

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: P332433-930

Luminaire Tested: **S123RDIW-S775D460U930-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332433-930
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-S775D460U930-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 775 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: 3682.4 lumens
Efficiency: N/A
Efficacy: 97.7 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: Semi-Direct

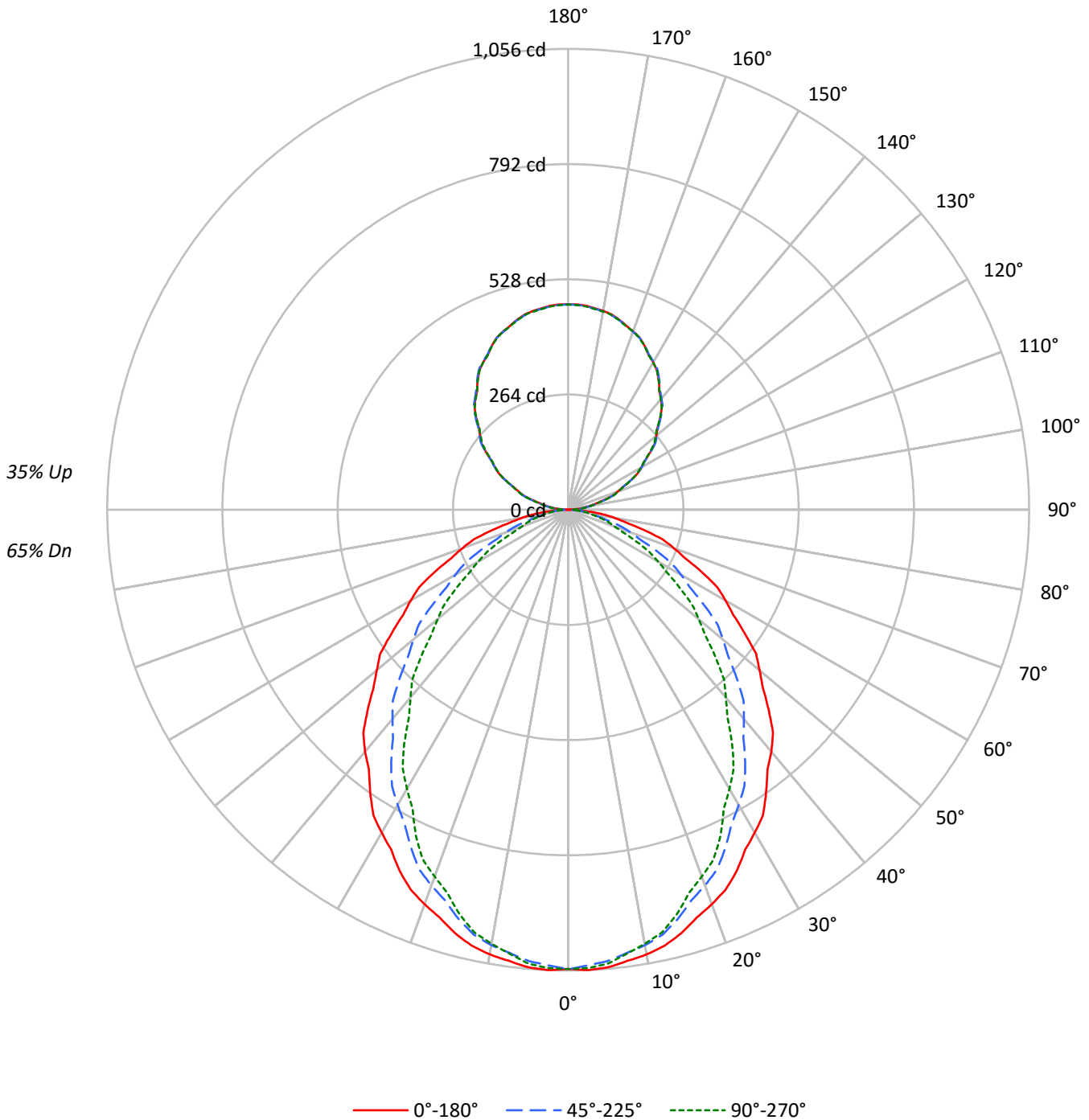
Input Watts (W): 37.7
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	111	111	111	111	104	104	104	104	91	91	91	80	80	80	70	70	70	65
1	101	97	93	90	95	92	88	85	81	78	76	71	69	68	62	61	60	55
2	93	85	79	74	87	81	75	71	71	67	64	63	60	57	55	53	51	47
3	85	75	68	62	80	71	65	60	63	58	54	56	52	49	49	46	44	40
4	78	67	59	53	73	63	56	51	57	51	46	50	46	42	44	41	38	35
5	72	60	52	46	67	57	50	44	51	45	40	45	41	37	40	36	33	31
6	66	54	46	40	62	51	44	39	46	40	36	41	36	33	37	33	30	27
7	61	49	41	35	58	47	39	34	42	36	32	38	33	29	33	29	26	24
8	57	45	37	32	54	43	35	30	38	32	28	34	30	26	31	27	24	22
9	53	41	33	28	50	39	32	27	35	29	25	32	27	23	29	25	22	20
10	50	38	30	26	47	36	29	25	33	27	23	29	25	21	27	23	20	18

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11330	11330	11330
5°	11373	11217	11282
10°	11309	11075	11038
15°	11188	10816	10702
20°	11021	10493	10247
25°	10849	10128	9804
30°	10621	9708	9178
35°	10387	9289	8604
40°	10172	8792	7893
45°	9889	8304	7252
50°	9577	7748	6532
55°	9259	7112	5863
60°	8968	6433	5126
65°	8588	5695	4391
70°	8113	4784	3547
75°	7419	3764	3335
80°	6614	3335	3068
85°	5582	2952	2742



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	98.8	2.7
10°-20°	275.0	7.5
20°-30°	396.0	10.8
30°-40°	446.1	12.1
40°-50°	426.7	11.6
50°-60°	349.5	9.5
60°-70°	235.8	6.4
70°-80°	118.6	3.2
80°-90°	32.8	0.9
90°-100°	30.6	0.8
100°-110°	91.7	2.5
110°-120°	156.0	4.2
120°-130°	205.2	5.6
130°-140°	230.6	6.3
140°-150°	226.7	6.2
150°-160°	190.8	5.2
160°-170°	127.0	3.4
170°-180°	44.5	1.2
0°-30°	769.9	20.9
0°-40°	1215.9	33.0
0°-60°	1992.1	54.1
0°-90°	2379.3	64.6
90°-120°	278.3	7.6
90°-150°	940.8	25.5
90°-180°	1303.0	35.4
0°-180°	3682.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1053	1053	1053	1053	1053	
5°	1053	1048	1038	1045	1044	100
15°	1004	994	971	966	960	283
25°	914	891	853	835	826	420
35°	790	759	707	671	655	495
45°	650	610	546	498	476	501
55°	493	450	379	331	312	442
65°	337	289	224	184	172	334
75°	178	137	90	82	80	190
85°	45	27	24	22	22	51
90°	0	4	9	10	11	4
95°	22	24	27	29	29	24
105°	83	84	87	87	88	89
115°	157	158	157	158	157	155
125°	230	231	230	229	227	205
135°	298	300	300	299	298	230
145°	362	362	364	363	362	226
155°	414	414	415	416	413	191
165°	451	450	450	452	450	127
175°	469	468	468	470	467	45
180°	470	470	470	470	470	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1052.6	1052.6	1052.6	1052.6	1052.6	1052.6	1052.6	1052.6	1052.6	1052.6	1052.6
2.5°	1056.0	1055.4	1054.8	1054.2	1053.6	1052.4	1050.5	1048.7	1046.9	1045.1	1046.8
5°	1052.6	1051.7	1050.7	1049.8	1048.8	1047.2	1044.9	1042.6	1040.3	1038.1	1039.8
7.5°	1042.8	1041.9	1040.8	1039.8	1038.8	1036.7	1033.8	1030.9	1027.9	1024.9	1025.9
10°	1034.7	1033.3	1032.0	1030.7	1029.3	1027.0	1023.5	1020.2	1016.8	1013.3	1013.5
12.5°	1023.0	1021.6	1020.1	1018.6	1017.2	1014.3	1010.2	1006.0	1001.8	997.6	997.5
15°	1004.0	1001.8	999.7	997.7	995.6	991.9	986.6	981.3	975.9	970.6	969.7
17.5°	979.8	977.5	975.0	972.6	970.1	965.6	958.8	952.0	945.3	938.6	936.5
20°	962.1	959.0	956.0	953.0	950.0	944.9	937.6	930.4	923.2	916.0	913.5
22.5°	942.3	938.8	935.3	931.8	928.3	922.8	915.1	907.4	899.8	892.1	889.0
25°	913.5	908.7	903.9	899.2	894.5	887.7	879.0	870.3	861.5	852.8	848.8
27.5°	878.4	873.2	868.0	862.7	857.5	850.0	840.3	830.6	820.8	811.1	805.6
30°	854.5	848.8	843.2	837.5	831.8	823.6	813.0	802.3	791.7	781.1	774.7
32.5°	830.6	824.2	817.7	811.3	804.9	796.0	784.7	773.6	762.3	751.1	744.0
35°	790.5	783.7	776.8	770.1	763.2	753.9	742.2	730.3	718.6	706.9	698.7
37.5°	749.9	742.2	734.7	727.1	719.5	709.5	696.9	684.4	671.8	659.3	650.0
40°	723.9	715.6	707.2	698.9	690.6	679.6	666.2	652.7	639.2	625.7	615.9
42.5°	694.6	686.2	677.8	669.5	661.2	650.0	636.1	622.2	608.3	594.4	583.6
45°	649.6	641.2	632.6	624.0	615.5	604.0	589.3	574.7	560.1	545.5	534.7
47.5°	604.8	595.4	586.0	576.7	567.3	555.3	540.7	526.0	511.4	496.8	485.1
50°	571.9	563.0	554.2	545.2	536.3	524.2	508.8	493.4	478.1	462.7	450.9
52.5°	542.6	533.0	523.3	513.6	503.9	491.5	476.2	461.1	445.8	430.6	418.4
55°	493.4	484.1	474.8	465.5	456.2	443.5	427.4	411.3	395.2	379.0	368.0
57.5°	448.0	437.9	427.8	417.6	407.5	394.4	378.1	361.9	345.7	329.5	319.1
60°	416.6	406.2	395.7	385.3	374.9	361.7	346.0	330.3	314.5	298.8	288.5
62.5°	385.1	374.7	364.3	353.8	343.5	330.4	314.6	298.9	283.2	267.3	257.7
65°	337.2	326.8	316.3	305.9	295.5	282.8	268.1	253.2	238.5	223.6	214.3
67.5°	289.3	278.7	268.2	257.6	247.0	234.6	220.5	206.3	192.1	177.9	171.0
70°	257.8	247.6	237.3	227.1	216.9	205.0	191.8	178.6	165.3	152.0	145.3
72.5°	226.4	216.3	206.2	196.1	186.1	175.0	162.9	150.8	138.8	126.7	121.2
75°	178.4	169.3	160.2	151.1	142.0	132.2	121.8	111.4	100.9	90.5	88.6
77.5°	134.7	126.5	118.2	110.0	101.7	94.3	87.6	80.9	74.2	67.4	66.4
80°	106.7	98.9	91.2	83.4	75.6	69.7	65.7	61.7	57.8	53.8	53.2
82.5°	80.1	73.4	66.6	59.9	53.2	48.9	47.0	45.2	43.4	41.5	40.9
85°	45.2	41.1	36.9	32.7	28.5	26.2	25.6	25.0	24.5	23.9	23.6
87.5°	16.5	14.9	13.5	12.0	10.4	9.8	10.0	10.2	10.4	10.7	10.6
90°	0.4	1.2	2.0	2.9	3.7	4.6	5.6	6.8	7.8	8.9	9.2
92.5°	9.0	9.5	10.0	10.6	11.2	11.7	12.4	13.0	13.6	14.2	14.4
95°	21.8	22.3	22.9	23.6	24.1	24.7	25.4	26.0	26.7	27.3	27.6
97.5°	38.7	39.1	39.5	40.0	40.4	40.8	41.3	41.8	42.3	42.8	43.1
100°	50.2	50.7	51.2	51.7	52.2	52.7	53.1	53.5	53.9	54.3	54.5
102.5°	63.5	63.8	64.2	64.4	64.7	65.1	65.7	66.2	66.8	67.3	67.6
105°	83.2	83.3	83.5	83.6	83.8	84.2	85.0	85.7	86.4	87.2	87.2
107.5°	105.9	106.0	106.1	106.2	106.3	106.5	106.8	107.0	107.4	107.7	107.9
110°	120.1	120.3	120.4	120.6	120.7	120.9	121.1	121.2	121.4	121.6	121.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	134.9	134.9	135.1	135.2	135.3	135.3	135.3	135.4	135.4	135.4	135.8
115°	157.0	157.3	157.5	157.8	158.0	158.1	157.9	157.8	157.6	157.4	157.5
117.5°	179.4	179.5	179.7	179.9	180.0	179.9	179.8	179.5	179.4	179.1	179.1
120°	193.2	193.7	194.2	194.7	195.2	195.3	194.9	194.4	194.0	193.6	193.6
122.5°	207.7	208.1	208.5	208.8	209.1	209.2	209.0	208.8	208.6	208.4	208.1
125°	229.8	230.1	230.3	230.6	230.8	230.8	230.6	230.5	230.3	230.2	229.8
127.5°	250.2	250.7	251.3	251.8	252.3	252.5	252.3	252.1	251.9	251.8	251.3
130°	263.8	264.5	265.1	265.8	266.4	266.6	266.4	266.1	265.9	265.6	265.3
132.5°	277.4	278.0	278.8	279.4	280.1	280.3	280.1	279.9	279.7	279.6	279.2
135°	298.2	298.6	299.1	299.6	300.1	300.4	300.3	300.2	300.1	300.0	299.7
137.5°	317.4	317.8	318.2	318.6	319.0	319.4	319.5	319.8	320.0	320.2	319.8
140°	330.7	331.1	331.5	331.9	332.3	332.6	332.6	332.7	332.8	332.9	332.8
142.5°	342.8	343.2	343.6	344.1	344.5	344.7	344.9	345.0	345.2	345.3	345.2
145°	361.7	361.9	362.1	362.2	362.4	362.6	362.8	363.1	363.3	363.5	363.5
147.5°	378.3	378.5	378.9	379.1	379.4	379.7	379.9	380.2	380.4	380.7	380.7
150°	389.8	390.0	390.1	390.3	390.4	390.6	390.8	390.9	391.1	391.3	391.3
152.5°	399.3	399.5	399.7	399.9	400.1	400.3	400.4	400.6	400.6	400.7	400.9
155°	414.2	414.2	414.2	414.2	414.2	414.3	414.3	414.4	414.5	414.6	414.9
157.5°	426.9	426.8	426.7	426.6	426.5	426.5	426.6	426.6	426.6	426.7	427.1
160°	434.9	434.7	434.6	434.4	434.2	434.1	434.1	434.1	434.1	434.1	434.6
162.5°	442.0	441.7	441.5	441.2	441.1	441.0	441.0	441.1	441.2	441.2	441.6
165°	451.1	450.9	450.6	450.4	450.1	450.0	450.0	450.0	450.0	450.0	450.5
167.5°	458.4	458.1	457.8	457.5	457.1	457.0	457.1	457.1	457.2	457.2	457.8
170°	462.6	462.3	461.9	461.6	461.3	461.1	461.1	461.1	461.1	461.1	461.7
172.5°	465.9	465.5	465.2	464.9	464.5	464.3	464.3	464.3	464.3	464.3	464.9
175°	469.2	468.9	468.6	468.2	467.9	467.7	467.7	467.7	467.7	467.7	468.2
177.5°	470.7	470.3	470.1	469.9	469.6	469.4	469.4	469.4	469.4	469.4	469.9
180°	470.3	470.3	470.3	470.3	470.3	470.3	470.3	470.3	470.3	470.3	470.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1052.6	1052.6	1052.6	1052.6	1052.6	1052.6	1052.6	1052.6
2.5°	1048.4	1050.1	1051.7	1052.5	1052.1	1051.8	1051.5	1051.2
5°	1041.5	1043.2	1044.9	1045.5	1045.2	1044.8	1044.4	1044.1
7.5°	1026.9	1027.8	1028.7	1028.9	1028.3	1027.6	1027.0	1026.3
10°	1013.7	1013.9	1014.1	1013.7	1012.8	1011.8	1010.9	1009.9
12.5°	997.4	997.3	997.2	996.5	995.5	994.3	993.3	992.1
15°	968.7	967.8	966.9	965.7	964.4	963.0	961.7	960.4
17.5°	934.5	932.5	930.5	928.5	926.5	924.5	922.6	920.6
20°	911.1	908.6	906.1	903.8	901.5	899.2	896.9	894.6
22.5°	886.0	882.9	879.8	877.2	875.1	872.9	870.8	868.7
25°	844.9	840.9	836.9	833.9	831.8	829.6	827.6	825.5
27.5°	800.1	794.6	789.0	784.6	781.5	778.3	775.1	771.9
30°	768.3	761.7	755.3	750.6	747.5	744.5	741.4	738.4
32.5°	736.9	729.9	722.8	717.7	714.5	711.3	708.2	705.0
35°	690.6	682.4	674.3	668.5	665.0	661.6	658.2	654.8
37.5°	640.7	631.4	622.2	615.5	611.2	607.0	602.8	598.6
40°	606.0	596.1	586.3	579.2	574.8	570.5	566.1	561.7
42.5°	572.7	562.0	551.2	543.9	540.0	536.1	532.1	528.2
45°	523.9	513.1	502.2	494.6	490.0	485.4	480.9	476.4
47.5°	473.3	461.5	449.8	441.9	437.8	433.7	429.7	425.7
50°	439.2	427.4	415.6	407.6	403.2	398.8	394.5	390.1
52.5°	406.2	394.0	381.7	373.7	369.7	365.8	361.9	358.0
55°	357.0	346.0	335.0	327.6	323.8	320.0	316.3	312.4
57.5°	308.8	298.3	288.0	281.1	277.9	274.7	271.4	268.2
60°	278.3	268.1	257.8	251.1	247.9	244.6	241.4	238.1
62.5°	248.1	238.5	228.9	222.3	218.9	215.6	212.2	208.8
65°	205.0	195.8	186.5	180.8	178.7	176.6	174.6	172.4
67.5°	164.0	157.1	150.1	145.5	143.3	141.0	138.8	136.6
70°	138.7	132.0	125.4	121.1	119.0	116.8	114.8	112.7
72.5°	115.9	110.4	105.0	101.8	100.9	100.1	99.2	98.3
75°	86.7	84.8	82.9	81.8	81.4	81.0	80.6	80.2
77.5°	65.4	64.3	63.3	62.6	62.3	61.9	61.5	61.1
80°	52.7	52.1	51.5	51.0	50.6	50.3	49.9	49.5
82.5°	40.4	39.8	39.2	38.9	38.8	38.7	38.6	38.6
85°	23.2	22.7	22.4	22.2	22.2	22.2	22.2	22.2
87.5°	10.5	10.4	10.3	10.2	10.1	9.9	9.9	9.7
90°	9.5	9.9	10.2	10.4	10.6	10.8	10.9	11.1
92.5°	14.7	15.0	15.2	15.3	15.2	15.1	15.0	14.9
95°	28.0	28.3	28.6	28.8	28.8	28.8	28.8	28.8
97.5°	43.5	43.9	44.3	44.4	44.4	44.4	44.4	44.4
100°	54.8	55.0	55.3	55.5	55.7	55.8	56.0	56.2
102.5°	67.8	68.1	68.3	68.4	68.4	68.3	68.3	68.2
105°	87.2	87.2	87.2	87.2	87.5	87.6	87.8	88.0
107.5°	108.2	108.4	108.7	108.8	108.7	108.6	108.5	108.4
110°	122.2	122.5	122.9	122.9	122.8	122.6	122.5	122.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	136.2	136.6	137.1	137.2	137.1	137.1	137.1	137.1
115°	157.6	157.7	157.8	157.8	157.7	157.6	157.5	157.4
117.5°	179.1	179.0	179.0	179.0	178.7	178.5	178.2	178.0
120°	193.5	193.4	193.3	193.1	193.0	192.8	192.7	192.5
122.5°	208.0	207.7	207.5	207.3	207.1	206.8	206.6	206.4
125°	229.5	229.2	228.9	228.5	228.2	227.9	227.6	227.2
127.5°	250.9	250.4	249.9	249.5	249.2	248.7	248.3	248.0
130°	265.0	264.6	264.3	263.9	263.3	262.8	262.2	261.5
132.5°	278.8	278.3	277.9	277.5	277.1	276.6	276.2	275.7
135°	299.4	299.1	298.7	298.5	298.3	298.2	298.0	297.8
137.5°	319.5	319.2	318.8	318.5	318.1	317.9	317.6	317.2
140°	332.7	332.6	332.6	332.2	331.7	331.1	330.5	330.0
142.5°	345.1	345.0	345.0	344.7	344.3	343.8	343.4	342.9
145°	363.4	363.3	363.2	363.1	362.7	362.4	362.1	361.7
147.5°	380.7	380.7	380.7	380.4	379.9	379.4	378.9	378.4
150°	391.3	391.3	391.3	391.0	390.5	390.0	389.6	389.1
152.5°	401.0	401.1	401.3	401.1	400.7	400.2	399.8	399.4
155°	415.2	415.6	415.9	415.7	415.2	414.6	414.0	413.4
157.5°	427.5	427.8	428.1	428.0	427.6	427.1	426.6	426.2
160°	435.0	435.4	435.8	435.8	435.5	435.1	434.8	434.5
162.5°	442.1	442.5	442.9	442.8	442.3	441.7	441.2	440.7
165°	451.0	451.5	452.0	451.9	451.3	450.8	450.2	449.6
167.5°	458.3	458.8	459.3	459.3	458.8	458.3	457.8	457.2
170°	462.3	462.8	463.4	463.4	462.8	462.3	461.7	461.1
172.5°	465.4	465.9	466.4	466.4	465.8	465.2	464.6	464.1
175°	468.7	469.2	469.7	469.7	469.1	468.6	468.0	467.4
177.5°	470.3	470.7	471.0	471.0	470.5	470.1	469.6	469.1
180°	470.3	470.3	470.3	470.3	470.3	470.3	470.3	470.3

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