

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: METALUX

Report Number: P#

Luminaire Tested: **4SNLED-LD5-78HL-LW-UNV-L950-CD1-U**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P#
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P33520)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 4SNLED-LD5-78HL-LW-UNV-L950-CD1-U
Description: 4FT LINEAR SNLED LED FIXTURE
WIDE FROSTED LENS
Light Source: -
Ballast/Driver: -

Summary

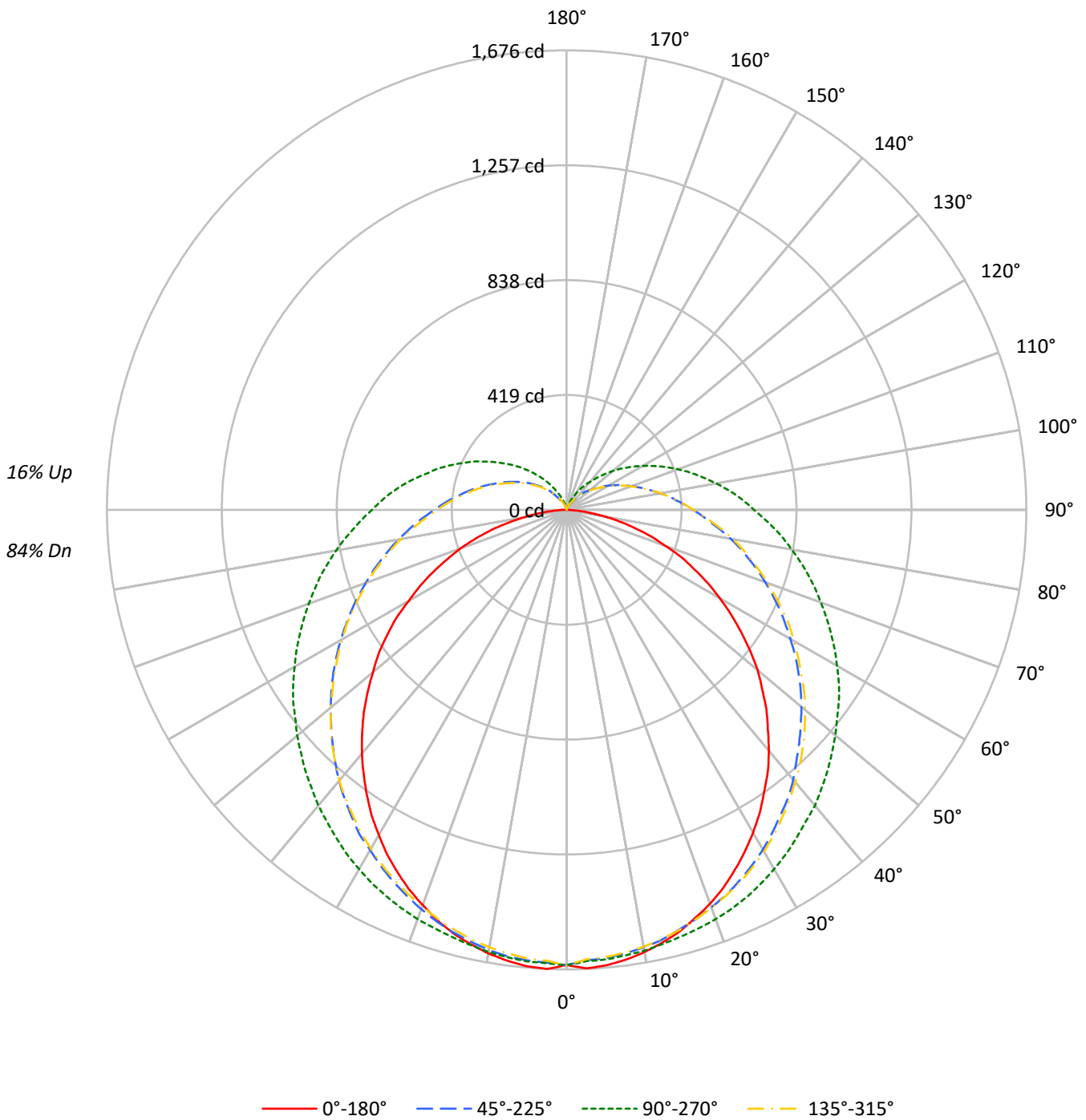
Lumens per Lamp: N/A
Luminaire Lumens: 7213.0 lumens
Efficiency: N/A
Efficacy: 91.3 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.36 / 1.44
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.12')
CIE Type: Semi-Direct

Input Watts (W): 79
Input Voltage (V): NR
Input Current (Ain): 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: 4SNLED-LD5-78HL-LW-UNV-L950-CD1-U

Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	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	50	30	10	50	30	10	50	30	10	0																
RCR																																														
0	115	115	115	115	111	111	111	111	102	102	102	94	94	94	87	87	87	84																												
1	102	96	91	86	98	92	87	83	85	81	77	78	75	72	72	70	67	64																												
2	92	82	74	68	87	79	72	66	73	67	62	67	62	58	62	58	54	51																												
3	83	71	62	55	79	69	60	54	63	56	51	58	52	48	54	49	45	42																												
4	76	63	53	46	72	60	52	45	56	48	42	51	45	40	47	42	38	35																												
5	69	56	46	39	66	54	45	38	50	42	36	46	39	34	42	37	33	30																												
6	64	50	41	34	61	48	39	33	45	37	31	41	35	30	38	33	28	26																												
7	59	45	36	30	56	43	35	29	40	33	28	38	31	26	35	29	25	23																												
8	55	41	32	26	52	40	31	26	37	30	24	34	28	23	32	26	22	20																												
9	51	37	29	23	49	36	28	23	34	27	22	32	25	21	30	24	20	18																												
10	48	34	26	21	46	33	26	21	31	24	20	29	23	19	27	22	18	16																												

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	13416	13416	13416	13416
5°	13487	12929	13516	12984
10°	13363	12562	13406	12603
15°	13207	12248	13265	12260
20°	13000	12018	13044	12018
25°	12744	11814	12820	11800
30°	12456	11604	12553	11604
35°	12122	11410	12258	11423
40°	11792	11295	11935	11295
45°	11412	11176	11586	11190
50°	11016	11104	11165	11135
55°	10463	11115	10794	11163
60°	9882	11149	10204	11217
65°	9227	11261	9634	11372
70°	8308	11469	8956	11631
75°	7248	11843	7933	12071
80°	5609	12398	6368	12686
85°	3348	13290	4188	13658



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	157.3	2.2
10°-20°	452.0	6.3
20°-30°	693.0	9.6
30°-40°	855.0	11.9
40°-50°	927.6	12.9
50°-60°	914.2	12.7
60°-70°	826.6	11.5
70°-80°	688.6	9.5
80°-90°	533.4	7.4
90°-100°	404.5	5.6
100°-110°	299.3	4.2
110°-120°	208.2	2.9
120°-130°	132.9	1.8
130°-140°	74.5	1.0
140°-150°	34.1	0.5
150°-160°	10.6	0.1
160°-170°	1.3	0.0
170°-180°	0.0	0.0
0°-30°	1302.3	18.1
0°-40°	2157.3	29.9
0°-60°	3999.1	55.4
0°-90°	6047.6	83.8
90°-120°	912.1	12.6
90°-150°	1153.5	16.0
90°-180°	1165.0	16.2
0°-180°	7213.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1660	1660	1660	1660	1660	
5°	1667	1646	1671	1653	1667	158
15°	1592	1611	1599	1613	1592	449
25°	1450	1557	1459	1555	1450	668
35°	1256	1461	1270	1462	1256	786
45°	1030	1345	1046	1347	1030	793
55°	776	1212	800	1217	776	694
65°	515	1063	538	1074	515	510
75°	259	911	284	928	259	274
85°	49	758	61	779	49	59
90°	2	683	4	709	2	3
95°	2	620	2	650	2	1
105°	2	492	2	522	2	2
115°	2	375	2	408	2	2
125°	2	270	2	300	2	2
135°	2	175	2	207	2	1
145°	2	102	2	124	2	1
155°	2	42	2	58	2	1
165°	2	7	2	10	2	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-78HL-LW-UNV-L950-CD1-U

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1660.2	1660.2	1660.2	1660.2	1660.2	1660.2	1660.2	1660.2	1660.2	1660.2	1660.2
2.5°	1674.2	1674.2	1672.5	1669.0	1670.7	1676.0	1672.5	1663.7	1658.5	1644.5	1648.0
5°	1667.2	1667.2	1665.5	1662.0	1663.7	1670.7	1667.2	1660.2	1653.2	1641.0	1646.2
7.5°	1655.0	1655.0	1653.2	1649.7	1653.2	1660.2	1656.7	1649.7	1644.5	1632.2	1637.5
10°	1637.5	1639.2	1637.5	1632.2	1639.2	1646.2	1644.5	1635.7	1630.4	1619.9	1625.2
12.5°	1616.4	1618.2	1616.4	1614.7	1618.2	1628.7	1625.2	1618.2	1614.7	1605.9	1611.2
15°	1591.9	1593.7	1590.2	1590.2	1593.7	1604.2	1604.2	1597.2	1593.7	1584.9	1595.4
17.5°	1560.4	1562.1	1560.4	1560.4	1563.9	1574.4	1576.2	1572.7	1569.2	1565.7	1576.2
20°	1528.9	1527.1	1527.1	1525.4	1532.4	1548.1	1546.4	1546.4	1542.9	1542.9	1555.1
22.5°	1492.1	1492.1	1490.3	1490.3	1499.1	1513.1	1513.1	1516.6	1513.1	1520.1	1530.6
25°	1450.1	1451.8	1450.1	1453.6	1460.6	1476.3	1478.1	1483.3	1485.1	1492.1	1504.4
27.5°	1406.3	1408.0	1406.3	1409.8	1422.0	1434.3	1443.1	1450.1	1451.8	1462.3	1478.1
30°	1359.0	1359.0	1360.8	1364.3	1378.3	1397.5	1404.5	1413.3	1413.3	1430.8	1446.6
32.5°	1310.0	1310.0	1310.0	1317.0	1332.7	1355.5	1364.3	1374.8	1378.3	1395.8	1413.3
35°	1255.7	1257.4	1257.4	1262.7	1283.7	1306.5	1318.7	1331.0	1338.0	1359.0	1376.5
37.5°	1204.9	1208.4	1203.1	1210.1	1239.9	1259.2	1273.2	1285.4	1297.7	1325.7	1339.7
40°	1147.1	1150.6	1148.8	1162.9	1187.4	1211.9	1227.7	1239.9	1257.4	1285.4	1301.2
42.5°	1085.8	1089.3	1092.8	1108.6	1134.8	1159.4	1178.6	1194.4	1215.4	1239.9	1266.2
45°	1029.8	1029.8	1035.0	1054.3	1082.3	1108.6	1131.3	1148.8	1173.4	1199.6	1225.9
47.5°	966.7	968.5	975.5	998.2	1028.0	1059.5	1080.5	1103.3	1129.6	1157.6	1187.4
50°	908.9	908.9	919.4	943.9	972.0	1007.0	1029.8	1056.0	1084.0	1117.3	1147.1
52.5°	842.4	845.9	861.6	884.4	921.2	952.7	979.0	1007.0	1040.3	1075.3	1108.6
55°	775.8	782.8	795.1	826.6	865.1	894.9	926.4	961.5	993.0	1031.5	1070.0
57.5°	711.0	716.3	735.5	767.1	807.3	844.1	877.4	910.7	949.2	987.7	1028.0
60°	644.5	651.5	674.2	705.8	749.6	788.1	826.6	861.6	901.9	942.2	984.2
62.5°	581.4	586.7	613.0	649.7	693.5	735.5	774.1	816.1	859.9	898.4	940.4
65°	514.9	523.6	553.4	586.7	637.5	679.5	723.3	768.8	814.3	856.4	896.7
67.5°	453.6	458.8	490.4	528.9	579.7	627.0	672.5	721.5	768.8	812.6	852.9
70°	381.8	399.3	430.8	471.1	525.4	574.4	623.5	674.2	725.0	770.6	809.1
72.5°	322.2	336.2	371.3	415.1	467.6	525.4	576.2	630.5	681.3	728.5	768.8
75°	259.2	273.2	313.5	362.5	416.8	478.1	530.6	586.7	639.2	686.5	728.5
77.5°	197.9	215.4	259.2	310.0	369.5	432.6	486.9	542.9	597.2	648.0	690.0
80°	141.9	161.1	208.4	266.2	324.0	387.0	446.6	502.6	556.9	607.7	651.5
82.5°	91.1	112.1	162.9	220.7	282.0	345.0	406.3	462.3	516.6	567.4	613.0
85°	49.0	71.8	124.3	182.1	243.4	306.5	367.8	427.3	479.9	527.1	576.2
87.5°	14.0	42.0	92.8	150.6	213.7	271.4	331.0	390.5	443.1	493.9	537.6
90°	1.8	24.5	70.1	124.3	185.6	241.7	301.2	357.3	409.8	460.6	504.4
92.5°	1.8	15.8	54.3	103.3	159.4	217.2	276.7	331.0	380.0	430.8	474.6
95°	1.8	12.3	43.8	87.6	140.1	194.4	250.4	303.0	353.8	401.0	444.8
97.5°	1.8	8.8	35.0	75.3	122.6	173.4	227.7	280.2	329.2	374.8	415.1
100°	1.8	7.0	28.0	64.8	106.8	155.9	204.9	255.7	303.0	346.8	388.8
102.5°	1.8	5.3	24.5	54.3	94.6	138.4	185.6	232.9	278.5	320.5	362.5
105°	1.8	5.3	21.0	47.3	84.1	124.3	168.1	213.7	255.7	296.0	334.5
107.5°	1.8	3.5	17.5	40.3	73.6	112.1	152.4	196.1	234.7	273.2	310.0
110°	1.8	3.5	14.0	36.8	64.8	99.8	138.4	178.6	215.4	252.2	287.2



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-78HL-LW-UNV-L950-CD1-U

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	1.8	3.5	12.3	31.5	56.0	89.3	124.3	161.1	196.1	232.9	264.4
115°	1.8	3.5	10.5	28.0	52.5	77.1	112.1	145.4	180.4	213.7	243.4
117.5°	1.8	3.5	8.8	22.8	45.5	70.1	98.1	131.3	162.9	194.4	222.4
120°	1.8	3.5	7.0	21.0	40.3	63.0	87.6	117.3	147.1	176.9	206.7
122.5°	1.8	1.8	7.0	17.5	35.0	56.0	80.6	103.3	131.3	159.4	185.6
125°	1.8	1.8	7.0	15.8	29.8	50.8	71.8	92.8	117.3	141.9	164.6
127.5°	1.8	1.8	5.3	12.3	26.3	43.8	63.0	85.8	103.3	126.1	148.9
130°	1.8	1.8	5.3	10.5	22.8	36.8	56.0	75.3	96.3	112.1	131.3
132.5°	1.8	1.8	5.3	8.8	17.5	29.8	47.3	64.8	84.1	101.6	117.3
135°	1.8	1.8	3.5	7.0	14.0	24.5	38.5	54.3	73.6	91.1	106.8
137.5°	1.8	1.8	3.5	7.0	10.5	21.0	29.8	43.8	61.3	77.1	92.8
140°	1.8	1.8	3.5	5.3	8.8	15.8	24.5	35.0	49.0	63.0	80.6
142.5°	1.8	1.8	1.8	5.3	7.0	12.3	19.3	28.0	38.5	50.8	64.8
145°	1.8	1.8	1.8	5.3	7.0	8.8	15.8	22.8	29.8	38.5	50.8
147.5°	1.8	1.8	1.8	3.5	5.3	7.0	12.3	17.5	22.8	29.8	36.8
150°	1.8	1.8	1.8	3.5	5.3	7.0	8.8	12.3	17.5	24.5	29.8
152.5°	1.8	1.8	1.8	3.5	3.5	5.3	7.0	8.8	12.3	17.5	21.0
155°	1.8	1.8	1.8	1.8	3.5	5.3	7.0	7.0	8.8	12.3	15.8
157.5°	1.8	1.8	1.8	1.8	3.5	3.5	5.3	5.3	7.0	7.0	10.5
160°	1.8	1.8	1.8	1.8	1.8	3.5	3.5	5.3	5.3	5.3	5.3
162.5°	1.8	1.8	1.8	1.8	1.8	1.8	3.5	3.5	3.5	5.3	5.3
165°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	3.5	3.5	3.5
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	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):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1660.2	1660.2	1660.2	1660.2	1660.2	1660.2	1660.2	1660.2	1660.2	1660.2	1660.2
2.5°	1648.0	1649.7	1655.0	1655.0	1651.5	1651.5	1649.7	1648.0	1649.7	1653.2	1653.2
5°	1644.5	1646.2	1651.5	1653.2	1649.7	1648.0	1648.0	1646.2	1648.0	1651.5	1651.5
7.5°	1637.5	1639.2	1644.5	1646.2	1642.7	1642.7	1641.0	1639.2	1642.7	1644.5	1644.5
10°	1626.9	1628.7	1635.7	1637.5	1635.7	1634.0	1634.0	1632.2	1634.0	1637.5	1637.5
12.5°	1612.9	1616.4	1625.2	1625.2	1625.2	1623.4	1623.4	1621.7	1623.4	1626.9	1625.2
15°	1597.2	1604.2	1611.2	1614.7	1614.7	1614.7	1612.9	1611.2	1614.7	1616.4	1614.7
17.5°	1579.7	1588.4	1598.9	1602.4	1602.4	1604.2	1602.4	1600.7	1604.2	1604.2	1602.4
20°	1562.1	1570.9	1581.4	1584.9	1588.4	1590.2	1590.2	1588.4	1590.2	1591.9	1590.2
22.5°	1539.4	1549.9	1562.1	1567.4	1570.9	1574.4	1574.4	1574.4	1576.2	1577.9	1574.4
25°	1514.9	1527.1	1541.1	1546.4	1553.4	1555.1	1556.9	1556.9	1558.6	1560.4	1555.1
27.5°	1488.6	1502.6	1516.6	1525.4	1530.6	1534.1	1534.1	1535.9	1537.6	1539.4	1534.1
30°	1457.1	1478.1	1490.3	1497.4	1504.4	1509.6	1511.4	1513.1	1514.9	1516.6	1511.4
32.5°	1429.1	1446.6	1462.3	1471.1	1479.8	1486.8	1488.6	1488.6	1492.1	1492.1	1486.8
35°	1395.8	1416.8	1432.6	1441.3	1451.8	1457.1	1460.6	1460.6	1464.1	1464.1	1458.8
37.5°	1362.5	1383.5	1401.0	1411.5	1423.8	1430.8	1432.6	1432.6	1436.1	1436.1	1429.1
40°	1327.5	1350.2	1369.5	1381.8	1392.3	1401.0	1402.8	1408.0	1408.0	1406.3	1399.3
42.5°	1292.5	1313.5	1334.5	1348.5	1362.5	1371.3	1374.8	1376.5	1376.5	1374.8	1369.5
45°	1253.9	1278.4	1297.7	1315.2	1329.2	1338.0	1343.2	1345.0	1345.0	1341.5	1336.2
47.5°	1217.1	1241.7	1260.9	1280.2	1294.2	1304.7	1310.0	1311.7	1310.0	1308.2	1303.0
50°	1178.6	1206.6	1225.9	1245.2	1259.2	1267.9	1276.7	1278.4	1276.7	1274.9	1264.4
52.5°	1138.3	1168.1	1189.1	1208.4	1224.2	1234.7	1241.7	1243.4	1243.4	1239.9	1232.9
55°	1098.1	1124.3	1150.6	1171.6	1189.1	1199.6	1208.4	1211.9	1208.4	1204.9	1196.1
57.5°	1061.3	1085.8	1112.1	1134.8	1152.3	1166.4	1173.4	1176.9	1173.4	1168.1	1159.4
60°	1017.5	1043.8	1073.5	1094.6	1113.8	1127.8	1131.3	1138.3	1134.8	1129.6	1120.8
62.5°	975.5	1007.0	1033.3	1059.5	1075.3	1091.1	1098.1	1101.6	1098.1	1092.8	1084.0
65°	931.7	966.7	993.0	1019.2	1036.8	1052.5	1061.3	1063.0	1059.5	1054.3	1045.5
67.5°	891.4	924.7	952.7	980.7	996.5	1012.2	1021.0	1024.5	1021.0	1014.0	1005.2
70°	851.1	884.4	917.7	938.7	958.0	975.5	980.7	986.0	982.5	975.5	965.0
72.5°	810.8	845.9	879.1	900.2	921.2	936.9	943.9	949.2	945.7	938.7	926.4
75°	768.8	805.6	838.9	861.6	882.6	898.4	905.4	910.7	907.2	900.2	886.2
77.5°	730.3	767.1	798.6	823.1	844.1	858.1	870.4	872.1	868.6	861.6	847.6
80°	690.0	726.8	760.1	784.6	805.6	819.6	828.4	833.6	830.1	823.1	809.1
82.5°	655.0	688.3	721.5	746.0	767.1	784.6	791.6	796.8	795.1	784.6	774.1
85°	616.5	655.0	681.3	707.5	728.5	746.0	751.3	758.3	756.6	747.8	733.8
87.5°	577.9	616.5	648.0	674.2	693.5	707.5	716.3	719.8	718.0	709.3	693.5
90°	546.4	581.4	613.0	641.0	656.7	672.5	681.3	683.0	683.0	672.5	660.2
92.5°	516.6	549.9	581.4	607.7	627.0	641.0	648.0	651.5	649.7	641.0	627.0
95°	483.4	520.1	549.9	576.2	595.4	609.4	616.5	620.0	618.2	609.4	595.4
97.5°	455.3	488.6	518.4	542.9	562.2	576.2	583.2	586.7	586.7	577.9	563.9
100°	427.3	460.6	488.6	513.1	530.6	544.7	551.7	553.4	551.7	544.7	530.6
102.5°	399.3	430.8	458.8	481.6	500.9	513.1	520.1	521.9	521.9	513.1	499.1
105°	371.3	402.8	429.1	453.6	469.3	481.6	486.9	492.1	490.4	483.4	469.3
107.5°	345.0	376.5	401.0	423.8	439.6	451.8	457.1	462.3	460.6	453.6	439.6
110°	320.5	350.3	373.0	395.8	409.8	422.1	430.8	432.6	429.1	422.1	409.8



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-78HL-LW-UNV-L950-CD1-U

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	297.7	324.0	346.8	367.8	383.5	392.3	399.3	402.8	399.3	392.3	383.5
115°	273.2	299.5	322.2	341.5	355.5	366.0	371.3	374.8	371.3	364.3	355.5
117.5°	250.4	275.0	297.7	317.0	329.2	338.0	343.3	346.8	343.3	338.0	329.2
120°	231.2	252.2	273.2	290.7	304.7	311.7	317.0	320.5	318.7	311.7	303.0
122.5°	208.4	231.2	250.4	267.9	280.2	287.2	290.7	294.2	292.5	287.2	278.5
125°	189.1	208.4	227.7	243.4	255.7	262.7	266.2	269.7	267.9	262.7	252.2
127.5°	168.1	189.1	204.9	220.7	229.4	239.9	241.7	245.2	243.4	238.2	229.4
130°	152.4	168.1	183.9	197.9	208.4	215.4	218.9	220.7	217.2	213.7	204.9
132.5°	133.1	150.6	164.6	176.9	183.9	190.9	194.4	196.1	196.1	190.9	183.9
135°	119.1	131.3	143.6	155.9	162.9	169.9	173.4	175.1	173.4	169.9	162.9
137.5°	106.8	117.3	126.1	136.6	145.4	148.9	152.4	152.4	150.6	148.9	143.6
140°	92.8	105.1	113.8	120.8	127.8	129.6	133.1	133.1	131.3	129.6	126.1
142.5°	78.8	89.3	98.1	106.8	112.1	115.6	117.3	119.1	117.3	115.6	110.3
145°	63.0	75.3	84.1	89.3	96.3	98.1	99.8	101.6	99.8	98.1	92.8
147.5°	49.0	59.5	68.3	75.3	80.6	82.3	84.1	85.8	84.1	80.6	78.8
150°	35.0	43.8	54.3	61.3	64.8	68.3	68.3	68.3	70.1	66.5	63.0
152.5°	28.0	31.5	38.5	45.5	50.8	52.5	54.3	54.3	52.5	52.5	49.0
155°	19.3	22.8	28.0	33.3	38.5	40.3	42.0	42.0	40.3	40.3	38.5
157.5°	12.3	15.8	19.3	22.8	28.0	29.8	31.5	31.5	31.5	29.8	28.0
160°	7.0	8.8	10.5	14.0	17.5	19.3	21.0	21.0	21.0	21.0	19.3
162.5°	5.3	5.3	5.3	7.0	8.8	10.5	12.3	12.3	12.3	12.3	10.5
165°	3.5	3.5	3.5	3.5	3.5	5.3	7.0	7.0	7.0	7.0	7.0
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	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: 4SNLED-LD5-78HL-LW-UNV-L950-CD1-U

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1660.2	1660.2	1660.2	1660.2	1660.2	1660.2	1660.2	1660.2	1660.2	1660.2	1660.2
2.5°	1651.5	1651.5	1653.2	1649.7	1639.2	1641.0	1641.0	1648.0	1651.5	1653.2	1662.0
5°	1648.0	1648.0	1651.5	1646.2	1637.5	1637.5	1637.5	1644.5	1646.2	1649.7	1656.7
7.5°	1642.7	1642.7	1644.5	1639.2	1628.7	1628.7	1626.9	1634.0	1637.5	1639.2	1646.2
10°	1634.0	1634.0	1635.7	1630.4	1618.2	1618.2	1616.4	1621.7	1623.4	1626.9	1632.2
12.5°	1621.7	1621.7	1621.7	1616.4	1604.2	1602.4	1600.7	1605.9	1605.9	1607.7	1612.9
15°	1611.2	1607.7	1607.7	1602.4	1590.2	1586.7	1583.2	1584.9	1588.4	1586.7	1590.2
17.5°	1598.9	1595.4	1591.9	1586.7	1570.9	1565.7	1562.1	1563.9	1562.1	1560.4	1563.9
20°	1584.9	1579.7	1577.9	1569.2	1553.4	1544.6	1537.6	1534.1	1535.9	1530.6	1532.4
22.5°	1569.2	1562.1	1558.6	1548.1	1532.4	1521.9	1513.1	1506.1	1504.4	1497.4	1499.1
25°	1549.9	1541.1	1535.9	1527.1	1509.6	1497.4	1486.8	1476.3	1471.1	1462.3	1460.6
27.5°	1527.1	1518.4	1511.4	1502.6	1485.1	1469.3	1457.1	1443.1	1436.1	1425.5	1420.3
30°	1504.4	1493.8	1483.3	1476.3	1457.1	1439.6	1420.3	1408.0	1397.5	1385.3	1376.5
32.5°	1476.3	1465.8	1455.3	1444.8	1427.3	1406.3	1390.5	1371.3	1359.0	1345.0	1334.5
35°	1448.3	1434.3	1423.8	1409.8	1394.0	1369.5	1350.2	1331.0	1315.2	1299.5	1287.2
37.5°	1416.8	1406.3	1390.5	1378.3	1359.0	1334.5	1313.5	1288.9	1274.9	1253.9	1238.2
40°	1387.0	1374.8	1359.0	1343.2	1324.0	1296.0	1273.2	1245.2	1229.4	1204.9	1189.1
42.5°	1357.2	1339.7	1324.0	1306.5	1285.4	1259.2	1231.2	1203.1	1182.1	1159.4	1136.6
45°	1324.0	1304.7	1285.4	1266.2	1245.2	1218.9	1189.1	1159.4	1133.1	1112.1	1084.0
47.5°	1288.9	1269.7	1246.9	1225.9	1203.1	1176.9	1145.3	1113.8	1085.8	1061.3	1031.5
50°	1253.9	1234.7	1210.1	1187.4	1161.1	1134.8	1101.6	1064.8	1035.0	1003.5	977.2
52.5°	1217.1	1197.9	1175.1	1145.3	1117.3	1091.1	1056.0	1017.5	984.2	958.0	924.7
55°	1180.4	1161.1	1134.8	1105.1	1077.0	1043.8	1010.5	972.0	935.2	903.7	870.4
57.5°	1141.8	1124.3	1094.6	1070.0	1035.0	1000.0	965.0	928.2	887.9	851.1	812.6
60°	1103.3	1084.0	1056.0	1026.3	991.2	956.2	919.4	879.1	837.1	796.8	761.8
62.5°	1068.3	1043.8	1017.5	986.0	949.2	915.9	873.9	830.1	788.1	746.0	704.0
65°	1028.0	1001.7	977.2	945.7	907.2	868.6	826.6	782.8	737.3	691.8	649.7
67.5°	987.7	961.5	935.2	903.7	863.4	823.1	779.3	735.5	684.8	641.0	591.9
70°	947.4	926.4	893.2	859.9	823.1	779.3	735.5	688.3	635.7	588.4	537.6
72.5°	907.2	886.2	852.9	817.9	782.8	737.3	690.0	642.7	593.7	539.4	485.1
75°	868.6	842.4	812.6	779.3	742.5	695.3	648.0	598.9	541.1	490.4	434.3
77.5°	831.9	807.3	777.6	740.8	700.5	655.0	605.9	555.2	497.4	443.1	381.8
80°	791.6	767.1	737.3	700.5	660.2	616.5	563.9	511.4	455.3	395.8	332.7
82.5°	753.1	730.3	697.0	663.7	620.0	576.2	523.6	471.1	411.6	353.8	292.5
85°	712.8	690.0	658.5	623.5	581.4	534.1	485.1	432.6	373.0	313.5	252.2
87.5°	677.7	651.5	620.0	584.9	542.9	497.4	450.1	394.0	336.2	278.5	215.4
90°	641.0	616.5	584.9	549.9	507.9	462.3	413.3	360.8	304.7	245.2	185.6
92.5°	609.4	583.2	553.4	518.4	476.4	432.6	383.5	331.0	276.7	218.9	161.1
95°	577.9	551.7	523.6	488.6	446.6	402.8	353.8	303.0	250.4	194.4	140.1
97.5°	542.9	520.1	492.1	458.8	416.8	374.8	327.5	278.5	227.7	173.4	122.6
100°	514.9	488.6	462.3	427.3	388.8	348.5	301.2	253.9	204.9	154.1	106.8
102.5°	483.4	458.8	432.6	399.3	360.8	320.5	276.7	231.2	185.6	138.4	92.8
105°	453.6	430.8	402.8	371.3	334.5	296.0	253.9	211.9	168.1	122.6	82.3
107.5°	423.8	401.0	374.8	345.0	310.0	271.4	232.9	190.9	150.6	110.3	73.6
110°	394.0	373.0	348.5	318.7	285.5	250.4	213.7	175.1	134.8	98.1	64.8



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-78HL-LW-UNV-L950-CD1-U

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	367.8	346.8	322.2	294.2	262.7	229.4	194.4	157.6	120.8	87.6	56.0
115°	341.5	322.2	297.7	273.2	241.7	210.2	176.9	141.9	108.6	78.8	49.0
117.5°	315.2	296.0	273.2	248.7	220.7	190.9	159.4	126.1	98.1	70.1	43.8
120°	289.0	271.4	250.4	227.7	203.1	173.4	141.9	113.8	87.6	61.3	38.5
122.5°	264.4	248.7	229.4	208.4	182.1	154.1	127.8	103.3	78.8	54.3	31.5
125°	241.7	225.9	208.4	187.4	162.9	138.4	115.6	92.8	68.3	47.3	26.3
127.5°	218.9	203.1	185.6	166.4	147.1	124.3	103.3	82.3	61.3	42.0	22.8
130°	196.1	182.1	166.4	150.6	131.3	110.3	92.8	71.8	52.5	33.3	19.3
132.5°	173.4	162.9	148.9	133.1	115.6	99.8	80.6	63.0	45.5	29.8	17.5
135°	154.1	143.6	131.3	117.3	103.3	87.6	70.1	54.3	38.5	24.5	14.0
137.5°	136.6	127.8	115.6	103.3	91.1	75.3	61.3	45.5	31.5	21.0	10.5
140°	120.8	112.1	101.6	89.3	78.8	64.8	50.8	36.8	28.0	17.5	8.8
142.5°	105.1	96.3	87.6	77.1	66.5	54.3	42.0	31.5	22.8	14.0	8.8
145°	89.3	82.3	73.6	64.8	54.3	43.8	35.0	26.3	17.5	10.5	7.0
147.5°	73.6	68.3	59.5	52.5	43.8	35.0	28.0	21.0	14.0	8.8	5.3
150°	59.5	54.3	47.3	40.3	35.0	28.0	22.8	15.8	10.5	8.8	5.3
152.5°	45.5	42.0	36.8	33.3	28.0	21.0	15.8	12.3	8.8	7.0	3.5
155°	36.8	33.3	29.8	24.5	21.0	15.8	12.3	8.8	7.0	5.3	3.5
157.5°	26.3	24.5	21.0	17.5	14.0	10.5	8.8	8.8	5.3	3.5	1.8
160°	17.5	15.8	14.0	10.5	8.8	8.8	7.0	5.3	3.5	3.5	1.8
162.5°	10.5	8.8	8.8	8.8	7.0	7.0	5.3	3.5	3.5	1.8	1.8
165°	7.0	7.0	7.0	5.3	5.3	5.3	3.5	1.8	1.8	1.8	1.8
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	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: 4SNLED-LD5-78HL-LW-UNV-L950-CD1-U

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°	185°	190°	195°	200°	205°	210°	215°
0°	1660.2	1660.2	1660.2	1660.2	1660.2	1660.2	1660.2	1660.2	1660.2	1660.2	1660.2
2.5°	1662.0	1656.7	1663.7	1676.0	1677.7	1676.0	1672.5	1677.7	1684.7	1683.0	1670.7
5°	1658.5	1651.5	1658.5	1670.7	1670.7	1669.0	1667.2	1672.5	1679.5	1677.7	1667.2
7.5°	1648.0	1641.0	1648.0	1658.5	1660.2	1656.7	1656.7	1662.0	1669.0	1667.2	1658.5
10°	1634.0	1626.9	1630.4	1642.7	1646.2	1642.7	1642.7	1648.0	1656.7	1655.0	1644.5
12.5°	1612.9	1607.7	1611.2	1621.7	1625.2	1623.4	1621.7	1628.7	1637.5	1637.5	1626.9
15°	1590.2	1583.2	1586.7	1598.9	1600.7	1597.2	1598.9	1604.2	1614.7	1614.7	1605.9
17.5°	1563.9	1555.1	1560.4	1569.2	1570.9	1570.9	1570.9	1577.9	1590.2	1588.4	1581.4
20°	1534.1	1521.9	1525.4	1534.1	1537.6	1537.6	1537.6	1549.9	1558.6	1558.6	1551.6
22.5°	1499.1	1490.3	1490.3	1499.1	1504.4	1502.6	1502.6	1513.1	1525.4	1523.6	1523.6
25°	1458.8	1451.8	1448.3	1458.8	1460.6	1462.3	1465.8	1476.3	1490.3	1490.3	1492.1
27.5°	1416.8	1409.8	1408.0	1416.8	1418.5	1420.3	1423.8	1436.1	1450.1	1451.8	1455.3
30°	1376.5	1366.0	1362.5	1369.5	1373.0	1374.8	1374.8	1394.0	1406.3	1411.5	1418.5
32.5°	1329.2	1318.7	1310.0	1322.2	1324.0	1327.5	1329.2	1348.5	1362.5	1371.3	1381.8
35°	1281.9	1264.4	1260.9	1269.7	1273.2	1274.9	1278.4	1299.5	1318.7	1325.7	1339.7
37.5°	1229.4	1217.1	1206.6	1215.4	1218.9	1220.6	1231.2	1250.4	1269.7	1280.2	1294.2
40°	1180.4	1164.6	1155.9	1161.1	1164.6	1166.4	1178.6	1199.6	1222.4	1234.7	1252.2
42.5°	1126.1	1105.1	1098.1	1103.3	1105.1	1110.3	1120.8	1148.8	1171.6	1189.1	1203.1
45°	1071.8	1056.0	1040.3	1045.5	1047.3	1050.8	1066.5	1096.3	1120.8	1141.8	1157.6
47.5°	1015.7	996.5	980.7	984.2	991.2	993.0	1010.5	1045.5	1068.3	1091.1	1112.1
50°	959.7	933.4	921.2	921.2	924.7	933.4	956.2	991.2	1015.7	1042.0	1064.8
52.5°	901.9	877.4	863.4	865.1	868.6	879.1	900.2	935.2	963.2	991.2	1019.2
55°	844.1	817.9	803.8	800.3	803.8	817.9	842.4	879.1	907.2	940.4	970.2
57.5°	786.3	754.8	742.5	737.3	740.8	758.3	782.8	821.4	856.4	887.9	922.9
60°	723.3	698.8	677.7	665.5	674.2	697.0	723.3	763.6	800.3	835.4	873.9
62.5°	669.0	637.5	614.7	602.4	611.2	630.5	667.2	705.8	746.0	786.3	824.9
65°	607.7	576.2	549.9	537.6	546.4	569.2	605.9	648.0	691.8	732.0	777.6
67.5°	548.2	514.9	483.4	471.1	481.6	506.1	546.4	593.7	641.0	683.0	732.0
70°	490.4	453.6	420.3	411.6	418.6	451.8	490.4	537.6	586.7	635.7	686.5
72.5°	437.8	392.3	357.3	346.8	355.5	392.3	436.1	485.1	537.6	590.2	644.5
75°	376.5	334.5	296.0	283.7	294.2	327.5	381.8	434.3	490.4	546.4	597.2
77.5°	327.5	278.5	238.2	218.9	236.4	278.5	331.0	387.0	444.8	502.6	560.4
80°	276.7	225.9	182.1	161.1	180.4	225.9	278.5	339.7	404.5	462.3	514.9
82.5°	231.2	176.9	131.3	108.6	129.6	180.4	238.2	299.5	362.5	420.3	481.6
85°	189.1	133.1	85.8	61.3	91.1	136.6	197.9	260.9	325.7	385.3	444.8
87.5°	154.1	99.8	52.5	26.3	56.0	106.8	164.6	227.7	292.5	352.0	408.1
90°	126.1	71.8	28.0	3.5	33.3	80.6	136.6	197.9	259.2	320.5	376.5
92.5°	103.3	54.3	15.8	1.8	21.0	64.8	117.3	175.1	234.7	294.2	348.5
95°	85.8	42.0	10.5	1.8	15.8	50.8	99.8	155.9	211.9	269.7	324.0
97.5°	73.6	35.0	8.8	1.8	12.3	43.8	85.8	138.4	192.6	246.9	299.5
100°	63.0	28.0	7.0	1.8	10.5	36.8	75.3	122.6	173.4	225.9	276.7
102.5°	54.3	22.8	5.3	1.8	8.8	31.5	66.5	110.3	155.9	206.7	255.7
105°	47.3	19.3	5.3	1.8	7.0	28.0	59.5	98.1	143.6	189.1	236.4
107.5°	40.3	15.8	3.5	1.8	5.3	22.8	52.5	89.3	129.6	173.4	217.2
110°	35.0	14.0	3.5	1.8	5.3	21.0	45.5	80.6	117.3	157.6	199.6



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-78HL-LW-UNV-L950-CD1-U

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°	185°	190°	195°	200°	205°	210°	215°
112.5°	29.8	10.5	3.5	1.8	3.5	17.5	40.3	71.8	106.8	143.6	183.9
115°	26.3	8.8	1.8	1.8	3.5	15.8	36.8	64.8	96.3	131.3	168.1
117.5°	21.0	7.0	1.8	1.8	1.8	12.3	31.5	57.8	87.6	120.8	154.1
120°	17.5	7.0	1.8	1.8	1.8	10.5	28.0	50.8	78.8	108.6	140.1
122.5°	15.8	5.3	1.8	1.8	1.8	8.8	24.5	45.5	70.1	98.1	127.8
125°	14.0	5.3	1.8	1.8	1.8	7.0	21.0	40.3	63.0	87.6	115.6
127.5°	10.5	5.3	1.8	1.8	1.8	5.3	19.3	35.0	56.0	78.8	103.3
130°	8.8	3.5	1.8	1.8	1.8	5.3	15.8	31.5	49.0	70.1	92.8
132.5°	7.0	3.5	1.8	1.8	1.8	3.5	12.3	24.5	42.0	61.3	82.3
135°	7.0	3.5	1.8	1.8	1.8	3.5	8.8	21.0	35.0	52.5	70.1
137.5°	7.0	1.8	1.8	1.8	1.8	3.5	7.0	15.8	28.0	42.0	57.8
140°	5.3	1.8	1.8	1.8	1.8	1.8	5.3	12.3	22.8	35.0	49.0
142.5°	5.3	1.8	1.8	1.8	1.8	1.8	5.3	8.8	17.5	28.0	38.5
145°	3.5	1.8	1.8	1.8	1.8	1.8	3.5	7.0	14.0	21.0	31.5
147.5°	3.5	1.8	1.8	1.8	1.8	1.8	3.5	5.3	10.5	17.5	24.5
150°	3.5	1.8	1.8	1.8	1.8	1.8	3.5	5.3	7.0	12.3	19.3
152.5°	1.8	1.8	1.8	1.8	1.8	1.8	3.5	3.5	5.3	8.8	12.3
155°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	3.5	5.3	7.0	8.8
157.5°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	3.5	3.5	5.3	7.0
160°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	3.5	3.5	5.3
162.5°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	3.5	3.5
165°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	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: 4SNLED-LD5-78HL-LW-UNV-L950-CD1-U

CANDELA DISTRIBUTION (continued):

	220°	225°	230°	235°	240°	245°	250°	255°	260°	265°	270°
0°	1660.2	1660.2	1660.2	1660.2	1660.2	1660.2	1660.2	1660.2	1660.2	1660.2	1660.2
2.5°	1665.5	1653.2	1656.7	1655.0	1658.5	1663.7	1663.7	1662.0	1662.0	1658.5	1655.0
5°	1662.0	1649.7	1655.0	1653.2	1656.7	1662.0	1662.0	1660.2	1660.2	1655.0	1653.2
7.5°	1651.5	1642.7	1646.2	1646.2	1649.7	1655.0	1655.0	1653.2	1653.2	1648.0	1646.2
10°	1641.0	1630.4	1635.7	1635.7	1639.2	1646.2	1646.2	1644.5	1644.5	1639.2	1637.5
12.5°	1623.4	1612.9	1621.7	1623.4	1626.9	1634.0	1632.2	1632.2	1632.2	1626.9	1625.2
15°	1602.4	1595.4	1604.2	1605.9	1611.2	1619.9	1619.9	1619.9	1619.9	1614.7	1612.9
17.5°	1579.7	1574.4	1583.2	1586.7	1593.7	1602.4	1602.4	1604.2	1605.9	1602.4	1600.7
20°	1553.4	1549.9	1558.6	1565.7	1576.2	1584.9	1588.4	1590.2	1593.7	1590.2	1588.4
22.5°	1523.6	1523.6	1535.9	1542.9	1555.1	1563.9	1569.2	1574.4	1577.9	1574.4	1572.7
25°	1490.3	1495.6	1507.9	1520.1	1534.1	1542.9	1548.1	1555.1	1558.6	1556.9	1555.1
27.5°	1458.8	1465.8	1481.6	1493.8	1506.1	1520.1	1525.4	1534.1	1537.6	1537.6	1535.9
30°	1422.0	1432.6	1450.1	1464.1	1479.8	1493.8	1500.9	1509.6	1514.9	1511.4	1513.1
32.5°	1387.0	1404.5	1418.5	1434.3	1451.8	1465.8	1474.6	1485.1	1490.3	1488.6	1490.3
35°	1348.5	1366.0	1385.3	1401.0	1422.0	1436.1	1448.3	1457.1	1464.1	1462.3	1462.3
37.5°	1306.5	1329.2	1348.5	1369.5	1388.8	1404.5	1416.8	1427.3	1434.3	1434.3	1434.3
40°	1266.2	1290.7	1310.0	1334.5	1359.0	1373.0	1387.0	1397.5	1404.5	1406.3	1408.0
42.5°	1222.4	1248.7	1271.4	1297.7	1322.2	1339.7	1355.5	1367.8	1374.8	1378.3	1376.5
45°	1182.1	1206.6	1232.9	1262.7	1285.4	1303.0	1322.2	1336.2	1343.2	1345.0	1346.7
47.5°	1136.6	1164.6	1194.4	1224.2	1246.9	1269.7	1287.2	1301.2	1308.2	1313.5	1313.5
50°	1092.8	1122.6	1155.9	1187.4	1211.9	1234.7	1252.2	1267.9	1276.7	1280.2	1281.9
52.5°	1052.5	1080.5	1115.6	1147.1	1171.6	1194.4	1217.1	1234.7	1243.4	1246.9	1246.9
55°	1003.5	1038.5	1077.0	1106.8	1133.1	1159.4	1182.1	1199.6	1208.4	1213.6	1217.1
57.5°	958.0	994.7	1035.0	1066.5	1098.1	1122.6	1143.6	1166.4	1173.4	1180.4	1182.1
60°	914.2	950.9	989.5	1024.5	1056.0	1082.3	1106.8	1126.1	1138.3	1141.8	1145.3
62.5°	868.6	907.2	947.4	982.5	1015.7	1047.3	1070.0	1087.5	1101.6	1106.8	1110.3
65°	824.9	865.1	905.4	942.2	977.2	1008.7	1031.5	1049.0	1063.0	1071.8	1073.5
67.5°	777.6	821.4	863.4	901.9	936.9	970.2	993.0	1010.5	1024.5	1035.0	1036.8
70°	733.8	779.3	821.4	863.4	898.4	931.7	956.2	973.7	989.5	996.5	1000.0
72.5°	691.8	739.0	782.8	824.9	859.9	893.2	919.4	936.9	952.7	961.5	963.2
75°	651.5	698.8	746.0	786.3	823.1	856.4	882.6	901.9	915.9	924.7	928.2
77.5°	611.2	660.2	707.5	747.8	786.3	819.6	842.4	865.1	879.1	889.7	889.7
80°	570.9	621.7	670.7	711.0	749.6	779.3	805.6	828.4	842.4	852.9	852.9
82.5°	535.9	584.9	632.2	672.5	711.0	744.3	770.6	791.6	807.3	814.3	816.1
85°	495.6	549.9	593.7	637.5	674.2	705.8	732.0	754.8	768.8	775.8	779.3
87.5°	462.3	514.9	562.2	600.7	637.5	669.0	698.8	718.0	732.0	740.8	744.3
90°	430.8	481.6	528.9	567.4	605.9	635.7	663.7	683.0	698.8	705.8	709.3
92.5°	402.8	453.6	499.1	537.6	574.4	607.7	634.0	653.2	667.2	674.2	679.5
95°	376.5	425.6	469.3	511.4	546.4	576.2	604.2	623.5	639.2	644.5	649.7
97.5°	350.3	397.5	441.3	481.6	518.4	546.4	572.7	591.9	604.2	613.0	618.2
100°	327.5	373.0	415.1	453.6	488.6	514.9	542.9	560.4	572.7	579.7	586.7
102.5°	303.0	348.5	388.8	425.6	462.3	486.9	513.1	530.6	541.1	553.4	553.4
105°	282.0	324.0	364.3	399.3	430.8	460.6	483.4	500.9	513.1	521.9	521.9
107.5°	259.2	301.2	339.7	376.5	406.3	434.3	455.3	471.1	485.1	490.4	495.6
110°	241.7	278.5	317.0	352.0	380.0	406.3	427.3	444.8	457.1	462.3	465.8



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-78HL-LW-UNV-L950-CD1-U

CANDELA DISTRIBUTION (continued):

	220°	225°	230°	235°	240°	245°	250°	255°	260°	265°	270°
112.5°	220.7	259.2	294.2	327.5	355.5	380.0	401.0	415.1	427.3	434.3	436.1
115°	203.1	239.9	271.4	303.0	332.7	353.8	373.0	387.0	399.3	404.5	408.1
117.5°	187.4	220.7	252.2	278.5	306.5	329.2	348.5	360.8	371.3	378.3	381.8
120°	171.6	203.1	231.2	257.4	283.7	304.7	322.2	334.5	346.8	352.0	352.0
122.5°	155.9	185.6	211.9	236.4	260.9	280.2	299.5	310.0	320.5	325.7	325.7
125°	141.9	169.9	194.4	217.2	239.9	257.4	273.2	285.5	296.0	299.5	299.5
127.5°	127.8	154.1	176.9	197.9	217.2	234.7	250.4	262.7	271.4	275.0	275.0
130°	115.6	138.4	159.4	180.4	199.6	213.7	229.4	239.9	245.2	250.4	252.2
132.5°	103.3	124.3	143.6	161.1	180.4	194.4	206.7	217.2	222.4	227.7	229.4
135°	91.1	110.3	127.8	145.4	161.1	175.1	185.6	194.4	201.4	204.9	206.7
137.5°	77.1	98.1	113.8	127.8	145.4	155.9	168.1	173.4	180.4	183.9	183.9
140°	64.8	80.6	98.1	112.1	126.1	136.6	147.1	155.9	161.1	162.9	162.9
142.5°	52.5	66.5	80.6	98.1	110.3	119.1	129.6	136.6	140.1	141.9	143.6
145°	42.0	52.5	64.8	80.6	94.6	105.1	110.3	117.3	120.8	122.6	124.3
147.5°	31.5	42.0	52.5	63.0	77.1	87.6	92.8	99.8	103.3	105.1	105.1
150°	24.5	31.5	38.5	49.0	59.5	71.8	78.8	84.1	85.8	87.6	87.6
152.5°	17.5	24.5	29.8	36.8	43.8	54.3	64.8	68.3	70.1	71.8	71.8
155°	12.3	17.5	21.0	26.3	31.5	40.3	49.0	54.3	56.0	57.8	57.8
157.5°	8.8	12.3	14.0	19.3	22.8	26.3	33.3	42.0	43.8	43.8	43.8
160°	5.3	7.0	8.8	12.3	14.0	17.5	21.0	26.3	31.5	31.5	31.5
162.5°	3.5	5.3	5.3	7.0	7.0	10.5	12.3	14.0	19.3	21.0	21.0
165°	1.8	3.5	3.5	3.5	3.5	3.5	5.3	5.3	8.8	10.5	10.5
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	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: 4SNLED-LD5-78HL-LW-UNV-L950-CD1-U

CANDELA DISTRIBUTION (continued):

	275°	280°	285°	290°	295°	300°	305°	310°	315°	320°	325°
0°	1660.2	1660.2	1660.2	1660.2	1660.2	1660.2	1660.2	1660.2	1660.2	1660.2	1660.2
2.5°	1656.7	1660.2	1658.5	1658.5	1658.5	1662.0	1658.5	1642.7	1646.2	1649.7	1653.2
5°	1655.0	1656.7	1656.7	1655.0	1655.0	1658.5	1655.0	1639.2	1642.7	1646.2	1648.0
7.5°	1648.0	1649.7	1649.7	1649.7	1648.0	1651.5	1646.2	1632.2	1632.2	1635.7	1637.5
10°	1639.2	1642.7	1641.0	1639.2	1639.2	1639.2	1635.7	1619.9	1619.9	1621.7	1623.4
12.5°	1628.7	1628.7	1628.7	1626.9	1625.2	1625.2	1621.7	1605.9	1604.2	1607.7	1605.9
15°	1614.7	1618.2	1614.7	1612.9	1609.4	1609.4	1604.2	1588.4	1584.9	1586.7	1584.9
17.5°	1602.4	1604.2	1600.7	1597.2	1593.7	1591.9	1586.7	1569.2	1563.9	1565.7	1562.1
20°	1590.2	1590.2	1586.7	1583.2	1577.9	1572.7	1565.7	1548.1	1539.4	1539.4	1532.4
22.5°	1574.4	1574.4	1570.9	1565.7	1560.4	1553.4	1546.4	1528.9	1514.9	1511.4	1506.1
25°	1556.9	1555.1	1553.4	1548.1	1537.6	1530.6	1523.6	1504.4	1488.6	1481.6	1472.8
27.5°	1535.9	1535.9	1530.6	1525.4	1514.9	1506.1	1497.4	1479.8	1458.8	1450.1	1437.8
30°	1513.1	1513.1	1507.9	1500.9	1490.3	1479.8	1469.3	1448.3	1427.3	1415.0	1401.0
32.5°	1490.3	1488.6	1483.3	1476.3	1465.8	1450.1	1441.3	1420.3	1395.8	1381.8	1362.5
35°	1462.3	1460.6	1455.3	1446.6	1432.6	1420.3	1406.3	1387.0	1359.0	1341.5	1320.5
37.5°	1434.3	1432.6	1429.1	1416.8	1402.8	1388.8	1371.3	1352.0	1325.7	1303.0	1281.9
40°	1406.3	1404.5	1397.5	1388.8	1371.3	1353.7	1336.2	1317.0	1288.9	1262.7	1239.9
42.5°	1376.5	1374.8	1366.0	1355.5	1336.2	1318.7	1297.7	1276.7	1248.7	1217.1	1194.4
45°	1346.7	1343.2	1334.5	1322.2	1301.2	1281.9	1260.9	1236.4	1208.4	1178.6	1148.8
47.5°	1315.2	1310.0	1301.2	1283.7	1266.2	1245.2	1220.6	1194.4	1166.4	1133.1	1101.6
50°	1280.2	1276.7	1266.2	1250.4	1229.4	1208.4	1180.4	1154.1	1120.8	1089.3	1050.8
52.5°	1246.9	1239.9	1231.2	1213.6	1192.6	1169.9	1140.1	1108.6	1075.3	1045.5	1005.2
55°	1211.9	1208.4	1196.1	1182.1	1155.9	1129.6	1101.6	1068.3	1031.5	996.5	958.0
57.5°	1178.6	1171.6	1161.1	1141.8	1119.1	1092.8	1063.0	1028.0	987.7	950.9	908.9
60°	1145.3	1134.8	1122.6	1105.1	1080.5	1052.5	1021.0	984.2	943.9	903.7	859.9
62.5°	1108.6	1099.8	1085.8	1068.3	1043.8	1014.0	980.7	942.2	903.7	861.6	814.3
65°	1071.8	1063.0	1049.0	1031.5	1007.0	973.7	938.7	900.2	856.4	816.1	765.3
67.5°	1035.0	1026.3	1010.5	991.2	966.7	935.2	898.4	858.1	814.3	770.6	718.0
70°	998.2	987.7	973.7	952.7	928.2	894.9	858.1	816.1	772.3	725.0	672.5
72.5°	961.5	952.7	935.2	915.9	889.7	856.4	819.6	777.6	732.0	683.0	630.5
75°	924.7	914.2	901.9	879.1	851.1	819.6	781.1	739.0	690.0	642.7	588.4
77.5°	887.9	879.1	863.4	840.6	814.3	781.1	742.5	700.5	651.5	602.4	544.7
80°	851.1	840.6	828.4	807.3	777.6	744.3	704.0	662.0	613.0	562.2	504.4
82.5°	814.3	803.8	789.8	768.8	740.8	707.5	669.0	623.5	574.4	521.9	467.6
85°	777.6	768.8	753.1	732.0	702.3	669.0	630.5	590.2	537.6	485.1	430.8
87.5°	740.8	732.0	716.3	695.3	667.2	634.0	595.4	553.4	502.6	453.6	394.0
90°	705.8	698.8	683.0	662.0	634.0	600.7	565.7	520.1	471.1	422.1	366.0
92.5°	674.2	667.2	653.2	632.2	607.7	570.9	535.9	492.1	443.1	392.3	338.0
95°	646.2	637.5	623.5	604.2	574.4	542.9	507.9	464.1	416.8	366.0	313.5
97.5°	614.7	605.9	591.9	570.9	546.4	513.1	478.1	436.1	388.8	341.5	289.0
100°	583.2	574.4	558.7	541.1	516.6	483.4	450.1	408.1	364.3	318.7	267.9
102.5°	551.7	542.9	528.9	511.4	486.9	457.1	423.8	383.5	339.7	294.2	246.9
105°	521.9	513.1	499.1	481.6	458.8	429.1	394.0	359.0	317.0	273.2	227.7
107.5°	492.1	483.4	471.1	453.6	430.8	402.8	369.5	332.7	294.2	252.2	208.4
110°	462.3	455.3	441.3	425.6	402.8	374.8	345.0	310.0	271.4	232.9	190.9



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-78HL-LW-UNV-L950-CD1-U

CANDELA DISTRIBUTION (continued):

	275°	280°	285°	290°	295°	300°	305°	310°	315°	320°	325°
112.5°	434.3	427.3	413.3	395.8	376.5	350.3	320.5	287.2	250.4	213.7	173.4
115°	406.3	397.5	385.3	369.5	350.3	325.7	297.7	267.9	231.2	196.1	159.4
117.5°	378.3	371.3	359.0	343.3	325.7	301.2	275.0	246.9	211.9	178.6	145.4
120°	350.3	345.0	332.7	318.7	301.2	278.5	253.9	225.9	194.4	162.9	131.3
122.5°	324.0	318.7	306.5	294.2	276.7	255.7	232.9	206.7	178.6	148.9	120.8
125°	299.5	292.5	282.0	269.7	253.9	234.7	211.9	187.4	161.1	134.8	108.6
127.5°	273.2	267.9	260.9	246.9	231.2	213.7	192.6	171.6	147.1	122.6	98.1
130°	252.2	245.2	236.4	225.9	211.9	194.4	175.1	154.1	133.1	110.3	85.8
132.5°	227.7	220.7	213.7	203.1	190.9	175.1	157.6	138.4	119.1	98.1	77.1
135°	204.9	199.6	192.6	182.1	169.9	157.6	140.1	122.6	105.1	85.8	68.3
137.5°	183.9	178.6	171.6	164.6	152.4	140.1	124.3	108.6	92.8	75.3	59.5
140°	162.9	159.4	152.4	145.4	134.8	122.6	108.6	94.6	80.6	64.8	50.8
142.5°	141.9	138.4	133.1	126.1	117.3	106.8	94.6	82.3	68.3	56.0	43.8
145°	122.6	120.8	115.6	108.6	101.6	91.1	80.6	70.1	57.8	47.3	35.0
147.5°	103.3	101.6	98.1	92.8	85.8	77.1	68.3	57.8	49.0	38.5	28.0
150°	85.8	84.1	82.3	75.3	71.8	63.0	56.0	47.3	40.3	29.8	22.8
152.5°	70.1	70.1	66.5	61.3	57.8	50.8	45.5	38.5	31.5	24.5	17.5
155°	56.0	54.3	52.5	49.0	45.5	40.3	35.0	29.8	24.5	17.5	12.3
157.5°	43.8	42.0	40.3	36.8	33.3	31.5	26.3	21.0	15.8	12.3	8.8
160°	31.5	29.8	28.0	26.3	24.5	21.0	17.5	14.0	10.5	7.0	5.3
162.5°	21.0	19.3	19.3	17.5	15.8	12.3	10.5	8.8	7.0	5.3	3.5
165°	10.5	10.5	8.8	8.8	7.0	5.3	5.3	5.3	3.5	3.5	1.8
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	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: 4SNLED-LD5-78HL-LW-UNV-L950-CD1-U

CANDELA DISTRIBUTION (continued):

	330°	335°	340°	345°	350°	355°	360°
0°	1660.2	1660.2	1660.2	1660.2	1660.2	1660.2	1660.2
2.5°	1651.5	1651.5	1658.5	1656.7	1651.5	1662.0	1674.2
5°	1646.2	1646.2	1651.5	1651.5	1646.2	1656.7	1667.2
7.5°	1637.5	1635.7	1641.0	1641.0	1634.0	1642.7	1655.0
10°	1621.7	1619.9	1625.2	1625.2	1618.2	1626.9	1637.5
12.5°	1604.2	1600.7	1605.9	1604.2	1597.2	1605.9	1616.4
15°	1581.4	1579.7	1583.2	1579.7	1572.7	1581.4	1591.9
17.5°	1558.6	1553.4	1555.1	1555.1	1542.9	1551.6	1560.4
20°	1528.9	1521.9	1523.6	1521.9	1513.1	1518.4	1528.9
22.5°	1499.1	1488.6	1488.6	1486.8	1476.3	1483.3	1492.1
25°	1462.3	1450.1	1450.1	1448.3	1436.1	1441.3	1450.1
27.5°	1425.5	1413.3	1408.0	1406.3	1394.0	1394.0	1406.3
30°	1387.0	1369.5	1366.0	1360.8	1348.5	1348.5	1359.0
32.5°	1350.2	1325.7	1318.7	1311.7	1299.5	1297.7	1310.0
35°	1301.2	1281.9	1269.7	1262.7	1248.7	1245.2	1255.7
37.5°	1260.9	1236.4	1218.9	1210.1	1196.1	1190.9	1204.9
40°	1217.1	1190.9	1168.1	1162.9	1141.8	1134.8	1147.1
42.5°	1168.1	1140.1	1117.3	1106.8	1091.1	1084.0	1085.8
45°	1119.1	1089.3	1064.8	1050.8	1035.0	1022.8	1029.8
47.5°	1068.3	1042.0	1012.2	991.2	972.0	963.2	966.7
50°	1017.5	986.0	958.0	935.2	912.4	901.9	908.9
52.5°	966.7	933.4	901.9	877.4	851.1	840.6	842.4
55°	917.7	882.6	845.9	819.6	795.1	779.3	775.8
57.5°	868.6	830.1	791.6	761.8	730.3	716.3	711.0
60°	816.1	775.8	735.5	700.5	667.2	651.5	644.5
62.5°	767.1	723.3	677.7	641.0	607.7	586.7	581.4
65°	719.8	669.0	623.5	581.4	544.7	521.9	514.9
67.5°	669.0	616.5	567.4	521.9	486.9	457.1	453.6
70°	621.7	565.7	511.4	464.1	425.6	395.8	381.8
72.5°	574.4	516.6	460.6	409.8	360.8	332.7	322.2
75°	528.9	469.3	409.8	357.3	303.0	269.7	259.2
77.5°	486.9	425.6	362.5	304.7	253.9	211.9	197.9
80°	446.6	383.5	317.0	257.4	203.1	157.6	141.9
82.5°	404.5	345.0	276.7	213.7	157.6	110.3	91.1
85°	367.8	308.2	239.9	176.9	120.8	70.1	49.0
87.5°	338.0	273.2	211.9	148.9	91.1	40.3	14.0
90°	308.2	245.2	183.9	122.6	68.3	22.8	1.8
92.5°	282.0	222.4	161.1	105.1	52.5	15.8	1.8
95°	257.4	199.6	141.9	87.6	42.0	10.5	1.8
97.5°	234.7	180.4	126.1	75.3	35.0	8.8	1.8
100°	215.4	162.9	112.1	66.5	29.8	7.0	1.8
102.5°	196.1	147.1	99.8	57.8	26.3	5.3	1.8
105°	180.4	133.1	89.3	52.5	22.8	5.3	1.8
107.5°	164.6	120.8	80.6	45.5	19.3	3.5	1.8
110°	148.9	110.3	71.8	40.3	17.5	3.5	1.8



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-78HL-LW-UNV-L950-CD1-U

CANDELA DISTRIBUTION (continued):

	330°	335°	340°	345°	350°	355°	360°
112.5°	136.6	99.8	64.8	36.8	14.0	3.5	1.8
115°	124.3	89.3	57.8	31.5	12.3	1.8	1.8
117.5°	112.1	80.6	50.8	28.0	10.5	1.8	1.8
120°	101.6	71.8	45.5	24.5	8.8	1.8	1.8
122.5°	91.1	64.8	40.3	21.0	7.0	1.8	1.8
125°	82.3	57.8	35.0	17.5	5.3	1.8	1.8
127.5°	73.6	50.8	31.5	15.8	5.3	1.8	1.8
130°	64.8	45.5	26.3	12.3	3.5	1.8	1.8
132.5°	57.8	38.5	22.8	10.5	3.5	1.8	1.8
135°	50.8	33.3	19.3	7.0	3.5	1.8	1.8
137.5°	43.8	28.0	15.8	5.3	1.8	1.8	1.8
140°	36.8	24.5	12.3	5.3	1.8	1.8	1.8
142.5°	31.5	19.3	8.8	3.5	1.8	1.8	1.8
145°	24.5	15.8	7.0	3.5	1.8	1.8	1.8
147.5°	19.3	12.3	5.3	3.5	1.8	1.8	1.8
150°	14.0	8.8	5.3	1.8	1.8	1.8	1.8
152.5°	10.5	7.0	3.5	1.8	1.8	1.8	1.8
155°	7.0	5.3	3.5	1.8	1.8	1.8	1.8
157.5°	5.3	3.5	1.8	1.8	1.8	1.8	1.8
160°	3.5	1.8	1.8	1.8	1.8	1.8	1.8
162.5°	1.8	1.8	1.8	1.8	1.8	1.8	1.8
165°	1.8	1.8	1.8	1.8	1.8	1.8	1.8
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)