

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: P332485-930

Luminaire Tested: **S123RDIW-S1165D1320U930-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332485-930
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: S123RDIW-S1165D1320U930-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1320 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7303.3 lumens
Efficiency: N/A
Efficacy: 95.8 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: General Diffuse

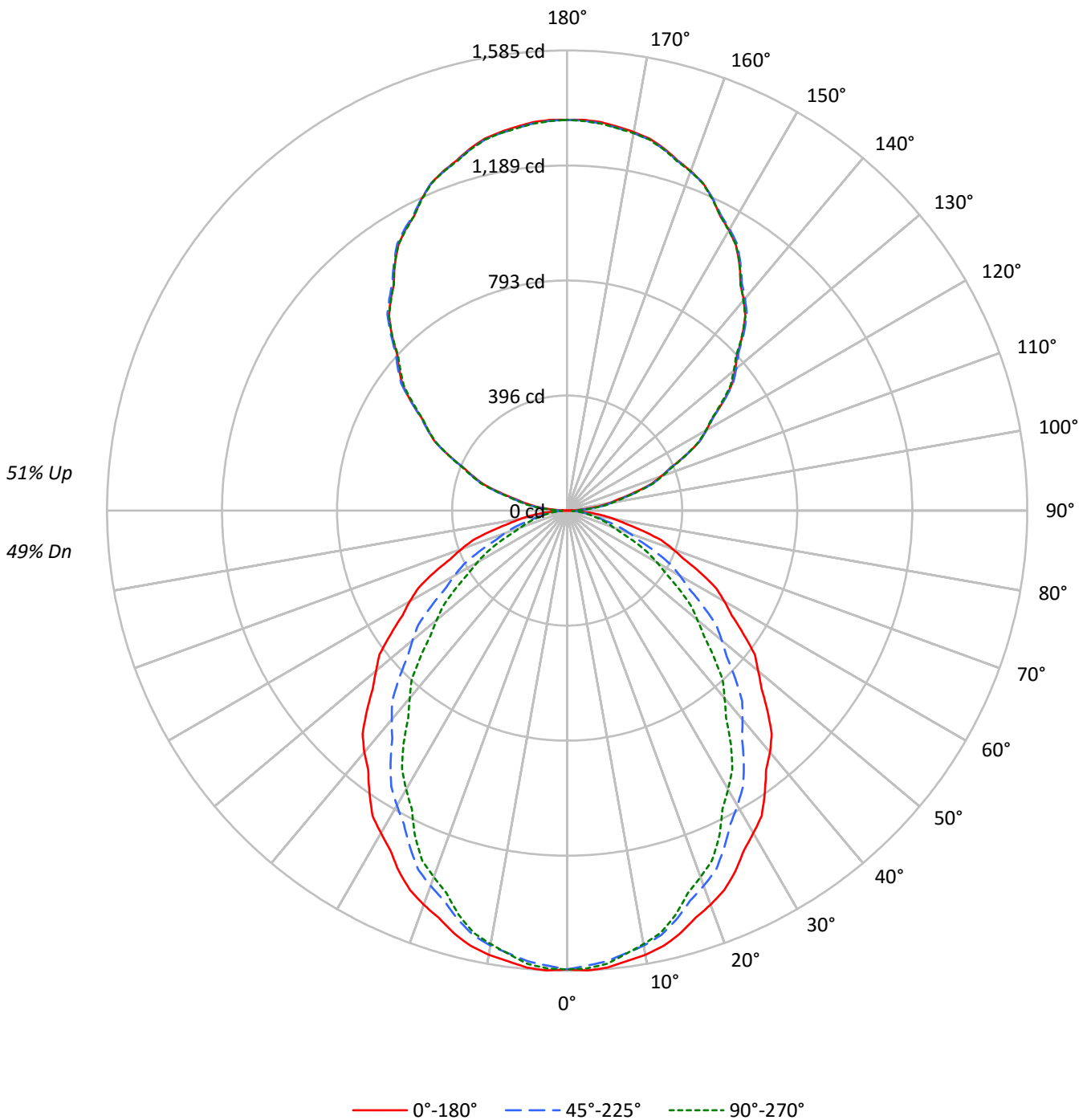
Input Watts (W): 76.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	107	107	107	107	98	98	98	98	83	83	83	68	68	68	55	55	55	49				49
1	98	94	90	87	90	86	83	80	73	71	69	61	59	58	49	48	47	42				42
2	89	82	76	71	82	76	71	66	64	61	57	54	51	49	44	42	40	36				36
3	82	72	65	60	75	67	61	56	57	52	48	48	44	41	39	37	35	30				30
4	75	64	57	51	69	60	53	48	51	46	42	43	39	36	35	32	30	26				26
5	69	57	49	44	63	53	46	41	46	40	36	38	34	31	32	29	26	23				23
6	63	52	44	38	58	48	41	36	41	36	32	35	31	27	29	26	23	20				20
7	59	47	39	33	54	43	36	32	37	32	28	32	27	24	26	23	21	18				18
8	55	42	35	30	50	40	33	28	34	29	25	29	25	22	24	21	19	16				16
9	51	39	31	26	47	36	30	25	31	26	22	27	23	20	22	19	17	15				15
10	47	36	28	24	44	33	27	23	29	24	20	25	21	18	21	18	15	14				14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	17009	17009	17009
5°	17074	16839	16935
10°	16978	16628	16571
15°	16796	16238	16067
20°	16544	15753	15385
25°	16286	15206	14719
30°	15945	14574	13779
35°	15594	13943	12917
40°	15271	13200	11849
45°	14846	12466	10886
50°	14380	11632	9808
55°	13902	10678	8801
60°	13464	9657	7698
65°	12893	8550	6594
70°	12180	7179	5325
75°	11137	5648	5011
80°	9930	5002	4612
85°	8386	4434	4113



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	148.4	2.0
10°-20°	412.9	5.7
20°-30°	594.5	8.1
30°-40°	669.6	9.2
40°-50°	640.6	8.8
50°-60°	524.6	7.2
60°-70°	354.0	4.8
70°-80°	178.1	2.4
80°-90°	51.1	0.7
90°-100°	87.7	1.2
100°-110°	262.5	3.6
110°-120°	446.4	6.1
120°-130°	587.2	8.0
130°-140°	660.0	9.0
140°-150°	648.8	8.9
150°-160°	546.2	7.5
160°-170°	363.6	5.0
170°-180°	127.3	1.7
0°-30°	1155.7	15.8
0°-40°	1825.4	25.0
0°-60°	2990.6	40.9
0°-90°	3573.8	48.9
90°-120°	796.6	10.9
90°-150°	2692.5	36.9
90°-180°	3730.0	51.1
0°-180°	7303.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1580	1580	1580	1580	1580	
5°	1580	1573	1558	1569	1567	150
15°	1507	1492	1457	1451	1442	424
25°	1371	1338	1280	1254	1239	630
35°	1187	1139	1061	1008	983	742
45°	975	915	819	748	715	752
55°	741	675	569	497	469	664
65°	506	434	336	276	259	501
75°	268	206	136	124	120	286
85°	68	41	36	33	33	76
90°	1	12	25	29	32	7
95°	62	70	78	82	82	70
105°	238	240	250	250	252	255
115°	449	452	450	451	450	444
125°	658	661	659	655	650	586
135°	853	859	859	854	852	657
145°	1035	1037	1040	1039	1035	646
155°	1185	1185	1186	1190	1183	545
165°	1291	1288	1288	1294	1287	364
175°	1343	1339	1339	1344	1338	128
180°	1346	1346	1346	1346	1346	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2
2.5°	1585.3	1584.4	1583.5	1582.6	1581.7	1579.8	1577.1	1574.3	1571.7	1568.9	1571.4
5°	1580.2	1578.7	1577.4	1575.9	1574.5	1572.1	1568.6	1565.2	1561.8	1558.4	1561.0
7.5°	1565.5	1564.1	1562.5	1561.0	1559.4	1556.4	1552.0	1547.5	1543.1	1538.6	1540.1
10°	1553.3	1551.3	1549.3	1547.3	1545.3	1541.7	1536.6	1531.5	1526.3	1521.3	1521.5
12.5°	1535.9	1533.7	1531.4	1529.2	1527.0	1522.7	1516.5	1510.2	1503.9	1497.6	1497.5
15°	1507.2	1504.0	1500.9	1497.7	1494.6	1489.1	1481.1	1473.1	1465.1	1457.2	1455.7
17.5°	1471.0	1467.4	1463.7	1460.0	1456.5	1449.5	1439.4	1429.2	1419.1	1409.0	1406.0
20°	1444.3	1439.8	1435.3	1430.7	1426.1	1418.5	1407.6	1396.8	1385.9	1375.2	1371.4
22.5°	1414.6	1409.3	1404.1	1398.9	1393.7	1385.3	1373.8	1362.3	1350.8	1339.2	1334.6
25°	1371.3	1364.2	1357.1	1349.9	1342.8	1332.7	1319.6	1306.5	1293.4	1280.3	1274.3
27.5°	1318.7	1310.9	1303.0	1295.2	1287.3	1276.1	1261.5	1246.9	1232.3	1217.7	1209.4
30°	1282.9	1274.3	1265.8	1257.2	1248.7	1236.4	1220.5	1204.5	1188.6	1172.6	1162.9
32.5°	1247.0	1237.3	1227.6	1217.9	1208.3	1195.0	1178.1	1161.2	1144.4	1127.6	1117.0
35°	1186.7	1176.5	1166.2	1156.0	1145.7	1131.8	1114.1	1096.5	1078.8	1061.1	1048.9
37.5°	1125.8	1114.4	1102.9	1091.5	1080.2	1065.0	1046.2	1027.4	1008.5	989.6	975.8
40°	1086.8	1074.2	1061.7	1049.2	1036.7	1020.3	1000.0	979.8	959.6	939.4	924.5
42.5°	1042.7	1030.1	1017.7	1005.1	992.5	975.8	955.0	934.0	913.1	892.3	876.0
45°	975.3	962.5	949.7	936.9	924.0	906.6	884.7	862.7	840.8	818.9	802.7
47.5°	907.8	893.8	879.7	865.7	851.6	833.6	811.6	789.7	767.8	745.9	728.2
50°	858.7	845.3	831.8	818.5	805.1	786.9	763.9	740.8	717.7	694.6	676.9
52.5°	814.6	800.1	785.5	771.0	756.4	737.8	714.9	692.1	669.3	646.5	628.1
55°	740.8	726.8	712.8	698.9	684.9	665.9	641.6	617.4	593.2	569.0	552.5
57.5°	672.5	657.4	642.1	627.0	611.7	592.0	567.7	543.3	519.0	494.7	479.1
60°	625.4	609.8	594.1	578.5	562.7	543.1	519.4	495.9	472.2	448.6	433.2
62.5°	578.2	562.6	546.9	531.2	515.6	495.9	472.3	448.7	425.0	401.4	386.9
65°	506.2	490.6	474.9	459.3	443.6	424.6	402.4	380.2	358.0	335.7	321.8
67.5°	434.2	418.3	402.5	386.7	370.9	352.3	331.0	309.7	288.4	267.1	256.7
70°	387.0	371.7	356.3	340.9	325.5	307.9	288.0	268.0	248.1	228.1	218.2
72.5°	339.9	324.7	309.6	294.4	279.2	262.6	244.5	226.4	208.3	190.2	182.1
75°	267.8	254.2	240.5	226.8	213.2	198.5	182.9	167.1	151.5	135.8	133.0
77.5°	202.2	189.9	177.5	165.2	152.8	141.5	131.5	121.4	111.3	101.3	99.7
80°	160.2	148.5	136.8	125.1	113.5	104.7	98.7	92.7	86.7	80.7	79.9
82.5°	120.2	110.1	100.0	89.9	79.9	73.5	70.7	67.8	65.1	62.3	61.4
85°	67.9	61.6	55.4	49.2	42.9	39.3	38.5	37.6	36.8	35.9	35.3
87.5°	24.8	22.7	20.7	18.7	16.6	16.0	16.6	17.2	17.8	18.4	18.3
90°	1.1	3.4	5.8	8.1	10.4	13.1	16.2	19.2	22.3	25.4	26.3
92.5°	25.6	27.1	28.8	30.4	32.0	33.7	35.4	37.1	38.9	40.6	41.3
95°	62.4	64.0	65.7	67.3	69.0	70.8	72.6	74.5	76.4	78.3	79.2
97.5°	110.8	112.0	113.2	114.5	115.7	117.0	118.4	119.7	121.1	122.5	123.5
100°	143.8	145.2	146.6	148.1	149.4	150.7	151.9	153.1	154.3	155.5	156.1
102.5°	181.9	182.7	183.6	184.4	185.2	186.5	188.0	189.6	191.1	192.7	193.4
105°	237.9	238.4	238.9	239.3	239.8	241.1	243.2	245.3	247.4	249.6	249.6
107.5°	303.0	303.4	303.6	303.9	304.2	304.8	305.6	306.5	307.3	308.1	308.9
110°	343.6	344.1	344.6	345.0	345.5	346.0	346.5	347.0	347.4	347.9	348.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	386.0	386.2	386.5	386.8	387.1	387.3	387.3	387.4	387.6	387.7	388.8
115°	449.4	450.1	450.8	451.5	452.2	452.3	451.8	451.4	450.9	450.5	450.7
117.5°	513.3	513.7	514.2	514.7	515.2	515.1	514.5	513.9	513.2	512.7	512.6
120°	553.0	554.4	555.9	557.3	558.6	558.8	557.6	556.4	555.3	554.1	553.8
122.5°	594.5	595.5	596.6	597.6	598.6	598.8	598.2	597.6	597.0	596.4	595.7
125°	657.7	658.4	659.1	659.8	660.6	660.6	660.1	659.7	659.3	658.8	657.9
127.5°	716.1	717.6	719.1	720.6	722.1	722.6	722.1	721.5	721.1	720.6	719.2
130°	755.0	756.8	758.8	760.7	762.5	763.1	762.4	761.7	761.0	760.3	759.4
132.5°	793.9	795.8	797.7	799.6	801.4	802.1	801.6	801.1	800.5	800.1	798.9
135°	853.4	854.8	856.1	857.5	859.0	859.6	859.3	859.1	858.8	858.6	857.7
137.5°	908.3	909.5	910.7	911.8	913.1	914.0	914.5	915.2	915.7	916.4	915.3
140°	946.4	947.5	948.8	949.9	951.1	951.8	952.0	952.3	952.5	952.8	952.5
142.5°	981.0	982.3	983.4	984.6	985.8	986.6	987.0	987.4	987.8	988.3	988.1
145°	1035.2	1035.7	1036.2	1036.7	1037.1	1037.7	1038.4	1039.1	1039.8	1040.5	1040.2
147.5°	1082.6	1083.5	1084.3	1085.2	1086.0	1086.7	1087.4	1088.0	1088.7	1089.3	1089.3
150°	1115.6	1116.1	1116.6	1117.0	1117.4	1117.9	1118.4	1118.8	1119.3	1119.8	1119.8
152.5°	1142.6	1143.3	1143.9	1144.6	1145.3	1145.7	1146.1	1146.3	1146.6	1146.9	1147.3
155°	1185.4	1185.4	1185.4	1185.4	1185.4	1185.5	1185.7	1185.9	1186.2	1186.4	1187.4
157.5°	1221.7	1221.5	1221.2	1220.9	1220.6	1220.6	1220.7	1220.9	1221.2	1221.3	1222.3
160°	1244.6	1244.1	1243.7	1243.2	1242.7	1242.4	1242.4	1242.4	1242.4	1242.4	1243.7
162.5°	1264.9	1264.2	1263.6	1262.9	1262.2	1262.0	1262.2	1262.4	1262.6	1262.7	1264.0
165°	1291.1	1290.4	1289.7	1289.0	1288.3	1287.9	1287.9	1287.9	1287.9	1287.9	1289.3
167.5°	1312.1	1311.1	1310.2	1309.2	1308.3	1307.9	1308.1	1308.3	1308.5	1308.6	1310.1
170°	1323.9	1323.0	1322.0	1321.1	1320.1	1319.6	1319.6	1319.6	1319.6	1319.6	1321.3
172.5°	1333.2	1332.3	1331.3	1330.4	1329.4	1328.9	1328.9	1328.9	1328.9	1328.9	1330.4
175°	1343.0	1342.0	1341.1	1340.1	1339.1	1338.7	1338.7	1338.7	1338.7	1338.7	1340.1
177.5°	1347.0	1346.2	1345.4	1344.7	1343.9	1343.5	1343.5	1343.5	1343.5	1343.5	1344.7
180°	1346.1	1346.1	1346.1	1346.1	1346.1	1346.1	1346.1	1346.1	1346.1	1346.1	1346.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2
2.5°	1573.9	1576.5	1578.9	1580.0	1579.5	1579.1	1578.6	1578.1
5°	1563.5	1566.1	1568.6	1569.6	1569.0	1568.5	1567.9	1567.3
7.5°	1541.5	1543.0	1544.3	1544.6	1543.6	1542.6	1541.6	1540.7
10°	1521.8	1522.1	1522.4	1521.8	1520.4	1519.0	1517.5	1516.1
12.5°	1497.3	1497.1	1497.0	1496.1	1494.4	1492.7	1491.1	1489.5
15°	1454.3	1452.9	1451.5	1449.8	1447.7	1445.8	1443.7	1441.8
17.5°	1403.0	1399.9	1396.9	1393.9	1390.9	1388.0	1385.0	1382.0
20°	1367.7	1364.0	1360.3	1356.7	1353.3	1349.9	1346.5	1343.1
22.5°	1330.0	1325.4	1320.8	1316.9	1313.7	1310.5	1307.3	1304.2
25°	1268.4	1262.3	1256.4	1251.8	1248.7	1245.5	1242.4	1239.3
27.5°	1201.1	1192.8	1184.5	1177.9	1173.1	1168.4	1163.6	1158.8
30°	1153.2	1143.6	1133.9	1126.8	1122.3	1117.7	1113.1	1108.6
32.5°	1106.4	1095.8	1085.2	1077.5	1072.7	1067.9	1063.2	1058.3
35°	1036.7	1024.4	1012.2	1003.5	998.3	993.2	988.1	983.0
37.5°	961.8	947.9	934.0	923.9	917.6	911.3	905.0	898.6
40°	909.8	895.0	880.2	869.5	862.9	856.4	849.9	843.3
42.5°	859.9	843.7	827.5	816.5	810.7	804.8	798.9	793.0
45°	786.4	770.2	754.0	742.5	735.6	728.8	721.9	715.1
47.5°	710.5	692.9	675.2	663.4	657.3	651.2	645.1	639.0
50°	659.3	641.6	623.9	611.9	605.4	598.8	592.2	585.7
52.5°	609.8	591.4	573.1	560.9	555.1	549.3	543.4	537.5
55°	536.0	519.4	503.0	491.9	486.2	480.5	474.7	469.0
57.5°	463.5	447.8	432.3	422.0	417.2	412.4	407.5	402.7
60°	417.8	402.4	387.0	376.9	372.1	367.2	362.4	357.6
62.5°	372.4	358.0	343.5	333.8	328.6	323.6	318.5	313.5
65°	307.9	293.9	280.0	271.4	268.3	265.1	262.0	258.9
67.5°	246.2	235.8	225.3	218.5	215.2	211.7	208.4	205.0
70°	208.1	198.2	188.3	181.7	178.6	175.5	172.3	169.2
72.5°	173.9	165.8	157.6	152.9	151.6	150.3	149.0	147.7
75°	130.1	127.3	124.4	122.8	122.2	121.6	121.1	120.5
77.5°	98.2	96.6	95.1	94.0	93.4	92.9	92.3	91.7
80°	79.0	78.2	77.3	76.6	76.1	75.5	74.9	74.4
82.5°	60.6	59.8	58.9	58.4	58.3	58.1	58.0	58.0
85°	34.7	34.2	33.6	33.3	33.3	33.3	33.3	33.3
87.5°	18.3	18.3	18.3	18.2	18.0	17.9	17.8	17.6
90°	27.2	28.2	29.1	29.8	30.3	30.8	31.2	31.7
92.5°	42.1	42.9	43.6	43.9	43.5	43.3	43.0	42.7
95°	80.1	81.0	82.0	82.5	82.5	82.5	82.5	82.5
97.5°	124.6	125.7	126.8	127.3	127.2	127.1	127.0	126.9
100°	156.9	157.5	158.2	158.8	159.3	159.8	160.3	160.7
102.5°	194.0	194.8	195.5	195.8	195.7	195.6	195.5	195.4
105°	249.6	249.6	249.6	249.8	250.3	250.7	251.2	251.7
107.5°	309.7	310.4	311.1	311.4	311.1	310.8	310.5	310.2
110°	349.8	350.7	351.6	351.9	351.4	351.0	350.5	350.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	389.9	391.0	392.2	392.6	392.6	392.5	392.4	392.3
115°	450.9	451.2	451.4	451.4	451.2	450.9	450.7	450.5
117.5°	512.6	512.5	512.4	512.1	511.4	510.8	510.1	509.5
120°	553.6	553.4	553.2	552.8	552.4	551.9	551.4	550.9
122.5°	595.2	594.5	593.9	593.3	592.6	592.0	591.3	590.7
125°	656.9	656.0	655.0	654.1	653.1	652.2	651.3	650.3
127.5°	717.9	716.6	715.3	714.0	713.0	711.9	710.9	709.7
130°	758.4	757.5	756.5	755.2	753.6	752.0	750.3	748.7
132.5°	797.8	796.6	795.6	794.3	793.0	791.8	790.5	789.3
135°	856.7	855.8	854.8	854.2	853.7	853.2	852.7	852.3
137.5°	914.4	913.4	912.4	911.5	910.6	909.7	908.8	907.9
140°	952.3	952.0	951.8	950.9	949.3	947.5	945.9	944.3
142.5°	987.8	987.6	987.3	986.6	985.3	984.1	982.8	981.5
145°	1040.0	1039.8	1039.6	1039.0	1038.0	1037.1	1036.2	1035.2
147.5°	1089.3	1089.3	1089.3	1088.7	1087.3	1085.8	1084.4	1083.0
150°	1119.8	1119.8	1119.8	1119.1	1117.7	1116.3	1114.8	1113.5
152.5°	1147.6	1148.0	1148.3	1147.9	1146.7	1145.5	1144.3	1143.0
155°	1188.3	1189.3	1190.2	1189.8	1188.2	1186.6	1184.9	1183.2
157.5°	1223.3	1224.3	1225.3	1225.1	1223.8	1222.5	1221.2	1219.9
160°	1244.8	1246.0	1247.2	1247.3	1246.3	1245.5	1244.5	1243.5
162.5°	1265.1	1266.3	1267.5	1267.3	1265.8	1264.3	1262.8	1261.3
165°	1290.8	1292.2	1293.6	1293.5	1291.8	1290.2	1288.5	1286.9
167.5°	1311.6	1313.0	1314.5	1314.5	1313.0	1311.6	1310.1	1308.6
170°	1323.0	1324.6	1326.2	1326.2	1324.6	1323.0	1321.3	1319.6
172.5°	1331.9	1333.3	1334.8	1334.7	1333.1	1331.4	1329.8	1328.1
175°	1341.5	1343.0	1344.3	1344.2	1342.6	1340.9	1339.3	1337.7
177.5°	1345.8	1347.0	1348.1	1348.0	1346.6	1345.3	1344.0	1342.7
180°	1346.1	1346.1	1346.1	1346.1	1346.1	1346.1	1346.1	1346.1

(END OF REPORT)