

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: P332705-830

Luminaire Tested: **S124DIP-S1195D1035U830-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332705-830
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-18,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIP-S1195D1035U830-4F0-1E-UDD-F4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1035 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8306.0 lumens
Efficiency: N/A
Efficacy: 124.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: General Diffuse

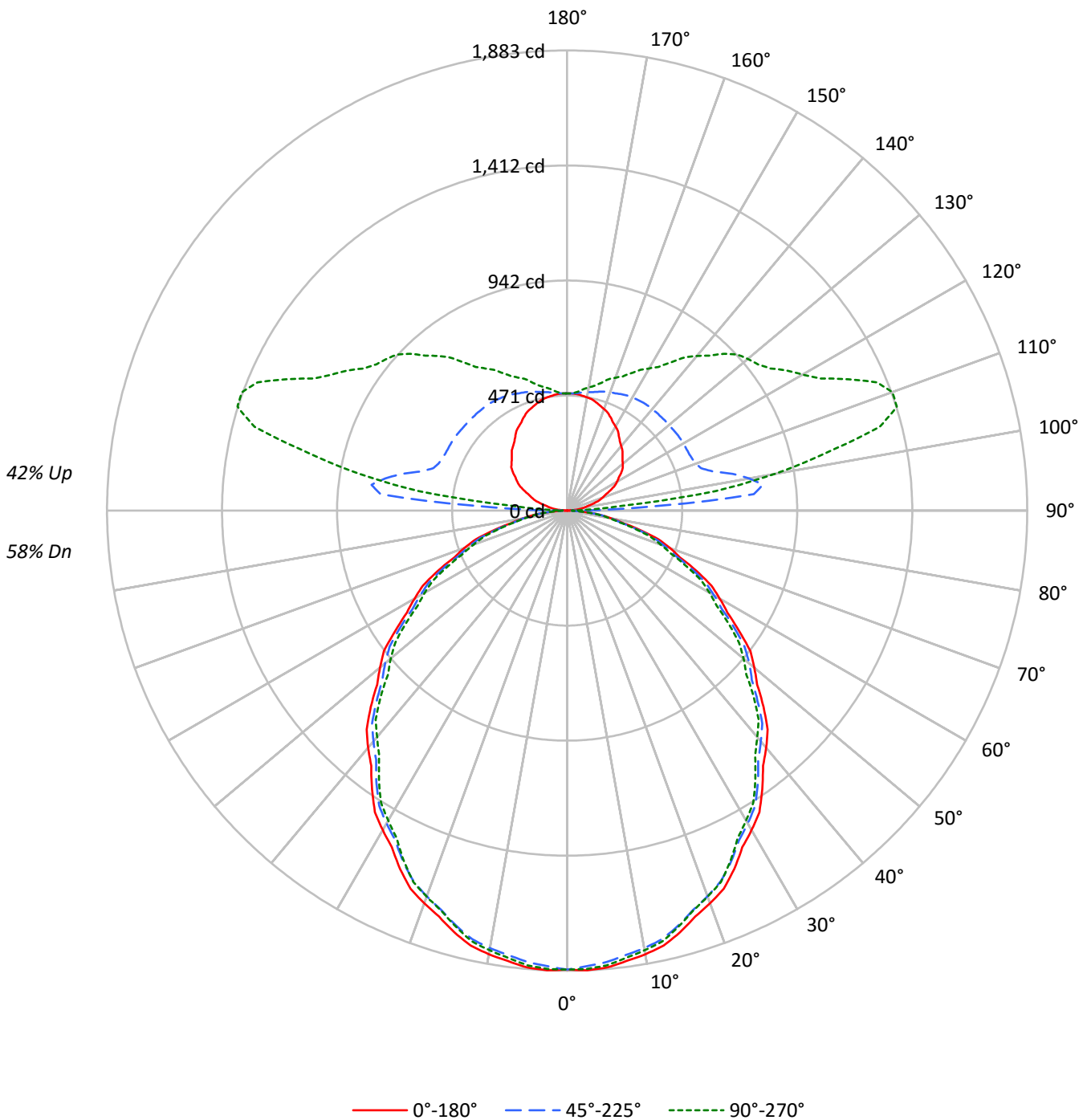
Input Watts (W): 66.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	109	109	109	109	102	102	102	102	88	88	88	75	75	75	64	64	64	58
1	100	95	91	88	93	89	85	82	77	74	72	66	64	63	56	55	54	49
2	91	83	77	72	84	78	72	68	67	63	60	58	55	52	49	47	45	41
3	83	73	66	60	77	68	62	56	60	54	50	51	47	44	44	41	38	35
4	76	65	57	50	70	61	53	48	53	47	43	46	41	38	39	36	33	30
5	70	58	49	43	65	54	47	41	47	41	37	41	36	33	35	32	29	26
6	64	52	44	38	60	49	41	36	43	37	32	37	32	29	32	28	25	23
7	59	47	39	33	55	44	37	32	39	33	29	34	29	26	29	25	23	20
8	55	43	35	29	51	40	33	28	35	30	25	31	26	23	27	23	20	18
9	51	39	31	26	48	37	30	25	32	27	23	29	24	21	25	21	18	16
10	48	36	28	24	45	34	27	23	30	24	21	26	22	19	23	19	17	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	15163	15163	15163
5°	15209	15027	15135
10°	15114	14905	14978
15°	14931	14692	14730
20°	14689	14430	14442
25°	14412	14130	14091
30°	14072	13778	13651
35°	13720	13409	13232
40°	13354	12991	12752
45°	12973	12578	12337
50°	12552	12210	11833
55°	12096	11736	11354
60°	11641	11202	10863
65°	11127	10695	10264
70°	10551	10017	9626
75°	9669	9201	8968
80°	8605	8257	8047
85°	7521	7243	7104



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	176.9	2.1
10°-20°	498.4	6.0
20°-30°	733.6	8.8
30°-40°	852.8	10.3
40°-50°	852.8	10.3
50°-60°	746.0	9.0
60°-70°	554.0	6.7
70°-80°	314.7	3.8
80°-90°	93.5	1.1
90°-100°	345.9	4.2
100°-110°	720.0	8.7
110°-120°	644.9	7.8
120°-130°	542.4	6.5
130°-140°	452.3	5.4
140°-150°	345.5	4.2
150°-160°	242.9	2.9
160°-170°	142.9	1.7
170°-180°	46.5	0.6
0°-30°	1408.8	17.0
0°-40°	2261.6	27.2
0°-60°	3860.5	46.5
0°-90°	4822.7	58.1
90°-120°	1710.8	20.6
90°-150°	3051.1	36.7
90°-180°	3483.0	41.9
0°-180°	8306.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1878	1878	1878	1878	1878	
5°	1877	1870	1854	1870	1868	178
15°	1786	1780	1758	1766	1762	503
25°	1618	1607	1586	1587	1582	744
35°	1392	1381	1361	1350	1343	870
45°	1136	1125	1102	1086	1081	876
55°	859	854	834	816	807	769
65°	582	575	560	545	537	577
75°	310	302	295	289	288	329
85°	81	81	78	78	77	89
90°	1	8	17	19	20	6
95°	31	98	767	380	230	35
105°	110	159	617	1329	1324	117
115°	194	243	550	1058	1271	192
125°	270	321	548	900	1014	240
135°	321	382	543	799	907	248
145°	370	423	540	674	741	232
155°	421	454	525	595	620	194
165°	458	472	503	533	541	129
175°	478	479	483	489	487	45
180°	479	479	479	479	479	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1878.3	1878.3	1878.3	1878.3	1878.3	1878.3	1878.3	1878.3	1878.3	1878.3	1878.3
2.5°	1883.1	1882.4	1881.5	1880.7	1879.9	1878.0	1875.1	1872.2	1869.3	1866.3	1869.0
5°	1876.8	1875.5	1874.2	1872.8	1871.5	1869.0	1865.3	1861.6	1857.9	1854.3	1857.9
7.5°	1859.4	1858.0	1856.7	1855.3	1854.0	1851.3	1847.2	1843.1	1839.1	1834.9	1838.0
10°	1843.7	1842.4	1841.1	1839.7	1838.3	1835.5	1831.2	1826.8	1822.5	1818.2	1820.8
12.5°	1823.3	1821.9	1820.5	1819.2	1817.9	1814.9	1810.3	1805.7	1801.1	1796.5	1799.4
15°	1786.5	1785.2	1783.9	1782.5	1781.1	1778.0	1772.9	1767.9	1762.9	1757.9	1759.9
17.5°	1742.3	1740.6	1738.9	1737.3	1735.6	1732.4	1727.6	1722.9	1718.2	1713.4	1714.7
20°	1709.8	1708.1	1706.4	1704.8	1703.1	1699.7	1694.7	1689.7	1684.7	1679.6	1680.6
22.5°	1674.8	1672.6	1670.5	1668.2	1666.0	1662.4	1657.4	1652.4	1647.4	1642.3	1644.2
25°	1618.0	1615.6	1613.3	1610.9	1608.5	1605.1	1600.3	1595.7	1591.0	1586.3	1586.7
27.5°	1552.9	1550.5	1548.1	1545.7	1543.3	1539.9	1535.6	1531.3	1526.9	1522.5	1521.7
30°	1509.6	1506.9	1504.2	1501.6	1498.9	1495.3	1491.0	1486.7	1482.3	1478.0	1476.7
32.5°	1463.9	1461.4	1459.1	1456.6	1454.2	1450.7	1446.0	1441.4	1436.8	1432.2	1430.6
35°	1392.2	1389.9	1387.5	1385.2	1382.8	1379.3	1374.6	1370.0	1365.3	1360.6	1358.2
37.5°	1316.6	1314.5	1312.4	1310.2	1308.1	1304.5	1299.5	1294.5	1289.4	1284.4	1281.9
40°	1267.2	1264.6	1261.9	1259.2	1256.6	1252.7	1247.7	1242.6	1237.7	1232.7	1229.3
42.5°	1214.3	1212.7	1211.1	1209.5	1207.9	1204.3	1198.7	1193.2	1187.6	1182.0	1178.2
45°	1136.3	1134.0	1131.6	1129.3	1127.0	1123.1	1117.8	1112.4	1107.0	1101.7	1098.1
47.5°	1054.7	1053.1	1051.5	1049.9	1048.3	1045.1	1040.1	1035.2	1030.2	1025.3	1021.2
50°	999.4	998.1	996.6	995.3	994.0	991.0	986.3	981.7	976.9	972.2	967.6
52.5°	945.2	943.6	942.0	940.4	938.8	935.5	930.6	925.6	920.7	915.7	911.5
55°	859.4	858.4	857.4	856.4	855.4	852.5	847.8	843.2	838.5	833.8	829.8
57.5°	777.5	776.4	775.2	774.1	773.0	770.1	765.4	760.8	756.2	751.6	747.8
60°	721.0	719.3	717.6	716.0	714.3	711.2	706.9	702.6	698.1	693.8	690.8
62.5°	665.5	664.1	662.7	661.3	660.0	657.0	652.3	647.7	643.1	638.5	635.7
65°	582.5	580.8	579.1	577.4	575.8	573.3	570.0	566.6	563.3	559.9	556.6
67.5°	498.8	497.3	495.7	494.2	492.7	490.2	487.0	483.8	480.6	477.4	474.2
70°	447.0	444.7	442.3	440.0	437.6	435.2	432.4	429.8	427.1	424.4	421.8
72.5°	391.6	389.3	386.9	384.6	382.3	380.0	377.9	375.7	373.6	371.5	369.3
75°	310.0	308.4	306.7	305.0	303.3	301.7	300.0	298.3	296.7	295.0	293.7
77.5°	232.1	231.3	230.6	229.9	229.1	228.0	226.6	225.1	223.7	222.2	221.8
80°	185.1	184.1	183.1	182.1	181.2	180.3	179.6	178.9	178.2	177.6	176.9
82.5°	139.4	138.9	138.5	138.0	137.5	137.2	137.0	137.0	136.8	136.7	136.3
85°	81.2	81.2	81.2	81.2	81.2	81.0	80.3	79.6	78.9	78.2	78.2
87.5°	31.5	31.6	31.9	31.9	31.8	31.5	32.3	32.0	32.1	32.3	32.1
90°	0.9	2.8	5.7	6.6	7.5	7.5	13.2	13.2	15.1	17.0	16.0
92.5°	10.7	15.6	24.5	35.9	49.7	69.3	117.1	190.1	261.2	298.5	248.6
95°	31.0	33.8	43.3	55.5	78.1	117.6	199.4	353.8	578.7	766.9	788.5
97.5°	55.7	55.7	63.8	75.1	94.4	127.6	190.7	318.0	541.6	807.7	990.6
100°	71.5	71.5	78.1	89.4	107.3	137.4	192.9	299.3	491.2	756.5	997.4
102.5°	86.5	88.0	93.9	104.4	121.6	150.1	200.4	294.0	457.3	692.6	940.9
105°	110.1	112.9	117.6	128.9	145.8	173.1	218.3	296.4	428.1	617.3	838.4
107.5°	136.1	138.0	142.6	154.7	170.9	197.7	239.2	310.3	422.8	575.1	755.5
110°	153.4	155.2	159.9	171.3	188.2	213.6	255.0	320.8	424.3	560.8	714.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	169.9	171.8	177.3	187.8	204.7	230.2	270.0	332.2	428.9	554.0	690.9
115°	193.9	196.6	203.2	212.6	230.5	255.9	293.6	350.1	437.5	550.4	669.0
117.5°	218.7	221.3	227.2	237.5	254.2	280.6	316.3	368.3	446.8	549.5	659.2
120°	235.3	237.1	243.7	254.0	270.0	296.4	332.2	381.1	453.6	549.5	653.9
122.5°	250.3	252.1	258.7	268.3	285.9	311.4	347.2	393.1	460.3	548.7	647.9
125°	270.0	273.8	279.5	289.8	307.6	334.0	367.9	411.2	470.5	547.6	638.0
127.5°	287.6	290.6	297.4	309.2	327.8	354.4	387.1	426.8	478.5	545.5	624.6
130°	297.4	301.1	308.6	322.7	340.6	367.9	399.9	436.6	484.6	544.8	616.3
132.5°	307.1	310.1	319.9	333.3	352.7	378.4	410.5	446.4	489.8	544.0	608.8
135°	320.8	324.6	334.0	350.1	369.8	394.3	425.3	459.2	497.8	542.9	597.5
137.5°	334.4	338.2	348.6	363.7	384.3	407.6	436.6	468.3	502.5	542.7	587.7
140°	344.4	347.2	357.6	373.5	393.3	415.9	444.1	474.2	506.2	542.0	582.5
142.5°	355.0	357.8	367.3	382.6	401.6	423.4	450.9	478.7	509.3	542.0	578.0
145°	369.8	372.6	382.0	395.2	413.1	433.8	458.3	483.6	511.0	540.1	570.2
147.5°	386.5	387.5	395.8	409.3	424.1	442.8	465.8	488.0	511.9	536.7	563.3
150°	397.1	398.0	405.6	416.9	430.9	448.8	469.6	490.2	511.9	534.4	558.0
152.5°	406.9	407.1	414.6	425.1	437.7	454.1	472.6	491.7	510.4	530.7	552.0
155°	420.6	421.5	427.2	436.6	447.0	461.1	477.0	493.0	508.1	525.1	542.9
157.5°	433.9	433.9	439.2	446.6	455.6	466.7	480.2	493.0	505.7	519.2	533.7
160°	442.2	442.2	446.0	452.6	460.1	470.5	481.7	493.0	503.4	514.7	527.0
162.5°	449.8	449.0	452.0	457.9	464.7	472.8	483.2	493.0	501.1	510.2	520.9
165°	458.3	458.3	460.1	464.9	469.6	475.1	483.6	491.2	496.8	503.4	511.0
167.5°	466.7	465.8	466.7	470.3	473.0	477.2	483.4	488.9	492.3	496.6	501.9
170°	470.5	469.6	470.5	473.3	475.1	478.0	482.7	487.4	489.3	492.1	495.9
172.5°	474.2	473.3	473.4	475.5	476.6	478.7	481.9	485.9	486.3	487.6	490.6
175°	478.0	477.0	477.0	478.0	478.9	478.9	480.8	483.6	482.7	482.7	484.6
177.5°	479.7	478.9	478.2	478.9	478.9	478.9	479.7	481.2	479.7	479.7	480.4
180°	478.9	478.9	478.9	478.9	478.9	478.9	478.9	478.9	478.9	478.9	478.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1878.3	1878.3	1878.3	1878.3	1878.3	1878.3	1878.3	1878.3
2.5°	1871.6	1874.3	1877.0	1878.2	1877.9	1877.6	1877.4	1877.1
5°	1861.6	1865.3	1869.0	1870.5	1869.8	1869.2	1868.5	1867.7
7.5°	1840.9	1843.8	1846.7	1848.0	1847.7	1847.2	1846.8	1846.4
10°	1823.4	1826.2	1828.8	1829.9	1829.2	1828.5	1827.8	1827.1
12.5°	1802.3	1805.3	1808.3	1809.2	1808.3	1807.3	1806.4	1805.4
15°	1761.9	1764.0	1765.9	1766.4	1765.5	1764.4	1763.4	1762.5
17.5°	1715.9	1717.2	1718.4	1718.7	1718.1	1717.4	1716.7	1716.1
20°	1681.7	1682.6	1683.7	1683.9	1683.2	1682.5	1681.9	1681.1
22.5°	1646.0	1647.8	1649.5	1649.8	1648.7	1647.5	1646.2	1645.0
25°	1587.1	1587.3	1587.7	1587.1	1585.8	1584.5	1583.2	1581.9
27.5°	1520.9	1520.1	1519.3	1518.1	1516.4	1514.8	1513.1	1511.4
30°	1475.3	1473.9	1472.6	1471.1	1469.4	1467.8	1466.1	1464.4
32.5°	1429.0	1427.4	1425.8	1424.2	1422.5	1420.8	1419.2	1417.5
35°	1355.9	1353.6	1351.2	1349.2	1347.6	1345.9	1344.2	1342.6
37.5°	1279.3	1276.8	1274.2	1271.9	1269.7	1267.4	1265.3	1263.0
40°	1226.0	1222.6	1219.3	1216.7	1215.1	1213.4	1211.7	1210.0
42.5°	1174.3	1170.4	1166.6	1164.0	1162.9	1161.8	1160.6	1159.5
45°	1094.4	1090.7	1087.0	1084.7	1083.6	1082.6	1081.7	1080.6
47.5°	1017.0	1012.9	1008.7	1005.3	1002.8	1000.2	997.7	995.1
50°	962.9	958.2	953.6	950.2	948.2	946.2	944.1	942.2
52.5°	907.4	903.2	899.1	895.8	893.2	890.7	888.2	885.6
55°	825.8	821.8	817.7	814.7	812.8	810.8	808.7	806.7
57.5°	744.0	740.2	736.4	733.5	731.6	729.6	727.6	725.8
60°	687.8	684.9	681.8	679.5	677.8	676.1	674.5	672.8
62.5°	632.9	630.2	627.5	625.3	623.6	621.9	620.3	618.6
65°	553.2	549.9	546.5	544.0	542.3	540.6	538.9	537.3
67.5°	471.0	467.8	464.6	462.7	462.2	461.8	461.3	460.8
70°	419.1	416.4	413.7	411.9	410.9	409.9	408.9	407.8
72.5°	367.2	365.0	362.9	361.3	360.3	359.3	358.3	357.3
75°	292.3	291.0	289.6	288.8	288.5	288.1	287.8	287.5
77.5°	221.3	220.9	220.6	219.9	219.0	218.2	217.3	216.4
80°	176.3	175.6	174.9	174.5	174.1	173.7	173.4	173.1
82.5°	135.8	135.4	135.1	134.7	134.3	134.0	133.7	133.4
85°	78.2	78.2	78.2	78.1	77.8	77.4	77.1	76.7
87.5°	32.3	32.5	32.7	32.7	32.9	33.1	32.9	32.9
90°	17.0	17.9	18.9	18.9	19.8	20.7	19.8	19.8
92.5°	184.8	139.1	110.7	91.8	80.8	75.7	72.5	72.5
95°	697.2	551.4	425.3	334.0	287.9	258.7	241.9	229.6
97.5°	1030.2	975.9	883.9	785.7	718.1	661.5	633.3	613.7
100°	1134.8	1153.6	1107.5	1037.8	956.0	898.6	870.3	862.9
102.5°	1129.5	1222.9	1236.2	1207.2	1157.0	1115.4	1085.7	1079.7
105°	1053.9	1216.6	1309.8	1348.4	1350.3	1342.7	1329.6	1323.9
107.5°	946.4	1119.7	1250.9	1334.8	1381.3	1402.8	1412.2	1414.7
110°	881.7	1044.4	1180.9	1284.4	1351.2	1390.7	1407.7	1416.2



TEST NUMBER: P332705-830

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	834.2	978.2	1107.1	1210.6	1286.5	1334.3	1358.0	1371.7
115°	786.6	902.4	1012.5	1102.8	1177.1	1233.6	1263.7	1271.2
117.5°	763.3	859.1	945.7	1022.3	1085.7	1133.1	1163.6	1169.4
120°	752.7	840.3	915.6	982.3	1035.9	1077.4	1101.8	1112.2
122.5°	743.8	828.2	896.7	955.3	1000.6	1035.9	1056.7	1067.1
125°	728.3	809.2	874.1	925.9	963.6	990.8	1008.7	1014.4
127.5°	709.5	786.8	851.6	900.7	938.5	962.8	977.8	983.4
130°	694.5	768.7	832.7	882.6	921.1	944.7	959.8	965.4
132.5°	678.6	748.5	810.9	860.8	898.6	925.1	939.4	945.1
135°	656.8	717.9	775.3	822.4	860.1	886.4	901.4	907.1
137.5°	637.1	688.8	737.2	779.7	814.8	840.8	853.3	860.1
140°	625.8	670.0	712.3	751.8	784.8	805.5	818.6	826.1
142.5°	615.2	654.1	690.5	724.7	753.8	773.1	784.8	790.0
145°	600.3	632.4	660.5	686.9	710.4	726.4	735.8	740.6
147.5°	588.1	613.5	636.1	656.8	674.1	687.9	695.0	696.6
150°	580.6	602.2	621.0	638.0	653.0	665.2	670.9	671.8
152.5°	572.3	590.9	608.2	622.2	635.0	644.9	648.3	649.2
155°	559.9	575.0	589.0	600.3	609.7	617.3	620.1	620.1
157.5°	546.5	559.1	571.0	580.0	587.1	592.8	594.5	594.5
160°	538.2	548.6	558.9	566.5	572.1	577.8	578.7	578.7
162.5°	529.9	538.8	546.9	553.6	557.8	563.5	564.4	563.6
165°	518.5	524.1	530.7	535.4	539.1	542.9	542.0	541.0
167.5°	507.4	511.7	517.0	519.8	521.7	524.1	524.0	523.2
170°	500.6	503.4	507.2	510.0	511.9	512.8	511.9	511.9
172.5°	494.6	496.6	498.9	501.0	502.1	503.0	502.1	500.6
175°	486.4	487.4	489.3	489.3	489.3	491.2	489.3	487.4
177.5°	481.2	481.9	481.9	482.7	481.9	482.7	481.2	479.7
180°	478.9	478.9	478.9	478.9	478.9	478.9	478.9	478.9

(END OF REPORT)