

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: P332421-930

Luminaire Tested: **S123RDIW-S560D1030U930-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332421-930
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-S560D1030U930-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1030 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4656.0 lumens
Efficiency: N/A
Efficacy: 103.0 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-Indirect

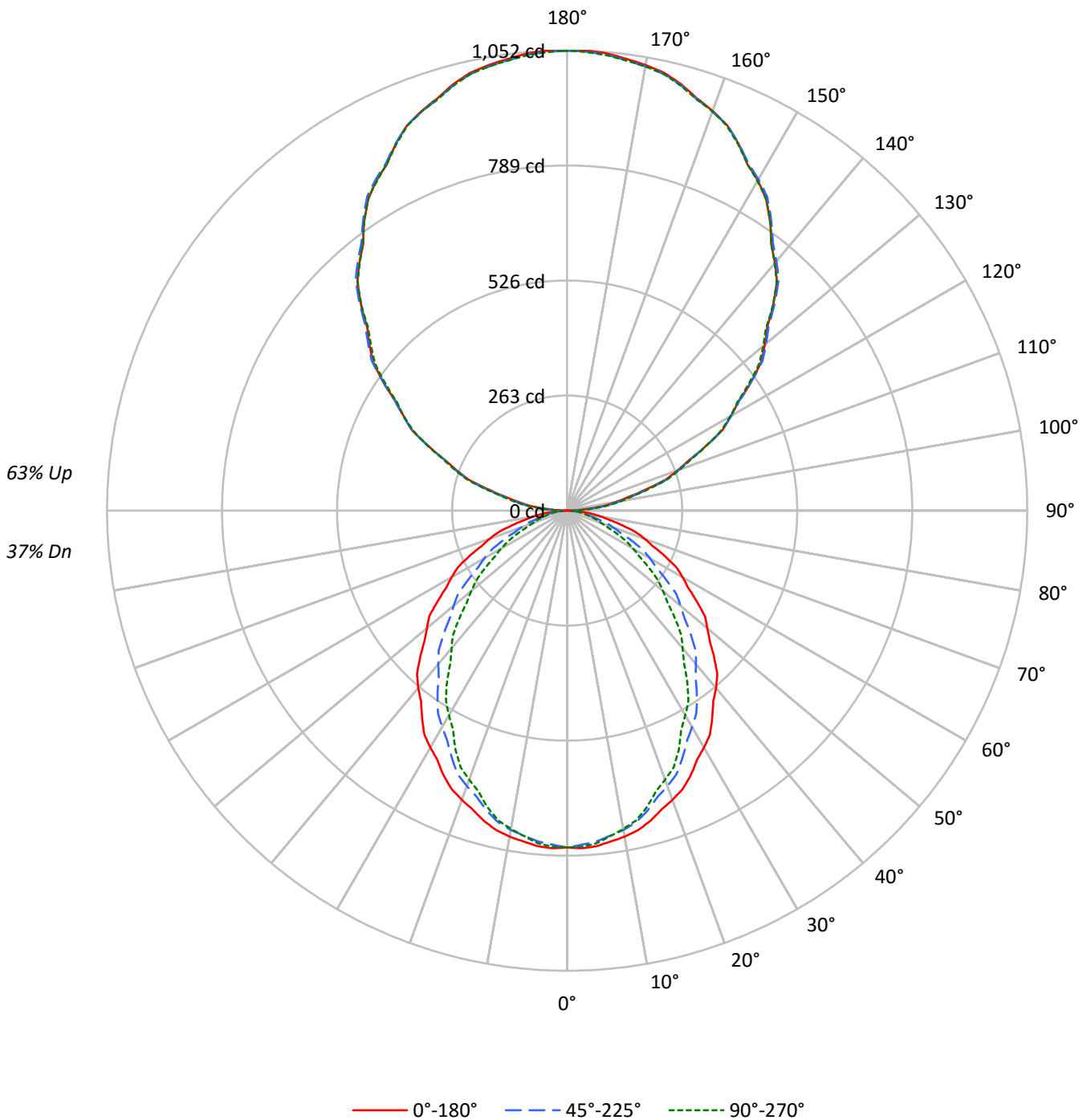
Input Watts (W): 45.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	104	104	104	104	94	94	94	94	76	76	76	60	60	60	45	45	45	37
1	95	91	87	84	86	83	80	77	67	65	63	53	51	50	40	39	38	32
2	87	80	74	69	79	73	68	63	59	56	53	47	44	42	35	34	32	27
3	79	70	63	58	72	64	58	53	52	48	44	41	38	36	31	29	28	23
4	73	62	55	49	66	57	50	45	47	42	38	37	34	31	28	26	24	20
5	67	55	48	42	60	51	44	39	42	37	33	33	30	27	25	23	21	18
6	61	50	42	36	56	46	39	34	38	32	29	30	26	24	23	21	19	16
7	57	45	37	32	51	41	34	30	34	29	25	27	24	21	21	19	17	14
8	53	41	33	28	48	37	31	26	31	26	22	25	21	19	20	17	15	13
9	49	37	30	25	44	34	28	23	28	24	20	23	19	17	18	15	14	11
10	46	34	27	22	42	31	25	21	26	21	18	21	18	15	17	14	12	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8289	8289	8289
5°	8321	8206	8253
10°	8273	8103	8075
15°	8184	7913	7830
20°	8062	7676	7497
25°	7936	7410	7172
30°	7771	7102	6714
35°	7599	6795	6294
40°	7442	6433	5774
45°	7234	6075	5305
50°	7006	5668	4779
55°	6775	5204	4290
60°	6562	4706	3750
65°	6283	4167	3212
70°	5936	3500	2593
75°	5427	2753	2441
80°	4841	2442	2244
85°	4088	2149	2001



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	72.3	1.6
10°-20°	201.2	4.3
20°-30°	289.7	6.2
30°-40°	326.3	7.0
40°-50°	312.2	6.7
50°-60°	255.7	5.5
60°-70°	172.5	3.7
70°-80°	86.8	1.9
80°-90°	26.1	0.6
90°-100°	68.5	1.5
100°-110°	205.0	4.4
110°-120°	348.7	7.5
120°-130°	458.7	9.9
130°-140°	515.5	11.1
140°-150°	506.8	10.9
150°-160°	426.6	9.2
160°-170°	284.0	6.1
170°-180°	99.4	2.1
0°-30°	563.2	12.1
0°-40°	889.5	19.1
0°-60°	1457.4	31.3
0°-90°	1742.7	37.4
90°-120°	622.2	13.4
90°-150°	2103.2	45.2
90°-180°	2913.0	62.6
0°-180°	4656.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	770	770	770	770	770	
5°	770	767	760	765	764	73
15°	734	727	710	707	703	207
25°	668	652	624	611	604	307
35°	578	555	517	491	479	362
45°	475	446	399	365	348	367
55°	361	329	277	242	229	324
65°	247	212	164	134	126	244
75°	130	100	66	60	59	139
85°	33	20	17	16	16	37
90°	1	9	20	23	25	5
95°	49	55	61	64	64	55
105°	186	188	195	195	197	199
115°	351	353	352	353	352	347
125°	514	516	515	511	508	458
135°	667	671	671	667	666	513
145°	809	810	813	812	809	505
155°	926	926	927	930	924	426
165°	1008	1006	1006	1010	1005	284
175°	1049	1046	1046	1050	1045	100
180°	1052	1052	1052	1052	1052	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	770.1	770.1	770.1	770.1	770.1	770.1	770.1	770.1	770.1	770.1	770.1
2.5°	772.6	772.1	771.7	771.2	770.8	769.9	768.6	767.2	765.9	764.6	765.8
5°	770.1	769.4	768.7	768.0	767.3	766.1	764.4	762.8	761.1	759.5	760.7
7.5°	763.0	762.2	761.4	760.7	759.9	758.5	756.4	754.2	752.0	749.8	750.5
10°	756.9	755.9	755.0	754.0	753.1	751.3	748.9	746.3	743.8	741.4	741.4
12.5°	748.4	747.4	746.2	745.2	744.1	742.1	739.0	736.0	732.9	729.9	729.8
15°	734.4	733.0	731.4	729.9	728.4	725.6	721.8	717.9	714.0	710.1	709.4
17.5°	716.8	715.1	713.3	711.5	709.7	706.4	701.4	696.5	691.5	686.6	685.2
20°	703.8	701.6	699.4	697.2	695.0	691.2	685.9	680.7	675.4	670.1	668.3
22.5°	689.3	686.8	684.3	681.7	679.1	675.1	669.4	663.8	658.3	652.6	650.4
25°	668.2	664.8	661.3	657.9	654.4	649.5	643.0	636.7	630.3	623.9	621.0
27.5°	642.6	638.8	635.0	631.1	627.3	621.8	614.7	607.6	600.5	593.5	589.4
30°	625.2	621.0	616.9	612.7	608.5	602.5	594.8	587.0	579.2	571.4	566.7
32.5°	607.6	603.0	598.3	593.5	588.8	582.4	574.1	565.9	557.7	549.4	544.3
35°	578.3	573.3	568.3	563.4	558.3	551.5	542.9	534.3	525.7	517.1	511.1
37.5°	548.6	543.1	537.5	531.9	526.4	519.0	509.8	500.7	491.5	482.2	475.5
40°	529.6	523.5	517.4	511.3	505.2	497.2	487.4	477.5	467.7	457.8	450.5
42.5°	508.1	502.0	495.9	489.8	483.7	475.6	465.4	455.2	445.0	434.8	426.9
45°	475.2	469.0	462.8	456.6	450.3	441.8	431.1	420.4	409.8	399.1	391.2
47.5°	442.4	435.5	428.7	421.8	415.0	406.3	395.5	384.8	374.1	363.5	354.9
50°	418.4	411.9	405.4	398.8	392.3	383.4	372.2	361.0	349.8	338.5	329.9
52.5°	397.0	389.9	382.8	375.7	368.7	359.5	348.4	337.3	326.1	315.0	306.1
55°	361.0	354.2	347.4	340.6	333.8	324.5	312.7	300.9	289.1	277.3	269.2
57.5°	327.8	320.3	312.9	305.5	298.1	288.5	276.6	264.8	252.9	241.1	233.5
60°	304.8	297.2	289.5	281.8	274.3	264.6	253.2	241.7	230.1	218.6	211.1
62.5°	281.8	274.2	266.5	258.9	251.3	241.7	230.2	218.7	207.1	195.6	188.6
65°	246.7	239.0	231.5	223.8	216.1	206.9	196.1	185.3	174.5	163.6	156.9
67.5°	211.6	203.9	196.2	188.4	180.8	171.7	161.3	150.9	140.6	130.1	125.1
70°	188.6	181.1	173.7	166.2	158.7	150.0	140.3	130.6	120.9	111.2	106.3
72.5°	165.6	158.2	150.8	143.5	136.1	128.0	119.2	110.3	101.5	92.7	88.7
75°	130.5	123.8	117.2	110.6	103.9	96.7	89.1	81.4	73.9	66.2	64.8
77.5°	98.6	92.5	86.5	80.5	74.4	69.0	64.1	59.2	54.2	49.3	48.6
80°	78.1	72.4	66.7	61.0	55.3	51.0	48.1	45.2	42.2	39.4	38.9
82.5°	58.6	53.6	48.8	43.9	38.9	35.8	34.4	33.1	31.7	30.3	29.9
85°	33.1	30.1	27.0	24.0	20.9	19.2	18.8	18.3	17.9	17.4	17.2
87.5°	12.1	11.3	10.4	9.6	8.7	8.6	9.0	9.5	9.9	10.4	10.5
90°	0.8	2.7	4.5	6.4	8.2	10.3	12.6	15.1	17.4	19.8	20.5
92.5°	20.0	21.2	22.5	23.7	24.9	26.3	27.6	29.0	30.3	31.7	32.3
95°	48.8	50.0	51.3	52.6	53.9	55.3	56.7	58.2	59.7	61.1	61.9
97.5°	86.6	87.5	88.5	89.4	90.4	91.4	92.5	93.5	94.6	95.6	96.5
100°	112.3	113.4	114.5	115.6	116.8	117.7	118.7	119.6	120.5	121.4	122.0
102.5°	142.1	142.8	143.4	144.1	144.7	145.6	146.8	148.1	149.3	150.5	151.1
105°	185.9	186.2	186.6	186.9	187.4	188.3	190.0	191.6	193.3	194.9	194.9
107.5°	236.8	236.9	237.2	237.4	237.6	238.1	238.7	239.4	240.0	240.7	241.2
110°	268.5	268.8	269.2	269.5	269.9	270.3	270.7	271.0	271.4	271.7	272.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	301.5	301.7	301.9	302.1	302.4	302.5	302.6	302.6	302.7	302.8	303.7
115°	351.1	351.6	352.1	352.7	353.3	353.4	352.9	352.6	352.2	351.9	352.0
117.5°	401.0	401.3	401.7	402.0	402.4	402.4	401.9	401.4	400.9	400.5	400.4
120°	432.0	433.1	434.2	435.3	436.4	436.5	435.5	434.6	433.7	432.8	432.6
122.5°	464.4	465.2	466.0	466.8	467.6	467.7	467.3	466.8	466.4	465.9	465.4
125°	513.8	514.3	514.9	515.4	516.0	516.1	515.7	515.4	514.9	514.6	513.9
127.5°	559.4	560.5	561.7	562.9	564.0	564.4	564.0	563.6	563.2	562.8	561.8
130°	589.8	591.3	592.7	594.2	595.7	596.1	595.6	595.0	594.4	593.9	593.1
132.5°	620.1	621.6	623.1	624.6	626.1	626.6	626.1	625.7	625.3	624.9	624.0
135°	666.6	667.6	668.8	669.8	671.0	671.4	671.2	671.1	670.9	670.7	669.9
137.5°	709.6	710.5	711.3	712.2	713.2	713.9	714.4	714.9	715.3	715.8	715.0
140°	739.2	740.2	741.1	742.0	742.9	743.5	743.6	743.9	744.0	744.2	744.0
142.5°	766.4	767.3	768.2	769.1	770.1	770.6	770.9	771.3	771.7	772.0	771.8
145°	808.6	809.0	809.3	809.8	810.1	810.6	811.1	811.7	812.2	812.8	812.6
147.5°	845.6	846.3	846.9	847.7	848.3	848.9	849.4	849.9	850.4	850.9	850.9
150°	871.4	871.8	872.1	872.5	872.9	873.3	873.6	874.0	874.3	874.7	874.7
152.5°	892.6	893.1	893.6	894.1	894.6	895.0	895.2	895.4	895.7	895.9	896.2
155°	925.9	925.9	925.9	925.9	925.9	926.0	926.2	926.4	926.6	926.8	927.5
157.5°	954.4	954.1	953.9	953.7	953.5	953.4	953.6	953.7	953.9	954.0	954.8
160°	972.2	971.8	971.4	971.1	970.7	970.5	970.5	970.5	970.5	970.5	971.4
162.5°	988.1	987.6	987.0	986.5	986.0	985.8	985.9	986.1	986.3	986.4	987.3
165°	1008.5	1008.0	1007.5	1006.9	1006.3	1006.1	1006.1	1006.1	1006.1	1006.1	1007.1
167.5°	1024.9	1024.2	1023.4	1022.7	1022.0	1021.7	1021.8	1022.0	1022.1	1022.2	1023.4
170°	1034.1	1033.4	1032.7	1031.9	1031.2	1030.9	1030.9	1030.9	1030.9	1030.9	1032.1
172.5°	1041.4	1040.6	1039.9	1039.2	1038.4	1038.1	1038.1	1038.1	1038.1	1038.1	1039.3
175°	1049.0	1048.3	1047.6	1046.8	1046.1	1045.7	1045.7	1045.7	1045.7	1045.7	1046.8
177.5°	1052.1	1051.6	1051.0	1050.4	1049.8	1049.5	1049.5	1049.5	1049.5	1049.5	1050.4
180°	1051.5	1051.5	1051.5	1051.5	1051.5	1051.5	1051.5	1051.5	1051.5	1051.5	1051.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	770.1	770.1	770.1	770.1	770.1	770.1	770.1	770.1
2.5°	767.0	768.3	769.5	770.0	769.7	769.5	769.3	769.1
5°	761.9	763.2	764.4	764.9	764.7	764.3	764.1	763.8
7.5°	751.2	751.9	752.6	752.7	752.2	751.8	751.3	750.8
10°	741.6	741.8	741.8	741.6	740.9	740.2	739.6	738.8
12.5°	729.7	729.6	729.5	729.0	728.2	727.4	726.7	725.9
15°	708.7	708.0	707.4	706.5	705.5	704.6	703.6	702.6
17.5°	683.7	682.2	680.7	679.3	677.8	676.4	674.9	673.5
20°	666.5	664.7	662.9	661.2	659.5	657.9	656.2	654.5
22.5°	648.2	645.9	643.7	641.7	640.2	638.6	637.1	635.5
25°	618.1	615.1	612.3	610.0	608.5	607.0	605.4	603.9
27.5°	585.3	581.3	577.2	574.1	571.7	569.4	567.0	564.7
30°	562.0	557.3	552.6	549.1	546.9	544.7	542.4	540.2
32.5°	539.2	533.9	528.8	525.1	522.8	520.4	518.0	515.8
35°	505.2	499.2	493.3	489.0	486.5	484.0	481.5	479.0
37.5°	468.7	461.9	455.2	450.3	447.2	444.1	441.0	437.9
40°	443.4	436.1	428.9	423.7	420.5	417.4	414.2	410.9
42.5°	419.1	411.2	403.2	397.9	395.0	392.2	389.3	386.5
45°	383.3	375.4	367.5	361.8	358.5	355.1	351.8	348.5
47.5°	346.3	337.7	329.1	323.3	320.3	317.3	314.4	311.4
50°	321.3	312.7	304.1	298.2	295.0	291.8	288.6	285.4
52.5°	297.2	288.2	279.2	273.4	270.5	267.7	264.8	262.0
55°	261.2	253.2	245.1	239.7	236.9	234.2	231.4	228.6
57.5°	225.8	218.3	210.7	205.7	203.3	201.0	198.6	196.2
60°	203.6	196.1	188.6	183.7	181.3	179.0	176.6	174.2
62.5°	181.5	174.5	167.4	162.7	160.2	157.7	155.2	152.8
65°	150.0	143.2	136.4	132.2	130.8	129.2	127.7	126.1
67.5°	120.0	114.9	109.8	106.5	104.8	103.2	101.6	100.0
70°	101.4	96.6	91.7	88.5	87.0	85.5	84.0	82.4
72.5°	84.7	80.8	76.8	74.5	73.9	73.2	72.6	71.9
75°	63.4	62.0	60.7	59.8	59.5	59.3	58.9	58.7
77.5°	47.9	47.1	46.3	45.8	45.6	45.2	45.0	44.7
80°	38.5	38.1	37.7	37.3	37.1	36.8	36.5	36.2
82.5°	29.5	29.1	28.7	28.5	28.4	28.4	28.3	28.2
85°	17.0	16.6	16.4	16.2	16.2	16.2	16.2	16.2
87.5°	10.5	10.6	10.6	10.6	10.6	10.5	10.5	10.4
90°	21.3	22.0	22.7	23.3	23.6	24.1	24.4	24.8
92.5°	32.9	33.5	34.1	34.2	34.0	33.8	33.6	33.3
95°	62.6	63.3	64.1	64.4	64.4	64.4	64.4	64.4
97.5°	97.3	98.2	99.1	99.4	99.3	99.3	99.2	99.1
100°	122.5	123.1	123.6	124.1	124.4	124.8	125.1	125.6
102.5°	151.6	152.1	152.7	153.0	152.9	152.8	152.7	152.6
105°	194.9	194.9	194.9	195.1	195.5	195.8	196.2	196.6
107.5°	241.9	242.5	243.0	243.2	243.0	242.8	242.6	242.3
110°	273.2	273.9	274.7	274.8	274.5	274.1	273.8	273.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	304.6	305.4	306.3	306.7	306.6	306.6	306.6	306.5
115°	352.2	352.5	352.6	352.6	352.5	352.2	352.0	351.9
117.5°	400.4	400.3	400.3	400.0	399.5	399.0	398.4	397.9
120°	432.4	432.3	432.1	431.8	431.5	431.0	430.7	430.3
122.5°	464.9	464.4	464.0	463.4	462.9	462.4	461.9	461.4
125°	513.1	512.4	511.7	510.9	510.2	509.5	508.7	508.0
127.5°	560.8	559.8	558.7	557.7	556.9	556.1	555.2	554.4
130°	592.4	591.7	590.9	590.0	588.6	587.3	586.1	584.8
132.5°	623.2	622.3	621.4	620.5	619.5	618.5	617.5	616.5
135°	669.2	668.5	667.7	667.2	666.8	666.5	666.1	665.8
137.5°	714.3	713.5	712.7	712.0	711.3	710.6	709.9	709.2
140°	743.9	743.6	743.5	742.7	741.4	740.2	738.9	737.6
142.5°	771.6	771.4	771.3	770.6	769.6	768.7	767.7	766.7
145°	812.4	812.2	812.0	811.5	810.8	810.1	809.3	808.6
147.5°	850.9	850.9	850.9	850.4	849.3	848.2	847.1	846.0
150°	874.7	874.7	874.7	874.2	873.1	872.0	870.9	869.8
152.5°	896.4	896.7	897.1	896.7	895.8	894.8	893.8	892.9
155°	928.2	929.0	929.7	929.4	928.1	926.8	925.6	924.3
157.5°	955.5	956.3	957.1	957.0	955.9	955.0	953.9	952.8
160°	972.4	973.3	974.2	974.3	973.5	972.8	972.1	971.3
162.5°	988.2	989.1	990.1	989.9	988.8	987.6	986.4	985.2
165°	1008.3	1009.3	1010.5	1010.4	1009.1	1007.8	1006.5	1005.3
167.5°	1024.5	1025.6	1026.8	1026.8	1025.6	1024.5	1023.4	1022.2
170°	1033.4	1034.7	1036.0	1036.0	1034.7	1033.4	1032.1	1030.9
172.5°	1040.4	1041.5	1042.7	1042.6	1041.3	1040.0	1038.7	1037.5
175°	1047.9	1049.0	1050.1	1050.0	1048.7	1047.4	1046.2	1044.9
177.5°	1051.2	1052.1	1053.0	1053.0	1051.9	1050.9	1049.9	1048.9
180°	1051.5	1051.5	1051.5	1051.5	1051.5	1051.5	1051.5	1051.5

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