

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: P332094

Luminaire Tested: **S123DIW-S340D460U835-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332094
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIW-S340D460U835-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 460 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3255.9 lumens
Efficiency: N/A
Efficacy: 141.6 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: General Diffuse

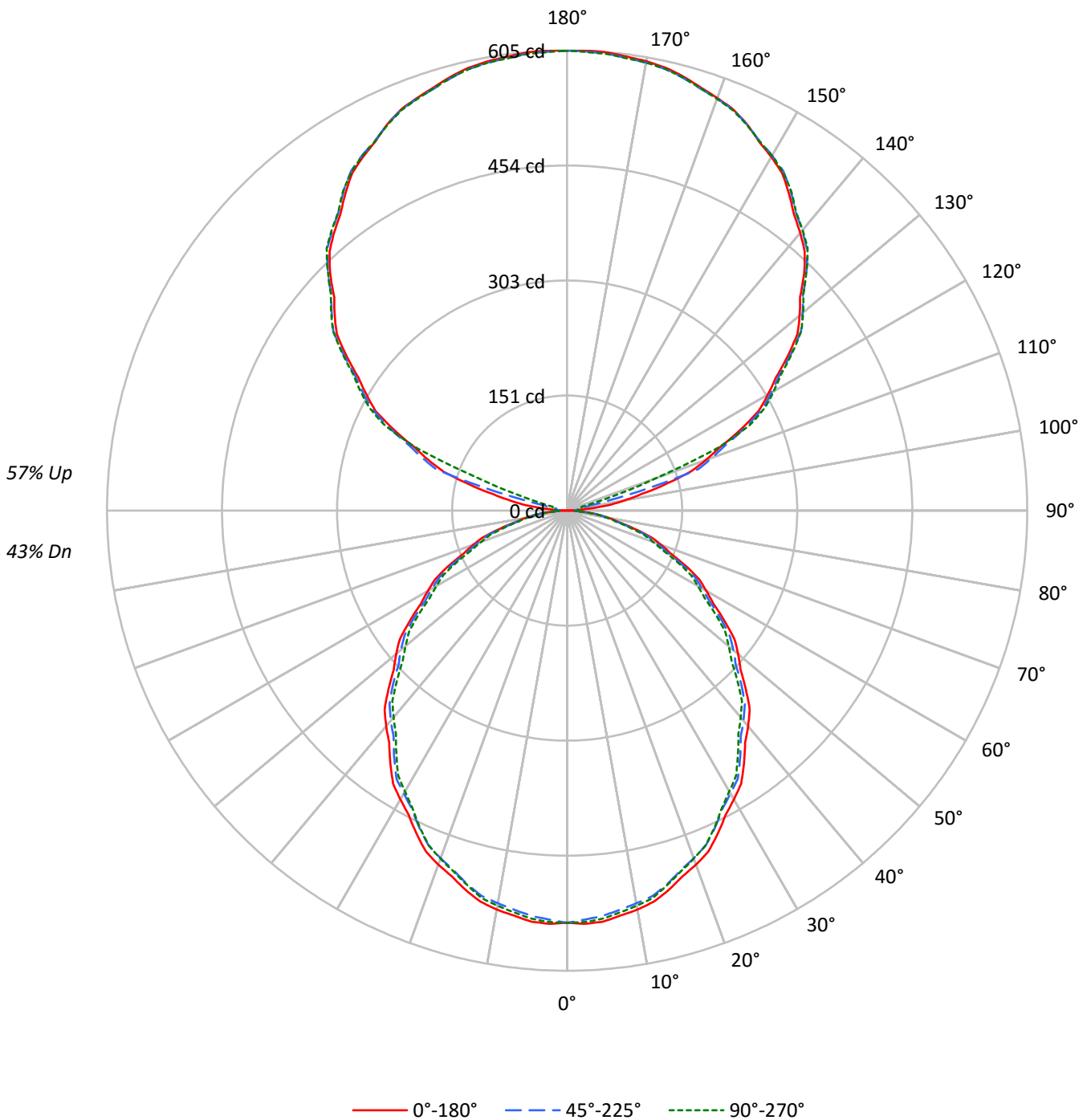
Input Watts (W): 23
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	50	30	10	0		
RCR																										
0	106	106	106	106	97	97	97	97	80	80	80	64	64	64	50	50	50	43					43			
1	96	92	88	85	88	84	81	78	70	67	65	56	55	53	44	43	42	36					36			
2	88	80	74	69	80	74	68	64	61	57	54	49	47	44	39	37	35	30					30			
3	80	70	63	57	73	65	58	53	54	49	45	44	40	38	34	32	30	26					26			
4	73	62	54	48	66	57	50	45	48	43	39	39	35	32	31	28	26	22					22			
5	67	55	47	41	61	51	44	39	43	37	33	35	31	28	28	25	23	19					19			
6	62	50	42	36	56	46	39	34	38	33	29	31	27	24	25	22	20	17					17			
7	57	45	37	31	52	41	34	29	35	29	25	29	25	21	23	20	18	15					15			
8	53	41	33	28	48	38	31	26	32	26	23	26	22	19	21	18	16	13					13			
9	49	37	30	25	45	34	28	23	29	24	20	24	20	17	19	16	14	12					12			
10	46	34	27	22	42	31	25	21	27	22	18	22	18	15	18	15	13	11					11			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5833	5833	5833
5°	5861	5780	5820
10°	5821	5729	5766
15°	5753	5665	5675
20°	5674	5573	5577
25°	5567	5462	5451
30°	5450	5340	5299
35°	5327	5210	5143
40°	5199	5067	4990
45°	5057	4937	4816
50°	4915	4776	4642
55°	4731	4609	4468
60°	4545	4413	4273
65°	4378	4200	4070
70°	4135	3959	3783
75°	3780	3643	3489
80°	3409	3267	3236
85°	2989	2878	2766



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	51.0	1.6
10°-20°	144.1	4.4
20°-30°	212.9	6.5
30°-40°	248.7	7.6
40°-50°	250.0	7.7
50°-60°	219.6	6.7
60°-70°	163.6	5.0
70°-80°	93.2	2.9
80°-90°	28.5	0.9
90°-100°	22.0	0.7
100°-110°	104.8	3.2
110°-120°	251.7	7.7
120°-130°	320.5	9.8
130°-140°	342.4	10.5
140°-150°	320.2	9.8
150°-160°	258.3	7.9
160°-170°	166.7	5.1
170°-180°	57.5	1.8
0°-30°	408.1	12.5
0°-40°	656.8	20.2
0°-60°	1126.5	34.6
0°-90°	1411.8	43.4
90°-120°	378.5	11.6
90°-150°	1361.6	41.8
90°-180°	1844.0	56.6
0°-180°	3255.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	542	542	542	542	542	
5°	542	540	535	539	539	51
15°	516	514	508	512	509	145
25°	469	466	460	460	459	216
35°	405	402	396	394	391	254
45°	332	330	324	319	316	256
55°	252	251	246	241	238	226
65°	172	170	165	161	160	170
75°	91	89	88	85	84	97
85°	24	23	23	22	22	27
90°	0	5	11	13	14	3
95°	27	10	14	17	17	34
105°	134	136	98	23	20	142
115°	251	254	258	262	264	248
125°	354	358	359	360	361	316
135°	441	443	445	446	445	339
145°	509	512	513	513	514	318
155°	560	559	560	562	559	258
165°	591	590	589	592	590	167
175°	605	603	603	606	602	58
180°	605	605	605	605	605	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	541.9	541.9	541.9	541.9	541.9	541.9	541.9	541.9	541.9	541.9	541.9
2.5°	543.8	543.4	543.1	542.8	542.4	541.8	540.9	540.0	539.1	538.2	539.0
5°	542.4	541.8	541.3	540.8	540.3	539.5	538.3	537.2	536.0	534.9	535.9
7.5°	537.1	536.5	536.0	535.5	535.0	534.1	533.0	531.8	530.6	529.4	530.3
10°	532.6	532.1	531.5	531.0	530.5	529.6	528.2	526.9	525.5	524.2	525.1
12.5°	526.6	526.2	525.7	525.3	524.9	524.0	522.8	521.5	520.2	519.0	519.7
15°	516.3	515.9	515.4	515.0	514.6	513.7	512.4	511.0	509.7	508.4	509.2
17.5°	504.2	503.7	503.2	502.6	502.1	501.2	499.8	498.5	497.1	495.8	496.3
20°	495.3	494.7	494.1	493.4	492.8	491.8	490.5	489.1	487.8	486.5	486.9
22.5°	485.2	484.6	484.0	483.4	482.8	481.8	480.4	479.1	477.7	476.4	476.7
25°	468.7	468.1	467.5	466.9	466.3	465.3	463.9	462.6	461.2	459.9	460.0
27.5°	451.1	450.5	449.9	449.3	448.7	447.7	446.3	444.8	443.4	441.9	442.0
30°	438.5	437.9	437.4	436.9	436.4	435.4	434.0	432.5	431.1	429.6	429.6
32.5°	425.8	425.1	424.4	423.7	423.1	422.1	421.0	419.9	418.8	417.7	417.1
35°	405.4	404.8	404.1	403.5	402.9	401.9	400.6	399.2	397.9	396.5	395.9
37.5°	384.5	383.7	382.9	382.1	381.4	380.3	378.9	377.5	376.2	374.8	374.1
40°	370.0	369.3	368.7	368.1	367.5	366.4	365.0	363.5	362.1	360.6	359.8
42.5°	355.4	354.7	354.0	353.3	352.6	351.5	350.1	348.6	347.2	345.7	344.9
45°	332.2	331.8	331.4	331.0	330.6	329.7	328.3	327.0	325.6	324.3	323.1
47.5°	309.2	308.6	308.0	307.4	306.8	305.9	304.6	303.3	302.1	300.8	299.6
50°	293.5	293.0	292.5	292.0	291.5	290.5	289.2	287.9	286.5	285.2	284.0
52.5°	277.1	276.8	276.4	276.1	275.7	274.8	273.4	272.0	270.6	269.1	268.2
55°	252.1	252.0	251.9	251.8	251.7	250.9	249.6	248.2	246.9	245.6	244.4
57.5°	228.2	227.9	227.5	227.2	226.8	226.1	225.0	223.9	222.9	221.8	220.8
60°	211.1	211.0	210.9	210.8	210.7	210.0	208.7	207.5	206.3	205.0	204.1
62.5°	195.8	195.5	195.3	195.0	194.7	194.0	192.7	191.5	190.2	189.0	188.1
65°	171.9	171.4	170.9	170.4	169.9	169.1	168.1	167.0	166.0	164.9	164.1
67.5°	146.7	146.2	145.8	145.3	144.9	144.2	143.5	142.7	141.9	141.1	140.4
70°	131.4	130.8	130.2	129.5	128.9	128.3	127.7	127.0	126.4	125.8	125.1
72.5°	115.4	114.9	114.5	114.0	113.5	113.0	112.3	111.6	110.9	110.2	109.5
75°	90.9	90.4	90.0	89.6	89.2	88.8	88.5	88.2	87.9	87.6	87.1
77.5°	69.1	68.9	68.7	68.5	68.2	67.9	67.6	67.2	66.8	66.4	66.1
80°	55.0	54.7	54.4	54.1	53.7	53.5	53.3	53.1	52.9	52.7	52.5
82.5°	41.2	41.1	41.1	41.0	40.9	40.9	40.8	40.8	40.8	40.7	40.5
85°	24.2	24.0	23.8	23.6	23.4	23.3	23.3	23.3	23.3	23.3	23.1
87.5°	9.8	9.7	9.7	9.6	9.6	9.7	9.8	10.0	10.2	10.4	10.4
90°	0.4	1.4	2.4	3.4	4.4	5.6	6.9	8.2	9.5	10.8	11.2
92.5°	8.4	8.1	7.8	7.5	7.2	7.6	8.6	9.5	10.5	11.5	12.1
95°	27.4	23.3	19.2	15.1	11.0	9.5	10.6	11.7	12.8	13.9	14.6
97.5°	55.1	53.2	51.4	49.6	47.7	43.2	36.0	28.8	21.7	14.5	15.3
100°	75.9	77.9	79.9	81.9	83.9	77.1	61.6	46.0	30.4	14.8	15.6
102.5°	99.6	101.1	102.5	104.0	105.4	97.6	80.6	63.6	46.6	29.6	27.1
105°	133.9	135.0	136.1	137.2	138.3	134.3	125.3	116.4	107.4	98.4	80.7
107.5°	170.0	170.9	171.8	172.6	173.5	174.7	176.1	177.5	178.9	180.3	167.4
110°	194.1	194.9	195.7	196.5	197.3	198.2	199.3	200.4	201.5	202.6	199.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	217.1	217.8	218.5	219.2	220.0	220.9	222.0	223.1	224.2	225.3	225.3
115°	251.1	251.7	252.3	252.9	253.5	254.3	255.2	256.1	257.0	257.9	258.9
117.5°	284.1	284.9	285.6	286.3	287.1	287.7	288.1	288.6	289.1	289.5	290.3
120°	304.6	305.5	306.4	307.3	308.2	308.8	309.1	309.4	309.7	310.0	310.8
122.5°	325.5	326.2	326.9	327.7	328.4	329.0	329.4	329.7	330.1	330.5	331.0
125°	354.0	354.8	355.6	356.4	357.2	357.8	358.2	358.6	359.0	359.4	359.6
127.5°	381.7	382.5	383.3	384.1	384.9	385.5	386.0	386.5	387.0	387.5	387.8
130°	399.0	399.8	400.6	401.4	402.2	402.8	403.2	403.6	404.0	404.3	404.7
132.5°	415.5	416.3	417.1	417.9	418.7	419.2	419.6	419.9	420.2	420.5	420.9
135°	440.7	441.3	441.9	442.5	443.1	443.6	444.0	444.4	444.8	445.2	445.5
137.5°	462.3	463.1	463.8	464.6	465.3	465.8	466.1	466.3	466.5	466.7	467.2
140°	476.7	477.3	477.9	478.5	479.1	479.5	479.8	480.1	480.4	480.7	481.1
142.5°	490.0	490.6	491.2	491.8	492.4	492.8	493.1	493.4	493.7	494.0	494.3
145°	508.6	509.3	510.0	510.7	511.4	511.8	512.0	512.2	512.4	512.6	512.8
147.5°	526.1	526.6	527.0	527.5	527.9	528.3	528.5	528.7	528.9	529.1	529.3
150°	536.9	537.2	537.5	537.8	538.1	538.3	538.5	538.7	538.9	539.1	539.3
152.5°	546.6	546.7	546.9	547.0	547.2	547.3	547.4	547.5	547.6	547.8	548.1
155°	560.2	560.0	559.8	559.7	559.5	559.4	559.5	559.6	559.7	559.8	560.3
157.5°	570.9	570.8	570.8	570.8	570.8	570.7	570.6	570.5	570.4	570.3	570.9
160°	577.3	577.2	577.1	577.0	576.9	576.8	576.7	576.6	576.5	576.4	577.0
162.5°	583.4	583.2	582.9	582.7	582.4	582.2	582.1	582.0	581.9	581.8	582.5
165°	590.8	590.5	590.2	589.9	589.6	589.4	589.3	589.2	589.1	589.0	589.8
167.5°	596.6	596.2	595.8	595.4	595.0	594.8	594.8	594.8	594.8	594.8	595.6
170°	599.8	599.4	599.0	598.6	598.2	598.0	598.0	598.0	598.0	598.0	598.8
172.5°	601.9	601.5	601.0	600.5	600.0	599.8	599.9	600.0	600.1	600.1	600.9
175°	604.7	604.2	603.7	603.2	602.7	602.5	602.6	602.7	602.8	602.9	603.6
177.5°	605.4	605.0	604.6	604.2	603.8	603.7	603.8	603.8	603.9	604.0	604.6
180°	604.7	604.7	604.7	604.7	604.7	604.7	604.7	604.7	604.7	604.7	604.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	541.9	541.9	541.9	541.9	541.9	541.9	541.9	541.9
2.5°	539.8	540.7	541.5	541.9	541.8	541.7	541.6	541.5
5°	537.0	538.0	539.1	539.5	539.3	539.1	538.8	538.6
7.5°	531.3	532.2	533.1	533.5	533.4	533.3	533.2	533.0
10°	526.1	527.0	527.9	528.3	528.1	527.9	527.7	527.5
12.5°	520.3	521.0	521.7	522.0	521.9	521.7	521.6	521.5
15°	510.0	510.8	511.7	511.8	511.1	510.5	509.9	509.3
17.5°	496.9	497.5	498.1	498.3	498.0	497.8	497.6	497.4
20°	487.3	487.7	488.1	488.2	487.8	487.5	487.2	486.9
22.5°	477.0	477.4	477.7	477.7	477.3	476.9	476.5	476.1
25°	460.1	460.2	460.3	460.2	459.9	459.6	459.3	459.0
27.5°	442.1	442.2	442.2	442.1	441.7	441.3	440.9	440.5
30°	429.6	429.6	429.6	429.2	428.5	427.8	427.1	426.3
32.5°	416.5	415.9	415.4	414.9	414.5	414.1	413.7	413.3
35°	395.3	394.7	394.0	393.5	393.0	392.4	391.9	391.4
37.5°	373.3	372.6	371.8	371.3	371.0	370.6	370.3	370.0
40°	359.0	358.2	357.3	356.7	356.3	355.9	355.5	355.1
42.5°	344.1	343.2	342.4	341.8	341.4	341.0	340.6	340.1
45°	321.8	320.6	319.3	318.5	317.9	317.4	316.9	316.4
47.5°	298.4	297.2	295.9	295.1	294.6	294.2	293.7	293.3
50°	282.9	281.7	280.6	279.7	279.1	278.5	277.9	277.2
52.5°	267.2	266.2	265.2	264.4	263.8	263.2	262.6	262.0
55°	243.3	242.1	241.0	240.2	239.7	239.1	238.6	238.1
57.5°	219.8	218.7	217.7	216.9	216.3	215.7	215.1	214.5
60°	203.2	202.2	201.3	200.6	200.0	199.5	199.0	198.5
62.5°	187.1	186.2	185.3	184.6	184.3	183.9	183.6	183.2
65°	163.3	162.5	161.6	161.1	160.8	160.4	160.1	159.8
67.5°	139.6	138.9	138.2	137.6	137.2	136.7	136.3	135.9
70°	124.4	123.6	122.9	122.3	121.8	121.3	120.7	120.2
72.5°	108.9	108.2	107.6	107.1	106.9	106.6	106.3	106.0
75°	86.6	86.0	85.5	85.1	84.8	84.5	84.2	83.9
77.5°	65.7	65.4	65.0	64.9	64.9	64.9	64.9	64.9
80°	52.4	52.3	52.2	52.2	52.2	52.2	52.2	52.2
82.5°	40.4	40.2	40.0	39.8	39.8	39.7	39.6	39.5
85°	22.9	22.7	22.5	22.4	22.4	22.4	22.4	22.4
87.5°	10.4	10.3	10.3	10.4	10.4	10.4	10.5	10.5
90°	11.6	12.0	12.4	12.7	12.9	13.1	13.3	13.5
92.5°	12.8	13.4	14.1	14.4	14.6	14.7	14.8	14.9
95°	15.3	16.0	16.7	17.1	17.1	17.1	17.1	17.1
97.5°	16.1	16.9	17.7	18.1	18.2	18.3	18.4	18.5
100°	16.4	17.2	18.0	18.5	18.6	18.7	18.8	18.9
102.5°	24.6	22.1	19.7	18.5	18.7	18.9	19.0	19.2
105°	63.0	45.4	27.7	19.0	19.2	19.4	19.6	19.8
107.5°	154.4	141.5	128.5	115.4	102.0	88.7	75.4	62.1
110°	196.0	192.7	189.4	180.7	166.4	152.1	137.8	123.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	225.4	225.4	225.5	224.0	221.0	218.0	215.0	212.0
115°	259.9	260.9	261.9	262.6	263.0	263.4	263.8	264.2
117.5°	291.1	291.9	292.7	293.1	293.2	293.3	293.4	293.5
120°	311.6	312.4	313.2	313.6	313.6	313.6	313.6	313.6
122.5°	331.6	332.2	332.7	333.0	333.1	333.2	333.3	333.4
125°	359.8	360.0	360.2	360.4	360.6	360.8	361.0	361.2
127.5°	388.1	388.4	388.7	388.8	388.6	388.4	388.2	388.0
130°	405.1	405.5	405.9	406.0	405.8	405.6	405.4	405.2
132.5°	421.3	421.7	422.1	422.2	421.9	421.6	421.3	421.1
135°	445.8	446.1	446.4	446.4	446.1	445.8	445.5	445.2
137.5°	467.7	468.1	468.6	468.8	468.6	468.4	468.2	468.0
140°	481.5	481.9	482.3	482.4	482.2	482.0	481.8	481.6
142.5°	494.7	495.0	495.3	495.3	495.0	494.8	494.5	494.2
145°	513.0	513.2	513.4	513.5	513.5	513.5	513.5	513.5
147.5°	529.5	529.7	529.9	529.7	529.3	528.8	528.4	527.9
150°	539.5	539.7	539.9	539.9	539.6	539.3	539.0	538.7
152.5°	548.5	548.8	549.2	549.1	548.7	548.2	547.8	547.3
155°	560.8	561.3	561.8	561.7	561.1	560.5	559.9	559.4
157.5°	571.5	572.1	572.7	572.6	571.8	571.1	570.3	569.5
160°	577.6	578.2	578.8	578.8	578.1	577.4	576.7	576.0
162.5°	583.2	583.9	584.5	584.6	583.9	583.3	582.7	582.1
165°	590.6	591.4	592.2	592.2	591.5	590.9	590.2	589.5
167.5°	596.4	597.1	597.9	597.9	597.1	596.4	595.6	594.8
170°	599.6	600.4	601.2	601.2	600.4	599.6	598.8	598.0
172.5°	601.7	602.5	603.3	603.3	602.4	601.5	600.7	599.8
175°	604.3	605.0	605.7	605.7	604.9	604.1	603.3	602.5
177.5°	605.3	605.9	606.6	606.5	605.7	604.9	604.1	603.3
180°	604.7	604.7	604.7	604.7	604.7	604.7	604.7	604.7

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