

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: P332060-840

Luminaire Tested: **S123DIP-S1165D585U840-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332060-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIP-S1165D585U840-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 585 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7170.3 lumens
Efficiency: N/A
Efficacy: 130.1 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: Semi-Direct

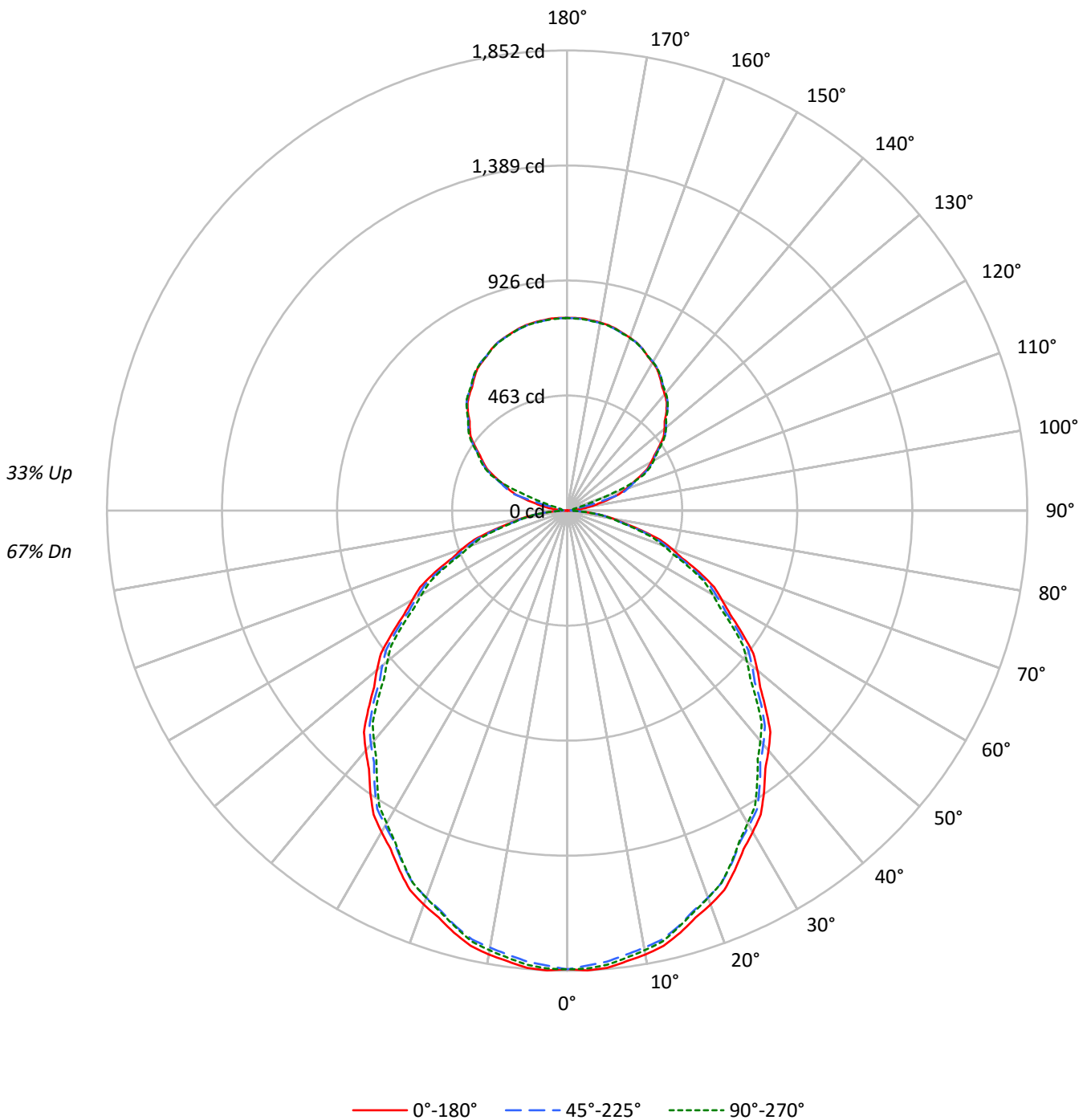
Input Watts (W): 55.1
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	111	111	111	111	105	105	105	105	93	93	93	82	82	82	72	72	72	67
1	102	97	93	89	95	92	88	85	81	79	76	72	70	68	63	62	60	56
2	92	85	78	73	87	80	74	70	71	67	63	63	60	57	56	53	51	47
3	84	74	67	61	79	70	64	58	63	57	53	56	52	48	49	46	43	40
4	77	66	58	52	72	62	55	49	56	50	45	50	45	41	44	40	37	34
5	71	59	50	44	67	56	48	43	50	44	39	45	40	36	40	36	32	30
6	65	53	45	39	61	50	43	37	45	39	34	40	35	31	36	32	29	26
7	61	48	40	34	57	46	38	33	41	35	30	37	32	28	33	29	25	23
8	56	44	36	30	53	41	34	29	38	31	27	34	29	25	30	26	23	21
9	52	40	32	27	49	38	31	26	34	28	24	31	26	22	28	24	21	19
10	49	37	29	24	46	35	28	23	32	26	22	29	24	20	26	22	19	17

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	2.4
10°-20°	491.0	6.8
20°-30°	725.3	10.1
30°-40°	847.3	11.8
40°-50°	851.8	11.9
50°-60°	748.3	10.4
60°-70°	557.5	7.8
70°-80°	317.6	4.4
80°-90°	93.3	1.3
90°-100°	28.2	0.4
100°-110°	134.3	1.9
110°-120°	322.7	4.5
120°-130°	410.9	5.7
130°-140°	439.0	6.1
140°-150°	410.5	5.7
150°-160°	331.2	4.6
160°-170°	213.7	3.0
170°-180°	73.7	1.0
0°-30°	1390.3	19.4
0°-40°	2237.6	31.2
0°-60°	3837.7	53.5
0°-90°	4806.1	67.0
90°-120°	485.2	6.8
90°-150°	1745.7	24.3
90°-180°	2364.0	33.0
0°-180°	7170.3	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	6	14	16	17	6
95°	35	13	18	22	22	43
105°	172	175	126	30	25	182
115°	322	326	331	336	339	318
125°	454	458	461	462	463	405
135°	565	568	571	572	571	435
145°	652	656	657	658	658	408
155°	718	717	718	720	717	331
165°	757	756	755	759	756	214
175°	775	773	773	777	772	74
180°	775	775	775	775	775	



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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°	33.1	32.5	31.9	31.4	30.8	30.5	30.6	30.6	30.7	30.7	30.5
90°	0.6	1.8	3.1	4.4	5.7	7.2	8.8	10.5	12.1	13.8	14.3
92.5°	10.7	10.4	10.0	9.6	9.3	9.7	11.0	12.2	13.5	14.7	15.6
95°	35.1	29.9	24.6	19.4	14.1	12.2	13.6	15.0	16.5	17.9	18.8
97.5°	70.6	68.3	65.9	63.5	61.2	55.4	46.2	37.0	27.8	18.6	19.6
100°	97.4	99.9	102.5	105.0	107.6	98.9	78.9	59.0	39.0	19.0	20.0
102.5°	127.7	129.6	131.5	133.3	135.1	125.1	103.3	81.5	59.7	37.9	34.7
105°	171.7	173.1	174.5	175.8	177.2	172.2	160.7	149.2	137.6	126.1	103.5
107.5°	217.9	219.0	220.3	221.4	222.5	223.9	225.7	227.5	229.3	231.2	214.6
110°	248.8	249.8	250.9	251.9	252.9	254.2	255.5	256.9	258.3	259.7	255.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	278.3	279.2	280.1	281.0	282.0	283.2	284.6	286.0	287.4	288.8	288.9
115°	321.9	322.8	323.5	324.3	325.1	326.0	327.2	328.3	329.4	330.6	331.9
117.5°	364.3	365.2	366.2	367.1	368.0	368.8	369.4	370.0	370.6	371.1	372.2
120°	390.5	391.6	392.8	393.9	395.2	395.9	396.3	396.7	397.1	397.4	398.5
122.5°	417.3	418.2	419.1	420.1	421.0	421.7	422.2	422.7	423.2	423.7	424.4
125°	453.8	454.9	456.0	457.0	458.0	458.8	459.3	459.8	460.3	460.8	461.0
127.5°	489.4	490.4	491.4	492.4	493.4	494.2	494.8	495.5	496.1	496.8	497.2
130°	511.5	512.5	513.5	514.5	515.5	516.3	516.8	517.4	517.9	518.4	518.9
132.5°	532.7	533.7	534.7	535.7	536.7	537.5	537.9	538.3	538.7	539.2	539.7
135°	565.0	565.8	566.5	567.3	568.2	568.8	569.3	569.8	570.3	570.8	571.2
137.5°	592.7	593.7	594.6	595.6	596.5	597.2	597.4	597.7	598.0	598.3	599.0
140°	611.1	611.9	612.7	613.4	614.2	614.8	615.1	615.5	615.9	616.3	616.8
142.5°	628.1	628.9	629.8	630.5	631.3	631.8	632.2	632.6	633.0	633.4	633.8
145°	652.0	652.9	653.8	654.7	655.6	656.2	656.4	656.7	656.9	657.2	657.4
147.5°	674.5	675.1	675.7	676.2	676.8	677.2	677.5	677.7	678.0	678.3	678.5
150°	688.3	688.7	689.0	689.4	689.8	690.1	690.4	690.6	690.9	691.2	691.5
152.5°	700.7	700.9	701.0	701.3	701.5	701.7	701.8	702.0	702.1	702.3	702.7
155°	718.2	718.0	717.7	717.5	717.2	717.2	717.3	717.4	717.5	717.7	718.3
157.5°	731.8	731.8	731.7	731.7	731.7	731.6	731.5	731.4	731.2	731.1	732.0
160°	740.1	740.0	739.9	739.7	739.6	739.5	739.3	739.2	739.1	739.0	739.7
162.5°	748.0	747.6	747.3	747.0	746.6	746.4	746.3	746.2	746.0	745.9	746.8
165°	757.4	757.0	756.7	756.3	755.9	755.6	755.5	755.4	755.3	755.1	756.2
167.5°	764.8	764.3	763.8	763.3	762.8	762.4	762.4	762.4	762.4	762.4	763.6
170°	768.9	768.4	767.9	767.4	766.9	766.6	766.6	766.6	766.6	766.6	767.7
172.5°	771.7	771.1	770.4	769.8	769.2	769.0	769.1	769.2	769.3	769.4	770.4
175°	775.3	774.7	774.0	773.4	772.7	772.4	772.5	772.7	772.8	773.0	773.9
177.5°	776.2	775.7	775.2	774.7	774.2	774.0	774.1	774.2	774.3	774.4	775.2
180°	775.3	775.3	775.3	775.3	775.3	775.3	775.3	775.3	775.3	775.3	775.3



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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°	30.3	30.2	30.0	29.9	30.0	30.0	30.1	30.1
90°	14.8	15.3	15.9	16.3	16.6	16.8	17.1	17.3
92.5°	16.4	17.2	18.0	18.5	18.7	18.8	19.0	19.1
95°	19.7	20.5	21.4	21.9	21.9	21.9	21.9	21.9
97.5°	20.6	21.6	22.6	23.2	23.3	23.4	23.6	23.7
100°	21.0	22.1	23.1	23.6	23.8	23.9	24.0	24.2
102.5°	31.5	28.4	25.2	23.7	23.9	24.2	24.4	24.6
105°	80.8	58.2	35.5	24.3	24.5	24.8	25.0	25.3
107.5°	197.9	181.4	164.7	147.9	130.8	113.7	96.6	79.6
110°	251.4	247.1	242.9	231.6	213.3	195.0	176.7	158.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	288.9	289.0	289.1	287.2	283.4	279.4	275.6	271.8
115°	333.2	334.5	335.8	336.6	337.1	337.7	338.2	338.7
117.5°	373.2	374.3	375.3	375.9	376.0	376.1	376.2	376.3
120°	399.5	400.5	401.5	402.0	402.0	402.0	402.0	402.0
122.5°	425.2	425.9	426.6	427.0	427.1	427.2	427.3	427.4
125°	461.3	461.5	461.8	462.1	462.3	462.6	462.8	463.1
127.5°	497.6	498.0	498.4	498.5	498.2	498.0	497.7	497.5
130°	519.4	519.9	520.4	520.6	520.3	520.1	519.8	519.6
132.5°	540.2	540.7	541.2	541.3	540.9	540.5	540.2	539.8
135°	571.6	572.0	572.3	572.3	572.0	571.6	571.2	570.8
137.5°	599.6	600.2	600.8	601.0	600.7	600.5	600.2	600.0
140°	617.3	617.8	618.3	618.4	618.2	617.9	617.7	617.4
142.5°	634.2	634.6	635.0	635.0	634.7	634.3	633.9	633.6
145°	657.7	657.9	658.2	658.3	658.3	658.3	658.3	658.3
147.5°	678.8	679.0	679.3	679.1	678.5	677.9	677.4	676.8
150°	691.7	692.0	692.2	692.2	691.8	691.4	690.9	690.6
152.5°	703.2	703.6	704.1	704.0	703.5	702.9	702.3	701.7
155°	718.9	719.6	720.2	720.1	719.4	718.6	717.9	717.1
157.5°	732.7	733.5	734.3	734.1	733.1	732.2	731.1	730.1
160°	740.5	741.2	742.0	741.9	741.1	740.2	739.3	738.4
162.5°	747.6	748.5	749.4	749.4	748.6	747.8	747.0	746.3
165°	757.2	758.2	759.2	759.3	758.4	757.5	756.6	755.7
167.5°	764.6	765.6	766.6	766.6	765.6	764.6	763.6	762.4
170°	768.7	769.7	770.7	770.7	769.7	768.7	767.7	766.6
172.5°	771.4	772.4	773.5	773.5	772.3	771.2	770.0	768.9
175°	774.8	775.7	776.6	776.5	775.5	774.5	773.5	772.3
177.5°	776.0	776.8	777.6	777.5	776.5	775.5	774.5	773.5
180°	775.3	775.3	775.3	775.3	775.3	775.3	775.3	775.3

(END OF REPORT)