

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: P332388-935

Luminaire Tested: **S123RDIP-S1165D1195U935-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332388-935
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: S123RDIP-S1165D1195U935-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7302.0 lumens
Efficiency: N/A
Efficacy: 101.8 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: General Diffuse

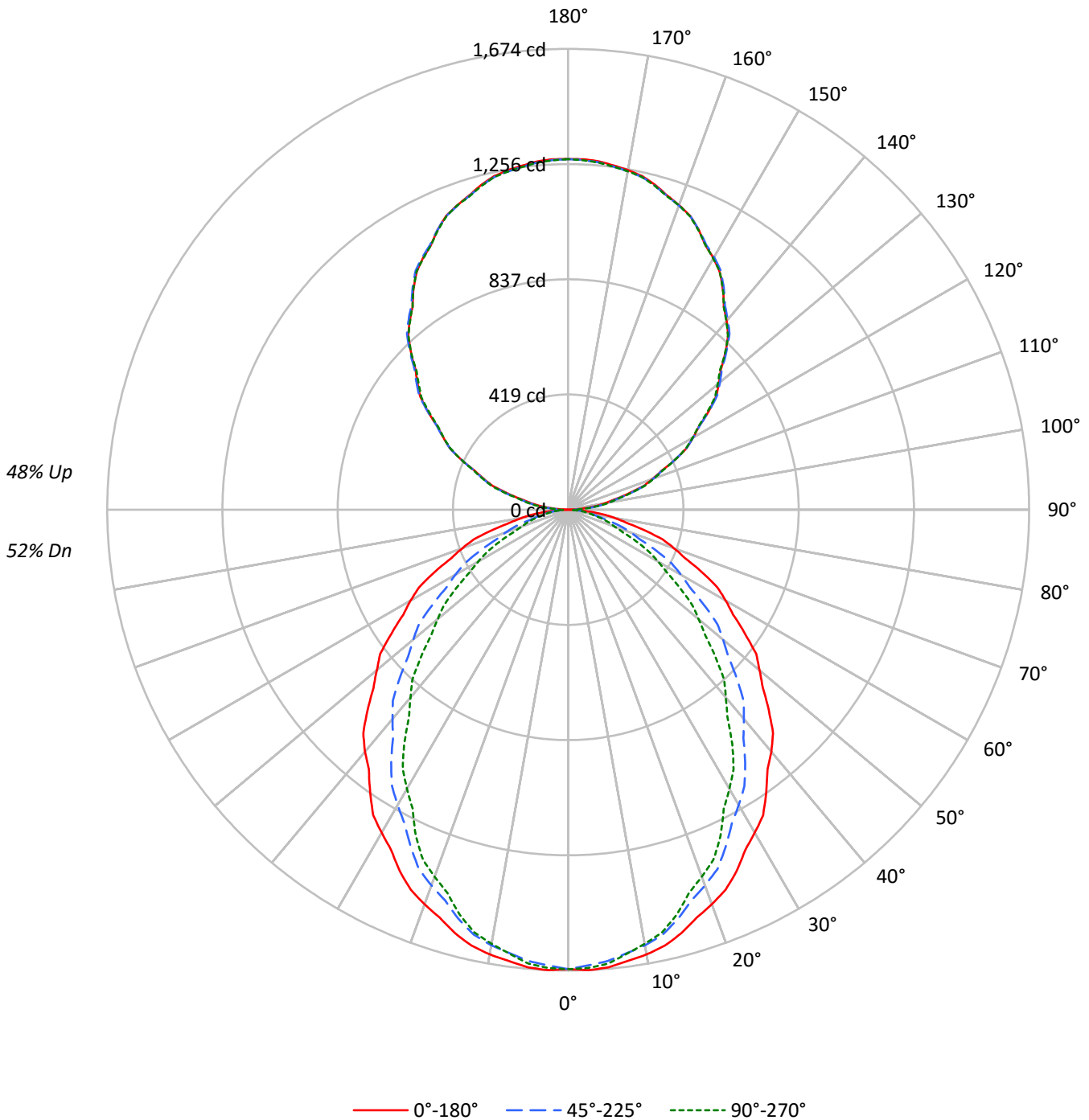
Input Watts (W): 71.7
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332388-935

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Luminous Intensity Polar Plot





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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	0
RCR																				
0	108	108	108	108	99	99	99	99	84	84	84		70	70	70		58	58	58	52
1	98	94	91	87	91	87	84	81	74	72	70		62	61	59		51	50	49	44
2	90	83	77	72	83	77	72	67	66	62	58		55	52	50		46	44	42	38
3	82	73	66	60	76	68	62	56	58	53	49		49	46	43		41	38	36	32
4	75	65	57	51	70	60	53	48	52	47	42		44	40	37		37	34	31	28
5	69	58	50	44	64	54	47	42	47	41	37		40	35	32		33	30	28	24
6	64	52	44	38	59	49	41	36	42	36	32		36	32	28		30	27	24	22
7	59	47	39	34	55	44	37	32	38	33	29		33	28	25		28	24	22	19
8	55	43	35	30	51	40	33	28	35	29	25		30	26	23		25	22	20	17
9	51	39	32	27	47	37	30	25	32	27	23		28	23	20		24	20	18	16
10	48	36	29	24	44	34	27	23	30	24	21		26	21	18		22	19	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	17963	17963	17963
5°	18031	17782	17884
10°	17930	17559	17500
15°	17736	17149	16967
20°	17472	16635	16247
25°	17199	16057	15543
30°	16839	15392	14551
35°	16469	14725	13641
40°	16127	13939	12513
45°	15678	13164	11496
50°	15185	12285	10357
55°	14681	11277	9295
60°	14219	10198	8129
65°	13616	9032	6963
70°	12862	7582	5624
75°	11761	5964	5294
80°	10488	5281	4866
85°	8855	4681	4347



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	156.7	2.1
10°-20°	436.0	6.0
20°-30°	627.8	8.6
30°-40°	707.2	9.7
40°-50°	676.5	9.3
50°-60°	554.0	7.6
60°-70°	373.8	5.1
70°-80°	188.1	2.6
80°-90°	53.5	0.7
90°-100°	83.0	1.1
100°-110°	248.3	3.4
110°-120°	422.3	5.8
120°-130°	555.5	7.6
130°-140°	624.4	8.6
140°-150°	613.8	8.4
150°-160°	516.7	7.1
160°-170°	343.9	4.7
170°-180°	120.4	1.6
0°-30°	1220.5	16.7
0°-40°	1927.7	26.4
0°-60°	3158.3	43.3
0°-90°	3773.6	51.7
90°-120°	753.6	10.3
90°-150°	2547.3	34.9
90°-180°	3528.0	48.3
0°-180°	7302.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1669	1669	1669	1669	1669	
5°	1669	1662	1646	1657	1655	158
15°	1592	1575	1539	1532	1523	448
25°	1448	1413	1352	1324	1309	666
35°	1253	1203	1121	1064	1038	784
45°	1030	967	865	790	755	794
55°	782	713	601	525	495	701
65°	535	458	355	291	273	529
75°	283	217	143	131	127	302
85°	72	43	38	35	35	81
90°	1	11	24	28	30	7
95°	59	66	74	78	78	66
105°	225	228	236	236	238	241
115°	425	428	426	427	426	421
125°	622	625	623	619	615	555
135°	807	813	812	808	806	622
145°	979	981	984	983	979	612
155°	1122	1122	1122	1126	1119	516
165°	1222	1219	1218	1224	1218	344
175°	1270	1267	1266	1272	1266	121
180°	1274	1274	1274	1274	1274	



TEST NUMBER: P332388-935

CATALOG NUMBER: S123RDIP-S1165D1195U935-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1668.8	1668.8	1668.8	1668.8	1668.8	1668.8	1668.8	1668.8	1668.8	1668.8	1668.8
2.5°	1674.2	1673.2	1672.2	1671.3	1670.3	1668.4	1665.5	1662.6	1659.7	1656.8	1659.5
5°	1668.8	1667.2	1665.8	1664.2	1662.8	1660.2	1656.6	1652.9	1649.3	1645.7	1648.5
7.5°	1653.3	1651.7	1650.1	1648.5	1646.8	1643.6	1639.0	1634.3	1629.6	1624.9	1626.4
10°	1640.4	1638.2	1636.2	1634.0	1631.9	1628.2	1622.7	1617.3	1611.9	1606.5	1606.8
12.5°	1622.0	1619.6	1617.2	1614.9	1612.6	1608.1	1601.5	1594.8	1588.2	1581.6	1581.4
15°	1591.6	1588.3	1585.0	1581.7	1578.4	1572.5	1564.1	1555.7	1547.2	1538.9	1537.3
17.5°	1553.4	1549.6	1545.8	1541.9	1538.1	1530.8	1520.1	1509.3	1498.7	1488.0	1484.8
20°	1525.3	1520.5	1515.7	1510.9	1506.1	1498.0	1486.5	1475.1	1463.6	1452.2	1448.3
22.5°	1493.9	1488.3	1482.8	1477.3	1471.8	1462.9	1450.8	1438.6	1426.5	1414.3	1409.5
25°	1448.1	1440.6	1433.1	1425.6	1418.1	1407.4	1393.5	1379.8	1365.9	1352.0	1345.7
27.5°	1392.7	1384.4	1376.1	1367.8	1359.4	1347.6	1332.2	1316.8	1301.4	1286.0	1277.2
30°	1354.8	1345.7	1336.7	1327.7	1318.7	1305.7	1288.9	1272.0	1255.3	1238.4	1228.1
32.5°	1316.9	1306.7	1296.4	1286.2	1276.0	1262.0	1244.1	1226.3	1208.5	1190.8	1179.6
35°	1253.3	1242.4	1231.6	1220.8	1210.0	1195.2	1176.6	1158.0	1139.3	1120.6	1107.7
37.5°	1188.9	1176.8	1164.8	1152.7	1140.7	1124.7	1104.8	1084.9	1065.1	1045.1	1030.4
40°	1147.7	1134.5	1121.2	1108.0	1094.8	1077.5	1056.1	1034.7	1013.4	992.0	976.4
42.5°	1101.1	1087.9	1074.7	1061.4	1048.2	1030.5	1008.5	986.4	964.3	942.3	925.1
45°	1029.9	1016.4	1002.9	989.4	975.8	957.4	934.3	911.1	887.9	864.8	847.7
47.5°	958.7	943.9	929.0	914.2	899.3	880.3	857.1	834.0	810.8	787.7	769.0
50°	906.8	892.7	878.5	864.4	850.2	831.0	806.7	782.3	757.9	733.6	714.9
52.5°	860.2	844.9	829.6	814.2	798.8	779.1	755.0	730.9	706.8	682.7	663.3
55°	782.3	767.5	752.8	738.0	723.3	703.2	677.6	652.0	626.5	600.9	583.5
57.5°	710.2	694.2	678.1	662.1	646.0	625.2	599.5	573.8	548.1	522.5	505.9
60°	660.5	643.9	627.4	610.9	594.3	573.5	548.5	523.7	498.7	473.7	457.4
62.5°	610.6	594.1	577.6	561.0	544.5	523.7	498.8	473.8	448.8	423.9	408.6
65°	534.6	518.1	501.5	485.0	468.5	448.4	425.0	401.5	378.1	354.6	339.8
67.5°	458.6	441.8	425.1	408.4	391.7	372.0	349.6	327.0	304.5	282.1	271.0
70°	408.7	392.5	376.3	360.0	343.8	325.1	304.1	283.0	262.0	240.9	230.4
72.5°	359.0	342.9	326.9	310.9	294.9	277.3	258.2	239.1	220.0	200.9	192.3
75°	282.8	268.5	254.0	239.5	225.2	209.7	193.1	176.5	160.0	143.4	140.4
77.5°	213.5	200.5	187.4	174.4	161.4	149.5	138.9	128.2	117.5	106.9	105.3
80°	169.2	156.9	144.5	132.2	119.9	110.6	104.2	97.9	91.6	85.2	84.4
82.5°	126.9	116.3	105.6	95.0	84.4	77.6	74.6	71.6	68.7	65.8	64.8
85°	71.7	65.1	58.5	51.9	45.3	41.5	40.6	39.7	38.8	37.9	37.3
87.5°	26.2	24.0	21.8	19.5	17.4	16.5	17.1	17.7	18.3	18.9	18.9
90°	1.0	3.2	5.4	7.7	9.9	12.5	15.3	18.3	21.1	24.0	24.9
92.5°	24.2	25.7	27.2	28.8	30.2	31.9	33.5	35.1	36.8	38.4	39.1
95°	59.1	60.6	62.2	63.7	65.3	66.9	68.7	70.4	72.2	74.0	74.9
97.5°	104.9	106.0	107.2	108.3	109.4	110.7	112.0	113.3	114.5	115.8	116.8
100°	136.0	137.4	138.7	140.1	141.4	142.6	143.7	144.8	145.9	147.1	147.7
102.5°	172.0	172.9	173.7	174.4	175.3	176.4	177.9	179.3	180.8	182.3	183.0
105°	225.1	225.5	226.0	226.4	226.9	228.1	230.1	232.1	234.1	236.1	236.1
107.5°	286.7	287.0	287.2	287.5	287.7	288.3	289.1	289.9	290.7	291.5	292.2
110°	325.1	325.5	326.0	326.5	326.9	327.4	327.8	328.2	328.6	329.2	330.0



TEST NUMBER: P332388-935

CATALOG NUMBER: S123RDIP-S1165D1195U935-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	365.2	365.4	365.7	365.9	366.2	366.4	366.4	366.5	366.6	366.7	367.8
115°	425.2	425.9	426.5	427.1	427.8	427.9	427.5	427.1	426.6	426.2	426.4
117.5°	485.6	486.0	486.5	486.9	487.3	487.3	486.7	486.1	485.6	485.0	484.9
120°	523.2	524.5	525.9	527.2	528.6	528.7	527.5	526.4	525.3	524.2	524.0
122.5°	562.4	563.4	564.4	565.3	566.4	566.5	565.9	565.3	564.8	564.2	563.6
125°	622.2	622.9	623.5	624.2	624.9	625.0	624.6	624.1	623.7	623.3	622.3
127.5°	677.4	678.9	680.3	681.7	683.1	683.6	683.1	682.6	682.2	681.7	680.4
130°	714.3	716.0	717.8	719.6	721.3	721.9	721.3	720.6	720.0	719.3	718.4
132.5°	751.1	752.9	754.7	756.4	758.2	758.9	758.4	757.9	757.3	756.9	755.8
135°	807.3	808.7	809.9	811.3	812.6	813.2	813.0	812.8	812.5	812.3	811.4
137.5°	859.4	860.4	861.5	862.6	863.8	864.6	865.2	865.7	866.3	866.9	866.0
140°	895.4	896.5	897.6	898.7	899.7	900.4	900.7	900.9	901.1	901.4	901.1
142.5°	928.2	929.3	930.4	931.5	932.6	933.3	933.8	934.2	934.5	935.0	934.7
145°	979.4	979.8	980.2	980.7	981.1	981.7	982.4	983.0	983.7	984.4	984.1
147.5°	1024.2	1025.0	1025.8	1026.6	1027.4	1028.1	1028.7	1029.3	1029.9	1030.6	1030.6
150°	1055.4	1055.8	1056.3	1056.7	1057.2	1057.7	1058.1	1058.5	1058.9	1059.4	1059.4
152.5°	1081.0	1081.7	1082.3	1082.9	1083.5	1083.9	1084.2	1084.5	1084.8	1085.0	1085.4
155°	1121.5	1121.5	1121.5	1121.5	1121.5	1121.5	1121.8	1122.0	1122.2	1122.4	1123.3
157.5°	1155.8	1155.5	1155.3	1155.0	1154.8	1154.7	1154.9	1155.1	1155.3	1155.5	1156.4
160°	1177.4	1177.0	1176.6	1176.1	1175.7	1175.4	1175.4	1175.4	1175.4	1175.4	1176.6
162.5°	1196.6	1196.0	1195.4	1194.8	1194.2	1193.9	1194.1	1194.3	1194.5	1194.6	1195.8
165°	1221.5	1220.8	1220.1	1219.4	1218.8	1218.5	1218.5	1218.5	1218.5	1218.5	1219.8
167.5°	1241.3	1240.4	1239.5	1238.6	1237.7	1237.3	1237.5	1237.7	1237.9	1238.0	1239.4
170°	1252.5	1251.5	1250.7	1249.8	1248.9	1248.4	1248.4	1248.4	1248.4	1248.4	1250.0
172.5°	1261.3	1260.4	1259.5	1258.6	1257.7	1257.3	1257.3	1257.3	1257.3	1257.3	1258.7
175°	1270.5	1269.6	1268.7	1267.8	1267.0	1266.4	1266.4	1266.4	1266.4	1266.4	1267.8
177.5°	1274.3	1273.6	1272.9	1272.1	1271.4	1271.1	1271.1	1271.1	1271.1	1271.1	1272.1
180°	1273.5	1273.5	1273.5	1273.5	1273.5	1273.5	1273.5	1273.5	1273.5	1273.5	1273.5



TEST NUMBER: P332388-935

CATALOG NUMBER: S123RDIP-S1165D1195U935-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1668.8	1668.8	1668.8	1668.8	1668.8	1668.8	1668.8	1668.8
2.5°	1662.2	1664.8	1667.4	1668.5	1668.0	1667.6	1667.1	1666.6
5°	1651.1	1653.9	1656.6	1657.6	1657.0	1656.4	1655.8	1655.2
7.5°	1627.9	1629.4	1630.9	1631.2	1630.1	1629.1	1628.1	1627.0
10°	1607.1	1607.4	1607.7	1607.1	1605.6	1604.1	1602.6	1601.1
12.5°	1581.2	1581.1	1580.9	1579.9	1578.2	1576.4	1574.7	1573.0
15°	1535.9	1534.3	1532.8	1531.0	1528.9	1526.8	1524.7	1522.6
17.5°	1481.6	1478.3	1475.2	1472.1	1468.9	1465.8	1462.7	1459.5
20°	1444.4	1440.5	1436.6	1432.8	1429.2	1425.6	1422.0	1418.4
22.5°	1404.5	1399.7	1394.8	1390.7	1387.3	1384.0	1380.6	1377.3
25°	1339.5	1333.1	1326.8	1322.0	1318.7	1315.3	1312.1	1308.7
27.5°	1268.4	1259.6	1250.9	1244.0	1238.9	1233.9	1228.8	1223.7
30°	1217.9	1207.7	1197.5	1190.0	1185.2	1180.3	1175.5	1170.7
32.5°	1168.4	1157.2	1146.0	1137.9	1132.8	1127.7	1122.7	1117.7
35°	1094.8	1081.8	1068.9	1059.7	1054.3	1048.9	1043.4	1038.1
37.5°	1015.7	1001.1	986.4	975.7	969.1	962.3	955.7	949.0
40°	960.8	945.1	929.5	918.3	911.3	904.4	897.5	890.5
42.5°	908.1	891.0	873.9	862.3	856.1	849.9	843.7	837.5
45°	830.5	813.4	796.3	784.1	776.9	769.6	762.4	755.2
47.5°	750.4	731.8	713.1	700.6	694.1	687.7	681.2	674.9
50°	696.3	677.6	658.9	646.2	639.3	632.3	625.4	618.5
52.5°	643.9	624.6	605.2	592.4	586.2	580.1	573.9	567.7
55°	566.0	548.5	531.2	519.4	513.4	507.4	501.4	495.3
57.5°	489.5	472.9	456.5	445.7	440.6	435.5	430.3	425.2
60°	441.2	425.0	408.7	398.0	393.0	387.8	382.7	377.6
62.5°	393.3	378.1	362.7	352.5	347.1	341.7	336.4	331.1
65°	325.1	310.4	295.7	286.6	283.4	280.0	276.7	273.4
67.5°	260.0	249.0	238.0	230.7	227.2	223.6	220.1	216.5
70°	219.8	209.3	198.8	191.9	188.6	185.3	181.9	178.7
72.5°	183.7	175.0	166.4	161.4	160.1	158.7	157.3	155.9
75°	137.4	134.4	131.4	129.7	129.1	128.5	127.9	127.3
77.5°	103.7	102.0	100.4	99.3	98.7	98.1	97.5	96.9
80°	83.4	82.6	81.6	80.9	80.3	79.7	79.1	78.5
82.5°	64.0	63.1	62.2	61.6	61.6	61.4	61.3	61.2
85°	36.7	36.1	35.5	35.2	35.2	35.2	35.2	35.2
87.5°	18.8	18.7	18.6	18.5	18.3	18.3	18.1	17.9
90°	25.8	26.7	27.6	28.2	28.7	29.1	29.5	30.0
92.5°	39.9	40.6	41.2	41.5	41.2	41.0	40.6	40.4
95°	75.8	76.7	77.6	78.0	78.0	78.0	78.0	78.0
97.5°	117.9	118.9	119.9	120.4	120.3	120.2	120.1	120.0
100°	148.4	149.0	149.7	150.2	150.8	151.2	151.6	152.1
102.5°	183.6	184.3	184.9	185.2	185.1	185.0	184.9	184.9
105°	236.1	236.1	236.1	236.3	236.8	237.2	237.6	238.1
107.5°	292.9	293.7	294.4	294.5	294.3	294.0	293.8	293.5
110°	330.9	331.8	332.7	332.9	332.4	332.0	331.6	331.1



TEST NUMBER: P332388-935

CATALOG NUMBER: S123RDIP-S1165D1195U935-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	368.9	370.0	371.0	371.5	371.4	371.3	371.3	371.2
115°	426.6	426.8	427.1	427.1	426.8	426.6	426.4	426.2
117.5°	484.9	484.8	484.8	484.5	483.9	483.2	482.6	482.0
120°	523.7	523.6	523.3	523.0	522.5	522.1	521.7	521.2
122.5°	563.1	562.5	561.9	561.3	560.7	560.1	559.4	558.8
125°	621.5	620.6	619.7	618.8	617.9	617.0	616.1	615.3
127.5°	679.2	678.0	676.7	675.5	674.5	673.5	672.4	671.5
130°	717.5	716.6	715.7	714.5	712.9	711.4	709.8	708.3
132.5°	754.8	753.7	752.6	751.5	750.3	749.1	747.9	746.7
135°	810.5	809.6	808.7	808.0	807.6	807.2	806.8	806.3
137.5°	865.0	864.1	863.2	862.3	861.4	860.7	859.8	858.9
140°	900.9	900.7	900.4	899.6	898.0	896.5	894.9	893.4
142.5°	934.5	934.3	934.1	933.3	932.1	930.9	929.8	928.6
145°	984.0	983.7	983.5	982.9	982.1	981.1	980.2	979.4
147.5°	1030.6	1030.6	1030.6	1029.9	1028.6	1027.3	1025.9	1024.6
150°	1059.4	1059.4	1059.4	1058.8	1057.4	1056.1	1054.7	1053.4
152.5°	1085.7	1086.1	1086.4	1086.1	1084.9	1083.7	1082.5	1081.4
155°	1124.2	1125.1	1126.0	1125.7	1124.1	1122.6	1121.0	1119.4
157.5°	1157.3	1158.2	1159.2	1159.0	1157.8	1156.5	1155.3	1154.0
160°	1177.7	1178.8	1179.9	1180.0	1179.1	1178.2	1177.3	1176.5
162.5°	1196.9	1198.0	1199.1	1198.9	1197.5	1196.1	1194.6	1193.3
165°	1221.2	1222.4	1223.8	1223.7	1222.1	1220.6	1219.0	1217.5
167.5°	1240.8	1242.2	1243.5	1243.5	1242.2	1240.8	1239.4	1238.0
170°	1251.5	1253.2	1254.7	1254.7	1253.2	1251.5	1250.0	1248.4
172.5°	1260.1	1261.5	1262.8	1262.7	1261.1	1259.6	1258.0	1256.5
175°	1269.1	1270.5	1271.8	1271.7	1270.1	1268.6	1267.0	1265.5
177.5°	1273.2	1274.3	1275.3	1275.2	1274.0	1272.7	1271.5	1270.3
180°	1273.5	1273.5	1273.5	1273.5	1273.5	1273.5	1273.5	1273.5

(END OF REPORT)