

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: P332087

Luminaire Tested: **S123DIP-S1165D1195U835-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332087
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIP-S1165D1195U835-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1195 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9530.2 lumens
Efficiency: N/A
Efficacy: 132.9 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: General Diffuse

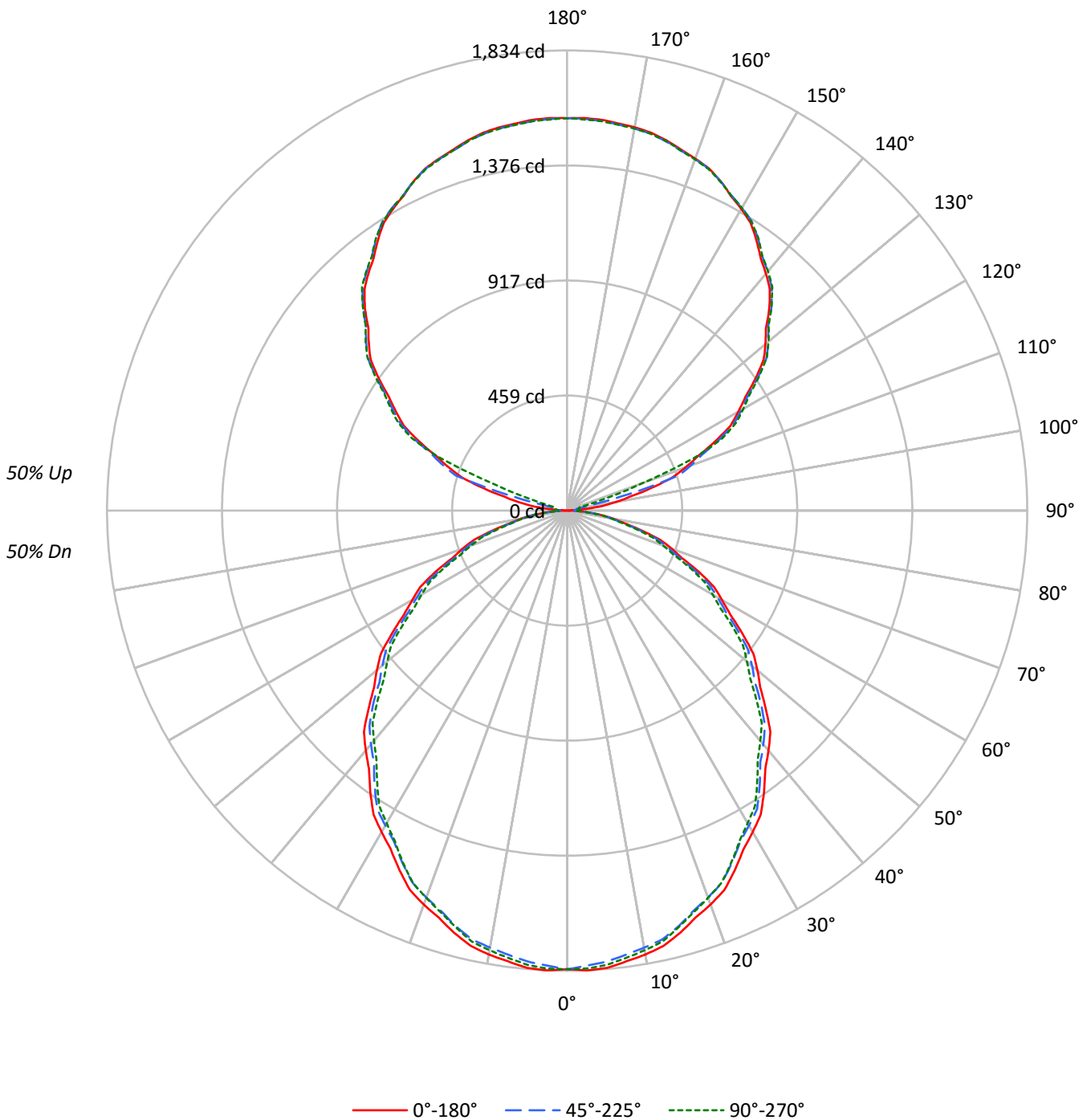
Input Watts (W): 71.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20										
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	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	93	89	86	90	86	83	80	73	71	68	61	59	57	49	48	47	42																				
2	89	81	75	70	82	75	70	65	64	60	56	53	50	48	43	41	40	35																				
3	81	72	64	58	75	66	60	55	56	51	47	47	43	40	39	36	34	30																				
4	74	63	55	49	68	59	52	46	50	45	40	42	38	35	34	31	29	25																				
5	68	56	48	42	63	52	45	40	45	39	35	38	33	30	31	28	25	22																				
6	63	51	42	37	58	47	40	35	40	35	30	34	30	26	28	25	22	19																				
7	58	46	38	32	53	43	35	30	37	31	27	31	27	23	26	22	20	17																				
8	54	41	34	28	50	39	32	27	33	28	24	28	24	21	24	20	18	15																				
9	50	38	30	25	46	35	29	24	31	25	21	26	22	19	22	18	16	14																				
10	47	35	27	23	43	32	26	21	28	23	19	24	20	17	20	17	15	13																				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	19678	19678	19678
5°	19770	19498	19634
10°	19638	19329	19449
15°	19409	19110	19146
20°	19140	18798	18816
25°	18781	18427	18389
30°	18385	18013	17877
35°	17971	17578	17350
40°	17537	17096	16831
45°	17061	16653	16247
50°	16583	16109	15662
55°	15959	15546	15073
60°	15330	14889	14415
65°	14772	14174	13733
70°	13951	13357	12765
75°	12747	12289	11765
80°	11499	11009	10916
85°	10090	9707	9324



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	172.2	1.8
10°-20°	486.2	5.1
20°-30°	718.3	7.5
30°-40°	839.0	8.8
40°-50°	843.5	8.9
50°-60°	740.9	7.8
60°-70°	552.0	5.8
70°-80°	314.5	3.3
80°-90°	94.6	1.0
90°-100°	56.9	0.6
100°-110°	271.0	2.8
110°-120°	650.9	6.8
120°-130°	828.8	8.7
130°-140°	885.6	9.3
140°-150°	828.1	8.7
150°-160°	668.0	7.0
160°-170°	431.1	4.5
170°-180°	148.6	1.6
0°-30°	1376.7	14.4
0°-40°	2215.7	23.2
0°-60°	3800.2	39.9
0°-90°	4761.3	50.0
90°-120°	978.7	10.3
90°-150°	3521.2	36.9
90°-180°	4769.0	50.0
0°-180°	9530.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1828	1828	1828	1828	1828	
5°	1830	1821	1804	1819	1817	173
15°	1742	1735	1715	1726	1718	491
25°	1581	1571	1552	1553	1548	728
35°	1368	1358	1338	1328	1320	855
45°	1121	1114	1094	1076	1067	865
55°	850	848	828	812	803	761
65°	580	572	556	544	539	572
75°	306	300	296	288	283	328
85°	82	79	79	76	76	90
90°	1	13	28	32	35	8
95°	71	27	36	44	44	88
105°	346	352	254	60	51	367
115°	650	657	667	678	683	641
125°	916	925	929	932	934	817
135°	1140	1147	1151	1154	1151	877
145°	1315	1323	1326	1328	1328	823
155°	1449	1447	1448	1453	1446	667
165°	1528	1524	1523	1531	1524	431
175°	1564	1558	1559	1566	1558	149
180°	1564	1564	1564	1564	1564	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1828.1	1828.1	1828.1	1828.1	1828.1	1828.1	1828.1	1828.1	1828.1	1828.1	1828.1
2.5°	1834.4	1833.3	1832.2	1831.1	1829.9	1827.8	1824.8	1821.7	1818.6	1815.5	1818.3
5°	1829.7	1828.0	1826.2	1824.5	1822.7	1819.9	1816.1	1812.2	1808.4	1804.5	1808.0
7.5°	1811.8	1810.0	1808.3	1806.5	1804.8	1801.9	1797.9	1794.0	1790.0	1786.0	1789.1
10°	1796.7	1794.9	1793.2	1791.4	1789.7	1786.6	1782.0	1777.5	1772.9	1768.4	1771.5
12.5°	1776.6	1775.1	1773.6	1772.2	1770.7	1767.8	1763.6	1759.3	1755.0	1750.8	1753.1
15°	1741.7	1740.3	1738.9	1737.5	1736.1	1733.1	1728.6	1724.0	1719.5	1714.9	1717.7
17.5°	1701.1	1699.3	1697.5	1695.7	1693.8	1690.7	1686.1	1681.6	1677.0	1672.5	1674.5
20°	1670.9	1668.8	1666.7	1664.6	1662.6	1659.2	1654.7	1650.2	1645.6	1641.1	1642.5
22.5°	1637.0	1634.9	1632.8	1630.7	1628.6	1625.3	1620.7	1616.2	1611.7	1607.1	1608.2
25°	1581.3	1579.2	1577.1	1575.0	1573.0	1569.6	1565.1	1560.6	1556.0	1551.5	1551.8
27.5°	1521.9	1519.9	1517.9	1515.8	1513.8	1510.4	1505.5	1500.6	1495.7	1490.8	1491.1
30°	1479.2	1477.4	1475.7	1473.9	1472.2	1468.9	1464.0	1459.1	1454.2	1449.3	1449.3
32.5°	1436.4	1434.1	1431.8	1429.5	1427.2	1424.1	1420.4	1416.6	1412.8	1409.1	1407.1
35°	1367.6	1365.5	1363.4	1361.3	1359.2	1355.9	1351.3	1346.8	1342.2	1337.7	1335.6
37.5°	1297.1	1294.5	1291.8	1289.2	1286.5	1282.9	1278.3	1273.7	1269.1	1264.4	1261.9
40°	1248.1	1246.0	1243.9	1241.8	1239.7	1236.2	1231.3	1226.4	1221.5	1216.7	1213.9
42.5°	1199.0	1196.7	1194.3	1191.9	1189.5	1185.9	1181.0	1176.1	1171.2	1166.4	1163.6
45°	1120.8	1119.4	1118.0	1116.6	1115.2	1112.2	1107.7	1103.1	1098.6	1094.0	1089.9
47.5°	1043.1	1041.1	1039.1	1037.0	1035.0	1031.9	1027.6	1023.3	1019.1	1014.8	1010.7
50°	990.3	988.6	986.8	985.1	983.3	980.2	975.6	971.1	966.5	962.0	958.2
52.5°	935.0	933.8	932.6	931.4	930.2	927.2	922.4	917.6	912.8	907.9	904.6
55°	850.4	850.1	849.7	849.4	849.0	846.6	842.0	837.5	832.9	828.4	824.6
57.5°	769.9	768.7	767.5	766.4	765.2	762.8	759.1	755.5	751.9	748.2	744.8
60°	712.1	711.7	711.4	711.0	710.7	708.4	704.2	700.0	695.8	691.6	688.5
62.5°	660.5	659.6	658.7	657.8	656.9	654.3	650.1	645.9	641.8	637.6	634.4
65°	580.0	578.3	576.5	574.8	573.0	570.4	566.9	563.4	559.9	556.5	553.7
67.5°	494.8	493.3	491.8	490.2	488.7	486.6	483.9	481.3	478.6	476.0	473.5
70°	443.3	441.2	439.1	437.0	434.9	432.8	430.7	428.6	426.5	424.4	422.0
72.5°	389.2	387.7	386.1	384.6	383.1	381.1	378.7	376.3	374.0	371.6	369.4
75°	306.5	305.1	303.7	302.3	300.9	299.7	298.7	297.6	296.6	295.5	293.8
77.5°	233.3	232.5	231.7	231.0	230.2	229.2	227.9	226.7	225.4	224.2	223.0
80°	185.5	184.4	183.4	182.3	181.3	180.4	179.7	179.0	178.3	177.6	177.3
82.5°	139.0	138.7	138.5	138.3	138.1	137.9	137.8	137.7	137.5	137.4	136.8
85°	81.7	81.0	80.3	79.6	78.9	78.6	78.6	78.6	78.6	78.6	77.9
87.5°	32.9	32.6	32.3	32.0	31.6	31.7	32.1	32.5	32.9	33.2	33.2
90°	1.2	3.7	6.3	8.9	11.5	14.5	17.8	21.2	24.5	27.9	28.9
92.5°	21.6	20.9	20.2	19.4	18.7	19.6	22.2	24.7	27.2	29.7	31.4
95°	70.9	60.3	49.7	39.1	28.5	24.7	27.5	30.3	33.2	36.0	37.8
97.5°	142.4	137.7	132.9	128.2	123.4	111.8	93.2	74.6	56.0	37.4	39.5
100°	196.3	201.5	206.7	211.8	217.0	199.4	159.2	118.9	78.6	38.3	40.4
102.5°	257.7	261.4	265.1	268.8	272.6	252.4	208.4	164.4	120.4	76.4	70.0
105°	346.2	349.1	351.9	354.7	357.6	347.4	324.1	300.9	277.7	254.4	208.7
107.5°	439.6	441.9	444.2	446.4	448.7	451.7	455.4	459.0	462.7	466.4	432.8
110°	501.9	504.0	506.0	508.1	510.2	512.6	515.5	518.3	521.1	524.0	515.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	561.4	563.2	565.1	567.0	568.8	571.2	574.0	576.9	579.7	582.5	582.7
115°	649.5	651.0	652.5	654.1	655.6	657.6	659.9	662.2	664.6	666.9	669.5
117.5°	734.7	736.6	738.5	740.5	742.4	743.9	745.1	746.3	747.5	748.7	750.7
120°	787.7	790.0	792.4	794.7	797.0	798.6	799.3	800.1	800.9	801.6	803.7
122.5°	841.6	843.5	845.4	847.3	849.3	850.7	851.7	852.7	853.6	854.6	856.1
125°	915.5	917.6	919.6	921.7	923.8	925.3	926.3	927.4	928.4	929.4	930.0
127.5°	987.1	989.1	991.2	993.3	995.3	997.0	998.2	999.5	1000.7	1001.9	1002.8
130°	1031.7	1033.8	1035.8	1037.9	1039.9	1041.5	1042.5	1043.6	1044.6	1045.6	1046.7
132.5°	1074.4	1076.5	1078.6	1080.6	1082.7	1084.1	1085.0	1085.8	1086.6	1087.5	1088.5
135°	1139.7	1141.3	1142.8	1144.4	1145.9	1147.2	1148.3	1149.3	1150.3	1151.4	1152.1
137.5°	1195.5	1197.5	1199.4	1201.4	1203.4	1204.6	1205.2	1205.8	1206.3	1206.9	1208.1
140°	1232.7	1234.2	1235.8	1237.3	1238.9	1240.0	1240.8	1241.6	1242.4	1243.1	1244.2
142.5°	1267.1	1268.6	1270.2	1271.7	1273.3	1274.4	1275.2	1276.0	1276.8	1277.5	1278.4
145°	1315.2	1317.0	1318.8	1320.6	1322.4	1323.6	1324.1	1324.6	1325.1	1325.6	1326.1
147.5°	1360.5	1361.7	1362.9	1364.0	1365.2	1366.1	1366.6	1367.1	1367.6	1368.1	1368.7
150°	1388.4	1389.1	1389.9	1390.7	1391.5	1392.1	1392.6	1393.1	1393.7	1394.2	1394.7
152.5°	1413.5	1413.8	1414.2	1414.5	1414.9	1415.2	1415.5	1415.9	1416.2	1416.5	1417.4
155°	1448.8	1448.3	1447.7	1447.2	1446.7	1446.6	1446.8	1447.1	1447.4	1447.6	1448.9
157.5°	1476.2	1476.1	1476.1	1476.0	1476.0	1475.8	1475.6	1475.3	1475.1	1474.8	1476.4
160°	1492.9	1492.7	1492.4	1492.2	1491.9	1491.6	1491.4	1491.1	1490.9	1490.6	1492.2
162.5°	1508.7	1508.1	1507.4	1506.7	1506.0	1505.6	1505.3	1505.1	1504.8	1504.5	1506.3
165°	1527.8	1527.0	1526.2	1525.5	1524.7	1524.2	1523.9	1523.6	1523.4	1523.1	1525.2
167.5°	1542.7	1541.6	1540.6	1539.6	1538.5	1538.0	1538.0	1538.0	1538.0	1538.0	1540.1
170°	1551.0	1550.0	1549.0	1547.9	1546.9	1546.4	1546.4	1546.4	1546.4	1546.4	1548.4
172.5°	1556.6	1555.4	1554.1	1552.9	1551.6	1551.1	1551.3	1551.5	1551.7	1551.9	1554.0
175°	1563.8	1562.5	1561.2	1559.9	1558.6	1558.1	1558.4	1558.6	1558.9	1559.1	1561.0
177.5°	1565.7	1564.6	1563.6	1562.6	1561.5	1561.1	1561.3	1561.5	1561.7	1561.9	1563.6
180°	1563.8	1563.8	1563.8	1563.8	1563.8	1563.8	1563.8	1563.8	1563.8	1563.8	1563.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1828.1	1828.1	1828.1	1828.1	1828.1	1828.1	1828.1	1828.1
2.5°	1821.1	1823.9	1826.7	1828.0	1827.7	1827.4	1827.1	1826.9
5°	1811.5	1815.0	1818.5	1819.9	1819.2	1818.5	1817.8	1817.1
7.5°	1792.3	1795.4	1798.6	1799.9	1799.5	1799.1	1798.7	1798.3
10°	1774.7	1777.8	1781.0	1782.2	1781.5	1780.8	1780.1	1779.4
12.5°	1755.4	1757.7	1760.0	1761.0	1760.5	1760.1	1759.7	1759.3
15°	1720.5	1723.3	1726.1	1726.5	1724.4	1722.3	1720.2	1718.1
17.5°	1676.4	1678.4	1680.3	1680.9	1680.2	1679.4	1678.6	1677.9
20°	1643.9	1645.3	1646.7	1646.8	1645.8	1644.7	1643.7	1642.6
22.5°	1609.4	1610.5	1611.6	1611.5	1610.2	1608.8	1607.5	1606.2
25°	1552.2	1552.5	1552.9	1552.5	1551.5	1550.4	1549.4	1548.3
27.5°	1491.4	1491.6	1491.9	1491.4	1490.1	1488.7	1487.4	1486.1
30°	1449.3	1449.3	1449.3	1448.1	1445.6	1443.2	1440.7	1438.3
32.5°	1405.1	1403.2	1401.2	1399.6	1398.3	1396.9	1395.6	1394.3
35°	1333.5	1331.4	1329.3	1327.4	1325.6	1323.9	1322.1	1320.4
37.5°	1259.4	1256.9	1254.4	1252.6	1251.4	1250.3	1249.2	1248.1
40°	1211.1	1208.3	1205.5	1203.4	1202.0	1200.6	1199.2	1197.8
42.5°	1160.8	1158.0	1155.2	1153.1	1151.7	1150.3	1148.9	1147.5
45°	1085.7	1081.5	1077.3	1074.3	1072.6	1070.8	1069.1	1067.3
47.5°	1006.6	1002.5	998.3	995.5	994.0	992.4	990.9	989.4
50°	954.3	950.5	946.6	943.7	941.6	939.5	937.4	935.3
52.5°	901.4	898.1	894.8	892.1	890.0	887.9	885.8	883.7
55°	820.7	816.9	813.0	810.2	808.5	806.7	805.0	803.2
57.5°	741.4	738.0	734.5	731.8	729.8	727.8	725.7	723.7
60°	685.4	682.2	679.1	676.6	674.9	673.1	671.4	669.6
62.5°	631.3	628.1	625.0	622.8	621.6	620.4	619.3	618.1
65°	550.9	548.1	545.3	543.4	542.3	541.3	540.2	539.2
67.5°	471.1	468.6	466.2	464.2	462.8	461.3	459.8	458.4
70°	419.5	417.1	414.6	412.5	410.8	409.0	407.3	405.6
72.5°	367.3	365.1	362.9	361.4	360.5	359.6	358.7	357.8
75°	292.0	290.3	288.5	287.1	286.1	285.0	284.0	282.9
77.5°	221.8	220.6	219.4	218.8	218.8	218.8	218.8	218.8
80°	176.9	176.6	176.2	176.1	176.1	176.1	176.1	176.1
82.5°	136.1	135.5	134.9	134.4	134.1	133.9	133.6	133.3
85°	77.2	76.5	75.8	75.5	75.5	75.5	75.5	75.5
87.5°	33.1	33.0	33.0	33.0	33.1	33.2	33.3	33.4
90°	29.9	31.0	32.0	32.8	33.3	33.8	34.3	34.9
92.5°	33.0	34.7	36.4	37.3	37.6	38.0	38.3	38.6
95°	39.6	41.4	43.2	44.1	44.1	44.1	44.1	44.1
97.5°	41.5	43.6	45.7	46.8	47.1	47.4	47.6	47.9
100°	42.5	44.5	46.6	47.8	48.0	48.3	48.5	48.8
102.5°	63.6	57.2	50.8	47.9	48.3	48.8	49.3	49.7
105°	163.0	117.3	71.6	49.1	49.6	50.1	50.6	51.1
107.5°	399.3	365.8	332.3	298.3	263.9	229.4	195.0	160.6
110°	506.9	498.4	489.9	467.2	430.3	393.3	356.4	319.5



TEST NUMBER: P332087

CATALOG NUMBER: S123DIP-S1165D1195U835-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	582.8	583.0	583.2	579.3	571.5	563.7	555.9	548.1
115°	672.0	674.6	677.2	679.0	680.0	681.1	682.1	683.1
117.5°	752.8	754.9	756.9	758.1	758.3	758.5	758.7	758.9
120°	805.8	807.8	809.9	810.9	810.9	810.9	810.9	810.9
122.5°	857.5	859.0	860.4	861.2	861.4	861.6	861.9	862.1
125°	930.5	931.0	931.5	932.0	932.5	933.1	933.6	934.1
127.5°	1003.6	1004.4	1005.2	1005.4	1004.9	1004.4	1003.9	1003.3
130°	1047.7	1048.7	1049.8	1050.0	1049.5	1049.0	1048.5	1048.0
132.5°	1089.5	1090.6	1091.6	1091.7	1091.0	1090.3	1089.6	1088.8
135°	1152.9	1153.7	1154.5	1154.5	1153.7	1152.9	1152.1	1151.4
137.5°	1209.4	1210.6	1211.8	1212.2	1211.7	1211.2	1210.7	1210.1
140°	1245.2	1246.2	1247.3	1247.5	1247.0	1246.5	1246.0	1245.5
142.5°	1279.2	1280.0	1280.8	1280.9	1280.2	1279.4	1278.7	1278.0
145°	1326.7	1327.2	1327.7	1327.9	1327.9	1327.9	1327.9	1327.9
147.5°	1369.2	1369.7	1370.2	1369.9	1368.7	1367.5	1366.3	1365.1
150°	1395.2	1395.7	1396.2	1396.1	1395.3	1394.6	1393.8	1393.0
152.5°	1418.3	1419.3	1420.2	1420.1	1418.9	1417.7	1416.5	1415.3
155°	1450.2	1451.5	1452.8	1452.6	1451.1	1449.6	1448.0	1446.5
157.5°	1477.9	1479.4	1481.0	1480.8	1478.8	1476.7	1474.7	1472.7
160°	1493.7	1495.2	1496.8	1496.7	1494.9	1493.1	1491.2	1489.4
162.5°	1508.1	1509.8	1511.6	1511.6	1510.0	1508.4	1506.8	1505.2
165°	1527.3	1529.3	1531.4	1531.5	1529.7	1527.9	1526.1	1524.3
167.5°	1542.1	1544.2	1546.3	1546.3	1544.2	1542.1	1540.1	1538.0
170°	1550.5	1552.6	1554.6	1554.6	1552.6	1550.5	1548.4	1546.4
172.5°	1556.1	1558.1	1560.2	1560.1	1557.8	1555.6	1553.3	1551.0
175°	1562.8	1564.6	1566.4	1566.2	1564.2	1562.1	1560.1	1558.0
177.5°	1565.2	1566.9	1568.5	1568.3	1566.3	1564.2	1562.1	1560.1
180°	1563.8	1563.8	1563.8	1563.8	1563.8	1563.8	1563.8	1563.8

(END OF REPORT)