

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: P332416-830

Luminaire Tested: **S123RDIW-S560D755U830-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332416-830
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: S123RDIW-S560D755U830-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 755 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4860.7 lumens
Efficiency: N/A
Efficacy: 129.3 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: General Diffuse

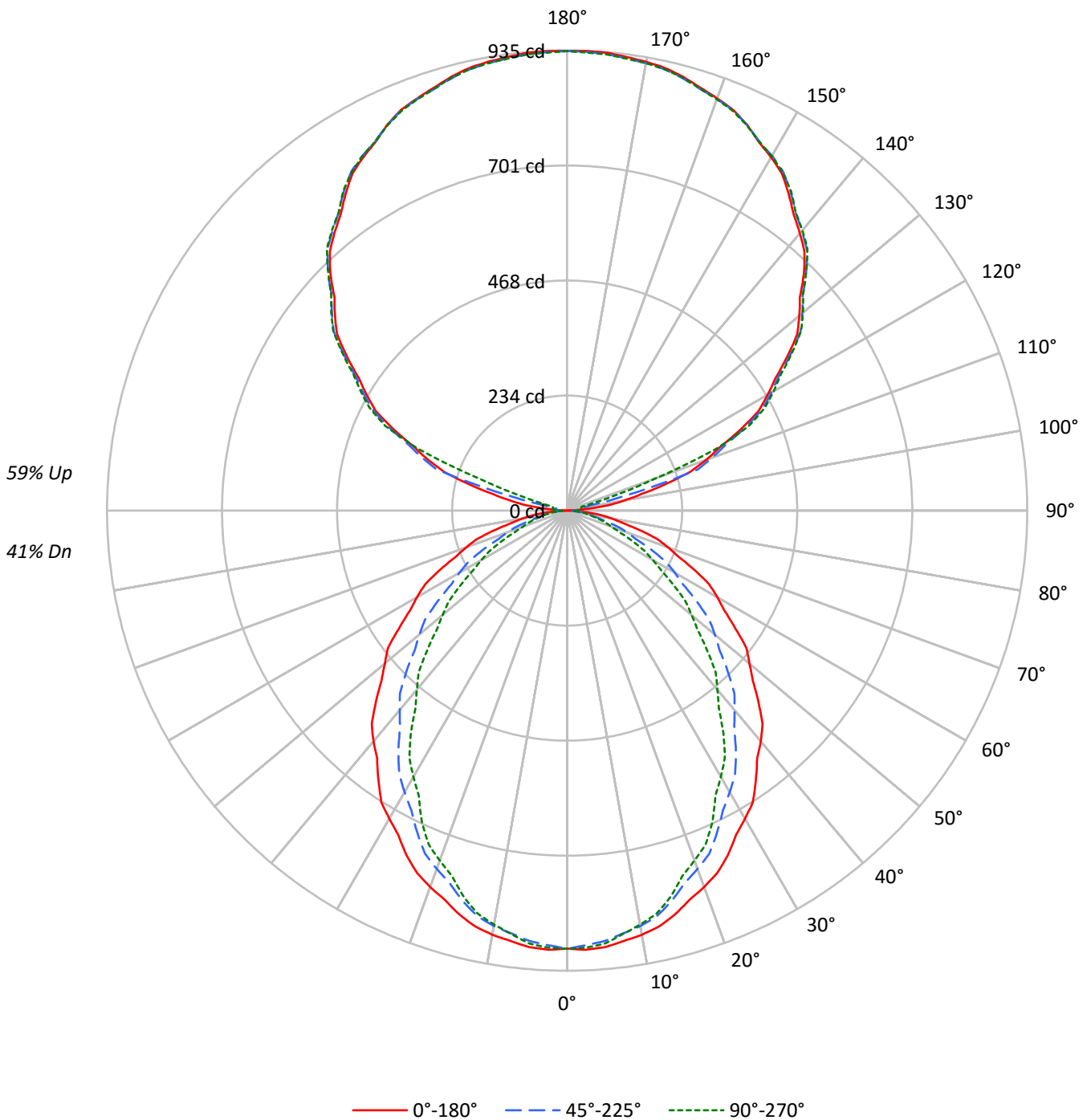
Input Watts (W): 37.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	105	105	105	105	96	96	96	96	79	79	79	63	63	63	48	48	48	41
1	96	92	88	85	88	84	81	78	69	67	65	56	54	53	43	42	41	35
2	88	81	75	70	80	74	69	64	61	57	54	49	47	44	38	37	35	30
3	80	71	64	58	73	65	59	54	54	49	46	44	40	38	34	32	30	26
4	73	63	55	49	67	58	51	46	48	43	39	39	35	33	31	28	26	22
5	67	56	48	42	61	52	45	40	43	38	34	35	31	28	28	25	23	20
6	62	50	43	37	57	46	39	34	39	34	30	32	28	25	25	22	20	17
7	57	46	38	32	52	42	35	30	35	30	26	29	25	22	23	20	18	15
8	53	41	34	29	49	38	31	27	32	27	23	26	23	20	21	18	16	14
9	50	38	30	25	45	35	28	24	29	24	21	24	21	18	20	17	15	13
10	46	35	28	23	42	32	26	21	27	22	19	23	19	16	18	15	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9582	9582	9582
5°	9619	9487	9541
10°	9565	9368	9335
15°	9461	9149	9052
20°	9321	8874	8668
25°	9175	8567	8291
30°	8983	8211	7762
35°	8784	7857	7276
40°	8604	7436	6674
45°	8363	7024	6132
50°	8100	6553	5526
55°	7833	6016	4960
60°	7584	5440	4336
65°	7264	4819	3713
70°	6861	4047	2999
75°	6276	3182	2824
80°	5597	2820	2591
85°	4730	2495	2322



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	83.6	1.7
10°-20°	232.6	4.8
20°-30°	334.9	6.9
30°-40°	377.3	7.8
40°-50°	360.9	7.4
50°-60°	295.6	6.1
60°-70°	199.4	4.1
70°-80°	100.3	2.1
80°-90°	29.2	0.6
90°-100°	33.9	0.7
100°-110°	161.8	3.3
110°-120°	388.6	8.0
120°-130°	494.8	10.2
130°-140°	528.7	10.9
140°-150°	494.4	10.2
150°-160°	398.8	8.2
160°-170°	257.4	5.3
170°-180°	88.7	1.8
0°-30°	651.1	13.4
0°-40°	1028.4	21.2
0°-60°	1684.8	34.7
0°-90°	2013.7	41.4
90°-120°	584.3	12.0
90°-150°	2102.1	43.2
90°-180°	2847.0	58.6
0°-180°	4860.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	890	890	890	890	890	
5°	890	886	878	884	883	84
15°	849	840	821	817	812	239
25°	772	754	721	706	698	355
35°	668	642	598	568	554	418
45°	549	516	461	422	403	424
55°	417	380	321	280	264	374
65°	285	245	189	155	146	282
75°	151	116	76	70	68	161
85°	38	23	20	19	19	43
90°	1	8	17	19	21	4
95°	42	16	22	26	26	52
105°	207	210	152	36	30	219
115°	388	392	398	405	408	383
125°	547	552	555	556	558	488
135°	680	684	687	689	687	524
145°	785	790	791	793	793	491
155°	865	864	864	867	864	398
165°	912	910	909	914	910	258
175°	934	930	931	935	930	89
180°	934	934	934	934	934	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	890.2	890.2	890.2	890.2	890.2	890.2	890.2	890.2	890.2	890.2	890.2
2.5°	893.2	892.6	892.1	891.6	891.1	890.0	888.5	886.9	885.4	883.9	885.3
5°	890.2	889.5	888.6	887.9	887.0	885.7	883.7	881.8	879.9	878.0	879.4
7.5°	882.0	881.2	880.2	879.4	878.5	876.8	874.4	871.9	869.3	866.9	867.6
10°	875.1	873.9	872.8	871.7	870.6	868.6	865.7	862.8	859.9	857.1	857.1
12.5°	865.3	864.0	862.7	861.5	860.3	857.9	854.3	850.8	847.3	843.8	843.7
15°	849.0	847.3	845.6	843.8	842.1	838.9	834.4	829.9	825.4	821.0	820.1
17.5°	828.7	826.7	824.6	822.6	820.5	816.6	810.9	805.2	799.5	793.8	792.1
20°	813.7	811.2	808.6	806.0	803.4	799.1	793.0	786.9	780.8	774.7	772.6
22.5°	796.9	794.0	791.1	788.1	785.1	780.4	773.9	767.4	761.0	754.5	751.9
25°	772.5	768.5	764.5	760.5	756.5	750.8	743.4	736.0	728.7	721.3	717.9
27.5°	742.9	738.5	734.1	729.6	725.2	718.9	710.7	702.5	694.3	686.1	681.4
30°	722.7	717.9	713.1	708.3	703.5	696.5	687.6	678.6	669.6	660.6	655.2
32.5°	702.5	697.1	691.6	686.2	680.7	673.3	663.7	654.2	644.7	635.2	629.2
35°	668.5	662.8	657.0	651.3	645.5	637.6	627.6	617.7	607.8	597.9	590.9
37.5°	634.2	627.8	621.4	614.9	608.5	600.0	589.4	578.8	568.2	557.5	549.7
40°	612.3	605.2	598.1	591.1	584.0	574.8	563.5	552.0	540.6	529.2	520.8
42.5°	587.4	580.3	573.3	566.3	559.2	549.8	538.0	526.2	514.4	502.7	493.5
45°	549.4	542.2	535.0	527.8	520.6	510.8	498.4	486.1	473.7	461.4	452.2
47.5°	511.4	503.5	495.6	487.7	479.8	469.7	457.2	444.9	432.5	420.2	410.3
50°	483.7	476.2	468.6	461.1	453.6	443.3	430.3	417.4	404.4	391.3	381.4
52.5°	458.9	450.7	442.5	434.3	426.2	415.7	402.7	389.9	377.0	364.2	353.8
55°	417.4	409.4	401.6	393.7	385.9	375.1	361.5	347.9	334.2	320.6	311.2
57.5°	378.9	370.3	361.7	353.2	344.6	333.5	319.8	306.1	292.4	278.7	269.9
60°	352.3	343.6	334.7	325.8	317.1	305.9	292.7	279.4	266.0	252.7	244.0
62.5°	325.7	317.0	308.1	299.3	290.5	279.4	266.1	252.8	239.4	226.1	218.0
65°	285.2	276.4	267.6	258.7	249.9	239.2	226.7	214.2	201.7	189.2	181.3
67.5°	244.6	235.7	226.8	217.8	209.0	198.5	186.4	174.5	162.5	150.4	144.6
70°	218.0	209.3	200.8	192.1	183.4	173.4	162.2	151.0	139.8	128.6	122.9
72.5°	191.4	182.9	174.4	165.9	157.3	148.0	137.8	127.5	117.3	107.2	102.5
75°	150.9	143.2	135.5	127.8	120.1	111.8	103.0	94.2	85.4	76.5	74.9
77.5°	114.0	107.0	100.0	93.0	86.1	79.7	74.1	68.4	62.7	57.0	56.2
80°	90.3	83.7	77.1	70.5	63.9	59.0	55.6	52.2	48.8	45.5	45.0
82.5°	67.8	62.0	56.4	50.7	45.0	41.4	39.8	38.3	36.7	35.1	34.6
85°	38.3	34.8	31.2	27.7	24.1	22.1	21.7	21.2	20.7	20.2	19.9
87.5°	14.0	12.9	11.8	10.7	9.6	9.2	9.6	10.0	10.5	10.8	10.8
90°	0.7	2.3	3.8	5.3	6.9	8.7	10.7	12.6	14.6	16.7	17.2
92.5°	12.9	12.4	12.1	11.6	11.2	11.7	13.2	14.7	16.2	17.7	18.8
95°	42.3	36.0	29.7	23.4	17.1	14.7	16.4	18.1	19.8	21.5	22.6
97.5°	85.0	82.2	79.4	76.5	73.7	66.7	55.6	44.5	33.5	22.3	23.6
100°	117.3	120.3	123.4	126.5	129.5	119.0	95.0	71.0	46.9	22.9	24.1
102.5°	153.8	156.1	158.3	160.5	162.7	150.7	124.4	98.1	71.9	45.6	41.8
105°	206.7	208.4	210.1	211.8	213.5	207.4	193.5	179.6	165.8	151.9	124.6
107.5°	262.4	263.8	265.1	266.6	267.9	269.7	271.8	274.0	276.3	278.4	258.4
110°	299.6	300.9	302.1	303.3	304.5	306.0	307.7	309.4	311.1	312.8	307.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	335.2	336.2	337.3	338.5	339.6	341.0	342.7	344.4	346.1	347.8	347.9
115°	387.7	388.6	389.6	390.5	391.4	392.6	394.0	395.3	396.7	398.1	399.6
117.5°	438.7	439.8	440.9	442.1	443.2	444.1	444.8	445.5	446.2	447.0	448.2
120°	470.2	471.6	473.1	474.4	475.8	476.7	477.2	477.7	478.2	478.5	479.8
122.5°	502.5	503.6	504.7	505.9	507.0	507.8	508.4	509.1	509.6	510.2	511.0
125°	546.6	547.8	549.0	550.3	551.5	552.4	553.0	553.6	554.2	554.9	555.2
127.5°	589.3	590.5	591.7	593.0	594.2	595.2	596.0	596.6	597.4	598.1	598.6
130°	615.9	617.2	618.4	619.6	620.9	621.8	622.4	623.0	623.6	624.2	624.8
132.5°	641.4	642.6	643.9	645.1	646.4	647.2	647.7	648.2	648.7	649.2	649.8
135°	680.4	681.4	682.2	683.2	684.1	684.9	685.5	686.1	686.7	687.3	687.8
137.5°	713.7	714.8	716.0	717.2	718.4	719.2	719.4	719.8	720.2	720.5	721.2
140°	735.8	736.8	737.7	738.7	739.6	740.3	740.7	741.2	741.7	742.2	742.7
142.5°	756.4	757.3	758.3	759.2	760.2	760.8	761.3	761.8	762.2	762.7	763.2
145°	785.1	786.2	787.3	788.3	789.5	790.1	790.4	790.8	791.1	791.4	791.6
147.5°	812.2	812.8	813.6	814.3	815.0	815.5	815.9	816.1	816.4	816.7	817.1
150°	828.9	829.2	829.7	830.2	830.7	831.0	831.4	831.7	832.0	832.3	832.6
152.5°	843.8	844.0	844.2	844.4	844.7	844.9	845.1	845.3	845.5	845.6	846.1
155°	864.9	864.6	864.3	863.9	863.7	863.6	863.7	863.9	864.0	864.2	865.0
157.5°	881.3	881.3	881.2	881.2	881.2	881.1	880.9	880.7	880.6	880.4	881.4
160°	891.3	891.1	891.0	890.8	890.6	890.5	890.3	890.1	890.0	889.9	890.8
162.5°	900.7	900.3	899.8	899.5	899.1	898.8	898.6	898.5	898.3	898.1	899.3
165°	912.1	911.6	911.2	910.7	910.2	909.9	909.7	909.6	909.5	909.3	910.5
167.5°	921.0	920.3	919.7	919.1	918.5	918.1	918.1	918.1	918.1	918.1	919.4
170°	926.0	925.3	924.7	924.1	923.5	923.1	923.1	923.1	923.1	923.1	924.4
172.5°	929.3	928.5	927.7	927.1	926.3	926.0	926.1	926.2	926.3	926.5	927.7
175°	933.6	932.7	932.0	931.2	930.5	930.2	930.3	930.5	930.7	930.8	931.9
177.5°	934.6	934.1	933.4	932.8	932.2	932.0	932.1	932.2	932.4	932.5	933.4
180°	933.6	933.6	933.6	933.6	933.6	933.6	933.6	933.6	933.6	933.6	933.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	890.2	890.2	890.2	890.2	890.2	890.2	890.2	890.2
2.5°	886.7	888.2	889.6	890.1	889.9	889.6	889.4	889.1
5°	880.8	882.3	883.7	884.3	884.0	883.6	883.4	883.0
7.5°	868.5	869.2	870.1	870.2	869.6	869.1	868.6	868.0
10°	857.3	857.5	857.6	857.3	856.6	855.7	855.0	854.1
12.5°	843.6	843.5	843.4	842.8	841.9	840.9	840.1	839.1
15°	819.4	818.5	817.7	816.7	815.6	814.5	813.4	812.3
17.5°	790.4	788.7	786.9	785.3	783.6	781.9	780.2	778.6
20°	770.5	768.5	766.4	764.4	762.4	760.5	758.6	756.7
22.5°	749.3	746.7	744.1	741.9	740.1	738.3	736.5	734.7
25°	714.5	711.1	707.8	705.2	703.5	701.7	699.9	698.1
27.5°	676.7	672.0	667.3	663.6	660.9	658.3	655.5	652.8
30°	649.7	644.2	638.9	634.8	632.3	629.7	627.1	624.5
32.5°	623.3	617.3	611.3	607.0	604.4	601.6	598.9	596.3
35°	584.0	577.1	570.2	565.3	562.4	559.6	556.7	553.7
37.5°	541.9	534.0	526.2	520.6	517.0	513.4	509.8	506.2
40°	512.6	504.2	495.9	489.8	486.2	482.5	478.8	475.0
42.5°	484.5	475.3	466.2	460.0	456.7	453.4	450.1	446.8
45°	443.1	433.9	424.8	418.3	414.4	410.6	406.7	402.8
47.5°	400.3	390.4	380.4	373.7	370.3	366.8	363.4	360.0
50°	371.5	361.5	351.6	344.7	341.0	337.3	333.7	330.0
52.5°	343.6	333.2	322.8	316.0	312.7	309.4	306.1	302.8
55°	302.0	292.7	283.3	277.1	273.9	270.7	267.5	264.3
57.5°	261.1	252.3	243.6	237.8	235.1	232.3	229.6	226.9
60°	235.4	226.7	218.0	212.4	209.6	206.9	204.2	201.4
62.5°	209.8	201.7	193.5	188.0	185.2	182.3	179.5	176.6
65°	173.4	165.6	157.7	152.9	151.2	149.4	147.6	145.8
67.5°	138.7	132.8	127.0	123.1	121.2	119.3	117.4	115.6
70°	117.3	111.7	106.0	102.4	100.6	98.9	97.1	95.3
72.5°	97.9	93.4	88.8	86.1	85.4	84.6	83.9	83.1
75°	73.3	71.7	70.1	69.2	68.8	68.5	68.1	67.9
77.5°	55.3	54.5	53.5	53.0	52.7	52.3	52.0	51.7
80°	44.5	44.0	43.5	43.2	42.9	42.5	42.2	41.8
82.5°	34.1	33.6	33.2	32.9	32.8	32.8	32.7	32.6
85°	19.6	19.2	18.9	18.8	18.8	18.8	18.8	18.8
87.5°	10.8	10.8	10.8	10.7	10.7	10.7	10.6	10.6
90°	17.9	18.5	19.1	19.6	19.9	20.2	20.5	20.8
92.5°	19.7	20.7	21.7	22.2	22.4	22.6	22.8	23.0
95°	23.7	24.7	25.8	26.4	26.4	26.4	26.4	26.4
97.5°	24.8	26.0	27.2	28.0	28.1	28.3	28.5	28.6
100°	25.4	26.6	27.8	28.6	28.7	28.8	28.9	29.1
102.5°	38.0	34.2	30.3	28.6	28.8	29.1	29.4	29.7
105°	97.4	70.0	42.8	29.3	29.6	29.9	30.3	30.5
107.5°	238.4	218.4	198.4	178.1	157.5	137.0	116.4	95.9
110°	302.7	297.6	292.5	278.9	256.8	234.8	212.7	190.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	348.0	348.1	348.2	345.8	341.2	336.6	331.9	327.3
115°	401.2	402.7	404.3	405.4	406.0	406.6	407.2	407.8
117.5°	449.4	450.6	451.9	452.5	452.7	452.8	452.9	453.1
120°	481.1	482.3	483.5	484.1	484.1	484.1	484.1	484.1
122.5°	511.9	512.7	513.7	514.2	514.3	514.3	514.5	514.6
125°	555.4	555.8	556.1	556.4	556.8	557.0	557.3	557.6
127.5°	599.2	599.6	600.1	600.2	599.9	599.6	599.3	599.0
130°	625.5	626.0	626.7	626.9	626.5	626.2	625.9	625.6
132.5°	650.4	651.0	651.7	651.8	651.3	650.9	650.4	650.0
135°	688.2	688.7	689.2	689.2	688.7	688.2	687.8	687.3
137.5°	722.0	722.7	723.5	723.7	723.4	723.0	722.7	722.5
140°	743.4	743.9	744.6	744.8	744.4	744.1	743.9	743.5
142.5°	763.6	764.1	764.6	764.7	764.2	763.8	763.4	762.9
145°	792.0	792.3	792.6	792.8	792.8	792.8	792.8	792.8
147.5°	817.4	817.7	818.0	817.7	817.1	816.3	815.7	814.9
150°	832.9	833.2	833.5	833.5	833.0	832.5	832.1	831.6
152.5°	846.7	847.3	847.8	847.7	847.1	846.3	845.6	844.9
155°	865.7	866.5	867.3	867.2	866.3	865.3	864.4	863.5
157.5°	882.3	883.2	884.1	884.0	882.8	881.6	880.4	879.2
160°	891.7	892.7	893.5	893.5	892.4	891.4	890.2	889.2
162.5°	900.3	901.4	902.4	902.4	901.4	900.5	899.6	898.6
165°	911.7	912.9	914.2	914.3	913.2	912.1	911.1	909.9
167.5°	920.6	921.9	923.1	923.1	921.9	920.6	919.4	918.1
170°	925.6	926.9	928.1	928.1	926.9	925.6	924.4	923.1
172.5°	929.0	930.2	931.4	931.3	930.0	928.7	927.3	926.0
175°	932.9	934.1	935.1	935.0	933.8	932.6	931.3	930.1
177.5°	934.4	935.4	936.4	936.2	935.0	933.8	932.6	931.3
180°	933.6	933.6	933.6	933.6	933.6	933.6	933.6	933.6

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