

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: P332381-935

Luminaire Tested: **S123RDIP-S1165D1025U935-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332381-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123RDIP-S1165D1025U935-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1025 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7300.7 lumens
Efficiency: N/A
Efficacy: 109.3 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

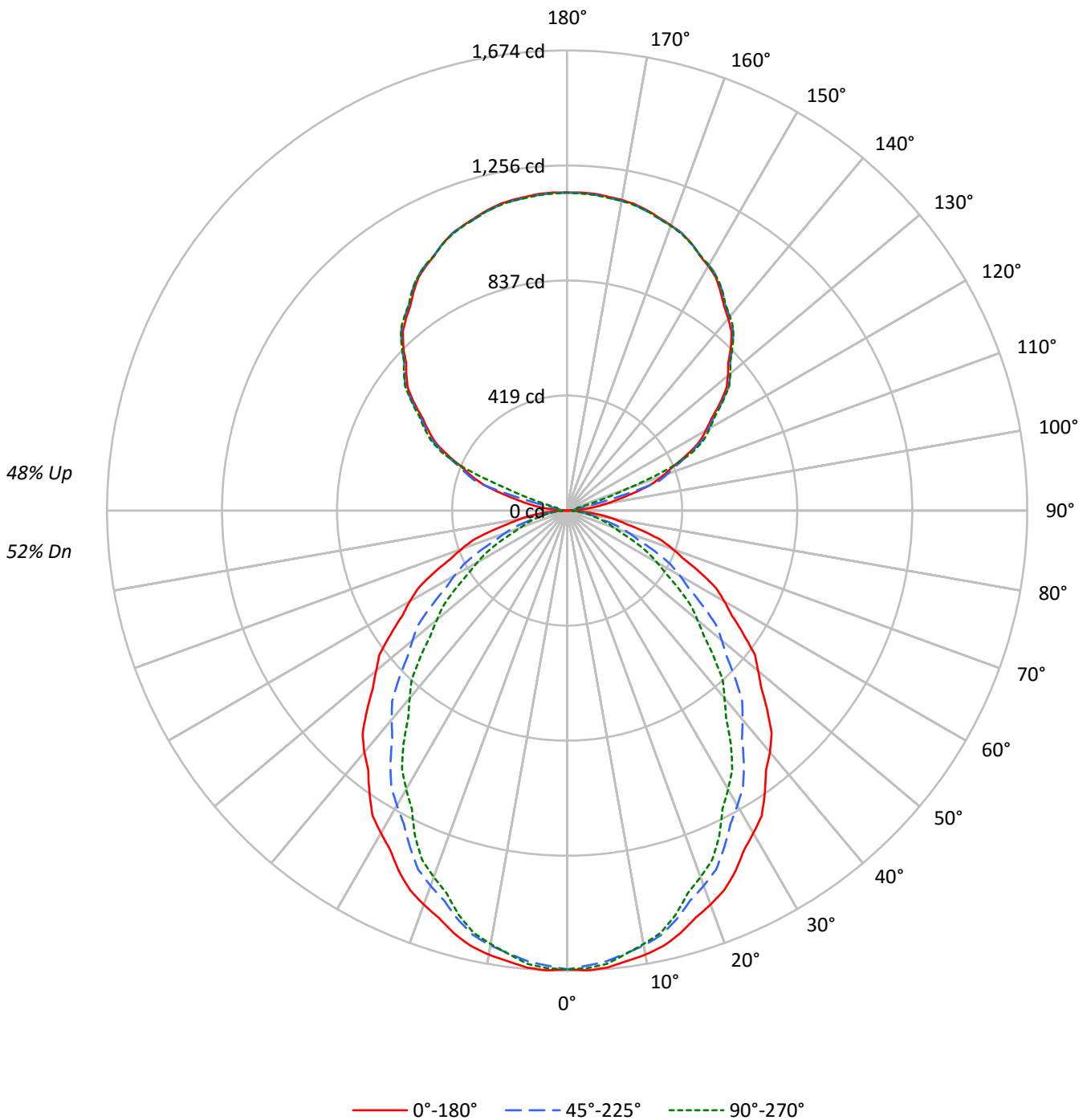
Input Watts (W): 66.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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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	99	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°	53.0	0.7
90°-100°	42.1	0.6
100°-110°	200.4	2.7
110°-120°	481.5	6.6
120°-130°	613.1	8.4
130°-140°	655.1	9.0
140°-150°	612.6	8.4
150°-160°	494.1	6.8
160°-170°	318.9	4.4
170°-180°	109.9	1.5
0°-30°	1220.5	16.7
0°-40°	1927.7	26.4
0°-60°	3158.3	43.3
0°-90°	3773.1	51.7
90°-120°	724.0	9.9
90°-150°	2604.6	35.7
90°-180°	3528.0	48.3
0°-180°	7300.7	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	10	21	24	26	6
95°	52	20	27	32	33	65
105°	256	261	188	45	38	272
115°	480	486	493	502	505	474
125°	677	684	688	689	691	605
135°	843	848	852	854	852	649
145°	973	979	981	982	982	609
155°	1072	1070	1071	1075	1070	494
165°	1130	1128	1127	1133	1128	319
175°	1157	1153	1153	1159	1152	110
180°	1157	1157	1157	1157	1157	



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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	23.8	21.6	19.4	17.1	16.2	16.7	17.2	17.7	18.2	18.1
90°	0.9	2.8	4.6	6.6	8.5	10.7	13.2	15.7	18.2	20.7	21.4
92.5°	16.0	15.4	14.9	14.4	13.9	14.6	16.4	18.3	20.1	22.0	23.2
95°	52.4	44.6	36.8	28.9	21.1	18.3	20.3	22.5	24.5	26.6	28.0
97.5°	105.4	101.9	98.3	94.8	91.3	82.7	69.0	55.2	41.4	27.6	29.2
100°	145.3	149.0	152.9	156.7	160.5	147.5	117.7	87.9	58.1	28.3	29.9
102.5°	190.6	193.4	196.1	198.9	201.6	186.8	154.2	121.7	89.1	56.6	51.8
105°	256.1	258.2	260.3	262.4	264.5	256.9	239.8	222.6	205.4	188.2	154.4
107.5°	325.2	326.9	328.6	330.3	331.9	334.2	336.8	339.6	342.2	345.0	320.2
110°	371.3	372.8	374.3	375.8	377.4	379.2	381.3	383.4	385.5	387.6	381.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	415.3	416.6	418.0	419.4	420.8	422.5	424.6	426.7	428.8	430.9	431.0
115°	480.4	481.6	482.7	483.9	485.0	486.5	488.1	489.8	491.5	493.3	495.2
117.5°	543.5	544.9	546.3	547.8	549.1	550.3	551.1	552.1	552.9	553.8	555.3
120°	582.6	584.4	586.1	587.8	589.5	590.7	591.2	591.9	592.5	593.0	594.5
122.5°	622.6	624.0	625.3	626.8	628.2	629.3	630.0	630.8	631.5	632.1	633.3
125°	677.2	678.7	680.3	681.8	683.3	684.5	685.3	686.0	686.7	687.5	687.9
127.5°	730.1	731.7	733.2	734.7	736.2	737.4	738.4	739.3	740.2	741.1	741.8
130°	763.2	764.7	766.2	767.8	769.3	770.4	771.2	772.0	772.7	773.4	774.2
132.5°	794.8	796.3	797.8	799.4	800.9	801.9	802.5	803.1	803.8	804.4	805.2
135°	843.1	844.2	845.3	846.5	847.7	848.6	849.4	850.2	850.9	851.7	852.2
137.5°	884.3	885.8	887.3	888.7	890.1	891.0	891.5	891.9	892.3	892.8	893.6
140°	911.8	913.0	914.1	915.2	916.4	917.3	917.8	918.4	919.0	919.5	920.3
142.5°	937.3	938.4	939.5	940.7	941.8	942.7	943.3	943.8	944.4	945.0	945.6
145°	972.8	974.2	975.5	976.9	978.2	979.0	979.5	979.8	980.2	980.6	980.9
147.5°	1006.3	1007.3	1008.1	1009.0	1009.9	1010.5	1010.9	1011.2	1011.7	1012.0	1012.4
150°	1027.0	1027.6	1028.1	1028.7	1029.2	1029.8	1030.1	1030.5	1030.9	1031.3	1031.7
152.5°	1045.5	1045.9	1046.1	1046.4	1046.6	1046.9	1047.1	1047.3	1047.6	1047.8	1048.4
155°	1071.7	1071.3	1070.9	1070.6	1070.1	1070.1	1070.2	1070.4	1070.7	1070.8	1071.8
157.5°	1091.9	1091.9	1091.9	1091.8	1091.8	1091.7	1091.5	1091.3	1091.1	1090.9	1092.1
160°	1104.3	1104.1	1104.0	1103.8	1103.5	1103.4	1103.2	1103.0	1102.8	1102.6	1103.8
162.5°	1116.0	1115.5	1115.0	1114.6	1114.0	1113.7	1113.5	1113.3	1113.1	1112.9	1114.2
165°	1130.1	1129.5	1128.9	1128.4	1127.8	1127.5	1127.2	1127.0	1126.9	1126.7	1128.2
167.5°	1141.1	1140.4	1139.6	1138.8	1138.1	1137.6	1137.6	1137.6	1137.6	1137.6	1139.2
170°	1147.3	1146.5	1145.8	1145.0	1144.3	1143.8	1143.8	1143.8	1143.8	1143.8	1145.4
172.5°	1151.4	1150.6	1149.6	1148.7	1147.8	1147.4	1147.5	1147.7	1147.8	1148.0	1149.5
175°	1156.8	1155.8	1154.9	1153.9	1153.0	1152.5	1152.7	1153.0	1153.1	1153.3	1154.7
177.5°	1158.1	1157.4	1156.6	1155.8	1155.1	1154.8	1154.9	1155.1	1155.2	1155.4	1156.6
180°	1156.8	1156.8	1156.8	1156.8	1156.8	1156.8	1156.8	1156.8	1156.8	1156.8	1156.8



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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°	18.0	17.9	17.8	17.7	17.6	17.4	17.2	17.0
90°	22.1	22.9	23.7	24.3	24.6	25.1	25.4	25.7
92.5°	24.5	25.7	26.9	27.6	27.8	28.1	28.3	28.5
95°	29.3	30.7	32.0	32.6	32.6	32.6	32.6	32.6
97.5°	30.7	32.3	33.8	34.6	34.9	35.0	35.2	35.4
100°	31.4	33.0	34.4	35.3	35.6	35.7	35.9	36.1
102.5°	47.1	42.4	37.6	35.4	35.7	36.1	36.4	36.8
105°	120.6	86.8	53.0	36.2	36.7	37.0	37.5	37.8
107.5°	295.4	270.6	245.8	220.7	195.2	169.7	144.2	118.7
110°	375.0	368.7	362.4	345.6	318.2	290.9	263.6	236.3



TEST NUMBER: P332381-935

CATALOG NUMBER: S123RDIP-S1165D1025U935-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	431.1	431.3	431.4	428.5	422.8	417.0	411.2	405.4
115°	497.1	499.0	500.9	502.3	503.0	503.8	504.5	505.3
117.5°	556.9	558.4	559.9	560.8	560.9	561.0	561.2	561.4
120°	596.1	597.5	599.1	599.9	599.9	599.9	599.9	599.9
122.5°	634.3	635.4	636.5	637.1	637.2	637.4	637.5	637.7
125°	688.3	688.6	689.1	689.4	689.8	690.2	690.6	691.0
127.5°	742.4	743.0	743.6	743.7	743.3	743.0	742.5	742.2
130°	775.0	775.8	776.5	776.7	776.4	775.9	775.6	775.2
132.5°	805.9	806.7	807.4	807.5	807.0	806.5	806.0	805.5
135°	852.8	853.4	853.9	853.9	853.4	852.8	852.2	851.7
137.5°	894.6	895.5	896.4	896.6	896.3	896.0	895.5	895.2
140°	921.1	921.9	922.6	922.8	922.4	922.0	921.7	921.3
142.5°	946.2	946.8	947.4	947.4	946.9	946.4	945.9	945.4
145°	981.4	981.7	982.1	982.3	982.3	982.3	982.3	982.3
147.5°	1012.8	1013.1	1013.6	1013.3	1012.4	1011.6	1010.6	1009.8
150°	1032.1	1032.4	1032.9	1032.7	1032.2	1031.6	1031.0	1030.4
152.5°	1049.1	1049.8	1050.5	1050.4	1049.6	1048.7	1047.8	1046.9
155°	1072.7	1073.7	1074.6	1074.5	1073.4	1072.3	1071.1	1070.0
157.5°	1093.2	1094.3	1095.5	1095.4	1093.8	1092.4	1090.9	1089.4
160°	1104.9	1106.0	1107.2	1107.1	1105.8	1104.4	1103.1	1101.7
162.5°	1115.5	1116.8	1118.1	1118.2	1117.0	1115.8	1114.7	1113.4
165°	1129.7	1131.3	1132.8	1132.9	1131.5	1130.2	1128.9	1127.6
167.5°	1140.7	1142.3	1143.8	1143.8	1142.3	1140.7	1139.2	1137.6
170°	1146.9	1148.5	1150.0	1150.0	1148.5	1146.9	1145.4	1143.8
172.5°	1151.1	1152.5	1154.1	1154.0	1152.4	1150.6	1149.0	1147.3
175°	1156.0	1157.4	1158.6	1158.6	1157.0	1155.5	1154.0	1152.4
177.5°	1157.8	1159.1	1160.3	1160.1	1158.6	1157.1	1155.5	1154.0
180°	1156.8	1156.8	1156.8	1156.8	1156.8	1156.8	1156.8	1156.8

(END OF REPORT)