

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: P332995-935

Luminaire Tested: **SA4XXRDIP-C1195D590U935-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332995-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA4XXRDIP-C1195D590U935-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 590 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5912.0 lumens
Efficiency: N/A
Efficacy: 107.3 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: Semi-Direct

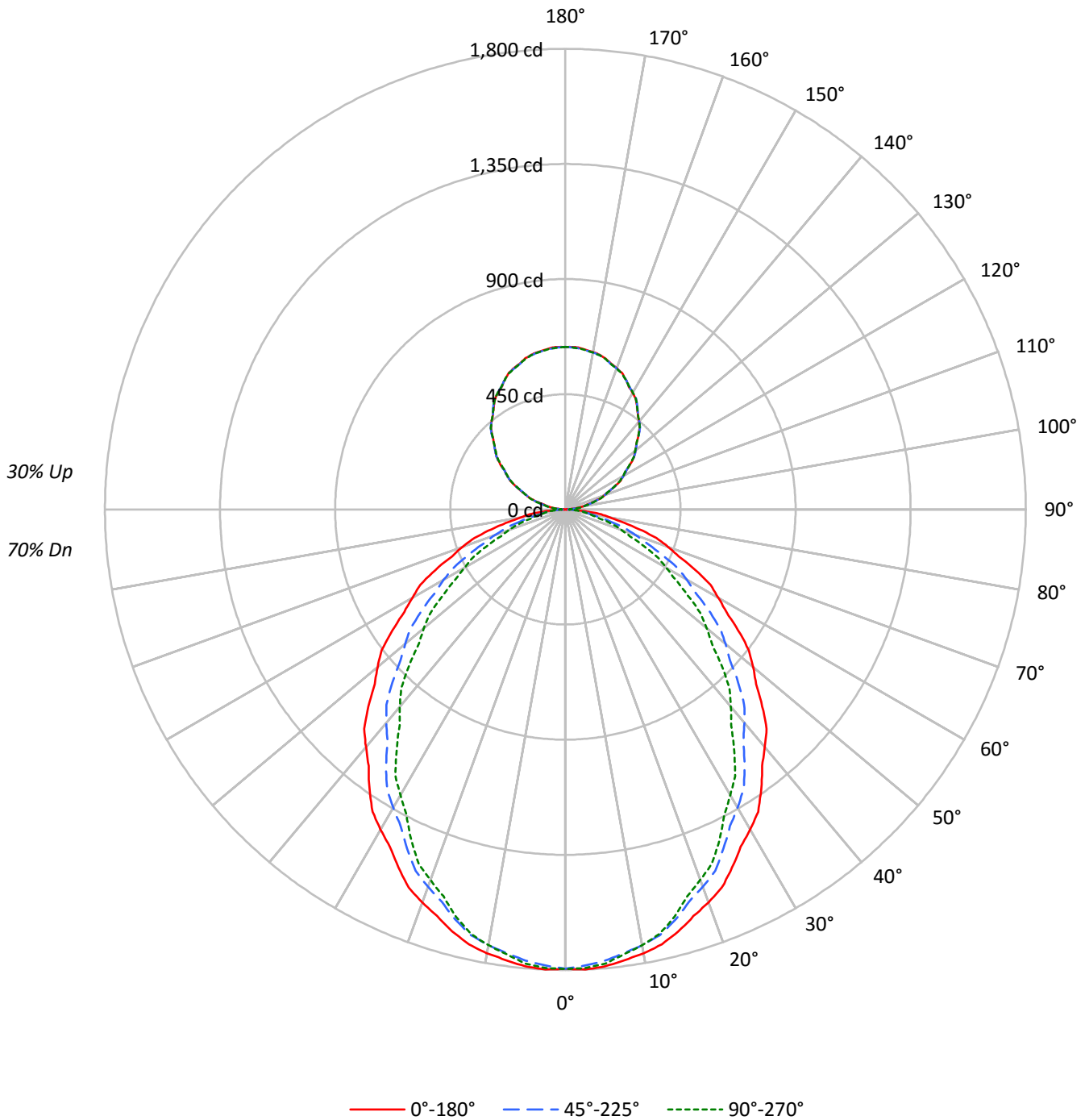
Input Watts (W): 55.1
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	112	112	112	112	106	106	106	106	95	95	95	84	84	84	75	75	75	70				
1	103	98	95	91	97	93	90	87	84	81	79	75	73	71	67	65	64	60				
2	94	86	80	75	89	82	77	72	74	69	66	66	63	60	59	57	54	51				
3	86	76	69	63	81	73	66	61	65	60	56	59	55	51	53	49	47	43				
4	79	68	60	54	74	65	57	52	58	53	48	53	48	44	47	44	41	38				
5	73	61	52	46	68	58	50	45	52	46	42	47	42	39	43	39	36	33				
6	67	55	46	41	63	52	45	39	48	41	37	43	38	34	39	35	31	29				
7	62	50	42	36	59	47	40	35	43	37	32	39	34	30	36	31	28	26				
8	58	45	37	32	55	43	36	31	40	33	29	36	31	27	33	29	25	23				
9	54	42	34	29	51	40	33	28	36	30	26	33	28	25	30	26	23	21				
10	51	38	31	26	48	37	30	25	34	28	24	31	26	22	28	24	21	19				

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	2.9
10°-20°	470.4	8.0
20°-30°	679.2	11.5
30°-40°	769.9	13.0
40°-50°	743.4	12.6
50°-60°	618.2	10.5
60°-70°	426.9	7.2
70°-80°	216.4	3.7
80°-90°	57.4	1.0
90°-100°	41.9	0.7
100°-110°	124.1	2.1
110°-120°	210.6	3.6
120°-130°	277.7	4.7
130°-140°	311.8	5.3
140°-150°	306.4	5.2
150°-160°	257.7	4.4
160°-170°	171.5	2.9
170°-180°	60.0	1.0
0°-30°	1318.2	22.3
0°-40°	2088.1	35.3
0°-60°	3449.7	58.4
0°-90°	4150.4	70.2
90°-120°	376.5	6.4
90°-150°	1272.4	21.5
90°-180°	1762.0	29.8
0°-180°	5912.0	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°	2	7	11	14	15	5
95°	29	34	37	39	39	33
105°	114	115	117	118	120	121
115°	214	214	213	213	212	211
125°	312	312	311	310	309	278
135°	402	405	405	404	403	311
145°	489	490	491	490	489	306
155°	560	560	559	561	559	257
165°	609	608	607	610	608	172
175°	634	632	631	634	631	60
180°	635	635	635	635	635	



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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°	25.6	23.8	22.1	20.4	18.8	17.8	17.7	17.7	17.7	17.6	17.5
90°	1.5	2.7	3.9	5.1	6.3	7.3	8.2	9.0	9.9	10.8	11.5
92.5°	10.5	11.9	13.3	14.6	16.0	17.0	17.7	18.3	18.9	19.5	19.8
95°	29.4	30.5	31.4	32.4	33.4	34.3	35.0	35.8	36.6	37.3	37.6
97.5°	51.5	52.3	53.0	53.8	54.6	55.4	56.3	57.3	58.1	59.1	59.4
100°	68.7	69.2	69.7	70.1	70.5	71.2	72.2	73.2	74.1	75.2	75.3
102.5°	86.8	87.0	87.1	87.3	87.5	88.1	88.9	89.8	90.7	91.6	92.0
105°	114.4	114.5	114.6	114.8	114.9	115.1	115.5	116.0	116.4	116.8	117.2
107.5°	143.4	143.5	143.6	143.8	144.0	144.0	144.0	144.1	144.2	144.3	144.6
110°	163.1	163.2	163.5	163.7	163.9	163.9	163.8	163.8	163.7	163.5	163.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	183.5	183.5	183.6	183.6	183.7	183.6	183.4	183.1	183.0	182.8	182.7
115°	214.1	214.1	214.1	214.1	214.1	214.0	213.8	213.5	213.4	213.1	213.0
117.5°	243.0	243.1	243.1	243.2	243.3	243.3	243.1	243.0	242.8	242.7	242.3
120°	262.3	262.7	263.1	263.6	264.0	264.1	263.7	263.4	263.0	262.7	262.2
122.5°	282.2	282.4	282.6	282.8	282.9	283.0	282.8	282.7	282.5	282.4	282.0
125°	311.9	311.9	311.9	311.9	311.9	311.8	311.7	311.6	311.4	311.3	311.1
127.5°	338.6	339.0	339.3	339.7	339.9	340.0	339.8	339.7	339.5	339.3	339.1
130°	357.5	357.8	358.2	358.5	358.8	359.0	359.0	359.0	359.0	359.0	358.8
132.5°	376.8	377.0	377.2	377.5	377.7	377.8	377.7	377.6	377.5	377.5	377.2
135°	402.2	402.9	403.5	404.2	404.8	405.1	405.1	405.1	405.1	405.1	404.9
137.5°	429.9	430.2	430.5	430.8	431.1	431.4	431.5	431.7	431.9	432.0	431.8
140°	448.3	448.6	448.8	449.0	449.2	449.4	449.4	449.4	449.4	449.4	449.2
142.5°	465.2	465.5	465.7	465.9	466.1	466.1	466.1	466.0	465.9	465.8	465.8
145°	488.6	489.0	489.5	489.9	490.3	490.6	490.8	490.9	490.9	491.0	490.9
147.5°	511.8	512.3	512.8	513.3	513.9	514.1	514.0	513.9	513.8	513.8	513.7
150°	525.9	526.4	526.8	527.3	527.7	527.9	527.9	527.9	527.9	527.9	527.9
152.5°	539.3	539.6	539.8	540.1	540.4	540.5	540.6	540.7	540.8	540.9	541.1
155°	559.8	559.8	559.8	559.8	559.8	559.7	559.6	559.6	559.5	559.3	559.7
157.5°	577.1	576.9	576.7	576.5	576.4	576.2	576.2	576.2	576.2	576.1	576.4
160°	587.3	587.2	587.1	587.0	586.9	586.8	586.7	586.6	586.4	586.3	586.7
162.5°	596.8	596.5	596.2	595.9	595.6	595.4	595.3	595.2	595.1	595.0	595.6
165°	609.4	609.1	608.7	608.5	608.1	607.9	607.6	607.4	607.2	607.0	607.6
167.5°	619.1	618.7	618.2	617.8	617.3	617.1	617.1	617.2	617.2	617.2	617.9
170°	624.7	624.1	623.5	623.0	622.4	622.2	622.3	622.4	622.6	622.7	623.4
172.5°	628.5	628.1	627.7	627.2	626.7	626.5	626.5	626.5	626.5	626.6	627.3
175°	634.0	633.4	632.9	632.3	631.8	631.5	631.4	631.3	631.1	631.0	631.8
177.5°	635.8	635.3	634.9	634.5	634.0	633.8	633.8	633.8	633.8	633.8	634.4
180°	635.0	635.0	635.0	635.0	635.0	635.0	635.0	635.0	635.0	635.0	635.0



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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°	17.3	17.2	17.1	17.2	17.5	17.7	18.1	18.3
90°	12.1	12.7	13.4	13.9	14.1	14.3	14.6	14.7
92.5°	20.2	20.7	21.0	21.3	21.4	21.5	21.7	21.8
95°	38.0	38.3	38.7	38.8	38.8	38.8	38.8	38.8
97.5°	59.8	60.2	60.6	60.8	60.8	60.8	60.8	60.8
100°	75.6	75.8	76.0	76.1	76.1	76.1	76.1	76.1
102.5°	92.2	92.6	92.8	93.1	93.2	93.2	93.3	93.4
105°	117.5	117.9	118.2	118.5	118.8	119.2	119.5	119.9
107.5°	144.9	145.2	145.5	145.7	145.6	145.6	145.6	145.6
110°	163.1	162.9	162.6	162.7	163.1	163.3	163.7	164.0



TEST NUMBER: P332995-935

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	182.7	182.6	182.6	182.6	182.7	182.7	182.8	182.9
115°	212.9	212.8	212.7	212.6	212.5	212.3	212.2	212.2
117.5°	241.9	241.6	241.2	240.9	240.6	240.5	240.2	240.0
120°	261.7	261.1	260.5	260.4	260.6	260.8	261.1	261.2
122.5°	281.6	281.3	280.9	280.5	280.1	279.7	279.3	279.0
125°	310.9	310.6	310.5	310.2	310.0	309.8	309.6	309.4
127.5°	338.9	338.7	338.5	338.3	338.1	337.9	337.8	337.6
130°	358.5	358.3	358.1	357.7	357.3	356.9	356.5	356.0
132.5°	377.0	376.8	376.6	376.3	376.2	376.0	375.8	375.7
135°	404.7	404.5	404.2	404.0	403.6	403.3	403.0	402.7
137.5°	431.4	431.2	430.9	430.8	430.8	430.9	431.0	431.1
140°	449.1	449.0	448.9	448.8	448.7	448.6	448.5	448.3
142.5°	465.8	465.8	465.7	465.7	465.7	465.7	465.6	465.6
145°	490.9	490.8	490.6	490.4	490.1	489.7	489.4	489.1
147.5°	513.6	513.5	513.4	513.3	513.2	513.1	513.0	512.9
150°	527.9	527.9	527.9	527.9	527.7	527.6	527.5	527.4
152.5°	541.4	541.7	541.9	541.9	541.7	541.3	541.1	540.8
155°	560.2	560.6	561.1	561.1	560.6	560.2	559.7	559.3
157.5°	576.8	577.1	577.5	577.4	577.0	576.7	576.3	575.9
160°	587.0	587.3	587.6	587.5	587.0	586.4	585.9	585.4
162.5°	596.2	596.8	597.4	597.4	596.8	596.2	595.7	595.2
165°	608.3	608.9	609.6	609.7	609.2	608.8	608.4	608.0
167.5°	618.5	619.1	619.8	619.7	619.1	618.5	617.8	617.1
170°	624.0	624.7	625.3	625.3	624.5	623.7	622.9	622.2
172.5°	628.1	628.9	629.6	629.6	628.8	628.0	627.2	626.5
175°	632.6	633.4	634.0	634.0	633.4	632.6	631.8	631.0
177.5°	635.0	635.6	636.2	636.2	635.5	634.8	634.0	633.4
180°	635.0	635.0	635.0	635.0	635.0	635.0	635.0	635.0

(END OF REPORT)