

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: P332274

Luminaire Tested: **S123RDIP-S560D365U835-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332274
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-S560D365U835-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 365 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3381.5 lumens
Efficiency: N/A
Efficacy: 123.0 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-Direct

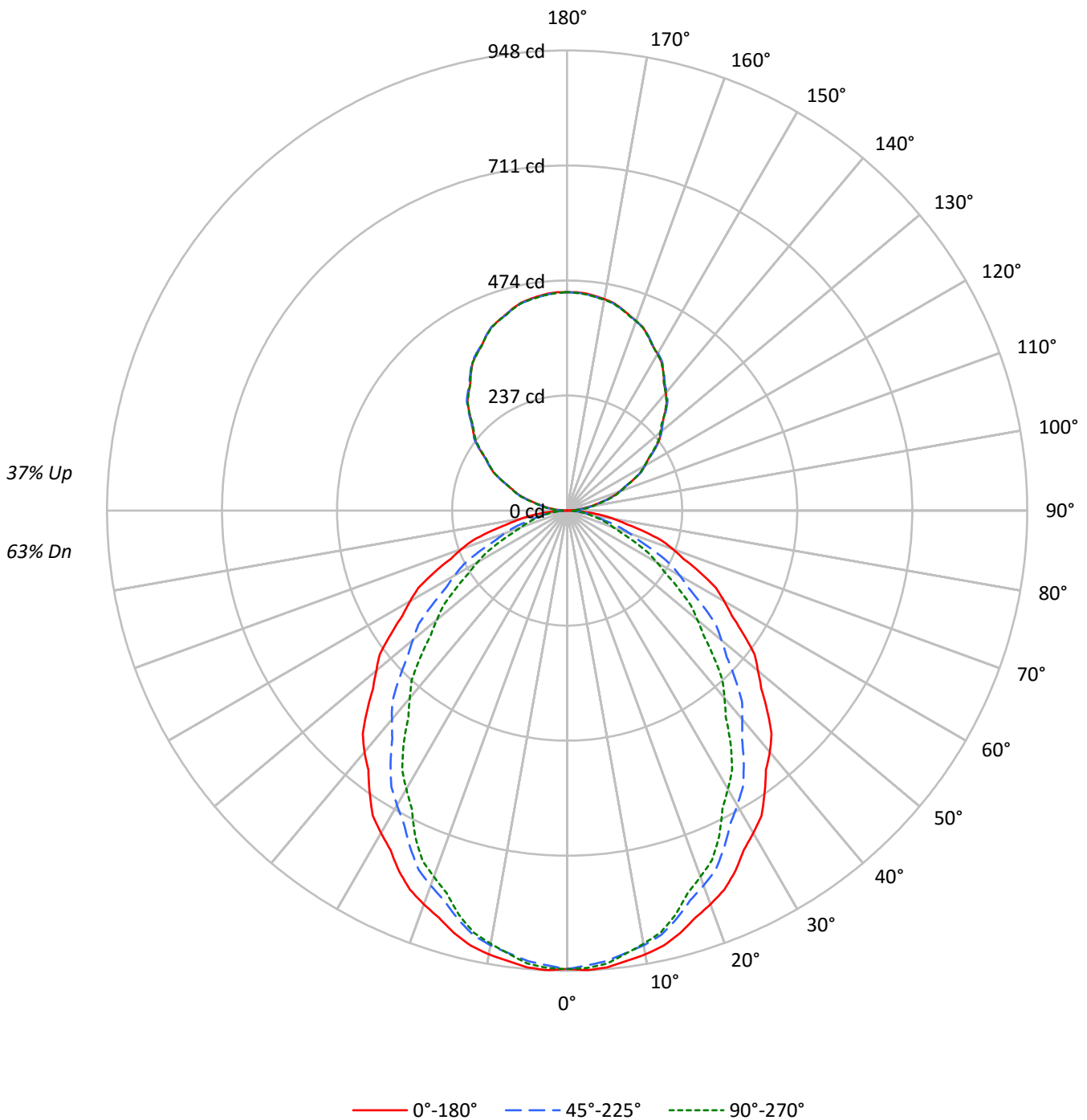
Input Watts (W): 27.5
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	110	110	110	110	103	103	103	103	91	91	91	79	79	79	68	68	68	63
1	101	97	93	90	95	91	88	85	80	78	75	70	68	67	61	60	58	54
2	92	85	79	74	87	80	75	70	71	67	63	62	59	56	54	52	50	46
3	85	75	68	62	79	71	64	59	63	58	54	55	51	48	48	45	43	39
4	78	67	59	53	73	63	56	51	56	50	46	50	45	42	43	40	37	34
5	71	60	52	46	67	57	49	44	50	45	40	45	40	36	39	36	33	30
6	66	54	46	40	62	51	44	38	46	40	35	41	36	32	36	32	29	26
7	61	49	41	35	57	46	39	34	42	36	31	37	32	29	33	29	26	24
8	57	44	37	31	53	42	35	30	38	32	28	34	29	26	30	26	23	21
9	53	41	33	28	50	39	32	27	35	29	25	31	27	23	28	24	21	19
10	50	38	30	25	47	36	29	25	32	27	23	29	24	21	26	22	19	17

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	2.6
10°-20°	246.8	7.3
20°-30°	355.3	10.5
30°-40°	400.3	11.8
40°-50°	382.9	11.3
50°-60°	313.6	9.3
60°-70°	211.6	6.3
70°-80°	106.4	3.1
80°-90°	29.5	0.9
90°-100°	29.3	0.9
100°-110°	87.7	2.6
110°-120°	149.2	4.4
120°-130°	196.2	5.8
130°-140°	220.6	6.5
140°-150°	216.8	6.4
150°-160°	182.5	5.4
160°-170°	121.5	3.6
170°-180°	42.5	1.3
0°-30°	690.8	20.4
0°-40°	1091.1	32.3
0°-60°	1787.6	52.9
0°-90°	2135.0	63.1
90°-120°	266.2	7.9
90°-150°	899.9	26.6
90°-180°	1246.0	36.8
0°-180°	3381.5	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	4	8	10	11	3
95°	21	23	26	28	28	23
105°	80	80	83	83	84	85
115°	150	151	150	151	150	149
125°	220	221	220	219	217	196
135°	285	287	287	286	285	220
145°	346	347	348	347	346	216
155°	396	396	396	398	395	182
165°	432	430	430	432	430	122
175°	449	448	447	449	447	43
180°	450	450	450	450	450	



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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	13.4	12.1	10.8	9.4	8.8	9.1	9.3	9.5	9.7	9.6
90°	0.4	1.1	1.9	2.7	3.5	4.4	5.4	6.4	7.5	8.5	8.8
92.5°	8.6	9.1	9.6	10.2	10.7	11.2	11.8	12.4	13.0	13.6	13.8
95°	20.9	21.4	21.9	22.5	23.0	23.6	24.3	24.9	25.5	26.2	26.5
97.5°	37.0	37.4	37.9	38.3	38.7	39.1	39.6	40.0	40.5	40.9	41.3
100°	48.1	48.5	49.0	49.5	49.9	50.4	50.8	51.2	51.6	51.9	52.2
102.5°	60.8	61.1	61.3	61.6	61.9	62.3	62.8	63.4	63.9	64.4	64.6
105°	79.5	79.7	79.8	80.0	80.1	80.6	81.3	82.0	82.7	83.4	83.4
107.5°	101.3	101.4	101.5	101.6	101.7	101.8	102.1	102.4	102.7	103.0	103.2
110°	114.9	115.0	115.2	115.3	115.5	115.6	115.8	116.0	116.1	116.3	116.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	129.0	129.1	129.2	129.3	129.4	129.4	129.5	129.5	129.5	129.6	129.9
115°	150.2	150.4	150.7	150.9	151.1	151.2	151.0	150.9	150.7	150.5	150.6
117.5°	171.5	171.7	171.9	172.0	172.2	172.1	171.9	171.7	171.5	171.3	171.3
120°	184.8	185.3	185.8	186.2	186.7	186.7	186.4	186.0	185.6	185.2	185.1
122.5°	198.7	199.0	199.4	199.7	200.1	200.1	199.9	199.7	199.5	199.3	199.1
125°	219.8	220.0	220.3	220.5	220.8	220.8	220.6	220.5	220.3	220.2	219.8
127.5°	239.3	239.8	240.3	240.8	241.3	241.5	241.3	241.1	241.0	240.8	240.4
130°	252.3	252.9	253.6	254.2	254.8	255.0	254.8	254.6	254.3	254.1	253.8
132.5°	265.3	266.0	266.6	267.2	267.8	268.1	267.9	267.7	267.5	267.4	267.0
135°	285.2	285.7	286.1	286.6	287.1	287.3	287.2	287.1	287.0	287.0	286.6
137.5°	303.6	304.0	304.3	304.7	305.1	305.4	305.6	305.8	306.0	306.2	305.9
140°	316.3	316.7	317.1	317.5	317.9	318.1	318.2	318.2	318.3	318.4	318.3
142.5°	327.9	328.3	328.7	329.1	329.4	329.7	329.9	330.0	330.1	330.3	330.2
145°	346.0	346.1	346.3	346.4	346.6	346.8	347.0	347.3	347.5	347.7	347.7
147.5°	361.8	362.1	362.4	362.7	362.9	363.2	363.4	363.6	363.8	364.1	364.1
150°	372.8	373.0	373.1	373.3	373.5	373.6	373.8	373.9	374.1	374.2	374.2
152.5°	381.9	382.1	382.3	382.5	382.8	382.9	383.0	383.1	383.2	383.3	383.4
155°	396.2	396.2	396.2	396.2	396.2	396.2	396.3	396.3	396.4	396.5	396.8
157.5°	408.3	408.2	408.1	408.0	407.9	407.9	408.0	408.0	408.1	408.2	408.5
160°	415.9	415.8	415.6	415.5	415.3	415.2	415.2	415.2	415.2	415.2	415.6
162.5°	422.7	422.5	422.3	422.1	421.8	421.8	421.8	421.9	422.0	422.0	422.4
165°	431.5	431.3	431.0	430.8	430.5	430.4	430.4	430.4	430.4	430.4	430.9
167.5°	438.5	438.2	437.9	437.5	437.2	437.1	437.2	437.2	437.3	437.4	437.8
170°	442.4	442.1	441.8	441.5	441.2	441.0	441.0	441.0	441.0	441.0	441.6
172.5°	445.6	445.2	444.9	444.6	444.3	444.1	444.1	444.1	444.1	444.1	444.6
175°	448.8	448.5	448.2	447.9	447.6	447.4	447.4	447.4	447.4	447.4	447.9
177.5°	450.1	449.9	449.6	449.4	449.1	449.0	449.0	449.0	449.0	449.0	449.4
180°	449.9	449.9	449.9	449.9	449.9	449.9	449.9	449.9	449.9	449.9	449.9



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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°	9.5	9.4	9.4	9.3	9.2	9.1	9.0	8.9
90°	9.1	9.4	9.7	10.0	10.1	10.3	10.4	10.6
92.5°	14.1	14.3	14.6	14.7	14.6	14.5	14.4	14.3
95°	26.8	27.1	27.4	27.6	27.6	27.6	27.6	27.6
97.5°	41.6	42.0	42.4	42.5	42.5	42.5	42.4	42.4
100°	52.4	52.7	52.9	53.1	53.2	53.4	53.6	53.7
102.5°	64.9	65.1	65.3	65.4	65.4	65.4	65.3	65.3
105°	83.4	83.4	83.4	83.5	83.6	83.8	84.0	84.1
107.5°	103.5	103.7	104.0	104.1	104.0	103.9	103.8	103.7
110°	116.9	117.2	117.5	117.6	117.4	117.3	117.1	117.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	130.3	130.7	131.1	131.2	131.2	131.2	131.1	131.1
115°	150.7	150.8	150.9	150.9	150.8	150.7	150.6	150.5
117.5°	171.3	171.3	171.3	171.1	170.9	170.7	170.5	170.3
120°	185.0	184.9	184.9	184.7	184.6	184.4	184.3	184.1
122.5°	198.9	198.7	198.5	198.3	198.1	197.8	197.6	197.4
125°	219.5	219.2	218.9	218.6	218.3	218.0	217.6	217.3
127.5°	239.9	239.5	239.0	238.6	238.3	237.9	237.6	237.2
130°	253.5	253.1	252.8	252.4	251.9	251.3	250.8	250.2
132.5°	266.6	266.2	265.9	265.5	265.0	264.6	264.2	263.8
135°	286.3	286.0	285.7	285.5	285.3	285.1	285.0	284.8
137.5°	305.6	305.3	304.9	304.6	304.3	304.0	303.7	303.4
140°	318.2	318.2	318.1	317.8	317.2	316.7	316.1	315.6
142.5°	330.1	330.0	330.0	329.7	329.3	328.9	328.4	328.0
145°	347.6	347.5	347.4	347.2	346.9	346.6	346.3	346.0
147.5°	364.1	364.1	364.1	363.8	363.4	362.9	362.4	361.9
150°	374.2	374.2	374.2	374.0	373.5	373.1	372.6	372.1
152.5°	383.5	383.7	383.8	383.6	383.2	382.8	382.4	382.0
155°	397.1	397.4	397.8	397.6	397.1	396.5	396.0	395.4
157.5°	408.8	409.2	409.5	409.4	409.0	408.6	408.1	407.7
160°	416.0	416.4	416.8	416.8	416.5	416.2	415.9	415.6
162.5°	422.8	423.2	423.6	423.5	423.0	422.5	422.0	421.5
165°	431.4	431.8	432.3	432.3	431.7	431.2	430.6	430.1
167.5°	438.3	438.8	439.3	439.3	438.8	438.3	437.8	437.4
170°	442.1	442.7	443.2	443.2	442.7	442.1	441.6	441.0
172.5°	445.1	445.6	446.1	446.1	445.5	445.0	444.4	443.9
175°	448.3	448.8	449.3	449.2	448.7	448.1	447.6	447.0
177.5°	449.8	450.1	450.5	450.5	450.1	449.6	449.2	448.7
180°	449.9	449.9	449.9	449.9	449.9	449.9	449.9	449.9

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