

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: P332857-830

Luminaire Tested: **S124DIW-S1195D1340U830-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332857-830
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIW-S1195D1340U830-4F0-1E-UDD-F
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1340 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9880.9 lumens
Efficiency: N/A
Efficacy: 129.7 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

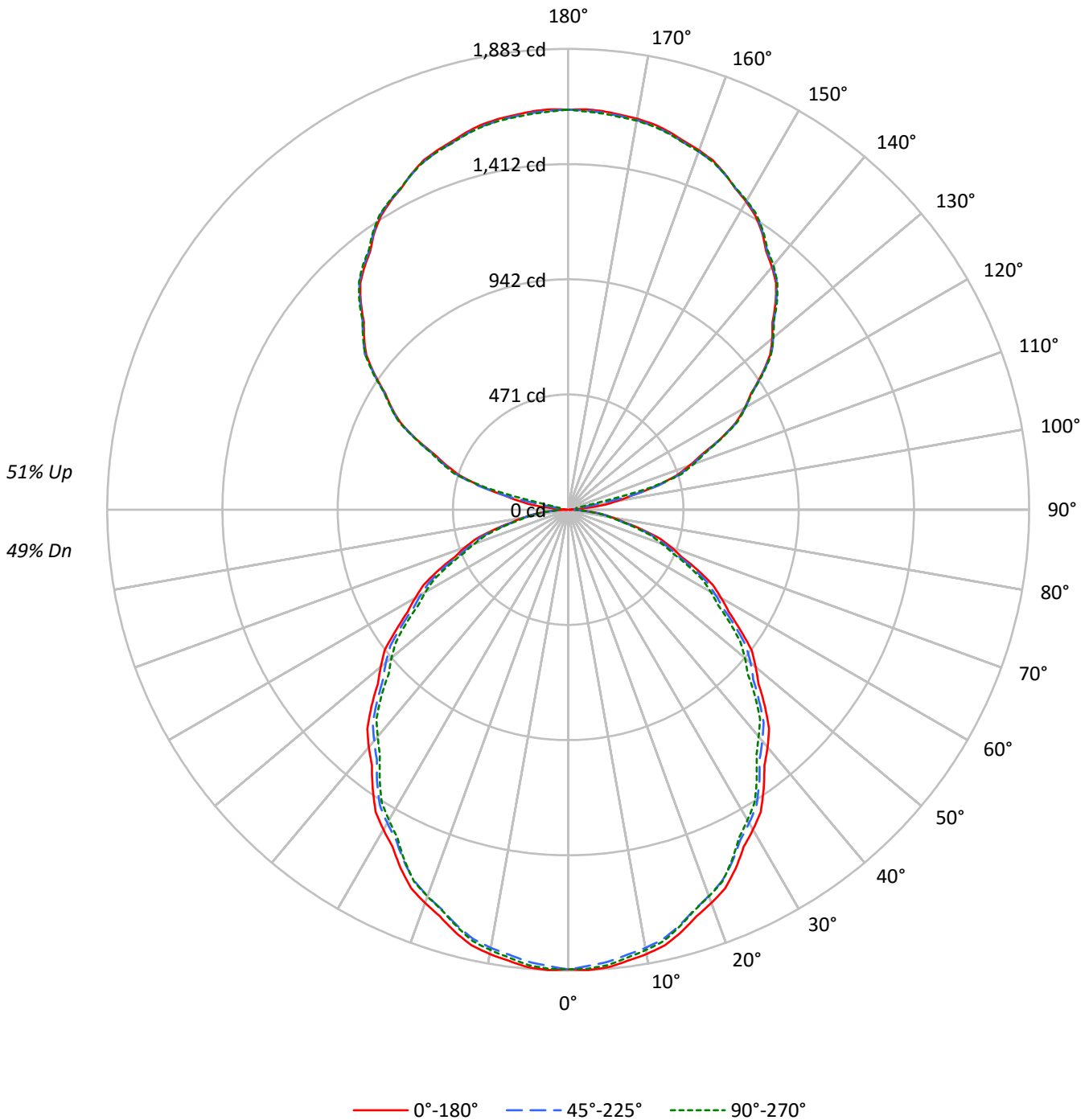
Input Watts (W): 76.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332857-830

CATALOG NUMBER: S124DIW-S1195D1340U830-4F0-1E-UDD-F

Luminous Intensity Polar Plot





TEST NUMBER: P332857-830

CATALOG NUMBER: S124DIW-S1195D1340U830-4F0-1E-UDD-F

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	107	107	107	107	98	98	98	98	83	83	83	68	68	68	55	55	55	49
1	97	93	89	86	90	86	83	80	72	70	68	60	58	57	49	47	46	41
2	89	81	75	70	81	75	70	65	63	60	56	53	50	47	43	41	39	34
3	81	71	64	58	74	66	60	55	56	51	47	47	43	40	38	35	33	29
4	74	63	55	49	68	59	52	46	50	44	40	41	38	34	34	31	29	25
5	68	56	48	42	62	52	45	40	44	39	35	37	33	30	30	27	25	22
6	63	51	42	37	57	47	40	34	40	34	30	34	29	26	28	24	22	19
7	58	46	38	32	53	42	35	30	36	31	27	31	26	23	25	22	20	17
8	54	41	34	28	49	39	32	27	33	28	24	28	24	21	23	20	17	15
9	50	38	30	25	46	35	28	24	30	25	21	26	22	18	21	18	16	14
10	47	35	27	23	43	32	26	21	28	23	19	24	20	17	20	17	14	12

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	15163	15163	15163
5°	15209	15027	15135
10°	15114	14905	14978
15°	14931	14692	14730
20°	14689	14430	14442
25°	14412	14130	14091
30°	14072	13778	13651
35°	13720	13409	13232
40°	13354	12991	12752
45°	12973	12578	12337
50°	12552	12210	11833
55°	12096	11736	11354
60°	11641	11202	10863
65°	11127	10695	10264
70°	10551	10017	9626
75°	9669	9201	8968
80°	8605	8257	8047
85°	7521	7243	7104



TEST NUMBER: P332857-830

CATALOG NUMBER: S124DIW-S1195D1340U830-4F0-1E-UDD-F

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	176.9	1.8
10°-20°	498.4	5.0
20°-30°	733.6	7.4
30°-40°	852.8	8.6
40°-50°	852.8	8.6
50°-60°	746.0	7.5
60°-70°	554.0	5.6
70°-80°	314.7	3.2
80°-90°	95.6	1.0
90°-100°	55.9	0.6
100°-110°	356.4	3.6
110°-120°	681.9	6.9
120°-130°	865.6	8.8
130°-140°	926.1	9.4
140°-150°	866.0	8.8
150°-160°	698.4	7.1
160°-170°	450.5	4.6
170°-180°	155.3	1.6
0°-30°	1408.8	14.3
0°-40°	2261.6	22.9
0°-60°	3860.5	39.1
0°-90°	4824.8	48.8
90°-120°	1094.2	11.1
90°-150°	3752.0	38.0
90°-180°	5056.0	51.2
0°-180°	9880.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1878	1878	1878	1878	1878	
5°	1877	1870	1854	1870	1868	178
15°	1786	1780	1758	1766	1762	503
25°	1618	1607	1586	1587	1582	744
35°	1392	1381	1361	1350	1343	870
45°	1136	1125	1102	1086	1081	876
55°	859	854	834	816	807	769
65°	582	575	560	545	537	577
75°	310	302	295	289	288	329
85°	81	81	78	78	77	90
90°	4	17	27	34	37	8
95°	67	28	27	34	35	86
105°	368	375	381	389	348	385
115°	687	690	690	692	692	676
125°	966	970	968	972	973	862
135°	1198	1197	1202	1204	1207	923
145°	1382	1385	1385	1386	1389	863
155°	1515	1516	1512	1517	1514	698
165°	1598	1592	1592	1600	1590	451
175°	1635	1628	1628	1638	1625	156
180°	1635	1635	1635	1635	1635	



TEST NUMBER: P332857-830

CATALOG NUMBER: S124DIW-S1195D1340U830-4F0-1E-UDD-F

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1878.3	1878.3	1878.3	1878.3	1878.3	1878.3	1878.3	1878.3	1878.3	1878.3	1878.3
2.5°	1883.1	1882.4	1881.5	1880.7	1879.9	1878.0	1875.1	1872.2	1869.3	1866.3	1869.0
5°	1876.8	1875.5	1874.2	1872.8	1871.5	1869.0	1865.3	1861.6	1857.9	1854.3	1857.9
7.5°	1859.4	1858.0	1856.7	1855.3	1854.0	1851.3	1847.2	1843.1	1839.1	1834.9	1838.0
10°	1843.7	1842.4	1841.1	1839.7	1838.3	1835.5	1831.2	1826.8	1822.5	1818.2	1820.8
12.5°	1823.3	1821.9	1820.5	1819.2	1817.9	1814.9	1810.3	1805.7	1801.1	1796.5	1799.4
15°	1786.5	1785.2	1783.9	1782.5	1781.1	1778.0	1772.9	1767.9	1762.9	1757.9	1759.9
17.5°	1742.3	1740.6	1738.9	1737.3	1735.6	1732.4	1727.6	1722.9	1718.2	1713.4	1714.7
20°	1709.8	1708.1	1706.4	1704.8	1703.1	1699.7	1694.7	1689.7	1684.7	1679.6	1680.6
22.5°	1674.8	1672.6	1670.5	1668.2	1666.0	1662.4	1657.4	1652.4	1647.4	1642.3	1644.2
25°	1618.0	1615.6	1613.3	1610.9	1608.5	1605.1	1600.3	1595.7	1591.0	1586.3	1586.7
27.5°	1552.9	1550.5	1548.1	1545.7	1543.3	1539.9	1535.6	1531.3	1526.9	1522.5	1521.7
30°	1509.6	1506.9	1504.2	1501.6	1498.9	1495.3	1491.0	1486.7	1482.3	1478.0	1476.7
32.5°	1463.9	1461.4	1459.1	1456.6	1454.2	1450.7	1446.0	1441.4	1436.8	1432.2	1430.6
35°	1392.2	1389.9	1387.5	1385.2	1382.8	1379.3	1374.6	1370.0	1365.3	1360.6	1358.2
37.5°	1316.6	1314.5	1312.4	1310.2	1308.1	1304.5	1299.5	1294.5	1289.4	1284.4	1281.9
40°	1267.2	1264.6	1261.9	1259.2	1256.6	1252.7	1247.7	1242.6	1237.7	1232.7	1229.3
42.5°	1214.3	1212.7	1211.1	1209.5	1207.9	1204.3	1198.7	1193.2	1187.6	1182.0	1178.2
45°	1136.3	1134.0	1131.6	1129.3	1127.0	1123.1	1117.8	1112.4	1107.0	1101.7	1098.1
47.5°	1054.7	1053.1	1051.5	1049.9	1048.3	1045.1	1040.1	1035.2	1030.2	1025.3	1021.2
50°	999.4	998.1	996.6	995.3	994.0	991.0	986.3	981.7	976.9	972.2	967.6
52.5°	945.2	943.6	942.0	940.4	938.8	935.5	930.6	925.6	920.7	915.7	911.5
55°	859.4	858.4	857.4	856.4	855.4	852.5	847.8	843.2	838.5	833.8	829.8
57.5°	777.5	776.4	775.2	774.1	773.0	770.1	765.4	760.8	756.2	751.6	747.8
60°	721.0	719.3	717.6	716.0	714.3	711.2	706.9	702.6	698.1	693.8	690.8
62.5°	665.5	664.1	662.7	661.3	660.0	657.0	652.3	647.7	643.1	638.5	635.7
65°	582.5	580.8	579.1	577.4	575.8	573.3	570.0	566.6	563.3	559.9	556.6
67.5°	498.8	497.3	495.7	494.2	492.7	490.2	487.0	483.8	480.6	477.4	474.2
70°	447.0	444.7	442.3	440.0	437.6	435.2	432.4	429.8	427.1	424.4	421.8
72.5°	391.6	389.3	386.9	384.6	382.3	380.0	377.9	375.7	373.6	371.5	369.3
75°	310.0	308.4	306.7	305.0	303.3	301.7	300.0	298.3	296.7	295.0	293.7
77.5°	232.1	231.3	230.6	229.9	229.1	228.0	226.6	225.1	223.7	222.2	221.8
80°	185.1	184.1	183.1	182.1	181.2	180.3	179.6	178.9	178.2	177.6	176.9
82.5°	139.4	138.9	138.5	138.0	137.5	137.2	137.0	137.0	136.8	136.7	136.3
85°	81.2	81.2	81.2	81.2	81.2	81.0	80.3	79.6	78.9	78.2	78.2
87.5°	32.0	32.3	32.7	33.0	33.4	33.6	33.7	33.9	34.1	34.3	34.6
90°	3.7	6.7	9.6	12.6	15.6	18.2	20.4	22.5	24.7	26.9	28.6
92.5°	15.4	15.6	15.7	15.9	16.0	17.2	19.4	21.6	23.8	25.9	27.5
95°	67.2	58.0	48.7	39.5	30.3	25.8	26.1	26.4	26.6	26.9	28.6
97.5°	142.8	148.5	154.3	160.0	165.8	153.5	123.2	92.9	62.6	32.2	32.4
100°	200.5	205.4	210.3	215.2	220.1	203.8	166.3	128.8	91.2	53.8	49.2
102.5°	265.0	268.6	272.2	275.8	279.4	278.7	273.8	269.0	264.1	259.2	209.3
105°	368.0	369.6	371.3	372.9	374.5	376.0	377.4	378.7	380.0	381.4	383.9
107.5°	463.5	464.4	465.2	466.0	466.8	468.2	470.0	471.8	473.7	475.6	476.7
110°	528.1	529.0	529.8	530.6	531.4	532.6	534.2	535.8	537.5	539.1	539.7



TEST NUMBER: P332857-830

CATALOG NUMBER: S124DIW-S1195D1340U830-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	590.7	592.2	593.7	595.1	596.6	597.7	598.5	599.3	600.0	600.8	600.7
115°	687.0	687.9	688.7	689.5	690.3	690.6	690.3	690.0	689.8	689.5	690.0
117.5°	773.8	775.0	776.0	777.1	778.2	779.0	779.7	780.2	780.8	781.5	781.4
120°	832.5	833.6	834.7	835.8	836.9	837.3	837.1	836.8	836.5	836.2	836.8
122.5°	887.3	888.0	888.6	889.3	889.9	890.4	890.8	891.2	891.6	891.9	892.3
125°	965.8	966.9	968.0	969.0	970.2	970.4	969.9	969.3	968.7	968.3	969.0
127.5°	1040.1	1040.4	1040.7	1040.9	1041.2	1042.0	1043.2	1044.4	1045.8	1047.0	1046.8
130°	1088.1	1088.4	1088.6	1088.8	1089.1	1089.7	1090.5	1091.3	1092.1	1093.0	1093.3
132.5°	1132.1	1132.6	1133.0	1133.5	1134.0	1134.8	1135.9	1136.8	1137.8	1138.9	1139.2
135°	1198.1	1197.8	1197.5	1197.3	1197.0	1197.4	1198.4	1199.6	1200.7	1201.7	1202.3
137.5°	1256.5	1256.6	1256.7	1256.9	1257.0	1257.6	1258.8	1260.0	1261.2	1262.3	1263.0
140°	1294.7	1295.2	1295.7	1296.3	1296.8	1297.4	1297.9	1298.4	1299.0	1299.6	1300.3
142.5°	1328.9	1329.8	1330.9	1331.8	1332.8	1333.4	1333.8	1334.1	1334.5	1334.7	1335.4
145°	1381.5	1382.2	1383.1	1383.9	1384.7	1385.2	1385.2	1385.2	1385.2	1385.2	1385.4
147.5°	1423.2	1424.7	1426.3	1427.9	1429.4	1430.0	1429.7	1429.5	1429.2	1428.9	1429.1
150°	1453.6	1454.7	1455.8	1456.9	1457.9	1458.3	1458.1	1457.8	1457.5	1457.3	1457.3
152.5°	1479.0	1479.9	1480.7	1481.6	1482.5	1482.7	1482.2	1481.7	1481.2	1480.7	1481.2
155°	1514.8	1514.9	1515.2	1515.5	1515.8	1515.5	1514.8	1513.9	1513.1	1512.3	1513.3
157.5°	1544.8	1544.6	1544.5	1544.3	1544.2	1543.6	1542.7	1541.7	1540.9	1539.9	1541.3
160°	1562.4	1561.6	1560.8	1559.9	1559.2	1558.6	1558.3	1558.0	1557.7	1557.6	1559.2
162.5°	1578.0	1577.0	1576.0	1575.0	1574.0	1573.3	1573.0	1572.7	1572.4	1572.2	1573.8
165°	1597.9	1596.5	1595.2	1593.7	1592.4	1591.8	1591.8	1591.8	1591.8	1591.8	1593.9
167.5°	1613.5	1612.1	1610.7	1609.3	1607.9	1607.0	1606.9	1606.8	1606.6	1606.4	1608.8
170°	1622.3	1620.7	1619.0	1617.4	1615.8	1615.1	1615.3	1615.6	1615.9	1616.2	1618.3
172.5°	1628.1	1626.5	1624.9	1623.2	1621.6	1621.0	1621.3	1621.6	1621.7	1622.0	1624.2
175°	1634.6	1632.9	1631.3	1629.7	1628.0	1627.3	1627.6	1627.9	1628.1	1628.4	1630.9
177.5°	1637.5	1636.0	1634.4	1632.9	1631.4	1630.8	1631.3	1631.7	1632.1	1632.6	1634.3
180°	1634.6	1634.6	1634.6	1634.6	1634.6	1634.6	1634.6	1634.6	1634.6	1634.6	1634.6



TEST NUMBER: P332857-830

CATALOG NUMBER: S124DIW-S1195D1340U830-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1878.3	1878.3	1878.3	1878.3	1878.3	1878.3	1878.3	1878.3
2.5°	1871.6	1874.3	1877.0	1878.2	1877.9	1877.6	1877.4	1877.1
5°	1861.6	1865.3	1869.0	1870.5	1869.8	1869.2	1868.5	1867.7
7.5°	1840.9	1843.8	1846.7	1848.0	1847.7	1847.2	1846.8	1846.4
10°	1823.4	1826.2	1828.8	1829.9	1829.2	1828.5	1827.8	1827.1
12.5°	1802.3	1805.3	1808.3	1809.2	1808.3	1807.3	1806.4	1805.4
15°	1761.9	1764.0	1765.9	1766.4	1765.5	1764.4	1763.4	1762.5
17.5°	1715.9	1717.2	1718.4	1718.7	1718.1	1717.4	1716.7	1716.1
20°	1681.7	1682.6	1683.7	1683.9	1683.2	1682.5	1681.9	1681.1
22.5°	1646.0	1647.8	1649.5	1649.8	1648.7	1647.5	1646.2	1645.0
25°	1587.1	1587.3	1587.7	1587.1	1585.8	1584.5	1583.2	1581.9
27.5°	1520.9	1520.1	1519.3	1518.1	1516.4	1514.8	1513.1	1511.4
30°	1475.3	1473.9	1472.6	1471.1	1469.4	1467.8	1466.1	1464.4
32.5°	1429.0	1427.4	1425.8	1424.2	1422.5	1420.8	1419.2	1417.5
35°	1355.9	1353.6	1351.2	1349.2	1347.6	1345.9	1344.2	1342.6
37.5°	1279.3	1276.8	1274.2	1271.9	1269.7	1267.4	1265.3	1263.0
40°	1226.0	1222.6	1219.3	1216.7	1215.1	1213.4	1211.7	1210.0
42.5°	1174.3	1170.4	1166.6	1164.0	1162.9	1161.8	1160.6	1159.5
45°	1094.4	1090.7	1087.0	1084.7	1083.6	1082.6	1081.7	1080.6
47.5°	1017.0	1012.9	1008.7	1005.3	1002.8	1000.2	997.7	995.1
50°	962.9	958.2	953.6	950.2	948.2	946.2	944.1	942.2
52.5°	907.4	903.2	899.1	895.8	893.2	890.7	888.2	885.6
55°	825.8	821.8	817.7	814.7	812.8	810.8	808.7	806.7
57.5°	744.0	740.2	736.4	733.5	731.6	729.6	727.6	725.8
60°	687.8	684.9	681.8	679.5	677.8	676.1	674.5	672.8
62.5°	632.9	630.2	627.5	625.3	623.6	621.9	620.3	618.6
65°	553.2	549.9	546.5	544.0	542.3	540.6	538.9	537.3
67.5°	471.0	467.8	464.6	462.7	462.2	461.8	461.3	460.8
70°	419.1	416.4	413.7	411.9	410.9	409.9	408.9	407.8
72.5°	367.2	365.0	362.9	361.3	360.3	359.3	358.3	357.3
75°	292.3	291.0	289.6	288.8	288.5	288.1	287.8	287.5
77.5°	221.3	220.9	220.6	219.9	219.0	218.2	217.3	216.4
80°	176.3	175.6	174.9	174.5	174.1	173.7	173.4	173.1
82.5°	135.8	135.4	135.1	134.7	134.3	134.0	133.7	133.4
85°	78.2	78.2	78.2	78.1	77.8	77.4	77.1	76.7
87.5°	35.0	35.3	35.5	35.8	35.9	36.0	36.1	36.2
90°	30.2	31.8	33.5	34.5	35.1	35.6	36.1	36.7
92.5°	29.2	30.8	32.4	33.3	33.5	33.6	33.6	33.7
95°	30.2	31.8	33.5	34.4	34.6	34.9	35.2	35.4
97.5°	32.6	32.8	32.9	33.2	33.5	33.6	33.9	34.2
100°	44.6	40.0	35.3	33.2	33.5	33.6	33.9	34.2
102.5°	159.6	109.7	59.9	35.0	35.1	35.1	35.2	35.3
105°	386.3	388.8	391.2	387.6	377.8	368.0	358.2	348.5
107.5°	478.0	479.2	480.3	481.5	482.5	483.5	484.6	485.6
110°	540.3	540.7	541.3	542.0	542.8	543.7	544.4	545.3



TEST NUMBER: P332857-830

CATALOG NUMBER: S124DIW-S1195D1340U830-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	600.5	600.4	600.3	600.8	601.8	602.9	603.9	604.9
115°	690.6	691.2	691.6	691.9	691.9	691.9	691.9	691.9
117.5°	781.2	781.1	781.0	780.9	780.8	780.7	780.6	780.4
120°	837.3	837.8	838.4	838.4	837.8	837.3	836.8	836.2
122.5°	892.6	893.0	893.2	893.2	892.6	892.0	891.6	891.0
125°	969.9	970.7	971.5	972.0	972.3	972.6	972.9	973.2
127.5°	1046.7	1046.5	1046.3	1046.1	1045.9	1045.7	1045.5	1045.3
130°	1093.4	1093.7	1094.0	1094.2	1094.2	1094.2	1094.2	1094.2
132.5°	1139.4	1139.7	1140.0	1140.0	1139.8	1139.6	1139.3	1139.2
135°	1202.9	1203.3	1203.9	1204.5	1205.0	1205.5	1206.1	1206.6
137.5°	1263.6	1264.1	1264.8	1265.0	1264.8	1264.7	1264.5	1264.3
140°	1301.2	1302.0	1302.8	1303.3	1303.6	1303.9	1304.2	1304.5
142.5°	1336.0	1336.5	1337.2	1337.5	1337.6	1337.6	1337.7	1337.7
145°	1385.6	1385.9	1386.2	1386.7	1387.1	1387.7	1388.3	1388.8
147.5°	1429.4	1429.6	1429.7	1430.0	1430.3	1430.6	1430.8	1431.1
150°	1457.3	1457.3	1457.3	1457.4	1457.6	1457.9	1458.2	1458.5
152.5°	1481.6	1482.1	1482.4	1482.6	1482.4	1482.2	1482.1	1482.0
155°	1514.5	1515.5	1516.6	1516.7	1516.0	1515.1	1514.3	1513.5
157.5°	1542.8	1544.2	1545.6	1545.6	1544.2	1542.8	1541.3	1539.9
160°	1560.8	1562.4	1564.1	1564.1	1562.4	1560.8	1559.2	1557.6
162.5°	1575.5	1577.1	1578.7	1578.6	1576.8	1574.9	1573.0	1571.2
165°	1596.1	1598.3	1600.4	1600.2	1597.9	1595.4	1593.0	1590.5
167.5°	1611.2	1613.5	1616.0	1615.8	1613.1	1610.3	1607.7	1605.0
170°	1620.5	1622.7	1624.8	1624.6	1621.9	1619.2	1616.5	1613.7
172.5°	1626.4	1628.6	1630.8	1630.4	1627.4	1624.5	1621.6	1618.6
175°	1633.3	1635.8	1638.2	1637.8	1634.6	1631.3	1628.0	1624.8
177.5°	1636.1	1637.8	1639.6	1639.1	1636.4	1633.9	1631.3	1628.6
180°	1634.6	1634.6	1634.6	1634.6	1634.6	1634.6	1634.6	1634.6

(END OF REPORT)