

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: P331492-940

Luminaire Tested: **S122DIW-S290D1440U940-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331492-940
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-S290D1440U940-4F0-1E-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: 5527.0 lumens
Efficiency: N/A
Efficacy: 103.5 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

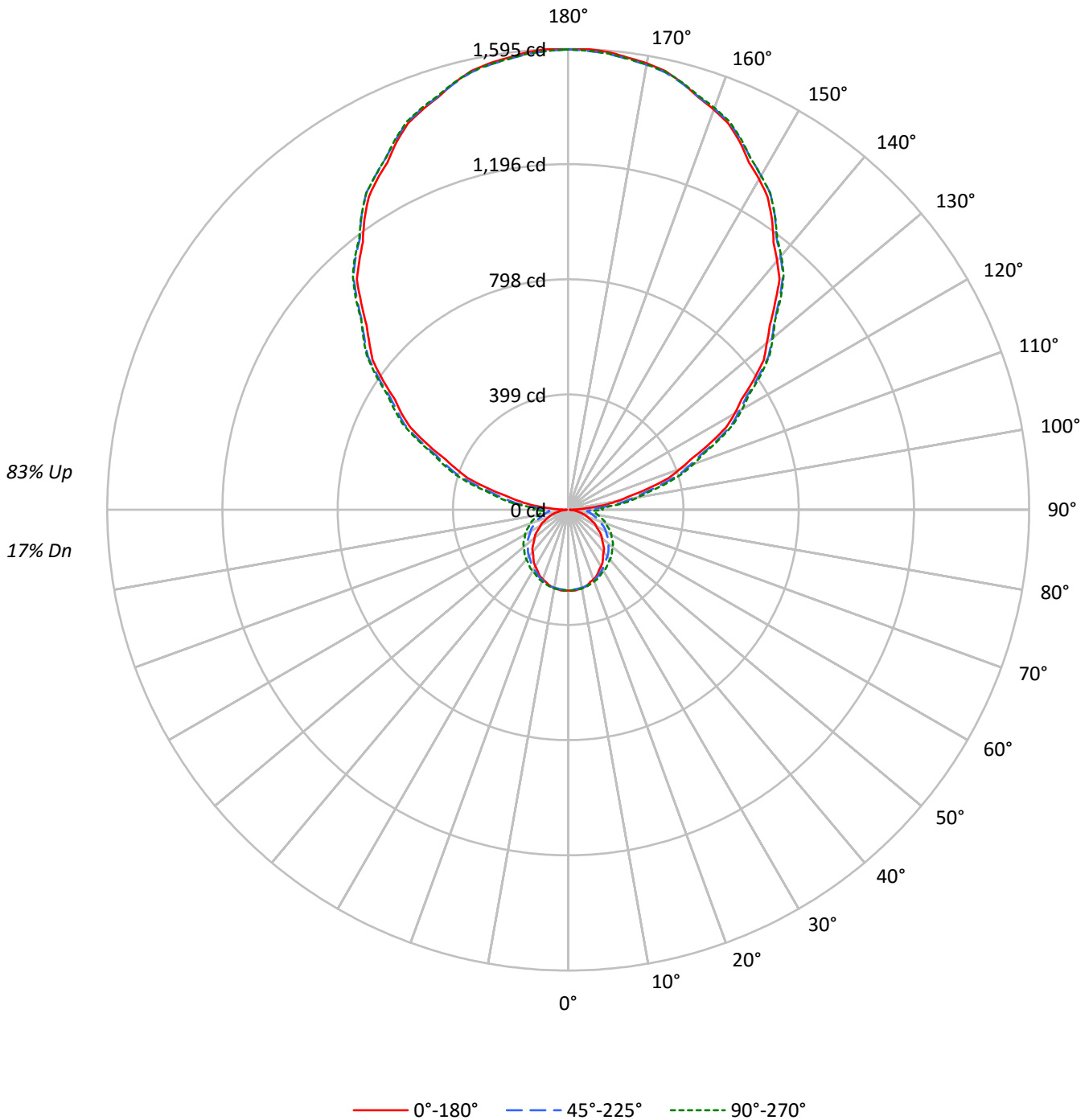
Input Watts (W): 53.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	4514	4514	4514
5°	4536	4345	4328
10°	4507	4215	4169
15°	4443	4079	4001
20°	4366	3935	3839
25°	4289	3793	3693
30°	4180	3650	3544
35°	4070	3510	3442
40°	3952	3391	3338
45°	3841	3286	3250
50°	3723	3189	3162
55°	3597	3086	3074
60°	3447	2979	2980
65°	3288	2854	2867
70°	3108	2717	2746
75°	2883	2585	2636
80°	2528	2450	2524
85°	2185	2333	2436



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	26.5	0.5
10°-20°	75.9	1.4
20°-30°	115.1	2.1
30°-40°	140.2	2.5
40°-50°	150.8	2.7
50°-60°	146.5	2.6
60°-70°	127.9	2.3
70°-80°	98.4	1.8
80°-90°	72.4	1.3
90°-100°	146.4	2.6
100°-110°	346.7	6.3
110°-120°	557.8	10.1
120°-130°	717.0	13.0
130°-140°	796.1	14.4
140°-150°	776.4	14.0
150°-160°	650.5	11.8
160°-170°	431.5	7.8
170°-180°	150.8	2.7
0°-30°	217.5	3.9
0°-40°	357.7	6.5
0°-60°	654.9	11.9
0°-90°	953.7	17.3
90°-120°	1051.0	19.0
90°-150°	3340.5	60.4
90°-180°	4573.0	82.7
0°-180°	5527.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	280	280	280	280	280	
5°	280	279	277	279	279	27
15°	267	268	268	272	271	75
25°	243	246	250	254	256	112
35°	210	216	224	233	236	131
45°	172	183	197	209	214	133
55°	132	147	167	181	187	118
65°	90	110	134	150	156	89
75°	50	73	98	115	121	53
85°	15	40	66	82	88	16
90°	5	46	100	114	120	6
95°	73	105	133	147	150	83
105°	291	307	331	347	352	308
115°	539	552	567	578	579	533
125°	783	795	804	811	813	700
135°	1013	1027	1034	1041	1040	782
145°	1229	1238	1246	1250	1247	767
155°	1405	1409	1413	1419	1416	646
165°	1528	1527	1527	1536	1530	431
175°	1590	1586	1584	1592	1585	151
180°	1593	1593	1593	1593	1593	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	279.6	279.6	279.6	279.6	279.6	279.6	279.6	279.6	279.6	279.6	279.6
2.5°	281.2	280.9	280.7	280.4	280.3	279.9	279.4	278.9	278.4	277.9	278.2
5°	280.4	280.1	279.8	279.6	279.2	278.8	278.3	277.8	277.2	276.7	277.2
7.5°	277.8	277.6	277.4	277.2	277.1	276.8	276.3	276.0	275.5	275.1	275.8
10°	275.9	275.7	275.5	275.4	275.2	274.9	274.6	274.4	274.1	273.8	274.6
12.5°	272.6	272.7	272.7	272.8	272.8	272.7	272.5	272.3	272.1	271.9	272.6
15°	267.3	267.5	267.7	267.9	268.0	268.1	268.1	268.1	268.1	268.1	268.9
17.5°	260.6	260.9	261.3	261.7	262.1	262.4	262.7	263.0	263.2	263.6	264.4
20°	256.0	256.5	256.9	257.3	257.8	258.2	258.6	259.0	259.3	259.7	260.6
22.5°	251.2	251.6	252.2	252.7	253.2	253.8	254.2	254.8	255.3	255.7	256.7
25°	243.1	243.7	244.3	245.0	245.6	246.3	247.1	247.9	248.7	249.5	250.6
27.5°	233.4	234.3	235.4	236.4	237.5	238.4	239.3	240.3	241.3	242.3	243.6
30°	226.9	228.0	229.2	230.3	231.5	232.7	233.9	235.1	236.2	237.4	238.8
32.5°	219.7	221.1	222.3	223.6	225.0	226.3	227.7	229.1	230.5	231.8	233.5
35°	209.5	211.0	212.5	214.0	215.5	217.1	218.9	220.6	222.3	224.0	226.0
37.5°	198.2	200.0	201.8	203.6	205.3	207.3	209.6	211.7	213.9	216.2	218.4
40°	190.8	192.8	194.7	196.7	198.7	200.9	203.3	205.8	208.2	210.6	212.9
42.5°	183.7	185.7	187.6	189.6	191.6	193.9	196.8	199.6	202.3	205.1	207.7
45°	171.7	174.2	176.6	179.1	181.5	184.2	187.4	190.6	193.7	196.9	199.7
47.5°	160.0	162.6	165.3	167.9	170.6	173.8	177.5	181.1	184.9	188.5	191.5
50°	151.9	154.7	157.5	160.2	163.1	166.5	170.6	174.6	178.6	182.7	185.7
52.5°	144.1	147.0	150.0	152.9	155.9	159.4	163.7	168.0	172.3	176.6	179.7
55°	131.6	134.9	138.1	141.3	144.6	148.6	153.3	157.9	162.6	167.3	170.6
57.5°	119.3	123.0	126.6	130.3	133.9	138.1	142.9	147.7	152.5	157.3	160.8
60°	110.6	114.5	118.3	122.2	126.1	130.5	135.7	140.8	146.0	151.1	154.5
62.5°	102.8	106.8	110.8	114.9	118.9	123.4	128.6	133.7	138.8	144.0	147.6
65°	89.9	94.3	98.7	103.2	107.5	112.4	117.7	123.1	128.4	133.7	137.4
67.5°	78.1	82.8	87.3	91.9	96.6	101.6	107.0	112.4	117.9	123.3	127.1
70°	69.6	74.4	79.0	83.7	88.4	93.5	99.1	104.7	110.3	115.8	119.8
72.5°	61.9	66.7	71.5	76.3	81.2	86.4	92.1	97.7	103.4	109.1	112.9
75°	49.8	54.8	59.9	64.9	70.0	75.3	81.1	86.9	92.6	98.4	102.3
77.5°	38.2	43.4	48.7	53.9	59.3	64.8	70.7	76.5	82.4	88.2	92.1
80°	30.4	35.8	41.4	46.8	52.3	58.1	63.8	69.7	75.5	81.4	85.2
82.5°	23.9	29.3	34.8	40.1	45.6	51.3	57.2	63.1	69.0	74.9	78.7
85°	14.6	20.2	25.8	31.3	36.9	42.5	48.3	54.1	59.8	65.6	69.4
87.5°	8.2	14.3	20.3	26.5	32.5	39.1	46.2	53.2	60.4	67.4	71.0
90°	5.4	14.2	23.0	31.8	40.7	51.2	63.5	75.9	88.2	100.5	103.5
92.5°	27.6	35.1	42.6	50.1	57.6	64.9	72.1	79.1	86.2	93.3	96.9
95°	73.1	80.3	87.6	94.8	102.0	108.6	114.6	120.6	126.6	132.6	136.1
97.5°	130.5	137.0	143.3	149.7	156.1	162.5	168.8	175.1	181.5	187.7	191.1
100°	173.5	179.3	185.0	190.7	196.4	202.2	208.2	214.2	220.1	226.0	229.3
102.5°	218.4	223.4	228.3	233.3	238.3	243.7	249.8	255.7	261.8	267.9	271.3
105°	291.1	294.5	298.1	301.6	305.1	309.5	314.8	320.0	325.3	330.6	334.3
107.5°	364.6	368.0	371.5	374.9	378.3	382.2	386.6	391.2	395.7	400.1	403.4
110°	411.6	415.3	418.8	422.4	426.0	430.0	434.4	438.8	443.3	447.6	450.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	463.2	466.5	469.8	473.1	476.4	480.1	484.0	488.0	492.0	496.0	498.1
115°	539.3	542.2	544.9	547.7	550.5	553.6	557.1	560.5	563.9	567.4	569.8
117.5°	614.7	617.8	620.8	623.8	626.9	629.5	631.5	633.6	635.7	637.8	639.7
120°	665.3	668.1	670.8	673.5	676.3	678.3	679.5	680.7	681.9	683.1	685.6
122.5°	711.6	714.5	717.6	720.6	723.6	725.9	727.6	729.4	731.1	732.8	734.5
125°	783.2	785.9	788.5	791.3	794.0	796.3	798.3	800.2	802.3	804.2	805.7
127.5°	853.4	856.7	860.0	863.4	866.7	868.9	870.1	871.4	872.6	873.9	875.0
130°	897.5	901.3	905.1	908.8	912.7	915.2	916.5	917.7	919.1	920.3	921.9
132.5°	946.9	950.0	953.1	956.2	959.2	961.5	963.1	964.7	966.3	967.9	968.7
135°	1012.6	1015.9	1019.2	1022.5	1025.8	1028.2	1029.7	1031.2	1032.7	1034.2	1035.8
137.5°	1082.3	1084.9	1087.6	1090.3	1093.0	1094.9	1096.1	1097.3	1098.4	1099.6	1101.0
140°	1124.3	1126.9	1129.4	1132.0	1134.6	1136.8	1138.4	1140.1	1141.8	1143.4	1144.9
142.5°	1167.2	1169.8	1172.4	1175.1	1177.7	1179.5	1180.5	1181.6	1182.7	1183.7	1185.1
145°	1228.7	1230.8	1232.9	1234.9	1237.1	1239.0	1240.8	1242.6	1244.4	1246.2	1247.0
147.5°	1283.8	1286.3	1288.8	1291.4	1293.9	1295.7	1296.9	1298.1	1299.3	1300.5	1301.2
150°	1321.4	1323.2	1325.1	1326.9	1328.6	1330.1	1331.3	1332.5	1333.7	1334.9	1335.8
152.5°	1354.8	1356.6	1358.3	1360.1	1362.0	1363.6	1365.0	1366.5	1367.9	1369.3	1370.5
155°	1404.8	1405.7	1406.6	1407.5	1408.4	1409.3	1410.2	1411.0	1411.9	1412.8	1414.3
157.5°	1447.5	1448.1	1448.8	1449.4	1449.9	1450.5	1451.1	1451.6	1452.2	1452.7	1454.6
160°	1473.4	1474.0	1474.5	1475.2	1475.8	1476.2	1476.5	1476.8	1477.1	1477.4	1479.2
162.5°	1497.0	1497.2	1497.3	1497.4	1497.5	1497.7	1498.0	1498.3	1498.6	1498.9	1500.9
165°	1528.5	1528.2	1527.9	1527.6	1527.3	1527.1	1527.1	1527.1	1527.1	1527.1	1529.2
167.5°	1554.8	1553.9	1553.0	1552.1	1551.2	1550.8	1550.7	1550.7	1550.6	1550.5	1552.6
170°	1568.8	1567.9	1567.0	1566.1	1565.2	1564.6	1564.3	1564.1	1563.7	1563.4	1565.5
172.5°	1578.5	1577.6	1576.7	1575.8	1574.9	1574.3	1574.0	1573.7	1573.4	1573.1	1575.2
175°	1590.3	1589.4	1588.5	1587.6	1586.7	1586.0	1585.4	1584.7	1584.2	1583.6	1585.7
177.5°	1595.2	1594.5	1593.8	1593.0	1592.3	1591.7	1591.2	1590.7	1590.3	1589.7	1591.2
180°	1593.0	1593.0	1593.0	1593.0	1593.0	1593.0	1593.0	1593.0	1593.0	1593.0	1593.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	279.6	279.6	279.6	279.6	279.6	279.6	279.6	279.6
2.5°	278.6	278.9	279.3	279.5	279.3	279.1	279.0	278.8
5°	277.8	278.3	278.8	279.0	278.9	278.8	278.7	278.7
7.5°	276.4	277.1	277.8	278.0	277.9	277.9	277.8	277.7
10°	275.3	276.0	276.7	277.1	277.0	276.9	276.8	276.7
12.5°	273.3	274.0	274.7	275.1	275.0	274.9	274.8	274.7
15°	269.7	270.6	271.4	271.8	271.7	271.6	271.5	271.4
17.5°	265.3	266.1	266.9	267.3	267.3	267.3	267.3	267.3
20°	261.6	262.6	263.6	264.1	264.1	264.1	264.1	264.1
22.5°	257.8	258.8	259.8	260.3	260.5	260.6	260.7	260.9
25°	251.7	252.8	253.9	254.5	254.8	255.0	255.3	255.6
27.5°	245.0	246.4	247.7	248.5	248.7	248.9	249.1	249.3
30°	240.2	241.7	243.2	244.0	244.2	244.5	244.8	245.0
32.5°	235.1	236.8	238.5	239.6	240.0	240.6	241.0	241.5
35°	228.0	230.0	231.9	233.3	233.9	234.5	235.1	235.8
37.5°	220.5	222.7	225.0	226.4	227.0	227.7	228.4	229.0
40°	215.3	217.7	220.0	221.6	222.4	223.2	224.0	224.8
42.5°	210.3	212.8	215.3	217.0	217.8	218.6	219.5	220.3
45°	202.4	205.3	208.0	209.9	210.8	211.7	212.6	213.5
47.5°	194.4	197.2	200.2	202.2	203.1	204.1	205.1	206.1
50°	188.8	191.9	194.9	197.0	198.0	198.9	199.9	200.9
52.5°	182.8	185.9	189.0	191.2	192.3	193.3	194.4	195.4
55°	173.8	177.0	180.3	182.4	183.6	184.9	186.0	187.2
57.5°	164.3	167.7	171.2	173.5	174.8	175.9	177.1	178.3
60°	157.9	161.4	164.8	167.1	168.4	169.6	170.9	172.2
62.5°	151.2	154.9	158.5	161.0	162.1	163.3	164.5	165.7
65°	141.1	144.7	148.5	150.9	152.0	153.2	154.4	155.5
67.5°	130.7	134.5	138.2	140.7	141.9	143.1	144.4	145.6
70°	123.6	127.4	131.3	133.8	134.9	136.0	137.1	138.1
72.5°	116.6	120.5	124.2	126.8	128.0	129.4	130.7	132.0
75°	106.2	110.0	114.0	116.5	117.6	118.8	119.9	121.1
77.5°	95.9	99.8	103.6	106.2	107.5	108.7	109.9	111.2
80°	89.0	92.7	96.6	99.1	100.3	101.6	102.8	104.1
82.5°	82.5	86.3	90.1	92.6	93.7	95.0	96.1	97.3
85°	73.2	77.0	80.8	83.3	84.5	85.8	87.0	88.3
87.5°	74.5	78.1	81.6	84.0	85.2	86.4	87.7	88.9
90°	106.6	109.5	112.5	114.8	116.1	117.5	118.9	120.2
92.5°	100.6	104.2	107.9	110.3	111.5	112.5	113.7	114.9
95°	139.5	142.9	146.3	148.3	148.7	149.2	149.7	150.2
97.5°	194.4	197.8	201.1	203.2	204.2	205.3	206.3	207.2
100°	232.6	236.0	239.3	241.4	242.0	242.7	243.4	244.2
102.5°	274.8	278.3	281.9	283.9	284.6	285.3	286.0	286.7
105°	338.0	341.8	345.5	347.9	348.9	349.9	350.9	351.9
107.5°	406.6	409.9	413.2	414.6	414.2	413.8	413.5	413.0
110°	453.4	456.3	459.1	460.7	460.7	460.8	460.9	461.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	500.2	502.4	504.6	505.9	506.1	506.5	506.8	507.2
115°	572.2	574.6	577.0	578.3	578.4	578.5	578.5	578.6
117.5°	641.7	643.6	645.5	646.5	646.6	646.6	646.6	646.6
120°	688.1	690.7	693.2	694.6	694.6	694.7	694.8	694.9
122.5°	736.3	738.0	739.8	740.7	740.9	741.1	741.3	741.5
125°	807.3	808.9	810.4	811.4	811.9	812.4	812.9	813.4
127.5°	876.2	877.4	878.5	879.0	878.9	878.7	878.5	878.3
130°	923.5	925.1	926.6	927.1	926.7	926.2	925.7	925.2
132.5°	969.5	970.2	971.0	971.3	971.0	970.8	970.5	970.3
135°	1037.4	1038.9	1040.5	1041.3	1041.1	1040.9	1040.7	1040.5
137.5°	1102.4	1103.8	1105.3	1105.7	1105.1	1104.6	1103.9	1103.3
140°	1146.4	1147.8	1149.2	1149.6	1149.0	1148.3	1147.6	1147.0
142.5°	1186.5	1187.8	1189.3	1189.6	1188.8	1188.1	1187.4	1186.7
145°	1247.9	1248.7	1249.6	1249.6	1248.8	1248.1	1247.3	1246.6
147.5°	1301.9	1302.7	1303.4	1303.3	1302.3	1301.5	1300.6	1299.7
150°	1336.7	1337.6	1338.5	1338.5	1337.6	1336.7	1335.8	1334.9
152.5°	1371.5	1372.7	1373.9	1373.9	1372.7	1371.5	1370.5	1369.3
155°	1415.9	1417.4	1418.8	1419.2	1418.3	1417.4	1416.5	1415.6
157.5°	1456.7	1458.7	1460.8	1461.1	1459.6	1458.2	1456.8	1455.4
160°	1481.0	1482.7	1484.5	1484.9	1483.6	1482.5	1481.3	1480.1
162.5°	1503.0	1505.0	1507.0	1507.3	1505.9	1504.5	1503.1	1501.6
165°	1531.3	1533.4	1535.5	1535.8	1534.3	1532.9	1531.3	1529.8
167.5°	1554.7	1556.8	1558.9	1559.2	1557.6	1556.0	1554.5	1552.9
170°	1567.6	1569.7	1571.8	1571.9	1570.1	1568.3	1566.6	1564.8
172.5°	1577.3	1579.4	1581.4	1581.6	1579.8	1578.1	1576.3	1574.5
175°	1587.8	1589.8	1592.0	1592.1	1590.3	1588.5	1586.7	1584.9
177.5°	1592.7	1594.1	1595.5	1595.5	1594.1	1592.7	1591.2	1589.7
180°	1593.0	1593.0	1593.0	1593.0	1593.0	1593.0	1593.0	1593.0

(END OF REPORT)