

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: P332416-940

Luminaire Tested: **S123RDIW-S560D755U940-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332416-940
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-S560D755U940-4F0-1E-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: 4598.5 lumens
Efficiency: N/A
Efficacy: 122.3 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

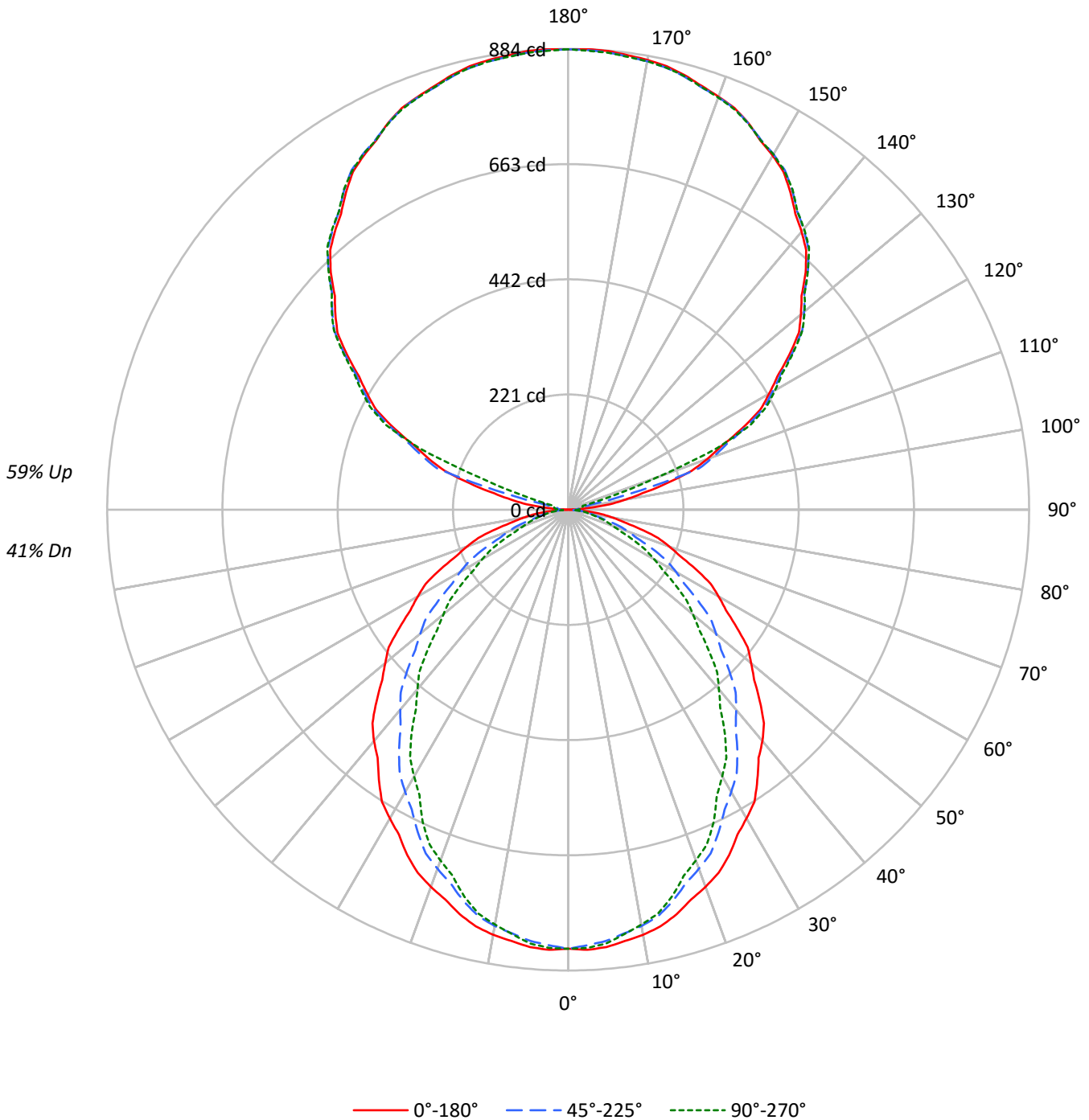
Input Watts (W): 37.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	9065	9065	9065
5°	9100	8975	9027
10°	9049	8862	8833
15°	8952	8655	8564
20°	8818	8395	8200
25°	8679	8105	7845
30°	8499	7768	7343
35°	8311	7432	6884
40°	8140	7035	6315
45°	7913	6645	5801
50°	7663	6199	5228
55°	7409	5692	4692
60°	7175	5147	4103
65°	6872	4559	3512
70°	6493	3827	2839
75°	5939	3011	2670
80°	5294	2672	2455
85°	4471	2359	2186



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	79.1	1.7
10°-20°	220.1	4.8
20°-30°	316.9	6.9
30°-40°	356.9	7.8
40°-50°	341.4	7.4
50°-60°	279.6	6.1
60°-70°	188.7	4.1
70°-80°	94.9	2.1
80°-90°	27.6	0.6
90°-100°	32.1	0.7
100°-110°	153.0	3.3
110°-120°	367.6	8.0
120°-130°	468.1	10.2
130°-140°	500.2	10.9
140°-150°	467.7	10.2
150°-160°	377.3	8.2
160°-170°	243.5	5.3
170°-180°	83.9	1.8
0°-30°	616.0	13.4
0°-40°	972.9	21.2
0°-60°	1594.0	34.7
0°-90°	1905.1	41.4
90°-120°	552.8	12.0
90°-150°	1988.7	43.2
90°-180°	2693.0	58.6
0°-180°	4598.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	842	842	842	842	842	
5°	842	839	831	836	835	80
15°	803	795	777	773	768	226
25°	731	713	682	668	660	336
35°	632	607	566	537	524	396
45°	520	488	436	399	381	401
55°	395	360	303	265	250	354
65°	270	231	179	147	138	267
75°	143	110	72	66	64	152
85°	36	22	19	18	18	41
90°	1	7	16	18	20	4
95°	40	15	20	25	25	49
105°	196	199	144	34	29	207
115°	367	371	377	383	386	362
125°	517	522	525	526	528	462
135°	644	648	650	652	650	495
145°	743	747	749	750	750	465
155°	818	817	818	821	817	377
165°	863	861	860	865	861	244
175°	883	880	881	885	880	84
180°	883	883	883	883	883	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	842.2	842.2	842.2	842.2	842.2	842.2	842.2	842.2	842.2	842.2	842.2
2.5°	845.0	844.5	844.0	843.5	843.0	842.0	840.6	839.1	837.7	836.2	837.6
5°	842.2	841.5	840.7	840.0	839.2	837.9	836.1	834.3	832.4	830.6	832.0
7.5°	834.5	833.7	832.8	832.0	831.2	829.6	827.2	824.8	822.4	820.1	820.8
10°	827.9	826.8	825.7	824.7	823.7	821.7	819.0	816.3	813.5	810.8	810.9
12.5°	818.6	817.4	816.2	815.0	813.9	811.6	808.2	804.9	801.6	798.3	798.2
15°	803.3	801.6	800.0	798.3	796.7	793.6	789.4	785.2	780.9	776.7	775.9
17.5°	784.0	782.1	780.2	778.2	776.2	772.6	767.1	761.8	756.3	751.0	749.4
20°	769.8	767.4	765.0	762.5	760.1	756.0	750.2	744.5	738.7	732.9	730.9
22.5°	753.9	751.2	748.4	745.6	742.8	738.3	732.2	726.0	720.0	713.8	711.3
25°	730.8	727.1	723.3	719.5	715.7	710.3	703.3	696.3	689.4	682.4	679.2
27.5°	702.8	698.7	694.5	690.3	686.1	680.1	672.3	664.6	656.8	649.1	644.6
30°	683.8	679.2	674.7	670.1	665.6	659.0	650.5	642.0	633.5	625.0	619.8
32.5°	664.6	659.5	654.3	649.2	644.0	636.9	627.9	618.9	609.9	600.9	595.3
35°	632.5	627.1	621.6	616.2	610.6	603.2	593.8	584.4	575.0	565.6	559.0
37.5°	600.0	594.0	587.9	581.8	575.7	567.7	557.6	547.6	537.5	527.4	520.0
40°	579.3	572.6	565.9	559.2	552.5	543.8	533.1	522.3	511.5	500.7	492.8
42.5°	555.7	549.0	542.4	535.7	529.1	520.1	509.0	497.8	486.7	475.5	466.9
45°	519.8	513.0	506.1	499.4	492.5	483.2	471.5	459.9	448.2	436.5	427.8
47.5°	483.8	476.4	468.9	461.4	453.9	444.3	432.6	420.9	409.2	397.5	388.2
50°	457.6	450.5	443.4	436.2	429.1	419.4	407.1	394.8	382.5	370.2	360.8
52.5°	434.2	426.4	418.7	410.9	403.2	393.2	381.0	368.9	356.7	344.6	334.7
55°	394.8	387.4	380.0	372.5	365.1	354.9	342.0	329.1	316.2	303.3	294.4
57.5°	358.5	350.4	342.2	334.1	326.0	315.5	302.6	289.6	276.6	263.7	255.4
60°	333.3	325.0	316.6	308.3	300.0	289.4	276.9	264.3	251.6	239.1	230.9
62.5°	308.2	299.9	291.5	283.1	274.8	264.3	251.7	239.2	226.5	213.9	206.3
65°	269.8	261.4	253.2	244.8	236.4	226.3	214.5	202.7	190.8	179.0	171.6
67.5°	231.4	223.0	214.5	206.1	197.7	187.8	176.4	165.1	153.7	142.3	136.8
70°	206.3	198.0	189.9	181.7	173.5	164.1	153.5	142.9	132.2	121.6	116.3
72.5°	181.1	173.1	165.0	156.9	148.8	140.0	130.4	120.6	111.0	101.4	97.0
75°	142.8	135.5	128.2	120.9	113.6	105.8	97.5	89.1	80.8	72.4	70.9
77.5°	107.8	101.2	94.6	88.0	81.4	75.4	70.1	64.7	59.3	53.9	53.1
80°	85.4	79.2	72.9	66.7	60.5	55.8	52.6	49.4	46.2	43.1	42.5
82.5°	64.1	58.7	53.3	48.0	42.5	39.1	37.6	36.2	34.7	33.2	32.7
85°	36.2	32.9	29.5	26.2	22.8	21.0	20.5	20.1	19.6	19.1	18.8
87.5°	13.3	12.2	11.1	10.1	9.1	8.7	9.1	9.5	9.9	10.3	10.3
90°	0.6	2.1	3.6	5.0	6.5	8.2	10.1	11.9	13.8	15.8	16.3
92.5°	12.2	11.8	11.4	11.0	10.6	11.1	12.5	13.9	15.3	16.8	17.7
95°	40.0	34.1	28.1	22.1	16.1	13.9	15.5	17.1	18.7	20.3	21.4
97.5°	80.4	77.8	75.1	72.4	69.7	63.1	52.6	42.1	31.7	21.1	22.3
100°	110.9	113.8	116.7	119.7	122.5	112.6	89.9	67.1	44.4	21.7	22.8
102.5°	145.5	147.7	149.7	151.9	153.9	142.6	117.7	92.8	68.0	43.2	39.6
105°	195.6	197.2	198.8	200.4	202.0	196.2	183.1	170.0	156.9	143.7	117.9
107.5°	248.3	249.6	250.8	252.2	253.4	255.1	257.2	259.2	261.4	263.4	244.4
110°	283.5	284.6	285.8	287.0	288.1	289.5	291.1	292.7	294.4	296.0	291.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	317.1	318.1	319.1	320.2	321.3	322.6	324.2	325.8	327.4	329.0	329.1
115°	366.8	367.7	368.5	369.4	370.3	371.4	372.7	374.0	375.3	376.7	378.1
117.5°	415.0	416.1	417.1	418.2	419.3	420.2	420.8	421.5	422.1	422.8	424.0
120°	444.9	446.2	447.5	448.8	450.1	451.0	451.5	451.9	452.4	452.7	454.0
122.5°	475.4	476.4	477.5	478.6	479.7	480.5	481.0	481.6	482.1	482.7	483.5
125°	517.1	518.3	519.4	520.6	521.7	522.6	523.2	523.8	524.3	525.0	525.2
127.5°	557.5	558.7	559.8	561.0	562.1	563.1	563.8	564.5	565.2	565.9	566.3
130°	582.6	583.9	585.1	586.2	587.4	588.3	588.8	589.4	590.0	590.6	591.1
132.5°	606.8	608.0	609.1	610.3	611.5	612.3	612.8	613.2	613.7	614.2	614.7
135°	643.7	644.6	645.4	646.3	647.2	647.9	648.5	649.1	649.7	650.2	650.7
137.5°	675.2	676.3	677.4	678.5	679.7	680.4	680.6	681.0	681.4	681.6	682.3
140°	696.2	697.1	697.9	698.8	699.7	700.3	700.8	701.2	701.7	702.1	702.7
142.5°	715.6	716.5	717.4	718.3	719.2	719.8	720.2	720.7	721.1	721.6	722.0
145°	742.8	743.8	744.8	745.8	746.9	747.5	747.8	748.1	748.4	748.7	748.9
147.5°	768.4	769.0	769.7	770.3	771.1	771.5	771.9	772.1	772.4	772.7	773.0
150°	784.2	784.5	785.0	785.4	785.9	786.2	786.6	786.8	787.1	787.4	787.7
152.5°	798.3	798.5	798.7	798.9	799.2	799.3	799.5	799.7	799.9	800.0	800.5
155°	818.2	818.0	817.7	817.3	817.1	817.0	817.2	817.3	817.4	817.6	818.3
157.5°	833.7	833.7	833.7	833.7	833.7	833.6	833.4	833.2	833.1	832.9	833.8
160°	843.2	843.0	842.9	842.8	842.6	842.5	842.3	842.1	842.0	841.9	842.8
162.5°	852.1	851.8	851.3	851.0	850.6	850.3	850.2	850.1	849.9	849.7	850.8
165°	862.9	862.5	862.0	861.6	861.1	860.9	860.7	860.5	860.4	860.2	861.4
167.5°	871.3	870.7	870.1	869.5	869.0	868.6	868.6	868.6	868.6	868.6	869.8
170°	876.0	875.4	874.9	874.2	873.7	873.3	873.3	873.3	873.3	873.3	874.5
172.5°	879.1	878.4	877.7	877.1	876.4	876.0	876.2	876.3	876.4	876.6	877.7
175°	883.2	882.4	881.7	881.0	880.3	880.0	880.1	880.3	880.5	880.6	881.6
177.5°	884.2	883.7	883.1	882.5	881.9	881.7	881.8	881.9	882.1	882.2	883.1
180°	883.2	883.2	883.2	883.2	883.2	883.2	883.2	883.2	883.2	883.2	883.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	842.2	842.2	842.2	842.2	842.2	842.2	842.2	842.2
2.5°	838.9	840.3	841.6	842.1	841.9	841.6	841.4	841.2
5°	833.3	834.7	836.1	836.6	836.3	836.0	835.7	835.4
7.5°	821.6	822.3	823.1	823.2	822.7	822.2	821.7	821.2
10°	811.1	811.3	811.4	811.1	810.4	809.6	808.9	808.1
12.5°	798.1	798.0	797.9	797.4	796.5	795.6	794.8	793.9
15°	775.2	774.4	773.6	772.7	771.6	770.6	769.5	768.5
17.5°	747.8	746.2	744.5	743.0	741.4	739.8	738.2	736.6
20°	729.0	727.0	725.1	723.2	721.3	719.5	717.6	715.9
22.5°	708.9	706.4	704.0	701.9	700.2	698.5	696.8	695.1
25°	676.0	672.8	669.7	667.2	665.6	663.9	662.2	660.5
27.5°	640.2	635.8	631.3	627.9	625.3	622.8	620.2	617.6
30°	614.7	609.5	604.4	600.6	598.2	595.8	593.3	590.8
32.5°	589.7	584.0	578.4	574.3	571.8	569.2	566.6	564.1
35°	552.5	546.0	539.5	534.8	532.1	529.4	526.6	523.9
37.5°	512.6	505.2	497.8	492.5	489.1	485.7	482.3	478.9
40°	484.9	477.0	469.1	463.4	459.9	456.5	453.0	449.4
42.5°	458.3	449.7	441.0	435.2	432.0	428.9	425.8	422.7
45°	419.2	410.5	401.9	395.7	392.1	388.4	384.8	381.1
47.5°	378.7	369.3	359.9	353.6	350.4	347.1	343.8	340.5
50°	351.4	342.0	332.6	326.1	322.6	319.1	315.7	312.2
52.5°	325.0	315.2	305.4	299.0	295.9	292.7	289.6	286.5
55°	285.7	276.9	268.0	262.2	259.1	256.1	253.1	250.0
57.5°	247.0	238.7	230.4	225.0	222.4	219.8	217.2	214.6
60°	222.7	214.5	206.3	200.9	198.3	195.7	193.1	190.6
62.5°	198.5	190.8	183.1	177.9	175.2	172.5	169.8	167.1
65°	164.1	156.7	149.2	144.6	143.0	141.3	139.6	137.9
67.5°	131.3	125.6	120.1	116.5	114.7	112.9	111.1	109.3
70°	110.9	105.7	100.3	96.8	95.1	93.5	91.8	90.2
72.5°	92.6	88.4	84.0	81.5	80.8	80.1	79.4	78.6
75°	69.4	67.9	66.3	65.5	65.1	64.8	64.5	64.2
77.5°	52.3	51.5	50.6	50.1	49.8	49.5	49.2	48.9
80°	42.1	41.6	41.2	40.8	40.6	40.2	39.9	39.6
82.5°	32.3	31.8	31.4	31.1	31.0	31.0	30.9	30.9
85°	18.5	18.2	17.9	17.7	17.7	17.7	17.7	17.7
87.5°	10.3	10.3	10.3	10.2	10.2	10.1	10.0	10.0
90°	16.9	17.5	18.1	18.5	18.8	19.1	19.4	19.7
92.5°	18.6	19.6	20.5	21.0	21.2	21.4	21.6	21.8
95°	22.4	23.4	24.4	25.0	25.0	25.0	25.0	25.0
97.5°	23.5	24.6	25.8	26.5	26.6	26.8	26.9	27.0
100°	24.0	25.1	26.3	27.0	27.1	27.3	27.4	27.6
102.5°	35.9	32.4	28.7	27.0	27.3	27.6	27.8	28.1
105°	92.1	66.3	40.5	27.7	28.0	28.3	28.6	28.9
107.5°	225.5	206.6	187.7	168.5	149.0	129.6	110.1	90.7
110°	286.3	281.5	276.7	263.9	243.0	222.1	201.3	180.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	329.2	329.3	329.4	327.2	322.8	318.4	314.0	309.6
115°	379.6	381.0	382.5	383.5	384.1	384.7	385.2	385.8
117.5°	425.2	426.3	427.5	428.1	428.3	428.4	428.5	428.6
120°	455.1	456.3	457.4	458.0	458.0	458.0	458.0	458.0
122.5°	484.3	485.1	486.0	486.4	486.5	486.6	486.8	486.9
125°	525.5	525.8	526.1	526.4	526.7	527.0	527.3	527.5
127.5°	566.9	567.3	567.8	567.8	567.6	567.2	566.9	566.7
130°	591.7	592.3	592.9	593.1	592.7	592.5	592.2	591.8
132.5°	615.4	615.9	616.5	616.6	616.2	615.8	615.4	614.9
135°	651.1	651.6	652.0	652.0	651.6	651.1	650.7	650.2
137.5°	683.1	683.8	684.5	684.7	684.4	684.0	683.8	683.5
140°	703.3	703.8	704.5	704.6	704.3	704.0	703.7	703.4
142.5°	722.5	722.9	723.4	723.4	723.0	722.6	722.2	721.8
145°	749.3	749.6	749.8	750.0	750.0	750.0	750.0	750.0
147.5°	773.3	773.6	773.9	773.6	773.0	772.3	771.7	771.0
150°	788.0	788.3	788.5	788.5	788.1	787.6	787.2	786.8
152.5°	801.0	801.6	802.1	802.0	801.4	800.7	800.0	799.3
155°	819.0	819.7	820.6	820.5	819.6	818.7	817.8	816.9
157.5°	834.7	835.5	836.4	836.3	835.2	834.0	832.9	831.8
160°	843.6	844.5	845.3	845.3	844.3	843.3	842.2	841.2
162.5°	851.8	852.7	853.7	853.7	852.8	851.9	851.0	850.2
165°	862.6	863.7	864.9	865.0	864.0	862.9	861.9	860.9
167.5°	870.9	872.2	873.3	873.3	872.2	870.9	869.8	868.6
170°	875.7	876.9	878.1	878.1	876.9	875.7	874.5	873.3
172.5°	878.9	880.0	881.2	881.1	879.9	878.6	877.3	876.0
175°	882.6	883.7	884.7	884.6	883.4	882.3	881.1	879.9
177.5°	884.0	884.9	885.9	885.7	884.6	883.4	882.3	881.1
180°	883.2	883.2	883.2	883.2	883.2	883.2	883.2	883.2

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