

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: P331914-840

Luminaire Tested: **S123DIP-S560D365U840-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331914-840
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-S560D365U840-4F0-1E-UDD-D1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 365 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3646.4 lumens
Efficiency: N/A
Efficacy: 132.6 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: General Diffuse

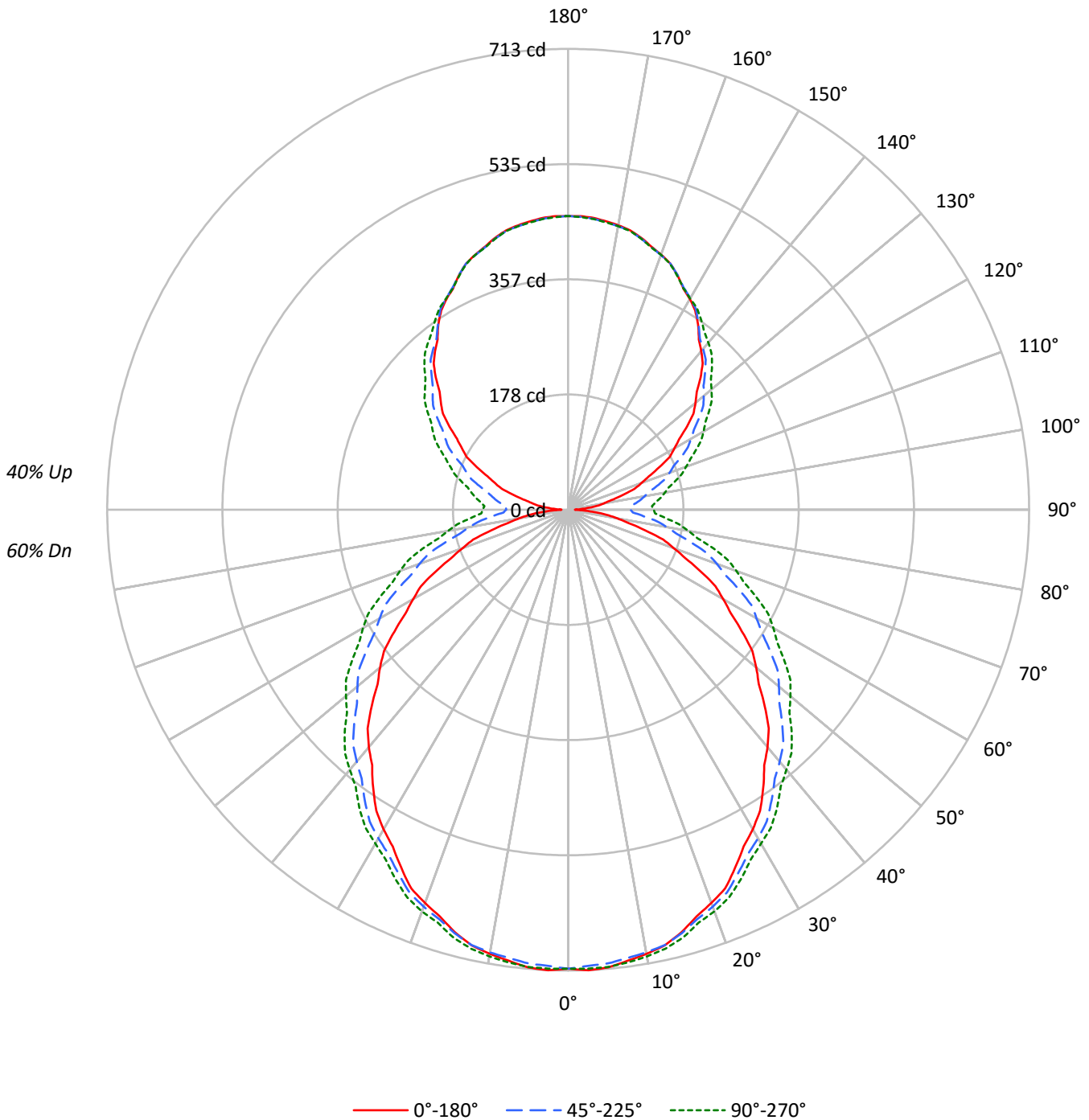
Input Watts (W): 27.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	110	110	110	110	102	102	102	102	89	89	89	77	77	77	65	65	65	60
1	99	94	89	85	92	88	84	80	76	73	70	65	63	61	56	54	53	48
2	89	81	74	69	83	76	70	65	66	61	57	57	53	50	48	46	43	39
3	81	71	63	57	75	66	59	54	58	52	48	50	46	42	42	39	36	33
4	74	63	54	48	69	59	51	45	51	45	40	44	39	36	38	34	31	28
5	68	56	47	41	63	52	44	39	46	39	35	40	35	31	34	30	27	24
6	63	50	41	35	58	47	39	33	41	35	30	36	31	27	31	27	24	21
7	58	45	37	31	54	42	35	29	37	31	26	32	27	24	28	24	21	18
8	54	41	33	27	50	38	31	26	34	28	23	30	25	21	26	22	19	16
9	50	37	30	24	47	35	28	23	31	25	21	27	22	19	24	20	17	15
10	47	34	27	22	44	32	25	21	29	23	19	25	20	17	22	18	15	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7643	7643	7643
5°	7667	7451	7455
10°	7599	7280	7244
15°	7501	7084	7012
20°	7361	6862	6756
25°	7189	6606	6489
30°	7011	6375	6216
35°	6812	6132	6000
40°	6623	5910	5767
45°	6414	5697	5582
50°	6206	5488	5378
55°	5978	5271	5194
60°	5753	5053	5005
65°	5525	4819	4780
70°	5183	4558	4549
75°	4746	4256	4316
80°	4241	3962	4047
85°	3780	3757	3892



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	67.3	1.8
10°-20°	191.9	5.3
20°-30°	287.0	7.9
30°-40°	342.8	9.4
40°-50°	358.6	9.8
50°-60°	336.5	9.2
60°-70°	281.1	7.7
70°-80°	201.1	5.5
80°-90°	121.3	3.3
90°-100°	104.8	2.9
100°-110°	143.9	3.9
110°-120°	187.6	5.1
120°-130°	219.3	6.0
130°-140°	232.2	6.4
140°-150°	221.0	6.1
150°-160°	184.3	5.1
160°-170°	122.7	3.4
170°-180°	43.0	1.2
0°-30°	546.3	15.0
0°-40°	889.0	24.4
0°-60°	1584.2	43.4
0°-90°	2187.6	60.0
90°-120°	436.3	12.0
90°-150°	1108.8	30.4
90°-180°	1459.0	40.0
0°-180°	3646.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	710	710	710	710	710	
5°	711	709	705	710	710	67
15°	677	679	678	686	685	191
25°	611	619	621	631	631	282
35°	526	538	548	560	563	329
45°	430	449	468	482	489	332
55°	328	354	381	401	408	294
65°	227	257	291	313	322	224
75°	123	160	198	223	233	131
85°	38	77	118	143	152	40
90°	10	52	96	123	132	8
95°	30	63	103	127	136	30
105°	86	107	142	163	172	92
115°	156	167	193	211	218	154
125°	224	226	247	261	266	200
135°	290	291	299	311	315	223
145°	350	350	351	357	359	218
155°	400	400	400	402	399	184
165°	436	435	435	437	434	123
175°	453	452	452	454	451	43
180°	454	454	454	454	454	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	710.1	710.1	710.1	710.1	710.1	710.1	710.1	710.1	710.1	710.1	710.1
2.5°	713.3	712.9	712.5	712.0	711.6	710.8	709.7	708.6	707.5	706.4	707.5
5°	710.9	710.5	710.2	709.9	709.5	708.8	707.8	706.8	705.8	704.7	706.1
7.5°	704.0	704.0	704.1	704.2	704.3	703.8	702.8	701.8	700.7	699.7	701.5
10°	697.8	698.1	698.4	698.8	699.1	698.9	698.0	697.2	696.3	695.5	697.2
12.5°	690.3	690.8	691.4	691.8	692.3	692.3	691.7	691.1	690.4	689.8	691.5
15°	676.9	677.4	677.9	678.4	678.9	679.1	678.9	678.7	678.6	678.4	680.1
17.5°	659.8	660.9	662.0	663.0	664.0	664.5	664.4	664.3	664.3	664.2	665.7
20°	647.5	648.5	649.5	650.6	651.6	652.3	652.7	653.0	653.3	653.7	655.2
22.5°	634.5	635.5	636.5	637.6	638.6	639.3	639.9	640.4	640.9	641.3	643.3
25°	611.2	612.9	614.6	616.3	618.0	619.1	619.7	620.2	620.7	621.2	623.4
27.5°	587.6	589.6	591.6	593.5	595.4	596.9	598.0	599.2	600.3	601.4	603.3
30°	570.9	573.1	575.3	577.6	579.9	581.7	583.0	584.4	585.7	587.1	589.3
32.5°	552.3	554.8	557.3	559.9	562.4	564.5	566.3	568.0	569.9	571.7	573.9
35°	526.0	528.8	531.5	534.3	537.0	539.6	541.8	544.0	546.2	548.5	551.1
37.5°	498.2	501.3	504.3	507.5	510.6	513.5	516.2	519.0	521.7	524.5	527.5
40°	479.6	482.7	485.8	488.9	492.0	495.2	498.7	502.1	505.5	509.0	511.9
42.5°	459.2	463.0	466.8	470.5	474.3	478.0	481.6	485.1	488.8	492.3	495.5
45°	430.1	434.2	438.4	442.5	446.6	450.8	455.1	459.4	463.7	468.0	471.3
47.5°	399.6	404.3	409.0	413.6	418.3	423.1	428.1	432.9	437.9	442.8	446.5
50°	379.8	384.7	389.4	394.3	399.1	404.1	409.5	414.9	420.1	425.5	429.4
52.5°	358.8	363.9	369.0	374.1	379.1	384.7	390.5	396.4	402.2	408.2	412.2
55°	328.0	333.7	339.3	345.0	350.7	356.6	362.8	369.0	375.2	381.3	386.0
57.5°	298.0	303.9	309.8	315.7	321.6	328.0	334.8	341.5	348.3	355.1	359.7
60°	276.9	283.2	289.3	295.5	301.6	308.3	315.4	322.4	329.4	336.5	341.3
62.5°	257.1	263.5	269.8	276.1	282.5	289.3	296.8	304.3	311.7	319.2	324.0
65°	226.6	233.4	240.0	246.8	253.5	260.6	268.2	275.7	283.3	290.8	296.0
67.5°	195.7	202.9	210.0	217.0	224.2	231.6	239.3	247.0	254.7	262.4	268.0
70°	174.1	181.5	188.8	196.2	203.6	211.5	219.6	227.9	236.2	244.5	249.9
72.5°	154.2	161.7	169.1	176.4	183.8	191.8	200.3	208.8	217.3	225.9	231.6
75°	123.0	131.1	139.2	147.2	155.3	163.7	172.3	180.9	189.5	198.0	203.7
77.5°	95.7	103.9	112.1	120.2	128.4	136.7	145.4	154.1	162.8	171.5	177.4
80°	76.5	85.0	93.4	101.9	110.3	119.0	127.8	136.8	145.8	154.7	160.6
82.5°	59.9	68.5	77.0	85.5	94.1	102.9	112.0	121.1	130.2	139.3	145.1
85°	37.9	46.5	55.1	63.7	72.3	81.1	90.3	99.4	108.5	117.5	123.4
87.5°	20.6	29.4	38.1	46.8	55.5	64.3	73.3	82.3	91.3	100.3	106.1
90°	10.4	19.6	28.9	38.1	47.3	56.8	66.6	76.3	86.1	95.9	102.1
92.5°	18.1	26.3	34.3	42.5	50.6	59.3	68.5	77.8	86.9	96.1	102.1
95°	29.6	36.9	44.1	51.3	58.6	66.8	75.8	84.8	93.9	103.0	108.7
97.5°	44.9	51.4	57.9	64.3	70.8	78.4	86.8	95.3	103.8	112.3	117.9
100°	55.5	61.5	67.5	73.4	79.4	86.5	94.8	103.1	111.5	119.8	125.0
102.5°	67.8	72.9	78.2	83.4	88.7	95.4	103.7	112.0	120.3	128.7	133.7
105°	86.4	90.8	95.0	99.4	103.6	109.8	118.0	126.0	134.1	142.3	147.0
107.5°	107.6	111.2	114.7	118.4	122.0	127.4	134.7	142.0	149.3	156.6	161.5
110°	120.6	123.9	127.1	130.4	133.6	138.8	145.8	152.9	159.9	166.9	171.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	134.9	137.5	140.2	142.8	145.4	150.1	156.7	163.4	170.0	176.6	181.4
115°	155.5	157.8	160.2	162.5	164.7	169.0	174.9	181.0	187.0	193.0	197.2
117.5°	176.9	178.3	179.8	181.3	182.7	186.2	191.8	197.4	203.0	208.6	212.7
120°	189.8	191.1	192.4	193.8	195.1	198.4	203.7	208.9	214.2	219.4	223.4
122.5°	203.7	204.5	205.3	206.1	206.9	210.0	215.1	220.3	225.5	230.7	234.3
125°	224.3	224.5	224.8	225.0	225.2	227.8	232.6	237.4	242.3	247.1	250.3
127.5°	244.0	244.3	244.7	245.0	245.3	247.5	251.5	255.4	259.3	263.3	266.2
130°	257.1	257.6	258.0	258.5	259.0	260.8	264.0	267.2	270.4	273.6	276.6
132.5°	269.6	270.2	270.8	271.5	272.1	273.7	276.2	278.8	281.3	284.0	286.7
135°	289.5	289.8	290.1	290.4	290.7	291.9	293.7	295.5	297.3	299.0	301.8
137.5°	307.9	308.2	308.5	308.7	309.0	309.7	311.0	312.3	313.6	314.9	317.2
140°	320.2	320.5	320.9	321.3	321.7	322.2	322.9	323.5	324.1	324.7	327.1
142.5°	331.8	332.1	332.4	332.6	333.0	333.2	333.5	333.7	333.9	334.2	336.4
145°	350.1	350.1	350.1	350.1	350.1	350.2	350.4	350.7	350.9	351.1	352.4
147.5°	365.4	365.7	366.0	366.3	366.5	366.8	367.0	367.2	367.4	367.7	368.1
150°	376.5	376.7	376.8	377.0	377.2	377.3	377.5	377.6	377.8	377.9	377.9
152.5°	385.7	385.9	386.1	386.3	386.6	386.7	386.8	386.9	387.0	387.1	387.2
155°	400.1	400.1	400.1	400.1	400.1	400.1	400.2	400.2	400.3	400.4	400.7
157.5°	412.3	412.2	412.1	412.0	411.9	411.9	412.0	412.0	412.1	412.2	412.5
160°	420.0	419.9	419.7	419.6	419.4	419.3	419.3	419.3	419.3	419.3	419.7
162.5°	426.9	426.7	426.5	426.3	426.0	426.0	426.0	426.1	426.2	426.2	426.6
165°	435.8	435.6	435.3	435.0	434.7	434.6	434.6	434.6	434.6	434.6	435.2
167.5°	442.8	442.5	442.2	441.8	441.5	441.4	441.5	441.5	441.6	441.7	442.1
170°	446.8	446.5	446.2	445.9	445.6	445.4	445.4	445.4	445.4	445.4	446.0
172.5°	450.0	449.6	449.3	449.0	448.7	448.5	448.5	448.5	448.5	448.5	449.0
175°	453.2	452.9	452.6	452.3	452.0	451.8	451.8	451.8	451.8	451.8	452.3
177.5°	454.5	454.3	454.0	453.8	453.5	453.4	453.4	453.4	453.4	453.4	453.8
180°	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	710.1	710.1	710.1	710.1	710.1	710.1	710.1	710.1
2.5°	708.6	709.7	710.8	711.3	711.1	711.0	710.9	710.7
5°	707.5	708.8	710.2	710.8	710.6	710.4	710.3	710.1
7.5°	703.2	704.9	706.7	707.4	707.2	707.0	706.8	706.6
10°	698.9	700.6	702.4	703.0	702.7	702.4	702.0	701.7
12.5°	693.1	694.6	696.2	696.8	696.5	696.1	695.8	695.5
15°	681.9	683.6	685.3	686.1	685.9	685.7	685.6	685.4
17.5°	667.3	668.8	670.3	671.1	670.8	670.6	670.3	670.0
20°	656.8	658.3	659.8	660.8	660.9	661.1	661.3	661.4
22.5°	645.2	647.2	649.1	650.1	649.9	649.8	649.7	649.6
25°	625.6	627.9	630.2	631.3	631.3	631.3	631.3	631.3
27.5°	605.2	607.1	609.0	610.2	610.3	610.4	610.6	610.7
30°	591.3	593.3	595.4	596.4	596.4	596.4	596.4	596.4
32.5°	576.0	578.2	580.5	581.8	582.2	582.6	583.0	583.4
35°	553.6	556.2	558.8	560.4	561.1	561.8	562.5	563.2
37.5°	530.3	533.2	536.1	538.0	538.5	539.0	539.6	540.1
40°	514.8	517.8	520.7	522.5	523.2	523.9	524.5	525.2
42.5°	498.7	501.9	505.1	507.2	508.2	509.1	510.1	511.0
45°	474.5	477.8	481.1	483.4	484.7	486.1	487.6	488.9
47.5°	450.2	453.8	457.5	459.9	460.9	462.0	463.1	464.1
50°	433.3	437.4	441.3	443.8	445.0	446.3	447.5	448.7
52.5°	416.4	420.4	424.5	427.3	428.8	430.2	431.7	433.2
55°	390.6	395.3	399.9	402.9	404.3	405.7	407.1	408.5
57.5°	364.5	369.1	373.8	376.9	378.5	380.1	381.7	383.3
60°	346.2	350.9	355.8	359.1	361.0	362.8	364.8	366.7
62.5°	328.8	333.7	338.4	341.7	343.5	345.2	347.0	348.7
65°	301.1	306.3	311.5	315.0	316.7	318.4	320.1	321.8
67.5°	273.7	279.3	285.0	288.5	289.9	291.3	292.9	294.3
70°	255.5	260.9	266.5	270.0	271.8	273.5	275.2	276.9
72.5°	237.1	242.8	248.4	252.2	253.9	255.6	257.3	259.0
75°	209.3	215.1	220.8	224.6	226.6	228.7	230.8	232.9
77.5°	183.4	189.3	195.3	199.1	200.8	202.3	203.9	205.5
80°	166.4	172.3	178.1	181.9	183.6	185.3	187.0	188.7
82.5°	151.0	156.7	162.6	166.4	168.1	169.9	171.6	173.3
85°	129.3	135.1	141.0	144.7	146.4	148.1	149.9	151.6
87.5°	112.1	118.0	123.9	127.7	129.5	131.2	133.0	134.7
90°	108.3	114.4	120.6	124.6	126.5	128.4	130.3	132.2
92.5°	108.1	114.0	120.0	123.7	125.2	126.7	128.2	129.7
95°	114.3	120.0	125.6	129.3	131.0	132.7	134.4	136.1
97.5°	123.3	128.8	134.3	137.8	139.6	141.3	142.9	144.6
100°	130.2	135.4	140.7	144.2	146.1	147.9	149.9	151.7
102.5°	138.8	143.9	149.0	152.4	154.0	155.7	157.4	159.1
105°	151.9	156.7	161.5	164.7	166.4	168.1	169.9	171.6
107.5°	166.3	171.2	176.0	179.2	180.6	182.0	183.4	184.8
110°	176.5	181.3	186.1	189.0	190.3	191.5	192.7	193.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	186.0	190.8	195.5	198.5	200.1	201.6	203.0	204.5
115°	201.5	205.6	209.8	212.6	213.9	215.2	216.5	217.8
117.5°	216.7	220.9	224.9	227.5	228.6	229.7	230.9	232.0
120°	227.2	231.2	235.0	237.4	238.5	239.5	240.5	241.7
122.5°	237.9	241.5	245.1	247.4	248.4	249.3	250.3	251.4
125°	253.7	257.0	260.2	262.4	263.3	264.1	265.0	265.9
127.5°	269.2	272.2	275.1	277.0	277.8	278.6	279.4	280.2
130°	279.5	282.5	285.4	287.1	287.6	288.1	288.5	289.0
132.5°	289.4	292.2	294.9	296.7	297.4	298.1	298.9	299.6
135°	304.6	307.4	310.1	311.9	312.7	313.4	314.0	314.7
137.5°	319.6	321.9	324.4	325.9	326.4	327.0	327.5	328.1
140°	329.6	332.1	334.7	336.1	336.4	336.7	337.0	337.3
142.5°	338.6	340.8	343.1	344.4	344.8	345.3	345.7	346.1
145°	353.8	355.1	356.4	357.2	357.6	357.9	358.3	358.7
147.5°	368.5	368.9	369.3	369.6	369.7	369.9	370.0	370.1
150°	377.9	377.9	377.9	377.9	377.7	377.6	377.5	377.4
152.5°	387.3	387.5	387.6	387.5	387.1	386.8	386.5	386.1
155°	401.0	401.3	401.7	401.5	401.0	400.4	399.9	399.3
157.5°	412.8	413.2	413.5	413.4	413.0	412.6	412.1	411.7
160°	420.1	420.5	420.9	420.9	420.6	420.3	420.0	419.7
162.5°	427.0	427.4	427.8	427.7	427.2	426.7	426.2	425.7
165°	435.7	436.1	436.6	436.6	436.0	435.5	434.8	434.3
167.5°	442.6	443.1	443.6	443.6	443.1	442.6	442.1	441.7
170°	446.5	447.1	447.6	447.6	447.1	446.5	446.0	445.4
172.5°	449.5	450.0	450.5	450.5	449.9	449.4	448.8	448.3
175°	452.7	453.2	453.7	453.6	453.1	452.5	452.0	451.4
177.5°	454.2	454.5	454.9	454.9	454.5	454.0	453.6	453.1
180°	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3

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