

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: P332220-927

Luminaire Tested: **S123DIW-S1165D755U927-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332220-927
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: S123DIW-S1165D755U927-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 755 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6163.3 lumens
Efficiency: N/A
Efficacy: 103.1 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Direct

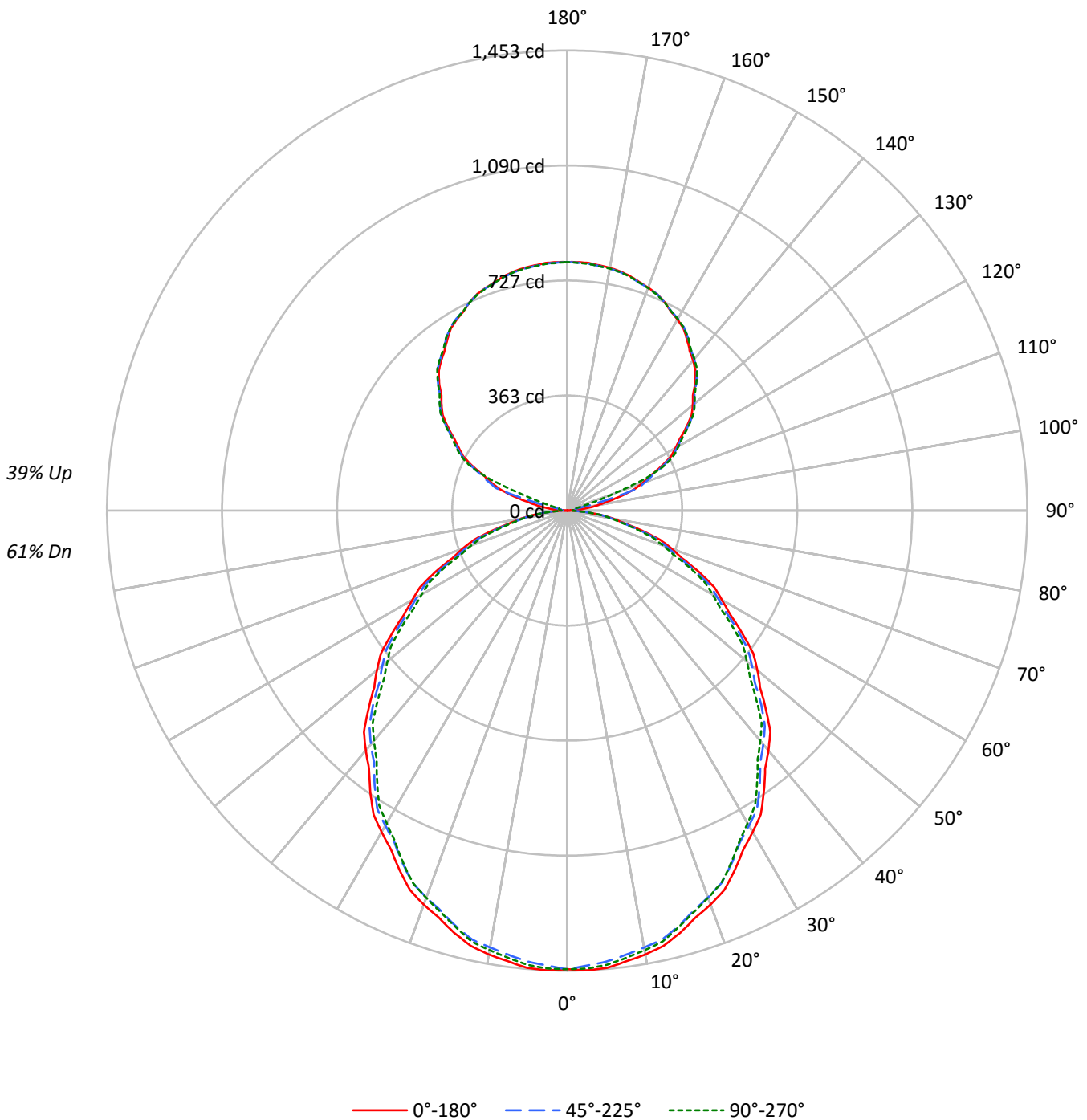
Input Watts (W): 59.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	110	110	110	110	103	103	103	103	90	90	90	77	77	77	66	66	66	61
1	100	96	92	88	94	90	86	83	78	76	73	68	66	64	59	57	56	51
2	91	84	77	72	85	78	73	68	69	64	61	60	57	54	52	49	47	43
3	83	73	66	60	78	69	62	57	61	55	51	53	49	45	46	43	40	36
4	76	65	57	51	71	61	54	48	54	48	44	47	43	39	41	37	34	31
5	70	58	50	44	65	55	47	42	48	42	38	42	38	34	37	33	30	27
6	64	52	44	38	60	49	42	36	44	37	33	38	33	30	33	29	26	24
7	60	47	39	33	56	44	37	32	39	33	29	35	30	26	30	27	24	21
8	55	43	35	29	52	41	33	28	36	30	26	32	27	23	28	24	21	19
9	52	39	32	26	48	37	30	25	33	27	23	29	25	21	26	22	19	17
10	48	36	29	24	45	34	27	23	31	25	21	27	22	19	24	20	17	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	15588	15588	15588
5°	15662	15446	15554
10°	15557	15312	15407
15°	15375	15139	15166
20°	15163	14892	14905
25°	14878	14598	14567
30°	14564	14270	14162
35°	14236	13925	13745
40°	13893	13543	13333
45°	13516	13192	12871
50°	13137	12762	12407
55°	12643	12314	11941
60°	12144	11795	11418
65°	11703	11227	10878
70°	11053	10581	10112
75°	10098	9736	9320
80°	9106	8722	8647
85°	7991	7694	7385



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	136.4	2.2
10°-20°	385.2	6.2
20°-30°	569.0	9.2
30°-40°	664.6	10.8
40°-50°	668.2	10.8
50°-60°	587.0	9.5
60°-70°	437.3	7.1
70°-80°	249.1	4.0
80°-90°	73.7	1.2
90°-100°	28.5	0.5
100°-110°	136.0	2.2
110°-120°	326.6	5.3
120°-130°	415.9	6.7
130°-140°	444.3	7.2
140°-150°	415.5	6.7
150°-160°	335.2	5.4
160°-170°	216.3	3.5
170°-180°	74.5	1.2
0°-30°	1090.6	17.7
0°-40°	1755.3	28.5
0°-60°	3010.4	48.8
0°-90°	3770.6	61.2
90°-120°	491.1	8.0
90°-150°	1766.8	28.7
90°-180°	2393.0	38.8
0°-180°	6163.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1448	1448	1448	1448	1448	
5°	1450	1443	1430	1441	1440	137
15°	1380	1374	1358	1368	1361	389
25°	1253	1245	1229	1230	1226	577
35°	1083	1075	1060	1052	1046	677
45°	888	882	867	852	846	685
55°	674	672	656	643	636	603
65°	460	453	441	431	427	453
75°	243	238	234	228	224	260
85°	65	62	62	60	60	71
90°	1	7	14	16	18	5
95°	36	13	18	22	22	44
105°	174	177	128	30	26	184
115°	326	329	335	340	343	322
125°	459	464	466	468	469	410
135°	572	575	578	579	578	440
145°	660	664	665	666	666	413
155°	727	726	726	729	726	335
165°	767	765	764	768	765	216
175°	785	782	782	786	782	75
180°	785	785	785	785	785	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2
2.5°	1453.2	1452.3	1451.4	1450.6	1449.6	1448.0	1445.6	1443.1	1440.7	1438.2	1440.4
5°	1449.5	1448.1	1446.7	1445.3	1443.9	1441.7	1438.7	1435.6	1432.6	1429.5	1432.3
7.5°	1435.3	1433.8	1432.5	1431.1	1429.7	1427.4	1424.3	1421.2	1418.0	1414.8	1417.3
10°	1423.3	1421.9	1420.5	1419.1	1417.8	1415.3	1411.7	1408.1	1404.5	1400.9	1403.4
12.5°	1407.4	1406.2	1405.0	1403.9	1402.7	1400.4	1397.1	1393.7	1390.3	1387.0	1388.8
15°	1379.7	1378.6	1377.5	1376.4	1375.3	1372.9	1369.4	1365.7	1362.2	1358.5	1360.7
17.5°	1347.6	1346.2	1344.7	1343.3	1341.8	1339.3	1335.7	1332.1	1328.5	1324.9	1326.5
20°	1323.7	1322.0	1320.3	1318.7	1317.1	1314.4	1310.8	1307.3	1303.6	1300.1	1301.2
22.5°	1296.8	1295.1	1293.5	1291.8	1290.1	1287.5	1283.9	1280.3	1276.8	1273.1	1274.0
25°	1252.7	1251.0	1249.4	1247.7	1246.1	1243.4	1239.8	1236.3	1232.6	1229.1	1229.3
27.5°	1205.6	1204.0	1202.5	1200.8	1199.2	1196.5	1192.6	1188.7	1184.9	1181.0	1181.2
30°	1171.8	1170.4	1169.0	1167.6	1166.3	1163.6	1159.8	1155.9	1152.0	1148.1	1148.1
32.5°	1137.9	1136.1	1134.2	1132.4	1130.6	1128.1	1125.2	1122.2	1119.2	1116.3	1114.7
35°	1083.4	1081.7	1080.1	1078.4	1076.7	1074.1	1070.5	1066.9	1063.3	1059.7	1058.0
37.5°	1027.5	1025.5	1023.3	1021.3	1019.1	1016.3	1012.6	1009.0	1005.4	1001.6	999.7
40°	988.7	987.1	985.4	983.7	982.1	979.3	975.4	971.5	967.7	963.8	961.6
42.5°	949.8	948.0	946.1	944.2	942.3	939.4	935.6	931.7	927.8	924.0	921.8
45°	887.9	886.8	885.7	884.6	883.4	881.1	877.5	873.9	870.3	866.6	863.4
47.5°	826.3	824.7	823.2	821.5	819.9	817.5	814.0	810.6	807.3	803.9	800.7
50°	784.5	783.2	781.7	780.4	779.0	776.5	772.9	769.3	765.6	762.1	759.1
52.5°	740.7	739.7	738.8	737.8	736.9	734.5	730.7	726.9	723.1	719.2	716.6
55°	673.7	673.4	673.1	672.9	672.6	670.7	667.0	663.5	659.8	656.2	653.2
57.5°	609.9	609.0	608.0	607.1	606.2	604.3	601.3	598.5	595.6	592.7	590.0
60°	564.1	563.8	563.6	563.2	563.0	561.2	557.9	554.5	551.2	547.9	545.4
62.5°	523.2	522.5	521.8	521.1	520.4	518.3	515.0	511.7	508.4	505.1	502.6
65°	459.5	458.1	456.7	455.3	453.9	451.9	449.1	446.3	443.5	440.8	438.6
67.5°	392.0	390.8	389.6	388.3	387.1	385.5	383.3	381.3	379.1	377.1	375.1
70°	351.2	349.5	347.8	346.2	344.5	342.9	341.2	339.5	337.9	336.2	334.3
72.5°	308.3	307.1	305.9	304.7	303.5	301.9	300.0	298.1	296.3	294.4	292.6
75°	242.8	241.7	240.6	239.5	238.4	237.4	236.6	235.8	235.0	234.1	232.7
77.5°	184.8	184.2	183.5	183.0	182.4	181.6	180.5	179.6	178.6	177.6	176.7
80°	146.9	146.1	145.3	144.4	143.6	142.9	142.4	141.8	141.2	140.7	140.5
82.5°	110.1	109.9	109.7	109.6	109.4	109.2	109.2	109.1	108.9	108.8	108.4
85°	64.7	64.2	63.6	63.1	62.5	62.3	62.3	62.3	62.3	62.3	61.7
87.5°	26.0	25.6	25.2	24.8	24.4	24.2	24.4	24.5	24.6	24.7	24.6
90°	0.6	1.9	3.2	4.4	5.8	7.3	9.0	10.6	12.3	14.0	14.5
92.5°	10.9	10.5	10.1	9.7	9.4	9.8	11.1	12.4	13.6	14.9	15.8
95°	35.6	30.3	25.0	19.6	14.3	12.4	13.8	15.2	16.6	18.1	19.0
97.5°	71.5	69.1	66.7	64.3	61.9	56.1	46.7	37.4	28.1	18.8	19.8
100°	98.5	101.1	103.7	106.3	108.8	100.1	79.9	59.7	39.5	19.3	20.3
102.5°	129.3	131.2	133.0	134.9	136.7	126.7	104.6	82.5	60.4	38.3	35.2
105°	173.7	175.2	176.6	178.0	179.4	174.3	162.6	151.0	139.3	127.7	104.7
107.5°	220.5	221.7	222.8	224.0	225.1	226.6	228.5	230.3	232.2	234.0	217.1
110°	251.8	252.9	253.9	254.9	256.0	257.2	258.6	260.1	261.5	262.9	258.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	281.7	282.6	283.5	284.5	285.4	286.6	288.0	289.5	290.9	292.3	292.4
115°	325.8	326.6	327.4	328.2	329.0	329.9	331.1	332.2	333.4	334.6	335.9
117.5°	368.7	369.6	370.6	371.5	372.5	373.3	373.8	374.5	375.0	375.7	376.7
120°	395.2	396.4	397.6	398.7	399.9	400.7	401.1	401.5	401.9	402.2	403.3
122.5°	422.3	423.3	424.2	425.2	426.1	426.8	427.3	427.9	428.3	428.8	429.5
125°	459.4	460.4	461.4	462.5	463.5	464.3	464.8	465.3	465.8	466.4	466.6
127.5°	495.3	496.3	497.3	498.4	499.4	500.3	500.9	501.5	502.1	502.7	503.1
130°	517.6	518.7	519.8	520.8	521.8	522.6	523.1	523.6	524.1	524.7	525.1
132.5°	539.1	540.1	541.1	542.2	543.3	544.0	544.4	544.8	545.2	545.7	546.1
135°	571.9	572.7	573.4	574.2	575.0	575.6	576.2	576.6	577.2	577.7	578.1
137.5°	599.8	600.8	601.8	602.8	603.8	604.4	604.7	605.0	605.3	605.5	606.2
140°	618.5	619.2	620.0	620.8	621.6	622.2	622.6	623.0	623.4	623.8	624.2
142.5°	635.7	636.5	637.3	638.1	638.9	639.4	639.8	640.2	640.6	641.0	641.4
145°	659.9	660.8	661.7	662.6	663.5	664.1	664.3	664.6	664.9	665.1	665.4
147.5°	682.6	683.2	683.8	684.4	685.0	685.4	685.7	686.0	686.2	686.4	686.7
150°	696.6	697.0	697.4	697.8	698.2	698.5	698.8	699.0	699.3	699.5	699.8
152.5°	709.2	709.4	709.6	709.7	710.0	710.1	710.3	710.4	710.6	710.7	711.1
155°	726.9	726.7	726.4	726.1	725.9	725.8	726.0	726.1	726.2	726.4	727.0
157.5°	740.7	740.7	740.6	740.6	740.6	740.5	740.4	740.2	740.1	740.0	740.8
160°	749.1	748.9	748.8	748.7	748.5	748.5	748.3	748.1	748.1	747.9	748.7
162.5°	757.0	756.7	756.3	756.0	755.7	755.4	755.3	755.2	755.0	754.9	755.8
165°	766.6	766.2	765.8	765.4	765.0	764.8	764.6	764.5	764.4	764.2	765.2
167.5°	774.0	773.5	773.0	772.5	772.0	771.7	771.7	771.7	771.7	771.7	772.7
170°	778.2	777.7	777.2	776.7	776.2	775.9	775.9	775.9	775.9	775.9	776.9
172.5°	781.0	780.4	779.7	779.2	778.6	778.2	778.4	778.5	778.6	778.7	779.7
175°	784.7	783.9	783.3	782.7	782.0	781.8	781.9	782.0	782.2	782.3	783.2
177.5°	785.5	785.1	784.5	784.0	783.5	783.3	783.4	783.5	783.6	783.7	784.5
180°	784.7	784.7	784.7	784.7	784.7	784.7	784.7	784.7	784.7	784.7	784.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2
2.5°	1442.6	1444.9	1447.1	1448.1	1447.9	1447.6	1447.4	1447.2
5°	1435.0	1437.8	1440.6	1441.7	1441.1	1440.6	1440.0	1439.5
7.5°	1419.8	1422.3	1424.8	1425.8	1425.5	1425.2	1424.9	1424.6
10°	1405.9	1408.3	1410.9	1411.8	1411.3	1410.7	1410.2	1409.6
12.5°	1390.6	1392.4	1394.2	1395.0	1394.6	1394.3	1394.0	1393.7
15°	1362.9	1365.2	1367.4	1367.7	1366.0	1364.4	1362.7	1361.0
17.5°	1328.0	1329.6	1331.1	1331.6	1331.0	1330.4	1329.8	1329.2
20°	1302.3	1303.4	1304.5	1304.6	1303.8	1302.9	1302.1	1301.2
22.5°	1274.9	1275.8	1276.7	1276.6	1275.6	1274.5	1273.4	1272.4
25°	1229.6	1229.9	1230.2	1229.9	1229.1	1228.2	1227.4	1226.5
27.5°	1181.5	1181.6	1181.9	1181.5	1180.4	1179.3	1178.3	1177.3
30°	1148.1	1148.1	1148.1	1147.2	1145.2	1143.3	1141.3	1139.4
32.5°	1113.1	1111.6	1110.0	1108.7	1107.7	1106.6	1105.6	1104.5
35°	1056.4	1054.7	1053.0	1051.5	1050.1	1048.8	1047.3	1046.0
37.5°	997.7	995.7	993.7	992.3	991.3	990.5	989.6	988.7
40°	959.4	957.2	955.0	953.3	952.2	951.1	950.0	948.9
42.5°	919.6	917.3	915.1	913.5	912.4	911.2	910.1	909.0
45°	860.1	856.7	853.4	851.0	849.7	848.3	846.9	845.5
47.5°	797.4	794.2	790.8	788.6	787.4	786.2	785.0	783.8
50°	756.0	753.0	749.9	747.6	745.9	744.3	742.6	740.9
52.5°	714.1	711.5	708.8	706.7	705.0	703.4	701.7	700.1
55°	650.1	647.1	644.0	641.8	640.5	639.1	637.7	636.3
57.5°	587.3	584.6	581.9	579.7	578.1	576.6	574.9	573.3
60°	543.0	540.4	538.0	536.0	534.6	533.2	531.9	530.4
62.5°	500.1	497.6	495.1	493.4	492.4	491.5	490.6	489.6
65°	436.4	434.2	432.0	430.5	429.6	428.8	427.9	427.1
67.5°	373.2	371.2	369.3	367.7	366.6	365.4	364.2	363.1
70°	332.3	330.4	328.4	326.8	325.4	324.0	322.7	321.3
72.5°	291.0	289.2	287.5	286.3	285.6	284.9	284.2	283.4
75°	231.3	230.0	228.5	227.4	226.6	225.8	225.0	224.1
77.5°	175.7	174.8	173.8	173.3	173.3	173.3	173.3	173.3
80°	140.1	139.9	139.6	139.5	139.5	139.5	139.5	139.5
82.5°	107.8	107.3	106.9	106.5	106.2	106.1	105.8	105.6
85°	61.2	60.6	60.0	59.8	59.8	59.8	59.8	59.8
87.5°	24.5	24.4	24.2	24.2	24.2	24.3	24.4	24.4
90°	15.1	15.5	16.1	16.5	16.7	17.0	17.2	17.5
92.5°	16.6	17.4	18.2	18.7	18.9	19.0	19.2	19.3
95°	19.9	20.8	21.7	22.2	22.2	22.2	22.2	22.2
97.5°	20.8	21.9	22.9	23.5	23.6	23.8	23.9	24.0
100°	21.3	22.3	23.4	24.0	24.1	24.2	24.3	24.5
102.5°	31.9	28.8	25.5	24.0	24.2	24.5	24.7	25.0
105°	81.8	58.9	36.0	24.6	24.9	25.1	25.4	25.7
107.5°	200.3	183.5	166.8	149.7	132.4	115.1	97.8	80.6
110°	254.4	250.1	245.8	234.4	215.9	197.3	178.8	160.3



TEST NUMBER: P332220-927

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	292.5	292.6	292.6	290.7	286.8	282.9	278.9	275.0
115°	337.2	338.5	339.8	340.7	341.2	341.7	342.2	342.8
117.5°	377.7	378.7	379.8	380.3	380.5	380.6	380.6	380.8
120°	404.3	405.4	406.4	406.9	406.9	406.9	406.9	406.9
122.5°	430.2	430.9	431.7	432.1	432.2	432.3	432.5	432.5
125°	466.8	467.1	467.4	467.6	467.9	468.2	468.4	468.7
127.5°	503.6	504.0	504.4	504.5	504.2	503.9	503.7	503.4
130°	525.7	526.2	526.7	526.9	526.6	526.3	526.1	525.8
132.5°	546.7	547.2	547.7	547.8	547.4	547.1	546.7	546.3
135°	578.5	578.8	579.2	579.2	578.8	578.5	578.1	577.7
137.5°	606.8	607.4	608.1	608.2	608.0	607.7	607.4	607.2
140°	624.8	625.3	625.8	626.0	625.7	625.4	625.2	624.9
142.5°	641.8	642.2	642.6	642.7	642.3	642.0	641.6	641.2
145°	665.7	665.9	666.1	666.3	666.3	666.3	666.3	666.3
147.5°	687.0	687.2	687.5	687.3	686.7	686.1	685.6	684.9
150°	700.1	700.3	700.5	700.5	700.1	699.7	699.3	698.9
152.5°	711.6	712.1	712.6	712.5	711.9	711.3	710.7	710.1
155°	727.6	728.3	729.0	728.9	728.1	727.3	726.5	725.7
157.5°	741.6	742.3	743.1	743.0	742.0	740.9	740.0	738.9
160°	749.5	750.3	751.0	751.0	750.0	749.2	748.2	747.3
162.5°	756.7	757.6	758.4	758.4	757.6	756.9	756.1	755.3
165°	766.3	767.3	768.3	768.4	767.5	766.6	765.7	764.8
167.5°	773.7	774.8	775.9	775.9	774.8	773.7	772.7	771.7
170°	777.9	779.0	780.1	780.1	779.0	777.9	776.9	775.9
172.5°	780.8	781.8	782.8	782.8	781.6	780.5	779.3	778.2
175°	784.1	785.1	785.9	785.8	784.8	783.8	782.8	781.7
177.5°	785.4	786.2	787.0	786.9	785.8	784.8	783.8	782.8
180°	784.7	784.7	784.7	784.7	784.7	784.7	784.7	784.7

(END OF REPORT)