

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: P332237-940

Luminaire Tested: **S123DIW-S1165D1535U940-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332237-940
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-S1165D1535U940-4F0-1E-UDD-D1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, DROP 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: 9071.7 lumens
Efficiency: N/A
Efficacy: 109.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: General Diffuse

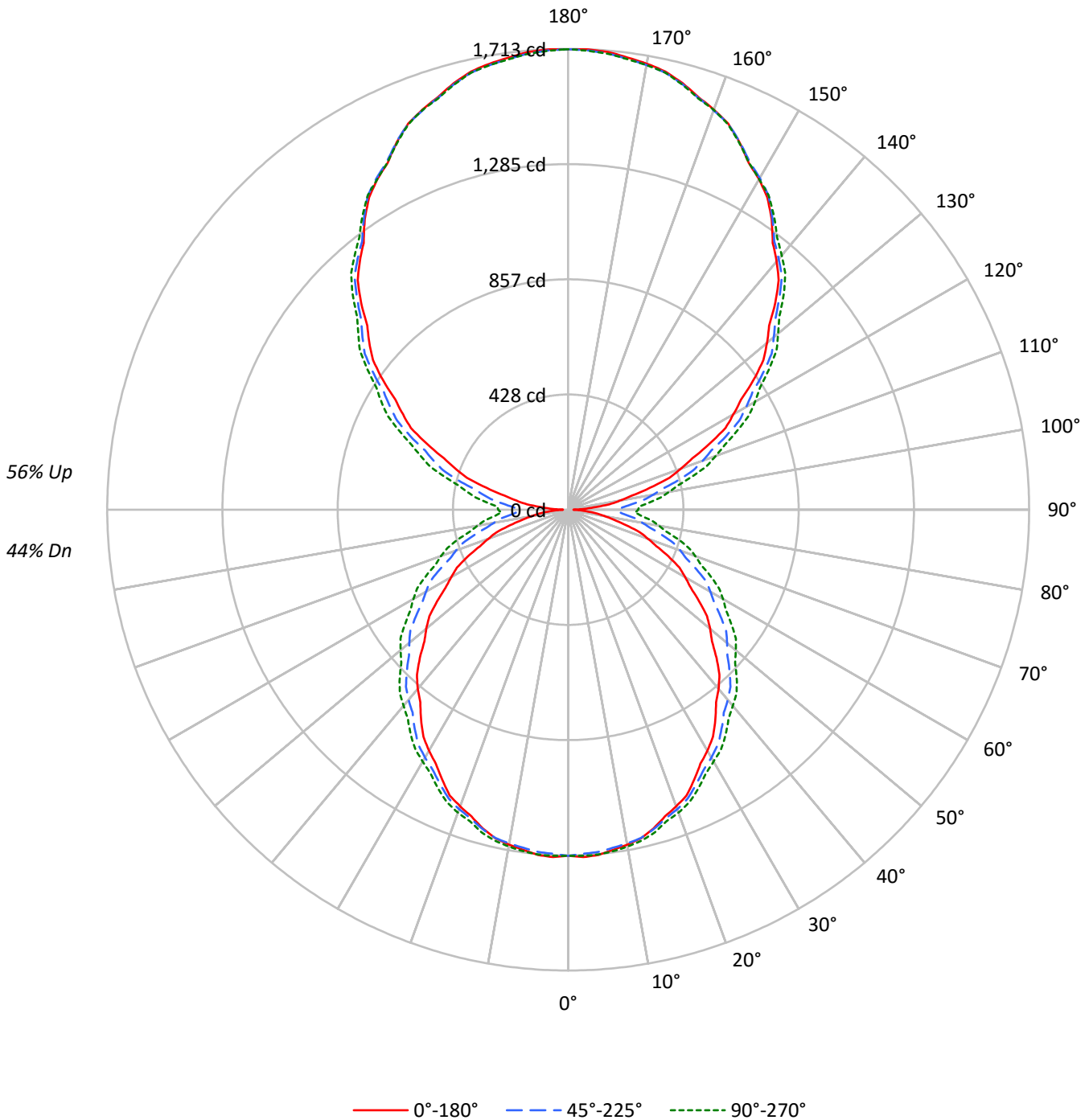
Input Watts (W): 82.9
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332237-940

CATALOG NUMBER: S123DIW-S1165D1535U940-4F0-1E-UDD-D1

Luminous Intensity Polar Plot





TEST NUMBER: P332237-940

CATALOG NUMBER: S123DIW-S1165D1535U940-4F0-1E-UDD-D1

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	106	106	106	106	97	97	97	97	80	80	80	64	64	64	50	50	50	44				
1	95	91	87	83	87	83	79	76	69	66	64	55	53	52	43	42	41	35				
2	87	79	72	67	79	72	66	62	60	55	52	48	45	42	37	35	34	29				
3	79	69	61	55	72	63	56	51	52	47	43	42	39	36	33	30	28	24				
4	72	61	53	46	65	56	49	43	46	41	37	37	33	30	29	26	24	20				
5	66	54	46	40	60	50	42	37	41	36	31	33	29	26	26	23	21	17				
6	61	48	40	34	55	44	37	32	37	31	27	30	26	23	24	21	18	15				
7	56	43	35	30	51	40	33	28	33	28	24	27	23	20	22	18	16	13				
8	52	39	32	26	47	36	29	24	30	25	21	25	21	18	20	17	14	12				
9	48	36	28	23	44	33	26	22	28	22	19	23	19	16	18	15	13	11				
10	45	33	26	21	41	30	24	19	26	20	17	21	17	14	17	14	12	10				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13850	13850	13850
5°	13894	13501	13509
10°	13769	13190	13124
15°	13592	12837	12705
20°	13338	12435	12243
25°	13025	11969	11757
30°	12705	11553	11264
35°	12344	11111	10871
40°	12002	10709	10450
45°	11622	10323	10113
50°	11245	9942	9744
55°	10831	9553	9410
60°	10426	9156	9068
65°	10013	8733	8661
70°	9389	8257	8243
75°	8597	7713	7819
80°	7695	7181	7334
85°	6853	6811	7053



TEST NUMBER: P332237-940

CATALOG NUMBER: S123DIW-S1165D1535U940-4F0-1E-UDD-D1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	122.0	1.3
10°-20°	347.7	3.8
20°-30°	520.1	5.7
30°-40°	621.1	6.8
40°-50°	649.8	7.2
50°-60°	609.8	6.7
60°-70°	509.3	5.6
70°-80°	364.4	4.0
80°-90°	222.4	2.5
90°-100°	247.9	2.7
100°-110°	434.0	4.8
110°-120°	634.6	7.0
120°-130°	784.9	8.7
130°-140°	856.4	9.4
140°-150°	828.6	9.1
150°-160°	694.5	7.7
160°-170°	462.3	5.1
170°-180°	161.9	1.8
0°-30°	989.8	10.9
0°-40°	1610.9	17.8
0°-60°	2870.5	31.6
0°-90°	3966.6	43.7
90°-120°	1316.4	14.5
90°-150°	3786.4	41.7
90°-180°	5105.0	56.3
0°-180°	9071.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1287	1287	1287	1287	1287	
5°	1288	1285	1277	1287	1287	122
15°	1226	1230	1229	1242	1242	345
25°	1107	1121	1126	1143	1144	510
35°	953	975	994	1014	1020	596
45°	779	813	848	874	886	601
55°	594	641	691	727	740	532
65°	411	466	527	568	583	406
75°	223	289	359	403	422	238
85°	69	139	213	259	275	72
90°	20	102	191	242	260	17
95°	95	160	238	285	301	101
105°	314	352	422	460	477	335
115°	578	601	647	681	692	572
125°	841	846	883	906	911	750
135°	1088	1095	1109	1128	1133	838
145°	1318	1319	1323	1332	1333	823
155°	1507	1507	1509	1513	1505	694
165°	1642	1638	1638	1645	1636	463
175°	1708	1703	1702	1709	1701	162
180°	1712	1712	1712	1712	1712	



TEST NUMBER: P332237-940

CATALOG NUMBER: S123DIW-S1165D1535U940-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1286.7	1286.7	1286.7	1286.7	1286.7	1286.7	1286.7	1286.7	1286.7	1286.7	1286.7
2.5°	1292.4	1291.6	1290.8	1290.1	1289.3	1288.0	1286.0	1284.0	1282.0	1280.1	1282.0
5°	1288.2	1287.5	1286.9	1286.3	1285.7	1284.4	1282.5	1280.7	1278.8	1276.9	1279.4
7.5°	1275.5	1275.7	1275.8	1275.9	1276.0	1275.2	1273.4	1271.6	1269.8	1267.9	1271.0
10°	1264.4	1265.0	1265.6	1266.2	1266.9	1266.3	1264.8	1263.2	1261.7	1260.1	1263.2
12.5°	1250.9	1251.7	1252.6	1253.5	1254.4	1254.3	1253.2	1252.1	1251.1	1250.0	1252.9
15°	1226.5	1227.4	1228.3	1229.3	1230.2	1230.6	1230.2	1229.9	1229.6	1229.3	1232.4
17.5°	1195.6	1197.5	1199.4	1201.2	1203.1	1204.0	1203.9	1203.7	1203.6	1203.5	1206.3
20°	1173.2	1175.1	1177.0	1178.8	1180.7	1182.0	1182.6	1183.2	1183.8	1184.5	1187.2
22.5°	1149.7	1151.6	1153.4	1155.3	1157.2	1158.5	1159.4	1160.3	1161.1	1162.0	1165.6
25°	1107.3	1110.4	1113.6	1116.7	1119.8	1121.8	1122.8	1123.6	1124.6	1125.5	1129.6
27.5°	1064.7	1068.3	1071.8	1075.4	1078.9	1081.7	1083.7	1085.7	1087.7	1089.7	1093.1
30°	1034.5	1038.5	1042.5	1046.6	1050.6	1053.9	1056.4	1058.9	1061.4	1063.9	1067.6
32.5°	1000.8	1005.3	1009.9	1014.4	1019.0	1022.9	1026.1	1029.4	1032.6	1035.8	1039.8
35°	953.1	958.1	963.1	968.1	973.1	977.6	981.7	985.7	989.7	993.8	998.4
37.5°	902.7	908.3	913.9	919.5	925.1	930.4	935.4	940.4	945.4	950.4	955.6
40°	869.1	874.7	880.3	885.8	891.4	897.4	903.7	909.8	916.1	922.3	927.6
42.5°	832.1	838.9	845.8	852.6	859.4	866.1	872.6	879.0	885.6	892.1	897.9
45°	779.4	786.8	794.2	801.7	809.2	816.9	824.7	832.4	840.3	848.0	853.9
47.5°	724.1	732.5	741.0	749.6	758.0	766.7	775.6	784.5	793.4	802.4	809.0
50°	688.2	697.0	705.7	714.3	723.1	732.3	742.0	751.6	761.3	770.9	778.1
52.5°	650.1	659.3	668.5	677.8	687.0	697.0	707.6	718.2	728.9	739.5	747.0
55°	594.3	604.6	614.8	625.2	635.4	646.1	657.4	668.6	679.8	691.1	699.5
57.5°	539.9	550.6	561.3	572.0	582.8	594.3	606.5	618.8	631.1	643.4	651.8
60°	501.8	513.0	524.2	535.5	546.6	558.7	571.4	584.2	597.0	609.8	618.5
62.5°	465.9	477.4	488.8	500.3	511.8	524.2	537.8	551.3	564.8	578.4	587.0
65°	410.7	422.8	435.0	447.1	459.3	472.3	485.9	499.6	513.4	527.0	536.4
67.5°	354.6	367.6	380.4	393.3	406.2	419.6	433.5	447.5	461.5	475.5	485.6
70°	315.4	328.8	342.1	355.5	369.0	383.2	398.1	413.0	428.0	442.9	452.9
72.5°	279.5	292.9	306.3	319.7	333.1	347.5	362.9	378.4	393.9	409.3	419.5
75°	222.8	237.6	252.2	266.8	281.4	296.5	312.1	327.7	343.2	358.8	369.1
77.5°	173.5	188.3	203.0	217.8	232.6	247.8	263.5	279.2	294.9	310.6	321.5
80°	138.8	154.0	169.3	184.6	199.8	215.5	231.8	248.0	264.1	280.4	291.0
82.5°	108.5	124.0	139.6	155.1	170.5	186.5	203.0	219.5	235.9	252.3	262.9
85°	68.7	84.3	99.9	115.4	131.0	147.0	163.5	180.0	196.5	213.0	223.6
87.5°	37.5	53.7	69.7	85.9	102.0	118.4	135.0	151.7	168.4	185.0	195.8
90°	19.5	37.8	56.1	74.3	92.6	111.6	131.3	151.1	170.9	190.6	202.4
92.5°	49.7	65.5	81.2	97.0	112.8	129.7	147.5	165.3	183.2	201.1	212.3
95°	94.8	109.0	123.2	137.5	151.7	167.6	185.3	203.0	220.6	238.3	249.1
97.5°	154.6	167.2	179.7	192.3	204.7	219.2	235.4	251.7	268.0	284.4	295.1
100°	195.5	207.2	219.0	230.8	242.5	256.3	272.2	287.9	303.8	319.6	329.6
102.5°	242.8	252.8	262.9	273.0	282.9	296.0	312.1	328.1	344.2	360.3	369.9
105°	313.8	321.8	329.9	338.0	346.1	358.1	374.3	390.3	406.4	422.5	431.1
107.5°	394.9	401.6	408.3	415.1	421.8	432.0	445.8	459.6	473.3	487.1	496.4
110°	445.4	451.7	457.8	464.0	470.2	479.8	492.9	506.0	519.1	532.1	541.4



TEST NUMBER: P332237-940

CATALOG NUMBER: S123DIW-S1165D1535U940-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	499.2	504.2	509.2	514.1	519.1	527.6	539.7	551.8	563.8	576.0	585.2
115°	578.5	583.1	587.7	592.4	597.0	604.7	615.3	625.9	636.5	647.1	654.9
117.5°	659.4	662.4	665.2	668.2	671.0	677.3	687.2	696.9	706.6	716.4	723.7
120°	708.8	712.2	715.6	718.9	722.3	728.3	737.1	745.9	754.7	763.5	770.3
122.5°	761.6	763.7	765.8	767.9	770.1	775.6	784.6	793.6	802.6	811.6	817.8
125°	840.6	841.5	842.4	843.3	844.2	848.8	857.3	865.7	874.1	882.6	887.9
127.5°	914.8	916.4	918.0	919.6	921.2	925.4	932.2	939.1	945.8	952.7	957.2
130°	964.3	966.3	968.5	970.5	972.6	976.3	981.7	986.9	992.3	997.6	1002.4
132.5°	1012.6	1014.9	1017.3	1019.7	1022.0	1025.3	1029.7	1033.9	1038.3	1042.6	1046.9
135°	1088.0	1089.4	1090.9	1092.3	1093.9	1096.2	1099.3	1102.4	1105.5	1108.7	1113.1
137.5°	1157.6	1158.9	1160.0	1161.3	1162.5	1164.6	1167.2	1169.9	1172.7	1175.4	1179.0
140°	1204.9	1206.4	1207.8	1209.3	1210.9	1212.2	1213.4	1214.7	1215.9	1217.1	1221.6
142.5°	1248.9	1250.2	1251.4	1252.7	1253.9	1254.9	1255.6	1256.4	1257.1	1257.8	1261.7
145°	1317.9	1318.1	1318.4	1318.7	1318.9	1319.6	1320.4	1321.3	1322.2	1323.1	1325.3
147.5°	1376.6	1377.7	1378.8	1379.9	1381.0	1381.9	1382.8	1383.6	1384.4	1385.3	1386.0
150°	1418.6	1419.2	1419.8	1420.4	1421.0	1421.6	1422.2	1422.8	1423.3	1424.0	1424.0
152.5°	1453.0	1453.8	1454.7	1455.5	1456.3	1457.0	1457.3	1457.7	1458.0	1458.4	1458.9
155°	1507.3	1507.3	1507.3	1507.3	1507.3	1507.5	1507.8	1508.1	1508.4	1508.7	1509.9
157.5°	1553.6	1553.3	1552.9	1552.6	1552.2	1552.1	1552.4	1552.6	1552.8	1553.1	1554.3
160°	1582.7	1582.1	1581.4	1580.8	1580.3	1579.9	1579.9	1579.9	1579.9	1579.9	1581.4
162.5°	1608.5	1607.7	1606.8	1606.0	1605.2	1604.8	1605.1	1605.3	1605.5	1605.8	1607.3
165°	1641.8	1640.9	1640.0	1639.1	1638.3	1637.8	1637.8	1637.8	1637.8	1637.8	1639.6
167.5°	1668.5	1667.2	1666.1	1664.8	1663.7	1663.2	1663.4	1663.7	1663.9	1664.1	1666.0
170°	1683.5	1682.3	1681.1	1679.9	1678.7	1678.1	1678.1	1678.1	1678.1	1678.1	1680.3
172.5°	1695.3	1694.2	1692.9	1691.8	1690.6	1690.0	1690.0	1690.0	1690.0	1690.0	1691.8
175°	1707.7	1706.6	1705.3	1704.1	1702.9	1702.4	1702.4	1702.4	1702.4	1702.4	1704.1
177.5°	1712.8	1711.9	1710.9	1709.9	1709.0	1708.5	1708.5	1708.5	1708.5	1708.5	1709.9
180°	1711.7	1711.7	1711.7	1711.7	1711.7	1711.7	1711.7	1711.7	1711.7	1711.7	1711.7



TEST NUMBER: P332237-940

CATALOG NUMBER: S123DIW-S1165D1535U940-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1286.7	1286.7	1286.7	1286.7	1286.7	1286.7	1286.7	1286.7
2.5°	1284.0	1286.0	1288.0	1288.9	1288.6	1288.3	1288.1	1287.9
5°	1281.9	1284.4	1286.9	1288.0	1287.7	1287.4	1287.1	1286.7
7.5°	1274.2	1277.3	1280.4	1281.8	1281.4	1281.0	1280.7	1280.3
10°	1266.3	1269.4	1272.6	1273.8	1273.2	1272.6	1271.9	1271.3
12.5°	1255.8	1258.6	1261.5	1262.6	1261.9	1261.3	1260.7	1260.1
15°	1235.5	1238.6	1241.7	1243.1	1242.9	1242.5	1242.2	1241.9
17.5°	1209.1	1211.9	1214.7	1215.8	1215.5	1215.0	1214.6	1214.2
20°	1190.0	1192.8	1195.6	1197.2	1197.5	1197.8	1198.1	1198.5
22.5°	1169.1	1172.7	1176.2	1177.9	1177.7	1177.5	1177.3	1177.1
25°	1133.6	1137.7	1141.7	1143.8	1143.8	1143.8	1143.8	1143.8
27.5°	1096.6	1100.1	1103.6	1105.5	1105.7	1106.0	1106.3	1106.5
30°	1071.4	1075.1	1078.8	1080.7	1080.7	1080.7	1080.7	1080.7
32.5°	1043.8	1047.8	1051.8	1054.2	1054.9	1055.7	1056.4	1057.1
35°	1003.2	1007.8	1012.4	1015.5	1016.7	1018.0	1019.2	1020.4
37.5°	960.9	966.3	971.5	974.6	975.7	976.7	977.7	978.7
40°	932.9	938.2	943.5	946.7	948.0	949.2	950.5	951.7
42.5°	903.7	909.5	915.3	919.0	920.7	922.5	924.2	926.0
45°	859.9	865.8	871.7	875.9	878.4	880.9	883.4	885.8
47.5°	815.6	822.3	829.0	833.3	835.2	837.1	839.1	841.0
50°	785.2	792.5	799.6	804.2	806.5	808.6	810.8	813.0
52.5°	754.4	761.8	769.2	774.3	776.9	779.6	782.3	785.0
55°	707.8	716.2	724.7	730.1	732.6	735.1	737.6	740.1
57.5°	660.3	668.8	677.3	683.0	685.9	688.8	691.8	694.6
60°	627.1	635.9	644.6	650.7	654.2	657.5	660.9	664.4
62.5°	595.8	604.5	613.2	619.2	622.3	625.5	628.7	631.9
65°	545.7	555.1	564.5	570.6	573.7	576.8	580.0	583.1
67.5°	495.9	506.1	516.3	522.7	525.4	528.0	530.6	533.2
70°	462.9	472.9	482.8	489.4	492.5	495.6	498.6	501.8
72.5°	429.7	440.0	450.1	456.8	459.9	463.1	466.2	469.3
75°	379.4	389.7	399.9	407.0	410.7	414.5	418.2	421.9
77.5°	332.3	343.1	354.0	360.8	363.7	366.6	369.4	372.3
80°	301.5	312.1	322.7	329.6	332.7	335.8	338.9	342.0
82.5°	273.5	284.1	294.6	301.5	304.6	307.7	310.9	314.0
85°	234.3	244.9	255.4	262.3	265.4	268.5	271.6	274.7
87.5°	206.7	217.5	228.4	235.4	238.6	241.8	245.0	248.3
90°	214.3	226.0	237.8	245.6	249.2	253.0	256.7	260.4
92.5°	223.6	235.0	246.2	253.2	255.7	258.2	260.6	263.1
95°	259.9	270.8	281.7	288.6	291.8	294.9	298.0	301.1
97.5°	305.7	316.4	327.0	333.9	336.8	339.8	342.9	345.8
100°	339.5	349.4	359.4	366.1	369.9	373.5	377.3	381.0
102.5°	379.6	389.2	399.0	405.3	408.2	411.3	414.3	417.2
105°	439.9	448.6	457.4	463.4	466.8	470.2	473.6	477.0
107.5°	505.8	515.1	524.3	530.2	532.6	534.9	537.3	539.8
110°	550.7	560.0	569.3	574.9	576.8	578.6	580.6	582.5



TEST NUMBER: P332237-940

CATALOG NUMBER: S123DIW-S1165D1535U940-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	594.5	603.8	613.1	619.0	621.6	624.3	626.9	629.5
115°	662.6	670.5	678.2	683.2	685.4	687.6	689.7	692.0
117.5°	731.1	738.4	745.7	750.3	751.8	753.4	755.0	756.6
120°	777.2	784.1	790.9	795.1	796.7	798.3	799.9	801.5
122.5°	823.9	830.1	836.2	839.9	841.3	842.7	844.0	845.3
125°	893.2	898.6	903.9	907.1	908.1	909.1	910.1	911.1
127.5°	961.7	966.2	970.6	973.3	974.0	974.7	975.5	976.2
130°	1007.1	1011.8	1016.6	1018.8	1018.6	1018.3	1018.2	1017.9
132.5°	1051.1	1055.3	1059.5	1061.9	1062.4	1062.9	1063.5	1063.9
135°	1117.5	1122.0	1126.3	1129.0	1130.0	1131.0	1131.8	1132.8
137.5°	1182.7	1186.3	1190.1	1192.0	1192.5	1192.9	1193.4	1193.7
140°	1225.9	1230.3	1234.7	1236.5	1236.0	1235.5	1234.9	1234.4
142.5°	1265.6	1269.4	1273.4	1275.2	1275.1	1275.1	1275.1	1275.1
145°	1327.5	1329.7	1331.9	1333.0	1333.1	1333.1	1333.2	1333.2
147.5°	1386.8	1387.5	1388.2	1388.3	1387.6	1387.0	1386.3	1385.6
150°	1424.0	1424.0	1424.0	1423.4	1422.2	1421.0	1419.9	1418.7
152.5°	1459.4	1459.8	1460.4	1459.8	1458.4	1457.0	1455.5	1454.1
155°	1511.1	1512.3	1513.5	1513.1	1510.9	1508.9	1506.7	1504.7
157.5°	1555.6	1556.8	1558.1	1557.9	1556.2	1554.5	1552.8	1551.2
160°	1583.0	1584.5	1585.9	1586.1	1584.9	1583.7	1582.5	1581.3
162.5°	1608.7	1610.3	1611.8	1611.6	1609.6	1607.8	1605.8	1603.9
165°	1641.4	1643.2	1644.9	1644.8	1642.7	1640.7	1638.5	1636.5
167.5°	1667.9	1669.7	1671.5	1671.5	1669.7	1667.9	1666.0	1664.1
170°	1682.3	1684.4	1686.5	1686.5	1684.4	1682.3	1680.3	1678.1
172.5°	1693.6	1695.5	1697.4	1697.3	1695.1	1693.1	1691.0	1688.9
175°	1705.9	1707.7	1709.5	1709.3	1707.3	1705.1	1703.1	1701.0
177.5°	1711.4	1712.8	1714.2	1714.1	1712.4	1710.7	1709.1	1707.4
180°	1711.7	1711.7	1711.7	1711.7	1711.7	1711.7	1711.7	1711.7

(END OF REPORT)