

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: P333110

Luminaire Tested: **S124RDIW-S1195D1340U835-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P333110  
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: S124RDIW-S1195D1340U835-4F0-1E-UDD-F1  
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 1340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9475.6 lumens  
Efficiency: N/A  
Efficacy: 124.4 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

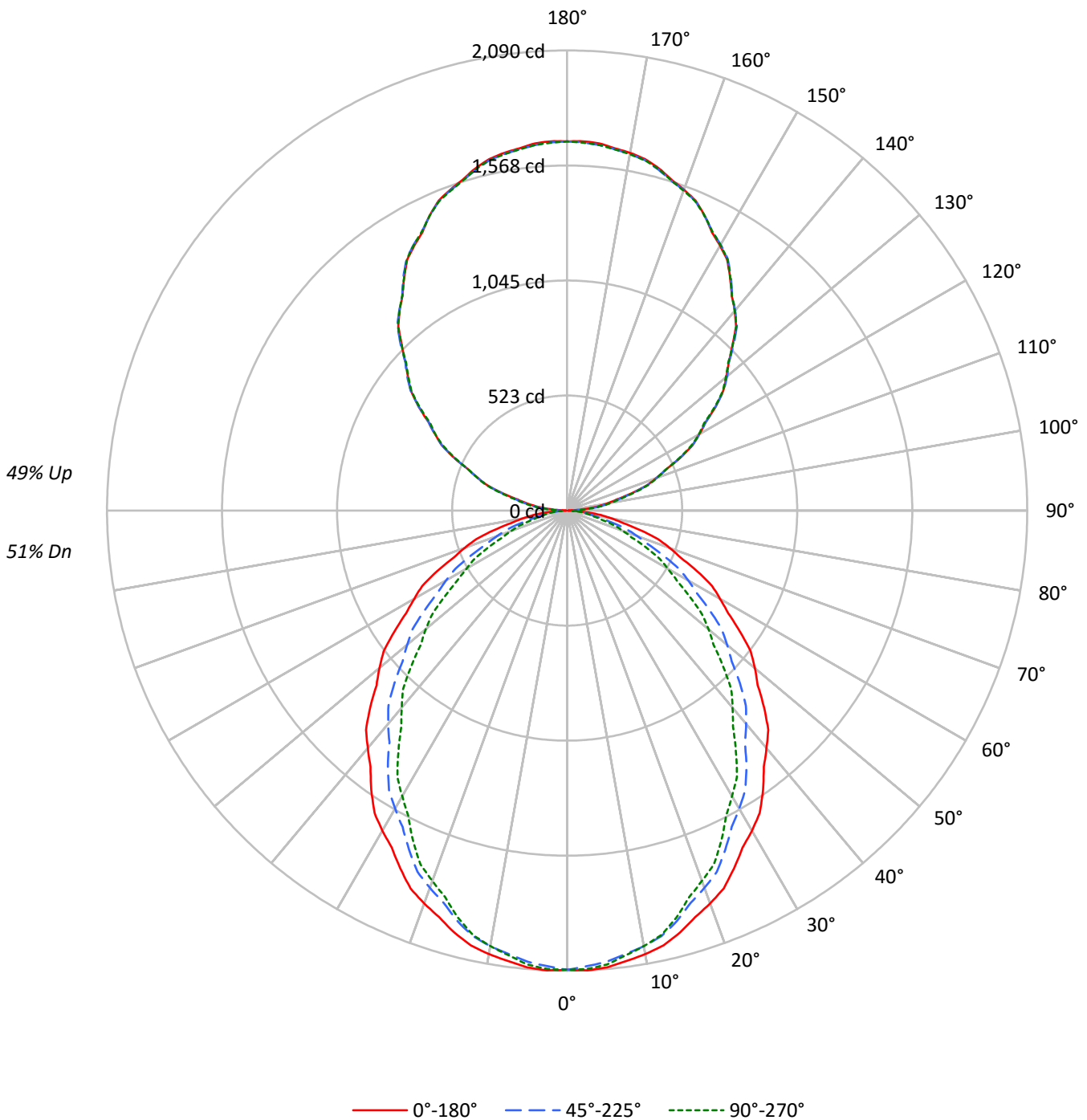
Input Watts (W): 76.2  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	84	84	84	70	70	70	57	57	57	51	51	51	51	51	51	51														
1	98	94	90	87	91	87	84	81	74	72	69	62	60	59	51	50	49	43	43	43	43	43	43	43														
2	90	82	76	71	83	76	71	67	65	61	58	55	52	49	45	43	41	37	37	37	37	37	37	37														
3	82	73	65	60	75	67	61	56	58	53	49	49	45	42	40	38	35	31	31	31	31	31	31	31														
4	75	64	57	51	69	60	53	48	51	46	42	43	39	36	36	33	31	27	27	27	27	27	27	27														
5	69	58	50	44	64	54	46	41	46	41	36	39	35	32	33	29	27	24	24	24	24	24	24	24														
6	64	52	44	38	59	48	41	36	42	36	32	35	31	28	30	26	24	21	21	21	21	21	21	21														
7	59	47	39	33	54	44	37	32	38	32	28	32	28	25	27	24	21	19	19	19	19	19	19	19														
8	55	43	35	30	51	40	33	28	34	29	25	30	25	22	25	22	19	17	17	17	17	17	17	17														
9	51	39	31	26	47	36	30	25	32	26	22	27	23	20	23	20	17	15	15	15	15	15	15	15														
10	48	36	29	24	44	33	27	23	29	24	20	25	21	18	21	18	16	14	14	14	14	14	14	14														

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	16835	16835	16835
5°	16874	16667	16771
10°	16768	16467	16467
15°	16575	16121	16002
20°	16311	15667	15378
25°	15973	15134	14750
30°	15645	14573	13962
35°	15281	13991	13172
40°	14842	13328	12318
45°	14439	12670	11449
50°	13978	11912	10528
55°	13485	11125	9529
60°	12943	10261	8507
65°	12445	9181	7503
70°	11722	7990	6371
75°	10808	6625	5181
80°	9428	5049	4751
85°	7984	4585	4289



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	195.9	2.1
10°-20°	546.3	5.8
20°-30°	788.8	8.3
30°-40°	894.2	9.4
40°-50°	863.5	9.1
50°-60°	718.0	7.6
60°-70°	495.8	5.2
70°-80°	251.3	2.7
80°-90°	69.5	0.7
90°-100°	110.6	1.2
100°-110°	327.6	3.5
110°-120°	556.1	5.9
120°-130°	733.3	7.7
130°-140°	823.5	8.7
140°-150°	809.2	8.5
150°-160°	680.6	7.2
160°-170°	452.8	4.8
170°-180°	158.6	1.7
0°-30°	1531.0	16.2
0°-40°	2425.2	25.6
0°-60°	4006.7	42.3
0°-90°	4823.2	50.9
90°-120°	994.3	10.5
90°-150°	3360.3	35.5
90°-180°	4652.0	49.1
0°-180°	9475.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2085	2085	2085	2085	2085	
5°	2082	2075	2057	2072	2070	197
15°	1983	1967	1929	1925	1915	559
25°	1793	1762	1699	1672	1656	826
35°	1550	1498	1420	1367	1336	968
45°	1265	1204	1110	1034	1003	975
55°	958	892	790	710	677	857
65°	652	581	481	415	393	643
75°	346	287	212	177	166	366
85°	86	56	50	46	46	97
90°	4	18	28	36	39	9
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°	2085.4	2085.4	2085.4	2085.4	2085.4	2085.4	2085.4	2085.4	2085.4	2085.4	2085.4
2.5°	2090.5	2089.4	2088.3	2087.1	2086.0	2083.9	2080.8	2077.6	2074.5	2071.4	2074.5
5°	2082.2	2080.8	2079.4	2078.0	2076.6	2073.7	2069.5	2065.2	2061.0	2056.7	2060.2
7.5°	2063.4	2061.9	2060.4	2058.9	2057.4	2053.9	2048.4	2042.9	2037.3	2031.8	2034.1
10°	2045.5	2043.7	2042.0	2040.2	2038.4	2034.3	2028.0	2021.6	2015.2	2008.8	2010.2
12.5°	2022.5	2020.5	2018.4	2016.3	2014.3	2009.5	2002.0	1994.5	1986.9	1979.4	1980.3
15°	1983.2	1980.0	1976.9	1973.7	1970.5	1964.4	1955.6	1946.7	1937.8	1928.9	1928.2
17.5°	1935.7	1931.0	1926.4	1921.8	1917.2	1909.6	1898.9	1888.3	1877.6	1867.0	1865.0
20°	1898.6	1894.0	1889.4	1884.8	1880.2	1871.8	1859.8	1847.7	1835.6	1823.6	1820.7
22.5°	1857.7	1852.6	1847.4	1842.2	1837.0	1828.0	1815.0	1802.1	1789.2	1776.3	1772.0
25°	1793.2	1786.8	1780.4	1774.1	1767.7	1757.2	1742.7	1728.1	1713.6	1699.0	1693.0
27.5°	1725.5	1717.5	1709.5	1701.5	1693.4	1681.7	1666.1	1650.6	1635.0	1619.5	1612.0
30°	1678.3	1669.4	1660.5	1651.6	1642.8	1630.0	1613.3	1596.6	1580.0	1563.3	1554.4
32.5°	1628.4	1618.4	1608.4	1598.4	1588.4	1574.8	1557.5	1540.3	1523.0	1505.8	1495.5
35°	1550.5	1539.1	1527.8	1516.4	1505.1	1490.5	1472.8	1455.1	1437.3	1419.6	1407.5
37.5°	1467.2	1455.4	1443.7	1432.0	1420.3	1404.6	1385.0	1365.3	1345.7	1326.0	1312.5
40°	1408.4	1396.7	1385.0	1373.3	1361.5	1345.6	1325.4	1305.1	1284.9	1264.7	1249.8
42.5°	1352.2	1339.9	1327.6	1315.3	1303.1	1286.4	1265.3	1244.2	1223.2	1202.1	1186.9
45°	1264.7	1251.5	1238.4	1225.3	1212.2	1194.9	1173.7	1152.4	1131.1	1109.8	1092.4
47.5°	1174.3	1160.7	1147.2	1133.6	1120.1	1102.2	1080.1	1057.9	1035.8	1013.7	995.6
50°	1113.0	1099.1	1085.3	1071.5	1057.6	1039.3	1016.6	993.9	971.2	948.5	930.8
52.5°	1050.4	1036.8	1023.3	1009.7	996.2	977.7	954.5	931.2	907.9	884.6	866.6
55°	958.1	943.9	929.7	915.5	901.3	882.7	859.6	836.6	813.5	790.4	772.0
57.5°	866.7	852.0	837.2	822.5	807.7	789.0	766.3	743.5	720.8	698.1	679.4
60°	801.6	787.4	773.2	759.0	744.8	726.4	703.7	681.0	658.2	635.5	617.1
62.5°	742.8	728.1	713.3	698.6	683.8	664.8	641.5	618.2	594.9	571.7	554.6
65°	651.5	636.2	621.0	605.7	590.5	571.5	548.8	526.1	503.4	480.6	465.4
67.5°	556.6	542.0	527.4	512.8	498.2	480.3	459.2	438.2	417.1	396.0	382.9
70°	496.6	481.7	466.8	451.9	437.0	419.4	399.2	379.0	358.8	338.5	326.8
72.5°	432.7	419.3	405.8	392.3	378.8	362.5	343.4	324.3	305.2	286.1	276.1
75°	346.5	333.4	320.2	307.1	294.0	279.1	262.4	245.7	229.1	212.4	204.2
77.5°	259.0	247.9	236.7	225.6	214.4	202.1	188.6	175.2	161.7	148.2	143.4
80°	202.8	192.5	182.2	171.9	161.6	151.2	140.5	129.9	119.2	108.6	107.5
82.5°	154.3	144.8	135.4	125.9	116.5	108.7	102.6	96.5	90.4	84.3	83.5
85°	86.2	79.1	72.0	64.9	57.8	53.8	52.7	51.6	50.6	49.5	48.8
87.5°	30.2	28.5	26.9	25.2	23.6	22.9	23.1	23.2	23.4	23.6	23.7
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°	2085.4	2085.4	2085.4	2085.4	2085.4	2085.4	2085.4	2085.4
2.5°	2077.6	2080.8	2083.9	2085.3	2085.0	2084.7	2084.4	2084.2
5°	2063.8	2067.3	2070.9	2072.3	2071.6	2070.9	2070.2	2069.5
7.5°	2036.3	2038.6	2040.9	2041.4	2040.3	2039.2	2038.0	2036.9
10°	2011.6	2013.0	2014.5	2014.5	2013.0	2011.6	2010.2	2008.8
12.5°	1981.1	1982.0	1982.8	1982.2	1980.3	1978.3	1976.3	1974.3
15°	1927.5	1926.8	1926.1	1924.5	1922.0	1919.5	1917.1	1914.6
17.5°	1863.0	1861.0	1859.0	1856.2	1852.4	1848.6	1844.9	1841.1
20°	1817.9	1815.0	1812.2	1808.5	1803.9	1799.3	1794.6	1790.0
22.5°	1767.8	1763.5	1759.3	1755.3	1751.5	1747.7	1744.0	1740.2
25°	1686.9	1680.9	1674.9	1670.1	1666.5	1663.0	1659.4	1655.9
27.5°	1604.6	1597.1	1589.7	1583.4	1578.3	1573.2	1568.1	1563.0
30°	1545.5	1536.7	1527.8	1520.5	1514.8	1509.2	1503.5	1497.8
32.5°	1485.2	1474.9	1464.6	1456.8	1451.4	1446.0	1440.6	1435.2
35°	1395.4	1383.4	1371.3	1362.1	1355.7	1349.3	1342.9	1336.5
37.5°	1299.0	1285.5	1272.1	1262.1	1255.7	1249.3	1243.0	1236.6
40°	1234.9	1220.0	1205.1	1194.4	1188.0	1181.6	1175.3	1168.9
42.5°	1171.7	1156.5	1141.3	1130.4	1123.7	1117.1	1110.4	1103.7
45°	1075.0	1057.6	1040.2	1028.3	1022.0	1015.6	1009.2	1002.8
47.5°	977.6	959.6	941.6	929.0	922.0	915.0	907.9	900.9
50°	913.0	895.3	877.5	865.3	858.6	851.8	845.1	838.3
52.5°	848.6	830.6	812.5	800.0	793.0	786.0	778.9	771.9
55°	753.5	735.1	716.6	704.0	697.3	690.5	683.8	677.0
57.5°	660.7	641.9	623.2	611.3	606.2	601.0	595.9	590.8
60°	598.6	580.2	561.7	549.7	544.0	538.3	532.6	526.9
62.5°	537.6	520.6	503.5	492.7	488.2	483.7	479.1	474.6
65°	450.1	434.9	419.6	409.8	405.6	401.3	397.1	392.8
67.5°	369.8	356.6	343.5	334.6	329.9	325.2	320.5	315.8
70°	315.1	303.4	291.7	284.1	280.5	277.0	273.4	269.9
72.5°	266.1	256.1	246.1	239.5	236.2	233.0	229.7	226.4
75°	196.1	187.9	179.7	174.6	172.5	170.3	168.2	166.1
77.5°	138.7	133.9	129.2	126.5	125.8	125.2	124.6	123.9
80°	106.5	105.4	104.3	103.6	103.3	102.9	102.6	102.2
82.5°	82.8	82.0	81.2	80.6	80.3	79.9	79.6	79.2
85°	48.1	47.4	46.7	46.3	46.3	46.3	46.3	46.3
87.5°	23.7	23.8	23.8	24.1	24.5	24.9	25.3	25.7
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: P333110

CATALOG NUMBER: S124RDIW-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)