

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: P333001

Luminaire Tested: **SA4XXRDIP-C1195D810U835-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P333001  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA4XXRDIP-C1195D810U835-4F0-1E-UDD-F1  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 810 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

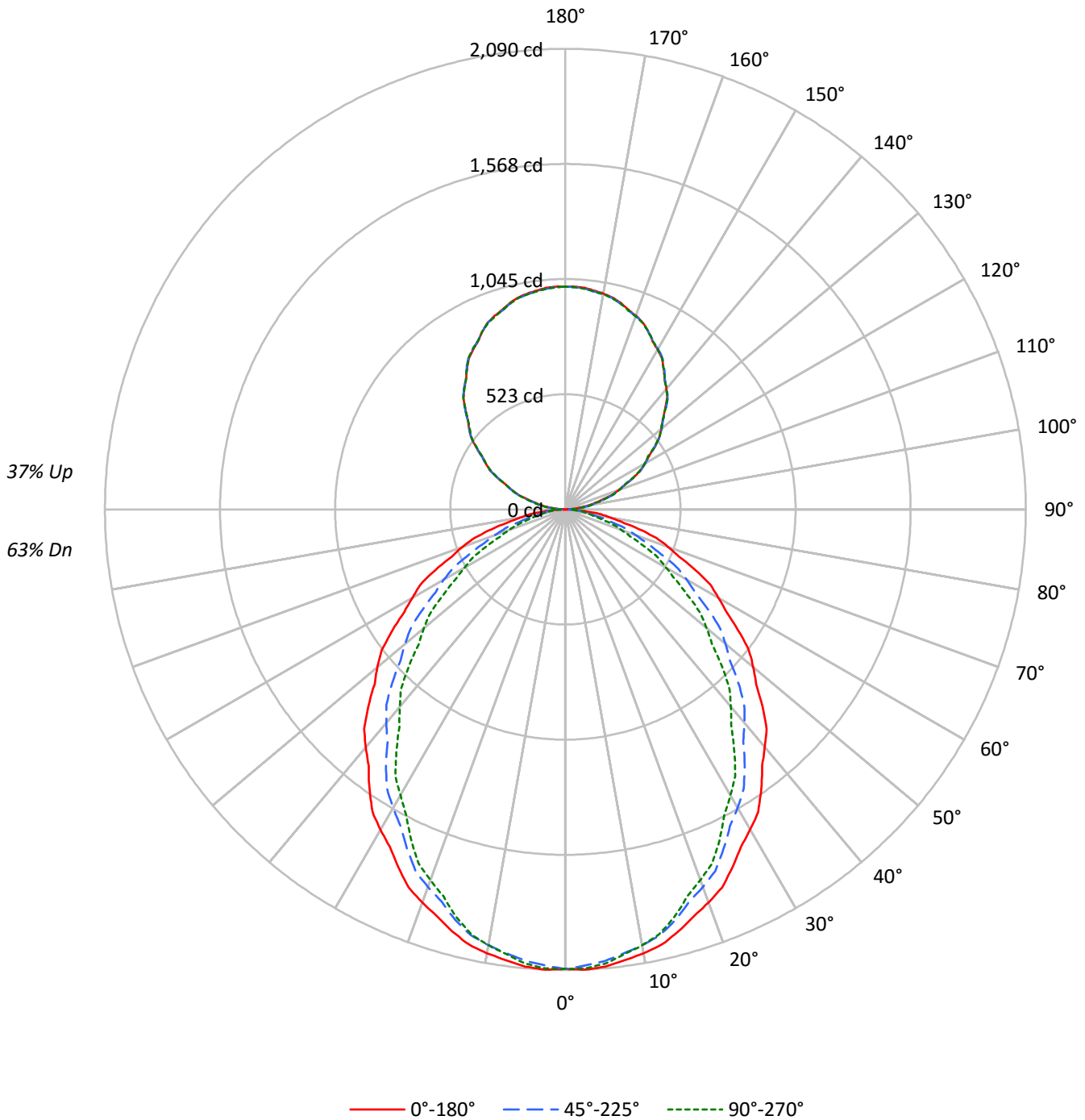
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7625.8 lumens  
Efficiency: N/A  
Efficacy: 125.6 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): 60.7  
Input Voltage (V): 120  
Input Current (Ain): 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	91	91	91	79	79	79	68	68	68	63
1	101	97	93	90	95	91	88	85	80	78	75	70	68	67	61	60	58	54
2	92	85	79	74	86	80	75	70	71	66	63	62	59	56	54	52	50	46
3	84	75	68	62	79	71	64	59	63	57	53	55	51	48	48	45	43	39
4	77	67	59	53	72	63	56	50	56	50	46	49	45	41	43	40	37	34
5	71	60	51	45	67	56	49	43	50	44	40	44	40	36	39	35	32	30
6	66	54	45	40	62	51	43	38	45	39	35	40	35	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	36	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	26	23	29	24	21	26	22	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	2.6
10°-20°	546.3	7.2
20°-30°	788.8	10.3
30°-40°	894.2	11.7
40°-50°	863.5	11.3
50°-60°	718.0	9.4
60°-70°	495.8	6.5
70°-80°	251.3	3.3
80°-90°	67.5	0.9
90°-100°	66.7	0.9
100°-110°	197.5	2.6
110°-120°	335.2	4.4
120°-130°	442.0	5.8
130°-140°	496.4	6.5
140°-150°	487.8	6.4
150°-160°	410.3	5.4
160°-170°	273.0	3.6
170°-180°	95.6	1.3
0°-30°	1531.0	20.1
0°-40°	2425.2	31.8
0°-60°	4006.7	52.5
0°-90°	4821.2	63.2
90°-120°	599.4	7.9
90°-150°	2025.7	26.6
90°-180°	2805.0	36.8
0°-180°	7625.8	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	11	17	22	24	7
95°	47	54	59	62	62	52
105°	182	183	186	188	191	193
115°	341	341	339	338	338	336
125°	496	496	496	494	492	442
135°	640	645	645	643	641	495
145°	778	781	782	781	779	487
155°	891	891	890	893	890	410
165°	970	968	966	971	968	273
175°	1009	1006	1005	1010	1005	96
180°	1011	1011	1011	1011	1011	



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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°	29.9	28.0	26.1	24.2	22.3	21.3	21.3	21.3	21.3	21.3	21.2
90°	2.3	4.3	6.2	8.1	10.0	11.6	13.0	14.4	15.8	17.2	18.2
92.5°	16.7	18.9	21.1	23.3	25.5	27.1	28.0	29.0	30.0	31.0	31.6
95°	46.9	48.5	50.0	51.6	53.2	54.6	55.8	57.0	58.2	59.4	59.9
97.5°	81.9	83.2	84.4	85.7	86.9	88.3	89.7	91.1	92.5	94.0	94.6
100°	109.5	110.1	110.8	111.5	112.2	113.4	114.9	116.5	118.0	119.6	120.0
102.5°	138.2	138.5	138.8	139.1	139.3	140.2	141.6	143.0	144.5	145.9	146.4
105°	182.2	182.3	182.5	182.7	182.9	183.3	184.0	184.7	185.4	186.1	186.6
107.5°	228.3	228.5	228.7	228.9	229.1	229.3	229.4	229.5	229.6	229.7	230.2
110°	259.6	259.9	260.2	260.6	260.9	261.0	260.9	260.7	260.5	260.3	260.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	292.1	292.1	292.2	292.3	292.4	292.2	291.9	291.6	291.3	291.0	290.9
115°	340.9	340.9	340.9	340.9	340.9	340.7	340.3	340.0	339.6	339.3	339.1
117.5°	386.8	387.0	387.1	387.2	387.4	387.3	387.1	386.8	386.6	386.4	385.8
120°	417.5	418.2	418.9	419.6	420.3	420.3	419.8	419.3	418.8	418.3	417.4
122.5°	449.4	449.6	449.9	450.2	450.5	450.5	450.3	450.0	449.8	449.5	448.9
125°	496.4	496.4	496.4	496.4	496.4	496.3	496.2	496.0	495.8	495.7	495.3
127.5°	539.1	539.6	540.2	540.7	541.2	541.3	541.0	540.8	540.5	540.2	539.9
130°	569.1	569.7	570.2	570.7	571.2	571.5	571.5	571.5	571.5	571.5	571.1
132.5°	599.8	600.2	600.6	600.9	601.3	601.4	601.3	601.2	601.0	600.9	600.5
135°	640.3	641.3	642.4	643.4	644.5	645.0	645.0	645.0	645.0	645.0	644.6
137.5°	684.4	684.9	685.3	685.8	686.3	686.7	687.0	687.3	687.5	687.8	687.4
140°	713.8	714.1	714.5	714.8	715.2	715.3	715.3	715.3	715.3	715.3	715.2
142.5°	740.7	741.0	741.4	741.7	742.1	742.2	742.0	741.9	741.7	741.6	741.6
145°	777.9	778.6	779.3	780.0	780.7	781.1	781.3	781.4	781.6	781.8	781.6
147.5°	814.8	815.6	816.4	817.3	818.1	818.5	818.3	818.2	818.0	817.9	817.8
150°	837.3	838.0	838.7	839.4	840.1	840.4	840.4	840.4	840.4	840.4	840.4
152.5°	858.6	859.0	859.4	859.8	860.2	860.5	860.6	860.8	860.9	861.1	861.5
155°	891.2	891.2	891.2	891.2	891.2	891.1	891.0	890.8	890.6	890.5	891.1
157.5°	918.8	918.4	918.1	917.8	917.5	917.3	917.3	917.3	917.2	917.2	917.7
160°	935.0	934.8	934.7	934.5	934.3	934.1	934.0	933.8	933.6	933.5	934.0
162.5°	950.0	949.6	949.1	948.7	948.2	947.9	947.7	947.6	947.4	947.2	948.2
165°	970.2	969.7	969.2	968.6	968.1	967.7	967.3	967.0	966.6	966.3	967.3
167.5°	985.7	984.9	984.2	983.5	982.8	982.4	982.4	982.5	982.5	982.5	983.6
170°	994.4	993.6	992.7	991.8	991.0	990.6	990.8	991.0	991.1	991.3	992.3
172.5°	1000.7	1000.0	999.2	998.5	997.8	997.4	997.5	997.5	997.5	997.6	998.7
175°	1009.3	1008.4	1007.5	1006.7	1005.8	1005.3	1005.1	1004.9	1004.8	1004.6	1005.8
177.5°	1012.1	1011.4	1010.7	1010.0	1009.3	1009.0	1009.0	1009.0	1009.0	1009.0	1009.9
180°	1010.8	1010.8	1010.8	1010.8	1010.8	1010.8	1010.8	1010.8	1010.8	1010.8	1010.8



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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°	21.2	21.1	21.0	21.2	21.5	21.9	22.2	22.6
90°	19.3	20.3	21.4	22.1	22.4	22.8	23.1	23.5
92.5°	32.2	32.8	33.5	33.9	34.1	34.3	34.5	34.7
95°	60.5	61.0	61.5	61.8	61.8	61.8	61.8	61.8
97.5°	95.2	95.8	96.5	96.8	96.8	96.8	96.8	96.8
100°	120.3	120.7	121.0	121.2	121.2	121.2	121.2	121.2
102.5°	146.9	147.3	147.8	148.1	148.3	148.4	148.6	148.7
105°	187.1	187.6	188.1	188.7	189.2	189.7	190.2	190.8
107.5°	230.7	231.1	231.6	231.9	231.8	231.8	231.8	231.7
110°	259.6	259.3	258.9	259.0	259.6	260.1	260.6	261.1





TEST NUMBER: P333001

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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	290.8	290.8	290.7	290.7	290.8	290.9	291.0	291.1
115°	338.9	338.8	338.6	338.4	338.3	338.1	337.9	337.7
117.5°	385.2	384.6	384.0	383.5	383.2	382.8	382.5	382.1
120°	416.5	415.6	414.8	414.5	414.9	415.2	415.6	415.9
122.5°	448.3	447.8	447.2	446.6	445.9	445.3	444.7	444.1
125°	495.0	494.6	494.3	493.9	493.6	493.2	492.9	492.5
127.5°	539.5	539.2	538.8	538.5	538.2	538.0	537.7	537.4
130°	570.8	570.4	570.1	569.6	568.9	568.2	567.5	566.8
132.5°	600.2	599.8	599.5	599.2	598.9	598.6	598.3	598.1
135°	644.3	643.9	643.6	643.1	642.6	642.1	641.6	641.1
137.5°	686.9	686.5	686.0	685.8	685.9	686.0	686.1	686.3
140°	715.0	714.8	714.6	714.5	714.3	714.1	713.9	713.8
142.5°	741.5	741.5	741.5	741.4	741.4	741.4	741.3	741.3
145°	781.4	781.3	781.1	780.7	780.2	779.7	779.2	778.7
147.5°	817.6	817.5	817.3	817.2	817.0	816.8	816.7	816.5
150°	840.4	840.4	840.4	840.3	840.2	840.0	839.8	839.6
152.5°	861.9	862.3	862.7	862.7	862.3	861.8	861.4	860.9
155°	891.8	892.5	893.2	893.2	892.5	891.8	891.1	890.5
157.5°	918.2	918.8	919.3	919.2	918.7	918.1	917.5	916.9
160°	934.5	935.0	935.5	935.4	934.5	933.6	932.8	931.9
162.5°	949.1	950.0	951.0	951.0	950.1	949.3	948.4	947.5
165°	968.4	969.4	970.5	970.6	969.9	969.2	968.5	967.9
167.5°	984.6	985.7	986.7	986.7	985.6	984.5	983.5	982.4
170°	993.4	994.4	995.5	995.4	994.2	993.0	991.7	990.5
172.5°	999.9	1001.1	1002.3	1002.3	1001.1	999.8	998.6	997.4
175°	1007.0	1008.2	1009.5	1009.5	1008.2	1007.0	1005.8	1004.6
177.5°	1010.9	1011.9	1012.9	1012.8	1011.7	1010.6	1009.5	1008.3
180°	1010.8	1010.8	1010.8	1010.8	1010.8	1010.8	1010.8	1010.8

(END OF REPORT)