

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: P331492-927

Luminaire Tested: **S122DIW-S290D1440U927-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331492-927
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: S122DIW-S290D1440U927-4F0-1E-UDD-D1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1440 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4910.1 lumens
Efficiency: N/A
Efficacy: 91.9 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

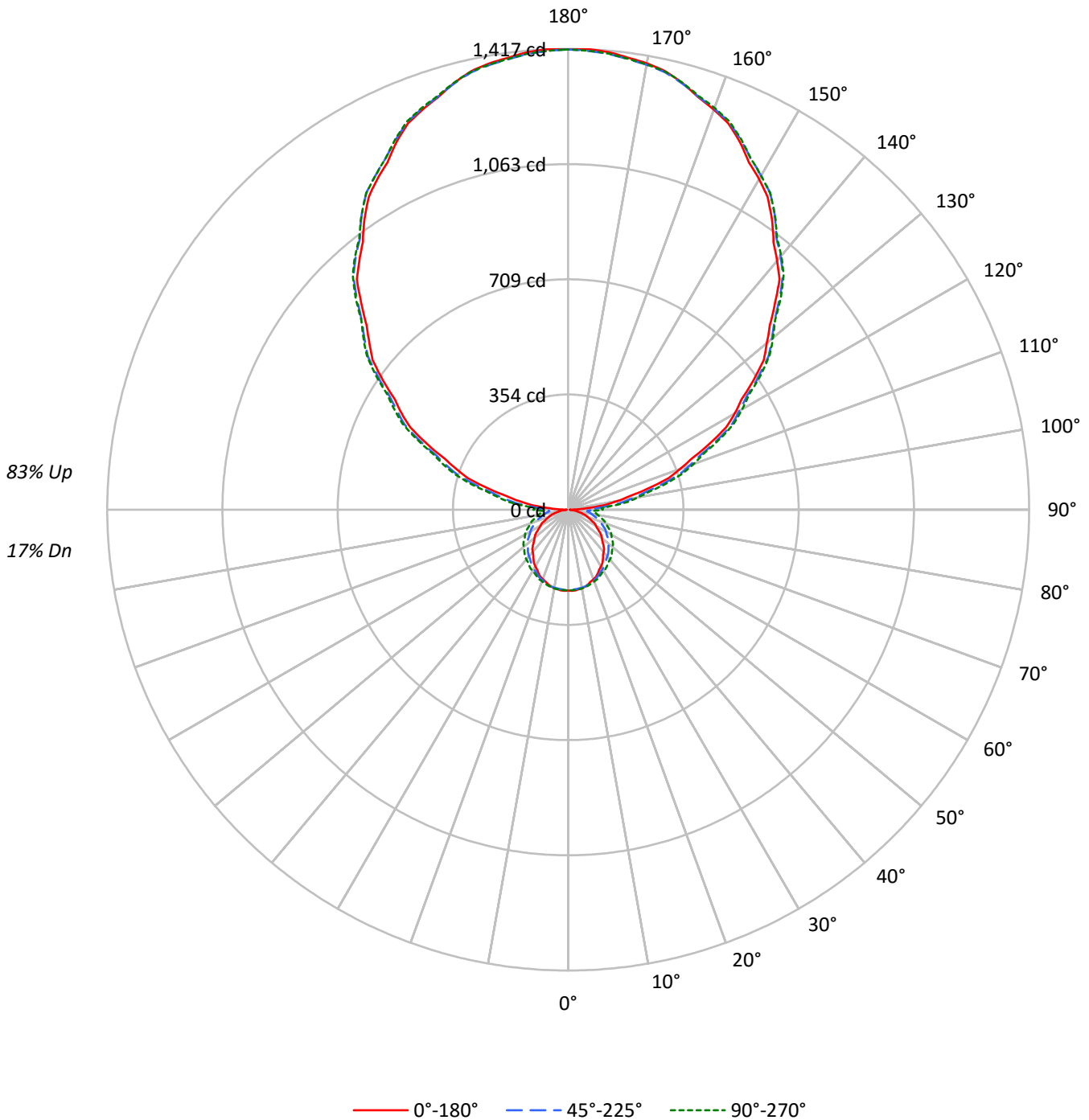
Input Watts (W): 53.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	99	99	99	99	87	87	87	87	65	65	65	45	45	45	26	26	26	17
1	90	86	82	78	79	75	72	69	56	54	52	38	37	36	22	21	21	13
2	82	74	68	63	71	65	60	56	49	45	43	33	31	30	19	18	17	11
3	74	65	58	52	65	57	51	47	43	39	35	29	27	25	17	15	14	9
4	68	57	50	44	59	51	44	39	38	33	30	26	23	21	15	13	12	8
5	62	51	43	37	54	45	38	33	34	29	25	23	20	18	13	12	10	6
6	57	45	37	32	50	40	33	29	30	25	22	21	18	15	12	10	9	6
7	52	41	33	28	46	36	29	25	27	22	19	19	16	13	11	9	8	5
8	48	37	29	24	42	32	26	22	24	20	17	17	14	12	10	8	7	4
9	45	33	26	21	39	29	23	19	22	18	15	15	13	10	9	7	6	4
10	42	30	23	19	37	27	21	17	20	16	13	14	11	9	8	7	6	4

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4009	4009	4009
5°	4030	3859	3845
10°	4004	3746	3703
15°	3948	3624	3554
20°	3878	3495	3410
25°	3809	3371	3279
30°	3712	3242	3150
35°	3615	3118	3059
40°	3511	3013	2965
45°	3413	2919	2886
50°	3309	2833	2810
55°	3196	2741	2731
60°	3061	2646	2648
65°	2922	2534	2548
70°	2764	2415	2440
75°	2564	2299	2342
80°	2245	2177	2240
85°	1945	2073	2163



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	23.5	0.5
10°-20°	67.5	1.4
20°-30°	102.2	2.1
30°-40°	124.5	2.5
40°-50°	134.0	2.7
50°-60°	130.1	2.6
60°-70°	113.6	2.3
70°-80°	87.5	1.8
80°-90°	64.3	1.3
90°-100°	130.1	2.6
100°-110°	308.0	6.3
110°-120°	495.6	10.1
120°-130°	637.0	13.0
130°-140°	707.2	14.4
140°-150°	689.8	14.0
150°-160°	577.9	11.8
160°-170°	383.3	7.8
170°-180°	134.0	2.7
0°-30°	193.2	3.9
0°-40°	317.8	6.5
0°-60°	581.9	11.9
0°-90°	847.3	17.3
90°-120°	933.7	19.0
90°-150°	2967.7	60.4
90°-180°	4063.0	82.7
0°-180°	4910.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	248	248	248	248	248	
5°	249	248	246	248	248	24
15°	238	238	238	241	241	67
25°	216	218	222	226	227	99
35°	186	192	199	207	210	116
45°	153	162	175	186	190	118
55°	117	130	149	161	166	105
65°	80	98	119	133	138	79
75°	44	65	88	102	108	47
85°	13	35	58	73	78	14
90°	5	41	89	101	107	6
95°	65	94	118	131	133	74
105°	259	273	294	308	313	273
115°	479	490	504	513	514	474
125°	696	706	714	720	723	622
135°	900	912	919	925	924	695
145°	1092	1100	1107	1110	1108	682
155°	1248	1252	1255	1261	1258	574
165°	1358	1357	1357	1364	1359	383
175°	1413	1409	1407	1414	1408	134
180°	1415	1415	1415	1415	1415	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	248.3	248.3	248.3	248.3	248.3	248.3	248.3	248.3	248.3	248.3	248.3
2.5°	249.8	249.5	249.4	249.1	249.0	248.7	248.2	247.8	247.3	246.8	247.2
5°	249.1	248.8	248.6	248.3	248.0	247.7	247.2	246.8	246.3	245.8	246.3
7.5°	246.8	246.6	246.4	246.3	246.1	245.9	245.5	245.2	244.8	244.4	245.0
10°	245.1	244.9	244.8	244.6	244.5	244.2	244.0	243.8	243.5	243.3	243.9
12.5°	242.2	242.2	242.2	242.3	242.3	242.2	242.1	241.9	241.7	241.5	242.2
15°	237.5	237.7	237.8	238.0	238.1	238.2	238.2	238.2	238.2	238.2	238.9
17.5°	231.5	231.8	232.1	232.5	232.8	233.1	233.4	233.6	233.9	234.2	234.9
20°	227.4	227.8	228.2	228.6	229.0	229.4	229.7	230.0	230.4	230.7	231.6
22.5°	223.2	223.6	224.0	224.5	225.0	225.5	225.9	226.3	226.8	227.2	228.1
25°	215.9	216.5	217.1	217.6	218.2	218.8	219.5	220.2	220.9	221.7	222.6
27.5°	207.3	208.2	209.1	210.0	211.0	211.8	212.6	213.5	214.4	215.2	216.4
30°	201.5	202.6	203.6	204.6	205.7	206.8	207.8	208.8	209.8	210.9	212.1
32.5°	195.2	196.4	197.5	198.7	199.9	201.1	202.3	203.5	204.8	206.0	207.5
35°	186.1	187.4	188.8	190.1	191.5	192.9	194.5	196.0	197.5	199.0	200.7
37.5°	176.1	177.7	179.3	180.9	182.4	184.2	186.2	188.1	190.0	192.0	194.0
40°	169.5	171.3	173.0	174.8	176.5	178.5	180.6	182.8	185.0	187.1	189.2
42.5°	163.2	164.9	166.7	168.4	170.2	172.3	174.8	177.3	179.7	182.2	184.5
45°	152.6	154.7	156.9	159.1	161.2	163.7	166.5	169.3	172.1	174.9	177.4
47.5°	142.1	144.5	146.9	149.2	151.5	154.4	157.6	160.9	164.2	167.5	170.1
50°	135.0	137.4	139.9	142.4	144.9	147.9	151.5	155.1	158.7	162.3	165.0
52.5°	128.0	130.6	133.2	135.9	138.5	141.6	145.4	149.2	153.0	156.9	159.6
55°	116.9	119.9	122.7	125.6	128.5	132.0	136.2	140.3	144.5	148.6	151.5
57.5°	106.0	109.2	112.5	115.7	119.0	122.7	127.0	131.2	135.5	139.7	142.8
60°	98.2	101.7	105.1	108.5	112.0	116.0	120.6	125.1	129.7	134.2	137.3
62.5°	91.3	94.9	98.5	102.0	105.6	109.6	114.2	118.7	123.3	127.9	131.1
65°	79.9	83.8	87.7	91.7	95.5	99.9	104.6	109.3	114.1	118.7	122.1
67.5°	69.4	73.5	77.6	81.7	85.8	90.2	95.1	99.9	104.7	109.6	112.9
70°	61.9	66.1	70.2	74.4	78.5	83.1	88.0	93.0	98.0	102.9	106.4
72.5°	55.0	59.3	63.5	67.8	72.2	76.8	81.8	86.8	91.9	96.9	100.3
75°	44.3	48.7	53.2	57.7	62.2	66.9	72.1	77.2	82.3	87.5	90.9
77.5°	33.9	38.6	43.3	47.9	52.7	57.6	62.8	68.0	73.2	78.3	81.8
80°	27.0	31.8	36.8	41.6	46.5	51.6	56.7	61.9	67.1	72.3	75.7
82.5°	21.2	26.1	30.9	35.6	40.5	45.6	50.8	56.1	61.3	66.5	69.9
85°	13.0	17.9	22.9	27.8	32.8	37.8	42.9	48.1	53.2	58.3	61.6
87.5°	7.3	12.7	18.1	23.5	28.9	34.8	41.0	47.3	53.6	59.9	63.1
90°	4.8	12.6	20.4	28.3	36.1	45.5	56.4	67.4	78.3	89.3	92.0
92.5°	24.6	31.2	37.9	44.5	51.2	57.7	64.0	70.3	76.6	82.9	86.1
95°	65.0	71.4	77.8	84.2	90.6	96.5	101.8	107.2	112.5	117.8	120.9
97.5°	116.0	121.7	127.3	133.0	138.7	144.3	150.0	155.6	161.2	166.8	169.8
100°	154.2	159.3	164.4	169.4	174.5	179.7	185.0	190.3	195.5	200.8	203.7
102.5°	194.0	198.4	202.8	207.2	211.7	216.5	221.9	227.2	232.6	238.0	241.1
105°	258.6	261.7	264.8	267.9	271.0	275.0	279.6	284.3	289.0	293.7	297.0
107.5°	323.9	326.9	330.0	333.0	336.0	339.5	343.5	347.5	351.5	355.5	358.4
110°	365.7	368.9	372.1	375.3	378.4	382.0	386.0	389.8	393.8	397.7	400.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	411.5	414.5	417.4	420.3	423.3	426.5	430.0	433.6	437.0	440.6	442.5
115°	479.1	481.6	484.1	486.6	489.0	491.8	494.9	498.0	501.0	504.1	506.2
117.5°	546.1	548.8	551.5	554.2	556.9	559.2	561.0	562.9	564.7	566.6	568.3
120°	591.0	593.5	596.0	598.3	600.8	602.6	603.6	604.8	605.8	606.9	609.1
122.5°	632.2	634.8	637.5	640.2	642.9	644.9	646.4	648.0	649.5	651.0	652.5
125°	695.8	698.2	700.5	703.0	705.4	707.4	709.2	710.9	712.7	714.5	715.8
127.5°	758.1	761.0	764.0	767.0	769.9	771.9	773.0	774.1	775.2	776.3	777.4
130°	797.3	800.7	804.1	807.4	810.8	813.0	814.2	815.3	816.5	817.6	819.0
132.5°	841.2	844.0	846.7	849.5	852.2	854.2	855.6	857.1	858.4	859.8	860.5
135°	899.6	902.5	905.5	908.4	911.3	913.5	914.7	916.1	917.4	918.8	920.2
137.5°	961.5	963.8	966.2	968.6	971.0	972.7	973.8	974.8	975.8	976.8	978.1
140°	998.8	1001.1	1003.4	1005.7	1008.0	1009.9	1011.4	1012.9	1014.4	1015.8	1017.1
142.5°	1037.0	1039.3	1041.6	1043.9	1046.2	1047.8	1048.8	1049.7	1050.7	1051.5	1052.8
145°	1091.5	1093.4	1095.3	1097.1	1099.0	1100.7	1102.3	1103.9	1105.5	1107.1	1107.8
147.5°	1140.5	1142.7	1144.9	1147.2	1149.5	1151.1	1152.1	1153.2	1154.3	1155.3	1156.0
150°	1173.9	1175.5	1177.2	1178.8	1180.4	1181.6	1182.7	1183.8	1184.9	1185.9	1186.7
152.5°	1203.6	1205.1	1206.7	1208.3	1210.0	1211.4	1212.7	1213.9	1215.2	1216.5	1217.5
155°	1248.0	1248.8	1249.6	1250.4	1251.2	1252.0	1252.8	1253.5	1254.3	1255.1	1256.5
157.5°	1285.9	1286.5	1287.1	1287.6	1288.1	1288.6	1289.1	1289.6	1290.1	1290.5	1292.3
160°	1308.9	1309.5	1310.0	1310.5	1311.1	1311.5	1311.7	1311.9	1312.2	1312.5	1314.1
162.5°	1329.9	1330.1	1330.2	1330.2	1330.4	1330.5	1330.8	1331.1	1331.3	1331.6	1333.4
165°	1357.9	1357.6	1357.3	1357.1	1356.8	1356.7	1356.7	1356.7	1356.7	1356.7	1358.5
167.5°	1381.2	1380.5	1379.7	1378.9	1378.1	1377.7	1377.6	1377.6	1377.5	1377.4	1379.3
170°	1393.7	1392.9	1392.1	1391.3	1390.5	1390.0	1389.7	1389.5	1389.2	1388.9	1390.8
172.5°	1402.3	1401.5	1400.7	1399.9	1399.2	1398.6	1398.4	1398.0	1397.8	1397.5	1399.4
175°	1412.8	1412.0	1411.2	1410.4	1409.6	1409.0	1408.4	1407.9	1407.4	1406.8	1408.7
177.5°	1417.1	1416.5	1415.9	1415.2	1414.6	1414.0	1413.6	1413.2	1412.8	1412.3	1413.6
180°	1415.2	1415.2	1415.2	1415.2	1415.2	1415.2	1415.2	1415.2	1415.2	1415.2	1415.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	248.3	248.3	248.3	248.3	248.3	248.3	248.3	248.3
2.5°	247.5	247.8	248.1	248.3	248.1	248.0	247.9	247.7
5°	246.8	247.2	247.7	247.9	247.8	247.7	247.6	247.6
7.5°	245.6	246.1	246.8	247.0	246.9	246.8	246.8	246.7
10°	244.5	245.2	245.8	246.1	246.1	246.0	245.9	245.8
12.5°	242.8	243.4	244.1	244.4	244.3	244.2	244.2	244.1
15°	239.6	240.4	241.1	241.5	241.4	241.3	241.2	241.1
17.5°	235.7	236.4	237.1	237.5	237.5	237.5	237.5	237.5
20°	232.4	233.3	234.2	234.6	234.6	234.6	234.6	234.6
22.5°	229.0	229.9	230.8	231.2	231.4	231.5	231.6	231.8
25°	223.6	224.6	225.5	226.1	226.3	226.6	226.8	227.0
27.5°	217.6	218.9	220.1	220.8	220.9	221.1	221.3	221.5
30°	213.4	214.8	216.0	216.7	217.0	217.2	217.5	217.7
32.5°	208.9	210.4	211.9	212.9	213.3	213.7	214.1	214.5
35°	202.6	204.3	206.0	207.2	207.8	208.3	208.9	209.5
37.5°	195.9	197.9	199.9	201.1	201.7	202.3	202.9	203.4
40°	191.3	193.4	195.4	196.9	197.6	198.3	199.0	199.7
42.5°	186.8	189.0	191.3	192.8	193.5	194.2	195.0	195.7
45°	179.8	182.4	184.8	186.5	187.3	188.1	188.9	189.6
47.5°	172.7	175.2	177.8	179.6	180.5	181.3	182.2	183.1
50°	167.7	170.5	173.2	175.0	175.9	176.7	177.6	178.5
52.5°	162.4	165.2	167.9	169.8	170.8	171.7	172.7	173.6
55°	154.4	157.2	160.2	162.1	163.1	164.2	165.2	166.3
57.5°	145.9	149.0	152.1	154.2	155.3	156.3	157.3	158.4
60°	140.3	143.4	146.4	148.5	149.6	150.7	151.9	153.0
62.5°	134.4	137.6	140.9	143.0	144.0	145.0	146.2	147.2
65°	125.3	128.6	131.9	134.0	135.1	136.1	137.1	138.2
67.5°	116.1	119.5	122.8	125.0	126.0	127.1	128.3	129.4
70°	109.8	113.2	116.7	118.9	119.9	120.8	121.8	122.7
72.5°	103.6	107.0	110.4	112.6	113.8	114.9	116.1	117.2
75°	94.3	97.8	101.2	103.5	104.5	105.5	106.5	107.6
77.5°	85.2	88.6	92.1	94.3	95.5	96.6	97.7	98.8
80°	79.1	82.4	85.8	88.0	89.1	90.2	91.3	92.4
82.5°	73.3	76.7	80.0	82.2	83.3	84.4	85.4	86.4
85°	65.0	68.4	71.8	74.0	75.1	76.2	77.3	78.4
87.5°	66.2	69.4	72.5	74.6	75.7	76.8	77.9	79.0
90°	94.7	97.3	100.0	102.0	103.1	104.4	105.6	106.8
92.5°	89.4	92.6	95.9	98.0	99.0	100.0	101.0	102.0
95°	123.9	126.9	130.0	131.7	132.1	132.5	133.0	133.4
97.5°	172.7	175.7	178.6	180.5	181.4	182.4	183.2	184.1
100°	206.7	209.7	212.6	214.4	215.0	215.6	216.3	216.9
102.5°	244.2	247.2	250.4	252.2	252.9	253.5	254.1	254.7
105°	300.3	303.6	307.0	309.1	310.0	310.9	311.7	312.6
107.5°	361.2	364.2	367.1	368.4	368.0	367.7	367.3	366.9
110°	402.8	405.4	407.9	409.2	409.3	409.4	409.5	409.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	444.4	446.3	448.3	449.4	449.6	450.0	450.3	450.6
115°	508.3	510.5	512.6	513.7	513.8	513.9	514.0	514.0
117.5°	570.1	571.8	573.5	574.3	574.4	574.4	574.4	574.4
120°	611.3	613.6	615.8	617.0	617.1	617.2	617.3	617.3
122.5°	654.1	655.6	657.2	658.0	658.2	658.4	658.5	658.7
125°	717.2	718.6	719.9	720.8	721.3	721.8	722.2	722.6
127.5°	778.4	779.4	780.5	780.9	780.8	780.6	780.5	780.3
130°	820.4	821.8	823.2	823.6	823.2	822.8	822.4	822.0
132.5°	861.3	861.9	862.6	862.8	862.6	862.4	862.2	862.0
135°	921.6	923.0	924.4	925.0	924.9	924.7	924.6	924.4
137.5°	979.4	980.6	981.9	982.3	981.8	981.3	980.7	980.2
140°	1018.4	1019.7	1021.0	1021.3	1020.7	1020.2	1019.5	1019.0
142.5°	1054.1	1055.3	1056.5	1056.9	1056.1	1055.5	1054.9	1054.2
145°	1108.6	1109.3	1110.1	1110.1	1109.5	1108.8	1108.1	1107.5
147.5°	1156.6	1157.3	1157.9	1157.9	1157.0	1156.2	1155.4	1154.6
150°	1187.5	1188.3	1189.1	1189.1	1188.3	1187.5	1186.7	1185.9
152.5°	1218.5	1219.5	1220.5	1220.5	1219.5	1218.5	1217.5	1216.5
155°	1257.8	1259.2	1260.4	1260.8	1260.0	1259.2	1258.4	1257.6
157.5°	1294.1	1295.9	1297.8	1298.0	1296.7	1295.5	1294.2	1292.9
160°	1315.7	1317.2	1318.8	1319.1	1318.0	1317.0	1316.0	1314.9
162.5°	1335.2	1337.0	1338.8	1339.1	1337.8	1336.6	1335.3	1334.0
165°	1360.4	1362.2	1364.1	1364.4	1363.0	1361.8	1360.4	1359.1
167.5°	1381.2	1383.1	1384.9	1385.1	1383.8	1382.4	1381.0	1379.6
170°	1392.7	1394.5	1396.4	1396.5	1394.9	1393.3	1391.7	1390.1
172.5°	1401.2	1403.1	1404.9	1405.1	1403.5	1401.9	1400.3	1398.8
175°	1410.6	1412.4	1414.3	1414.4	1412.8	1411.2	1409.6	1408.0
177.5°	1414.9	1416.2	1417.5	1417.5	1416.2	1414.9	1413.6	1412.3
180°	1415.2	1415.2	1415.2	1415.2	1415.2	1415.2	1415.2	1415.2

(END OF REPORT)