

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: P332269-935

Luminaire Tested: **S123RDIP-S340D1195U935-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332269-935  
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: S123RDIP-S340D1195U935-4F0-1E-UDD-F4  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 1195 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4839.2 lumens  
Efficiency: N/A  
Efficacy: 114.7 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22  
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')  
CIE Type: Semi-Indirect

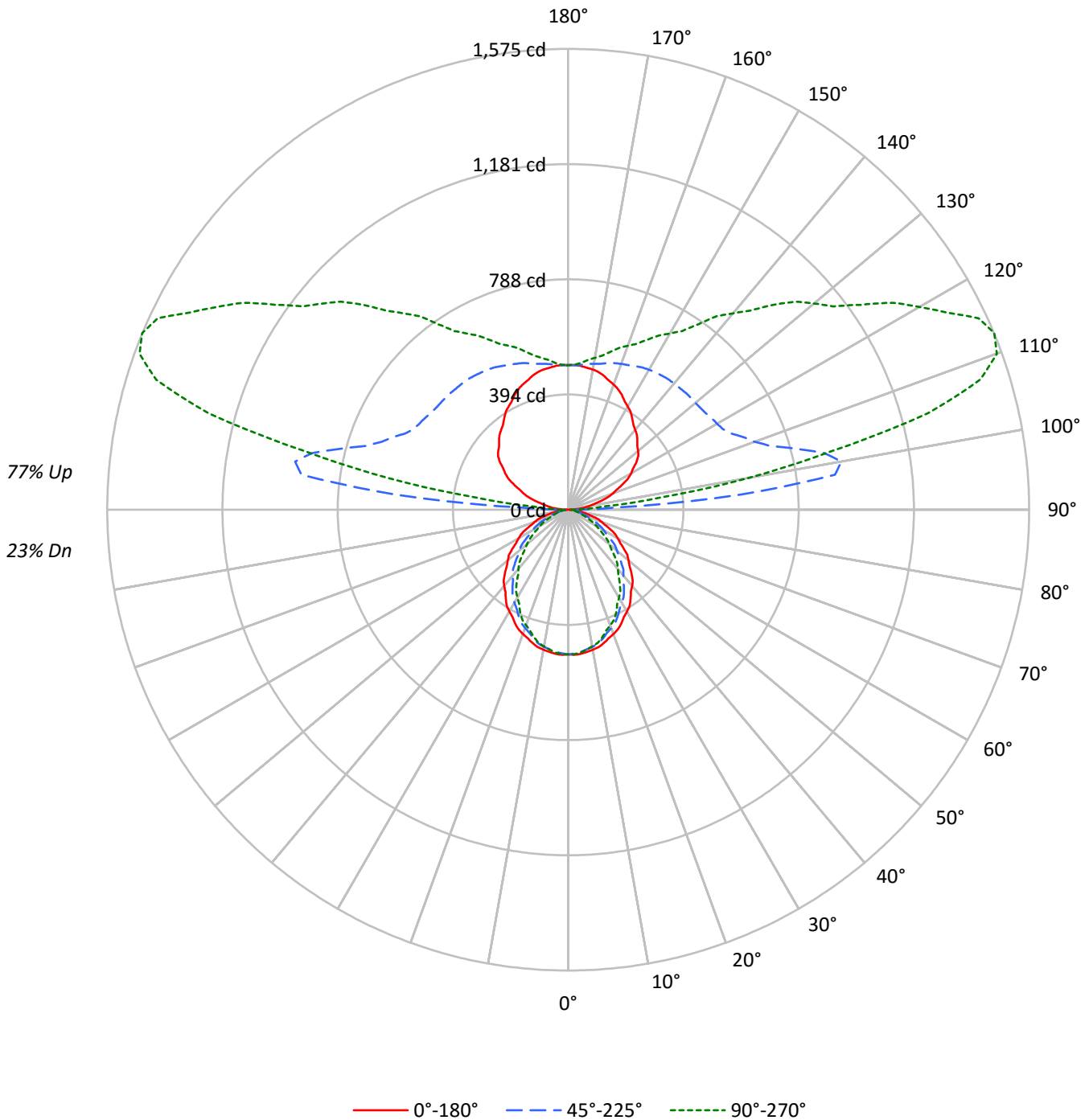
Input Watts (W): 42.2  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	101	101	101	101	89	89	89	89	68	68	68	49	49	49	31	31	31	23				
1	92	88	84	81	81	78	75	72	60	58	56	43	42	41	28	27	27	20				
2	84	77	71	66	74	68	64	60	53	49	47	38	36	34	25	24	23	17				
3	76	68	61	55	68	60	54	50	47	43	39	34	31	29	22	21	19	14				
4	70	60	52	47	62	53	47	42	41	37	33	30	27	25	20	18	17	12				
5	64	53	45	40	57	47	41	36	37	32	29	27	24	22	18	16	15	11				
6	59	47	40	34	52	43	36	31	33	28	25	24	21	19	16	14	13	10				
7	54	43	35	30	48	38	32	27	30	25	22	22	19	17	15	13	12	9				
8	50	39	31	26	45	35	28	24	27	23	19	20	17	15	14	12	10	8				
9	47	35	28	23	41	32	25	21	25	20	17	19	15	13	13	11	9	7				
10	44	32	25	21	39	29	23	19	23	18	15	17	14	12	12	10	8	6				

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

	0°	45°	90°
0°	5324	5324	5324
5°	5344	5271	5302
10°	5314	5205	5187
15°	5258	5084	5029
20°	5179	4931	4816
25°	5099	4760	4608
30°	4992	4561	4313
35°	4882	4365	4043
40°	4780	4131	3710
45°	4647	3902	3408
50°	4501	3641	3069
55°	4352	3342	2755
60°	4215	3023	2409
65°	4037	2677	2063
70°	3811	2247	1668
75°	3489	1768	1568
80°	3106	1568	1438
85°	2631	1383	1284



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	46.5	1.0
10°-20°	129.2	2.7
20°-30°	186.1	3.8
30°-40°	209.6	4.3
40°-50°	200.5	4.1
50°-60°	164.2	3.4
60°-70°	110.8	2.3
70°-80°	55.7	1.2
80°-90°	18.6	0.4
90°-100°	275.0	5.7
100°-110°	778.7	16.1
110°-120°	766.1	15.8
120°-130°	611.0	12.6
130°-140°	481.8	10.0
140°-150°	359.6	7.4
150°-160°	250.6	5.2
160°-170°	147.2	3.0
170°-180°	47.9	1.0
0°-30°	361.8	7.5
0°-40°	571.4	11.8
0°-60°	936.2	19.3
0°-90°	1121.3	23.2
90°-120°	1819.8	37.6
90°-150°	3272.2	67.6
90°-180°	3718.0	76.8
0°-180°	4839.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	495	495	495	495	495	
5°	495	492	488	491	491	47
15°	472	467	456	454	451	133
25°	429	419	401	393	388	197
35°	372	356	332	315	308	232
45°	305	286	256	234	224	235
55°	232	211	178	156	147	208
65°	158	136	105	86	81	157
75°	84	64	42	39	38	89
85°	21	13	11	10	10	24
90°	2	12	25	28	29	3
95°	34	110	593	173	116	37
105°	116	172	804	1406	1272	123
115°	205	256	615	1349	1548	203
125°	285	337	574	1040	1220	253
135°	334	399	566	857	989	258
145°	381	437	559	703	773	239
155°	433	467	541	615	641	199
165°	473	487	518	550	559	133
175°	493	494	497	504	503	47
180°	494	494	494	494	494	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	494.6	494.6	494.6	494.6	494.6	494.6	494.6	494.6	494.6	494.6	494.6
2.5°	496.3	495.9	495.7	495.4	495.2	494.6	493.7	492.8	492.0	491.1	491.9
5°	494.6	494.2	493.8	493.4	492.8	492.1	491.0	490.0	488.9	487.8	488.6
7.5°	490.1	489.6	489.1	488.6	488.2	487.2	485.9	484.5	483.0	481.6	482.1
10°	486.2	485.6	485.0	484.4	483.7	482.6	481.0	479.4	477.8	476.2	476.3
12.5°	480.8	480.1	479.4	478.7	478.0	476.6	474.7	472.8	470.8	468.8	468.7
15°	471.8	470.8	469.8	468.8	467.9	466.1	463.6	461.2	458.7	456.2	455.7
17.5°	460.5	459.3	458.2	457.0	455.9	453.7	450.6	447.4	444.3	441.1	440.1
20°	452.1	450.7	449.3	447.9	446.4	444.0	440.7	437.2	433.9	430.5	429.3
22.5°	442.8	441.2	439.5	437.9	436.3	433.7	430.1	426.5	422.8	419.2	417.8
25°	429.3	427.1	424.8	422.6	420.3	417.2	413.1	409.0	404.8	400.8	398.9
27.5°	412.8	410.4	407.9	405.4	402.9	399.5	394.9	390.3	385.7	381.2	378.6
30°	401.6	398.9	396.2	393.6	390.9	387.0	382.0	377.0	372.0	367.0	364.0
32.5°	390.4	387.3	384.3	381.3	378.2	374.1	368.8	363.5	358.3	352.9	349.7
35°	371.5	368.2	365.1	361.9	358.7	354.3	348.8	343.2	337.7	332.2	328.4
37.5°	352.4	348.8	345.3	341.7	338.1	333.4	327.5	321.6	315.7	309.8	305.5
40°	340.2	336.3	332.3	328.5	324.5	319.3	313.1	306.7	300.4	294.0	289.5
42.5°	326.4	322.4	318.6	314.6	310.7	305.5	298.9	292.4	285.9	279.3	274.2
45°	305.3	301.3	297.3	293.3	289.2	283.8	277.0	270.1	263.2	256.3	251.2
47.5°	284.2	279.8	275.3	271.0	266.6	261.0	254.1	247.2	240.4	233.5	228.0
50°	268.8	264.6	260.5	256.2	252.0	246.3	239.1	231.9	224.6	217.4	211.9
52.5°	255.0	250.5	245.9	241.3	236.8	230.9	223.8	216.6	209.5	202.3	196.7
55°	231.9	227.5	223.2	218.8	214.4	208.4	200.9	193.3	185.7	178.1	173.0
57.5°	210.5	205.8	201.0	196.2	191.5	185.3	177.7	170.0	162.5	154.9	150.0
60°	195.8	190.9	186.0	181.1	176.2	170.0	162.6	155.2	147.8	140.4	135.6
62.5°	181.0	176.1	171.2	166.3	161.4	155.2	147.8	140.4	133.0	125.6	121.1
65°	158.5	153.6	148.7	143.8	138.9	132.9	126.0	119.0	112.1	105.1	100.7
67.5°	136.0	131.0	126.0	121.1	116.1	110.3	103.6	96.9	90.2	83.6	80.3
70°	121.1	116.3	111.5	106.7	101.9	96.3	90.1	83.9	77.7	71.4	68.3
72.5°	106.4	101.7	96.9	92.1	87.4	82.2	76.5	70.9	65.2	59.5	57.0
75°	83.9	79.6	75.3	71.0	66.7	62.2	57.3	52.3	47.4	42.5	41.7
77.5°	63.3	59.4	55.5	51.7	47.9	44.3	41.2	38.0	34.9	31.7	31.3
80°	50.1	46.5	42.9	39.2	35.6	32.8	30.9	29.0	27.1	25.3	25.0
82.5°	37.6	34.4	31.3	28.2	25.0	23.0	22.1	21.3	20.4	19.5	19.2
85°	21.3	19.3	17.3	15.4	13.4	12.3	12.1	11.8	11.5	11.2	11.0
87.5°	8.1	7.7	7.3	7.1	6.8	6.8	7.4	8.0	8.6	9.2	8.9
90°	2.0	4.0	6.0	9.0	11.0	13.0	16.0	19.0	22.0	25.0	24.0
92.5°	12.4	18.4	26.8	34.6	43.0	57.9	84.0	127.1	169.3	153.9	116.1
95°	34.0	37.0	48.0	65.0	91.0	130.0	215.1	364.1	528.2	593.2	481.1
97.5°	58.0	59.0	67.6	82.4	108.1	150.2	231.5	399.5	673.0	919.3	983.5
100°	74.0	75.0	82.1	96.0	120.0	159.0	229.1	377.1	640.2	947.4	1144.4
102.5°	90.8	92.6	98.8	112.0	133.6	169.4	232.3	357.9	592.2	895.4	1152.4
105°	116.1	119.1	125.0	137.1	156.0	187.1	241.1	344.1	533.2	804.3	1091.4
107.5°	142.8	145.9	151.6	163.4	181.2	210.1	257.5	343.1	495.6	723.8	984.6
110°	162.0	165.1	170.0	181.1	198.0	226.1	271.1	347.2	481.1	678.2	917.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	179.7	182.7	187.7	198.6	215.7	242.9	284.7	355.2	473.2	647.8	858.9
115°	205.1	209.1	215.1	225.1	242.1	269.1	307.1	368.2	470.2	615.2	788.2
117.5°	230.5	235.1	240.0	249.3	268.3	293.3	330.9	385.3	472.0	596.0	745.6
120°	248.1	251.1	256.1	266.1	285.1	310.1	346.1	398.1	475.2	587.2	723.2
122.5°	263.3	266.3	271.3	282.1	300.3	326.9	362.1	410.2	480.8	581.6	704.8
125°	285.1	287.1	293.1	304.1	323.1	350.1	385.1	429.1	489.1	574.2	681.2
127.5°	301.7	304.7	312.1	323.3	344.3	371.3	405.1	444.8	498.8	570.6	660.5
130°	312.1	315.1	324.1	336.1	357.1	384.1	417.2	455.1	505.1	568.2	649.2
132.5°	320.1	323.9	333.7	348.1	369.1	395.4	427.6	464.8	510.0	567.4	638.9
135°	334.2	338.1	349.1	364.1	385.1	412.2	443.2	477.2	517.2	566.2	625.3
137.5°	347.3	351.5	362.3	378.3	399.2	424.1	453.9	486.4	522.0	564.0	613.4
140°	356.1	361.1	371.1	387.1	407.2	432.1	461.2	491.2	525.2	563.2	606.2
142.5°	365.8	370.0	380.7	395.1	415.2	438.6	466.7	495.9	527.6	561.6	599.8
145°	381.2	384.1	393.1	408.1	425.2	448.2	474.2	501.2	529.2	559.2	591.2
147.5°	396.7	398.6	407.3	420.3	436.8	456.3	480.2	504.4	529.2	555.4	582.8
150°	407.2	408.1	416.1	429.1	443.2	461.2	484.1	505.1	529.2	552.2	577.2
152.5°	417.6	417.8	425.8	437.1	449.5	466.7	486.6	506.8	526.8	548.2	570.8
155°	433.2	433.2	439.2	449.2	460.1	474.2	491.2	507.2	524.2	541.2	561.2
157.5°	445.6	446.3	451.2	459.9	469.3	480.2	493.8	508.2	520.8	535.0	550.4
160°	455.1	455.1	459.2	467.2	474.2	484.1	496.2	508.2	519.2	530.2	543.2
162.5°	462.4	462.4	465.5	472.0	478.2	486.6	497.0	507.4	516.0	525.4	536.0
165°	473.2	472.2	474.2	479.1	483.2	490.2	498.2	505.1	511.2	518.1	526.2
167.5°	481.4	480.2	481.1	485.0	487.8	492.1	498.0	503.6	506.4	511.0	516.8
170°	486.2	484.1	485.2	488.2	490.2	492.1	497.1	501.2	503.2	506.2	511.2
172.5°	489.4	488.2	488.4	490.6	491.8	493.0	497.1	500.4	500.8	502.1	505.6
175°	493.2	492.1	491.2	493.2	493.2	494.2	496.2	498.2	497.1	497.1	499.2
177.5°	495.0	494.2	493.4	494.2	494.2	494.2	495.0	496.5	495.0	494.2	495.0
180°	494.2	494.2	494.2	494.2	494.2	494.2	494.2	494.2	494.2	494.2	494.2



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	494.6	494.6	494.6	494.6	494.6	494.6	494.6	494.6
2.5°	492.7	493.4	494.3	494.6	494.5	494.3	494.1	494.0
5°	489.5	490.3	491.0	491.4	491.2	491.0	490.9	490.7
7.5°	482.6	483.0	483.5	483.5	483.2	482.9	482.6	482.3
10°	476.4	476.5	476.6	476.4	476.0	475.5	475.0	474.6
12.5°	468.7	468.6	468.6	468.3	467.8	467.3	466.7	466.2
15°	455.2	454.8	454.3	453.8	453.2	452.5	451.9	451.3
17.5°	439.2	438.2	437.3	436.4	435.4	434.5	433.6	432.7
20°	428.2	427.0	425.9	424.7	423.6	422.6	421.5	420.4
22.5°	416.4	414.9	413.5	412.2	411.2	410.3	409.2	408.3
25°	397.0	395.2	393.3	391.8	390.9	389.9	388.9	388.0
27.5°	376.0	373.4	370.8	368.8	367.2	365.8	364.3	362.7
30°	361.0	358.0	355.0	352.8	351.3	349.9	348.4	347.0
32.5°	346.3	343.0	339.7	337.3	335.8	334.3	332.8	331.3
35°	324.5	320.6	316.8	314.1	312.5	310.9	309.3	307.7
37.5°	301.1	296.7	292.4	289.2	287.2	285.2	283.3	281.3
40°	284.8	280.2	275.5	272.2	270.1	268.1	266.0	264.0
42.5°	269.1	264.2	259.1	255.6	253.7	251.9	250.1	248.2
45°	246.2	241.1	236.0	232.4	230.3	228.2	226.0	223.9
47.5°	222.4	216.9	211.4	207.7	205.8	203.9	201.9	200.0
50°	206.4	200.9	195.4	191.6	189.5	187.4	185.4	183.3
52.5°	190.9	185.1	179.4	175.6	173.7	171.9	170.1	168.2
55°	167.8	162.6	157.5	153.9	152.2	150.4	148.6	146.8
57.5°	145.1	140.2	135.3	132.1	130.6	129.1	127.6	126.1
60°	130.8	126.0	121.1	118.0	116.5	114.9	113.5	111.9
62.5°	116.6	112.1	107.5	104.4	102.9	101.3	99.7	98.2
65°	96.3	92.0	87.6	85.0	83.9	83.0	82.1	81.0
67.5°	77.1	73.8	70.5	68.4	67.3	66.3	65.3	64.2
70°	65.2	62.1	58.9	56.9	55.9	54.9	53.9	53.0
72.5°	54.4	51.9	49.3	47.9	47.4	47.0	46.7	46.2
75°	40.7	39.9	38.9	38.4	38.2	38.1	37.9	37.7
77.5°	30.7	30.2	29.8	29.4	29.3	29.1	28.9	28.8
80°	24.7	24.5	24.2	24.0	23.8	23.6	23.4	23.2
82.5°	18.9	18.7	18.4	18.3	18.3	18.2	18.2	18.2
85°	10.8	10.7	10.5	10.4	10.4	10.4	10.4	10.4
87.5°	9.0	9.1	9.3	9.6	9.4	9.5	9.6	9.3
90°	25.0	26.0	27.0	29.0	28.0	29.0	30.0	29.0
92.5°	84.2	66.8	59.0	53.8	52.0	49.0	50.0	48.2
95°	360.2	244.1	191.1	155.1	136.0	127.1	120.0	116.1
97.5°	897.7	719.0	590.0	470.4	396.6	351.5	324.5	315.9
100°	1179.4	1098.4	981.4	839.3	738.2	665.2	626.2	627.2
102.5°	1273.1	1270.4	1202.2	1112.2	1033.5	975.8	943.1	920.2
105°	1300.5	1400.5	1419.5	1393.5	1347.5	1309.5	1277.5	1272.5
107.5°	1221.6	1384.1	1471.7	1507.4	1508.1	1495.3	1484.5	1475.3
110°	1146.4	1330.5	1456.6	1526.6	1554.5	1562.5	1560.6	1558.6





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1071.9	1260.1	1401.3	1491.3	1542.6	1567.4	1574.9	1575.4
115°	973.4	1147.4	1294.4	1403.5	1478.5	1522.5	1542.6	1547.6
117.5°	901.9	1052.1	1184.2	1294.9	1373.1	1423.5	1452.3	1459.1
120°	864.3	999.4	1119.4	1220.5	1299.4	1355.5	1379.5	1385.5
122.5°	834.7	956.9	1068.2	1162.0	1232.3	1282.6	1309.1	1316.6
125°	795.3	904.3	1000.3	1080.4	1144.4	1188.4	1213.4	1220.5
127.5°	760.9	858.1	944.7	1017.5	1074.6	1112.2	1134.8	1141.2
130°	739.3	829.3	910.3	978.4	1031.4	1067.4	1088.4	1096.4
132.5°	719.3	802.1	877.5	942.4	992.1	1028.1	1046.8	1052.4
135°	692.2	763.3	828.3	885.3	934.4	964.3	982.3	989.4
137.5°	667.6	725.8	781.9	831.3	872.5	902.9	918.1	922.7
140°	653.2	704.2	752.3	795.3	833.3	861.3	877.3	876.3
142.5°	639.6	683.5	725.0	762.5	794.9	819.7	834.1	833.1
145°	623.2	656.3	688.3	717.2	742.3	763.3	771.3	773.3
147.5°	609.8	636.0	661.9	682.4	701.5	715.7	723.2	724.0
150°	600.2	623.2	644.2	663.2	678.2	689.2	695.3	695.3
152.5°	591.4	611.2	629.8	645.7	657.5	667.6	671.2	671.2
155°	578.2	594.2	609.2	621.2	630.3	638.3	640.2	641.2
157.5°	564.2	577.6	589.2	598.6	606.4	612.4	614.0	613.8
160°	556.2	567.2	577.2	584.2	591.2	597.2	597.2	596.2
162.5°	546.6	556.0	565.2	571.4	576.0	581.2	581.2	580.2
165°	534.2	540.2	547.2	552.2	556.2	560.2	559.2	559.2
167.5°	523.4	528.0	532.0	535.6	537.4	540.2	539.2	539.2
170°	516.2	519.2	523.1	525.2	526.2	528.2	527.2	527.2
172.5°	509.8	512.0	515.2	516.3	516.6	518.6	516.8	516.0
175°	501.2	502.1	504.2	504.2	504.2	505.1	504.2	503.2
177.5°	495.8	496.5	497.4	497.4	496.5	497.4	495.8	495.8
180°	494.2	494.2	494.2	494.2	494.2	494.2	494.2	494.2

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