

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: P332123

Luminaire Tested: **S123DIW-S560D460U835-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332123
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: S123DIW-S560D460U835-4F0-1E-UDD-D1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 460 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3963.1 lumens
Efficiency: N/A
Efficacy: 131.2 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

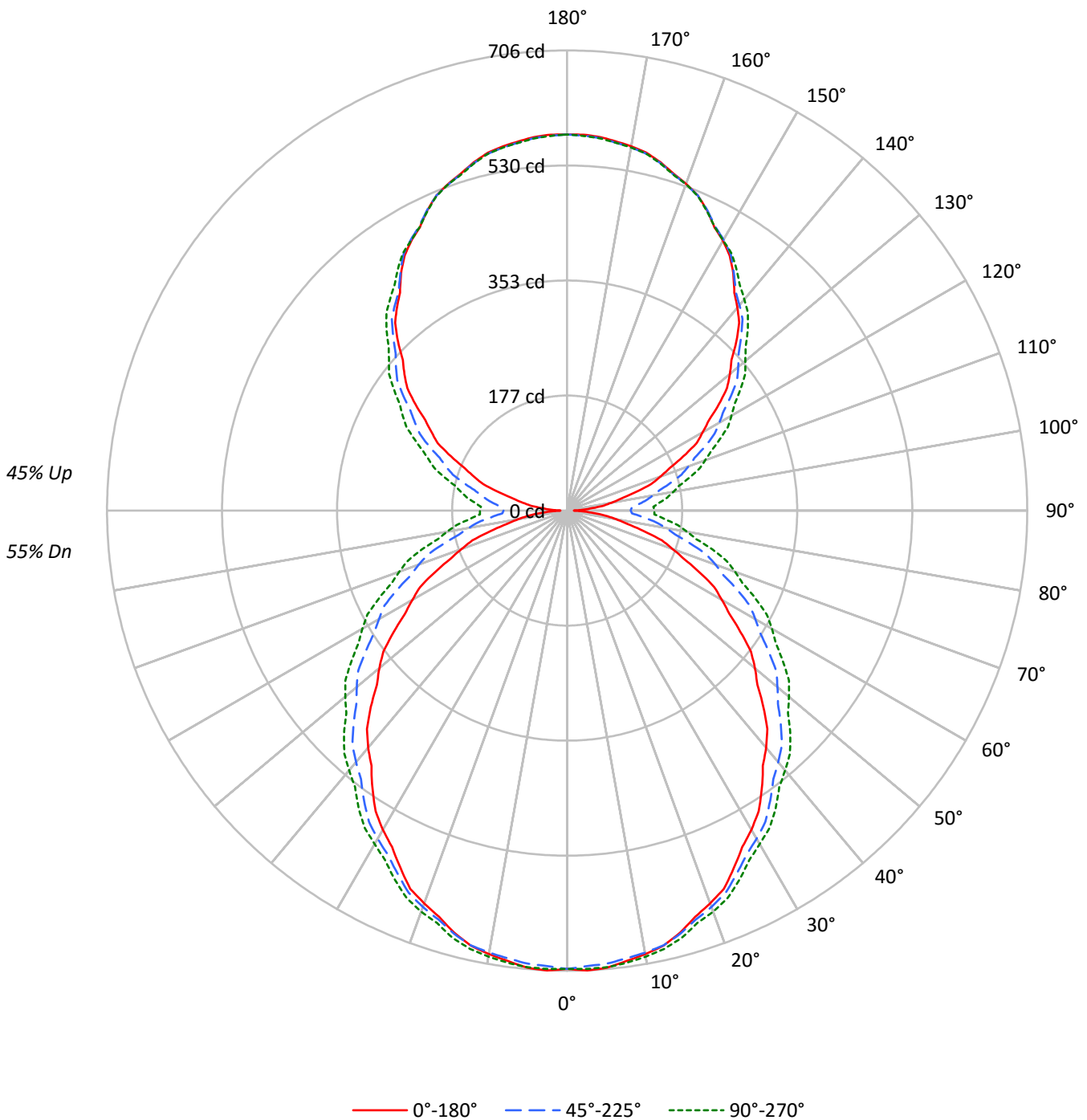
Input Watts (W): 30.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	108	108	108	108	100	100	100	100	86	86	86	73	73	73	60	60	60	55
1	98	93	88	85	90	86	82	79	74	71	68	62	60	58	52	50	49	44
2	88	80	74	68	82	75	69	64	64	59	56	54	51	48	45	42	40	36
3	80	70	62	56	74	65	58	53	56	51	46	47	43	40	39	36	34	30
4	73	62	54	47	68	58	50	44	50	44	39	42	37	34	35	32	29	25
5	67	55	47	40	62	51	44	38	44	38	34	38	33	29	31	28	25	22
6	62	49	41	35	57	46	38	33	40	34	29	34	29	25	28	25	22	19
7	57	45	36	30	53	42	34	29	36	30	26	31	26	22	26	22	19	17
8	53	40	32	27	49	38	31	25	33	27	23	28	23	20	24	20	17	15
9	49	37	29	24	46	35	27	23	30	24	20	26	21	18	22	18	15	13
10	46	34	26	21	43	32	25	20	28	22	18	24	19	16	20	17	14	12

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7569	7569	7569
5°	7593	7378	7383
10°	7525	7209	7173
15°	7428	7016	6943
20°	7289	6795	6690
25°	7119	6541	6425
30°	6943	6313	6156
35°	6746	6072	5942
40°	6558	5852	5711
45°	6351	5641	5527
50°	6145	5433	5325
55°	5919	5219	5143
60°	5697	5003	4956
65°	5471	4772	4733
70°	5132	4514	4504
75°	4700	4216	4274
80°	4202	3924	4008
85°	3741	3722	3854



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	66.7	1.7
10°-20°	190.0	4.8
20°-30°	284.2	7.2
30°-40°	339.4	8.6
40°-50°	355.1	9.0
50°-60°	333.2	8.4
60°-70°	278.3	7.0
70°-80°	199.1	5.0
80°-90°	120.5	3.0
90°-100°	112.1	2.8
100°-110°	167.2	4.2
110°-120°	227.9	5.8
120°-130°	272.5	6.9
130°-140°	292.2	7.4
140°-150°	280.0	7.1
150°-160°	234.1	5.9
160°-170°	155.8	3.9
170°-180°	54.6	1.4
0°-30°	540.9	13.6
0°-40°	880.3	22.2
0°-60°	1568.7	39.6
0°-90°	2166.7	54.7
90°-120°	507.2	12.8
90°-150°	1352.0	34.1
90°-180°	1796.0	45.3
0°-180°	3963.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	703	703	703	703	703	
5°	704	702	698	704	703	67
15°	670	672	672	679	679	189
25°	605	613	615	625	625	279
35°	521	533	543	554	558	326
45°	426	444	463	478	484	328
55°	325	350	378	398	404	291
65°	224	255	288	310	319	222
75°	122	158	196	220	231	130
85°	38	76	116	141	150	39
90°	10	53	97	124	134	8
95°	35	69	109	134	143	37
105°	108	128	164	185	194	115
115°	196	208	234	252	258	194
125°	284	287	307	320	325	254
135°	367	370	377	389	392	283
145°	444	445	446	451	453	277
155°	508	508	508	510	507	234
165°	553	552	552	554	552	156
175°	576	574	574	576	573	55
180°	577	577	577	577	577	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	703.2	703.2	703.2	703.2	703.2	703.2	703.2	703.2	703.2	703.2	703.2
2.5°	706.3	705.9	705.5	705.0	704.6	703.9	702.8	701.7	700.6	699.5	700.6
5°	704.0	703.6	703.3	703.0	702.6	701.9	700.9	699.9	698.9	697.8	699.2
7.5°	697.1	697.1	697.2	697.3	697.4	696.9	695.9	694.9	693.9	692.9	694.6
10°	691.0	691.3	691.6	692.0	692.3	692.1	691.2	690.4	689.5	688.7	690.4
12.5°	683.6	684.1	684.6	685.0	685.5	685.5	684.9	684.3	683.7	683.1	684.7
15°	670.3	670.8	671.3	671.8	672.3	672.5	672.3	672.1	672.0	671.8	673.5
17.5°	653.4	654.4	655.5	656.5	657.5	658.0	657.9	657.8	657.8	657.7	659.2
20°	641.2	642.2	643.2	644.2	645.2	645.9	646.3	646.6	646.9	647.3	648.8
22.5°	628.3	629.3	630.3	631.4	632.4	633.1	633.6	634.1	634.6	635.0	637.0
25°	605.2	606.9	608.6	610.3	612.0	613.1	613.6	614.1	614.6	615.1	617.3
27.5°	581.9	583.8	585.8	587.7	589.6	591.1	592.2	593.3	594.4	595.5	597.4
30°	565.3	567.5	569.7	572.0	574.2	576.0	577.3	578.7	580.0	581.4	583.5
32.5°	546.9	549.4	551.9	554.4	556.9	559.0	560.8	562.5	564.3	566.1	568.3
35°	520.9	523.6	526.3	529.1	531.8	534.3	536.5	538.7	540.9	543.1	545.7
37.5°	493.3	496.4	499.4	502.5	505.6	508.5	511.2	513.9	516.6	519.4	522.3
40°	474.9	478.0	481.1	484.1	487.2	490.4	493.8	497.2	500.6	504.0	506.9
42.5°	454.7	458.5	462.2	465.9	469.7	473.3	476.9	480.4	484.0	487.5	490.7
45°	425.9	430.0	434.1	438.2	442.2	446.4	450.7	454.9	459.2	463.4	466.7
47.5°	395.7	400.4	405.0	409.6	414.2	419.0	423.9	428.7	433.6	438.5	442.1
50°	376.1	380.9	385.6	390.4	395.2	400.2	405.5	410.8	416.0	421.3	425.2
52.5°	355.3	360.3	365.4	370.4	375.4	380.9	386.7	392.5	398.3	404.2	408.2
55°	324.8	330.4	336.0	341.6	347.3	353.1	359.3	365.4	371.5	377.6	382.2
57.5°	295.1	300.9	306.8	312.6	318.5	324.8	331.5	338.2	344.9	351.6	356.2
60°	274.2	280.4	286.5	292.6	298.7	305.3	312.3	319.3	326.2	333.2	338.0
62.5°	254.6	260.9	267.2	273.4	279.7	286.5	293.9	301.3	308.7	316.1	320.8
65°	224.4	231.1	237.7	244.4	251.0	258.1	265.6	273.0	280.5	288.0	293.1
67.5°	193.8	200.9	207.9	214.9	222.0	229.3	237.0	244.6	252.2	259.8	265.4
70°	172.4	179.7	187.0	194.3	201.6	209.4	217.5	225.7	233.9	242.1	247.5
72.5°	152.7	160.1	167.4	174.7	182.0	189.9	198.3	206.8	215.2	223.7	229.3
75°	121.8	129.8	137.8	145.8	153.8	162.1	170.6	179.1	187.6	196.1	201.7
77.5°	94.8	102.9	111.0	119.0	127.1	135.4	144.0	152.6	161.2	169.8	175.7
80°	75.8	84.2	92.5	100.9	109.2	117.8	126.6	135.5	144.4	153.2	159.0
82.5°	59.3	67.8	76.2	84.7	93.2	101.9	110.9	119.9	128.9	137.9	143.7
85°	37.5	46.0	54.6	63.1	71.6	80.3	89.4	98.4	107.4	116.4	122.2
87.5°	20.5	29.1	37.8	46.5	55.2	64.0	72.9	81.9	90.8	99.8	105.6
90°	10.4	19.8	29.1	38.5	47.8	57.5	67.5	77.5	87.4	97.4	103.6
92.5°	20.3	28.5	36.7	44.9	53.1	61.9	71.2	80.5	89.8	99.1	105.0
95°	35.2	42.5	49.9	57.2	64.5	72.8	81.9	91.1	100.2	109.4	115.1
97.5°	55.0	61.5	68.0	74.5	81.1	88.6	97.1	105.7	114.2	122.8	128.3
100°	68.5	74.6	80.6	86.7	92.7	99.9	108.3	116.6	124.9	133.3	138.5
102.5°	84.2	89.5	94.8	100.0	105.3	112.1	120.5	128.8	137.2	145.5	150.6
105°	108.1	112.4	116.7	121.0	125.2	131.5	139.7	147.9	156.2	164.4	169.2
107.5°	135.1	138.7	142.3	145.9	149.5	154.9	162.2	169.5	176.8	184.1	189.0
110°	151.9	155.1	158.4	161.7	164.9	170.1	177.1	184.1	191.1	198.1	202.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	170.0	172.6	175.3	177.9	180.6	185.2	191.8	198.3	204.9	211.5	216.3
115°	196.4	198.8	201.1	203.5	205.8	209.9	215.9	221.8	227.7	233.7	237.8
117.5°	223.6	225.1	226.6	228.0	229.5	233.0	238.5	244.0	249.4	254.9	259.0
120°	240.1	241.5	243.0	244.4	245.9	249.2	254.3	259.4	264.5	269.6	273.5
122.5°	257.8	258.7	259.6	260.5	261.4	264.4	269.4	274.5	279.6	284.7	288.2
125°	284.2	284.5	284.8	285.1	285.4	287.9	292.6	297.4	302.1	306.8	310.0
127.5°	309.2	309.7	310.1	310.6	311.1	313.3	317.1	321.0	324.8	328.7	331.5
130°	325.9	326.5	327.1	327.8	328.4	330.3	333.4	336.5	339.6	342.7	345.5
132.5°	341.9	342.7	343.5	344.2	345.0	346.7	349.2	351.7	354.2	356.7	359.3
135°	367.2	367.7	368.1	368.5	369.0	370.1	371.9	373.6	375.4	377.2	379.8
137.5°	390.7	391.0	391.4	391.8	392.1	393.0	394.3	395.6	396.9	398.2	400.5
140°	406.4	406.9	407.4	407.9	408.4	408.9	409.5	410.2	410.8	411.4	413.8
142.5°	421.2	421.6	422.0	422.3	422.7	423.0	423.3	423.6	423.9	424.1	426.3
145°	444.4	444.5	444.5	444.5	444.5	444.7	445.0	445.3	445.6	445.9	447.2
147.5°	464.0	464.3	464.7	465.0	465.4	465.7	466.0	466.3	466.6	466.9	467.3
150°	478.1	478.3	478.5	478.7	478.9	479.1	479.3	479.5	479.7	479.9	479.9
152.5°	489.7	490.0	490.3	490.5	490.8	491.0	491.1	491.3	491.4	491.5	491.7
155°	508.0	508.0	508.0	508.0	508.0	508.1	508.2	508.3	508.4	508.5	508.9
157.5°	523.6	523.5	523.4	523.2	523.1	523.1	523.2	523.3	523.3	523.4	523.8
160°	533.4	533.2	533.0	532.8	532.6	532.5	532.5	532.5	532.5	532.5	533.0
162.5°	542.1	541.8	541.5	541.2	541.0	540.9	540.9	541.0	541.1	541.2	541.7
165°	553.3	553.0	552.7	552.4	552.1	552.0	552.0	552.0	552.0	552.0	552.6
167.5°	562.3	561.9	561.5	561.1	560.7	560.5	560.6	560.7	560.8	560.8	561.5
170°	567.4	567.0	566.6	566.2	565.8	565.6	565.6	565.6	565.6	565.6	566.3
172.5°	571.4	571.0	570.6	570.2	569.7	569.5	569.5	569.5	569.5	569.5	570.2
175°	575.5	575.1	574.7	574.3	573.9	573.7	573.7	573.7	573.7	573.7	574.3
177.5°	577.3	576.9	576.6	576.3	576.0	575.8	575.8	575.8	575.8	575.8	576.3
180°	576.9	576.9	576.9	576.9	576.9	576.9	576.9	576.9	576.9	576.9	576.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	703.2	703.2	703.2	703.2	703.2	703.2	703.2	703.2
2.5°	701.7	702.8	703.9	704.4	704.2	704.1	704.0	703.8
5°	700.6	701.9	703.3	703.9	703.7	703.5	703.4	703.2
7.5°	696.3	698.0	699.8	700.5	700.3	700.1	699.9	699.7
10°	692.1	693.8	695.5	696.1	695.8	695.5	695.1	694.8
12.5°	686.3	687.8	689.4	690.0	689.7	689.3	689.0	688.7
15°	675.2	676.9	678.6	679.4	679.2	679.0	678.9	678.7
17.5°	660.8	662.3	663.8	664.5	664.2	664.0	663.8	663.5
20°	650.4	651.9	653.4	654.3	654.4	654.6	654.8	654.9
22.5°	638.9	640.9	642.8	643.7	643.6	643.5	643.4	643.3
25°	619.5	621.8	624.0	625.1	625.1	625.1	625.1	625.1
27.5°	599.3	601.2	603.1	604.2	604.3	604.4	604.6	604.7
30°	585.5	587.5	589.6	590.6	590.6	590.6	590.6	590.6
32.5°	570.4	572.6	574.8	576.1	576.5	576.9	577.3	577.7
35°	548.2	550.8	553.3	554.9	555.6	556.3	557.0	557.7
37.5°	525.1	528.0	530.9	532.7	533.2	533.7	534.3	534.8
40°	509.8	512.7	515.6	517.4	518.1	518.8	519.4	520.1
42.5°	493.8	497.0	500.2	502.2	503.2	504.1	505.1	506.0
45°	469.9	473.1	476.4	478.7	480.0	481.4	482.8	484.1
47.5°	445.8	449.4	453.0	455.4	456.4	457.5	458.6	459.6
50°	429.1	433.1	437.0	439.5	440.7	441.9	443.1	444.3
52.5°	412.3	416.3	420.4	423.1	424.6	426.0	427.5	429.0
55°	386.8	391.4	396.0	399.0	400.4	401.7	403.1	404.5
57.5°	360.9	365.5	370.1	373.2	374.8	376.4	378.0	379.6
60°	342.8	347.5	352.3	355.6	357.5	359.3	361.2	363.1
62.5°	325.6	330.4	335.1	338.4	340.1	341.8	343.6	345.3
65°	298.2	303.3	308.5	311.9	313.6	315.3	317.0	318.7
67.5°	271.0	276.6	282.2	285.7	287.1	288.5	290.0	291.4
70°	253.0	258.4	263.9	267.4	269.1	270.8	272.5	274.2
72.5°	234.8	240.4	246.0	249.7	251.4	253.1	254.8	256.5
75°	207.3	213.0	218.6	222.4	224.4	226.5	228.5	230.6
77.5°	181.6	187.5	193.4	197.2	198.8	200.3	201.9	203.5
80°	164.8	170.6	176.4	180.1	181.8	183.5	185.2	186.9
82.5°	149.5	155.2	161.0	164.8	166.5	168.2	169.9	171.6
85°	128.0	133.8	139.6	143.3	145.0	146.7	148.4	150.1
87.5°	111.5	117.4	123.2	127.0	128.8	130.5	132.3	134.0
90°	109.8	116.0	122.2	126.2	128.1	130.1	132.0	133.9
92.5°	111.0	117.0	123.0	126.7	128.1	129.6	131.0	132.4
95°	120.7	126.4	132.1	135.8	137.5	139.2	140.9	142.6
97.5°	133.9	139.4	144.9	148.5	150.2	151.9	153.5	155.2
100°	143.7	149.0	154.2	157.8	159.7	161.6	163.5	165.4
102.5°	155.7	160.8	165.9	169.3	171.0	172.7	174.3	176.0
105°	173.9	178.7	183.5	186.7	188.4	190.2	191.9	193.6
107.5°	193.9	198.8	203.7	206.8	208.2	209.6	210.9	212.3
110°	207.8	212.6	217.4	220.4	221.6	222.7	223.9	225.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	221.0	225.8	230.6	233.7	235.1	236.6	238.1	239.5
115°	242.0	246.2	250.4	253.1	254.4	255.6	256.9	258.2
117.5°	263.0	267.0	271.1	273.6	274.6	275.7	276.7	277.8
120°	277.3	281.1	284.9	287.3	288.3	289.3	290.3	291.3
122.5°	291.7	295.3	298.8	301.0	301.9	302.8	303.7	304.6
125°	313.2	316.4	319.5	321.5	322.3	323.1	323.9	324.7
127.5°	334.3	337.1	339.9	341.7	342.4	343.1	343.8	344.5
130°	348.3	351.2	354.0	355.6	355.9	356.2	356.5	356.8
132.5°	361.9	364.5	367.1	368.7	369.3	370.0	370.6	371.2
135°	382.5	385.2	387.8	389.5	390.1	390.8	391.4	392.1
137.5°	402.8	405.0	407.3	408.7	409.1	409.6	410.1	410.5
140°	416.3	418.7	421.2	422.5	422.6	422.8	422.9	423.1
142.5°	428.5	430.7	432.9	434.1	434.4	434.7	435.0	435.3
145°	448.4	449.7	451.0	451.7	452.0	452.3	452.6	452.8
147.5°	467.7	468.1	468.5	468.7	468.7	468.7	468.7	468.7
150°	479.9	479.9	479.9	479.8	479.5	479.3	479.0	478.7
152.5°	491.8	492.0	492.2	492.0	491.6	491.1	490.6	490.2
155°	509.3	509.7	510.1	509.9	509.2	508.5	507.8	507.1
157.5°	524.3	524.7	525.1	525.0	524.5	523.9	523.3	522.8
160°	533.5	534.0	534.5	534.5	534.1	533.7	533.3	532.9
162.5°	542.2	542.7	543.2	543.1	542.5	541.8	541.2	540.5
165°	553.2	553.8	554.4	554.3	553.6	552.9	552.2	551.5
167.5°	562.1	562.7	563.3	563.3	562.7	562.1	561.5	560.8
170°	567.0	567.7	568.4	568.4	567.7	567.0	566.3	565.6
172.5°	570.8	571.4	572.0	572.0	571.3	570.6	569.9	569.2
175°	574.9	575.5	576.1	576.1	575.4	574.7	574.0	573.3
177.5°	576.8	577.3	577.7	577.7	577.1	576.6	576.0	575.4
180°	576.9	576.9	576.9	576.9	576.9	576.9	576.9	576.9

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