

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: P333101

Luminaire Tested: **S124RDIW-S1195D770U835-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P333101
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-S1195D770U835-4F0-1E-UDD-F
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 770 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7891.0 lumens
Efficiency: N/A
Efficacy: 132.0 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: Semi-Direct

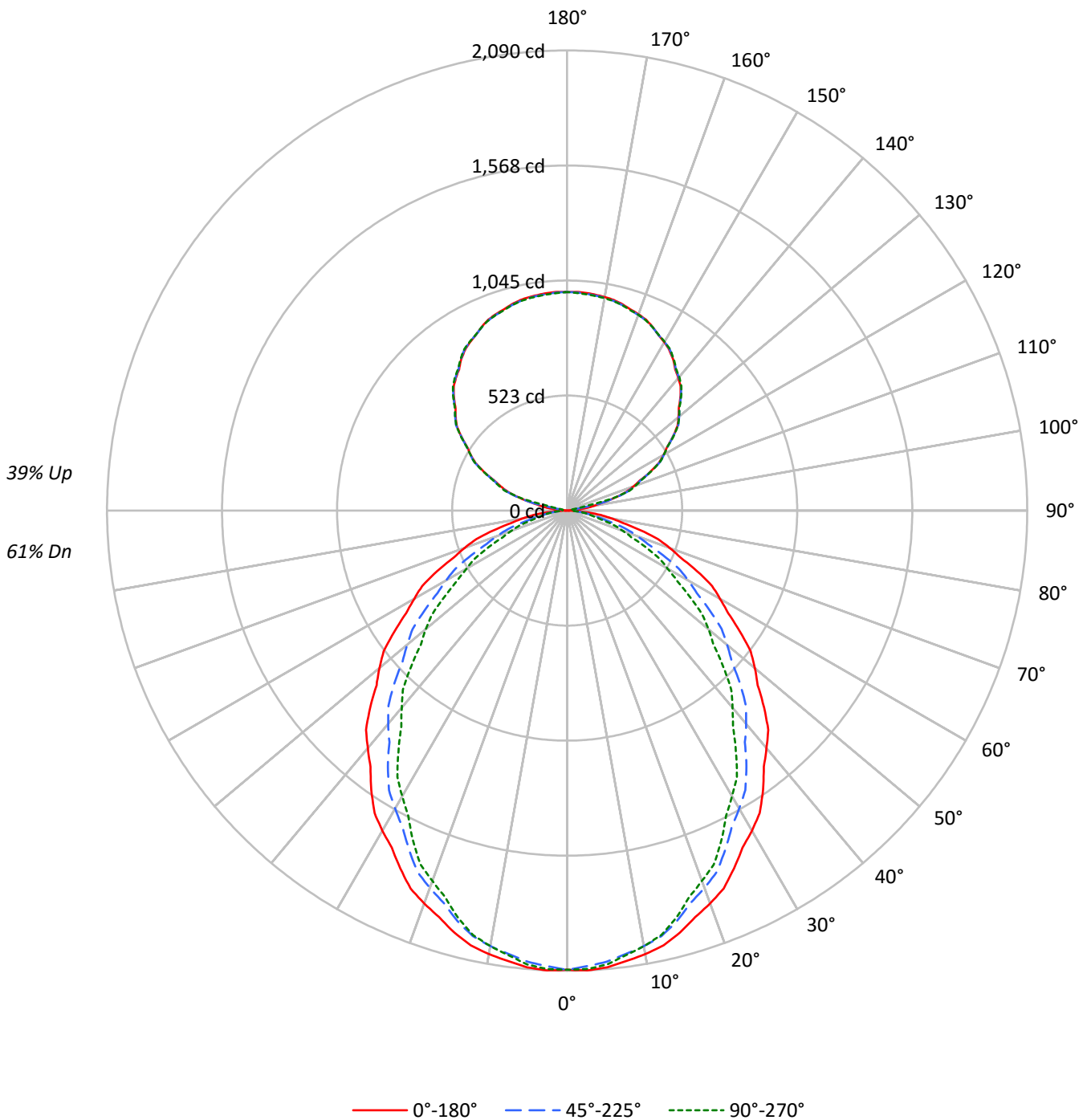
Input Watts (W): 59.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RCR																		
0	110	110	110	110	103	103	103	103	89	89	89	77	77	77	66	66	66	61
1	101	96	93	89	94	90	87	84	79	77	74	69	67	65	59	58	57	52
2	92	85	78	73	86	79	74	69	70	66	62	61	58	55	52	50	48	44
3	84	75	67	61	78	70	64	58	62	57	53	54	50	47	47	44	41	38
4	77	66	58	52	72	62	55	50	55	49	45	48	44	40	42	39	36	33
5	71	59	51	45	66	56	49	43	49	44	39	44	39	35	38	34	31	29
6	65	53	45	39	61	50	43	38	45	39	34	39	35	31	35	31	28	25
7	61	48	40	35	57	46	38	33	41	35	30	36	31	28	32	28	25	22
8	56	44	36	31	53	42	35	30	37	31	27	33	28	25	29	25	22	20
9	53	40	33	28	49	38	31	27	34	28	24	30	26	22	27	23	20	18
10	49	37	30	25	46	35	28	24	32	26	22	28	24	20	25	21	19	17

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	2.5
10°-20°	546.3	6.9
20°-30°	788.8	10.0
30°-40°	894.2	11.3
40°-50°	863.5	10.9
50°-60°	718.0	9.1
60°-70°	495.8	6.3
70°-80°	251.3	3.2
80°-90°	67.3	0.9
90°-100°	33.9	0.4
100°-110°	216.4	2.7
110°-120°	414.0	5.2
120°-130°	525.6	6.7
130°-140°	562.3	7.1
140°-150°	525.8	6.7
150°-160°	424.0	5.4
160°-170°	273.5	3.5
170°-180°	94.3	1.2
0°-30°	1531.0	19.4
0°-40°	2425.2	30.7
0°-60°	4006.7	50.8
0°-90°	4821.1	61.1
90°-120°	664.4	8.4
90°-150°	2278.1	28.9
90°-180°	3070.0	38.9
0°-180°	7891.0	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°	2	10	16	21	22	6
95°	41	17	16	21	22	52
105°	223	228	232	236	212	234
115°	417	419	419	420	420	410
125°	586	589	588	590	591	523
135°	727	727	730	731	733	560
145°	839	841	841	842	843	524
155°	920	920	918	921	919	424
165°	970	967	966	972	966	274
175°	992	988	989	995	986	94
180°	992	992	992	992	992	



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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°	29.8	27.9	26.0	24.1	22.2	21.2	21.2	21.2	21.2	21.2	21.1
90°	2.2	4.0	5.9	7.7	9.5	11.1	12.4	13.7	15.0	16.3	17.3
92.5°	9.4	9.5	9.6	9.6	9.7	10.5	11.8	13.1	14.4	15.7	16.7
95°	40.8	35.2	29.6	24.0	18.4	15.7	15.8	16.0	16.2	16.3	17.3
97.5°	86.7	90.2	93.7	97.2	100.7	93.2	74.8	56.4	38.0	19.6	19.7
100°	121.7	124.7	127.7	130.6	133.6	123.7	101.0	78.2	55.4	32.7	29.9
102.5°	160.9	163.1	165.3	167.5	169.6	169.2	166.3	163.3	160.3	157.4	127.1
105°	223.4	224.4	225.4	226.4	227.4	228.3	229.1	229.9	230.8	231.6	233.1
107.5°	281.5	282.0	282.5	283.0	283.5	284.3	285.4	286.5	287.6	288.7	289.5
110°	320.7	321.2	321.7	322.2	322.6	323.4	324.4	325.4	326.4	327.3	327.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	358.7	359.6	360.5	361.3	362.2	362.9	363.4	363.8	364.3	364.8	364.7
115°	417.2	417.7	418.2	418.6	419.1	419.3	419.1	419.0	418.8	418.6	419.0
117.5°	469.9	470.5	471.2	471.8	472.5	473.0	473.4	473.7	474.1	474.5	474.4
120°	505.5	506.2	506.8	507.5	508.1	508.4	508.2	508.1	507.9	507.7	508.1
122.5°	538.8	539.1	539.5	539.9	540.3	540.6	540.9	541.1	541.3	541.6	541.8
125°	586.4	587.1	587.7	588.4	589.0	589.2	588.9	588.6	588.2	587.9	588.4
127.5°	631.5	631.7	631.9	632.0	632.2	632.7	633.4	634.2	634.9	635.7	635.6
130°	660.6	660.8	661.0	661.1	661.3	661.6	662.1	662.6	663.1	663.6	663.8
132.5°	687.4	687.7	688.0	688.2	688.5	689.0	689.6	690.3	690.9	691.5	691.7
135°	727.4	727.3	727.1	726.9	726.8	727.0	727.7	728.3	729.0	729.7	730.0
137.5°	762.9	763.0	763.1	763.1	763.2	763.6	764.3	765.0	765.8	766.5	766.8
140°	786.1	786.4	786.7	787.1	787.4	787.7	788.1	788.4	788.7	789.1	789.5
142.5°	806.9	807.5	808.1	808.6	809.2	809.6	809.8	810.0	810.2	810.4	810.8
145°	838.8	839.3	839.8	840.3	840.8	841.0	841.0	841.0	841.0	841.0	841.2
147.5°	864.2	865.1	866.0	866.9	867.9	868.2	868.1	867.9	867.7	867.6	867.7
150°	882.6	883.2	883.9	884.6	885.2	885.5	885.3	885.1	885.0	884.8	884.8
152.5°	898.0	898.5	899.1	899.6	900.1	900.2	899.9	899.7	899.4	899.1	899.3
155°	919.7	919.9	920.0	920.2	920.4	920.2	919.7	919.2	918.7	918.2	918.9
157.5°	938.0	937.9	937.8	937.7	937.6	937.2	936.7	936.1	935.5	935.0	935.8
160°	948.6	948.1	947.7	947.2	946.7	946.3	946.2	946.0	945.8	945.7	946.7
162.5°	958.1	957.5	956.9	956.3	955.6	955.2	955.1	954.9	954.7	954.6	955.6
165°	970.2	969.3	968.5	967.7	966.9	966.5	966.5	966.5	966.5	966.5	967.8
167.5°	979.7	978.8	978.0	977.1	976.2	975.8	975.7	975.6	975.5	975.4	976.8
170°	985.0	984.0	983.0	982.0	981.1	980.6	980.8	981.0	981.1	981.3	982.6
172.5°	988.6	987.6	986.6	985.6	984.6	984.2	984.4	984.5	984.7	984.9	986.2
175°	992.4	991.4	990.5	989.5	988.5	988.1	988.2	988.4	988.6	988.7	990.2
177.5°	994.2	993.3	992.4	991.4	990.5	990.2	990.5	990.7	991.0	991.2	992.3
180°	992.4	992.4	992.4	992.4	992.4	992.4	992.4	992.4	992.4	992.4	992.4



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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°	21.0	20.9	20.8	20.9	21.3	21.6	22.0	22.3
90°	18.3	19.3	20.3	20.9	21.3	21.6	21.9	22.3
92.5°	17.7	18.7	19.7	20.2	20.3	20.4	20.4	20.5
95°	18.3	19.3	20.3	20.9	21.0	21.2	21.4	21.5
97.5°	19.8	19.9	20.0	20.1	20.3	20.5	20.6	20.8
100°	27.1	24.2	21.4	20.1	20.3	20.5	20.6	20.8
102.5°	96.9	66.6	36.4	21.2	21.3	21.3	21.3	21.4
105°	234.6	236.0	237.5	235.3	229.4	223.4	217.5	211.6
107.5°	290.2	290.9	291.7	292.3	293.0	293.6	294.2	294.8
110°	328.0	328.3	328.7	329.1	329.6	330.1	330.6	331.1



TEST NUMBER: P333101

CATALOG NUMBER: S124RDIW-S1195D770U835-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	364.6	364.6	364.5	364.8	365.4	366.0	366.7	367.3
115°	419.3	419.6	420.0	420.1	420.1	420.1	420.1	420.1
117.5°	474.3	474.3	474.2	474.1	474.1	474.0	473.9	473.9
120°	508.4	508.7	509.0	509.0	508.7	508.4	508.1	507.7
122.5°	542.0	542.2	542.4	542.3	542.0	541.6	541.3	541.0
125°	588.9	589.4	589.9	590.2	590.4	590.5	590.7	590.9
127.5°	635.5	635.4	635.3	635.2	635.1	634.9	634.8	634.7
130°	663.9	664.1	664.3	664.3	664.3	664.3	664.3	664.3
132.5°	691.8	692.0	692.2	692.2	692.1	691.9	691.8	691.7
135°	730.3	730.7	731.0	731.3	731.6	732.0	732.3	732.6
137.5°	767.2	767.6	767.9	768.1	768.0	767.9	767.8	767.7
140°	790.0	790.5	791.0	791.4	791.5	791.7	791.9	792.0
142.5°	811.2	811.5	811.9	812.1	812.1	812.1	812.2	812.2
145°	841.3	841.5	841.7	841.9	842.2	842.6	842.9	843.2
147.5°	867.8	868.0	868.1	868.3	868.4	868.6	868.8	868.9
150°	884.8	884.8	884.8	884.9	885.1	885.2	885.4	885.5
152.5°	899.6	899.8	900.1	900.2	900.1	900.0	899.9	899.8
155°	919.5	920.2	920.8	920.9	920.4	919.9	919.4	919.0
157.5°	936.7	937.6	938.4	938.4	937.6	936.7	935.8	935.0
160°	947.7	948.6	949.6	949.6	948.6	947.7	946.7	945.7
162.5°	956.6	957.5	958.5	958.5	957.4	956.2	955.1	954.0
165°	969.1	970.4	971.7	971.7	970.2	968.7	967.2	965.7
167.5°	978.3	979.7	981.2	981.1	979.4	977.8	976.1	974.5
170°	983.9	985.3	986.6	986.4	984.8	983.1	981.5	979.8
172.5°	987.5	988.8	990.1	989.9	988.1	986.4	984.6	982.8
175°	991.7	993.2	994.7	994.4	992.4	990.5	988.5	986.5
177.5°	993.4	994.4	995.5	995.2	993.6	992.0	990.5	988.9
180°	992.4	992.4	992.4	992.4	992.4	992.4	992.4	992.4

(END OF REPORT)