

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: P332480-935

Luminaire Tested: **S123RDIW-S1165D1030U935-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332480-935
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: S123RDIW-S1165D1030U935-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1030 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7322.8 lumens
Efficiency: N/A
Efficacy: 108.6 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

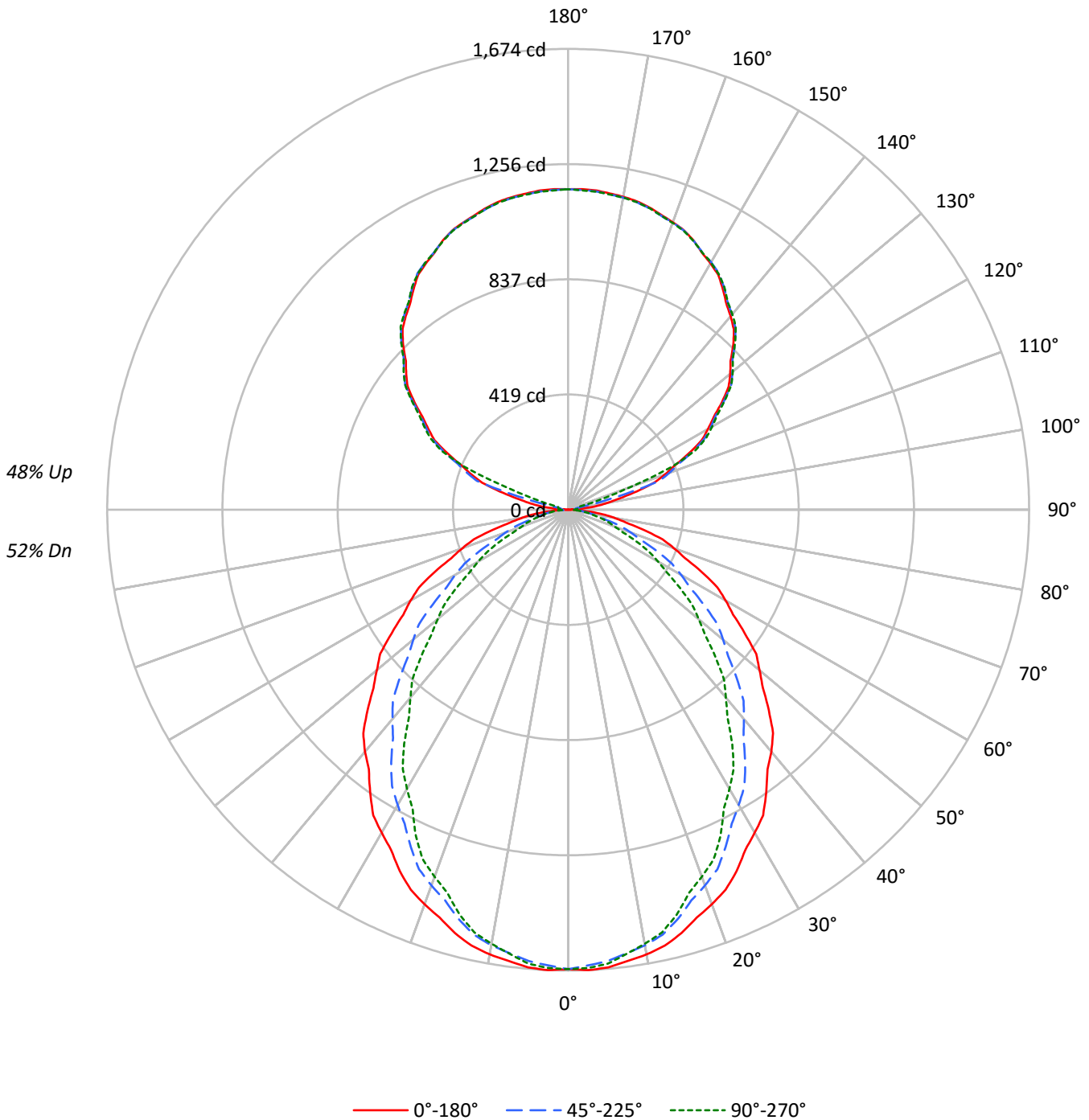
Input Watts (W): 67.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	98	94	90	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	37
3	82	73	66	60	76	68	62	56	58	53	49		49	46	43		41	38	36	32
4	75	65	57	51	69	60	53	48	52	47	42		44	40	37		37	34	31	28
5	69	58	50	44	64	54	47	42	46	41	37		40	35	32		33	30	27	24
6	64	52	44	38	59	49	41	36	42	36	32		36	32	28		30	27	24	21
7	59	47	39	34	55	44	37	32	38	33	28		33	28	25		28	24	22	19
8	55	43	35	30	51	40	33	28	35	29	25		30	26	22		25	22	20	17
9	51	39	32	27	47	37	30	25	32	27	23		28	23	20		23	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	9.2
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°	42.3	0.6
100°-110°	201.7	2.8
110°-120°	484.5	6.6
120°-130°	616.9	8.4
130°-140°	659.2	9.0
140°-150°	616.4	8.4
150°-160°	497.2	6.8
160°-170°	320.9	4.4
170°-180°	110.6	1.5
0°-30°	1220.5	16.7
0°-40°	1927.7	26.3
0°-60°	3158.3	43.1
0°-90°	3773.1	51.5
90°-120°	728.5	9.9
90°-150°	2621.0	35.8
90°-180°	3550.0	48.5
0°-180°	7322.8	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°	53	20	27	33	33	65
105°	258	262	189	45	38	273
115°	484	489	496	505	508	477
125°	682	688	692	694	695	608
135°	848	853	857	859	857	653
145°	979	985	987	988	988	613
155°	1078	1077	1078	1081	1077	497
165°	1137	1135	1134	1140	1135	321
175°	1164	1160	1160	1166	1160	111
180°	1164	1164	1164	1164	1164	



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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	23.9	21.6	19.4	17.1	16.2	16.7	17.2	17.7	18.3	18.2
90°	0.9	2.8	4.7	6.6	8.5	10.8	13.3	15.8	18.3	20.8	21.5
92.5°	16.1	15.6	15.0	14.5	13.9	14.6	16.5	18.3	20.2	22.1	23.3
95°	52.8	44.9	37.0	29.1	21.3	18.3	20.5	22.6	24.7	26.8	28.2
97.5°	106.0	102.5	98.9	95.4	91.9	83.2	69.4	55.5	41.7	27.8	29.4
100°	146.1	150.0	153.9	157.6	161.5	148.4	118.5	88.5	58.5	28.5	30.0
102.5°	191.8	194.6	197.3	200.1	202.9	187.9	155.2	122.4	89.6	56.9	52.2
105°	257.7	259.8	261.9	264.1	266.1	258.6	241.3	223.9	206.7	189.4	155.4
107.5°	327.3	328.9	330.6	332.3	334.0	336.2	339.0	341.6	344.4	347.2	322.2
110°	373.6	375.1	376.7	378.2	379.7	381.6	383.7	385.8	387.9	390.0	383.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	417.8	419.2	420.6	422.1	423.4	425.2	427.2	429.4	431.5	433.6	433.7
115°	483.5	484.6	485.7	486.9	488.0	489.5	491.2	492.9	494.6	496.4	498.3
117.5°	546.9	548.3	549.7	551.1	552.6	553.7	554.7	555.5	556.4	557.2	558.8
120°	586.3	588.1	589.8	591.5	593.2	594.4	595.0	595.6	596.2	596.7	598.2
122.5°	626.5	627.8	629.3	630.7	632.1	633.2	634.0	634.6	635.4	636.1	637.2
125°	681.5	683.0	684.5	686.0	687.6	688.8	689.5	690.3	691.0	691.8	692.2
127.5°	734.7	736.2	737.8	739.3	740.9	742.1	743.0	744.0	744.9	745.8	746.4
130°	767.9	769.5	771.0	772.6	774.1	775.2	776.0	776.8	777.6	778.3	779.1
132.5°	799.8	801.3	802.8	804.3	805.9	807.0	807.6	808.2	808.8	809.4	810.2
135°	848.3	849.5	850.7	851.8	853.0	853.9	854.7	855.5	856.3	857.0	857.6
137.5°	889.8	891.3	892.8	894.2	895.7	896.6	897.1	897.5	897.9	898.4	899.2
140°	917.6	918.7	919.9	921.0	922.1	923.0	923.6	924.2	924.7	925.3	926.1
142.5°	943.1	944.3	945.5	946.6	947.8	948.6	949.2	949.8	950.4	950.9	951.6
145°	979.0	980.2	981.6	983.0	984.3	985.2	985.6	985.9	986.4	986.7	987.1
147.5°	1012.7	1013.6	1014.4	1015.3	1016.2	1016.8	1017.2	1017.6	1018.0	1018.4	1018.7
150°	1033.5	1034.0	1034.6	1035.2	1035.7	1036.2	1036.6	1037.0	1037.3	1037.8	1038.1
152.5°	1052.1	1052.4	1052.7	1052.9	1053.2	1053.4	1053.7	1053.9	1054.1	1054.4	1055.1
155°	1078.4	1078.0	1077.6	1077.3	1076.9	1076.8	1076.9	1077.1	1077.4	1077.5	1078.5
157.5°	1098.8	1098.8	1098.7	1098.7	1098.6	1098.5	1098.4	1098.1	1097.9	1097.8	1098.9
160°	1111.3	1111.0	1110.9	1110.7	1110.5	1110.3	1110.1	1109.9	1109.7	1109.6	1110.7
162.5°	1123.0	1122.5	1122.1	1121.5	1121.0	1120.7	1120.5	1120.3	1120.1	1119.9	1121.2
165°	1137.2	1136.6	1136.1	1135.5	1134.9	1134.5	1134.3	1134.1	1133.9	1133.8	1135.3
167.5°	1148.2	1147.5	1146.8	1146.0	1145.2	1144.8	1144.8	1144.8	1144.8	1144.8	1146.3
170°	1154.5	1153.7	1153.0	1152.2	1151.4	1151.1	1151.1	1151.1	1151.1	1151.1	1152.5
172.5°	1158.6	1157.7	1156.8	1155.9	1154.9	1154.6	1154.7	1154.9	1155.0	1155.2	1156.8
175°	1164.0	1163.0	1162.1	1161.1	1160.2	1159.8	1159.9	1160.2	1160.4	1160.5	1161.9
177.5°	1165.4	1164.6	1163.9	1163.1	1162.4	1162.0	1162.2	1162.4	1162.4	1162.6	1163.9
180°	1164.0	1164.0	1164.0	1164.0	1164.0	1164.0	1164.0	1164.0	1164.0	1164.0	1164.0



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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°	18.1	18.0	17.9	17.7	17.6	17.4	17.2	17.1
90°	22.3	23.1	23.8	24.4	24.8	25.1	25.6	25.9
92.5°	24.6	25.8	27.0	27.8	28.0	28.2	28.5	28.7
95°	29.5	30.8	32.2	32.9	32.9	32.9	32.9	32.9
97.5°	30.9	32.5	34.0	34.9	35.0	35.2	35.5	35.6
100°	31.6	33.1	34.7	35.6	35.7	35.9	36.2	36.3
102.5°	47.4	42.6	37.8	35.6	36.0	36.3	36.7	37.0
105°	121.4	87.3	53.3	36.5	36.9	37.3	37.6	38.1
107.5°	297.2	272.3	247.4	222.1	196.4	170.8	145.2	119.5
110°	377.4	371.0	364.6	347.8	320.3	292.7	265.3	237.8



TEST NUMBER: P332480-935

CATALOG NUMBER: S123RDIW-S1165D1030U935-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	433.9	433.9	434.0	431.2	425.4	419.7	413.8	408.0
115°	500.2	502.1	504.1	505.4	506.2	507.0	507.7	508.5
117.5°	560.3	561.9	563.4	564.3	564.4	564.6	564.7	564.9
120°	599.8	601.3	602.9	603.6	603.6	603.6	603.6	603.6
122.5°	638.3	639.4	640.4	641.1	641.2	641.4	641.5	641.7
125°	692.6	693.0	693.4	693.8	694.1	694.5	694.9	695.3
127.5°	747.0	747.6	748.3	748.4	748.0	747.6	747.3	746.8
130°	779.9	780.6	781.4	781.6	781.2	780.8	780.4	780.1
132.5°	811.0	811.8	812.5	812.6	812.1	811.6	811.1	810.5
135°	858.2	858.8	859.3	859.3	858.8	858.2	857.6	857.0
137.5°	900.2	901.1	902.1	902.3	901.9	901.6	901.1	900.8
140°	926.9	927.6	928.4	928.6	928.2	927.8	927.5	927.0
142.5°	952.2	952.8	953.4	953.4	952.9	952.4	951.8	951.2
145°	987.5	987.9	988.3	988.4	988.4	988.4	988.4	988.4
147.5°	1019.2	1019.5	1019.9	1019.7	1018.8	1017.9	1017.0	1016.2
150°	1038.5	1038.9	1039.3	1039.2	1038.6	1038.0	1037.5	1036.9
152.5°	1055.8	1056.4	1057.1	1057.0	1056.1	1055.2	1054.4	1053.5
155°	1079.4	1080.4	1081.4	1081.2	1080.1	1079.0	1077.8	1076.7
157.5°	1100.1	1101.2	1102.3	1102.2	1100.7	1099.2	1097.7	1096.2
160°	1111.8	1113.0	1114.1	1114.0	1112.7	1111.4	1110.0	1108.6
162.5°	1122.5	1123.9	1125.2	1125.2	1124.0	1122.8	1121.6	1120.4
165°	1136.8	1138.3	1139.9	1140.0	1138.7	1137.3	1135.9	1134.6
167.5°	1147.9	1149.4	1151.0	1151.0	1149.4	1147.9	1146.3	1144.8
170°	1154.1	1155.6	1157.2	1157.2	1155.6	1154.1	1152.5	1151.1
172.5°	1158.3	1159.8	1161.3	1161.2	1159.6	1157.9	1156.2	1154.5
175°	1163.2	1164.6	1166.0	1165.9	1164.3	1162.8	1161.2	1159.7
177.5°	1165.1	1166.3	1167.5	1167.4	1165.9	1164.3	1162.8	1161.2
180°	1164.0	1164.0	1164.0	1164.0	1164.0	1164.0	1164.0	1164.0

(END OF REPORT)