

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: P332712-840

Luminaire Tested: **SA4XXDIP-C1195D1205U840-4F0-1E-UDD-F**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332712-840
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: SA4XXDIP-C1195D1205U840-4F0-1E-UDD-F
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1205 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

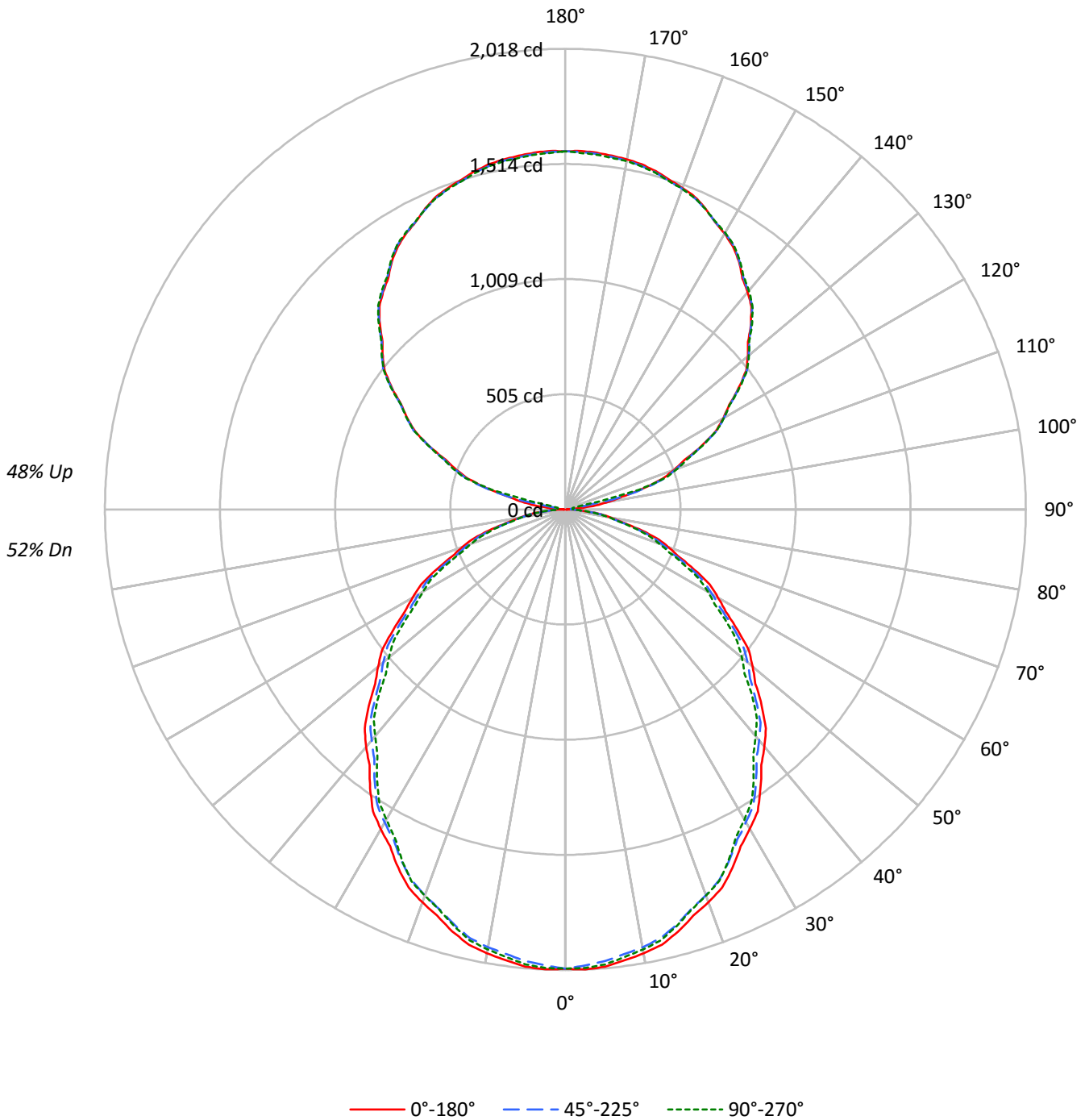
Lumens per Lamp: N/A
Luminaire Lumens: 10021.8 lumens
Efficiency: N/A
Efficacy: 139.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: General Diffuse

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	108	108	108	108	99	99	99	99	84	84	84	70	70	70	58	58	58	52				
1	98	94	90	86	91	87	83	80	74	71	69	62	60	58	51	50	49	43				
2	89	82	76	70	82	76	70	66	65	61	57	54	51	49	45	43	41	36				
3	81	72	65	59	75	67	60	55	57	52	48	48	44	41	40	37	35	31				
4	75	64	56	50	69	59	52	47	51	45	41	43	39	35	35	32	30	26				
5	68	57	49	43	63	53	46	40	45	40	35	38	34	31	32	29	26	23				
6	63	51	43	37	58	47	40	35	41	35	31	35	30	27	29	26	23	20				
7	58	46	38	32	54	43	36	31	37	31	27	32	27	24	26	23	20	18				
8	54	42	34	29	50	39	32	27	34	28	24	29	24	21	24	21	18	16				
9	50	38	31	26	47	36	29	24	31	25	22	27	22	19	22	19	17	14				
10	47	35	28	23	44	33	26	22	29	23	19	25	20	17	21	17	15	13				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	16247	16247	16247
5°	16295	16100	16216
10°	16193	15969	16047
15°	15998	15742	15782
20°	15738	15460	15474
25°	15441	15139	15097
30°	15077	14762	14626
35°	14701	14366	14177
40°	14309	13918	13663
45°	13900	13476	13218
50°	13448	13083	12679
55°	12960	12573	12165
60°	12471	12003	11638
65°	11922	11459	10997
70°	11306	10733	10315
75°	10359	9860	9607
80°	9219	8847	8619
85°	8068	7762	7614



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	189.5	1.9
10°-20°	534.0	5.3
20°-30°	786.0	7.8
30°-40°	913.7	9.1
40°-50°	913.7	9.1
50°-60°	799.3	8.0
60°-70°	593.6	5.9
70°-80°	337.2	3.4
80°-90°	101.9	1.0
90°-100°	53.7	0.5
100°-110°	342.1	3.4
110°-120°	654.5	6.5
120°-130°	830.8	8.3
130°-140°	888.9	8.9
140°-150°	831.2	8.3
150°-160°	670.3	6.7
160°-170°	432.4	4.3
170°-180°	149.0	1.5
0°-30°	1509.5	15.1
0°-40°	2423.2	24.2
0°-60°	4136.2	41.3
0°-90°	5168.9	51.6
90°-120°	1050.3	10.5
90°-150°	3601.3	35.9
90°-180°	4853.0	48.4
0°-180°	10021.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2012	2012	2012	2012	2012	
5°	2011	2004	1987	2003	2001	191
15°	1914	1907	1884	1892	1888	539
25°	1734	1722	1700	1701	1695	797
35°	1492	1480	1458	1447	1438	932
45°	1218	1205	1180	1163	1158	938
55°	921	915	893	875	864	824
65°	624	616	600	584	576	618
75°	332	324	316	310	308	353
85°	87	87	84	84	82	96
90°	4	16	26	33	35	8
95°	64	27	26	33	34	83
105°	353	360	366	374	334	370
115°	659	663	662	664	664	649
125°	927	931	929	933	934	827
135°	1150	1149	1154	1156	1158	886
145°	1326	1329	1330	1331	1333	828
155°	1454	1455	1452	1456	1453	670
165°	1534	1528	1528	1536	1527	433
175°	1569	1562	1563	1572	1559	149
180°	1569	1569	1569	1569	1569	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	2012.5	2012.5	2012.5	2012.5	2012.5	2012.5	2012.5	2012.5	2012.5	2012.5	2012.5
2.5°	2017.6	2016.8	2015.9	2015.1	2014.2	2012.2	2009.0	2005.9	2002.8	1999.6	2002.5
5°	2010.8	2009.4	2008.0	2006.6	2005.2	2002.5	1998.5	1994.6	1990.6	1986.7	1990.6
7.5°	1992.2	1990.7	1989.3	1987.8	1986.4	1983.6	1979.1	1974.8	1970.4	1966.0	1969.2
10°	1975.4	1974.0	1972.6	1971.1	1969.6	1966.6	1962.0	1957.3	1952.7	1948.0	1950.9
12.5°	1953.5	1952.1	1950.6	1949.1	1947.7	1944.5	1939.6	1934.7	1929.8	1924.8	1927.9
15°	1914.1	1912.7	1911.3	1909.9	1908.3	1905.0	1899.6	1894.2	1888.9	1883.5	1885.6
17.5°	1866.7	1864.9	1863.1	1861.4	1859.6	1856.1	1851.0	1845.9	1840.9	1835.7	1837.1
20°	1831.9	1830.1	1828.3	1826.5	1824.7	1821.1	1815.7	1810.4	1805.0	1799.6	1800.7
22.5°	1794.4	1792.1	1789.8	1787.4	1785.0	1781.1	1775.7	1770.4	1765.0	1759.6	1761.6
25°	1733.5	1731.0	1728.5	1726.0	1723.4	1719.7	1714.6	1709.7	1704.7	1699.6	1700.0
27.5°	1663.9	1661.2	1658.7	1656.1	1653.6	1649.9	1645.3	1640.6	1636.0	1631.2	1630.4
30°	1617.4	1614.6	1611.6	1608.8	1606.0	1602.2	1597.5	1592.9	1588.2	1583.6	1582.2
32.5°	1568.4	1565.8	1563.3	1560.6	1558.0	1554.3	1549.3	1544.4	1539.4	1534.5	1532.8
35°	1491.7	1489.1	1486.6	1484.1	1481.6	1477.8	1472.8	1467.8	1462.8	1457.7	1455.2
37.5°	1410.7	1408.4	1406.1	1403.8	1401.5	1397.7	1392.3	1386.9	1381.5	1376.1	1373.4
40°	1357.8	1354.9	1352.0	1349.2	1346.4	1342.2	1336.9	1331.4	1326.1	1320.7	1317.1
42.5°	1301.0	1299.3	1297.6	1295.9	1294.1	1290.3	1284.3	1278.4	1272.4	1266.5	1262.3
45°	1217.5	1215.0	1212.4	1209.9	1207.5	1203.4	1197.6	1191.8	1186.1	1180.4	1176.5
47.5°	1130.0	1128.3	1126.6	1124.9	1123.2	1119.7	1114.4	1109.1	1103.8	1098.5	1094.1
50°	1070.8	1069.3	1067.8	1066.4	1065.0	1061.8	1056.7	1051.8	1046.7	1041.7	1036.7
52.5°	1012.7	1011.0	1009.3	1007.5	1005.8	1002.3	997.0	991.7	986.4	981.1	976.6
55°	920.8	919.7	918.7	917.6	916.5	913.4	908.4	903.4	898.4	893.3	889.1
57.5°	833.0	831.8	830.6	829.4	828.2	825.1	820.1	815.2	810.2	805.3	801.2
60°	772.4	770.6	768.8	767.1	765.3	762.0	757.4	752.8	748.0	743.4	740.1
62.5°	713.1	711.6	710.0	708.5	707.1	703.9	698.9	694.0	689.0	684.1	681.2
65°	624.1	622.3	620.5	618.6	616.9	614.2	610.7	607.0	603.5	599.9	596.3
67.5°	534.4	532.8	531.1	529.5	527.9	525.2	521.8	518.4	514.9	511.5	508.1
70°	479.0	476.5	473.9	471.4	468.9	466.3	463.3	460.5	457.6	454.7	451.9
72.5°	419.6	417.1	414.5	412.0	409.6	407.2	404.9	402.5	400.3	398.0	395.7
75°	332.1	330.4	328.6	326.8	325.0	323.3	321.4	319.6	317.9	316.1	314.7
77.5°	248.6	247.8	247.1	246.3	245.5	244.3	242.8	241.2	239.6	238.0	237.6
80°	198.3	197.2	196.2	195.1	194.1	193.2	192.5	191.7	191.0	190.3	189.6
82.5°	149.4	148.9	148.3	147.8	147.3	147.0	146.8	146.7	146.5	146.4	146.0
85°	87.1	87.1	87.1	87.1	87.1	86.7	86.0	85.3	84.5	83.8	83.8
87.5°	34.2	34.5	34.8	35.1	35.3	35.6	35.7	35.9	36.0	36.2	36.5
90°	3.5	6.4	9.3	12.1	14.9	17.5	19.6	21.6	23.7	25.9	27.4
92.5°	14.7	14.9	15.1	15.2	15.5	16.6	18.6	20.7	22.8	24.8	26.5
95°	64.5	55.6	46.8	38.0	29.1	24.7	25.0	25.2	25.5	25.9	27.4
97.5°	137.0	142.6	148.1	153.6	159.2	147.3	118.3	89.2	60.1	31.0	31.1
100°	192.5	197.1	201.9	206.5	211.3	195.6	159.6	123.6	87.7	51.6	47.2
102.5°	254.4	257.8	261.3	264.7	268.1	267.5	262.9	258.1	253.5	248.7	201.0
105°	353.1	354.8	356.3	357.9	359.4	360.9	362.2	363.5	364.8	366.1	368.5
107.5°	444.9	445.8	446.6	447.3	448.1	449.4	451.1	452.9	454.6	456.5	457.6
110°	507.0	507.7	508.5	509.3	510.1	511.2	512.8	514.3	515.9	517.5	518.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	567.0	568.5	569.8	571.2	572.6	573.7	574.4	575.1	575.9	576.6	576.5
115°	659.4	660.2	661.1	661.8	662.6	662.9	662.6	662.4	662.1	661.8	662.4
117.5°	742.8	743.8	744.9	745.9	746.9	747.7	748.3	748.9	749.5	750.0	749.9
120°	799.1	800.1	801.2	802.2	803.2	803.7	803.4	803.1	802.8	802.6	803.1
122.5°	851.6	852.3	852.9	853.5	854.1	854.6	855.1	855.4	855.8	856.2	856.5
125°	927.0	928.1	929.1	930.1	931.2	931.4	930.9	930.4	929.9	929.4	930.1
127.5°	998.4	998.6	998.9	999.2	999.4	1000.1	1001.3	1002.5	1003.7	1004.9	1004.7
130°	1044.3	1044.6	1044.9	1045.1	1045.4	1045.9	1046.7	1047.4	1048.2	1049.0	1049.2
132.5°	1086.6	1087.0	1087.5	1088.0	1088.4	1089.2	1090.1	1091.2	1092.2	1093.2	1093.4
135°	1149.9	1149.7	1149.4	1149.1	1148.9	1149.3	1150.3	1151.3	1152.5	1153.5	1154.0
137.5°	1206.1	1206.2	1206.3	1206.4	1206.5	1207.1	1208.2	1209.4	1210.5	1211.6	1212.2
140°	1242.6	1243.1	1243.6	1244.3	1244.8	1245.3	1245.8	1246.3	1246.8	1247.4	1248.1
142.5°	1275.5	1276.5	1277.4	1278.3	1279.3	1279.9	1280.2	1280.5	1280.8	1281.1	1281.7
145°	1326.0	1326.8	1327.6	1328.3	1329.1	1329.5	1329.5	1329.5	1329.5	1329.5	1329.8
147.5°	1366.0	1367.6	1369.0	1370.5	1371.9	1372.5	1372.3	1372.0	1371.7	1371.5	1371.7
150°	1395.2	1396.2	1397.2	1398.4	1399.4	1399.8	1399.5	1399.3	1399.0	1398.7	1398.7
152.5°	1419.6	1420.5	1421.3	1422.1	1422.9	1423.1	1422.7	1422.2	1421.7	1421.3	1421.7
155°	1453.9	1454.1	1454.4	1454.6	1454.9	1454.6	1453.9	1453.1	1452.3	1451.5	1452.6
157.5°	1482.7	1482.6	1482.4	1482.3	1482.1	1481.6	1480.7	1479.9	1478.9	1478.0	1479.4
160°	1499.6	1498.8	1498.0	1497.3	1496.5	1496.0	1495.7	1495.4	1495.2	1494.9	1496.5
162.5°	1514.6	1513.7	1512.7	1511.7	1510.7	1510.1	1509.7	1509.5	1509.2	1509.0	1510.6
165°	1533.7	1532.4	1531.1	1529.7	1528.4	1527.8	1527.8	1527.8	1527.8	1527.8	1529.8
167.5°	1548.6	1547.3	1546.0	1544.6	1543.3	1542.5	1542.4	1542.2	1542.1	1541.9	1544.2
170°	1557.1	1555.6	1554.0	1552.5	1550.8	1550.2	1550.4	1550.7	1551.0	1551.3	1553.4
172.5°	1562.8	1561.2	1559.6	1558.0	1556.5	1555.8	1556.1	1556.4	1556.6	1556.9	1558.9
175°	1568.8	1567.3	1565.7	1564.2	1562.6	1562.0	1562.2	1562.5	1562.8	1563.0	1565.3
177.5°	1571.7	1570.2	1568.7	1567.3	1565.8	1565.3	1565.7	1566.1	1566.6	1567.0	1568.6
180°	1568.8	1568.8	1568.8	1568.8	1568.8	1568.8	1568.8	1568.8	1568.8	1568.8	1568.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	2012.5	2012.5	2012.5	2012.5	2012.5	2012.5	2012.5	2012.5
2.5°	2005.3	2008.2	2011.0	2012.4	2012.1	2011.8	2011.4	2011.1
5°	1994.6	1998.5	2002.5	2004.1	2003.4	2002.7	2002.0	2001.1
7.5°	1972.4	1975.5	1978.6	1980.0	1979.6	1979.1	1978.7	1978.3
10°	1953.7	1956.6	1959.4	1960.6	1959.8	1959.1	1958.3	1957.6
12.5°	1931.1	1934.2	1937.4	1938.4	1937.4	1936.4	1935.4	1934.4
15°	1887.7	1890.0	1892.1	1892.6	1891.6	1890.5	1889.4	1888.3
17.5°	1838.5	1839.9	1841.2	1841.5	1840.8	1840.1	1839.4	1838.7
20°	1801.8	1802.8	1803.9	1804.1	1803.4	1802.7	1802.0	1801.2
22.5°	1763.5	1765.4	1767.4	1767.7	1766.5	1765.1	1763.8	1762.5
25°	1700.4	1700.7	1701.1	1700.5	1699.1	1697.7	1696.3	1694.9
27.5°	1629.5	1628.7	1627.8	1626.5	1624.7	1623.0	1621.1	1619.3
30°	1580.6	1579.2	1577.8	1576.2	1574.4	1572.7	1570.8	1569.0
32.5°	1531.1	1529.3	1527.6	1525.9	1524.1	1522.3	1520.6	1518.7
35°	1452.8	1450.3	1447.7	1445.6	1443.8	1442.0	1440.2	1438.5
37.5°	1370.7	1368.0	1365.2	1362.7	1360.4	1358.0	1355.6	1353.2
40°	1313.5	1309.9	1306.4	1303.6	1301.9	1300.1	1298.3	1296.5
42.5°	1258.2	1254.1	1249.9	1247.2	1246.0	1244.8	1243.5	1242.3
45°	1172.6	1168.6	1164.7	1162.2	1161.0	1159.9	1158.9	1157.8
47.5°	1089.6	1085.2	1080.8	1077.1	1074.4	1071.7	1068.9	1066.2
50°	1031.7	1026.6	1021.7	1018.0	1015.9	1013.8	1011.6	1009.5
52.5°	972.2	967.8	963.3	959.8	957.0	954.3	951.6	948.9
55°	884.7	880.5	876.2	872.9	870.8	868.7	866.5	864.3
57.5°	797.2	793.0	789.0	785.9	783.9	781.7	779.6	777.6
60°	736.9	733.8	730.5	728.0	726.2	724.4	722.7	720.8
62.5°	678.1	675.2	672.3	669.9	668.1	666.3	664.6	662.8
65°	592.7	589.2	585.5	582.9	581.1	579.3	577.4	575.7
67.5°	504.6	501.2	497.8	495.7	495.2	494.7	494.2	493.7
70°	449.0	446.2	443.2	441.3	440.2	439.2	438.1	437.0
72.5°	393.4	391.1	388.8	387.1	386.1	385.0	383.8	382.8
75°	313.2	311.7	310.3	309.4	309.1	308.7	308.3	308.0
77.5°	237.1	236.7	236.3	235.6	234.7	233.8	232.8	231.9
80°	188.8	188.1	187.4	186.9	186.5	186.1	185.8	185.4
82.5°	145.5	145.1	144.7	144.3	143.9	143.6	143.2	142.9
85°	83.8	83.8	83.8	83.7	83.3	82.9	82.6	82.2
87.5°	36.8	37.1	37.4	37.6	37.7	37.8	37.9	38.0
90°	29.0	30.5	32.1	33.1	33.6	34.1	34.6	35.2
92.5°	28.0	29.6	31.1	32.0	32.1	32.2	32.3	32.4
95°	29.0	30.5	32.1	33.0	33.2	33.5	33.7	34.0
97.5°	31.3	31.4	31.6	31.8	32.1	32.3	32.6	32.8
100°	42.7	38.4	33.9	31.8	32.1	32.3	32.6	32.8
102.5°	153.1	105.3	57.5	33.6	33.6	33.7	33.7	33.8
105°	370.8	373.1	375.5	371.9	362.5	353.1	343.9	334.5
107.5°	458.8	459.9	461.0	462.1	463.1	464.1	465.0	466.1
110°	518.6	519.1	519.6	520.2	521.0	521.8	522.6	523.3



TEST NUMBER: P332712-840

CATALOG NUMBER: SA4XXDIP-C1195D1205U840-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	576.4	576.3	576.2	576.6	577.6	578.7	579.7	580.6
115°	662.9	663.4	663.9	664.2	664.2	664.2	664.2	664.2
117.5°	749.8	749.7	749.6	749.5	749.4	749.3	749.2	749.1
120°	803.7	804.2	804.7	804.7	804.2	803.7	803.1	802.6
122.5°	856.8	857.1	857.4	857.3	856.8	856.3	855.7	855.2
125°	930.9	931.7	932.5	933.0	933.2	933.5	933.8	934.0
127.5°	1004.6	1004.4	1004.3	1004.1	1003.9	1003.7	1003.5	1003.3
130°	1049.6	1049.9	1050.1	1050.2	1050.2	1050.2	1050.2	1050.2
132.5°	1093.7	1094.0	1094.2	1094.2	1094.0	1093.8	1093.6	1093.4
135°	1154.5	1155.0	1155.6	1156.1	1156.6	1157.1	1157.6	1158.1
137.5°	1212.8	1213.4	1214.0	1214.2	1214.1	1213.9	1213.7	1213.6
140°	1248.9	1249.7	1250.5	1251.0	1251.2	1251.5	1251.7	1252.0
142.5°	1282.3	1282.8	1283.4	1283.7	1283.8	1283.8	1283.9	1283.9
145°	1330.0	1330.3	1330.5	1330.9	1331.4	1331.9	1332.5	1333.0
147.5°	1371.9	1372.1	1372.3	1372.5	1372.8	1373.1	1373.3	1373.6
150°	1398.7	1398.7	1398.7	1398.9	1399.1	1399.4	1399.7	1399.9
152.5°	1422.1	1422.5	1422.9	1423.0	1422.9	1422.7	1422.6	1422.4
155°	1453.6	1454.6	1455.7	1455.8	1455.0	1454.2	1453.5	1452.7
157.5°	1480.8	1482.1	1483.5	1483.5	1482.1	1480.8	1479.4	1478.0
160°	1498.0	1499.6	1501.2	1501.2	1499.6	1498.0	1496.5	1494.9
162.5°	1512.2	1513.7	1515.3	1515.2	1513.4	1511.7	1509.8	1508.0
165°	1532.0	1534.1	1536.1	1536.0	1533.7	1531.3	1528.9	1526.6
167.5°	1546.5	1548.7	1551.1	1550.8	1548.3	1545.7	1543.1	1540.4
170°	1555.4	1557.5	1559.6	1559.3	1556.7	1554.1	1551.6	1548.9
172.5°	1561.0	1563.2	1565.2	1564.9	1562.1	1559.2	1556.4	1553.6
175°	1567.7	1570.0	1572.4	1572.0	1568.8	1565.7	1562.6	1559.4
177.5°	1570.3	1572.0	1573.7	1573.3	1570.7	1568.2	1565.7	1563.3
180°	1568.8	1568.8	1568.8	1568.8	1568.8	1568.8	1568.8	1568.8

(END OF REPORT)