

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: P331934-927

Luminaire Tested: **S123DIP-S560D805U927-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331934-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIP-S560D805U927-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 805 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4380.9 lumens
Efficiency: N/A
Efficacy: 114.1 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: General Diffuse

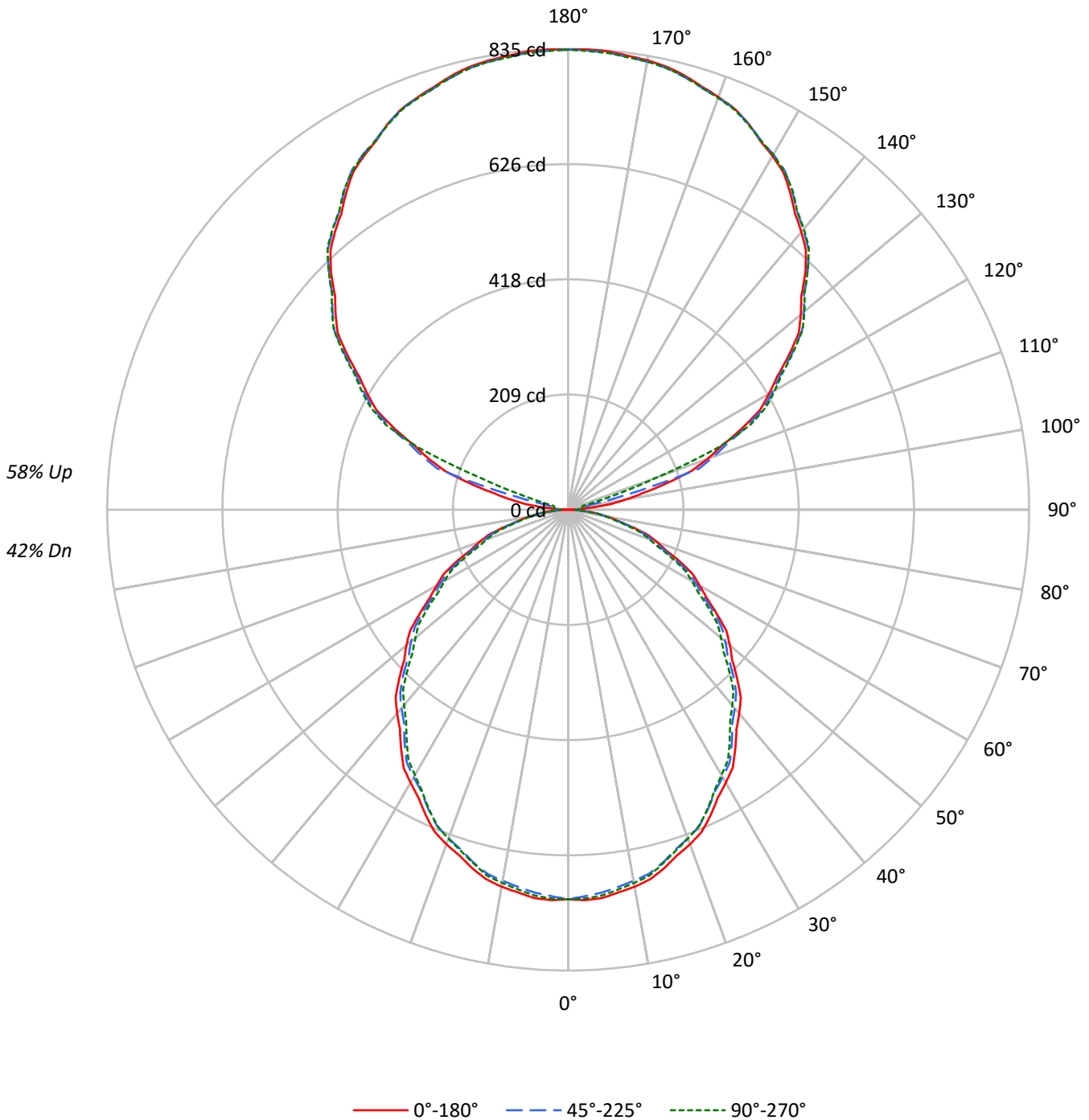
Input Watts (W): 38.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	105	105	105	105	96	96	96	96	79	79	79	63	63	63	49	49	49	42
1	96	92	88	84	87	84	80	77	69	67	65	55	54	52	43	42	41	35
2	87	80	74	69	79	73	68	64	60	57	53	49	46	44	38	36	34	29
3	80	70	63	57	72	64	58	53	53	49	45	43	40	37	33	31	29	25
4	73	62	54	48	66	57	50	45	47	42	38	38	35	32	30	27	25	21
5	67	55	47	41	61	51	44	38	42	37	33	34	30	27	27	24	22	19
6	61	49	41	36	56	46	38	33	38	33	29	31	27	24	24	22	19	16
7	57	45	37	31	52	41	34	29	34	29	25	28	24	21	22	19	17	14
8	53	40	33	28	48	37	31	26	31	26	22	26	22	19	20	18	15	13
9	49	37	29	24	45	34	27	23	29	24	20	24	20	17	19	16	14	12
10	46	34	27	22	42	31	25	21	26	21	18	22	18	15	17	15	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7597	7597	7597
5°	7632	7527	7580
10°	7581	7462	7508
15°	7492	7377	7392
20°	7389	7257	7263
25°	7251	7114	7099
30°	7097	6954	6901
35°	6937	6786	6699
40°	6770	6600	6497
45°	6587	6428	6272
50°	6402	6219	6047
55°	6161	6001	5819
60°	5918	5748	5565
65°	5703	5471	5300
70°	5385	5155	4925
75°	4924	4745	4541
80°	4438	4252	4215
85°	3890	3742	3606



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	66.5	1.5
10°-20°	187.7	4.3
20°-30°	277.3	6.3
30°-40°	323.9	7.4
40°-50°	325.6	7.4
50°-60°	286.0	6.5
60°-70°	213.1	4.9
70°-80°	121.4	2.8
80°-90°	37.2	0.8
90°-100°	30.3	0.7
100°-110°	144.4	3.3
110°-120°	347.0	7.9
120°-130°	441.8	10.1
130°-140°	472.1	10.8
140°-150°	441.4	10.1
150°-160°	356.1	8.1
160°-170°	229.8	5.2
170°-180°	79.2	1.8
0°-30°	531.5	12.1
0°-40°	855.4	19.5
0°-60°	1467.0	33.5
0°-90°	1838.7	42.0
90°-120°	521.7	11.9
90°-150°	1877.0	42.8
90°-180°	2542.0	58.0
0°-180°	4380.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	706	706	706	706	706	
5°	706	703	697	702	702	67
15°	672	670	662	666	663	189
25°	610	607	599	599	598	281
35°	528	524	516	513	510	330
45°	433	430	422	415	412	334
55°	328	327	320	313	310	294
65°	224	221	215	210	208	221
75°	118	116	114	111	109	127
85°	32	30	30	29	29	35
90°	1	7	15	17	19	3
95°	38	14	19	23	24	47
105°	185	188	136	32	27	196
115°	346	350	356	361	364	342
125°	488	493	495	497	498	436
135°	608	611	614	615	614	468
145°	701	705	707	708	708	439
155°	772	771	772	774	771	356
165°	814	813	812	816	812	230
175°	834	831	831	835	830	79
180°	834	834	834	834	834	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	705.8	705.8	705.8	705.8	705.8	705.8	705.8	705.8	705.8	705.8	705.8
2.5°	708.1	707.7	707.3	706.9	706.5	705.6	704.4	703.2	702.1	700.9	702.0
5°	706.3	705.7	705.0	704.3	703.6	702.6	701.1	699.6	698.2	696.6	698.0
7.5°	699.4	698.8	698.1	697.4	696.7	695.6	694.1	692.5	691.0	689.5	690.7
10°	693.6	692.9	692.3	691.6	690.9	689.7	687.9	686.2	684.4	682.7	683.9
12.5°	685.9	685.2	684.7	684.1	683.6	682.5	680.8	679.1	677.6	675.9	676.8
15°	672.3	671.8	671.3	670.7	670.2	669.1	667.3	665.6	663.8	662.0	663.1
17.5°	656.7	656.0	655.3	654.6	653.9	652.7	650.9	649.2	647.5	645.6	646.4
20°	645.1	644.3	643.4	642.6	641.8	640.6	638.8	637.1	635.3	633.5	634.1
22.5°	631.9	631.1	630.3	629.5	628.7	627.4	625.7	623.9	622.2	620.4	620.8
25°	610.5	609.7	608.9	608.1	607.2	605.9	604.2	602.5	600.7	599.0	599.0
27.5°	587.6	586.8	586.0	585.2	584.4	583.0	581.1	579.3	577.4	575.5	575.6
30°	571.0	570.4	569.7	569.0	568.3	567.0	565.1	563.2	561.4	559.5	559.5
32.5°	554.5	553.7	552.7	551.8	551.0	549.8	548.3	546.8	545.4	544.0	543.2
35°	527.9	527.1	526.3	525.5	524.7	523.4	521.7	519.9	518.2	516.4	515.6
37.5°	500.7	499.7	498.7	497.6	496.6	495.3	493.5	491.7	489.9	488.1	487.2
40°	481.8	481.0	480.2	479.4	478.6	477.2	475.3	473.5	471.6	469.7	468.6
42.5°	462.9	462.0	461.1	460.1	459.2	457.8	455.9	454.1	452.2	450.3	449.2
45°	432.7	432.1	431.6	431.0	430.5	429.4	427.6	425.9	424.1	422.3	420.7
47.5°	402.7	401.9	401.2	400.4	399.6	398.3	396.7	395.1	393.4	391.7	390.1
50°	382.3	381.6	381.0	380.2	379.6	378.4	376.6	374.9	373.1	371.4	369.9
52.5°	360.9	360.4	360.0	359.6	359.1	357.9	356.1	354.3	352.4	350.5	349.3
55°	328.3	328.1	328.0	327.9	327.7	326.8	325.0	323.3	321.5	319.8	318.3
57.5°	297.2	296.8	296.3	295.9	295.4	294.5	293.0	291.7	290.3	288.8	287.6
60°	274.9	274.7	274.6	274.5	274.3	273.5	271.9	270.2	268.6	267.0	265.8
62.5°	255.0	254.6	254.3	254.0	253.6	252.6	251.0	249.4	247.7	246.1	244.9
65°	223.9	223.2	222.6	221.9	221.3	220.2	218.9	217.5	216.2	214.8	213.7
67.5°	191.0	190.4	189.8	189.3	188.6	187.8	186.8	185.8	184.7	183.8	182.8
70°	171.1	170.3	169.5	168.7	167.9	167.1	166.3	165.5	164.6	163.8	162.9
72.5°	150.3	149.6	149.1	148.5	147.9	147.1	146.2	145.3	144.3	143.5	142.6
75°	118.4	117.8	117.2	116.7	116.2	115.7	115.3	114.9	114.5	114.1	113.4
77.5°	90.1	89.8	89.4	89.2	88.9	88.5	88.0	87.5	87.0	86.5	86.1
80°	71.6	71.2	70.8	70.4	69.9	69.6	69.4	69.1	68.8	68.6	68.4
82.5°	53.6	53.6	53.5	53.4	53.3	53.2	53.2	53.2	53.1	53.1	52.8
85°	31.5	31.3	31.1	30.7	30.5	30.3	30.3	30.3	30.3	30.3	30.1
87.5°	12.8	12.7	12.7	12.6	12.5	12.7	12.9	13.2	13.4	13.6	13.6
90°	0.6	2.0	3.4	4.8	6.1	7.7	9.5	11.2	13.1	14.9	15.4
92.5°	11.5	11.2	10.8	10.4	10.0	10.5	11.8	13.2	14.5	15.8	16.7
95°	37.8	32.2	26.5	20.8	15.2	13.2	14.7	16.2	17.7	19.2	20.2
97.5°	75.9	73.4	70.9	68.4	65.8	59.6	49.7	39.8	29.9	20.0	21.1
100°	104.6	107.4	110.2	112.9	115.7	106.3	84.8	63.4	41.9	20.4	21.5
102.5°	137.4	139.3	141.3	143.3	145.3	134.6	111.1	87.6	64.2	40.7	37.3
105°	184.6	186.1	187.6	189.1	190.6	185.2	172.8	160.4	148.0	135.6	111.3
107.5°	234.3	235.6	236.8	238.0	239.2	240.7	242.7	244.7	246.6	248.6	230.8
110°	267.5	268.6	269.7	270.8	272.0	273.2	274.8	276.3	277.8	279.3	274.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	299.3	300.2	301.3	302.2	303.2	304.4	306.0	307.5	309.0	310.5	310.6
115°	346.2	347.1	347.8	348.7	349.5	350.5	351.8	353.0	354.3	355.5	356.9
117.5°	391.7	392.7	393.7	394.7	395.7	396.6	397.2	397.8	398.5	399.1	400.2
120°	419.9	421.1	422.4	423.6	424.8	425.7	426.1	426.5	426.9	427.3	428.4
122.5°	448.6	449.6	450.7	451.7	452.7	453.4	454.0	454.6	455.0	455.6	456.4
125°	488.1	489.1	490.2	491.3	492.4	493.3	493.8	494.3	494.9	495.4	495.7
127.5°	526.2	527.3	528.4	529.5	530.6	531.5	532.1	532.8	533.5	534.1	534.6
130°	549.9	551.0	552.2	553.3	554.4	555.2	555.7	556.3	556.8	557.4	557.9
132.5°	572.7	573.9	575.0	576.1	577.2	577.9	578.4	578.8	579.2	579.7	580.3
135°	607.5	608.4	609.2	610.1	610.9	611.6	612.1	612.7	613.2	613.8	614.2
137.5°	637.3	638.3	639.4	640.4	641.4	642.1	642.5	642.8	643.0	643.3	644.0
140°	657.1	657.9	658.8	659.6	660.4	661.0	661.5	661.9	662.3	662.7	663.2
142.5°	675.4	676.3	677.1	677.9	678.7	679.4	679.8	680.2	680.6	681.0	681.4
145°	701.1	702.0	703.0	703.9	705.0	705.5	705.8	706.1	706.4	706.6	706.9
147.5°	725.2	725.9	726.5	727.1	727.8	728.3	728.5	728.7	729.0	729.3	729.6
150°	740.1	740.5	740.9	741.3	741.7	742.1	742.4	742.7	742.9	743.2	743.5
152.5°	753.4	753.7	753.8	754.1	754.2	754.4	754.6	754.7	754.9	755.1	755.6
155°	772.3	772.1	771.7	771.5	771.2	771.1	771.3	771.4	771.5	771.7	772.4
157.5°	786.9	786.9	786.9	786.8	786.8	786.7	786.6	786.5	786.3	786.2	787.0
160°	795.8	795.7	795.6	795.4	795.3	795.1	795.0	794.9	794.7	794.6	795.4
162.5°	804.2	803.9	803.5	803.2	802.8	802.6	802.4	802.3	802.2	802.0	803.0
165°	814.4	814.0	813.6	813.2	812.8	812.5	812.4	812.2	812.1	811.9	813.0
167.5°	822.4	821.8	821.3	820.7	820.1	819.8	819.8	819.8	819.8	819.8	820.9
170°	826.8	826.2	825.7	825.1	824.6	824.3	824.3	824.3	824.3	824.3	825.5
172.5°	829.7	829.1	828.5	827.8	827.1	826.9	827.0	827.0	827.2	827.3	828.4
175°	833.6	832.9	832.3	831.6	830.8	830.6	830.7	830.8	831.0	831.2	832.1
177.5°	834.6	834.1	833.5	833.0	832.4	832.2	832.3	832.4	832.5	832.6	833.5
180°	833.6	833.6	833.6	833.6	833.6	833.6	833.6	833.6	833.6	833.6	833.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	705.8	705.8	705.8	705.8	705.8	705.8	705.8	705.8
2.5°	703.1	704.1	705.2	705.7	705.6	705.4	705.4	705.3
5°	699.3	700.7	702.0	702.6	702.3	702.0	701.8	701.5
7.5°	691.9	693.1	694.3	694.8	694.7	694.5	694.3	694.2
10°	685.1	686.3	687.5	688.0	687.8	687.5	687.2	686.9
12.5°	677.6	678.6	679.5	679.8	679.6	679.5	679.3	679.1
15°	664.2	665.3	666.4	666.5	665.7	664.9	664.1	663.3
17.5°	647.2	647.9	648.7	648.9	648.6	648.3	648.0	647.7
20°	634.6	635.2	635.6	635.7	635.3	634.9	634.5	634.1
22.5°	621.3	621.7	622.2	622.1	621.6	621.1	620.6	620.0
25°	599.2	599.4	599.4	599.4	599.0	598.6	598.1	597.7
27.5°	575.8	575.8	575.9	575.8	575.2	574.7	574.2	573.7
30°	559.5	559.5	559.5	559.0	558.1	557.1	556.2	555.2
32.5°	542.5	541.7	540.9	540.3	539.8	539.3	538.8	538.3
35°	514.8	514.0	513.2	512.5	511.7	511.1	510.4	509.8
37.5°	486.2	485.2	484.3	483.5	483.2	482.7	482.3	481.8
40°	467.5	466.4	465.4	464.5	464.0	463.5	463.0	462.4
42.5°	448.1	447.0	445.9	445.1	444.6	444.1	443.5	443.0
45°	419.1	417.5	415.9	414.7	414.1	413.4	412.7	412.0
47.5°	388.6	387.0	385.4	384.3	383.7	383.1	382.5	381.9
50°	368.4	366.9	365.4	364.3	363.5	362.7	361.9	361.1
52.5°	348.0	346.7	345.5	344.4	343.6	342.8	342.0	341.2
55°	316.8	315.4	313.9	312.8	312.1	311.4	310.8	310.1
57.5°	286.2	284.9	283.6	282.5	281.7	281.0	280.2	279.4
60°	264.6	263.4	262.1	261.2	260.5	259.8	259.2	258.5
62.5°	243.7	242.5	241.3	240.4	240.0	239.6	239.1	238.6
65°	212.6	211.6	210.5	209.8	209.4	209.0	208.6	208.1
67.5°	181.9	180.9	180.0	179.2	178.6	178.1	177.5	177.0
70°	161.9	161.1	160.1	159.2	158.6	157.9	157.2	156.5
72.5°	141.8	140.9	140.1	139.5	139.2	138.8	138.5	138.1
75°	112.7	112.1	111.4	110.8	110.4	110.0	109.6	109.2
77.5°	85.6	85.2	84.7	84.4	84.4	84.4	84.4	84.4
80°	68.3	68.1	68.0	68.0	68.0	68.0	68.0	68.0
82.5°	52.5	52.3	52.0	51.9	51.8	51.7	51.6	51.5
85°	29.8	29.5	29.2	29.2	29.2	29.2	29.2	29.2
87.5°	13.6	13.6	13.6	13.7	13.8	13.8	13.9	13.9
90°	16.0	16.5	17.0	17.5	17.7	18.1	18.3	18.6
92.5°	17.6	18.5	19.4	19.9	20.0	20.2	20.4	20.6
95°	21.2	22.1	23.1	23.5	23.5	23.5	23.5	23.5
97.5°	22.2	23.2	24.3	25.0	25.1	25.3	25.3	25.5
100°	22.7	23.8	24.9	25.4	25.6	25.7	25.9	26.0
102.5°	33.9	30.5	27.1	25.5	25.7	26.0	26.2	26.5
105°	86.9	62.6	38.2	26.1	26.5	26.7	27.0	27.3
107.5°	212.9	195.0	177.1	159.0	140.7	122.3	103.9	85.6
110°	270.2	265.7	261.2	249.1	229.3	209.7	190.0	170.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	310.7	310.8	310.9	308.8	304.7	300.5	296.4	292.2
115°	358.2	359.7	361.0	361.9	362.5	363.1	363.6	364.2
117.5°	401.3	402.4	403.5	404.1	404.3	404.3	404.4	404.6
120°	429.5	430.6	431.7	432.3	432.3	432.3	432.3	432.3
122.5°	457.1	457.9	458.7	459.1	459.2	459.3	459.5	459.5
125°	496.0	496.3	496.5	496.9	497.1	497.4	497.6	498.0
127.5°	535.0	535.4	535.8	535.9	535.7	535.4	535.1	534.9
130°	558.5	559.0	559.6	559.8	559.4	559.2	558.9	558.6
132.5°	580.7	581.3	581.9	581.9	581.6	581.2	580.8	580.4
135°	614.6	615.0	615.4	615.4	615.0	614.6	614.2	613.8
137.5°	644.7	645.3	646.0	646.2	645.9	645.6	645.4	645.1
140°	663.8	664.3	664.9	665.0	664.7	664.5	664.2	663.9
142.5°	681.9	682.3	682.8	682.8	682.4	682.0	681.7	681.3
145°	707.2	707.5	707.7	707.9	707.9	707.9	707.9	707.9
147.5°	729.8	730.2	730.4	730.2	729.6	729.0	728.3	727.7
150°	743.7	744.0	744.3	744.3	743.8	743.4	743.0	742.6
152.5°	756.1	756.5	757.1	757.0	756.4	755.7	755.1	754.5
155°	773.1	773.7	774.4	774.4	773.6	772.7	771.9	771.0
157.5°	787.8	788.6	789.5	789.3	788.3	787.2	786.2	785.1
160°	796.2	797.1	797.9	797.8	796.9	795.9	795.0	794.0
162.5°	803.9	804.9	805.7	805.8	804.9	804.1	803.3	802.4
165°	814.1	815.2	816.3	816.4	815.5	814.4	813.5	812.5
167.5°	822.0	823.2	824.3	824.3	823.2	822.0	820.9	819.8
170°	826.5	827.6	828.7	828.7	827.6	826.5	825.5	824.3
172.5°	829.5	830.6	831.7	831.6	830.4	829.3	828.0	826.8
175°	833.1	834.0	835.0	834.9	833.9	832.7	831.6	830.5
177.5°	834.4	835.3	836.1	836.1	835.0	833.9	832.7	831.6
180°	833.6	833.6	833.6	833.6	833.6	833.6	833.6	833.6

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