

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: P333006-830

Luminaire Tested: **SA4XXRDIP-C1195D1035U830-4F0-1E-UDD-F**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P333006-830
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA4XXRDIP-C1195D1035U830-4F0-1E-UDD-F
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1035 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8436.4 lumens
Efficiency: N/A
Efficacy: 126.3 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: General Diffuse

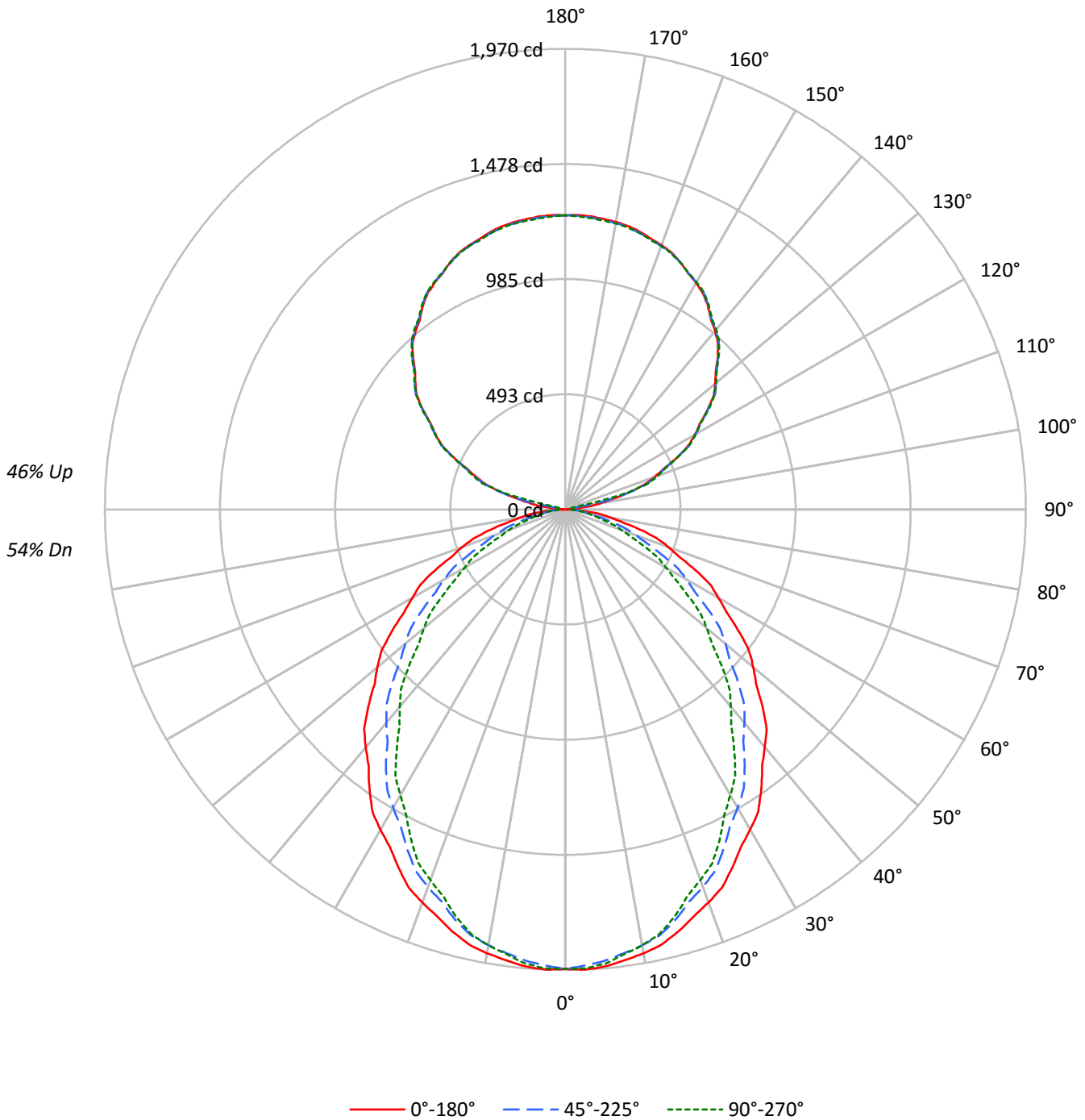
Input Watts (W): 66.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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	72	72	72	60	60	60	54
1	99	95	91	87	92	88	85	82	75	73	71	64	62	61	53	52	51	46
2	90	83	77	72	84	77	72	68	66	62	59	56	54	51	47	45	43	39
3	83	73	66	60	76	68	62	57	59	54	50	50	47	43	42	39	37	33
4	76	65	57	51	70	61	54	48	52	47	43	45	41	37	38	35	32	29
5	70	58	50	44	64	54	47	42	47	41	37	40	36	33	34	31	28	25
6	64	52	44	38	59	49	42	36	42	37	33	37	32	29	31	28	25	22
7	59	47	39	34	55	44	37	32	39	33	29	33	29	26	28	25	22	20
8	55	43	35	30	51	40	33	29	35	30	26	31	26	23	26	23	20	18
9	51	39	32	27	48	37	30	26	32	27	23	28	24	21	24	21	18	16
10	48	36	29	24	45	34	27	23	30	25	21	26	22	19	22	19	17	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	15868	15868	15868
5°	15904	15709	15807
10°	15805	15521	15521
15°	15623	15195	15082
20°	15374	14766	14495
25°	15055	14264	13903
30°	14746	13736	13160
35°	14402	13186	12415
40°	13990	12562	11610
45°	13609	11942	10791
50°	13175	11228	9923
55°	12711	10486	8981
60°	12198	9671	8018
65°	11731	8653	7072
70°	11049	7532	6005
75°	10187	6245	4885
80°	8884	4761	4477
85°	7521	4326	4039



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	184.6	2.2
10°-20°	514.9	6.1
20°-30°	743.5	8.8
30°-40°	842.8	10.0
40°-50°	813.8	9.6
50°-60°	676.7	8.0
60°-70°	467.3	5.5
70°-80°	236.9	2.8
80°-90°	64.4	0.8
90°-100°	43.0	0.5
100°-110°	274.3	3.3
110°-120°	524.8	6.2
120°-130°	666.2	7.9
130°-140°	712.8	8.4
140°-150°	666.5	7.9
150°-160°	537.5	6.4
160°-170°	346.7	4.1
170°-180°	119.5	1.4
0°-30°	1443.1	17.1
0°-40°	2285.8	27.1
0°-60°	3776.4	44.8
0°-90°	4545.0	53.9
90°-120°	842.2	10.0
90°-150°	2887.7	34.2
90°-180°	3891.0	46.1
0°-180°	8436.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1966	1966	1966	1966	1966	
5°	1963	1956	1938	1953	1951	186
15°	1869	1854	1818	1815	1805	526
25°	1690	1661	1601	1576	1561	778
35°	1461	1412	1338	1288	1260	913
45°	1192	1134	1046	975	945	919
55°	903	841	745	669	638	807
65°	614	548	453	391	370	606
75°	327	270	200	167	157	345
85°	81	53	47	44	44	91
90°	3	13	21	26	28	6
95°	52	22	21	26	27	67
105°	283	289	294	300	268	296
115°	529	531	531	532	532	520
125°	743	747	745	748	749	663
135°	922	921	925	927	929	710
145°	1063	1066	1066	1067	1069	664
155°	1166	1166	1164	1167	1165	537
165°	1230	1225	1225	1232	1224	347
175°	1258	1253	1253	1261	1250	120
180°	1258	1258	1258	1258	1258	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1965.6	1965.6	1965.6	1965.6	1965.6	1965.6	1965.6	1965.6	1965.6	1965.6	1965.6
2.5°	1970.4	1969.3	1968.3	1967.2	1966.1	1964.2	1961.2	1958.2	1955.3	1952.4	1955.3
5°	1962.6	1961.2	1959.9	1958.6	1957.3	1954.6	1950.6	1946.5	1942.6	1938.5	1941.8
7.5°	1944.8	1943.4	1942.0	1940.6	1939.2	1935.9	1930.7	1925.5	1920.2	1915.1	1917.2
10°	1928.0	1926.3	1924.7	1923.0	1921.3	1917.4	1911.5	1905.4	1899.4	1893.4	1894.7
12.5°	1906.3	1904.4	1902.4	1900.4	1898.6	1894.0	1887.0	1879.9	1872.7	1865.7	1866.5
15°	1869.3	1866.2	1863.3	1860.3	1857.3	1851.5	1843.2	1834.8	1826.5	1818.1	1817.4
17.5°	1824.5	1820.0	1815.7	1811.4	1807.0	1799.9	1789.8	1779.8	1769.7	1759.7	1757.8
20°	1789.5	1785.2	1780.8	1776.5	1772.2	1764.3	1752.9	1741.5	1730.1	1718.8	1716.1
22.5°	1751.0	1746.2	1741.3	1736.4	1731.5	1723.0	1710.7	1698.6	1686.4	1674.2	1670.2
25°	1690.2	1684.1	1678.1	1672.2	1666.1	1656.2	1642.6	1628.8	1615.1	1601.4	1595.7
27.5°	1626.4	1618.8	1611.3	1603.7	1596.1	1585.1	1570.4	1555.8	1541.1	1526.4	1519.4
30°	1581.9	1573.5	1565.1	1556.7	1548.4	1536.3	1520.6	1504.9	1489.2	1473.5	1465.1
32.5°	1534.8	1525.4	1516.0	1506.6	1497.1	1484.3	1468.0	1451.8	1435.5	1419.3	1409.6
35°	1461.4	1450.7	1440.0	1429.3	1418.6	1404.9	1388.2	1371.5	1354.7	1338.0	1326.6
37.5°	1382.9	1371.8	1360.7	1349.7	1338.7	1323.9	1305.4	1286.9	1268.4	1249.8	1237.1
40°	1327.5	1316.4	1305.4	1294.4	1283.3	1268.3	1249.2	1230.1	1211.1	1192.0	1178.0
42.5°	1274.5	1262.9	1251.3	1239.7	1228.2	1212.5	1192.6	1172.7	1152.9	1133.0	1118.7
45°	1192.0	1179.6	1167.2	1154.9	1142.6	1126.2	1106.3	1086.2	1066.1	1046.0	1029.6
47.5°	1106.8	1094.0	1081.3	1068.5	1055.7	1038.9	1018.0	997.1	976.3	955.5	938.4
50°	1049.0	1035.9	1022.9	1009.9	996.8	979.6	958.2	936.8	915.4	894.0	877.3
52.5°	990.0	977.2	964.5	951.7	939.0	921.5	899.7	877.7	855.7	833.8	816.8
55°	903.1	889.7	876.3	862.9	849.5	832.0	810.2	788.5	766.8	745.0	727.6
57.5°	816.9	803.0	789.1	775.2	761.3	743.7	722.3	700.8	679.4	658.0	640.4
60°	755.5	742.2	728.8	715.4	702.0	684.7	663.3	641.9	620.4	599.0	581.6
62.5°	700.1	686.3	672.3	658.5	644.5	626.6	604.6	582.7	560.7	538.9	522.7
65°	614.1	599.6	585.3	570.9	556.6	538.7	517.3	495.9	474.5	453.0	438.7
67.5°	524.6	510.9	497.1	483.3	469.6	452.7	432.8	413.0	393.1	373.2	360.9
70°	468.1	454.0	440.0	425.9	411.9	395.3	376.3	357.2	338.2	319.1	308.0
72.5°	407.8	395.2	382.5	369.8	357.0	341.7	323.7	305.7	287.7	269.7	260.2
75°	326.6	314.2	301.8	289.5	277.1	263.1	247.3	231.6	215.9	200.2	192.5
77.5°	244.1	233.7	223.1	212.6	202.1	190.5	177.8	165.1	152.4	139.7	135.2
80°	191.1	181.4	171.7	162.0	152.3	142.5	132.4	122.4	112.4	102.4	101.3
82.5°	145.4	136.5	127.6	118.7	109.8	102.5	96.7	91.0	85.2	79.5	78.7
85°	81.2	74.6	67.9	61.2	54.5	50.7	49.7	48.6	47.7	46.7	46.0
87.5°	28.3	26.6	24.9	23.2	21.5	20.7	20.8	20.8	20.9	21.0	21.0
90°	2.8	5.1	7.4	9.7	12.1	14.0	15.6	17.3	19.0	20.7	22.0
92.5°	11.9	12.0	12.1	12.3	12.3	13.3	14.9	16.6	18.3	20.0	21.2
95°	51.7	44.7	37.5	30.4	23.3	19.9	20.1	20.3	20.5	20.7	22.0
97.5°	109.9	114.3	118.8	123.2	127.6	118.2	94.8	71.5	48.2	24.9	25.0
100°	154.3	158.1	161.8	165.6	169.4	156.8	128.0	99.2	70.2	41.4	37.9
102.5°	204.0	206.8	209.5	212.3	215.0	214.5	210.8	207.0	203.2	199.4	161.1
105°	283.2	284.5	285.7	287.0	288.2	289.4	290.4	291.4	292.6	293.6	295.5
107.5°	356.8	357.4	358.1	358.6	359.3	360.3	361.7	363.2	364.6	366.0	366.9
110°	406.5	407.1	407.7	408.3	409.0	409.9	411.1	412.5	413.7	414.9	415.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	454.7	455.8	456.9	458.1	459.2	460.1	460.6	461.2	461.8	462.3	462.3
115°	528.8	529.4	530.1	530.7	531.3	531.5	531.3	531.1	530.8	530.7	531.1
117.5°	595.6	596.4	597.3	598.1	599.0	599.6	600.0	600.5	601.0	601.4	601.3
120°	640.7	641.6	642.4	643.3	644.1	644.4	644.2	644.0	643.8	643.6	644.0
122.5°	682.9	683.4	683.9	684.4	684.9	685.3	685.6	685.9	686.2	686.5	686.7
125°	743.3	744.1	745.0	745.8	746.7	746.9	746.5	746.0	745.6	745.2	745.8
127.5°	800.5	800.7	801.0	801.2	801.3	801.9	803.0	803.9	804.8	805.8	805.7
130°	837.4	837.6	837.8	838.0	838.2	838.7	839.3	839.9	840.6	841.2	841.4
132.5°	871.3	871.7	872.0	872.4	872.8	873.4	874.2	875.0	875.7	876.6	876.8
135°	922.1	921.9	921.7	921.4	921.2	921.5	922.4	923.2	924.1	924.9	925.3
137.5°	967.0	967.1	967.2	967.3	967.4	967.9	968.8	969.8	970.6	971.6	972.0
140°	996.5	996.8	997.3	997.7	998.1	998.5	998.9	999.4	999.8	1000.2	1000.8
142.5°	1022.8	1023.5	1024.3	1025.0	1025.8	1026.2	1026.5	1026.8	1027.0	1027.3	1027.7
145°	1063.2	1063.8	1064.5	1065.1	1065.7	1066.0	1066.0	1066.0	1066.0	1066.0	1066.3
147.5°	1095.4	1096.6	1097.8	1098.9	1100.1	1100.6	1100.3	1100.1	1099.9	1099.8	1099.9
150°	1118.7	1119.6	1120.4	1121.2	1122.1	1122.4	1122.2	1122.0	1121.8	1121.5	1121.5
152.5°	1138.3	1139.0	1139.6	1140.3	1140.9	1141.1	1140.8	1140.4	1140.0	1139.6	1140.0
155°	1165.8	1166.0	1166.2	1166.4	1166.6	1166.4	1165.8	1165.2	1164.5	1163.9	1164.7
157.5°	1188.9	1188.8	1188.6	1188.5	1188.5	1188.0	1187.3	1186.6	1185.9	1185.2	1186.3
160°	1202.5	1201.8	1201.3	1200.6	1200.0	1199.6	1199.4	1199.1	1198.9	1198.7	1200.0
162.5°	1214.6	1213.7	1213.0	1212.1	1211.4	1210.9	1210.6	1210.4	1210.2	1210.0	1211.3
165°	1229.7	1228.7	1227.7	1226.6	1225.6	1225.0	1225.0	1225.0	1225.0	1225.0	1226.7
167.5°	1241.8	1240.8	1239.6	1238.6	1237.5	1236.9	1236.7	1236.6	1236.5	1236.3	1238.2
170°	1248.6	1247.4	1246.0	1244.8	1243.6	1243.0	1243.2	1243.5	1243.7	1243.9	1245.6
172.5°	1253.1	1251.9	1250.6	1249.3	1248.1	1247.5	1247.7	1248.0	1248.2	1248.4	1250.1
175°	1258.0	1256.8	1255.5	1254.2	1253.0	1252.5	1252.6	1252.9	1253.1	1253.3	1255.2
177.5°	1260.3	1259.0	1257.9	1256.8	1255.6	1255.2	1255.5	1255.8	1256.1	1256.5	1257.8
180°	1258.0	1258.0	1258.0	1258.0	1258.0	1258.0	1258.0	1258.0	1258.0	1258.0	1258.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1965.6	1965.6	1965.6	1965.6	1965.6	1965.6	1965.6	1965.6
2.5°	1958.2	1961.2	1964.2	1965.5	1965.2	1964.9	1964.6	1964.4
5°	1945.2	1948.5	1951.9	1953.2	1952.6	1951.9	1951.3	1950.6
7.5°	1919.3	1921.5	1923.6	1924.1	1923.1	1922.0	1920.9	1919.9
10°	1896.0	1897.3	1898.8	1898.8	1897.3	1896.0	1894.7	1893.4
12.5°	1867.3	1868.1	1868.9	1868.3	1866.5	1864.6	1862.7	1860.9
15°	1816.8	1816.1	1815.4	1813.9	1811.6	1809.2	1806.9	1804.6
17.5°	1756.0	1754.1	1752.2	1749.5	1746.0	1742.4	1738.9	1735.3
20°	1713.4	1710.7	1708.1	1704.6	1700.3	1695.9	1691.5	1687.2
22.5°	1666.2	1662.2	1658.2	1654.4	1650.9	1647.3	1643.8	1640.2
25°	1590.0	1584.3	1578.7	1574.1	1570.7	1567.4	1564.1	1560.8
27.5°	1512.4	1505.3	1498.4	1492.4	1487.6	1482.8	1478.0	1473.2
30°	1456.7	1448.4	1440.0	1433.1	1427.8	1422.5	1417.1	1411.7
32.5°	1399.9	1390.2	1380.4	1373.1	1368.0	1362.9	1357.8	1352.7
35°	1315.2	1303.9	1292.5	1283.8	1277.8	1271.8	1265.7	1259.7
37.5°	1224.4	1211.6	1199.0	1189.6	1183.6	1177.5	1171.6	1165.5
40°	1163.9	1149.9	1135.9	1125.8	1119.7	1113.7	1107.8	1101.7
42.5°	1104.4	1090.1	1075.7	1065.5	1059.1	1052.9	1046.6	1040.3
45°	1013.2	996.8	980.4	969.2	963.3	957.2	951.2	945.2
47.5°	921.4	904.5	887.5	875.6	869.0	862.4	855.7	849.1
50°	860.5	843.9	827.1	815.6	809.3	802.9	796.5	790.1
52.5°	799.8	782.9	765.8	754.0	747.4	740.8	734.1	727.5
55°	710.2	692.9	675.4	663.5	657.2	650.8	644.5	638.1
57.5°	622.7	605.0	587.4	576.2	571.4	566.5	561.7	556.9
60°	564.2	546.9	529.4	518.1	512.7	507.4	502.0	496.6
62.5°	506.7	490.7	474.6	464.4	460.1	455.9	451.6	447.3
65°	424.2	409.9	395.5	386.3	382.3	378.2	374.3	370.2
67.5°	348.6	336.1	323.8	315.4	310.9	306.5	302.1	297.7
70°	297.0	286.0	274.9	267.8	264.4	261.1	257.7	254.4
72.5°	250.8	241.4	232.0	225.7	222.6	219.6	216.5	213.4
75°	184.8	177.1	169.4	164.6	162.6	160.5	158.5	156.6
77.5°	130.7	126.2	121.8	119.2	118.6	118.0	117.4	116.8
80°	100.4	99.3	98.3	97.6	97.4	97.0	96.7	96.3
82.5°	78.0	77.3	76.5	76.0	75.7	75.3	75.0	74.6
85°	45.3	44.7	44.0	43.6	43.6	43.6	43.6	43.6
87.5°	20.9	20.9	20.9	21.1	21.5	21.8	22.1	22.5
90°	23.2	24.5	25.7	26.6	27.0	27.4	27.8	28.2
92.5°	22.4	23.8	25.0	25.6	25.7	25.8	25.9	26.0
95°	23.2	24.5	25.7	26.5	26.7	26.9	27.1	27.2
97.5°	25.1	25.3	25.4	25.5	25.7	25.9	26.1	26.4
100°	34.3	30.7	27.1	25.5	25.7	25.9	26.1	26.4
102.5°	122.8	84.5	46.1	27.0	27.0	27.1	27.1	27.1
105°	297.4	299.2	301.0	298.3	290.8	283.2	275.7	268.2
107.5°	367.9	368.8	369.7	370.5	371.4	372.1	373.0	373.7
110°	415.8	416.2	416.6	417.2	417.7	418.4	419.1	419.6



TEST NUMBER: P333006-830

CATALOG NUMBER: SA4XXRDIP-C1195D1035U830-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	462.2	462.1	462.0	462.4	463.2	464.0	464.8	465.5
115°	531.5	532.0	532.3	532.5	532.5	532.5	532.5	532.5
117.5°	601.2	601.2	601.1	601.1	601.0	600.9	600.8	600.7
120°	644.4	644.8	645.3	645.3	644.8	644.4	644.0	643.6
122.5°	687.0	687.2	687.5	687.4	687.0	686.5	686.2	685.7
125°	746.5	747.1	747.7	748.1	748.4	748.6	748.8	748.9
127.5°	805.6	805.4	805.3	805.1	805.0	804.8	804.6	804.5
130°	841.6	841.8	842.0	842.2	842.2	842.2	842.2	842.2
132.5°	876.9	877.2	877.4	877.4	877.2	877.0	876.9	876.8
135°	925.8	926.1	926.6	927.0	927.5	927.8	928.2	928.7
137.5°	972.5	973.0	973.5	973.6	973.5	973.4	973.2	973.1
140°	1001.5	1002.1	1002.7	1003.1	1003.3	1003.5	1003.7	1004.0
142.5°	1028.2	1028.7	1029.2	1029.4	1029.4	1029.4	1029.5	1029.5
145°	1066.5	1066.7	1066.9	1067.2	1067.6	1068.0	1068.5	1068.8
147.5°	1100.0	1100.2	1100.4	1100.6	1100.8	1101.0	1101.3	1101.5
150°	1121.5	1121.5	1121.5	1121.6	1121.9	1122.1	1122.3	1122.5
152.5°	1140.3	1140.7	1140.9	1141.0	1140.9	1140.9	1140.7	1140.6
155°	1165.5	1166.4	1167.2	1167.3	1166.8	1166.1	1165.5	1164.9
157.5°	1187.3	1188.5	1189.5	1189.5	1188.5	1187.3	1186.3	1185.2
160°	1201.3	1202.5	1203.7	1203.7	1202.5	1201.3	1200.0	1198.7
162.5°	1212.5	1213.8	1215.0	1214.9	1213.5	1212.1	1210.7	1209.3
165°	1228.4	1230.1	1231.7	1231.6	1229.7	1227.9	1226.0	1224.1
167.5°	1240.0	1241.9	1243.7	1243.6	1241.5	1239.4	1237.3	1235.2
170°	1247.3	1248.9	1250.6	1250.4	1248.3	1246.2	1244.1	1242.0
172.5°	1251.8	1253.4	1255.1	1254.8	1252.5	1250.3	1248.0	1245.8
175°	1257.1	1259.0	1260.8	1260.5	1258.0	1255.5	1253.0	1250.5
177.5°	1259.1	1260.5	1261.9	1261.5	1259.5	1257.5	1255.5	1253.5
180°	1258.0	1258.0	1258.0	1258.0	1258.0	1258.0	1258.0	1258.0

(END OF REPORT)