

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: P332280-927

Luminaire Tested: **S123RDIP-S560D585U927-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332280-927
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: S123RDIP-S560D585U927-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 585 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3285.7 lumens
Efficiency: N/A
Efficacy: 100.2 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

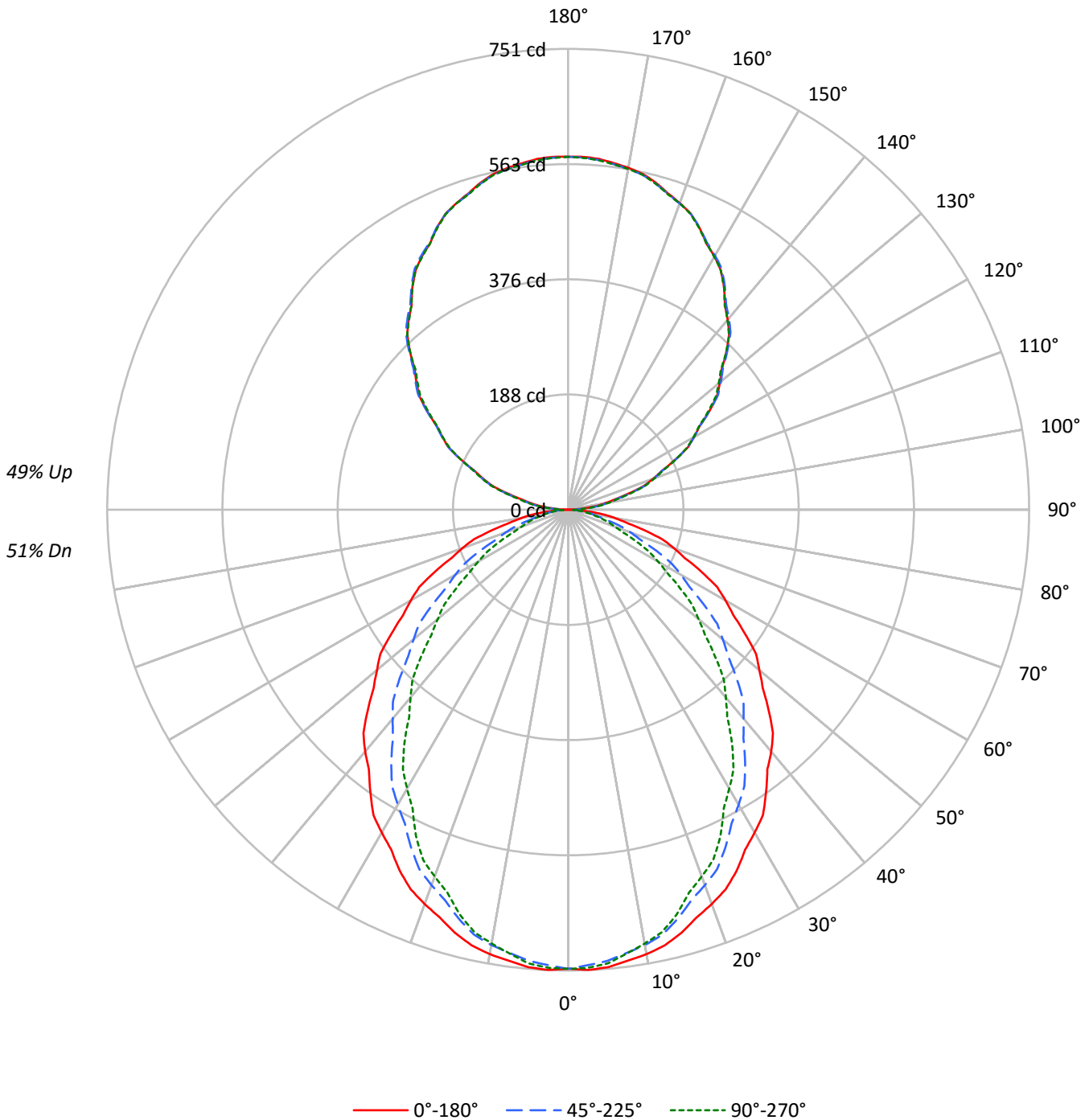
Input Watts (W): 32.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	107	107	107	107	99	99	99	99	84	84	84	70	70	70	57	57	57	51
1	98	94	90	87	91	87	84	81	74	72	70	62	61	59	51	50	49	44
2	90	83	77	72	83	77	72	67	65	62	58	55	52	50	46	44	42	37
3	82	73	66	60	76	68	61	56	58	53	49	49	46	43	41	38	36	32
4	75	65	57	51	69	60	53	48	52	47	42	44	40	37	37	34	31	28
5	69	58	50	44	64	54	47	42	46	41	37	40	35	32	33	30	27	24
6	64	52	44	38	59	49	41	36	42	36	32	36	32	28	30	27	24	21
7	59	47	39	34	55	44	37	32	38	33	28	33	28	25	28	24	22	19
8	55	43	35	30	51	40	33	28	35	29	25	30	26	22	25	22	20	17
9	51	39	32	27	47	37	30	25	32	27	23	28	23	20	23	20	18	16
10	48	36	29	24	44	34	27	23	30	24	21	26	21	18	22	19	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8054	8054	8054
5°	8084	7973	8018
10°	8039	7873	7847
15°	7952	7689	7608
20°	7834	7458	7285
25°	7712	7201	6969
30°	7549	6901	6524
35°	7384	6603	6116
40°	7231	6250	5611
45°	7030	5903	5154
50°	6807	5508	4644
55°	6583	5056	4168
60°	6374	4573	3645
65°	6105	4050	3123
70°	5766	3402	2521
75°	5273	2674	2371
80°	4705	2374	2182
85°	3977	2100	1951



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	70.3	2.1
10°-20°	195.5	5.9
20°-30°	281.5	8.6
30°-40°	317.1	9.7
40°-50°	303.3	9.2
50°-60°	248.4	7.6
60°-70°	167.6	5.1
70°-80°	84.3	2.6
80°-90°	24.0	0.7
90°-100°	37.5	1.1
100°-110°	112.2	3.4
110°-120°	190.8	5.8
120°-130°	250.9	7.6
130°-140°	282.0	8.6
140°-150°	277.2	8.4
150°-160°	233.4	7.1
160°-170°	155.4	4.7
170°-180°	54.4	1.7
0°-30°	547.2	16.7
0°-40°	864.3	26.3
0°-60°	1416.1	43.1
0°-90°	1692.0	51.5
90°-120°	340.4	10.4
90°-150°	1150.6	35.0
90°-180°	1594.0	48.5
0°-180°	3285.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	748	748	748	748	748	
5°	748	745	738	743	742	71
15°	714	706	690	687	683	201
25°	649	633	606	594	587	298
35°	562	539	502	477	465	352
45°	462	433	388	354	339	356
55°	351	320	269	236	222	314
65°	240	206	159	130	123	237
75°	127	97	64	58	57	135
85°	32	19	17	16	16	36
90°	0	5	11	13	14	3
95°	27	30	33	35	35	30
105°	102	103	107	107	108	109
115°	192	193	192	193	192	190
125°	281	282	282	280	278	251
135°	365	367	367	365	364	281
145°	442	443	445	444	442	276
155°	506	507	507	508	506	233
165°	552	550	550	553	550	155
175°	574	572	572	574	572	54
180°	575	575	575	575	575	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	748.2	748.2	748.2	748.2	748.2	748.2	748.2	748.2	748.2	748.2	748.2
2.5°	750.7	750.2	749.8	749.3	748.9	748.1	746.8	745.4	744.2	742.9	744.1
5°	748.2	747.6	746.9	746.2	745.5	744.4	742.8	741.2	739.5	737.9	739.1
7.5°	741.3	740.6	739.8	739.1	738.4	737.0	734.9	732.8	730.6	728.6	729.2
10°	735.5	734.5	733.6	732.6	731.7	730.0	727.6	725.2	722.7	720.3	720.4
12.5°	727.2	726.2	725.1	724.1	723.0	721.0	718.0	715.1	712.1	709.2	709.1
15°	713.6	712.2	710.7	709.2	707.7	705.0	701.3	697.5	693.7	690.0	689.3
17.5°	696.5	694.8	693.1	691.3	689.6	686.3	681.5	676.8	671.9	667.2	665.7
20°	683.9	681.8	679.6	677.4	675.3	671.6	666.5	661.4	656.2	651.1	649.4
22.5°	669.8	667.3	664.9	662.3	659.9	655.9	650.5	645.0	639.6	634.1	631.9
25°	649.3	645.9	642.5	639.2	635.8	631.1	624.8	618.6	612.4	606.3	603.4
27.5°	624.4	620.7	617.0	613.2	609.5	604.2	597.3	590.4	583.5	576.6	572.7
30°	607.4	603.4	599.4	595.3	591.3	585.4	577.9	570.4	562.8	555.2	550.6
32.5°	590.4	585.9	581.3	576.7	572.1	565.9	557.9	549.9	541.9	533.9	528.9
35°	561.9	557.1	552.2	547.4	542.5	535.9	527.5	519.2	510.8	502.5	496.6
37.5°	533.1	527.7	522.3	516.8	511.4	504.3	495.4	486.5	477.5	468.6	462.0
40°	514.6	508.7	502.7	496.8	490.8	483.1	473.6	464.0	454.4	444.8	437.8
42.5°	493.7	487.7	481.9	475.9	470.0	462.1	452.2	442.3	432.4	422.5	414.8
45°	461.8	455.7	449.6	443.6	437.5	429.3	418.9	408.5	398.2	387.8	380.1
47.5°	429.8	423.2	416.5	409.9	403.2	394.7	384.3	373.9	363.5	353.2	344.8
50°	406.5	400.2	393.9	387.5	381.2	372.6	361.6	350.8	339.8	328.9	320.5
52.5°	385.7	378.8	371.9	365.0	358.2	349.4	338.5	327.7	316.9	306.1	297.4
55°	350.8	344.1	337.5	330.9	324.3	315.3	303.8	292.4	280.9	269.4	261.6
57.5°	318.5	311.2	304.0	296.8	289.6	280.3	268.8	257.3	245.7	234.2	226.9
60°	296.1	288.8	281.3	273.9	266.5	257.1	246.0	234.8	223.6	212.4	205.1
62.5°	273.8	266.4	259.0	251.5	244.2	234.8	223.6	212.5	201.2	190.0	183.2
65°	239.7	232.3	224.9	217.5	210.0	201.1	190.5	180.1	169.5	159.0	152.4
67.5°	205.6	198.1	190.6	183.1	175.6	166.8	156.7	146.6	136.6	126.4	121.5
70°	183.2	175.9	168.7	161.4	154.2	145.8	136.3	126.9	117.5	108.1	103.3
72.5°	160.9	153.8	146.6	139.4	132.2	124.4	115.8	107.2	98.6	90.1	86.2
75°	126.8	120.3	113.9	107.4	100.9	94.0	86.6	79.1	71.8	64.3	63.0
77.5°	95.8	89.9	84.1	78.2	72.3	67.0	62.3	57.5	52.7	47.9	47.2
80°	75.9	70.3	64.8	59.3	53.7	49.6	46.7	43.9	41.0	38.3	37.8
82.5°	57.0	52.1	47.4	42.6	37.8	34.8	33.4	32.2	30.8	29.5	29.1
85°	32.2	29.2	26.2	23.3	20.3	18.6	18.2	17.8	17.4	17.0	16.7
87.5°	11.7	10.8	9.7	8.8	7.8	7.4	7.7	7.9	8.2	8.5	8.5
90°	0.5	1.4	2.5	3.5	4.4	5.6	6.9	8.2	9.5	10.9	11.2
92.5°	10.9	11.6	12.3	13.0	13.7	14.4	15.1	15.8	16.6	17.3	17.7
95°	26.7	27.3	28.0	28.8	29.5	30.3	31.1	31.8	32.6	33.4	33.8
97.5°	47.4	47.8	48.4	49.0	49.4	50.0	50.5	51.2	51.7	52.4	52.8
100°	61.5	62.0	62.7	63.3	63.8	64.4	64.9	65.4	65.9	66.4	66.7
102.5°	77.7	78.1	78.4	78.8	79.1	79.7	80.3	81.0	81.7	82.3	82.6
105°	101.6	101.9	102.0	102.3	102.5	103.0	103.9	104.8	105.8	106.6	106.6
107.5°	129.5	129.6	129.8	129.8	130.0	130.2	130.6	130.9	131.3	131.7	132.0
110°	146.9	147.0	147.3	147.4	147.7	147.8	148.1	148.3	148.5	148.7	149.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	164.9	165.0	165.2	165.2	165.4	165.5	165.6	165.6	165.6	165.6	166.1
115°	192.0	192.3	192.7	193.0	193.2	193.3	193.1	192.9	192.7	192.5	192.6
117.5°	219.4	219.5	219.8	219.9	220.1	220.1	219.8	219.6	219.4	219.0	219.0
120°	236.3	236.9	237.5	238.1	238.8	238.8	238.3	237.8	237.3	236.8	236.7
122.5°	254.1	254.4	254.9	255.3	255.8	255.9	255.6	255.4	255.1	254.8	254.6
125°	281.1	281.4	281.6	281.9	282.3	282.3	282.1	281.9	281.7	281.5	281.1
127.5°	306.0	306.7	307.3	307.9	308.6	308.8	308.6	308.3	308.1	307.9	307.4
130°	322.7	323.4	324.2	325.0	325.8	326.1	325.8	325.5	325.2	324.9	324.5
132.5°	339.2	340.1	340.9	341.7	342.5	342.8	342.5	342.3	342.1	341.9	341.4
135°	364.6	365.3	365.8	366.5	367.0	367.3	367.2	367.1	367.0	366.9	366.5
137.5°	388.2	388.6	389.1	389.7	390.1	390.5	390.8	391.0	391.3	391.6	391.2
140°	404.4	404.9	405.4	405.9	406.4	406.7	406.8	406.9	407.0	407.1	407.0
142.5°	419.2	419.7	420.3	420.7	421.2	421.6	421.8	421.9	422.2	422.3	422.2
145°	442.4	442.6	442.8	443.0	443.1	443.4	443.7	444.0	444.3	444.7	444.5
147.5°	462.6	463.0	463.3	463.7	464.1	464.4	464.7	464.9	465.2	465.5	465.5
150°	476.7	476.9	477.1	477.3	477.5	477.7	477.9	478.1	478.3	478.5	478.5
152.5°	488.3	488.5	488.9	489.1	489.4	489.6	489.7	489.8	490.0	490.0	490.2
155°	506.5	506.5	506.5	506.5	506.5	506.6	506.7	506.8	506.9	507.0	507.4
157.5°	522.0	522.0	521.8	521.7	521.6	521.6	521.7	521.7	521.8	521.9	522.3
160°	531.8	531.6	531.4	531.2	531.0	530.9	530.9	530.9	530.9	530.9	531.4
162.5°	540.5	540.2	540.0	539.6	539.4	539.3	539.4	539.5	539.6	539.6	540.1
165°	551.7	551.4	551.1	550.8	550.5	550.3	550.3	550.3	550.3	550.3	551.0
167.5°	560.6	560.2	559.8	559.4	559.0	558.9	559.0	559.0	559.1	559.2	559.8
170°	565.7	565.3	564.9	564.5	564.1	563.9	563.9	563.9	563.9	563.9	564.6
172.5°	569.7	569.3	568.9	568.5	568.1	567.9	567.9	567.9	567.9	567.9	568.5
175°	573.9	573.5	573.1	572.7	572.3	572.0	572.0	572.0	572.0	572.0	572.7
177.5°	575.6	575.3	575.0	574.6	574.3	574.1	574.1	574.1	574.1	574.1	574.6
180°	575.2	575.2	575.2	575.2	575.2	575.2	575.2	575.2	575.2	575.2	575.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	748.2	748.2	748.2	748.2	748.2	748.2	748.2	748.2
2.5°	745.3	746.5	747.7	748.1	747.9	747.7	747.5	747.3
5°	740.3	741.6	742.8	743.2	743.0	742.7	742.4	742.1
7.5°	729.9	730.6	731.3	731.3	730.9	730.5	730.0	729.5
10°	720.6	720.7	720.8	720.6	719.9	719.2	718.6	717.9
12.5°	709.0	708.9	708.8	708.4	707.6	706.8	706.1	705.3
15°	688.6	687.9	687.3	686.4	685.5	684.6	683.7	682.7
17.5°	664.3	662.9	661.4	660.0	658.6	657.2	655.8	654.4
20°	647.6	645.9	644.1	642.5	640.8	639.2	637.5	636.0
22.5°	629.8	627.6	625.4	623.5	622.0	620.5	619.0	617.5
25°	600.6	597.7	594.9	592.7	591.3	589.8	588.3	586.8
27.5°	568.7	564.8	560.9	557.8	555.5	553.3	551.0	548.7
30°	546.1	541.5	536.9	533.5	531.4	529.3	527.0	524.9
32.5°	523.9	518.8	513.8	510.2	507.9	505.6	503.4	501.1
35°	490.8	485.1	479.3	475.2	472.7	470.3	467.9	465.4
37.5°	455.4	448.9	442.3	437.5	434.5	431.5	428.5	425.5
40°	430.8	423.7	416.8	411.7	408.6	405.5	402.4	399.3
42.5°	407.2	399.5	391.8	386.6	383.8	381.0	378.3	375.5
45°	372.4	364.7	357.0	351.6	348.3	345.1	341.8	338.6
47.5°	336.4	328.1	319.7	314.1	311.2	308.3	305.5	302.5
50°	312.2	303.8	295.5	289.7	286.6	283.5	280.4	277.3
52.5°	288.8	280.0	271.3	265.6	262.8	260.1	257.3	254.5
55°	253.8	246.0	238.1	232.9	230.2	227.5	224.8	222.1
57.5°	219.4	212.1	204.7	199.9	197.6	195.3	193.0	190.7
60°	197.8	190.5	183.2	178.5	176.2	173.9	171.6	169.3
62.5°	176.3	169.5	162.6	158.0	155.7	153.2	150.8	148.5
65°	145.8	139.2	132.5	128.5	127.1	125.6	124.1	122.6
67.5°	116.6	111.6	106.7	103.5	101.9	100.3	98.7	97.1
70°	98.5	93.9	89.1	86.0	84.5	83.1	81.6	80.1
72.5°	82.3	78.5	74.6	72.4	71.8	71.1	70.5	69.9
75°	61.6	60.3	58.9	58.1	57.8	57.6	57.3	57.0
77.5°	46.5	45.8	45.0	44.5	44.3	44.0	43.7	43.4
80°	37.4	37.0	36.6	36.3	36.0	35.7	35.5	35.2
82.5°	28.7	28.3	27.9	27.6	27.6	27.6	27.5	27.4
85°	16.5	16.2	15.9	15.8	15.8	15.8	15.8	15.8
87.5°	8.4	8.4	8.4	8.3	8.2	8.2	8.1	8.1
90°	11.6	12.0	12.4	12.8	13.0	13.2	13.4	13.5
92.5°	18.0	18.3	18.6	18.8	18.6	18.5	18.4	18.2
95°	34.2	34.6	35.0	35.3	35.3	35.3	35.3	35.3
97.5°	53.2	53.7	54.2	54.3	54.3	54.3	54.3	54.2
100°	67.0	67.3	67.7	67.9	68.0	68.3	68.4	68.7
102.5°	82.9	83.3	83.5	83.7	83.7	83.6	83.6	83.5
105°	106.6	106.6	106.6	106.7	106.9	107.1	107.3	107.6
107.5°	132.3	132.6	132.9	133.1	132.9	132.8	132.7	132.6
110°	149.5	149.9	150.3	150.4	150.2	150.0	149.8	149.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	166.6	167.1	167.5	167.8	167.8	167.7	167.7	167.6
115°	192.7	192.8	192.9	192.9	192.8	192.7	192.6	192.5
117.5°	219.0	219.0	219.0	218.8	218.6	218.2	218.0	217.7
120°	236.5	236.5	236.4	236.2	236.0	235.8	235.6	235.4
122.5°	254.3	254.1	253.8	253.5	253.3	252.9	252.7	252.4
125°	280.7	280.3	279.9	279.5	279.1	278.7	278.3	277.9
127.5°	306.7	306.2	305.6	305.1	304.7	304.2	303.7	303.2
130°	324.1	323.7	323.3	322.7	322.0	321.3	320.6	319.9
132.5°	340.9	340.4	339.9	339.5	338.9	338.3	337.8	337.2
135°	366.1	365.7	365.3	365.0	364.8	364.6	364.4	364.2
137.5°	390.7	390.3	389.9	389.5	389.1	388.7	388.3	387.9
140°	406.9	406.8	406.7	406.3	405.6	404.9	404.2	403.5
142.5°	422.1	422.0	421.9	421.6	421.0	420.5	419.9	419.4
145°	444.4	444.3	444.3	443.9	443.5	443.1	442.8	442.4
147.5°	465.5	465.5	465.5	465.2	464.6	464.0	463.4	462.8
150°	478.5	478.5	478.5	478.2	477.6	477.0	476.4	475.8
152.5°	490.4	490.6	490.8	490.5	490.0	489.5	489.0	488.5
155°	507.8	508.2	508.6	508.4	507.7	507.0	506.4	505.6
157.5°	522.8	523.2	523.6	523.5	522.9	522.4	521.8	521.3
160°	532.0	532.4	532.9	533.0	532.6	532.2	531.8	531.4
162.5°	540.6	541.1	541.6	541.5	540.9	540.3	539.6	539.0
165°	551.6	552.2	552.8	552.7	552.0	551.3	550.6	549.9
167.5°	560.5	561.1	561.7	561.7	561.1	560.5	559.8	559.2
170°	565.3	566.0	566.7	566.7	566.0	565.3	564.6	563.9
172.5°	569.1	569.7	570.4	570.4	569.7	568.9	568.2	567.5
175°	573.2	573.9	574.5	574.4	573.7	573.0	572.3	571.6
177.5°	575.1	575.6	576.1	576.0	575.4	574.9	574.3	573.8
180°	575.2	575.2	575.2	575.2	575.2	575.2	575.2	575.2

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