

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

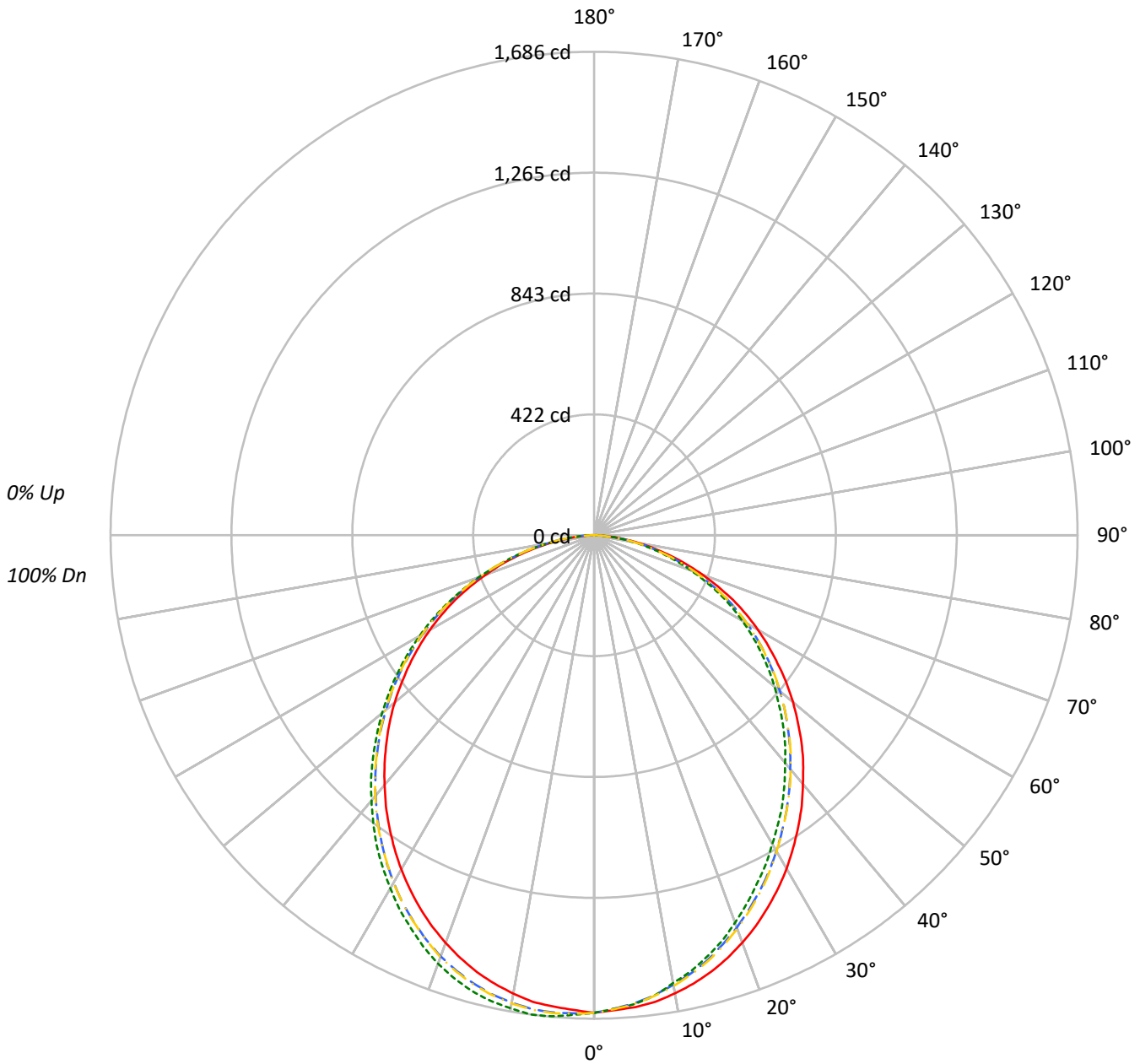
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4402.0 lumens
Efficiency: N/A
Efficacy: 60.3 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): 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				
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°	15364	15364	15364	15364
5°	15297	15197	15278	15595
10°	15199	14859	15208	15693
15°	15056	14534	15066	15720
20°	14843	14114	14852	15611
25°	14584	13668	14614	15390
30°	14303	13241	14325	15136
35°	13976	12897	14010	14891
40°	13639	12484	13686	14544
45°	13347	12146	13358	14213
50°	12997	11790	13024	13840
55°	12584	11403	12632	13449
60°	12180	11007	12199	12955
65°	11677	10525	11677	12380
70°	10841	9735	10815	11500
75°	9832	8819	9760	10352
80°	8469	7582	8315	8889
85°	6521	5801	6320	7145



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	157.3	3.6
10°-20°	445.3	10.1
20°-30°	659.2	15.0
30°-40°	773.5	17.6
40°-50°	783.9	17.8
50°-60°	695.7	15.8
60°-70°	522.3	11.9
70°-80°	290.0	6.6
80°-90°	74.9	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°	1261.8	28.7
0°-40°	2035.2	46.2
0°-60°	3514.8	79.8
0°-90°	4402.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4402.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1665	1665	1665	1665	1665	
5°	1652	1641	1650	1684	1652	157
15°	1576	1522	1577	1646	1576	444
25°	1433	1343	1436	1512	1433	660
35°	1241	1145	1244	1322	1241	777
45°	1023	931	1024	1089	1023	788
55°	782	709	785	836	782	700
65°	535	482	535	567	535	527
75°	276	247	274	290	276	293
85°	62	55	60	68	62	74
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°	1665.3	1665.3	1665.3	1665.3	1665.3	1665.3	1665.3	1665.3	1665.3	1665.3	1665.3
2.5°	1657.5	1661.4	1666.3	1661.4	1653.6	1649.6	1649.6	1648.7	1651.7	1652.6	1651.7
5°	1651.7	1653.6	1654.5	1648.7	1639.9	1635.0	1633.0	1632.0	1636.0	1640.9	1636.0
7.5°	1640.9	1639.9	1638.9	1631.1	1621.3	1614.4	1611.6	1610.5	1614.4	1619.4	1615.4
10°	1622.3	1621.3	1618.4	1608.6	1595.9	1587.1	1584.2	1581.2	1584.2	1586.1	1584.2
12.5°	1601.8	1597.8	1594.0	1583.2	1569.5	1559.7	1554.9	1550.9	1554.9	1557.7	1555.8
15°	1576.3	1570.4	1563.6	1551.9	1538.2	1527.5	1521.6	1517.6	1520.6	1521.6	1521.6
17.5°	1546.0	1539.2	1532.4	1517.6	1501.0	1489.3	1482.5	1477.6	1481.5	1483.4	1483.4
20°	1511.8	1504.0	1495.2	1479.5	1461.9	1449.2	1441.4	1435.6	1436.5	1437.5	1437.5
22.5°	1474.6	1464.9	1454.1	1437.5	1418.9	1405.2	1397.4	1390.6	1390.6	1391.5	1391.5
25°	1432.6	1421.8	1411.0	1394.4	1374.9	1360.2	1350.5	1343.6	1343.6	1342.6	1344.6
27.5°	1389.5	1377.8	1367.0	1349.4	1329.0	1314.2	1304.4	1297.6	1296.7	1295.7	1297.6
30°	1342.6	1329.0	1317.2	1298.6	1279.1	1264.4	1254.6	1246.8	1244.8	1242.9	1244.8
32.5°	1292.7	1280.0	1267.3	1247.7	1228.2	1213.5	1203.8	1195.9	1195.0	1194.0	1195.9
35°	1240.9	1227.3	1215.5	1196.9	1177.4	1162.7	1151.9	1145.1	1145.1	1145.1	1145.1
37.5°	1190.0	1176.4	1163.7	1145.1	1125.5	1110.8	1100.1	1093.2	1091.3	1090.4	1091.3
40°	1132.4	1120.6	1108.9	1091.3	1071.7	1057.1	1048.3	1040.5	1038.5	1036.5	1039.5
42.5°	1079.6	1067.9	1055.1	1038.5	1018.9	1004.2	994.5	987.6	986.6	985.7	986.6
45°	1022.9	1009.1	996.4	980.8	963.2	949.5	939.7	932.9	932.0	930.9	932.0
47.5°	963.2	952.4	941.7	926.1	908.4	894.7	885.9	878.1	876.2	874.2	876.2
50°	905.5	893.8	883.0	868.3	851.7	839.0	831.2	824.4	822.4	821.4	822.4
52.5°	844.9	834.1	824.4	809.7	796.0	783.2	774.5	768.6	767.7	766.6	767.7
55°	782.3	772.5	763.7	752.0	738.3	726.5	718.7	711.9	711.0	708.9	711.0
57.5°	721.6	713.8	705.1	692.3	679.6	668.8	662.0	656.2	655.2	654.2	655.2
60°	660.1	652.2	644.4	633.7	621.0	610.2	604.3	599.4	597.5	596.5	597.5
62.5°	598.5	590.6	584.7	574.0	562.2	553.5	547.6	542.7	540.8	539.8	540.8
65°	534.9	528.0	521.2	511.4	502.6	495.8	490.0	485.1	483.0	482.1	482.1
67.5°	467.5	461.6	456.7	447.9	438.0	431.2	425.4	421.4	419.5	418.5	419.5
70°	401.9	397.0	392.1	385.3	377.5	371.6	367.7	363.7	361.8	360.9	360.9
72.5°	339.3	335.4	330.5	324.6	318.8	312.9	309.0	306.1	304.1	303.2	303.2
75°	275.8	271.8	269.9	265.0	259.2	255.2	251.3	249.4	247.4	247.4	247.4
77.5°	216.1	214.2	212.2	207.3	203.4	199.5	196.6	195.6	193.6	193.6	193.6
80°	159.4	158.4	157.5	154.5	150.6	146.7	144.8	143.7	142.7	142.7	142.7
82.5°	107.6	107.6	106.6	103.6	100.7	99.8	97.8	96.8	96.8	96.8	96.8
85°	61.6	61.6	61.6	60.7	58.6	58.6	56.7	55.8	54.8	54.8	54.8
87.5°	24.4	25.4	26.4	25.4	23.5	23.5	23.5	23.5	23.5	23.5	23.5
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°	1665.3	1665.3	1665.3	1665.3	1665.3	1665.3	1665.3	1665.3	1665.3	1665.3	1665.3
2.5°	1648.7	1650.7	1651.7	1656.6	1662.4	1666.3	1661.4	1656.6	1664.3	1673.2	1673.2
5°	1632.0	1634.1	1636.9	1642.8	1650.7	1655.5	1653.6	1649.6	1661.4	1671.2	1672.1
7.5°	1611.6	1613.5	1617.4	1623.3	1633.0	1639.9	1639.9	1640.9	1651.7	1663.4	1666.3
10°	1581.2	1586.1	1592.0	1600.8	1610.5	1619.4	1622.3	1623.3	1636.9	1649.6	1653.6
12.5°	1552.8	1557.7	1563.6	1573.4	1585.1	1594.9	1597.8	1601.8	1616.5	1631.1	1636.9
15°	1520.6	1525.4	1532.4	1542.1	1554.9	1565.6	1571.5	1577.3	1592.0	1607.6	1614.4
17.5°	1482.5	1487.4	1494.2	1505.9	1520.6	1533.3	1540.1	1547.0	1563.6	1580.2	1587.1
20°	1437.5	1444.3	1454.1	1465.8	1482.5	1497.1	1505.0	1512.7	1530.3	1547.0	1554.9
22.5°	1391.5	1399.3	1410.1	1423.8	1441.4	1457.0	1466.8	1476.6	1494.2	1510.8	1519.6
25°	1345.6	1354.3	1365.1	1379.8	1396.4	1412.0	1423.8	1435.6	1453.1	1470.7	1479.5
27.5°	1298.6	1306.5	1317.2	1331.8	1350.5	1367.0	1378.8	1391.5	1409.1	1427.7	1436.5
30°	1246.8	1255.6	1265.4	1280.0	1300.6	1319.1	1330.9	1344.6	1362.2	1380.8	1389.5
32.5°	1196.9	1204.8	1214.6	1229.2	1249.7	1269.3	1281.9	1295.7	1313.3	1331.8	1339.7
35°	1145.1	1152.9	1163.7	1178.3	1198.9	1217.4	1230.1	1243.9	1260.5	1278.1	1286.8
37.5°	1094.2	1102.1	1112.9	1127.5	1147.1	1165.6	1178.3	1192.1	1208.6	1225.2	1233.1
40°	1041.4	1049.2	1058.1	1072.7	1092.3	1110.8	1122.6	1136.3	1152.9	1170.5	1178.3
42.5°	987.6	995.5	1006.3	1020.9	1039.5	1056.1	1068.8	1081.5	1097.2	1112.9	1120.6
45°	933.9	940.7	951.5	965.1	982.8	998.4	1011.2	1023.8	1038.5	1053.2	1060.9
47.5°	878.1	885.9	894.7	908.4	926.1	942.7	955.4	967.1	980.8	995.5	1002.3
50°	824.4	831.2	840.0	852.7	869.4	884.9	895.7	907.4	920.2	933.9	939.7
52.5°	768.6	775.5	784.3	797.0	810.6	825.3	835.1	845.8	858.6	871.3	877.2
55°	711.9	716.8	724.6	736.3	751.0	764.7	774.5	785.3	796.0	806.7	813.6
57.5°	656.2	662.0	669.8	680.6	693.3	706.1	714.8	723.6	734.4	745.2	750.0
60°	599.4	604.3	610.2	620.0	632.7	643.5	652.2	661.1	669.8	679.6	684.5
62.5°	541.8	546.7	552.5	562.2	573.0	582.8	590.6	598.5	606.3	615.1	620.0
65°	484.0	488.9	494.8	501.7	510.4	519.3	527.1	534.9	540.8	546.7	551.5
67.5°	421.4	426.3	432.2	438.0	445.9	454.7	460.5	467.5	473.3	480.2	483.0
70°	362.8	366.7	372.6	377.5	384.3	390.2	395.1	400.9	404.9	410.8	415.6
72.5°	305.1	309.0	313.9	318.8	322.7	327.6	333.5	338.4	343.3	349.1	351.1
75°	249.4	251.3	255.2	259.2	263.0	266.9	269.9	273.8	277.7	281.7	284.5
77.5°	194.6	196.6	200.4	203.4	206.3	209.3	211.2	213.2	217.1	220.0	222.9
80°	142.7	144.8	147.7	150.6	153.5	156.5	156.5	156.5	161.3	165.2	166.2
82.5°	96.8	97.8	99.8	101.7	103.6	105.6	105.6	104.6	107.6	110.5	112.5
85°	55.8	56.7	58.6	58.6	59.7	59.7	59.7	59.7	61.6	64.5	66.5
87.5°	22.5	22.5	23.5	23.5	24.4	24.4	23.5	22.5	24.4	27.4	28.4
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):

	220°	230°	240°	250°	260°	270°	280°	290°	300°	310°	320°
0°	1665.3	1665.3	1665.3	1665.3	1665.3	1665.3	1665.3	1665.3	1665.3	1665.3	1665.3
2.5°	1669.2	1668.3	1671.2	1672.1	1674.1	1674.1	1675.1	1675.1	1673.2	1670.2	1671.2
5°	1670.2	1670.2	1673.2	1676.1	1680.0	1683.9	1681.0	1678.0	1676.1	1673.2	1672.1
7.5°	1665.3	1667.3	1670.2	1675.1	1680.0	1685.9	1681.9	1678.0	1673.2	1669.2	1667.3
10°	1653.6	1655.5	1660.4	1665.3	1670.2	1675.1	1671.2	1667.3	1663.4	1658.5	1656.6
12.5°	1638.9	1641.8	1647.7	1652.6	1657.5	1663.4	1658.5	1653.6	1648.7	1643.8	1640.9
15°	1617.4	1621.3	1628.2	1634.1	1640.9	1645.8	1641.8	1637.9	1632.0	1625.2	1620.3
17.5°	1590.0	1595.9	1602.7	1609.5	1615.4	1620.3	1617.4	1613.5	1606.7	1598.8	1592.9
20°	1559.7	1565.6	1571.5	1578.3	1585.1	1590.0	1586.1	1581.2	1574.4	1568.5	1562.6
22.5°	1524.5	1530.3	1537.3	1543.1	1549.0	1553.8	1549.0	1543.1	1537.3	1531.3	1525.4
25°	1484.4	1490.3	1498.1	1504.0	1507.8	1511.8	1507.8	1503.0	1497.1	1491.2	1485.3
27.5°	1442.4	1448.2	1456.0	1461.9	1465.8	1469.8	1465.8	1460.9	1455.1	1449.2	1443.3
30°	1395.4	1401.3	1409.1	1415.0	1417.9	1420.8	1416.9	1413.1	1408.2	1402.3	1396.4
32.5°	1345.6	1351.4	1357.3	1363.2	1368.1	1371.9	1368.1	1364.1	1358.3	1350.5	1344.6
35°	1292.7	1298.6	1305.5	1311.4	1317.2	1322.1	1316.2	1309.3	1304.4	1299.6	1294.7
37.5°	1237.0	1243.9	1251.7	1258.5	1260.5	1264.4	1260.5	1256.6	1251.7	1246.8	1240.9
40°	1182.3	1188.1	1195.0	1201.8	1204.8	1207.6	1203.8	1199.9	1194.0	1189.1	1183.2
42.5°	1125.5	1131.4	1137.3	1143.1	1147.1	1150.9	1147.1	1141.2	1137.3	1133.3	1128.4
45°	1066.8	1072.7	1077.6	1083.4	1086.4	1089.3	1085.5	1080.6	1076.6	1073.7	1068.8
47.5°	1007.2	1012.1	1017.0	1021.9	1023.8	1026.7	1022.9	1019.9	1017.0	1014.0	1010.1
50°	944.6	949.5	955.4	960.3	961.3	964.2	960.3	957.3	954.4	951.5	948.6
52.5°	883.0	887.0	891.9	896.7	898.7	900.6	896.7	892.8	889.8	887.9	884.9
55°	818.5	822.4	827.3	831.2	834.1	836.1	832.2	828.2	825.3	824.4	821.4
57.5°	753.9	757.9	762.8	766.6	768.6	770.6	766.6	762.8	760.7	758.8	756.9
60°	688.5	692.3	696.2	699.2	701.1	702.1	698.2	695.3	694.3	693.3	691.3
62.5°	623.9	625.9	629.7	631.7	633.7	634.6	631.7	629.7	628.8	627.8	626.8
65°	556.4	561.3	564.3	566.2	566.2	567.1	564.3	563.2	562.2	561.3	559.4
67.5°	487.0	490.9	492.8	494.8	494.8	494.8	494.8	494.8	493.8	491.9	490.0
70°	420.5	423.4	425.4	426.3	426.3	426.3	424.4	423.4	424.4	424.4	423.4
72.5°	353.0	355.0	356.0	356.9	356.0	356.0	356.0	357.9	357.9	356.9	355.0
75°	287.5	289.4	290.4	291.4	290.4	290.4	290.4	292.4	291.4	291.4	290.4
77.5°	225.9	226.9	226.9	227.8	226.9	226.9	227.8	229.8	228.8	228.8	228.8
80°	167.3	167.3	167.3	168.2	167.3	167.3	168.2	170.1	169.2	169.2	169.2
82.5°	113.4	114.4	114.4	114.4	115.4	116.4	116.4	116.4	116.4	116.4	115.4
85°	67.5	68.4	67.5	67.5	67.5	67.5	68.4	69.4	69.4	69.4	69.4
87.5°	29.3	30.3	29.3	28.4	27.4	27.4	29.3	31.3	31.3	30.3	30.3
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-NP

CANDELA DISTRIBUTION (continued):

	330°	340°	350°	360°
0°	1665.3	1665.3	1665.3	1665.3
2.5°	1675.1	1675.1	1666.3	1657.5
5°	1674.1	1672.1	1662.4	1651.7
7.5°	1668.3	1665.3	1652.6	1640.9
10°	1654.5	1650.7	1636.9	1622.3
12.5°	1637.9	1632.0	1616.5	1601.8
15°	1616.5	1609.5	1592.9	1576.3
17.5°	1588.1	1580.2	1563.6	1546.0
20°	1557.7	1549.0	1530.3	1511.8
22.5°	1520.6	1512.7	1493.2	1474.6
25°	1480.5	1471.7	1452.1	1432.6
27.5°	1437.5	1427.7	1408.2	1389.5
30°	1390.6	1380.8	1361.2	1342.6
32.5°	1340.7	1332.8	1313.3	1292.7
35°	1289.8	1280.0	1260.5	1240.9
37.5°	1236.0	1227.3	1208.6	1190.0
40°	1179.3	1170.5	1150.9	1132.4
42.5°	1123.5	1115.7	1097.2	1079.6
45°	1063.9	1056.1	1038.5	1022.9
47.5°	1004.2	996.4	979.8	963.2
50°	943.7	935.8	920.2	905.5
52.5°	880.0	874.2	859.6	844.9
55°	816.5	809.7	795.0	782.3
57.5°	753.0	748.1	734.4	721.6
60°	687.4	681.5	670.8	660.1
62.5°	623.9	619.0	608.2	598.5
65°	556.4	552.5	543.7	534.9
67.5°	487.0	484.0	475.3	467.5
70°	420.5	415.6	408.7	401.9
72.5°	353.0	351.1	345.2	339.3
75°	288.5	286.6	280.7	275.8
77.5°	227.8	225.9	221.0	216.1
80°	168.2	167.3	163.3	159.4
82.5°	115.4	114.4	111.5	107.6
85°	69.4	67.5	64.5	61.6
87.5°	30.3	29.3	26.4	24.4
90°	0.0	0.0	0.0	0.0

(END OF REPORT)