

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: P331924-830

Luminaire Tested: **S123DIP-S560D585U830-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331924-830
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-S560D585U830-4F0-1E-UDD-D4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 585 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4227.4 lumens
Efficiency: N/A
Efficacy: 128.9 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

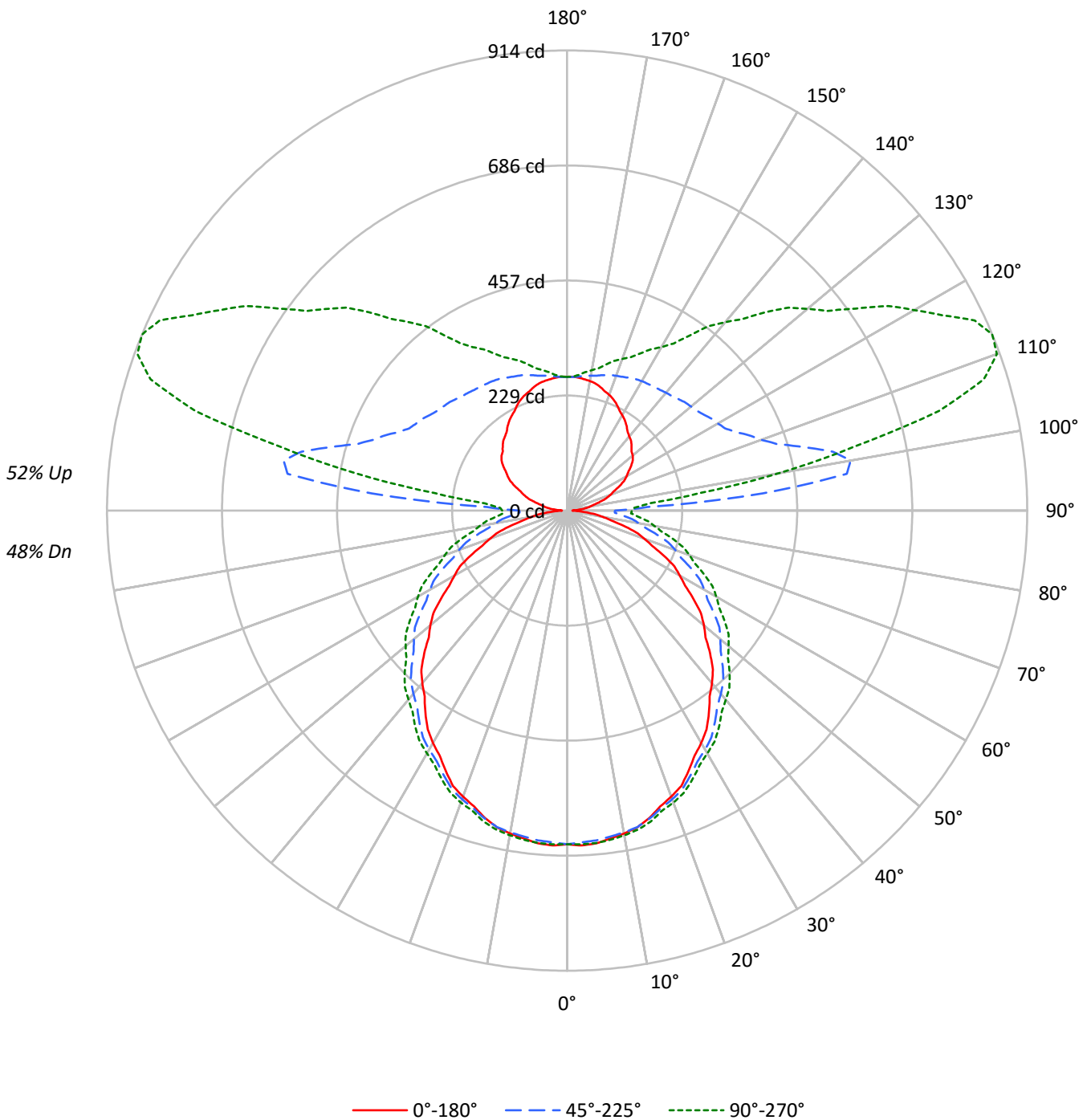
Input Watts (W): 32.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	107	107	107	107	98	98	98	98	82	82	82	68	68	68	55	55	55	48
1	96	92	87	83	88	84	81	77	71	68	65	58	56	54	47	45	44	39
2	87	79	73	67	80	73	67	63	61	57	53	50	47	45	40	38	36	32
3	79	69	62	56	73	64	57	52	54	49	44	44	41	37	35	33	30	26
4	73	61	53	47	66	57	49	44	48	42	38	39	35	32	32	28	26	22
5	66	54	46	40	61	50	43	37	42	37	32	35	31	27	28	25	22	19
6	61	49	40	34	56	45	38	32	38	32	28	32	27	24	26	22	20	17
7	56	44	36	30	52	41	33	28	35	29	25	29	24	21	23	20	17	15
8	52	40	32	26	48	37	30	25	31	26	22	26	22	19	21	18	16	13
9	49	36	29	23	45	34	27	22	29	23	19	24	20	17	20	16	14	12
10	45	33	26	21	42	31	24	20	26	21	17	22	18	15	18	15	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7134	7134	7134
5°	7156	6954	6959
10°	7093	6795	6761
15°	7001	6612	6544
20°	6871	6405	6306
25°	6709	6166	6056
30°	6544	5951	5803
35°	6359	5723	5601
40°	6181	5515	5382
45°	5986	5318	5210
50°	5793	5121	5019
55°	5578	4919	4848
60°	5369	4716	4670
65°	5156	4499	4462
70°	4837	4254	4245
75°	4430	3973	4029
80°	3958	3698	3779
85°	3521	3508	3633



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	62.8	1.5
10°-20°	179.1	4.2
20°-30°	267.9	6.3
30°-40°	319.9	7.6
40°-50°	334.7	7.9
50°-60°	314.1	7.4
60°-70°	262.3	6.2
70°-80°	187.7	4.4
80°-90°	114.0	2.7
90°-100°	218.0	5.2
100°-110°	470.1	11.1
110°-120°	446.2	10.6
120°-130°	348.1	8.2
130°-140°	267.7	6.3
140°-150°	195.1	4.6
150°-160°	134.7	3.2
160°-170°	79.1	1.9
170°-180°	25.7	0.6
0°-30°	509.8	12.1
0°-40°	829.7	19.6
0°-60°	1478.6	35.0
0°-90°	2042.6	48.3
90°-120°	1134.3	26.8
90°-150°	1945.2	46.0
90°-180°	2185.0	51.7
0°-180°	4227.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	663	663	663	663	663	
5°	664	662	658	663	663	63
15°	632	634	633	640	640	178
25°	570	577	580	589	589	263
35°	491	502	512	522	526	307
45°	401	419	437	450	456	310
55°	306	330	356	375	381	274
65°	212	240	272	292	300	209
75°	115	149	185	208	217	123
85°	35	72	110	133	142	37
90°	10	51	95	120	129	8
95°	26	96	390	186	163	26
105°	68	116	486	830	765	72
115°	114	151	369	780	893	113
125°	155	184	332	597	699	138
135°	181	215	313	482	557	140
145°	206	235	300	383	424	129
155°	233	251	291	331	345	107
165°	254	262	278	295	300	72
175°	265	265	267	271	270	25
180°	266	266	266	266	266	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	662.8	662.8	662.8	662.8	662.8	662.8	662.8	662.8	662.8	662.8	662.8
2.5°	665.7	665.3	665.0	664.5	664.1	663.5	662.4	661.4	660.3	659.3	660.3
5°	663.5	663.2	662.9	662.6	662.2	661.6	660.6	659.7	658.7	657.7	659.0
7.5°	657.0	657.0	657.1	657.2	657.3	656.9	655.9	655.0	654.0	653.1	654.7
10°	651.3	651.6	651.9	652.2	652.5	652.3	651.5	650.7	649.9	649.1	650.7
12.5°	644.3	644.8	645.3	645.6	646.1	646.1	645.5	645.0	644.4	643.9	645.4
15°	631.8	632.3	632.7	633.2	633.7	633.9	633.7	633.5	633.4	633.2	634.8
17.5°	615.9	616.8	617.8	618.8	619.7	620.2	620.1	620.0	620.0	619.9	621.3
20°	604.4	605.3	606.2	607.2	608.1	608.8	609.2	609.4	609.7	610.1	611.5
22.5°	592.2	593.1	594.1	595.1	596.1	596.7	597.2	597.7	598.1	598.5	600.4
25°	570.4	572.0	573.6	575.2	576.8	577.9	578.3	578.8	579.3	579.8	581.8
27.5°	548.5	550.3	552.1	553.9	555.7	557.1	558.2	559.2	560.2	561.3	563.1
30°	532.8	534.9	537.0	539.1	541.2	542.9	544.1	545.4	546.7	548.0	550.0
32.5°	515.5	517.8	520.2	522.5	524.9	526.9	528.6	530.2	531.9	533.6	535.6
35°	491.0	493.5	496.1	498.7	501.2	503.6	505.7	507.7	509.8	511.9	514.3
37.5°	465.0	467.9	470.7	473.6	476.5	479.3	481.8	484.4	486.9	489.6	492.3
40°	447.6	450.5	453.5	456.3	459.2	462.2	465.4	468.6	471.8	475.0	477.8
42.5°	428.6	432.2	435.6	439.1	442.7	446.1	449.5	452.8	456.2	459.5	462.5
45°	401.4	405.3	409.2	413.0	416.8	420.8	424.8	428.8	432.8	436.8	439.9
47.5°	373.0	377.4	381.7	386.1	390.4	394.9	399.5	404.1	408.7	413.3	416.7
50°	354.5	359.0	363.4	368.0	372.5	377.2	382.2	387.2	392.1	397.1	400.8
52.5°	334.9	339.6	344.4	349.1	353.8	359.0	364.5	369.9	375.4	381.0	384.7
55°	306.1	311.4	316.7	322.0	327.3	332.8	338.7	344.4	350.2	355.9	360.2
57.5°	278.1	283.6	289.2	294.6	300.2	306.1	312.5	318.8	325.1	331.4	335.7
60°	258.4	264.3	270.0	275.8	281.5	287.8	294.4	301.0	307.5	314.1	318.6
62.5°	240.0	245.9	251.8	257.7	263.6	270.0	277.0	284.0	291.0	297.9	302.4
65°	211.5	217.8	224.0	230.4	236.6	243.3	250.3	257.3	264.4	271.5	276.3
67.5°	182.7	189.4	196.0	202.6	209.2	216.1	223.4	230.5	237.7	244.9	250.2
70°	162.5	169.4	176.3	183.1	190.0	197.4	205.0	212.7	220.5	228.2	233.3
72.5°	143.9	150.9	157.8	164.7	171.5	179.0	186.9	194.9	202.8	210.8	216.1
75°	114.8	122.3	129.9	137.4	145.0	152.8	160.8	168.8	176.8	184.8	190.1
77.5°	89.4	97.0	104.6	112.2	119.8	127.6	135.7	143.8	151.9	160.0	165.6
80°	71.4	79.4	87.2	95.1	102.9	111.0	119.3	127.7	136.1	144.4	149.9
82.5°	55.9	63.9	71.8	79.8	87.8	96.0	104.5	113.0	121.5	130.0	135.4
85°	35.3	43.4	51.5	59.5	67.5	75.7	84.3	92.7	101.2	109.7	115.2
87.5°	19.4	27.6	35.8	44.1	52.3	60.6	69.2	77.7	86.1	94.6	100.0
90°	10.5	19.4	28.4	37.8	46.8	55.8	65.6	75.4	85.2	95.0	99.9
92.5°	15.5	25.8	37.4	48.7	60.3	75.8	97.9	129.1	159.9	159.7	144.7
95°	26.2	34.1	46.3	61.6	81.9	109.9	163.4	251.5	347.5	390.3	335.1
97.5°	38.3	44.5	54.7	68.3	87.8	117.0	168.1	266.0	420.5	560.3	599.6
100°	46.3	51.9	60.9	73.5	91.5	118.8	163.8	250.7	399.5	571.9	682.5
102.5°	54.8	60.3	68.2	80.0	96.2	121.4	162.4	237.2	370.3	540.5	683.2
105°	68.1	73.6	80.7	91.0	105.0	127.1	163.1	225.3	333.8	486.4	645.2
107.5°	81.7	86.5	92.9	102.5	115.5	135.8	167.9	220.4	308.9	438.1	582.5
110°	91.4	96.0	101.5	110.3	122.3	142.0	172.7	219.9	298.4	410.7	543.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	100.9	104.9	109.9	118.2	129.7	148.6	177.3	221.3	290.9	390.9	508.4
115°	113.9	117.9	123.0	130.4	141.4	159.8	186.0	224.5	285.1	368.9	465.7
117.5°	127.3	131.0	134.9	141.0	152.4	169.2	194.8	229.4	281.4	353.5	437.7
120°	136.2	138.6	142.1	148.3	159.3	175.8	200.5	233.7	280.4	345.9	422.7
122.5°	144.4	146.4	149.5	155.7	166.0	182.9	206.9	237.8	280.8	340.0	409.8
125°	155.4	156.5	159.7	165.6	175.8	192.7	216.1	244.4	281.3	331.7	392.6
127.5°	164.3	165.8	169.6	175.4	186.5	202.9	225.0	250.1	283.0	325.5	376.8
130°	169.9	171.4	176.1	182.3	193.4	209.5	230.5	254.1	284.2	321.2	367.9
132.5°	173.6	175.6	180.9	188.6	199.8	215.2	235.1	257.6	284.5	317.9	359.2
135°	181.0	182.9	188.8	196.6	207.7	223.1	241.6	261.6	284.8	312.9	347.5
137.5°	187.9	190.1	195.8	204.2	215.3	229.1	246.2	264.6	284.7	308.3	337.4
140°	192.1	194.8	200.2	208.8	219.5	233.2	249.3	265.9	284.6	305.6	331.1
142.5°	197.3	199.4	205.1	212.7	223.3	235.9	251.1	266.9	284.0	302.4	325.1
145°	205.6	207.0	211.7	219.6	228.6	240.8	254.9	269.4	284.4	300.5	319.1
147.5°	213.2	214.1	219.0	225.9	234.7	245.2	258.1	271.1	284.4	298.5	313.6
150°	218.8	219.3	223.7	230.6	238.2	247.8	260.2	271.5	284.4	296.7	310.2
152.5°	224.4	224.5	228.8	235.0	241.6	250.8	261.5	272.4	283.1	294.6	306.8
155°	232.8	232.8	236.0	241.4	247.3	254.9	264.0	272.6	281.7	290.9	301.6
157.5°	239.4	239.9	242.4	247.2	252.2	258.1	265.3	273.1	279.8	287.5	295.8
160°	244.6	244.6	246.8	251.1	254.9	260.2	266.6	273.1	279.0	284.9	291.9
162.5°	248.5	248.5	250.2	253.6	256.9	261.5	267.1	272.7	277.3	282.4	288.0
165°	254.3	253.7	254.9	257.5	259.7	263.4	267.7	271.5	274.8	278.5	282.8
167.5°	258.7	258.1	258.5	260.6	262.1	264.5	267.6	270.6	272.1	274.6	277.8
170°	261.3	260.2	260.7	262.3	263.4	264.5	267.2	269.4	270.4	272.0	274.8
172.5°	263.0	262.3	262.5	263.6	264.3	264.9	267.2	268.9	269.1	269.8	271.7
175°	265.0	264.5	264.0	265.0	265.0	265.6	266.6	267.7	267.2	267.2	268.2
177.5°	266.0	265.6	265.1	265.6	265.6	265.6	266.0	266.8	266.0	265.6	266.0
180°	265.6	265.6	265.6	265.6	265.6	265.6	265.6	265.6	265.6	265.6	265.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	662.8	662.8	662.8	662.8	662.8	662.8	662.8	662.8
2.5°	661.4	662.4	663.5	663.9	663.7	663.6	663.5	663.4
5°	660.3	661.6	662.9	663.5	663.3	663.1	663.0	662.8
7.5°	656.3	657.9	659.6	660.3	660.1	659.9	659.7	659.5
10°	652.3	653.9	655.5	656.1	655.8	655.5	655.2	654.9
12.5°	646.9	648.3	649.8	650.4	650.1	649.7	649.4	649.1
15°	636.4	638.0	639.6	640.4	640.2	640.0	639.9	639.7
17.5°	622.8	624.2	625.7	626.3	626.0	625.8	625.7	625.4
20°	613.0	614.4	615.9	616.7	616.8	617.0	617.2	617.3
22.5°	602.2	604.1	605.9	606.7	606.6	606.5	606.4	606.3
25°	583.9	586.1	588.1	589.2	589.2	589.2	589.2	589.2
27.5°	564.9	566.7	568.4	569.5	569.6	569.7	569.9	570.0
30°	551.9	553.7	555.7	556.7	556.7	556.7	556.7	556.7
32.5°	537.6	539.7	541.8	543.0	543.4	543.8	544.1	544.5
35°	516.7	519.2	521.5	523.0	523.7	524.3	525.0	525.7
37.5°	494.9	497.7	500.4	502.1	502.6	503.0	503.6	504.1
40°	480.5	483.2	486.0	487.7	488.3	489.0	489.6	490.2
42.5°	465.4	468.4	471.5	473.3	474.3	475.1	476.1	476.9
45°	442.9	445.9	449.0	451.2	452.4	453.7	455.1	456.3
47.5°	420.2	423.6	427.0	429.2	430.2	431.2	432.3	433.2
50°	404.4	408.2	411.9	414.2	415.4	416.5	417.6	418.8
52.5°	388.6	392.4	396.2	398.8	400.2	401.5	402.9	404.4
55°	364.6	368.9	373.2	376.1	377.4	378.6	379.9	381.3
57.5°	340.2	344.5	348.8	351.8	353.3	354.8	356.3	357.8
60°	323.1	327.5	332.1	335.2	337.0	338.7	340.4	342.2
62.5°	306.9	311.4	315.8	319.0	320.6	322.2	323.9	325.5
65°	281.1	285.9	290.8	294.0	295.6	297.2	298.8	300.4
67.5°	255.4	260.7	266.0	269.3	270.6	271.9	273.3	274.7
70°	238.5	243.6	248.7	252.0	253.6	255.2	256.8	258.4
72.5°	221.3	226.6	231.9	235.4	237.0	238.6	240.2	241.8
75°	195.4	200.8	206.0	209.6	211.5	213.5	215.4	217.4
77.5°	171.2	176.7	182.3	185.9	187.4	188.8	190.3	191.8
80°	155.3	160.8	166.3	169.8	171.4	173.0	174.6	176.2
82.5°	140.9	146.3	151.7	155.3	156.9	158.5	160.1	161.7
85°	120.6	126.1	131.6	135.1	136.7	138.3	139.9	141.5
87.5°	105.6	111.1	116.7	120.5	122.0	123.7	125.4	126.9
90°	105.9	112.0	117.9	122.5	123.6	125.7	127.9	128.9
92.5°	132.9	128.8	130.0	130.6	131.1	131.0	133.0	133.5
95°	274.9	217.5	194.1	178.0	169.4	166.2	164.0	163.4
97.5°	558.3	467.0	402.5	341.4	303.3	280.7	267.8	264.8
100°	706.0	667.0	608.8	535.6	482.9	445.3	425.9	428.0
102.5°	752.5	755.6	723.5	678.3	637.5	608.1	592.2	581.5
105°	762.0	820.3	835.0	824.0	800.7	781.7	765.9	764.7
107.5°	714.3	805.8	857.2	879.2	881.1	875.6	871.2	867.6
110°	670.6	773.7	845.6	886.0	902.3	908.0	908.1	908.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	626.9	732.1	812.0	863.1	892.0	906.8	912.3	913.9
115°	569.0	666.5	749.3	810.5	852.1	877.0	889.1	893.1
117.5°	525.6	610.1	684.9	746.9	790.2	818.5	835.3	840.2
120°	502.2	578.4	646.7	703.3	747.0	778.2	792.2	796.5
122.5°	483.1	552.4	615.8	668.5	707.4	735.6	750.9	756.1
125°	457.2	519.2	574.2	619.4	655.0	679.8	694.3	699.2
127.5°	434.0	489.5	539.2	580.4	612.2	633.5	646.8	651.3
130°	419.2	470.7	517.3	555.8	585.3	605.6	617.8	623.1
132.5°	405.4	452.8	496.2	533.1	561.0	581.5	592.5	596.6
135°	386.4	427.5	465.3	497.9	525.0	541.9	552.4	556.9
137.5°	369.1	402.8	435.5	463.7	486.7	503.9	512.8	516.1
140°	358.7	388.6	416.8	441.5	462.8	478.6	488.0	488.2
142.5°	348.6	374.3	398.8	420.4	438.7	452.8	461.3	461.6
145°	337.5	356.6	375.0	391.5	405.7	417.5	422.5	424.2
147.5°	328.5	343.0	357.2	368.8	379.6	387.8	392.5	393.4
150°	322.5	334.9	346.2	356.6	365.0	371.2	374.8	375.0
152.5°	317.8	328.5	338.5	347.0	353.5	358.9	361.0	361.0
155°	310.8	319.3	327.4	333.8	338.7	343.0	344.0	344.6
157.5°	303.2	310.4	316.7	321.7	325.9	329.1	330.0	329.9
160°	298.9	304.8	310.2	314.0	317.7	320.9	320.9	320.4
162.5°	293.8	298.8	303.8	307.1	309.5	312.4	312.4	311.8
165°	287.1	290.3	294.1	296.7	298.9	301.0	300.5	300.5
167.5°	281.3	283.7	285.9	287.9	288.8	290.3	289.7	289.7
170°	277.4	279.0	281.2	282.2	282.8	283.9	283.3	283.3
172.5°	274.0	275.1	276.8	277.5	277.6	278.7	277.8	277.3
175°	269.4	269.8	271.0	271.0	271.0	271.5	271.0	270.4
177.5°	266.5	266.8	267.3	267.3	266.8	267.3	266.5	266.5
180°	265.6	265.6	265.6	265.6	265.6	265.6	265.6	265.6

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