

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: NEO-RAY

Report Number: P332239-930

Luminaire Tested: **S123DIW-S1165D1535U930-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332239-930
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIW-S1165D1535U930-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1535 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8219.2 lumens
Efficiency: N/A
Efficacy: 99.1 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: General Diffuse

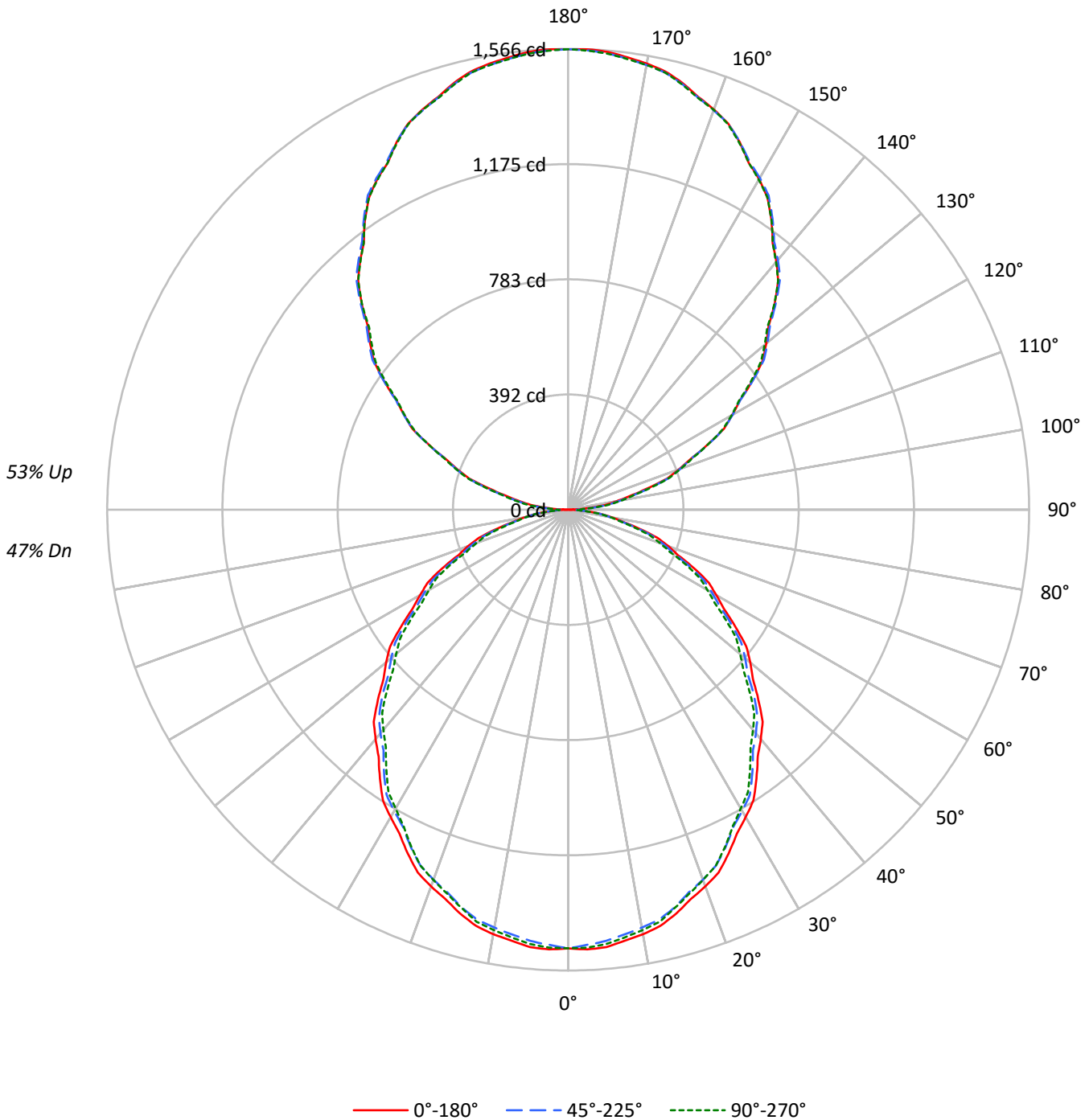
Input Watts (W): 82.9
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332239-930

CATALOG NUMBER: S123DIW-S1165D1535U930-4F0-1E-UDD-F1

Luminous Intensity Polar Plot





TEST NUMBER: P332239-930

CATALOG NUMBER: S123DIW-S1165D1535U930-4F0-1E-UDD-F1

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20
RC	80				70				50				30				10
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	106	106	106	106	98	98	98	98	82	82	82	67	67	67	54	54	54
1	97	93	89	85	89	85	82	79	72	69	67	59	57	56	47	46	45
2	88	81	75	70	81	75	69	65	63	59	55	52	49	46	42	40	38
3	81	71	64	58	74	66	59	54	55	50	47	46	42	39	37	34	32
4	74	63	55	49	67	58	51	46	49	44	40	41	37	34	33	30	28
5	68	56	48	42	62	52	45	39	44	38	34	36	32	29	30	27	24
6	62	50	42	36	57	47	39	34	40	34	30	33	29	25	27	24	21
7	58	45	37	32	53	42	35	30	36	30	26	30	26	23	24	21	19
8	53	41	33	28	49	38	31	26	33	27	23	27	23	20	22	19	17
9	50	38	30	25	46	35	28	24	30	25	21	25	21	18	21	18	15
10	46	34	27	22	43	32	26	21	28	22	19	23	19	16	19	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	16043	16043	16043
5°	16119	15896	16008
10°	16010	15759	15856
15°	15824	15581	15610
20°	15605	15326	15340
25°	15311	15023	14992
30°	14989	14686	14574
35°	14651	14331	14146
40°	14299	13939	13722
45°	13910	13577	13247
50°	13520	13134	12769
55°	13011	12675	12288
60°	12499	12140	11752
65°	12045	11556	11196
70°	11374	10889	10408
75°	10393	10019	9590
80°	9372	8976	8901
85°	8225	7916	7608



TEST NUMBER: P332239-930

CATALOG NUMBER: S123DIW-S1165D1535U930-4F0-1E-UDD-F1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	140.4	1.7
10°-20°	396.4	4.8
20°-30°	585.6	7.1
30°-40°	684.0	8.3
40°-50°	687.7	8.4
50°-60°	604.1	7.3
60°-70°	450.0	5.5
70°-80°	256.4	3.1
80°-90°	78.2	1.0
90°-100°	102.0	1.2
100°-110°	305.2	3.7
110°-120°	519.0	6.3
120°-130°	682.7	8.3
130°-140°	767.4	9.3
140°-150°	754.3	9.2
150°-160°	635.0	7.7
160°-170°	422.7	5.1
170°-180°	148.0	1.8
0°-30°	1122.4	13.7
0°-40°	1806.5	22.0
0°-60°	3098.3	37.7
0°-90°	3883.0	47.2
90°-120°	926.2	11.3
90°-150°	3130.5	38.1
90°-180°	4336.0	52.8
0°-180°	8219.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1490	1490	1490	1490	1490	
5°	1492	1485	1471	1483	1482	141
15°	1420	1414	1398	1407	1401	400
25°	1289	1281	1265	1266	1262	594
35°	1115	1107	1091	1083	1076	697
45°	914	908	892	877	870	705
55°	693	691	675	662	655	621
65°	473	466	454	444	440	466
75°	250	245	241	235	231	267
85°	67	64	64	62	62	73
90°	1	14	30	34	37	8
95°	73	81	91	96	96	82
105°	277	280	290	290	293	296
115°	522	526	524	525	524	517
125°	765	768	766	761	756	682
135°	992	999	998	994	991	764
145°	1204	1206	1210	1208	1204	752
155°	1378	1378	1379	1384	1376	634
165°	1501	1498	1498	1504	1496	423
175°	1561	1557	1556	1563	1555	148
180°	1565	1565	1565	1565	1565	



TEST NUMBER: P332239-930

CATALOG NUMBER: S123DIW-S1165D1535U930-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1490.4	1490.4	1490.4	1490.4	1490.4	1490.4	1490.4	1490.4	1490.4	1490.4	1490.4
2.5°	1495.6	1494.7	1493.8	1492.9	1491.9	1490.2	1487.8	1485.2	1482.7	1480.2	1482.5
5°	1491.8	1490.4	1488.9	1487.5	1486.0	1483.8	1480.7	1477.5	1474.4	1471.2	1474.1
7.5°	1477.2	1475.7	1474.3	1472.8	1471.5	1469.1	1465.8	1462.6	1459.4	1456.1	1458.7
10°	1464.8	1463.4	1462.0	1460.5	1459.1	1456.6	1452.9	1449.2	1445.4	1441.8	1444.3
12.5°	1448.5	1447.2	1446.0	1444.9	1443.7	1441.3	1437.9	1434.4	1430.9	1427.4	1429.3
15°	1420.0	1418.9	1417.7	1416.6	1415.4	1413.0	1409.3	1405.6	1401.9	1398.2	1400.4
17.5°	1386.9	1385.4	1384.0	1382.5	1381.0	1378.4	1374.7	1371.0	1367.3	1363.6	1365.2
20°	1362.3	1360.6	1358.9	1357.1	1355.5	1352.7	1349.1	1345.4	1341.7	1338.0	1339.1
22.5°	1334.6	1332.9	1331.2	1329.5	1327.8	1325.1	1321.4	1317.7	1314.0	1310.3	1311.2
25°	1289.2	1287.5	1285.8	1284.1	1282.5	1279.7	1276.0	1272.4	1268.6	1264.9	1265.2
27.5°	1240.8	1239.2	1237.5	1235.8	1234.2	1231.4	1227.4	1223.4	1219.4	1215.4	1215.7
30°	1206.0	1204.5	1203.1	1201.7	1200.3	1197.6	1193.6	1189.6	1185.6	1181.6	1181.6
32.5°	1171.1	1169.2	1167.3	1165.5	1163.6	1161.1	1158.1	1155.0	1151.9	1148.8	1147.2
35°	1115.0	1113.3	1111.6	1109.9	1108.2	1105.5	1101.7	1098.0	1094.3	1090.6	1088.9
37.5°	1057.5	1055.4	1053.2	1051.1	1048.9	1045.9	1042.2	1038.4	1034.7	1030.9	1028.8
40°	1017.6	1015.9	1014.2	1012.4	1010.7	1007.9	1003.9	999.9	995.9	992.0	989.7
42.5°	977.5	975.7	973.7	971.8	969.8	966.9	962.9	958.9	954.9	951.0	948.7
45°	913.8	912.6	911.5	910.4	909.2	906.8	903.1	899.4	895.7	891.9	888.6
47.5°	850.4	848.8	847.2	845.5	843.8	841.3	837.8	834.3	830.9	827.4	824.0
50°	807.4	806.0	804.5	803.2	801.7	799.2	795.4	791.7	788.0	784.3	781.2
52.5°	762.3	761.3	760.3	759.4	758.4	755.9	752.0	748.1	744.2	740.2	737.5
55°	693.3	693.1	692.8	692.5	692.2	690.2	686.5	682.8	679.1	675.4	672.3
57.5°	627.7	626.7	625.7	624.8	623.9	621.9	618.9	616.0	613.0	610.0	607.2
60°	580.6	580.2	580.0	579.7	579.4	577.6	574.1	570.7	567.3	563.9	561.3
62.5°	538.5	537.8	537.0	536.3	535.6	533.5	530.0	526.6	523.3	519.8	517.2
65°	472.9	471.5	470.0	468.6	467.2	465.0	462.2	459.3	456.5	453.7	451.4
67.5°	403.4	402.2	401.0	399.7	398.4	396.7	394.5	392.4	390.2	388.1	386.0
70°	361.4	359.7	358.0	356.3	354.6	352.9	351.1	349.4	347.7	346.0	344.1
72.5°	317.3	316.1	314.8	313.6	312.3	310.7	308.8	306.8	304.9	303.0	301.2
75°	249.9	248.7	247.6	246.5	245.3	244.3	243.5	242.6	241.8	240.9	239.5
77.5°	190.2	189.6	188.9	188.3	187.7	186.9	185.8	184.8	183.8	182.8	181.8
80°	151.2	150.3	149.5	148.6	147.8	147.1	146.5	145.9	145.4	144.8	144.6
82.5°	113.3	113.1	112.9	112.8	112.6	112.4	112.3	112.3	112.1	112.0	111.5
85°	66.6	66.0	65.5	64.9	64.3	64.1	64.1	64.1	64.1	64.1	63.5
87.5°	26.9	26.7	26.7	26.5	26.3	26.5	27.0	27.5	28.0	28.5	28.5
90°	1.2	4.0	6.7	9.5	12.1	15.3	18.8	22.4	25.9	29.5	30.6
92.5°	29.8	31.6	33.4	35.3	37.2	39.1	41.2	43.1	45.2	47.2	48.1
95°	72.6	74.4	76.4	78.3	80.2	82.3	84.4	86.6	88.8	91.0	92.0
97.5°	128.8	130.3	131.7	133.1	134.5	136.0	137.6	139.2	140.8	142.4	143.7
100°	167.2	168.8	170.5	172.1	173.7	175.3	176.6	178.0	179.4	180.8	181.6
102.5°	211.5	212.5	213.4	214.4	215.4	216.8	218.6	220.4	222.2	224.0	224.9
105°	276.6	277.2	277.7	278.3	278.8	280.3	282.7	285.2	287.7	290.2	290.2
107.5°	352.4	352.7	353.0	353.4	353.7	354.3	355.3	356.3	357.3	358.2	359.1
110°	399.6	400.1	400.6	401.2	401.8	402.3	402.8	403.4	403.9	404.5	405.6



TEST NUMBER: P332239-930

CATALOG NUMBER: S123DIW-S1165D1535U930-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	448.7	449.1	449.4	449.7	450.0	450.3	450.4	450.5	450.6	450.7	452.0
115°	522.5	523.3	524.2	525.0	525.8	525.9	525.4	524.8	524.3	523.7	524.0
117.5°	596.8	597.3	597.9	598.4	598.9	598.8	598.2	597.5	596.7	596.1	596.0
120°	643.0	644.7	646.3	647.9	649.5	649.7	648.3	646.9	645.6	644.2	643.9
122.5°	691.2	692.4	693.6	694.8	696.0	696.3	695.5	694.8	694.1	693.4	692.7
125°	764.7	765.5	766.4	767.2	768.0	768.1	767.6	767.0	766.5	766.0	764.8
127.5°	832.6	834.3	836.1	837.8	839.6	840.2	839.5	838.9	838.4	837.7	836.2
130°	877.8	880.0	882.2	884.4	886.6	887.2	886.4	885.6	884.8	883.9	882.9
132.5°	923.1	925.2	927.4	929.6	931.8	932.6	932.0	931.4	930.7	930.2	928.9
135°	992.1	993.8	995.4	997.0	998.7	999.4	999.1	998.8	998.6	998.3	997.2
137.5°	1056.1	1057.4	1058.8	1060.2	1061.5	1062.6	1063.3	1064.0	1064.7	1065.4	1064.3
140°	1100.3	1101.7	1103.1	1104.4	1105.8	1106.6	1106.9	1107.2	1107.4	1107.7	1107.4
142.5°	1140.7	1142.0	1143.4	1144.8	1146.1	1147.0	1147.5	1148.0	1148.5	1149.0	1148.8
145°	1203.6	1204.2	1204.7	1205.3	1205.8	1206.5	1207.3	1208.1	1208.9	1209.7	1209.5
147.5°	1258.7	1259.6	1260.6	1261.7	1262.7	1263.5	1264.3	1265.0	1265.8	1266.6	1266.6
150°	1297.1	1297.6	1298.1	1298.7	1299.3	1299.8	1300.3	1300.9	1301.4	1302.0	1302.0
152.5°	1328.5	1329.3	1330.1	1330.8	1331.5	1332.1	1332.4	1332.8	1333.1	1333.4	1333.9
155°	1378.2	1378.2	1378.2	1378.2	1378.2	1378.3	1378.6	1378.8	1379.2	1379.4	1380.5
157.5°	1420.5	1420.2	1419.8	1419.5	1419.2	1419.1	1419.4	1419.5	1419.8	1420.0	1421.1
160°	1447.1	1446.5	1445.9	1445.4	1444.9	1444.5	1444.5	1444.5	1444.5	1444.5	1445.9
162.5°	1470.6	1469.9	1469.1	1468.4	1467.6	1467.3	1467.5	1467.8	1467.9	1468.2	1469.6
165°	1501.1	1500.3	1499.5	1498.7	1497.9	1497.5	1497.5	1497.5	1497.5	1497.5	1499.1
167.5°	1525.5	1524.4	1523.3	1522.2	1521.1	1520.7	1520.9	1521.1	1521.3	1521.5	1523.2
170°	1539.2	1538.1	1537.1	1535.9	1534.9	1534.3	1534.3	1534.3	1534.3	1534.3	1536.3
172.5°	1550.0	1549.0	1547.8	1546.8	1545.7	1545.2	1545.2	1545.2	1545.2	1545.2	1546.9
175°	1561.4	1560.3	1559.2	1558.1	1557.0	1556.5	1556.5	1556.5	1556.5	1556.5	1558.1
177.5°	1566.0	1565.2	1564.3	1563.4	1562.5	1562.1	1562.1	1562.1	1562.1	1562.1	1563.4
180°	1565.0	1565.0	1565.0	1565.0	1565.0	1565.0	1565.0	1565.0	1565.0	1565.0	1565.0



TEST NUMBER: P332239-930

CATALOG NUMBER: S123DIW-S1165D1535U930-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1490.4	1490.4	1490.4	1490.4	1490.4	1490.4	1490.4	1490.4
2.5°	1484.7	1487.0	1489.3	1490.4	1490.1	1489.9	1489.6	1489.5
5°	1476.9	1479.8	1482.6	1483.8	1483.2	1482.6	1482.1	1481.5
7.5°	1461.3	1463.8	1466.4	1467.5	1467.1	1466.8	1466.5	1466.2
10°	1446.9	1449.4	1452.0	1453.0	1452.5	1451.9	1451.3	1450.7
12.5°	1431.2	1433.1	1434.9	1435.7	1435.3	1435.0	1434.7	1434.4
15°	1402.7	1405.0	1407.3	1407.6	1405.9	1404.2	1402.5	1400.8
17.5°	1366.8	1368.4	1369.9	1370.4	1369.9	1369.2	1368.6	1368.0
20°	1340.3	1341.4	1342.6	1342.6	1341.8	1340.9	1340.1	1339.2
22.5°	1312.1	1313.0	1313.9	1313.9	1312.8	1311.7	1310.6	1309.5
25°	1265.5	1265.8	1266.1	1265.8	1264.9	1264.0	1263.2	1262.3
27.5°	1215.9	1216.1	1216.3	1215.9	1214.9	1213.7	1212.7	1211.6
30°	1181.6	1181.6	1181.6	1180.6	1178.6	1176.6	1174.6	1172.6
32.5°	1145.6	1144.0	1142.4	1141.1	1140.0	1138.9	1137.8	1136.8
35°	1087.2	1085.5	1083.8	1082.2	1080.8	1079.4	1077.9	1076.5
37.5°	1026.8	1024.7	1022.7	1021.2	1020.3	1019.4	1018.5	1017.6
40°	987.4	985.1	982.8	981.1	980.0	978.8	977.7	976.6
42.5°	946.4	944.1	941.8	940.1	939.0	937.8	936.7	935.6
45°	885.2	881.7	878.3	875.9	874.5	873.0	871.6	870.2
47.5°	820.7	817.3	813.9	811.6	810.4	809.1	807.9	806.7
50°	778.0	774.9	771.8	769.4	767.7	766.0	764.3	762.5
52.5°	734.9	732.2	729.5	727.3	725.6	723.9	722.2	720.5
55°	669.1	666.0	662.8	660.6	659.2	657.7	656.3	654.8
57.5°	604.5	601.7	598.8	596.6	595.0	593.4	591.7	590.0
60°	558.8	556.2	553.7	551.6	550.2	548.8	547.4	545.9
62.5°	514.7	512.1	509.6	507.8	506.8	505.8	504.9	503.9
65°	449.1	446.9	444.6	443.0	442.1	441.3	440.4	439.6
67.5°	384.1	382.0	380.1	378.5	377.3	376.1	374.9	373.7
70°	342.0	340.1	338.0	336.3	334.9	333.5	332.1	330.7
72.5°	299.5	297.7	295.9	294.6	293.9	293.2	292.4	291.7
75°	238.1	236.7	235.2	234.1	233.3	232.4	231.5	230.6
77.5°	180.8	179.9	178.9	178.4	178.4	178.4	178.4	178.4
80°	144.2	144.0	143.7	143.6	143.6	143.6	143.6	143.6
82.5°	111.0	110.5	110.0	109.6	109.3	109.2	108.9	108.7
85°	62.9	62.4	61.8	61.6	61.6	61.6	61.6	61.6
87.5°	28.5	28.5	28.5	28.5	28.6	28.7	28.8	28.9
90°	31.7	32.8	33.9	34.7	35.2	35.8	36.4	36.9
92.5°	48.9	49.8	50.7	51.0	50.6	50.3	50.0	49.7
95°	93.2	94.2	95.3	95.9	95.9	95.9	95.9	95.9
97.5°	144.9	146.1	147.4	148.0	147.9	147.7	147.7	147.6
100°	182.4	183.2	184.0	184.7	185.2	185.8	186.3	186.9
102.5°	225.7	226.5	227.3	227.6	227.6	227.4	227.3	227.2
105°	290.2	290.2	290.2	290.4	291.0	291.6	292.0	292.6
107.5°	360.0	360.9	361.7	362.0	361.7	361.3	361.0	360.7
110°	406.7	407.7	408.9	409.1	408.5	408.1	407.5	406.9



TEST NUMBER: P332239-930

CATALOG NUMBER: S123DIW-S1165D1535U930-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	453.3	454.6	455.9	456.6	456.5	456.3	456.2	456.1
115°	524.3	524.6	524.8	524.8	524.6	524.3	524.0	523.7
117.5°	595.9	595.9	595.8	595.4	594.6	593.9	593.1	592.3
120°	643.7	643.4	643.1	642.7	642.2	641.6	641.1	640.5
122.5°	691.9	691.3	690.6	689.8	689.1	688.3	687.5	686.7
125°	763.8	762.6	761.6	760.4	759.4	758.3	757.2	756.1
127.5°	834.7	833.2	831.6	830.2	829.0	827.7	826.5	825.2
130°	881.7	880.7	879.6	878.1	876.2	874.2	872.4	870.4
132.5°	927.6	926.3	925.0	923.6	922.1	920.6	919.1	917.6
135°	996.1	995.0	993.9	993.1	992.5	992.0	991.5	990.9
137.5°	1063.2	1062.0	1060.9	1059.7	1058.7	1057.7	1056.6	1055.6
140°	1107.2	1106.9	1106.6	1105.5	1103.6	1101.7	1099.8	1097.9
142.5°	1148.5	1148.2	1147.9	1147.0	1145.6	1144.1	1142.6	1141.2
145°	1209.2	1208.9	1208.7	1207.9	1206.9	1205.8	1204.7	1203.6
147.5°	1266.6	1266.6	1266.6	1265.8	1264.1	1262.5	1260.8	1259.1
150°	1302.0	1302.0	1302.0	1301.1	1299.5	1297.9	1296.2	1294.6
152.5°	1334.3	1334.7	1335.2	1334.7	1333.3	1331.9	1330.4	1329.0
155°	1381.6	1382.7	1383.8	1383.4	1381.4	1379.6	1377.6	1375.7
157.5°	1422.3	1423.4	1424.6	1424.4	1422.9	1421.3	1419.8	1418.3
160°	1447.3	1448.7	1450.0	1450.2	1449.1	1448.0	1446.9	1445.8
162.5°	1470.9	1472.3	1473.7	1473.5	1471.7	1470.0	1468.2	1466.5
165°	1500.7	1502.4	1504.0	1503.9	1501.9	1500.1	1498.1	1496.2
167.5°	1524.9	1526.6	1528.3	1528.3	1526.6	1524.9	1523.2	1521.5
170°	1538.1	1540.1	1542.0	1542.0	1540.1	1538.1	1536.3	1534.3
172.5°	1548.5	1550.2	1551.9	1551.8	1549.9	1548.0	1546.1	1544.2
175°	1559.7	1561.4	1563.0	1562.8	1561.0	1559.0	1557.1	1555.3
177.5°	1564.7	1566.0	1567.3	1567.2	1565.7	1564.2	1562.7	1561.1
180°	1565.0	1565.0	1565.0	1565.0	1565.0	1565.0	1565.0	1565.0

(END OF REPORT)