

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: P331914-935

Luminaire Tested: **S123DIP-S560D365U935-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331914-935
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-S560D365U935-4F0-1E-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: 3108.9 lumens
Efficiency: N/A
Efficacy: 113.1 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

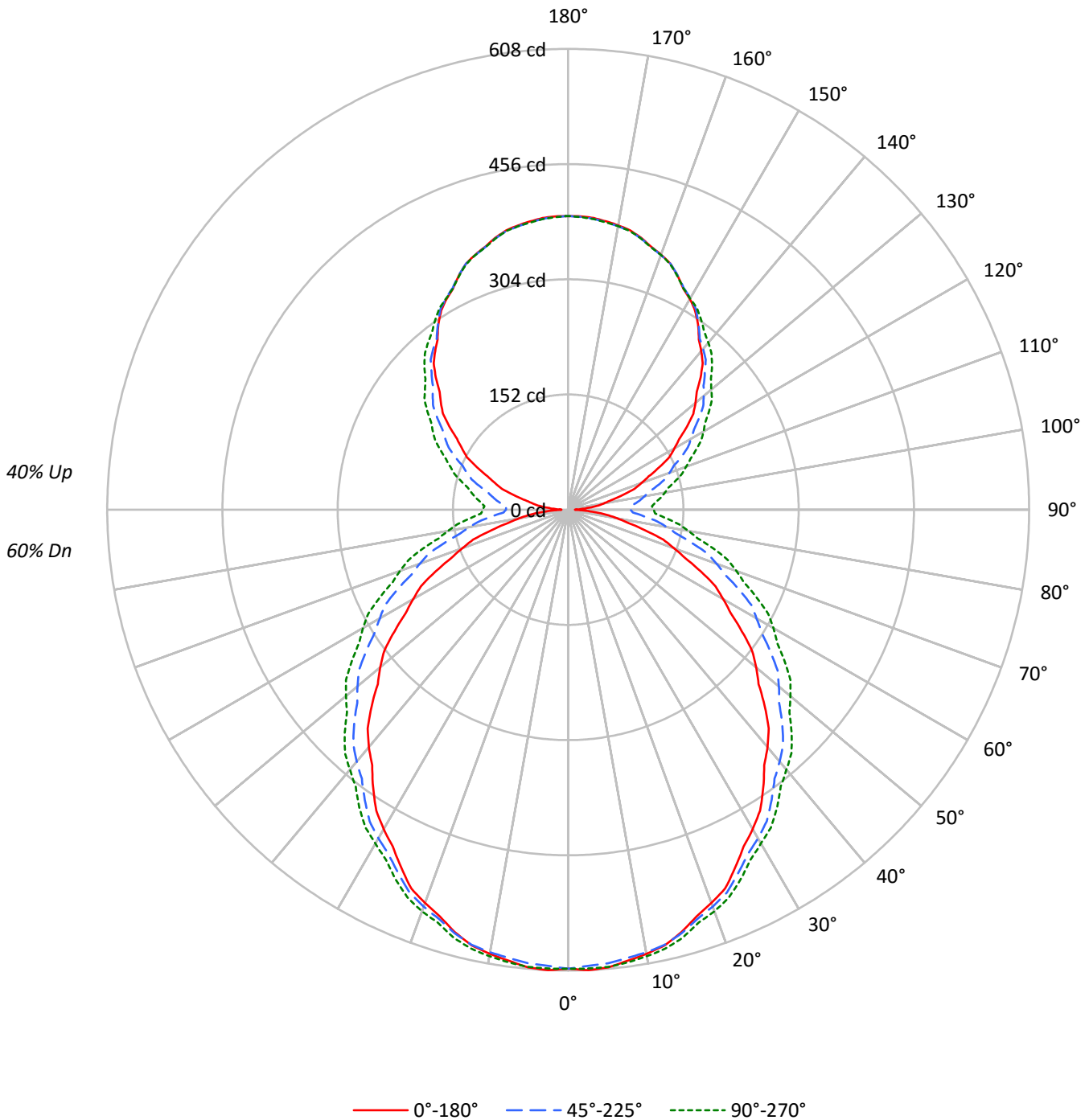
Input Watts (W): 27.5
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	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	1.8
10°-20°	163.6	5.3
20°-30°	244.7	7.9
30°-40°	292.2	9.4
40°-50°	305.8	9.8
50°-60°	286.9	9.2
60°-70°	239.6	7.7
70°-80°	171.5	5.5
80°-90°	103.4	3.3
90°-100°	89.4	2.9
100°-110°	122.7	3.9
110°-120°	159.9	5.1
120°-130°	187.0	6.0
130°-140°	198.0	6.4
140°-150°	188.4	6.1
150°-160°	157.2	5.1
160°-170°	104.6	3.4
170°-180°	36.6	1.2
0°-30°	465.7	15.0
0°-40°	758.0	24.4
0°-60°	1350.7	43.4
0°-90°	1865.2	60.0
90°-120°	372.0	12.0
90°-150°	945.3	30.4
90°-180°	1244.0	40.0
0°-180°	3108.9	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°	9	44	82	104	113	7
95°	25	53	88	109	116	26
105°	74	91	121	139	146	79
115°	133	142	164	180	186	131
125°	191	193	211	223	227	171
135°	247	248	255	265	268	190
145°	298	299	299	304	306	186
155°	341	341	341	342	340	157
165°	372	371	371	372	370	105
175°	386	385	385	387	385	37
180°	387	387	387	387	387	



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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°	17.6	25.1	32.5	39.9	47.4	54.8	62.5	70.2	77.8	85.5	90.5
90°	8.9	16.7	24.6	32.5	40.3	48.4	56.7	65.1	73.4	81.8	87.0
92.5°	15.4	22.4	29.3	36.2	43.1	50.5	58.4	66.3	74.1	82.0	87.0
95°	25.2	31.4	37.6	43.7	49.9	56.9	64.7	72.3	80.1	87.8	92.6
97.5°	38.3	43.8	49.3	54.8	60.4	66.8	74.0	81.3	88.5	95.7	100.5
100°	47.4	52.4	57.5	62.6	67.7	73.8	80.8	87.9	95.1	102.1	106.6
102.5°	57.8	62.2	66.6	71.1	75.6	81.4	88.4	95.5	102.5	109.7	114.0
105°	73.7	77.4	81.0	84.7	88.3	93.6	100.6	107.5	114.3	121.3	125.4
107.5°	91.7	94.8	97.8	100.9	104.0	108.7	114.9	121.1	127.3	133.5	137.7
110°	102.8	105.6	108.4	111.2	113.9	118.3	124.3	130.4	136.3	142.3	146.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	115.0	117.3	119.5	121.7	124.0	127.9	133.6	139.3	144.9	150.6	154.6
115°	132.6	134.6	136.6	138.5	140.4	144.0	149.1	154.3	159.5	164.5	168.2
117.5°	150.8	152.1	153.3	154.5	155.8	158.8	163.5	168.3	173.1	177.9	181.3
120°	161.8	162.9	164.0	165.2	166.3	169.2	173.7	178.1	182.6	187.1	190.5
122.5°	173.7	174.4	175.0	175.7	176.4	179.0	183.4	187.8	192.3	196.7	199.8
125°	191.2	191.4	191.7	191.8	192.0	194.2	198.3	202.4	206.6	210.7	213.4
127.5°	208.0	208.3	208.6	208.9	209.1	211.0	214.4	217.7	221.1	224.5	227.0
130°	219.2	219.6	220.0	220.4	220.8	222.4	225.1	227.8	230.6	233.2	235.8
132.5°	229.9	230.4	230.9	231.4	232.0	233.3	235.5	237.7	239.9	242.1	244.4
135°	246.8	247.1	247.4	247.6	247.9	248.8	250.4	251.9	253.5	254.9	257.4
137.5°	262.5	262.8	263.0	263.2	263.5	264.1	265.2	266.2	267.3	268.5	270.4
140°	273.0	273.3	273.6	274.0	274.3	274.7	275.3	275.8	276.3	276.8	278.9
142.5°	282.9	283.2	283.4	283.6	283.9	284.0	284.3	284.5	284.6	284.9	286.8
145°	298.5	298.5	298.5	298.5	298.5	298.6	298.8	299.0	299.2	299.4	300.5
147.5°	311.5	311.8	312.0	312.3	312.5	312.7	312.9	313.1	313.2	313.5	313.8
150°	321.0	321.2	321.2	321.4	321.6	321.7	321.8	321.9	322.1	322.2	322.2
152.5°	328.8	329.0	329.2	329.3	329.6	329.7	329.8	329.8	329.9	330.0	330.1
155°	341.1	341.1	341.1	341.1	341.1	341.1	341.2	341.2	341.3	341.4	341.6
157.5°	351.5	351.5	351.4	351.3	351.2	351.2	351.3	351.3	351.4	351.5	351.7
160°	358.1	358.0	357.8	357.7	357.6	357.5	357.5	357.5	357.5	357.5	357.8
162.5°	363.9	363.8	363.6	363.4	363.2	363.2	363.2	363.3	363.3	363.3	363.7
165°	371.5	371.3	371.1	370.9	370.7	370.6	370.6	370.6	370.6	370.6	371.0
167.5°	377.5	377.3	377.0	376.7	376.4	376.3	376.4	376.4	376.5	376.6	376.9
170°	380.9	380.6	380.4	380.1	379.9	379.7	379.7	379.7	379.7	379.7	380.2
172.5°	383.7	383.3	383.1	382.8	382.5	382.4	382.4	382.4	382.4	382.4	382.8
175°	386.4	386.2	385.9	385.6	385.4	385.2	385.2	385.2	385.2	385.2	385.6
177.5°	387.5	387.4	387.1	386.9	386.7	386.6	386.6	386.6	386.6	386.6	386.9
180°	387.4	387.4	387.4	387.4	387.4	387.4	387.4	387.4	387.4	387.4	387.4



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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°	95.6	100.6	105.6	108.9	110.4	111.8	113.4	114.9
90°	92.3	97.6	102.8	106.2	107.9	109.4	111.1	112.7
92.5°	92.1	97.2	102.3	105.5	106.8	108.1	109.3	110.6
95°	97.5	102.3	107.1	110.2	111.7	113.1	114.6	116.1
97.5°	105.1	109.8	114.5	117.5	119.0	120.5	121.8	123.3
100°	111.0	115.5	119.9	123.0	124.6	126.1	127.8	129.3
102.5°	118.3	122.7	127.0	129.9	131.3	132.8	134.2	135.6
105°	129.5	133.6	137.7	140.4	141.9	143.4	144.8	146.3
107.5°	141.8	145.9	150.1	152.7	153.9	155.2	156.4	157.6
110°	150.5	154.5	158.7	161.2	162.2	163.2	164.3	165.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	158.6	162.6	166.7	169.3	170.6	171.9	173.1	174.4
115°	171.8	175.3	178.9	181.2	182.4	183.5	184.6	185.7
117.5°	184.8	188.3	191.7	194.0	194.9	195.9	196.8	197.8
120°	193.7	197.1	200.4	202.4	203.4	204.2	205.1	206.0
122.5°	202.9	205.9	209.0	210.9	211.8	212.6	213.4	214.3
125°	216.3	219.1	221.9	223.7	224.5	225.2	225.9	226.7
127.5°	229.5	232.0	234.5	236.2	236.9	237.5	238.2	238.9
130°	238.3	240.8	243.3	244.8	245.2	245.6	246.0	246.4
132.5°	246.8	249.1	251.4	253.0	253.6	254.2	254.9	255.5
135°	259.7	262.1	264.4	266.0	266.6	267.2	267.7	268.3
137.5°	272.5	274.5	276.6	277.8	278.3	278.8	279.2	279.7
140°	281.0	283.2	285.3	286.5	286.8	287.1	287.3	287.6
142.5°	288.7	290.6	292.5	293.6	293.9	294.4	294.7	295.1
145°	301.6	302.7	303.8	304.5	304.9	305.1	305.5	305.8
147.5°	314.2	314.5	314.9	315.1	315.2	315.4	315.5	315.6
150°	322.2	322.2	322.2	322.2	322.0	321.9	321.8	321.8
152.5°	330.2	330.4	330.5	330.4	330.0	329.8	329.5	329.2
155°	341.9	342.2	342.5	342.3	341.9	341.4	341.0	340.4
157.5°	352.0	352.3	352.6	352.5	352.1	351.8	351.4	351.0
160°	358.2	358.5	358.9	358.9	358.6	358.3	358.1	357.8
162.5°	364.0	364.4	364.7	364.6	364.2	363.8	363.3	362.9
165°	371.4	371.8	372.2	372.2	371.7	371.3	370.7	370.3
167.5°	377.4	377.8	378.2	378.2	377.8	377.4	376.9	376.6
170°	380.6	381.2	381.6	381.6	381.2	380.6	380.2	379.7
172.5°	383.2	383.7	384.1	384.1	383.6	383.1	382.6	382.2
175°	386.0	386.4	386.8	386.8	386.3	385.8	385.4	384.9
177.5°	387.3	387.5	387.9	387.9	387.5	387.1	386.8	386.3
180°	387.4	387.4	387.4	387.4	387.4	387.4	387.4	387.4

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