

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: P332079-940

Luminaire Tested: **S123DIP-S1165D1025U940-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332079-940  
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: S123DIP-S1165D1025U940-4F0-1E-UDD-F1  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1165 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 1025 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7384.7 lumens  
Efficiency: N/A  
Efficacy: 110.5 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: General Diffuse

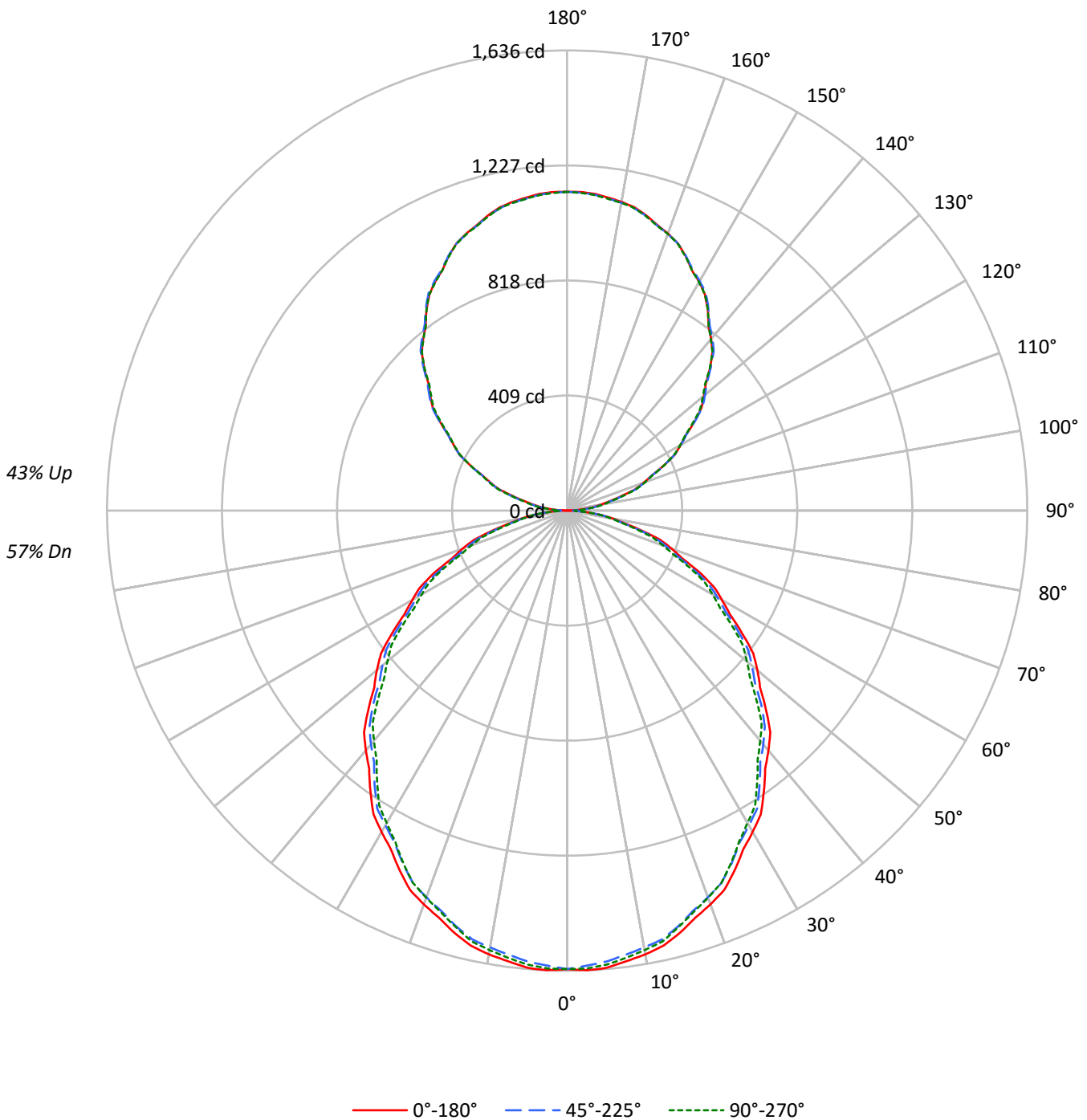
Input Watts (W): 66.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	109	109	109	109	101	101	101	101	87	87	87	75	75	75	63	63	63
1	99	95	91	87	92	89	85	82	77	74	72	66	64	62	56	54	53
2	90	83	77	71	84	77	72	67	67	63	59	58	55	52	49	47	45
3	83	73	65	59	77	68	62	56	59	54	50	51	47	44	43	40	38
4	76	65	56	50	70	60	53	48	53	47	43	45	41	38	39	35	33
5	69	57	49	43	64	54	46	41	47	41	37	41	36	33	35	31	28
6	64	52	43	37	59	48	41	36	42	36	32	37	32	29	32	28	25
7	59	47	39	33	55	44	37	31	39	33	28	34	29	25	29	25	22
8	55	42	35	29	51	40	33	28	35	29	25	31	26	23	27	23	20
9	51	39	31	26	48	37	30	25	32	27	23	28	24	20	24	21	18
10	48	36	28	23	45	34	27	22	30	24	20	26	22	18	23	19	16

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	17546	17546	17546
5°	17629	17386	17507
10°	17511	17235	17343
15°	17307	17041	17072
20°	17068	16763	16778
25°	16747	16431	16397
30°	16394	16063	15940
35°	16025	15674	15471
40°	15638	15244	15008
45°	15213	14850	14487
50°	14788	14364	13966
55°	14230	13863	13440
60°	13670	13276	12854
65°	13173	12638	12246
70°	12441	11909	11383
75°	11366	10959	10493
80°	10253	9819	9732
85°	9003	8657	8312



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	153.6	2.1
10°-20°	433.6	5.9
20°-30°	640.5	8.7
30°-40°	748.2	10.1
40°-50°	752.2	10.2
50°-60°	660.7	8.9
60°-70°	492.2	6.7
70°-80°	280.4	3.8
80°-90°	83.8	1.1
90°-100°	73.8	1.0
100°-110°	220.9	3.0
110°-120°	375.8	5.1
120°-130°	494.3	6.7
130°-140°	555.6	7.5
140°-150°	546.1	7.4
150°-160°	459.7	6.2
160°-170°	306.0	4.1
170°-180°	107.2	1.5
0°-30°	1227.6	16.6
0°-40°	1975.8	26.8
0°-60°	3388.7	45.9
0°-90°	4245.2	57.5
90°-120°	670.6	9.1
90°-150°	2266.5	30.7
90°-180°	3139.0	42.5
0°-180°	7384.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1630	1630	1630	1630	1630	
5°	1632	1624	1609	1622	1620	155
15°	1553	1547	1529	1539	1532	438
25°	1410	1401	1384	1385	1381	649
35°	1220	1211	1193	1185	1177	763
45°	999	993	976	959	952	771
55°	758	756	739	724	716	679
65°	517	510	496	485	481	510
75°	273	268	264	257	252	292
85°	73	70	70	67	67	80
90°	1	10	21	25	27	7
95°	52	59	66	69	70	59
105°	200	202	210	210	212	214
115°	378	381	379	380	379	374
125°	554	556	555	551	547	494
135°	718	723	723	719	718	553
145°	871	873	876	875	871	544
155°	998	998	999	1002	996	459
165°	1087	1084	1084	1089	1083	306
175°	1130	1127	1127	1132	1126	107
180°	1133	1133	1133	1133	1133	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1630.1	1630.1	1630.1	1630.1	1630.1	1630.1	1630.1	1630.1	1630.1	1630.1	1630.1
2.5°	1635.8	1634.8	1633.8	1632.8	1631.7	1629.9	1627.2	1624.4	1621.7	1618.9	1621.4
5°	1631.6	1630.0	1628.4	1626.9	1625.3	1622.8	1619.4	1616.0	1612.6	1609.1	1612.2
7.5°	1615.6	1614.0	1612.5	1610.9	1609.4	1606.8	1603.2	1599.7	1596.2	1592.6	1595.4
10°	1602.1	1600.5	1599.0	1597.4	1595.9	1593.1	1589.0	1585.0	1580.9	1576.9	1579.7
12.5°	1584.2	1582.9	1581.5	1580.3	1579.0	1576.4	1572.6	1568.8	1565.0	1561.2	1563.3
15°	1553.1	1551.8	1550.6	1549.3	1548.1	1545.4	1541.4	1537.3	1533.3	1529.2	1531.7
17.5°	1516.9	1515.3	1513.7	1512.1	1510.4	1507.6	1503.5	1499.5	1495.4	1491.4	1493.2
20°	1490.0	1488.1	1486.2	1484.3	1482.6	1479.5	1475.5	1471.5	1467.4	1463.4	1464.6
22.5°	1459.7	1457.9	1456.0	1454.1	1452.2	1449.3	1445.2	1441.2	1437.2	1433.1	1434.0
25°	1410.1	1408.2	1406.3	1404.4	1402.7	1399.6	1395.6	1391.6	1387.5	1383.5	1383.8
27.5°	1357.1	1355.3	1353.5	1351.7	1349.9	1346.8	1342.5	1338.1	1333.7	1329.4	1329.6
30°	1319.0	1317.4	1315.9	1314.3	1312.8	1309.8	1305.5	1301.1	1296.7	1292.4	1292.4
32.5°	1280.9	1278.8	1276.8	1274.7	1272.6	1269.9	1266.6	1263.2	1259.8	1256.5	1254.7
35°	1219.5	1217.6	1215.8	1213.9	1212.0	1209.1	1205.0	1201.0	1196.9	1192.8	1191.0
37.5°	1156.6	1154.3	1151.9	1149.6	1147.2	1144.0	1139.9	1135.8	1131.7	1127.5	1125.2
40°	1112.9	1111.1	1109.2	1107.3	1105.5	1102.3	1098.0	1093.6	1089.2	1084.9	1082.4
42.5°	1069.2	1067.1	1065.0	1062.8	1060.7	1057.5	1053.1	1048.7	1044.4	1040.1	1037.6
45°	999.4	998.2	996.9	995.7	994.4	991.8	987.7	983.6	979.6	975.5	971.9
47.5°	930.1	928.4	926.6	924.7	922.9	920.2	916.3	912.5	908.7	904.9	901.3
50°	883.1	881.5	879.9	878.4	876.8	874.1	870.0	865.9	861.8	857.8	854.4
52.5°	833.7	832.7	831.6	830.5	829.5	826.8	822.5	818.2	814.0	809.6	806.6
55°	758.3	758.0	757.7	757.4	757.1	754.9	750.8	746.8	742.7	738.7	735.3
57.5°	686.5	685.5	684.4	683.4	682.3	680.2	676.9	673.7	670.5	667.2	664.1
60°	635.0	634.6	634.4	634.0	633.7	631.7	627.9	624.2	620.5	616.7	613.9
62.5°	589.0	588.2	587.4	586.6	585.8	583.4	579.7	576.0	572.3	568.6	565.7
65°	517.2	515.7	514.1	512.6	511.0	508.6	505.5	502.4	499.3	496.2	493.7
67.5°	441.2	439.9	438.5	437.1	435.8	433.9	431.5	429.2	426.8	424.5	422.2
70°	395.3	393.4	391.6	389.7	387.8	385.9	384.1	382.2	380.3	378.4	376.3
72.5°	347.1	345.7	344.3	343.0	341.6	339.8	337.7	335.6	333.5	331.4	329.4
75°	273.3	272.1	270.8	269.6	268.3	267.2	266.4	265.4	264.5	263.5	262.0
77.5°	208.0	207.3	206.6	206.0	205.3	204.4	203.2	202.2	201.0	199.9	198.9
80°	165.4	164.4	163.5	162.6	161.7	160.9	160.2	159.6	159.0	158.4	158.1
82.5°	123.9	123.7	123.5	123.3	123.1	123.0	122.9	122.8	122.6	122.5	122.0
85°	72.9	72.2	71.6	71.0	70.4	70.1	70.1	70.1	70.1	70.1	69.5
87.5°	29.3	29.0	28.6	28.3	27.9	27.9	28.2	28.4	28.7	29.0	28.9
90°	0.9	2.9	4.8	6.9	8.8	11.1	13.6	16.2	18.8	21.4	22.1
92.5°	21.6	22.9	24.3	25.6	26.9	28.4	29.8	31.2	32.7	34.2	34.8
95°	52.5	53.9	55.3	56.7	58.1	59.6	61.1	62.7	64.3	65.9	66.7
97.5°	93.3	94.3	95.3	96.4	97.4	98.4	99.6	100.8	101.9	103.1	104.0
100°	121.1	122.3	123.4	124.6	125.8	126.9	127.9	128.9	129.8	130.8	131.4
102.5°	153.1	153.8	154.5	155.2	156.0	156.9	158.3	159.5	160.9	162.2	162.7
105°	200.3	200.6	201.1	201.4	201.9	203.0	204.7	206.5	208.3	210.1	210.1
107.5°	255.1	255.4	255.6	255.8	256.1	256.5	257.3	258.0	258.7	259.4	260.0
110°	289.3	289.7	290.1	290.4	290.9	291.2	291.7	292.0	292.5	292.8	293.6



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	324.9	325.1	325.4	325.6	325.8	326.0	326.1	326.2	326.3	326.3	327.3
115°	378.3	378.9	379.5	380.0	380.7	380.8	380.4	380.0	379.6	379.2	379.4
117.5°	432.0	432.5	432.8	433.3	433.6	433.5	433.1	432.6	432.0	431.5	431.5
120°	465.6	466.7	467.9	469.1	470.3	470.4	469.4	468.4	467.4	466.5	466.2
122.5°	500.4	501.3	502.1	503.0	503.9	504.1	503.5	503.0	502.6	502.0	501.5
125°	553.7	554.3	554.8	555.4	556.0	556.2	555.7	555.4	554.9	554.6	553.8
127.5°	602.8	604.0	605.3	606.5	607.9	608.2	607.8	607.4	607.0	606.5	605.4
130°	635.5	637.1	638.7	640.2	641.9	642.4	641.8	641.1	640.6	640.0	639.2
132.5°	668.3	669.9	671.5	673.1	674.7	675.2	674.8	674.3	673.9	673.4	672.5
135°	718.4	719.5	720.7	721.8	723.1	723.5	723.4	723.2	723.0	722.7	722.0
137.5°	764.6	765.6	766.6	767.6	768.6	769.3	769.8	770.3	770.9	771.3	770.5
140°	796.7	797.6	798.6	799.6	800.6	801.2	801.4	801.6	801.8	802.0	801.8
142.5°	825.8	826.8	827.9	828.8	829.8	830.5	830.8	831.2	831.5	831.9	831.7
145°	871.4	871.8	872.2	872.6	873.0	873.5	874.1	874.7	875.3	875.8	875.7
147.5°	911.3	912.0	912.8	913.5	914.2	914.8	915.3	915.9	916.4	917.0	917.0
150°	939.1	939.5	939.9	940.2	940.7	941.0	941.5	941.8	942.3	942.6	942.6
152.5°	961.9	962.4	963.0	963.5	964.0	964.5	964.7	964.9	965.2	965.5	965.7
155°	997.8	997.8	997.8	997.8	997.8	997.9	998.1	998.3	998.5	998.7	999.5
157.5°	1028.4	1028.2	1028.0	1027.7	1027.5	1027.4	1027.6	1027.8	1028.0	1028.1	1028.9
160°	1047.7	1047.2	1046.9	1046.5	1046.1	1045.9	1045.9	1045.9	1045.9	1045.9	1046.9
162.5°	1064.8	1064.2	1063.6	1063.1	1062.6	1062.4	1062.5	1062.7	1062.8	1063.0	1064.0
165°	1086.8	1086.2	1085.7	1085.0	1084.5	1084.1	1084.1	1084.1	1084.1	1084.1	1085.3
167.5°	1104.5	1103.7	1102.9	1102.1	1101.3	1101.0	1101.2	1101.3	1101.4	1101.6	1102.9
170°	1114.5	1113.7	1112.9	1112.1	1111.3	1110.9	1110.9	1110.9	1110.9	1110.9	1112.2
172.5°	1122.2	1121.5	1120.7	1119.9	1119.1	1118.7	1118.7	1118.7	1118.7	1118.7	1119.9
175°	1130.4	1129.6	1128.8	1128.1	1127.3	1126.9	1126.9	1126.9	1126.9	1126.9	1128.1
177.5°	1133.8	1133.2	1132.6	1131.9	1131.3	1131.0	1131.0	1131.0	1131.0	1131.0	1131.9
180°	1133.1	1133.1	1133.1	1133.1	1133.1	1133.1	1133.1	1133.1	1133.1	1133.1	1133.1



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1630.1	1630.1	1630.1	1630.1	1630.1	1630.1	1630.1	1630.1
2.5°	1623.9	1626.4	1628.9	1630.0	1629.8	1629.5	1629.2	1629.1
5°	1615.3	1618.5	1621.6	1622.8	1622.2	1621.6	1621.0	1620.3
7.5°	1598.2	1601.0	1603.8	1605.0	1604.6	1604.3	1603.9	1603.6
10°	1582.5	1585.3	1588.1	1589.2	1588.6	1588.0	1587.3	1586.7
12.5°	1565.3	1567.4	1569.4	1570.3	1569.9	1569.5	1569.1	1568.8
15°	1534.2	1536.7	1539.2	1539.5	1537.7	1535.8	1533.9	1532.0
17.5°	1494.9	1496.6	1498.3	1498.9	1498.3	1497.5	1496.8	1496.2
20°	1465.9	1467.1	1468.4	1468.5	1467.6	1466.6	1465.7	1464.7
22.5°	1435.1	1436.1	1437.1	1437.0	1435.8	1434.6	1433.4	1432.3
25°	1384.1	1384.4	1384.7	1384.4	1383.5	1382.5	1381.6	1380.6
27.5°	1329.9	1330.1	1330.3	1329.9	1328.7	1327.5	1326.3	1325.2
30°	1292.4	1292.4	1292.4	1291.3	1289.1	1286.9	1284.7	1282.5
32.5°	1252.9	1251.2	1249.5	1248.0	1246.9	1245.6	1244.5	1243.3
35°	1189.1	1187.2	1185.4	1183.7	1182.1	1180.5	1178.9	1177.4
37.5°	1123.0	1120.8	1118.6	1117.0	1115.9	1114.9	1113.9	1112.9
40°	1080.0	1077.5	1075.0	1073.1	1071.8	1070.6	1069.3	1068.1
42.5°	1035.1	1032.6	1030.1	1028.2	1027.0	1025.7	1024.5	1023.2
45°	968.1	964.4	960.6	958.0	956.4	954.8	953.3	951.7
47.5°	897.6	893.9	890.2	887.7	886.4	884.9	883.6	882.3
50°	851.0	847.6	844.1	841.5	839.6	837.8	835.9	834.0
52.5°	803.8	800.8	797.9	795.5	793.6	791.8	789.9	788.0
55°	731.8	728.4	725.0	722.5	720.9	719.3	717.8	716.2
57.5°	661.1	658.1	655.0	652.6	650.8	649.0	647.1	645.3
60°	611.2	608.3	605.6	603.3	601.8	600.2	598.7	597.1
62.5°	562.9	560.1	557.3	555.4	554.3	553.2	552.2	551.2
65°	491.2	488.7	486.2	484.6	483.6	482.7	481.7	480.8
67.5°	420.1	417.9	415.7	413.9	412.7	411.3	410.0	408.8
70°	374.1	371.9	369.7	367.8	366.3	364.7	363.2	361.7
72.5°	327.5	325.6	323.6	322.3	321.5	320.7	319.9	319.1
75°	260.4	258.9	257.3	256.0	255.1	254.1	253.2	252.3
77.5°	197.8	196.7	195.6	195.1	195.1	195.1	195.1	195.1
80°	157.7	157.5	157.1	157.0	157.0	157.0	157.0	157.0
82.5°	121.4	120.8	120.3	119.8	119.6	119.4	119.1	118.9
85°	68.8	68.2	67.6	67.3	67.3	67.3	67.3	67.3
87.5°	28.8	28.7	28.5	28.5	28.6	28.7	28.8	28.9
90°	22.9	23.7	24.5	25.1	25.5	25.9	26.3	26.7
92.5°	35.5	36.1	36.7	36.9	36.6	36.5	36.2	35.9
95°	67.4	68.2	69.0	69.5	69.5	69.5	69.5	69.5
97.5°	104.9	105.8	106.7	107.1	107.1	107.0	106.9	106.8
100°	132.1	132.6	133.2	133.8	134.1	134.5	134.9	135.3
102.5°	163.4	164.0	164.5	164.8	164.7	164.6	164.6	164.5
105°	210.1	210.1	210.1	210.3	210.6	211.1	211.4	211.9
107.5°	260.6	261.3	261.9	262.1	261.9	261.6	261.4	261.2
110°	294.4	295.2	296.0	296.2	295.8	295.4	295.1	294.6





TEST NUMBER: P332079-940

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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	328.2	329.1	330.1	330.6	330.5	330.4	330.3	330.2
115°	379.6	379.8	380.0	380.0	379.8	379.6	379.4	379.2
117.5°	431.4	431.4	431.4	431.1	430.5	430.0	429.4	428.8
120°	466.0	465.8	465.7	465.3	464.9	464.6	464.1	463.8
122.5°	501.0	500.5	500.0	499.4	498.9	498.3	497.8	497.2
125°	552.9	552.1	551.3	550.5	549.8	549.0	548.2	547.4
127.5°	604.3	603.2	602.1	601.1	600.2	599.2	598.3	597.4
130°	638.4	637.6	636.9	635.7	634.4	632.9	631.6	630.2
132.5°	671.5	670.7	669.7	668.7	667.6	666.6	665.5	664.4
135°	721.2	720.4	719.6	719.0	718.6	718.2	717.8	717.5
137.5°	769.7	768.9	768.0	767.2	766.5	765.7	765.0	764.3
140°	801.6	801.4	801.2	800.4	799.1	797.6	796.3	794.9
142.5°	831.5	831.3	831.1	830.5	829.4	828.3	827.2	826.2
145°	875.5	875.3	875.0	874.6	873.8	873.0	872.2	871.4
147.5°	917.0	917.0	917.0	916.4	915.3	914.0	912.8	911.7
150°	942.6	942.6	942.6	942.0	940.8	939.7	938.4	937.3
152.5°	966.1	966.3	966.7	966.3	965.3	964.3	963.2	962.2
155°	1000.3	1001.1	1001.8	1001.6	1000.2	998.8	997.4	996.0
157.5°	1029.7	1030.6	1031.4	1031.3	1030.2	1029.0	1028.0	1026.8
160°	1047.8	1048.8	1049.8	1049.9	1049.2	1048.4	1047.6	1046.8
162.5°	1065.0	1066.0	1066.9	1066.8	1065.5	1064.3	1063.0	1061.8
165°	1086.5	1087.7	1088.9	1088.8	1087.4	1086.0	1084.7	1083.3
167.5°	1104.0	1105.3	1106.5	1106.5	1105.3	1104.0	1102.9	1101.6
170°	1113.7	1115.0	1116.4	1116.4	1115.0	1113.7	1112.2	1110.9
172.5°	1121.1	1122.4	1123.6	1123.6	1122.1	1120.8	1119.4	1117.9
175°	1129.3	1130.4	1131.7	1131.5	1130.2	1128.7	1127.4	1126.0
177.5°	1132.9	1133.8	1134.8	1134.7	1133.6	1132.5	1131.4	1130.2
180°	1133.1	1133.1	1133.1	1133.1	1133.1	1133.1	1133.1	1133.1

(END OF REPORT)