

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: P332496-930

Luminaire Tested: **S124DIP-S350D365U930-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332496-930
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIP-S350D365U930-4F0-1E-UDD-F
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 365 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2428.7 lumens
Efficiency: N/A
Efficacy: 119.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: General Diffuse

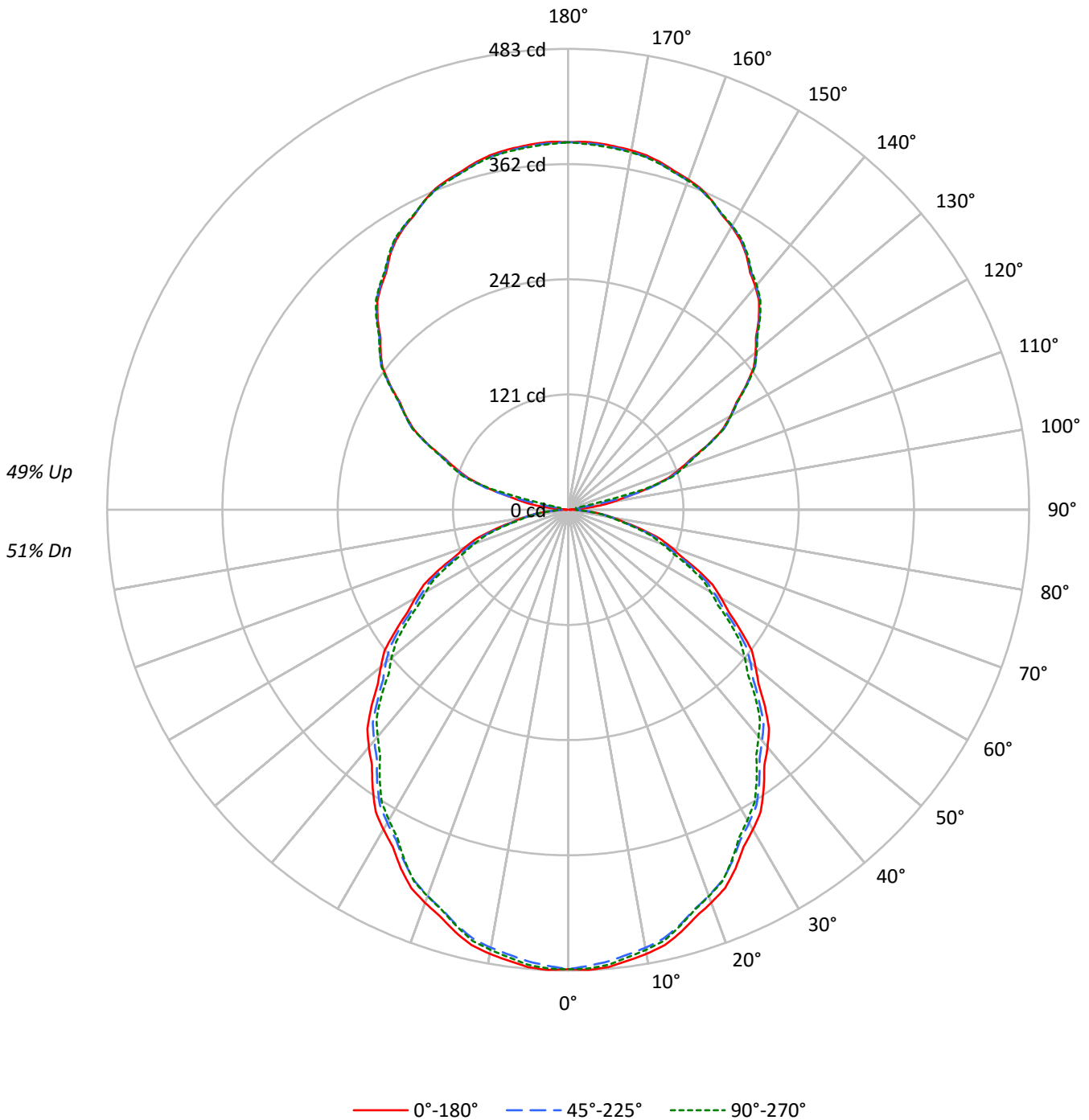
Input Watts (W): 20.3
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20										
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	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						51														
1	98	94	90	86	90	87	83	80	73	71	69	61	60	58	50	49	48	43						43														
2	89	82	76	70	82	76	70	66	64	60	57	54	51	48	44	42	40	36						36														
3	81	72	64	59	75	67	60	55	57	52	48	48	44	41	39	37	34	30						30														
4	74	64	56	50	68	59	52	47	50	45	41	42	38	35	35	32	30	26						26														
5	68	57	48	42	63	53	45	40	45	39	35	38	34	30	32	28	26	23						23														
6	63	51	43	37	58	47	40	35	41	35	31	34	30	27	29	25	23	20						20														
7	58	46	38	32	54	43	36	31	37	31	27	31	27	24	26	23	20	18						18														
8	54	42	34	29	50	39	32	27	34	28	24	29	24	21	24	21	18	16						16														
9	50	38	31	25	46	36	29	24	31	25	22	26	22	19	22	19	16	14						14														
10	47	35	28	23	43	33	26	22	28	23	19	24	20	17	21	17	15	13						13														

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3888	3888	3888
5°	3900	3853	3881
10°	3875	3822	3841
15°	3828	3768	3777
20°	3766	3699	3703
25°	3695	3624	3613
30°	3608	3533	3500
35°	3517	3438	3392
40°	3424	3331	3270
45°	3327	3225	3164
50°	3218	3131	3034
55°	3102	3009	2911
60°	2984	2872	2785
65°	2854	2743	2632
70°	2705	2568	2469
75°	2480	2361	2299
80°	2208	2120	2064
85°	1936	1862	1815



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	45.4	1.9
10°-20°	127.8	5.3
20°-30°	188.1	7.7
30°-40°	218.7	9.0
40°-50°	218.7	9.0
50°-60°	191.3	7.9
60°-70°	142.1	5.8
70°-80°	80.7	3.3
80°-90°	24.4	1.0
90°-100°	13.2	0.5
100°-110°	84.0	3.5
110°-120°	160.7	6.6
120°-130°	204.0	8.4
130°-140°	218.3	9.0
140°-150°	204.1	8.4
150°-160°	164.6	6.8
160°-170°	106.2	4.4
170°-180°	36.6	1.5
0°-30°	361.2	14.9
0°-40°	579.9	23.9
0°-60°	989.8	40.8
0°-90°	1237.0	50.9
90°-120°	257.9	10.6
90°-150°	884.3	36.4
90°-180°	1192.0	49.1
0°-180°	2428.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	482	482	482	482	482	
5°	481	480	475	479	479	46
15°	458	456	451	453	452	129
25°	415	412	407	407	406	191
35°	357	354	349	346	344	223
45°	291	288	282	278	277	225
55°	220	219	214	209	207	197
65°	149	147	144	140	138	148
75°	80	78	76	74	74	84
85°	21	21	20	20	20	23
90°	1	4	6	8	9	2
95°	16	7	6	8	8	20
105°	87	88	90	92	82	91
115°	162	163	162	163	163	159
125°	228	229	228	229	229	203
135°	282	282	283	284	284	217
145°	326	326	326	327	327	203
155°	357	357	356	357	357	165
165°	377	375	375	377	375	106
175°	385	384	384	386	383	37
180°	385	385	385	385	385	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	481.6	481.6	481.6	481.6	481.6	481.6	481.6	481.6	481.6	481.6	481.6
2.5°	482.8	482.7	482.4	482.2	482.0	481.5	480.8	480.0	479.3	478.5	479.2
5°	481.2	480.9	480.5	480.2	479.9	479.2	478.3	477.4	476.4	475.4	476.4
7.5°	476.8	476.4	476.1	475.7	475.4	474.7	473.6	472.6	471.6	470.5	471.2
10°	472.7	472.4	472.1	471.7	471.4	470.7	469.5	468.4	467.3	466.2	466.8
12.5°	467.5	467.2	466.8	466.4	466.1	465.4	464.1	463.0	461.8	460.6	461.4
15°	458.0	457.7	457.4	457.1	456.7	455.9	454.6	453.3	452.0	450.8	451.3
17.5°	446.7	446.3	445.9	445.5	445.0	444.2	443.0	441.7	440.5	439.3	439.6
20°	438.4	438.0	437.6	437.1	436.7	435.9	434.6	433.3	431.9	430.6	431.0
22.5°	429.4	428.8	428.3	427.7	427.1	426.2	424.9	423.7	422.4	421.1	421.6
25°	414.8	414.3	413.7	413.0	412.5	411.6	410.3	409.1	408.0	406.8	406.8
27.5°	398.2	397.5	397.0	396.3	395.7	394.8	393.7	392.6	391.5	390.4	390.2
30°	387.1	386.4	385.7	385.0	384.3	383.4	382.3	381.2	380.1	379.0	378.6
32.5°	375.4	374.7	374.1	373.5	372.8	371.9	370.8	369.6	368.4	367.2	366.8
35°	356.9	356.4	355.8	355.1	354.6	353.7	352.5	351.2	350.1	348.9	348.3
37.5°	337.6	337.0	336.5	336.0	335.4	334.5	333.2	331.9	330.6	329.3	328.6
40°	324.9	324.2	323.6	322.9	322.2	321.2	319.9	318.6	317.3	316.1	315.2
42.5°	311.4	311.0	310.5	310.1	309.7	308.8	307.4	305.9	304.5	303.1	302.1
45°	291.4	290.7	290.2	289.6	288.9	288.0	286.6	285.2	283.9	282.5	281.5
47.5°	270.4	270.0	269.6	269.2	268.8	268.0	266.7	265.4	264.2	262.9	261.8
50°	256.2	255.9	255.6	255.2	254.9	254.1	252.9	251.7	250.5	249.3	248.1
52.5°	242.4	241.9	241.5	241.1	240.7	239.9	238.6	237.3	236.0	234.8	233.7
55°	220.4	220.1	219.8	219.6	219.3	218.6	217.4	216.2	215.0	213.8	212.8
57.5°	199.3	199.1	198.8	198.5	198.2	197.5	196.2	195.1	193.9	192.7	191.8
60°	184.8	184.4	184.0	183.5	183.1	182.4	181.2	180.1	179.0	177.9	177.2
62.5°	170.6	170.3	169.9	169.6	169.2	168.4	167.2	166.1	164.9	163.7	163.0
65°	149.4	149.0	148.5	148.1	147.7	147.0	146.1	145.3	144.4	143.6	142.7
67.5°	127.9	127.5	127.1	126.7	126.3	125.7	124.9	124.1	123.3	122.4	121.6
70°	114.6	114.0	113.4	112.8	112.2	111.5	110.9	110.2	109.5	108.8	108.1
72.5°	100.4	99.8	99.2	98.7	98.0	97.4	96.9	96.4	95.8	95.2	94.7
75°	79.5	79.1	78.7	78.2	77.8	77.4	77.0	76.5	76.1	75.7	75.3
77.5°	59.5	59.4	59.1	58.9	58.8	58.5	58.1	57.7	57.3	57.0	56.8
80°	47.5	47.2	47.0	46.7	46.5	46.2	46.1	45.9	45.7	45.6	45.3
82.5°	35.7	35.6	35.5	35.4	35.2	35.1	35.1	35.1	35.1	35.1	35.0
85°	20.9	20.9	20.9	20.9	20.9	20.8	20.5	20.4	20.2	20.1	20.1
87.5°	8.2	8.2	8.3	8.4	8.5	8.6	8.6	8.6	8.6	8.6	8.7
90°	0.9	1.5	2.3	3.0	3.7	4.3	4.8	5.3	5.8	6.4	6.7
92.5°	3.7	3.7	3.7	3.8	3.8	4.1	4.6	5.1	5.6	6.1	6.5
95°	15.8	13.7	11.5	9.3	7.2	6.1	6.1	6.2	6.3	6.4	6.7
97.5°	33.7	35.0	36.4	37.7	39.1	36.2	29.0	21.9	14.8	7.6	7.7
100°	47.3	48.4	49.6	50.7	51.9	48.0	39.2	30.3	21.5	12.7	11.6
102.5°	62.5	63.3	64.2	65.0	65.9	65.7	64.6	63.4	62.2	61.1	49.3
105°	86.7	87.1	87.5	87.9	88.3	88.6	88.9	89.3	89.6	89.9	90.5
107.5°	109.3	109.4	109.7	109.8	110.1	110.3	110.8	111.2	111.6	112.1	112.3
110°	124.5	124.7	124.8	125.1	125.2	125.6	125.9	126.3	126.7	127.1	127.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	139.3	139.6	139.9	140.2	140.6	140.9	141.0	141.2	141.4	141.6	141.5
115°	161.9	162.2	162.3	162.5	162.7	162.7	162.7	162.7	162.6	162.5	162.7
117.5°	182.4	182.6	182.9	183.2	183.4	183.6	183.8	183.9	184.0	184.2	184.2
120°	196.2	196.5	196.7	197.0	197.2	197.3	197.3	197.2	197.1	197.1	197.2
122.5°	209.1	209.3	209.5	209.6	209.8	209.9	209.9	210.0	210.1	210.3	210.3
125°	227.6	227.9	228.1	228.4	228.7	228.7	228.6	228.4	228.4	228.2	228.4
127.5°	245.2	245.2	245.2	245.3	245.4	245.6	245.9	246.1	246.5	246.8	246.7
130°	256.4	256.5	256.6	256.7	256.7	256.8	257.0	257.2	257.4	257.6	257.6
132.5°	266.8	266.9	267.0	267.2	267.3	267.4	267.7	267.9	268.2	268.4	268.5
135°	282.3	282.3	282.3	282.2	282.1	282.2	282.5	282.7	283.0	283.2	283.4
137.5°	296.1	296.2	296.2	296.2	296.3	296.4	296.7	296.9	297.3	297.5	297.7
140°	305.2	305.2	305.4	305.5	305.7	305.7	305.9	306.1	306.1	306.3	306.5
142.5°	313.2	313.4	313.6	313.9	314.1	314.3	314.4	314.5	314.5	314.6	314.7
145°	325.6	325.8	326.0	326.2	326.4	326.4	326.4	326.4	326.4	326.4	326.5
147.5°	335.4	335.8	336.1	336.6	336.9	337.0	337.0	336.9	336.8	336.8	336.8
150°	342.6	342.8	343.1	343.4	343.6	343.7	343.6	343.6	343.5	343.5	343.5
152.5°	348.6	348.8	349.0	349.2	349.4	349.4	349.4	349.2	349.1	349.0	349.1
155°	357.0	357.1	357.1	357.2	357.3	357.2	357.0	356.8	356.6	356.4	356.7
157.5°	364.1	364.0	364.0	363.9	363.9	363.8	363.6	363.4	363.1	363.0	363.3
160°	368.3	368.0	367.9	367.7	367.5	367.4	367.3	367.2	367.1	367.0	367.5
162.5°	371.9	371.7	371.5	371.2	371.0	370.8	370.7	370.6	370.6	370.6	371.0
165°	376.6	376.3	375.9	375.6	375.3	375.1	375.1	375.1	375.1	375.1	375.7
167.5°	380.3	379.9	379.6	379.3	379.0	378.8	378.7	378.7	378.6	378.6	379.2
170°	382.4	382.0	381.6	381.2	380.8	380.7	380.7	380.8	380.8	380.9	381.4
172.5°	383.8	383.4	382.9	382.6	382.2	382.0	382.1	382.2	382.2	382.3	382.8
175°	385.2	384.8	384.5	384.1	383.7	383.5	383.6	383.7	383.8	383.8	384.4
177.5°	386.0	385.6	385.2	384.8	384.5	384.3	384.5	384.6	384.7	384.7	385.2
180°	385.2	385.2	385.2	385.2	385.2	385.2	385.2	385.2	385.2	385.2	385.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	481.6	481.6	481.6	481.6	481.6	481.6	481.6	481.6
2.5°	479.9	480.6	481.3	481.6	481.5	481.4	481.4	481.3
5°	477.4	478.3	479.2	479.6	479.4	479.2	479.1	478.9
7.5°	472.0	472.8	473.5	473.9	473.8	473.6	473.5	473.4
10°	467.6	468.2	469.0	469.2	469.0	468.8	468.6	468.5
12.5°	462.1	462.8	463.7	463.9	463.7	463.4	463.2	462.9
15°	451.8	452.2	452.8	452.9	452.7	452.4	452.2	451.9
17.5°	439.9	440.3	440.6	440.7	440.5	440.3	440.2	440.0
20°	431.2	431.5	431.7	431.8	431.5	431.4	431.2	431.0
22.5°	422.0	422.5	423.0	423.1	422.7	422.4	422.1	421.8
25°	406.9	407.0	407.1	407.0	406.6	406.3	405.9	405.6
27.5°	390.0	389.8	389.6	389.2	388.8	388.4	387.9	387.5
30°	378.3	378.0	377.6	377.2	376.7	376.3	375.9	375.5
32.5°	366.4	366.0	365.6	365.2	364.8	364.3	363.9	363.5
35°	347.6	347.1	346.4	345.9	345.5	345.1	344.6	344.2
37.5°	328.0	327.3	326.7	326.1	325.5	325.0	324.4	323.8
40°	314.4	313.5	312.7	312.0	311.5	311.1	310.7	310.3
42.5°	301.1	300.1	299.1	298.5	298.2	297.9	297.6	297.3
45°	280.6	279.6	278.8	278.1	277.9	277.6	277.4	277.1
47.5°	260.7	259.7	258.6	257.8	257.1	256.5	255.8	255.2
50°	246.9	245.7	244.5	243.6	243.1	242.6	242.1	241.6
52.5°	232.7	231.6	230.6	229.7	229.0	228.4	227.7	227.1
55°	211.7	210.7	209.7	208.9	208.4	207.9	207.3	206.8
57.5°	190.8	189.8	188.8	188.1	187.6	187.1	186.6	186.1
60°	176.3	175.6	174.8	174.2	173.8	173.3	172.9	172.5
62.5°	162.3	161.6	160.9	160.3	159.9	159.5	159.1	158.6
65°	141.9	141.0	140.1	139.5	139.1	138.6	138.2	137.8
67.5°	120.7	119.9	119.1	118.6	118.5	118.4	118.3	118.1
70°	107.5	106.8	106.1	105.6	105.3	105.1	104.8	104.6
72.5°	94.2	93.6	93.0	92.6	92.4	92.1	91.9	91.6
75°	74.9	74.6	74.3	74.0	73.9	73.9	73.8	73.7
77.5°	56.7	56.7	56.6	56.4	56.2	55.9	55.7	55.5
80°	45.2	45.0	44.8	44.8	44.6	44.5	44.4	44.4
82.5°	34.8	34.7	34.7	34.6	34.5	34.3	34.2	34.2
85°	20.1	20.1	20.1	20.1	20.0	19.9	19.7	19.6
87.5°	8.8	8.9	9.0	9.0	9.0	9.0	9.1	9.1
90°	7.1	7.5	7.9	8.2	8.2	8.4	8.5	8.6
92.5°	6.8	7.3	7.7	7.8	7.9	7.9	7.9	8.0
95°	7.1	7.5	7.9	8.1	8.2	8.2	8.3	8.3
97.5°	7.7	7.7	7.7	7.8	7.9	7.9	8.0	8.1
100°	10.5	9.4	8.3	7.8	7.9	7.9	8.0	8.1
102.5°	37.6	25.8	14.1	8.2	8.2	8.2	8.3	8.3
105°	91.1	91.6	92.2	91.3	89.0	86.7	84.4	82.1
107.5°	112.7	112.9	113.2	113.5	113.7	114.0	114.2	114.5
110°	127.3	127.4	127.6	127.8	127.9	128.2	128.3	128.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	141.5	141.5	141.5	141.6	141.9	142.1	142.4	142.6
115°	162.7	162.9	163.1	163.1	163.1	163.1	163.1	163.1
117.5°	184.1	184.1	184.1	184.0	184.0	184.0	184.0	183.9
120°	197.3	197.5	197.6	197.6	197.5	197.3	197.2	197.1
122.5°	210.3	210.4	210.5	210.5	210.3	210.3	210.1	210.0
125°	228.6	228.8	228.9	229.1	229.2	229.3	229.3	229.3
127.5°	246.7	246.6	246.6	246.5	246.5	246.5	246.4	246.4
130°	257.7	257.8	257.9	257.9	257.9	257.9	257.9	257.9
132.5°	268.6	268.6	268.7	268.7	268.6	268.6	268.6	268.5
135°	283.5	283.6	283.7	283.9	284.0	284.1	284.3	284.4
137.5°	297.8	298.0	298.1	298.2	298.1	298.1	298.0	298.0
140°	306.6	306.9	307.0	307.2	307.3	307.3	307.4	307.4
142.5°	314.9	315.0	315.1	315.2	315.3	315.3	315.3	315.3
145°	326.6	326.7	326.7	326.8	326.9	327.1	327.2	327.3
147.5°	336.9	337.0	337.0	337.0	337.1	337.1	337.2	337.3
150°	343.5	343.5	343.5	343.5	343.6	343.6	343.6	343.7
152.5°	349.2	349.3	349.4	349.4	349.4	349.4	349.4	349.3
155°	356.9	357.2	357.4	357.5	357.3	357.1	356.9	356.7
157.5°	363.6	363.9	364.3	364.3	363.9	363.6	363.3	363.0
160°	367.9	368.3	368.6	368.6	368.3	367.9	367.5	367.0
162.5°	371.3	371.7	372.1	372.0	371.6	371.2	370.7	370.3
165°	376.2	376.7	377.2	377.2	376.6	376.0	375.4	374.9
167.5°	379.8	380.3	380.8	380.8	380.2	379.5	378.9	378.3
170°	382.0	382.5	382.9	382.9	382.3	381.6	381.0	380.3
172.5°	383.4	383.8	384.3	384.3	383.6	382.9	382.2	381.5
175°	385.0	385.6	386.1	386.0	385.2	384.5	383.7	382.9
177.5°	385.6	386.0	386.5	386.3	385.7	385.1	384.5	383.8
180°	385.2	385.2	385.2	385.2	385.2	385.2	385.2	385.2

(END OF REPORT)