

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: P331780-927

Luminaire Tested: **S122RDIW-S290D1240U927-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331780-927
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-S290D1240U927-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1240 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4226.3 lumens
Efficiency: N/A
Efficacy: 90.7 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-Indirect

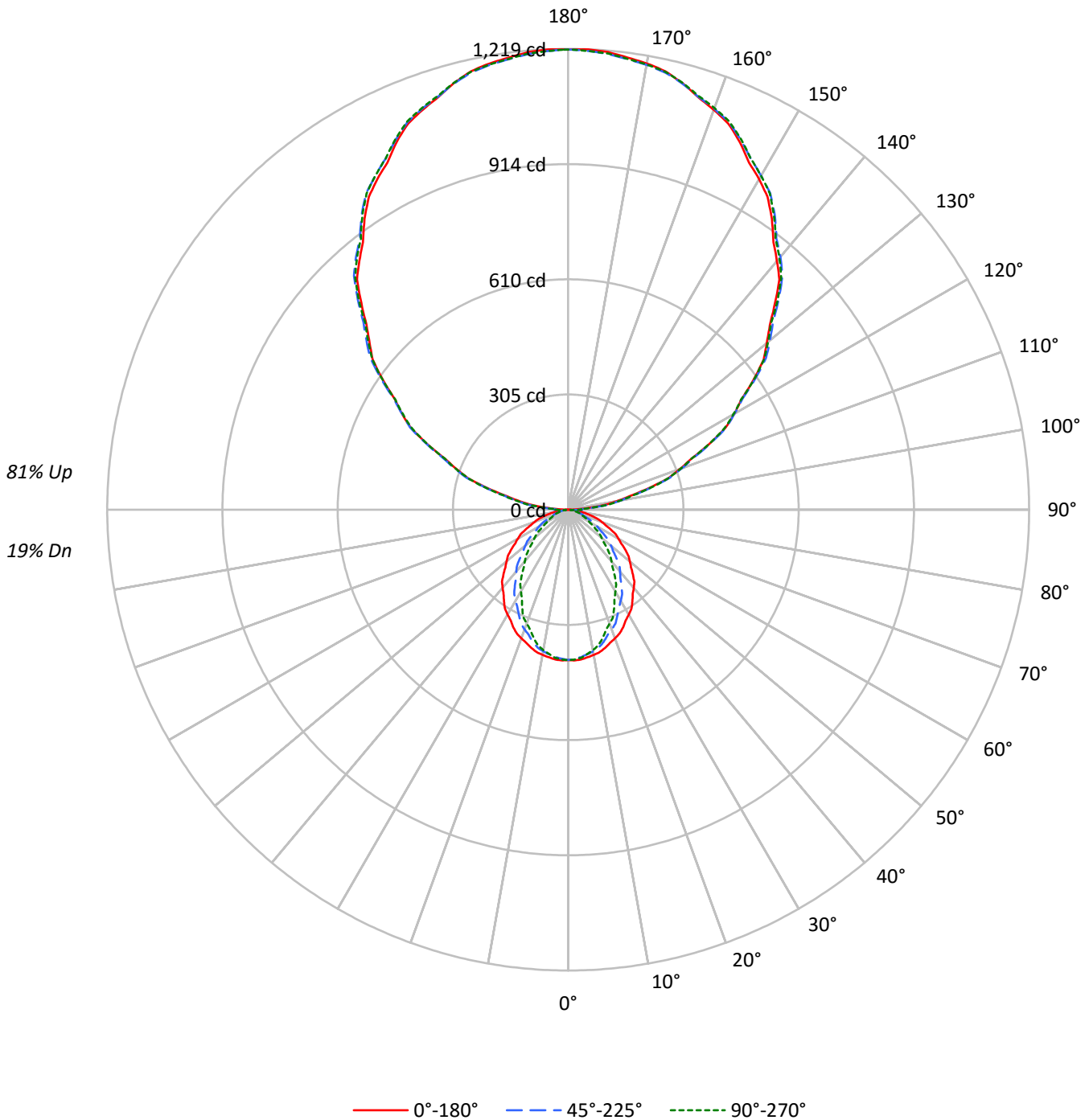
Input Watts (W): 46.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	100	100	100	100	88	88	88	88	66	66	66	46	46	46	28	28	28	19
1	91	87	83	80	80	77	74	71	58	56	54	41	40	39	25	24	24	17
2	83	76	70	66	73	67	63	59	51	48	45	36	34	33	22	21	20	14
3	76	67	60	55	67	59	54	49	45	41	38	32	30	28	20	19	18	12
4	69	59	52	46	61	53	46	42	40	36	33	29	26	24	18	16	15	11
5	64	53	45	39	56	47	40	36	36	31	28	26	23	21	16	15	13	9
6	58	47	40	34	51	42	36	31	32	28	24	23	20	18	15	13	12	8
7	54	42	35	30	48	38	31	27	29	25	21	21	18	16	13	12	11	8
8	50	38	31	26	44	34	28	24	26	22	19	19	16	14	12	11	9	7
9	46	35	28	23	41	31	25	21	24	20	17	18	15	13	11	10	9	6
10	43	32	25	21	38	29	23	19	22	18	15	16	13	11	10	9	8	6

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6421	6421	6421
5°	6446	6340	6374
10°	6396	6237	6184
15°	6322	6051	5877
20°	6220	5787	5498
25°	6116	5489	5129
30°	5972	5179	4657
35°	5830	4845	4242
40°	5689	4498	3762
45°	5523	4108	3329
50°	5350	3715	2901
55°	5177	3291	2494
60°	4973	2848	2070
65°	4741	2392	1883
70°	4471	1969	1733
75°	4130	1797	1616
80°	3645	1609	1469
85°	2853	1260	1260



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	37.2	0.9
10°-20°	102.2	2.4
20°-30°	143.5	3.4
30°-40°	156.5	3.7
40°-50°	143.9	3.4
50°-60°	113.0	2.7
60°-70°	73.7	1.7
70°-80°	38.0	0.9
80°-90°	14.7	0.3
90°-100°	77.1	1.8
100°-110°	239.6	5.7
110°-120°	409.5	9.7
120°-130°	538.5	12.7
130°-140°	604.4	14.3
140°-150°	592.6	14.0
150°-160°	497.0	11.8
160°-170°	329.7	7.8
170°-180°	115.2	2.7
0°-30°	282.9	6.7
0°-40°	439.4	10.4
0°-60°	696.4	16.5
0°-90°	822.7	19.5
90°-120°	726.2	17.2
90°-150°	2461.6	58.2
90°-180°	3404.0	80.5
0°-180°	4226.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	398	398	398	398	398	
5°	398	396	391	394	393	38
15°	378	374	362	355	352	106
25°	343	331	308	294	288	158
35°	296	277	246	224	215	185
45°	242	217	180	155	146	187
55°	184	155	117	96	89	164
65°	124	95	63	51	49	123
75°	66	42	29	26	26	70
85°	15	8	7	7	7	18
90°	1	14	36	34	35	3
95°	53	63	66	66	64	61
105°	221	224	226	228	228	233
115°	411	417	415	414	411	406
125°	598	606	604	601	600	534
135°	774	784	787	786	783	597
145°	939	946	952	953	949	586
155°	1073	1076	1080	1084	1082	494
165°	1168	1167	1167	1173	1169	329
175°	1215	1212	1210	1216	1211	115
180°	1217	1217	1217	1217	1217	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	397.7	397.7	397.7	397.7	397.7	397.7	397.7	397.7	397.7	397.7	397.7
2.5°	399.1	398.8	398.5	398.2	397.8	397.3	396.6	395.9	395.2	394.5	395.1
5°	397.7	397.3	396.9	396.5	396.1	395.3	394.3	393.2	392.2	391.2	391.9
7.5°	393.6	393.1	392.5	392.1	391.6	390.7	389.5	388.2	387.1	385.9	386.0
10°	390.1	389.5	389.0	388.4	387.9	386.7	385.2	383.6	382.0	380.4	380.2
12.5°	385.8	385.1	384.4	383.7	383.0	381.7	379.6	377.6	375.5	373.4	373.0
15°	378.2	377.3	376.4	375.6	374.7	372.9	370.2	367.5	364.7	362.0	360.5
17.5°	368.9	367.6	366.2	364.9	363.5	361.2	357.7	354.2	350.7	347.2	345.4
20°	362.0	360.4	358.9	357.2	355.6	352.8	348.8	344.8	340.9	336.8	334.9
22.5°	354.6	352.8	350.9	349.2	347.4	344.2	339.7	335.2	330.7	326.2	323.6
25°	343.3	340.7	338.2	335.6	333.1	329.2	323.8	318.6	313.3	308.1	304.8
27.5°	329.8	327.0	324.2	321.5	318.6	314.3	308.3	302.4	296.4	290.5	286.7
30°	320.3	317.3	314.2	311.2	308.2	303.4	297.0	290.7	284.2	277.8	273.8
32.5°	311.1	307.5	304.0	300.4	296.8	291.8	285.3	278.8	272.3	265.7	261.1
35°	295.8	291.8	287.6	283.6	279.5	273.9	266.9	259.8	252.9	245.8	240.7
37.5°	280.6	276.1	271.6	267.1	262.6	256.7	249.1	241.6	234.2	226.6	221.1
40°	269.9	265.1	260.3	255.5	250.7	244.5	236.7	228.9	221.2	213.4	207.7
42.5°	259.0	253.9	248.8	243.8	238.8	232.2	224.2	216.2	208.2	200.2	194.3
45°	241.9	236.5	231.1	225.8	220.4	213.5	205.1	196.7	188.3	179.9	174.3
47.5°	225.1	219.4	213.8	208.1	202.4	195.3	186.6	177.9	169.2	160.6	155.0
50°	213.0	207.4	201.7	196.0	190.4	183.1	174.3	165.5	156.7	147.9	142.4
52.5°	201.2	195.3	189.4	183.5	177.5	170.2	161.6	153.0	144.4	135.8	130.5
55°	183.9	177.7	171.4	165.2	158.9	151.5	142.8	134.2	125.6	116.9	112.2
57.5°	166.1	159.7	153.3	146.9	140.5	133.2	124.8	116.6	108.3	100.0	95.5
60°	154.0	147.7	141.2	134.8	128.4	121.1	112.9	104.6	96.4	88.2	84.1
62.5°	142.2	135.9	129.4	123.0	116.6	109.5	101.6	93.8	86.0	78.1	74.2
65°	124.1	117.6	111.2	104.7	98.2	91.4	84.2	77.0	69.8	62.6	59.9
67.5°	106.7	100.3	93.9	87.5	81.0	74.5	68.0	61.6	55.1	48.6	47.4
70°	94.7	88.4	82.1	76.0	69.7	63.8	58.3	52.8	47.3	41.7	41.0
72.5°	83.1	77.2	71.1	65.2	59.2	54.0	49.6	45.2	40.7	36.3	35.6
75°	66.2	60.6	55.1	49.4	43.8	39.7	36.9	34.2	31.5	28.8	28.2
77.5°	49.6	44.7	39.8	34.9	29.9	26.9	25.5	24.2	22.9	21.6	21.3
80°	39.2	35.2	31.1	27.0	22.9	20.4	19.6	18.9	18.1	17.3	17.0
82.5°	29.7	26.5	23.4	20.2	17.0	15.1	14.6	14.0	13.5	13.0	12.8
85°	15.4	13.8	12.1	10.5	8.8	7.8	7.5	7.3	7.1	6.8	6.8
87.5°	4.8	4.8	4.9	4.9	5.0	5.5	6.5	7.4	8.5	9.5	9.3
90°	1.0	3.8	6.5	9.3	12.0	15.8	20.9	25.9	30.9	36.0	35.5
92.5°	18.3	20.3	22.3	24.3	26.3	27.9	29.1	30.3	31.4	32.6	32.7
95°	53.4	55.7	58.0	60.3	62.6	63.9	64.4	64.8	65.3	65.8	65.8
97.5°	97.6	99.6	101.6	103.6	105.6	107.0	107.9	108.8	109.6	110.5	110.5
100°	130.5	132.3	134.1	135.9	137.8	139.0	139.7	140.4	141.1	141.7	141.7
102.5°	164.9	166.4	167.9	169.4	170.8	172.0	172.9	173.7	174.6	175.5	175.6
105°	220.9	221.5	222.2	222.9	223.6	224.2	224.6	225.1	225.5	226.0	226.4
107.5°	277.1	278.1	279.2	280.1	281.1	281.6	281.6	281.6	281.6	281.6	281.9
110°	313.3	314.7	316.0	317.4	318.8	319.5	319.5	319.5	319.5	319.5	319.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	352.8	354.1	355.5	356.9	358.2	358.8	358.6	358.5	358.2	358.1	357.5
115°	410.9	412.3	413.6	414.9	416.4	416.8	416.4	415.9	415.4	414.9	414.8
117.5°	468.8	470.6	472.5	474.3	476.1	476.4	475.1	473.8	472.5	471.3	470.7
120°	507.4	509.2	511.1	512.9	514.8	514.8	512.9	511.1	509.2	507.4	507.4
122.5°	542.7	544.9	547.2	549.3	551.5	552.0	550.7	549.5	548.1	546.8	546.3
125°	597.8	599.8	601.9	604.0	606.0	606.7	606.0	605.4	604.7	604.0	603.3
127.5°	651.4	654.0	656.6	659.3	661.9	662.7	661.9	661.1	660.3	659.4	658.6
130°	685.2	688.1	691.1	694.0	697.0	698.2	697.8	697.4	696.9	696.4	695.9
132.5°	722.9	725.3	727.8	730.2	732.6	733.9	734.0	734.0	734.1	734.2	733.2
135°	773.5	775.9	778.5	781.0	783.5	785.0	785.4	785.9	786.4	786.8	786.6
137.5°	826.6	828.7	830.8	832.8	834.9	836.2	836.8	837.4	838.0	838.6	838.4
140°	858.7	860.8	862.8	864.9	867.0	868.5	869.7	870.8	872.0	873.1	873.1
142.5°	891.6	893.7	895.7	897.8	899.8	901.2	902.0	902.8	903.6	904.4	904.5
145°	938.8	940.5	942.1	943.6	945.2	946.7	948.1	949.4	950.9	952.2	952.4
147.5°	981.0	982.9	984.8	986.7	988.6	990.1	990.9	991.9	992.8	993.7	994.2
150°	1009.7	1011.1	1012.5	1013.8	1015.2	1016.4	1017.2	1018.2	1019.1	1020.0	1020.6
152.5°	1035.2	1036.6	1037.9	1039.3	1040.7	1041.9	1043.0	1044.1	1045.2	1046.3	1047.2
155°	1073.4	1074.1	1074.8	1075.5	1076.2	1076.8	1077.5	1078.2	1078.9	1079.6	1080.7
157.5°	1106.0	1106.5	1107.0	1107.5	1107.9	1108.3	1108.7	1109.1	1109.5	1110.0	1111.5
160°	1125.8	1126.2	1126.7	1127.2	1127.6	1128.0	1128.1	1128.4	1128.6	1128.9	1130.2
162.5°	1143.8	1144.0	1144.1	1144.1	1144.2	1144.4	1144.6	1144.9	1145.1	1145.3	1146.8
165°	1167.9	1167.7	1167.4	1167.2	1167.0	1166.9	1166.9	1166.9	1166.9	1166.9	1168.5
167.5°	1188.0	1187.3	1186.7	1186.0	1185.3	1184.9	1184.9	1184.9	1184.8	1184.7	1186.4
170°	1198.7	1198.0	1197.4	1196.7	1196.0	1195.6	1195.3	1195.1	1194.8	1194.6	1196.2
172.5°	1206.1	1205.5	1204.8	1204.0	1203.4	1202.9	1202.7	1202.5	1202.2	1202.0	1203.6
175°	1215.1	1214.5	1213.8	1213.1	1212.4	1211.9	1211.4	1210.9	1210.5	1210.0	1211.6
177.5°	1218.9	1218.3	1217.7	1217.2	1216.6	1216.2	1215.8	1215.4	1215.1	1214.7	1215.8
180°	1217.2	1217.2	1217.2	1217.2	1217.2	1217.2	1217.2	1217.2	1217.2	1217.2	1217.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	397.7	397.7	397.7	397.7	397.7	397.7	397.7	397.7
2.5°	395.8	396.4	397.0	397.3	397.2	397.0	396.9	396.8
5°	392.6	393.3	394.0	394.3	394.0	393.8	393.6	393.3
7.5°	386.3	386.5	386.7	386.6	386.2	385.7	385.3	384.9
10°	379.9	379.7	379.5	379.1	378.6	378.1	377.6	377.2
12.5°	372.6	372.2	371.8	371.1	370.3	369.6	368.8	368.0
15°	359.0	357.4	355.9	354.8	354.0	353.2	352.4	351.6
17.5°	343.6	341.7	340.0	338.4	337.0	335.6	334.2	332.9
20°	332.9	330.8	328.8	326.9	325.2	323.4	321.7	320.0
22.5°	321.1	318.5	315.9	313.9	312.6	311.3	310.0	308.7
25°	301.5	298.2	294.9	292.7	291.5	290.3	289.1	287.9
27.5°	282.8	279.0	275.2	272.4	270.5	268.5	266.6	264.7
30°	269.7	265.6	261.5	258.4	256.2	254.1	251.9	249.8
32.5°	256.4	251.8	247.1	243.8	241.8	239.7	237.7	235.7
35°	235.8	230.7	225.6	222.2	220.5	218.7	217.0	215.2
37.5°	215.6	210.0	204.5	200.7	198.7	196.6	194.6	192.6
40°	202.1	196.4	190.7	186.8	184.7	182.7	180.5	178.5
42.5°	188.4	182.5	176.7	172.8	170.7	168.7	166.7	164.7
45°	168.6	162.9	157.2	153.4	151.5	149.6	147.7	145.8
47.5°	149.2	143.6	138.0	134.3	132.5	130.8	129.0	127.3
50°	136.9	131.3	125.8	122.2	120.6	118.9	117.2	115.5
52.5°	125.2	119.9	114.5	111.1	109.6	108.0	106.4	104.9
55°	107.3	102.6	97.8	94.6	93.1	91.6	90.1	88.6
57.5°	91.2	86.7	82.4	79.5	78.3	77.0	75.7	74.4
60°	80.0	76.0	71.9	69.2	67.9	66.6	65.4	64.1
62.5°	70.3	66.5	62.6	60.2	59.4	58.7	57.9	57.1
65°	57.2	54.4	51.7	50.2	50.0	49.7	49.5	49.3
67.5°	46.2	44.9	43.6	42.9	42.6	42.4	42.1	41.9
70°	40.2	39.4	38.6	38.0	37.6	37.3	37.0	36.7
72.5°	34.9	34.2	33.6	33.2	33.0	32.8	32.6	32.4
75°	27.6	27.1	26.5	26.2	26.1	26.1	26.0	25.9
77.5°	20.9	20.6	20.3	20.1	20.0	19.8	19.7	19.6
80°	16.6	16.3	16.0	15.8	15.8	15.8	15.8	15.8
82.5°	12.6	12.4	12.2	12.1	12.1	12.1	12.1	12.1
85°	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
87.5°	9.2	9.0	8.9	8.8	8.9	8.9	9.0	9.0
90°	35.0	34.6	34.1	34.0	34.2	34.5	34.7	34.9
92.5°	32.9	33.0	33.0	33.1	33.1	33.2	33.3	33.3
95°	65.8	65.8	65.8	65.5	65.0	64.6	64.2	63.7
97.5°	110.5	110.5	110.5	110.5	110.4	110.4	110.4	110.4
100°	141.7	141.7	141.7	141.6	141.4	141.2	140.9	140.7
102.5°	175.8	176.0	176.2	176.2	175.9	175.7	175.5	175.2
105°	226.9	227.4	227.8	228.1	228.1	228.1	228.1	228.1
107.5°	282.0	282.2	282.4	281.9	280.9	279.9	278.8	277.7
110°	319.5	319.5	319.5	319.1	318.5	317.7	317.0	316.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	357.0	356.4	355.8	355.4	354.8	354.3	353.9	353.3
115°	414.5	414.3	414.1	413.6	413.0	412.3	411.5	410.9
117.5°	470.2	469.6	469.1	468.5	467.8	467.1	466.4	465.7
120°	507.4	507.4	507.4	507.1	506.4	505.7	505.0	504.4
122.5°	545.8	545.3	544.7	544.2	543.7	543.1	542.6	542.2
125°	602.6	601.9	601.3	600.8	600.6	600.3	600.1	599.8
127.5°	657.8	657.0	656.2	655.4	654.7	653.9	653.2	652.4
130°	695.5	695.1	694.6	694.0	693.0	692.1	691.2	690.2
132.5°	732.2	731.2	730.2	729.4	728.6	727.9	727.1	726.4
135°	786.4	786.2	785.9	785.4	784.7	784.1	783.4	782.7
137.5°	838.2	838.0	837.9	837.3	836.4	835.5	834.6	833.7
140°	873.1	873.1	873.1	872.7	871.7	870.8	869.9	869.0
142.5°	904.7	904.9	905.1	904.7	903.8	902.9	902.0	901.0
145°	952.7	952.9	953.1	952.8	951.9	950.9	950.1	949.1
147.5°	994.7	995.2	995.7	995.5	994.7	993.8	992.9	992.0
150°	1021.4	1022.1	1022.7	1022.7	1022.1	1021.4	1020.6	1020.0
152.5°	1048.1	1048.8	1049.7	1049.7	1048.8	1048.1	1047.2	1046.3
155°	1081.9	1083.0	1084.1	1084.3	1083.7	1083.0	1082.3	1081.6
157.5°	1113.1	1114.6	1116.2	1116.4	1115.3	1114.2	1113.1	1112.0
160°	1131.6	1133.0	1134.3	1134.6	1133.7	1132.7	1131.9	1130.9
162.5°	1148.4	1149.9	1151.5	1151.8	1150.6	1149.5	1148.4	1147.4
165°	1170.1	1171.6	1173.3	1173.5	1172.4	1171.2	1170.1	1168.9
167.5°	1188.0	1189.5	1191.1	1191.4	1190.2	1189.0	1187.8	1186.6
170°	1197.8	1199.4	1201.0	1201.1	1199.8	1198.4	1197.0	1195.6
172.5°	1205.2	1206.8	1208.4	1208.5	1207.1	1205.8	1204.4	1203.0
175°	1213.2	1214.8	1216.4	1216.6	1215.1	1213.8	1212.4	1211.0
177.5°	1217.0	1218.1	1219.1	1219.1	1218.1	1217.0	1215.8	1214.7
180°	1217.2	1217.2	1217.2	1217.2	1217.2	1217.2	1217.2	1217.2

(END OF REPORT)