

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: P332870-927

Luminaire Tested: **SA4XXRDIP-C350D365U927-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332870-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-18,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA4XXRDIP-C350D365U927-4F0-1E-UDD-F4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 365 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2168.7 lumens
Efficiency: N/A
Efficacy: 106.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: General Diffuse

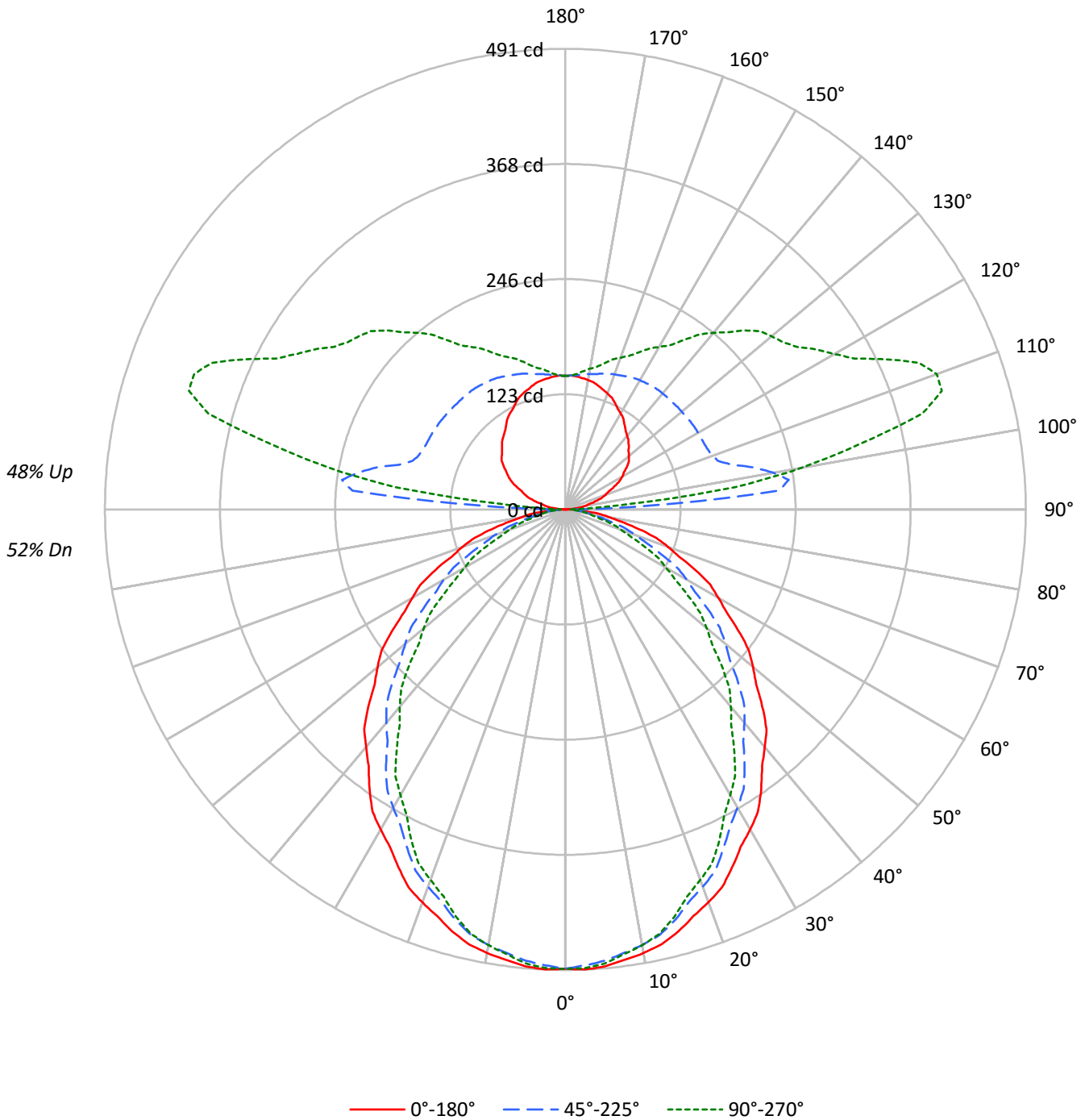
Input Watts (W): 20.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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	99	94	91	87	91	87	84	81	75	72	70	63	61	60	52	51	50	45				
2	90	83	77	72	83	77	72	67	66	62	58	55	53	50	46	44	42	38				
3	82	73	66	60	76	68	61	56	58	53	49	49	46	43	41	38	36	32				
4	75	65	57	51	69	60	53	48	52	47	42	44	40	37	37	34	31	28				
5	69	58	50	44	64	54	47	41	46	41	37	40	35	32	33	30	28	24				
6	64	52	44	38	59	48	41	36	42	36	32	36	32	28	30	27	24	22				
7	59	47	39	34	55	44	37	32	38	33	28	33	28	25	28	24	22	19				
8	55	43	35	30	51	40	33	28	35	29	25	30	26	22	25	22	20	17				
9	51	39	32	27	47	37	30	25	32	27	23	28	23	20	24	20	18	16				
10	48	36	29	24	44	34	27	23	30	24	21	26	21	18	22	19	16	14				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3953	3953	3953
5°	3962	3914	3938
10°	3937	3867	3867
15°	3892	3786	3758
20°	3830	3679	3611
25°	3751	3553	3463
30°	3674	3422	3278
35°	3588	3286	3094
40°	3485	3130	2893
45°	3391	2975	2689
50°	3282	2798	2473
55°	3167	2612	2238
60°	3039	2409	1997
65°	2923	2157	1761
70°	2752	1876	1496
75°	2539	1556	1216
80°	2213	1186	1116
85°	1880	1074	1010



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	46.0	2.1
10°-20°	128.3	5.9
20°-30°	185.2	8.5
30°-40°	210.0	9.7
40°-50°	202.8	9.3
50°-60°	168.6	7.8
60°-70°	116.4	5.4
70°-80°	59.0	2.7
80°-90°	15.9	0.7
90°-100°	102.9	4.7
100°-110°	214.2	9.9
110°-120°	191.9	8.8
120°-130°	161.4	7.4
130°-140°	134.6	6.2
140°-150°	102.8	4.7
150°-160°	72.3	3.3
160°-170°	42.5	2.0
170°-180°	13.8	0.6
0°-30°	359.5	16.6
0°-40°	569.5	26.3
0°-60°	940.8	43.4
0°-90°	1132.2	52.2
90°-120°	509.0	23.5
90°-150°	907.8	41.9
90°-180°	1036.0	47.8
0°-180°	2168.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	490	490	490	490	490	
5°	489	487	483	486	486	46
15°	466	462	453	452	450	131
25°	421	414	399	393	389	194
35°	364	352	333	321	314	227
45°	297	283	261	243	236	229
55°	225	209	186	167	159	201
65°	153	136	113	97	92	151
75°	81	67	50	42	39	86
85°	20	13	12	11	11	23
90°	0	2	5	6	6	1
95°	9	29	228	113	68	10
105°	33	47	184	396	394	35
115°	58	72	164	315	378	57
125°	80	96	163	268	302	72
135°	96	114	162	238	270	74
145°	110	126	161	200	220	69
155°	125	135	156	177	184	58
165°	136	141	150	159	161	38
175°	142	142	144	146	145	13
180°	142	142	142	142	142	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	489.7	489.7	489.7	489.7	489.7	489.7	489.7	489.7	489.7	489.7	489.7
2.5°	490.9	490.6	490.4	490.1	489.8	489.3	488.6	487.9	487.1	486.4	487.1
5°	488.9	488.6	488.3	488.0	487.6	487.0	485.9	485.0	483.9	483.0	483.8
7.5°	484.5	484.2	483.9	483.5	483.2	482.3	481.0	479.7	478.4	477.1	477.6
10°	480.3	479.9	479.5	479.1	478.6	477.7	476.2	474.7	473.2	471.7	472.1
12.5°	474.9	474.4	474.0	473.5	473.0	471.9	470.1	468.3	466.6	464.8	465.0
15°	465.7	464.9	464.2	463.4	462.7	461.3	459.2	457.1	455.0	453.0	452.8
17.5°	454.6	453.4	452.3	451.3	450.2	448.4	445.9	443.4	440.9	438.4	437.9
20°	445.8	444.7	443.7	442.6	441.5	439.6	436.7	433.9	431.0	428.2	427.5
22.5°	436.3	435.0	433.8	432.6	431.3	429.2	426.2	423.2	420.2	417.1	416.1
25°	421.1	419.6	418.1	416.6	415.1	412.6	409.2	405.8	402.3	398.9	397.5
27.5°	405.2	403.3	401.4	399.6	397.7	394.9	391.3	387.6	384.0	380.3	378.5
30°	394.1	392.0	389.9	387.9	385.8	382.8	378.8	374.9	371.0	367.1	365.0
32.5°	382.4	380.0	377.7	375.3	373.0	369.8	365.8	361.7	357.7	353.6	351.2
35°	364.1	361.4	358.8	356.1	353.4	350.0	345.9	341.7	337.5	333.4	330.5
37.5°	344.5	341.7	339.1	336.3	333.5	329.9	325.2	320.6	316.0	311.4	308.2
40°	330.7	328.0	325.2	322.5	319.7	316.0	311.2	306.5	301.7	297.0	293.5
42.5°	317.5	314.7	311.7	308.9	306.0	302.1	297.1	292.2	287.2	282.3	278.7
45°	297.0	293.9	290.8	287.7	284.6	280.6	275.6	270.6	265.6	260.6	256.5
47.5°	275.8	272.6	269.4	266.2	263.0	258.8	253.7	248.4	243.2	238.1	233.8
50°	261.3	258.1	254.8	251.6	248.3	244.1	238.8	233.4	228.1	222.8	218.6
52.5°	246.7	243.4	240.3	237.1	233.9	229.6	224.1	218.6	213.2	207.7	203.5
55°	225.0	221.7	218.3	215.0	211.7	207.2	201.8	196.5	191.0	185.6	181.3
57.5°	203.5	200.0	196.6	193.1	189.6	185.3	179.9	174.6	169.3	163.9	159.5
60°	188.2	184.9	181.6	178.2	174.9	170.6	165.2	159.9	154.6	149.2	144.9
62.5°	174.4	171.0	167.5	164.1	160.6	156.1	150.7	145.2	139.7	134.3	130.2
65°	153.0	149.4	145.8	142.3	138.6	134.2	128.9	123.5	118.2	112.9	109.3
67.5°	130.7	127.3	123.8	120.4	117.0	112.8	107.8	102.9	97.9	93.0	89.9
70°	116.6	113.1	109.6	106.2	102.6	98.5	93.7	89.0	84.2	79.5	76.8
72.5°	101.6	98.5	95.3	92.1	89.0	85.2	80.6	76.1	71.7	67.2	64.9
75°	81.4	78.3	75.2	72.1	69.0	65.5	61.6	57.7	53.8	49.9	47.9
77.5°	60.8	58.2	55.6	53.0	50.4	47.5	44.3	41.1	37.9	34.8	33.7
80°	47.6	45.2	42.8	40.4	37.9	35.5	33.0	30.5	28.0	25.5	25.3
82.5°	36.2	34.0	31.8	29.5	27.3	25.5	24.1	22.7	21.2	19.8	19.6
85°	20.3	18.6	17.0	15.2	13.5	12.6	12.4	12.1	11.9	11.6	11.5
87.5°	7.0	6.5	6.2	5.7	5.2	4.9	5.1	5.1	5.1	5.2	5.1
90°	0.3	0.9	1.7	2.0	2.2	2.2	3.9	3.9	4.5	5.1	4.8
92.5°	3.2	4.7	7.3	10.7	14.8	20.6	34.9	56.6	77.7	88.8	74.0
95°	9.3	10.1	12.9	16.6	23.2	35.0	59.3	105.3	172.2	228.1	234.6
97.5°	16.6	16.6	19.0	22.3	28.1	37.9	56.7	94.7	161.1	240.3	294.8
100°	21.3	21.3	23.2	26.6	31.9	40.9	57.4	89.0	146.2	225.1	296.8
102.5°	25.7	26.2	28.0	31.1	36.2	44.7	59.7	87.5	136.1	206.0	280.0
105°	32.8	33.6	35.0	38.3	43.4	51.5	65.0	88.2	127.4	183.6	249.5
107.5°	40.5	41.0	42.5	46.0	50.9	58.9	71.1	92.4	125.8	171.1	224.8
110°	45.6	46.2	47.6	50.9	56.0	63.5	75.9	95.5	126.3	166.8	212.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	50.5	51.1	52.8	55.8	60.9	68.4	80.3	98.9	127.6	164.9	205.6
115°	57.7	58.5	60.4	63.3	68.6	76.1	87.4	104.2	130.2	163.8	199.1
117.5°	65.0	65.8	67.6	70.7	75.7	83.5	94.1	109.6	132.9	163.5	196.1
120°	70.0	70.6	72.5	75.6	80.3	88.2	98.9	113.4	135.0	163.5	194.6
122.5°	74.5	75.0	77.0	79.9	85.1	92.7	103.3	117.0	137.0	163.3	192.8
125°	80.3	81.4	83.2	86.3	91.6	99.4	109.5	122.3	140.0	163.0	189.8
127.5°	85.6	86.4	88.5	92.0	97.5	105.4	115.2	127.0	142.4	162.3	185.8
130°	88.5	89.6	91.8	96.0	101.3	109.5	119.0	129.9	144.2	162.1	183.4
132.5°	91.4	92.3	95.2	99.2	105.0	112.6	122.2	132.8	145.8	161.9	181.2
135°	95.5	96.6	99.4	104.2	110.0	117.3	126.5	136.7	148.1	161.5	177.8
137.5°	99.6	100.6	103.7	108.2	114.3	121.3	129.9	139.3	149.5	161.5	174.9
140°	102.5	103.3	106.4	111.1	117.0	123.7	132.1	141.1	150.6	161.3	173.3
142.5°	105.6	106.5	109.3	113.8	119.5	126.0	134.2	142.4	151.5	161.3	172.0
145°	110.0	110.9	113.7	117.6	122.9	129.0	136.3	143.9	152.0	160.7	169.7
147.5°	115.0	115.3	117.8	121.8	126.2	131.7	138.6	145.2	152.3	159.7	167.6
150°	118.1	118.4	120.6	124.1	128.3	133.6	139.7	145.8	152.3	159.0	166.0
152.5°	121.0	121.1	123.3	126.5	130.2	135.1	140.6	146.3	151.9	157.9	164.2
155°	125.2	125.4	127.1	129.9	133.0	137.2	142.0	146.7	151.2	156.2	161.5
157.5°	129.1	129.1	130.7	132.8	135.5	138.9	142.9	146.7	150.4	154.5	158.8
160°	131.6	131.6	132.7	134.7	136.9	140.0	143.4	146.7	149.8	153.1	156.8
162.5°	133.8	133.6	134.5	136.3	138.2	140.7	143.8	146.7	149.1	151.8	155.0
165°	136.3	136.3	136.9	138.3	139.7	141.4	143.9	146.2	147.8	149.8	152.0
167.5°	138.9	138.6	138.9	139.9	140.7	142.0	143.9	145.4	146.5	147.7	149.3
170°	140.0	139.7	140.0	140.9	141.4	142.2	143.6	145.0	145.6	146.4	147.6
172.5°	141.1	140.9	140.9	141.5	141.8	142.4	143.4	144.6	144.7	145.0	146.0
175°	142.2	142.0	142.0	142.2	142.5	142.5	143.1	143.9	143.6	143.6	144.2
177.5°	142.8	142.5	142.3	142.5	142.5	142.5	142.8	143.1	142.8	142.8	143.0
180°	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	489.7	489.7	489.7	489.7	489.7	489.7	489.7	489.7
2.5°	487.9	488.6	489.3	489.6	489.6	489.6	489.5	489.4
5°	484.7	485.4	486.3	486.6	486.5	486.3	486.1	485.9
7.5°	478.2	478.7	479.3	479.3	479.1	478.9	478.6	478.3
10°	472.4	472.7	473.0	473.0	472.7	472.4	472.1	471.7
12.5°	465.2	465.4	465.6	465.5	465.0	464.5	464.1	463.6
15°	452.7	452.5	452.3	451.9	451.3	450.8	450.2	449.6
17.5°	437.4	437.0	436.6	435.9	435.0	434.1	433.2	432.4
20°	426.9	426.2	425.6	424.7	423.6	422.5	421.4	420.3
22.5°	415.1	414.1	413.1	412.2	411.3	410.4	409.6	408.6
25°	396.1	394.7	393.3	392.2	391.3	390.5	389.7	388.8
27.5°	376.8	375.0	373.3	371.9	370.6	369.4	368.2	367.0
30°	362.9	360.8	358.8	357.0	355.7	354.4	353.1	351.7
32.5°	348.8	346.3	344.0	342.1	340.8	339.5	338.3	337.0
35°	327.6	324.9	322.0	319.9	318.4	316.9	315.4	313.9
37.5°	305.1	301.9	298.7	296.4	294.9	293.3	291.8	290.3
40°	289.9	286.5	283.0	280.5	279.0	277.5	276.0	274.5
42.5°	275.1	271.6	268.0	265.5	263.9	262.3	260.7	259.2
45°	252.5	248.3	244.2	241.5	240.0	238.4	236.9	235.5
47.5°	229.6	225.3	221.1	218.2	216.5	214.8	213.2	211.6
50°	214.4	210.2	206.0	203.2	201.6	200.0	198.4	196.9
52.5°	199.2	195.0	190.8	187.8	186.2	184.6	182.9	181.3
55°	177.0	172.6	168.3	165.3	163.7	162.2	160.6	159.0
57.5°	155.1	150.8	146.3	143.5	142.4	141.2	139.9	138.7
60°	140.5	136.3	131.9	129.0	127.7	126.4	125.1	123.7
62.5°	126.3	122.2	118.3	115.7	114.6	113.6	112.5	111.5
65°	105.7	102.1	98.5	96.3	95.2	94.3	93.2	92.2
67.5°	86.8	83.7	80.6	78.6	77.5	76.4	75.3	74.1
70°	74.0	71.2	68.5	66.7	65.8	65.0	64.2	63.4
72.5°	62.5	60.1	57.8	56.2	55.5	54.7	53.9	53.2
75°	46.0	44.1	42.2	41.0	40.5	40.0	39.5	39.0
77.5°	32.6	31.4	30.3	29.7	29.5	29.4	29.2	29.1
80°	25.0	24.7	24.5	24.3	24.2	24.2	24.1	24.0
82.5°	19.4	19.3	19.1	18.9	18.9	18.8	18.7	18.6
85°	11.3	11.1	10.9	10.9	10.9	10.9	10.9	10.9
87.5°	5.1	5.1	5.1	5.1	5.1	5.3	5.3	5.4
90°	5.1	5.3	5.6	5.6	5.9	6.2	5.9	5.9
92.5°	55.0	41.4	33.0	27.3	24.0	22.5	21.5	21.5
95°	207.5	164.1	126.5	99.4	85.6	77.0	71.9	68.3
97.5°	306.5	290.4	263.0	233.8	213.7	196.9	188.5	182.6
100°	337.6	343.3	329.5	308.8	284.5	267.4	259.0	256.7
102.5°	336.1	363.8	367.8	359.2	344.3	331.9	323.1	321.2
105°	313.5	362.0	389.8	401.2	401.8	399.5	395.6	394.0
107.5°	281.6	333.2	372.2	397.2	411.0	417.4	420.2	420.9
110°	262.4	310.8	351.4	382.1	402.0	413.8	418.8	421.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	248.2	291.0	329.4	360.2	382.8	397.0	404.1	408.1
115°	234.1	268.5	301.3	328.1	350.2	367.0	376.0	378.3
117.5°	227.1	255.6	281.4	304.2	323.1	337.2	346.2	347.9
120°	223.9	250.0	272.4	292.3	308.2	320.6	327.9	331.0
122.5°	221.3	246.4	266.8	284.2	297.7	308.2	314.4	317.5
125°	216.7	240.7	260.1	275.5	286.7	294.9	300.2	301.8
127.5°	211.1	234.1	253.4	268.0	279.2	286.5	291.0	292.6
130°	206.6	228.8	247.8	262.6	274.1	281.1	285.6	287.2
132.5°	201.9	222.7	241.3	256.1	267.4	275.3	279.6	281.2
135°	195.4	213.7	230.7	244.7	255.9	263.7	268.2	269.9
137.5°	189.6	204.9	219.4	232.0	242.5	250.2	253.9	255.9
140°	186.2	199.3	211.9	223.7	233.5	239.6	243.6	245.8
142.5°	183.1	194.6	205.4	215.6	224.3	230.0	233.5	235.0
145°	178.6	188.1	196.5	204.4	211.4	216.1	219.0	220.3
147.5°	175.0	182.5	189.3	195.4	200.6	204.7	206.8	207.3
150°	172.8	179.2	184.8	189.8	194.3	198.0	199.6	199.9
152.5°	170.3	175.9	181.0	185.1	188.9	191.9	192.9	193.2
155°	166.6	171.0	175.2	178.6	181.4	183.6	184.5	184.5
157.5°	162.6	166.4	169.9	172.6	174.7	176.4	176.9	176.9
160°	160.2	163.2	166.3	168.6	170.2	171.9	172.2	172.2
162.5°	157.7	160.3	162.7	164.8	166.0	167.6	167.9	167.7
165°	154.2	156.0	157.9	159.3	160.4	161.5	161.3	161.0
167.5°	151.0	152.3	153.8	154.6	155.2	156.0	155.9	155.7
170°	148.9	149.8	150.9	151.8	152.3	152.6	152.3	152.3
172.5°	147.2	147.7	148.5	149.1	149.4	149.6	149.4	148.9
175°	144.7	145.0	145.6	145.6	145.6	146.2	145.6	145.0
177.5°	143.1	143.4	143.4	143.6	143.4	143.6	143.1	142.8
180°	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5

(END OF REPORT)