

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: P332477-840

Luminaire Tested: **S123RDIW-S1165D755U840-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332477-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123RDIW-S1165D755U840-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 755 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7068.2 lumens
Efficiency: N/A
Efficacy: 118.2 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Direct

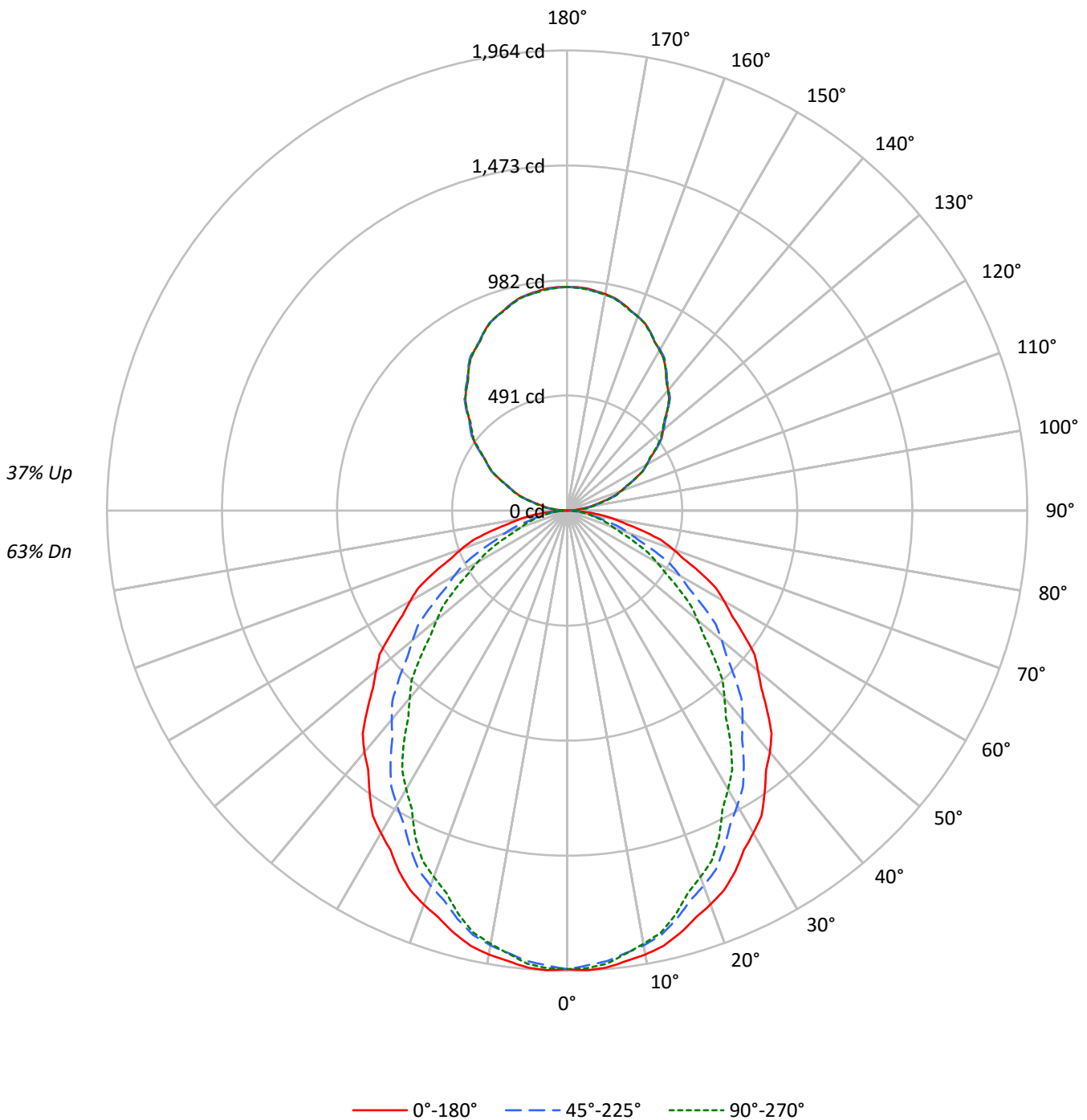
Input Watts (W): 59.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	90	90	90	79	79	79	68	68	68	63
1	101	97	93	90	95	91	88	85	80	77	75	70	68	66	60	59	58	54
2	92	85	79	74	86	80	75	70	71	66	63	62	59	56	54	51	49	45
3	84	75	68	62	79	71	64	59	63	58	53	55	51	48	48	45	43	39
4	78	67	59	53	72	63	56	50	56	50	46	49	45	41	43	40	37	34
5	71	60	52	46	67	56	49	44	50	44	40	44	40	36	39	35	32	30
6	66	54	46	40	62	51	44	38	45	39	35	40	36	32	36	32	29	26
7	61	49	41	35	57	46	39	34	41	35	31	37	32	28	33	29	26	23
8	57	44	37	31	53	42	35	30	38	32	28	34	29	25	30	26	23	21
9	53	41	33	28	50	39	32	27	35	29	25	31	26	23	28	24	21	19
10	50	37	30	25	47	36	29	24	32	27	23	29	24	21	26	22	19	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	21068	21068	21068
5°	21149	20857	20977
10°	21029	20595	20525
15°	20803	20113	19900
20°	20492	19511	19057
25°	20173	18834	18231
30°	19750	18053	17066
35°	19316	17270	16000
40°	18916	16350	14677
45°	18389	15440	13484
50°	17811	14408	12149
55°	17220	13226	10903
60°	16678	11961	9535
65°	15969	10593	8166
70°	15087	8894	6593
75°	13795	6995	6209
80°	12298	6199	5709
85°	10387	5483	5101



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	183.8	2.6
10°-20°	511.4	7.2
20°-30°	736.4	10.4
30°-40°	829.4	11.7
40°-50°	793.5	11.2
50°-60°	649.8	9.2
60°-70°	438.4	6.2
70°-80°	220.6	3.1
80°-90°	61.2	0.9
90°-100°	62.2	0.9
100°-110°	186.1	2.6
110°-120°	316.4	4.5
120°-130°	416.2	5.9
130°-140°	467.8	6.6
140°-150°	459.9	6.5
150°-160°	387.1	5.5
160°-170°	257.7	3.6
170°-180°	90.2	1.3
0°-30°	1431.6	20.3
0°-40°	2261.0	32.0
0°-60°	3704.3	52.4
0°-90°	4424.5	62.6
90°-120°	564.7	8.0
90°-150°	1908.6	27.0
90°-180°	2644.0	37.4
0°-180°	7068.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1957	1957	1957	1957	1957	
5°	1957	1949	1930	1944	1941	186
15°	1867	1848	1805	1797	1786	526
25°	1698	1657	1586	1553	1535	781
35°	1470	1411	1314	1248	1218	920
45°	1208	1134	1014	927	886	932
55°	918	837	705	616	581	822
65°	627	538	416	342	321	620
75°	332	255	168	153	149	354
85°	84	51	44	41	41	94
90°	1	8	18	21	22	7
95°	44	50	55	58	58	50
105°	169	170	177	177	178	181
115°	319	321	319	320	319	315
125°	466	468	467	464	461	416
135°	605	609	609	606	604	466
145°	734	735	738	737	734	458
155°	840	840	841	844	839	387
165°	915	913	913	917	912	258
175°	952	949	949	953	948	90
180°	954	954	954	954	954	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1957.3	1957.3	1957.3	1957.3	1957.3	1957.3	1957.3	1957.3	1957.3	1957.3	1957.3
2.5°	1963.7	1962.5	1961.4	1960.2	1959.1	1956.8	1953.5	1950.0	1946.7	1943.3	1946.4
5°	1957.3	1955.5	1953.8	1952.0	1950.3	1947.2	1943.0	1938.7	1934.5	1930.3	1933.5
7.5°	1939.1	1937.3	1935.4	1933.5	1931.6	1927.8	1922.4	1916.8	1911.4	1905.8	1907.6
10°	1924.0	1921.5	1919.0	1916.5	1914.1	1909.7	1903.3	1896.9	1890.6	1884.3	1884.6
12.5°	1902.4	1899.7	1896.8	1894.1	1891.4	1886.1	1878.3	1870.6	1862.8	1855.0	1854.8
15°	1866.8	1862.9	1859.1	1855.1	1851.3	1844.4	1834.5	1824.6	1814.7	1804.9	1803.1
17.5°	1822.0	1817.6	1813.0	1808.5	1804.0	1795.4	1782.9	1770.3	1757.8	1745.2	1741.5
20°	1789.0	1783.4	1777.8	1772.1	1766.5	1757.0	1743.5	1730.1	1716.7	1703.3	1698.7
22.5°	1752.2	1745.7	1739.2	1732.7	1726.3	1715.9	1701.6	1687.4	1673.1	1658.8	1653.1
25°	1698.5	1689.7	1680.9	1672.0	1663.2	1650.7	1634.5	1618.3	1602.0	1585.8	1578.4
27.5°	1633.5	1623.8	1614.0	1604.3	1594.5	1580.6	1562.6	1544.5	1526.4	1508.3	1498.0
30°	1589.0	1578.4	1567.8	1557.2	1546.7	1531.5	1511.8	1492.0	1472.3	1452.5	1440.5
32.5°	1544.6	1532.6	1520.6	1508.5	1496.6	1480.2	1459.3	1438.4	1417.4	1396.6	1383.5
35°	1470.0	1457.2	1444.5	1431.9	1419.2	1401.9	1380.0	1358.2	1336.3	1314.3	1299.2
37.5°	1394.4	1380.3	1366.1	1352.0	1338.0	1319.2	1295.9	1272.5	1249.2	1225.8	1208.6
40°	1346.2	1330.6	1315.0	1299.6	1284.0	1263.7	1238.7	1213.7	1188.6	1163.6	1145.2
42.5°	1291.5	1276.0	1260.5	1245.0	1229.4	1208.7	1182.9	1156.9	1131.0	1105.2	1085.1
45°	1208.0	1192.1	1176.3	1160.4	1144.5	1123.0	1095.8	1068.6	1041.5	1014.3	994.2
47.5°	1124.5	1107.1	1089.6	1072.3	1054.8	1032.5	1005.3	978.2	951.0	923.9	902.0
50°	1063.6	1047.0	1030.4	1013.8	997.2	974.7	946.1	917.6	889.0	860.4	838.5
52.5°	1009.0	991.0	973.0	955.0	937.0	913.8	885.6	857.3	829.0	800.7	778.0
55°	917.6	900.2	882.9	865.7	848.4	824.8	794.8	764.8	734.8	704.8	684.4
57.5°	833.0	814.3	795.4	776.6	757.7	733.3	703.2	673.0	642.9	612.8	593.4
60°	774.7	755.3	735.9	716.5	697.0	672.7	643.4	614.2	584.9	555.6	536.5
62.5°	716.2	696.8	677.4	658.0	638.6	614.3	585.0	555.7	526.4	497.2	479.3
65°	627.0	607.6	588.2	568.9	549.5	525.9	498.5	470.9	443.4	415.9	398.6
67.5°	537.9	518.2	498.6	479.0	459.4	436.4	410.0	383.5	357.2	330.8	317.9
70°	479.4	460.4	441.3	422.2	403.2	381.3	356.7	331.9	307.3	282.6	270.2
72.5°	421.0	402.2	383.4	364.7	345.9	325.3	302.9	280.4	258.0	235.6	225.5
75°	331.7	314.9	297.9	280.9	264.1	245.9	226.5	207.0	187.6	168.2	164.7
77.5°	250.4	235.2	219.8	204.6	189.2	175.3	162.9	150.4	137.8	125.4	123.5
80°	198.4	184.0	169.5	155.0	140.6	129.7	122.2	114.8	107.4	100.0	99.0
82.5°	148.9	136.4	123.9	111.4	99.0	91.0	87.6	84.0	80.6	77.2	76.0
85°	84.1	76.3	68.6	60.9	53.1	48.7	47.7	46.6	45.5	44.4	43.7
87.5°	30.6	27.9	25.0	22.3	19.6	18.4	18.8	19.3	19.7	20.1	20.0
90°	0.7	2.4	4.0	5.8	7.4	9.3	11.5	13.6	15.9	18.0	18.7
92.5°	18.2	19.3	20.4	21.5	22.6	23.8	25.0	26.4	27.6	28.8	29.3
95°	44.2	45.3	46.6	47.8	48.9	50.1	51.5	52.8	54.1	55.4	56.1
97.5°	78.6	79.4	80.3	81.2	82.0	82.9	83.9	84.8	85.8	86.8	87.6
100°	101.9	102.9	103.9	104.9	105.9	106.8	107.7	108.6	109.4	110.2	110.7
102.5°	129.0	129.6	130.2	130.7	131.3	132.2	133.3	134.4	135.4	136.5	137.0
105°	168.6	169.0	169.4	169.7	170.0	170.9	172.4	173.9	175.4	176.9	176.9
107.5°	214.8	215.0	215.2	215.4	215.6	216.0	216.6	217.2	217.8	218.4	218.9
110°	243.6	244.0	244.3	244.6	244.9	245.3	245.6	245.9	246.3	246.6	247.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	273.6	273.8	274.0	274.2	274.4	274.5	274.6	274.7	274.7	274.8	275.6
115°	318.6	319.0	319.5	320.0	320.5	320.6	320.3	320.0	319.6	319.3	319.5
117.5°	363.9	364.2	364.5	364.9	365.2	365.2	364.7	364.3	363.9	363.3	363.3
120°	392.0	393.0	394.0	395.1	396.1	396.1	395.3	394.5	393.6	392.7	392.6
122.5°	421.4	422.1	422.8	423.6	424.3	424.4	424.0	423.6	423.2	422.7	422.3
125°	466.3	466.8	467.3	467.8	468.3	468.3	468.0	467.7	467.3	467.0	466.4
127.5°	507.6	508.7	509.8	510.8	511.9	512.2	511.9	511.5	511.1	510.8	509.8
130°	535.2	536.5	537.9	539.2	540.5	541.0	540.5	540.0	539.5	539.0	538.3
132.5°	562.8	564.1	565.4	566.7	568.2	568.6	568.3	567.8	567.4	567.1	566.3
135°	604.9	605.9	606.9	607.9	608.8	609.4	609.2	608.9	608.8	608.6	607.9
137.5°	643.9	644.7	645.5	646.4	647.2	647.8	648.2	648.7	649.1	649.5	648.8
140°	670.9	671.7	672.6	673.4	674.2	674.7	674.9	675.0	675.2	675.4	675.2
142.5°	695.5	696.3	697.1	697.9	698.7	699.3	699.6	699.9	700.2	700.5	700.3
145°	733.9	734.2	734.5	734.8	735.2	735.6	736.1	736.6	737.1	737.6	737.4
147.5°	767.4	768.0	768.6	769.2	769.8	770.3	770.8	771.2	771.7	772.2	772.2
150°	790.8	791.1	791.4	791.8	792.1	792.4	792.7	793.1	793.5	793.8	793.8
152.5°	810.0	810.4	810.9	811.4	811.8	812.1	812.3	812.5	812.7	812.9	813.2
155°	840.3	840.3	840.3	840.3	840.3	840.3	840.5	840.7	840.8	841.0	841.7
157.5°	866.1	865.9	865.7	865.5	865.3	865.3	865.4	865.5	865.7	865.8	866.5
160°	882.2	881.9	881.6	881.2	880.9	880.7	880.7	880.7	880.7	880.7	881.6
162.5°	896.7	896.2	895.6	895.2	894.7	894.6	894.7	894.8	895.0	895.1	896.0
165°	915.2	914.7	914.2	913.7	913.2	912.9	912.9	912.9	912.9	912.9	913.9
167.5°	930.1	929.4	928.8	928.1	927.4	927.2	927.3	927.4	927.6	927.7	928.7
170°	938.5	937.8	937.2	936.4	935.7	935.4	935.4	935.4	935.4	935.4	936.6
172.5°	945.0	944.4	943.7	943.0	942.4	942.0	942.0	942.0	942.0	942.0	943.1
175°	951.9	951.3	950.6	950.0	949.3	949.0	949.0	949.0	949.0	949.0	950.0
177.5°	954.8	954.2	953.7	953.2	952.7	952.4	952.4	952.4	952.4	952.4	953.2
180°	954.2	954.2	954.2	954.2	954.2	954.2	954.2	954.2	954.2	954.2	954.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1957.3	1957.3	1957.3	1957.3	1957.3	1957.3	1957.3	1957.3
2.5°	1949.5	1952.7	1955.7	1957.0	1956.4	1955.9	1955.3	1954.7
5°	1936.6	1939.8	1943.0	1944.2	1943.5	1942.8	1942.1	1941.4
7.5°	1909.4	1911.2	1912.9	1913.2	1912.0	1910.8	1909.6	1908.3
10°	1885.0	1885.3	1885.7	1885.0	1883.2	1881.5	1879.7	1877.9
12.5°	1854.6	1854.4	1854.2	1853.1	1851.1	1849.0	1846.9	1844.9
15°	1801.4	1799.6	1797.9	1795.7	1793.2	1790.8	1788.3	1785.8
17.5°	1737.8	1733.9	1730.2	1726.6	1722.8	1719.2	1715.6	1711.8
20°	1694.1	1689.5	1685.0	1680.5	1676.3	1672.0	1667.9	1663.7
22.5°	1647.4	1641.7	1636.0	1631.1	1627.2	1623.3	1619.3	1615.4
25°	1571.0	1563.6	1556.2	1550.5	1546.7	1542.8	1538.9	1535.0
27.5°	1487.7	1477.4	1467.1	1459.1	1453.1	1447.2	1441.3	1435.3
30°	1428.5	1416.5	1404.5	1395.7	1390.1	1384.4	1378.8	1373.1
32.5°	1370.4	1357.3	1344.1	1334.6	1328.7	1322.7	1316.9	1310.9
35°	1284.0	1268.9	1253.7	1242.9	1236.6	1230.2	1223.9	1217.6
37.5°	1191.3	1174.2	1156.9	1144.4	1136.6	1128.7	1121.0	1113.1
40°	1126.9	1108.5	1090.3	1077.0	1068.8	1060.8	1052.7	1044.5
42.5°	1065.1	1045.0	1025.0	1011.4	1004.1	996.8	989.6	982.3
45°	974.1	954.0	933.9	919.7	911.2	902.7	894.2	885.8
47.5°	880.1	858.3	836.4	821.7	814.2	806.6	799.0	791.5
50°	816.7	794.8	772.8	757.9	749.8	741.6	733.6	725.5
52.5°	755.3	732.6	709.8	694.8	687.5	680.3	673.1	665.8
55°	663.9	643.4	623.0	609.3	602.2	595.1	588.0	581.0
57.5°	574.1	554.7	535.4	522.7	516.7	510.8	504.7	498.8
60°	517.5	498.5	479.4	466.9	460.9	454.8	448.9	442.9
62.5°	461.3	443.4	425.5	413.4	407.1	400.8	394.6	388.3
65°	381.3	364.1	346.8	336.2	332.3	328.4	324.6	320.6
67.5°	305.0	292.1	279.1	270.6	266.5	262.3	258.1	254.0
70°	257.8	245.5	233.2	225.1	221.2	217.3	213.4	209.5
72.5°	215.4	205.3	195.2	189.3	187.7	186.1	184.5	182.9
75°	161.2	157.6	154.1	152.1	151.4	150.7	150.0	149.3
77.5°	121.6	119.7	117.8	116.4	115.7	115.0	114.3	113.6
80°	97.9	96.8	95.7	94.9	94.2	93.5	92.8	92.1
82.5°	75.0	74.0	72.9	72.3	72.2	72.0	71.9	71.8
85°	43.0	42.3	41.6	41.3	41.3	41.3	41.3	41.3
87.5°	19.8	19.7	19.5	19.3	19.1	18.9	18.7	18.5
90°	19.3	20.0	20.7	21.1	21.5	21.8	22.1	22.5
92.5°	29.9	30.4	30.9	31.1	30.9	30.7	30.5	30.3
95°	56.8	57.5	58.2	58.5	58.5	58.5	58.5	58.5
97.5°	88.4	89.1	89.9	90.2	90.2	90.1	90.0	90.0
100°	111.2	111.7	112.2	112.6	112.9	113.3	113.6	113.9
102.5°	137.5	138.0	138.6	138.8	138.8	138.7	138.6	138.6
105°	176.9	176.9	176.9	177.0	177.4	177.7	178.0	178.4
107.5°	219.4	220.0	220.6	220.8	220.6	220.4	220.2	219.9
110°	247.9	248.6	249.2	249.4	249.1	248.7	248.4	248.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	276.4	277.2	278.0	278.3	278.3	278.2	278.1	278.1
115°	319.6	319.8	320.0	320.0	319.8	319.6	319.5	319.3
117.5°	363.3	363.2	363.2	363.0	362.5	362.0	361.6	361.1
120°	392.4	392.2	392.1	391.8	391.5	391.2	390.8	390.5
122.5°	421.9	421.4	421.0	420.6	420.1	419.6	419.2	418.7
125°	465.6	464.9	464.3	463.6	463.0	462.3	461.6	461.0
127.5°	508.9	508.0	507.1	506.1	505.4	504.6	503.9	503.1
130°	537.7	536.9	536.2	535.3	534.2	533.0	531.9	530.7
132.5°	565.5	564.7	563.9	563.1	562.2	561.3	560.4	559.5
135°	607.3	606.6	606.0	605.5	605.1	604.8	604.5	604.1
137.5°	648.1	647.4	646.8	646.1	645.5	644.8	644.2	643.6
140°	675.0	674.9	674.7	674.0	672.9	671.7	670.6	669.3
142.5°	700.2	700.0	699.8	699.3	698.4	697.5	696.6	695.7
145°	737.2	737.1	736.9	736.5	735.8	735.2	734.5	733.9
147.5°	772.2	772.2	772.2	771.7	770.7	769.7	768.7	767.7
150°	793.8	793.8	793.8	793.2	792.2	791.3	790.3	789.3
152.5°	813.5	813.7	814.1	813.7	812.8	812.0	811.1	810.3
155°	842.3	843.0	843.6	843.4	842.2	841.1	839.9	838.8
157.5°	867.2	867.9	868.6	868.4	867.5	866.6	865.7	864.6
160°	882.4	883.2	884.0	884.1	883.5	882.8	882.1	881.5
162.5°	896.8	897.7	898.5	898.4	897.3	896.3	895.1	894.0
165°	914.9	915.9	917.0	916.9	915.7	914.5	913.4	912.2
167.5°	929.7	930.8	931.8	931.8	930.8	929.7	928.7	927.7
170°	937.8	939.0	940.1	940.1	939.0	937.8	936.6	935.4
172.5°	944.1	945.1	946.1	946.1	944.9	943.8	942.6	941.5
175°	951.0	951.9	952.9	952.9	951.7	950.5	949.4	948.2
177.5°	954.0	954.8	955.6	955.5	954.6	953.6	952.7	951.8
180°	954.2	954.2	954.2	954.2	954.2	954.2	954.2	954.2

(END OF REPORT)