

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: P332444-935

Luminaire Tested: **S123RDIW-S775D1320U935-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332444-935
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-S775D1320U935-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 775 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1320 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7059.6 lumens
Efficiency: N/A
Efficacy: 115.0 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-Indirect

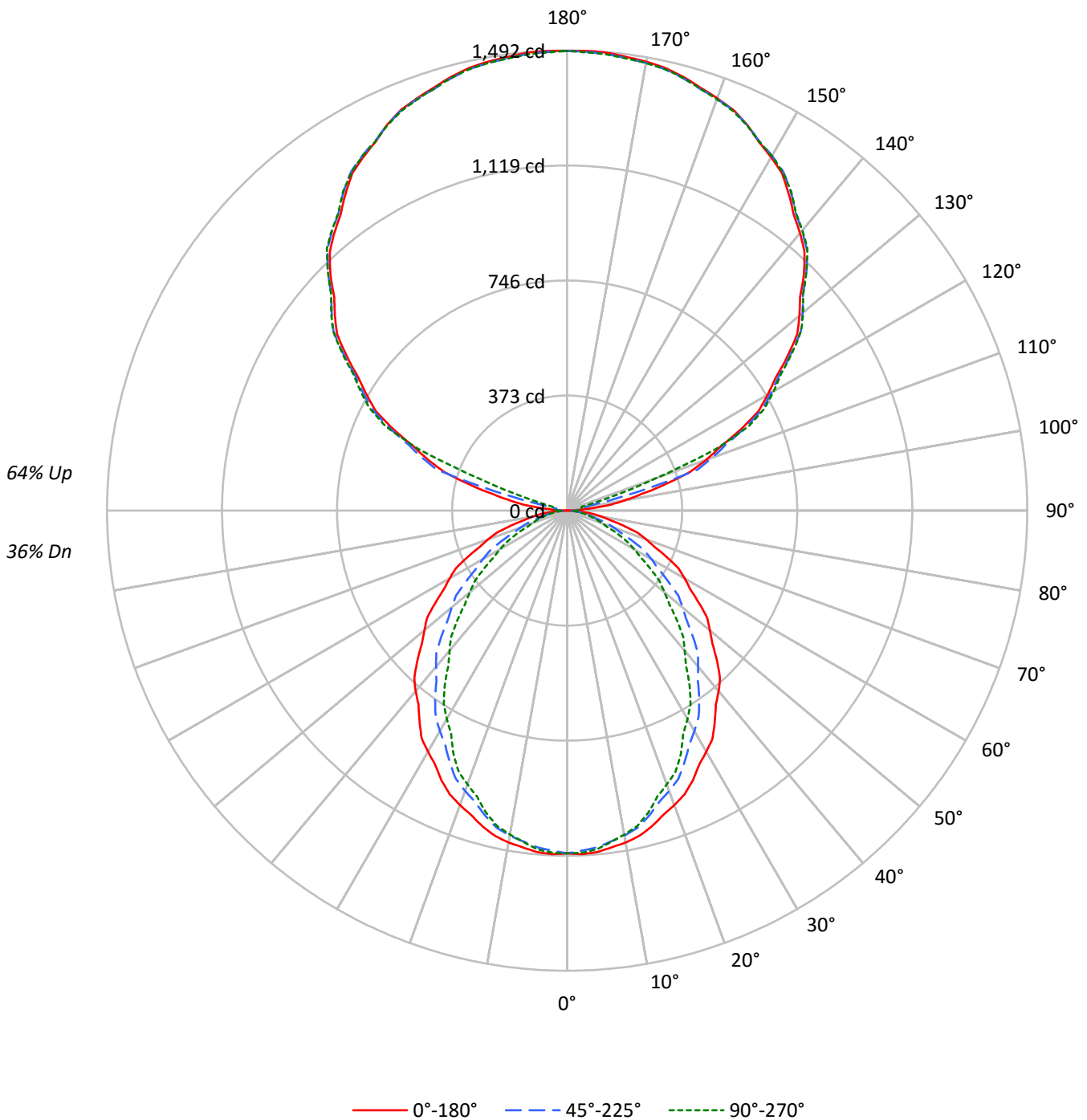
Input Watts (W): 61.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	104	104	104	104	94	94	94	94	75	75	75	58	58	58	43	43	43	36
1	95	91	87	84	86	82	79	76	66	64	62	52	50	49	38	37	37	30
2	86	79	74	69	78	72	67	63	58	55	52	46	43	41	34	32	31	26
3	79	70	63	57	71	64	58	53	52	47	44	41	38	35	30	28	27	22
4	72	62	54	49	65	56	50	45	46	41	37	36	33	30	27	25	23	19
5	66	55	47	42	60	50	44	38	41	36	32	33	29	26	25	22	20	17
6	61	49	42	36	55	45	38	33	37	32	28	29	26	23	22	20	18	15
7	56	45	37	32	51	41	34	29	34	28	25	27	23	20	20	18	16	13
8	52	40	33	28	47	37	30	26	31	26	22	24	21	18	19	16	14	12
9	49	37	30	25	44	34	27	23	28	23	20	23	19	16	17	15	13	11
10	45	34	27	22	41	31	25	21	26	21	18	21	17	15	16	14	12	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11965	11965	11965
5°	12011	11846	11914
10°	11943	11696	11657
15°	11814	11422	11303
20°	11639	11080	10822
25°	11457	10696	10354
30°	11216	10253	9692
35°	10970	9809	9087
40°	10742	9285	8335
45°	10443	8770	7658
50°	10114	8182	6899
55°	9779	7512	6191
60°	9472	6794	5414
65°	9070	6016	4638
70°	8567	5051	3745
75°	7835	3976	3523
80°	6986	3521	3242
85°	5903	3112	2890



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	104.4	1.5
10°-20°	290.4	4.1
20°-30°	418.2	5.9
30°-40°	471.1	6.7
40°-50°	450.7	6.4
50°-60°	369.0	5.2
60°-70°	249.0	3.5
70°-80°	125.3	1.8
80°-90°	37.3	0.5
90°-100°	54.2	0.8
100°-110°	258.2	3.7
110°-120°	620.2	8.8
120°-130°	789.8	11.2
130°-140°	843.9	12.0
140°-150°	789.1	11.2
150°-160°	636.5	9.0
160°-170°	410.8	5.8
170°-180°	141.6	2.0
0°-30°	813.0	11.5
0°-40°	1284.1	18.2
0°-60°	2103.8	29.8
0°-90°	2515.3	35.6
90°-120°	932.6	13.2
90°-150°	3355.4	47.5
90°-180°	4544.0	64.4
0°-180°	7059.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1112	1112	1112	1112	1112	
5°	1112	1107	1096	1104	1103	105
15°	1060	1049	1025	1020	1014	299
25°	965	941	901	882	872	443
35°	835	801	746	709	692	522
45°	686	644	576	526	503	529
55°	521	475	400	350	330	467
65°	356	305	236	194	182	352
75°	188	145	96	87	85	201
85°	48	29	25	24	23	54
90°	1	12	27	31	33	6
95°	68	25	34	42	42	83
105°	330	336	242	58	49	350
115°	619	626	636	646	651	611
125°	872	881	886	888	890	779
135°	1086	1093	1097	1100	1097	836
145°	1253	1261	1263	1265	1265	784
155°	1380	1378	1379	1384	1378	636
165°	1456	1453	1451	1459	1452	411
175°	1490	1485	1486	1493	1485	142
180°	1490	1490	1490	1490	1490	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1111.6	1111.6	1111.6	1111.6	1111.6	1111.6	1111.6	1111.6	1111.6	1111.6	1111.6
2.5°	1115.2	1114.6	1113.9	1113.3	1112.7	1111.4	1109.4	1107.5	1105.6	1103.6	1105.4
5°	1111.6	1110.6	1109.6	1108.6	1107.6	1105.9	1103.5	1101.0	1098.6	1096.3	1098.0
7.5°	1101.3	1100.3	1099.2	1098.0	1097.0	1094.8	1091.7	1088.6	1085.5	1082.4	1083.4
10°	1092.7	1091.2	1089.9	1088.5	1087.0	1084.5	1080.9	1077.4	1073.8	1070.1	1070.3
12.5°	1080.4	1078.8	1077.3	1075.7	1074.2	1071.2	1066.8	1062.4	1057.9	1053.5	1053.4
15°	1060.2	1058.0	1055.8	1053.6	1051.4	1047.5	1041.9	1036.3	1030.6	1025.0	1024.1
17.5°	1034.7	1032.3	1029.7	1027.1	1024.5	1019.7	1012.5	1005.4	998.2	991.2	989.0
20°	1016.1	1012.8	1009.6	1006.4	1003.2	997.8	990.2	982.6	975.0	967.3	964.8
22.5°	995.1	991.4	987.7	984.0	980.3	974.5	966.4	958.3	950.2	942.1	938.8
25°	964.7	959.7	954.6	949.6	944.6	937.5	928.2	919.0	909.8	900.6	896.4
27.5°	927.6	922.1	916.6	911.1	905.6	897.7	887.4	877.2	866.9	856.6	850.8
30°	902.4	896.4	890.4	884.4	878.4	869.8	858.6	847.3	836.1	824.9	818.1
32.5°	877.2	870.4	863.6	856.8	850.0	840.6	828.7	816.9	805.0	793.2	785.7
35°	834.8	827.6	820.4	813.2	806.0	796.2	783.8	771.3	758.9	746.5	737.9
37.5°	791.9	783.9	775.8	767.8	759.8	749.2	736.0	722.7	709.5	696.2	686.4
40°	764.5	755.7	746.8	738.0	729.3	717.7	703.5	689.3	675.0	660.8	650.4
42.5°	733.5	724.7	715.8	707.1	698.3	686.5	671.8	657.0	642.4	627.7	616.3
45°	686.0	677.1	668.0	659.0	650.0	637.8	622.3	606.9	591.5	576.1	564.6
47.5°	638.7	628.8	618.9	609.0	599.1	586.4	571.0	555.5	540.1	524.7	512.3
50°	604.0	594.6	585.2	575.8	566.4	553.5	537.4	521.1	504.9	488.6	476.2
52.5°	573.0	562.8	552.6	542.3	532.2	519.0	502.9	486.9	470.8	454.7	441.9
55°	521.1	511.3	501.4	491.6	481.8	468.4	451.3	434.4	417.3	400.3	388.7
57.5°	473.1	462.4	451.8	441.0	430.3	416.5	399.3	382.2	365.1	348.0	337.0
60°	440.0	429.0	417.9	406.9	395.9	382.0	365.4	348.8	332.2	315.6	304.7
62.5°	406.7	395.7	384.7	373.7	362.7	348.9	332.3	315.6	299.0	282.3	272.2
65°	356.1	345.1	334.1	323.0	312.0	298.7	283.1	267.4	251.8	236.2	226.4
67.5°	305.5	294.3	283.2	272.0	260.9	247.8	232.8	217.8	202.9	187.9	180.6
70°	272.2	261.5	250.6	239.8	229.0	216.5	202.5	188.6	174.5	160.5	153.4
72.5°	239.1	228.4	217.7	207.1	196.5	184.8	172.0	159.3	146.5	133.8	128.0
75°	188.4	178.8	169.2	159.5	150.0	139.7	128.6	117.6	106.6	95.6	93.6
77.5°	142.2	133.5	124.8	116.1	107.5	99.6	92.5	85.4	78.4	71.2	70.2
80°	112.7	104.4	96.3	88.1	79.8	73.6	69.4	65.2	61.0	56.8	56.2
82.5°	84.6	77.5	70.3	63.3	56.2	51.7	49.7	47.7	45.8	43.8	43.2
85°	47.8	43.4	39.0	34.5	30.1	27.6	27.0	26.4	25.8	25.2	24.9
87.5°	17.6	16.3	15.0	13.7	12.5	12.1	12.7	13.4	14.0	14.7	14.7
90°	1.1	3.5	6.0	8.5	10.9	13.8	17.0	20.1	23.3	26.6	27.6
92.5°	20.6	19.9	19.2	18.5	17.8	18.7	21.1	23.5	25.9	28.3	29.9
95°	67.5	57.4	47.4	37.3	27.2	23.5	26.2	28.9	31.6	34.4	36.1
97.5°	135.7	131.2	126.7	122.2	117.6	106.5	88.8	71.1	53.4	35.6	37.6
100°	187.1	192.0	196.9	201.8	206.8	190.0	151.7	113.3	74.9	36.5	38.5
102.5°	245.6	249.1	252.6	256.1	259.8	240.6	198.6	156.7	114.8	72.8	66.7
105°	329.9	332.6	335.4	338.0	340.7	331.1	308.8	286.7	264.6	242.5	198.9
107.5°	419.0	421.1	423.3	425.4	427.6	430.4	433.9	437.4	440.9	444.4	412.4
110°	478.3	480.3	482.2	484.1	486.1	488.4	491.2	493.9	496.6	499.3	491.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	534.9	536.7	538.5	540.3	542.0	544.2	547.0	549.7	552.4	555.1	555.3
115°	618.9	620.4	621.8	623.3	624.7	626.6	628.8	631.0	633.3	635.5	637.9
117.5°	700.2	702.0	703.8	705.6	707.4	708.9	710.0	711.2	712.3	713.4	715.4
120°	750.6	752.9	755.0	757.2	759.5	761.0	761.6	762.4	763.2	763.9	765.9
122.5°	802.0	803.8	805.6	807.4	809.3	810.6	811.6	812.5	813.5	814.4	815.8
125°	872.4	874.3	876.3	878.3	880.3	881.8	882.7	883.7	884.7	885.7	886.1
127.5°	940.6	942.5	944.5	946.5	948.5	950.0	951.2	952.4	953.6	954.8	955.5
130°	983.1	985.1	987.1	989.0	991.0	992.5	993.4	994.5	995.4	996.3	997.4
132.5°	1023.8	1025.8	1027.8	1029.8	1031.7	1033.1	1033.9	1034.7	1035.4	1036.2	1037.2
135°	1086.1	1087.5	1089.0	1090.5	1092.0	1093.2	1094.2	1095.2	1096.1	1097.2	1097.9
137.5°	1139.2	1141.1	1143.0	1144.8	1146.7	1147.9	1148.4	1149.0	1149.5	1150.0	1151.2
140°	1174.7	1176.1	1177.6	1179.1	1180.5	1181.6	1182.4	1183.1	1183.9	1184.6	1185.6
142.5°	1207.4	1208.8	1210.4	1211.9	1213.3	1214.4	1215.1	1215.9	1216.6	1217.4	1218.1
145°	1253.3	1255.0	1256.7	1258.4	1260.2	1261.2	1261.7	1262.2	1262.7	1263.2	1263.7
147.5°	1296.4	1297.5	1298.6	1299.8	1301.0	1301.7	1302.3	1302.7	1303.2	1303.7	1304.2
150°	1323.0	1323.7	1324.5	1325.2	1325.9	1326.5	1327.1	1327.5	1328.0	1328.5	1329.0
152.5°	1346.9	1347.2	1347.6	1347.9	1348.2	1348.6	1348.9	1349.2	1349.4	1349.8	1350.7
155°	1380.5	1380.1	1379.6	1379.1	1378.5	1378.5	1378.7	1379.0	1379.2	1379.4	1380.7
157.5°	1406.7	1406.6	1406.6	1406.5	1406.4	1406.4	1406.1	1405.8	1405.6	1405.3	1406.8
160°	1422.6	1422.4	1422.1	1421.9	1421.6	1421.4	1421.2	1420.9	1420.6	1420.4	1421.9
162.5°	1437.7	1437.0	1436.4	1435.7	1435.1	1434.7	1434.4	1434.2	1433.9	1433.7	1435.4
165°	1455.9	1455.1	1454.3	1453.6	1452.9	1452.4	1452.2	1451.9	1451.6	1451.4	1453.4
167.5°	1470.0	1469.0	1468.0	1467.1	1466.0	1465.6	1465.6	1465.6	1465.6	1465.6	1467.6
170°	1478.0	1477.0	1476.0	1475.1	1474.0	1473.5	1473.5	1473.5	1473.5	1473.5	1475.5
172.5°	1483.3	1482.1	1480.9	1479.7	1478.6	1478.1	1478.3	1478.5	1478.7	1478.9	1480.8
175°	1490.1	1488.9	1487.7	1486.4	1485.2	1484.7	1485.0	1485.2	1485.5	1485.7	1487.5
177.5°	1491.9	1490.9	1490.0	1489.0	1488.0	1487.6	1487.8	1488.0	1488.2	1488.4	1490.0
180°	1490.1	1490.1	1490.1	1490.1	1490.1	1490.1	1490.1	1490.1	1490.1	1490.1	1490.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1111.6	1111.6	1111.6	1111.6	1111.6	1111.6	1111.6	1111.6
2.5°	1107.2	1109.0	1110.7	1111.5	1111.1	1110.8	1110.4	1110.2
5°	1099.8	1101.6	1103.5	1104.1	1103.8	1103.4	1102.9	1102.6
7.5°	1084.4	1085.4	1086.4	1086.6	1085.9	1085.2	1084.5	1083.8
10°	1070.6	1070.7	1070.9	1070.6	1069.5	1068.5	1067.6	1066.5
12.5°	1053.3	1053.2	1053.1	1052.4	1051.3	1050.1	1049.0	1047.8
15°	1023.0	1022.0	1021.1	1019.9	1018.5	1017.0	1015.6	1014.3
17.5°	986.9	984.8	982.7	980.6	978.4	976.4	974.3	972.2
20°	962.2	959.5	956.9	954.4	952.0	949.6	947.2	944.8
22.5°	935.6	932.4	929.1	926.3	924.1	921.9	919.6	917.4
25°	892.3	888.0	883.8	880.6	878.4	876.2	874.0	871.8
27.5°	844.9	839.1	833.3	828.6	825.3	821.9	818.6	815.2
30°	811.3	804.4	797.6	792.6	789.5	786.3	783.0	779.8
32.5°	778.3	770.9	763.4	757.9	754.6	751.2	747.9	744.5
35°	729.3	720.7	712.0	705.9	702.3	698.7	695.1	691.5
37.5°	676.6	666.8	657.0	650.0	645.5	641.0	636.6	632.1
40°	640.0	629.6	619.1	611.7	607.0	602.4	597.8	593.2
42.5°	604.9	593.5	582.1	574.4	570.2	566.1	562.0	557.8
45°	553.3	541.8	530.4	522.3	517.5	512.6	507.9	503.1
47.5°	499.8	487.4	475.0	466.7	462.4	458.1	453.8	449.5
50°	463.8	451.3	438.9	430.4	425.9	421.2	416.6	412.0
52.5°	429.0	416.0	403.1	394.6	390.5	386.3	382.2	378.1
55°	377.0	365.4	353.8	345.9	342.0	337.9	334.0	329.9
57.5°	326.1	315.0	304.1	296.9	293.5	290.1	286.6	283.3
60°	293.9	283.1	272.2	265.2	261.7	258.3	254.9	251.5
62.5°	262.0	251.8	241.7	234.8	231.2	227.6	224.1	220.5
65°	216.5	206.7	196.9	190.9	188.7	186.5	184.3	182.1
67.5°	173.2	165.9	158.5	153.7	151.4	149.0	146.6	144.2
70°	146.5	139.4	132.4	127.9	125.6	123.4	121.2	119.0
72.5°	122.3	116.6	110.9	107.5	106.6	105.7	104.8	103.8
75°	91.5	89.5	87.6	86.4	85.9	85.6	85.2	84.7
77.5°	69.1	67.9	66.9	66.1	65.8	65.3	64.9	64.6
80°	55.6	55.0	54.4	53.9	53.5	53.1	52.7	52.3
82.5°	42.6	42.0	41.4	41.1	41.0	40.9	40.8	40.7
85°	24.5	24.0	23.7	23.4	23.4	23.4	23.4	23.4
87.5°	14.7	14.8	14.8	14.8	14.7	14.7	14.6	14.6
90°	28.5	29.5	30.5	31.3	31.8	32.2	32.7	33.2
92.5°	31.5	33.1	34.6	35.6	35.9	36.2	36.4	36.8
95°	37.8	39.5	41.2	42.1	42.1	42.1	42.1	42.1
97.5°	39.6	41.6	43.5	44.6	44.9	45.1	45.4	45.6
100°	40.5	42.4	44.4	45.5	45.7	46.0	46.2	46.5
102.5°	60.6	54.5	48.5	45.6	46.1	46.5	46.9	47.4
105°	155.3	111.8	68.3	46.8	47.3	47.7	48.2	48.7
107.5°	380.6	348.6	316.7	284.3	251.5	218.6	185.8	153.0
110°	483.0	474.9	466.8	445.1	410.0	374.8	339.7	304.4



TEST NUMBER: P332444-935

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	555.4	555.5	555.7	552.1	544.6	537.2	529.8	522.4
115°	640.4	642.8	645.3	647.0	648.0	649.0	650.0	651.0
117.5°	717.4	719.3	721.3	722.4	722.6	722.7	723.0	723.2
120°	767.8	769.8	771.8	772.7	772.7	772.7	772.7	772.7
122.5°	817.2	818.6	819.9	820.7	820.9	821.0	821.3	821.5
125°	886.7	887.2	887.6	888.1	888.6	889.2	889.6	890.1
127.5°	956.3	957.1	957.9	958.0	957.6	957.1	956.6	956.1
130°	998.3	999.4	1000.3	1000.6	1000.1	999.6	999.1	998.6
132.5°	1038.2	1039.2	1040.2	1040.3	1039.7	1039.0	1038.3	1037.6
135°	1098.6	1099.3	1100.1	1100.1	1099.3	1098.6	1097.9	1097.2
137.5°	1152.4	1153.6	1154.8	1155.1	1154.6	1154.2	1153.7	1153.1
140°	1186.5	1187.6	1188.5	1188.8	1188.3	1187.7	1187.3	1186.8
142.5°	1218.9	1219.7	1220.6	1220.6	1219.9	1219.2	1218.5	1217.8
145°	1264.2	1264.6	1265.2	1265.4	1265.4	1265.4	1265.4	1265.4
147.5°	1304.7	1305.2	1305.7	1305.4	1304.2	1303.1	1302.0	1300.8
150°	1329.5	1330.0	1330.5	1330.3	1329.6	1328.9	1328.2	1327.4
152.5°	1351.5	1352.5	1353.3	1353.2	1352.0	1350.9	1349.8	1348.7
155°	1381.9	1383.1	1384.4	1384.2	1382.8	1381.3	1379.8	1378.4
157.5°	1408.3	1409.8	1411.3	1411.0	1409.1	1407.2	1405.2	1403.3
160°	1423.3	1424.9	1426.3	1426.2	1424.4	1422.7	1421.0	1419.3
162.5°	1437.0	1438.7	1440.4	1440.5	1438.9	1437.4	1435.9	1434.3
165°	1455.3	1457.3	1459.3	1459.4	1457.7	1456.0	1454.2	1452.5
167.5°	1469.6	1471.4	1473.4	1473.4	1471.4	1469.6	1467.6	1465.6
170°	1477.5	1479.5	1481.4	1481.4	1479.5	1477.5	1475.5	1473.5
172.5°	1482.8	1484.8	1486.8	1486.6	1484.5	1482.3	1480.1	1478.0
175°	1489.2	1490.9	1492.6	1492.5	1490.6	1488.6	1486.6	1484.6
177.5°	1491.5	1493.1	1494.7	1494.5	1492.5	1490.6	1488.6	1486.6
180°	1490.1	1490.1	1490.1	1490.1	1490.1	1490.1	1490.1	1490.1

(END OF REPORT)