

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: P331908-930

Luminaire Tested: **S123DIP-S340D1195U930-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331908-930
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIP-S340D1195U930-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4494.3 lumens
Efficiency: N/A
Efficacy: 106.5 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Indirect

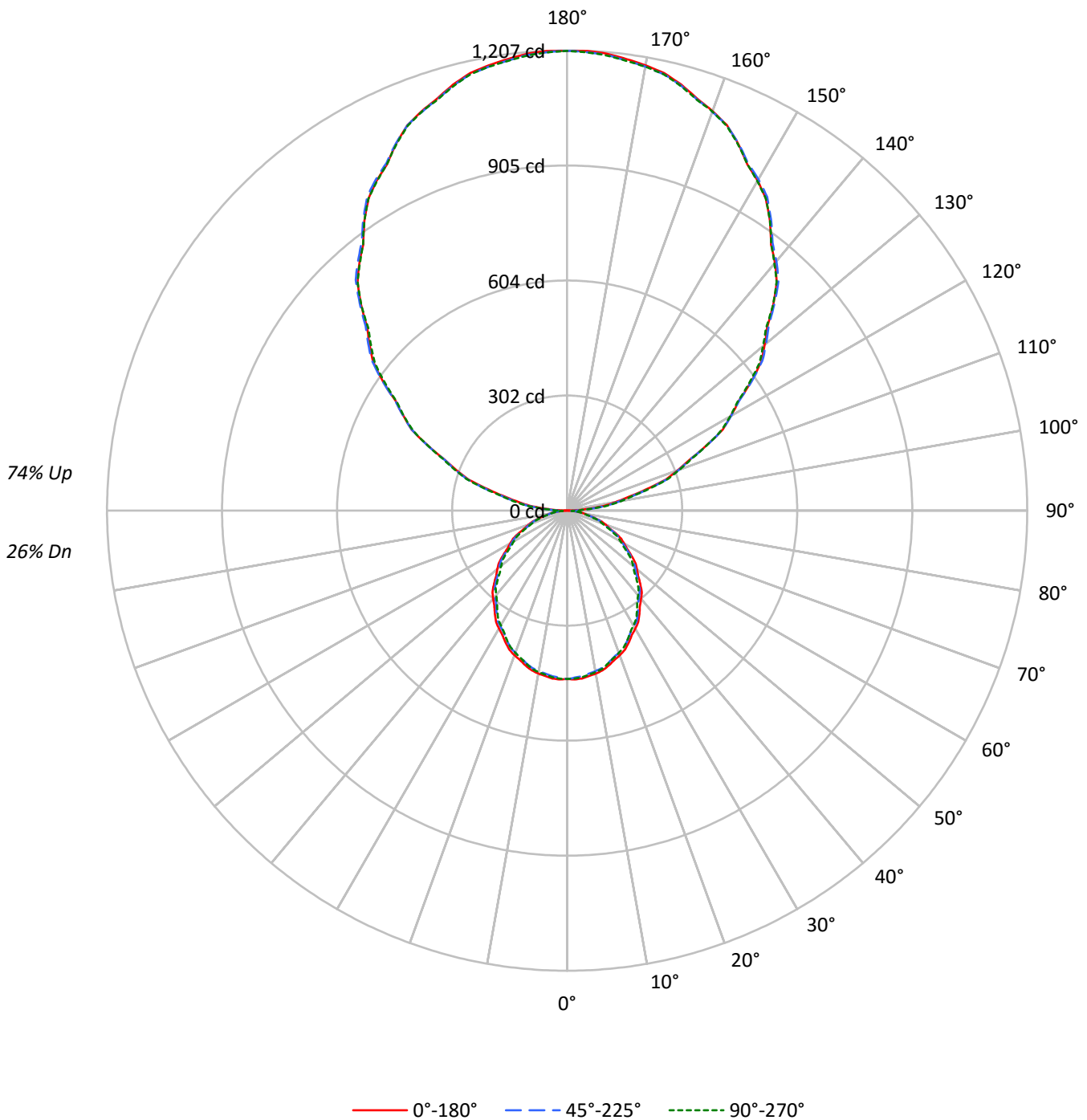
Input Watts (W): 42.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20						20							20
RC	80					70						30							10
RW	70	50	30	10		70	50	30	10		50	30	10		50	30	10		50
RCR																			
0	101	101	101	101		90	90	90	90		70	70	70		51	51	51		34
1	92	88	84	81		82	79	76	73		61	59	57		45	43	42		30
2	84	77	71	66		75	69	64	60		53	50	47		39	37	35		26
3	77	67	60	55		68	60	54	50		47	43	39		35	32	30		23
4	70	60	52	46		62	53	47	42		42	37	34		31	28	25		21
5	64	53	45	39		57	47	41	36		37	32	29		28	24	22		19
6	59	47	39	34		52	42	36	31		33	28	25		25	22	19		17
7	54	43	35	30		48	38	32	27		30	25	22		22	19	17		15
8	50	38	31	26		45	35	28	24		27	23	19		20	17	15		14
9	47	35	28	23		42	31	25	21		25	20	17		19	16	13		13
10	43	32	25	20		39	29	23	19		23	18	15		17	14	12		12

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4755	4755	4755
5°	4778	4712	4744
10°	4746	4671	4701
15°	4690	4619	4627
20°	4625	4543	4548
25°	4538	4454	4444
30°	4443	4354	4320
35°	4343	4248	4193
40°	4239	4131	4068
45°	4122	4025	3927
50°	4007	3893	3785
55°	3856	3757	3643
60°	3705	3597	3483
65°	3568	3423	3319
70°	3371	3229	3084
75°	3082	2969	2845
80°	2777	2665	2641
85°	2433	2347	2260



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	41.6	0.9
10°-20°	117.5	2.6
20°-30°	173.6	3.9
30°-40°	202.8	4.5
40°-50°	203.9	4.5
50°-60°	179.1	4.0
60°-70°	133.4	3.0
70°-80°	76.0	1.7
80°-90°	25.4	0.6
90°-100°	78.6	1.7
100°-110°	235.1	5.2
110°-120°	399.9	8.9
120°-130°	526.0	11.7
130°-140°	591.2	13.2
140°-150°	581.2	12.9
150°-160°	489.3	10.9
160°-170°	325.7	7.2
170°-180°	114.0	2.5
0°-30°	332.7	7.4
0°-40°	535.5	11.9
0°-60°	918.4	20.4
0°-90°	1153.2	25.7
90°-120°	713.6	15.9
90°-150°	2412.1	53.7
90°-180°	3341.0	74.3
0°-180°	4494.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	442	442	442	442	442	
5°	442	440	436	440	439	42
15°	421	419	414	417	415	119
25°	382	380	375	375	374	176
35°	330	328	323	321	319	207
45°	271	269	264	260	258	209
55°	206	205	200	196	194	184
65°	140	138	134	132	130	138
75°	74	73	71	70	68	79
85°	20	19	19	18	18	22
90°	1	11	23	26	28	5
95°	56	63	70	74	74	63
105°	213	215	224	224	225	228
115°	403	405	404	404	404	398
125°	589	592	590	586	583	525
135°	764	770	769	766	764	589
145°	927	929	932	931	927	579
155°	1062	1062	1063	1066	1060	489
165°	1157	1154	1154	1159	1153	326
175°	1203	1199	1199	1204	1198	114
180°	1206	1206	1206	1206	1206	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	441.8	441.8	441.8	441.8	441.8	441.8	441.8	441.8	441.8	441.8	441.8
2.5°	443.4	443.0	442.8	442.5	442.2	441.7	441.0	440.3	439.5	438.8	439.4
5°	442.2	441.7	441.3	440.9	440.5	439.9	438.9	438.0	437.0	436.1	436.9
7.5°	437.9	437.4	437.0	436.6	436.2	435.5	434.6	433.6	432.6	431.6	432.4
10°	434.2	433.8	433.3	432.9	432.5	431.8	430.6	429.6	428.4	427.4	428.1
12.5°	429.3	429.0	428.6	428.3	428.0	427.2	426.2	425.2	424.1	423.1	423.7
15°	420.9	420.6	420.2	419.9	419.6	418.8	417.8	416.6	415.6	414.5	415.2
17.5°	411.1	410.7	410.3	409.8	409.4	408.6	407.5	406.4	405.3	404.2	404.6
20°	403.8	403.3	402.8	402.3	401.8	401.0	399.9	398.8	397.7	396.6	397.0
22.5°	395.6	395.1	394.6	394.1	393.6	392.8	391.7	390.6	389.5	388.4	388.7
25°	382.1	381.6	381.2	380.7	380.2	379.4	378.2	377.2	376.0	375.0	375.0
27.5°	367.8	367.3	366.8	366.3	365.8	365.0	363.9	362.6	361.5	360.3	360.4
30°	357.5	357.0	356.6	356.2	355.8	355.0	353.8	352.6	351.5	350.3	350.3
32.5°	347.2	346.6	346.0	345.4	345.0	344.1	343.2	342.3	341.4	340.6	340.1
35°	330.5	330.0	329.5	329.0	328.5	327.7	326.6	325.5	324.4	323.3	322.8
37.5°	313.5	312.8	312.2	311.5	311.0	310.1	308.9	307.8	306.7	305.6	305.0
40°	301.7	301.1	300.6	300.1	299.6	298.7	297.6	296.4	295.2	294.0	293.3
42.5°	289.8	289.2	288.6	288.0	287.5	286.6	285.4	284.2	283.1	281.8	281.2
45°	270.8	270.5	270.2	269.9	269.5	268.8	267.7	266.6	265.5	264.4	263.4
47.5°	252.1	251.6	251.1	250.6	250.1	249.4	248.3	247.3	246.3	245.2	244.3
50°	239.3	238.9	238.5	238.1	237.7	236.8	235.8	234.7	233.6	232.5	231.5
52.5°	225.9	225.7	225.3	225.1	224.8	224.0	222.9	221.8	220.6	219.4	218.7
55°	205.5	205.5	205.4	205.3	205.2	204.6	203.5	202.4	201.3	200.2	199.3
57.5°	186.1	185.8	185.5	185.2	184.9	184.3	183.4	182.5	181.7	180.8	180.0
60°	172.1	172.0	171.9	171.9	171.8	171.2	170.2	169.2	168.2	167.1	166.4
62.5°	159.6	159.4	159.2	159.0	158.7	158.2	157.1	156.1	155.1	154.1	153.4
65°	140.1	139.7	139.3	138.9	138.5	137.9	137.1	136.2	135.3	134.4	133.8
67.5°	119.6	119.2	118.9	118.5	118.1	117.6	117.0	116.3	115.7	115.0	114.5
70°	107.1	106.6	106.2	105.6	105.1	104.6	104.1	103.5	103.1	102.6	102.0
72.5°	94.1	93.7	93.4	92.9	92.5	92.1	91.6	91.0	90.4	89.8	89.3
75°	74.1	73.7	73.4	73.1	72.7	72.4	72.2	71.9	71.7	71.4	71.0
77.5°	56.3	56.2	56.0	55.8	55.6	55.4	55.1	54.8	54.5	54.1	53.9
80°	44.8	44.6	44.4	44.1	43.8	43.6	43.5	43.3	43.1	43.0	42.8
82.5°	33.6	33.5	33.5	33.4	33.3	33.3	33.3	33.3	33.3	33.2	33.0
85°	19.7	19.6	19.4	19.2	19.1	19.0	19.0	19.0	19.0	19.0	18.8
87.5°	8.1	8.3	8.6	8.7	9.0	9.3	9.8	10.3	10.8	11.3	11.3
90°	1.0	3.0	5.1	7.3	9.4	11.8	14.5	17.3	20.0	22.7	23.6
92.5°	22.9	24.4	25.8	27.2	28.6	30.2	31.7	33.3	34.8	36.4	37.0
95°	55.9	57.4	58.9	60.3	61.8	63.3	65.1	66.7	68.4	70.1	70.9
97.5°	99.3	100.4	101.5	102.6	103.6	104.8	106.1	107.3	108.4	109.7	110.6
100°	128.8	130.1	131.3	132.6	133.9	135.0	136.1	137.1	138.2	139.3	139.9
102.5°	162.9	163.7	164.4	165.2	166.0	167.1	168.4	169.8	171.2	172.6	173.3
105°	213.1	213.5	214.0	214.4	214.8	216.0	217.8	219.8	221.7	223.6	223.6
107.5°	271.5	271.7	272.0	272.2	272.5	273.0	273.8	274.5	275.2	276.1	276.7
110°	307.9	308.3	308.7	309.2	309.6	310.0	310.4	310.8	311.2	311.7	312.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	345.8	346.0	346.3	346.5	346.7	346.9	347.0	347.1	347.2	347.2	348.3
115°	402.6	403.2	403.8	404.5	405.1	405.2	404.8	404.4	404.0	403.6	403.7
117.5°	459.8	460.2	460.6	461.1	461.5	461.5	460.9	460.3	459.8	459.3	459.2
120°	495.5	496.7	498.0	499.2	500.5	500.6	499.5	498.5	497.4	496.4	496.2
122.5°	532.6	533.5	534.4	535.3	536.3	536.5	535.9	535.3	534.8	534.3	533.7
125°	589.2	589.9	590.4	591.1	591.7	591.8	591.4	591.0	590.6	590.2	589.3
127.5°	641.5	642.9	644.2	645.6	646.9	647.3	646.9	646.4	646.0	645.5	644.3
130°	676.4	678.0	679.7	681.4	683.1	683.6	683.0	682.3	681.8	681.1	680.3
132.5°	711.2	712.9	714.6	716.2	718.0	718.6	718.1	717.6	717.1	716.7	715.7
135°	764.4	765.7	767.0	768.3	769.5	770.1	769.8	769.6	769.4	769.2	768.3
137.5°	813.8	814.7	815.8	816.8	817.9	818.7	819.3	819.8	820.4	820.9	820.0
140°	847.8	848.9	849.9	851.0	852.0	852.6	852.9	853.0	853.3	853.5	853.3
142.5°	878.9	880.0	881.0	882.1	883.1	883.8	884.2	884.6	884.9	885.3	885.1
145°	927.4	927.8	928.2	928.6	929.0	929.6	930.3	930.8	931.5	932.1	931.9
147.5°	969.8	970.6	971.3	972.1	972.9	973.5	974.1	974.7	975.3	975.9	975.9
150°	999.4	999.8	1000.2	1000.6	1001.1	1001.5	1001.9	1002.3	1002.7	1003.1	1003.1
152.5°	1023.6	1024.3	1024.8	1025.4	1026.0	1026.4	1026.6	1027.0	1027.2	1027.4	1027.8
155°	1061.9	1061.9	1061.9	1061.9	1061.9	1062.0	1062.3	1062.4	1062.7	1062.8	1063.7
157.5°	1094.5	1094.2	1094.0	1093.7	1093.5	1093.4	1093.6	1093.8	1094.0	1094.1	1095.0
160°	1114.9	1114.5	1114.1	1113.7	1113.3	1113.0	1113.0	1113.0	1113.0	1113.0	1114.1
162.5°	1133.1	1132.5	1132.0	1131.4	1130.8	1130.6	1130.7	1130.9	1131.1	1131.2	1132.3
165°	1156.7	1156.0	1155.4	1154.7	1154.1	1153.8	1153.8	1153.8	1153.8	1153.8	1155.0
167.5°	1175.4	1174.5	1173.7	1172.9	1172.0	1171.7	1171.8	1172.0	1172.2	1172.3	1173.6
170°	1186.0	1185.1	1184.3	1183.5	1182.6	1182.2	1182.2	1182.2	1182.2	1182.2	1183.7
172.5°	1194.3	1193.5	1192.6	1191.8	1191.0	1190.6	1190.6	1190.6	1190.6	1190.6	1191.9
175°	1203.1	1202.2	1201.3	1200.5	1199.7	1199.2	1199.2	1199.2	1199.2	1199.2	1200.5
177.5°	1206.6	1206.0	1205.3	1204.6	1204.0	1203.6	1203.6	1203.6	1203.6	1203.6	1204.6
180°	1205.9	1205.9	1205.9	1205.9	1205.9	1205.9	1205.9	1205.9	1205.9	1205.9	1205.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	441.8	441.8	441.8	441.8	441.8	441.8	441.8	441.8
2.5°	440.1	440.8	441.5	441.8	441.7	441.6	441.6	441.5
5°	437.8	438.6	439.5	439.9	439.7	439.5	439.3	439.1
7.5°	433.2	433.9	434.6	435.0	434.9	434.8	434.7	434.6
10°	428.9	429.7	430.4	430.7	430.6	430.4	430.2	430.1
12.5°	424.2	424.8	425.3	425.6	425.5	425.3	425.3	425.2
15°	415.8	416.5	417.2	417.3	416.7	416.2	415.7	415.2
17.5°	405.1	405.6	406.1	406.3	406.0	405.9	405.7	405.5
20°	397.3	397.6	397.9	398.0	397.7	397.5	397.2	397.0
22.5°	388.9	389.2	389.5	389.5	389.1	388.8	388.5	388.2
25°	375.1	375.2	375.3	375.2	375.0	374.7	374.5	374.2
27.5°	360.4	360.5	360.5	360.4	360.1	359.8	359.5	359.1
30°	350.3	350.3	350.3	349.9	349.4	348.8	348.2	347.6
32.5°	339.6	339.1	338.7	338.3	337.9	337.6	337.3	337.0
35°	322.3	321.8	321.2	320.8	320.4	319.9	319.5	319.1
37.5°	304.4	303.8	303.1	302.7	302.5	302.1	301.9	301.7
40°	292.7	292.0	291.3	290.8	290.5	290.2	289.8	289.5
42.5°	280.5	279.8	279.2	278.7	278.3	278.0	277.7	277.3
45°	262.4	261.4	260.3	259.7	259.2	258.8	258.4	258.0
47.5°	243.3	242.3	241.2	240.6	240.2	239.9	239.5	239.1
50°	230.6	229.7	228.8	228.0	227.6	227.1	226.6	226.0
52.5°	217.8	217.0	216.2	215.6	215.1	214.6	214.1	213.6
55°	198.4	197.4	196.5	195.8	195.4	194.9	194.5	194.1
57.5°	179.2	178.3	177.5	176.8	176.3	175.9	175.4	174.9
60°	165.7	164.9	164.1	163.5	163.1	162.7	162.2	161.8
62.5°	152.5	151.8	151.1	150.5	150.3	149.9	149.7	149.4
65°	133.1	132.5	131.8	131.3	131.1	130.8	130.5	130.3
67.5°	113.8	113.2	112.7	112.2	111.9	111.5	111.1	110.8
70°	101.4	100.8	100.2	99.7	99.3	98.9	98.4	98.0
72.5°	88.8	88.2	87.7	87.3	87.2	86.9	86.7	86.4
75°	70.6	70.1	69.7	69.4	69.1	68.9	68.6	68.4
77.5°	53.6	53.3	53.0	52.9	52.9	52.9	52.9	52.9
80°	42.7	42.6	42.6	42.6	42.6	42.6	42.6	42.6
82.5°	32.9	32.8	32.6	32.4	32.4	32.4	32.3	32.2
85°	18.7	18.5	18.3	18.3	18.3	18.3	18.3	18.3
87.5°	11.4	11.5	11.7	11.7	11.8	11.9	12.0	12.1
90°	24.5	25.3	26.1	26.7	27.1	27.6	28.0	28.5
92.5°	37.7	38.4	39.1	39.3	39.1	38.8	38.5	38.2
95°	71.7	72.6	73.5	73.9	73.9	73.9	73.9	73.9
97.5°	111.6	112.6	113.6	114.0	113.9	113.8	113.7	113.7
100°	140.5	141.1	141.8	142.3	142.8	143.2	143.6	144.0
102.5°	173.8	174.5	175.1	175.4	175.3	175.2	175.1	175.0
105°	223.6	223.6	223.6	223.8	224.2	224.6	225.0	225.4
107.5°	277.4	278.1	278.8	278.9	278.7	278.4	278.2	277.9
110°	313.3	314.2	315.0	315.2	314.8	314.4	314.0	313.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	349.3	350.3	351.3	351.8	351.7	351.6	351.6	351.5
115°	404.0	404.1	404.4	404.4	404.1	404.0	403.7	403.6
117.5°	459.2	459.1	459.1	458.8	458.2	457.5	457.0	456.4
120°	495.9	495.8	495.5	495.2	494.8	494.4	494.0	493.5
122.5°	533.2	532.6	532.1	531.5	530.9	530.4	529.7	529.1
125°	588.5	587.7	586.8	586.0	585.1	584.2	583.4	582.6
127.5°	643.1	642.0	640.7	639.7	638.7	637.7	636.7	635.9
130°	679.4	678.6	677.8	676.5	675.1	673.6	672.1	670.7
132.5°	714.7	713.7	712.7	711.6	710.5	709.3	708.2	707.0
135°	767.5	766.6	765.8	765.2	764.8	764.3	763.9	763.5
137.5°	819.1	818.2	817.3	816.5	815.7	815.0	814.2	813.3
140°	853.0	852.9	852.6	851.8	850.4	848.9	847.4	846.0
142.5°	884.9	884.7	884.5	883.8	882.6	881.5	880.4	879.3
145°	931.7	931.5	931.3	930.7	929.9	929.0	928.2	927.4
147.5°	975.9	975.9	975.9	975.3	974.0	972.7	971.4	970.2
150°	1003.1	1003.1	1003.1	1002.6	1001.3	1000.0	998.7	997.5
152.5°	1028.1	1028.4	1028.7	1028.4	1027.3	1026.2	1025.1	1024.0
155°	1064.5	1065.4	1066.2	1065.9	1064.5	1063.0	1061.5	1060.0
157.5°	1095.8	1096.7	1097.6	1097.5	1096.3	1095.1	1094.0	1092.7
160°	1115.2	1116.2	1117.3	1117.4	1116.6	1115.7	1114.8	1114.0
162.5°	1133.3	1134.4	1135.5	1135.3	1133.9	1132.6	1131.2	1129.9
165°	1156.3	1157.6	1158.9	1158.7	1157.2	1155.8	1154.3	1152.8
167.5°	1174.9	1176.2	1177.5	1177.5	1176.2	1174.9	1173.6	1172.3
170°	1185.1	1186.7	1188.1	1188.1	1186.7	1185.1	1183.7	1182.2
172.5°	1193.2	1194.5	1195.8	1195.7	1194.2	1192.7	1191.2	1189.8
175°	1201.8	1203.1	1204.3	1204.2	1202.7	1201.3	1199.8	1198.3
177.5°	1205.7	1206.6	1207.6	1207.5	1206.4	1205.2	1204.0	1202.9
180°	1205.9	1205.9	1205.9	1205.9	1205.9	1205.9	1205.9	1205.9

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