

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: P331763-830

Luminaire Tested: **SA2XXRDIP-C1005D1080U830-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

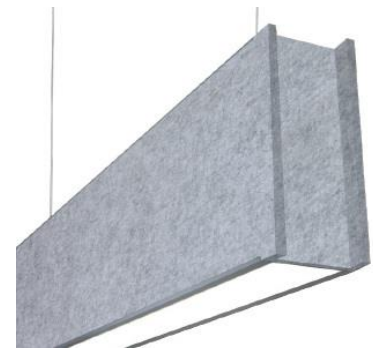
Test Information

Test Method: LM-79-08
Report Number: P331763-830
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXRDIP-C1005D1080U830-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1005 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1080 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6915.8 lumens
Efficiency: N/A
Efficacy: 96.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

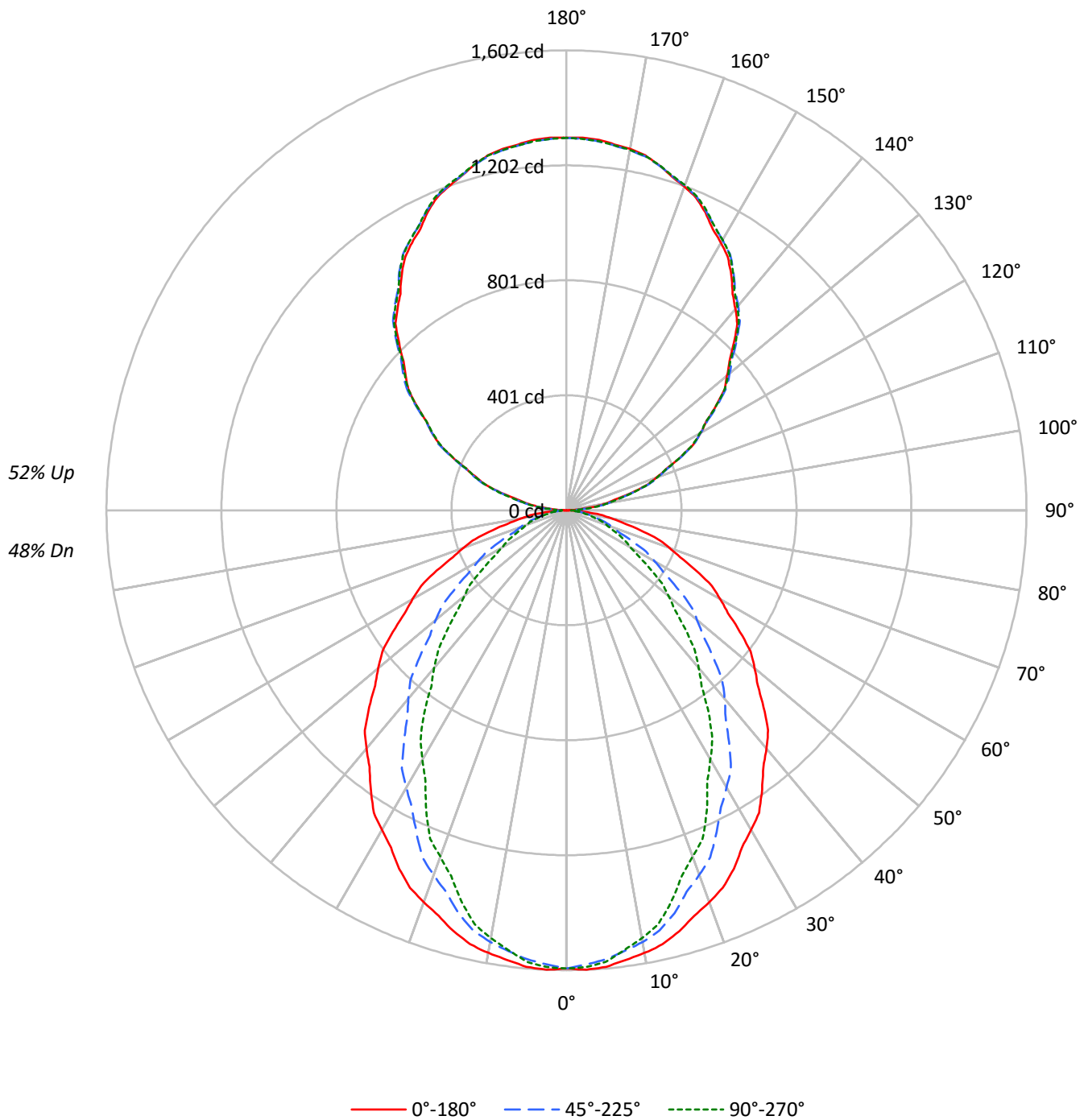
Input Watts (W): 71.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	107	107	107	107	98	98	98	98	82	82	82	67	67	67	54	54	54
1	98	94	90	86	90	86	83	80	72	70	68	60	58	57	48	47	46
2	89	82	76	71	82	76	71	67	64	60	57	53	51	48	43	41	40
3	82	73	66	60	75	67	61	56	57	52	49	47	44	41	39	36	34
4	75	65	57	51	69	60	53	48	51	46	42	43	39	36	35	32	30
5	69	58	50	44	63	54	47	41	46	40	36	38	34	31	32	29	26
6	64	52	44	38	58	48	41	36	41	36	32	35	31	28	29	26	23
7	59	47	39	34	54	44	37	32	38	32	28	32	28	25	26	23	21
8	55	43	35	30	50	40	33	28	34	29	25	29	25	22	24	21	19
9	51	39	32	27	47	37	30	26	32	26	23	27	23	20	23	19	17
10	48	36	29	24	44	34	27	23	29	24	21	25	21	18	21	18	16

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	25770	25770	25770
5°	25869	25449	25590
10°	25671	25032	24819
15°	25377	24289	23590
20°	24967	23230	22063
25°	24549	22026	20587
30°	23968	20789	18690
35°	23402	19446	17026
40°	22835	18054	15099
45°	22165	16493	13358
50°	21481	14913	11645
55°	20777	13216	10001
60°	19963	11428	8302
65°	19037	9605	7561
70°	17934	7912	6954
75°	16581	7211	6488
80°	14635	6453	5904
85°	11504	5076	5076

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	149.4	2.2
10°-20°	410.2	5.9
20°-30°	576.1	8.3
30°-40°	628.2	9.1
40°-50°	577.6	8.4
50°-60°	453.6	6.6
60°-70°	295.8	4.3
70°-80°	152.5	2.2
80°-90°	44.7	0.6
90°-100°	82.2	1.2
100°-110°	255.3	3.7
110°-120°	436.4	6.3
120°-130°	573.9	8.3
130°-140°	644.2	9.3
140°-150°	631.6	9.1
150°-160°	529.8	7.7
160°-170°	351.4	5.1
170°-180°	122.8	1.8
0°-30°	1135.7	16.4
0°-40°	1763.9	25.5
0°-60°	2795.1	40.4
0°-90°	3288.0	47.5
90°-120°	774.0	11.2
90°-150°	2623.7	37.9
90°-180°	3628.0	52.5
0°-180°	6915.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1596	1596	1596	1596	1596	
5°	1596	1588	1570	1582	1579	151
15°	1518	1500	1453	1426	1411	427
25°	1378	1329	1236	1179	1156	633
35°	1187	1111	987	899	864	743
45°	971	871	722	623	585	749
55°	738	623	470	386	355	659
65°	498	381	251	205	198	494
75°	266	168	116	106	104	281
85°	62	33	27	27	27	73
90°	1	15	38	36	37	6
95°	57	67	70	70	68	65
105°	235	239	241	243	243	249
115°	438	444	442	441	438	433
125°	637	646	644	641	639	569
135°	824	836	839	837	834	637
145°	1001	1008	1015	1016	1012	625
155°	1144	1147	1151	1156	1153	526
165°	1245	1244	1244	1251	1246	351
175°	1295	1292	1290	1297	1291	123
180°	1297	1297	1297	1297	1297	

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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1596.1	1596.1	1596.1	1596.1	1596.1	1596.1	1596.1	1596.1	1596.1	1596.1	1596.1
2.5°	1601.9	1600.6	1599.3	1598.1	1596.8	1594.7	1591.9	1589.1	1586.3	1583.5	1586.0
5°	1596.1	1594.5	1592.9	1591.3	1589.7	1586.9	1582.6	1578.5	1574.3	1570.2	1573.0
7.5°	1579.7	1577.7	1575.7	1573.7	1571.7	1568.3	1563.4	1558.5	1553.7	1548.8	1549.6
10°	1565.8	1563.6	1561.3	1559.1	1556.8	1552.5	1546.1	1539.6	1533.2	1526.8	1525.9
12.5°	1548.5	1545.7	1542.9	1540.2	1537.5	1531.9	1523.7	1515.5	1507.3	1499.1	1497.3
15°	1518.2	1514.6	1511.1	1507.5	1504.0	1496.8	1485.9	1475.0	1464.1	1453.1	1447.1
17.5°	1480.8	1475.5	1470.1	1464.7	1459.3	1449.6	1435.6	1421.6	1407.6	1393.6	1386.4
20°	1453.1	1446.7	1440.3	1433.9	1427.5	1416.3	1400.1	1384.1	1368.1	1352.0	1344.0
22.5°	1423.1	1415.9	1408.7	1401.6	1394.3	1381.7	1363.6	1345.5	1327.4	1309.3	1298.9
25°	1378.0	1367.7	1357.4	1347.2	1336.9	1321.3	1300.0	1278.8	1257.6	1236.4	1223.3
27.5°	1323.7	1312.6	1301.4	1290.2	1279.0	1261.5	1237.7	1213.7	1189.9	1166.0	1150.7
30°	1285.6	1273.4	1261.2	1249.0	1236.8	1217.9	1192.1	1166.5	1140.9	1115.1	1098.7
32.5°	1248.6	1234.4	1220.1	1205.9	1191.6	1171.4	1145.2	1119.0	1092.8	1066.6	1047.9
35°	1187.3	1171.0	1154.6	1138.2	1121.9	1099.6	1071.3	1043.1	1014.8	986.6	966.4
37.5°	1126.1	1108.1	1090.1	1072.1	1054.2	1030.2	1000.0	970.0	939.8	909.7	887.5
40°	1083.4	1064.1	1044.8	1025.6	1006.4	981.1	950.0	918.9	887.7	856.6	833.8
42.5°	1039.4	1019.2	998.9	978.5	958.3	932.1	899.9	867.7	835.6	803.4	779.9
45°	970.7	949.1	927.7	906.2	884.7	857.1	823.3	789.7	755.9	722.3	699.5
47.5°	903.6	880.9	858.1	835.3	812.5	783.7	748.9	714.1	679.3	644.5	621.9
50°	855.2	832.4	809.5	786.7	763.9	734.9	699.6	664.3	629.0	593.7	571.6
52.5°	807.8	783.9	760.2	736.3	712.5	683.3	648.8	614.3	579.7	545.2	523.8
55°	738.1	713.1	688.1	663.0	638.0	608.1	573.4	538.8	504.2	469.5	450.2
57.5°	666.8	641.1	615.4	589.7	564.0	534.5	501.2	467.9	434.6	401.2	383.6
60°	618.2	592.6	566.8	541.2	515.5	486.2	453.1	420.0	386.9	353.9	337.5
62.5°	570.9	545.2	519.5	493.8	468.2	439.5	408.0	376.5	345.0	313.5	297.8
65°	498.3	472.3	446.4	420.4	394.4	366.9	338.0	309.2	280.2	251.4	240.4
67.5°	428.4	402.7	376.8	351.0	325.2	299.3	273.3	247.3	221.3	195.3	190.3
70°	379.9	354.9	329.8	304.8	279.7	256.2	234.0	211.9	189.7	167.6	164.4
72.5°	333.7	309.6	285.7	261.6	237.6	216.7	199.0	181.2	163.3	145.6	142.9
75°	265.8	243.3	220.8	198.4	175.9	159.2	148.3	137.4	126.5	115.6	113.3
77.5°	199.1	179.4	159.7	140.0	120.2	107.7	102.5	97.2	91.9	86.7	85.4
80°	157.4	141.1	124.7	108.3	92.0	82.2	79.0	75.8	72.6	69.4	68.1
82.5°	119.3	106.5	93.8	81.0	68.2	60.7	58.5	56.4	54.2	52.0	51.3
85°	62.1	55.3	48.6	41.8	35.2	31.3	30.3	29.4	28.4	27.4	27.4
87.5°	18.7	17.2	15.7	14.3	12.8	12.6	13.7	14.8	15.8	16.9	16.6
90°	1.1	4.1	7.0	9.9	12.8	16.9	22.2	27.6	33.0	38.4	37.8
92.5°	19.5	21.6	23.8	25.9	28.1	29.8	31.0	32.3	33.6	34.8	34.9
95°	56.9	59.4	61.8	64.2	66.6	68.1	68.6	69.1	69.6	70.0	70.0
97.5°	104.1	106.1	108.3	110.5	112.5	114.1	115.0	115.9	116.9	117.8	117.8
100°	139.0	141.0	143.0	144.9	146.8	148.2	148.9	149.6	150.3	151.1	151.1
102.5°	175.9	177.4	179.0	180.5	182.1	183.3	184.3	185.1	186.1	187.0	187.2
105°	235.4	236.1	236.9	237.6	238.3	238.9	239.4	239.9	240.3	240.8	241.4
107.5°	295.4	296.4	297.6	298.6	299.6	300.2	300.2	300.2	300.2	300.2	300.4
110°	333.9	335.4	336.9	338.3	339.8	340.5	340.5	340.5	340.5	340.5	340.5

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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	376.0	377.4	378.9	380.3	381.8	382.5	382.2	382.0	381.8	381.6	381.1
115°	437.9	439.4	440.8	442.3	443.7	444.2	443.7	443.3	442.8	442.3	442.1
117.5°	499.6	501.6	503.6	505.5	507.5	507.7	506.4	505.0	503.7	502.3	501.7
120°	540.8	542.8	544.8	546.7	548.7	548.7	546.7	544.8	542.8	540.8	540.8
122.5°	578.5	580.9	583.2	585.5	587.9	588.3	587.0	585.6	584.3	582.9	582.3
125°	637.2	639.4	641.6	643.8	645.9	646.7	645.9	645.3	644.5	643.8	643.0
127.5°	694.4	697.1	699.9	702.7	705.4	706.4	705.5	704.6	703.8	702.9	702.0
130°	730.3	733.4	736.6	739.7	742.9	744.2	743.8	743.3	742.8	742.3	741.8
132.5°	770.5	773.2	775.7	778.3	780.9	782.2	782.3	782.4	782.5	782.6	781.6
135°	824.4	827.1	829.8	832.5	835.1	836.7	837.2	837.6	838.2	838.7	838.4
137.5°	881.1	883.4	885.5	887.7	889.9	891.3	891.9	892.6	893.2	893.8	893.6
140°	915.3	917.5	919.6	921.9	924.1	925.8	927.0	928.2	929.4	930.6	930.6
142.5°	950.4	952.5	954.7	956.9	959.0	960.5	961.4	962.2	963.1	963.9	964.1
145°	1000.7	1002.4	1004.1	1005.8	1007.5	1009.1	1010.5	1012.0	1013.4	1014.9	1015.1
147.5°	1045.6	1047.6	1049.6	1051.7	1053.8	1055.3	1056.2	1057.2	1058.2	1059.1	1059.7
150°	1076.2	1077.7	1079.1	1080.6	1082.0	1083.3	1084.3	1085.2	1086.2	1087.2	1087.9
152.5°	1103.3	1104.8	1106.3	1107.8	1109.2	1110.5	1111.7	1112.9	1114.1	1115.2	1116.2
155°	1144.2	1144.8	1145.6	1146.3	1147.1	1147.7	1148.5	1149.2	1150.0	1150.7	1151.9
157.5°	1178.9	1179.4	1179.9	1180.3	1180.9	1181.3	1181.8	1182.2	1182.6	1183.1	1184.8
160°	1200.0	1200.4	1200.9	1201.4	1201.9	1202.2	1202.5	1202.8	1203.0	1203.2	1204.7
162.5°	1219.2	1219.3	1219.4	1219.5	1219.7	1219.7	1220.0	1220.2	1220.5	1220.8	1222.4
165°	1244.8	1244.6	1244.3	1244.1	1243.9	1243.8	1243.8	1243.8	1243.8	1243.8	1245.5
167.5°	1266.3	1265.6	1264.8	1264.1	1263.4	1263.0	1262.9	1262.9	1262.8	1262.8	1264.5
170°	1277.7	1277.0	1276.2	1275.4	1274.8	1274.3	1274.0	1273.8	1273.6	1273.3	1275.0
172.5°	1285.5	1284.9	1284.1	1283.4	1282.6	1282.1	1282.0	1281.7	1281.4	1281.2	1282.9
175°	1295.2	1294.5	1293.7	1293.0	1292.3	1291.7	1291.2	1290.7	1290.2	1289.7	1291.5
177.5°	1299.1	1298.5	1298.0	1297.4	1296.8	1296.3	1295.9	1295.5	1295.1	1294.8	1295.9
180°	1297.4	1297.4	1297.4	1297.4	1297.4	1297.4	1297.4	1297.4	1297.4	1297.4	1297.4

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1596.1	1596.1	1596.1	1596.1	1596.1	1596.1	1596.1	1596.1
2.5°	1588.6	1591.1	1593.7	1594.7	1594.2	1593.7	1593.2	1592.7
5°	1575.9	1578.9	1581.7	1582.6	1581.7	1580.7	1579.8	1578.9
7.5°	1550.4	1551.2	1552.1	1551.7	1550.0	1548.3	1546.7	1545.0
10°	1524.8	1523.9	1523.0	1521.5	1519.6	1517.7	1515.7	1513.8
12.5°	1495.6	1493.8	1492.1	1489.7	1486.5	1483.3	1480.1	1476.9
15°	1441.0	1434.8	1428.7	1424.1	1420.9	1417.7	1414.5	1411.3
17.5°	1379.1	1371.9	1364.6	1358.2	1352.7	1347.2	1341.6	1336.1
20°	1336.0	1327.9	1319.9	1312.4	1305.3	1298.3	1291.2	1284.1
22.5°	1288.6	1278.3	1267.9	1260.1	1254.9	1249.6	1244.3	1239.1
25°	1210.1	1197.0	1183.8	1174.9	1170.0	1165.2	1160.4	1155.6
27.5°	1135.3	1119.9	1104.6	1093.1	1085.4	1077.8	1070.2	1062.5
30°	1082.4	1066.0	1049.6	1037.2	1028.5	1019.8	1011.2	1002.5
32.5°	1029.3	1010.6	991.8	978.5	970.3	962.1	953.9	945.8
35°	946.1	926.0	905.7	892.0	885.0	877.9	870.8	863.8
37.5°	865.2	842.9	820.6	805.4	797.4	789.3	781.2	773.1
40°	811.0	788.2	765.4	749.9	741.5	733.1	724.8	716.4
42.5°	756.3	732.7	709.2	693.3	685.2	677.1	669.1	661.0
45°	676.7	653.8	631.0	615.9	608.1	600.4	592.7	585.0
47.5°	599.2	576.6	553.8	539.0	532.1	525.1	518.0	511.0
50°	549.4	527.3	505.1	490.6	483.9	477.1	470.4	463.6
52.5°	502.4	481.0	459.7	445.8	439.6	433.4	427.2	420.9
55°	430.9	411.7	392.4	379.8	373.6	367.5	361.5	355.3
57.5°	366.0	348.3	330.6	319.2	314.1	309.0	303.9	298.7
60°	321.1	304.8	288.4	277.7	272.5	267.4	262.2	257.1
62.5°	282.3	266.6	251.1	241.7	238.7	235.5	232.4	229.4
65°	229.5	218.6	207.6	201.7	200.8	199.8	198.9	197.9
67.5°	185.3	180.3	175.2	172.2	171.3	170.2	169.2	168.1
70°	161.2	158.0	154.8	152.5	151.2	149.9	148.6	147.3
72.5°	140.3	137.5	134.8	133.1	132.3	131.6	130.7	130.0
75°	111.0	108.9	106.6	105.3	105.0	104.6	104.3	104.0
77.5°	84.1	82.8	81.5	80.6	80.1	79.6	79.1	78.6
80°	66.7	65.5	64.2	63.5	63.5	63.5	63.5	63.5
82.5°	50.4	49.7	48.9	48.5	48.5	48.5	48.5	48.5
85°	27.4	27.4	27.4	27.4	27.4	27.4	27.4	27.4
87.5°	16.2	15.8	15.5	15.4	15.4	15.5	15.5	15.6
90°	37.3	36.9	36.4	36.3	36.5	36.8	36.9	37.2
92.5°	35.0	35.1	35.3	35.3	35.3	35.3	35.4	35.4
95°	70.0	70.0	70.0	69.8	69.4	68.9	68.3	67.9
97.5°	117.8	117.8	117.8	117.8	117.7	117.7	117.6	117.6
100°	151.1	151.1	151.1	151.0	150.7	150.5	150.2	150.0
102.5°	187.4	187.6	187.8	187.8	187.5	187.3	187.0	186.8
105°	241.9	242.3	242.8	243.1	243.1	243.1	243.1	243.1
107.5°	300.6	300.8	301.0	300.5	299.4	298.3	297.2	296.1
110°	340.5	340.5	340.5	340.2	339.4	338.7	337.9	337.2

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	380.5	379.9	379.4	378.8	378.2	377.7	377.2	376.6
115°	441.9	441.6	441.3	440.8	440.2	439.4	438.7	437.9
117.5°	501.1	500.6	500.0	499.4	498.6	497.9	497.1	496.4
120°	540.8	540.8	540.8	540.5	539.8	539.0	538.3	537.5
122.5°	581.7	581.2	580.5	580.0	579.5	578.9	578.4	577.9
125°	642.3	641.6	640.8	640.4	640.1	639.9	639.6	639.4
127.5°	701.2	700.2	699.4	698.5	697.8	697.0	696.3	695.4
130°	741.3	740.8	740.4	739.6	738.7	737.6	736.7	735.7
132.5°	780.4	779.4	778.4	777.4	776.7	775.8	775.1	774.3
135°	838.2	837.9	837.6	837.2	836.4	835.8	835.0	834.2
137.5°	893.4	893.2	893.1	892.5	891.5	890.5	889.6	888.5
140°	930.6	930.6	930.6	930.1	929.2	928.2	927.2	926.2
142.5°	964.3	964.5	964.7	964.3	963.3	962.3	961.4	960.4
145°	1015.4	1015.7	1015.9	1015.5	1014.6	1013.6	1012.6	1011.6
147.5°	1060.3	1060.7	1061.3	1061.1	1060.2	1059.2	1058.3	1057.4
150°	1088.6	1089.4	1090.1	1090.1	1089.4	1088.6	1087.9	1087.2
152.5°	1117.1	1117.9	1118.9	1118.9	1117.9	1117.1	1116.2	1115.2
155°	1153.1	1154.3	1155.6	1155.7	1155.1	1154.3	1153.6	1152.8
157.5°	1186.4	1188.1	1189.7	1190.0	1188.7	1187.6	1186.5	1185.2
160°	1206.2	1207.6	1209.1	1209.3	1208.3	1207.4	1206.4	1205.4
162.5°	1224.1	1225.7	1227.4	1227.6	1226.4	1225.3	1224.1	1222.9
165°	1247.2	1248.9	1250.6	1250.8	1249.6	1248.4	1247.2	1245.9
167.5°	1266.2	1267.9	1269.6	1269.8	1268.6	1267.2	1266.0	1264.8
170°	1276.7	1278.4	1280.1	1280.3	1278.7	1277.3	1275.8	1274.4
172.5°	1284.6	1286.3	1288.0	1288.1	1286.7	1285.2	1283.7	1282.2
175°	1293.2	1294.9	1296.6	1296.7	1295.2	1293.7	1292.3	1290.8
177.5°	1297.1	1298.3	1299.4	1299.4	1298.3	1297.1	1295.9	1294.8
180°	1297.4	1297.4	1297.4	1297.4	1297.4	1297.4	1297.4	1297.4

(END OF REPORT)