

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: P331828-927

Luminaire Tested: **S122RDIW-S865D435U927-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331828-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122RDIW-S865D435U927-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 435 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3579.9 lumens
Efficiency: N/A
Efficacy: 77.5 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: Semi-Direct

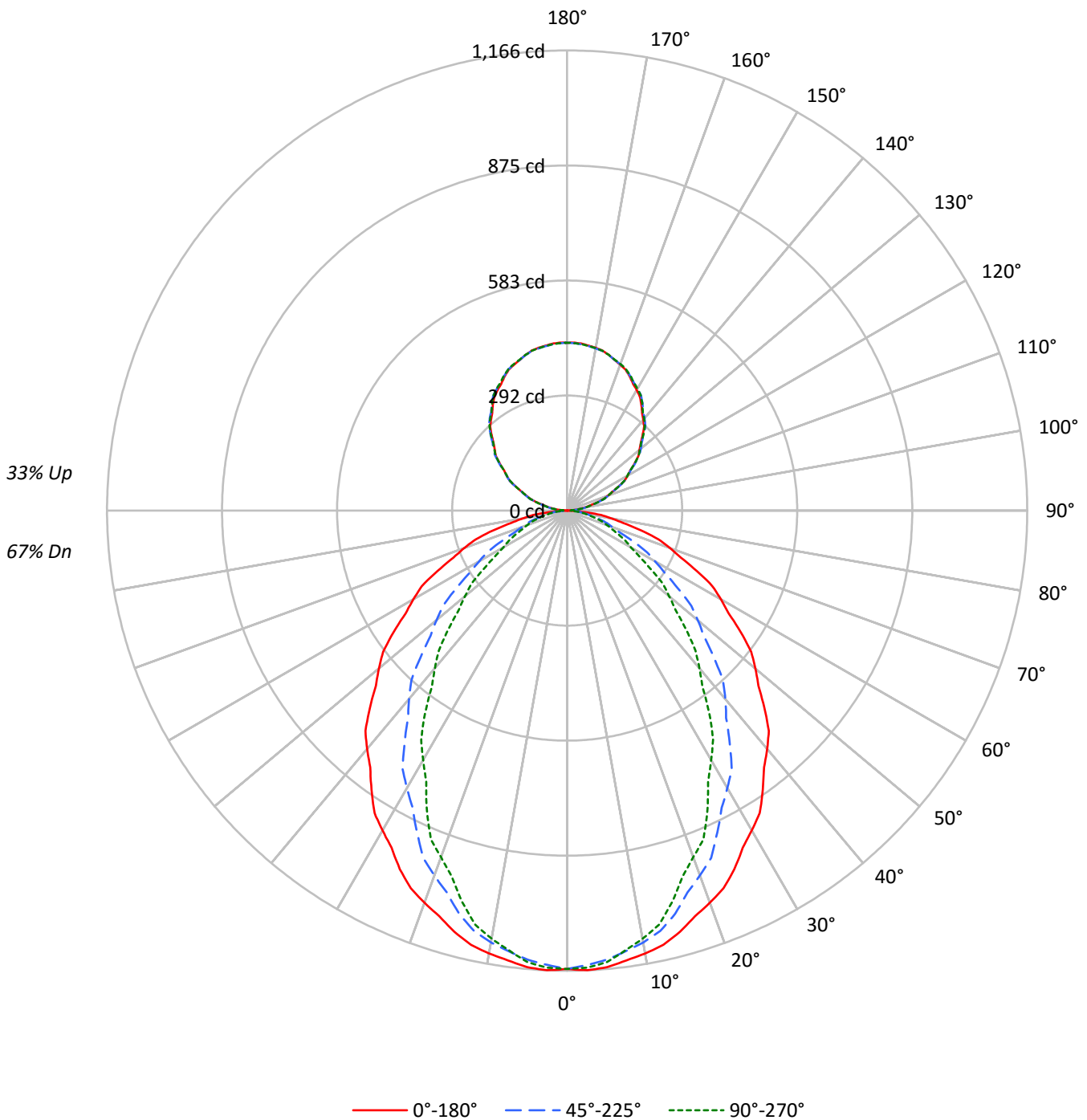
Input Watts (W): 46.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	111	111	111	111	105	105	105	105	93	93	93	82	82	82	72	72	72	67
1	102	98	94	91	96	93	89	86	82	80	78	73	71	69	64	63	62	58
2	94	86	80	75	88	82	76	72	73	69	65	65	62	59	57	55	53	49
3	86	77	69	64	81	72	66	61	65	60	56	58	54	51	51	48	46	42
4	79	68	60	54	74	65	58	52	58	53	48	52	48	44	46	43	40	37
5	73	61	53	47	68	58	51	45	52	47	42	47	42	39	42	38	35	33
6	67	55	47	41	63	53	45	40	48	42	37	43	38	34	38	35	31	29
7	62	50	42	37	59	48	41	35	43	37	33	39	34	31	35	31	28	26
8	58	46	38	33	55	44	37	32	40	34	30	36	31	28	33	29	26	23
9	54	42	35	30	51	40	33	29	37	31	27	33	29	25	30	26	23	21
10	51	39	32	27	48	37	30	26	34	28	24	31	26	23	28	24	21	19

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	18755	18755	18755
5°	18827	18519	18621
10°	18682	18216	18061
15°	18467	17677	17167
20°	18170	16905	16057
25°	17865	16030	14982
30°	17443	15129	13601
35°	17030	14152	12390
40°	16617	13139	10989
45°	16130	12001	9720
50°	15631	10854	8475
55°	15122	9619	7279
60°	14528	8315	6042
65°	13857	6988	5501
70°	13053	5755	5061
75°	12071	5246	4722
80°	10646	4695	4305
85°	8373	3705	3705



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	108.7	3.0
10°-20°	298.5	8.3
20°-30°	419.2	11.7
30°-40°	457.1	12.8
40°-50°	420.3	11.7
50°-60°	330.1	9.2
60°-70°	215.2	6.0
70°-80°	111.0	3.1
80°-90°	30.5	0.9
90°-100°	27.0	0.8
100°-110°	83.7	2.3
110°-120°	143.1	4.0
120°-130°	188.1	5.3
130°-140°	211.2	5.9
140°-150°	207.1	5.8
150°-160°	173.7	4.9
160°-170°	115.2	3.2
170°-180°	40.3	1.1
0°-30°	826.5	23.1
0°-40°	1283.6	35.9
0°-60°	2034.0	56.8
0°-90°	2390.7	66.8
90°-120°	253.7	7.1
90°-150°	860.1	24.0
90°-180°	1189.0	33.2
0°-180°	3579.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1162	1162	1162	1162	1162	
5°	1162	1156	1143	1151	1149	110
15°	1105	1092	1058	1038	1027	311
25°	1003	967	900	858	841	461
35°	864	808	718	654	629	541
45°	706	634	526	454	426	545
55°	537	453	342	281	259	480
65°	363	277	183	149	144	359
75°	194	122	84	77	76	205
85°	45	24	20	20	20	53
90°	0	5	13	12	12	3
95°	19	22	23	23	22	21
105°	77	78	79	80	80	82
115°	144	146	145	145	144	142
125°	209	212	211	210	210	187
135°	270	274	275	274	274	209
145°	328	331	333	333	332	205
155°	375	376	377	379	378	173
165°	408	408	408	410	408	115
175°	425	424	423	425	423	40
180°	425	425	425	425	425	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1161.6	1161.6	1161.6	1161.6	1161.6	1161.6	1161.6	1161.6	1161.6	1161.6	1161.6
2.5°	1165.8	1164.8	1163.9	1162.9	1162.1	1160.5	1158.5	1156.4	1154.4	1152.3	1154.2
5°	1161.6	1160.4	1159.2	1158.0	1156.9	1154.8	1151.8	1148.7	1145.7	1142.6	1144.7
7.5°	1149.5	1148.1	1146.7	1145.3	1143.8	1141.3	1137.7	1134.2	1130.6	1127.0	1127.7
10°	1139.5	1137.8	1136.2	1134.6	1132.9	1129.8	1125.1	1120.5	1115.8	1111.1	1110.4
12.5°	1126.9	1124.8	1122.8	1120.9	1118.8	1114.8	1108.8	1102.9	1096.9	1090.9	1089.6
15°	1104.8	1102.2	1099.6	1097.1	1094.5	1089.3	1081.3	1073.4	1065.4	1057.5	1053.0
17.5°	1077.7	1073.7	1069.8	1065.9	1062.0	1054.9	1044.7	1034.5	1024.4	1014.2	1008.9
20°	1057.5	1052.8	1048.1	1043.5	1038.8	1030.6	1018.9	1007.3	995.6	983.9	978.0
22.5°	1035.6	1030.4	1025.2	1019.9	1014.7	1005.5	992.3	979.1	966.0	952.8	945.2
25°	1002.8	995.4	987.9	980.4	973.0	961.5	946.0	930.7	915.2	899.8	890.3
27.5°	963.3	955.1	947.1	938.9	930.8	918.1	900.6	883.3	865.9	848.5	837.3
30°	935.6	926.7	917.8	908.9	900.1	886.3	867.6	848.9	830.2	811.5	799.6
32.5°	908.6	898.3	887.9	877.5	867.1	852.5	833.4	814.3	795.3	776.2	762.6
35°	864.0	852.2	840.3	828.3	816.4	800.2	779.6	759.1	738.6	718.0	703.2
37.5°	819.5	806.4	793.4	780.2	767.1	749.6	727.8	705.8	684.0	662.0	645.8
40°	788.4	774.4	760.3	746.3	732.3	714.0	691.3	668.7	646.0	623.4	606.7
42.5°	756.5	741.6	726.9	712.2	697.4	678.3	654.9	631.4	608.1	584.6	567.5
45°	706.4	690.7	675.1	659.4	643.8	623.7	599.2	574.6	550.1	525.6	509.0
47.5°	657.6	641.0	624.5	607.8	591.3	570.3	545.0	519.7	494.3	469.1	452.6
50°	622.3	605.7	589.1	572.5	556.0	534.8	509.1	483.4	457.7	432.1	415.9
52.5°	587.8	570.5	553.2	535.8	518.5	497.3	472.1	446.9	421.8	396.7	381.1
55°	537.2	519.0	500.7	482.5	464.3	442.5	417.3	392.1	366.9	341.7	327.6
57.5°	485.2	466.5	447.8	429.1	410.5	389.0	364.7	340.5	316.2	292.0	279.2
60°	449.9	431.2	412.6	393.9	375.2	353.8	329.7	305.6	281.6	257.5	245.7
62.5°	415.4	396.7	378.0	359.3	340.6	319.9	296.9	274.0	251.0	228.1	216.7
65°	362.7	343.7	324.8	305.9	287.0	267.0	246.0	225.0	203.9	182.9	175.0
67.5°	311.8	293.0	274.3	255.4	236.6	217.8	198.9	180.0	161.1	142.1	138.5
70°	276.5	258.3	240.0	221.8	203.6	186.4	170.3	154.2	138.1	121.9	119.6
72.5°	242.8	225.4	207.9	190.4	172.9	157.7	144.8	131.8	118.9	106.0	104.0
75°	193.5	177.1	160.7	144.3	128.0	115.9	107.9	100.0	92.1	84.1	82.5
77.5°	144.9	130.5	116.1	101.8	87.5	78.4	74.5	70.7	66.9	63.1	62.1
80°	114.5	102.7	90.8	78.8	66.9	59.8	57.4	55.1	52.8	50.5	49.5
82.5°	86.8	77.6	68.2	58.9	49.7	44.2	42.6	41.0	39.5	37.9	37.3
85°	45.2	40.3	35.4	30.5	25.6	22.8	22.1	21.4	20.7	20.0	20.0
87.5°	13.5	12.2	10.9	9.6	8.3	7.8	8.2	8.6	8.9	9.3	9.0
90°	0.4	1.3	2.3	3.2	4.2	5.5	7.3	9.0	10.8	12.6	12.4
92.5°	6.4	7.1	7.8	8.5	9.2	9.7	10.1	10.6	11.0	11.4	11.4
95°	18.7	19.5	20.3	21.1	21.9	22.3	22.5	22.7	22.8	23.0	23.0
97.5°	34.1	34.8	35.5	36.2	36.9	37.4	37.7	38.0	38.3	38.6	38.6
100°	45.6	46.2	46.8	47.5	48.2	48.6	48.8	49.0	49.3	49.5	49.5
102.5°	57.7	58.1	58.6	59.2	59.7	60.1	60.4	60.7	61.0	61.3	61.4
105°	77.2	77.4	77.6	77.9	78.1	78.3	78.5	78.7	78.8	79.0	79.1
107.5°	96.8	97.2	97.5	97.9	98.2	98.4	98.4	98.4	98.4	98.4	98.5
110°	109.5	110.0	110.4	110.9	111.4	111.6	111.6	111.6	111.6	111.6	111.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	123.3	123.7	124.2	124.7	125.2	125.4	125.3	125.2	125.2	125.1	124.9
115°	143.5	144.0	144.5	145.0	145.4	145.6	145.4	145.3	145.1	145.0	144.9
117.5°	163.8	164.5	165.1	165.7	166.4	166.4	166.0	165.6	165.1	164.7	164.5
120°	177.3	177.9	178.6	179.2	179.8	179.8	179.2	178.6	177.9	177.3	177.3
122.5°	189.6	190.4	191.2	191.9	192.7	192.9	192.4	191.9	191.5	191.1	190.9
125°	208.9	209.6	210.3	211.0	211.8	212.0	211.8	211.5	211.3	211.0	210.8
127.5°	227.6	228.5	229.4	230.4	231.2	231.6	231.3	231.0	230.7	230.4	230.1
130°	239.4	240.4	241.5	242.5	243.5	244.0	243.8	243.7	243.5	243.4	243.2
132.5°	252.6	253.4	254.3	255.2	256.0	256.4	256.4	256.5	256.5	256.5	256.2
135°	270.3	271.2	272.0	272.9	273.8	274.3	274.4	274.6	274.7	274.9	274.8
137.5°	288.8	289.5	290.3	291.0	291.7	292.2	292.4	292.6	292.8	293.0	292.9
140°	300.1	300.8	301.5	302.2	302.9	303.5	303.9	304.3	304.7	305.1	305.1
142.5°	311.6	312.3	313.0	313.7	314.4	314.9	315.1	315.4	315.7	316.0	316.1
145°	328.0	328.6	329.2	329.7	330.3	330.8	331.3	331.8	332.2	332.7	332.8
147.5°	342.8	343.4	344.1	344.8	345.5	345.9	346.3	346.6	346.9	347.2	347.4
150°	352.8	353.3	353.8	354.3	354.7	355.1	355.5	355.8	356.1	356.4	356.6
152.5°	361.7	362.2	362.7	363.1	363.6	364.1	364.4	364.8	365.2	365.6	365.9
155°	375.0	375.3	375.5	375.8	376.0	376.3	376.5	376.8	377.0	377.2	377.6
157.5°	386.5	386.7	386.8	387.0	387.1	387.2	387.4	387.5	387.7	387.9	388.4
160°	393.4	393.6	393.7	393.9	394.0	394.1	394.2	394.3	394.3	394.4	394.9
162.5°	399.7	399.7	399.7	399.7	399.8	399.9	400.0	400.1	400.1	400.2	400.7
165°	408.1	408.0	407.9	407.8	407.7	407.7	407.7	407.7	407.7	407.7	408.3
167.5°	415.1	414.9	414.6	414.4	414.2	414.0	414.0	414.0	414.0	414.0	414.5
170°	418.8	418.6	418.4	418.1	417.9	417.7	417.6	417.6	417.5	417.4	418.0
172.5°	421.4	421.2	421.0	420.7	420.5	420.3	420.3	420.2	420.1	420.0	420.6
175°	424.6	424.4	424.1	423.9	423.7	423.4	423.3	423.1	422.9	422.8	423.3
177.5°	425.9	425.7	425.5	425.3	425.1	424.9	424.8	424.7	424.5	424.5	424.8
180°	425.3	425.3	425.3	425.3	425.3	425.3	425.3	425.3	425.3	425.3	425.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1161.6	1161.6	1161.6	1161.6	1161.6	1161.6	1161.6	1161.6
2.5°	1156.0	1157.9	1159.8	1160.5	1160.2	1159.8	1159.4	1159.0
5°	1146.8	1148.9	1151.0	1151.8	1151.0	1150.3	1149.6	1148.9
7.5°	1128.3	1128.9	1129.5	1129.2	1128.0	1126.8	1125.5	1124.3
10°	1109.7	1109.0	1108.3	1107.2	1105.8	1104.5	1103.0	1101.6
12.5°	1088.4	1087.1	1085.8	1084.1	1081.7	1079.4	1077.1	1074.8
15°	1048.6	1044.2	1039.7	1036.3	1034.0	1031.7	1029.4	1027.0
17.5°	1003.6	998.3	993.1	988.4	984.4	980.4	976.4	972.3
20°	972.2	966.4	960.5	955.1	949.9	944.8	939.6	934.5
22.5°	937.8	930.3	922.7	917.0	913.2	909.3	905.5	901.7
25°	880.7	871.1	861.5	854.9	851.4	848.0	844.5	841.0
27.5°	826.2	815.0	803.8	795.5	790.0	784.3	778.8	773.2
30°	787.7	775.8	763.8	754.7	748.5	742.1	735.9	729.5
32.5°	749.0	735.4	721.8	712.0	706.2	700.2	694.3	688.3
35°	688.5	673.8	659.1	649.2	644.0	638.9	633.7	628.6
37.5°	629.6	613.4	597.2	586.1	580.3	574.3	568.5	562.6
40°	590.2	573.6	557.0	545.7	539.6	533.5	527.4	521.4
42.5°	550.4	533.2	516.1	504.5	498.7	492.8	486.9	481.0
45°	492.4	475.9	459.2	448.1	442.5	437.0	431.3	425.7
47.5°	436.0	419.5	403.1	392.3	387.2	382.1	377.0	371.9
50°	399.8	383.7	367.6	357.0	352.1	347.2	342.3	337.4
52.5°	365.6	350.1	334.5	324.5	319.9	315.4	310.9	306.3
55°	313.6	299.6	285.6	276.3	271.9	267.4	263.0	258.6
57.5°	266.3	253.5	240.7	232.3	228.6	224.8	221.1	217.4
60°	233.7	221.8	209.8	202.1	198.3	194.6	190.8	187.1
62.5°	205.4	194.1	182.7	175.9	173.6	171.4	169.1	166.9
65°	167.0	159.1	151.1	146.8	146.1	145.4	144.7	144.0
67.5°	134.8	131.2	127.5	125.3	124.6	123.8	123.1	122.4
70°	117.2	114.9	112.6	111.0	110.0	109.1	108.1	107.2
72.5°	102.0	100.1	98.1	96.9	96.3	95.7	95.1	94.6
75°	80.8	79.2	77.6	76.6	76.4	76.1	75.9	75.7
77.5°	61.2	60.3	59.3	58.7	58.3	57.9	57.6	57.2
80°	48.6	47.7	46.7	46.3	46.3	46.3	46.3	46.3
82.5°	36.8	36.1	35.6	35.3	35.3	35.3	35.3	35.3
85°	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
87.5°	8.8	8.6	8.4	8.2	8.3	8.3	8.3	8.3
90°	12.3	12.1	12.0	11.9	12.0	12.0	12.1	12.2
92.5°	11.5	11.5	11.6	11.6	11.6	11.6	11.6	11.6
95°	23.0	23.0	23.0	22.9	22.7	22.6	22.4	22.3
97.5°	38.6	38.6	38.6	38.6	38.6	38.6	38.6	38.6
100°	49.5	49.5	49.5	49.5	49.4	49.4	49.3	49.2
102.5°	61.4	61.5	61.6	61.6	61.5	61.4	61.3	61.2
105°	79.3	79.5	79.6	79.7	79.7	79.7	79.7	79.7
107.5°	98.5	98.6	98.7	98.5	98.2	97.8	97.4	97.0
110°	111.6	111.6	111.6	111.5	111.2	111.0	110.7	110.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	124.8	124.5	124.4	124.1	124.0	123.8	123.7	123.5
115°	144.8	144.7	144.7	144.5	144.3	144.0	143.8	143.5
117.5°	164.3	164.1	163.9	163.7	163.4	163.2	163.0	162.7
120°	177.3	177.3	177.3	177.2	177.0	176.7	176.5	176.3
122.5°	190.7	190.5	190.3	190.1	190.0	189.8	189.6	189.4
125°	210.6	210.3	210.1	209.9	209.8	209.8	209.7	209.6
127.5°	229.8	229.6	229.3	229.0	228.7	228.5	228.2	228.0
130°	243.0	242.9	242.7	242.5	242.2	241.9	241.5	241.2
132.5°	255.9	255.5	255.2	254.8	254.6	254.3	254.1	253.8
135°	274.7	274.6	274.6	274.4	274.2	273.9	273.7	273.5
137.5°	292.9	292.8	292.8	292.6	292.2	291.9	291.6	291.3
140°	305.1	305.1	305.1	304.9	304.6	304.3	304.0	303.6
142.5°	316.1	316.2	316.2	316.1	315.8	315.4	315.1	314.8
145°	332.9	333.0	333.0	332.9	332.6	332.2	331.9	331.6
147.5°	347.5	347.8	347.9	347.8	347.5	347.2	346.9	346.7
150°	356.9	357.1	357.4	357.4	357.1	356.9	356.6	356.4
152.5°	366.1	366.5	366.8	366.8	366.5	366.1	365.9	365.6
155°	378.0	378.4	378.8	378.9	378.7	378.4	378.2	378.0
157.5°	388.9	389.4	390.0	390.1	389.7	389.3	389.0	388.6
160°	395.4	395.9	396.3	396.4	396.1	395.8	395.5	395.1
162.5°	401.2	401.8	402.3	402.4	402.0	401.6	401.2	400.9
165°	408.8	409.4	410.0	410.0	409.6	409.2	408.8	408.4
167.5°	415.1	415.7	416.2	416.3	415.8	415.4	415.0	414.6
170°	418.5	419.1	419.6	419.7	419.2	418.7	418.3	417.8
172.5°	421.1	421.7	422.2	422.2	421.8	421.3	420.8	420.3
175°	423.9	424.5	425.0	425.1	424.6	424.1	423.7	423.2
177.5°	425.2	425.6	426.0	426.0	425.6	425.2	424.8	424.5
180°	425.3	425.3	425.3	425.3	425.3	425.3	425.3	425.3

(END OF REPORT)