

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: P332778-840

Luminaire Tested: **S124DIW-S795D470U840-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332778-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIW-S795D470U840-4F0-1E-UDD-D1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 795 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 470 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4913.3 lumens
Efficiency: N/A
Efficacy: 130.3 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: Semi-Direct

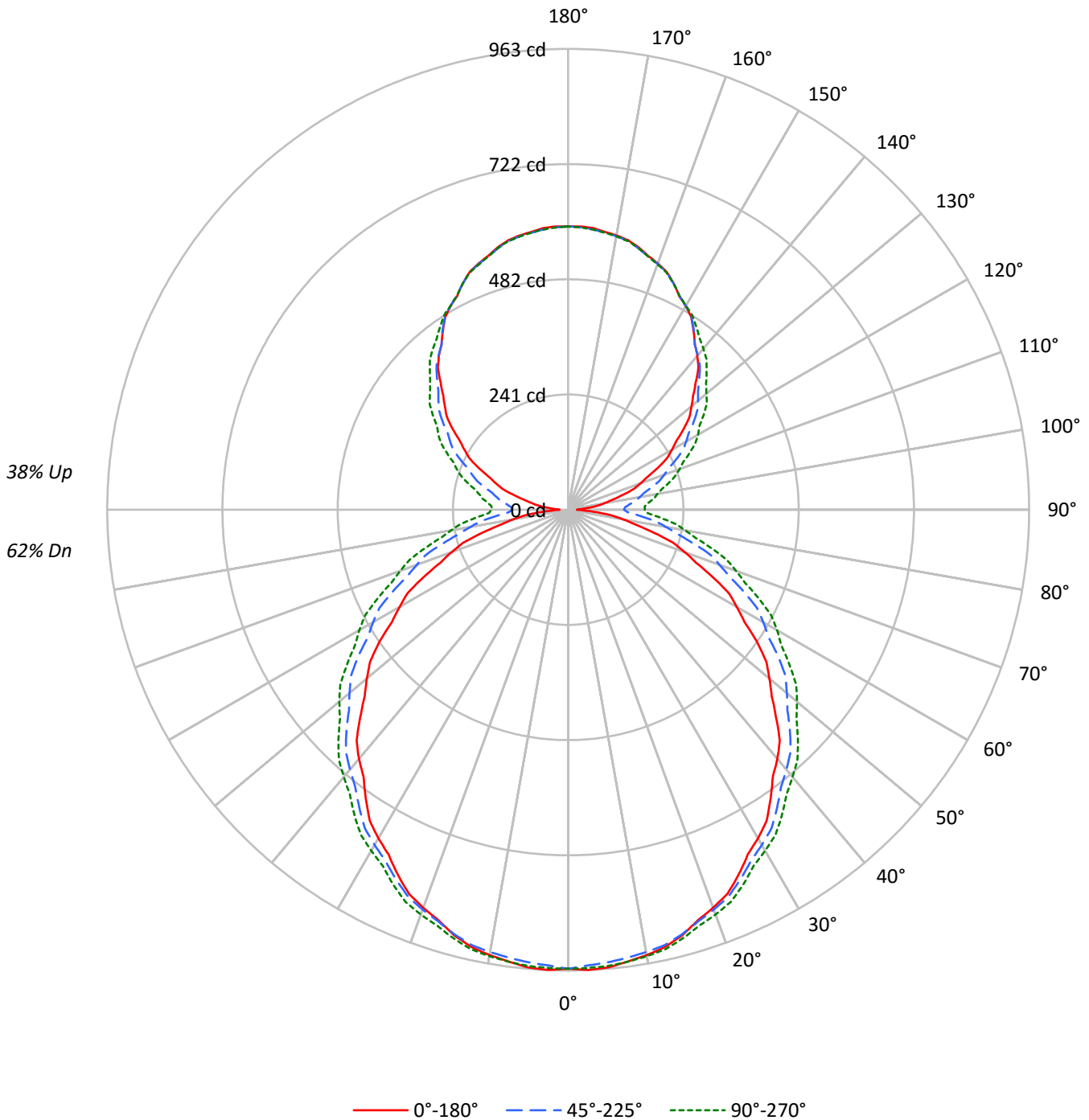
Input Watts (W): 37.7
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	110	110	110	110	103	103	103	103	90	90	90	78	78	78	67	67	67	62
1	99	94	90	86	92	88	84	81	77	74	71	67	64	62	57	55	54	49
2	90	82	75	69	84	76	70	65	67	62	58	58	54	51	49	47	44	40
3	82	71	63	57	76	67	60	54	58	53	48	51	46	43	43	40	37	33
4	74	63	54	48	69	59	51	45	52	46	41	45	40	36	39	35	32	28
5	68	56	47	41	63	52	45	39	46	40	35	40	35	31	35	31	27	24
6	63	50	41	35	58	47	39	34	41	35	30	36	31	27	31	27	24	21
7	58	45	37	31	54	42	35	29	38	31	27	33	28	24	28	24	21	19
8	54	41	33	27	50	39	31	26	34	28	24	30	25	21	26	22	19	17
9	50	37	30	24	47	35	28	23	31	25	21	28	23	19	24	20	17	15
10	47	34	27	22	44	32	25	21	29	23	19	26	21	17	22	18	15	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7744	7744	7744
5°	7768	7569	7589
10°	7720	7444	7439
15°	7651	7301	7261
20°	7547	7143	7089
25°	7429	6965	6898
30°	7302	6789	6703
35°	7158	6609	6532
40°	7042	6436	6353
45°	6871	6278	6200
50°	6727	6095	6039
55°	6577	5924	5849
60°	6344	5704	5676
65°	6089	5468	5463
70°	5778	5200	5215
75°	5348	4904	4991
80°	4865	4620	4771
85°	4264	4369	4644



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	90.8	1.8
10°-20°	260.3	5.3
20°-30°	393.5	8.0
30°-40°	476.1	9.7
40°-50°	503.4	10.2
50°-60°	473.7	9.6
60°-70°	393.1	8.0
70°-80°	276.1	5.6
80°-90°	157.9	3.2
90°-100°	131.7	2.7
100°-110°	184.2	3.7
110°-120°	242.3	4.9
120°-130°	284.7	5.8
130°-140°	301.8	6.1
140°-150°	287.8	5.9
150°-160°	240.2	4.9
160°-170°	159.8	3.3
170°-180°	56.0	1.1
0°-30°	744.6	15.2
0°-40°	1220.8	24.8
0°-60°	2197.9	44.7
0°-90°	3024.9	61.6
90°-120°	558.2	11.4
90°-150°	1432.5	29.2
90°-180°	1888.0	38.4
0°-180°	4913.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	959	959	959	959	959	
5°	960	957	950	958	957	91
15°	921	921	918	928	927	259
25°	842	848	852	863	865	388
35°	737	750	760	775	779	461
45°	614	635	655	673	679	475
55°	481	504	536	557	564	429
65°	333	368	404	430	439	330
75°	185	225	270	299	309	196
85°	57	102	150	181	193	61
90°	19	67	116	149	160	13
95°	41	81	128	157	168	42
105°	116	139	180	207	218	124
115°	206	217	249	271	279	204
125°	295	295	320	339	345	263
135°	377	380	387	403	408	292
145°	456	457	458	463	467	286
155°	522	522	521	523	521	240
165°	568	566	566	568	566	160
175°	591	589	588	591	588	56
180°	592	592	592	592	592	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	959.3	959.3	959.3	959.3	959.3	959.3	959.3	959.3	959.3	959.3	959.3
2.5°	962.7	962.1	961.5	961.0	960.4	959.4	957.8	956.2	954.7	953.2	954.5
5°	960.3	959.6	958.9	958.2	957.5	956.2	954.5	952.9	951.2	949.6	951.5
7.5°	952.1	951.7	951.3	950.9	950.4	949.5	948.2	946.7	945.3	944.0	946.1
10°	945.2	945.0	944.8	944.5	944.3	943.6	942.4	941.2	940.0	938.8	941.0
12.5°	935.8	935.7	935.7	935.6	935.6	935.2	934.4	933.5	932.7	931.9	933.9
15°	920.6	920.8	921.0	921.3	921.5	921.3	920.6	919.9	919.1	918.4	920.6
17.5°	899.7	900.4	901.1	901.9	902.6	902.8	902.7	902.6	902.4	902.3	904.5
20°	885.1	885.9	886.6	887.3	888.0	888.5	888.7	888.9	889.2	889.4	891.8
22.5°	868.8	869.7	870.6	871.5	872.4	873.1	873.5	873.9	874.3	874.8	877.2
25°	842.1	843.5	845.1	846.5	847.9	849.0	849.7	850.4	851.1	851.8	854.4
27.5°	812.5	814.6	816.7	818.8	820.9	822.5	823.6	824.7	825.8	826.9	829.3
30°	792.7	794.7	796.6	798.5	800.4	802.1	803.9	805.5	807.2	808.8	811.4
32.5°	771.2	773.6	775.9	778.1	780.4	782.4	784.4	786.2	788.1	789.9	792.9
35°	736.9	739.7	742.7	745.5	748.3	750.9	753.4	755.8	758.1	760.5	763.9
37.5°	702.3	705.6	708.9	712.2	715.5	718.6	721.5	724.5	727.5	730.4	733.9
40°	679.9	683.1	686.1	689.2	692.4	695.6	698.9	702.3	705.6	708.9	712.6
42.5°	654.2	657.6	661.2	664.6	668.1	671.8	675.7	679.6	683.6	687.4	691.5
45°	614.4	618.9	623.5	628.0	632.6	637.1	641.7	646.2	650.7	655.2	659.3
47.5°	576.4	581.1	585.7	590.5	595.1	600.1	605.3	610.6	615.8	621.1	625.3
50°	548.9	554.1	559.4	564.6	569.9	575.1	580.4	585.6	590.9	596.1	601.0
52.5°	521.4	526.6	531.9	537.1	542.4	548.1	554.0	560.1	566.1	572.1	576.8
55°	481.2	486.3	491.3	496.2	501.3	507.4	514.5	521.7	528.9	536.0	540.8
57.5°	436.4	442.5	448.8	454.9	461.1	467.8	474.9	482.0	489.2	496.2	501.9
60°	407.1	413.3	419.5	425.8	431.9	439.0	446.9	454.7	462.6	470.5	475.9
62.5°	378.7	385.6	392.3	399.1	405.9	413.2	421.1	429.0	436.9	444.7	450.2
65°	333.0	340.6	348.3	355.9	363.6	371.4	379.5	387.7	395.8	403.8	409.8
67.5°	288.9	297.1	305.2	313.3	321.4	329.8	338.5	347.2	355.9	364.6	370.6
70°	258.8	267.0	275.1	283.3	291.3	299.9	309.0	318.1	327.1	336.2	342.6
72.5°	229.6	237.9	246.3	254.6	262.9	271.9	281.6	291.1	300.8	310.4	316.7
75°	184.8	193.6	202.4	211.3	220.0	229.5	239.5	249.5	259.6	269.6	276.3
77.5°	142.9	152.2	161.6	171.0	180.3	190.3	200.8	211.3	221.8	232.3	239.0
80°	117.0	126.6	136.1	145.7	155.3	165.3	175.8	186.3	196.8	207.3	214.5
82.5°	91.3	101.2	111.2	121.1	131.0	141.3	151.8	162.3	172.8	183.3	190.6
85°	57.0	67.0	77.0	87.1	97.0	107.4	118.2	128.9	139.7	150.4	157.5
87.5°	32.1	42.0	52.0	62.0	71.9	82.2	92.8	103.4	114.1	124.7	131.7
90°	18.6	29.2	39.9	50.6	61.2	72.1	83.2	94.2	105.3	116.4	123.9
92.5°	26.2	36.0	45.8	55.7	65.6	75.9	86.8	97.7	108.5	119.3	126.4
95°	41.4	50.2	59.0	67.8	76.5	86.2	96.7	107.2	117.8	128.3	135.0
97.5°	60.6	68.2	75.6	83.2	90.7	99.7	110.2	120.8	131.3	141.8	148.5
100°	75.8	82.5	89.1	95.7	102.3	110.8	121.0	131.2	141.4	151.7	158.3
102.5°	92.7	98.4	103.9	109.6	115.1	122.9	132.9	142.8	152.8	162.7	169.3
105°	116.3	121.2	126.0	130.9	135.8	142.9	152.1	161.4	170.6	179.8	186.1
107.5°	143.1	147.1	151.2	155.2	159.3	165.4	173.9	182.3	190.7	199.1	205.3
110°	160.6	164.1	167.6	171.2	174.7	180.6	188.8	197.1	205.4	213.6	218.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	178.7	181.7	184.7	187.7	190.7	196.1	203.9	211.7	219.4	227.2	232.5
115°	206.0	208.1	210.3	212.4	214.6	219.3	226.8	234.2	241.7	249.1	254.3
117.5°	232.7	234.0	235.4	236.8	238.1	242.3	249.2	256.2	263.2	270.2	274.8
120°	249.7	250.9	252.0	253.1	254.2	258.1	264.7	271.4	277.9	284.6	288.8
122.5°	268.4	268.7	269.0	269.3	269.6	273.0	279.4	285.8	292.2	298.6	303.0
125°	294.9	294.7	294.4	294.2	294.0	296.7	302.6	308.5	314.4	320.2	324.6
127.5°	319.6	319.7	319.8	319.8	319.9	322.1	326.6	331.0	335.4	339.8	344.0
130°	336.4	336.4	336.5	336.6	336.6	338.6	342.3	346.2	350.0	353.9	357.9
132.5°	354.3	354.3	354.3	354.3	354.3	355.7	358.7	361.6	364.7	367.6	371.5
135°	376.9	377.6	378.2	378.8	379.4	380.5	382.2	383.8	385.6	387.2	390.8
137.5°	402.7	402.8	402.8	402.8	402.9	403.4	404.5	405.4	406.4	407.4	410.5
140°	419.9	419.9	419.9	419.8	419.8	419.9	420.1	420.4	420.6	420.9	423.8
142.5°	434.8	434.9	435.2	435.3	435.5	435.5	435.2	434.9	434.7	434.5	437.2
145°	456.4	456.6	456.8	456.9	457.1	457.2	457.3	457.4	457.5	457.6	459.0
147.5°	478.0	478.3	478.5	478.8	479.0	479.1	479.0	478.9	478.9	478.8	478.9
150°	491.2	491.3	491.5	491.7	491.8	491.9	491.9	491.9	491.9	491.9	491.9
152.5°	502.8	502.9	503.1	503.3	503.5	503.7	503.7	503.8	503.9	504.0	504.2
155°	521.7	521.7	521.7	521.7	521.7	521.6	521.5	521.4	521.3	521.2	521.6
157.5°	537.8	537.6	537.5	537.2	537.0	536.9	536.9	536.9	536.8	536.8	537.1
160°	547.3	547.2	547.1	547.0	546.9	546.8	546.7	546.6	546.5	546.4	546.7
162.5°	556.1	555.8	555.5	555.3	555.0	554.8	554.7	554.6	554.5	554.4	555.0
165°	567.8	567.5	567.2	566.9	566.6	566.4	566.2	566.0	565.8	565.6	566.2
167.5°	576.9	576.5	576.1	575.7	575.2	575.0	575.0	575.1	575.1	575.1	575.7
170°	582.1	581.6	581.1	580.6	580.1	579.9	580.0	580.1	580.2	580.3	580.9
172.5°	585.7	585.3	584.9	584.5	584.0	583.8	583.8	583.9	583.9	583.9	584.6
175°	590.8	590.3	589.8	589.3	588.8	588.4	588.3	588.2	588.1	588.0	588.8
177.5°	592.4	592.0	591.6	591.2	590.8	590.6	590.6	590.6	590.6	590.6	591.2
180°	591.7	591.7	591.7	591.7	591.7	591.7	591.7	591.7	591.7	591.7	591.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	959.3	959.3	959.3	959.3	959.3	959.3	959.3	959.3
2.5°	955.8	957.3	958.6	959.2	959.0	958.8	958.6	958.4
5°	953.4	955.3	957.2	958.1	957.8	957.6	957.4	957.0
7.5°	948.3	950.4	952.6	953.5	953.3	953.0	952.8	952.6
10°	943.1	945.2	947.5	948.4	948.2	947.9	947.7	947.5
12.5°	935.8	937.9	939.8	940.7	940.7	940.6	940.6	940.5
15°	922.7	924.8	927.0	928.0	927.8	927.5	927.3	927.0
17.5°	906.7	908.9	911.1	912.1	911.9	911.7	911.5	911.3
20°	894.1	896.6	899.0	900.2	900.2	900.2	900.2	900.2
22.5°	879.6	881.9	884.3	885.8	886.2	886.5	886.9	887.3
25°	857.1	859.7	862.3	863.7	863.9	864.2	864.4	864.7
27.5°	831.7	834.1	836.7	838.0	838.3	838.6	838.9	839.1
30°	814.1	816.7	819.3	820.9	821.4	821.8	822.3	822.8
32.5°	796.0	799.0	801.9	803.8	804.2	804.7	805.2	805.7
35°	767.2	770.5	773.9	775.9	776.6	777.3	778.1	778.8
37.5°	737.2	740.6	744.0	746.1	746.8	747.6	748.3	749.1
40°	716.1	719.7	723.3	725.5	726.5	727.4	728.4	729.3
42.5°	695.4	699.3	703.3	705.7	706.4	707.2	708.0	708.7
45°	663.4	667.4	671.5	674.1	675.3	676.5	677.7	678.8
47.5°	629.4	633.7	637.9	640.7	642.2	643.6	645.0	646.4
50°	605.7	610.5	615.2	618.3	619.8	621.3	622.7	624.1
52.5°	581.7	586.4	591.2	594.3	595.7	597.1	598.5	600.1
55°	545.5	550.4	555.1	558.3	559.7	561.1	562.5	563.9
57.5°	507.7	513.3	519.0	522.5	523.8	525.1	526.5	527.9
60°	481.5	487.0	492.4	496.1	498.1	500.0	501.9	503.8
62.5°	455.7	461.2	466.7	470.4	472.3	474.2	476.1	478.0
65°	415.9	421.8	427.8	431.7	433.6	435.6	437.4	439.3
67.5°	376.7	382.7	388.8	392.7	394.7	396.5	398.4	400.2
70°	349.1	355.6	362.0	366.1	367.7	369.4	371.0	372.7
72.5°	323.0	329.2	335.5	339.5	341.3	343.3	345.1	347.0
75°	283.0	289.6	296.4	300.7	303.0	305.1	307.2	309.3
77.5°	245.8	252.6	259.3	263.9	266.2	268.4	270.7	273.1
80°	221.7	228.8	236.0	240.4	242.4	244.3	246.2	248.1
82.5°	197.9	205.3	212.7	217.4	219.4	221.6	223.7	225.8
85°	164.7	171.9	179.0	183.8	186.2	188.5	191.0	193.4
87.5°	138.8	145.8	152.9	157.4	159.6	161.8	163.9	166.0
90°	131.5	139.0	146.5	151.4	153.5	155.6	157.7	159.9
92.5°	133.5	140.6	147.7	152.3	154.3	156.3	158.3	160.4
95°	141.7	148.5	155.2	159.7	161.8	164.0	166.1	168.2
97.5°	155.0	161.7	168.2	172.6	174.7	176.7	178.7	180.9
100°	164.9	171.6	178.2	182.4	184.1	185.7	187.4	189.0
102.5°	175.8	182.4	188.8	193.1	195.1	197.0	198.9	200.9
105°	192.4	198.6	204.9	209.1	211.4	213.6	215.8	218.0
107.5°	211.5	217.6	223.8	227.6	229.3	231.1	232.8	234.5
110°	224.2	229.4	234.8	238.5	240.8	243.0	245.2	247.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	237.7	243.1	248.3	251.9	253.9	255.8	257.8	259.7
115°	259.4	264.6	269.7	273.1	274.6	276.2	277.7	279.3
117.5°	279.4	284.1	288.6	291.9	293.6	295.3	296.9	298.6
120°	293.1	297.4	301.6	304.8	306.9	309.0	311.1	313.3
122.5°	307.4	311.8	316.3	319.2	320.5	321.8	323.3	324.6
125°	328.9	333.2	337.5	340.3	341.5	342.7	344.0	345.3
127.5°	348.0	352.1	356.2	359.0	360.4	361.9	363.3	364.9
130°	362.0	366.2	370.2	372.7	373.9	374.9	375.9	376.9
132.5°	375.5	379.3	383.2	385.8	387.1	388.4	389.6	390.9
135°	394.5	398.1	401.6	404.0	405.2	406.3	407.4	408.5
137.5°	413.7	417.0	420.2	422.4	423.7	425.0	426.3	427.5
140°	426.9	429.9	432.8	434.9	436.0	437.1	438.2	439.3
142.5°	439.9	442.6	445.4	447.2	448.2	449.1	450.1	451.1
145°	460.3	461.6	462.9	463.9	464.5	465.2	465.9	466.6
147.5°	479.0	479.1	479.2	479.6	480.2	480.9	481.6	482.2
150°	491.9	491.9	491.9	491.9	491.8	491.7	491.6	491.5
152.5°	504.5	504.7	505.0	504.9	504.7	504.4	504.2	503.9
155°	522.0	522.4	522.8	522.8	522.4	522.0	521.6	521.2
157.5°	537.5	537.8	538.1	538.1	537.8	537.3	537.0	536.6
160°	547.0	547.3	547.6	547.5	547.0	546.5	545.9	545.4
162.5°	555.5	556.1	556.6	556.6	556.1	555.6	555.1	554.6
165°	566.8	567.4	568.0	568.2	567.7	567.3	566.9	566.5
167.5°	576.3	576.9	577.5	577.5	576.9	576.3	575.6	575.0
170°	581.5	582.1	582.7	582.6	581.9	581.2	580.5	579.8
172.5°	585.3	586.0	586.6	586.6	585.9	585.2	584.5	583.8
175°	589.5	590.2	590.9	590.9	590.2	589.5	588.8	588.0
177.5°	591.8	592.3	592.9	592.8	592.2	591.6	590.9	590.3
180°	591.7	591.7	591.7	591.7	591.7	591.7	591.7	591.7

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