

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: P332376-840

Luminaire Tested: **S123RDIP-S1165D805U840-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332376-840  
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: S123RDIP-S1165D805U840-4F0-1E-UDD-F1  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1165 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 805 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7209.4 lumens  
Efficiency: N/A  
Efficacy: 118.8 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

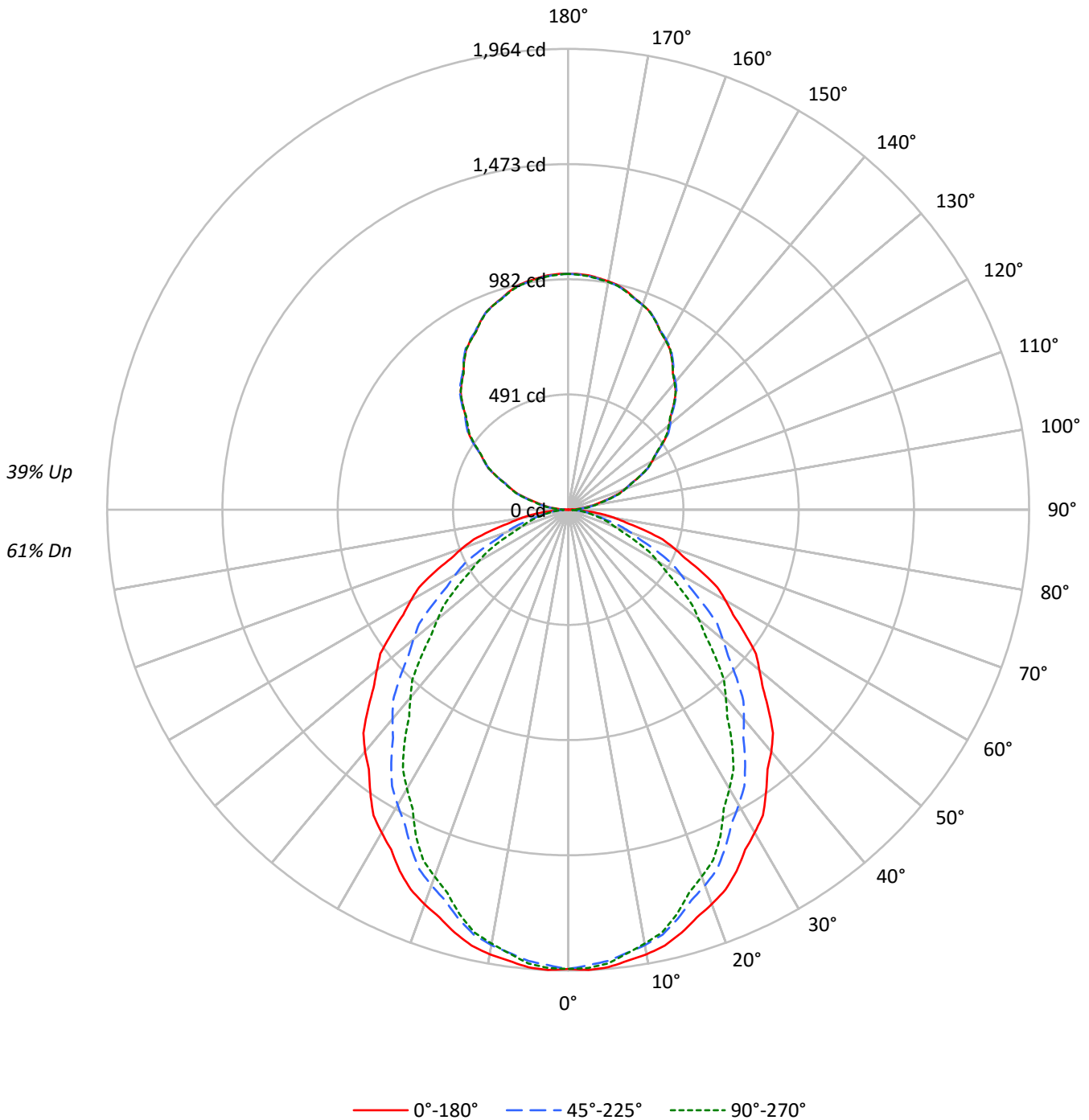
Input Watts (W): 60.7  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20				20				20
RC	80				70				50				30				10
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	110	110	110	110	103	103	103	103	90	90	90	78	78	78	67	67	67
1	101	96	93	89	94	90	87	84	79	77	75	69	67	66	59	58	57
2	92	85	79	74	86	80	74	70	70	66	62	61	58	55	53	51	49
3	84	75	68	62	79	70	64	59	62	57	53	54	50	47	47	44	42
4	77	67	59	53	72	63	56	50	55	50	45	49	44	41	42	39	36
5	71	60	51	45	66	56	49	43	50	44	40	44	39	36	38	35	32
6	66	54	45	40	61	51	43	38	45	39	35	40	35	31	35	31	28
7	61	49	41	35	57	46	39	34	41	35	31	36	32	28	32	28	25
8	57	44	36	31	53	42	35	30	38	32	28	33	29	25	29	26	23
9	53	41	33	28	49	38	32	27	35	29	25	31	26	23	27	23	21
10	49	37	30	25	46	35	29	24	32	26	22	29	24	21	25	22	19

**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	2.5
10°-20°	511.4	7.1
20°-30°	736.4	10.2
30°-40°	829.4	11.5
40°-50°	793.5	11.0
50°-60°	649.8	9.0
60°-70°	438.4	6.1
70°-80°	220.6	3.1
80°-90°	61.3	0.9
90°-100°	65.5	0.9
100°-110°	196.0	2.7
110°-120°	333.3	4.6
120°-130°	438.5	6.1
130°-140°	492.8	6.8
140°-150°	484.4	6.7
150°-160°	407.8	5.7
160°-170°	271.5	3.8
170°-180°	95.1	1.3
0°-30°	1431.6	19.9
0°-40°	2261.0	31.4
0°-60°	3704.3	51.4
0°-90°	4424.6	61.4
90°-120°	594.8	8.3
90°-150°	2010.5	27.9
90°-180°	2785.0	38.6
0°-180°	7209.4	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	9	19	22	24	7
95°	47	52	58	61	62	52
105°	178	180	186	186	188	190
115°	336	338	336	337	336	332
125°	491	493	492	489	486	438
135°	637	642	641	638	636	491
145°	773	775	777	776	773	483
155°	885	885	886	889	884	407
165°	964	962	962	966	961	272
175°	1003	1000	1000	1004	999	95
180°	1005	1005	1005	1005	1005	



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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	25.1	22.4	19.6	18.5	18.9	19.4	19.8	20.3	20.2
90°	0.8	2.5	4.3	6.1	7.8	9.8	12.1	14.3	16.7	19.0	19.7
92.5°	19.1	20.3	21.5	22.7	23.8	25.1	26.5	27.8	29.0	30.3	30.9
95°	46.6	47.8	49.1	50.3	51.5	52.8	54.2	55.6	57.1	58.5	59.2
97.5°	82.7	83.6	84.5	85.4	86.4	87.4	88.4	89.4	90.4	91.4	92.2
100°	107.3	108.5	109.5	110.6	111.6	112.6	113.4	114.3	115.2	116.0	116.6
102.5°	135.8	136.4	137.0	137.7	138.4	139.3	140.4	141.6	142.7	143.9	144.4
105°	177.6	178.0	178.3	178.7	179.0	180.1	181.6	183.2	184.8	186.3	186.3
107.5°	226.3	226.5	226.7	226.9	227.1	227.5	228.2	228.8	229.4	230.0	230.7
110°	256.6	256.9	257.3	257.6	258.0	258.3	258.7	259.0	259.4	259.7	260.4



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	288.2	288.4	288.6	288.8	289.0	289.1	289.2	289.3	289.4	289.4	290.3
115°	335.6	336.1	336.6	337.1	337.7	337.8	337.4	337.1	336.7	336.4	336.5
117.5°	383.2	383.6	384.0	384.3	384.7	384.6	384.2	383.6	383.2	382.7	382.7
120°	412.9	413.9	415.1	416.1	417.2	417.3	416.4	415.5	414.7	413.7	413.5
122.5°	443.9	444.6	445.5	446.2	447.0	447.2	446.7	446.3	445.8	445.4	444.8
125°	491.1	491.6	492.1	492.7	493.2	493.3	492.9	492.6	492.2	491.9	491.2
127.5°	534.7	535.8	536.9	538.1	539.2	539.6	539.2	538.8	538.4	538.0	537.0
130°	563.7	565.1	566.5	567.9	569.4	569.8	569.3	568.8	568.3	567.6	566.9
132.5°	592.8	594.2	595.6	597.0	598.4	599.0	598.5	598.1	597.7	597.3	596.5
135°	637.1	638.2	639.2	640.4	641.4	641.9	641.7	641.5	641.3	641.2	640.5
137.5°	678.2	679.1	679.9	680.9	681.8	682.4	682.9	683.3	683.8	684.2	683.5
140°	706.6	707.5	708.4	709.3	710.1	710.6	710.8	711.0	711.2	711.3	711.2
142.5°	732.6	733.5	734.3	735.2	736.1	736.7	737.0	737.3	737.6	737.9	737.7
145°	773.0	773.4	773.7	774.1	774.4	774.8	775.4	775.9	776.4	776.9	776.8
147.5°	808.4	809.0	809.6	810.2	810.9	811.4	811.9	812.4	812.9	813.4	813.4
150°	832.9	833.3	833.6	834.0	834.4	834.8	835.1	835.5	835.8	836.2	836.2
152.5°	853.2	853.6	854.1	854.6	855.2	855.6	855.8	856.0	856.2	856.4	856.7
155°	885.0	885.0	885.0	885.0	885.0	885.1	885.3	885.6	885.8	885.9	886.6
157.5°	912.2	912.0	911.8	911.6	911.4	911.4	911.5	911.7	911.8	911.9	912.7
160°	929.3	929.0	928.6	928.3	927.9	927.8	927.8	927.8	927.8	927.8	928.6
162.5°	944.4	944.0	943.5	943.0	942.5	942.3	942.5	942.6	942.7	942.9	943.7
165°	964.0	963.5	963.0	962.5	961.9	961.7	961.7	961.7	961.7	961.7	962.7
167.5°	979.7	979.0	978.3	977.5	976.8	976.6	976.7	976.8	977.0	977.1	978.3
170°	988.6	987.8	987.1	986.4	985.7	985.3	985.3	985.3	985.3	985.3	986.6
172.5°	995.4	994.8	994.1	993.4	992.7	992.3	992.3	992.3	992.3	992.3	993.4
175°	1002.7	1002.0	1001.4	1000.7	1000.0	999.6	999.6	999.6	999.6	999.6	1000.7
177.5°	1005.7	1005.2	1004.6	1004.0	1003.5	1003.2	1003.2	1003.2	1003.2	1003.2	1004.0
180°	1005.1	1005.1	1005.1	1005.1	1005.1	1005.1	1005.1	1005.1	1005.1	1005.1	1005.1



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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°	20.0	19.9	19.7	19.6	19.4	19.1	18.9	18.7
90°	20.4	21.0	21.7	22.3	22.6	23.0	23.3	23.7
92.5°	31.4	32.0	32.5	32.7	32.5	32.3	32.1	31.9
95°	59.8	60.5	61.2	61.6	61.6	61.6	61.6	61.6
97.5°	93.0	93.8	94.6	95.0	94.9	94.9	94.8	94.7
100°	117.1	117.6	118.2	118.7	119.0	119.3	119.7	120.0
102.5°	144.9	145.4	145.9	146.2	146.1	146.0	146.0	145.9
105°	186.3	186.3	186.3	186.5	186.8	187.2	187.5	187.9
107.5°	231.2	231.8	232.4	232.5	232.3	232.1	231.9	231.7
110°	261.2	261.9	262.6	262.8	262.4	262.1	261.7	261.4





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	291.1	292.0	292.9	293.2	293.2	293.1	293.0	293.0
115°	336.7	336.9	337.1	337.1	336.9	336.7	336.5	336.4
117.5°	382.7	382.6	382.6	382.3	381.9	381.4	380.9	380.4
120°	413.3	413.2	413.0	412.7	412.4	412.0	411.7	411.3
122.5°	444.4	443.9	443.5	443.0	442.5	442.0	441.5	441.0
125°	490.5	489.8	489.1	488.4	487.7	487.0	486.3	485.5
127.5°	536.0	535.0	534.1	533.2	532.4	531.6	530.8	530.0
130°	566.3	565.6	564.9	563.9	562.7	561.5	560.3	559.0
132.5°	595.7	594.8	594.0	593.1	592.2	591.2	590.3	589.4
135°	639.7	639.0	638.3	637.8	637.4	637.1	636.7	636.4
137.5°	682.8	682.1	681.3	680.5	679.9	679.2	678.6	677.9
140°	711.0	710.8	710.6	710.0	708.7	707.5	706.3	705.1
142.5°	737.6	737.4	737.2	736.7	735.7	734.8	733.8	732.9
145°	776.6	776.4	776.2	775.8	775.1	774.4	773.7	773.0
147.5°	813.4	813.4	813.4	812.8	811.8	810.7	809.7	808.7
150°	836.2	836.2	836.2	835.7	834.6	833.5	832.4	831.4
152.5°	856.9	857.2	857.5	857.2	856.3	855.4	854.4	853.5
155°	887.3	888.0	888.7	888.4	887.2	886.0	884.7	883.5
157.5°	913.4	914.1	914.8	914.7	913.8	912.8	911.8	910.8
160°	929.5	930.4	931.2	931.3	930.6	929.9	929.2	928.5
162.5°	944.6	945.5	946.4	946.2	945.1	944.0	942.9	941.8
165°	963.8	964.8	965.9	965.8	964.6	963.3	962.1	960.9
167.5°	979.4	980.4	981.5	981.5	980.4	979.4	978.3	977.1
170°	987.8	989.1	990.3	990.3	989.1	987.8	986.6	985.3
172.5°	994.5	995.6	996.6	996.6	995.3	994.1	992.9	991.7
175°	1001.7	1002.7	1003.8	1003.7	1002.5	1001.3	1000.0	998.8
177.5°	1004.9	1005.7	1006.5	1006.5	1005.5	1004.5	1003.6	1002.6
180°	1005.1	1005.1	1005.1	1005.1	1005.1	1005.1	1005.1	1005.1

(END OF REPORT)