

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: P333018-930

Luminaire Tested: **S124RDIW-S350D470U930-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P333018-930
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: S124RDIW-S350D470U930-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 470 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2491.2 lumens
Efficiency: N/A
Efficacy: 108.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: General Diffuse

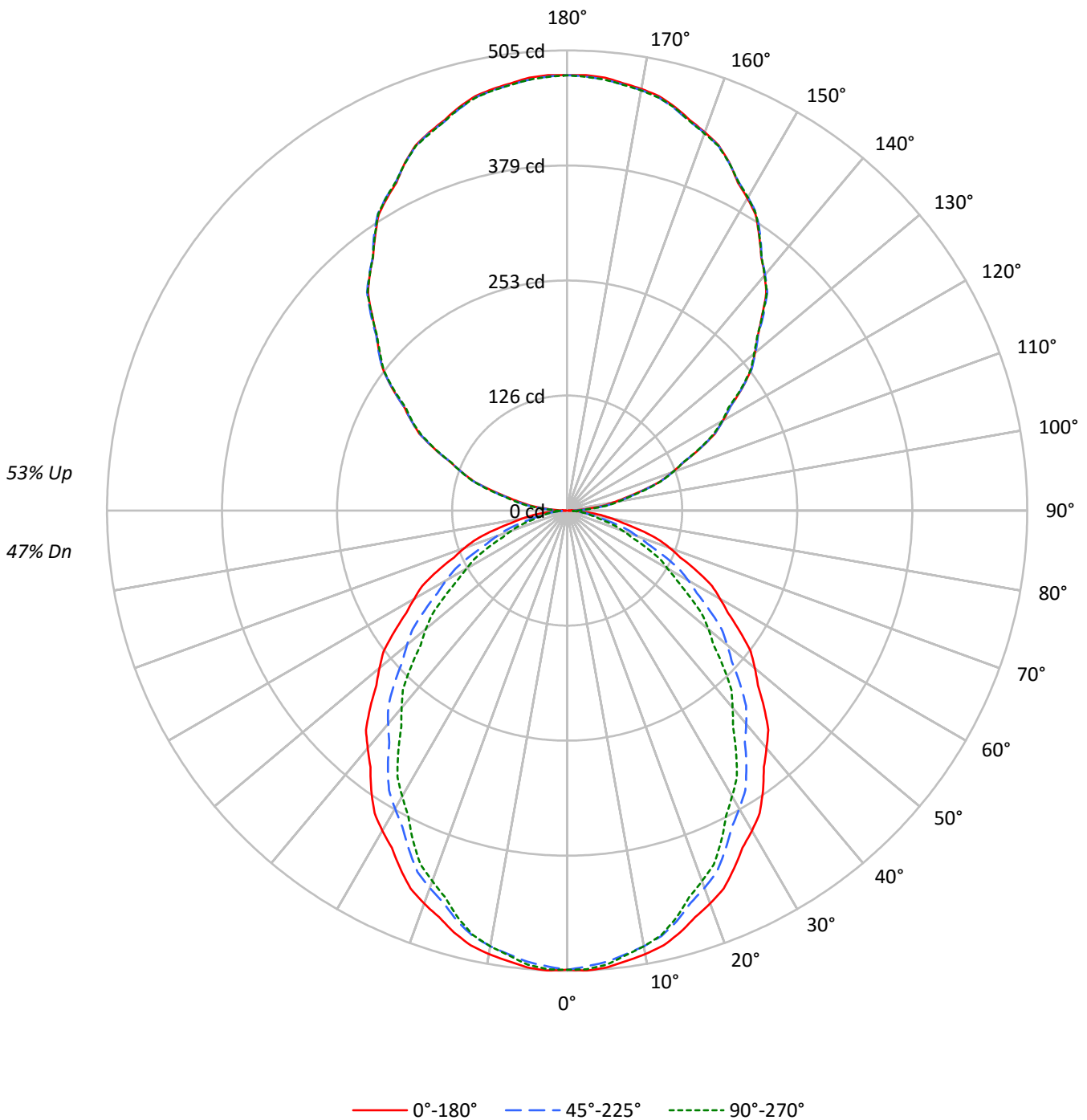
Input Watts (W): 23
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	106	106	106	106	98	98	98	98	82	82	82	67	67	67	53	53	53
1	97	93	89	86	89	86	82	80	72	70	67	59	58	56	47	46	45
2	89	82	76	71	81	75	70	66	63	59	56	52	50	47	42	40	39
3	81	72	65	59	74	66	60	55	56	51	48	46	43	40	37	35	33
4	74	64	56	50	68	59	52	47	50	45	41	41	38	35	34	31	29
5	68	57	49	43	63	53	46	40	45	39	35	37	33	30	30	27	25
6	63	51	43	37	58	47	40	35	40	35	31	34	30	26	28	25	22
7	58	46	38	33	53	43	36	31	37	31	27	31	27	23	25	22	20
8	54	42	34	29	50	39	32	27	33	28	24	28	24	21	23	20	18
9	50	38	31	26	46	36	29	25	31	25	22	26	22	19	21	18	16
10	47	35	28	23	43	33	26	22	28	23	20	24	20	17	20	17	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4069	4069	4069
5°	4078	4028	4053
10°	4052	3980	3980
15°	4006	3896	3867
20°	3942	3786	3716
25°	3861	3657	3564
30°	3781	3522	3375
35°	3693	3381	3183
40°	3587	3222	2977
45°	3490	3062	2767
50°	3378	2880	2545
55°	3258	2688	2303
60°	3127	2480	2055
65°	3007	2220	1813
70°	2832	1931	1539
75°	2611	1603	1251
80°	2278	1223	1148
85°	1936	1112	1037



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	47.3	1.9
10°-20°	132.0	5.3
20°-30°	190.6	7.7
30°-40°	216.1	8.7
40°-50°	208.7	8.4
50°-60°	173.5	7.0
60°-70°	119.8	4.8
70°-80°	60.7	2.4
80°-90°	17.0	0.7
90°-100°	31.5	1.3
100°-110°	93.3	3.7
110°-120°	158.4	6.4
120°-130°	208.9	8.4
130°-140°	234.6	9.4
140°-150°	230.5	9.3
150°-160°	193.9	7.8
160°-170°	129.0	5.2
170°-180°	45.2	1.8
0°-30°	370.0	14.9
0°-40°	586.1	23.5
0°-60°	968.3	38.9
0°-90°	1165.9	46.8
90°-120°	283.3	11.4
90°-150°	957.2	38.4
90°-180°	1325.0	53.2
0°-180°	2491.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	504	504	504	504	504	
5°	503	502	497	501	500	48
15°	479	475	466	465	463	135
25°	433	426	411	404	400	200
35°	375	362	343	330	323	234
45°	306	291	268	250	242	236
55°	232	216	191	172	164	207
65°	157	140	116	100	95	155
75°	84	69	51	43	40	88
85°	21	13	12	11	11	23
90°	1	5	8	10	11	2
95°	22	25	28	29	29	25
105°	86	86	88	89	90	91
115°	161	161	160	160	160	159
125°	235	235	234	234	233	209
135°	303	305	305	304	303	234
145°	368	369	369	369	368	230
155°	421	421	421	422	421	194
165°	458	457	457	459	457	129
175°	477	475	475	477	475	45
180°	478	478	478	478	478	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	504.0	504.0	504.0	504.0	504.0	504.0	504.0	504.0	504.0	504.0	504.0
2.5°	505.2	504.9	504.7	504.4	504.1	503.6	502.9	502.1	501.3	500.6	501.3
5°	503.2	502.9	502.6	502.2	501.8	501.2	500.1	499.1	498.1	497.1	497.9
7.5°	498.6	498.3	498.0	497.6	497.3	496.4	495.0	493.7	492.4	491.1	491.5
10°	494.3	493.9	493.5	493.1	492.6	491.6	490.1	488.5	487.0	485.5	485.8
12.5°	488.8	488.3	487.8	487.3	486.8	485.7	483.8	482.0	480.2	478.3	478.6
15°	479.3	478.5	477.8	477.0	476.2	474.7	472.6	470.4	468.3	466.2	466.0
17.5°	467.8	466.7	465.5	464.5	463.3	461.5	458.9	456.3	453.8	451.2	450.7
20°	458.9	457.7	456.6	455.5	454.4	452.4	449.5	446.5	443.6	440.7	440.0
22.5°	449.0	447.7	446.5	445.2	443.9	441.7	438.6	435.5	432.4	429.3	428.3
25°	433.4	431.9	430.3	428.8	427.2	424.7	421.2	417.7	414.1	410.6	409.1
27.5°	417.0	415.1	413.1	411.2	409.3	406.4	402.7	398.9	395.2	391.4	389.6
30°	405.6	403.4	401.3	399.2	397.1	394.0	389.9	385.9	381.8	377.8	375.7
32.5°	393.5	391.1	388.7	386.3	383.8	380.6	376.4	372.3	368.1	363.9	361.4
35°	374.7	371.9	369.2	366.5	363.7	360.2	356.0	351.6	347.4	343.1	340.1
37.5°	354.6	351.7	348.9	346.1	343.2	339.5	334.7	330.0	325.2	320.5	317.2
40°	340.4	337.5	334.7	331.9	329.1	325.2	320.3	315.4	310.5	305.7	302.1
42.5°	326.8	323.8	320.8	317.9	315.0	310.9	305.8	300.7	295.6	290.5	286.8
45°	305.7	302.5	299.3	296.1	292.9	288.8	283.6	278.5	273.4	268.2	264.0
47.5°	283.8	280.5	277.3	273.9	270.7	266.4	261.1	255.7	250.3	245.0	240.6
50°	269.0	265.6	262.3	258.9	255.6	251.2	245.7	240.2	234.7	229.3	224.9
52.5°	253.9	250.5	247.3	244.0	240.8	236.3	230.6	225.0	219.4	213.8	209.5
55°	231.5	228.1	224.7	221.3	217.8	213.3	207.7	202.2	196.6	191.0	186.5
57.5°	209.5	205.9	202.4	198.8	195.2	190.7	185.2	179.7	174.2	168.7	164.2
60°	193.7	190.3	186.9	183.4	180.0	175.5	170.1	164.5	159.1	153.6	149.1
62.5°	179.5	175.9	172.4	168.8	165.3	160.7	155.1	149.4	143.8	138.2	134.0
65°	157.4	153.8	150.1	146.4	142.7	138.1	132.6	127.1	121.6	116.2	112.5
67.5°	134.5	131.0	127.4	123.9	120.4	116.1	111.0	105.9	100.8	95.7	92.5
70°	120.0	116.4	112.8	109.3	105.6	101.3	96.4	91.6	86.7	81.8	79.0
72.5°	104.6	101.3	98.1	94.8	91.6	87.6	83.0	78.4	73.8	69.1	66.8
75°	83.7	80.6	77.4	74.2	71.0	67.4	63.4	59.4	55.4	51.4	49.3
77.5°	62.6	59.9	57.2	54.5	51.9	48.8	45.6	42.3	39.1	35.8	34.7
80°	49.0	46.6	44.0	41.6	39.1	36.5	34.0	31.4	28.8	26.3	26.0
82.5°	37.3	35.0	32.7	30.4	28.1	26.3	24.8	23.3	21.9	20.4	20.2
85°	20.9	19.2	17.4	15.7	13.9	13.0	12.7	12.5	12.2	12.0	11.8
87.5°	7.3	6.9	6.6	6.2	5.9	5.7	5.8	5.8	5.9	6.0	6.0
90°	1.1	2.0	2.9	3.8	4.7	5.5	6.2	6.8	7.5	8.2	8.6
92.5°	7.9	9.0	9.9	11.0	12.1	12.8	13.3	13.7	14.2	14.6	14.9
95°	22.2	22.9	23.6	24.4	25.1	25.8	26.3	26.9	27.5	28.0	28.3
97.5°	38.7	39.3	39.9	40.5	41.1	41.7	42.4	43.0	43.7	44.4	44.7
100°	51.7	52.0	52.3	52.7	53.1	53.6	54.3	55.0	55.8	56.5	56.7
102.5°	65.3	65.5	65.6	65.7	65.9	66.3	66.9	67.6	68.2	69.0	69.1
105°	86.1	86.2	86.3	86.3	86.4	86.6	86.9	87.2	87.6	87.9	88.1
107.5°	107.9	107.9	108.1	108.2	108.3	108.4	108.4	108.4	108.5	108.5	108.8
110°	122.6	122.8	122.9	123.1	123.3	123.4	123.3	123.2	123.1	123.0	122.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	138.0	138.0	138.1	138.1	138.2	138.1	137.9	137.8	137.6	137.5	137.5
115°	161.1	161.1	161.1	161.1	161.1	161.0	160.9	160.7	160.5	160.4	160.3
117.5°	182.8	182.9	183.0	183.0	183.0	183.0	183.0	182.8	182.7	182.5	182.3
120°	197.3	197.6	198.0	198.3	198.6	198.6	198.4	198.1	197.9	197.6	197.2
122.5°	212.4	212.5	212.6	212.7	212.9	212.9	212.8	212.6	212.5	212.5	212.1
125°	234.6	234.6	234.6	234.6	234.6	234.6	234.5	234.4	234.3	234.2	234.1
127.5°	254.8	255.0	255.3	255.5	255.8	255.8	255.7	255.5	255.4	255.3	255.1
130°	269.0	269.2	269.5	269.7	269.9	270.0	270.0	270.0	270.0	270.0	269.9
132.5°	283.4	283.6	283.8	284.0	284.1	284.2	284.1	284.1	284.1	284.0	283.8
135°	302.6	303.0	303.5	304.0	304.5	304.8	304.8	304.8	304.8	304.8	304.6
137.5°	323.4	323.7	323.8	324.1	324.3	324.5	324.7	324.8	324.9	325.1	324.8
140°	337.3	337.5	337.6	337.8	337.9	338.0	338.0	338.0	338.0	338.0	337.9
142.5°	350.0	350.2	350.3	350.5	350.7	350.7	350.7	350.6	350.5	350.4	350.4
145°	367.6	367.9	368.3	368.6	368.9	369.1	369.2	369.2	369.3	369.4	369.3
147.5°	385.1	385.4	385.8	386.2	386.6	386.8	386.7	386.6	386.6	386.5	386.5
150°	395.7	396.0	396.3	396.6	397.0	397.1	397.1	397.1	397.1	397.1	397.1
152.5°	405.7	405.9	406.1	406.3	406.5	406.7	406.7	406.8	406.8	406.9	407.1
155°	421.2	421.2	421.2	421.2	421.2	421.1	421.0	420.9	420.9	420.8	421.1
157.5°	434.1	434.0	433.9	433.7	433.6	433.5	433.5	433.5	433.4	433.4	433.7
160°	441.9	441.8	441.7	441.6	441.6	441.5	441.4	441.3	441.2	441.2	441.4
162.5°	449.0	448.7	448.5	448.3	448.1	447.9	447.8	447.8	447.7	447.6	448.1
165°	458.4	458.2	458.0	457.7	457.5	457.3	457.1	457.0	456.8	456.6	457.1
167.5°	465.8	465.5	465.1	464.8	464.4	464.2	464.2	464.3	464.3	464.3	464.8
170°	469.9	469.5	469.1	468.7	468.3	468.1	468.2	468.3	468.4	468.5	469.0
172.5°	472.9	472.5	472.2	471.9	471.5	471.3	471.3	471.4	471.4	471.4	472.0
175°	477.0	476.5	476.1	475.7	475.3	475.1	475.0	474.9	474.8	474.7	475.3
177.5°	478.3	477.9	477.6	477.3	477.0	476.8	476.8	476.8	476.8	476.8	477.3
180°	477.7	477.7	477.7	477.7	477.7	477.7	477.7	477.7	477.7	477.7	477.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	504.0	504.0	504.0	504.0	504.0	504.0	504.0	504.0
2.5°	502.1	502.9	503.6	503.9	503.9	503.9	503.8	503.7
5°	498.8	499.6	500.5	500.8	500.7	500.5	500.3	500.1
7.5°	492.1	492.7	493.3	493.3	493.1	492.8	492.5	492.3
10°	486.2	486.5	486.8	486.8	486.5	486.2	485.8	485.5
12.5°	478.7	479.0	479.2	479.1	478.6	478.1	477.6	477.1
15°	465.9	465.7	465.5	465.1	464.5	463.9	463.3	462.7
17.5°	450.2	449.8	449.3	448.6	447.7	446.8	445.9	445.0
20°	439.4	438.6	438.0	437.1	435.9	434.8	433.7	432.6
22.5°	427.2	426.2	425.2	424.2	423.3	422.4	421.5	420.5
25°	407.6	406.3	404.8	403.7	402.8	401.9	401.0	400.1
27.5°	387.8	386.0	384.2	382.7	381.4	380.2	379.0	377.7
30°	373.5	371.4	369.2	367.5	366.1	364.8	363.4	362.0
32.5°	359.0	356.4	354.0	352.0	350.7	349.4	348.1	346.8
35°	337.2	334.4	331.4	329.2	327.7	326.1	324.6	323.0
37.5°	314.0	310.7	307.4	305.0	303.5	301.9	300.4	298.8
40°	298.4	294.8	291.2	288.7	287.1	285.6	284.1	282.5
42.5°	283.2	279.5	275.8	273.2	271.6	269.9	268.3	266.8
45°	259.8	255.6	251.4	248.5	247.0	245.4	243.9	242.4
47.5°	236.3	231.9	227.6	224.5	222.8	221.1	219.4	217.8
50°	220.6	216.4	212.1	209.1	207.5	205.9	204.2	202.6
52.5°	205.0	200.7	196.4	193.3	191.7	190.0	188.3	186.5
55°	182.1	177.7	173.2	170.2	168.5	166.9	165.3	163.6
57.5°	159.6	155.2	150.6	147.7	146.5	145.3	144.0	142.8
60°	144.6	140.2	135.7	132.8	131.4	130.1	128.7	127.3
62.5°	130.0	125.8	121.7	119.1	118.0	116.9	115.8	114.7
65°	108.8	105.1	101.4	99.1	98.0	97.0	96.0	94.9
67.5°	89.4	86.2	83.0	80.9	79.7	78.6	77.5	76.3
70°	76.1	73.3	70.5	68.6	67.8	66.9	66.0	65.2
72.5°	64.3	61.9	59.5	57.9	57.1	56.3	55.5	54.7
75°	47.4	45.4	43.5	42.2	41.7	41.2	40.7	40.1
77.5°	33.5	32.4	31.2	30.6	30.4	30.2	30.1	29.9
80°	25.8	25.4	25.2	25.0	24.9	24.9	24.8	24.7
82.5°	20.0	19.8	19.6	19.5	19.4	19.3	19.2	19.2
85°	11.7	11.4	11.3	11.2	11.2	11.2	11.2	11.2
87.5°	6.0	6.0	6.0	6.1	6.2	6.4	6.4	6.5
90°	9.1	9.6	10.1	10.4	10.6	10.8	10.9	11.1
92.5°	15.2	15.5	15.8	16.0	16.1	16.2	16.3	16.4
95°	28.5	28.8	29.0	29.2	29.2	29.2	29.2	29.2
97.5°	45.0	45.3	45.6	45.7	45.7	45.7	45.7	45.7
100°	56.8	57.0	57.2	57.2	57.2	57.2	57.2	57.2
102.5°	69.4	69.6	69.9	70.0	70.0	70.1	70.2	70.3
105°	88.5	88.7	88.9	89.2	89.4	89.7	89.9	90.2
107.5°	109.0	109.3	109.5	109.6	109.6	109.6	109.5	109.5
110°	122.7	122.5	122.4	122.4	122.6	122.9	123.1	123.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	137.5	137.4	137.4	137.4	137.5	137.5	137.5	137.5
115°	160.2	160.1	160.0	160.0	159.9	159.8	159.7	159.6
117.5°	182.1	181.7	181.5	181.2	181.1	180.9	180.8	180.6
120°	196.8	196.4	196.0	195.9	196.1	196.2	196.4	196.6
122.5°	211.9	211.6	211.3	211.0	210.8	210.4	210.1	209.9
125°	233.9	233.7	233.6	233.4	233.3	233.1	232.9	232.8
127.5°	254.9	254.8	254.6	254.5	254.4	254.2	254.1	254.0
130°	269.7	269.5	269.4	269.1	268.8	268.5	268.2	267.8
132.5°	283.6	283.5	283.3	283.2	283.0	282.9	282.7	282.7
135°	304.4	304.3	304.1	303.9	303.7	303.5	303.2	303.0
137.5°	324.6	324.4	324.2	324.1	324.2	324.2	324.2	324.3
140°	337.9	337.8	337.7	337.6	337.5	337.5	337.4	337.3
142.5°	350.4	350.4	350.4	350.3	350.3	350.3	350.3	350.3
145°	369.2	369.2	369.1	368.9	368.7	368.4	368.2	367.9
147.5°	386.4	386.3	386.3	386.2	386.1	386.0	386.0	385.9
150°	397.1	397.1	397.1	397.1	397.1	397.0	396.9	396.8
152.5°	407.3	407.5	407.7	407.6	407.5	407.2	407.1	406.8
155°	421.4	421.8	422.1	422.1	421.8	421.4	421.1	420.8
157.5°	433.9	434.1	434.4	434.4	434.1	433.8	433.6	433.3
160°	441.6	441.9	442.1	442.1	441.6	441.2	440.8	440.3
162.5°	448.5	449.0	449.4	449.4	449.0	448.6	448.2	447.8
165°	457.6	458.1	458.6	458.7	458.4	458.0	457.7	457.4
167.5°	465.3	465.8	466.3	466.3	465.8	465.3	464.7	464.2
170°	469.4	469.9	470.4	470.3	469.8	469.2	468.6	468.1
172.5°	472.5	473.1	473.6	473.6	473.0	472.5	471.9	471.3
175°	475.9	476.5	477.0	477.0	476.5	475.9	475.3	474.7
177.5°	477.8	478.2	478.7	478.6	478.1	477.6	477.0	476.5
180°	477.7	477.7	477.7	477.7	477.7	477.7	477.7	477.7

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