

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: P331941-935

Luminaire Tested: **S123DIP-S560D1025U935-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331941-935
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-S560D1025U935-4F0-1E-UDD-D1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1025 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5069.2 lumens
Efficiency: N/A
Efficacy: 113.9 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

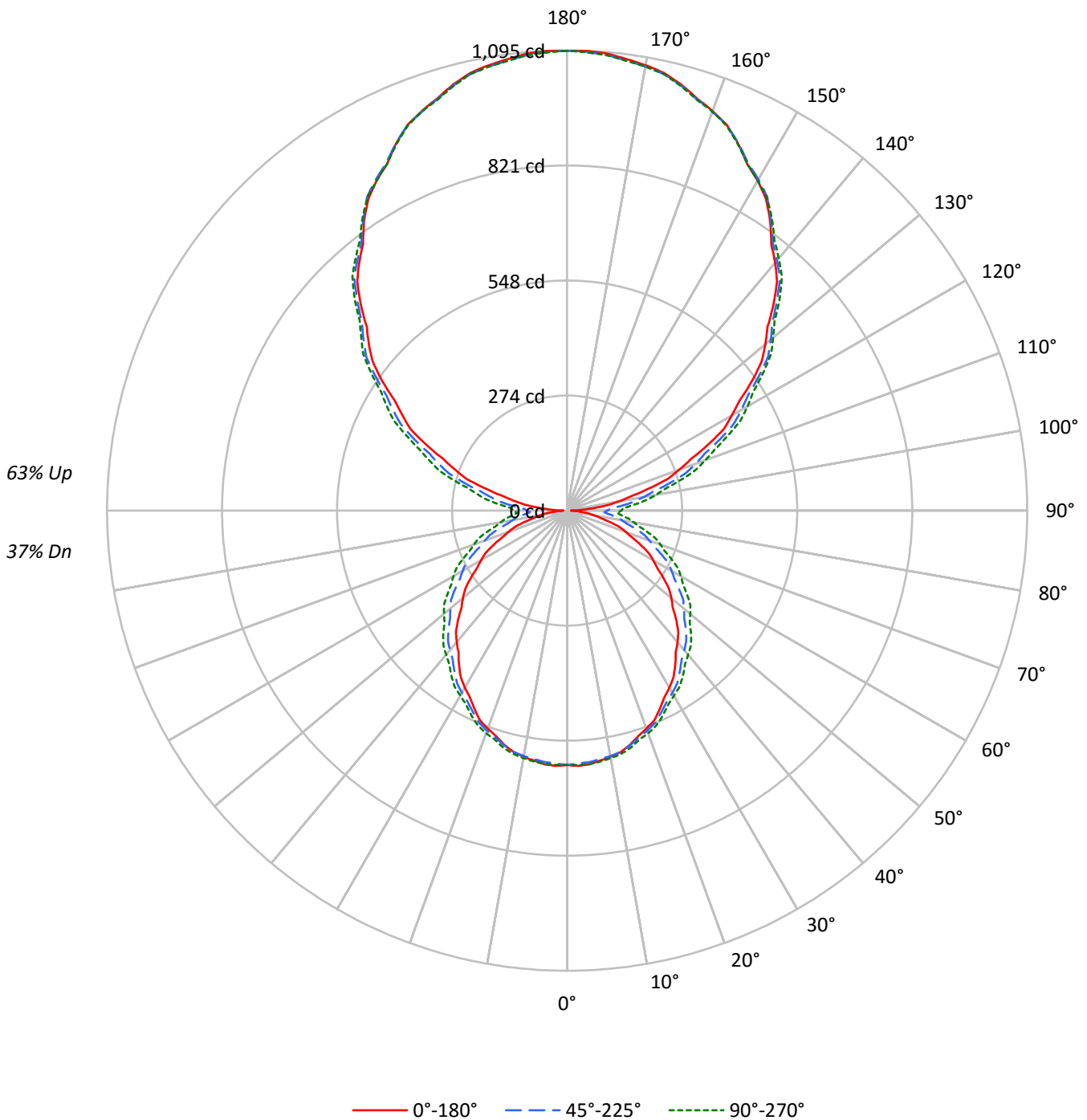
Input Watts (W): 44.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	104	104	104	104	94	94	94	94	76	76	76	59	59	59	44	44	44	37
1	94	89	85	82	85	81	78	74	65	63	61	51	49	48	38	37	36	29
2	85	78	71	66	77	70	65	60	57	53	50	44	42	39	33	31	29	24
3	78	68	61	55	70	62	55	50	50	45	41	39	36	33	29	27	25	20
4	71	60	52	46	64	54	47	42	44	39	35	34	31	28	25	23	21	17
5	65	53	45	39	58	48	41	36	39	34	30	31	27	24	23	20	18	15
6	60	48	39	34	54	43	36	31	35	30	26	28	24	21	21	18	16	13
7	55	43	35	29	50	39	32	27	32	27	23	25	21	18	19	16	14	11
8	51	39	31	26	46	35	29	24	29	24	20	23	19	16	17	15	13	10
9	47	35	28	23	43	32	26	21	26	21	18	21	17	14	16	13	11	9
10	44	32	25	20	40	29	23	19	24	19	16	19	16	13	15	12	10	8

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6518	6518	6518
5°	6537	6352	6357
10°	6480	6207	6175
15°	6395	6040	5978
20°	6277	5850	5760
25°	6129	5632	5532
30°	5977	5436	5300
35°	5809	5228	5116
40°	5647	5038	4917
45°	5468	4857	4759
50°	5291	4678	4584
55°	5097	4494	4428
60°	4906	4308	4266
65°	4710	4109	4076
70°	4418	3885	3878
75°	4048	3629	3679
80°	3620	3378	3451
85°	3222	3204	3317



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	57.4	1.1
10°-20°	163.6	3.2
20°-30°	244.7	4.8
30°-40°	292.2	5.8
40°-50°	305.8	6.0
50°-60°	286.9	5.7
60°-70°	239.6	4.7
70°-80°	171.5	3.4
80°-90°	105.5	2.1
90°-100°	135.4	2.7
100°-110°	260.5	5.1
110°-120°	394.3	7.8
120°-130°	495.3	9.8
130°-140°	544.5	10.7
140°-150°	529.0	10.4
150°-160°	443.9	8.8
160°-170°	295.5	5.8
170°-180°	103.5	2.0
0°-30°	465.7	9.2
0°-40°	758.0	15.0
0°-60°	1350.7	26.6
0°-90°	1867.2	36.8
90°-120°	790.3	15.6
90°-150°	2359.0	46.5
90°-180°	3202.0	63.2
0°-180°	5069.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	606	606	606	606	606	
5°	606	605	601	606	606	57
15°	577	579	578	585	584	162
25°	521	527	530	538	538	240
35°	448	459	468	477	480	280
45°	367	383	399	411	417	283
55°	280	302	325	342	348	250
65°	193	219	248	267	274	191
75°	105	136	169	190	198	112
85°	32	65	100	122	129	34
90°	10	51	95	120	129	9
95°	58	90	129	152	159	63
105°	199	217	252	270	278	212
115°	369	380	401	417	422	365
125°	537	540	557	566	568	479
135°	695	700	706	714	716	535
145°	842	843	846	850	849	526
155°	964	964	964	967	962	443
165°	1049	1047	1047	1051	1046	296
175°	1092	1088	1088	1093	1087	104
180°	1094	1094	1094	1094	1094	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	605.5	605.5	605.5	605.5	605.5	605.5	605.5	605.5	605.5	605.5	605.5
2.5°	608.1	607.8	607.4	607.0	606.7	606.1	605.1	604.2	603.2	602.3	603.2
5°	606.1	605.8	605.5	605.3	604.9	604.3	603.5	602.6	601.8	600.8	602.0
7.5°	600.2	600.2	600.3	600.4	600.5	600.0	599.2	598.3	597.4	596.6	598.1
10°	595.0	595.2	595.5	595.8	596.1	595.9	595.1	594.4	593.7	593.0	594.4
12.5°	588.6	589.0	589.4	589.8	590.2	590.2	589.7	589.2	588.7	588.1	589.5
15°	577.1	577.6	578.0	578.4	578.9	579.0	578.9	578.7	578.6	578.4	579.9
17.5°	562.6	563.4	564.4	565.2	566.1	566.5	566.5	566.4	566.4	566.3	567.6
20°	552.1	552.9	553.8	554.7	555.5	556.1	556.5	556.7	557.0	557.3	558.6
22.5°	541.0	541.8	542.7	543.6	544.5	545.1	545.5	546.0	546.4	546.7	548.5
25°	521.1	522.5	524.0	525.5	526.9	527.9	528.3	528.7	529.2	529.6	531.5
27.5°	501.0	502.7	504.4	506.0	507.6	508.9	509.9	510.8	511.8	512.7	514.4
30°	486.7	488.6	490.5	492.5	494.4	495.9	497.1	498.3	499.4	500.6	502.4
32.5°	470.9	473.0	475.2	477.3	479.5	481.3	482.8	484.3	485.9	487.4	489.3
35°	448.5	450.8	453.1	455.6	457.9	460.0	461.9	463.8	465.7	467.6	469.8
37.5°	424.7	427.4	430.0	432.7	435.3	437.8	440.1	442.5	444.8	447.2	449.7
40°	408.9	411.6	414.2	416.8	419.5	422.2	425.2	428.1	431.0	433.9	436.4
42.5°	391.5	394.8	398.0	401.1	404.4	407.5	410.6	413.6	416.7	419.7	422.5
45°	366.7	370.2	373.8	377.3	380.7	384.4	388.1	391.7	395.4	399.0	401.8
47.5°	340.7	344.7	348.7	352.7	356.6	360.8	365.0	369.1	373.3	377.5	380.6
50°	323.8	328.0	332.0	336.1	340.3	344.6	349.1	353.7	358.2	362.7	366.1
52.5°	305.9	310.2	314.6	318.9	323.2	328.0	332.9	337.9	342.9	348.0	351.5
55°	279.7	284.5	289.3	294.1	299.0	304.0	309.4	314.6	319.9	325.1	329.1
57.5°	254.1	259.1	264.2	269.1	274.2	279.7	285.4	291.2	297.0	302.7	306.7
60°	236.1	241.4	246.7	251.9	257.2	262.9	268.9	274.9	280.9	286.9	291.0
62.5°	219.2	224.6	230.1	235.4	240.8	246.7	253.0	259.4	265.8	272.2	276.2
65°	193.2	199.0	204.7	210.4	216.1	222.2	228.7	235.1	241.5	248.0	252.4
67.5°	166.9	173.0	179.0	185.0	191.1	197.4	204.1	210.6	217.1	223.7	228.5
70°	148.4	154.7	161.0	167.3	173.6	180.3	187.3	194.3	201.4	208.4	213.1
72.5°	131.5	137.8	144.1	150.4	156.7	163.5	170.7	178.1	185.3	192.6	197.4
75°	104.9	111.8	118.6	125.5	132.4	139.6	146.9	154.2	161.5	168.8	173.7
77.5°	81.6	88.6	95.6	102.5	109.4	116.6	124.0	131.4	138.8	146.2	151.3
80°	65.3	72.5	79.6	86.9	94.0	101.4	109.0	116.7	124.3	131.9	136.9
82.5°	51.1	58.4	65.6	72.9	80.2	87.7	95.5	103.2	111.0	118.7	123.7
85°	32.3	39.6	47.0	54.3	61.6	69.1	77.0	84.7	92.5	100.2	105.2
87.5°	17.7	25.4	33.1	40.7	48.5	56.2	64.2	72.2	80.2	88.2	93.2
90°	9.5	18.5	27.6	36.7	45.8	55.4	65.3	75.3	85.2	95.1	100.9
92.5°	28.8	36.6	44.4	52.2	59.9	68.2	77.0	85.8	94.5	103.3	108.8
95°	57.9	65.0	72.1	79.1	86.2	94.0	102.8	111.5	120.2	128.9	134.2
97.5°	96.5	102.7	108.8	115.0	121.1	128.2	136.2	144.1	152.1	160.1	165.3
100°	122.9	128.6	134.5	140.3	146.2	152.9	160.7	168.3	176.0	183.7	188.6
102.5°	153.3	158.2	163.1	168.0	172.9	179.3	187.2	195.0	202.9	210.8	215.5
105°	198.6	202.6	206.5	210.3	214.2	220.2	228.3	236.3	244.3	252.3	256.4
107.5°	250.8	254.0	257.3	260.5	263.7	268.6	275.3	282.0	288.6	295.3	299.8
110°	283.3	286.3	289.3	292.3	295.3	300.0	306.3	312.5	318.7	324.9	329.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	317.6	320.0	322.4	324.9	327.3	331.3	337.0	342.7	348.4	354.1	358.7
115°	368.6	370.9	373.2	375.6	377.9	381.5	386.4	391.3	396.2	401.1	404.8
117.5°	420.3	421.8	423.3	424.7	426.2	429.2	433.6	438.1	442.6	447.0	450.5
120°	452.1	454.0	455.9	457.8	459.7	462.5	466.4	470.3	474.2	478.0	481.2
122.5°	485.9	487.1	488.3	489.5	490.7	493.4	497.5	501.6	505.7	509.8	512.6
125°	536.6	537.1	537.7	538.3	538.8	541.1	544.9	548.8	552.7	556.6	558.9
127.5°	584.0	585.0	586.2	587.2	588.3	590.4	593.5	596.6	599.7	602.8	604.6
130°	615.6	617.0	618.4	619.7	621.1	623.0	625.3	627.8	630.1	632.5	634.5
132.5°	646.7	648.2	649.7	651.3	652.7	654.4	656.3	658.3	660.2	662.1	663.9
135°	694.9	695.9	696.9	697.9	698.9	700.1	701.5	702.9	704.4	705.8	707.7
137.5°	739.4	740.3	741.1	742.0	742.8	743.9	745.4	746.7	748.1	749.6	751.1
140°	769.9	770.9	771.8	772.7	773.7	774.5	775.2	775.8	776.4	777.0	779.0
142.5°	798.1	798.9	799.7	800.6	801.4	802.0	802.5	802.9	803.3	803.7	805.6
145°	842.1	842.3	842.6	842.7	843.0	843.4	844.0	844.6	845.2	845.7	846.7
147.5°	879.9	880.6	881.3	882.0	882.7	883.3	883.8	884.3	884.8	885.5	885.8
150°	906.7	907.1	907.5	907.8	908.3	908.6	909.0	909.4	909.8	910.2	910.2
152.5°	928.8	929.3	929.8	930.3	930.8	931.3	931.5	931.7	931.9	932.2	932.5
155°	963.5	963.5	963.5	963.5	963.5	963.5	963.7	963.9	964.1	964.3	965.1
157.5°	993.0	992.8	992.6	992.3	992.1	992.0	992.2	992.4	992.6	992.6	993.5
160°	1011.6	1011.2	1010.8	1010.5	1010.0	1009.9	1009.9	1009.9	1009.9	1009.9	1010.8
162.5°	1028.1	1027.5	1027.0	1026.5	1026.0	1025.8	1025.9	1026.1	1026.2	1026.4	1027.3
165°	1049.4	1048.8	1048.3	1047.7	1047.1	1046.8	1046.8	1046.8	1046.8	1046.8	1047.9
167.5°	1066.4	1065.7	1064.9	1064.1	1063.3	1063.1	1063.2	1063.3	1063.5	1063.7	1064.9
170°	1076.1	1075.3	1074.5	1073.8	1073.0	1072.6	1072.6	1072.6	1072.6	1072.6	1073.9
172.5°	1083.6	1082.9	1082.1	1081.3	1080.6	1080.1	1080.1	1080.1	1080.1	1080.1	1081.3
175°	1091.5	1090.7	1089.9	1089.3	1088.5	1088.0	1088.0	1088.0	1088.0	1088.0	1089.3
177.5°	1094.8	1094.2	1093.6	1093.0	1092.4	1092.0	1092.0	1092.0	1092.0	1092.0	1093.0
180°	1094.1	1094.1	1094.1	1094.1	1094.1	1094.1	1094.1	1094.1	1094.1	1094.1	1094.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	605.5	605.5	605.5	605.5	605.5	605.5	605.5	605.5
2.5°	604.2	605.1	606.1	606.5	606.3	606.2	606.1	606.0
5°	603.2	604.3	605.5	606.1	605.9	605.7	605.6	605.5
7.5°	599.5	601.0	602.5	603.1	603.0	602.8	602.6	602.4
10°	595.9	597.4	598.8	599.3	599.1	598.8	598.5	598.2
12.5°	590.9	592.2	593.6	594.1	593.8	593.5	593.2	593.0
15°	581.3	582.8	584.3	585.0	584.8	584.6	584.5	584.4
17.5°	568.9	570.2	571.5	572.1	571.9	571.7	571.5	571.3
20°	560.0	561.3	562.6	563.4	563.4	563.6	563.8	563.9
22.5°	550.1	551.8	553.5	554.2	554.1	554.1	554.0	553.9
25°	533.4	535.4	537.3	538.2	538.2	538.2	538.2	538.2
27.5°	516.0	517.6	519.3	520.2	520.3	520.4	520.6	520.6
30°	504.1	505.8	507.6	508.5	508.5	508.5	508.5	508.5
32.5°	491.1	493.0	494.9	496.0	496.4	496.7	497.1	497.4
35°	472.0	474.2	476.4	477.8	478.4	479.0	479.6	480.2
37.5°	452.1	454.6	457.1	458.7	459.1	459.5	460.0	460.5
40°	438.9	441.4	443.9	445.5	446.1	446.7	447.2	447.8
42.5°	425.2	427.9	430.7	432.4	433.3	434.0	434.9	435.7
45°	404.6	407.3	410.2	412.2	413.3	414.5	415.7	416.8
47.5°	383.8	386.9	390.0	392.1	393.0	393.9	394.9	395.7
50°	369.5	372.9	376.3	378.4	379.4	380.5	381.5	382.5
52.5°	355.0	358.4	362.0	364.3	365.6	366.8	368.1	369.4
55°	333.0	337.0	341.0	343.5	344.7	345.9	347.1	348.3
57.5°	310.7	314.7	318.7	321.3	322.7	324.1	325.5	326.8
60°	295.2	299.2	303.3	306.2	307.8	309.4	311.0	312.6
62.5°	280.3	284.5	288.5	291.4	292.8	294.3	295.8	297.3
65°	256.8	261.1	265.6	268.5	270.0	271.5	272.9	274.4
67.5°	233.3	238.2	243.0	246.0	247.2	248.4	249.7	250.9
70°	217.8	222.5	227.2	230.2	231.7	233.2	234.6	236.1
72.5°	202.2	207.0	211.8	215.0	216.5	217.9	219.4	220.8
75°	178.5	183.4	188.2	191.5	193.2	195.0	196.7	198.5
77.5°	156.4	161.4	166.5	169.8	171.2	172.5	173.8	175.2
80°	141.9	146.9	151.9	155.1	156.5	158.0	159.5	160.9
82.5°	128.7	133.6	138.6	141.9	143.4	144.8	146.3	147.7
85°	110.2	115.2	120.2	123.4	124.8	126.3	127.8	129.2
87.5°	98.4	103.6	108.7	112.0	113.6	115.1	116.7	118.2
90°	106.7	112.4	118.1	121.9	123.8	125.6	127.5	129.3
92.5°	114.3	119.8	125.2	128.5	129.7	130.8	131.9	133.0
95°	139.5	144.8	150.2	153.5	155.0	156.4	157.9	159.4
97.5°	170.6	175.8	181.1	184.3	185.8	187.2	188.6	189.9
100°	193.4	198.2	203.0	206.4	208.2	210.1	211.9	213.7
102.5°	220.2	224.9	229.6	232.6	234.1	235.5	236.9	238.2
105°	260.5	264.6	268.7	271.6	273.3	275.0	276.7	278.4
107.5°	304.4	308.9	313.5	316.2	317.3	318.4	319.4	320.5
110°	334.2	338.7	343.3	345.9	346.7	347.5	348.4	349.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	363.3	368.0	372.6	375.5	376.7	377.9	379.1	380.3
115°	408.5	412.2	415.9	418.3	419.2	420.3	421.2	422.1
117.5°	453.9	457.4	460.8	462.9	463.5	464.1	464.7	465.3
120°	484.4	487.6	490.8	492.7	493.4	494.0	494.6	495.2
122.5°	515.3	518.1	520.8	522.5	523.0	523.4	523.9	524.4
125°	561.2	563.5	565.8	567.1	567.3	567.7	567.9	568.2
127.5°	606.5	608.3	610.1	611.1	611.2	611.3	611.5	611.6
130°	636.5	638.5	640.6	641.4	640.8	640.4	640.0	639.5
132.5°	665.6	667.4	669.2	670.0	669.9	669.9	669.9	669.9
135°	709.6	711.4	713.3	714.4	714.7	715.1	715.5	715.8
137.5°	752.6	754.1	755.6	756.4	756.4	756.4	756.4	756.4
140°	781.0	783.0	785.1	785.7	785.1	784.5	783.9	783.3
142.5°	807.4	809.1	810.9	811.6	811.3	811.0	810.7	810.4
145°	847.7	848.7	849.6	850.1	849.9	849.7	849.5	849.3
147.5°	886.1	886.5	886.8	886.7	886.1	885.5	884.8	884.2
150°	910.2	910.2	910.2	909.7	908.9	908.0	907.1	906.3
152.5°	932.8	933.1	933.4	933.1	932.1	931.2	930.3	929.4
155°	965.9	966.6	967.3	967.1	965.8	964.4	963.0	961.7
157.5°	994.3	995.1	995.9	995.7	994.7	993.6	992.6	991.4
160°	1011.8	1012.7	1013.7	1013.7	1013.1	1012.3	1011.5	1010.7
162.5°	1028.3	1029.2	1030.2	1030.0	1028.8	1027.6	1026.4	1025.2
165°	1049.1	1050.2	1051.4	1051.3	1050.0	1048.6	1047.3	1045.9
167.5°	1066.0	1067.2	1068.4	1068.4	1067.2	1066.0	1064.9	1063.7
170°	1075.3	1076.6	1078.0	1078.0	1076.6	1075.3	1073.9	1072.6
172.5°	1082.5	1083.7	1084.9	1084.9	1083.5	1082.2	1080.8	1079.4
175°	1090.4	1091.5	1092.7	1092.5	1091.2	1089.9	1088.6	1087.2
177.5°	1093.9	1094.8	1095.7	1095.6	1094.6	1093.5	1092.4	1091.3
180°	1094.1	1094.1	1094.1	1094.1	1094.1	1094.1	1094.1	1094.1

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