

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: P331927

Luminaire Tested: **S123DIP-S560D585U835-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331927
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-S560D585U835-4F0-1E-UDD-F4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 585 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4440.2 lumens
Efficiency: N/A
Efficacy: 135.4 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

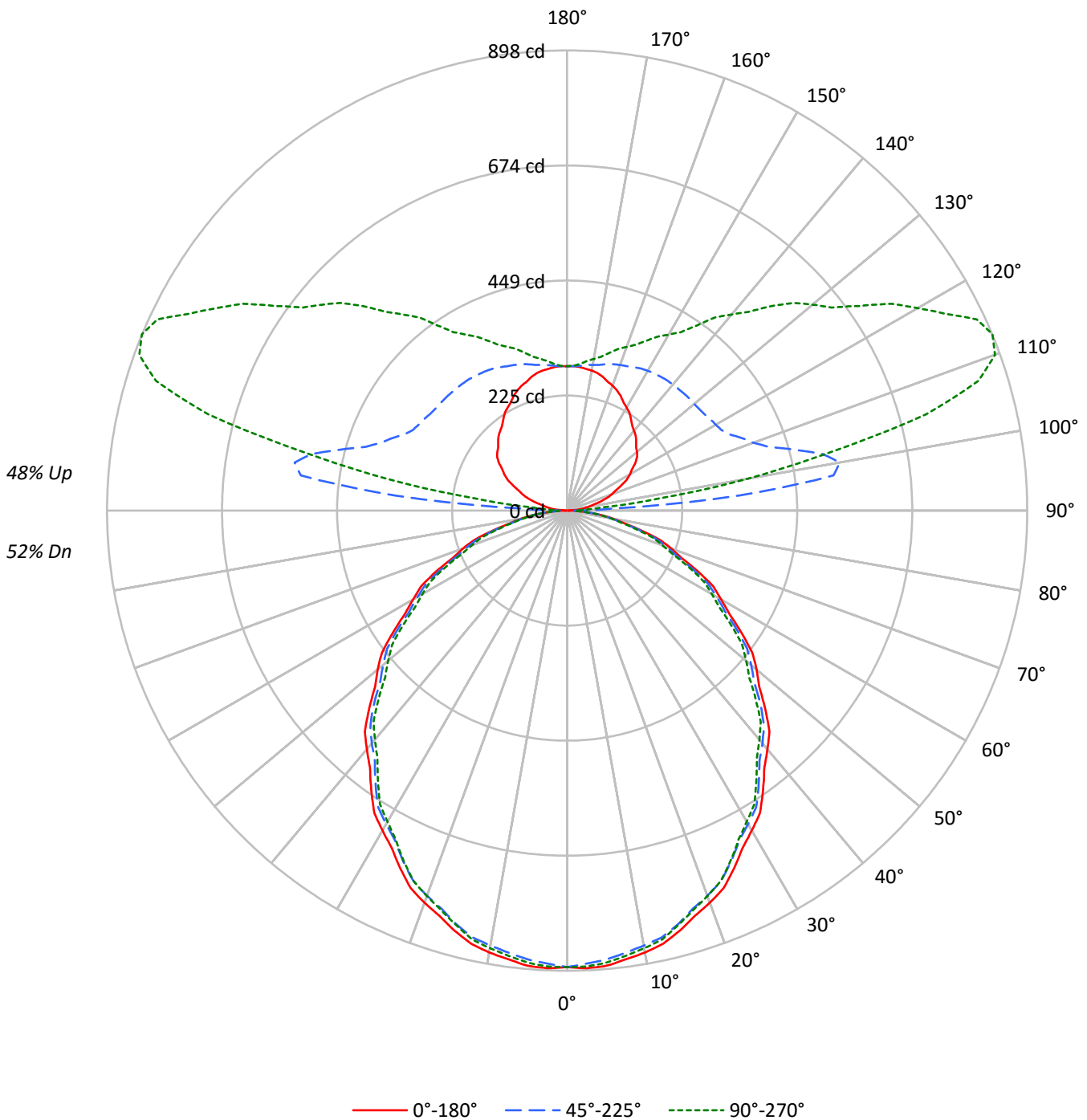
Input Watts (W): 32.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	108	108	108	108	100	100	100	100	85	85	85	71	71	71	58	58	58	52
1	98	94	90	86	91	87	84	81	74	72	69	62	60	59	51	50	49	44
2	89	82	76	70	82	76	71	66	65	61	57	55	52	49	45	43	41	37
3	82	72	65	59	75	67	60	55	57	52	48	48	45	42	40	37	35	31
4	75	64	56	50	69	59	52	47	51	45	41	43	39	36	36	33	30	27
5	68	57	49	43	63	53	46	40	45	40	35	39	34	31	32	29	26	23
6	63	51	43	37	58	47	40	35	41	35	31	35	30	27	29	26	23	20
7	58	46	38	32	54	43	36	31	37	31	27	32	27	24	27	23	21	18
8	54	42	34	29	50	39	32	27	34	28	24	29	25	21	24	21	18	16
9	50	38	31	25	47	36	29	24	31	26	22	27	22	19	23	19	17	14
10	47	35	28	23	44	33	26	22	29	23	20	25	20	17	21	18	15	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9590	9590	9590
5°	9634	9502	9568
10°	9570	9419	9477
15°	9458	9313	9331
20°	9328	9160	9170
25°	9152	8980	8961
30°	8959	8779	8712
35°	8757	8566	8456
40°	8546	8331	8202
45°	8315	8115	7917
50°	8081	7850	7633
55°	7777	7576	7345
60°	7470	7255	7025
65°	7200	6907	6691
70°	6798	6508	6219
75°	6213	5989	5735
80°	5604	5368	5318
85°	4915	4730	4545



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	83.9	1.9
10°-20°	237.0	5.3
20°-30°	350.0	7.9
30°-40°	408.9	9.2
40°-50°	411.1	9.3
50°-60°	361.1	8.1
60°-70°	269.0	6.1
70°-80°	153.3	3.5
80°-90°	46.2	1.0
90°-100°	156.8	3.5
100°-110°	444.0	10.0
110°-120°	436.8	9.8
120°-130°	348.4	7.8
130°-140°	274.7	6.2
140°-150°	205.0	4.6
150°-160°	142.9	3.2
160°-170°	83.9	1.9
170°-180°	27.3	0.6
0°-30°	670.9	15.1
0°-40°	1079.8	24.3
0°-60°	1851.9	41.7
0°-90°	2320.3	52.3
90°-120°	1037.6	23.4
90°-150°	1865.7	42.0
90°-180°	2120.0	47.7
0°-180°	4440.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	891	891	891	891	891	
5°	892	888	879	887	886	84
15°	849	845	836	841	837	239
25°	771	766	756	757	754	355
35°	666	662	652	647	644	417
45°	546	543	533	524	520	421
55°	414	413	404	396	391	371
65°	283	279	271	265	263	279
75°	149	146	144	140	138	160
85°	40	38	38	37	37	44
90°	1	7	14	16	16	3
95°	19	63	338	99	66	21
105°	66	98	459	802	726	70
115°	117	146	351	769	882	116
125°	163	192	327	593	696	144
135°	190	227	323	489	564	147
145°	217	249	319	401	441	136
155°	247	266	309	351	366	114
165°	270	278	296	313	319	76
175°	281	282	284	288	287	27
180°	282	282	282	282	282	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	890.9	890.9	890.9	890.9	890.9	890.9	890.9	890.9	890.9	890.9	890.9
2.5°	893.9	893.4	892.9	892.3	891.8	890.7	889.2	887.7	886.3	884.8	886.1
5°	891.6	890.8	889.9	889.1	888.2	886.9	885.0	883.1	881.3	879.4	881.1
7.5°	882.9	882.1	881.2	880.4	879.5	878.1	876.2	874.2	872.3	870.4	871.9
10°	875.6	874.7	873.9	873.0	872.2	870.6	868.4	866.2	864.0	861.8	863.3
12.5°	865.8	865.0	864.3	863.6	862.9	861.5	859.4	857.3	855.3	853.2	854.3
15°	848.7	848.1	847.4	846.7	846.0	844.6	842.4	840.2	837.9	835.7	837.1
17.5°	829.0	828.1	827.2	826.3	825.4	823.9	821.7	819.5	817.3	815.0	816.0
20°	814.3	813.3	812.2	811.2	810.2	808.6	806.4	804.2	801.9	799.7	800.4
22.5°	797.7	796.7	795.7	794.7	793.6	792.0	789.8	787.6	785.4	783.2	783.7
25°	770.6	769.6	768.6	767.6	766.5	764.9	762.7	760.5	758.3	756.1	756.2
27.5°	741.7	740.7	739.7	738.7	737.7	736.0	733.6	731.3	728.9	726.5	726.6
30°	720.8	720.0	719.1	718.3	717.4	715.8	713.4	711.0	708.7	706.3	706.3
32.5°	700.0	698.9	697.7	696.6	695.5	694.0	692.2	690.3	688.5	686.7	685.7
35°	666.4	665.4	664.4	663.4	662.4	660.7	658.5	656.3	654.1	651.9	650.9
37.5°	632.1	630.8	629.5	628.2	626.9	625.2	622.9	620.7	618.4	616.2	615.0
40°	608.2	607.2	606.2	605.2	604.1	602.4	600.0	597.7	595.3	592.9	591.5
42.5°	584.3	583.2	582.0	580.8	579.7	577.9	575.5	573.2	570.8	568.4	567.0
45°	546.2	545.5	544.8	544.1	543.4	542.0	539.8	537.6	535.4	533.1	531.1
47.5°	508.3	507.3	506.4	505.4	504.4	502.8	500.8	498.7	496.6	494.5	492.5
50°	482.6	481.7	480.9	480.0	479.2	477.7	475.4	473.2	471.0	468.8	466.9
52.5°	455.6	455.0	454.5	453.9	453.3	451.8	449.5	447.2	444.8	442.5	440.9
55°	414.4	414.2	414.1	413.9	413.7	412.5	410.3	408.1	405.9	403.7	401.8
57.5°	375.2	374.6	374.0	373.5	372.9	371.7	369.9	368.2	366.4	364.6	363.0
60°	347.0	346.8	346.7	346.5	346.3	345.2	343.2	341.1	339.1	337.0	335.5
62.5°	321.9	321.4	321.0	320.6	320.1	318.9	316.8	314.8	312.7	310.7	309.2
65°	282.7	281.8	281.0	280.1	279.3	278.0	276.3	274.6	272.9	271.2	269.8
67.5°	241.1	240.4	239.6	238.9	238.1	237.1	235.8	234.5	233.2	232.0	230.8
70°	216.0	215.0	214.0	213.0	211.9	210.9	209.9	208.9	207.8	206.8	205.6
72.5°	189.7	188.9	188.2	187.4	186.7	185.7	184.6	183.4	182.2	181.1	180.0
75°	149.4	148.7	148.0	147.3	146.7	146.1	145.5	145.0	144.5	144.0	143.2
77.5°	113.7	113.3	112.9	112.6	112.2	111.7	111.1	110.5	109.8	109.2	108.7
80°	90.4	89.9	89.4	88.9	88.3	87.9	87.6	87.2	86.9	86.6	86.4
82.5°	67.7	67.6	67.5	67.4	67.3	67.2	67.2	67.1	67.0	67.0	66.6
85°	39.8	39.5	39.2	38.8	38.5	38.3	38.3	38.3	38.3	38.3	38.0
87.5°	16.2	16.0	15.8	15.7	15.6	15.5	15.7	15.9	16.1	16.3	16.1
90°	1.1	2.3	3.4	5.1	6.3	7.4	9.1	10.8	12.5	14.3	13.7
92.5°	7.1	10.5	15.3	19.7	24.5	33.0	47.9	72.4	96.5	87.7	66.2
95°	19.4	21.1	27.4	37.1	51.9	74.1	122.6	207.6	301.2	338.2	274.3
97.5°	33.1	33.7	38.6	47.0	61.6	85.7	132.0	227.8	383.7	524.2	560.8
100°	42.2	42.8	46.8	54.8	68.4	90.7	130.6	215.0	365.0	540.1	652.5
102.5°	51.8	52.8	56.4	63.9	76.2	96.6	132.4	204.1	337.7	510.5	657.1
105°	66.2	67.9	71.3	78.1	89.0	106.7	137.5	196.2	304.0	458.6	622.3
107.5°	81.4	83.2	86.5	93.2	103.4	119.8	146.8	195.6	282.6	412.7	561.4
110°	92.4	94.1	97.0	103.2	112.9	128.9	154.6	197.9	274.3	386.7	523.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	102.4	104.2	107.0	113.3	123.0	138.5	162.3	202.5	269.8	369.4	489.7
115°	116.9	119.2	122.6	128.3	138.0	153.4	175.1	209.9	268.1	350.8	449.5
117.5°	131.4	134.0	136.9	142.1	153.0	167.2	188.7	219.7	269.1	339.8	425.2
120°	141.5	143.2	146.0	151.7	162.6	176.8	197.3	227.0	270.9	334.8	412.4
122.5°	150.1	151.8	154.7	160.8	171.2	186.4	206.5	233.9	274.1	331.6	401.9
125°	162.6	163.7	167.1	173.4	184.2	199.6	219.6	244.7	278.9	327.4	388.4
127.5°	172.0	173.7	178.0	184.3	196.3	211.7	231.0	253.6	284.4	325.3	376.6
130°	178.0	179.7	184.8	191.6	203.6	219.0	237.8	259.5	288.0	324.0	370.2
132.5°	182.5	184.7	190.3	198.5	210.5	225.4	243.8	265.0	290.8	323.5	364.2
135°	190.5	192.8	199.1	207.6	219.6	235.0	252.7	272.1	294.9	322.8	356.5
137.5°	198.0	200.4	206.6	215.7	227.6	241.8	258.8	277.3	297.6	321.6	349.8
140°	203.1	205.9	211.6	220.7	232.1	246.4	262.9	280.1	299.4	321.1	345.6
142.5°	208.5	210.9	217.1	225.3	236.7	250.1	266.1	282.8	300.8	320.2	342.0
145°	217.3	219.0	224.2	232.7	242.4	255.5	270.4	285.8	301.7	318.8	337.1
147.5°	226.2	227.2	232.3	239.7	249.0	260.2	273.8	287.6	301.7	316.7	332.3
150°	232.1	232.7	237.3	244.7	252.7	262.9	276.1	288.0	301.7	314.8	329.1
152.5°	238.1	238.2	242.8	249.3	256.3	266.1	277.4	289.0	300.4	312.6	325.5
155°	247.0	247.0	250.4	256.1	262.4	270.4	280.1	289.2	298.9	308.6	320.0
157.5°	254.0	254.5	257.2	262.3	267.6	273.8	281.5	289.8	296.9	305.0	313.8
160°	259.5	259.5	261.8	266.4	270.4	276.1	282.9	289.8	296.0	302.3	309.7
162.5°	263.6	263.6	265.5	269.1	272.6	277.4	283.4	289.3	294.2	299.6	305.6
165°	269.8	269.2	270.4	273.2	275.5	279.5	284.0	288.0	291.5	295.5	300.0
167.5°	274.5	273.8	274.3	276.5	278.1	280.6	283.9	287.1	288.7	291.3	294.7
170°	277.2	276.1	276.6	278.3	279.5	280.6	283.5	285.8	286.9	288.6	291.5
172.5°	279.0	278.3	278.5	279.7	280.4	281.1	283.5	285.3	285.5	286.3	288.3
175°	281.2	280.6	280.1	281.2	281.2	281.8	282.9	284.0	283.5	283.5	284.6
177.5°	282.2	281.8	281.3	281.8	281.8	281.8	282.2	283.1	282.2	281.8	282.2
180°	281.8	281.8	281.8	281.8	281.8	281.8	281.8	281.8	281.8	281.8	281.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	890.9	890.9	890.9	890.9	890.9	890.9	890.9	890.9
2.5°	887.5	888.8	890.2	890.8	890.7	890.5	890.4	890.3
5°	882.8	884.5	886.2	886.9	886.5	886.2	885.9	885.5
7.5°	873.4	874.9	876.5	877.1	876.9	876.7	876.5	876.3
10°	864.8	866.4	867.9	868.5	868.2	867.8	867.5	867.1
12.5°	855.4	856.6	857.7	858.1	857.9	857.7	857.5	857.3
15°	838.5	839.8	841.2	841.3	840.3	839.3	838.3	837.3
17.5°	817.0	817.9	818.9	819.1	818.8	818.4	818.0	817.6
20°	801.1	801.8	802.4	802.5	802.0	801.5	801.0	800.5
22.5°	784.3	784.8	785.4	785.3	784.7	784.0	783.4	782.7
25°	756.4	756.6	756.7	756.6	756.1	755.6	755.0	754.5
27.5°	726.8	726.9	727.0	726.8	726.1	725.5	724.8	724.2
30°	706.3	706.3	706.3	705.7	704.5	703.3	702.1	700.9
32.5°	684.8	683.8	682.8	682.0	681.4	680.8	680.1	679.5
35°	649.8	648.8	647.8	646.9	646.0	645.2	644.3	643.5
37.5°	613.7	612.5	611.3	610.4	609.9	609.3	608.8	608.2
40°	590.2	588.8	587.5	586.4	585.7	585.1	584.4	583.7
42.5°	565.7	564.3	562.9	561.9	561.2	560.6	559.9	559.2
45°	529.1	527.0	525.0	523.5	522.7	521.8	521.0	520.1
47.5°	490.5	488.5	486.5	485.1	484.4	483.6	482.9	482.1
50°	465.1	463.2	461.3	459.9	458.8	457.8	456.8	455.8
52.5°	439.3	437.7	436.1	434.7	433.7	432.7	431.7	430.7
55°	399.9	398.1	396.2	394.8	394.0	393.1	392.3	391.4
57.5°	361.3	359.6	358.0	356.6	355.6	354.7	353.7	352.7
60°	334.0	332.5	330.9	329.7	328.9	328.0	327.2	326.3
62.5°	307.6	306.1	304.6	303.5	302.9	302.4	301.8	301.2
65°	268.4	267.1	265.7	264.8	264.3	263.8	263.3	262.7
67.5°	229.6	228.4	227.2	226.2	225.5	224.8	224.1	223.4
70°	204.4	203.3	202.1	201.0	200.2	199.3	198.5	197.6
72.5°	179.0	177.9	176.9	176.1	175.7	175.2	174.8	174.3
75°	142.3	141.5	140.6	139.9	139.4	138.9	138.4	137.9
77.5°	108.1	107.5	106.9	106.6	106.6	106.6	106.6	106.6
80°	86.2	86.0	85.9	85.8	85.8	85.8	85.8	85.8
82.5°	66.3	66.0	65.7	65.5	65.4	65.2	65.1	65.0
85°	37.6	37.3	36.9	36.8	36.8	36.8	36.8	36.8
87.5°	16.1	16.0	16.0	16.2	16.1	16.2	16.3	16.2
90°	14.3	14.8	15.4	16.5	16.0	16.5	17.1	16.5
92.5°	48.0	38.1	33.7	30.7	29.7	27.9	28.5	27.5
95°	205.3	139.2	108.9	88.4	77.6	72.4	68.4	66.2
97.5°	511.9	410.0	336.4	268.2	226.1	200.4	185.0	180.1
100°	672.5	626.3	559.5	478.5	420.9	379.3	357.1	357.6
102.5°	725.9	724.4	685.5	634.1	589.3	556.3	537.7	524.6
105°	741.5	798.5	809.4	794.5	768.3	746.6	728.4	725.5
107.5°	696.5	789.2	839.1	859.4	859.9	852.6	846.4	841.2
110°	653.6	758.6	830.5	870.4	886.4	890.9	889.8	888.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	611.2	718.4	799.0	850.3	879.5	893.7	898.0	898.2
115°	555.0	654.2	738.1	800.2	843.0	868.1	879.5	882.4
117.5°	514.2	599.9	675.2	738.3	782.9	811.6	828.1	831.9
120°	492.8	569.8	638.2	695.9	740.9	772.9	786.5	790.0
122.5°	475.9	545.6	609.0	662.5	702.6	731.3	746.4	750.7
125°	453.4	515.6	570.4	616.0	652.5	677.6	691.9	695.9
127.5°	433.8	489.3	538.7	580.2	612.7	634.1	647.0	650.7
130°	421.5	472.8	519.0	557.8	588.1	608.6	620.6	625.1
132.5°	410.1	457.3	500.3	537.3	565.7	586.2	596.8	600.0
135°	394.7	435.2	472.3	504.8	532.7	549.8	560.1	564.1
137.5°	380.7	413.9	445.8	474.0	497.5	514.8	523.5	526.1
140°	372.5	401.5	428.9	453.4	475.1	491.1	500.2	499.6
142.5°	364.7	389.7	413.4	434.7	453.2	467.4	475.6	475.0
145°	355.3	374.2	392.4	409.0	423.2	435.2	439.8	440.9
147.5°	347.7	362.6	377.4	389.1	399.9	408.0	412.4	412.8
150°	342.2	355.3	367.3	378.2	386.7	393.0	396.4	396.4
152.5°	337.2	348.5	359.1	368.1	374.8	380.7	382.7	382.7
155°	329.7	338.8	347.4	354.2	359.3	363.9	365.0	365.6
157.5°	321.7	329.3	336.0	341.3	345.8	349.2	350.1	350.0
160°	317.1	323.4	329.1	333.1	337.1	340.5	340.5	339.9
162.5°	311.7	317.0	322.3	325.8	328.4	331.4	331.4	330.8
165°	304.6	308.0	312.0	314.8	317.1	319.4	318.8	318.8
167.5°	298.4	301.0	303.3	305.4	306.4	308.0	307.4	307.4
170°	294.3	296.0	298.3	299.4	300.0	301.2	300.6	300.6
172.5°	290.7	291.9	293.7	294.4	294.5	295.7	294.7	294.2
175°	285.8	286.3	287.5	287.5	287.5	288.0	287.5	286.9
177.5°	282.7	283.1	283.6	283.6	283.1	283.6	282.7	282.7
180°	281.8	281.8	281.8	281.8	281.8	281.8	281.8	281.8

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