

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: P332417-830

Luminaire Tested: **S123RDIW-S560D755U830-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332417-830
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: S123RDIW-S560D755U830-4F0-1E-UDD-F1
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, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4481.2 lumens
Efficiency: N/A
Efficacy: 119.2 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

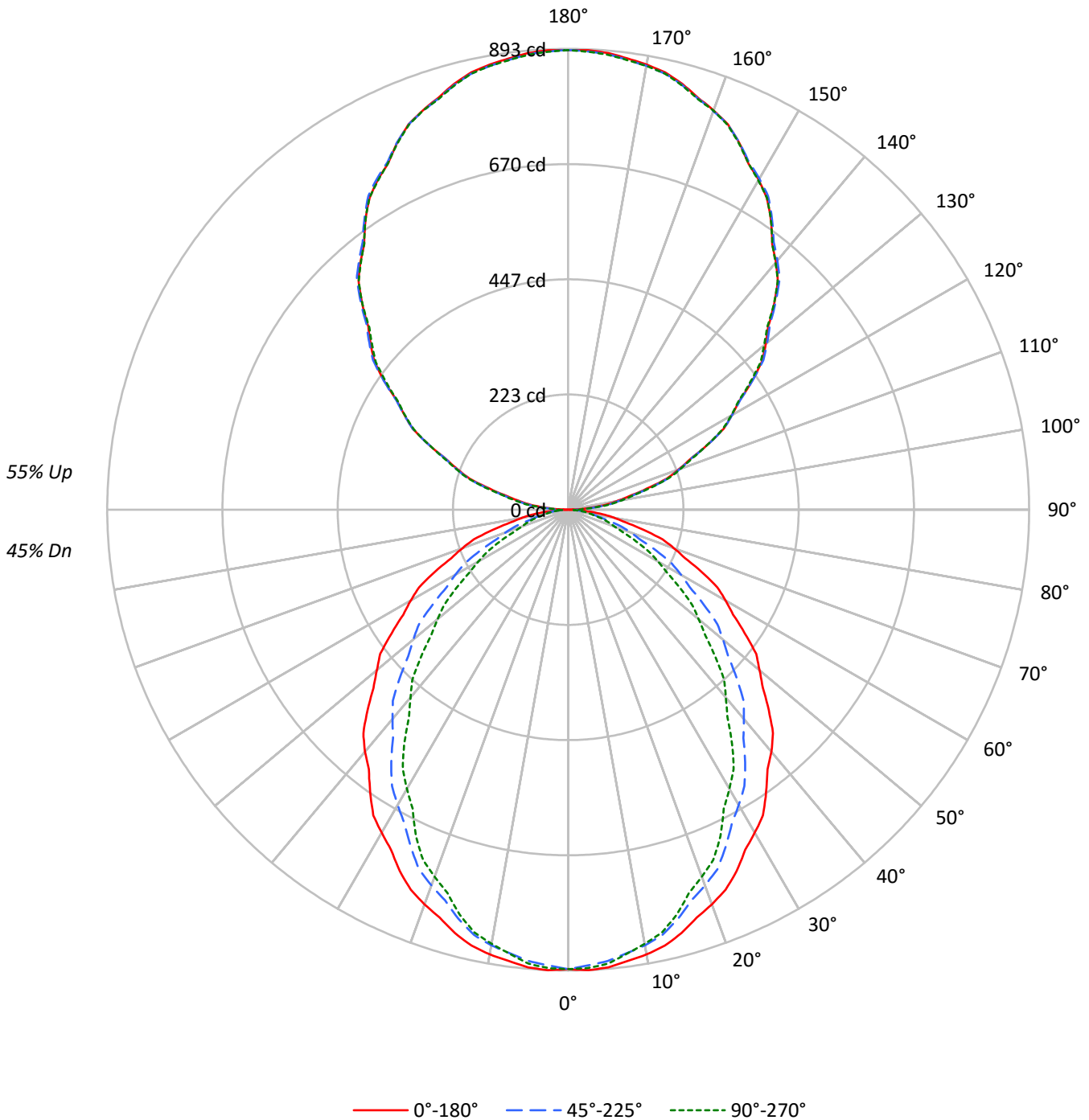
Input Watts (W): 37.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	106	106	106	106	97	97	97	97	81	81	81	65	65	65	51	51	51	45
1	97	93	89	86	89	85	82	79	71	69	67	58	56	55	46	45	44	38
2	88	81	75	70	81	75	70	65	63	59	56	51	49	46	41	39	37	33
3	81	72	65	59	74	66	60	55	55	51	47	46	42	40	36	34	32	28
4	74	64	56	50	68	59	52	47	49	44	40	41	37	34	33	30	28	24
5	68	57	49	43	62	52	45	40	44	39	35	37	33	30	30	27	25	21
6	63	51	43	37	57	47	40	35	40	35	31	33	29	26	27	24	22	19
7	58	46	38	33	53	43	36	31	36	31	27	30	26	23	25	22	19	17
8	54	42	34	29	49	39	32	27	33	28	24	28	24	21	23	20	17	15
9	50	38	31	26	46	36	29	24	30	25	22	26	22	19	21	18	16	14
10	47	35	28	23	43	33	26	22	28	23	19	24	20	17	19	16	14	12

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	1.9
10°-20°	232.6	5.2
20°-30°	334.9	7.5
30°-40°	377.3	8.4
40°-50°	360.9	8.1
50°-60°	295.6	6.6
60°-70°	199.4	4.4
70°-80°	100.3	2.2
80°-90°	29.2	0.7
90°-100°	58.0	1.3
100°-110°	173.6	3.9
110°-120°	295.3	6.6
120°-130°	388.5	8.7
130°-140°	436.7	9.7
140°-150°	429.2	9.6
150°-160°	361.3	8.1
160°-170°	240.5	5.4
170°-180°	84.2	1.9
0°-30°	651.1	14.5
0°-40°	1028.4	22.9
0°-60°	1684.8	37.6
0°-90°	2013.7	44.9
90°-120°	527.0	11.8
90°-150°	1781.4	39.8
90°-180°	2468.0	55.1
0°-180°	4481.2	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	20	21	4
95°	41	46	52	54	55	46
105°	157	159	165	165	166	169
115°	297	299	298	299	298	294
125°	435	437	436	433	430	388
135°	565	568	568	565	564	435
145°	685	686	688	688	685	428
155°	784	784	785	787	783	361
165°	854	852	852	856	851	241
175°	888	886	886	889	885	84
180°	891	891	891	891	891	



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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	10.1	10.5	10.8	10.8
90°	0.7	2.3	3.8	5.4	6.9	8.7	10.7	12.7	14.8	16.8	17.4
92.5°	17.0	18.0	19.0	20.1	21.1	22.2	23.4	24.6	25.7	26.9	27.3
95°	41.3	42.3	43.5	44.6	45.6	46.8	48.1	49.3	50.5	51.7	52.4
97.5°	73.3	74.1	74.9	75.8	76.5	77.4	78.3	79.2	80.1	81.1	81.7
100°	95.1	96.0	97.0	97.9	98.9	99.7	100.5	101.3	102.1	102.8	103.3
102.5°	120.4	120.9	121.5	122.0	122.5	123.4	124.4	125.5	126.4	127.4	127.9
105°	157.4	157.7	158.1	158.3	158.6	159.5	160.9	162.3	163.7	165.1	165.1
107.5°	200.5	200.7	200.9	201.0	201.2	201.6	202.2	202.7	203.3	203.9	204.3
110°	227.3	227.7	228.0	228.3	228.6	228.9	229.2	229.5	229.9	230.2	230.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	255.3	255.5	255.7	255.9	256.1	256.2	256.3	256.4	256.4	256.5	257.2
115°	297.4	297.7	298.2	298.7	299.2	299.3	299.0	298.7	298.3	298.0	298.2
117.5°	339.6	339.9	340.2	340.5	340.8	340.8	340.4	340.0	339.6	339.1	339.1
120°	365.9	366.8	367.8	368.7	369.7	369.7	368.9	368.2	367.4	366.6	366.5
122.5°	393.3	394.0	394.6	395.4	396.1	396.2	395.8	395.4	395.0	394.5	394.2
125°	435.2	435.6	436.1	436.6	437.1	437.1	436.8	436.5	436.1	435.8	435.3
127.5°	473.7	474.8	475.8	476.7	477.8	478.1	477.8	477.4	477.0	476.7	475.8
130°	499.5	500.8	502.0	503.2	504.4	504.9	504.4	504.0	503.5	503.0	502.4
132.5°	525.3	526.5	527.7	529.0	530.3	530.7	530.4	530.0	529.6	529.3	528.6
135°	564.6	565.5	566.5	567.4	568.3	568.7	568.5	568.4	568.3	568.1	567.4
137.5°	601.0	601.7	602.5	603.3	604.1	604.6	605.0	605.5	605.9	606.2	605.6
140°	626.1	626.9	627.7	628.5	629.2	629.7	629.9	630.0	630.2	630.4	630.2
142.5°	649.1	649.9	650.6	651.4	652.1	652.7	653.0	653.3	653.6	653.8	653.7
145°	684.9	685.2	685.5	685.8	686.2	686.5	687.0	687.5	688.0	688.4	688.2
147.5°	716.2	716.8	717.4	717.9	718.5	719.0	719.4	719.8	720.3	720.8	720.8
150°	738.1	738.4	738.7	739.0	739.3	739.6	739.9	740.3	740.6	740.8	740.8
152.5°	756.0	756.4	756.9	757.3	757.7	758.0	758.2	758.4	758.6	758.7	759.0
155°	784.3	784.3	784.3	784.3	784.3	784.3	784.5	784.7	784.8	784.9	785.6
157.5°	808.3	808.1	807.9	807.8	807.6	807.6	807.7	807.8	807.9	808.0	808.7
160°	823.4	823.1	822.8	822.5	822.2	822.0	822.0	822.0	822.0	822.0	822.8
162.5°	836.9	836.4	835.9	835.6	835.1	835.0	835.1	835.2	835.4	835.5	836.2
165°	854.2	853.8	853.3	852.8	852.3	852.1	852.1	852.1	852.1	852.1	853.0
167.5°	868.1	867.4	866.9	866.2	865.5	865.3	865.4	865.5	865.7	865.8	866.8
170°	875.9	875.2	874.7	874.0	873.4	873.1	873.1	873.1	873.1	873.1	874.2
172.5°	882.0	881.5	880.8	880.1	879.6	879.2	879.2	879.2	879.2	879.2	880.2
175°	888.4	887.9	887.2	886.6	886.0	885.7	885.7	885.7	885.7	885.7	886.6
177.5°	891.2	890.6	890.1	889.7	889.2	888.9	888.9	888.9	888.9	888.9	889.7
180°	890.6	890.6	890.6	890.6	890.6	890.6	890.6	890.6	890.6	890.6	890.6



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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	10.8	10.7	10.7	10.7	10.6
90°	18.0	18.7	19.3	19.7	20.1	20.4	20.6	21.0
92.5°	27.9	28.4	28.8	29.0	28.8	28.7	28.5	28.3
95°	53.0	53.6	54.3	54.6	54.6	54.6	54.6	54.6
97.5°	82.5	83.1	83.9	84.2	84.2	84.1	84.0	84.0
100°	103.8	104.2	104.7	105.1	105.4	105.8	106.0	106.3
102.5°	128.4	128.8	129.3	129.5	129.5	129.4	129.3	129.3
105°	165.1	165.1	165.1	165.2	165.6	165.9	166.2	166.5
107.5°	204.8	205.4	205.9	206.0	205.9	205.7	205.5	205.3
110°	231.4	232.1	232.6	232.8	232.5	232.1	231.9	231.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	258.0	258.7	259.5	259.8	259.8	259.7	259.6	259.6
115°	298.3	298.5	298.7	298.7	298.5	298.3	298.2	298.0
117.5°	339.1	339.0	339.0	338.8	338.4	337.9	337.5	337.1
120°	366.3	366.1	366.0	365.7	365.4	365.1	364.8	364.5
122.5°	393.8	393.3	392.9	392.6	392.1	391.6	391.2	390.8
125°	434.6	433.9	433.4	432.7	432.2	431.5	430.8	430.3
127.5°	474.9	474.1	473.3	472.4	471.7	471.0	470.3	469.6
130°	501.8	501.1	500.5	499.6	498.6	497.5	496.4	495.3
132.5°	527.8	527.1	526.3	525.6	524.7	523.9	523.0	522.2
135°	566.8	566.2	565.6	565.1	564.8	564.5	564.2	563.8
137.5°	604.9	604.3	603.7	603.0	602.5	601.8	601.2	600.7
140°	630.0	629.9	629.7	629.1	628.0	626.9	625.8	624.7
142.5°	653.6	653.4	653.2	652.7	651.9	651.0	650.2	649.3
145°	688.1	688.0	687.8	687.4	686.7	686.2	685.5	684.9
147.5°	720.8	720.8	720.8	720.3	719.3	718.4	717.5	716.5
150°	740.8	740.8	740.8	740.4	739.4	738.6	737.6	736.7
152.5°	759.3	759.5	759.8	759.5	758.7	757.9	757.1	756.3
155°	786.2	786.8	787.4	787.2	786.1	785.0	783.9	782.9
157.5°	809.4	810.0	810.7	810.5	809.6	808.8	807.9	807.0
160°	823.6	824.3	825.1	825.2	824.6	824.0	823.3	822.7
162.5°	837.0	837.8	838.6	838.5	837.4	836.5	835.5	834.4
165°	853.9	854.9	855.8	855.7	854.7	853.6	852.5	851.4
167.5°	867.7	868.7	869.7	869.7	868.7	867.7	866.8	865.8
170°	875.2	876.4	877.4	877.4	876.4	875.2	874.2	873.1
172.5°	881.2	882.1	883.1	883.1	881.9	880.9	879.8	878.7
175°	887.6	888.4	889.4	889.4	888.3	887.1	886.1	885.0
177.5°	890.4	891.2	891.9	891.8	891.0	890.0	889.2	888.3
180°	890.6	890.6	890.6	890.6	890.6	890.6	890.6	890.6

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