

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: P332481-930

Luminaire Tested: **S123RDIW-S1165D1030U930-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332481-930
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-S1165D1030U930-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1030 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6486.2 lumens
Efficiency: N/A
Efficacy: 96.2 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

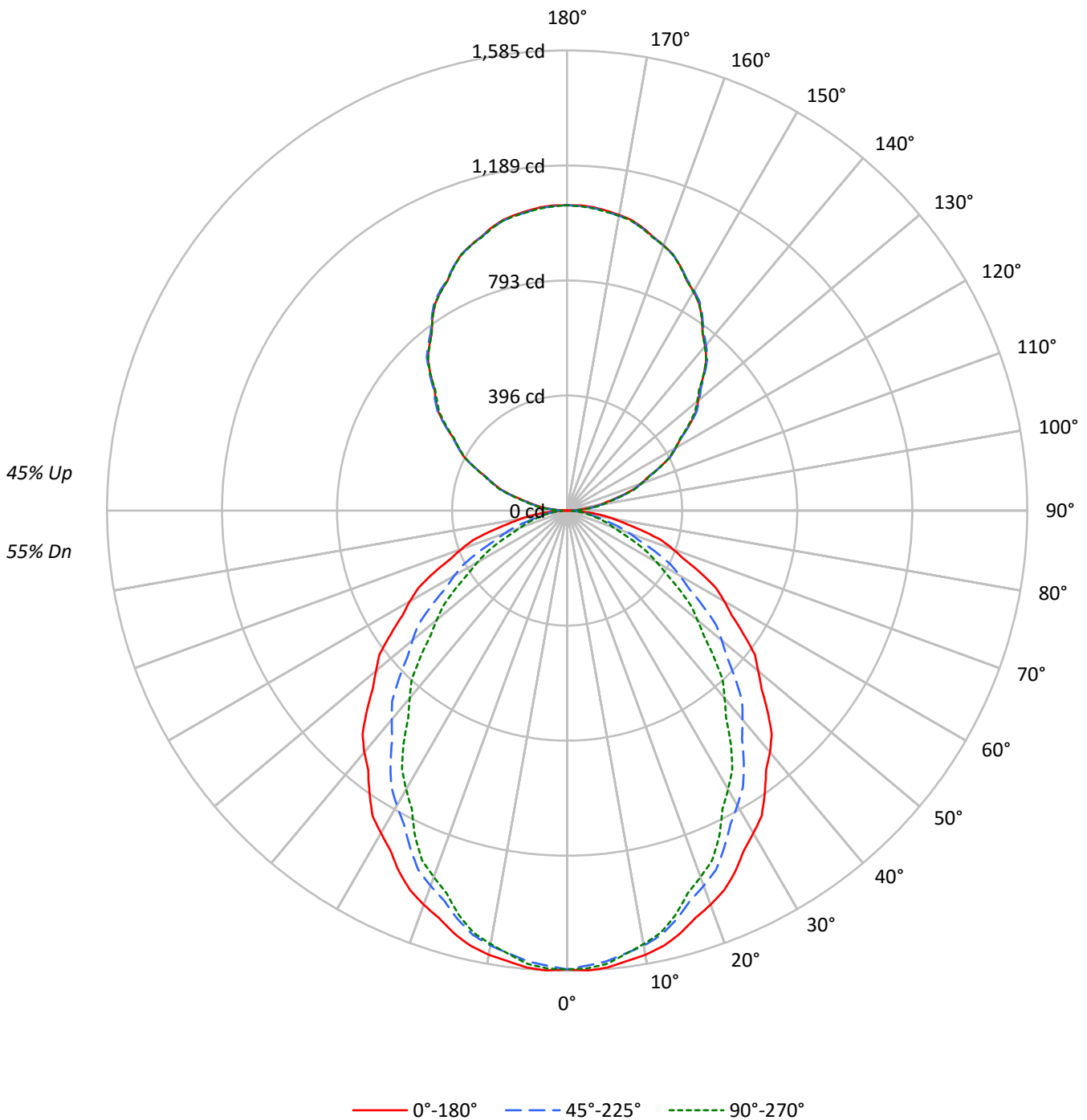
Input Watts (W): 67.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332481-930

CATALOG NUMBER: S123RDIW-S1165D1030U930-4F0-1E-UDD-F1

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	101	101	101	101	86	86	86	73	73	73	61	61	61	55
1	99	95	91	88	92	88	85	82	76	74	72	65	63	61	54	53	52	47
2	91	83	77	72	84	78	73	68	67	63	60	57	54	52	48	46	44	40
3	83	74	66	61	77	69	62	57	59	55	51	51	47	44	43	40	38	34
4	76	65	58	52	70	61	54	49	53	48	43	46	42	38	39	36	33	30
5	70	58	50	44	65	55	48	42	48	42	38	41	37	33	35	32	29	26
6	65	53	45	39	60	49	42	37	43	37	33	37	33	29	32	28	26	23
7	60	48	40	34	55	45	38	33	39	33	29	34	30	26	29	26	23	20
8	56	43	36	30	52	41	34	29	36	30	26	31	27	23	27	23	21	18
9	52	40	32	27	48	37	31	26	33	27	24	29	24	21	25	21	19	17
10	48	36	29	24	45	34	28	23	30	25	21	27	22	19	23	20	17	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	17009	17009	17009
5°	17074	16839	16935
10°	16978	16628	16571
15°	16796	16238	16067
20°	16544	15753	15385
25°	16286	15206	14719
30°	15945	14574	13779
35°	15594	13943	12917
40°	15271	13200	11849
45°	14846	12466	10886
50°	14380	11632	9808
55°	13902	10678	8801
60°	13464	9657	7698
65°	12893	8550	6594
70°	12180	7179	5325
75°	11137	5648	5011
80°	9930	5002	4612
85°	8386	4434	4113



TEST NUMBER: P332481-930

CATALOG NUMBER: S123RDIW-S1165D1030U930-4F0-1E-UDD-F1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	148.4	2.3
10°-20°	412.9	6.4
20°-30°	594.5	9.2
30°-40°	669.6	10.3
40°-50°	640.6	9.9
50°-60°	524.6	8.1
60°-70°	354.0	5.5
70°-80°	178.1	2.7
80°-90°	50.2	0.8
90°-100°	68.5	1.1
100°-110°	205.0	3.2
110°-120°	348.7	5.4
120°-130°	458.7	7.1
130°-140°	515.5	7.9
140°-150°	506.8	7.8
150°-160°	426.6	6.6
160°-170°	284.0	4.4
170°-180°	99.4	1.5
0°-30°	1155.7	17.8
0°-40°	1825.4	28.1
0°-60°	2990.6	46.1
0°-90°	3572.9	55.1
90°-120°	622.2	9.6
90°-150°	2103.2	32.4
90°-180°	2913.0	44.9
0°-180°	6486.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1580	1580	1580	1580	1580	
5°	1580	1573	1558	1569	1567	150
15°	1507	1492	1457	1451	1442	424
25°	1371	1338	1280	1254	1239	630
35°	1187	1139	1061	1008	983	742
45°	975	915	819	748	715	752
55°	741	675	569	497	469	664
65°	506	434	336	276	259	501
75°	268	206	136	124	120	286
85°	68	41	36	33	33	76
90°	1	9	20	23	25	6
95°	49	55	61	64	64	55
105°	186	188	195	195	197	199
115°	351	353	352	353	352	347
125°	514	516	515	511	508	458
135°	667	671	671	667	666	513
145°	809	810	813	812	809	505
155°	926	926	927	930	924	426
165°	1008	1006	1006	1010	1005	284
175°	1049	1046	1046	1050	1045	100
180°	1052	1052	1052	1052	1052	



TEST NUMBER: P332481-930

CATALOG NUMBER: S123RDIW-S1165D1030U930-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2
2.5°	1585.3	1584.4	1583.5	1582.6	1581.7	1579.8	1577.1	1574.3	1571.7	1568.9	1571.4
5°	1580.2	1578.7	1577.4	1575.9	1574.5	1572.1	1568.6	1565.2	1561.8	1558.4	1561.0
7.5°	1565.5	1564.1	1562.5	1561.0	1559.4	1556.4	1552.0	1547.5	1543.1	1538.6	1540.1
10°	1553.3	1551.3	1549.3	1547.3	1545.3	1541.7	1536.6	1531.5	1526.3	1521.3	1521.5
12.5°	1535.9	1533.7	1531.4	1529.2	1527.0	1522.7	1516.5	1510.2	1503.9	1497.6	1497.5
15°	1507.2	1504.0	1500.9	1497.7	1494.6	1489.1	1481.1	1473.1	1465.1	1457.2	1455.7
17.5°	1471.0	1467.4	1463.7	1460.0	1456.5	1449.5	1439.4	1429.2	1419.1	1409.0	1406.0
20°	1444.3	1439.8	1435.3	1430.7	1426.1	1418.5	1407.6	1396.8	1385.9	1375.2	1371.4
22.5°	1414.6	1409.3	1404.1	1398.9	1393.7	1385.3	1373.8	1362.3	1350.8	1339.2	1334.6
25°	1371.3	1364.2	1357.1	1349.9	1342.8	1332.7	1319.6	1306.5	1293.4	1280.3	1274.3
27.5°	1318.7	1310.9	1303.0	1295.2	1287.3	1276.1	1261.5	1246.9	1232.3	1217.7	1209.4
30°	1282.9	1274.3	1265.8	1257.2	1248.7	1236.4	1220.5	1204.5	1188.6	1172.6	1162.9
32.5°	1247.0	1237.3	1227.6	1217.9	1208.3	1195.0	1178.1	1161.2	1144.4	1127.6	1117.0
35°	1186.7	1176.5	1166.2	1156.0	1145.7	1131.8	1114.1	1096.5	1078.8	1061.1	1048.9
37.5°	1125.8	1114.4	1102.9	1091.5	1080.2	1065.0	1046.2	1027.4	1008.5	989.6	975.8
40°	1086.8	1074.2	1061.7	1049.2	1036.7	1020.3	1000.0	979.8	959.6	939.4	924.5
42.5°	1042.7	1030.1	1017.7	1005.1	992.5	975.8	955.0	934.0	913.1	892.3	876.0
45°	975.3	962.5	949.7	936.9	924.0	906.6	884.7	862.7	840.8	818.9	802.7
47.5°	907.8	893.8	879.7	865.7	851.6	833.6	811.6	789.7	767.8	745.9	728.2
50°	858.7	845.3	831.8	818.5	805.1	786.9	763.9	740.8	717.7	694.6	676.9
52.5°	814.6	800.1	785.5	771.0	756.4	737.8	714.9	692.1	669.3	646.5	628.1
55°	740.8	726.8	712.8	698.9	684.9	665.9	641.6	617.4	593.2	569.0	552.5
57.5°	672.5	657.4	642.1	627.0	611.7	592.0	567.7	543.3	519.0	494.7	479.1
60°	625.4	609.8	594.1	578.5	562.7	543.1	519.4	495.9	472.2	448.6	433.2
62.5°	578.2	562.6	546.9	531.2	515.6	495.9	472.3	448.7	425.0	401.4	386.9
65°	506.2	490.6	474.9	459.3	443.6	424.6	402.4	380.2	358.0	335.7	321.8
67.5°	434.2	418.3	402.5	386.7	370.9	352.3	331.0	309.7	288.4	267.1	256.7
70°	387.0	371.7	356.3	340.9	325.5	307.9	288.0	268.0	248.1	228.1	218.2
72.5°	339.9	324.7	309.6	294.4	279.2	262.6	244.5	226.4	208.3	190.2	182.1
75°	267.8	254.2	240.5	226.8	213.2	198.5	182.9	167.1	151.5	135.8	133.0
77.5°	202.2	189.9	177.5	165.2	152.8	141.5	131.5	121.4	111.3	101.3	99.7
80°	160.2	148.5	136.8	125.1	113.5	104.7	98.7	92.7	86.7	80.7	79.9
82.5°	120.2	110.1	100.0	89.9	79.9	73.5	70.7	67.8	65.1	62.3	61.4
85°	67.9	61.6	55.4	49.2	42.9	39.3	38.5	37.6	36.8	35.9	35.3
87.5°	24.8	22.7	20.5	18.3	16.2	15.4	15.9	16.3	16.8	17.3	17.2
90°	0.8	2.7	4.5	6.4	8.2	10.3	12.6	15.1	17.4	19.8	20.5
92.5°	20.0	21.2	22.5	23.7	24.9	26.3	27.6	29.0	30.3	31.7	32.3
95°	48.8	50.0	51.3	52.6	53.9	55.3	56.7	58.2	59.7	61.1	61.9
97.5°	86.6	87.5	88.5	89.4	90.4	91.4	92.5	93.5	94.6	95.6	96.5
100°	112.3	113.4	114.5	115.6	116.8	117.7	118.7	119.6	120.5	121.4	122.0
102.5°	142.1	142.8	143.4	144.1	144.7	145.6	146.8	148.1	149.3	150.5	151.1
105°	185.9	186.2	186.6	186.9	187.4	188.3	190.0	191.6	193.3	194.9	194.9
107.5°	236.8	236.9	237.2	237.4	237.6	238.1	238.7	239.4	240.0	240.7	241.2
110°	268.5	268.8	269.2	269.5	269.9	270.3	270.7	271.0	271.4	271.7	272.5



TEST NUMBER: P332481-930

CATALOG NUMBER: S123RDIW-S1165D1030U930-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	301.5	301.7	301.9	302.1	302.4	302.5	302.6	302.6	302.7	302.8	303.7
115°	351.1	351.6	352.1	352.7	353.3	353.4	352.9	352.6	352.2	351.9	352.0
117.5°	401.0	401.3	401.7	402.0	402.4	402.4	401.9	401.4	400.9	400.5	400.4
120°	432.0	433.1	434.2	435.3	436.4	436.5	435.5	434.6	433.7	432.8	432.6
122.5°	464.4	465.2	466.0	466.8	467.6	467.7	467.3	466.8	466.4	465.9	465.4
125°	513.8	514.3	514.9	515.4	516.0	516.1	515.7	515.4	514.9	514.6	513.9
127.5°	559.4	560.5	561.7	562.9	564.0	564.4	564.0	563.6	563.2	562.8	561.8
130°	589.8	591.3	592.7	594.2	595.7	596.1	595.6	595.0	594.4	593.9	593.1
132.5°	620.1	621.6	623.1	624.6	626.1	626.6	626.1	625.7	625.3	624.9	624.0
135°	666.6	667.6	668.8	669.8	671.0	671.4	671.2	671.1	670.9	670.7	669.9
137.5°	709.6	710.5	711.3	712.2	713.2	713.9	714.4	714.9	715.3	715.8	715.0
140°	739.2	740.2	741.1	742.0	742.9	743.5	743.6	743.9	744.0	744.2	744.0
142.5°	766.4	767.3	768.2	769.1	770.1	770.6	770.9	771.3	771.7	772.0	771.8
145°	808.6	809.0	809.3	809.8	810.1	810.6	811.1	811.7	812.2	812.8	812.6
147.5°	845.6	846.3	846.9	847.7	848.3	848.9	849.4	849.9	850.4	850.9	850.9
150°	871.4	871.8	872.1	872.5	872.9	873.3	873.6	874.0	874.3	874.7	874.7
152.5°	892.6	893.1	893.6	894.1	894.6	895.0	895.2	895.4	895.7	895.9	896.2
155°	925.9	925.9	925.9	925.9	925.9	926.0	926.2	926.4	926.6	926.8	927.5
157.5°	954.4	954.1	953.9	953.7	953.5	953.4	953.6	953.7	953.9	954.0	954.8
160°	972.2	971.8	971.4	971.1	970.7	970.5	970.5	970.5	970.5	970.5	971.4
162.5°	988.1	987.6	987.0	986.5	986.0	985.8	985.9	986.1	986.3	986.4	987.3
165°	1008.5	1008.0	1007.5	1006.9	1006.3	1006.1	1006.1	1006.1	1006.1	1006.1	1007.1
167.5°	1024.9	1024.2	1023.4	1022.7	1022.0	1021.7	1021.8	1022.0	1022.1	1022.2	1023.4
170°	1034.1	1033.4	1032.7	1031.9	1031.2	1030.9	1030.9	1030.9	1030.9	1030.9	1032.1
172.5°	1041.4	1040.6	1039.9	1039.2	1038.4	1038.1	1038.1	1038.1	1038.1	1038.1	1039.3
175°	1049.0	1048.3	1047.6	1046.8	1046.1	1045.7	1045.7	1045.7	1045.7	1045.7	1046.8
177.5°	1052.1	1051.6	1051.0	1050.4	1049.8	1049.5	1049.5	1049.5	1049.5	1049.5	1050.4
180°	1051.5	1051.5	1051.5	1051.5	1051.5	1051.5	1051.5	1051.5	1051.5	1051.5	1051.5



TEST NUMBER: P332481-930

CATALOG NUMBER: S123RDIW-S1165D1030U930-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2
2.5°	1573.9	1576.5	1578.9	1580.0	1579.5	1579.1	1578.6	1578.1
5°	1563.5	1566.1	1568.6	1569.6	1569.0	1568.5	1567.9	1567.3
7.5°	1541.5	1543.0	1544.3	1544.6	1543.6	1542.6	1541.6	1540.7
10°	1521.8	1522.1	1522.4	1521.8	1520.4	1519.0	1517.5	1516.1
12.5°	1497.3	1497.1	1497.0	1496.1	1494.4	1492.7	1491.1	1489.5
15°	1454.3	1452.9	1451.5	1449.8	1447.7	1445.8	1443.7	1441.8
17.5°	1403.0	1399.9	1396.9	1393.9	1390.9	1388.0	1385.0	1382.0
20°	1367.7	1364.0	1360.3	1356.7	1353.3	1349.9	1346.5	1343.1
22.5°	1330.0	1325.4	1320.8	1316.9	1313.7	1310.5	1307.3	1304.2
25°	1268.4	1262.3	1256.4	1251.8	1248.7	1245.5	1242.4	1239.3
27.5°	1201.1	1192.8	1184.5	1177.9	1173.1	1168.4	1163.6	1158.8
30°	1153.2	1143.6	1133.9	1126.8	1122.3	1117.7	1113.1	1108.6
32.5°	1106.4	1095.8	1085.2	1077.5	1072.7	1067.9	1063.2	1058.3
35°	1036.7	1024.4	1012.2	1003.5	998.3	993.2	988.1	983.0
37.5°	961.8	947.9	934.0	923.9	917.6	911.3	905.0	898.6
40°	909.8	895.0	880.2	869.5	862.9	856.4	849.9	843.3
42.5°	859.9	843.7	827.5	816.5	810.7	804.8	798.9	793.0
45°	786.4	770.2	754.0	742.5	735.6	728.8	721.9	715.1
47.5°	710.5	692.9	675.2	663.4	657.3	651.2	645.1	639.0
50°	659.3	641.6	623.9	611.9	605.4	598.8	592.2	585.7
52.5°	609.8	591.4	573.1	560.9	555.1	549.3	543.4	537.5
55°	536.0	519.4	503.0	491.9	486.2	480.5	474.7	469.0
57.5°	463.5	447.8	432.3	422.0	417.2	412.4	407.5	402.7
60°	417.8	402.4	387.0	376.9	372.1	367.2	362.4	357.6
62.5°	372.4	358.0	343.5	333.8	328.6	323.6	318.5	313.5
65°	307.9	293.9	280.0	271.4	268.3	265.1	262.0	258.9
67.5°	246.2	235.8	225.3	218.5	215.2	211.7	208.4	205.0
70°	208.1	198.2	188.3	181.7	178.6	175.5	172.3	169.2
72.5°	173.9	165.8	157.6	152.9	151.6	150.3	149.0	147.7
75°	130.1	127.3	124.4	122.8	122.2	121.6	121.1	120.5
77.5°	98.2	96.6	95.1	94.0	93.4	92.9	92.3	91.7
80°	79.0	78.2	77.3	76.6	76.1	75.5	74.9	74.4
82.5°	60.6	59.8	58.9	58.4	58.3	58.1	58.0	58.0
85°	34.7	34.2	33.6	33.3	33.3	33.3	33.3	33.3
87.5°	17.1	17.0	17.0	16.9	16.7	16.6	16.4	16.2
90°	21.3	22.0	22.7	23.3	23.6	24.1	24.4	24.8
92.5°	32.9	33.5	34.1	34.2	34.0	33.8	33.6	33.3
95°	62.6	63.3	64.1	64.4	64.4	64.4	64.4	64.4
97.5°	97.3	98.2	99.1	99.4	99.3	99.3	99.2	99.1
100°	122.5	123.1	123.6	124.1	124.4	124.8	125.1	125.6
102.5°	151.6	152.1	152.7	153.0	152.9	152.8	152.7	152.6
105°	194.9	194.9	194.9	195.1	195.5	195.8	196.2	196.6
107.5°	241.9	242.5	243.0	243.2	243.0	242.8	242.6	242.3
110°	273.2	273.9	274.7	274.8	274.5	274.1	273.8	273.4



TEST NUMBER: P332481-930

CATALOG NUMBER: S123RDIW-S1165D1030U930-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	304.6	305.4	306.3	306.7	306.6	306.6	306.6	306.5
115°	352.2	352.5	352.6	352.6	352.5	352.2	352.0	351.9
117.5°	400.4	400.3	400.3	400.0	399.5	399.0	398.4	397.9
120°	432.4	432.3	432.1	431.8	431.5	431.0	430.7	430.3
122.5°	464.9	464.4	464.0	463.4	462.9	462.4	461.9	461.4
125°	513.1	512.4	511.7	510.9	510.2	509.5	508.7	508.0
127.5°	560.8	559.8	558.7	557.7	556.9	556.1	555.2	554.4
130°	592.4	591.7	590.9	590.0	588.6	587.3	586.1	584.8
132.5°	623.2	622.3	621.4	620.5	619.5	618.5	617.5	616.5
135°	669.2	668.5	667.7	667.2	666.8	666.5	666.1	665.8
137.5°	714.3	713.5	712.7	712.0	711.3	710.6	709.9	709.2
140°	743.9	743.6	743.5	742.7	741.4	740.2	738.9	737.6
142.5°	771.6	771.4	771.3	770.6	769.6	768.7	767.7	766.7
145°	812.4	812.2	812.0	811.5	810.8	810.1	809.3	808.6
147.5°	850.9	850.9	850.9	850.4	849.3	848.2	847.1	846.0
150°	874.7	874.7	874.7	874.2	873.1	872.0	870.9	869.8
152.5°	896.4	896.7	897.1	896.7	895.8	894.8	893.8	892.9
155°	928.2	929.0	929.7	929.4	928.1	926.8	925.6	924.3
157.5°	955.5	956.3	957.1	957.0	955.9	955.0	953.9	952.8
160°	972.4	973.3	974.2	974.3	973.5	972.8	972.1	971.3
162.5°	988.2	989.1	990.1	989.9	988.8	987.6	986.4	985.2
165°	1008.3	1009.3	1010.5	1010.4	1009.1	1007.8	1006.5	1005.3
167.5°	1024.5	1025.6	1026.8	1026.8	1025.6	1024.5	1023.4	1022.2
170°	1033.4	1034.7	1036.0	1036.0	1034.7	1033.4	1032.1	1030.9
172.5°	1040.4	1041.5	1042.7	1042.6	1041.3	1040.0	1038.7	1037.5
175°	1047.9	1049.0	1050.1	1050.0	1048.7	1047.4	1046.2	1044.9
177.5°	1051.2	1052.1	1053.0	1053.0	1051.9	1050.9	1049.9	1048.9
180°	1051.5	1051.5	1051.5	1051.5	1051.5	1051.5	1051.5	1051.5

(END OF REPORT)