

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: P331784-940

Luminaire Tested: **S122RDIW-S290D1440U940-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331784-940
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: S122RDIW-S290D1440U940-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1440 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5381.3 lumens
Efficiency: N/A
Efficacy: 100.8 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

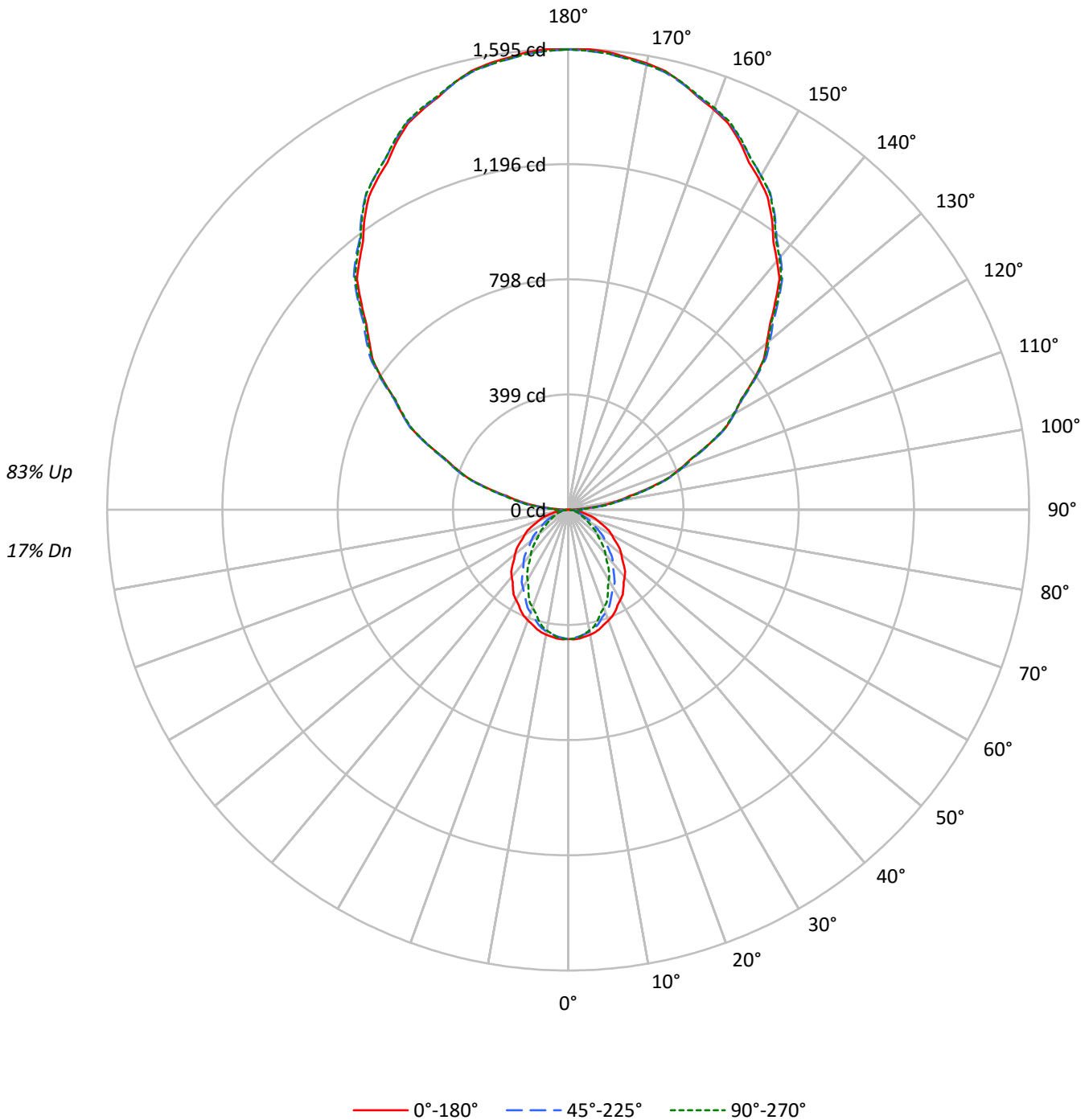
Input Watts (W): 53.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	99	99	99	99	87	87	87	87	65	65	65	45	45	45	26	26	26	17
1	91	87	83	80	80	76	73	71	57	55	53	39	38	37	23	23	22	15
2	83	76	70	65	72	67	62	58	50	47	44	35	33	31	21	20	19	13
3	75	67	60	54	66	59	53	49	44	41	37	31	29	27	18	17	16	11
4	69	59	51	46	60	52	46	41	39	35	32	27	25	23	16	15	14	9
5	63	52	45	39	55	46	40	35	35	31	27	25	22	20	15	13	12	8
6	58	47	39	34	51	41	35	30	32	27	24	22	19	17	13	12	11	7
7	54	42	35	29	47	37	31	26	28	24	21	20	17	15	12	11	10	7
8	50	38	31	26	43	34	28	23	26	21	18	18	16	13	11	10	9	6
9	46	35	27	23	40	31	25	21	24	19	16	17	14	12	10	9	8	5
10	43	31	25	20	38	28	22	18	22	17	15	15	13	11	10	8	7	5

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7227	7227	7227
5°	7254	7136	7175
10°	7199	7020	6960
15°	7116	6812	6614
20°	7002	6515	6189
25°	6885	6178	5772
30°	6721	5830	5243
35°	6564	5454	4776
40°	6403	5063	4234
45°	6215	4624	3747
50°	6023	4182	3265
55°	5827	3704	2806
60°	5596	3203	2328
65°	5337	2690	2120
70°	5032	2219	1950
75°	4648	2021	1822
80°	4100	1804	1655
85°	3223	1426	1426



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	41.9	0.8
10°-20°	115.0	2.1
20°-30°	161.6	3.0
30°-40°	176.2	3.3
40°-50°	162.0	3.0
50°-60°	127.2	2.4
60°-70°	82.9	1.5
70°-80°	42.8	0.8
80°-90°	17.4	0.3
90°-100°	100.9	1.9
100°-110°	313.5	5.8
110°-120°	535.9	10.0
120°-130°	704.7	13.1
130°-140°	791.0	14.7
140°-150°	775.6	14.4
150°-160°	650.5	12.1
160°-170°	431.5	8.0
170°-180°	150.8	2.8
0°-30°	318.5	5.9
0°-40°	494.7	9.2
0°-60°	783.8	14.6
0°-90°	927.0	17.2
90°-120°	950.3	17.7
90°-150°	3221.6	59.9
90°-180°	4454.0	82.8
0°-180°	5381.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	448	448	448	448	448	
5°	448	445	440	444	443	42
15°	426	421	408	400	396	120
25°	386	373	347	331	324	178
35°	333	312	277	252	242	208
45°	272	244	202	175	164	210
55°	207	175	132	108	100	185
65°	140	107	70	57	56	138
75°	74	47	32	30	29	79
85°	17	9	8	8	8	21
90°	1	18	47	45	46	4
95°	70	83	86	86	83	80
105°	289	293	296	298	298	305
115°	538	545	543	542	538	532
125°	782	794	790	787	785	699
135°	1012	1026	1030	1028	1024	782
145°	1229	1238	1246	1247	1242	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°	447.6	447.6	447.6	447.6	447.6	447.6	447.6	447.6	447.6	447.6	447.6
2.5°	449.2	448.9	448.5	448.2	447.8	447.2	446.4	445.7	444.9	444.1	444.8
5°	447.6	447.2	446.7	446.3	445.9	445.0	443.8	442.6	441.5	440.3	441.1
7.5°	443.0	442.5	441.8	441.3	440.8	439.8	438.5	437.0	435.7	434.4	434.5
10°	439.1	438.5	437.8	437.2	436.6	435.3	433.5	431.8	430.0	428.2	427.9
12.5°	434.3	433.5	432.7	431.9	431.1	429.6	427.3	425.0	422.7	420.4	419.9
15°	425.7	424.7	423.7	422.8	421.8	419.7	416.7	413.7	410.5	407.5	405.8
17.5°	415.3	413.8	412.2	410.7	409.2	406.5	402.6	398.7	394.8	390.8	388.8
20°	407.5	405.7	403.9	402.1	400.3	397.2	392.6	388.2	383.7	379.2	376.9
22.5°	399.1	397.1	395.0	393.1	391.0	387.4	382.4	377.3	372.3	367.2	364.3
25°	386.5	383.5	380.7	377.8	375.0	370.5	364.5	358.6	352.7	346.8	343.0
27.5°	371.2	368.1	365.0	361.9	358.6	353.7	347.1	340.4	333.7	327.0	322.7
30°	360.5	357.1	353.7	350.3	346.9	341.5	334.3	327.2	319.9	312.7	308.2
32.5°	350.2	346.2	342.1	338.1	334.1	328.5	321.2	313.8	306.5	299.1	293.9
35°	333.0	328.4	323.8	319.2	314.6	308.4	300.4	292.5	284.6	276.7	271.0
37.5°	315.8	310.8	305.7	300.7	295.6	288.9	280.4	272.0	263.6	255.1	248.9
40°	303.8	298.5	293.0	287.6	282.2	275.2	266.4	257.7	249.0	240.2	233.8
42.5°	291.5	285.8	280.1	274.5	268.8	261.4	252.4	243.3	234.3	225.3	218.7
45°	272.2	266.2	260.1	254.1	248.1	240.3	230.9	221.4	212.0	202.5	196.2
47.5°	253.4	247.0	240.7	234.3	227.8	219.8	210.0	200.3	190.5	180.7	174.4
50°	239.8	233.4	227.0	220.6	214.3	206.1	196.2	186.3	176.4	166.5	160.2
52.5°	226.5	219.8	213.2	206.5	199.8	191.6	181.9	172.3	162.6	152.8	146.9
55°	207.0	200.0	193.0	185.9	178.9	170.6	160.8	151.1	141.3	131.6	126.3
57.5°	187.0	179.8	172.5	165.4	158.2	149.9	140.5	131.3	121.9	112.5	107.5
60°	173.3	166.2	159.0	151.8	144.5	136.3	127.1	117.8	108.5	99.2	94.6
62.5°	160.1	152.9	145.7	138.5	131.3	123.2	114.4	105.6	96.8	87.9	83.6
65°	139.7	132.4	125.2	117.9	110.6	102.9	94.8	86.7	78.6	70.4	67.4
67.5°	120.1	112.9	105.7	98.4	91.2	83.9	76.6	69.4	62.1	54.8	53.3
70°	106.6	99.5	92.5	85.5	78.5	71.9	65.6	59.4	53.2	47.0	46.1
72.5°	93.5	86.9	80.1	73.4	66.6	60.8	55.8	50.8	45.8	40.8	40.0
75°	74.5	68.2	62.0	55.6	49.3	44.7	41.6	38.5	35.5	32.4	31.7
77.5°	55.8	50.3	44.8	39.2	33.7	30.2	28.7	27.3	25.8	24.3	24.0
80°	44.1	39.6	35.0	30.4	25.8	23.0	22.1	21.2	20.3	19.4	19.1
82.5°	33.4	29.9	26.3	22.7	19.2	17.0	16.4	15.8	15.2	14.6	14.4
85°	17.4	15.5	13.6	11.8	9.9	8.7	8.5	8.2	7.9	7.7	7.7
87.5°	5.4	5.6	5.7	5.9	6.0	6.8	8.0	9.4	10.7	12.0	11.8
90°	1.3	4.9	8.5	12.1	15.7	20.8	27.4	33.9	40.5	47.1	46.5
92.5°	23.9	26.6	29.2	31.8	34.4	36.6	38.1	39.7	41.2	42.7	42.9
95°	69.9	72.9	75.9	78.8	81.9	83.6	84.3	84.8	85.4	86.1	86.1
97.5°	127.7	130.4	133.0	135.6	138.2	140.1	141.2	142.4	143.5	144.6	144.6
100°	170.8	173.1	175.5	177.9	180.3	181.9	182.8	183.7	184.6	185.5	185.5
102.5°	215.9	217.8	219.7	221.6	223.6	225.1	226.2	227.3	228.5	229.6	229.9
105°	289.0	289.9	290.8	291.7	292.6	293.4	294.0	294.5	295.2	295.8	296.3
107.5°	362.7	364.0	365.3	366.7	367.9	368.6	368.6	368.6	368.6	368.6	368.8
110°	410.0	411.8	413.6	415.4	417.1	418.1	418.1	418.1	418.1	418.1	418.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	461.6	463.4	465.2	467.0	468.8	469.6	469.3	469.1	468.9	468.6	467.9
115°	537.7	539.5	541.3	543.1	544.9	545.5	544.9	544.3	543.7	543.1	542.8
117.5°	613.6	615.9	618.3	620.7	623.1	623.5	621.8	620.1	618.4	616.8	616.1
120°	664.1	666.5	668.9	671.3	673.7	673.7	671.3	668.9	666.5	664.1	664.1
122.5°	710.3	713.2	716.0	718.9	721.8	722.4	720.8	719.1	717.4	715.7	715.0
125°	782.4	785.1	787.7	790.4	793.2	794.1	793.2	792.3	791.4	790.4	789.5
127.5°	852.6	856.0	859.3	862.8	866.2	867.4	866.3	865.2	864.2	863.1	861.9
130°	896.6	900.5	904.5	908.3	912.2	913.8	913.2	912.7	912.0	911.4	910.9
132.5°	946.1	949.3	952.4	955.6	958.8	960.5	960.6	960.6	960.8	960.9	959.6
135°	1012.3	1015.6	1018.9	1022.1	1025.4	1027.3	1028.0	1028.6	1029.1	1029.7	1029.5
137.5°	1081.9	1084.6	1087.3	1089.9	1092.6	1094.4	1095.2	1095.9	1096.7	1097.5	1097.3
140°	1123.8	1126.5	1129.3	1131.9	1134.6	1136.7	1138.2	1139.7	1141.2	1142.6	1142.6
142.5°	1166.9	1169.6	1172.2	1174.9	1177.6	1179.5	1180.4	1181.5	1182.5	1183.6	1183.7
145°	1228.7	1230.8	1232.9	1234.9	1237.1	1239.0	1240.8	1242.6	1244.4	1246.2	1246.4
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°	447.6	447.6	447.6	447.6	447.6	447.6	447.6	447.6
2.5°	445.5	446.2	446.9	447.2	447.1	446.9	446.7	446.7
5°	441.9	442.7	443.5	443.8	443.5	443.3	443.0	442.7
7.5°	434.8	435.1	435.2	435.2	434.7	434.2	433.7	433.3
10°	427.7	427.4	427.1	426.7	426.1	425.6	425.1	424.5
12.5°	419.5	418.9	418.5	417.8	416.9	416.0	415.1	414.2
15°	404.1	402.3	400.6	399.4	398.5	397.5	396.6	395.7
17.5°	386.7	384.7	382.7	380.9	379.3	377.8	376.2	374.7
20°	374.7	372.4	370.1	368.0	366.0	364.1	362.1	360.2
22.5°	361.4	358.5	355.6	353.4	351.9	350.4	348.9	347.5
25°	339.4	335.6	332.0	329.5	328.1	326.7	325.4	324.0
27.5°	318.3	314.1	309.8	306.6	304.4	302.3	300.1	298.0
30°	303.5	299.0	294.4	290.9	288.4	286.0	283.6	281.2
32.5°	288.6	283.4	278.1	274.4	272.2	269.8	267.5	265.3
35°	265.4	259.7	254.0	250.1	248.2	246.2	244.2	242.3
37.5°	242.6	236.4	230.2	225.9	223.6	221.3	219.1	216.8
40°	227.5	221.1	214.6	210.3	207.9	205.6	203.2	200.9
42.5°	212.0	205.5	198.9	194.5	192.2	189.9	187.6	185.4
45°	189.8	183.3	177.0	172.7	170.6	168.4	166.2	164.1
47.5°	168.0	161.7	155.3	151.1	149.2	147.2	145.3	143.3
50°	154.1	147.8	141.6	137.6	135.7	133.8	131.9	130.0
52.5°	140.9	134.9	128.9	125.0	123.3	121.5	119.8	118.1
55°	120.8	115.5	110.0	106.5	104.8	103.1	101.4	99.7
57.5°	102.6	97.6	92.7	89.5	88.1	86.7	85.2	83.7
60°	90.1	85.5	80.9	77.8	76.4	75.0	73.6	72.1
62.5°	79.2	74.8	70.4	67.8	66.9	66.1	65.2	64.3
65°	64.4	61.3	58.2	56.5	56.3	56.0	55.7	55.5
67.5°	52.0	50.6	49.1	48.3	48.0	47.7	47.4	47.2
70°	45.2	44.3	43.4	42.8	42.4	42.0	41.6	41.3
72.5°	39.3	38.5	37.8	37.4	37.1	36.9	36.6	36.5
75°	31.1	30.5	29.9	29.5	29.4	29.3	29.2	29.2
77.5°	23.5	23.2	22.8	22.6	22.5	22.3	22.2	22.0
80°	18.7	18.4	18.0	17.8	17.8	17.8	17.8	17.8
82.5°	14.2	13.9	13.7	13.6	13.6	13.6	13.6	13.6
85°	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7
87.5°	11.6	11.4	11.2	11.1	11.2	11.3	11.3	11.4
90°	45.8	45.3	44.7	44.5	44.9	45.1	45.4	45.7
92.5°	43.0	43.1	43.2	43.3	43.3	43.4	43.5	43.5
95°	86.1	86.1	86.1	85.7	85.2	84.5	83.9	83.4
97.5°	144.6	144.6	144.6	144.6	144.5	144.5	144.5	144.4
100°	185.5	185.5	185.5	185.4	185.0	184.8	184.5	184.1
102.5°	230.1	230.3	230.6	230.5	230.2	230.0	229.6	229.3
105°	296.9	297.6	298.1	298.5	298.5	298.5	298.5	298.5
107.5°	369.1	369.3	369.5	369.0	367.7	366.2	364.9	363.5
110°	418.1	418.1	418.1	417.6	416.7	415.8	414.9	414.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	467.2	466.5	465.7	465.0	464.4	463.8	463.1	462.4
115°	542.5	542.2	541.9	541.3	540.4	539.5	538.6	537.7
117.5°	615.4	614.7	613.9	613.1	612.2	611.3	610.4	609.5
120°	664.1	664.1	664.1	663.6	662.7	661.8	660.9	660.0
122.5°	714.3	713.5	712.8	712.1	711.5	710.9	710.2	709.5
125°	788.6	787.7	786.8	786.3	786.0	785.7	785.4	785.1
127.5°	860.9	859.8	858.7	857.7	856.8	855.8	854.9	853.9
130°	910.3	909.6	909.0	908.1	907.0	905.8	904.6	903.4
132.5°	958.3	957.0	955.6	954.5	953.6	952.6	951.6	950.7
135°	1029.1	1028.9	1028.6	1028.0	1027.1	1026.2	1025.3	1024.4
137.5°	1097.0	1096.8	1096.5	1095.8	1094.7	1093.4	1092.3	1091.0
140°	1142.6	1142.6	1142.6	1142.1	1140.9	1139.7	1138.4	1137.3
142.5°	1184.0	1184.3	1184.5	1184.0	1182.9	1181.6	1180.4	1179.2
145°	1246.8	1247.1	1247.3	1246.9	1245.7	1244.6	1243.3	1242.2
147.5°	1301.8	1302.4	1303.1	1302.9	1301.7	1300.6	1299.5	1298.3
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)