

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

Luminaire Tested: **S122RDIW-S290D1240U835-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331780
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-S290D1240U835-4F0-1E-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: 5335.0 lumens
Efficiency: N/A
Efficacy: 114.5 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-Indirect

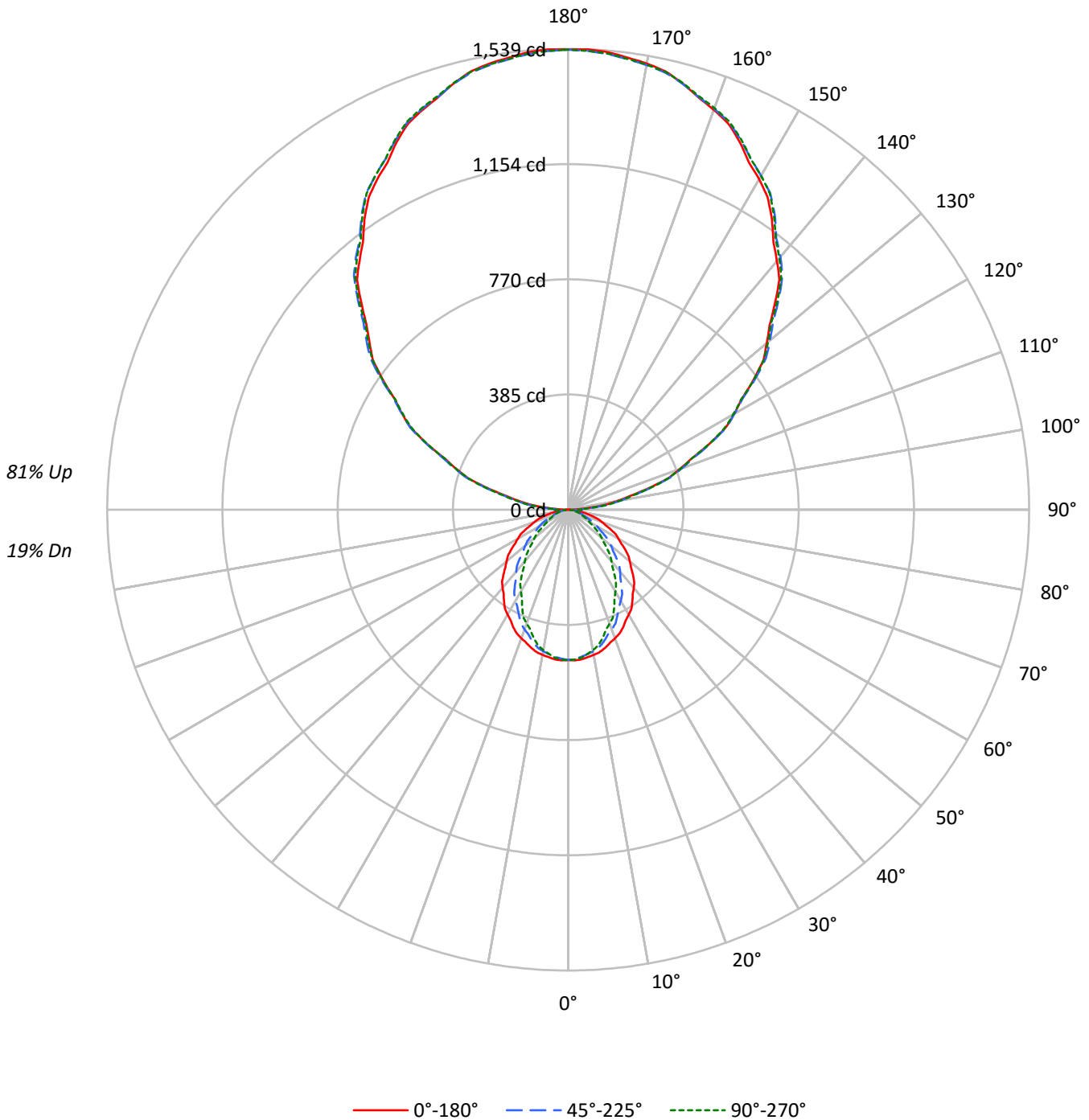
Input Watts (W): 46.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	8105	8105	8105
5°	8136	8003	8047
10°	8073	7873	7806
15°	7980	7639	7418
20°	7852	7306	6940
25°	7721	6928	6474
30°	7538	6538	5878
35°	7360	6116	5355
40°	7181	5678	4749
45°	6971	5186	4201
50°	6754	4690	3662
55°	6533	4155	3147
60°	6278	3594	2612
65°	5987	3018	2376
70°	5641	2488	2186
75°	5215	2264	2040
80°	4603	2027	1860
85°	3612	1593	1593



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	47.0	0.9
10°-20°	129.0	2.4
20°-30°	181.2	3.4
30°-40°	197.6	3.7
40°-50°	181.6	3.4
50°-60°	142.7	2.7
60°-70°	93.0	1.7
70°-80°	48.0	0.9
80°-90°	18.6	0.3
90°-100°	97.4	1.8
100°-110°	302.4	5.7
110°-120°	516.9	9.7
120°-130°	679.7	12.7
130°-140°	762.9	14.3
140°-150°	748.1	14.0
150°-160°	627.4	11.8
160°-170°	416.2	7.8
170°-180°	145.5	2.7
0°-30°	357.2	6.7
0°-40°	554.7	10.4
0°-60°	879.0	16.5
0°-90°	1038.6	19.5
90°-120°	916.6	17.2
90°-150°	3107.4	58.2
90°-180°	4296.0	80.5
0°-180°	5335.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	502	502	502	502	502	
5°	502	500	494	498	496	48
15°	477	472	457	449	444	134
25°	433	418	389	371	363	199
35°	373	349	310	283	272	234
45°	305	274	227	196	184	236
55°	232	196	148	121	112	207
65°	157	120	79	64	62	155
75°	84	53	36	33	33	88
85°	20	10	9	9	9	23
90°	1	18	45	43	44	4
95°	67	80	83	83	80	77
105°	279	283	285	288	288	294
115°	519	526	524	522	519	513
125°	755	765	762	759	757	674
135°	976	990	993	992	988	754
145°	1185	1194	1202	1203	1198	740
155°	1355	1359	1363	1369	1365	623
165°	1474	1473	1473	1481	1476	416
175°	1534	1530	1527	1536	1529	146
180°	1536	1536	1536	1536	1536	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	502.0	502.0	502.0	502.0	502.0	502.0	502.0	502.0	502.0	502.0	502.0
2.5°	503.8	503.4	503.0	502.6	502.2	501.5	500.6	499.8	498.9	498.0	498.8
5°	502.0	501.5	501.0	500.5	500.0	499.0	497.7	496.4	495.1	493.8	494.7
7.5°	496.8	496.2	495.5	494.9	494.3	493.2	491.7	490.1	488.6	487.1	487.3
10°	492.4	491.7	491.0	490.3	489.6	488.2	486.2	484.2	482.2	480.2	479.9
12.5°	487.0	486.1	485.2	484.4	483.5	481.8	479.2	476.6	474.0	471.4	470.9
15°	477.4	476.3	475.2	474.1	473.0	470.7	467.3	463.9	460.4	457.0	455.1
17.5°	465.7	464.0	462.3	460.6	458.9	455.9	451.5	447.1	442.7	438.3	436.0
20°	457.0	455.0	453.0	450.9	448.9	445.4	440.3	435.3	430.3	425.2	422.7
22.5°	447.6	445.3	443.0	440.8	438.5	434.5	428.8	423.1	417.5	411.8	408.5
25°	433.4	430.1	426.9	423.7	420.5	415.5	408.8	402.2	395.5	388.9	384.7
27.5°	416.3	412.8	409.3	405.8	402.2	396.7	389.2	381.7	374.2	366.7	361.9
30°	404.3	400.5	396.6	392.8	389.0	383.0	374.9	366.9	358.8	350.7	345.6
32.5°	392.7	388.2	383.7	379.2	374.7	368.4	360.2	351.9	343.7	335.4	329.6
35°	373.4	368.3	363.1	358.0	352.8	345.8	336.9	328.0	319.2	310.3	303.9
37.5°	354.2	348.5	342.8	337.2	331.5	324.0	314.5	305.0	295.6	286.1	279.1
40°	340.7	334.7	328.6	322.5	316.5	308.6	298.8	289.0	279.2	269.4	262.2
42.5°	326.9	320.5	314.1	307.8	301.4	293.1	283.0	272.9	262.8	252.7	245.3
45°	305.3	298.5	291.7	285.0	278.2	269.5	258.9	248.3	237.7	227.1	220.0
47.5°	284.2	277.0	269.9	262.7	255.5	246.5	235.5	224.6	213.6	202.7	195.6
50°	268.9	261.8	254.6	247.4	240.3	231.1	220.0	208.9	197.8	186.7	179.7
52.5°	254.0	246.5	239.1	231.6	224.1	214.9	204.0	193.2	182.3	171.4	164.7
55°	232.1	224.3	216.4	208.5	200.6	191.3	180.3	169.4	158.5	147.6	141.6
57.5°	209.7	201.6	193.5	185.5	177.4	168.1	157.6	147.2	136.7	126.2	120.6
60°	194.4	186.4	178.3	170.2	162.1	152.9	142.5	132.1	121.7	111.3	106.1
62.5°	179.5	171.5	163.4	155.3	147.2	138.2	128.3	118.4	108.5	98.6	93.7
65°	156.7	148.5	140.4	132.2	124.0	115.4	106.3	97.2	88.1	79.0	75.6
67.5°	134.7	126.6	118.5	110.4	102.3	94.1	85.9	77.8	69.6	61.4	59.8
70°	119.5	111.6	103.7	95.9	88.0	80.6	73.6	66.6	59.7	52.7	51.7
72.5°	104.9	97.4	89.8	82.3	74.7	68.2	62.6	57.0	51.4	45.8	44.9
75°	83.6	76.5	69.5	62.4	55.3	50.1	46.6	43.2	39.8	36.3	35.6
77.5°	62.6	56.4	50.2	44.0	37.8	33.9	32.2	30.6	28.9	27.3	26.9
80°	49.5	44.4	39.2	34.1	28.9	25.8	24.8	23.8	22.8	21.8	21.4
82.5°	37.5	33.5	29.5	25.5	21.5	19.1	18.4	17.7	17.0	16.4	16.1
85°	19.5	17.4	15.3	13.2	11.1	9.8	9.5	9.2	8.9	8.6	8.6
87.5°	6.1	6.1	6.2	6.2	6.3	6.9	8.2	9.4	10.7	12.0	11.8
90°	1.3	4.8	8.2	11.7	15.1	20.0	26.4	32.7	39.0	45.4	44.8
92.5°	23.1	25.6	28.2	30.7	33.2	35.2	36.7	38.2	39.7	41.2	41.3
95°	67.4	70.3	73.2	76.1	79.0	80.7	81.3	81.8	82.4	83.0	83.0
97.5°	123.2	125.7	128.3	130.8	133.3	135.1	136.2	137.3	138.4	139.5	139.5
100°	164.7	167.0	169.3	171.6	173.9	175.5	176.3	177.2	178.1	178.9	178.9
102.5°	208.2	210.1	211.9	213.8	215.6	217.1	218.2	219.3	220.4	221.5	221.7
105°	278.8	279.6	280.5	281.4	282.2	283.0	283.5	284.1	284.7	285.3	285.8
107.5°	349.8	351.1	352.4	353.6	354.9	355.5	355.5	355.5	355.5	355.5	355.8
110°	395.5	397.2	398.9	400.7	402.4	403.3	403.3	403.3	403.3	403.3	403.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	445.3	447.0	448.7	450.5	452.2	452.9	452.7	452.5	452.2	452.0	451.3
115°	518.7	520.4	522.1	523.8	525.6	526.1	525.6	525.0	524.4	523.8	523.6
117.5°	591.8	594.1	596.4	598.7	601.0	601.4	599.7	598.1	596.5	594.9	594.2
120°	640.5	642.8	645.2	647.5	649.8	649.8	647.5	645.2	642.8	640.5	640.5
122.5°	685.1	687.9	690.7	693.4	696.2	696.8	695.2	693.6	691.9	690.3	689.6
125°	754.6	757.2	759.8	762.4	765.0	765.9	765.0	764.2	763.3	762.4	761.6
127.5°	822.3	825.6	828.9	832.2	835.5	836.6	835.6	834.5	833.5	832.4	831.4
130°	864.9	868.6	872.4	876.1	879.8	881.4	880.9	880.3	879.7	879.1	878.5
132.5°	912.6	915.6	918.7	921.7	924.8	926.4	926.5	926.6	926.7	926.8	925.6
135°	976.4	979.5	982.7	985.9	989.1	990.9	991.5	992.1	992.7	993.2	992.9
137.5°	1043.5	1046.1	1048.7	1051.3	1053.9	1055.6	1056.3	1057.1	1057.8	1058.6	1058.4
140°	1084.0	1086.6	1089.2	1091.8	1094.4	1096.4	1097.8	1099.3	1100.7	1102.1	1102.1
142.5°	1125.5	1128.1	1130.7	1133.3	1135.9	1137.6	1138.6	1139.6	1140.6	1141.6	1141.8
145°	1185.1	1187.2	1189.2	1191.2	1193.2	1195.1	1196.8	1198.5	1200.3	1202.0	1202.3
147.5°	1238.3	1240.7	1243.1	1245.6	1248.0	1249.8	1250.9	1252.1	1253.2	1254.4	1255.0
150°	1274.6	1276.3	1278.1	1279.8	1281.5	1283.0	1284.1	1285.3	1286.4	1287.6	1288.4
152.5°	1306.8	1308.5	1310.2	1311.9	1313.7	1315.2	1316.6	1318.0	1319.4	1320.8	1321.9
155°	1355.0	1355.9	1356.7	1357.6	1358.5	1359.3	1360.2	1361.0	1361.9	1362.8	1364.2
157.5°	1396.2	1396.8	1397.4	1398.0	1398.5	1399.1	1399.6	1400.1	1400.6	1401.2	1403.1
160°	1421.1	1421.7	1422.3	1422.9	1423.4	1423.9	1424.1	1424.4	1424.7	1425.0	1426.7
162.5°	1443.9	1444.1	1444.2	1444.3	1444.4	1444.6	1444.9	1445.2	1445.5	1445.8	1447.7
165°	1474.3	1474.0	1473.7	1473.4	1473.1	1473.0	1473.0	1473.0	1473.0	1473.0	1475.0
167.5°	1499.7	1498.8	1498.0	1497.1	1496.2	1495.8	1495.7	1495.7	1495.6	1495.5	1497.6
170°	1513.2	1512.3	1511.5	1510.6	1509.7	1509.2	1508.9	1508.6	1508.3	1508.0	1510.0
172.5°	1522.5	1521.7	1520.8	1519.9	1519.1	1518.5	1518.2	1517.9	1517.6	1517.3	1519.4
175°	1533.9	1533.1	1532.2	1531.3	1530.5	1529.8	1529.2	1528.6	1528.0	1527.4	1529.5
177.5°	1538.6	1537.9	1537.2	1536.5	1535.8	1535.3	1534.8	1534.3	1533.9	1533.4	1534.8
180°	1536.5	1536.5	1536.5	1536.5	1536.5	1536.5	1536.5	1536.5	1536.5	1536.5	1536.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	502.0	502.0	502.0	502.0	502.0	502.0	502.0	502.0
2.5°	499.6	500.4	501.2	501.5	501.4	501.2	501.0	500.9
5°	495.6	496.5	497.4	497.7	497.4	497.1	496.8	496.5
7.5°	487.6	487.9	488.1	488.0	487.5	486.9	486.4	485.9
10°	479.6	479.3	479.0	478.5	477.9	477.3	476.7	476.1
12.5°	470.4	469.8	469.3	468.5	467.5	466.5	465.5	464.5
15°	453.2	451.2	449.3	447.9	446.9	445.8	444.8	443.8
17.5°	433.7	431.4	429.2	427.2	425.4	423.7	421.9	420.2
20°	420.2	417.6	415.1	412.7	410.5	408.3	406.1	403.9
22.5°	405.3	402.0	398.8	396.3	394.6	393.0	391.3	389.7
25°	380.6	376.4	372.3	369.5	368.0	366.4	364.9	363.4
27.5°	357.0	352.2	347.4	343.8	341.4	339.0	336.6	334.2
30°	340.4	335.3	330.1	326.2	323.4	320.7	318.0	315.3
32.5°	323.7	317.8	311.9	307.7	305.2	302.6	300.0	297.5
35°	297.6	291.2	284.8	280.5	278.3	276.1	273.9	271.7
37.5°	272.1	265.1	258.1	253.3	250.8	248.2	245.7	243.1
40°	255.1	247.9	240.7	235.8	233.2	230.6	227.9	225.3
42.5°	237.8	230.4	223.0	218.1	215.5	213.0	210.4	207.9
45°	212.8	205.6	198.5	193.7	191.3	188.8	186.4	184.0
47.5°	188.4	181.3	174.2	169.5	167.3	165.1	162.9	160.7
50°	172.8	165.8	158.8	154.3	152.2	150.1	147.9	145.8
52.5°	158.0	151.3	144.6	140.2	138.3	136.3	134.3	132.4
55°	135.5	129.5	123.4	119.4	117.5	115.6	113.7	111.8
57.5°	115.1	109.5	104.0	100.4	98.8	97.2	95.6	93.9
60°	101.0	95.9	90.7	87.3	85.7	84.1	82.5	80.9
62.5°	88.8	83.9	79.0	76.0	75.0	74.1	73.1	72.1
65°	72.2	68.7	65.3	63.4	63.1	62.8	62.5	62.2
67.5°	58.3	56.7	55.1	54.2	53.8	53.5	53.2	52.9
70°	50.7	49.7	48.7	48.0	47.5	47.1	46.7	46.3
72.5°	44.1	43.2	42.4	41.9	41.6	41.4	41.1	40.9
75°	34.9	34.2	33.5	33.1	33.0	32.9	32.8	32.7
77.5°	26.4	26.0	25.6	25.4	25.2	25.0	24.9	24.7
80°	21.0	20.6	20.2	20.0	20.0	20.0	20.0	20.0
82.5°	15.9	15.6	15.4	15.3	15.3	15.3	15.3	15.3
85°	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6
87.5°	11.6	11.4	11.2	11.1	11.2	11.2	11.3	11.4
90°	44.2	43.7	43.1	42.9	43.2	43.5	43.8	44.1
92.5°	41.5	41.6	41.7	41.8	41.8	41.9	42.0	42.0
95°	83.0	83.0	83.0	82.7	82.1	81.5	81.0	80.4
97.5°	139.5	139.5	139.5	139.5	139.4	139.4	139.3	139.3
100°	178.9	178.9	178.9	178.8	178.5	178.2	177.9	177.6
102.5°	221.9	222.2	222.4	222.4	222.1	221.8	221.5	221.2
105°	286.4	287.0	287.6	287.9	287.9	287.9	287.9	287.9
107.5°	356.0	356.2	356.5	355.9	354.6	353.3	351.9	350.6
110°	403.3	403.3	403.3	402.8	402.0	401.1	400.2	399.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	450.6	449.9	449.2	448.6	447.9	447.3	446.7	446.0
115°	523.3	523.0	522.7	522.1	521.3	520.4	519.5	518.7
117.5°	593.5	592.8	592.1	591.4	590.5	589.6	588.8	587.9
120°	640.5	640.5	640.5	640.1	639.2	638.4	637.5	636.7
122.5°	689.0	688.3	687.6	686.9	686.3	685.6	685.0	684.4
125°	760.7	759.8	759.0	758.4	758.1	757.8	757.5	757.2
127.5°	830.4	829.3	828.3	827.3	826.4	825.5	824.6	823.6
130°	878.0	877.4	876.8	876.0	874.8	873.7	872.5	871.3
132.5°	924.3	923.0	921.8	920.7	919.8	918.8	917.9	917.0
135°	992.7	992.4	992.1	991.5	990.6	989.8	988.9	988.0
137.5°	1058.1	1057.9	1057.7	1057.0	1055.8	1054.7	1053.5	1052.4
140°	1102.1	1102.1	1102.1	1101.6	1100.4	1099.3	1098.1	1097.0
142.5°	1142.0	1142.3	1142.5	1142.0	1140.9	1139.7	1138.6	1137.4
145°	1202.6	1202.9	1203.1	1202.7	1201.6	1200.4	1199.3	1198.1
147.5°	1255.6	1256.3	1256.9	1256.7	1255.6	1254.5	1253.4	1252.3
150°	1289.3	1290.2	1291.0	1291.0	1290.2	1289.3	1288.4	1287.6
152.5°	1323.0	1324.0	1325.1	1325.1	1324.0	1323.0	1321.9	1320.8
155°	1365.7	1367.1	1368.5	1368.8	1368.0	1367.1	1366.2	1365.4
157.5°	1405.1	1407.0	1409.0	1409.3	1407.9	1406.5	1405.1	1403.7
160°	1428.5	1430.2	1431.9	1432.2	1431.1	1429.9	1428.8	1427.6
162.5°	1449.7	1451.6	1453.6	1453.9	1452.5	1451.1	1449.7	1448.4
165°	1477.0	1479.0	1481.1	1481.3	1479.9	1478.5	1477.0	1475.6
167.5°	1499.6	1501.6	1503.6	1503.9	1502.4	1500.9	1499.4	1497.9
170°	1512.0	1514.0	1516.1	1516.2	1514.5	1512.8	1511.0	1509.3
172.5°	1521.4	1523.4	1525.4	1525.5	1523.8	1522.1	1520.4	1518.6
175°	1531.5	1533.5	1535.5	1535.7	1533.9	1532.2	1530.5	1528.7
177.5°	1536.2	1537.6	1538.9	1538.9	1537.6	1536.2	1534.8	1533.4
180°	1536.5	1536.5	1536.5	1536.5	1536.5	1536.5	1536.5	1536.5

(END OF REPORT)