

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: P331632-930

Luminaire Tested: **SA2XXRDIP-C290D725U930-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331632-930
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-16,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXRDIP-C290D725U930-4F0-1E-UDD-F4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 725 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

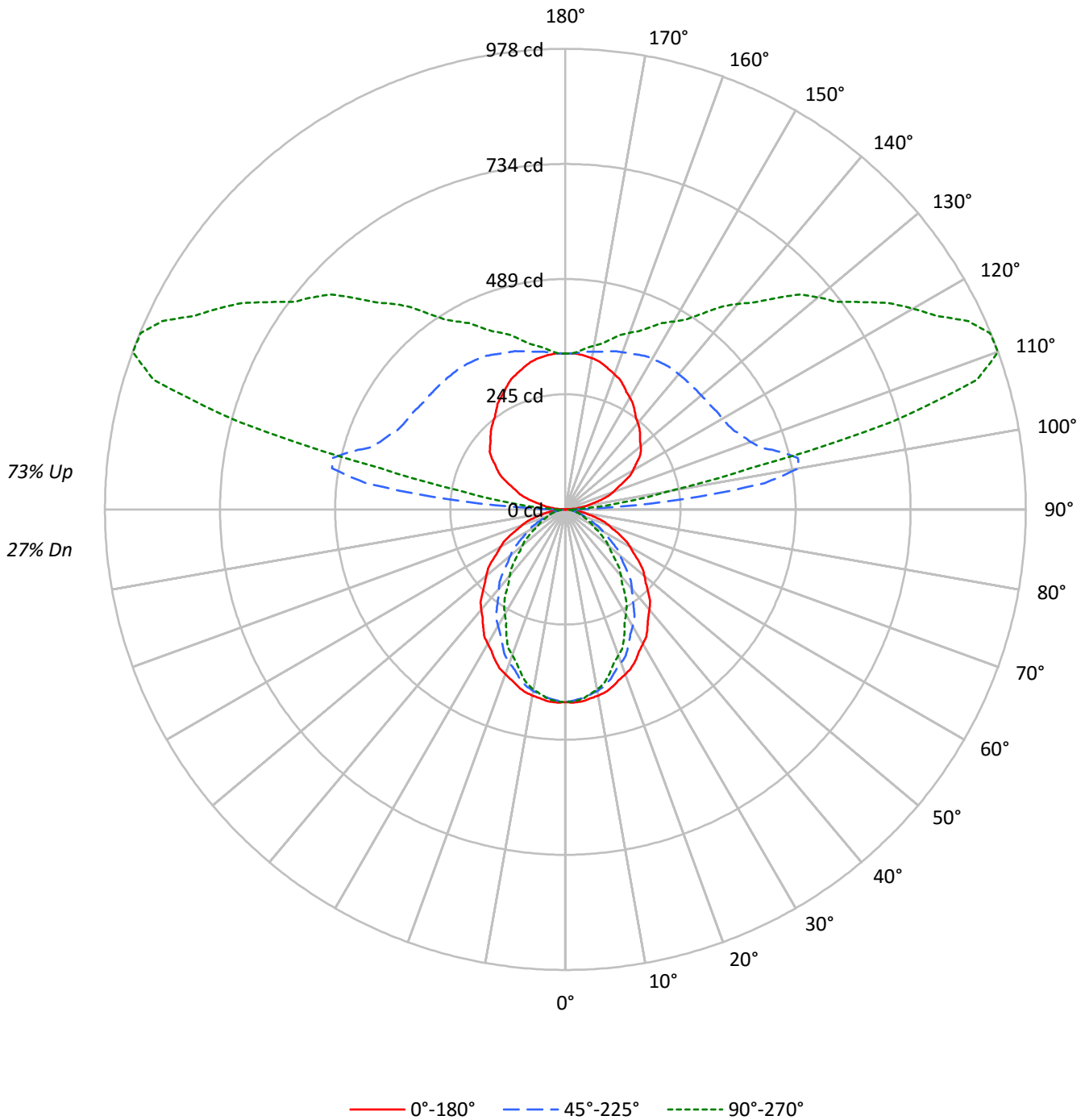
Lumens per Lamp: N/A
Luminaire Lumens: 3150.9 lumens
Efficiency: N/A
Efficacy: 101.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Indirect

Input Watts (W): 31.2
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	102	102	102	102	91	91	91	91	70	70	70	52	52	52	35	35	35	27
1	93	89	85	82	83	79	76	74	62	60	58	46	45	43	31	30	30	23
2	85	78	72	67	75	70	65	61	55	51	48	41	38	37	28	26	25	20
3	77	68	62	56	69	61	56	51	48	44	41	36	33	31	25	23	22	17
4	71	61	53	48	63	55	48	43	43	39	35	32	29	27	22	21	19	15
5	65	54	46	41	58	49	42	37	38	34	30	29	26	23	20	18	17	13
6	60	48	41	35	53	44	37	32	35	30	26	26	23	21	18	16	15	12
7	55	44	36	31	49	39	33	28	31	27	23	24	21	18	17	15	13	10
8	51	40	32	27	46	36	29	25	29	24	21	22	19	16	15	13	12	9
9	48	36	29	24	43	33	26	22	26	22	18	20	17	15	14	12	11	8
10	44	33	26	21	40	30	24	20	24	20	16	18	15	13	13	11	10	8

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6608	6608	6608
5°	6634	6525	6561
10°	6583	6419	6365
15°	6506	6228	6048
20°	6402	5957	5658
25°	6296	5649	5279
30°	6145	5330	4793
35°	6000	4987	4366
40°	5855	4628	3872
45°	5683	4229	3425
50°	5506	3823	2987
55°	5326	3386	2567
60°	5118	2929	2131
65°	4883	2460	1937
70°	4598	2030	1780
75°	4255	1847	1666
80°	3756	1655	1516
85°	2946	1297	1297



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	38.3	1.2
10°-20°	105.2	3.3
20°-30°	147.7	4.7
30°-40°	161.1	5.1
40°-50°	148.1	4.7
50°-60°	116.3	3.7
60°-70°	75.8	2.4
70°-80°	39.1	1.2
80°-90°	13.1	0.4
90°-100°	132.5	4.2
100°-110°	449.7	14.3
110°-120°	477.7	15.2
120°-130°	393.2	12.5
130°-140°	315.8	10.0
140°-150°	238.6	7.6
150°-160°	167.7	5.3
160°-170°	98.7	3.1
170°-180°	32.1	1.0
0°-30°	291.2	9.2
0°-40°	452.3	14.4
0°-60°	716.7	22.7
0°-90°	844.7	26.8
90°-120°	1059.9	33.6
90°-150°	2007.6	63.7
90°-180°	2306.0	73.2
0°-180°	3150.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	409	409	409	409	409	
5°	409	407	403	406	405	39
15°	389	385	373	366	362	110
25°	353	341	317	302	296	162
35°	304	285	253	230	222	190
45°	249	223	185	160	150	192
55°	189	160	120	99	91	169
65°	128	98	64	52	51	127
75°	68	43	30	27	27	72
85°	16	8	7	7	7	19
90°	1	9	22	21	21	2
95°	22	55	250	94	73	24
105°	78	117	472	844	718	83
115°	137	173	395	815	945	136
125°	191	226	380	661	767	170
135°	224	268	375	555	635	173
145°	256	294	374	464	507	161
155°	291	314	363	410	426	134
165°	317	327	347	368	374	89
175°	331	331	334	338	337	31
180°	331	331	331	331	331	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	409.3	409.3	409.3	409.3	409.3	409.3	409.3	409.3	409.3	409.3	409.3
2.5°	410.7	410.4	410.1	409.8	409.4	408.9	408.1	407.5	406.8	406.0	406.7
5°	409.3	408.9	408.5	408.1	407.6	406.8	405.8	404.7	403.7	402.6	403.3
7.5°	405.0	404.6	404.0	403.5	403.0	402.1	400.9	399.6	398.4	397.1	397.3
10°	401.5	400.9	400.3	399.7	399.2	398.0	396.4	394.8	393.1	391.5	391.3
12.5°	397.1	396.3	395.6	394.9	394.2	392.8	390.7	388.6	386.5	384.3	383.9
15°	389.2	388.3	387.4	386.5	385.6	383.8	381.0	378.2	375.4	372.6	371.0
17.5°	379.7	378.3	376.9	375.5	374.1	371.7	368.1	364.5	360.9	357.3	355.5
20°	372.6	371.0	369.3	367.6	366.0	363.1	359.0	354.9	350.8	346.7	344.6
22.5°	364.9	363.1	361.2	359.4	357.5	354.2	349.6	345.0	340.4	335.7	333.0
25°	353.4	350.7	348.1	345.4	342.8	338.8	333.3	327.9	322.5	317.1	313.6
27.5°	339.4	336.6	333.7	330.8	327.9	323.4	317.3	311.2	305.1	299.0	295.1
30°	329.6	326.5	323.3	320.2	317.2	312.3	305.7	299.1	292.5	285.9	281.8
32.5°	320.2	316.5	312.8	309.2	305.5	300.4	293.7	286.9	280.2	273.5	268.7
35°	304.4	300.3	296.0	291.9	287.6	281.9	274.7	267.4	260.2	253.0	247.8
37.5°	288.8	284.1	279.5	274.9	270.3	264.2	256.4	248.7	241.0	233.3	227.6
40°	277.8	272.9	267.9	262.9	258.0	251.6	243.6	235.6	227.6	219.6	213.8
42.5°	266.5	261.3	256.1	250.9	245.7	239.0	230.7	222.5	214.3	206.0	200.0
45°	248.9	243.4	237.8	232.4	226.8	219.7	211.1	202.4	193.8	185.2	179.4
47.5°	231.7	225.8	220.0	214.2	208.3	201.0	192.0	183.1	174.1	165.3	159.5
50°	219.2	213.4	207.6	201.7	195.9	188.4	179.4	170.3	161.3	152.2	146.5
52.5°	207.1	201.0	194.9	188.8	182.7	175.2	166.3	157.5	148.6	139.7	134.3
55°	189.2	182.9	176.4	170.0	163.5	156.0	147.0	138.1	129.2	120.3	115.4
57.5°	171.0	164.4	157.8	151.2	144.6	137.1	128.5	120.0	111.5	102.9	98.3
60°	158.5	152.0	145.4	138.8	132.2	124.7	116.2	107.7	99.2	90.7	86.5
62.5°	146.3	139.8	133.2	126.6	120.0	112.7	104.6	96.5	88.5	80.4	76.4
65°	127.8	121.1	114.5	107.8	101.1	94.1	86.7	79.2	71.8	64.4	61.6
67.5°	109.8	103.2	96.6	90.0	83.4	76.7	70.0	63.4	56.7	50.1	48.8
70°	97.4	91.0	84.5	78.2	71.7	65.7	60.0	54.3	48.7	43.0	42.2
72.5°	85.5	79.4	73.2	67.1	60.9	55.6	51.0	46.5	41.9	37.3	36.6
75°	68.2	62.4	56.7	50.9	45.1	40.8	38.0	35.2	32.4	29.6	29.0
77.5°	51.0	46.0	40.9	35.9	30.8	27.6	26.3	24.9	23.6	22.3	21.9
80°	40.4	36.2	32.0	27.8	23.6	21.0	20.2	19.4	18.6	17.8	17.4
82.5°	30.6	27.3	24.1	20.8	17.5	15.6	15.0	14.4	13.9	13.4	13.1
85°	15.9	14.2	12.5	10.8	9.0	8.0	7.7	7.5	7.3	7.0	7.0
87.5°	4.9	4.7	4.7	4.4	4.2	4.3	4.9	5.8	6.6	6.7	6.5
90°	0.7	2.5	5.1	6.4	7.7	9.5	12.7	17.2	21.0	21.7	21.0
92.5°	7.7	11.3	15.8	18.6	22.9	28.9	43.4	63.6	81.7	82.8	70.0
95°	22.3	24.9	31.2	36.9	47.1	62.5	91.8	147.2	221.2	249.8	218.6
97.5°	36.4	39.8	46.6	55.2	66.9	84.2	121.1	198.4	321.2	426.5	447.4
100°	49.1	51.0	56.7	66.9	79.7	97.5	131.3	209.0	346.7	503.4	595.3
102.5°	60.8	62.2	67.9	78.1	91.4	109.3	140.5	209.5	337.0	506.1	650.3
105°	77.8	80.3	84.8	94.3	108.4	126.2	156.1	212.9	318.0	472.2	641.8
107.5°	96.1	98.2	102.5	111.3	125.1	143.2	172.2	221.7	308.6	436.0	585.8
110°	108.4	110.9	114.7	123.0	136.4	154.9	182.9	228.8	306.6	418.7	550.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	119.5	122.1	126.5	134.2	147.1	166.1	193.1	236.4	307.0	407.5	526.2
115°	137.1	140.2	144.1	151.6	164.4	181.6	209.0	247.9	309.7	395.2	495.9
117.5°	155.2	157.7	161.5	168.3	180.5	198.4	223.7	260.2	314.3	389.1	476.7
120°	166.3	168.9	172.7	178.5	191.2	209.0	233.9	268.3	317.4	385.6	466.5
122.5°	177.1	179.1	182.9	189.1	201.9	220.3	243.6	275.5	321.0	383.5	457.9
125°	191.2	193.1	196.9	204.6	217.4	235.1	258.1	286.8	326.3	379.8	445.5
127.5°	202.4	205.0	210.3	218.7	231.0	249.3	271.7	297.3	331.8	377.6	434.0
130°	209.0	211.6	217.9	226.9	239.6	257.5	279.8	304.0	335.9	376.7	426.4
132.5°	215.2	218.3	225.1	234.6	247.8	265.6	286.9	310.6	340.0	376.2	420.3
135°	224.4	226.9	234.6	244.1	258.8	276.6	297.0	319.3	344.8	375.4	411.7
137.5°	233.0	236.0	243.7	253.9	268.5	285.0	305.2	326.0	349.1	375.3	405.7
140°	239.6	242.1	249.8	260.0	274.0	290.7	309.7	329.5	351.1	374.7	402.2
142.5°	246.2	248.3	255.4	265.6	279.2	294.7	313.3	332.6	352.7	374.7	398.6
145°	256.2	258.8	265.1	274.7	287.4	301.4	318.7	336.5	354.3	373.5	393.9
147.5°	266.9	268.8	274.9	283.7	294.3	306.8	323.0	338.7	354.9	371.2	389.1
150°	274.0	276.0	281.0	289.3	298.9	310.4	325.1	339.7	354.3	369.7	384.9
152.5°	281.2	282.1	287.1	294.4	303.5	314.0	327.1	340.2	353.4	367.1	381.4
155°	291.2	291.9	295.7	302.7	309.7	319.3	330.1	341.0	351.8	362.6	374.7
157.5°	299.7	300.3	303.4	309.5	315.1	323.1	332.3	341.0	348.9	358.1	368.5
160°	305.2	305.9	308.4	313.6	318.7	325.6	333.3	341.0	347.3	355.0	363.9
162.5°	310.9	310.5	313.1	317.2	321.7	327.2	333.9	340.5	345.8	352.5	359.8
165°	317.4	316.7	318.0	321.9	325.1	328.9	334.6	339.1	342.9	347.3	353.1
167.5°	322.8	322.0	323.1	325.5	327.8	330.3	334.4	338.2	340.0	342.9	346.4
170°	326.3	325.1	325.6	327.6	328.9	330.8	333.9	337.1	338.4	340.3	342.9
172.5°	328.3	327.6	327.2	329.1	329.9	331.3	333.5	335.6	336.4	337.3	339.3
175°	330.8	330.1	329.5	330.8	330.8	331.4	332.6	333.9	333.3	333.9	334.6
177.5°	331.9	330.9	330.4	331.4	331.4	331.4	331.9	333.0	331.9	331.4	331.9
180°	331.4	331.4	331.4	331.4	331.4	331.4	331.4	331.4	331.4	331.4	331.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	409.3	409.3	409.3	409.3	409.3	409.3	409.3	409.3
2.5°	407.3	408.0	408.6	408.9	408.8	408.6	408.5	408.4
5°	404.1	404.8	405.5	405.8	405.5	405.3	405.0	404.8
7.5°	397.5	397.8	397.9	397.9	397.5	397.0	396.6	396.2
10°	391.0	390.8	390.5	390.1	389.6	389.1	388.7	388.2
12.5°	383.5	383.0	382.6	382.0	381.2	380.3	379.5	378.7
15°	369.5	367.9	366.3	365.2	364.4	363.5	362.6	361.8
17.5°	353.6	351.7	349.9	348.3	346.8	345.4	344.0	342.6
20°	342.6	340.5	338.4	336.5	334.7	332.9	331.1	329.3
22.5°	330.4	327.8	325.1	323.1	321.7	320.4	319.0	317.7
25°	310.3	306.9	303.5	301.3	300.0	298.7	297.5	296.3
27.5°	291.1	287.1	283.2	280.3	278.3	276.4	274.4	272.5
30°	277.5	273.4	269.1	266.0	263.7	261.5	259.3	257.1
32.5°	263.9	259.1	254.3	250.9	248.8	246.7	244.6	242.6
35°	242.6	237.4	232.2	228.7	226.9	225.1	223.3	221.5
37.5°	221.8	216.1	210.4	206.5	204.5	202.4	200.3	198.2
40°	208.0	202.1	196.2	192.2	190.1	188.0	185.8	183.7
42.5°	193.9	187.8	181.8	177.8	175.7	173.7	171.5	169.5
45°	173.5	167.6	161.8	157.9	156.0	153.9	152.0	150.0
47.5°	153.6	147.8	142.0	138.2	136.4	134.6	132.8	131.0
50°	140.9	135.2	129.5	125.8	124.1	122.4	120.6	118.9
52.5°	128.8	123.4	117.9	114.3	112.8	111.1	109.5	107.9
55°	110.5	105.6	100.6	97.3	95.8	94.2	92.7	91.2
57.5°	93.8	89.3	84.8	81.9	80.6	79.2	77.9	76.6
60°	82.3	78.2	73.9	71.2	69.9	68.6	67.3	66.0
62.5°	72.4	68.4	64.4	62.0	61.1	60.4	59.6	58.8
65°	58.9	56.0	53.2	51.7	51.4	51.2	51.0	50.7
67.5°	47.5	46.2	44.9	44.2	43.9	43.6	43.4	43.1
70°	41.3	40.5	39.7	39.1	38.7	38.4	38.1	37.7
72.5°	36.0	35.2	34.6	34.2	33.9	33.8	33.5	33.3
75°	28.5	27.9	27.3	27.0	26.9	26.8	26.7	26.7
77.5°	21.5	21.2	20.9	20.7	20.5	20.4	20.3	20.1
80°	17.1	16.8	16.5	16.3	16.3	16.3	16.3	16.3
82.5°	13.0	12.7	12.6	12.5	12.5	12.5	12.5	12.5
85°	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
87.5°	6.3	6.0	6.2	6.3	6.3	6.3	6.3	6.3
90°	20.4	19.2	20.4	21.0	21.0	21.0	21.0	21.0
92.5°	55.6	47.7	42.3	38.4	37.8	35.8	36.4	35.3
95°	167.0	128.1	101.3	87.3	79.0	73.9	72.0	72.6
97.5°	389.6	318.8	249.8	203.8	173.3	157.7	148.4	143.0
100°	581.9	502.9	415.6	338.4	285.5	258.1	239.6	228.1
102.5°	707.8	690.0	626.1	544.4	486.9	440.1	417.0	401.5
105°	774.4	846.4	854.7	833.6	794.1	754.6	727.2	718.3
107.5°	726.4	834.9	901.2	932.1	937.0	934.8	929.4	917.5
110°	685.1	799.2	880.8	933.0	960.4	972.6	978.3	977.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	647.4	756.8	844.1	904.0	942.1	962.4	973.2	976.6
115°	601.0	699.1	782.6	848.2	893.5	922.8	939.4	945.2
117.5°	566.1	652.2	728.0	789.5	835.7	866.7	884.1	888.9
120°	548.7	627.8	695.3	753.3	797.9	827.9	846.4	852.7
122.5°	535.0	607.4	671.3	723.7	763.8	793.2	809.7	815.0
125°	514.9	580.6	636.7	684.4	721.5	745.7	761.6	766.7
127.5°	495.2	554.6	607.5	651.6	683.9	706.5	720.3	724.4
130°	482.4	537.3	587.6	629.7	660.9	682.6	695.3	700.4
132.5°	470.2	521.0	567.2	606.7	637.5	659.1	670.8	675.4
135°	453.1	495.2	537.3	572.9	600.4	621.4	632.8	635.4
137.5°	439.5	474.7	508.1	539.2	564.2	582.3	592.3	596.1
140°	430.8	461.5	490.7	518.8	539.2	555.7	565.3	569.2
142.5°	423.7	449.7	474.9	498.4	517.8	532.8	541.4	542.1
145°	413.6	434.6	454.4	472.9	488.2	499.0	505.4	507.3
147.5°	405.9	422.4	437.8	451.3	464.0	472.6	477.0	478.1
150°	400.2	414.3	427.6	439.1	448.7	456.3	460.2	460.8
152.5°	394.6	407.6	419.0	428.9	436.4	443.0	445.9	446.0
155°	386.9	397.1	406.6	413.6	420.6	425.1	427.6	426.4
157.5°	377.8	386.4	394.4	399.8	404.8	408.5	409.7	409.7
160°	372.2	379.2	386.2	390.7	395.2	398.4	398.9	398.9
162.5°	366.6	372.6	378.5	382.0	386.5	388.7	389.3	388.7
165°	358.2	362.6	367.1	369.7	372.2	374.7	374.7	374.1
167.5°	350.2	353.6	356.6	359.0	360.1	361.5	361.3	360.6
170°	346.1	348.0	350.5	351.8	352.5	354.3	353.7	352.5
172.5°	341.4	342.9	345.0	345.7	346.3	347.2	346.6	345.8
175°	336.5	337.1	337.8	338.4	338.4	339.1	338.4	337.1
177.5°	333.0	333.0	333.5	333.5	333.5	333.5	333.0	331.9
180°	331.4	331.4	331.4	331.4	331.4	331.4	331.4	331.4

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