1741.8	1741.8	1744.8	1747.8	1751.9	1755.9	1752.9	1749.9	1747.8	1744.8	1743.8
7.5°	1736.6	1738.6	1741.8	1746.8	1751.9	1758.1	1753.9	1749.9	1744.8	1740.7	1738.6
10°	1724.4	1726.4	1731.5	1736.6	1741.8	1746.8	1742.8	1738.6	1734.6	1729.5	1727.5
12.5°	1709.1	1712.2	1718.2	1723.3	1728.5	1734.6	1729.5	1724.4	1719.3	1714.2	1711.1
15°	1686.6	1690.8	1697.9	1703.9	1711.1	1716.2	1712.2	1708.1	1701.9	1694.8	1689.7
17.5°	1658.1	1664.2	1671.3	1678.5	1684.6	1689.7	1686.6	1682.6	1675.5	1667.3	1661.2
20°	1626.5	1632.6	1638.7	1645.9	1653.0	1658.1	1654.0	1648.9	1641.8	1635.6	1629.5
22.5°	1589.8	1595.9	1603.0	1609.2	1615.3	1620.3	1615.3	1609.2	1603.0	1596.9	1590.8
25°	1547.9	1554.1	1562.2	1568.3	1572.5	1576.5	1572.5	1567.3	1561.2	1555.1	1549.0
27.5°	1504.2	1510.2	1518.3	1524.5	1528.6	1532.6	1528.6	1523.5	1517.3	1511.3	1505.2
30°	1455.2	1461.3	1469.5	1475.6	1478.6	1481.7	1477.6	1473.5	1468.4	1462.3	1456.2
32.5°	1403.2	1409.3	1415.4	1421.5	1426.6	1430.7	1426.6	1422.6	1416.4	1408.3	1402.2
35°	1348.1	1354.2	1361.3	1367.5	1373.6	1378.7	1372.6	1365.4	1360.3	1355.2	1350.2
37.5°	1290.0	1297.1	1305.3	1312.4	1314.4	1318.6	1314.4	1310.3	1305.3	1300.2	1294.0
40°	1232.9	1239.0	1246.1	1253.3	1256.3	1259.4	1255.3	1251.2	1245.1	1240.0	1233.9
42.5°	1173.7	1179.8	1186.0	1192.1	1196.1	1200.3	1196.1	1190.0	1186.0	1181.9	1176.7
45°	1112.6	1118.7	1123.7	1129.9	1133.0	1136.0	1131.9	1126.8	1122.7	1119.7	1114.6
47.5°	1050.3	1055.4	1060.5	1065.6	1067.7	1070.7	1066.7	1063.6	1060.5	1057.4	1053.4
50°	985.1	990.1	996.3	1001.4	1002.4	1005.4	1001.4	998.3	995.3	992.2	989.1
52.5°	920.8	924.9	930.0	935.1	937.1	939.1	935.1	931.0	928.0	926.0	922.8
55°	853.5	857.6	862.7	866.8	869.8	871.8	867.8	863.7	860.7	859.7	856.5
57.5°	786.2	790.3	795.4	799.5	801.5	803.5	799.5	795.4	793.4	791.4	789.2
60°	717.9	722.0	726.1	729.1	731.1	732.2	728.1	725.1	724.0	723.0	720.9
62.5°	650.6	652.6	656.7	658.8	660.8	661.8	658.8	656.7	655.7	654.7	653.6
65°	580.2	585.3	588.4	590.4	590.4	591.5	588.4	587.4	586.4	585.3	583.3
67.5°	507.8	511.9	513.9	516.0	516.0	516.0	516.0	516.0	514.9	512.9	510.9
70°	438.5	441.5	443.6	444.6	444.6	444.6	442.6	441.5	442.6	442.6	441.5
72.5°	368.2	370.2	371.2	372.2	371.2	371.2	371.2	373.2	373.2	372.2	370.2
75°	299.8	301.9	302.9	303.9	302.9	302.9	302.9	304.9	303.9	303.9	302.9
77.5°	235.6	236.6	236.6	237.6	236.6	236.6	237.6	239.6	238.6	238.6	238.6
80°	174.4	174.4	174.4	175.4	174.4	174.4	175.4	177.4	176.4	176.4	176.4
82.5°	118.3	119.3	119.3	119.3	120.3	121.3	121.3	121.3	121.3	121.3	120.3
85°	70.3	71.4	70.3	70.3	70.3	70.3	71.4	72.4	72.4	72.4	72.4
87.5°	30.6	31.6	30.6	29.6	28.6	28.6	30.6	32.6	32.6	31.6	31.6
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-32-34L940-UNV-NP

CANDELA DISTRIBUTION (continued):

	330°	340°	350°	360°
0°	1736.6	1736.6	1736.6	1736.6
2.5°	1746.8	1746.8	1737.6	1728.5
5°	1745.8	1743.8	1733.5	1722.3
7.5°	1739.6	1736.6	1723.3	1711.1
10°	1725.4	1721.3	1707.1	1691.8
12.5°	1708.1	1701.9	1685.6	1670.3
15°	1685.6	1678.5	1661.2	1643.8
17.5°	1656.1	1647.9	1630.6	1612.2
20°	1624.5	1615.3	1595.9	1576.5
22.5°	1585.7	1577.5	1557.2	1537.8
25°	1543.9	1534.7	1514.3	1493.9
27.5°	1499.0	1488.8	1468.4	1449.0
30°	1450.0	1439.9	1419.5	1400.1
32.5°	1398.0	1389.9	1369.5	1348.1
35°	1345.0	1334.9	1314.4	1294.0
37.5°	1289.0	1279.7	1260.4	1241.0
40°	1229.8	1220.6	1200.3	1180.9
42.5°	1171.7	1163.6	1144.1	1125.8
45°	1109.4	1101.3	1083.0	1066.7
47.5°	1047.3	1039.1	1021.8	1004.4
50°	984.1	975.8	959.6	944.3
52.5°	917.8	911.7	896.4	881.1
55°	851.5	844.4	829.1	815.8
57.5°	785.2	780.1	765.8	752.5
60°	716.9	710.8	699.5	688.4
62.5°	650.6	645.5	634.2	624.1
65°	580.2	576.2	566.9	557.8
67.5°	507.8	504.8	495.6	487.5
70°	438.5	433.4	426.2	419.1
72.5°	368.2	366.1	359.9	353.9
75°	300.8	298.8	292.6	287.6
77.5°	237.6	235.6	230.5	225.3
80°	175.4	174.4	170.3	166.2
82.5°	120.3	119.3	116.3	112.2
85°	72.4	70.3	67.3	64.3
87.5°	31.6	30.6	27.6	25.5
90°	0.0	0.0	0.0	0.0

(END OF REPORT)