

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: P332485-935

Luminaire Tested: **S123RDIW-S1165D1320U935-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332485-935
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: S123RDIW-S1165D1320U935-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1320 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7712.7 lumens
Efficiency: N/A
Efficacy: 101.2 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

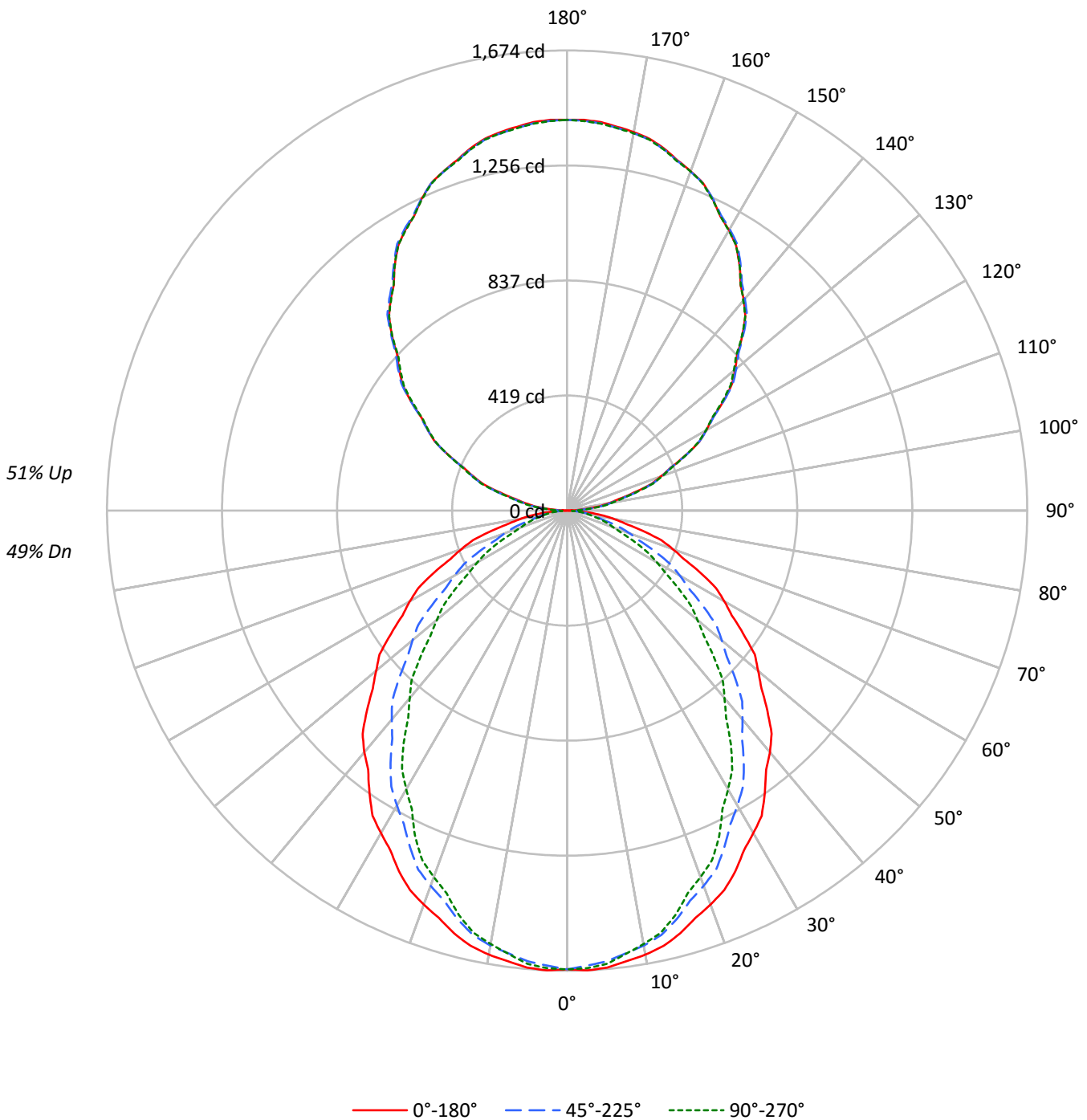
Input Watts (W): 76.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	107	107	107	107	98	98	98	98	83	83	83	68	68	68	55	55	55	49
1	98	94	90	87	90	86	83	80	73	71	69	61	59	58	49	48	47	42
2	89	82	76	71	82	76	71	66	64	61	57	54	51	49	44	42	40	36
3	82	72	65	60	75	67	61	56	57	52	48	48	44	41	39	37	35	30
4	75	64	57	51	69	60	53	48	51	46	42	43	39	36	35	32	30	26
5	69	57	49	44	63	53	46	41	46	40	36	38	34	31	32	29	26	23
6	63	52	44	38	58	48	41	36	41	36	32	35	31	27	29	26	23	20
7	59	47	39	33	54	43	36	32	37	32	28	32	27	24	26	23	21	18
8	55	42	35	30	50	40	33	28	34	29	25	29	25	22	24	21	19	16
9	51	39	31	26	47	36	30	25	31	26	22	27	23	20	22	19	17	15
10	47	36	28	24	44	33	27	23	29	24	20	25	21	18	21	18	15	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	2.0
10°-20°	436.0	5.7
20°-30°	627.8	8.1
30°-40°	707.2	9.2
40°-50°	676.5	8.8
50°-60°	554.0	7.2
60°-70°	373.8	4.8
70°-80°	188.1	2.4
80°-90°	54.0	0.7
90°-100°	92.6	1.2
100°-110°	277.2	3.6
110°-120°	471.4	6.1
120°-130°	620.1	8.0
130°-140°	697.0	9.0
140°-150°	685.1	8.9
150°-160°	576.8	7.5
160°-170°	383.9	5.0
170°-180°	134.4	1.7
0°-30°	1220.5	15.8
0°-40°	1927.7	25.0
0°-60°	3158.3	40.9
0°-90°	3774.1	48.9
90°-120°	841.3	10.9
90°-150°	2843.5	36.9
90°-180°	3939.0	51.1
0°-180°	7712.7	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	12	27	31	34	8
95°	66	74	83	87	87	74
105°	251	254	264	264	266	269
115°	475	478	476	477	476	469
125°	695	698	696	691	687	619
135°	901	907	907	902	900	694
145°	1093	1096	1099	1098	1093	683
155°	1252	1252	1253	1257	1250	576
165°	1364	1360	1360	1366	1359	384
175°	1418	1414	1414	1420	1413	135
180°	1422	1422	1422	1422	1422	



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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	24.0	21.9	19.7	17.6	16.9	17.5	18.2	18.8	19.5	19.4
90°	1.1	3.6	6.1	8.5	11.0	13.9	17.1	20.3	23.6	26.8	27.8
92.5°	27.0	28.7	30.4	32.1	33.8	35.6	37.4	39.2	41.1	42.9	43.7
95°	65.9	67.6	69.4	71.1	72.8	74.7	76.7	78.7	80.7	82.7	83.6
97.5°	117.0	118.3	119.6	120.9	122.2	123.6	125.0	126.4	127.9	129.3	130.4
100°	151.9	153.3	154.8	156.4	157.8	159.2	160.4	161.7	162.9	164.2	164.9
102.5°	192.1	193.0	193.9	194.8	195.6	196.9	198.5	200.2	201.8	203.5	204.2
105°	251.2	251.8	252.3	252.7	253.2	254.6	256.8	259.1	261.3	263.6	263.6
107.5°	320.0	320.4	320.6	321.0	321.2	321.8	322.7	323.6	324.5	325.4	326.2
110°	362.9	363.4	363.9	364.4	364.9	365.4	365.9	366.4	366.9	367.4	368.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	407.6	407.9	408.2	408.5	408.8	409.0	409.1	409.1	409.3	409.4	410.6
115°	474.6	475.4	476.0	476.8	477.6	477.7	477.2	476.7	476.2	475.7	476.0
117.5°	542.1	542.5	543.0	543.5	544.1	544.0	543.3	542.7	542.0	541.4	541.3
120°	584.0	585.5	587.0	588.5	590.0	590.1	588.8	587.6	586.4	585.1	584.9
122.5°	627.8	628.9	630.0	631.1	632.1	632.4	631.7	631.1	630.4	629.8	629.1
125°	694.6	695.3	696.0	696.8	697.6	697.7	697.2	696.7	696.2	695.7	694.7
127.5°	756.2	757.9	759.4	761.0	762.6	763.1	762.6	762.0	761.5	761.0	759.5
130°	797.3	799.3	801.3	803.3	805.3	805.9	805.1	804.4	803.7	802.9	801.9
132.5°	838.4	840.4	842.4	844.4	846.4	847.1	846.5	846.0	845.4	844.9	843.7
135°	901.2	902.7	904.1	905.6	907.1	907.8	907.5	907.2	907.0	906.7	905.8
137.5°	959.2	960.4	961.7	962.9	964.2	965.2	965.8	966.5	967.1	967.8	966.6
140°	999.4	1000.7	1001.9	1003.2	1004.4	1005.1	1005.4	1005.6	1005.9	1006.2	1005.9
142.5°	1036.0	1037.3	1038.5	1039.8	1041.0	1041.9	1042.3	1042.8	1043.2	1043.7	1043.4
145°	1093.2	1093.7	1094.2	1094.8	1095.2	1095.9	1096.6	1097.3	1098.1	1098.8	1098.5
147.5°	1143.2	1144.2	1145.0	1146.0	1146.9	1147.6	1148.3	1149.0	1149.7	1150.4	1150.4
150°	1178.1	1178.6	1179.1	1179.6	1180.1	1180.6	1181.1	1181.6	1182.1	1182.6	1182.6
152.5°	1206.7	1207.4	1208.1	1208.8	1209.4	1210.0	1210.3	1210.6	1210.9	1211.2	1211.6
155°	1251.8	1251.8	1251.8	1251.8	1251.8	1252.0	1252.2	1252.4	1252.7	1252.9	1254.0
157.5°	1290.2	1290.0	1289.6	1289.3	1289.0	1289.0	1289.2	1289.3	1289.6	1289.8	1290.8
160°	1314.3	1313.9	1313.4	1312.9	1312.3	1312.1	1312.1	1312.1	1312.1	1312.1	1313.4
162.5°	1335.8	1335.1	1334.4	1333.7	1333.0	1332.7	1333.0	1333.2	1333.3	1333.5	1334.8
165°	1363.5	1362.7	1362.0	1361.2	1360.6	1360.1	1360.1	1360.1	1360.1	1360.1	1361.6
167.5°	1385.6	1384.6	1383.6	1382.6	1381.6	1381.2	1381.4	1381.6	1381.8	1382.0	1383.5
170°	1398.1	1397.1	1396.1	1395.2	1394.1	1393.6	1393.6	1393.6	1393.6	1393.6	1395.3
172.5°	1407.9	1407.0	1405.9	1405.0	1403.9	1403.4	1403.4	1403.4	1403.4	1403.4	1405.0
175°	1418.2	1417.2	1416.3	1415.2	1414.2	1413.8	1413.8	1413.8	1413.8	1413.8	1415.2
177.5°	1422.5	1421.7	1420.8	1420.0	1419.3	1418.8	1418.8	1418.8	1418.8	1418.8	1420.0
180°	1421.6	1421.6	1421.6	1421.6	1421.6	1421.6	1421.6	1421.6	1421.6	1421.6	1421.6



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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°	19.4	19.3	19.3	19.2	19.0	18.9	18.8	18.6
90°	28.8	29.8	30.7	31.5	32.0	32.5	33.0	33.5
92.5°	44.4	45.3	46.1	46.3	46.0	45.7	45.4	45.1
95°	84.6	85.6	86.6	87.1	87.1	87.1	87.1	87.1
97.5°	131.6	132.8	133.9	134.4	134.3	134.2	134.1	134.0
100°	165.7	166.3	167.1	167.7	168.2	168.8	169.3	169.7
102.5°	204.9	205.7	206.5	206.7	206.6	206.6	206.5	206.4
105°	263.6	263.6	263.6	263.8	264.3	264.8	265.3	265.8
107.5°	327.0	327.8	328.6	328.8	328.6	328.2	328.0	327.6
110°	369.4	370.4	371.3	371.6	371.1	370.7	370.1	369.6



TEST NUMBER: P332485-935

CATALOG NUMBER: S123RDIW-S1165D1320U935-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	411.7	412.9	414.1	414.7	414.6	414.5	414.4	414.3
115°	476.2	476.5	476.7	476.7	476.5	476.2	476.0	475.7
117.5°	541.3	541.2	541.1	540.8	540.1	539.4	538.7	538.0
120°	584.6	584.4	584.2	583.8	583.3	582.8	582.3	581.8
122.5°	628.5	627.8	627.2	626.5	625.9	625.2	624.5	623.8
125°	693.7	692.8	691.7	690.8	689.7	688.7	687.8	686.7
127.5°	758.1	756.7	755.4	754.1	752.9	751.8	750.7	749.5
130°	800.9	800.0	798.9	797.5	795.8	794.1	792.4	790.7
132.5°	842.5	841.3	840.2	838.9	837.5	836.2	834.8	833.5
135°	904.7	903.8	902.8	902.1	901.6	901.0	900.5	900.1
137.5°	965.6	964.6	963.5	962.6	961.7	960.7	959.8	958.8
140°	1005.6	1005.4	1005.1	1004.2	1002.5	1000.7	998.9	997.2
142.5°	1043.2	1042.9	1042.7	1041.9	1040.5	1039.2	1037.8	1036.6
145°	1098.3	1098.1	1097.9	1097.3	1096.2	1095.2	1094.2	1093.2
147.5°	1150.4	1150.4	1150.4	1149.7	1148.2	1146.7	1145.2	1143.8
150°	1182.6	1182.6	1182.6	1181.8	1180.3	1178.9	1177.3	1175.9
152.5°	1211.9	1212.4	1212.7	1212.3	1211.0	1209.7	1208.4	1207.1
155°	1254.9	1255.9	1256.9	1256.5	1254.8	1253.1	1251.3	1249.6
157.5°	1291.8	1292.9	1294.0	1293.7	1292.4	1291.0	1289.6	1288.2
160°	1314.6	1315.9	1317.1	1317.2	1316.2	1315.3	1314.2	1313.2
162.5°	1336.0	1337.3	1338.5	1338.3	1336.8	1335.2	1333.6	1332.0
165°	1363.1	1364.6	1366.1	1366.0	1364.3	1362.5	1360.7	1359.0
167.5°	1385.1	1386.6	1388.2	1388.2	1386.6	1385.1	1383.5	1382.0
170°	1397.1	1398.9	1400.6	1400.6	1398.9	1397.1	1395.3	1393.6
172.5°	1406.5	1408.1	1409.6	1409.5	1407.8	1406.0	1404.3	1402.6
175°	1416.7	1418.2	1419.7	1419.5	1417.8	1416.1	1414.4	1412.6
177.5°	1421.3	1422.5	1423.7	1423.6	1422.1	1420.7	1419.4	1418.0
180°	1421.6	1421.6	1421.6	1421.6	1421.6	1421.6	1421.6	1421.6

(END OF REPORT)