

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: P333114-840

Luminaire Tested: **S124RDIW-S1195D1560U840-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P333114-840
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-S1195D1560U840-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10334.1 lumens
Efficiency: N/A
Efficacy: 124.7 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

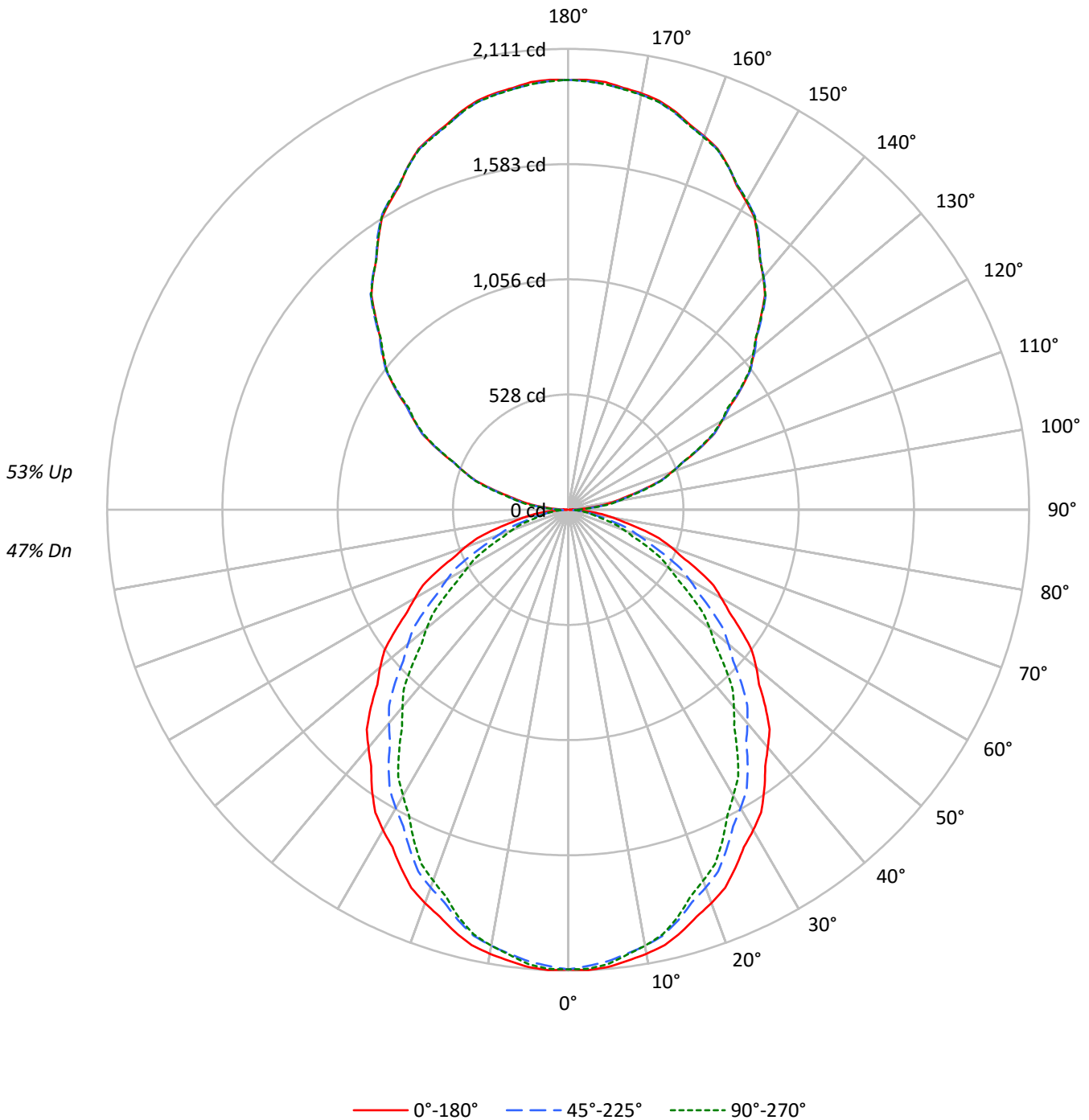
Input Watts (W): 82.9
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	106	106	106	106	98	98	98	98	82	82	82	67	67	67	53	53	53	47				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	81	75	70	66	63	60	56	52	50	47	42	40	39				34	
3	81	72	65	59	74	66	60	55	56	51	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	37	33	30	31	28	25				22	
6	63	51	43	37	58	47	40	35	40	35	31	34	30	27	28	25	22				19	
7	58	46	38	33	53	43	36	31	37	31	27	31	27	24	25	22	20				17	
8	54	42	34	29	50	39	32	27	33	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	18	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°	17002	17002	17002
5°	17040	16832	16936
10°	16934	16629	16629
15°	16739	16280	16160
20°	16472	15821	15530
25°	16131	15284	14895
30°	15800	14716	14100
35°	15431	14128	13302
40°	14989	13460	12440
45°	14582	12795	11562
50°	14117	12031	10633
55°	13619	11234	9623
60°	13070	10362	8591
65°	12567	9270	7578
70°	11837	8068	6434
75°	10914	6691	5231
80°	9521	5100	4798
85°	8068	4631	4335



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	197.8	1.9
10°-20°	551.7	5.3
20°-30°	796.6	7.7
30°-40°	903.0	8.7
40°-50°	872.0	8.4
50°-60°	725.1	7.0
60°-70°	500.7	4.8
70°-80°	253.8	2.5
80°-90°	71.0	0.7
90°-100°	129.9	1.3
100°-110°	384.7	3.7
110°-120°	652.9	6.3
120°-130°	861.0	8.3
130°-140°	966.9	9.4
140°-150°	950.1	9.2
150°-160°	799.1	7.7
160°-170°	531.7	5.1
170°-180°	186.2	1.8
0°-30°	1546.1	15.0
0°-40°	2449.1	23.7
0°-60°	4046.2	39.2
0°-90°	4871.6	47.1
90°-120°	1167.5	11.3
90°-150°	3945.5	38.2
90°-180°	5463.0	52.9
0°-180°	10334.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2106	2106	2106	2106	2106	
5°	2103	2096	2077	2092	2090	199
15°	2003	1987	1948	1944	1934	564
25°	1811	1780	1716	1689	1672	834
35°	1566	1513	1434	1380	1350	978
45°	1277	1215	1121	1044	1013	984
55°	968	901	798	717	684	865
65°	658	587	485	419	397	649
75°	350	289	214	179	168	369
85°	87	56	50	47	47	98
90°	4	21	34	42	46	10
95°	91	105	116	120	120	102
105°	355	357	362	367	372	376
115°	664	664	661	659	658	654
125°	967	967	965	962	959	861
135°	1247	1256	1256	1253	1249	964
145°	1515	1521	1523	1521	1517	948
155°	1736	1736	1734	1740	1734	798
165°	1890	1885	1882	1890	1885	532
175°	1966	1958	1957	1966	1957	187
180°	1969	1969	1969	1969	1969	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0
2.5°	2111.1	2110.0	2108.9	2107.7	2106.6	2104.5	2101.3	2098.1	2095.0	2091.8	2095.0
5°	2102.7	2101.3	2099.9	2098.5	2097.1	2094.2	2089.9	2085.6	2081.3	2077.0	2080.5
7.5°	2083.8	2082.2	2080.7	2079.2	2077.7	2074.2	2068.6	2063.1	2057.4	2051.8	2054.2
10°	2065.7	2063.9	2062.1	2060.3	2058.5	2054.4	2048.0	2041.5	2035.1	2028.6	2030.0
12.5°	2042.5	2040.4	2038.3	2036.2	2034.2	2029.3	2021.7	2014.2	2006.5	1998.9	1999.8
15°	2002.8	1999.5	1996.4	1993.2	1989.9	1983.8	1974.9	1965.9	1956.9	1947.9	1947.2
17.5°	1954.8	1950.0	1945.4	1940.8	1936.1	1928.4	1917.6	1906.9	1896.1	1885.4	1883.4
20°	1917.3	1912.7	1908.0	1903.4	1898.7	1890.3	1878.1	1865.9	1853.7	1841.6	1838.7
22.5°	1876.0	1870.9	1865.6	1860.4	1855.1	1846.0	1832.9	1819.9	1806.9	1793.8	1789.5
25°	1810.9	1804.4	1798.0	1791.6	1785.1	1774.5	1759.9	1745.1	1730.5	1715.8	1709.7
27.5°	1742.5	1734.4	1726.4	1718.3	1710.1	1698.3	1682.5	1666.9	1651.1	1635.5	1627.9
30°	1694.9	1685.9	1676.9	1667.9	1659.0	1646.1	1629.2	1612.4	1595.6	1578.7	1569.7
32.5°	1644.5	1634.4	1624.3	1614.2	1604.1	1590.3	1572.9	1555.5	1538.0	1520.7	1510.3
35°	1565.8	1554.3	1542.9	1531.4	1519.9	1505.2	1487.3	1469.5	1451.5	1433.6	1421.4
37.5°	1481.7	1469.8	1457.9	1446.1	1434.3	1418.5	1398.7	1378.8	1359.0	1339.1	1325.4
40°	1422.3	1410.5	1398.7	1386.8	1374.9	1358.9	1338.5	1318.0	1297.6	1277.2	1262.1
42.5°	1365.5	1353.1	1340.7	1328.3	1316.0	1299.1	1277.8	1256.5	1235.3	1214.0	1198.6
45°	1277.2	1263.8	1250.6	1237.4	1224.2	1206.7	1185.3	1163.8	1142.3	1120.7	1103.2
47.5°	1185.9	1172.2	1158.5	1144.8	1131.1	1113.1	1090.8	1068.3	1046.0	1023.7	1005.4
50°	1124.0	1109.9	1096.0	1082.1	1068.0	1049.6	1026.6	1003.7	980.8	957.9	940.0
52.5°	1060.8	1047.0	1033.4	1019.7	1006.0	987.3	963.9	940.4	916.9	893.3	875.1
55°	967.6	953.2	938.9	924.5	910.2	891.4	868.1	844.9	821.5	798.2	779.6
57.5°	875.3	860.4	845.5	830.6	815.7	796.8	773.9	750.8	727.9	705.0	686.1
60°	809.5	795.2	780.8	766.5	752.1	733.6	710.6	687.7	664.7	641.8	623.2
62.5°	750.1	735.3	720.3	705.5	690.5	671.4	647.8	624.3	600.8	577.3	560.1
65°	657.9	642.5	627.1	611.7	596.3	577.1	554.2	531.3	508.4	485.3	470.0
67.5°	562.1	547.3	532.6	517.9	503.1	485.0	463.7	442.5	421.2	399.9	386.7
70°	501.5	486.5	471.4	456.4	441.3	423.5	403.1	382.7	362.3	341.8	330.0
72.5°	437.0	423.4	409.8	396.2	382.5	366.1	346.8	327.5	308.2	288.9	278.8
75°	349.9	336.7	323.4	310.1	296.9	281.9	265.0	248.1	231.4	214.5	206.2
77.5°	261.6	250.3	239.0	227.8	216.5	204.1	190.5	176.9	163.3	149.7	144.8
80°	204.8	194.4	184.0	173.6	163.2	152.7	141.9	131.2	120.4	109.7	108.6
82.5°	155.8	146.2	136.7	127.1	117.6	109.8	103.6	97.5	91.3	85.1	84.3
85°	87.1	79.9	72.7	65.5	58.4	54.3	53.2	52.1	51.1	50.0	49.3
87.5°	30.6	29.1	27.5	26.0	24.4	23.7	24.0	24.2	24.5	24.7	24.8
90°	4.5	8.3	12.0	15.8	19.5	22.7	25.3	28.1	30.8	33.5	35.5
92.5°	32.6	36.9	41.1	45.3	49.7	52.7	54.6	56.6	58.4	60.3	61.5
95°	91.4	94.4	97.5	100.5	103.5	106.2	108.7	111.0	113.4	115.7	116.7
97.5°	159.6	162.0	164.4	166.9	169.4	172.0	174.7	177.4	180.3	183.0	184.2
100°	213.2	214.5	215.9	217.2	218.6	220.8	223.9	226.9	229.9	233.0	233.7
102.5°	269.2	269.7	270.3	270.8	271.4	273.1	275.8	278.6	281.3	284.2	285.1
105°	354.8	355.2	355.5	355.8	356.2	357.0	358.3	359.7	361.0	362.4	363.5
107.5°	444.6	445.0	445.5	445.9	446.3	446.6	446.8	447.0	447.2	447.4	448.3
110°	505.5	506.2	506.9	507.6	508.3	508.5	508.1	507.8	507.4	507.1	506.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	568.9	569.1	569.2	569.3	569.5	569.2	568.6	567.9	567.3	566.7	566.6
115°	663.9	663.9	663.9	663.9	663.9	663.6	662.9	662.2	661.6	660.9	660.6
117.5°	753.5	753.7	754.0	754.3	754.6	754.5	754.0	753.5	753.0	752.6	751.3
120°	813.1	814.5	815.9	817.2	818.5	818.7	817.7	816.7	815.7	814.7	812.9
122.5°	875.3	875.8	876.4	876.9	877.4	877.5	877.0	876.5	876.1	875.6	874.4
125°	966.9	966.9	966.9	966.9	966.9	966.7	966.4	966.0	965.7	965.4	964.7
127.5°	1050.1	1051.1	1052.1	1053.1	1054.1	1054.4	1053.8	1053.3	1052.8	1052.2	1051.5
130°	1108.5	1109.5	1110.5	1111.6	1112.6	1113.1	1113.1	1113.1	1113.1	1113.1	1112.5
132.5°	1168.2	1169.0	1169.7	1170.4	1171.2	1171.4	1171.1	1170.9	1170.6	1170.3	1169.7
135°	1247.1	1249.1	1251.1	1253.2	1255.3	1256.3	1256.3	1256.3	1256.3	1256.3	1255.6
137.5°	1333.0	1333.9	1334.8	1335.8	1336.8	1337.6	1338.1	1338.6	1339.2	1339.7	1338.8
140°	1390.3	1390.9	1391.6	1392.3	1392.9	1393.3	1393.3	1393.3	1393.3	1393.3	1392.9
142.5°	1442.6	1443.3	1444.0	1444.6	1445.3	1445.5	1445.2	1445.0	1444.7	1444.4	1444.4
145°	1515.1	1516.4	1517.8	1519.1	1520.6	1521.4	1521.7	1522.1	1522.4	1522.7	1522.4
147.5°	1587.0	1588.6	1590.2	1591.9	1593.5	1594.2	1593.9	1593.6	1593.4	1593.1	1592.8
150°	1630.8	1632.1	1633.6	1634.9	1636.3	1636.9	1636.9	1636.9	1636.9	1636.9	1636.9
152.5°	1672.2	1673.0	1673.9	1674.7	1675.5	1676.1	1676.3	1676.6	1676.9	1677.1	1677.9
155°	1735.9	1735.9	1735.9	1735.9	1735.9	1735.8	1735.4	1735.0	1734.7	1734.3	1735.8
157.5°	1789.5	1788.9	1788.3	1787.7	1787.1	1786.8	1786.7	1786.6	1786.6	1786.5	1787.5
160°	1821.2	1820.8	1820.5	1820.2	1819.8	1819.5	1819.2	1818.8	1818.5	1818.2	1819.2
162.5°	1850.4	1849.6	1848.7	1847.8	1846.8	1846.2	1845.9	1845.6	1845.2	1844.9	1846.7
165°	1889.7	1888.6	1887.6	1886.6	1885.6	1884.8	1884.1	1883.4	1882.8	1882.1	1884.1
167.5°	1919.9	1918.4	1917.0	1915.6	1914.2	1913.5	1913.6	1913.6	1913.7	1913.8	1915.8
170°	1936.9	1935.2	1933.5	1931.8	1930.2	1929.4	1929.8	1930.2	1930.5	1930.8	1932.8
172.5°	1949.0	1947.6	1946.2	1944.8	1943.4	1942.7	1942.8	1942.9	1942.9	1943.0	1945.3
175°	1965.8	1964.1	1962.5	1960.8	1959.0	1958.0	1957.7	1957.3	1957.0	1956.7	1959.0
177.5°	1971.3	1969.9	1968.6	1967.2	1965.9	1965.2	1965.2	1965.2	1965.2	1965.2	1967.1
180°	1968.8	1968.8	1968.8	1968.8	1968.8	1968.8	1968.8	1968.8	1968.8	1968.8	1968.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0
2.5°	2098.1	2101.3	2104.5	2105.9	2105.6	2105.3	2105.0	2104.8
5°	2084.2	2087.7	2091.3	2092.7	2092.0	2091.3	2090.6	2089.9
7.5°	2056.4	2058.7	2061.0	2061.5	2060.4	2059.3	2058.1	2057.0
10°	2031.4	2032.9	2034.4	2034.4	2032.9	2031.4	2030.0	2028.6
12.5°	2000.6	2001.6	2002.4	2001.8	1999.8	1997.8	1995.8	1993.8
15°	1946.5	1945.8	1945.1	1943.5	1941.0	1938.4	1936.0	1933.5
17.5°	1881.4	1879.4	1877.3	1874.5	1870.7	1866.8	1863.1	1859.3
20°	1835.8	1832.9	1830.1	1826.3	1821.7	1817.1	1812.3	1807.7
22.5°	1785.2	1780.9	1776.7	1772.6	1768.8	1764.9	1761.2	1757.4
25°	1703.5	1697.5	1691.4	1686.6	1682.9	1679.4	1675.8	1672.2
27.5°	1620.4	1612.9	1605.4	1599.0	1593.9	1588.7	1583.6	1578.4
30°	1560.7	1551.9	1542.9	1535.5	1529.7	1524.1	1518.3	1512.6
32.5°	1499.9	1489.4	1479.0	1471.2	1465.7	1460.3	1454.8	1449.4
35°	1409.2	1397.0	1384.8	1375.5	1369.1	1362.6	1356.1	1349.7
37.5°	1311.8	1298.2	1284.6	1274.6	1268.1	1261.6	1255.3	1248.8
40°	1247.1	1232.0	1217.0	1206.2	1199.7	1193.3	1186.9	1180.4
42.5°	1183.3	1167.9	1152.6	1141.6	1134.8	1128.1	1121.4	1114.6
45°	1085.6	1068.0	1050.5	1038.4	1032.1	1025.6	1019.2	1012.7
47.5°	987.2	969.1	950.9	938.2	931.1	924.0	916.9	909.8
50°	922.0	904.1	886.2	873.8	867.1	860.2	853.4	846.6
52.5°	857.0	838.8	820.5	807.9	800.8	793.8	786.6	779.5
55°	760.9	742.4	723.7	710.9	704.2	697.3	690.5	683.7
57.5°	667.2	648.2	629.3	617.3	612.2	606.9	601.8	596.6
60°	604.5	585.9	567.2	555.1	549.4	543.6	537.9	532.1
62.5°	542.9	525.7	508.5	497.6	493.0	488.5	483.8	479.3
65°	454.5	439.2	423.7	413.8	409.6	405.3	401.0	396.7
67.5°	373.4	360.1	346.9	337.9	333.2	328.4	323.7	318.9
70°	318.2	306.4	294.6	286.9	283.3	279.7	276.1	272.6
72.5°	268.7	258.6	248.5	241.9	238.5	235.3	232.0	228.6
75°	198.0	189.8	181.5	176.3	174.2	172.0	169.9	167.7
77.5°	140.1	135.2	130.5	127.7	127.0	126.4	125.8	125.1
80°	107.6	106.4	105.3	104.6	104.3	103.9	103.6	103.2
82.5°	83.6	82.8	82.0	81.4	81.1	80.7	80.4	80.0
85°	48.6	47.9	47.2	46.8	46.8	46.8	46.8	46.8
87.5°	25.0	25.1	25.2	25.5	26.0	26.4	26.8	27.2
90°	37.6	39.6	41.6	43.0	43.6	44.3	45.0	45.6
92.5°	62.7	63.9	65.1	65.9	66.3	66.8	67.2	67.6
95°	117.8	118.8	119.8	120.3	120.3	120.3	120.3	120.3
97.5°	185.5	186.7	187.9	188.5	188.5	188.5	188.5	188.5
100°	234.3	235.0	235.7	236.0	236.0	236.0	236.0	236.0
102.5°	286.0	287.0	287.9	288.5	288.8	289.1	289.3	289.6
105°	364.5	365.5	366.5	367.5	368.5	369.5	370.5	371.5
107.5°	449.3	450.2	451.2	451.6	451.5	451.5	451.4	451.3
110°	505.7	505.0	504.3	504.5	505.5	506.5	507.6	508.6



TEST NUMBER: P333114-840

CATALOG NUMBER: S124RDIW-S1195D1560U840-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	566.4	566.3	566.2	566.2	566.4	566.6	566.8	567.0
115°	660.1	659.8	659.5	659.1	658.8	658.5	658.1	657.8
117.5°	750.2	749.1	747.9	747.0	746.3	745.7	745.0	744.3
120°	811.2	809.6	807.9	807.4	808.1	808.7	809.4	810.1
122.5°	873.2	872.1	871.0	869.8	868.6	867.4	866.2	864.9
125°	964.0	963.4	962.7	962.0	961.3	960.7	960.0	959.3
127.5°	1050.9	1050.2	1049.5	1048.8	1048.3	1047.8	1047.2	1046.7
130°	1111.8	1111.1	1110.3	1109.3	1108.0	1106.7	1105.3	1104.0
132.5°	1169.0	1168.3	1167.6	1167.0	1166.5	1166.0	1165.4	1164.9
135°	1254.9	1254.3	1253.5	1252.6	1251.6	1250.6	1249.6	1248.6
137.5°	1338.0	1337.1	1336.2	1335.8	1336.1	1336.3	1336.5	1336.7
140°	1392.6	1392.3	1391.9	1391.6	1391.3	1390.9	1390.6	1390.3
142.5°	1444.3	1444.2	1444.2	1444.1	1444.0	1444.0	1443.9	1443.8
145°	1522.1	1521.7	1521.4	1520.7	1519.6	1518.6	1517.6	1516.6
147.5°	1592.6	1592.3	1592.0	1591.6	1591.3	1591.0	1590.6	1590.3
150°	1636.9	1636.9	1636.9	1636.8	1636.4	1636.1	1635.8	1635.4
152.5°	1678.7	1679.5	1680.3	1680.3	1679.4	1678.6	1677.7	1676.8
155°	1737.1	1738.4	1739.8	1739.8	1738.4	1737.1	1735.8	1734.3
157.5°	1788.5	1789.5	1790.5	1790.4	1789.3	1788.2	1787.0	1785.8
160°	1820.2	1821.2	1822.2	1821.8	1820.2	1818.5	1816.7	1815.0
162.5°	1848.6	1850.4	1852.2	1852.3	1850.6	1849.0	1847.2	1845.5
165°	1886.1	1888.1	1890.2	1890.6	1889.2	1887.8	1886.4	1885.1
167.5°	1917.8	1919.9	1921.9	1921.9	1919.8	1917.6	1915.5	1913.4
170°	1934.9	1936.9	1938.9	1938.7	1936.4	1934.0	1931.7	1929.2
172.5°	1947.6	1949.8	1952.2	1952.2	1949.7	1947.4	1945.0	1942.7
175°	1961.5	1963.8	1966.2	1966.2	1963.8	1961.5	1959.0	1956.7
177.5°	1969.0	1970.9	1972.8	1972.7	1970.4	1968.3	1966.2	1964.0
180°	1968.8	1968.8	1968.8	1968.8	1968.8	1968.8	1968.8	1968.8

(END OF REPORT)