

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: P332858

Luminaire Tested: **S124DIW-S1195D1340U835-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332858
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIW-S1195D1340U835-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9771.2 lumens
Efficiency: N/A
Efficacy: 128.2 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

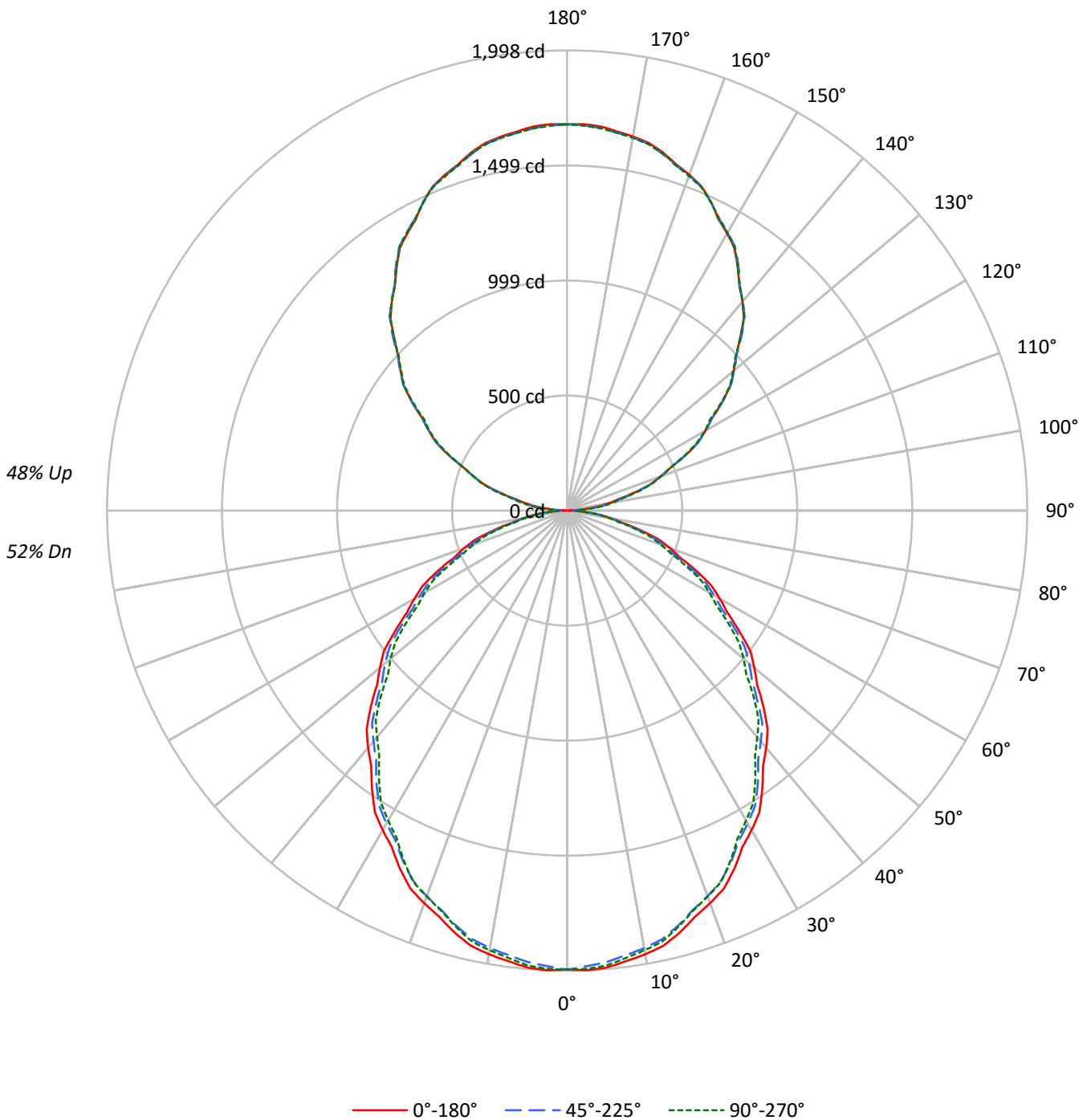
Input Watts (W): 76.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	16088	16088	16088
5°	16136	15943	16058
10°	16035	15813	15891
15°	15841	15588	15628
20°	15584	15309	15323
25°	15291	14991	14949
30°	14930	14618	14483
35°	14557	14226	14038
40°	14169	13782	13529
45°	13764	13345	13089
50°	13317	12955	12554
55°	12833	12451	12047
60°	12350	11885	11525
65°	11805	11347	10890
70°	11195	10629	10213
75°	10259	9763	9513
80°	9131	8759	8536
85°	7984	7688	7540



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	187.7	1.9
10°-20°	528.8	5.4
20°-30°	778.3	8.0
30°-40°	904.8	9.3
40°-50°	904.8	9.3
50°-60°	791.5	8.1
60°-70°	587.8	6.0
70°-80°	333.9	3.4
80°-90°	101.4	1.0
90°-100°	110.6	1.1
100°-110°	327.6	3.4
110°-120°	556.1	5.7
120°-130°	733.3	7.5
130°-140°	823.5	8.4
140°-150°	809.2	8.3
150°-160°	680.6	7.0
160°-170°	452.8	4.6
170°-180°	158.6	1.6
0°-30°	1494.7	15.3
0°-40°	2399.5	24.6
0°-60°	4095.8	41.9
0°-90°	5118.9	52.4
90°-120°	994.3	10.2
90°-150°	3360.3	34.4
90°-180°	4652.0	47.6
0°-180°	9771.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1993	1993	1993	1993	1993	
5°	1991	1984	1967	1984	1982	189
15°	1895	1888	1865	1874	1870	534
25°	1717	1705	1683	1684	1678	789
35°	1477	1465	1444	1433	1424	923
45°	1206	1194	1169	1152	1146	929
55°	912	906	885	866	856	816
65°	618	610	594	578	570	612
75°	329	321	313	307	305	350
85°	86	86	83	83	81	95
90°	4	18	28	36	39	10
95°	78	89	99	102	102	87
105°	302	304	309	313	316	321
115°	565	565	563	562	560	557
125°	824	823	822	820	817	734
135°	1062	1070	1070	1067	1063	821
145°	1290	1295	1297	1295	1292	807
155°	1478	1478	1477	1482	1477	680
165°	1609	1606	1603	1610	1606	453
175°	1674	1668	1666	1675	1666	159
180°	1677	1677	1677	1677	1677	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1992.8	1992.8	1992.8	1992.8	1992.8	1992.8	1992.8	1992.8	1992.8	1992.8	1992.8
2.5°	1997.9	1997.1	1996.2	1995.4	1994.5	1992.5	1989.4	1986.3	1983.2	1980.1	1982.9
5°	1991.2	1989.8	1988.4	1987.0	1985.6	1982.9	1979.0	1975.1	1971.2	1967.3	1971.2
7.5°	1972.7	1971.3	1969.9	1968.4	1967.0	1964.2	1959.8	1955.5	1951.2	1946.8	1950.0
10°	1956.1	1954.7	1953.3	1951.8	1950.4	1947.4	1942.8	1938.2	1933.6	1929.0	1931.8
12.5°	1934.4	1933.0	1931.5	1930.1	1928.7	1925.5	1920.7	1915.8	1910.9	1906.0	1909.1
15°	1895.4	1894.0	1892.6	1891.2	1889.7	1886.4	1881.0	1875.7	1870.4	1865.1	1867.2
17.5°	1848.5	1846.7	1844.9	1843.2	1841.4	1838.0	1832.9	1827.9	1822.9	1817.8	1819.2
20°	1814.0	1812.2	1810.4	1808.7	1806.9	1803.3	1798.0	1792.7	1787.4	1782.0	1783.1
22.5°	1776.9	1774.6	1772.3	1769.9	1767.6	1763.7	1758.4	1753.1	1747.8	1742.4	1744.4
25°	1716.6	1714.1	1711.6	1709.1	1706.6	1702.9	1697.9	1693.0	1688.0	1683.0	1683.4
27.5°	1647.6	1645.0	1642.5	1639.9	1637.4	1633.8	1629.2	1624.6	1620.0	1615.3	1614.5
30°	1601.6	1598.8	1595.9	1593.1	1590.3	1586.5	1581.9	1577.3	1572.7	1568.1	1566.7
32.5°	1553.1	1550.5	1548.0	1545.4	1542.8	1539.1	1534.2	1529.3	1524.4	1519.5	1517.8
35°	1477.1	1474.6	1472.1	1469.6	1467.1	1463.4	1458.4	1453.5	1448.5	1443.5	1441.0
37.5°	1396.9	1394.6	1392.4	1390.1	1387.8	1384.0	1378.7	1373.4	1368.0	1362.7	1360.0
40°	1344.5	1341.7	1338.8	1336.0	1333.2	1329.1	1323.8	1318.4	1313.1	1307.8	1304.2
42.5°	1288.3	1286.6	1284.9	1283.2	1281.5	1277.7	1271.8	1265.9	1260.0	1254.1	1250.0
45°	1205.6	1203.1	1200.6	1198.1	1195.7	1191.6	1185.9	1180.2	1174.5	1168.9	1165.0
47.5°	1119.0	1117.3	1115.6	1113.9	1112.2	1108.8	1103.5	1098.3	1093.0	1087.8	1083.4
50°	1060.3	1058.9	1057.4	1056.0	1054.6	1051.4	1046.4	1041.5	1036.5	1031.5	1026.6
52.5°	1002.8	1001.1	999.4	997.7	996.0	992.5	987.3	982.0	976.8	971.5	967.1
55°	911.8	910.7	909.7	908.6	907.5	904.5	899.5	894.6	889.6	884.6	880.4
57.5°	824.9	823.7	822.5	821.3	820.1	817.0	812.1	807.2	802.3	797.4	793.4
60°	764.9	763.1	761.3	759.6	757.8	754.6	750.0	745.4	740.7	736.1	732.9
62.5°	706.1	704.6	703.1	701.6	700.2	697.0	692.1	687.2	682.3	677.4	674.5
65°	618.0	616.2	614.4	612.6	610.9	608.2	604.7	601.1	597.6	594.0	590.5
67.5°	529.2	527.6	525.9	524.3	522.7	520.1	516.7	513.3	509.9	506.5	503.1
70°	474.3	471.8	469.3	466.8	464.3	461.7	458.8	456.0	453.1	450.3	447.5
72.5°	415.5	413.0	410.5	408.0	405.6	403.2	400.9	398.6	396.4	394.1	391.8
75°	328.9	327.2	325.4	323.6	321.8	320.1	318.3	316.5	314.8	313.0	311.6
77.5°	246.2	245.4	244.7	243.9	243.1	241.9	240.4	238.8	237.3	235.7	235.3
80°	196.4	195.3	194.3	193.2	192.2	191.3	190.6	189.8	189.1	188.4	187.7
82.5°	147.9	147.4	146.9	146.4	145.9	145.6	145.4	145.3	145.1	145.0	144.6
85°	86.2	86.2	86.2	86.2	86.2	85.9	85.2	84.5	83.7	83.0	83.0
87.5°	34.0	34.3	34.7	35.0	35.4	35.7	35.8	36.0	36.2	36.4	36.7
90°	3.9	7.1	10.2	13.4	16.6	19.3	21.6	23.9	26.2	28.5	30.3
92.5°	27.8	31.4	35.0	38.6	42.3	44.9	46.5	48.1	49.7	51.4	52.4
95°	77.8	80.4	83.0	85.6	88.2	90.5	92.5	94.5	96.5	98.6	99.4
97.5°	135.9	138.0	140.1	142.1	144.2	146.4	148.8	151.2	153.5	155.9	156.9
100°	181.6	182.7	183.9	185.0	186.2	188.0	190.6	193.2	195.8	198.4	199.0
102.5°	229.3	229.8	230.2	230.7	231.1	232.5	234.9	237.3	239.6	242.0	242.8
105°	302.2	302.5	302.8	303.0	303.3	304.0	305.2	306.4	307.5	308.7	309.5
107.5°	378.7	379.0	379.4	379.7	380.1	380.3	380.5	380.7	380.9	381.0	381.8
110°	430.6	431.1	431.7	432.3	432.9	433.0	432.7	432.4	432.2	431.9	431.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	484.5	484.6	484.7	484.9	485.0	484.8	484.3	483.7	483.2	482.7	482.6
115°	565.4	565.4	565.4	565.4	565.4	565.2	564.6	564.0	563.4	562.8	562.6
117.5°	641.7	641.9	642.2	642.4	642.6	642.5	642.1	641.7	641.3	640.9	639.9
120°	692.5	693.7	694.8	696.0	697.1	697.3	696.4	695.6	694.7	693.8	692.4
122.5°	745.4	745.9	746.4	746.8	747.3	747.3	746.9	746.5	746.1	745.7	744.7
125°	823.5	823.5	823.5	823.5	823.5	823.4	823.1	822.8	822.5	822.2	821.6
127.5°	894.3	895.2	896.1	896.9	897.8	898.0	897.5	897.1	896.6	896.1	895.6
130°	944.1	945.0	945.9	946.7	947.6	948.0	948.0	948.0	948.0	948.0	947.4
132.5°	995.0	995.6	996.2	996.9	997.5	997.7	997.5	997.2	997.0	996.8	996.2
135°	1062.1	1063.9	1065.6	1067.3	1069.1	1069.9	1069.9	1069.9	1069.9	1069.9	1069.4
137.5°	1135.3	1136.1	1136.9	1137.7	1138.5	1139.2	1139.6	1140.1	1140.5	1141.0	1140.2
140°	1184.1	1184.6	1185.2	1185.8	1186.4	1186.6	1186.6	1186.6	1186.6	1186.6	1186.4
142.5°	1228.7	1229.2	1229.8	1230.4	1231.0	1231.1	1230.9	1230.7	1230.5	1230.2	1230.2
145°	1290.4	1291.6	1292.7	1293.9	1295.0	1295.7	1296.0	1296.3	1296.6	1296.9	1296.6
147.5°	1351.6	1353.0	1354.4	1355.8	1357.1	1357.7	1357.5	1357.3	1357.0	1356.8	1356.6
150°	1389.0	1390.1	1391.3	1392.4	1393.6	1394.1	1394.1	1394.1	1394.1	1394.1	1394.1
152.5°	1424.2	1424.9	1425.6	1426.3	1427.0	1427.5	1427.7	1427.9	1428.2	1428.4	1429.1
155°	1478.4	1478.4	1478.4	1478.4	1478.4	1478.3	1478.0	1477.7	1477.4	1477.2	1478.3
157.5°	1524.1	1523.6	1523.1	1522.5	1522.0	1521.7	1521.7	1521.6	1521.6	1521.5	1522.4
160°	1551.1	1550.8	1550.5	1550.2	1549.9	1549.6	1549.3	1549.1	1548.8	1548.5	1549.3
162.5°	1576.0	1575.2	1574.5	1573.7	1573.0	1572.5	1572.2	1571.9	1571.6	1571.3	1572.9
165°	1609.4	1608.6	1607.7	1606.8	1606.0	1605.3	1604.7	1604.1	1603.5	1602.9	1604.7
167.5°	1635.1	1633.9	1632.7	1631.5	1630.3	1629.7	1629.8	1629.8	1629.9	1629.9	1631.7
170°	1649.6	1648.2	1646.8	1645.3	1643.9	1643.3	1643.6	1643.9	1644.2	1644.4	1646.2
172.5°	1660.0	1658.8	1657.6	1656.4	1655.2	1654.6	1654.7	1654.7	1654.8	1654.8	1656.8
175°	1674.3	1672.8	1671.4	1670.0	1668.5	1667.6	1667.4	1667.1	1666.8	1666.5	1668.5
177.5°	1678.9	1677.8	1676.6	1675.5	1674.3	1673.8	1673.8	1673.8	1673.8	1673.8	1675.4
180°	1676.9	1676.9	1676.9	1676.9	1676.9	1676.9	1676.9	1676.9	1676.9	1676.9	1676.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1992.8	1992.8	1992.8	1992.8	1992.8	1992.8	1992.8	1992.8
2.5°	1985.7	1988.6	1991.4	1992.7	1992.4	1992.1	1991.8	1991.5
5°	1975.1	1979.0	1982.9	1984.5	1983.8	1983.1	1982.4	1981.6
7.5°	1953.1	1956.2	1959.3	1960.7	1960.3	1959.8	1959.4	1959.0
10°	1934.6	1937.5	1940.3	1941.4	1940.7	1940.0	1939.2	1938.5
12.5°	1912.2	1915.3	1918.5	1919.5	1918.5	1917.5	1916.5	1915.5
15°	1869.3	1871.5	1873.6	1874.1	1873.1	1872.0	1870.9	1869.9
17.5°	1820.5	1821.9	1823.2	1823.5	1822.8	1822.1	1821.4	1820.7
20°	1784.2	1785.2	1786.3	1786.5	1785.8	1785.1	1784.4	1783.6
22.5°	1746.3	1748.2	1750.1	1750.4	1749.2	1747.9	1746.6	1745.3
25°	1683.8	1684.1	1684.5	1683.9	1682.5	1681.1	1679.7	1678.3
27.5°	1613.6	1612.8	1611.9	1610.6	1608.8	1607.1	1605.3	1603.5
30°	1565.2	1563.8	1562.4	1560.8	1559.0	1557.3	1555.5	1553.7
32.5°	1516.1	1514.4	1512.7	1511.0	1509.2	1507.4	1505.7	1503.9
35°	1438.6	1436.1	1433.6	1431.5	1429.7	1427.9	1426.1	1424.4
37.5°	1357.3	1354.6	1351.9	1349.4	1347.1	1344.7	1342.4	1340.0
40°	1300.7	1297.1	1293.6	1290.9	1289.2	1287.4	1285.6	1283.8
42.5°	1245.9	1241.8	1237.7	1235.0	1233.8	1232.6	1231.4	1230.2
45°	1161.1	1157.2	1153.3	1150.8	1149.7	1148.6	1147.6	1146.5
47.5°	1079.0	1074.6	1070.2	1066.6	1063.9	1061.2	1058.5	1055.8
50°	1021.6	1016.6	1011.7	1008.1	1006.0	1003.9	1001.7	999.6
52.5°	962.7	958.3	953.9	950.4	947.7	945.0	942.3	939.6
55°	876.1	871.9	867.6	864.4	862.3	860.2	858.0	855.9
57.5°	789.4	785.3	781.3	778.2	776.2	774.1	772.0	770.0
60°	729.7	726.6	723.4	720.9	719.1	717.3	715.6	713.8
62.5°	671.5	668.6	665.7	663.4	661.6	659.8	658.1	656.3
65°	586.9	583.4	579.8	577.2	575.4	573.6	571.8	570.1
67.5°	499.7	496.3	492.9	490.9	490.4	489.9	489.4	488.9
70°	444.6	441.8	438.9	437.0	435.9	434.9	433.8	432.7
72.5°	389.6	387.3	385.0	383.3	382.3	381.2	380.1	379.1
75°	310.1	308.7	307.3	306.4	306.1	305.7	305.3	305.0
77.5°	234.8	234.4	234.0	233.3	232.4	231.5	230.5	229.6
80°	187.0	186.3	185.6	185.1	184.7	184.3	184.0	183.6
82.5°	144.1	143.7	143.3	142.9	142.5	142.2	141.8	141.5
85°	83.0	83.0	83.0	82.9	82.5	82.1	81.8	81.4
87.5°	37.1	37.4	37.7	38.0	38.1	38.2	38.3	38.4
90°	32.0	33.7	35.4	36.6	37.2	37.8	38.3	38.9
92.5°	53.4	54.5	55.5	56.2	56.5	56.9	57.2	57.6
95°	100.3	101.2	102.0	102.5	102.5	102.5	102.5	102.5
97.5°	158.0	159.0	160.0	160.6	160.6	160.6	160.6	160.6
100°	199.6	200.2	200.7	201.0	201.0	201.0	201.0	201.0
102.5°	243.6	244.4	245.2	245.7	246.0	246.2	246.4	246.7
105°	310.4	311.3	312.1	313.0	313.8	314.7	315.6	316.4
107.5°	382.6	383.4	384.3	384.6	384.6	384.5	384.5	384.4
110°	430.7	430.1	429.6	429.7	430.6	431.4	432.3	433.2



TEST NUMBER: P332858

CATALOG NUMBER: S124DIW-S1195D1340U835-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	482.5	482.4	482.2	482.3	482.4	482.6	482.8	483.0
115°	562.3	562.0	561.7	561.4	561.1	560.8	560.5	560.3
117.5°	639.0	638.0	637.0	636.2	635.6	635.1	634.5	633.9
120°	691.0	689.5	688.1	687.6	688.2	688.8	689.4	689.9
122.5°	743.7	742.8	741.8	740.8	739.7	738.7	737.7	736.6
125°	821.1	820.5	819.9	819.3	818.8	818.2	817.6	817.0
127.5°	895.0	894.4	893.8	893.3	892.9	892.4	891.9	891.5
130°	946.9	946.3	945.7	944.9	943.7	942.5	941.4	940.2
132.5°	995.6	995.1	994.5	994.0	993.5	993.0	992.6	992.1
135°	1068.8	1068.2	1067.6	1066.9	1066.0	1065.2	1064.3	1063.4
137.5°	1139.5	1138.8	1138.0	1137.7	1137.9	1138.1	1138.2	1138.4
140°	1186.1	1185.8	1185.5	1185.2	1184.9	1184.6	1184.3	1184.1
142.5°	1230.1	1230.1	1230.0	1229.9	1229.9	1229.8	1229.8	1229.7
145°	1296.3	1296.0	1295.7	1295.2	1294.3	1293.4	1292.6	1291.7
147.5°	1356.3	1356.1	1355.9	1355.6	1355.3	1355.0	1354.8	1354.5
150°	1394.1	1394.1	1394.1	1394.0	1393.7	1393.4	1393.1	1392.9
152.5°	1429.8	1430.5	1431.2	1431.1	1430.4	1429.6	1428.9	1428.1
155°	1479.5	1480.6	1481.8	1481.8	1480.6	1479.5	1478.3	1477.2
157.5°	1523.2	1524.1	1525.0	1524.9	1523.9	1522.9	1522.0	1521.0
160°	1550.2	1551.1	1551.9	1551.6	1550.2	1548.8	1547.3	1545.9
162.5°	1574.4	1576.0	1577.5	1577.6	1576.1	1574.7	1573.3	1571.8
165°	1606.4	1608.1	1609.9	1610.2	1609.0	1607.8	1606.7	1605.5
167.5°	1633.4	1635.1	1636.8	1636.8	1635.0	1633.2	1631.5	1629.7
170°	1647.9	1649.6	1651.4	1651.2	1649.2	1647.2	1645.2	1643.2
172.5°	1658.7	1660.7	1662.7	1662.6	1660.6	1658.6	1656.6	1654.6
175°	1670.5	1672.5	1674.6	1674.6	1672.5	1670.5	1668.5	1666.5
177.5°	1677.0	1678.6	1680.2	1680.1	1678.3	1676.4	1674.6	1672.7
180°	1676.9	1676.9	1676.9	1676.9	1676.9	1676.9	1676.9	1676.9

(END OF REPORT)