

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: P332480-930

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332480-930
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-S1165D1030U930-4F0-1E-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: 6934.1 lumens
Efficiency: N/A
Efficacy: 102.9 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

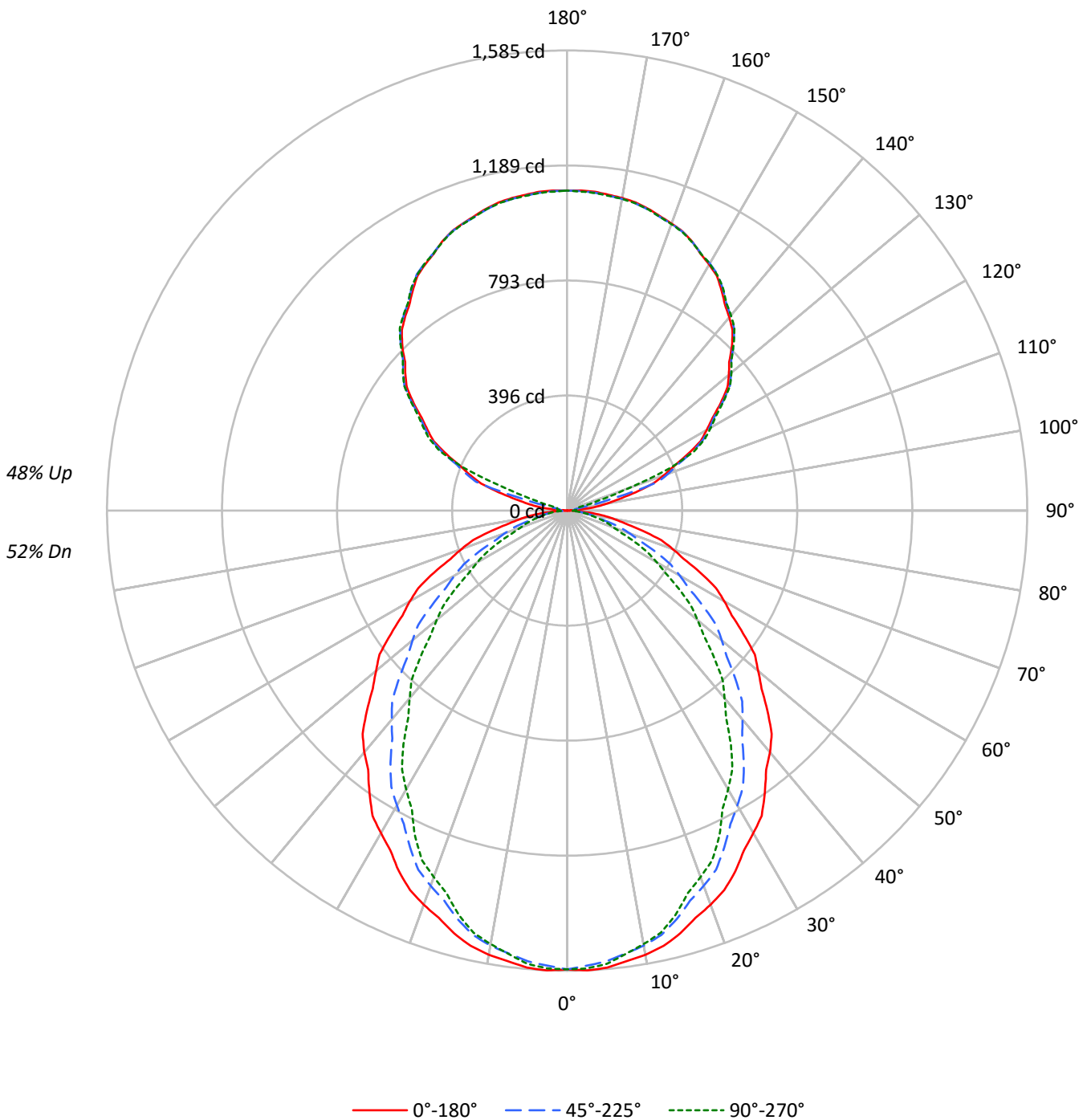
Input Watts (W): 67.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	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



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	148.4	2.1
10°-20°	412.9	6.0
20°-30°	594.5	8.6
30°-40°	669.6	9.7
40°-50°	640.6	9.2
50°-60°	524.6	7.6
60°-70°	354.0	5.1
70°-80°	178.1	2.6
80°-90°	50.2	0.7
90°-100°	40.1	0.6
100°-110°	191.0	2.8
110°-120°	458.8	6.6
120°-130°	584.2	8.4
130°-140°	624.2	9.0
140°-150°	583.7	8.4
150°-160°	470.8	6.8
160°-170°	303.9	4.4
170°-180°	104.7	1.5
0°-30°	1155.7	16.7
0°-40°	1825.4	26.3
0°-60°	2990.6	43.1
0°-90°	3572.9	51.5
90°-120°	689.8	9.9
90°-150°	2481.9	35.8
90°-180°	3361.0	48.5
0°-180°	6934.1	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	24	6
95°	50	19	25	31	31	62
105°	244	248	179	43	36	259
115°	458	463	470	478	482	452
125°	645	652	655	657	658	576
135°	803	808	812	814	812	618
145°	927	932	934	936	936	580
155°	1021	1020	1020	1024	1020	470
165°	1077	1074	1074	1079	1074	304
175°	1102	1098	1099	1104	1098	105
180°	1102	1102	1102	1102	1102	



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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	15.3	15.8	16.3	16.8	17.3	17.2
90°	0.8	2.6	4.5	6.3	8.1	10.2	12.6	14.9	17.3	19.6	20.4
92.5°	15.2	14.8	14.2	13.7	13.2	13.9	15.7	17.4	19.2	21.0	22.1
95°	50.0	42.5	35.1	27.6	20.1	17.4	19.4	21.4	23.4	25.4	26.7
97.5°	100.4	97.0	93.7	90.3	87.0	78.8	65.7	52.6	39.5	26.3	27.8
100°	138.4	142.0	145.7	149.3	153.0	140.6	112.2	83.8	55.4	27.0	28.5
102.5°	181.6	184.3	186.9	189.5	192.1	177.9	146.9	115.9	84.9	53.9	49.4
105°	244.0	246.1	248.0	250.1	252.0	244.8	228.4	212.1	195.8	179.4	147.2
107.5°	309.9	311.4	313.1	314.7	316.3	318.4	321.0	323.5	326.1	328.7	305.1
110°	353.8	355.2	356.7	358.2	359.5	361.3	363.3	365.3	367.3	369.3	363.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	395.7	397.0	398.3	399.7	401.0	402.6	404.6	406.6	408.6	410.6	410.7
115°	457.8	458.9	459.9	461.1	462.1	463.5	465.1	466.8	468.4	470.0	471.9
117.5°	517.9	519.2	520.6	521.9	523.3	524.3	525.2	526.0	526.8	527.7	529.1
120°	555.2	556.8	558.5	560.1	561.7	562.9	563.4	563.9	564.5	565.0	566.5
122.5°	593.2	594.5	595.9	597.2	598.6	599.6	600.3	601.0	601.7	602.3	603.4
125°	645.3	646.8	648.2	649.6	651.1	652.2	652.9	653.6	654.4	655.1	655.5
127.5°	695.7	697.2	698.6	700.1	701.6	702.7	703.6	704.5	705.3	706.2	706.8
130°	727.2	728.6	730.1	731.6	733.0	734.1	734.8	735.6	736.3	737.0	737.8
132.5°	757.3	758.8	760.2	761.7	763.1	764.2	764.8	765.3	765.9	766.5	767.2
135°	803.3	804.5	805.5	806.6	807.7	808.6	809.3	810.1	810.8	811.5	812.0
137.5°	842.6	844.0	845.4	846.8	848.2	849.1	849.5	849.9	850.3	850.7	851.5
140°	868.9	869.9	871.1	872.1	873.2	874.0	874.6	875.1	875.6	876.2	876.9
142.5°	893.1	894.1	895.3	896.3	897.5	898.3	898.8	899.4	899.9	900.4	901.1
145°	927.0	928.2	929.5	930.8	932.1	932.9	933.3	933.6	934.0	934.3	934.7
147.5°	959.0	959.8	960.6	961.4	962.3	962.9	963.2	963.6	963.9	964.3	964.7
150°	978.6	979.1	979.7	980.2	980.7	981.2	981.5	981.9	982.3	982.7	983.0
152.5°	996.3	996.5	996.8	997.0	997.3	997.5	997.8	997.9	998.2	998.4	999.1
155°	1021.2	1020.8	1020.4	1020.1	1019.7	1019.6	1019.8	1019.9	1020.2	1020.3	1021.2
157.5°	1040.5	1040.5	1040.4	1040.4	1040.3	1040.2	1040.1	1039.8	1039.7	1039.5	1040.6
160°	1052.3	1052.1	1051.9	1051.7	1051.6	1051.3	1051.2	1051.0	1050.8	1050.7	1051.7
162.5°	1063.4	1062.9	1062.5	1062.0	1061.5	1061.2	1061.0	1060.9	1060.6	1060.5	1061.7
165°	1076.8	1076.3	1075.8	1075.2	1074.6	1074.3	1074.1	1073.9	1073.7	1073.6	1075.1
167.5°	1087.3	1086.6	1085.9	1085.2	1084.4	1084.0	1084.0	1084.0	1084.0	1084.0	1085.5
170°	1093.2	1092.5	1091.8	1091.0	1090.3	1090.0	1090.0	1090.0	1090.0	1090.0	1091.4
172.5°	1097.1	1096.3	1095.4	1094.5	1093.6	1093.3	1093.4	1093.6	1093.7	1093.9	1095.4
175°	1102.2	1101.3	1100.4	1099.5	1098.6	1098.2	1098.4	1098.6	1098.8	1098.9	1100.2
177.5°	1103.5	1102.8	1102.1	1101.4	1100.7	1100.3	1100.5	1100.7	1100.7	1100.9	1102.1
180°	1102.2	1102.2	1102.2	1102.2	1102.2	1102.2	1102.2	1102.2	1102.2	1102.2	1102.2



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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	16.8	16.6	16.5	16.3	16.2
90°	21.1	21.9	22.6	23.1	23.5	23.8	24.2	24.5
92.5°	23.3	24.5	25.6	26.3	26.5	26.7	27.0	27.1
95°	28.0	29.2	30.5	31.1	31.1	31.1	31.1	31.1
97.5°	29.3	30.7	32.2	33.0	33.2	33.3	33.6	33.8
100°	29.9	31.4	32.9	33.7	33.8	34.0	34.2	34.4
102.5°	44.8	40.4	35.8	33.8	34.1	34.4	34.7	35.1
105°	115.0	82.7	50.5	34.6	35.0	35.3	35.6	36.0
107.5°	281.4	257.9	234.2	210.3	186.0	161.8	137.5	113.2
110°	357.3	351.3	345.3	329.3	303.3	277.2	251.2	225.2



TEST NUMBER: P332480-930

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

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	410.8	410.9	411.0	408.3	402.8	397.4	391.8	386.4
115°	473.7	475.5	477.4	478.6	479.3	480.0	480.8	481.5
117.5°	530.6	532.1	533.5	534.3	534.4	534.6	534.8	534.9
120°	567.9	569.4	570.9	571.6	571.6	571.6	571.6	571.6
122.5°	604.4	605.4	606.4	607.1	607.2	607.3	607.5	607.6
125°	655.8	656.2	656.6	657.0	657.3	657.6	658.0	658.4
127.5°	707.4	707.9	708.6	708.7	708.3	707.9	707.6	707.2
130°	738.5	739.2	739.9	740.1	739.7	739.4	739.0	738.7
132.5°	767.9	768.7	769.4	769.5	769.0	768.5	768.0	767.4
135°	812.6	813.2	813.7	813.7	813.2	812.6	812.0	811.5
137.5°	852.4	853.3	854.2	854.4	854.0	853.7	853.3	853.0
140°	877.7	878.4	879.1	879.3	879.0	878.6	878.2	877.8
142.5°	901.6	902.2	902.8	902.8	902.3	901.8	901.3	900.7
145°	935.1	935.5	935.8	936.0	936.0	936.0	936.0	936.0
147.5°	965.1	965.4	965.8	965.6	964.7	963.8	963.0	962.2
150°	983.4	983.7	984.1	984.1	983.5	982.9	982.4	981.9
152.5°	999.7	1000.4	1001.0	1000.9	1000.0	999.2	998.4	997.6
155°	1022.1	1023.0	1024.0	1023.9	1022.8	1021.7	1020.6	1019.5
157.5°	1041.7	1042.8	1043.8	1043.7	1042.3	1040.9	1039.4	1038.0
160°	1052.8	1053.9	1055.0	1054.9	1053.6	1052.4	1051.1	1049.8
162.5°	1062.9	1064.2	1065.4	1065.4	1064.4	1063.2	1062.1	1060.9
165°	1076.4	1077.9	1079.4	1079.5	1078.2	1076.9	1075.6	1074.4
167.5°	1087.0	1088.4	1089.9	1089.9	1088.4	1087.0	1085.5	1084.0
170°	1092.8	1094.3	1095.8	1095.8	1094.3	1092.8	1091.4	1090.0
172.5°	1096.8	1098.2	1099.7	1099.6	1098.0	1096.4	1094.8	1093.2
175°	1101.5	1102.8	1104.1	1104.0	1102.5	1101.1	1099.6	1098.1
177.5°	1103.3	1104.4	1105.5	1105.5	1104.0	1102.5	1101.1	1099.6
180°	1102.2	1102.2	1102.2	1102.2	1102.2	1102.2	1102.2	1102.2

(END OF REPORT)