

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: P332477-935

Luminaire Tested: **S123RDIW-S1165D755U935-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332477-935  
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-S1165D755U935-4F0-1E-UDD-F1  
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 1165 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 755 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6026.3 lumens  
Efficiency: N/A  
Efficacy: 100.8 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: Semi-Direct

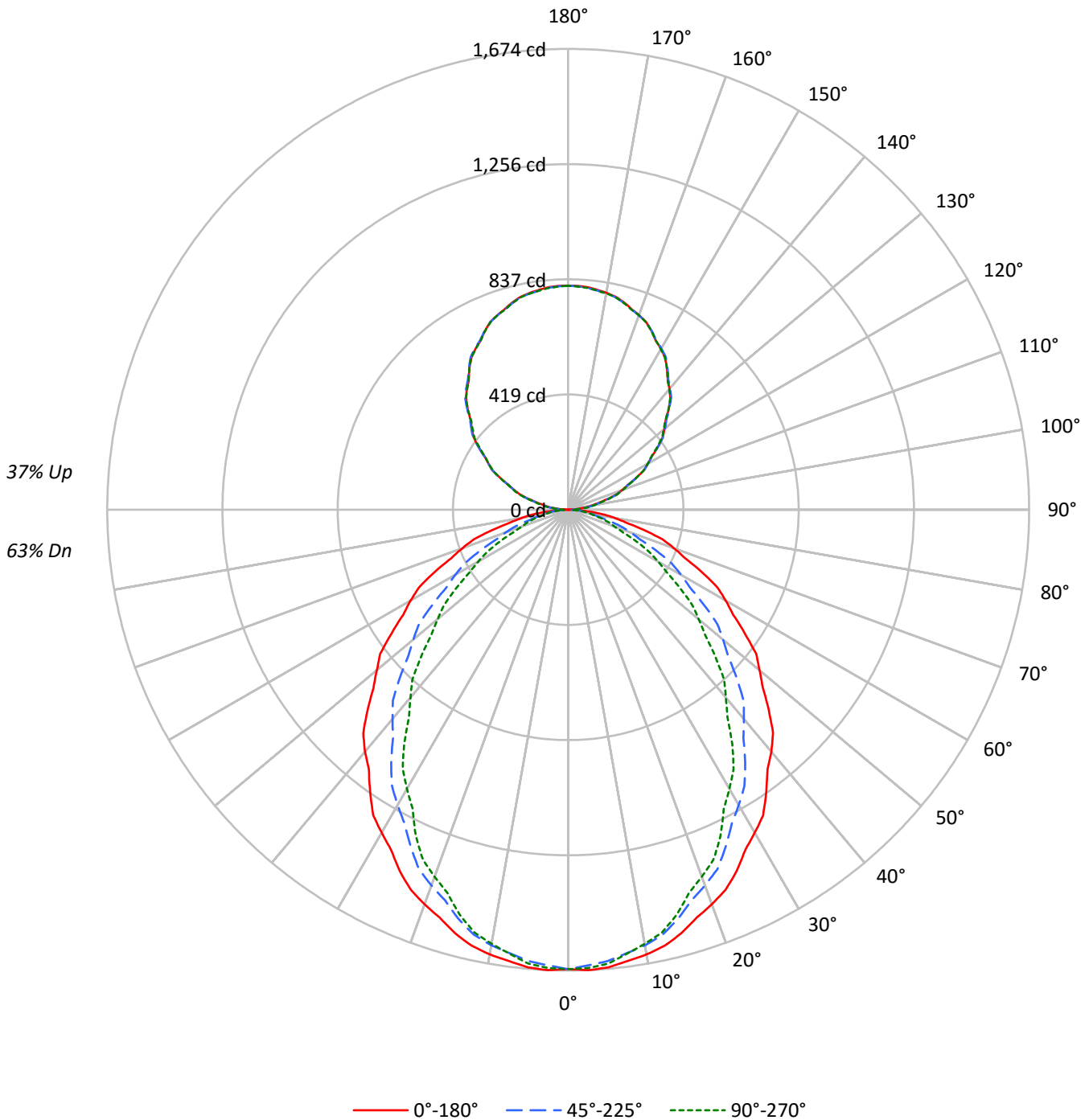
Input Watts (W): 59.8  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	110	110	110	110	103	103	103	103	90	90	90	79	79	79	68	68	68
1	101	97	93	90	95	91	88	85	80	77	75	70	68	66	60	59	58
2	92	85	79	74	86	80	75	70	71	66	63	62	59	56	54	51	49
3	84	75	68	62	79	71	64	59	63	58	53	55	51	48	48	45	43
4	78	67	59	53	72	63	56	50	56	50	46	49	45	41	43	40	37
5	71	60	52	46	67	56	49	44	50	44	40	44	40	36	39	35	32
6	66	54	46	40	62	51	44	38	45	39	35	40	36	32	36	32	29
7	61	49	41	35	57	46	39	34	41	35	31	37	32	28	33	29	26
8	57	44	37	31	53	42	35	30	38	32	28	34	29	25	30	26	23
9	53	41	33	28	50	39	32	27	35	29	25	31	26	23	28	24	21
10	50	37	30	25	47	36	29	24	32	27	23	29	24	21	26	22	19

**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	2.6
10°-20°	436.0	7.2
20°-30°	627.8	10.4
30°-40°	707.2	11.7
40°-50°	676.5	11.2
50°-60°	554.0	9.2
60°-70°	373.8	6.2
70°-80°	188.1	3.1
80°-90°	52.2	0.9
90°-100°	53.0	0.9
100°-110°	158.6	2.6
110°-120°	269.8	4.5
120°-130°	354.9	5.9
130°-140°	398.9	6.6
140°-150°	392.1	6.5
150°-160°	330.1	5.5
160°-170°	219.7	3.6
170°-180°	76.9	1.3
0°-30°	1220.5	20.3
0°-40°	1927.7	32.0
0°-60°	3158.3	52.4
0°-90°	3772.3	62.6
90°-120°	481.4	8.0
90°-150°	1627.3	27.0
90°-180°	2254.0	37.4
0°-180°	6026.3	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	7	15	18	19	6
95°	38	42	47	50	50	42
105°	144	145	151	151	152	154
115°	272	273	272	273	272	269
125°	398	399	398	396	393	354
135°	516	519	519	516	515	397
145°	626	627	629	628	626	391
155°	716	716	717	719	715	330
165°	780	778	778	782	778	220
175°	812	809	809	812	808	77
180°	814	814	814	814	814	



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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°	26.1	23.8	21.4	19.0	16.7	15.7	16.0	16.4	16.8	17.1	17.0
90°	0.6	2.1	3.4	4.9	6.3	7.9	9.8	11.6	13.5	15.3	15.9
92.5°	15.5	16.4	17.4	18.3	19.3	20.3	21.4	22.5	23.5	24.5	25.0
95°	37.7	38.7	39.7	40.7	41.7	42.7	43.9	45.0	46.1	47.3	47.9
97.5°	67.0	67.7	68.4	69.2	69.9	70.7	71.5	72.3	73.2	74.0	74.6
100°	86.9	87.7	88.6	89.5	90.3	91.1	91.8	92.6	93.2	93.9	94.4
102.5°	109.9	110.5	111.0	111.4	111.9	112.7	113.7	114.6	115.5	116.4	116.8
105°	143.8	144.0	144.4	144.6	144.9	145.7	147.0	148.3	149.6	150.8	150.8
107.5°	183.1	183.3	183.5	183.7	183.8	184.2	184.7	185.2	185.7	186.2	186.7
110°	207.7	208.0	208.3	208.5	208.8	209.1	209.4	209.7	210.0	210.3	210.9



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	233.2	233.4	233.6	233.8	233.9	234.0	234.1	234.2	234.2	234.3	235.0
115°	271.6	272.0	272.4	272.9	273.3	273.4	273.1	272.9	272.5	272.2	272.4
117.5°	310.2	310.5	310.7	311.1	311.3	311.3	310.9	310.6	310.2	309.8	309.8
120°	334.2	335.1	336.0	336.8	337.7	337.7	337.0	336.3	335.6	334.8	334.8
122.5°	359.3	359.9	360.5	361.2	361.8	361.9	361.5	361.2	360.8	360.4	360.1
125°	397.5	398.0	398.4	398.8	399.2	399.2	399.0	398.7	398.4	398.1	397.6
127.5°	432.7	433.7	434.6	435.5	436.4	436.7	436.4	436.1	435.8	435.5	434.6
130°	456.3	457.4	458.6	459.7	460.8	461.2	460.8	460.4	459.9	459.5	458.9
132.5°	479.8	481.0	482.1	483.2	484.4	484.7	484.5	484.1	483.8	483.5	482.8
135°	515.7	516.6	517.5	518.3	519.1	519.5	519.4	519.2	519.1	518.9	518.3
137.5°	549.0	549.7	550.4	551.1	551.8	552.3	552.7	553.1	553.5	553.8	553.2
140°	572.0	572.7	573.4	574.1	574.8	575.2	575.4	575.5	575.7	575.8	575.7
142.5°	593.0	593.7	594.3	595.0	595.7	596.2	596.5	596.8	597.0	597.3	597.1
145°	625.7	625.9	626.2	626.5	626.8	627.2	627.6	628.0	628.4	628.9	628.7
147.5°	654.3	654.8	655.3	655.8	656.3	656.8	657.2	657.5	658.0	658.4	658.4
150°	674.2	674.5	674.8	675.1	675.4	675.6	675.9	676.2	676.5	676.7	676.7
152.5°	690.6	691.0	691.4	691.8	692.2	692.4	692.6	692.8	692.9	693.1	693.4
155°	716.4	716.4	716.4	716.4	716.4	716.4	716.6	716.8	716.9	717.0	717.6
157.5°	738.4	738.2	738.0	737.9	737.7	737.7	737.8	737.9	738.0	738.1	738.7
160°	752.2	751.9	751.7	751.3	751.1	750.9	750.9	750.9	750.9	750.9	751.7
162.5°	764.5	764.1	763.6	763.3	762.8	762.8	762.8	762.9	763.1	763.2	763.9
165°	780.3	779.9	779.5	779.0	778.6	778.3	778.3	778.3	778.3	778.3	779.2
167.5°	793.0	792.4	791.9	791.3	790.7	790.5	790.6	790.7	790.8	790.9	791.8
170°	800.1	799.5	799.0	798.4	797.8	797.5	797.5	797.5	797.5	797.5	798.6
172.5°	805.7	805.2	804.6	804.0	803.5	803.1	803.1	803.1	803.1	803.1	804.1
175°	811.6	811.1	810.5	809.9	809.3	809.1	809.1	809.1	809.1	809.1	809.9
177.5°	814.1	813.6	813.1	812.7	812.3	812.0	812.0	812.0	812.0	812.0	812.7
180°	813.6	813.6	813.6	813.6	813.6	813.6	813.6	813.6	813.6	813.6	813.6



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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°	16.9	16.8	16.6	16.4	16.3	16.1	15.9	15.8
90°	16.4	17.0	17.7	18.0	18.3	18.6	18.9	19.2
92.5°	25.5	25.9	26.3	26.5	26.3	26.2	26.0	25.8
95°	48.4	49.0	49.6	49.9	49.9	49.9	49.9	49.9
97.5°	75.3	75.9	76.6	76.9	76.9	76.8	76.7	76.7
100°	94.8	95.2	95.7	96.0	96.3	96.6	96.9	97.1
102.5°	117.3	117.7	118.1	118.3	118.3	118.2	118.1	118.1
105°	150.8	150.8	150.8	150.9	151.3	151.5	151.8	152.1
107.5°	187.1	187.6	188.0	188.2	188.0	187.9	187.7	187.5
110°	211.4	212.0	212.5	212.7	212.4	212.1	211.8	211.5





TEST NUMBER: P332477-935

CATALOG NUMBER: S123RDIW-S1165D755U935-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	235.7	236.3	237.0	237.3	237.3	237.2	237.1	237.1
115°	272.5	272.7	272.9	272.9	272.7	272.5	272.4	272.2
117.5°	309.8	309.7	309.7	309.5	309.1	308.7	308.3	307.9
120°	334.6	334.4	334.3	334.1	333.8	333.6	333.2	332.9
122.5°	359.7	359.3	359.0	358.6	358.2	357.7	357.4	357.0
125°	397.0	396.4	395.9	395.3	394.8	394.2	393.6	393.0
127.5°	433.9	433.1	432.3	431.5	430.9	430.2	429.6	429.0
130°	458.4	457.8	457.2	456.4	455.5	454.4	453.5	452.5
132.5°	482.2	481.5	480.8	480.1	479.3	478.5	477.8	477.0
135°	517.8	517.2	516.7	516.3	515.9	515.7	515.4	515.1
137.5°	552.6	552.0	551.5	550.9	550.4	549.7	549.2	548.7
140°	575.5	575.4	575.2	574.6	573.7	572.7	571.7	570.7
142.5°	597.0	596.8	596.7	596.2	595.5	594.7	593.9	593.1
145°	628.5	628.4	628.3	627.9	627.3	626.8	626.2	625.7
147.5°	658.4	658.4	658.4	658.0	657.1	656.3	655.4	654.5
150°	676.7	676.7	676.7	676.3	675.5	674.7	673.8	673.0
152.5°	693.6	693.8	694.1	693.8	693.0	692.3	691.6	690.9
155°	718.2	718.8	719.3	719.1	718.1	717.1	716.1	715.1
157.5°	739.3	739.9	740.5	740.4	739.6	738.8	738.0	737.2
160°	752.3	753.0	753.7	753.8	753.3	752.7	752.1	751.6
162.5°	764.6	765.3	766.0	765.9	765.0	764.1	763.2	762.2
165°	780.1	780.9	781.8	781.7	780.8	779.7	778.8	777.7
167.5°	792.6	793.6	794.4	794.4	793.6	792.6	791.8	790.9
170°	799.5	800.6	801.5	801.5	800.6	799.5	798.6	797.5
172.5°	804.9	805.8	806.7	806.7	805.6	804.7	803.7	802.7
175°	810.8	811.6	812.4	812.4	811.4	810.4	809.4	808.4
177.5°	813.4	814.1	814.8	814.7	813.9	813.0	812.3	811.5
180°	813.6	813.6	813.6	813.6	813.6	813.6	813.6	813.6

(END OF REPORT)