

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: P331933-935

Luminaire Tested: **S123DIP-S560D805U935-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331933-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-17,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIP-S560D805U935-4F0-1E-UDD-D4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 805 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4539.0 lumens
Efficiency: N/A
Efficacy: 118.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: General Diffuse

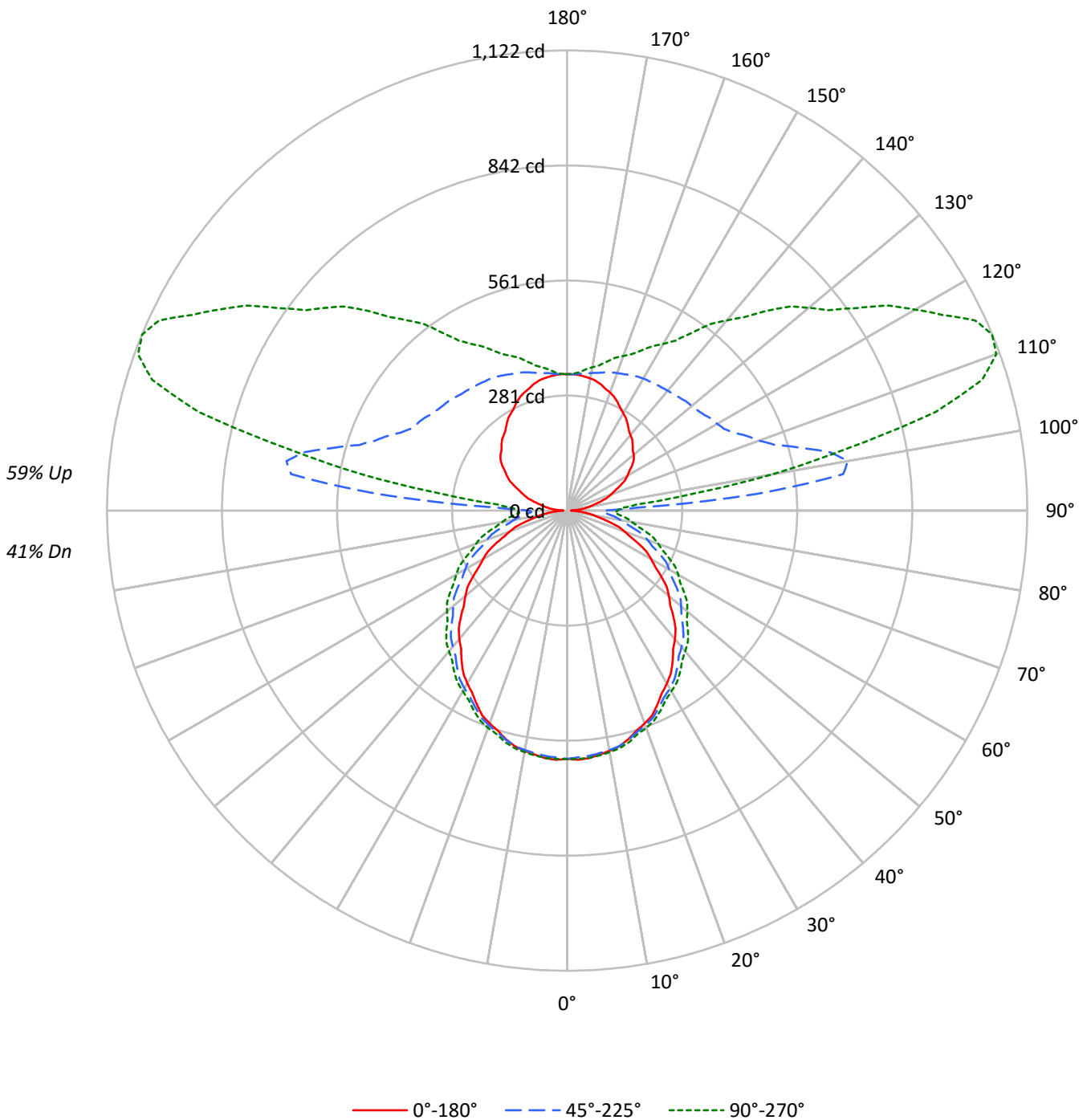
Input Watts (W): 38.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	105	105	105	105	96	96	96	96	78	78	78	63	63	63	48	48	48	41
1	95	90	86	82	86	82	79	75	67	65	62	54	52	50	41	40	39	33
2	86	78	72	67	78	71	66	61	59	54	51	47	44	41	36	34	32	27
3	78	69	61	55	71	63	56	51	51	46	42	41	37	35	31	29	27	22
4	71	60	52	46	65	55	48	43	45	40	36	36	32	29	28	25	23	19
5	65	54	45	39	59	49	42	36	40	35	31	32	28	25	25	22	20	16
6	60	48	40	34	55	44	37	31	36	31	27	29	25	22	23	20	17	14
7	56	43	35	30	50	40	33	27	33	27	23	26	22	19	21	18	15	13
8	51	39	31	26	47	36	29	24	30	24	21	24	20	17	19	16	14	11
9	48	36	28	23	43	33	26	21	27	22	18	22	18	15	17	14	12	10
10	45	33	25	21	41	30	24	19	25	20	16	20	17	14	16	13	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6518	6518	6518
5°	6537	6352	6357
10°	6480	6207	6175
15°	6395	6040	5978
20°	6277	5850	5760
25°	6129	5632	5532
30°	5977	5436	5300
35°	5809	5228	5116
40°	5647	5038	4917
45°	5468	4857	4759
50°	5291	4678	4584
55°	5097	4494	4428
60°	4906	4308	4266
65°	4710	4109	4076
70°	4418	3885	3878
75°	4048	3629	3679
80°	3620	3378	3451
85°	3222	3204	3317



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	57.4	1.3
10°-20°	163.6	3.6
20°-30°	244.7	5.4
30°-40°	292.2	6.4
40°-50°	305.8	6.7
50°-60°	286.9	6.3
60°-70°	239.6	5.3
70°-80°	171.5	3.8
80°-90°	104.8	2.3
90°-100°	249.2	5.5
100°-110°	571.2	12.6
110°-120°	547.0	12.1
120°-130°	429.2	9.5
130°-140°	332.3	7.3
140°-150°	243.7	5.4
150°-160°	168.7	3.7
160°-170°	99.1	2.2
170°-180°	32.2	0.7
0°-30°	465.7	10.3
0°-40°	758.0	16.7
0°-60°	1350.7	29.8
0°-90°	1866.6	41.1
90°-120°	1367.3	30.1
90°-150°	2372.4	52.3
90°-180°	2672.0	58.9
0°-180°	4539.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	606	606	606	606	606	
5°	606	605	601	606	606	57
15°	577	579	578	585	584	162
25°	521	527	530	538	538	240
35°	448	459	468	477	480	280
45°	367	383	399	411	417	283
55°	280	302	325	342	348	250
65°	193	219	248	267	274	191
75°	105	136	169	190	198	112
85°	32	65	100	122	129	34
90°	10	49	91	115	123	7
95°	30	108	464	201	170	30
105°	83	137	591	1014	930	88
115°	141	184	449	958	1097	140
125°	194	230	408	734	861	172
135°	226	269	389	596	689	175
145°	257	294	376	478	528	161
155°	291	314	364	414	431	134
165°	318	327	349	370	376	90
175°	332	332	335	339	339	32
180°	332	332	332	332	332	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	605.5	605.5	605.5	605.5	605.5	605.5	605.5	605.5	605.5	605.5	605.5
2.5°	608.1	607.8	607.4	607.0	606.7	606.1	605.1	604.2	603.2	602.3	603.2
5°	606.1	605.8	605.5	605.3	604.9	604.3	603.5	602.6	601.8	600.8	602.0
7.5°	600.2	600.2	600.3	600.4	600.5	600.0	599.2	598.3	597.4	596.6	598.1
10°	595.0	595.2	595.5	595.8	596.1	595.9	595.1	594.4	593.7	593.0	594.4
12.5°	588.6	589.0	589.4	589.8	590.2	590.2	589.7	589.2	588.7	588.1	589.5
15°	577.1	577.6	578.0	578.4	578.9	579.0	578.9	578.7	578.6	578.4	579.9
17.5°	562.6	563.4	564.4	565.2	566.1	566.5	566.5	566.4	566.4	566.3	567.6
20°	552.1	552.9	553.8	554.7	555.5	556.1	556.5	556.7	557.0	557.3	558.6
22.5°	541.0	541.8	542.7	543.6	544.5	545.1	545.5	546.0	546.4	546.7	548.5
25°	521.1	522.5	524.0	525.5	526.9	527.9	528.3	528.7	529.2	529.6	531.5
27.5°	501.0	502.7	504.4	506.0	507.6	508.9	509.9	510.8	511.8	512.7	514.4
30°	486.7	488.6	490.5	492.5	494.4	495.9	497.1	498.3	499.4	500.6	502.4
32.5°	470.9	473.0	475.2	477.3	479.5	481.3	482.8	484.3	485.9	487.4	489.3
35°	448.5	450.8	453.1	455.6	457.9	460.0	461.9	463.8	465.7	467.6	469.8
37.5°	424.7	427.4	430.0	432.7	435.3	437.8	440.1	442.5	444.8	447.2	449.7
40°	408.9	411.6	414.2	416.8	419.5	422.2	425.2	428.1	431.0	433.9	436.4
42.5°	391.5	394.8	398.0	401.1	404.4	407.5	410.6	413.6	416.7	419.7	422.5
45°	366.7	370.2	373.8	377.3	380.7	384.4	388.1	391.7	395.4	399.0	401.8
47.5°	340.7	344.7	348.7	352.7	356.6	360.8	365.0	369.1	373.3	377.5	380.6
50°	323.8	328.0	332.0	336.1	340.3	344.6	349.1	353.7	358.2	362.7	366.1
52.5°	305.9	310.2	314.6	318.9	323.2	328.0	332.9	337.9	342.9	348.0	351.5
55°	279.7	284.5	289.3	294.1	299.0	304.0	309.4	314.6	319.9	325.1	329.1
57.5°	254.1	259.1	264.2	269.1	274.2	279.7	285.4	291.2	297.0	302.7	306.7
60°	236.1	241.4	246.7	251.9	257.2	262.9	268.9	274.9	280.9	286.9	291.0
62.5°	219.2	224.6	230.1	235.4	240.8	246.7	253.0	259.4	265.8	272.2	276.2
65°	193.2	199.0	204.7	210.4	216.1	222.2	228.7	235.1	241.5	248.0	252.4
67.5°	166.9	173.0	179.0	185.0	191.1	197.4	204.1	210.6	217.1	223.7	228.5
70°	148.4	154.7	161.0	167.3	173.6	180.3	187.3	194.3	201.4	208.4	213.1
72.5°	131.5	137.8	144.1	150.4	156.7	163.5	170.7	178.1	185.3	192.6	197.4
75°	104.9	111.8	118.6	125.5	132.4	139.6	146.9	154.2	161.5	168.8	173.7
77.5°	81.6	88.6	95.6	102.5	109.4	116.6	124.0	131.4	138.8	146.2	151.3
80°	65.3	72.5	79.6	86.9	94.0	101.4	109.0	116.7	124.3	131.9	136.9
82.5°	51.1	58.4	65.6	72.9	80.2	87.7	95.5	103.2	111.0	118.7	123.7
85°	32.3	39.6	47.0	54.3	61.6	69.1	77.0	84.7	92.5	100.2	105.2
87.5°	17.8	25.4	33.0	40.6	48.2	55.9	63.7	71.6	79.5	87.4	92.2
90°	9.9	18.4	26.9	36.2	44.7	53.4	62.9	72.4	81.9	91.4	95.7
92.5°	16.4	26.9	39.0	50.8	62.9	79.8	104.8	141.1	176.8	173.8	153.3
95°	30.1	37.9	51.0	68.2	91.4	124.1	188.5	295.9	413.5	464.5	393.6
97.5°	45.5	51.3	62.3	77.4	99.8	134.2	195.7	315.6	506.6	679.2	726.8
100°	55.7	61.1	70.5	84.6	105.5	137.4	191.3	297.6	481.5	694.8	831.7
102.5°	66.6	72.0	80.3	93.5	112.2	141.7	190.6	281.8	446.1	656.7	833.8
105°	83.3	88.9	96.4	108.1	124.3	150.2	192.8	268.5	401.9	590.6	788.0
107.5°	100.7	105.6	112.5	123.5	138.4	162.3	200.2	263.8	372.4	531.9	711.3
110°	113.0	117.7	123.6	133.7	147.8	170.9	207.1	264.1	360.2	498.6	663.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	124.8	129.1	134.6	144.1	157.7	179.9	213.7	266.7	351.8	475.0	620.7
115°	141.3	145.8	151.5	160.1	173.2	194.9	225.8	272.2	346.0	448.9	568.9
117.5°	158.3	162.5	166.9	174.2	188.0	207.9	238.2	279.7	342.9	431.4	535.6
120°	169.6	172.4	176.4	183.9	197.4	217.1	246.1	285.9	342.6	422.8	517.7
122.5°	179.8	182.2	186.0	193.6	206.2	226.6	254.9	291.9	344.0	416.5	502.7
125°	193.8	195.2	199.2	206.6	219.4	239.7	267.5	301.4	346.0	407.5	482.6
127.5°	205.0	206.9	211.7	219.1	233.1	253.0	279.2	309.4	349.2	401.1	464.4
130°	212.0	213.9	219.8	227.7	241.7	261.3	286.5	315.0	351.5	396.8	454.2
132.5°	216.9	219.4	225.9	235.7	249.7	268.5	292.6	319.9	352.7	393.6	444.4
135°	226.2	228.7	235.9	245.9	259.9	278.8	301.3	325.8	354.3	388.9	431.3
137.5°	234.9	237.6	244.8	255.5	269.3	286.5	307.5	330.2	355.1	384.3	419.8
140°	240.3	243.7	250.4	261.1	274.7	291.7	311.7	332.3	355.6	381.6	412.8
142.5°	246.8	249.4	256.7	266.2	279.6	295.3	314.4	334.1	355.4	378.4	406.1
145°	257.1	259.0	264.9	274.8	286.2	301.6	319.1	337.3	356.1	376.3	399.0
147.5°	267.0	268.2	274.1	282.8	293.9	307.1	323.1	339.4	356.1	373.8	392.5
150°	274.0	274.7	280.0	288.8	298.2	310.3	325.8	339.9	356.1	371.6	388.4
152.5°	280.9	281.1	286.5	294.2	302.5	314.1	327.4	341.0	354.5	368.9	384.1
155°	291.4	291.4	295.5	302.2	309.6	319.1	330.5	341.3	352.8	364.2	377.6
157.5°	299.8	300.3	303.6	309.5	315.8	323.1	332.3	342.0	350.4	360.0	370.4
160°	306.3	306.3	309.0	314.4	319.1	325.8	333.9	342.0	349.4	356.8	365.5
162.5°	311.2	311.2	313.3	317.6	321.8	327.4	334.4	341.4	347.2	353.5	360.7
165°	318.4	317.7	319.1	322.4	325.1	329.8	335.2	339.9	344.0	348.7	354.0
167.5°	323.9	323.1	323.8	326.3	328.2	331.2	335.1	338.9	340.8	343.9	347.8
170°	327.2	325.8	326.5	328.5	329.8	331.2	334.6	337.3	338.6	340.6	344.0
172.5°	329.3	328.5	328.6	330.1	330.9	331.7	334.6	336.7	337.0	337.9	340.2
175°	331.8	331.2	330.5	331.8	331.8	332.5	333.9	335.2	334.6	334.6	335.9
177.5°	333.0	332.5	332.0	332.5	332.5	332.5	333.0	334.2	333.0	332.5	333.0
180°	332.5	332.5	332.5	332.5	332.5	332.5	332.5	332.5	332.5	332.5	332.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	605.5	605.5	605.5	605.5	605.5	605.5	605.5	605.5
2.5°	604.2	605.1	606.1	606.5	606.3	606.2	606.1	606.0
5°	603.2	604.3	605.5	606.1	605.9	605.7	605.6	605.5
7.5°	599.5	601.0	602.5	603.1	603.0	602.8	602.6	602.4
10°	595.9	597.4	598.8	599.3	599.1	598.8	598.5	598.2
12.5°	590.9	592.2	593.6	594.1	593.8	593.5	593.2	593.0
15°	581.3	582.8	584.3	585.0	584.8	584.6	584.5	584.4
17.5°	568.9	570.2	571.5	572.1	571.9	571.7	571.5	571.3
20°	560.0	561.3	562.6	563.4	563.4	563.6	563.8	563.9
22.5°	550.1	551.8	553.5	554.2	554.1	554.1	554.0	553.9
25°	533.4	535.4	537.3	538.2	538.2	538.2	538.2	538.2
27.5°	516.0	517.6	519.3	520.2	520.3	520.4	520.6	520.6
30°	504.1	505.8	507.6	508.5	508.5	508.5	508.5	508.5
32.5°	491.1	493.0	494.9	496.0	496.4	496.7	497.1	497.4
35°	472.0	474.2	476.4	477.8	478.4	479.0	479.6	480.2
37.5°	452.1	454.6	457.1	458.7	459.1	459.5	460.0	460.5
40°	438.9	441.4	443.9	445.5	446.1	446.7	447.2	447.8
42.5°	425.2	427.9	430.7	432.4	433.3	434.0	434.9	435.7
45°	404.6	407.3	410.2	412.2	413.3	414.5	415.7	416.8
47.5°	383.8	386.9	390.0	392.1	393.0	393.9	394.9	395.7
50°	369.5	372.9	376.3	378.4	379.4	380.5	381.5	382.5
52.5°	355.0	358.4	362.0	364.3	365.6	366.8	368.1	369.4
55°	333.0	337.0	341.0	343.5	344.7	345.9	347.1	348.3
57.5°	310.7	314.7	318.7	321.3	322.7	324.1	325.5	326.8
60°	295.2	299.2	303.3	306.2	307.8	309.4	311.0	312.6
62.5°	280.3	284.5	288.5	291.4	292.8	294.3	295.8	297.3
65°	256.8	261.1	265.6	268.5	270.0	271.5	272.9	274.4
67.5°	233.3	238.2	243.0	246.0	247.2	248.4	249.7	250.9
70°	217.8	222.5	227.2	230.2	231.7	233.2	234.6	236.1
72.5°	202.2	207.0	211.8	215.0	216.5	217.9	219.4	220.8
75°	178.5	183.4	188.2	191.5	193.2	195.0	196.7	198.5
77.5°	156.4	161.4	166.5	169.8	171.2	172.5	173.8	175.2
80°	141.9	146.9	151.9	155.1	156.5	158.0	159.5	160.9
82.5°	128.7	133.6	138.6	141.9	143.4	144.8	146.3	147.7
85°	110.2	115.2	120.2	123.4	124.8	126.3	127.8	129.2
87.5°	97.4	102.5	107.6	111.1	112.4	114.0	115.6	116.9
90°	101.3	107.0	112.6	117.2	118.0	120.1	122.3	123.0
92.5°	136.7	129.8	129.5	129.1	129.2	128.5	130.6	130.7
95°	316.7	243.1	212.1	190.8	179.5	174.9	171.7	170.4
97.5°	673.4	557.5	475.0	397.4	349.2	320.4	303.7	299.4
100°	859.5	809.3	734.8	642.0	575.5	527.8	503.0	505.1
102.5°	919.1	921.5	879.8	821.9	770.5	733.1	712.6	698.5
105°	932.8	1004.2	1021.1	1006.3	976.6	952.4	932.1	930.1
107.5°	874.8	988.0	1050.9	1077.5	1079.3	1071.9	1066.0	1061.1
110°	821.2	948.9	1037.6	1087.2	1107.2	1113.7	1113.5	1113.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	767.8	898.0	996.8	1059.8	1095.6	1113.6	1120.0	1121.5
115°	697.0	817.6	920.1	995.8	1047.5	1078.2	1092.9	1097.4
117.5°	644.2	748.8	841.2	917.9	971.7	1006.8	1027.3	1033.0
120°	616.0	710.3	794.4	864.6	918.9	957.5	974.7	979.8
122.5°	593.2	678.7	756.9	822.2	870.4	905.3	924.2	930.3
125°	562.4	638.9	706.5	762.5	806.6	837.2	855.1	860.8
127.5°	534.9	603.3	664.4	715.4	754.8	781.1	797.3	802.6
130°	517.5	580.9	638.2	685.8	722.4	747.5	762.5	768.8
132.5°	501.2	559.6	613.0	658.5	693.0	718.2	731.8	736.5
135°	479.0	529.4	575.8	615.9	649.6	670.5	683.4	688.8
137.5°	458.7	500.2	540.1	574.9	603.4	624.6	635.6	639.4
140°	446.6	483.1	517.6	548.0	574.4	593.9	605.5	605.5
142.5°	434.9	466.3	496.3	522.8	545.4	562.7	573.2	573.3
145°	421.7	445.1	467.8	488.2	505.7	520.4	526.3	528.2
147.5°	411.0	429.0	446.8	461.1	474.4	484.5	490.1	491.2
150°	403.9	419.4	433.5	446.4	456.8	464.5	468.9	469.2
152.5°	398.0	411.3	423.8	434.5	442.5	449.4	451.9	451.9
155°	389.1	399.8	409.9	418.0	424.0	429.5	430.8	431.4
157.5°	379.6	388.7	396.5	402.8	408.0	412.1	413.2	413.0
160°	374.3	381.7	388.4	393.1	397.9	401.8	401.8	401.2
162.5°	367.8	374.1	380.3	384.5	387.6	391.1	391.1	390.5
165°	359.5	363.5	368.2	371.6	374.3	376.9	376.3	376.3
167.5°	352.1	355.2	358.0	360.4	361.6	363.5	362.8	362.8
170°	347.3	349.4	352.1	353.4	354.0	355.4	354.7	354.7
172.5°	343.0	344.5	346.6	347.5	347.6	349.0	347.8	347.2
175°	337.3	337.9	339.2	339.2	339.2	339.9	339.2	338.6
177.5°	333.6	334.2	334.7	334.7	334.2	334.7	333.6	333.6
180°	332.5	332.5	332.5	332.5	332.5	332.5	332.5	332.5

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