

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: P333109

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P333109
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: S124RDIW-S1195D1340U835-4F0-1E-UDD-F
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, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10187.5 lumens
Efficiency: N/A
Efficacy: 133.7 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

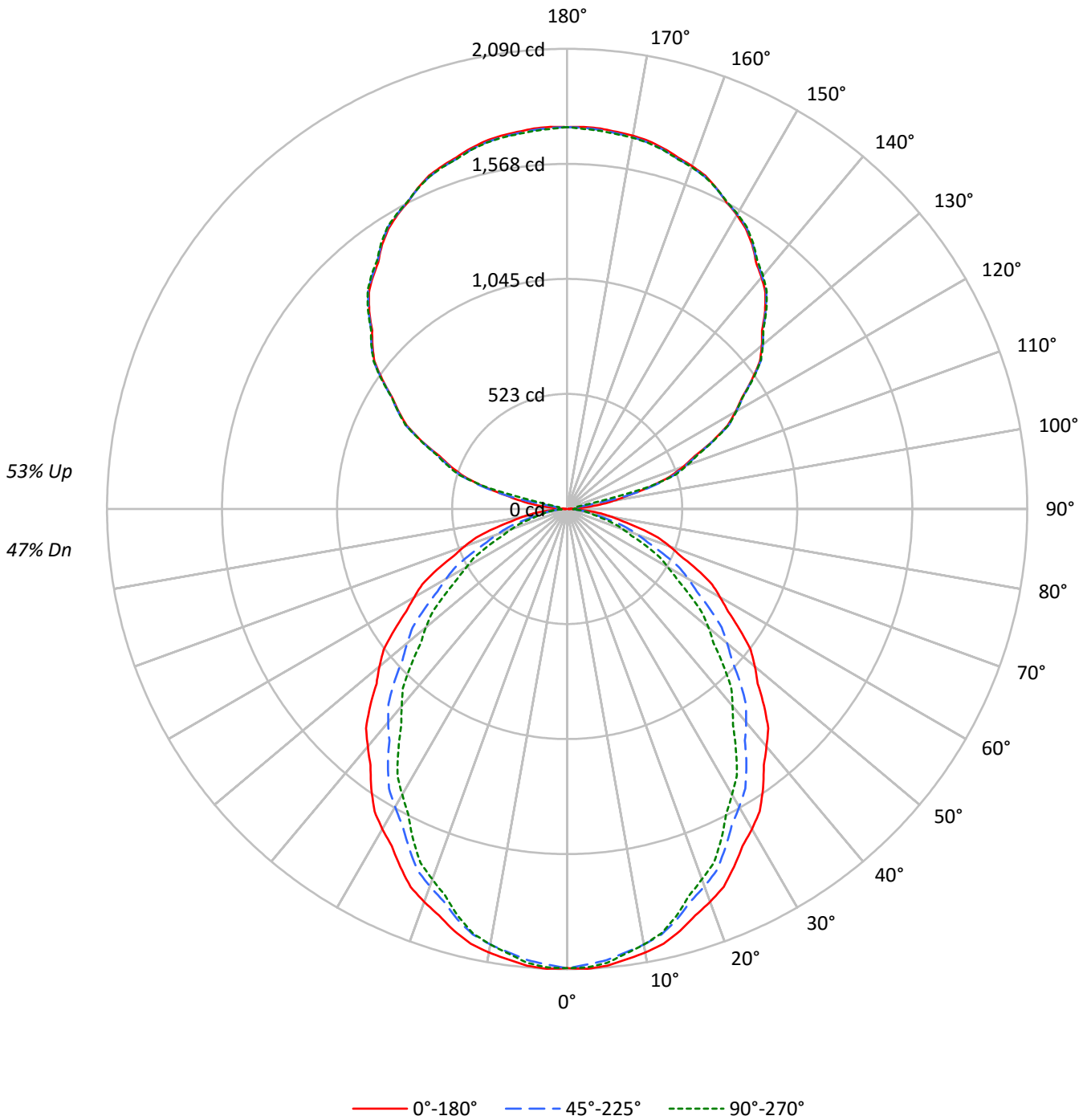
Input Watts (W): 76.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	107	107	107	107	98	98	98	98	82	82	82	67	67	67	54	54	54	47				
1	97	93	89	86	89	86	83	80	72	70	68	59	58	56	48	47	46	40				
2	89	82	76	71	82	75	70	66	63	60	56	53	50	48	42	41	39	34				
3	81	72	65	59	74	67	60	55	56	52	48	47	43	40	38	35	33	29				
4	74	64	56	50	68	59	52	47	50	45	41	42	38	35	34	31	29	25				
5	68	57	49	43	63	53	46	40	45	39	35	38	33	30	31	28	25	22				
6	63	51	43	37	58	47	40	35	40	35	31	34	30	27	28	25	22	20				
7	58	46	38	33	54	43	36	31	37	31	27	31	27	24	25	22	20	17				
8	54	42	34	29	50	39	32	28	34	28	24	28	24	21	23	20	18	16				
9	50	38	31	26	46	36	29	25	31	25	22	26	22	19	22	19	16	14				
10	47	35	28	23	43	33	26	22	28	23	20	24	20	17	20	17	15	13				

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	1.9
10°-20°	546.3	5.4
20°-30°	788.8	7.7
30°-40°	894.2	8.8
40°-50°	863.5	8.5
50°-60°	718.0	7.0
60°-70°	495.8	4.9
70°-80°	251.3	2.5
80°-90°	69.5	0.7
90°-100°	59.3	0.6
100°-110°	378.2	3.7
110°-120°	723.4	7.1
120°-130°	918.4	9.0
130°-140°	982.6	9.6
140°-150°	918.8	9.0
150°-160°	741.0	7.3
160°-170°	477.9	4.7
170°-180°	164.7	1.6
0°-30°	1531.0	15.0
0°-40°	2425.2	23.8
0°-60°	4006.7	39.3
0°-90°	4823.2	47.3
90°-120°	1160.9	11.4
90°-150°	3980.7	39.1
90°-180°	5364.0	52.7
0°-180°	10187.5	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	7
95°	71	30	28	36	38	92
105°	390	398	405	413	370	408
115°	729	733	732	734	734	717
125°	1025	1029	1027	1031	1032	914
135°	1271	1270	1275	1278	1280	979
145°	1466	1469	1470	1471	1474	916
155°	1607	1608	1604	1609	1606	741
165°	1695	1689	1689	1698	1688	479
175°	1734	1727	1728	1738	1724	165
180°	1734	1734	1734	1734	1734	



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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°	16.3	16.5	16.7	16.9	17.0	18.3	20.6	22.9	25.2	27.5	29.2
95°	71.3	61.5	51.7	41.9	32.1	27.4	27.7	28.0	28.2	28.5	30.3
97.5°	151.5	157.6	163.7	169.8	175.9	162.9	130.7	98.6	66.4	34.2	34.4
100°	212.7	217.9	223.1	228.3	233.5	216.2	176.4	136.6	96.8	57.1	52.2
102.5°	281.2	285.0	288.8	292.6	296.4	295.7	290.5	285.4	280.2	275.0	222.1
105°	390.4	392.1	393.9	395.6	397.3	398.9	400.4	401.8	403.2	404.7	407.3
107.5°	491.8	492.7	493.6	494.4	495.3	496.7	498.7	500.6	502.6	504.6	505.8
110°	560.3	561.2	562.1	562.9	563.8	565.1	566.8	568.5	570.3	572.0	572.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	626.7	628.3	629.9	631.4	633.0	634.1	635.0	635.8	636.6	637.4	637.3
115°	728.9	729.8	730.7	731.5	732.4	732.7	732.4	732.1	731.8	731.5	732.1
117.5°	821.0	822.2	823.3	824.5	825.6	826.5	827.2	827.8	828.4	829.1	829.0
120°	883.3	884.4	885.6	886.8	887.9	888.3	888.1	887.8	887.5	887.2	887.8
122.5°	941.4	942.1	942.8	943.5	944.2	944.7	945.1	945.5	945.9	946.3	946.7
125°	1024.7	1025.8	1027.0	1028.1	1029.3	1029.6	1029.0	1028.4	1027.8	1027.3	1028.1
127.5°	1103.5	1103.8	1104.1	1104.4	1104.7	1105.5	1106.8	1108.1	1109.5	1110.8	1110.6
130°	1154.4	1154.7	1155.0	1155.2	1155.5	1156.1	1157.0	1157.8	1158.7	1159.6	1159.9
132.5°	1201.1	1201.6	1202.1	1202.6	1203.1	1204.0	1205.1	1206.1	1207.2	1208.3	1208.6
135°	1271.1	1270.8	1270.5	1270.3	1270.0	1270.4	1271.5	1272.7	1273.9	1275.0	1275.6
137.5°	1333.1	1333.2	1333.3	1333.5	1333.6	1334.3	1335.5	1336.8	1338.1	1339.3	1340.0
140°	1373.6	1374.2	1374.7	1375.3	1375.9	1376.5	1377.0	1377.6	1378.2	1378.8	1379.6
142.5°	1409.9	1410.9	1412.0	1413.0	1414.1	1414.7	1415.1	1415.4	1415.8	1416.1	1416.8
145°	1465.7	1466.5	1467.4	1468.3	1469.1	1469.6	1469.6	1469.6	1469.6	1469.6	1469.9
147.5°	1510.0	1511.6	1513.3	1514.9	1516.5	1517.2	1516.9	1516.6	1516.3	1516.0	1516.2
150°	1542.2	1543.4	1544.5	1545.7	1546.8	1547.2	1547.0	1546.7	1546.4	1546.1	1546.1
152.5°	1569.2	1570.1	1571.0	1571.9	1572.9	1573.1	1572.6	1572.0	1571.5	1571.0	1571.5
155°	1607.1	1607.3	1607.6	1607.9	1608.2	1607.9	1607.1	1606.2	1605.3	1604.5	1605.6
157.5°	1639.0	1638.8	1638.6	1638.4	1638.3	1637.7	1636.7	1635.7	1634.8	1633.8	1635.3
160°	1657.6	1656.8	1655.9	1655.0	1654.2	1653.6	1653.3	1653.0	1652.7	1652.5	1654.2
162.5°	1674.2	1673.1	1672.1	1671.0	1669.9	1669.2	1668.9	1668.6	1668.3	1668.0	1669.7
165°	1695.3	1693.8	1692.4	1690.9	1689.5	1688.8	1688.8	1688.8	1688.8	1688.8	1691.1
167.5°	1711.9	1710.4	1708.9	1707.4	1705.9	1705.0	1704.9	1704.7	1704.5	1704.3	1706.9
170°	1721.2	1719.5	1717.7	1716.0	1714.3	1713.6	1713.8	1714.1	1714.4	1714.7	1717.0
172.5°	1727.4	1725.7	1724.0	1722.2	1720.5	1719.8	1720.1	1720.4	1720.6	1720.9	1723.2
175°	1734.2	1732.4	1730.7	1729.0	1727.2	1726.5	1726.8	1727.1	1727.4	1727.7	1730.3
177.5°	1737.3	1735.7	1734.0	1732.4	1730.8	1730.2	1730.7	1731.2	1731.6	1732.1	1733.9
180°	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2



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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	35.5	36.6	37.2	37.8	38.3	38.9
92.5°	31.0	32.7	34.4	35.3	35.5	35.6	35.7	35.8
95°	32.0	33.7	35.5	36.5	36.7	37.0	37.3	37.6
97.5°	34.6	34.8	34.9	35.2	35.5	35.7	36.0	36.3
100°	47.3	42.4	37.5	35.2	35.5	35.7	36.0	36.3
102.5°	169.3	116.4	63.5	37.1	37.2	37.2	37.3	37.4
105°	409.9	412.5	415.1	411.2	400.8	390.4	380.0	369.7
107.5°	507.1	508.4	509.6	510.8	511.9	513.0	514.1	515.2
110°	573.2	573.7	574.3	575.0	575.9	576.8	577.6	578.5



TEST NUMBER: P333109

CATALOG NUMBER: S124RDIW-S1195D1340U835-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	637.1	637.0	636.9	637.4	638.5	639.6	640.7	641.8
115°	732.7	733.3	733.8	734.1	734.1	734.1	734.1	734.1
117.5°	828.8	828.7	828.6	828.5	828.4	828.3	828.2	828.0
120°	888.3	888.9	889.5	889.5	888.9	888.3	887.8	887.2
122.5°	947.0	947.4	947.7	947.6	947.0	946.4	945.9	945.3
125°	1029.0	1029.9	1030.7	1031.3	1031.6	1031.9	1032.2	1032.5
127.5°	1110.5	1110.3	1110.1	1109.9	1109.7	1109.4	1109.2	1109.0
130°	1160.1	1160.4	1160.7	1160.9	1160.9	1160.9	1160.9	1160.9
132.5°	1208.9	1209.2	1209.5	1209.5	1209.3	1209.1	1208.8	1208.6
135°	1276.2	1276.7	1277.3	1277.9	1278.5	1279.0	1279.6	1280.2
137.5°	1340.6	1341.2	1341.9	1342.1	1341.9	1341.8	1341.6	1341.4
140°	1380.5	1381.4	1382.2	1382.8	1383.1	1383.4	1383.7	1384.0
142.5°	1417.4	1418.0	1418.7	1419.0	1419.1	1419.1	1419.2	1419.2
145°	1470.1	1470.4	1470.7	1471.2	1471.7	1472.3	1472.9	1473.5
147.5°	1516.5	1516.7	1516.9	1517.2	1517.5	1517.8	1518.0	1518.3
150°	1546.1	1546.1	1546.1	1546.2	1546.5	1546.8	1547.1	1547.4
152.5°	1571.9	1572.4	1572.8	1573.0	1572.8	1572.6	1572.5	1572.3
155°	1606.8	1607.9	1609.1	1609.2	1608.4	1607.5	1606.6	1605.8
157.5°	1636.8	1638.3	1639.8	1639.8	1638.3	1636.8	1635.3	1633.8
160°	1655.9	1657.6	1659.4	1659.4	1657.6	1655.9	1654.2	1652.5
162.5°	1671.5	1673.2	1674.9	1674.8	1672.9	1670.9	1668.9	1667.0
165°	1693.4	1695.7	1698.0	1697.8	1695.3	1692.7	1690.1	1687.5
167.5°	1709.4	1711.9	1714.5	1714.3	1711.4	1708.5	1705.7	1702.8
170°	1719.3	1721.6	1723.9	1723.6	1720.8	1717.9	1715.0	1712.1
172.5°	1725.5	1727.9	1730.2	1729.8	1726.6	1723.5	1720.4	1717.3
175°	1732.9	1735.5	1738.1	1737.6	1734.2	1730.7	1727.2	1723.8
177.5°	1735.8	1737.6	1739.5	1739.0	1736.2	1733.5	1730.7	1727.9
180°	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2

(END OF REPORT)