

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: P332079-840

Luminaire Tested: **S123DIP-S1165D1025U840-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332079-840
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: S123DIP-S1165D1025U840-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1025 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8363.2 lumens
Efficiency: N/A
Efficacy: 125.2 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: General Diffuse

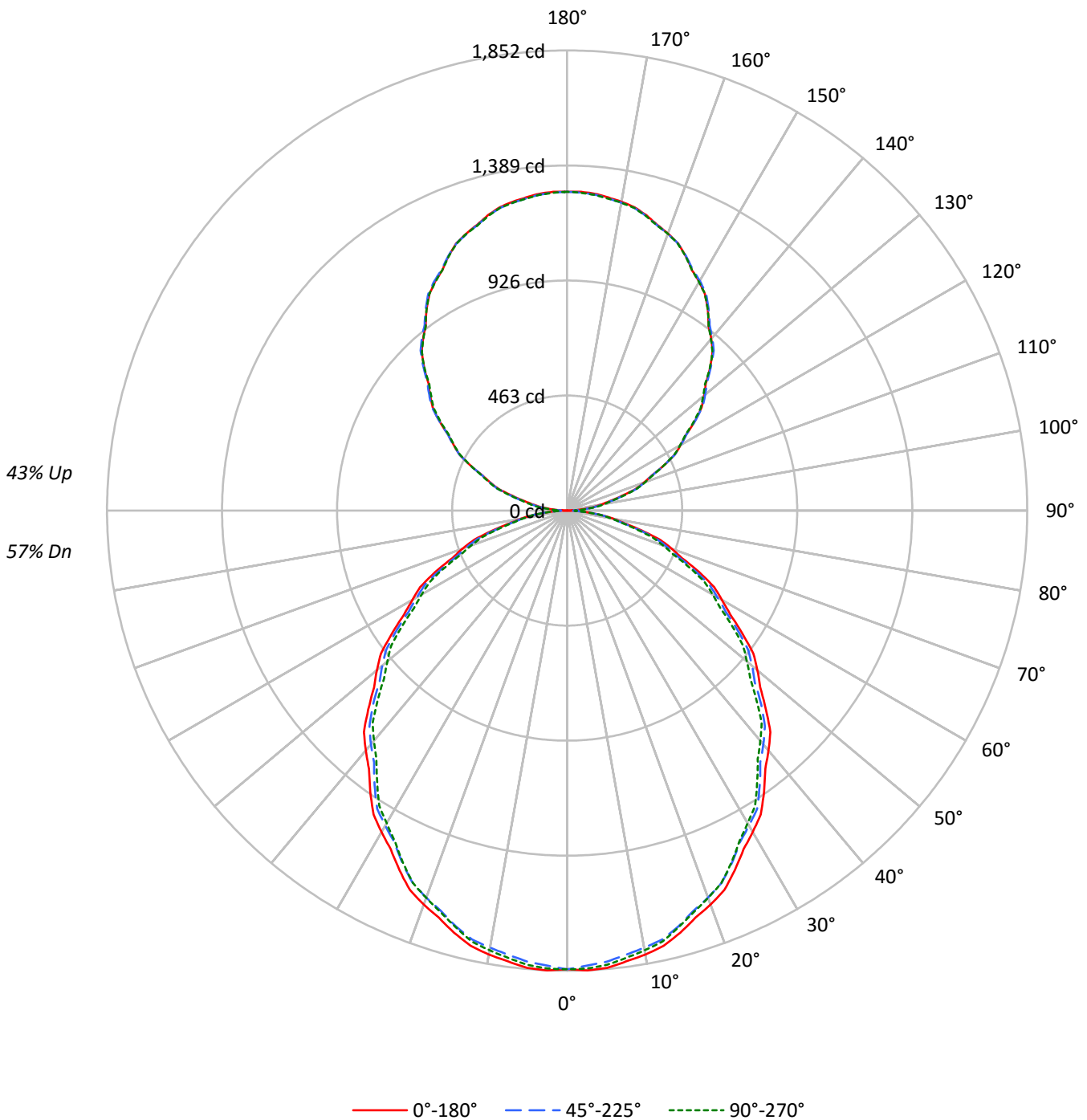
Input Watts (W): 66.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	101	101	101	101	87	87	87	75	75	75	63	63	63	57
1	99	95	91	87	92	89	85	82	77	74	72	66	64	62	56	54	53	48
2	90	83	77	71	84	77	72	67	67	63	59	58	55	52	49	47	45	40
3	83	73	65	59	77	68	62	56	59	54	50	51	47	44	43	40	38	34
4	76	65	56	50	70	60	53	48	53	47	43	45	41	38	39	35	33	29
5	69	57	49	43	64	54	46	41	47	41	37	41	36	33	35	31	28	25
6	64	52	43	37	59	48	41	36	42	36	32	37	32	29	32	28	25	22
7	59	47	39	33	55	44	37	31	39	33	28	34	29	25	29	25	22	20
8	55	42	35	29	51	40	33	28	35	29	25	31	26	23	27	23	20	18
9	51	39	31	26	48	37	30	25	32	27	23	28	24	20	24	21	18	16
10	48	36	28	23	45	34	27	22	30	24	20	26	22	18	23	19	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	19871	19871	19871
5°	19966	19690	19827
10°	19831	19519	19641
15°	19601	19299	19334
20°	19329	18984	19001
25°	18966	18608	18570
30°	18567	18191	18053
35°	18148	17751	17521
40°	17710	17265	16996
45°	17230	16818	16407
50°	16747	16268	15816
55°	16117	15700	15221
60°	15481	15035	14557
65°	14918	14314	13868
70°	14090	13489	12891
75°	12872	12410	11882
80°	11610	11120	11021
85°	10189	9806	9411



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	173.9	2.1
10°-20°	491.0	5.9
20°-30°	725.3	8.7
30°-40°	847.3	10.1
40°-50°	851.8	10.2
50°-60°	748.3	8.9
60°-70°	557.5	6.7
70°-80°	317.6	3.8
80°-90°	95.0	1.1
90°-100°	83.6	1.0
100°-110°	250.2	3.0
110°-120°	425.6	5.1
120°-130°	559.8	6.7
130°-140°	629.2	7.5
140°-150°	618.5	7.4
150°-160°	520.7	6.2
160°-170°	346.6	4.1
170°-180°	121.4	1.5
0°-30°	1390.3	16.6
0°-40°	2237.6	26.8
0°-60°	3837.7	45.9
0°-90°	4807.7	57.5
90°-120°	759.4	9.1
90°-150°	2566.9	30.7
90°-180°	3555.0	42.5
0°-180°	8363.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1846	1846	1846	1846	1846	
5°	1848	1839	1822	1837	1835	175
15°	1759	1752	1732	1743	1735	496
25°	1597	1587	1567	1568	1564	735
35°	1381	1371	1351	1341	1333	864
45°	1132	1125	1105	1086	1078	873
55°	859	856	837	820	811	769
65°	586	577	562	550	544	578
75°	310	303	298	291	286	331
85°	82	80	79	76	76	91
90°	1	11	24	28	30	8
95°	60	67	75	78	79	67
105°	227	229	238	238	240	243
115°	428	431	429	430	429	424
125°	627	630	628	624	620	559
135°	814	819	818	815	812	627
145°	987	989	992	991	987	616
155°	1130	1130	1131	1134	1128	520
165°	1231	1228	1228	1233	1227	347
175°	1280	1276	1276	1282	1275	122
180°	1283	1283	1283	1283	1283	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1846.1	1846.1	1846.1	1846.1	1846.1	1846.1	1846.1	1846.1	1846.1	1846.1	1846.1
2.5°	1852.5	1851.4	1850.3	1849.2	1848.0	1845.8	1842.8	1839.7	1836.5	1833.4	1836.2
5°	1847.8	1846.0	1844.2	1842.5	1840.7	1837.9	1834.0	1830.1	1826.2	1822.3	1825.8
7.5°	1829.7	1827.9	1826.1	1824.3	1822.6	1819.7	1815.6	1811.7	1807.7	1803.6	1806.7
10°	1814.4	1812.6	1810.9	1809.1	1807.4	1804.2	1799.6	1795.0	1790.4	1785.8	1789.0
12.5°	1794.1	1792.6	1791.1	1789.7	1788.2	1785.2	1781.0	1776.7	1772.3	1768.1	1770.4
15°	1758.9	1757.5	1756.1	1754.6	1753.2	1750.2	1745.7	1741.0	1736.5	1731.8	1734.6
17.5°	1717.9	1716.1	1714.2	1712.4	1710.5	1707.4	1702.7	1698.2	1693.5	1689.0	1691.0
20°	1687.4	1685.3	1683.1	1681.0	1679.0	1675.6	1671.0	1666.5	1661.8	1657.3	1658.7
22.5°	1653.1	1651.0	1648.9	1646.8	1644.7	1641.3	1636.7	1632.1	1627.6	1623.0	1624.1
25°	1596.9	1594.8	1592.7	1590.5	1588.5	1585.1	1580.5	1576.0	1571.3	1566.8	1567.1
27.5°	1536.9	1534.9	1532.9	1530.8	1528.7	1525.3	1520.4	1515.4	1510.5	1505.5	1505.8
30°	1493.8	1492.0	1490.3	1488.4	1486.7	1483.4	1478.4	1473.5	1468.5	1463.6	1463.6
32.5°	1450.6	1448.2	1445.9	1443.6	1441.3	1438.1	1434.4	1430.6	1426.7	1423.0	1421.0
35°	1381.1	1379.0	1376.8	1374.7	1372.6	1369.3	1364.6	1360.1	1355.4	1350.9	1348.8
37.5°	1309.9	1307.3	1304.5	1301.9	1299.2	1295.6	1290.9	1286.3	1281.6	1276.9	1274.3
40°	1260.4	1258.3	1256.2	1254.1	1251.9	1248.4	1243.4	1238.5	1233.6	1228.7	1225.9
42.5°	1210.8	1208.5	1206.1	1203.7	1201.2	1197.6	1192.7	1187.7	1182.8	1177.9	1175.1
45°	1131.9	1130.4	1129.0	1127.6	1126.2	1123.2	1118.6	1114.0	1109.4	1104.8	1100.7
47.5°	1053.4	1051.4	1049.4	1047.2	1045.2	1042.1	1037.7	1033.4	1029.2	1024.8	1020.7
50°	1000.1	998.4	996.5	994.8	993.0	989.9	985.2	980.7	976.0	971.5	967.7
52.5°	944.2	943.0	941.8	940.6	939.4	936.3	931.5	926.7	921.8	916.9	913.5
55°	858.8	858.5	858.1	857.8	857.4	855.0	850.3	845.8	841.1	836.6	832.7
57.5°	777.5	776.3	775.1	774.0	772.7	770.3	766.6	763.0	759.3	755.6	752.1
60°	719.1	718.7	718.4	718.0	717.7	715.4	711.1	706.9	702.7	698.4	695.3
62.5°	667.0	666.1	665.2	664.3	663.4	660.8	656.5	652.3	648.1	643.9	640.7
65°	585.7	584.0	582.2	580.5	578.7	576.0	572.5	569.0	565.4	562.0	559.2
67.5°	499.7	498.2	496.7	495.0	493.5	491.4	488.7	486.0	483.3	480.7	478.2
70°	447.7	445.6	443.4	441.3	439.2	437.1	434.9	432.8	430.7	428.6	426.2
72.5°	393.0	391.5	389.9	388.4	386.9	384.9	382.4	380.0	377.7	375.3	373.0
75°	309.5	308.1	306.7	305.3	303.9	302.7	301.6	300.5	299.5	298.4	296.7
77.5°	235.6	234.8	234.0	233.3	232.5	231.5	230.1	228.9	227.6	226.4	225.2
80°	187.3	186.2	185.2	184.1	183.1	182.2	181.5	180.8	180.1	179.4	179.0
82.5°	140.4	140.1	139.9	139.7	139.5	139.3	139.2	139.1	138.9	138.8	138.1
85°	82.5	81.8	81.1	80.4	79.7	79.4	79.4	79.4	79.4	79.4	78.7
87.5°	33.2	32.8	32.4	32.0	31.6	31.6	31.9	32.2	32.5	32.8	32.7
90°	1.0	3.2	5.5	7.8	10.0	12.5	15.5	18.4	21.3	24.2	25.0
92.5°	24.4	26.0	27.5	29.0	30.5	32.1	33.7	35.3	37.1	38.7	39.4
95°	59.5	61.0	62.6	64.2	65.7	67.5	69.2	71.0	72.8	74.6	75.5
97.5°	105.6	106.8	108.0	109.2	110.3	111.5	112.8	114.1	115.4	116.7	117.8
100°	137.1	138.5	139.8	141.1	142.5	143.7	144.8	145.9	147.0	148.1	148.9
102.5°	173.4	174.2	175.0	175.8	176.6	177.7	179.3	180.7	182.2	183.7	184.3
105°	226.8	227.2	227.7	228.1	228.6	229.8	231.9	233.9	235.9	237.9	237.9
107.5°	288.9	289.2	289.4	289.7	290.0	290.5	291.3	292.2	293.0	293.8	294.5
110°	327.6	328.1	328.5	328.9	329.4	329.8	330.3	330.7	331.2	331.6	332.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	367.9	368.2	368.5	368.7	369.0	369.2	369.3	369.4	369.5	369.5	370.6
115°	428.4	429.1	429.8	430.4	431.1	431.2	430.8	430.3	429.9	429.4	429.7
117.5°	489.3	489.8	490.2	490.7	491.1	491.0	490.5	489.9	489.3	488.7	488.7
120°	527.3	528.6	529.9	531.3	532.6	532.7	531.6	530.5	529.4	528.3	528.0
122.5°	566.7	567.7	568.7	569.7	570.7	570.9	570.3	569.7	569.2	568.6	567.9
125°	627.0	627.7	628.3	629.0	629.7	629.9	629.3	628.9	628.4	628.0	627.1
127.5°	682.7	684.1	685.5	686.9	688.4	688.8	688.3	687.9	687.4	686.9	685.6
130°	719.7	721.5	723.4	725.1	726.9	727.5	726.8	726.1	725.5	724.8	723.9
132.5°	756.9	758.6	760.4	762.2	764.1	764.7	764.2	763.7	763.2	762.7	761.6
135°	813.5	814.9	816.2	817.5	818.9	819.4	819.2	819.0	818.8	818.5	817.7
137.5°	866.0	867.1	868.2	869.3	870.4	871.2	871.8	872.4	873.0	873.5	872.6
140°	902.2	903.3	904.4	905.5	906.7	907.4	907.6	907.8	908.1	908.3	908.1
142.5°	935.2	936.3	937.6	938.7	939.8	940.5	940.9	941.3	941.7	942.1	941.9
145°	986.8	987.3	987.7	988.3	988.7	989.3	989.9	990.6	991.3	991.9	991.7
147.5°	1032.1	1032.9	1033.7	1034.5	1035.3	1036.0	1036.6	1037.2	1037.8	1038.5	1038.5
150°	1063.5	1064.0	1064.4	1064.8	1065.3	1065.7	1066.2	1066.6	1067.1	1067.5	1067.5
152.5°	1089.3	1089.9	1090.6	1091.2	1091.8	1092.3	1092.6	1092.8	1093.1	1093.4	1093.7
155°	1130.0	1130.0	1130.0	1130.0	1130.0	1130.1	1130.3	1130.5	1130.8	1131.0	1132.0
157.5°	1164.7	1164.5	1164.2	1163.9	1163.7	1163.6	1163.8	1164.0	1164.2	1164.3	1165.3
160°	1186.5	1186.0	1185.6	1185.2	1184.7	1184.5	1184.5	1184.5	1184.5	1184.5	1185.6
162.5°	1205.9	1205.2	1204.6	1204.0	1203.4	1203.2	1203.3	1203.5	1203.7	1203.9	1205.0
165°	1230.8	1230.1	1229.5	1228.8	1228.2	1227.8	1227.8	1227.8	1227.8	1227.8	1229.1
167.5°	1250.8	1249.9	1249.0	1248.1	1247.2	1246.9	1247.1	1247.2	1247.4	1247.6	1249.0
170°	1262.1	1261.2	1260.3	1259.4	1258.5	1258.1	1258.1	1258.1	1258.1	1258.1	1259.6
172.5°	1270.9	1270.1	1269.2	1268.3	1267.4	1266.9	1266.9	1266.9	1266.9	1266.9	1268.3
175°	1280.2	1279.3	1278.4	1277.6	1276.7	1276.2	1276.2	1276.2	1276.2	1276.2	1277.6
177.5°	1284.0	1283.3	1282.6	1281.9	1281.2	1280.8	1280.8	1280.8	1280.8	1280.8	1281.9
180°	1283.2	1283.2	1283.2	1283.2	1283.2	1283.2	1283.2	1283.2	1283.2	1283.2	1283.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1846.1	1846.1	1846.1	1846.1	1846.1	1846.1	1846.1	1846.1
2.5°	1839.1	1841.9	1844.7	1846.0	1845.7	1845.4	1845.1	1844.9
5°	1829.4	1832.9	1836.4	1837.9	1837.1	1836.4	1835.7	1835.0
7.5°	1810.0	1813.1	1816.3	1817.7	1817.3	1816.8	1816.4	1816.0
10°	1792.2	1795.3	1798.6	1799.8	1799.1	1798.4	1797.7	1797.0
12.5°	1772.7	1775.0	1777.4	1778.4	1777.9	1777.5	1777.1	1776.7
15°	1737.5	1740.3	1743.1	1743.5	1741.4	1739.3	1737.2	1735.0
17.5°	1692.9	1695.0	1696.9	1697.5	1696.8	1696.0	1695.2	1694.5
20°	1660.1	1661.5	1662.9	1663.0	1662.0	1660.9	1659.9	1658.8
22.5°	1625.3	1626.4	1627.5	1627.4	1626.1	1624.7	1623.4	1622.0
25°	1567.5	1567.8	1568.2	1567.8	1566.8	1565.7	1564.7	1563.6
27.5°	1506.1	1506.3	1506.6	1506.1	1504.8	1503.4	1502.1	1500.8
30°	1463.6	1463.6	1463.6	1462.4	1459.9	1457.4	1454.9	1452.5
32.5°	1419.0	1417.0	1415.0	1413.4	1412.1	1410.7	1409.4	1408.1
35°	1346.7	1344.5	1342.4	1340.5	1338.7	1337.0	1335.1	1333.4
37.5°	1271.8	1269.3	1266.8	1265.0	1263.7	1262.6	1261.5	1260.4
40°	1223.0	1220.2	1217.4	1215.3	1213.9	1212.4	1211.0	1209.6
42.5°	1172.3	1169.4	1166.6	1164.5	1163.1	1161.6	1160.2	1158.8
45°	1096.4	1092.2	1087.9	1084.9	1083.2	1081.4	1079.6	1077.8
47.5°	1016.5	1012.4	1008.1	1005.3	1003.8	1002.2	1000.7	999.2
50°	963.7	959.9	955.9	953.0	950.9	948.8	946.6	944.5
52.5°	910.3	907.0	903.6	900.9	898.8	896.7	894.5	892.4
55°	828.8	825.0	821.0	818.2	816.5	814.7	812.9	811.1
57.5°	748.7	745.3	741.7	739.0	737.0	735.0	732.9	730.8
60°	692.2	688.9	685.8	683.3	681.6	679.7	678.0	676.2
62.5°	637.5	634.3	631.2	628.9	627.7	626.5	625.4	624.2
65°	556.3	553.5	550.7	548.8	547.6	546.6	545.5	544.5
67.5°	475.7	473.2	470.8	468.8	467.4	465.9	464.3	462.9
70°	423.6	421.2	418.7	416.6	414.9	413.0	411.3	409.6
72.5°	370.9	368.7	366.5	365.0	364.1	363.1	362.2	361.3
75°	294.9	293.2	291.3	289.9	288.9	287.8	286.8	285.7
77.5°	224.0	222.8	221.6	221.0	221.0	221.0	221.0	221.0
80°	178.6	178.3	177.9	177.8	177.8	177.8	177.8	177.8
82.5°	137.4	136.8	136.2	135.7	135.4	135.2	134.9	134.6
85°	78.0	77.3	76.5	76.2	76.2	76.2	76.2	76.2
87.5°	32.6	32.5	32.3	32.3	32.4	32.5	32.6	32.7
90°	26.0	26.9	27.8	28.5	28.9	29.4	29.8	30.2
92.5°	40.2	40.9	41.6	41.8	41.5	41.3	41.0	40.7
95°	76.3	77.3	78.2	78.7	78.7	78.7	78.7	78.7
97.5°	118.8	119.9	120.9	121.3	121.3	121.2	121.1	121.0
100°	149.6	150.2	150.9	151.5	151.9	152.3	152.8	153.2
102.5°	185.0	185.7	186.3	186.6	186.5	186.4	186.4	186.3
105°	237.9	237.9	237.9	238.1	238.5	239.0	239.4	239.9
107.5°	295.2	295.9	296.6	296.8	296.6	296.3	296.0	295.8
110°	333.5	334.4	335.3	335.5	335.0	334.6	334.2	333.7



TEST NUMBER: P332079-840

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	371.7	372.7	373.9	374.4	374.3	374.2	374.1	374.0
115°	429.9	430.1	430.3	430.3	430.1	429.9	429.7	429.4
117.5°	488.6	488.6	488.6	488.2	487.6	487.0	486.4	485.6
120°	527.8	527.6	527.4	526.9	526.5	526.1	525.6	525.2
122.5°	567.3	566.8	566.2	565.6	565.0	564.3	563.7	563.1
125°	626.2	625.3	624.4	623.5	622.7	621.8	620.9	620.0
127.5°	684.4	683.2	681.9	680.8	679.7	678.6	677.6	676.6
130°	723.0	722.1	721.2	719.9	718.4	716.8	715.3	713.7
132.5°	760.5	759.5	758.4	757.3	756.1	754.9	753.7	752.5
135°	816.8	815.9	815.0	814.3	813.9	813.3	812.9	812.5
137.5°	871.7	870.8	869.8	868.9	868.1	867.2	866.4	865.6
140°	907.8	907.6	907.4	906.5	904.9	903.3	901.8	900.2
142.5°	941.7	941.5	941.2	940.5	939.3	938.1	936.9	935.6
145°	991.5	991.3	991.0	990.5	989.6	988.7	987.7	986.8
147.5°	1038.5	1038.5	1038.5	1037.8	1036.5	1035.1	1033.8	1032.5
150°	1067.5	1067.5	1067.5	1066.8	1065.5	1064.2	1062.8	1061.5
152.5°	1094.1	1094.4	1094.8	1094.4	1093.2	1092.1	1090.9	1089.7
155°	1132.9	1133.8	1134.6	1134.3	1132.8	1131.1	1129.5	1128.0
157.5°	1166.2	1167.1	1168.1	1167.9	1166.7	1165.4	1164.2	1162.9
160°	1186.7	1187.8	1188.9	1189.0	1188.2	1187.3	1186.4	1185.5
162.5°	1206.1	1207.2	1208.3	1208.1	1206.7	1205.3	1203.9	1202.4
165°	1230.5	1231.8	1233.1	1233.0	1231.5	1229.9	1228.4	1226.8
167.5°	1250.3	1251.7	1253.1	1253.1	1251.7	1250.3	1249.0	1247.6
170°	1261.2	1262.7	1264.4	1264.4	1262.7	1261.2	1259.6	1258.1
172.5°	1269.7	1271.1	1272.4	1272.4	1270.8	1269.3	1267.7	1266.1
175°	1278.9	1280.2	1281.6	1281.4	1279.9	1278.3	1276.8	1275.2
177.5°	1283.0	1284.0	1285.2	1285.1	1283.8	1282.5	1281.3	1280.0
180°	1283.2	1283.2	1283.2	1283.2	1283.2	1283.2	1283.2	1283.2

(END OF REPORT)