

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: P333012-940

Luminaire Tested: **SA4XXRDIP-C1195D1205U940-4F0-1E-UDD-F**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P333012-940
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-C1195D1205U940-4F0-1E-UDD-F
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1205 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8585.6 lumens
Efficiency: N/A
Efficacy: 119.7 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

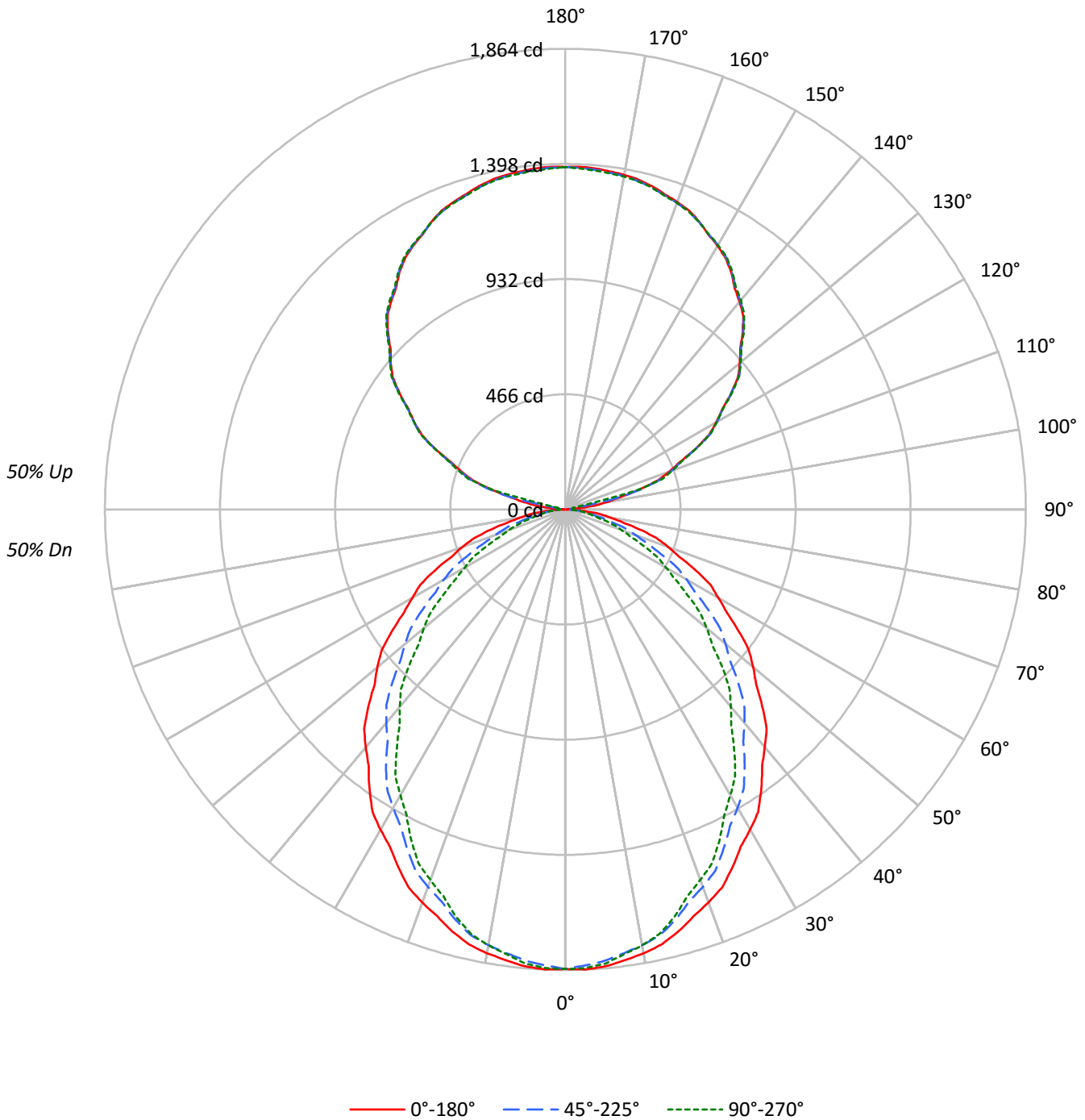
Input Watts (W): 71.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	107	107	107	107	99	99	99	99	83	83	83	69	69	69	56	56	56	50				
1	98	94	90	87	90	87	84	81	74	71	69	61	60	58	50	49	48	43				
2	90	82	76	71	82	76	71	67	65	61	58	54	51	49	44	43	41	36				
3	82	73	65	60	75	67	61	56	57	53	49	48	45	42	40	37	35	31				
4	75	64	57	51	69	60	53	48	51	46	42	43	39	36	36	33	30	27				
5	69	57	49	44	63	53	46	41	46	40	36	39	35	31	32	29	27	23				
6	64	52	44	38	58	48	41	36	41	36	32	35	31	28	29	26	24	21				
7	59	47	39	33	54	44	36	31	38	32	28	32	28	24	27	23	21	18				
8	55	42	35	29	50	40	33	28	34	29	25	29	25	22	25	21	19	17				
9	51	39	31	26	47	36	30	25	31	26	22	27	23	20	23	19	17	15				
10	48	36	28	24	44	33	27	22	29	24	20	25	21	18	21	18	16	14				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	15012	15012	15012
5°	15046	14862	14955
10°	14952	14684	14684
15°	14780	14375	14269
20°	14545	13970	13713
25°	14243	13495	13153
30°	13951	12995	12450
35°	13626	12476	11745
40°	13235	11884	10984
45°	12875	11298	10209
50°	12465	10623	9388
55°	12024	9920	8497
60°	11541	9150	7585
65°	11096	8187	6692
70°	10452	7124	5681
75°	9638	5908	4619
80°	8405	4500	4235
85°	7123	4085	3825



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	174.7	2.0
10°-20°	487.1	5.7
20°-30°	703.4	8.2
30°-40°	797.3	9.3
40°-50°	770.0	9.0
50°-60°	640.3	7.5
60°-70°	442.1	5.1
70°-80°	224.1	2.6
80°-90°	61.5	0.7
90°-100°	47.4	0.6
100°-110°	302.1	3.5
110°-120°	577.9	6.7
120°-130°	733.6	8.5
130°-140°	784.9	9.1
140°-150°	734.0	8.5
150°-160°	591.9	6.9
160°-170°	381.8	4.4
170°-180°	131.6	1.5
0°-30°	1365.2	15.9
0°-40°	2162.6	25.2
0°-60°	3572.8	41.6
0°-90°	4300.5	50.1
90°-120°	927.4	10.8
90°-150°	3179.9	37.0
90°-180°	4285.0	49.9
0°-180°	8585.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1860	1860	1860	1860	1860	
5°	1857	1850	1834	1847	1845	176
15°	1768	1754	1720	1717	1707	498
25°	1599	1572	1515	1491	1477	736
35°	1383	1336	1266	1219	1192	864
45°	1128	1073	990	922	894	869
55°	854	795	705	633	604	764
65°	581	518	429	370	350	573
75°	309	256	189	158	148	326
85°	77	50	44	41	41	87
90°	3	14	23	29	31	6
95°	57	24	23	29	30	73
105°	312	318	323	330	295	326
115°	582	585	584	586	586	573
125°	818	822	821	824	825	730
135°	1015	1015	1018	1021	1023	782
145°	1171	1174	1174	1175	1177	731
155°	1284	1285	1282	1285	1283	592
165°	1354	1349	1349	1356	1348	383
175°	1385	1379	1380	1388	1377	132
180°	1385	1385	1385	1385	1385	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1859.6	1859.6	1859.6	1859.6	1859.6	1859.6	1859.6	1859.6	1859.6	1859.6	1859.6
2.5°	1864.1	1863.1	1862.2	1861.1	1860.1	1858.2	1855.5	1852.6	1849.9	1847.1	1849.9
5°	1856.7	1855.5	1854.2	1853.0	1851.7	1849.1	1845.4	1841.6	1837.8	1834.0	1837.1
7.5°	1840.0	1838.6	1837.3	1835.9	1834.6	1831.5	1826.6	1821.7	1816.7	1811.8	1813.8
10°	1824.0	1822.4	1820.9	1819.3	1817.7	1814.0	1808.4	1802.7	1797.0	1791.3	1792.5
12.5°	1803.5	1801.7	1799.8	1798.0	1796.2	1791.9	1785.2	1778.5	1771.7	1765.1	1765.9
15°	1768.4	1765.6	1762.8	1760.0	1757.1	1751.7	1743.8	1735.9	1728.0	1720.0	1719.4
17.5°	1726.1	1721.9	1717.8	1713.7	1709.6	1702.8	1693.3	1683.8	1674.3	1664.8	1663.0
20°	1693.0	1688.9	1684.8	1680.7	1676.6	1669.1	1658.4	1647.6	1636.8	1626.1	1623.5
22.5°	1656.5	1652.0	1647.3	1642.7	1638.1	1630.0	1618.5	1607.0	1595.4	1583.9	1580.1
25°	1599.0	1593.3	1587.6	1582.0	1576.3	1566.9	1554.0	1541.0	1528.0	1515.0	1509.7
27.5°	1538.6	1531.5	1524.4	1517.2	1510.0	1499.6	1485.7	1471.9	1457.9	1444.1	1437.4
30°	1496.6	1488.6	1480.7	1472.7	1464.9	1453.5	1438.6	1423.7	1408.9	1394.0	1386.1
32.5°	1452.1	1443.1	1434.2	1425.3	1416.4	1404.3	1388.8	1373.5	1358.1	1342.7	1333.6
35°	1382.6	1372.4	1362.4	1352.2	1342.1	1329.1	1313.3	1297.5	1281.7	1265.9	1255.1
37.5°	1308.3	1297.8	1287.4	1276.9	1266.5	1252.5	1235.0	1217.5	1200.0	1182.4	1170.4
40°	1255.9	1245.5	1235.0	1224.6	1214.1	1199.9	1181.9	1163.8	1145.8	1127.7	1114.5
42.5°	1205.8	1194.8	1183.8	1172.9	1162.0	1147.1	1128.3	1109.5	1090.7	1071.9	1058.4
45°	1127.7	1116.0	1104.3	1092.6	1080.9	1065.5	1046.6	1027.6	1008.6	989.6	974.1
47.5°	1047.1	1035.0	1023.0	1010.8	998.8	982.8	963.1	943.3	923.6	903.9	887.8
50°	992.5	980.1	967.8	955.5	943.1	926.8	906.5	886.3	866.0	845.8	830.0
52.5°	936.7	924.5	912.5	900.4	888.3	871.8	851.1	830.4	809.6	788.8	772.8
55°	854.3	841.7	829.0	816.4	803.7	787.1	766.5	746.0	725.4	704.8	688.4
57.5°	772.8	759.7	746.5	733.4	720.2	703.6	683.3	663.0	642.7	622.5	605.8
60°	714.8	702.1	689.5	676.8	664.1	647.7	627.5	607.3	586.9	566.7	550.3
62.5°	662.4	649.3	636.1	622.9	609.8	592.8	572.0	551.3	530.5	509.8	494.5
65°	580.9	567.3	553.8	540.1	526.6	509.6	489.4	469.1	448.9	428.6	415.0
67.5°	496.3	483.3	470.3	457.3	444.3	428.3	409.5	390.7	371.9	353.1	341.4
70°	442.8	429.5	416.3	403.0	389.7	374.0	356.0	338.0	319.9	301.8	291.4
72.5°	385.8	373.9	361.9	349.8	337.8	323.2	306.2	289.2	272.2	255.1	246.2
75°	309.0	297.3	285.5	273.8	262.2	248.9	234.0	219.1	204.3	189.4	182.1
77.5°	231.0	221.1	211.1	201.2	191.2	180.2	168.2	156.2	144.2	132.2	127.9
80°	180.8	171.7	162.5	153.3	144.1	134.8	125.3	115.8	106.3	96.8	95.9
82.5°	137.6	129.1	120.7	112.3	103.9	96.9	91.5	86.1	80.6	75.2	74.5
85°	76.9	70.5	64.2	57.9	51.5	48.0	47.0	46.0	45.1	44.1	43.5
87.5°	26.8	25.3	23.8	22.3	20.8	20.1	20.2	20.2	20.4	20.5	20.5
90°	3.1	5.6	8.2	10.7	13.2	15.4	17.3	19.1	21.0	22.8	24.2
92.5°	13.0	13.2	13.4	13.5	13.6	14.6	16.4	18.3	20.2	21.9	23.4
95°	57.0	49.1	41.3	33.5	25.7	21.8	22.1	22.3	22.6	22.8	24.2
97.5°	121.0	125.9	130.8	135.6	140.5	130.1	104.4	78.7	53.1	27.4	27.5
100°	170.0	174.1	178.3	182.4	186.5	172.7	140.9	109.1	77.4	45.6	41.6
102.5°	224.6	227.7	230.7	233.7	236.7	236.2	232.1	227.9	223.8	219.6	177.5
105°	311.8	313.3	314.6	316.0	317.4	318.7	319.9	320.9	322.1	323.2	325.4
107.5°	392.9	393.6	394.3	394.9	395.7	396.8	398.3	399.9	401.4	403.1	404.0
110°	447.6	448.3	449.0	449.7	450.4	451.4	452.8	454.1	455.6	456.9	457.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	500.7	501.9	503.1	504.4	505.6	506.6	507.2	507.8	508.5	509.2	509.1
115°	582.3	583.0	583.7	584.3	585.1	585.3	585.1	584.9	584.6	584.3	584.9
117.5°	655.9	656.7	657.7	658.6	659.5	660.2	660.8	661.3	661.8	662.3	662.2
120°	705.6	706.5	707.5	708.4	709.3	709.6	709.4	709.2	708.9	708.7	709.2
122.5°	752.0	752.6	753.1	753.7	754.2	754.7	755.0	755.3	755.6	756.0	756.3
125°	818.5	819.5	820.4	821.3	822.2	822.4	822.0	821.5	821.1	820.6	821.3
127.5°	881.5	881.7	882.0	882.3	882.4	883.1	884.1	885.2	886.3	887.3	887.2
130°	922.1	922.4	922.7	922.8	923.1	923.5	924.3	924.9	925.6	926.3	926.5
132.5°	959.5	959.8	960.3	960.7	961.1	961.8	962.6	963.5	964.4	965.3	965.5
135°	1015.4	1015.2	1014.9	1014.7	1014.5	1014.9	1015.7	1016.6	1017.6	1018.5	1019.0
137.5°	1065.0	1065.1	1065.1	1065.2	1065.3	1065.9	1066.8	1067.9	1068.9	1069.9	1070.4
140°	1097.3	1097.7	1098.1	1098.7	1099.1	1099.6	1100.0	1100.5	1100.9	1101.4	1102.1
142.5°	1126.2	1127.1	1127.9	1128.7	1129.6	1130.2	1130.4	1130.7	1131.0	1131.2	1131.8
145°	1170.8	1171.5	1172.2	1172.9	1173.6	1173.9	1173.9	1173.9	1173.9	1173.9	1174.2
147.5°	1206.2	1207.6	1208.8	1210.1	1211.4	1211.9	1211.7	1211.5	1211.2	1211.0	1211.2
150°	1232.0	1232.9	1233.8	1234.8	1235.6	1236.0	1235.7	1235.6	1235.3	1235.0	1235.0
152.5°	1253.5	1254.3	1255.0	1255.7	1256.4	1256.6	1256.2	1255.8	1255.4	1255.0	1255.4
155°	1283.8	1284.0	1284.2	1284.4	1284.7	1284.4	1283.8	1283.1	1282.4	1281.7	1282.6
157.5°	1309.2	1309.1	1308.9	1308.9	1308.7	1308.2	1307.4	1306.7	1305.9	1305.1	1306.3
160°	1324.2	1323.5	1322.8	1322.1	1321.4	1321.0	1320.7	1320.4	1320.3	1320.0	1321.4
162.5°	1337.4	1336.6	1335.7	1334.8	1333.9	1333.4	1333.1	1332.9	1332.7	1332.5	1333.8
165°	1354.2	1353.1	1351.9	1350.8	1349.6	1349.1	1349.1	1349.1	1349.1	1349.1	1350.9
167.5°	1367.4	1366.3	1365.1	1363.9	1362.7	1362.0	1361.9	1361.7	1361.6	1361.5	1363.5
170°	1374.9	1373.6	1372.2	1370.8	1369.4	1368.9	1369.0	1369.3	1369.5	1369.8	1371.6
172.5°	1379.9	1378.5	1377.2	1375.7	1374.4	1373.8	1374.0	1374.3	1374.5	1374.8	1376.5
175°	1385.3	1383.9	1382.5	1381.2	1379.7	1379.2	1379.4	1379.7	1379.9	1380.1	1382.2
177.5°	1387.8	1386.5	1385.2	1383.9	1382.6	1382.2	1382.5	1382.9	1383.3	1383.7	1385.1
180°	1385.3	1385.3	1385.3	1385.3	1385.3	1385.3	1385.3	1385.3	1385.3	1385.3	1385.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1859.6	1859.6	1859.6	1859.6	1859.6	1859.6	1859.6	1859.6
2.5°	1852.6	1855.5	1858.2	1859.5	1859.2	1858.9	1858.7	1858.5
5°	1840.3	1843.4	1846.6	1847.9	1847.3	1846.6	1846.0	1845.4
7.5°	1815.8	1817.8	1819.9	1820.3	1819.4	1818.4	1817.3	1816.3
10°	1793.8	1795.0	1796.4	1796.4	1795.0	1793.8	1792.5	1791.3
12.5°	1766.6	1767.4	1768.1	1767.5	1765.9	1764.1	1762.3	1760.5
15°	1718.8	1718.1	1717.5	1716.1	1713.9	1711.6	1709.5	1707.3
17.5°	1661.3	1659.5	1657.7	1655.2	1651.8	1648.4	1645.1	1641.7
20°	1621.0	1618.5	1616.0	1612.7	1608.6	1604.5	1600.3	1596.2
22.5°	1576.4	1572.5	1568.8	1565.2	1561.8	1558.4	1555.1	1551.8
25°	1504.2	1498.9	1493.5	1489.2	1486.0	1482.9	1479.7	1476.6
27.5°	1430.8	1424.2	1417.6	1411.9	1407.4	1402.8	1398.3	1393.7
30°	1378.1	1370.3	1362.4	1355.8	1350.8	1345.8	1340.7	1335.6
32.5°	1324.4	1315.2	1306.0	1299.0	1294.2	1289.4	1284.6	1279.8
35°	1244.3	1233.6	1222.8	1214.6	1208.9	1203.2	1197.5	1191.8
37.5°	1158.3	1146.3	1134.3	1125.4	1119.7	1114.0	1108.4	1102.7
40°	1101.2	1087.9	1074.6	1065.1	1059.4	1053.6	1048.0	1042.3
42.5°	1044.8	1031.3	1017.7	1008.0	1002.0	996.1	990.2	984.2
45°	958.6	943.1	927.6	916.9	911.3	905.6	899.9	894.2
47.5°	871.7	855.7	839.6	828.4	822.2	815.9	809.6	803.3
50°	814.1	798.3	782.5	771.6	765.6	759.6	753.6	747.5
52.5°	756.7	740.7	724.5	713.4	707.1	700.9	694.6	688.3
55°	671.9	655.5	639.0	627.8	621.8	615.7	609.8	603.7
57.5°	589.2	572.4	555.7	545.1	540.6	535.9	531.4	526.8
60°	533.8	517.4	500.9	490.2	485.1	480.0	474.9	469.8
62.5°	479.4	464.2	449.0	439.3	435.3	431.3	427.2	423.2
65°	401.4	387.8	374.2	365.4	361.7	357.8	354.1	350.3
67.5°	329.8	318.0	306.3	298.4	294.2	290.0	285.8	281.6
70°	281.0	270.5	260.1	253.3	250.1	247.0	243.8	240.7
72.5°	237.3	228.4	219.5	213.6	210.6	207.8	204.8	201.9
75°	174.9	167.6	160.2	155.7	153.8	151.9	150.0	148.1
77.5°	123.7	119.4	115.2	112.8	112.2	111.6	111.1	110.5
80°	95.0	94.0	93.0	92.4	92.1	91.8	91.5	91.1
82.5°	73.8	73.1	72.4	71.9	71.6	71.2	71.0	70.6
85°	42.9	42.3	41.6	41.3	41.3	41.3	41.3	41.3
87.5°	20.5	20.6	20.6	20.8	21.1	21.5	21.8	22.2
90°	25.6	26.9	28.4	29.2	29.7	30.1	30.6	31.1
92.5°	24.7	26.1	27.5	28.3	28.4	28.4	28.5	28.6
95°	25.6	26.9	28.4	29.2	29.3	29.6	29.8	30.1
97.5°	27.6	27.7	27.9	28.1	28.4	28.5	28.8	29.0
100°	37.7	33.9	30.0	28.1	28.4	28.5	28.8	29.0
102.5°	135.2	93.0	50.7	29.7	29.7	29.8	29.8	29.9
105°	327.4	329.5	331.5	328.4	320.1	311.8	303.6	295.3
107.5°	405.1	406.1	407.1	408.0	408.9	409.8	410.6	411.5
110°	457.9	458.3	458.8	459.3	460.0	460.7	461.5	462.1



TEST NUMBER: P333012-940

CATALOG NUMBER: SA4XXRDIP-C1195D1205U940-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	509.0	508.9	508.8	509.2	510.1	511.0	511.8	512.6
115°	585.3	585.8	586.2	586.5	586.5	586.5	586.5	586.5
117.5°	662.1	662.0	661.9	661.8	661.7	661.6	661.6	661.5
120°	709.6	710.1	710.5	710.5	710.1	709.6	709.2	708.7
122.5°	756.5	756.8	757.1	757.0	756.5	756.1	755.5	755.1
125°	822.0	822.7	823.4	823.9	824.0	824.3	824.6	824.7
127.5°	887.1	886.9	886.8	886.6	886.4	886.3	886.1	885.9
130°	926.8	927.0	927.2	927.3	927.3	927.3	927.3	927.3
132.5°	965.7	966.0	966.2	966.2	966.0	965.8	965.6	965.5
135°	1019.4	1019.8	1020.4	1020.8	1021.3	1021.7	1022.2	1022.6
137.5°	1070.9	1071.4	1071.9	1072.1	1072.0	1071.8	1071.7	1071.6
140°	1102.8	1103.5	1104.2	1104.7	1104.8	1105.1	1105.3	1105.5
142.5°	1132.3	1132.7	1133.3	1133.5	1133.6	1133.6	1133.7	1133.7
145°	1174.4	1174.7	1174.8	1175.2	1175.6	1176.1	1176.6	1177.1
147.5°	1211.4	1211.6	1211.7	1211.9	1212.2	1212.5	1212.6	1212.9
150°	1235.0	1235.0	1235.0	1235.2	1235.4	1235.6	1235.9	1236.1
152.5°	1255.7	1256.1	1256.4	1256.5	1256.4	1256.2	1256.2	1256.0
155°	1283.5	1284.4	1285.4	1285.5	1284.8	1284.1	1283.4	1282.7
157.5°	1307.5	1308.7	1309.9	1309.9	1308.7	1307.5	1306.3	1305.1
160°	1322.8	1324.2	1325.5	1325.5	1324.2	1322.8	1321.4	1320.0
162.5°	1335.2	1336.6	1338.0	1337.9	1336.3	1334.8	1333.2	1331.6
165°	1352.7	1354.6	1356.4	1356.3	1354.2	1352.1	1350.1	1348.0
167.5°	1365.6	1367.5	1369.6	1369.4	1367.2	1364.9	1362.5	1360.2
170°	1373.4	1375.3	1377.2	1376.9	1374.6	1372.3	1370.0	1367.7
172.5°	1378.4	1380.3	1382.1	1381.8	1379.3	1376.8	1374.3	1371.8
175°	1384.3	1386.3	1388.4	1388.0	1385.3	1382.5	1379.7	1377.0
177.5°	1386.6	1388.0	1389.6	1389.2	1387.0	1384.7	1382.5	1380.4
180°	1385.3	1385.3	1385.3	1385.3	1385.3	1385.3	1385.3	1385.3

(END OF REPORT)