

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: P331546-830

Luminaire Tested: **S122DIW-S675D1240U830-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331546-830  
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-S675D1240U830-4F0-1E-UDD-D1  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 675 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1240 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

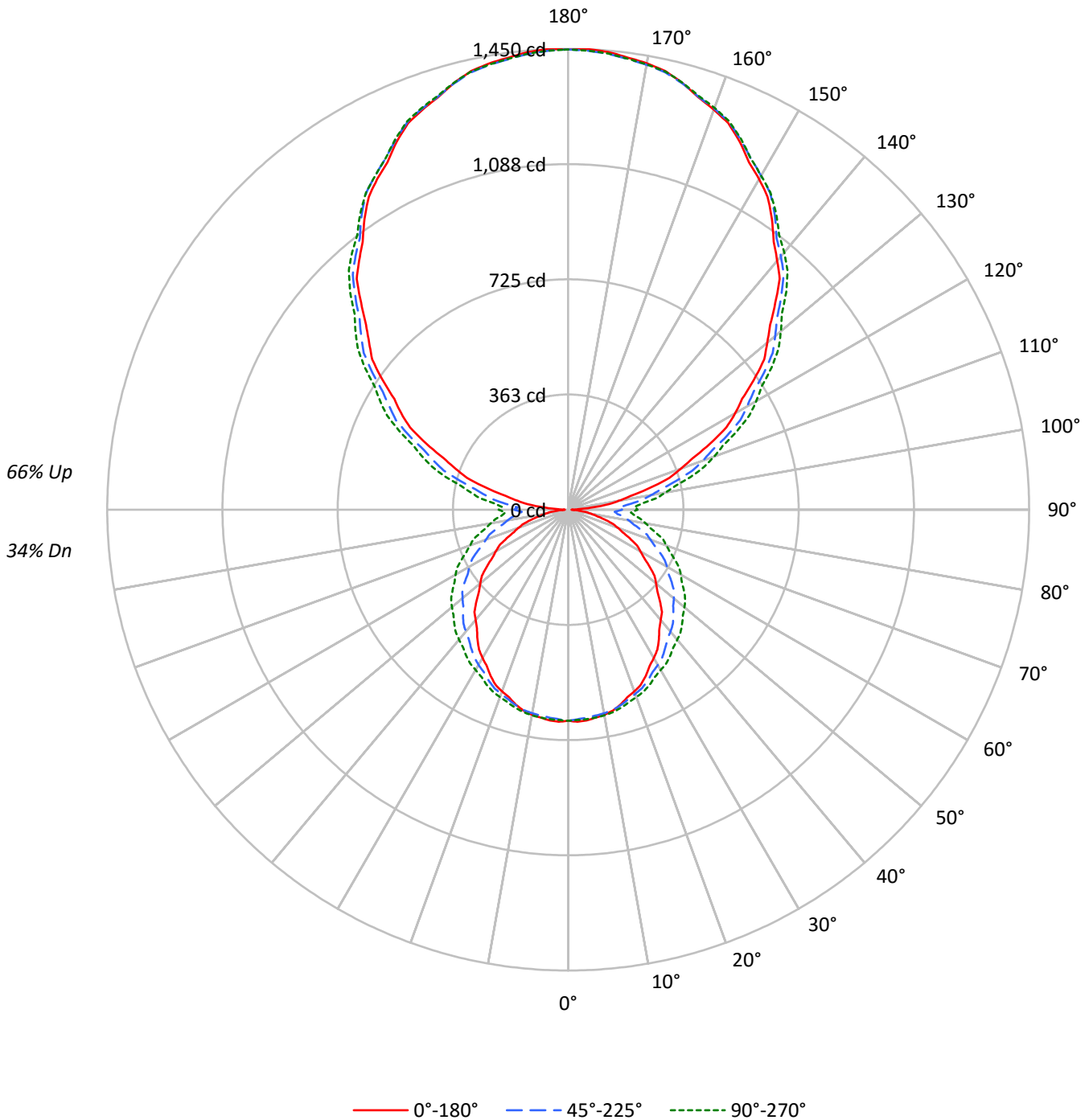
Lumens per Lamp: N/A  
Luminaire Lumens: 6588.2 lumens  
Efficiency: N/A  
Efficacy: 107.3 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')  
CIE Type: Semi-Indirect  
  
Input Watts (W): 61.4  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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	103	103	103	103	93	93	93	93	75	75	75	57	57	57	42	42	42	34
1	93	89	84	81	84	80	76	73	64	61	59	49	47	46	35	34	33	27
2	84	77	70	65	76	69	64	59	55	51	48	42	40	37	30	29	27	22
3	77	67	59	54	69	61	54	49	48	44	40	37	34	31	27	24	23	18
4	70	59	51	45	63	53	46	41	43	38	34	33	29	26	23	21	19	15
5	64	52	44	38	57	47	40	35	38	33	29	29	25	22	21	18	16	13
6	59	47	39	33	53	42	35	30	34	29	25	26	22	19	19	16	14	11
7	54	42	34	28	49	38	31	26	31	25	22	24	20	17	17	15	13	10
8	50	38	30	25	45	34	28	23	28	23	19	22	18	15	16	13	11	9
9	47	35	27	22	42	31	25	20	25	20	17	20	16	13	15	12	10	8
10	43	32	24	20	39	29	22	18	23	18	15	18	15	12	13	11	9	7

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	10719	10719	10719
5°	10771	10318	10278
10°	10704	10013	9900
15°	10557	9691	9503
20°	10370	9345	9120
25°	10186	9011	8772
30°	9928	8668	8421
35°	9665	8338	8176
40°	9388	8055	7929
45°	9124	7803	7719
50°	8843	7574	7511
55°	8548	7331	7300
60°	8188	7076	7078
65°	7811	6777	6812
70°	7390	6457	6525
75°	6853	6143	6262
80°	6004	5822	5995
85°	5192	5544	5785



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	62.9	1.0
10°-20°	180.4	2.7
20°-30°	273.4	4.1
30°-40°	333.0	5.1
40°-50°	358.2	5.4
50°-60°	347.9	5.3
60°-70°	303.7	4.6
70°-80°	233.8	3.5
80°-90°	162.7	2.5
90°-100°	199.9	3.0
100°-110°	364.0	5.5
110°-120°	539.3	8.2
120°-130°	669.8	10.2
130°-140°	731.3	11.1
140°-150°	707.2	10.7
150°-160°	591.4	9.0
160°-170°	392.2	6.0
170°-180°	137.1	2.1
0°-30°	516.7	7.8
0°-40°	849.6	12.9
0°-60°	1555.7	23.6
0°-90°	2256.0	34.2
90°-120°	1103.2	16.7
90°-150°	3211.5	48.7
90°-180°	4332.0	65.8
0°-180°	6588.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	664	664	664	664	664	
5°	666	663	657	663	662	63
15°	635	637	637	645	645	179
25°	577	584	593	604	607	265
35°	498	514	532	552	560	311
45°	408	434	468	496	507	315
55°	313	348	397	431	444	279
65°	214	261	318	356	370	212
75°	118	173	234	274	288	125
85°	35	94	156	195	210	37
90°	11	82	170	205	219	10
95°	71	129	189	224	234	79
105°	268	300	352	386	398	283
115°	493	512	552	578	586	487
125°	713	725	751	773	781	637
135°	921	935	947	965	970	712
145°	1117	1126	1133	1140	1140	698
155°	1277	1281	1284	1290	1287	588
165°	1390	1388	1388	1396	1391	392
175°	1446	1442	1440	1447	1441	137
180°	1448	1448	1448	1448	1448	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	663.9	663.9	663.9	663.9	663.9	663.9	663.9	663.9	663.9	663.9	663.9
2.5°	667.8	667.2	666.8	666.2	665.7	664.9	663.6	662.4	661.3	660.1	660.9
5°	665.8	665.2	664.6	663.9	663.3	662.3	661.0	659.8	658.5	657.1	658.5
7.5°	659.9	659.4	659.0	658.6	658.2	657.4	656.5	655.4	654.5	653.6	655.1
10°	655.3	654.8	654.4	653.9	653.6	653.0	652.3	651.8	651.1	650.4	652.1
12.5°	647.5	647.6	647.7	647.8	647.9	647.7	647.2	646.8	646.3	645.8	647.5
15°	635.1	635.5	635.9	636.3	636.8	637.0	637.0	637.0	637.0	637.0	638.9
17.5°	618.9	619.8	620.7	621.6	622.5	623.3	624.0	624.6	625.3	626.0	628.0
20°	608.1	609.2	610.2	611.3	612.4	613.3	614.2	615.1	616.0	616.8	619.2
22.5°	596.5	597.8	599.1	600.3	601.5	602.8	604.0	605.1	606.3	607.6	609.9
25°	577.3	578.8	580.3	581.8	583.3	585.0	586.9	588.9	590.8	592.7	595.3
27.5°	554.2	556.7	559.1	561.6	564.0	566.4	568.6	570.9	573.2	575.4	578.6
30°	538.9	541.6	544.4	547.1	550.0	552.7	555.5	558.3	561.1	563.8	567.2
32.5°	521.9	525.0	528.1	531.2	534.4	537.6	540.9	544.1	547.4	550.7	554.7
35°	497.5	501.1	504.7	508.3	512.0	515.9	519.9	524.0	528.0	532.1	536.8
37.5°	470.9	475.1	479.3	483.4	487.7	492.4	497.7	502.9	508.1	513.4	518.7
40°	453.2	457.9	462.6	467.3	472.0	477.2	483.1	488.8	494.6	500.3	505.9
42.5°	436.3	440.9	445.6	450.3	455.1	460.7	467.4	474.0	480.6	487.3	493.3
45°	407.9	413.8	419.5	425.3	431.0	437.7	445.2	452.7	460.1	467.6	474.3
47.5°	380.0	386.3	392.7	398.9	405.2	412.7	421.5	430.3	439.0	447.8	454.8
50°	360.8	367.5	374.1	380.7	387.3	395.5	405.1	414.7	424.3	433.9	441.2
52.5°	342.3	349.3	356.3	363.3	370.2	378.8	388.9	399.1	409.2	419.3	426.8
55°	312.7	320.4	328.1	335.8	343.5	352.9	364.0	375.1	386.3	397.4	405.1
57.5°	283.4	292.2	300.9	309.5	318.2	328.2	339.5	350.8	362.2	373.5	381.8
60°	262.7	271.8	281.1	290.3	299.4	310.2	322.3	334.5	346.7	358.9	367.0
62.5°	244.2	253.7	263.3	272.8	282.4	293.2	305.4	317.5	329.8	342.0	350.6
65°	213.6	224.0	234.6	245.1	255.5	267.0	279.7	292.3	304.9	317.5	326.3
67.5°	185.5	196.4	207.5	218.4	229.3	241.2	254.1	267.0	279.9	292.8	301.7
70°	165.5	176.6	187.8	198.9	210.0	222.2	235.4	248.6	261.9	275.2	284.4
72.5°	147.0	158.4	169.9	181.4	192.8	205.3	218.8	232.1	245.6	259.0	268.1
75°	118.4	130.4	142.3	154.3	166.3	179.1	192.7	206.4	220.1	233.8	243.0
77.5°	90.7	103.2	115.7	128.2	140.7	154.0	167.9	181.8	195.7	209.5	218.8
80°	72.2	85.2	98.2	111.3	124.3	137.8	151.7	165.6	179.5	193.4	202.4
82.5°	56.7	69.7	82.5	95.4	108.3	121.7	135.8	149.9	163.9	178.0	187.0
85°	34.7	47.9	61.2	74.4	87.7	101.1	114.8	128.5	142.2	155.9	164.9
87.5°	19.1	32.5	45.9	59.3	72.7	86.8	101.7	116.6	131.5	146.4	155.0
90°	10.8	26.5	42.1	57.9	73.5	91.1	110.8	130.4	150.1	169.8	177.8
92.5°	30.6	44.6	58.4	72.4	86.3	100.6	115.2	129.8	144.4	158.9	167.4
95°	71.3	84.0	96.8	109.5	122.3	135.3	148.7	162.1	175.5	188.9	197.0
97.5°	122.8	134.1	145.5	156.8	168.1	180.5	193.9	207.2	220.6	233.8	241.8
100°	161.9	172.0	182.1	192.2	202.3	213.7	226.5	239.3	252.1	264.9	272.8
102.5°	202.3	211.2	220.2	229.1	238.1	248.9	261.6	274.3	286.9	299.5	307.6
105°	267.6	274.6	281.6	288.6	295.7	305.0	316.6	328.3	340.0	351.7	359.7
107.5°	334.3	340.5	346.7	352.8	359.0	367.4	378.1	388.7	399.4	410.0	417.4
110°	376.6	382.5	388.4	394.4	400.2	408.4	418.9	429.3	439.9	450.3	457.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	423.6	428.8	433.9	439.2	444.4	451.9	461.7	471.4	481.2	490.9	497.1
115°	492.7	496.7	500.7	504.6	508.6	515.2	524.2	533.3	542.4	551.5	557.6
117.5°	560.7	564.4	568.1	571.8	575.5	581.1	588.4	595.8	603.2	610.6	616.2
120°	606.6	609.6	612.7	615.7	618.8	623.4	629.8	636.2	642.6	648.9	655.0
122.5°	648.7	651.6	654.6	657.5	660.4	665.2	671.8	678.3	684.8	691.3	696.4
125°	713.2	715.7	718.1	720.6	723.0	727.3	733.3	739.2	745.3	751.3	756.3
127.5°	777.0	779.9	782.8	785.6	788.5	792.2	796.8	801.3	805.9	810.4	814.7
130°	817.1	820.4	823.7	827.1	830.4	834.0	837.9	841.9	845.8	849.8	854.4
132.5°	862.0	864.7	867.4	870.1	872.7	875.8	879.4	883.0	886.6	890.1	893.9
135°	921.2	924.3	927.2	930.2	933.2	936.0	938.7	941.4	944.1	946.8	950.9
137.5°	984.6	986.9	989.4	991.7	994.2	996.2	997.8	999.5	1001.1	1002.8	1006.4
140°	1022.7	1024.9	1027.1	1029.4	1031.6	1033.6	1035.4	1037.2	1039.0	1040.8	1044.1
142.5°	1061.8	1064.0	1066.2	1068.5	1070.7	1072.3	1073.4	1074.3	1075.3	1076.4	1079.3
145°	1117.0	1119.0	1120.9	1122.8	1124.6	1126.4	1128.0	1129.6	1131.3	1132.9	1134.4
147.5°	1167.2	1169.4	1171.7	1174.0	1176.3	1178.0	1179.0	1180.2	1181.2	1182.3	1183.1
150°	1201.4	1203.0	1204.7	1206.3	1207.9	1209.3	1210.3	1211.4	1212.5	1213.6	1214.4
152.5°	1231.7	1233.3	1234.9	1236.5	1238.2	1239.6	1241.0	1242.3	1243.6	1244.9	1245.9
155°	1277.1	1278.0	1278.7	1279.6	1280.4	1281.2	1282.0	1282.8	1283.6	1284.5	1285.8
157.5°	1316.0	1316.5	1317.1	1317.7	1318.1	1318.7	1319.2	1319.7	1320.1	1320.7	1322.5
160°	1339.4	1340.0	1340.6	1341.1	1341.6	1342.1	1342.3	1342.6	1342.8	1343.1	1344.7
162.5°	1360.9	1361.1	1361.2	1361.3	1361.4	1361.6	1361.9	1362.2	1362.4	1362.7	1364.5
165°	1389.6	1389.3	1389.0	1388.7	1388.5	1388.4	1388.4	1388.4	1388.4	1388.4	1390.3
167.5°	1413.5	1412.7	1411.9	1411.1	1410.2	1409.9	1409.8	1409.8	1409.7	1409.6	1411.6
170°	1426.3	1425.4	1424.7	1423.8	1423.0	1422.5	1422.2	1421.9	1421.6	1421.4	1423.2
172.5°	1435.0	1434.3	1433.4	1432.6	1431.8	1431.3	1431.0	1430.7	1430.4	1430.1	1432.1
175°	1445.8	1445.0	1444.2	1443.3	1442.6	1441.9	1441.3	1440.8	1440.2	1439.6	1441.6
177.5°	1450.2	1449.5	1448.9	1448.2	1447.6	1447.1	1446.6	1446.1	1445.8	1445.3	1446.6
180°	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	663.9	663.9	663.9	663.9	663.9	663.9	663.9	663.9
2.5°	661.8	662.6	663.5	663.7	663.4	663.1	662.7	662.4
5°	659.8	661.0	662.3	662.9	662.6	662.4	662.2	661.9
7.5°	656.6	658.2	659.7	660.3	660.2	659.9	659.7	659.5
10°	653.8	655.5	657.3	658.0	657.8	657.6	657.4	657.1
12.5°	649.2	650.9	652.7	653.4	653.2	653.0	652.8	652.5
15°	640.8	642.7	644.7	645.5	645.4	645.1	644.9	644.7
17.5°	630.0	632.1	634.0	635.1	635.1	635.1	635.1	635.1
20°	621.5	623.9	626.1	627.4	627.4	627.4	627.4	627.4
22.5°	612.3	614.6	616.9	618.3	618.6	619.0	619.3	619.6
25°	597.9	600.4	602.9	604.5	605.2	605.9	606.5	607.2
27.5°	581.9	585.1	588.4	590.2	590.7	591.2	591.6	592.1
30°	570.7	574.1	577.5	579.6	580.2	580.9	581.5	582.1
32.5°	558.6	562.6	566.5	569.0	570.2	571.4	572.5	573.6
35°	541.5	546.2	550.9	554.0	555.5	557.0	558.5	560.0
37.5°	523.9	529.0	534.3	537.7	539.3	540.8	542.4	544.0
40°	511.4	517.0	522.5	526.3	528.2	530.2	532.1	534.0
42.5°	499.4	505.5	511.5	515.6	517.5	519.4	521.3	523.2
45°	480.9	487.5	494.2	498.5	500.7	502.8	504.9	507.1
47.5°	461.7	468.6	475.5	480.1	482.5	484.8	487.2	489.6
50°	448.5	455.7	463.1	467.9	470.2	472.6	474.9	477.2
52.5°	434.2	441.7	449.1	454.1	456.6	459.1	461.7	464.2
55°	412.7	420.5	428.2	433.4	436.2	438.9	441.8	444.5
57.5°	390.1	398.4	406.7	412.3	415.1	417.9	420.8	423.6
60°	375.1	383.2	391.4	397.0	399.9	402.9	406.0	409.0
62.5°	359.2	367.9	376.5	382.3	385.0	387.9	390.7	393.5
65°	335.1	343.8	352.6	358.4	361.2	363.9	366.7	369.5
67.5°	310.6	319.4	328.3	334.2	337.1	340.0	342.9	345.8
70°	293.6	302.7	312.0	317.8	320.4	323.0	325.6	328.1
72.5°	277.1	286.1	295.1	301.1	304.3	307.4	310.4	313.5
75°	252.2	261.4	270.6	276.5	279.4	282.1	284.9	287.7
77.5°	227.9	237.0	246.2	252.2	255.2	258.3	261.2	264.2
80°	211.3	220.4	229.3	235.4	238.3	241.3	244.3	247.3
82.5°	196.0	204.9	214.0	219.8	222.6	225.5	228.3	231.1
85°	173.8	182.9	191.8	197.7	200.8	203.8	206.8	209.7
87.5°	163.5	172.2	180.8	186.5	189.3	192.1	194.9	197.7
90°	185.8	193.8	201.8	207.3	210.1	212.9	215.7	218.6
92.5°	176.0	184.5	192.9	198.5	201.0	203.7	206.3	209.0
95°	205.1	213.2	221.4	226.4	228.5	230.5	232.5	234.5
97.5°	249.7	257.6	265.5	270.7	273.1	275.7	278.1	280.6
100°	280.7	288.6	296.5	301.5	303.6	305.7	307.7	309.8
102.5°	315.5	323.5	331.4	336.4	338.5	340.5	342.7	344.8
105°	367.7	375.7	383.7	388.9	391.2	393.6	396.0	398.3
107.5°	424.8	432.2	439.6	443.8	445.0	446.0	447.1	448.3
110°	464.0	470.9	477.7	481.9	483.4	484.9	486.5	488.0





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	503.3	509.4	515.7	519.6	521.4	523.1	524.9	526.6
115°	563.7	569.9	576.1	579.9	581.5	583.0	584.5	586.1
117.5°	621.9	627.6	633.3	636.8	638.2	639.5	640.9	642.2
120°	660.9	666.9	672.9	676.7	678.3	679.8	681.3	682.8
122.5°	701.6	706.8	711.9	715.2	716.6	718.0	719.4	720.9
125°	761.3	766.2	771.2	774.5	776.1	777.8	779.4	781.1
127.5°	819.1	823.4	827.7	830.4	831.4	832.4	833.4	834.4
130°	858.9	863.6	868.2	870.7	871.4	871.9	872.6	873.3
132.5°	897.7	901.4	905.2	907.5	908.3	909.2	910.0	910.9
135°	955.2	959.4	963.7	966.2	967.0	968.0	968.8	969.8
137.5°	1010.2	1013.9	1017.7	1019.6	1020.0	1020.4	1020.8	1021.2
140°	1047.5	1051.0	1054.4	1056.2	1056.4	1056.6	1056.9	1057.1
142.5°	1082.2	1085.2	1088.2	1089.7	1089.7	1089.7	1089.8	1089.8
145°	1136.0	1137.6	1139.2	1139.9	1139.9	1139.9	1139.8	1139.8
147.5°	1183.8	1184.6	1185.3	1185.5	1185.0	1184.5	1183.9	1183.5
150°	1215.2	1216.1	1216.8	1216.8	1216.1	1215.2	1214.4	1213.6
152.5°	1247.0	1247.9	1249.0	1249.0	1247.9	1247.0	1245.9	1244.9
155°	1287.2	1288.5	1289.9	1290.2	1289.4	1288.5	1287.7	1286.9
157.5°	1324.4	1326.2	1328.0	1328.3	1327.0	1325.7	1324.4	1323.0
160°	1346.4	1348.0	1349.6	1349.9	1348.9	1347.7	1346.7	1345.6
162.5°	1366.4	1368.2	1370.1	1370.4	1369.0	1367.7	1366.4	1365.2
165°	1392.1	1394.0	1396.0	1396.2	1394.9	1393.5	1392.1	1390.8
167.5°	1413.4	1415.3	1417.2	1417.5	1416.1	1414.7	1413.2	1411.8
170°	1425.1	1427.0	1429.0	1429.1	1427.5	1425.9	1424.2	1422.6
172.5°	1434.0	1435.9	1437.8	1437.8	1436.2	1434.6	1433.0	1431.3
175°	1443.5	1445.4	1447.3	1447.5	1445.8	1444.2	1442.6	1440.9
177.5°	1447.9	1449.3	1450.5	1450.5	1449.3	1447.9	1446.6	1445.3
180°	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2

(END OF REPORT)