

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: P332725-930

Luminaire Tested: **S124DIW-S350D770U930-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332725-930
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: S124DIW-S350D770U930-4F0-1E-UDD-F
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 770 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3741.1 lumens
Efficiency: N/A
Efficacy: 123.1 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: Semi-Indirect

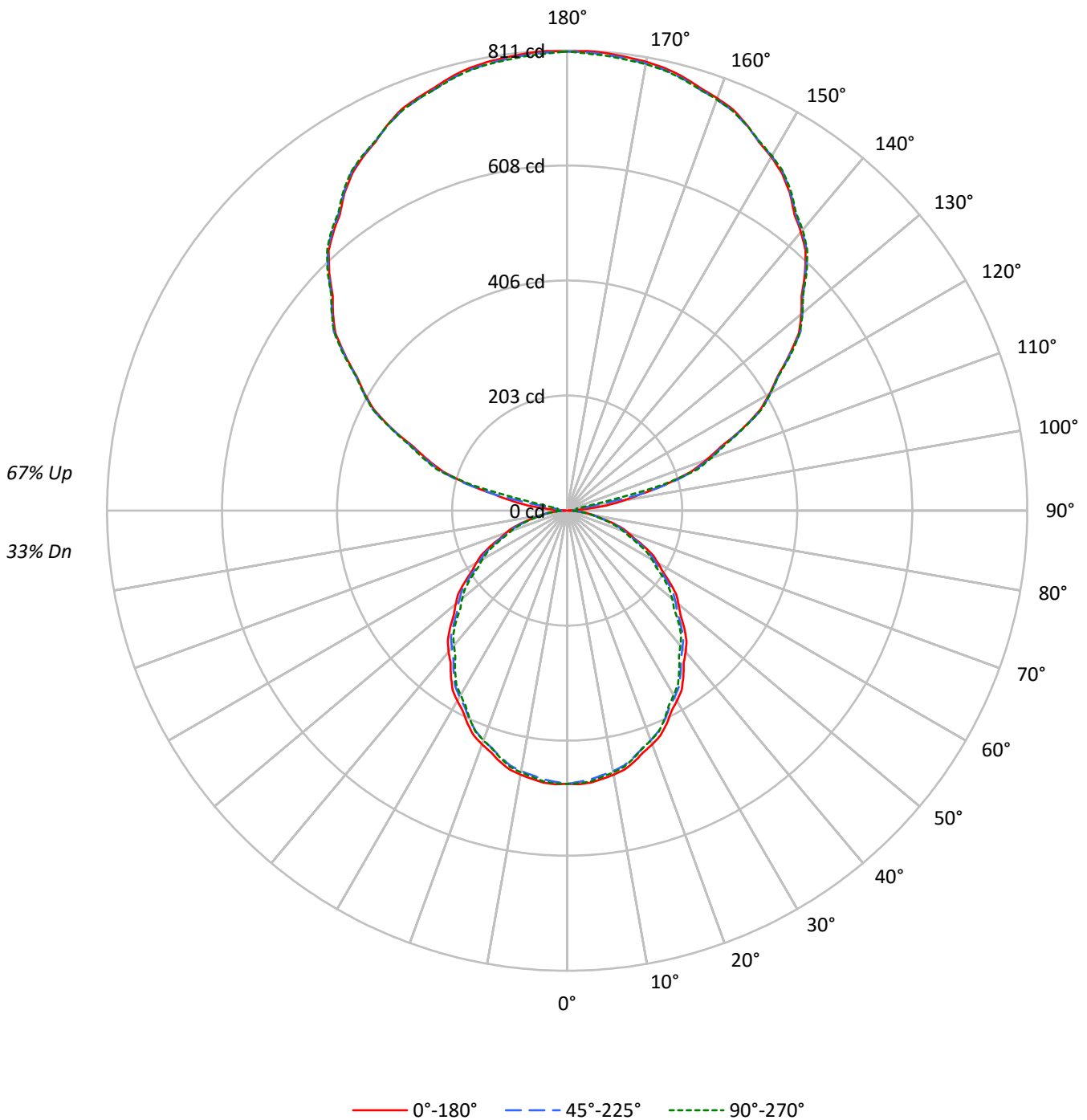
Input Watts (W): 30.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	103	103	103	103	93	93	93	93	74	74	74	57	57	57	41	41	41	33
1	94	90	86	82	85	81	78	75	65	62	60	50	48	47	36	35	34	28
2	86	78	72	67	77	71	66	61	57	53	50	44	41	39	31	30	29	23
3	78	69	62	56	70	62	56	51	50	46	42	38	36	33	28	26	24	20
4	71	61	53	47	64	55	48	43	44	39	36	34	31	28	25	23	21	17
5	65	54	46	40	59	49	42	37	40	34	31	31	27	24	22	20	18	15
6	60	48	40	35	54	44	37	32	36	30	27	28	24	21	20	18	16	13
7	55	44	36	30	50	40	33	28	32	27	23	25	21	19	19	16	14	11
8	51	39	32	27	46	36	29	25	29	24	21	23	19	17	17	15	13	10
9	48	36	29	24	43	33	26	22	27	22	18	21	17	15	16	13	12	9
10	45	33	26	21	40	30	24	20	25	20	16	19	16	13	15	12	10	8

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	1.2
10°-20°	127.8	3.4
20°-30°	188.1	5.0
30°-40°	218.7	5.8
40°-50°	218.7	5.8
50°-60°	191.3	5.1
60°-70°	142.1	3.8
70°-80°	80.7	2.2
80°-90°	25.6	0.7
90°-100°	27.7	0.7
100°-110°	176.5	4.7
110°-120°	337.5	9.0
120°-130°	428.5	11.5
130°-140°	458.5	12.3
140°-150°	428.7	11.5
150°-160°	345.7	9.2
160°-170°	223.0	6.0
170°-180°	76.9	2.1
0°-30°	361.2	9.7
0°-40°	579.9	15.5
0°-60°	989.8	26.5
0°-90°	1238.2	33.1
90°-120°	541.7	14.5
90°-150°	1857.3	49.6
90°-180°	2503.0	66.9
0°-180°	3741.1	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°	2	8	13	17	18	3
95°	33	14	13	17	18	43
105°	182	186	189	193	172	191
115°	340	342	341	342	342	335
125°	478	480	479	481	482	427
135°	593	593	595	596	597	457
145°	684	686	686	686	688	427
155°	750	750	749	751	749	346
165°	791	788	788	792	787	223
175°	809	806	806	811	804	77
180°	809	809	809	809	809	



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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°	8.4	8.6	8.8	9.0	9.3	9.5	9.6	9.8	9.9	10.1	10.3
90°	1.8	3.3	4.8	6.3	7.7	9.0	10.1	11.2	12.2	13.3	14.1
92.5°	7.7	7.7	7.8	7.8	7.9	8.6	9.6	10.7	11.7	12.8	13.6
95°	33.3	28.7	24.1	19.6	15.0	12.8	12.9	13.0	13.2	13.3	14.1
97.5°	70.7	73.5	76.4	79.2	82.1	76.0	61.0	46.0	31.0	16.0	16.1
100°	99.2	101.7	104.1	106.5	108.9	100.9	82.3	63.8	45.2	26.7	24.4
102.5°	131.2	133.0	134.8	136.6	138.3	137.9	135.6	133.1	130.7	128.3	103.6
105°	182.1	183.0	183.8	184.6	185.4	186.1	186.8	187.4	188.2	188.8	190.0
107.5°	229.5	229.9	230.3	230.7	231.1	231.8	232.7	233.6	234.5	235.4	236.0
110°	261.5	261.9	262.3	262.7	263.0	263.7	264.5	265.3	266.1	266.8	267.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	292.4	293.2	293.9	294.6	295.3	295.9	296.3	296.6	297.0	297.4	297.3
115°	340.1	340.6	341.0	341.3	341.7	341.9	341.7	341.6	341.4	341.3	341.6
117.5°	383.1	383.6	384.2	384.7	385.2	385.6	386.0	386.2	386.5	386.9	386.8
120°	412.1	412.7	413.2	413.8	414.3	414.5	414.3	414.3	414.1	413.9	414.3
122.5°	439.3	439.5	439.9	440.2	440.5	440.8	441.0	441.2	441.3	441.6	441.7
125°	478.1	478.7	479.2	479.7	480.2	480.4	480.1	479.9	479.6	479.3	479.7
127.5°	514.9	515.0	515.2	515.3	515.4	515.8	516.4	517.1	517.6	518.3	518.2
130°	538.6	538.7	538.9	539.0	539.2	539.4	539.8	540.2	540.6	541.0	541.2
132.5°	560.4	560.7	560.9	561.1	561.3	561.7	562.2	562.8	563.3	563.8	563.9
135°	593.0	593.0	592.8	592.6	592.6	592.7	593.3	593.8	594.4	594.9	595.2
137.5°	622.0	622.1	622.2	622.2	622.2	622.6	623.1	623.7	624.4	624.9	625.2
140°	640.9	641.2	641.4	641.7	642.0	642.2	642.5	642.8	643.0	643.4	643.7
142.5°	657.9	658.4	658.8	659.3	659.7	660.1	660.2	660.4	660.6	660.7	661.0
145°	683.9	684.3	684.7	685.1	685.5	685.7	685.7	685.7	685.7	685.7	685.8
147.5°	704.6	705.3	706.0	706.8	707.6	707.8	707.8	707.6	707.4	707.4	707.4
150°	719.6	720.1	720.6	721.2	721.7	721.9	721.8	721.6	721.5	721.4	721.4
152.5°	732.1	732.5	733.0	733.4	733.9	733.9	733.7	733.5	733.3	733.0	733.2
155°	749.8	750.0	750.1	750.2	750.4	750.2	749.8	749.4	749.0	748.6	749.2
157.5°	764.8	764.7	764.6	764.5	764.4	764.1	763.7	763.2	762.7	762.3	763.0
160°	773.4	773.0	772.7	772.3	771.8	771.5	771.4	771.3	771.1	771.0	771.8
162.5°	781.1	780.6	780.2	779.7	779.1	778.8	778.7	778.5	778.4	778.3	779.1
165°	791.0	790.3	789.6	789.0	788.3	788.0	788.0	788.0	788.0	788.0	789.0
167.5°	798.7	798.0	797.4	796.6	795.9	795.6	795.5	795.4	795.3	795.2	796.4
170°	803.1	802.3	801.4	800.6	799.9	799.5	799.6	799.8	799.9	800.1	801.1
172.5°	806.0	805.2	804.4	803.6	802.7	802.4	802.6	802.7	802.8	803.0	804.0
175°	809.1	808.3	807.6	806.7	805.9	805.6	805.7	805.8	806.0	806.1	807.3
177.5°	810.6	809.8	809.1	808.3	807.6	807.3	807.6	807.7	808.0	808.1	809.0
180°	809.1	809.1	809.1	809.1	809.1	809.1	809.1	809.1	809.1	809.1	809.1



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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°	10.4	10.5	10.7	10.8	10.8	10.9	11.0	11.0
90°	14.9	15.7	16.6	17.0	17.4	17.6	17.9	18.2
92.5°	14.4	15.2	16.1	16.5	16.6	16.6	16.6	16.7
95°	14.9	15.7	16.6	17.0	17.1	17.3	17.4	17.5
97.5°	16.1	16.2	16.3	16.4	16.6	16.7	16.8	17.0
100°	22.1	19.7	17.4	16.4	16.6	16.7	16.8	17.0
102.5°	79.0	54.3	29.7	17.3	17.4	17.4	17.4	17.4
105°	191.3	192.4	193.6	191.8	187.0	182.1	177.3	172.5
107.5°	236.6	237.2	237.8	238.3	238.9	239.4	239.9	240.4
110°	267.4	267.7	268.0	268.3	268.7	269.1	269.5	269.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	297.3	297.3	297.2	297.4	297.9	298.4	299.0	299.5
115°	341.9	342.1	342.4	342.5	342.5	342.5	342.5	342.5
117.5°	386.7	386.7	386.6	386.5	386.5	386.5	386.4	386.4
120°	414.5	414.7	415.0	415.0	414.7	414.5	414.3	413.9
122.5°	441.9	442.1	442.2	442.1	441.9	441.6	441.3	441.1
125°	480.1	480.5	480.9	481.2	481.4	481.4	481.6	481.8
127.5°	518.1	518.0	518.0	517.9	517.8	517.6	517.6	517.5
130°	541.3	541.4	541.6	541.6	541.6	541.6	541.6	541.6
132.5°	564.0	564.2	564.4	564.4	564.3	564.1	564.0	563.9
135°	595.4	595.7	596.0	596.2	596.5	596.8	597.0	597.3
137.5°	625.5	625.8	626.1	626.2	626.1	626.1	626.0	625.9
140°	644.1	644.5	644.9	645.2	645.3	645.5	645.6	645.7
142.5°	661.4	661.6	661.9	662.1	662.1	662.1	662.2	662.2
145°	685.9	686.1	686.2	686.4	686.6	687.0	687.2	687.5
147.5°	707.5	707.7	707.8	707.9	708.0	708.2	708.3	708.4
150°	721.4	721.4	721.4	721.5	721.6	721.7	721.9	721.9
152.5°	733.4	733.6	733.9	733.9	733.9	733.8	733.7	733.6
155°	749.7	750.2	750.7	750.8	750.4	750.0	749.6	749.3
157.5°	763.7	764.4	765.1	765.1	764.4	763.7	763.0	762.3
160°	772.7	773.4	774.2	774.2	773.4	772.7	771.8	771.0
162.5°	779.9	780.6	781.5	781.5	780.6	779.6	778.7	777.8
165°	790.1	791.2	792.2	792.2	791.0	789.8	788.6	787.3
167.5°	797.6	798.7	800.0	799.9	798.5	797.2	795.8	794.5
170°	802.2	803.3	804.4	804.2	802.9	801.5	800.2	798.8
172.5°	805.1	806.2	807.2	807.1	805.6	804.2	802.7	801.3
175°	808.5	809.8	811.0	810.7	809.1	807.6	805.9	804.3
177.5°	809.9	810.7	811.6	811.4	810.1	808.8	807.6	806.2
180°	809.1	809.1	809.1	809.1	809.1	809.1	809.1	809.1

(END OF REPORT)