

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: P332995

Luminaire Tested: **SA4XXRDIP-C1195D590U835-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332995
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-C1195D590U835-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 590 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

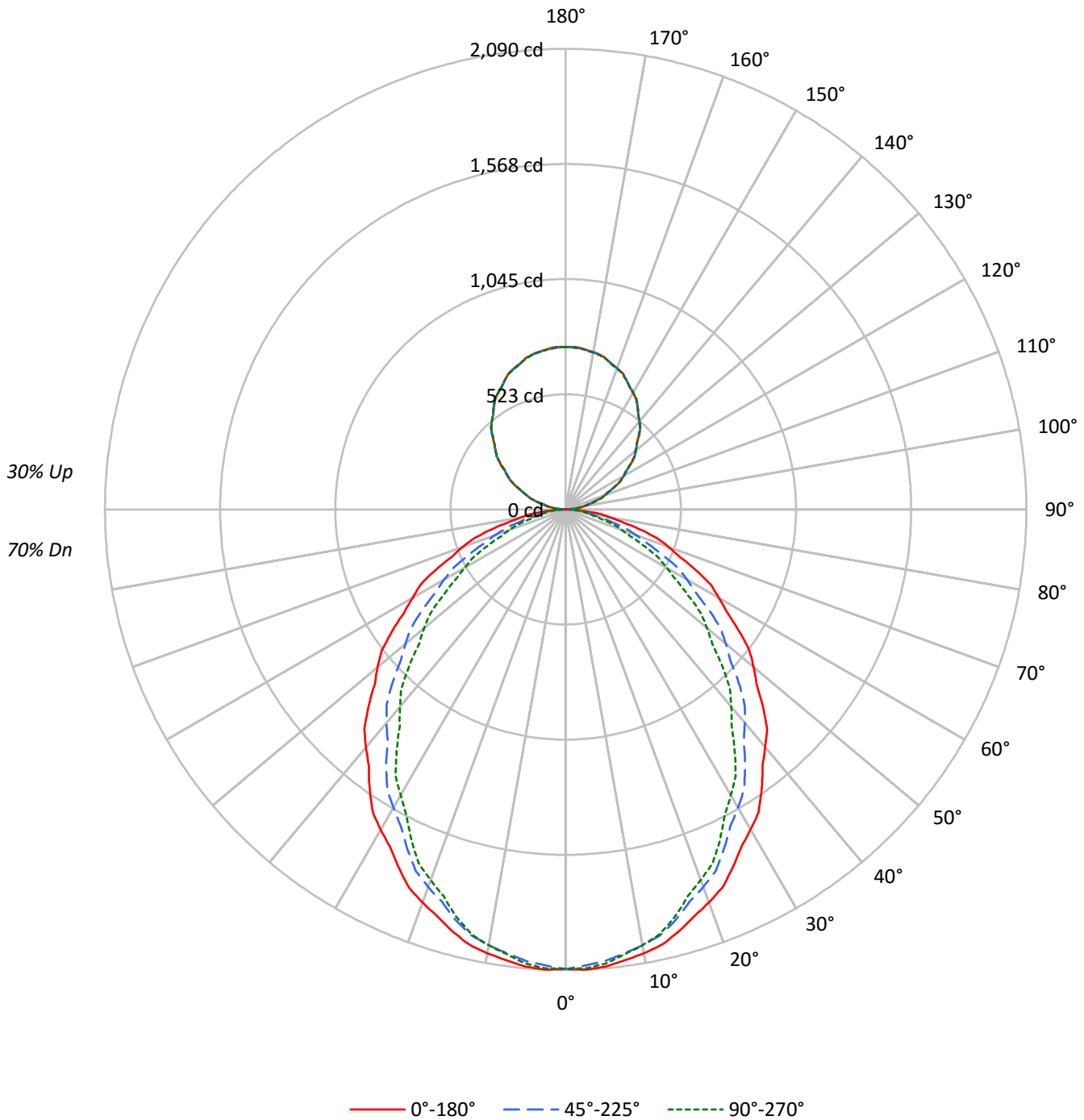
Lumens per Lamp: N/A
Luminaire Lumens: 6866.5 lumens
Efficiency: N/A
Efficacy: 124.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: Semi-Direct

Input Watts (W): 55.1
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	50	30	10	0	
RCR																						
0	112	112	112	112	106	106	106	106	95	95	95	84	84	84	75	75	75	70				
1	103	98	95	91	97	93	90	87	84	81	79	75	73	71	67	65	64	60				
2	94	86	80	75	89	82	77	72	74	69	66	66	63	60	59	57	54	51				
3	86	76	69	63	81	73	66	61	65	60	56	59	55	51	53	49	47	43				
4	79	68	60	54	74	65	57	52	58	53	48	53	48	44	47	44	41	38				
5	73	61	52	46	68	58	50	45	52	46	42	47	42	39	43	39	36	33				
6	67	55	46	41	63	52	45	39	48	41	37	43	38	34	39	35	31	29				
7	62	50	42	36	59	47	40	35	43	37	32	39	34	30	36	31	28	26				
8	58	45	37	32	55	43	36	31	40	33	29	36	31	27	33	29	25	23				
9	54	42	34	29	51	40	33	28	36	30	26	33	28	25	30	26	23	21				
10	51	38	31	26	48	37	30	25	34	28	24	31	26	22	28	24	21	19				

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	2.9
10°-20°	546.3	8.0
20°-30°	788.8	11.5
30°-40°	894.2	13.0
40°-50°	863.5	12.6
50°-60°	718.0	10.5
60°-70°	495.8	7.2
70°-80°	251.3	3.7
80°-90°	66.7	1.0
90°-100°	48.6	0.7
100°-110°	144.1	2.1
110°-120°	244.6	3.6
120°-130°	322.5	4.7
130°-140°	362.2	5.3
140°-150°	355.9	5.2
150°-160°	299.3	4.4
160°-170°	199.1	2.9
170°-180°	69.7	1.0
0°-30°	1531.0	22.3
0°-40°	2425.2	35.3
0°-60°	4006.7	58.4
0°-90°	4820.4	70.2
90°-120°	437.3	6.4
90°-150°	1477.8	21.5
90°-180°	2046.0	29.8
0°-180°	6866.5	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	8	12	16	17	6
95°	34	39	43	45	45	38
105°	133	134	136	137	139	141
115°	249	249	248	247	246	245
125°	362	362	362	360	359	323
135°	467	470	470	469	468	361
145°	568	570	570	570	568	355
155°	650	650	650	652	650	299
165°	708	706	705	708	706	199
175°	736	734	733	736	733	70
180°	738	738	738	738	738	



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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°	29.7	27.7	25.7	23.7	21.8	20.7	20.6	20.6	20.5	20.4	20.3
90°	1.7	3.1	4.5	5.9	7.3	8.5	9.5	10.5	11.5	12.5	13.3
92.5°	12.2	13.8	15.4	17.0	18.6	19.7	20.5	21.2	21.9	22.6	23.0
95°	34.2	35.4	36.5	37.6	38.8	39.8	40.7	41.6	42.5	43.3	43.7
97.5°	59.8	60.7	61.6	62.5	63.4	64.4	65.4	66.5	67.5	68.6	69.0
100°	79.8	80.4	80.9	81.4	81.9	82.7	83.8	85.0	86.1	87.3	87.5
102.5°	100.8	101.0	101.2	101.4	101.6	102.3	103.3	104.3	105.4	106.4	106.8
105°	132.9	133.0	133.1	133.3	133.4	133.7	134.2	134.7	135.2	135.7	136.1
107.5°	166.5	166.7	166.8	167.0	167.2	167.3	167.3	167.4	167.5	167.6	167.9
110°	189.4	189.6	189.9	190.1	190.4	190.4	190.3	190.2	190.1	189.9	189.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	213.1	213.1	213.2	213.2	213.3	213.2	213.0	212.7	212.5	212.3	212.2
115°	248.7	248.7	248.7	248.7	248.7	248.5	248.3	248.0	247.8	247.5	247.4
117.5°	282.2	282.3	282.4	282.5	282.6	282.6	282.4	282.2	282.0	281.9	281.4
120°	304.6	305.1	305.6	306.1	306.6	306.7	306.3	305.9	305.5	305.1	304.5
122.5°	327.8	328.0	328.2	328.4	328.6	328.7	328.5	328.3	328.1	328.0	327.5
125°	362.2	362.2	362.2	362.2	362.2	362.1	362.0	361.9	361.7	361.6	361.3
127.5°	393.3	393.7	394.1	394.5	394.8	394.9	394.7	394.5	394.3	394.1	393.9
130°	415.2	415.6	416.0	416.4	416.7	416.9	416.9	416.9	416.9	416.9	416.7
132.5°	437.6	437.9	438.1	438.4	438.7	438.8	438.7	438.6	438.5	438.4	438.1
135°	467.1	467.9	468.6	469.4	470.2	470.5	470.5	470.5	470.5	470.5	470.3
137.5°	499.3	499.6	500.0	500.3	500.7	501.0	501.2	501.4	501.6	501.8	501.5
140°	520.7	521.0	521.2	521.5	521.7	521.9	521.9	521.9	521.9	521.9	521.7
142.5°	540.3	540.6	540.9	541.1	541.4	541.4	541.3	541.2	541.1	541.0	541.0
145°	567.5	568.0	568.5	569.0	569.5	569.8	570.0	570.1	570.2	570.3	570.2
147.5°	594.4	595.0	595.6	596.2	596.9	597.1	597.0	596.9	596.8	596.7	596.6
150°	610.8	611.4	611.9	612.4	612.9	613.1	613.1	613.1	613.1	613.1	613.1
152.5°	626.4	626.7	627.0	627.3	627.6	627.8	627.9	628.0	628.1	628.2	628.5
155°	650.2	650.2	650.2	650.2	650.2	650.1	650.0	649.9	649.8	649.6	650.1
157.5°	670.3	670.0	669.8	669.6	669.4	669.2	669.2	669.2	669.2	669.1	669.5
160°	682.1	682.0	681.9	681.8	681.6	681.5	681.4	681.3	681.1	681.0	681.4
162.5°	693.1	692.8	692.4	692.1	691.8	691.5	691.4	691.3	691.2	691.0	691.7
165°	707.8	707.4	707.0	706.7	706.3	706.0	705.7	705.5	705.2	705.0	705.7
167.5°	719.1	718.6	718.0	717.5	717.0	716.7	716.7	716.8	716.8	716.8	717.6
170°	725.5	724.9	724.2	723.6	722.9	722.7	722.8	722.9	723.1	723.2	724.0
172.5°	730.0	729.5	729.0	728.5	727.9	727.7	727.7	727.7	727.7	727.8	728.6
175°	736.3	735.7	735.1	734.4	733.8	733.4	733.3	733.2	733.0	732.9	733.8
177.5°	738.4	737.9	737.4	736.9	736.3	736.1	736.1	736.1	736.1	736.1	736.8
180°	737.5	737.5	737.5	737.5	737.5	737.5	737.5	737.5	737.5	737.5	737.5



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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°	20.1	20.0	19.9	20.0	20.3	20.6	21.0	21.3
90°	14.1	14.8	15.6	16.1	16.4	16.6	16.9	17.1
92.5°	23.5	24.0	24.4	24.7	24.9	25.0	25.2	25.3
95°	44.1	44.5	44.9	45.1	45.1	45.1	45.1	45.1
97.5°	69.5	69.9	70.4	70.6	70.6	70.6	70.6	70.6
100°	87.8	88.0	88.3	88.4	88.4	88.4	88.4	88.4
102.5°	107.1	107.5	107.8	108.1	108.2	108.3	108.4	108.5
105°	136.5	136.9	137.3	137.6	138.0	138.4	138.8	139.2
107.5°	168.3	168.6	169.0	169.2	169.1	169.1	169.1	169.1
110°	189.4	189.2	188.9	189.0	189.4	189.7	190.1	190.5



TEST NUMBER: P332995

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	212.2	212.1	212.1	212.1	212.2	212.2	212.3	212.4
115°	247.3	247.2	247.0	246.9	246.8	246.6	246.5	246.4
117.5°	281.0	280.6	280.1	279.8	279.5	279.3	279.0	278.8
120°	303.9	303.2	302.6	302.4	302.7	302.9	303.2	303.4
122.5°	327.1	326.7	326.2	325.8	325.3	324.9	324.4	324.0
125°	361.1	360.8	360.6	360.3	360.1	359.8	359.6	359.3
127.5°	393.6	393.4	393.1	392.9	392.7	392.5	392.3	392.1
130°	416.4	416.2	415.9	415.5	415.0	414.5	414.0	413.5
132.5°	437.9	437.6	437.4	437.1	436.9	436.7	436.5	436.3
135°	470.0	469.8	469.5	469.2	468.8	468.4	468.1	467.7
137.5°	501.1	500.8	500.5	500.3	500.4	500.5	500.6	500.7
140°	521.6	521.5	521.4	521.2	521.1	521.0	520.9	520.7
142.5°	541.0	541.0	540.9	540.9	540.9	540.9	540.8	540.8
145°	570.1	570.0	569.8	569.6	569.2	568.8	568.4	568.1
147.5°	596.5	596.4	596.3	596.2	596.1	595.9	595.8	595.7
150°	613.1	613.1	613.1	613.1	612.9	612.8	612.7	612.6
152.5°	628.8	629.1	629.4	629.4	629.1	628.7	628.4	628.1
155°	650.6	651.1	651.7	651.7	651.1	650.6	650.1	649.6
157.5°	669.9	670.3	670.7	670.6	670.2	669.8	669.3	668.9
160°	681.8	682.1	682.5	682.4	681.8	681.1	680.5	679.9
162.5°	692.4	693.1	693.8	693.8	693.2	692.5	691.9	691.3
165°	706.5	707.2	708.0	708.1	707.6	707.1	706.6	706.1
167.5°	718.3	719.1	719.9	719.8	719.1	718.3	717.5	716.7
170°	724.7	725.5	726.2	726.2	725.3	724.4	723.5	722.6
172.5°	729.5	730.4	731.2	731.2	730.3	729.4	728.5	727.7
175°	734.7	735.6	736.4	736.4	735.6	734.7	733.8	732.9
177.5°	737.5	738.2	738.9	738.9	738.1	737.3	736.4	735.6
180°	737.5	737.5	737.5	737.5	737.5	737.5	737.5	737.5

(END OF REPORT)