

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: P332413

Luminaire Tested: **S123RDIW-S560D460U835-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332413
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-S560D460U835-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 460 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3733.8 lumens
Efficiency: N/A
Efficacy: 123.6 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

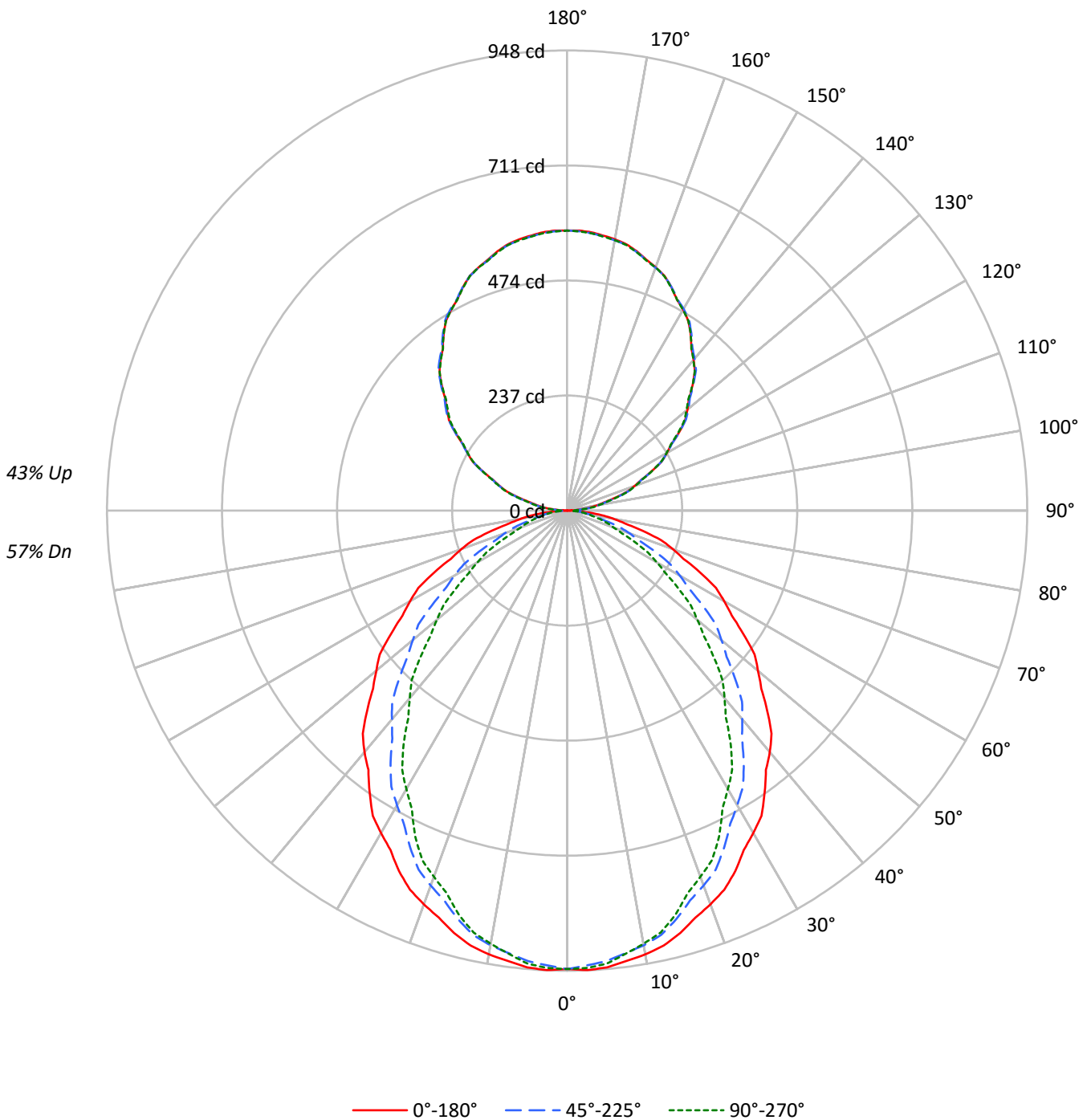
Input Watts (W): 30.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	109	109	109	109	101	101	101	101	87	87	87	75	75	75	63	63	63	57
1	100	96	92	88	93	89	86	83	77	75	73	66	64	63	56	55	54	49
2	91	84	78	73	85	78	73	69	68	64	61	59	56	53	50	48	46	42
3	83	74	67	61	77	69	63	58	60	55	51	52	48	45	44	42	39	36
4	76	66	58	52	71	62	55	49	54	48	44	47	42	39	40	37	34	31
5	70	59	51	45	65	55	48	43	48	43	38	42	38	34	36	33	30	27
6	65	53	45	39	60	50	43	37	44	38	34	38	34	30	33	29	27	24
7	60	48	40	34	56	45	38	33	40	34	30	35	30	27	30	27	24	21
8	56	44	36	31	52	41	34	29	36	31	27	32	27	24	28	24	21	19
9	52	40	32	27	49	38	31	26	33	28	24	29	25	22	26	22	19	17
10	49	37	30	25	46	35	28	24	31	25	22	27	23	20	24	20	18	16

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10167	10167	10167
5°	10205	10065	10122
10°	10147	9939	9905
15°	10038	9706	9604
20°	9889	9415	9196
25°	9734	9089	8797
30°	9531	8712	8236
35°	9320	8335	7720
40°	9128	7890	7082
45°	8873	7451	6506
50°	8594	6953	5863
55°	8310	6382	5262
60°	8047	5772	4600
65°	7707	5112	3940
70°	7279	4293	3182
75°	6658	3377	2994
80°	5938	2994	2752
85°	5014	2643	2458



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	88.7	2.4
10°-20°	246.8	6.6
20°-30°	355.3	9.5
30°-40°	400.3	10.7
40°-50°	382.9	10.3
50°-60°	313.6	8.4
60°-70°	211.6	5.7
70°-80°	106.4	2.9
80°-90°	29.9	0.8
90°-100°	37.6	1.0
100°-110°	112.5	3.0
110°-120°	191.3	5.1
120°-130°	251.7	6.7
130°-140°	282.9	7.6
140°-150°	278.0	7.4
150°-160°	234.1	6.3
160°-170°	155.8	4.2
170°-180°	54.6	1.5
0°-30°	690.8	18.5
0°-40°	1091.1	29.2
0°-60°	1787.6	47.9
0°-90°	2135.4	57.2
90°-120°	341.4	9.1
90°-150°	1153.9	30.9
90°-180°	1598.0	42.8
0°-180°	3733.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	944	944	944	944	944	
5°	944	940	932	938	937	90
15°	901	892	871	867	862	254
25°	820	800	765	750	741	377
35°	709	681	634	602	588	444
45°	583	547	490	447	427	450
55°	443	404	340	297	280	397
65°	303	259	201	165	155	299
75°	160	123	81	74	72	171
85°	41	25	21	20	20	46
90°	0	5	11	13	14	4
95°	27	30	34	35	35	30
105°	102	103	107	107	108	109
115°	193	194	193	194	193	191
125°	282	283	282	280	279	251
135°	366	368	368	366	365	282
145°	444	445	446	445	444	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°	944.5	944.5	944.5	944.5	944.5	944.5	944.5	944.5	944.5	944.5	944.5
2.5°	947.6	947.0	946.5	945.9	945.4	944.3	942.7	941.0	939.4	937.8	939.3
5°	944.5	943.7	942.8	942.0	941.1	939.7	937.6	935.6	933.5	931.5	933.0
7.5°	935.8	934.9	933.9	933.0	932.1	930.3	927.7	925.0	922.3	919.7	920.5
10°	928.4	927.2	926.0	924.8	923.7	921.5	918.5	915.4	912.3	909.3	909.4
12.5°	918.0	916.7	915.3	914.0	912.7	910.2	906.4	902.7	898.9	895.2	895.1
15°	900.8	899.0	897.1	895.2	893.4	890.0	885.3	880.5	875.7	871.0	870.1
17.5°	879.2	877.1	874.9	872.7	870.5	866.4	860.3	854.3	848.2	842.2	840.4
20°	863.3	860.6	857.9	855.1	852.4	847.8	841.3	834.9	828.4	821.9	819.7
22.5°	845.5	842.4	839.3	836.1	833.0	828.0	821.1	814.2	807.4	800.5	797.7
25°	819.6	815.4	811.1	806.9	802.6	796.6	788.7	780.9	773.1	765.3	761.7
27.5°	788.2	783.5	778.8	774.1	769.4	762.7	754.0	745.3	736.6	727.9	722.9
30°	766.8	761.7	756.6	751.5	746.4	739.0	729.5	720.0	710.4	700.9	695.1
32.5°	745.3	739.6	733.8	728.0	722.2	714.3	704.2	694.1	684.0	673.9	667.6
35°	709.3	703.2	697.1	691.0	684.8	676.5	665.9	655.4	644.8	634.3	626.9
37.5°	672.9	666.1	659.3	652.4	645.6	636.6	625.3	614.1	602.8	591.5	583.2
40°	649.6	642.1	634.6	627.1	619.6	609.8	597.8	585.7	573.6	561.5	552.6
42.5°	623.2	615.7	608.3	600.8	593.3	583.3	570.8	558.3	545.8	533.3	523.6
45°	582.9	575.3	567.6	560.0	552.3	541.9	528.8	515.7	502.6	489.5	479.8
47.5°	542.6	534.2	525.8	517.4	509.0	498.3	485.1	472.0	458.9	445.8	435.3
50°	513.2	505.2	497.2	489.2	481.2	470.3	456.5	442.8	429.0	415.2	404.6
52.5°	486.9	478.2	469.5	460.8	452.2	441.0	427.3	413.7	400.0	386.4	375.4
55°	442.8	434.4	426.1	417.7	409.4	398.0	383.5	369.1	354.6	340.1	330.2
57.5°	402.0	392.9	383.8	374.7	365.6	353.8	339.3	324.8	310.2	295.7	286.4
60°	373.8	364.5	355.1	345.7	336.4	324.6	310.5	296.4	282.2	268.1	258.9
62.5°	345.6	336.3	326.9	317.5	308.2	296.4	282.3	268.2	254.0	239.9	231.3
65°	302.6	293.2	283.9	274.5	265.1	253.8	240.5	227.3	214.0	200.7	192.4
67.5°	259.5	250.1	240.6	231.1	221.7	210.6	197.8	185.1	172.4	159.6	153.4
70°	231.3	222.1	213.0	203.8	194.6	184.0	172.1	160.2	148.3	136.4	130.4
72.5°	203.1	194.1	185.0	176.0	166.9	157.0	146.2	135.3	124.5	113.7	108.8
75°	160.1	151.9	143.8	135.6	127.4	118.6	109.3	99.9	90.6	81.2	79.5
77.5°	120.9	113.5	106.1	98.7	91.3	84.6	78.6	72.6	66.5	60.5	59.6
80°	95.8	88.8	81.8	74.8	67.8	62.6	59.0	55.4	51.8	48.3	47.7
82.5°	71.9	65.8	59.8	53.8	47.7	43.9	42.2	40.6	38.9	37.2	36.7
85°	40.6	36.9	33.1	29.4	25.6	23.5	23.0	22.5	22.0	21.4	21.1
87.5°	14.8	13.5	12.2	10.9	9.6	9.1	9.4	9.6	9.9	10.1	10.1
90°	0.5	1.5	2.5	3.5	4.5	5.6	6.9	8.3	9.6	10.9	11.3
92.5°	11.0	11.7	12.3	13.0	13.7	14.4	15.2	15.9	16.7	17.4	17.7
95°	26.7	27.4	28.1	28.9	29.6	30.3	31.1	31.9	32.7	33.5	33.9
97.5°	47.5	48.0	48.5	49.1	49.6	50.1	50.7	51.3	51.9	52.5	52.9
100°	61.6	62.2	62.8	63.4	64.0	64.6	65.1	65.6	66.1	66.6	66.9
102.5°	77.9	78.3	78.7	79.0	79.4	79.9	80.6	81.2	81.9	82.6	82.9
105°	102.0	102.2	102.4	102.6	102.8	103.3	104.2	105.1	106.0	106.9	106.9
107.5°	129.9	130.0	130.1	130.2	130.4	130.6	131.0	131.3	131.7	132.1	132.4
110°	147.3	147.5	147.7	147.9	148.1	148.3	148.5	148.7	148.9	149.1	149.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	165.4	165.5	165.7	165.8	165.9	166.0	166.0	166.1	166.1	166.1	166.6
115°	192.6	192.9	193.2	193.5	193.8	193.9	193.7	193.5	193.3	193.1	193.2
117.5°	220.0	220.2	220.4	220.6	220.8	220.7	220.5	220.2	220.0	219.7	219.7
120°	237.0	237.6	238.2	238.8	239.4	239.5	239.0	238.5	238.0	237.5	237.4
122.5°	254.8	255.2	255.7	256.1	256.5	256.6	256.4	256.1	255.9	255.6	255.3
125°	281.9	282.2	282.5	282.8	283.1	283.1	282.9	282.7	282.5	282.3	281.9
127.5°	306.9	307.5	308.2	308.8	309.5	309.7	309.5	309.2	309.0	308.8	308.2
130°	323.6	324.4	325.2	326.0	326.8	327.0	326.7	326.4	326.1	325.8	325.4
132.5°	340.2	341.0	341.9	342.7	343.5	343.8	343.5	343.3	343.1	342.9	342.4
135°	365.7	366.3	366.9	367.5	368.1	368.4	368.3	368.2	368.1	368.0	367.6
137.5°	389.3	389.8	390.3	390.8	391.3	391.7	391.9	392.2	392.5	392.7	392.3
140°	405.6	406.1	406.6	407.1	407.6	407.9	408.0	408.1	408.2	408.3	408.2
142.5°	420.5	421.0	421.5	422.0	422.5	422.8	423.0	423.2	423.4	423.5	423.4
145°	443.7	443.9	444.1	444.3	444.5	444.7	445.0	445.3	445.6	445.9	445.8
147.5°	464.0	464.3	464.7	465.0	465.4	465.7	466.0	466.3	466.6	466.9	466.9
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°	944.5	944.5	944.5	944.5	944.5	944.5	944.5	944.5
2.5°	940.8	942.3	943.8	944.4	944.1	943.8	943.6	943.3
5°	934.5	936.1	937.6	938.2	937.9	937.5	937.2	936.8
7.5°	921.4	922.2	923.1	923.2	922.6	922.1	921.5	920.9
10°	909.6	909.8	909.9	909.6	908.8	907.9	907.1	906.2
12.5°	895.0	894.9	894.8	894.2	893.2	892.2	891.3	890.3
15°	869.3	868.4	867.6	866.5	865.3	864.2	863.0	861.8
17.5°	838.6	836.8	834.9	833.2	831.4	829.6	827.8	826.1
20°	817.5	815.3	813.1	811.0	808.9	806.9	804.8	802.8
22.5°	795.0	792.2	789.5	787.1	785.2	783.3	781.4	779.5
25°	758.1	754.5	751.0	748.2	746.4	744.5	742.6	740.7
27.5°	717.9	713.0	708.0	704.1	701.2	698.4	695.5	692.6
30°	689.3	683.5	677.8	673.5	670.8	668.1	665.3	662.6
32.5°	661.3	654.9	648.6	644.0	641.2	638.3	635.4	632.6
35°	619.6	612.3	605.0	599.8	596.7	593.7	590.6	587.5
37.5°	574.9	566.6	558.3	552.3	548.5	544.7	540.9	537.1
40°	543.8	534.9	526.1	519.7	515.8	511.9	508.0	504.0
42.5°	514.0	504.3	494.6	488.0	484.5	481.0	477.5	474.0
45°	470.1	460.4	450.7	443.8	439.7	435.6	431.5	427.4
47.5°	424.7	414.2	403.6	396.5	392.9	389.2	385.6	381.9
50°	394.1	383.5	373.0	365.7	361.8	357.9	354.0	350.1
52.5°	364.5	353.5	342.5	335.3	331.8	328.3	324.8	321.3
55°	320.4	310.5	300.6	294.0	290.6	287.2	283.8	280.4
57.5°	277.0	267.7	258.4	252.3	249.4	246.5	243.6	240.7
60°	249.7	240.5	231.3	225.3	222.4	219.5	216.6	213.7
62.5°	222.6	214.0	205.3	199.5	196.5	193.4	190.4	187.4
65°	184.0	175.7	167.3	162.2	160.4	158.5	156.6	154.7
67.5°	147.2	140.9	134.7	130.6	128.6	126.6	124.6	122.6
70°	124.4	118.5	112.5	108.6	106.7	104.9	103.0	101.1
72.5°	103.9	99.1	94.2	91.4	90.6	89.8	89.0	88.2
75°	77.8	76.1	74.4	73.4	73.0	72.7	72.3	72.0
77.5°	58.7	57.8	56.8	56.2	55.9	55.5	55.2	54.8
80°	47.2	46.7	46.2	45.8	45.5	45.1	44.8	44.4
82.5°	36.2	35.7	35.2	34.9	34.8	34.8	34.7	34.6
85°	20.8	20.4	20.1	19.9	19.9	19.9	19.9	19.9
87.5°	10.0	10.0	9.9	9.8	9.7	9.7	9.6	9.5
90°	11.7	12.1	12.5	12.8	13.0	13.2	13.4	13.6
92.5°	18.0	18.4	18.7	18.8	18.7	18.5	18.4	18.3
95°	34.3	34.7	35.1	35.3	35.3	35.3	35.3	35.3
97.5°	53.4	53.9	54.3	54.5	54.5	54.5	54.4	54.4
100°	67.2	67.5	67.8	68.1	68.3	68.5	68.7	68.9
102.5°	83.2	83.5	83.8	83.9	83.9	83.8	83.8	83.7
105°	106.9	106.9	106.9	107.0	107.3	107.5	107.7	107.9
107.5°	132.7	133.0	133.3	133.4	133.3	133.2	133.1	133.0
110°	149.9	150.3	150.7	150.8	150.6	150.4	150.2	150.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	167.1	167.6	168.1	168.3	168.2	168.2	168.2	168.1
115°	193.3	193.4	193.5	193.5	193.4	193.3	193.2	193.1
117.5°	219.7	219.6	219.6	219.5	219.2	218.9	218.6	218.3
120°	237.3	237.2	237.1	236.9	236.7	236.5	236.3	236.1
122.5°	255.1	254.8	254.5	254.3	254.0	253.7	253.4	253.1
125°	281.5	281.1	280.7	280.3	279.9	279.5	279.1	278.7
127.5°	307.7	307.1	306.5	306.0	305.6	305.1	304.6	304.2
130°	325.0	324.6	324.2	323.7	323.0	322.3	321.6	320.8
132.5°	341.9	341.4	340.9	340.4	339.9	339.3	338.8	338.2
135°	367.2	366.8	366.4	366.1	365.9	365.7	365.5	365.3
137.5°	391.9	391.5	391.0	390.6	390.2	389.9	389.5	389.1
140°	408.1	408.0	407.9	407.5	406.8	406.1	405.4	404.7
142.5°	423.3	423.2	423.1	422.8	422.3	421.7	421.2	420.6
145°	445.7	445.6	445.5	445.3	444.9	444.5	444.1	443.7
147.5°	466.9	466.9	466.9	466.6	466.0	465.3	464.7	464.1
150°	479.9	479.9	479.9	479.6	479.0	478.4	477.8	477.2
152.5°	491.8	492.0	492.2	492.0	491.5	490.9	490.4	489.9
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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