

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: P331996-927

Luminaire Tested: **S123DIP-S775D1195U927-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331996-927  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-17,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123DIP-S775D1195U927-4F0-1E-UDD-D4  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 775 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1195 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5983.1 lumens  
Efficiency: N/A  
Efficacy: 105.2 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37  
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')  
CIE Type: Semi-Indirect

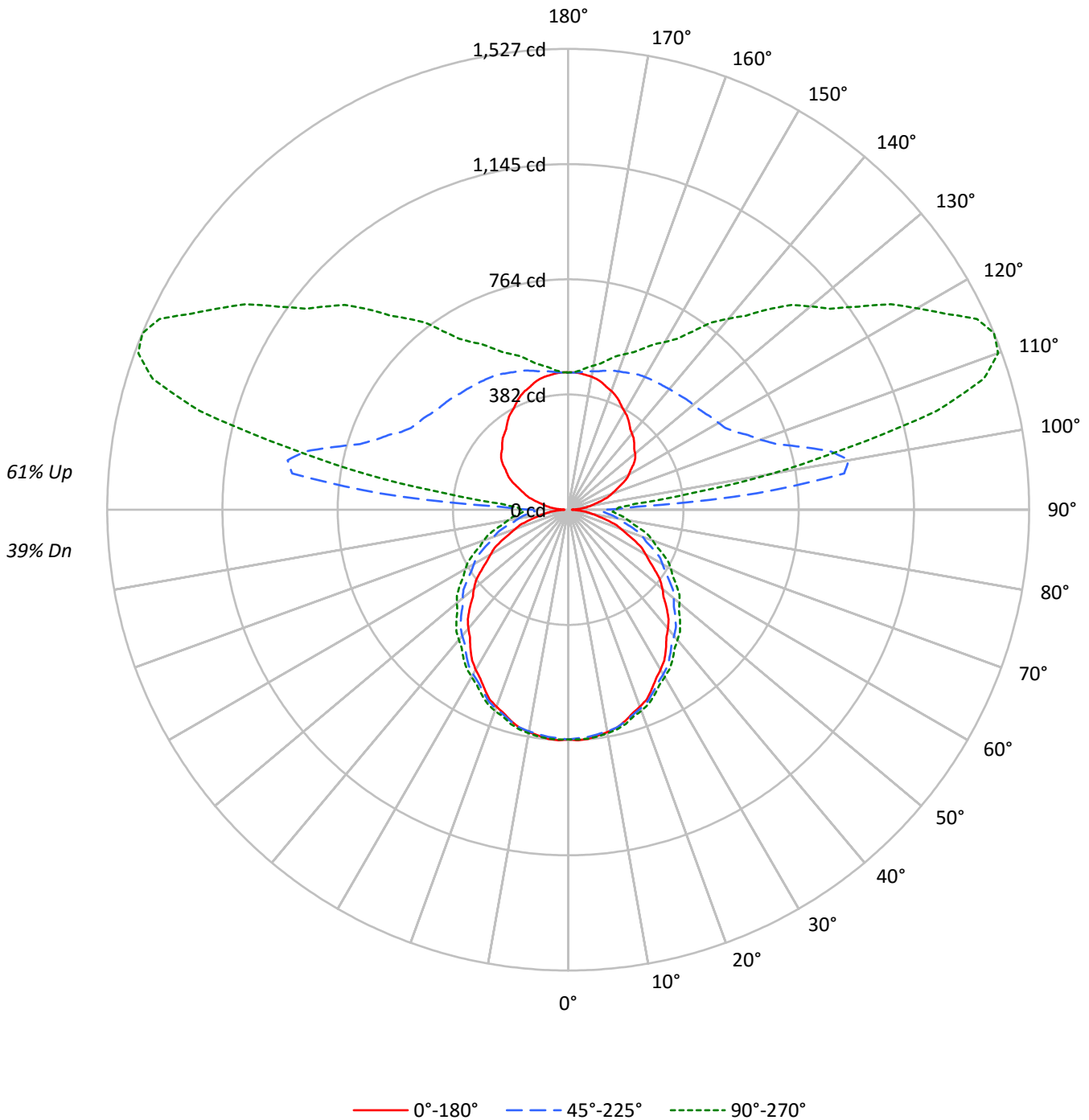
Input Watts (W): 56.9  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	105	105	105	105	95	95	95	95	77	77	77	61	61	61	46	46	46	39
1	95	90	86	82	86	82	78	75	66	64	62	52	51	49	40	38	37	31
2	86	78	72	66	78	71	66	61	58	54	50	46	43	40	34	32	31	26
3	78	68	61	55	70	62	56	50	51	46	42	40	37	34	30	28	26	21
4	71	60	52	46	64	55	48	42	45	40	35	35	32	29	27	24	22	18
5	65	53	45	39	59	49	42	36	40	35	30	32	28	25	24	21	19	16
6	60	48	40	34	54	44	36	31	36	30	26	29	25	21	22	19	17	14
7	55	43	35	29	50	39	32	27	32	27	23	26	22	19	20	17	15	12
8	51	39	31	26	46	36	29	24	29	24	20	24	20	17	18	15	13	11
9	48	35	28	23	43	33	26	21	27	22	18	22	18	15	17	14	12	10
10	44	32	25	20	40	30	23	19	25	20	16	20	16	13	15	13	11	9

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

	0°	45°	90°
0°	8196	8196	8196
5°	8222	7990	7994
10°	8148	7806	7766
15°	8043	7597	7518
20°	7893	7358	7245
25°	7708	7084	6957
30°	7517	6836	6666
35°	7305	6575	6434
40°	7102	6337	6184
45°	6877	6109	5986
50°	6655	5883	5766
55°	6409	5652	5569
60°	6171	5417	5366
65°	5924	5168	5126
70°	5555	4887	4879
75°	5090	4566	4628
80°	4551	4249	4341
85°	4050	4032	4175



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	72.2	1.2
10°-20°	205.8	3.4
20°-30°	307.8	5.1
30°-40°	367.5	6.1
40°-50°	384.5	6.4
50°-60°	360.9	6.0
60°-70°	301.4	5.0
70°-80°	215.6	3.6
80°-90°	132.1	2.2
90°-100°	333.7	5.6
100°-110°	775.8	13.0
110°-120°	744.4	12.4
120°-130°	584.8	9.8
130°-140°	453.4	7.6
140°-150°	333.0	5.6
150°-160°	230.6	3.9
160°-170°	135.5	2.3
170°-180°	44.1	0.7
0°-30°	585.7	9.8
0°-40°	953.3	15.9
0°-60°	1698.6	28.4
0°-90°	2347.8	39.2
90°-120°	1853.9	31.0
90°-150°	3225.2	53.9
90°-180°	3635.0	60.8
0°-180°	5983.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	761	761	761	761	761	
5°	762	760	756	762	761	72
15°	726	728	728	735	735	204
25°	655	663	666	676	677	302
35°	564	577	588	600	604	353
45°	461	481	502	517	524	356
55°	352	379	409	430	438	315
65°	243	276	312	336	345	240
75°	132	171	212	239	250	141
85°	41	82	126	153	163	43
90°	13	63	117	147	157	9
95°	40	144	628	266	223	41
105°	113	185	802	1379	1264	120
115°	193	250	610	1304	1494	191
125°	265	314	555	1000	1173	235
135°	309	368	531	813	939	239
145°	352	402	514	653	721	220
155°	398	430	498	566	590	183
165°	435	448	477	506	514	123
175°	454	454	457	464	463	43
180°	455	455	455	455	455	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	761.4	761.4	761.4	761.4	761.4	761.4	761.4	761.4	761.4	761.4	761.4
2.5°	764.8	764.3	763.9	763.4	763.0	762.2	761.0	759.9	758.7	757.5	758.7
5°	762.3	761.9	761.5	761.2	760.8	760.1	759.0	757.9	756.8	755.7	757.2
7.5°	754.8	754.9	754.9	755.0	755.1	754.6	753.5	752.5	751.4	750.4	752.2
10°	748.2	748.5	748.9	749.3	749.6	749.4	748.5	747.6	746.6	745.7	747.6
12.5°	740.2	740.8	741.2	741.8	742.3	742.3	741.6	741.0	740.4	739.7	741.4
15°	725.8	726.4	726.9	727.5	728.0	728.2	728.0	727.9	727.6	727.5	729.3
17.5°	707.6	708.7	709.8	710.8	711.9	712.5	712.4	712.3	712.3	712.2	713.8
20°	694.3	695.4	696.5	697.6	698.7	699.4	699.8	700.2	700.5	700.9	702.6
22.5°	680.3	681.4	682.5	683.7	684.8	685.6	686.1	686.6	687.1	687.6	689.8
25°	655.3	657.1	658.9	660.8	662.7	663.8	664.4	665.0	665.5	666.1	668.4
27.5°	630.1	632.2	634.3	636.4	638.5	640.1	641.3	642.5	643.6	644.8	646.9
30°	612.1	614.6	617.0	619.3	621.7	623.7	625.1	626.6	628.1	629.5	631.8
32.5°	592.2	594.9	597.6	600.3	603.0	605.3	607.2	609.2	611.1	613.0	615.4
35°	564.0	567.0	570.0	572.9	575.8	578.5	580.9	583.3	585.7	588.1	590.9
37.5°	534.2	537.5	540.8	544.2	547.5	550.6	553.6	556.5	559.4	562.4	565.5
40°	514.3	517.6	520.9	524.3	527.5	531.1	534.7	538.4	542.1	545.8	548.9
42.5°	492.3	496.5	500.5	504.5	508.6	512.5	516.3	520.2	524.0	527.9	531.3
45°	461.2	465.6	470.0	474.4	478.9	483.4	488.0	492.6	497.3	501.8	505.3
47.5°	428.5	433.6	438.6	443.5	448.5	453.7	459.0	464.2	469.5	474.8	478.7
50°	407.3	412.4	417.6	422.8	427.9	433.3	439.1	444.8	450.5	456.2	460.4
52.5°	384.7	390.1	395.6	401.1	406.5	412.4	418.7	425.0	431.3	437.6	442.0
55°	351.7	357.7	363.8	369.9	376.0	382.4	389.0	395.7	402.3	408.9	413.9
57.5°	319.5	325.8	332.2	338.5	344.9	351.6	358.9	366.2	373.4	380.7	385.7
60°	297.0	303.6	310.2	316.9	323.5	330.6	338.2	345.7	353.2	360.8	366.0
62.5°	275.7	282.5	289.3	296.0	302.9	310.2	318.2	326.2	334.2	342.2	347.4
65°	243.0	250.3	257.4	264.6	271.8	279.4	287.6	295.6	303.8	311.9	317.4
67.5°	209.8	217.5	225.1	232.7	240.3	248.3	256.6	264.8	273.1	281.4	287.4
70°	186.6	194.6	202.5	210.4	218.3	226.7	235.6	244.4	253.3	262.1	268.0
72.5°	165.4	173.3	181.3	189.2	197.1	205.7	214.8	223.9	233.1	242.2	248.3
75°	131.9	140.5	149.2	157.9	166.5	175.5	184.7	193.9	203.1	212.4	218.4
77.5°	102.7	111.5	120.2	128.9	137.6	146.6	156.0	165.2	174.5	183.8	190.2
80°	82.1	91.2	100.2	109.2	118.3	127.5	137.1	146.7	156.3	165.9	172.1
82.5°	64.2	73.4	82.5	91.7	100.9	110.4	120.1	129.8	139.6	149.3	155.6
85°	40.6	49.8	59.1	68.3	77.5	87.0	96.8	106.5	116.3	126.1	132.4
87.5°	22.4	32.0	41.5	51.3	60.8	70.5	80.4	90.4	100.3	110.3	116.4
90°	12.6	23.5	34.4	46.2	57.0	68.1	80.2	92.4	104.6	116.8	122.1
92.5°	21.5	35.2	51.1	66.4	82.3	104.6	138.0	186.8	234.9	230.0	201.3
95°	40.4	50.4	67.7	90.5	121.6	165.6	252.9	399.1	559.0	627.9	530.5
97.5°	61.5	68.9	83.3	103.5	133.5	179.9	263.2	426.5	686.7	922.0	986.6
100°	75.6	82.4	94.7	113.5	141.5	184.6	257.5	402.2	652.8	943.8	1130.4
102.5°	90.4	97.4	108.4	125.8	151.0	190.8	256.9	380.8	604.8	891.9	1133.7
105°	113.4	120.6	130.6	146.0	167.9	202.6	260.2	363.0	544.9	802.2	1071.5
107.5°	137.0	143.6	152.7	167.3	187.4	219.6	270.8	357.0	504.9	722.4	967.2
110°	154.1	160.2	168.1	181.5	200.5	231.6	280.4	357.7	488.5	677.1	901.9



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	170.3	175.8	183.1	196.0	214.4	244.2	289.8	361.7	477.4	645.2	844.0
115°	192.8	198.8	206.4	217.9	235.8	265.0	306.7	369.4	469.9	610.0	773.6
117.5°	216.0	221.7	227.6	237.4	256.3	283.1	323.9	380.2	466.2	586.5	728.6
120°	231.6	235.3	240.7	250.9	269.3	295.8	335.0	389.0	466.0	575.1	704.5
122.5°	245.6	248.8	253.9	264.3	281.5	309.2	347.4	397.3	468.1	566.6	684.1
125°	264.8	266.6	272.2	282.3	299.8	327.3	364.9	410.7	471.3	554.8	657.2
127.5°	280.1	282.7	289.3	299.4	318.5	345.5	381.0	421.9	476.0	546.5	632.9
130°	289.6	292.2	300.3	311.2	330.3	357.0	391.0	429.7	479.3	541.1	619.1
132.5°	296.4	299.8	308.8	322.0	341.3	366.9	399.5	436.7	481.2	536.9	606.0
135°	309.1	312.6	322.5	336.1	355.3	381.0	411.6	444.9	483.8	530.9	588.5
137.5°	321.1	324.8	334.5	349.1	368.1	391.7	420.3	451.1	485.1	524.9	573.3
140°	328.5	333.1	342.3	357.0	375.4	398.7	426.0	454.2	486.0	521.5	563.9
142.5°	337.3	341.0	350.9	363.9	382.2	403.7	429.8	456.8	486.0	517.4	555.0
145°	351.5	354.1	362.2	375.8	391.3	412.3	436.3	461.1	486.9	514.5	545.4
147.5°	365.0	366.7	374.8	386.7	401.9	419.9	441.8	464.1	486.9	511.0	536.7
150°	374.6	375.5	382.9	394.8	407.7	424.3	445.4	464.8	486.9	508.0	531.1
152.5°	384.2	384.4	391.7	402.2	413.6	429.4	447.7	466.3	484.7	504.4	525.2
155°	398.5	398.5	404.1	413.3	423.3	436.3	451.9	466.7	482.3	498.0	516.3
157.5°	410.0	410.7	415.1	423.2	431.8	441.8	454.3	467.5	479.2	492.3	506.4
160°	418.7	418.7	422.5	429.8	436.3	445.4	456.5	467.5	477.7	487.8	499.8
162.5°	425.4	425.4	428.3	434.3	440.0	447.7	457.2	466.8	474.8	483.4	493.1
165°	435.4	434.4	436.3	440.8	444.6	451.0	458.4	464.8	470.3	476.7	484.1
167.5°	442.9	441.8	442.7	446.2	448.8	452.8	458.2	463.3	465.9	470.2	475.5
170°	447.3	445.4	446.4	449.2	451.0	452.8	457.4	461.1	463.0	465.7	470.3
172.5°	450.3	449.2	449.3	451.4	452.5	453.6	457.4	460.4	460.7	462.0	465.2
175°	453.8	452.8	451.9	453.8	453.8	454.7	456.5	458.4	457.4	457.4	459.3
177.5°	455.4	454.7	453.9	454.7	454.7	454.7	455.4	456.9	455.4	454.7	455.4
180°	454.7	454.7	454.7	454.7	454.7	454.7	454.7	454.7	454.7	454.7	454.7



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	761.4	761.4	761.4	761.4	761.4	761.4	761.4	761.4
2.5°	759.9	761.0	762.2	762.7	762.6	762.4	762.2	762.2
5°	758.6	760.1	761.5	762.2	762.0	761.8	761.7	761.4
7.5°	754.0	755.9	757.7	758.5	758.3	758.1	757.9	757.6
10°	749.4	751.2	753.0	753.8	753.4	753.0	752.7	752.3
12.5°	743.1	744.8	746.5	747.2	746.8	746.5	746.1	745.7
15°	731.1	733.0	734.8	735.6	735.5	735.3	735.1	734.9
17.5°	715.5	717.2	718.8	719.5	719.3	719.0	718.7	718.5
20°	704.3	705.9	707.6	708.4	708.7	708.8	709.0	709.2
22.5°	691.8	694.0	696.0	697.0	697.0	696.8	696.7	696.6
25°	670.9	673.3	675.7	676.8	676.8	676.8	676.8	676.8
27.5°	649.0	651.0	653.1	654.2	654.3	654.5	654.7	654.8
30°	634.0	636.2	638.4	639.5	639.5	639.5	639.5	639.5
32.5°	617.7	620.0	622.4	623.8	624.2	624.7	625.1	625.6
35°	593.7	596.4	599.1	600.9	601.7	602.4	603.1	603.9
37.5°	568.6	571.8	574.9	576.8	577.3	578.0	578.5	579.2
40°	552.1	555.2	558.3	560.2	561.0	561.7	562.4	563.2
42.5°	534.7	538.1	541.6	543.8	544.9	545.9	546.9	548.0
45°	508.8	512.3	515.9	518.3	519.8	521.3	522.8	524.3
47.5°	482.7	486.6	490.6	493.1	494.2	495.4	496.5	497.6
50°	464.7	468.9	473.2	475.9	477.2	478.5	479.8	481.1
52.5°	446.4	450.8	455.2	458.2	459.8	461.4	463.0	464.5
55°	418.9	423.9	428.8	432.1	433.6	435.0	436.5	438.0
57.5°	390.8	395.8	400.8	404.2	405.9	407.7	409.3	411.1
60°	371.1	376.3	381.4	385.1	387.1	389.1	391.2	393.2
62.5°	352.6	357.7	362.9	366.4	368.3	370.2	372.1	373.9
65°	323.0	328.4	334.0	337.7	339.5	341.4	343.3	345.1
67.5°	293.4	299.5	305.5	309.3	310.9	312.4	314.0	315.5
70°	273.9	279.8	285.7	289.5	291.4	293.3	295.1	297.0
72.5°	254.3	260.3	266.4	270.4	272.2	274.0	275.8	277.7
75°	224.5	230.6	236.7	240.8	243.0	245.3	247.5	249.7
77.5°	196.6	203.0	209.5	213.5	215.2	216.9	218.6	220.3
80°	178.4	184.7	191.0	195.0	196.9	198.7	200.6	202.4
82.5°	161.8	168.1	174.4	178.4	180.3	182.1	183.9	185.8
85°	138.6	144.9	151.1	155.2	157.0	158.9	160.7	162.6
87.5°	122.8	129.3	135.7	140.1	141.8	143.9	145.8	147.5
90°	129.3	136.5	143.6	149.6	150.4	153.2	156.0	156.9
92.5°	178.2	168.3	167.2	166.4	166.4	165.3	167.9	167.9
95°	424.9	323.8	280.7	251.4	235.8	229.3	224.7	222.9
97.5°	913.1	754.2	641.0	534.6	468.5	428.9	405.9	399.8
100°	1168.0	1098.8	996.5	869.3	778.2	712.9	678.8	681.6
102.5°	1249.9	1252.7	1195.1	1115.8	1045.3	994.0	965.7	946.4
105°	1269.1	1366.3	1388.9	1368.3	1327.7	1294.3	1266.6	1263.6
107.5°	1190.3	1344.7	1430.3	1466.3	1468.6	1458.5	1450.2	1443.4
110°	1117.5	1291.6	1412.4	1479.9	1507.1	1516.0	1515.6	1515.3





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1044.7	1222.3	1357.0	1443.0	1491.7	1516.2	1524.8	1526.8
115°	948.3	1112.9	1252.7	1355.9	1426.4	1468.4	1488.3	1494.4
117.5°	876.8	1019.4	1145.3	1250.0	1323.4	1371.2	1399.2	1406.8
120°	838.5	967.0	1081.7	1177.4	1251.4	1304.2	1327.6	1334.4
122.5°	807.7	924.2	1030.7	1119.7	1185.6	1233.3	1258.9	1267.2
125°	766.0	870.2	962.4	1038.6	1098.8	1140.6	1164.9	1172.7
127.5°	728.9	822.0	905.4	974.9	1028.6	1064.5	1086.5	1093.6
130°	705.4	791.8	869.8	934.7	984.6	1018.8	1039.3	1047.7
132.5°	683.4	763.0	835.8	897.7	944.8	979.1	997.5	1003.9
135°	653.5	722.2	785.3	839.9	885.9	914.4	931.9	939.3
137.5°	626.1	682.5	737.0	784.4	823.2	852.2	867.0	872.2
140°	609.9	659.6	706.5	747.9	783.9	810.6	826.2	826.2
142.5°	594.1	636.9	677.6	713.8	744.5	768.3	782.4	782.4
145°	576.4	608.2	639.1	666.9	690.7	710.7	718.8	721.4
147.5°	562.0	586.5	610.7	630.2	648.4	662.1	669.8	671.1
150°	552.2	573.4	592.7	610.4	624.6	635.1	641.0	641.4
152.5°	544.2	562.4	579.5	594.1	605.0	614.4	617.8	617.9
155°	532.0	546.7	560.5	571.6	579.9	587.2	589.1	589.9
157.5°	519.1	531.5	542.1	550.7	557.9	563.5	564.9	564.7
160°	511.7	521.9	531.1	537.5	544.0	549.5	549.5	548.6
162.5°	502.9	511.6	520.0	525.7	530.0	534.7	534.7	533.9
165°	491.5	497.0	503.4	508.0	511.7	515.4	514.5	514.5
167.5°	481.6	485.8	489.5	492.8	494.4	497.0	496.1	496.1
170°	474.9	477.7	481.3	483.2	484.1	486.0	485.1	485.1
172.5°	469.1	471.0	474.0	475.1	475.3	477.1	475.5	474.8
175°	461.1	462.0	463.9	463.9	463.9	464.8	463.9	463.0
177.5°	456.1	456.9	457.6	457.6	456.9	457.6	456.1	456.1
180°	454.7	454.7	454.7	454.7	454.7	454.7	454.7	454.7

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