

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: P331873-935

Luminaire Tested: **S123DIP-S340D365U935-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331873-935
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-S340D365U935-4F0-1E-UDD-F4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 365 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2346.1 lumens
Efficiency: N/A
Efficacy: 115.6 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

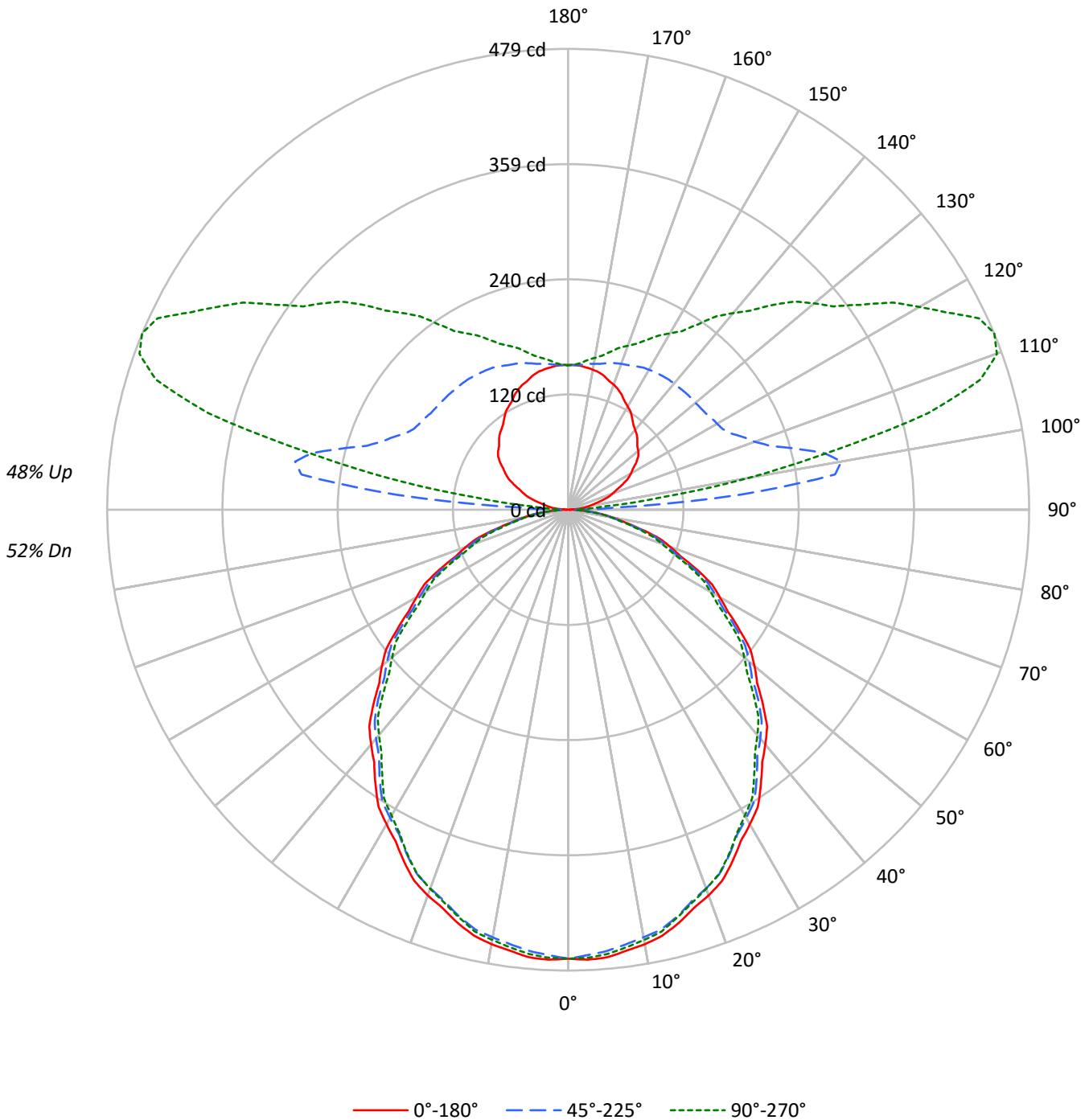
Input Watts (W): 20.3
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	108	108	108	108	99	99	99	99	84	84	84	70	70	70	58	58	58	52
1	98	94	90	86	91	87	83	80	74	71	69	62	60	59	51	50	49	43
2	89	82	76	70	82	76	70	66	65	61	57	54	51	49	45	43	41	36
3	81	72	65	59	75	67	60	55	57	52	48	48	44	41	40	37	35	31
4	75	64	56	50	69	59	52	47	51	45	41	43	39	35	35	32	30	26
5	68	57	48	42	63	53	45	40	45	40	35	38	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	26	23	20	18
8	54	42	34	29	50	39	32	27	34	28	24	29	24	21	24	21	18	16
9	50	38	31	25	47	36	29	24	31	25	22	27	22	19	22	19	17	14
10	47	35	28	23	44	33	26	22	29	23	19	25	20	17	21	17	15	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5022	5022	5022
5°	5046	4976	5010
10°	5012	4933	4964
15°	4953	4878	4886
20°	4885	4798	4802
25°	4793	4703	4694
30°	4692	4598	4561
35°	4586	4486	4428
40°	4477	4363	4295
45°	4354	4250	4147
50°	4232	4113	3997
55°	4074	3969	3847
60°	3914	3800	3679
65°	3769	3617	3505
70°	3559	3408	3257
75°	3256	3136	3003
80°	2938	2814	2783
85°	2569	2482	2384



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	44.0	1.9
10°-20°	124.1	5.3
20°-30°	183.3	7.8
30°-40°	214.1	9.1
40°-50°	215.3	9.2
50°-60°	189.1	8.1
60°-70°	140.9	6.0
70°-80°	80.3	3.4
80°-90°	24.2	1.0
90°-100°	83.7	3.6
100°-110°	236.9	10.1
110°-120°	233.0	9.9
120°-130°	185.8	7.9
130°-140°	146.5	6.2
140°-150°	109.4	4.7
150°-160°	76.2	3.2
160°-170°	44.8	1.9
170°-180°	14.6	0.6
0°-30°	351.4	15.0
0°-40°	565.5	24.1
0°-60°	969.9	41.3
0°-90°	1215.2	51.8
90°-120°	553.5	23.6
90°-150°	995.3	42.4
90°-180°	1131.0	48.2
0°-180°	2346.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	467	467	467	467	467	
5°	467	465	460	464	464	44
15°	444	443	438	441	438	125
25°	404	401	396	396	395	186
35°	349	346	341	339	337	218
45°	286	284	279	275	272	221
55°	217	216	212	207	205	194
65°	148	146	142	139	138	146
75°	78	77	75	73	72	84
85°	21	20	20	19	19	23
90°	1	4	8	8	9	2
95°	10	34	180	53	35	11
105°	35	52	245	428	387	38
115°	62	78	187	410	471	62
125°	87	102	175	316	371	77
135°	102	121	172	261	301	79
145°	116	133	170	214	235	73
155°	132	142	165	187	195	61
165°	144	148	158	167	170	41
175°	150	150	151	153	153	14
180°	150	150	150	150	150	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	466.6	466.6	466.6	466.6	466.6	466.6	466.6	466.6	466.6	466.6	466.6
2.5°	468.2	467.9	467.6	467.4	467.0	466.5	465.7	464.9	464.2	463.4	464.1
5°	467.0	466.5	466.1	465.6	465.2	464.5	463.5	462.5	461.5	460.5	461.4
7.5°	462.4	461.9	461.5	461.1	460.6	459.9	458.9	457.9	456.8	455.8	456.6
10°	458.6	458.1	457.6	457.2	456.8	456.0	454.8	453.7	452.5	451.3	452.1
12.5°	453.4	453.1	452.6	452.3	451.9	451.2	450.1	449.0	447.9	446.9	447.5
15°	444.5	444.2	443.8	443.4	443.1	442.3	441.2	440.0	438.9	437.7	438.4
17.5°	434.1	433.7	433.3	432.7	432.3	431.5	430.3	429.2	428.0	426.9	427.3
20°	426.5	425.9	425.4	424.8	424.3	423.4	422.3	421.1	420.0	418.9	419.2
22.5°	417.8	417.2	416.7	416.2	415.7	414.8	413.6	412.5	411.3	410.2	410.4
25°	403.6	403.0	402.5	402.0	401.5	400.6	399.4	398.3	397.1	396.0	396.1
27.5°	388.4	387.9	387.4	386.8	386.3	385.5	384.3	383.0	381.8	380.5	380.6
30°	377.5	377.0	376.6	376.2	375.7	374.9	373.7	372.4	371.2	369.9	369.9
32.5°	366.6	366.0	365.4	364.8	364.3	363.4	362.5	361.5	360.6	359.6	359.1
35°	349.0	348.5	347.9	347.4	346.9	346.0	344.9	343.7	342.6	341.4	340.9
37.5°	331.1	330.4	329.7	329.0	328.4	327.4	326.2	325.0	323.9	322.7	322.1
40°	318.6	318.0	317.5	316.9	316.4	315.5	314.3	313.0	311.8	310.5	309.8
42.5°	306.0	305.4	304.8	304.2	303.6	302.6	301.4	300.1	298.9	297.6	297.0
45°	286.0	285.7	285.3	285.0	284.6	283.9	282.7	281.5	280.3	279.2	278.2
47.5°	266.2	265.7	265.2	264.7	264.2	263.4	262.3	261.1	260.1	259.0	258.0
50°	252.7	252.3	251.8	251.4	251.0	250.1	249.0	247.9	246.7	245.6	244.5
52.5°	238.6	238.3	238.0	237.7	237.4	236.6	235.4	234.2	233.0	231.7	230.9
55°	217.1	217.0	216.9	216.8	216.7	216.0	214.9	213.7	212.6	211.5	210.4
57.5°	196.5	196.2	195.9	195.6	195.3	194.7	193.7	192.8	191.9	191.0	190.1
60°	181.8	181.7	181.6	181.5	181.4	180.8	179.7	178.7	177.6	176.5	175.7
62.5°	168.6	168.3	168.2	167.9	167.6	167.0	165.9	164.9	163.8	162.7	162.0
65°	148.0	147.6	147.1	146.7	146.3	145.6	144.7	143.8	142.9	142.0	141.3
67.5°	126.3	125.9	125.5	125.1	124.8	124.2	123.6	122.9	122.2	121.5	120.9
70°	113.1	112.6	112.1	111.5	111.0	110.5	109.9	109.3	108.8	108.3	107.7
72.5°	99.4	98.9	98.6	98.2	97.7	97.3	96.7	96.1	95.5	94.9	94.3
75°	78.3	77.8	77.5	77.1	76.8	76.5	76.2	75.9	75.7	75.4	75.0
77.5°	59.5	59.3	59.2	59.0	58.7	58.5	58.2	57.9	57.5	57.2	56.9
80°	47.4	47.1	46.8	46.6	46.2	46.1	45.9	45.7	45.5	45.4	45.2
82.5°	35.5	35.4	35.4	35.3	35.2	35.2	35.1	35.1	35.1	35.0	34.9
85°	20.8	20.7	20.5	20.3	20.1	20.1	20.1	20.1	20.1	20.1	19.9
87.5°	8.4	8.4	8.3	8.3	8.2	8.2	8.3	8.4	8.4	8.6	8.4
90°	0.6	1.2	1.8	2.8	3.4	4.0	4.9	5.8	6.7	7.6	7.3
92.5°	3.8	5.6	8.2	10.5	13.1	17.6	25.6	38.7	51.5	46.8	35.3
95°	10.3	11.3	14.6	19.8	27.7	39.5	65.4	110.7	160.7	180.5	146.4
97.5°	17.7	17.9	20.6	25.1	32.9	45.7	70.4	121.5	204.7	279.7	299.1
100°	22.6	22.8	25.0	29.2	36.5	48.4	69.7	114.7	194.8	288.2	348.1
102.5°	27.6	28.2	30.0	34.1	40.6	51.6	70.7	108.8	180.1	272.3	350.5
105°	35.3	36.2	38.1	41.7	47.4	56.9	73.4	104.7	162.2	244.6	331.9
107.5°	43.5	44.3	46.1	49.7	55.1	63.9	78.4	104.4	150.8	220.2	299.5
110°	49.2	50.2	51.7	55.1	60.3	68.8	82.5	105.6	146.4	206.3	279.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	54.7	55.5	57.1	60.4	65.6	73.9	86.6	108.1	143.9	197.0	261.2
115°	62.3	63.6	65.4	68.4	73.6	81.9	93.4	111.9	143.0	187.1	239.8
117.5°	70.1	71.5	73.0	75.9	81.6	89.2	100.7	117.2	143.5	181.2	226.8
120°	75.4	76.4	77.9	80.9	86.7	94.3	105.3	121.1	144.6	178.6	220.0
122.5°	80.1	81.0	82.5	85.8	91.4	99.4	110.1	124.8	146.2	176.9	214.4
125°	86.7	87.3	89.1	92.5	98.2	106.5	117.2	130.5	148.8	174.6	207.2
127.5°	91.8	92.6	95.0	98.3	104.7	113.0	123.2	135.3	151.7	173.6	200.9
130°	95.0	95.8	98.6	102.2	108.7	116.8	126.9	138.4	153.7	172.8	197.4
132.5°	97.4	98.5	101.5	105.9	112.3	120.3	130.0	141.4	155.2	172.5	194.3
135°	101.6	102.8	106.2	110.7	117.2	125.4	134.7	145.2	157.3	172.2	190.2
137.5°	105.6	106.9	110.2	115.0	121.4	129.0	138.1	147.9	158.8	171.5	186.6
140°	108.3	109.9	112.9	117.8	123.8	131.5	140.3	149.4	159.7	171.3	184.3
142.5°	111.2	112.5	115.8	120.2	126.3	133.4	142.0	150.8	160.5	170.8	182.4
145°	115.9	116.8	119.6	124.2	129.3	136.3	144.2	152.4	160.9	170.0	179.8
147.5°	120.7	121.2	123.9	127.9	132.9	138.8	146.0	153.4	160.9	168.9	177.3
150°	123.8	124.2	126.6	130.5	134.7	140.3	147.2	153.7	160.9	168.0	175.6
152.5°	127.0	127.1	129.5	132.9	136.7	142.0	148.0	154.1	160.2	166.8	173.6
155°	131.7	131.7	133.5	136.6	140.0	144.2	149.4	154.3	159.5	164.6	170.7
157.5°	135.5	135.8	137.2	139.9	142.8	146.0	150.2	154.5	158.4	162.7	167.4
160°	138.4	138.4	139.7	142.1	144.2	147.2	150.9	154.5	157.9	161.3	165.2
162.5°	140.6	140.6	141.6	143.5	145.4	148.0	151.2	154.3	157.0	159.8	163.0
165°	143.9	143.6	144.2	145.8	147.0	149.1	151.5	153.7	155.5	157.6	160.1
167.5°	146.4	146.0	146.4	147.5	148.4	149.7	151.4	153.2	154.0	155.4	157.2
170°	147.8	147.2	147.6	148.4	149.1	149.7	151.2	152.4	153.1	153.9	155.5
172.5°	148.9	148.4	148.5	149.2	149.6	149.9	151.2	152.2	152.3	152.7	153.8
175°	150.0	149.7	149.4	150.0	150.0	150.3	150.9	151.5	151.2	151.2	151.8
177.5°	150.6	150.3	150.1	150.3	150.3	150.3	150.6	151.0	150.6	150.3	150.6
180°	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	466.6	466.6	466.6	466.6	466.6	466.6	466.6	466.6
2.5°	464.8	465.5	466.2	466.6	466.5	466.4	466.3	466.2
5°	462.4	463.2	464.2	464.5	464.3	464.2	463.9	463.7
7.5°	457.4	458.2	459.0	459.3	459.3	459.2	459.1	458.9
10°	453.0	453.7	454.5	454.9	454.7	454.5	454.3	454.2
12.5°	448.0	448.6	449.2	449.4	449.4	449.2	449.1	449.0
15°	439.1	439.8	440.6	440.7	440.1	439.5	439.0	438.5
17.5°	427.8	428.3	428.9	429.0	428.8	428.6	428.4	428.3
20°	419.6	419.9	420.3	420.3	420.0	419.7	419.5	419.2
22.5°	410.7	411.0	411.3	411.3	411.0	410.6	410.3	409.9
25°	396.1	396.2	396.3	396.2	396.0	395.7	395.5	395.2
27.5°	380.6	380.7	380.7	380.6	380.3	380.0	379.6	379.3
30°	369.9	369.9	369.9	369.5	368.9	368.3	367.7	367.0
32.5°	358.6	358.1	357.7	357.2	356.9	356.5	356.2	355.9
35°	340.4	339.8	339.2	338.8	338.4	337.9	337.4	337.0
37.5°	321.4	320.8	320.1	319.7	319.4	319.1	318.8	318.6
40°	309.1	308.4	307.6	307.1	306.8	306.4	306.1	305.7
42.5°	296.3	295.5	294.8	294.3	293.9	293.6	293.3	292.8
45°	277.1	276.0	274.9	274.2	273.7	273.3	272.9	272.4
47.5°	256.9	255.9	254.8	254.1	253.7	253.3	252.9	252.5
50°	243.6	242.5	241.6	240.8	240.3	239.8	239.3	238.7
52.5°	230.1	229.2	228.3	227.6	227.1	226.6	226.1	225.6
55°	209.5	208.4	207.5	206.8	206.4	205.9	205.4	205.0
57.5°	189.2	188.3	187.4	186.8	186.2	185.7	185.2	184.7
60°	175.0	174.1	173.3	172.7	172.2	171.8	171.3	170.9
62.5°	161.1	160.3	159.5	158.9	158.7	158.3	158.1	157.7
65°	140.6	139.9	139.1	138.7	138.4	138.1	137.8	137.6
67.5°	120.2	119.6	119.0	118.5	118.1	117.7	117.4	117.0
70°	107.1	106.4	105.8	105.3	104.9	104.4	103.9	103.5
72.5°	93.8	93.2	92.6	92.2	92.0	91.8	91.5	91.3
75°	74.6	74.0	73.6	73.3	73.0	72.8	72.5	72.2
77.5°	56.6	56.3	56.0	55.9	55.9	55.9	55.9	55.9
80°	45.1	45.0	44.9	44.9	44.9	44.9	44.9	44.9
82.5°	34.8	34.6	34.4	34.3	34.3	34.2	34.1	34.0
85°	19.7	19.5	19.4	19.3	19.3	19.3	19.3	19.3
87.5°	8.4	8.4	8.4	8.5	8.4	8.5	8.5	8.5
90°	7.6	7.9	8.2	8.8	8.5	8.8	9.1	8.8
92.5°	25.7	20.3	17.9	16.4	15.8	14.9	15.2	14.6
95°	109.5	74.2	58.1	47.2	41.4	38.7	36.5	35.3
97.5°	273.0	218.7	179.4	143.1	120.6	106.9	98.7	96.1
100°	358.7	334.1	298.5	255.3	224.5	202.3	190.5	190.8
102.5°	387.2	386.4	365.7	338.3	314.4	296.8	286.9	279.8
105°	395.5	425.9	431.7	423.9	409.8	398.3	388.6	387.0
107.5°	371.5	420.9	447.6	458.5	458.7	454.8	451.5	448.8
110°	348.7	404.7	443.0	464.3	472.9	475.3	474.7	474.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	326.1	383.2	426.2	453.6	469.2	476.7	479.1	479.1
115°	296.0	349.0	393.7	426.9	449.7	463.0	469.2	470.7
117.5°	274.3	320.0	360.2	393.8	417.7	433.0	441.7	443.8
120°	262.9	303.9	340.4	371.2	395.2	412.2	419.6	421.4
122.5°	253.9	291.0	324.9	353.4	374.8	390.1	398.1	400.5
125°	241.9	275.1	304.3	328.6	348.1	361.4	369.1	371.2
127.5°	231.4	261.0	287.3	309.5	326.8	338.3	345.2	347.1
130°	224.8	252.3	276.9	297.6	313.7	324.7	331.1	333.5
132.5°	218.8	243.9	266.9	286.6	301.8	312.7	318.4	320.1
135°	210.5	232.1	251.9	269.2	284.2	293.3	298.8	300.9
137.5°	203.0	220.8	237.8	252.9	265.4	274.7	279.2	280.7
140°	198.7	214.2	228.8	241.9	253.5	262.0	266.8	266.6
142.5°	194.6	207.8	220.5	231.9	241.8	249.3	253.7	253.4
145°	189.6	199.6	209.3	218.2	225.8	232.1	234.6	235.2
147.5°	185.5	193.5	201.3	207.6	213.4	217.7	220.0	220.2
150°	182.5	189.6	196.0	201.7	206.3	209.7	211.5	211.5
152.5°	179.9	185.9	191.6	196.4	199.9	203.0	204.1	204.1
155°	175.9	180.7	185.3	188.9	191.7	194.2	194.8	195.0
157.5°	171.6	175.6	179.2	182.1	184.4	186.2	186.8	186.7
160°	169.2	172.5	175.6	177.7	179.8	181.7	181.7	181.3
162.5°	166.3	169.1	171.9	173.8	175.2	176.8	176.8	176.5
165°	162.5	164.3	166.4	168.0	169.2	170.4	170.0	170.0
167.5°	159.2	160.6	161.8	162.9	163.4	164.3	164.0	164.0
170°	157.0	157.9	159.1	159.7	160.1	160.7	160.3	160.3
172.5°	155.1	155.8	156.7	157.0	157.1	157.7	157.2	157.0
175°	152.4	152.7	153.3	153.3	153.3	153.7	153.3	153.1
177.5°	150.8	151.0	151.3	151.3	151.0	151.3	150.8	150.8
180°	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3

(END OF REPORT)