

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-28-30L950-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-28-30L950-UNV-NP
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient and Exam Light
w/ Nature Pattern Lens
Light Source: 5000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

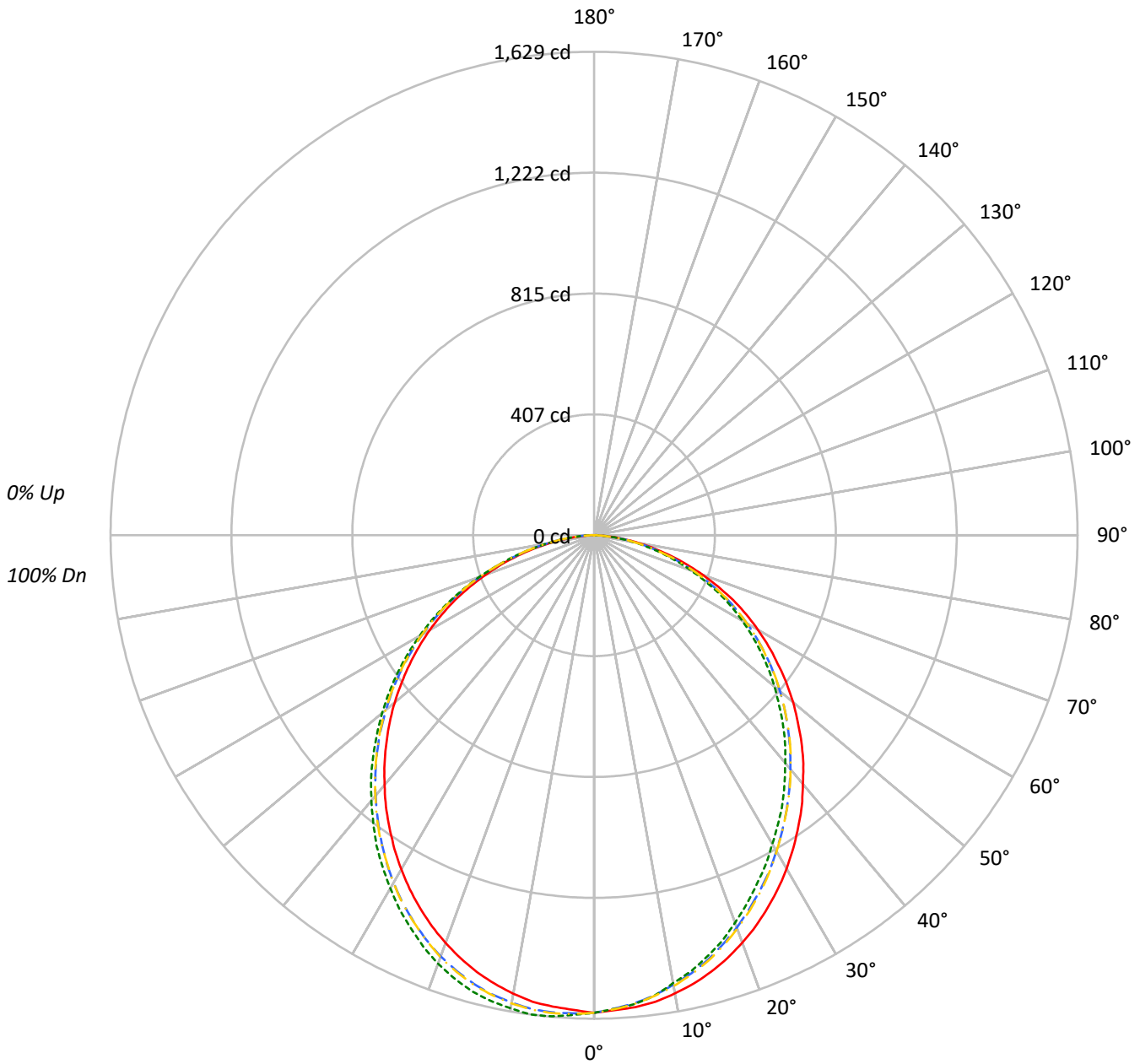
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4253.7 lumens
Efficiency: N/A
Efficacy: 65.4 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): 65
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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88	86	84
2	99	91	84	79	97	89	83	78	86	80	76	82	78	74	79	76	72	70
3	90	80	72	66	88	78	71	65	75	69	64	73	67	63	70	66	62	59
4	83	71	62	56	81	70	62	55	67	60	54	65	59	54	63	57	53	51
5	76	64	55	48	74	62	54	48	60	53	47	58	52	47	56	51	46	44
6	71	57	48	42	69	56	48	42	55	47	41	53	46	41	51	45	41	39
7	65	52	43	37	64	51	43	37	50	42	37	48	41	36	47	41	36	34
8	61	48	39	33	59	47	39	33	45	38	33	44	38	33	43	37	32	31
9	57	44	35	30	56	43	35	30	42	35	30	41	34	30	40	34	29	28
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	14847	14847	14847	14847
5°	14781	14685	14764	15069
10°	14687	14358	14695	15165
15°	14549	14044	14559	15191
20°	14343	13639	14352	15085
25°	14092	13206	14121	14871
30°	13821	12795	13842	14627
35°	13507	12463	13537	14389
40°	13178	12064	13224	14055
45°	12896	11738	12908	13734
50°	12559	11392	12587	13373
55°	12159	11018	12206	12995
60°	11769	10636	11787	12520
65°	11284	10171	11284	11963
70°	10475	9406	10450	11111
75°	9500	8523	9432	10006
80°	8188	7327	8033	8586
85°	6309	5600	6097	6902



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	152.0	3.6
10°-20°	430.3	10.1
20°-30°	637.0	15.0
30°-40°	747.4	17.6
40°-50°	757.5	17.8
50°-60°	672.3	15.8
60°-70°	504.7	11.9
70°-80°	280.3	6.6
80°-90°	72.4	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°	1219.3	28.7
0°-40°	1966.7	46.2
0°-60°	3396.4	79.8
0°-90°	4253.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4253.7	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1609	1609	1609	1609	1609	
5°	1596	1586	1594	1627	1596	151
15°	1523	1470	1524	1590	1523	429
25°	1384	1297	1387	1461	1384	638
35°	1199	1106	1202	1278	1199	750
45°	988	900	989	1053	988	762
55°	756	685	759	808	756	677
65°	517	466	517	548	517	510
75°	266	239	265	281	266	283
85°	60	53	58	65	60	72
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°	1609.2	1609.2	1609.2	1609.2	1609.2	1609.2	1609.2	1609.2	1609.2	1609.2	1609.2
2.5°	1601.7	1605.4	1610.2	1605.4	1597.9	1594.1	1594.1	1593.1	1596.0	1596.9	1596.0
5°	1596.0	1597.9	1598.8	1593.1	1584.6	1579.9	1578.0	1577.1	1580.9	1585.6	1580.9
7.5°	1585.6	1584.6	1583.7	1576.2	1566.7	1560.1	1557.3	1556.3	1560.1	1564.8	1561.0
10°	1567.7	1566.7	1563.9	1554.4	1542.1	1533.7	1530.8	1527.9	1530.8	1532.6	1530.8
12.5°	1547.8	1544.0	1540.2	1529.9	1516.6	1507.2	1502.4	1498.6	1502.4	1505.3	1503.4
15°	1523.2	1517.5	1511.0	1499.6	1486.4	1475.9	1470.3	1466.5	1469.4	1470.3	1470.3
17.5°	1493.9	1487.3	1480.7	1466.5	1450.5	1439.1	1432.5	1427.8	1431.6	1433.4	1433.4
20°	1460.8	1453.3	1444.8	1429.7	1412.7	1400.4	1392.9	1387.1	1388.1	1389.1	1389.1
22.5°	1425.0	1415.5	1405.1	1389.1	1371.1	1357.8	1350.3	1343.7	1343.7	1344.6	1344.6
25°	1384.3	1374.0	1363.5	1347.5	1328.6	1314.4	1304.9	1298.4	1298.4	1297.3	1299.3
27.5°	1342.7	1331.4	1321.0	1304.0	1284.2	1270.0	1260.6	1253.9	1253.0	1252.0	1253.9
30°	1297.3	1284.2	1272.8	1254.8	1235.9	1221.8	1212.3	1204.8	1202.9	1201.0	1202.9
32.5°	1249.2	1237.0	1224.6	1205.7	1186.8	1172.7	1163.2	1155.6	1154.7	1153.8	1155.6
35°	1199.2	1185.9	1174.5	1156.6	1137.7	1123.5	1113.1	1106.5	1106.5	1106.5	1106.5
37.5°	1150.0	1136.7	1124.5	1106.5	1087.6	1073.4	1063.1	1056.4	1054.6	1053.6	1054.6
40°	1094.2	1082.9	1071.5	1054.6	1035.7	1021.5	1013.0	1005.4	1003.5	1001.7	1004.4
42.5°	1043.2	1031.9	1019.5	1003.5	984.6	970.4	961.0	954.4	953.4	952.5	953.4
45°	988.4	975.2	962.8	947.7	930.8	917.5	908.1	901.4	900.5	899.6	900.5
47.5°	930.8	920.3	909.9	894.8	877.8	864.7	856.1	848.5	846.7	844.7	846.7
50°	875.0	863.6	853.3	839.1	823.1	810.7	803.2	796.6	794.7	793.7	794.7
52.5°	816.4	806.0	796.6	782.4	769.1	756.9	748.4	742.7	741.7	740.8	741.7
55°	755.9	746.5	738.0	726.6	713.4	702.1	694.5	687.9	687.0	685.0	687.0
57.5°	697.4	689.8	681.3	669.0	656.7	646.3	639.7	634.1	633.1	632.1	633.1
60°	637.8	630.3	622.7	612.3	600.0	589.6	584.0	579.2	577.4	576.4	577.4
62.5°	578.3	570.7	565.1	554.7	543.3	534.9	529.1	524.4	522.6	521.6	522.6
65°	516.9	510.2	503.7	494.2	485.7	479.1	473.4	468.7	466.8	465.9	465.9
67.5°	451.7	446.0	441.3	432.8	423.3	416.7	411.0	407.2	405.4	404.4	405.4
70°	388.3	383.6	378.9	372.3	364.7	359.0	355.3	351.6	349.6	348.7	348.7
72.5°	327.9	324.1	319.4	313.8	308.0	302.4	298.6	295.8	293.8	292.9	292.9
75°	266.5	262.7	260.8	256.0	250.4	246.6	242.9	240.9	239.1	239.1	239.1
77.5°	208.8	206.9	205.1	200.4	196.6	192.8	189.9	189.0	187.1	187.1	187.1
80°	154.1	153.1	152.1	149.3	145.5	141.7	139.9	138.9	137.9	137.9	137.9
82.5°	103.9	103.9	103.0	100.1	97.4	96.3	94.5	93.6	93.6	93.6	93.6
85°	59.6	59.6	59.6	58.5	56.7	56.7	54.8	53.8	52.9	52.9	52.9
87.5°	23.6	24.5	25.5	24.5	22.7	22.7	22.7	22.7	22.7	22.7	22.7
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°	1609.2	1609.2	1609.2	1609.2	1609.2	1609.2	1609.2	1609.2	1609.2	1609.2	1609.2
2.5°	1593.1	1595.1	1596.0	1600.7	1606.4	1610.2	1605.4	1600.7	1608.2	1616.7	1616.7
5°	1577.1	1579.0	1581.8	1587.5	1595.1	1599.8	1597.9	1594.1	1605.4	1614.9	1615.8
7.5°	1557.3	1559.1	1562.9	1568.6	1578.0	1584.6	1584.6	1585.6	1596.0	1607.3	1610.2
10°	1527.9	1532.6	1538.4	1546.8	1556.3	1564.8	1567.7	1568.6	1581.8	1594.1	1597.9
12.5°	1500.6	1505.3	1511.0	1520.4	1531.7	1541.2	1544.0	1547.8	1562.0	1576.2	1581.8
15°	1469.4	1474.1	1480.7	1490.1	1502.4	1512.8	1518.5	1524.2	1538.4	1553.5	1560.1
17.5°	1432.5	1437.2	1443.9	1455.2	1469.4	1481.7	1488.3	1494.8	1511.0	1527.0	1533.7
20°	1389.1	1395.6	1405.1	1416.5	1432.5	1446.7	1454.3	1461.8	1478.8	1494.8	1502.4
22.5°	1344.6	1352.2	1362.6	1375.8	1392.9	1408.0	1417.4	1426.8	1443.9	1459.9	1468.4
25°	1300.2	1308.7	1319.1	1333.3	1349.3	1364.5	1375.8	1387.1	1404.2	1421.2	1429.7
27.5°	1254.8	1262.4	1272.8	1287.0	1304.9	1321.0	1332.4	1344.6	1361.6	1379.6	1388.1
30°	1204.8	1213.3	1222.8	1237.0	1256.8	1274.7	1286.0	1299.3	1316.2	1334.2	1342.7
32.5°	1156.6	1164.1	1173.6	1187.8	1207.6	1226.5	1238.8	1252.0	1269.0	1287.0	1294.6
35°	1106.5	1114.1	1124.5	1138.7	1158.5	1176.5	1188.7	1201.9	1218.1	1235.0	1243.5
37.5°	1057.3	1064.9	1075.3	1089.5	1108.4	1126.3	1138.7	1151.9	1167.9	1184.0	1191.6
40°	1006.4	1013.9	1022.4	1036.6	1055.5	1073.4	1084.7	1098.0	1114.1	1131.1	1138.7
42.5°	954.4	961.9	972.3	986.5	1004.4	1020.6	1032.8	1045.1	1060.2	1075.3	1082.9
45°	902.4	909.0	919.4	932.6	949.7	964.8	977.0	989.3	1003.5	1017.7	1025.3
47.5°	848.5	856.1	864.7	877.8	894.8	910.9	923.2	934.5	947.7	961.9	968.6
50°	796.6	803.2	811.7	824.0	840.0	855.2	865.6	876.9	889.2	902.4	908.1
52.5°	742.7	749.3	757.8	770.1	783.3	797.5	806.9	817.4	829.6	842.0	847.6
55°	687.9	692.6	700.2	711.5	725.7	738.9	748.4	758.8	769.1	779.6	786.2
57.5°	634.1	639.7	647.2	657.7	669.9	682.3	690.8	699.2	709.7	720.0	724.8
60°	579.2	584.0	589.6	599.1	611.4	621.8	630.3	638.8	647.2	656.7	661.4
62.5°	523.5	528.2	533.9	543.3	553.8	563.2	570.7	578.3	585.8	594.3	599.1
65°	467.7	472.4	478.1	484.8	493.3	501.8	509.3	516.9	522.6	528.2	532.9
67.5°	407.2	411.9	417.7	423.3	430.9	439.4	445.0	451.7	457.3	464.0	466.8
70°	350.5	354.3	360.0	364.7	371.4	377.0	381.7	387.4	391.2	396.8	401.6
72.5°	294.9	298.6	303.3	308.0	311.8	316.5	322.2	326.9	331.6	337.4	339.2
75°	240.9	242.9	246.6	250.4	254.2	258.0	260.8	264.6	268.4	272.2	274.9
77.5°	188.0	189.9	193.7	196.6	199.3	202.2	204.1	206.0	209.8	212.6	215.5
80°	137.9	139.9	142.7	145.5	148.3	151.2	151.2	151.2	155.9	159.7	160.6
82.5°	93.6	94.5	96.3	98.3	100.1	102.1	102.1	101.1	103.9	106.8	108.7
85°	53.8	54.8	56.7	56.7	57.6	57.6	57.6	57.6	59.6	62.3	64.3
87.5°	21.8	21.8	22.7	22.7	23.6	23.6	22.7	21.8	23.6	26.5	27.4
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°	1609.2	1609.2	1609.2	1609.2	1609.2	1609.2	1609.2	1609.2	1609.2	1609.2	1609.2
2.5°	1612.9	1612.0	1614.9	1615.8	1617.7	1617.7	1618.7	1618.7	1616.7	1614.0	1614.9
5°	1614.0	1614.0	1616.7	1619.6	1623.4	1627.1	1624.3	1621.5	1619.6	1616.7	1615.8
7.5°	1609.2	1611.1	1614.0	1618.7	1623.4	1629.1	1625.3	1621.5	1616.7	1612.9	1611.1
10°	1597.9	1599.8	1604.5	1609.2	1614.0	1618.7	1614.9	1611.1	1607.3	1602.6	1600.7
12.5°	1583.7	1586.6	1592.2	1596.9	1601.7	1607.3	1602.6	1597.9	1593.1	1588.4	1585.6
15°	1562.9	1566.7	1573.3	1579.0	1585.6	1590.4	1586.6	1582.8	1577.1	1570.4	1565.7
17.5°	1536.4	1542.1	1548.8	1555.3	1561.0	1565.7	1562.9	1559.1	1552.6	1545.0	1539.3
20°	1507.2	1512.8	1518.5	1525.1	1531.7	1536.4	1532.6	1527.9	1521.3	1515.7	1510.0
22.5°	1473.2	1478.8	1485.4	1491.1	1496.8	1501.5	1496.8	1491.1	1485.4	1479.7	1474.1
25°	1434.4	1440.1	1447.6	1453.3	1457.0	1460.8	1457.0	1452.3	1446.7	1441.0	1435.4
27.5°	1393.8	1399.4	1407.0	1412.7	1416.5	1420.2	1416.5	1411.8	1406.0	1400.4	1394.7
30°	1348.4	1354.0	1361.6	1367.3	1370.2	1373.0	1369.2	1365.4	1360.7	1355.1	1349.3
32.5°	1300.2	1305.9	1311.5	1317.3	1322.0	1325.7	1322.0	1318.2	1312.5	1304.9	1299.3
35°	1249.2	1254.8	1261.5	1267.1	1272.8	1277.5	1271.9	1265.3	1260.6	1255.8	1251.1
37.5°	1195.4	1201.9	1209.5	1216.1	1218.1	1221.8	1218.1	1214.3	1209.5	1204.8	1199.2
40°	1142.5	1148.1	1154.7	1161.4	1164.1	1167.0	1163.2	1159.4	1153.8	1149.0	1143.4
42.5°	1087.6	1093.3	1098.9	1104.6	1108.4	1112.2	1108.4	1102.7	1098.9	1095.2	1090.4
45°	1030.9	1036.6	1041.3	1047.0	1049.8	1052.6	1048.9	1044.2	1040.4	1037.5	1032.8
47.5°	973.3	978.0	982.8	987.5	989.3	992.2	988.4	985.5	982.8	979.9	976.1
50°	912.8	917.5	923.2	927.9	928.8	931.7	927.9	925.0	922.3	919.4	916.6
52.5°	853.3	857.1	861.8	866.5	868.4	870.3	866.5	862.7	859.9	858.0	855.2
55°	790.9	794.7	799.4	803.2	806.0	807.9	804.2	800.4	797.5	796.6	793.7
57.5°	728.6	732.3	737.0	740.8	742.7	744.6	740.8	737.0	735.1	733.3	731.3
60°	665.2	669.0	672.8	675.6	677.5	678.5	674.7	671.9	670.9	669.9	668.1
62.5°	602.9	604.7	608.5	610.5	612.3	613.2	610.5	608.5	607.6	606.7	605.7
65°	537.6	542.4	545.2	547.1	547.1	548.0	545.2	544.3	543.3	542.4	540.5
67.5°	470.6	474.4	476.2	478.1	478.1	478.1	478.1	478.1	477.2	475.3	473.4
70°	406.3	409.2	411.0	411.9	411.9	411.9	410.1	409.2	410.1	410.1	409.2
72.5°	341.1	343.0	344.0	344.9	344.0	344.0	344.0	345.8	345.8	344.9	343.0
75°	277.8	279.7	280.7	281.6	280.7	280.7	280.7	282.5	281.6	281.6	280.7
77.5°	218.2	219.3	219.3	220.2	219.3	219.3	220.2	222.0	221.1	221.1	221.1
80°	161.6	161.6	161.6	162.5	161.6	161.6	162.5	164.4	163.5	163.5	163.5
82.5°	109.6	110.5	110.5	110.5	111.5	112.5	112.5	112.5	112.5	112.5	111.5
85°	65.2	66.1	65.2	65.2	65.2	65.2	66.1	67.1	67.1	67.1	67.1
87.5°	28.3	29.3	28.3	27.4	26.5	26.5	28.3	30.2	30.2	29.3	29.3
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-28-30L950-UNV-NP

CANDELA DISTRIBUTION (continued):

	330°	340°	350°	360°
0°	1609.2	1609.2	1609.2	1609.2
2.5°	1618.7	1618.7	1610.2	1601.7
5°	1617.7	1615.8	1606.4	1596.0
7.5°	1612.0	1609.2	1596.9	1585.6
10°	1598.8	1595.1	1581.8	1567.7
12.5°	1582.8	1577.1	1562.0	1547.8
15°	1562.0	1555.3	1539.3	1523.2
17.5°	1534.6	1527.0	1511.0	1493.9
20°	1505.3	1496.8	1478.8	1460.8
22.5°	1469.4	1461.8	1442.9	1425.0
25°	1430.6	1422.1	1403.2	1384.3
27.5°	1389.1	1379.6	1360.7	1342.7
30°	1343.7	1334.2	1315.3	1297.3
32.5°	1295.5	1287.9	1269.0	1249.2
35°	1246.4	1237.0	1218.1	1199.2
37.5°	1194.4	1185.9	1167.9	1150.0
40°	1139.6	1131.1	1112.2	1094.2
42.5°	1085.7	1078.2	1060.2	1043.2
45°	1028.1	1020.6	1003.5	988.4
47.5°	970.4	962.8	946.8	930.8
50°	911.9	904.3	889.2	875.0
52.5°	850.5	844.7	830.6	816.4
55°	789.0	782.4	768.2	755.9
57.5°	727.6	722.8	709.7	697.4
60°	664.3	658.6	648.3	637.8
62.5°	602.9	598.1	587.8	578.3
65°	537.6	533.9	525.4	516.9
67.5°	470.6	467.7	459.2	451.7
70°	406.3	401.6	395.0	388.3
72.5°	341.1	339.2	333.6	327.9
75°	278.7	276.9	271.2	266.5
77.5°	220.2	218.2	213.5	208.8
80°	162.5	161.6	157.8	154.1
82.5°	111.5	110.5	107.7	103.9
85°	67.1	65.2	62.3	59.6
87.5°	29.3	28.3	25.5	23.6
90°	0.0	0.0	0.0	0.0

(END OF REPORT)