

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: P332691-840

Luminaire Tested: **SA4XXDIP-C1195D810U840-4F0-1E-UDD-D**

Issue Date: 10/7/2019

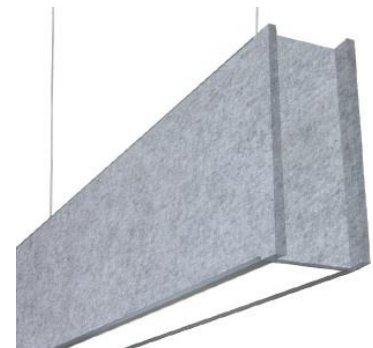
Test Information

Test Method: LM-79-08
Report Number: P332691-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA4XXDIP-C1195D810U840-4F0-1E-UDD-D
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 810 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8177.5 lumens
Efficiency: N/A
Efficacy: 134.7 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: General Diffuse

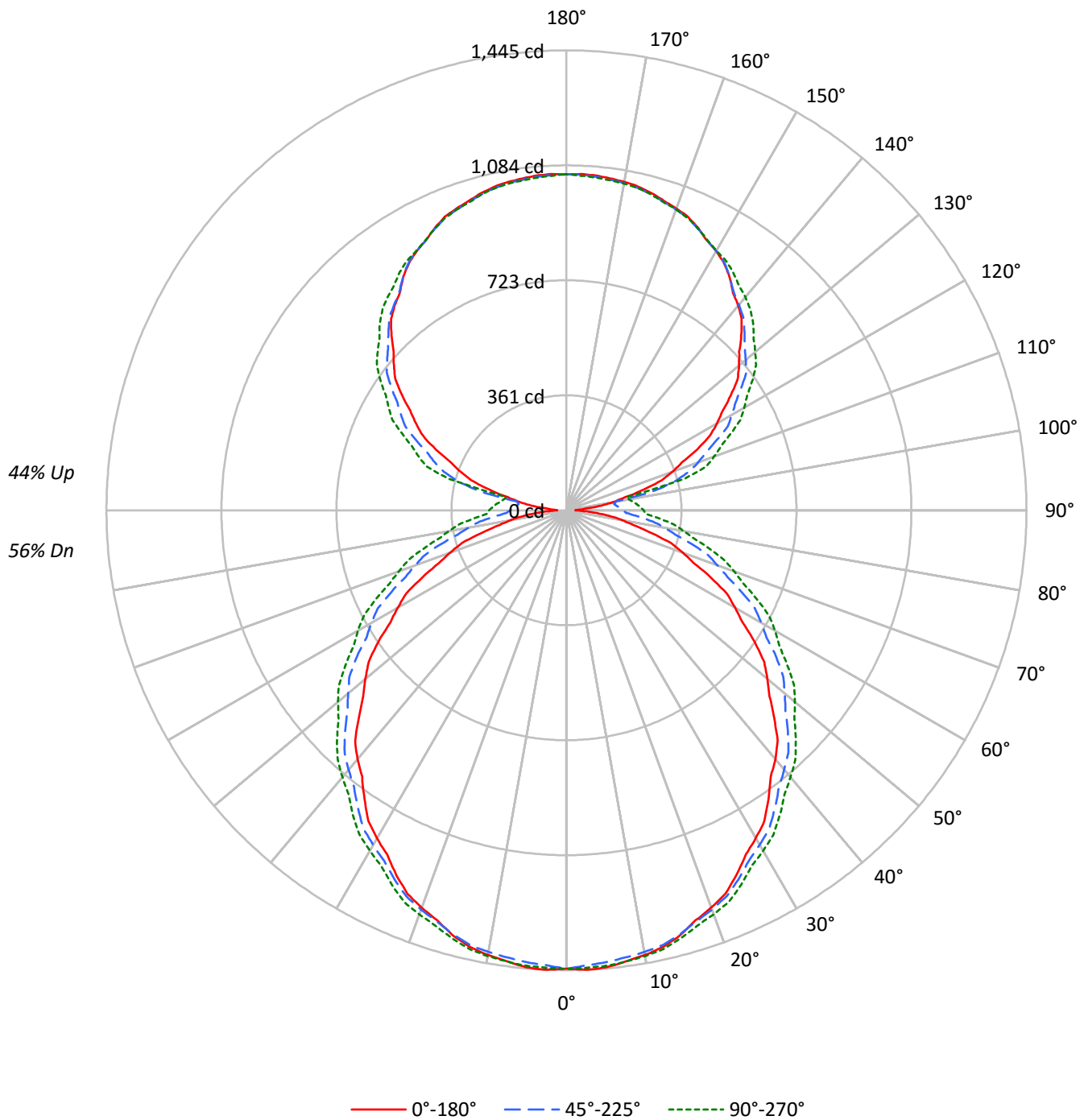
Input Watts (W): 60.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P332691-840

CATALOG NUMBER: SA4XXDIP-C1195D810U840-4F0-1E-UDD-D

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20
RC	80				70				50				30				10
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	108	108	108	108	101	101	101	101	86	86	86	73	73	73	61	61	61
1	98	93	89	85	91	86	83	79	74	71	69	63	61	59	52	51	49
2	89	81	74	68	82	75	69	64	64	60	56	54	51	48	45	43	41
3	81	70	63	56	74	66	59	53	56	51	46	48	44	40	40	37	34
4	74	62	54	47	68	58	50	45	50	44	39	42	38	34	35	32	29
5	67	55	47	40	62	51	44	38	44	38	34	38	33	29	32	28	25
6	62	49	41	35	57	46	38	33	40	34	29	34	29	26	29	25	22
7	57	45	36	30	53	42	34	29	36	30	26	31	26	23	26	22	19
8	53	40	32	27	49	38	31	25	33	27	23	28	23	20	24	20	17
9	49	37	29	24	46	35	27	23	30	24	20	26	21	18	22	18	16
10	46	34	26	21	43	32	25	20	28	22	18	24	19	16	20	17	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11626	11626	11626
5°	11661	11362	11394
10°	11590	11176	11167
15°	11486	10961	10900
20°	11330	10723	10641
25°	11153	10457	10356
30°	10961	10193	10063
35°	10745	9921	9805
40°	10573	9663	9538
45°	10316	9426	9309
50°	10098	9151	9066
55°	9875	8894	8781
60°	9525	8563	8521
65°	9141	8210	8201
70°	8676	7806	7830
75°	8028	7363	7494
80°	7309	6935	7163
85°	6389	6559	6968

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	136.4	1.7
10°-20°	390.7	4.8
20°-30°	590.8	7.2
30°-40°	714.8	8.7
40°-50°	755.7	9.2
50°-60°	711.2	8.7
60°-70°	590.1	7.2
70°-80°	414.5	5.1
80°-90°	237.4	2.9
90°-100°	175.2	2.1
100°-110°	333.2	4.1
110°-120°	509.5	6.2
120°-130°	598.1	7.3
130°-140°	615.0	7.5
140°-150°	562.8	6.9
150°-160°	451.1	5.5
160°-170°	290.9	3.6
170°-180°	100.3	1.2
0°-30°	1117.8	13.7
0°-40°	1832.6	22.4
0°-60°	3299.5	40.3
0°-90°	4541.4	55.5
90°-120°	1018.0	12.4
90°-150°	2793.8	34.2
90°-180°	3636.0	44.5
0°-180°	8177.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1440	1440	1440	1440	1440	
5°	1442	1436	1426	1438	1437	137
15°	1382	1383	1379	1392	1392	389
25°	1264	1274	1279	1296	1298	582
35°	1106	1125	1142	1163	1169	692
45°	922	953	984	1010	1019	713
55°	722	757	805	836	847	643
65°	500	552	606	645	660	495
75°	277	338	405	448	464	295
85°	85	153	226	272	290	91
90°	28	102	177	226	243	19
95°	64	93	158	204	221	72
105°	252	291	353	397	385	265
115°	453	472	521	557	570	447
125°	630	634	671	702	714	563
135°	777	777	791	817	829	599
145°	894	895	895	905	913	559
155°	978	979	977	980	978	451
165°	1032	1028	1028	1034	1027	292
175°	1056	1051	1052	1058	1049	100
180°	1056	1056	1056	1056	1056	

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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1
2.5°	1445.2	1444.3	1443.5	1442.6	1441.8	1440.2	1437.8	1435.6	1433.3	1431.0	1433.0
5°	1441.6	1440.6	1439.5	1438.5	1437.3	1435.5	1433.0	1430.5	1428.1	1425.5	1428.4
7.5°	1429.4	1428.8	1428.1	1427.4	1426.8	1425.4	1423.4	1421.3	1419.2	1417.1	1420.4
10°	1419.1	1418.7	1418.4	1418.0	1417.6	1416.5	1414.7	1413.0	1411.2	1409.4	1412.6
12.5°	1404.8	1404.8	1404.7	1404.6	1404.6	1403.9	1402.7	1401.5	1400.3	1399.1	1402.0
15°	1382.0	1382.3	1382.7	1383.0	1383.4	1383.0	1382.0	1380.9	1379.8	1378.8	1382.0
17.5°	1350.7	1351.8	1352.8	1353.9	1354.9	1355.4	1355.2	1354.9	1354.7	1354.5	1357.9
20°	1328.8	1329.8	1330.9	1332.0	1333.0	1333.7	1334.1	1334.5	1334.8	1335.2	1338.8
22.5°	1304.2	1305.6	1307.0	1308.3	1309.7	1310.7	1311.3	1312.0	1312.6	1313.2	1316.9
25°	1264.3	1266.4	1268.6	1270.7	1272.8	1274.4	1275.6	1276.6	1277.7	1278.8	1282.7
27.5°	1219.7	1222.9	1226.1	1229.2	1232.3	1234.8	1236.4	1238.1	1239.7	1241.3	1245.0
30°	1190.0	1193.0	1195.8	1198.7	1201.5	1204.3	1206.7	1209.2	1211.7	1214.3	1218.2
32.5°	1157.8	1161.2	1164.7	1168.1	1171.5	1174.7	1177.5	1180.3	1183.1	1185.9	1190.4
35°	1106.2	1110.5	1114.8	1119.1	1123.4	1127.3	1130.9	1134.5	1138.1	1141.7	1146.7
37.5°	1054.3	1059.2	1064.2	1069.1	1074.1	1078.7	1083.2	1087.6	1092.1	1096.5	1101.7
40°	1020.8	1025.4	1030.1	1034.7	1039.4	1044.2	1049.2	1054.3	1059.2	1064.3	1069.6
42.5°	982.1	987.2	992.5	997.7	1003.0	1008.6	1014.4	1020.3	1026.1	1032.1	1038.0
45°	922.4	929.2	936.0	942.8	949.6	956.4	963.2	970.1	976.8	983.7	989.8
47.5°	865.3	872.3	879.4	886.4	893.4	900.9	908.8	916.7	924.5	932.4	938.7
50°	824.0	831.9	839.8	847.7	855.6	863.4	871.3	879.2	887.1	894.9	902.1
52.5°	782.7	790.6	798.5	806.4	814.3	822.7	831.7	840.8	849.8	858.9	866.1
55°	722.5	729.9	737.5	745.0	752.6	761.6	772.4	783.2	794.0	804.7	811.8
57.5°	655.0	664.4	673.7	683.0	692.3	702.3	713.0	723.7	734.4	745.0	753.6
60°	611.2	620.5	629.8	639.1	648.4	659.0	670.9	682.7	694.5	706.3	714.6
62.5°	568.6	578.8	589.0	599.2	609.3	620.3	632.2	644.0	655.8	667.6	675.8
65°	499.9	511.4	522.8	534.3	545.7	557.5	569.8	582.0	594.1	606.3	615.3
67.5°	433.7	446.0	458.2	470.3	482.5	495.1	508.2	521.2	534.2	547.3	556.4
70°	388.6	400.8	413.0	425.2	437.4	450.3	463.8	477.5	491.1	504.7	514.4
72.5°	344.8	357.2	369.7	382.1	394.7	408.1	422.6	437.1	451.5	466.1	475.4
75°	277.4	290.6	303.9	317.1	330.4	344.6	359.6	374.7	389.7	404.8	414.8
77.5°	214.5	228.5	242.6	256.6	270.6	285.6	301.3	317.1	332.9	348.6	358.8
80°	175.8	190.1	204.4	218.7	233.1	248.1	263.9	279.7	295.5	311.2	321.9
82.5°	137.0	152.0	166.9	181.8	196.7	212.1	227.8	243.6	259.3	275.1	286.1
85°	85.4	100.5	115.5	130.6	145.6	161.3	177.3	193.5	209.6	225.8	236.5
87.5°	48.2	63.2	78.3	93.2	108.3	123.7	139.7	155.7	171.7	187.6	198.2
90°	28.2	44.4	60.7	77.0	93.2	109.8	126.5	143.4	160.2	177.0	188.4
92.5°	34.4	47.5	60.5	73.5	86.4	101.4	118.3	135.0	151.8	168.6	179.8
95°	64.4	70.3	76.1	82.0	87.9	98.2	113.1	127.9	142.8	157.6	168.3
97.5°	111.3	125.1	139.1	153.0	166.8	171.3	166.2	161.2	156.1	151.2	160.7
100°	147.2	159.7	172.2	184.7	197.1	198.2	188.0	177.7	167.5	157.3	164.0
102.5°	188.9	199.4	209.8	220.4	230.9	241.4	251.9	262.5	273.0	283.5	260.7
105°	252.2	260.4	268.6	276.8	285.1	296.2	310.3	324.5	338.6	352.7	363.3
107.5°	313.6	320.0	326.4	332.9	339.2	349.3	363.0	376.8	390.5	404.2	413.8
110°	354.1	359.5	365.1	370.6	376.2	385.8	399.3	412.9	426.6	440.1	448.7

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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	393.1	398.5	403.9	409.3	414.8	423.6	436.1	448.6	461.0	473.5	481.4
115°	453.4	457.2	460.9	464.6	468.5	475.9	487.3	498.6	509.9	521.1	529.4
117.5°	509.2	511.8	514.4	517.1	519.7	526.5	537.7	548.7	559.8	570.9	578.2
120°	545.8	547.5	549.4	551.1	552.9	558.9	569.1	579.4	589.6	599.8	607.2
122.5°	581.2	581.8	582.4	583.1	583.7	589.1	599.2	609.2	619.2	629.3	636.7
125°	630.3	630.6	631.0	631.3	631.6	636.1	644.7	653.3	661.9	670.6	677.8
127.5°	677.9	677.7	677.5	677.4	677.2	681.0	688.6	696.3	704.0	711.7	718.0
130°	707.6	707.4	707.2	707.0	706.8	709.9	716.2	722.5	728.7	735.0	741.5
132.5°	736.0	736.0	735.9	735.9	735.9	738.4	743.7	748.9	754.2	759.4	765.8
135°	777.0	776.9	776.7	776.5	776.4	777.9	781.0	784.3	787.5	790.7	796.8
137.5°	814.8	814.5	814.3	814.0	813.6	814.5	816.5	818.5	820.4	822.4	828.1
140°	839.4	839.4	839.4	839.4	839.4	839.7	840.4	841.1	841.8	842.5	847.8
142.5°	860.2	860.8	861.3	861.9	862.4	862.7	862.7	862.7	862.7	862.7	867.2
145°	893.8	894.0	894.2	894.3	894.5	894.6	894.6	894.6	894.6	894.6	897.0
147.5°	920.9	921.5	922.1	922.7	923.3	923.6	923.4	923.2	923.0	922.9	923.3
150°	940.5	940.8	941.1	941.5	941.8	941.9	941.7	941.6	941.4	941.2	941.2
152.5°	955.6	956.0	956.5	957.0	957.6	957.7	957.4	957.0	956.6	956.3	956.6
155°	978.4	978.5	978.7	978.9	979.1	978.9	978.4	977.8	977.2	976.7	977.4
157.5°	997.7	997.6	997.5	997.4	997.3	996.9	996.3	995.8	995.2	994.6	995.5
160°	1009.2	1008.6	1008.0	1007.5	1007.0	1006.6	1006.5	1006.3	1006.1	1005.9	1007.0
162.5°	1019.3	1018.5	1017.8	1017.2	1016.5	1016.1	1015.9	1015.8	1015.6	1015.4	1016.5
165°	1032.0	1031.2	1030.3	1029.4	1028.5	1028.0	1028.0	1028.0	1028.0	1028.0	1029.5
167.5°	1042.1	1041.2	1040.3	1039.4	1038.4	1037.9	1037.8	1037.7	1037.6	1037.5	1039.1
170°	1047.8	1046.7	1045.7	1044.6	1043.6	1043.2	1043.3	1043.5	1043.7	1043.9	1045.2
172.5°	1051.6	1050.6	1049.5	1048.4	1047.4	1046.9	1047.1	1047.3	1047.4	1047.6	1049.0
175°	1055.7	1054.6	1053.6	1052.6	1051.5	1051.1	1051.3	1051.4	1051.6	1051.8	1053.3
177.5°	1057.6	1056.6	1055.6	1054.6	1053.7	1053.3	1053.6	1053.9	1054.2	1054.4	1055.5
180°	1055.7	1055.7	1055.7	1055.7	1055.7	1055.7	1055.7	1055.7	1055.7	1055.7	1055.7

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1
2.5°	1435.0	1437.0	1439.1	1439.9	1439.6	1439.3	1439.1	1438.8
5°	1431.3	1434.1	1436.9	1438.2	1437.8	1437.5	1437.1	1436.8
7.5°	1423.6	1426.8	1430.1	1431.5	1431.1	1430.8	1430.4	1430.1
10°	1415.8	1419.1	1422.3	1423.7	1423.4	1423.0	1422.6	1422.3
12.5°	1404.9	1407.9	1410.8	1412.3	1412.2	1412.1	1412.0	1412.0
15°	1385.2	1388.5	1391.6	1393.1	1392.7	1392.4	1392.0	1391.6
17.5°	1361.2	1364.4	1367.8	1369.3	1369.0	1368.7	1368.4	1368.1
20°	1342.4	1345.9	1349.6	1351.3	1351.3	1351.3	1351.3	1351.3
22.5°	1320.4	1324.0	1327.6	1329.7	1330.3	1330.8	1331.4	1332.0
25°	1286.7	1290.6	1294.5	1296.7	1297.1	1297.4	1297.8	1298.1
27.5°	1248.7	1252.3	1256.0	1258.0	1258.5	1258.9	1259.3	1259.7
30°	1222.1	1226.1	1230.0	1232.3	1233.0	1233.8	1234.5	1235.3
32.5°	1194.9	1199.4	1204.0	1206.6	1207.3	1208.0	1208.7	1209.4
35°	1151.8	1156.7	1161.7	1164.8	1165.9	1167.0	1168.0	1169.1
37.5°	1106.7	1111.8	1116.9	1120.0	1121.2	1122.3	1123.5	1124.6
40°	1075.0	1080.5	1085.8	1089.2	1090.7	1092.1	1093.5	1094.9
42.5°	1043.9	1049.9	1055.8	1059.3	1060.6	1061.7	1062.8	1064.0
45°	995.8	1002.0	1008.0	1012.0	1013.8	1015.5	1017.3	1019.2
47.5°	945.0	951.3	957.7	961.8	964.0	966.1	968.3	970.5
50°	909.3	916.5	923.6	928.3	930.5	932.6	934.7	936.9
52.5°	873.2	880.4	887.5	892.2	894.3	896.5	898.6	900.8
55°	819.0	826.2	833.3	838.0	840.1	842.3	844.4	846.6
57.5°	762.0	770.6	779.1	784.4	786.4	788.4	790.4	792.4
60°	722.8	731.0	739.2	744.8	747.7	750.5	753.5	756.3
62.5°	684.1	692.4	700.5	706.1	709.0	711.9	714.7	717.6
65°	624.2	633.2	642.2	648.0	651.0	653.8	656.7	659.5
67.5°	565.5	574.6	583.7	589.7	592.5	595.2	598.0	600.9
70°	524.1	533.7	543.4	549.6	552.0	554.5	557.0	559.6
72.5°	484.8	494.2	503.6	509.7	512.5	515.2	518.1	520.9
75°	424.9	434.8	444.8	451.5	454.7	458.0	461.2	464.4
77.5°	369.0	379.2	389.3	396.2	399.6	403.0	406.5	409.9
80°	332.8	343.5	354.3	361.0	363.9	366.8	369.6	372.5
82.5°	297.2	308.2	319.2	326.4	329.5	332.6	335.8	338.9
85°	247.2	258.0	268.7	275.9	279.5	283.1	286.7	290.2
87.5°	208.8	219.4	230.0	236.9	240.1	243.4	246.6	249.8
90°	200.0	211.4	222.8	230.1	233.4	236.6	239.7	243.0
92.5°	191.0	202.1	213.3	220.4	223.3	226.2	229.1	232.1
95°	179.2	189.9	200.6	207.6	211.1	214.4	217.8	221.3
97.5°	170.2	179.7	189.1	195.5	198.7	202.0	205.3	208.5
100°	170.7	177.3	184.1	188.7	191.5	194.1	196.8	199.4
102.5°	237.9	215.1	192.4	182.4	185.2	188.0	190.9	193.7
105°	373.9	384.4	395.0	398.5	395.1	391.6	388.1	384.7
107.5°	423.4	433.0	442.6	449.0	452.2	455.4	458.8	462.0
110°	457.4	466.0	474.5	480.5	483.9	487.3	490.7	494.0

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	489.3	497.2	505.0	510.7	514.2	517.8	521.3	524.8
115°	537.6	545.8	554.1	559.5	562.0	564.4	566.9	569.5
117.5°	585.6	593.0	600.4	605.4	608.2	611.1	613.8	616.6
120°	614.8	622.3	629.9	634.8	637.3	639.9	642.4	644.9
122.5°	644.1	651.5	658.8	663.6	665.8	668.1	670.3	672.6
125°	685.2	692.6	699.8	704.7	707.0	709.3	711.7	714.0
127.5°	724.4	730.7	737.1	741.4	743.7	746.0	748.3	750.5
130°	748.2	754.8	761.4	765.8	768.0	770.1	772.2	774.5
132.5°	772.1	778.5	784.9	789.0	791.0	793.0	795.1	797.0
135°	802.8	808.9	815.1	819.3	821.8	824.4	826.9	829.3
137.5°	833.6	839.3	845.0	848.6	850.2	851.9	853.6	855.4
140°	852.9	858.1	863.3	866.9	868.9	870.8	872.8	874.7
142.5°	871.7	876.2	880.6	883.6	885.1	886.7	888.3	889.8
145°	899.3	901.6	903.9	905.9	907.8	909.6	911.3	913.1
147.5°	923.7	924.1	924.6	925.4	926.8	928.2	929.5	930.8
150°	941.2	941.2	941.2	941.3	941.5	941.6	941.8	942.0
152.5°	956.9	957.3	957.5	957.6	957.5	957.4	957.3	957.2
155°	978.2	978.9	979.6	979.7	979.1	978.6	978.1	977.5
157.5°	996.4	997.3	998.3	998.3	997.3	996.4	995.5	994.6
160°	1008.0	1009.2	1010.2	1010.2	1009.2	1008.0	1007.0	1005.9
162.5°	1017.5	1018.5	1019.7	1019.6	1018.3	1017.1	1016.0	1014.8
165°	1030.9	1032.3	1033.7	1033.6	1032.0	1030.5	1028.9	1027.2
167.5°	1040.7	1042.2	1043.7	1043.6	1041.9	1040.1	1038.3	1036.6
170°	1046.6	1048.0	1049.5	1049.2	1047.5	1045.8	1044.0	1042.3
172.5°	1050.5	1051.9	1053.3	1053.0	1051.2	1049.2	1047.3	1045.4
175°	1054.9	1056.5	1058.0	1057.8	1055.7	1053.6	1051.5	1049.4
177.5°	1056.7	1057.8	1058.9	1058.6	1056.9	1055.3	1053.6	1051.9
180°	1055.7	1055.7	1055.7	1055.7	1055.7	1055.7	1055.7	1055.7

(END OF REPORT)