

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: P333014-935

Luminaire Tested: **SA4XXRDIP-C1195D1205U935-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P333014-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-18,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA4XXRDIP-C1195D1205U935-4F0-1E-UDD-F4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1205 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

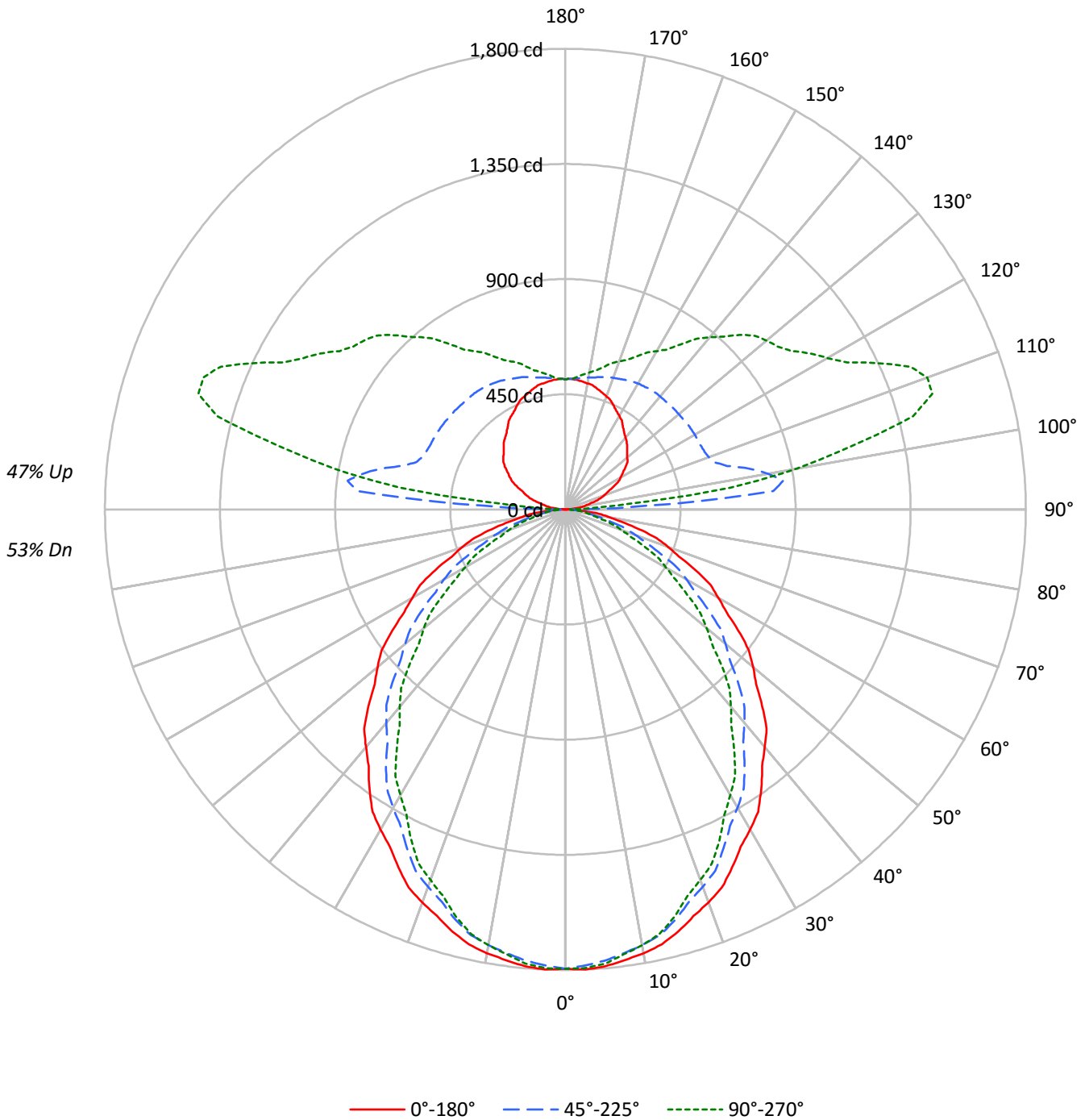
Lumens per Lamp: N/A
Luminaire Lumens: 7855.0 lumens
Efficiency: N/A
Efficacy: 109.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 71.7
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	108	108	108	108	100	100	100	100	85	85	85	71	71	71	59	59	59	53
1	99	94	91	87	91	88	84	81	75	73	70	63	62	60	52	51	50	45
2	90	83	77	72	83	77	72	67	66	62	59	56	53	51	46	44	43	38
3	82	73	66	60	76	68	62	57	58	54	50	50	46	43	41	39	37	33
4	75	65	57	51	70	60	53	48	52	47	43	44	40	37	37	34	32	28
5	69	58	50	44	64	54	47	42	47	41	37	40	36	32	34	30	28	25
6	64	52	44	38	59	49	41	36	42	37	32	36	32	28	31	27	25	22
7	59	47	39	34	55	44	37	32	38	33	29	33	29	25	28	25	22	19
8	55	43	35	30	51	40	33	28	35	29	25	30	26	23	26	22	20	17
9	51	39	32	27	48	37	30	25	32	27	23	28	23	20	24	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°	14495	14495	14495
5°	14528	14350	14439
10°	14437	14178	14178
15°	14271	13881	13778
20°	14044	13489	13241
25°	13752	13030	12699
30°	13470	12547	12021
35°	13157	12046	11340
40°	12779	11475	10606
45°	12432	10909	9857
50°	12036	10257	9065
55°	11610	9578	8204
60°	11144	8835	7325
65°	10714	7904	6460
70°	10093	6878	5486
75°	9304	5705	4460
80°	8117	4347	4091
85°	6873	3946	3696



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	168.7	2.1
10°-20°	470.4	6.0
20°-30°	679.2	8.6
30°-40°	769.9	9.8
40°-50°	743.4	9.5
50°-60°	618.2	7.9
60°-70°	426.9	5.4
70°-80°	216.4	2.8
80°-90°	58.3	0.7
90°-100°	367.8	4.7
100°-110°	765.5	9.7
110°-120°	685.7	8.7
120°-130°	576.8	7.3
130°-140°	480.9	6.1
140°-150°	367.4	4.7
150°-160°	258.2	3.3
160°-170°	151.9	1.9
170°-180°	49.4	0.6
0°-30°	1318.2	16.8
0°-40°	2088.1	26.6
0°-60°	3449.7	43.9
0°-90°	4151.3	52.8
90°-120°	1819.0	23.2
90°-150°	3244.1	41.3
90°-180°	3704.0	47.2
0°-180°	7855.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1796	1796	1796	1796	1796	
5°	1793	1787	1771	1784	1782	170
15°	1708	1694	1661	1658	1648	481
25°	1544	1517	1463	1440	1426	711
35°	1335	1290	1222	1177	1151	834
45°	1089	1036	956	890	863	839
55°	825	768	680	612	583	738
65°	561	500	414	357	338	554
75°	298	247	183	152	143	315
85°	74	48	43	40	40	84
90°	1	8	18	20	21	5
95°	33	104	815	404	244	37
105°	117	170	656	1413	1408	125
115°	206	259	585	1125	1352	204
125°	287	341	582	957	1078	256
135°	341	406	577	849	964	264
145°	393	450	574	716	787	247
155°	447	483	558	632	659	206
165°	487	502	535	567	575	138
175°	508	509	513	520	518	48
180°	509	509	509	509	509	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1795.5	1795.5	1795.5	1795.5	1795.5	1795.5	1795.5	1795.5	1795.5	1795.5	1795.5
2.5°	1799.9	1799.0	1798.0	1797.0	1796.0	1794.2	1791.6	1788.8	1786.1	1783.5	1786.1
5°	1792.8	1791.6	1790.4	1789.2	1788.0	1785.5	1781.8	1778.1	1774.5	1770.8	1773.8
7.5°	1776.6	1775.3	1774.0	1772.7	1771.4	1768.4	1763.7	1758.9	1754.1	1749.4	1751.4
10°	1761.2	1759.6	1758.2	1756.6	1755.1	1751.5	1746.1	1740.6	1735.1	1729.6	1730.8
12.5°	1741.4	1739.7	1737.8	1736.0	1734.3	1730.2	1723.7	1717.3	1710.7	1704.3	1705.0
15°	1707.5	1704.8	1702.1	1699.4	1696.6	1691.3	1683.8	1676.1	1668.4	1660.8	1660.2
17.5°	1666.6	1662.6	1658.6	1654.7	1650.7	1644.2	1635.0	1625.8	1616.6	1607.5	1605.8
20°	1634.7	1630.7	1626.8	1622.8	1618.9	1611.6	1601.3	1590.9	1580.5	1570.1	1567.6
22.5°	1599.5	1595.1	1590.6	1586.1	1581.7	1573.9	1562.7	1551.6	1540.5	1529.4	1525.7
25°	1543.9	1538.4	1532.9	1527.5	1522.0	1512.9	1500.5	1487.9	1475.4	1462.8	1457.7
27.5°	1485.7	1478.8	1471.9	1465.0	1458.0	1447.9	1434.5	1421.2	1407.7	1394.4	1387.9
30°	1445.0	1437.4	1429.7	1422.0	1414.5	1403.4	1389.1	1374.7	1360.4	1346.0	1338.3
32.5°	1402.1	1393.4	1384.8	1376.2	1367.6	1355.9	1341.0	1326.2	1311.3	1296.5	1287.6
35°	1335.0	1325.2	1315.4	1305.6	1295.9	1283.3	1268.1	1252.8	1237.5	1222.3	1211.9
37.5°	1263.3	1253.1	1243.0	1233.0	1222.9	1209.4	1192.5	1175.5	1158.6	1141.7	1130.1
40°	1212.6	1202.6	1192.5	1182.4	1172.3	1158.6	1141.2	1123.7	1106.3	1088.9	1076.1
42.5°	1164.2	1153.7	1143.1	1132.5	1122.0	1107.6	1089.4	1071.3	1053.2	1035.0	1021.9
45°	1088.9	1077.5	1066.3	1055.0	1043.7	1028.8	1010.6	992.2	973.9	955.5	940.6
47.5°	1011.1	999.4	987.7	976.0	964.4	949.0	930.0	910.9	891.8	872.8	857.2
50°	958.3	946.3	934.4	922.6	910.6	894.8	875.3	855.7	836.2	816.7	801.4
52.5°	904.4	892.7	881.1	869.4	857.7	841.8	821.8	801.8	781.7	761.6	746.1
55°	824.9	812.7	800.5	788.2	776.0	760.0	740.1	720.3	700.4	680.5	664.7
57.5°	746.2	733.6	720.8	708.2	695.4	679.3	659.8	640.2	620.6	601.1	585.0
60°	690.2	678.0	665.7	653.5	641.3	625.4	605.9	586.3	566.7	547.2	531.3
62.5°	639.6	626.9	614.2	601.5	588.8	572.4	552.3	532.3	512.2	492.2	477.5
65°	560.9	547.8	534.7	521.5	508.4	492.1	472.5	453.0	433.4	413.8	400.7
67.5°	479.2	466.7	454.1	441.5	429.0	413.5	395.4	377.3	359.1	341.0	329.7
70°	427.6	414.7	401.9	389.1	376.3	361.1	343.7	326.3	308.9	291.4	281.4
72.5°	372.6	361.0	349.4	337.8	326.1	312.1	295.7	279.2	262.8	246.3	237.7
75°	298.3	287.1	275.7	264.4	253.1	240.3	225.9	211.5	197.3	182.9	175.8
77.5°	223.0	213.4	203.8	194.2	184.6	174.0	162.4	150.8	139.2	127.6	123.5
80°	174.6	165.7	156.9	148.0	139.1	130.2	121.0	111.8	102.6	93.5	92.6
82.5°	132.9	124.7	116.6	108.4	100.3	93.6	88.3	83.1	77.8	72.6	71.9
85°	74.2	68.1	62.0	55.9	49.8	46.3	45.4	44.4	43.6	42.6	42.0
87.5°	25.5	23.9	22.6	20.8	19.1	18.0	18.9	18.7	18.9	19.0	18.6
90°	1.0	3.0	6.0	7.0	8.0	8.0	14.0	14.0	16.0	18.0	17.0
92.5°	11.4	16.6	26.0	38.2	52.9	73.6	124.5	202.1	277.8	317.4	264.3
95°	33.0	36.0	46.1	59.1	83.0	125.1	212.1	376.2	615.3	815.4	838.4
97.5°	59.2	59.2	67.8	79.8	100.5	135.7	202.7	338.2	575.8	858.8	1053.3
100°	76.0	76.0	83.0	95.1	114.1	146.1	205.1	318.1	522.3	804.3	1060.5
102.5°	92.0	93.7	99.9	111.1	129.2	159.7	213.1	312.5	486.2	736.3	1000.5
105°	117.1	120.0	125.1	137.1	155.1	184.1	232.1	315.1	455.2	656.3	891.4
107.5°	144.6	146.6	151.7	164.5	181.7	210.3	254.3	329.9	449.6	611.5	803.4
110°	163.1	165.1	170.0	182.1	200.1	227.1	271.1	341.1	451.3	596.3	759.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	180.7	182.7	188.5	199.7	217.7	244.7	287.1	353.2	456.0	589.1	734.5
115°	206.1	209.1	216.1	226.1	245.1	272.2	312.1	372.2	465.2	585.3	711.4
117.5°	232.5	235.3	241.5	252.5	270.4	298.3	336.4	391.6	475.0	584.3	700.9
120°	250.1	252.1	259.2	270.1	287.1	315.1	353.2	405.2	482.2	584.3	695.3
122.5°	266.1	268.1	275.2	285.3	303.9	331.1	369.2	418.0	489.5	583.5	689.0
125°	287.1	291.1	297.1	308.2	327.2	355.2	391.2	437.2	500.2	582.3	678.3
127.5°	305.7	308.9	316.2	328.7	348.5	376.8	411.6	453.8	508.9	580.1	664.1
130°	316.2	320.1	328.1	343.2	362.1	391.2	425.2	464.3	515.2	579.3	655.3
132.5°	326.6	329.8	340.2	354.4	375.0	402.4	436.4	474.7	520.8	578.5	647.3
135°	341.1	345.2	355.2	372.2	393.2	419.2	452.2	488.3	529.3	577.3	635.3
137.5°	355.8	359.6	370.6	386.8	408.6	433.4	464.3	497.8	534.3	577.0	624.9
140°	366.2	369.2	380.2	397.2	418.2	442.2	472.3	504.2	538.3	576.3	619.3
142.5°	377.4	380.4	390.5	406.8	427.0	450.2	479.4	509.0	541.5	576.3	614.5
145°	393.2	396.2	406.2	420.2	439.2	461.2	487.2	514.3	543.3	574.3	606.3
147.5°	411.0	412.0	420.8	435.2	451.0	470.8	495.2	518.8	544.2	570.7	598.9
150°	422.2	423.2	431.2	443.2	458.2	477.3	499.2	521.2	544.2	568.3	593.3
152.5°	432.6	432.8	440.8	452.0	465.5	482.8	502.5	522.9	542.7	564.3	586.9
155°	447.2	448.2	454.2	464.3	475.3	490.3	507.2	524.3	540.3	558.3	577.3
157.5°	461.4	461.4	467.0	474.8	484.4	496.3	510.7	524.3	537.7	552.1	567.5
160°	470.2	470.2	474.2	481.2	489.2	500.2	512.2	524.3	535.3	547.3	560.3
162.5°	478.2	477.4	480.6	486.8	494.0	502.7	513.8	524.3	532.9	542.4	553.9
165°	487.2	487.2	489.2	494.2	499.2	505.2	514.3	522.3	528.2	535.3	543.3
167.5°	496.3	495.2	496.3	500.1	502.8	507.5	514.0	519.9	523.5	528.1	533.6
170°	500.2	499.2	500.2	503.3	505.2	508.2	513.2	518.2	520.2	523.2	527.3
172.5°	504.2	503.3	503.4	505.7	506.9	509.0	512.5	516.7	517.0	518.4	521.7
175°	508.2	507.2	507.2	508.2	509.3	509.3	511.3	514.3	513.2	513.2	515.2
177.5°	510.1	509.3	508.4	509.3	509.3	509.3	510.1	511.6	510.1	510.1	510.8
180°	509.3	509.3	509.3	509.3	509.3	509.3	509.3	509.3	509.3	509.3	509.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1795.5	1795.5	1795.5	1795.5	1795.5	1795.5	1795.5	1795.5
2.5°	1788.8	1791.6	1794.2	1795.4	1795.2	1794.9	1794.7	1794.5
5°	1776.9	1779.9	1783.0	1784.3	1783.6	1783.0	1782.4	1781.8
7.5°	1753.3	1755.2	1757.2	1757.6	1756.7	1755.8	1754.7	1753.8
10°	1732.0	1733.2	1734.5	1734.5	1733.2	1732.0	1730.8	1729.6
12.5°	1705.7	1706.5	1707.2	1706.7	1705.0	1703.3	1701.6	1699.9
15°	1659.6	1659.0	1658.4	1657.0	1654.8	1652.7	1650.6	1648.5
17.5°	1604.0	1602.3	1600.6	1598.2	1594.9	1591.6	1588.5	1585.2
20°	1565.2	1562.7	1560.3	1557.1	1553.2	1549.2	1545.2	1541.2
22.5°	1522.1	1518.4	1514.8	1511.3	1508.0	1504.8	1501.6	1498.3
25°	1452.4	1447.3	1442.1	1438.0	1434.9	1431.8	1428.7	1425.7
27.5°	1381.6	1375.1	1368.7	1363.3	1358.9	1354.5	1350.1	1345.7
30°	1330.7	1323.1	1315.4	1309.2	1304.2	1299.4	1294.5	1289.6
32.5°	1278.8	1269.9	1261.0	1254.3	1249.7	1245.0	1240.4	1235.7
35°	1201.4	1191.1	1180.7	1172.8	1167.3	1161.7	1156.2	1150.7
37.5°	1118.4	1106.8	1095.3	1086.7	1081.2	1075.6	1070.2	1064.7
40°	1063.2	1050.4	1037.6	1028.4	1022.9	1017.4	1011.9	1006.4
42.5°	1008.8	995.7	982.7	973.3	967.5	961.8	956.1	950.3
45°	925.6	910.6	895.6	885.4	879.9	874.4	868.9	863.4
47.5°	841.7	826.2	810.7	799.9	793.8	787.8	781.7	775.7
50°	786.1	770.9	755.5	745.0	739.3	733.4	727.6	721.8
52.5°	730.6	715.1	699.6	688.8	682.8	676.7	670.6	664.6
55°	648.8	632.9	617.0	606.1	600.4	594.5	588.8	582.9
57.5°	568.9	552.7	536.6	526.3	521.9	517.5	513.1	508.7
60°	515.4	499.6	483.6	473.3	468.4	463.5	458.6	453.7
62.5°	462.9	448.2	433.5	424.2	420.3	416.5	412.5	408.6
65°	387.5	374.4	361.3	352.8	349.2	345.5	341.9	338.2
67.5°	318.4	307.0	295.8	288.1	284.0	280.0	276.0	271.9
70°	271.3	261.2	251.2	244.6	241.5	238.5	235.4	232.4
72.5°	229.1	220.5	211.9	206.2	203.4	200.6	197.8	194.9
75°	168.8	161.8	154.7	150.3	148.5	146.6	144.8	143.0
77.5°	119.4	115.3	111.2	108.9	108.3	107.8	107.3	106.7
80°	91.7	90.7	89.8	89.2	88.9	88.6	88.3	88.0
82.5°	71.3	70.6	69.9	69.4	69.1	68.8	68.5	68.2
85°	41.4	40.8	40.2	39.9	39.9	39.9	39.9	39.9
87.5°	18.5	18.4	18.4	18.4	18.9	19.3	19.4	19.6
90°	18.0	19.0	20.0	20.0	21.0	22.0	21.0	21.0
92.5°	196.5	147.8	117.7	97.6	85.8	80.4	77.1	77.1
95°	741.3	586.3	452.2	355.2	306.2	275.2	257.1	244.1
97.5°	1095.4	1037.7	939.9	835.4	763.5	703.4	673.3	652.6
100°	1206.6	1226.6	1177.6	1103.5	1016.5	955.5	925.5	917.5
102.5°	1201.0	1300.2	1314.4	1283.6	1230.2	1185.9	1154.3	1148.0
105°	1120.5	1293.7	1392.7	1433.7	1435.7	1427.7	1413.7	1407.6
107.5°	1006.3	1190.6	1330.1	1419.3	1468.7	1491.5	1501.5	1504.2
110°	937.5	1110.5	1255.6	1365.6	1436.7	1478.7	1496.8	1505.7



TEST NUMBER: P333014-935

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	887.0	1040.1	1177.2	1287.2	1367.9	1418.7	1443.9	1458.5
115°	836.4	959.5	1076.5	1172.6	1251.6	1311.6	1343.7	1351.7
117.5°	811.6	913.4	1005.5	1086.9	1154.3	1204.8	1237.2	1243.4
120°	800.4	893.5	973.4	1044.5	1101.6	1145.6	1171.6	1182.6
122.5°	790.7	880.6	953.5	1015.7	1063.9	1101.6	1123.5	1134.5
125°	774.4	860.4	929.4	984.5	1024.5	1053.5	1072.5	1078.5
127.5°	754.3	836.6	905.4	957.7	997.9	1023.7	1039.7	1045.7
130°	738.4	817.4	885.5	938.5	979.5	1004.4	1020.5	1026.5
132.5°	721.5	795.8	862.2	915.2	955.5	983.7	998.8	1004.9
135°	698.4	763.4	824.4	874.4	914.5	942.5	958.5	964.5
137.5°	677.3	732.4	783.8	829.0	866.4	894.1	907.2	914.5
140°	665.3	712.3	757.3	799.4	834.4	856.4	870.4	878.4
142.5°	654.1	695.5	734.2	770.6	801.6	822.0	834.4	840.0
145°	638.3	672.4	702.3	730.4	755.4	772.4	782.4	787.4
147.5°	625.3	652.3	676.3	698.4	716.8	731.3	739.0	740.7
150°	617.3	640.3	660.3	678.3	694.3	707.3	713.3	714.4
152.5°	608.5	628.3	646.7	661.5	675.1	685.7	689.3	690.3
155°	595.3	611.3	626.3	638.3	648.3	656.3	659.4	659.4
157.5°	581.1	594.5	607.1	616.7	624.3	630.3	632.1	632.1
160°	572.3	583.2	594.3	602.3	608.3	614.3	615.3	615.3
162.5°	563.4	572.9	581.5	588.7	593.1	599.1	600.1	599.3
165°	551.3	557.2	564.3	569.3	573.3	577.3	576.3	575.3
167.5°	539.5	544.1	549.7	552.7	554.7	557.2	557.1	556.3
170°	532.3	535.3	539.2	542.3	544.2	545.3	544.2	544.2
172.5°	525.8	528.1	530.5	532.6	533.8	534.9	533.8	532.3
175°	517.3	518.2	520.2	520.2	520.2	522.3	520.2	518.2
177.5°	511.6	512.5	512.5	513.2	512.5	513.2	511.6	510.1
180°	509.3	509.3	509.3	509.3	509.3	509.3	509.3	509.3

(END OF REPORT)