

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: P332477-940

Luminaire Tested: **S123RDIW-S1165D755U940-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332477-940
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-S1165D755U940-4F0-1E-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: 6241.2 lumens
Efficiency: N/A
Efficacy: 104.4 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

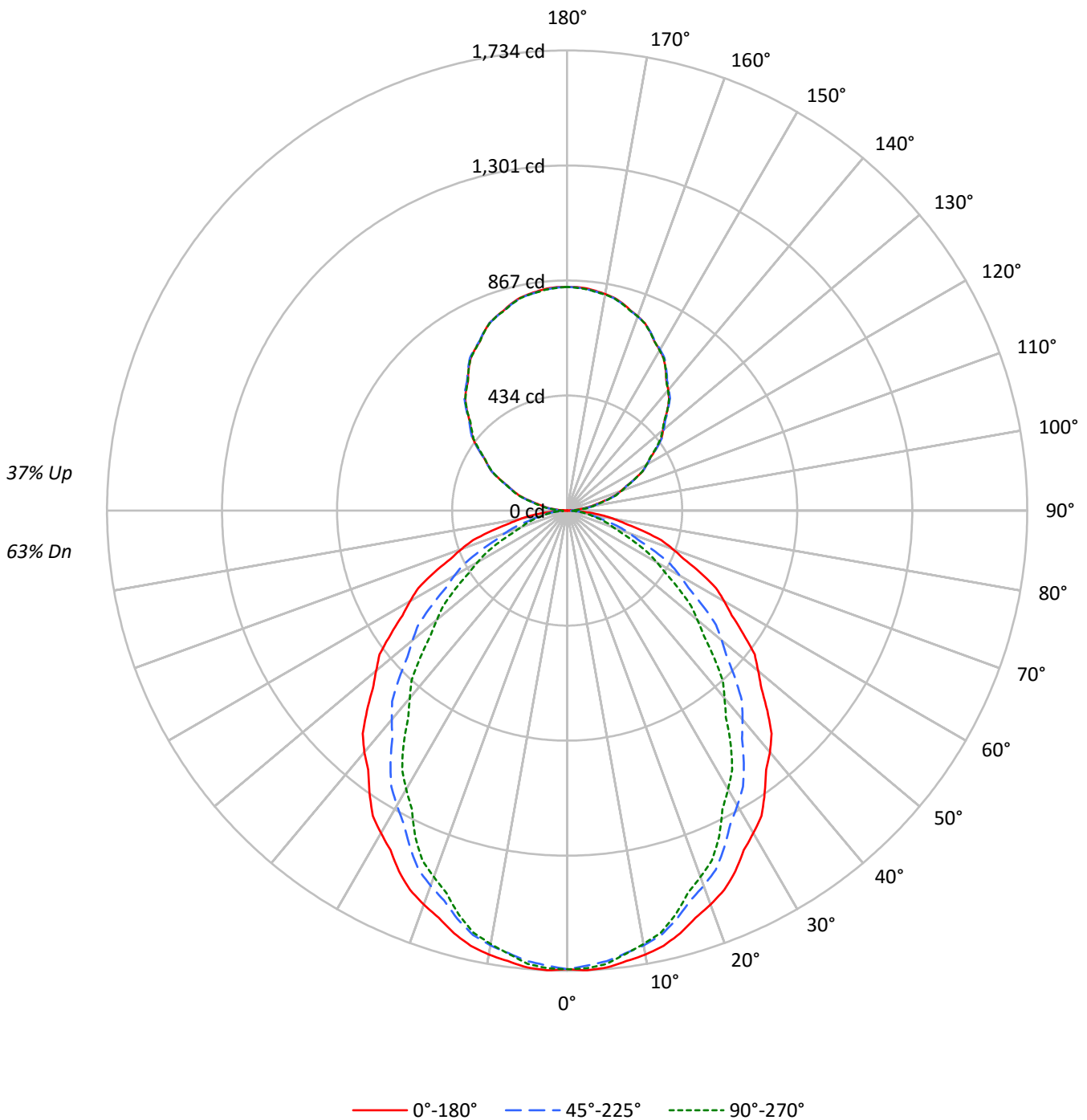
Input Watts (W): 59.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332477-940

CATALOG NUMBER: S123RDIW-S1165D755U940-4F0-1E-UDD-F1

Luminous Intensity Polar Plot





TEST NUMBER: P332477-940

CATALOG NUMBER: S123RDIW-S1165D755U940-4F0-1E-UDD-F1

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	110	110	110	110	103	103	103	103	90	90	90	79	79	79	68	68	68	63
1	101	97	93	90	95	91	88	85	80	77	75	70	68	66	60	59	58	54
2	92	85	79	74	86	80	75	70	71	66	63	62	59	56	54	51	49	45
3	84	75	68	62	79	71	64	59	63	58	53	55	51	48	48	45	43	39
4	78	67	59	53	72	63	56	50	56	50	46	49	45	41	43	40	37	34
5	71	60	52	46	67	56	49	44	50	44	40	44	40	36	39	35	32	30
6	66	54	46	40	62	51	44	38	45	39	35	40	36	32	36	32	29	26
7	61	49	41	35	57	46	39	34	41	35	31	37	32	28	33	29	26	23
8	57	44	37	31	53	42	35	30	38	32	28	34	29	25	30	26	23	21
9	53	41	33	28	50	39	32	27	35	29	25	31	26	23	28	24	21	19
10	50	37	30	25	47	36	29	24	32	27	23	29	24	21	26	22	19	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	18603	18603	18603
5°	18674	18416	18522
10°	18569	18185	18124
15°	18369	17761	17572
20°	18095	17228	16827
25°	17813	16631	16098
30°	17439	15940	15070
35°	17056	15251	14127
40°	16703	14436	12960
45°	16238	13633	11905
50°	15726	12722	10727
55°	15204	11678	9627
60°	14725	10562	8420
65°	14103	9352	7210
70°	13322	7852	5822
75°	12181	6180	5481
80°	10860	5473	5040
85°	9176	4841	4508



TEST NUMBER: P332477-940

CATALOG NUMBER: S123RDIW-S1165D755U940-4F0-1E-UDD-F1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	162.3	2.6
10°-20°	451.6	7.2
20°-30°	650.2	10.4
30°-40°	732.4	11.7
40°-50°	700.7	11.2
50°-60°	573.8	9.2
60°-70°	387.1	6.2
70°-80°	194.8	3.1
80°-90°	54.0	0.9
90°-100°	54.9	0.9
100°-110°	164.3	2.6
110°-120°	279.4	4.5
120°-130°	367.5	5.9
130°-140°	413.1	6.6
140°-150°	406.1	6.5
150°-160°	341.9	5.5
160°-170°	227.6	3.6
170°-180°	79.7	1.3
0°-30°	1264.1	20.3
0°-40°	1996.5	32.0
0°-60°	3270.9	52.4
0°-90°	3906.8	62.6
90°-120°	498.6	8.0
90°-150°	1685.3	27.0
90°-180°	2334.0	37.4
0°-180°	6241.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1728	1728	1728	1728	1728	
5°	1728	1721	1704	1716	1714	164
15°	1648	1632	1594	1587	1577	464
25°	1500	1463	1400	1372	1355	689
35°	1298	1246	1161	1102	1075	812
45°	1067	1001	896	818	782	823
55°	810	739	622	544	513	726
65°	554	475	367	302	283	548
75°	293	225	149	135	132	312
85°	74	45	39	37	36	83
90°	1	7	16	18	20	6
95°	39	44	49	52	52	44
105°	149	150	156	156	158	159
115°	281	283	282	283	282	278
125°	412	414	412	410	407	367
135°	534	538	537	535	533	411
145°	648	649	651	650	648	405
155°	742	742	743	745	741	341
165°	808	806	806	810	806	228
175°	840	838	838	841	837	80
180°	843	843	843	843	843	



TEST NUMBER: P332477-940

CATALOG NUMBER: S123RDIW-S1165D755U940-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1728.3	1728.3	1728.3	1728.3	1728.3	1728.3	1728.3	1728.3	1728.3	1728.3	1728.3
2.5°	1733.9	1732.9	1731.9	1730.9	1729.9	1727.9	1724.9	1721.9	1719.0	1715.9	1718.7
5°	1728.3	1726.7	1725.2	1723.6	1722.1	1719.4	1715.7	1711.9	1708.2	1704.4	1707.3
7.5°	1712.3	1710.7	1709.0	1707.3	1705.6	1702.3	1697.5	1692.6	1687.7	1682.8	1684.4
10°	1698.9	1696.7	1694.5	1692.3	1690.1	1686.2	1680.6	1675.0	1669.4	1663.8	1664.1
12.5°	1679.8	1677.4	1674.9	1672.5	1670.1	1665.4	1658.6	1651.7	1644.8	1638.0	1637.8
15°	1648.4	1644.9	1641.6	1638.1	1634.7	1628.6	1619.9	1611.1	1602.4	1593.8	1592.1
17.5°	1608.8	1604.9	1600.9	1596.9	1593.0	1585.4	1574.3	1563.2	1552.1	1541.1	1537.8
20°	1579.7	1574.8	1569.8	1564.8	1559.8	1551.4	1539.5	1527.7	1515.8	1504.0	1499.9
22.5°	1547.2	1541.4	1535.7	1530.0	1524.3	1515.1	1502.5	1490.0	1477.4	1464.7	1459.7
25°	1499.8	1492.0	1484.3	1476.4	1468.6	1457.6	1443.2	1429.0	1414.6	1400.3	1393.7
27.5°	1442.3	1433.8	1425.1	1416.6	1407.9	1395.7	1379.7	1363.8	1347.8	1331.9	1322.8
30°	1403.1	1393.7	1384.4	1375.0	1365.7	1352.3	1334.9	1317.4	1300.0	1282.5	1271.9
32.5°	1363.9	1353.3	1342.6	1332.0	1321.5	1307.0	1288.5	1270.1	1251.6	1233.2	1221.6
35°	1298.0	1286.7	1275.5	1264.4	1253.1	1237.9	1218.5	1199.3	1179.9	1160.6	1147.2
37.5°	1231.3	1218.8	1206.3	1193.8	1181.4	1164.8	1144.2	1123.6	1103.0	1082.4	1067.2
40°	1188.7	1174.9	1161.2	1147.5	1133.8	1115.9	1093.8	1071.7	1049.5	1027.4	1011.2
42.5°	1140.4	1126.7	1113.0	1099.3	1085.6	1067.3	1044.5	1021.5	998.7	975.9	958.1
45°	1066.7	1052.7	1038.7	1024.7	1010.6	991.6	967.6	943.6	919.6	895.6	877.9
47.5°	992.9	977.6	962.2	946.8	931.4	911.7	887.7	863.7	839.7	815.8	796.5
50°	939.1	924.5	909.8	895.2	880.6	860.7	835.4	810.2	785.0	759.7	740.4
52.5°	890.9	875.0	859.2	843.3	827.3	806.9	781.9	757.0	732.0	707.0	687.0
55°	810.2	794.9	779.6	764.4	749.1	728.3	701.8	675.3	648.8	622.3	604.3
57.5°	735.6	719.0	702.3	685.7	669.1	647.5	620.9	594.2	567.7	541.1	524.0
60°	684.0	666.9	649.8	632.7	615.5	594.0	568.1	542.3	516.5	490.6	473.8
62.5°	632.4	615.3	598.2	581.0	563.9	542.4	516.6	490.7	464.8	439.0	423.2
65°	553.7	536.5	519.4	502.3	485.2	464.4	440.1	415.8	391.6	367.2	352.0
67.5°	474.9	457.5	440.2	422.9	405.6	385.3	362.0	338.7	315.4	292.1	280.7
70°	423.3	406.5	389.7	372.8	356.1	336.7	315.0	293.1	271.3	249.5	238.6
72.5°	371.8	355.2	338.6	322.0	305.4	287.2	267.4	247.6	227.8	208.0	199.1
75°	292.9	278.0	263.1	248.1	233.2	217.1	200.0	182.8	165.7	148.6	145.4
77.5°	221.1	207.7	194.1	180.7	167.1	154.8	143.8	132.8	121.7	110.8	109.1
80°	175.2	162.5	149.6	136.9	124.1	114.5	107.9	101.4	94.9	88.3	87.4
82.5°	131.4	120.5	109.4	98.4	87.4	80.3	77.3	74.2	71.2	68.1	67.1
85°	74.3	67.4	60.5	53.8	46.9	43.0	42.1	41.1	40.2	39.2	38.6
87.5°	27.0	24.6	22.1	19.7	17.3	16.2	16.6	17.0	17.4	17.7	17.7
90°	0.6	2.1	3.6	5.1	6.5	8.2	10.2	12.0	14.0	15.9	16.5
92.5°	16.1	17.0	18.0	19.0	20.0	21.0	22.1	23.3	24.3	25.4	25.9
95°	39.1	40.0	41.1	42.2	43.2	44.2	45.5	46.6	47.8	49.0	49.6
97.5°	69.4	70.1	70.9	71.7	72.4	73.2	74.1	74.9	75.8	76.7	77.3
100°	90.0	90.9	91.8	92.6	93.5	94.3	95.1	95.9	96.6	97.3	97.7
102.5°	113.9	114.4	114.9	115.4	115.9	116.7	117.7	118.7	119.6	120.6	121.0
105°	148.9	149.2	149.5	149.8	150.1	150.9	152.2	153.6	154.9	156.2	156.2
107.5°	189.7	189.8	190.0	190.2	190.4	190.7	191.3	191.8	192.3	192.9	193.3
110°	215.1	215.4	215.7	216.0	216.2	216.6	216.9	217.1	217.5	217.8	218.4



TEST NUMBER: P332477-940

CATALOG NUMBER: S123RDIW-S1165D755U940-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	241.6	241.7	241.9	242.1	242.3	242.4	242.5	242.5	242.5	242.6	243.3
115°	281.3	281.7	282.1	282.6	283.0	283.1	282.9	282.6	282.2	282.0	282.1
117.5°	321.3	321.6	321.8	322.2	322.4	322.4	322.0	321.6	321.3	320.8	320.8
120°	346.2	347.1	347.9	348.8	349.7	349.7	349.0	348.3	347.6	346.8	346.7
122.5°	372.1	372.7	373.4	374.1	374.7	374.8	374.4	374.1	373.7	373.3	372.9
125°	411.7	412.1	412.6	413.0	413.5	413.5	413.2	413.0	412.6	412.3	411.8
127.5°	448.2	449.2	450.1	451.0	452.0	452.3	452.0	451.7	451.3	451.0	450.1
130°	472.6	473.8	474.9	476.1	477.2	477.7	477.2	476.8	476.4	475.9	475.3
132.5°	497.0	498.1	499.3	500.4	501.7	502.0	501.8	501.4	501.1	500.8	500.1
135°	534.1	535.0	535.9	536.8	537.6	538.1	537.9	537.7	537.6	537.4	536.8
137.5°	568.6	569.3	570.0	570.8	571.5	572.0	572.4	572.8	573.2	573.5	572.9
140°	592.4	593.1	593.9	594.6	595.3	595.8	595.9	596.0	596.2	596.4	596.2
142.5°	614.1	614.8	615.5	616.3	617.0	617.5	617.8	618.0	618.3	618.6	618.4
145°	648.0	648.3	648.5	648.8	649.2	649.5	650.0	650.4	650.9	651.3	651.1
147.5°	677.6	678.1	678.7	679.2	679.8	680.2	680.6	681.0	681.4	681.9	681.9
150°	698.3	698.6	698.8	699.2	699.5	699.7	700.0	700.3	700.6	700.9	700.9
152.5°	715.2	715.6	716.0	716.5	716.8	717.1	717.3	717.5	717.6	717.8	718.1
155°	742.0	742.0	742.0	742.0	742.0	742.0	742.2	742.3	742.4	742.6	743.2
157.5°	764.7	764.6	764.4	764.2	764.0	764.0	764.1	764.2	764.4	764.5	765.1
160°	779.0	778.7	778.5	778.1	777.8	777.7	777.7	777.7	777.7	777.7	778.5
162.5°	791.8	791.3	790.9	790.5	790.1	790.0	790.1	790.1	790.3	790.4	791.1
165°	808.2	807.7	807.3	806.8	806.4	806.1	806.1	806.1	806.1	806.1	807.0
167.5°	821.3	820.6	820.1	819.5	818.9	818.7	818.8	818.9	819.0	819.1	820.0
170°	828.7	828.0	827.5	826.9	826.3	826.0	826.0	826.0	826.0	826.0	827.1
172.5°	834.5	833.9	833.3	832.7	832.1	831.8	831.8	831.8	831.8	831.8	832.8
175°	840.5	840.0	839.4	838.8	838.2	837.9	837.9	837.9	837.9	837.9	838.8
177.5°	843.1	842.6	842.1	841.7	841.2	841.0	841.0	841.0	841.0	841.0	841.7
180°	842.6	842.6	842.6	842.6	842.6	842.6	842.6	842.6	842.6	842.6	842.6



TEST NUMBER: P332477-940

CATALOG NUMBER: S123RDIW-S1165D755U940-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1728.3	1728.3	1728.3	1728.3	1728.3	1728.3	1728.3	1728.3
2.5°	1721.4	1724.2	1726.9	1728.0	1727.5	1727.1	1726.5	1726.0
5°	1710.0	1712.9	1715.7	1716.7	1716.1	1715.5	1714.8	1714.2
7.5°	1686.0	1687.6	1689.1	1689.3	1688.3	1687.2	1686.1	1685.1
10°	1664.5	1664.7	1665.1	1664.5	1662.9	1661.3	1659.7	1658.2
12.5°	1637.6	1637.4	1637.3	1636.3	1634.5	1632.6	1630.8	1629.1
15°	1590.6	1589.0	1587.5	1585.6	1583.4	1581.3	1579.0	1576.9
17.5°	1534.5	1531.1	1527.8	1524.6	1521.3	1518.0	1514.8	1511.5
20°	1495.9	1491.8	1487.8	1483.9	1480.2	1476.4	1472.7	1469.0
22.5°	1454.6	1449.7	1444.6	1440.3	1436.8	1433.3	1429.9	1426.4
25°	1387.2	1380.6	1374.1	1369.1	1365.7	1362.3	1358.9	1355.4
27.5°	1313.7	1304.6	1295.5	1288.3	1283.1	1277.9	1272.6	1267.4
30°	1261.3	1250.8	1240.2	1232.4	1227.4	1222.4	1217.5	1212.5
32.5°	1210.1	1198.5	1186.9	1178.5	1173.2	1168.0	1162.8	1157.5
35°	1133.8	1120.4	1107.1	1097.5	1091.9	1086.3	1080.7	1075.1
37.5°	1052.0	1036.8	1021.5	1010.5	1003.6	996.7	989.8	982.8
40°	995.1	978.8	962.7	951.0	943.8	936.7	929.5	922.3
42.5°	940.5	922.7	905.1	893.0	886.6	880.2	873.8	867.4
45°	860.1	842.4	824.7	812.1	804.6	797.1	789.6	782.1
47.5°	777.1	757.9	738.5	725.6	718.9	712.2	705.5	698.9
50°	721.1	701.8	682.4	669.2	662.1	654.9	647.7	640.6
52.5°	666.9	646.8	626.8	613.5	607.1	600.7	594.3	587.9
55°	586.2	568.1	550.1	538.0	531.7	525.5	519.2	513.0
57.5°	506.9	489.8	472.8	461.5	456.3	451.0	445.7	440.4
60°	456.9	440.1	423.3	412.2	407.0	401.6	396.4	391.1
62.5°	407.3	391.6	375.7	365.1	359.4	353.9	348.4	342.9
65°	336.7	321.5	306.2	296.9	293.5	290.0	286.6	283.1
67.5°	269.3	257.9	246.5	239.0	235.3	231.6	227.9	224.3
70°	227.7	216.8	205.9	198.8	195.3	191.9	188.4	185.0
72.5°	190.2	181.3	172.4	167.2	165.8	164.3	162.9	161.5
75°	142.3	139.2	136.1	134.3	133.7	133.0	132.4	131.8
77.5°	107.4	105.7	104.0	102.8	102.2	101.6	100.9	100.3
80°	86.4	85.5	84.5	83.8	83.2	82.6	81.9	81.3
82.5°	66.3	65.4	64.4	63.8	63.8	63.6	63.5	63.4
85°	38.0	37.4	36.7	36.5	36.5	36.5	36.5	36.5
87.5°	17.5	17.4	17.2	17.0	16.9	16.7	16.5	16.3
90°	17.0	17.7	18.3	18.6	19.0	19.3	19.5	19.9
92.5°	26.4	26.8	27.3	27.5	27.3	27.1	26.9	26.8
95°	50.1	50.7	51.4	51.6	51.6	51.6	51.6	51.6
97.5°	78.0	78.6	79.4	79.6	79.6	79.5	79.5	79.5
100°	98.2	98.6	99.1	99.4	99.7	100.0	100.3	100.6
102.5°	121.5	121.9	122.3	122.5	122.5	122.4	122.3	122.3
105°	156.2	156.2	156.2	156.3	156.7	156.9	157.2	157.6
107.5°	193.8	194.3	194.7	194.9	194.7	194.6	194.4	194.2
110°	218.9	219.5	220.1	220.3	220.0	219.6	219.4	219.1



TEST NUMBER: P332477-940

CATALOG NUMBER: S123RDIW-S1165D755U940-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	244.1	244.8	245.5	245.8	245.8	245.7	245.6	245.6
115°	282.2	282.4	282.6	282.6	282.4	282.2	282.1	282.0
117.5°	320.8	320.7	320.7	320.6	320.1	319.7	319.3	318.9
120°	346.5	346.3	346.3	346.0	345.7	345.4	345.1	344.8
122.5°	372.6	372.1	371.8	371.4	371.0	370.5	370.1	369.7
125°	411.2	410.5	410.0	409.4	408.8	408.2	407.6	407.1
127.5°	449.3	448.5	447.7	446.9	446.3	445.6	445.0	444.3
130°	474.7	474.1	473.5	472.7	471.7	470.6	469.7	468.6
132.5°	499.4	498.6	497.9	497.2	496.4	495.6	494.8	494.0
135°	536.3	535.7	535.1	534.7	534.3	534.0	533.8	533.4
137.5°	572.3	571.7	571.1	570.5	570.0	569.4	568.8	568.3
140°	596.0	595.9	595.8	595.1	594.1	593.1	592.1	591.0
142.5°	618.3	618.1	618.0	617.5	616.7	615.9	615.1	614.3
145°	650.9	650.9	650.7	650.3	649.7	649.2	648.5	648.0
147.5°	681.9	681.9	681.9	681.4	680.6	679.7	678.8	677.9
150°	700.9	700.9	700.9	700.4	699.5	698.7	697.9	697.0
152.5°	718.4	718.5	718.8	718.5	717.7	717.0	716.2	715.5
155°	743.8	744.4	744.9	744.8	743.7	742.7	741.6	740.7
157.5°	765.7	766.3	767.0	766.8	766.0	765.2	764.4	763.5
160°	779.2	779.9	780.6	780.7	780.2	779.5	778.9	778.4
162.5°	791.8	792.6	793.4	793.3	792.3	791.4	790.4	789.4
165°	807.9	808.8	809.7	809.6	808.6	807.5	806.6	805.5
167.5°	820.9	821.9	822.8	822.8	821.9	820.9	820.0	819.1
170°	828.0	829.1	830.1	830.1	829.1	828.0	827.1	826.0
172.5°	833.7	834.6	835.4	835.4	834.4	833.4	832.3	831.3
175°	839.7	840.5	841.4	841.4	840.3	839.3	838.3	837.2
177.5°	842.4	843.1	843.8	843.7	842.9	842.0	841.2	840.4
180°	842.6	842.6	842.6	842.6	842.6	842.6	842.6	842.6

(END OF REPORT)