

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: P331334-940

Luminaire Tested: **SA2XXDIP-C675D330U940-4F0-1E-UDD-D1**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331334-940  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA2XXDIP-C675D330U940-4F0-1E-UDD-D1  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 675 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 330 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3441.7 lumens  
Efficiency: N/A  
Efficacy: 98.3 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')  
CIE Type: Semi-Direct

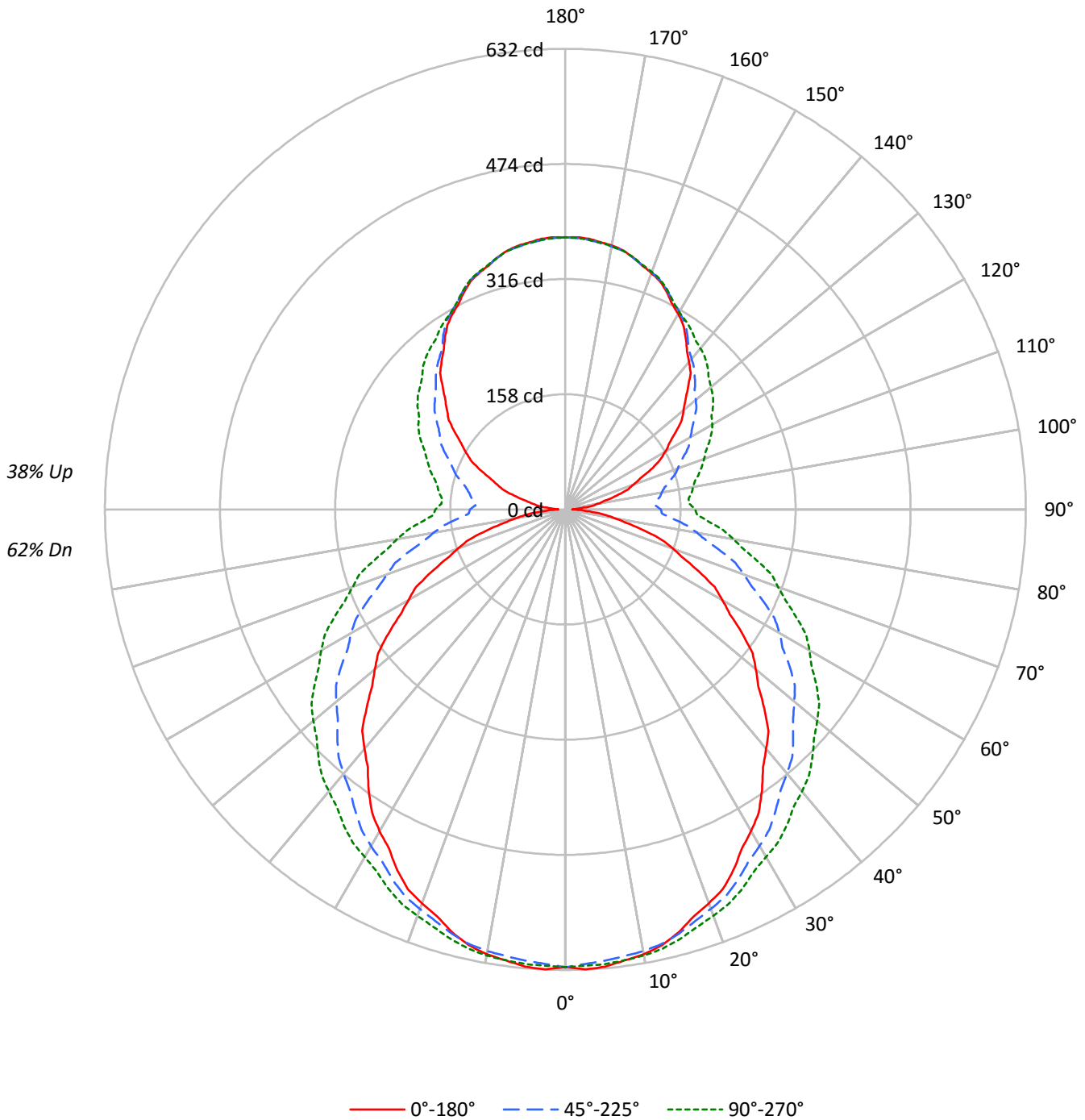
Input Watts (W): 35  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	110	110	110	110	103	103	103	103	90	90	90	78	78	78	67	67	67	62				
1	99	93	89	84	92	87	83	80	76	73	70	66	63	61	56	55	53	48				
2	89	81	73	68	83	75	69	64	66	61	57	57	53	50	49	46	43	39				
3	81	70	62	55	75	66	58	52	57	52	47	50	45	41	42	39	36	32				
4	74	62	53	46	68	58	50	44	51	44	39	44	39	35	38	34	30	27				
5	67	55	46	39	63	51	44	38	45	39	34	39	34	30	34	30	26	23				
6	62	49	40	34	58	46	38	32	41	34	29	35	30	26	30	26	23	20				
7	57	44	36	30	53	42	34	28	37	30	26	32	27	23	28	23	20	18				
8	53	40	32	26	50	38	30	25	33	27	23	29	24	20	25	21	18	16				
9	50	37	29	23	46	35	27	22	31	25	20	27	22	18	23	19	16	14				
10	46	34	26	21	43	32	25	20	28	22	18	25	20	16	22	18	15	13				

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	10141	10141	10141
5°	10191	9762	9724
10°	10126	9474	9367
15°	9987	9168	8990
20°	9810	8841	8627
25°	9637	8525	8298
30°	9392	8201	7967
35°	9142	7888	7735
40°	8880	7621	7501
45°	8632	7383	7302
50°	8365	7166	7106
55°	8089	6934	6906
60°	7745	6695	6695
65°	7391	6412	6445
70°	6992	6110	6173
75°	6483	5811	5925
80°	5680	5509	5672
85°	4908	5245	5473



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	59.5	1.7
10°-20°	170.7	5.0
20°-30°	258.6	7.5
30°-40°	315.0	9.2
40°-50°	338.9	9.8
50°-60°	329.1	9.6
60°-70°	287.4	8.3
70°-80°	221.2	6.4
80°-90°	150.0	4.4
90°-100°	125.9	3.7
100°-110°	148.2	4.3
110°-120°	174.9	5.1
120°-130°	192.7	5.6
130°-140°	196.9	5.7
140°-150°	183.8	5.3
150°-160°	152.4	4.4
160°-170°	101.1	2.9
170°-180°	35.3	1.0
0°-30°	488.8	14.2
0°-40°	803.8	23.4
0°-60°	1471.8	42.8
0°-90°	2130.4	61.9
90°-120°	449.0	13.0
90°-150°	1022.4	29.7
90°-180°	1311.0	38.1
0°-180°	3441.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	628	628	628	628	628	
5°	630	627	622	627	626	60
15°	601	602	603	610	610	169
25°	546	553	561	571	574	251
35°	471	486	503	523	530	294
45°	386	411	442	470	480	298
55°	296	329	376	408	420	264
65°	202	247	300	336	350	201
75°	112	163	221	259	272	118
85°	33	89	148	184	198	35
90°	10	66	131	166	178	7
95°	24	70	125	158	170	25
105°	72	101	148	179	190	77
115°	130	143	182	208	218	128
125°	185	189	216	239	248	166
135°	238	242	251	269	276	184
145°	288	290	292	298	301	180
155°	329	330	331	333	332	151
165°	358	358	358	360	359	101
175°	373	372	371	373	371	35
180°	373	373	373	373	373	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	628.1	628.1	628.1	628.1	628.1	628.1	628.1	628.1	628.1	628.1	628.1
2.5°	631.8	631.2	630.8	630.3	629.8	629.0	627.9	626.7	625.6	624.5	625.3
5°	629.9	629.3	628.7	628.1	627.5	626.6	625.4	624.2	622.9	621.7	622.9
7.5°	624.3	623.8	623.5	623.0	622.7	622.0	621.1	620.1	619.2	618.3	619.7
10°	619.9	619.5	619.1	618.7	618.3	617.8	617.2	616.6	616.0	615.4	617.0
12.5°	612.6	612.7	612.8	612.9	613.0	612.8	612.3	611.9	611.4	611.0	612.6
15°	600.8	601.2	601.6	602.0	602.4	602.6	602.6	602.6	602.6	602.6	604.4
17.5°	585.5	586.4	587.2	588.1	588.9	589.7	590.3	590.9	591.6	592.3	594.1
20°	575.3	576.3	577.3	578.4	579.3	580.2	581.0	581.9	582.7	583.5	585.8
22.5°	564.4	565.5	566.8	567.9	569.1	570.2	571.4	572.5	573.6	574.8	577.0
25°	546.2	547.6	549.0	550.5	551.9	553.5	555.3	557.1	558.9	560.7	563.2
27.5°	524.3	526.6	529.0	531.3	533.6	535.8	538.0	540.1	542.2	544.4	547.4
30°	509.8	512.4	515.1	517.6	520.3	522.9	525.6	528.2	530.8	533.4	536.6
32.5°	493.7	496.7	499.6	502.6	505.6	508.6	511.8	514.8	517.9	521.0	524.8
35°	470.6	474.0	477.5	480.9	484.4	488.0	491.9	495.7	499.5	503.4	507.8
37.5°	445.5	449.5	453.4	457.4	461.4	465.8	470.8	475.8	480.7	485.7	490.7
40°	428.7	433.2	437.7	442.1	446.6	451.5	457.0	462.4	467.9	473.3	478.6
42.5°	412.8	417.1	421.6	426.1	430.5	435.9	442.2	448.4	454.7	461.0	466.7
45°	385.9	391.5	396.9	402.3	407.8	414.1	421.2	428.3	435.3	442.4	448.7
47.5°	359.5	365.5	371.5	377.4	383.3	390.5	398.8	407.1	415.4	423.7	430.3
50°	341.3	347.7	353.9	360.2	366.4	374.2	383.3	392.4	401.4	410.5	417.4
52.5°	323.9	330.5	337.1	343.7	350.3	358.4	367.9	377.6	387.1	396.7	403.8
55°	295.9	303.1	310.4	317.7	324.9	333.9	344.4	354.9	365.4	375.9	383.3
57.5°	268.1	276.4	284.6	292.8	301.0	310.5	321.2	331.9	342.7	353.4	361.2
60°	248.5	257.2	265.9	274.6	283.3	293.5	305.0	316.5	328.0	339.6	347.2
62.5°	231.0	240.0	249.1	258.1	267.2	277.4	288.9	300.4	312.0	323.5	331.7
65°	202.1	212.0	221.9	231.8	241.7	252.6	264.6	276.5	288.5	300.4	308.7
67.5°	175.5	185.8	196.3	206.6	217.0	228.2	240.4	252.6	264.8	277.1	285.4
70°	156.6	167.1	177.6	188.2	198.7	210.2	222.7	235.2	247.8	260.4	269.0
72.5°	139.1	149.9	160.8	171.7	182.4	194.2	207.0	219.6	232.4	245.0	253.6
75°	112.0	123.3	134.6	146.0	157.3	169.4	182.4	195.3	208.2	221.2	229.9
77.5°	85.8	97.6	109.5	121.3	133.1	145.7	158.8	172.0	185.1	198.2	207.0
80°	68.3	80.6	92.9	105.3	117.6	130.4	143.6	156.7	169.8	183.0	191.5
82.5°	53.7	65.9	78.0	90.2	102.5	115.1	128.5	141.8	155.1	168.4	176.9
85°	32.8	45.3	57.9	70.4	82.9	95.7	108.6	121.5	134.6	147.5	156.0
87.5°	17.9	30.1	42.4	54.6	66.8	79.5	92.8	106.0	119.3	132.6	140.8
90°	9.5	22.0	34.6	47.2	59.7	73.2	87.7	102.2	116.7	131.2	139.1
92.5°	14.0	25.5	37.1	48.6	60.1	72.3	85.2	98.0	110.8	123.6	131.6
95°	23.6	33.9	44.1	54.3	64.5	75.7	88.0	100.3	112.5	124.8	132.5
97.5°	36.3	45.4	54.5	63.5	72.6	83.1	95.0	106.9	118.9	130.7	138.2
100°	46.4	54.4	62.5	70.5	78.6	88.4	99.9	111.5	123.0	134.5	142.0
102.5°	56.3	63.5	70.8	78.1	85.4	94.7	105.9	117.2	128.5	139.7	147.1
105°	72.3	78.4	84.4	90.5	96.6	105.0	115.7	126.3	137.0	147.6	154.8
107.5°	89.3	94.3	99.3	104.3	109.4	116.9	127.0	137.1	147.1	157.2	164.1
110°	99.7	104.2	108.7	113.2	117.6	124.8	134.7	144.6	154.5	164.4	170.9



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	111.8	115.7	119.5	123.3	127.1	133.7	143.0	152.4	161.8	171.2	177.5
115°	129.7	132.3	134.9	137.6	140.3	146.1	155.0	164.0	172.9	181.9	187.9
117.5°	146.5	148.6	150.5	152.6	154.6	159.6	167.6	175.7	183.7	191.7	197.5
120°	158.4	159.7	161.1	162.5	163.8	168.3	175.8	183.3	190.9	198.4	204.1
122.5°	169.2	170.2	171.2	172.2	173.2	177.3	184.5	191.7	198.9	206.2	211.5
125°	185.2	185.8	186.5	187.1	187.7	191.2	197.4	203.7	209.9	216.2	221.4
127.5°	201.6	202.2	202.8	203.4	204.0	206.8	211.8	216.7	221.7	226.7	231.4
130°	212.0	212.7	213.4	214.1	214.8	217.2	221.3	225.4	229.5	233.6	238.4
132.5°	223.6	224.1	224.6	225.2	225.7	227.7	231.0	234.3	237.6	240.9	245.2
135°	238.2	238.9	239.7	240.4	241.2	242.7	244.9	247.0	249.1	251.4	255.5
137.5°	254.5	255.0	255.7	256.2	256.8	257.6	258.7	259.8	260.8	261.9	265.6
140°	264.3	264.7	265.1	265.6	266.0	266.6	267.3	268.1	268.9	269.6	272.9
142.5°	274.4	274.8	275.2	275.6	276.1	276.4	276.8	277.1	277.4	277.8	280.4
145°	287.9	288.5	288.9	289.4	289.9	290.3	290.8	291.2	291.6	292.0	293.3
147.5°	300.9	301.5	302.0	302.6	303.2	303.6	303.9	304.3	304.5	304.8	305.1
150°	309.7	310.1	310.5	310.9	311.4	311.7	312.0	312.3	312.5	312.8	313.1
152.5°	317.5	317.9	318.3	318.8	319.1	319.6	319.9	320.2	320.6	320.9	321.2
155°	329.2	329.4	329.7	329.8	330.0	330.3	330.5	330.6	330.9	331.1	331.4
157.5°	339.2	339.4	339.5	339.7	339.8	339.9	340.1	340.2	340.3	340.5	340.9
160°	345.3	345.4	345.5	345.7	345.8	346.0	346.0	346.1	346.2	346.3	346.6
162.5°	350.8	350.9	350.9	350.9	351.0	351.0	351.1	351.2	351.2	351.2	351.8
165°	358.2	358.1	358.0	358.0	357.9	357.8	357.8	357.8	357.8	357.8	358.4
167.5°	364.4	364.2	364.0	363.7	363.6	363.5	363.4	363.4	363.4	363.4	363.8
170°	367.7	367.5	367.2	367.0	366.8	366.7	366.6	366.5	366.5	366.4	366.8
172.5°	369.9	369.7	369.5	369.3	369.1	368.9	368.9	368.8	368.7	368.6	369.2
175°	372.7	372.5	372.3	372.0	371.8	371.7	371.6	371.4	371.2	371.1	371.6
177.5°	373.8	373.6	373.4	373.4	373.2	373.0	372.9	372.8	372.6	372.6	372.9
180°	373.4	373.4	373.4	373.4	373.4	373.4	373.4	373.4	373.4	373.4	373.4



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	628.1	628.1	628.1	628.1	628.1	628.1	628.1	628.1
2.5°	626.1	626.9	627.7	627.9	627.6	627.3	627.0	626.7
5°	624.2	625.4	626.6	627.1	626.9	626.7	626.5	626.2
7.5°	621.2	622.7	624.1	624.7	624.6	624.3	624.1	623.9
10°	618.6	620.2	621.9	622.5	622.3	622.1	622.0	621.7
12.5°	614.2	615.8	617.5	618.1	618.0	617.8	617.6	617.3
15°	606.3	608.1	609.9	610.7	610.6	610.3	610.1	609.9
17.5°	596.0	598.0	599.9	600.8	600.8	600.8	600.8	600.8
20°	588.0	590.2	592.4	593.5	593.5	593.5	593.5	593.5
22.5°	579.3	581.5	583.6	585.0	585.2	585.6	585.9	586.2
25°	565.6	568.0	570.4	571.9	572.6	573.2	573.8	574.4
27.5°	550.5	553.6	556.7	558.4	558.8	559.3	559.7	560.2
30°	539.9	543.1	546.4	548.3	548.9	549.6	550.1	550.7
32.5°	528.5	532.3	535.9	538.3	539.5	540.6	541.6	542.7
35°	512.3	516.7	521.2	524.1	525.6	527.0	528.3	529.8
37.5°	495.6	500.5	505.5	508.7	510.2	511.7	513.2	514.7
40°	483.8	489.1	494.4	497.9	499.7	501.6	503.4	505.2
42.5°	472.4	478.2	483.9	487.8	489.5	491.4	493.2	495.0
45°	455.0	461.2	467.5	471.6	473.7	475.7	477.7	479.7
47.5°	436.8	443.4	449.9	454.2	456.5	458.7	460.9	463.2
50°	424.3	431.1	438.1	442.6	444.9	447.1	449.2	451.5
52.5°	410.8	417.9	424.9	429.6	431.9	434.4	436.8	439.2
55°	390.5	397.8	405.1	410.0	412.7	415.3	417.9	420.5
57.5°	369.1	376.9	384.8	390.0	392.7	395.4	398.1	400.7
60°	354.9	362.6	370.3	375.6	378.4	381.2	384.1	386.9
62.5°	339.8	348.0	356.2	361.7	364.3	366.9	369.6	372.3
65°	317.0	325.3	333.6	339.0	341.7	344.3	347.0	349.6
67.5°	293.8	302.2	310.6	316.2	318.9	321.6	324.4	327.2
70°	277.8	286.4	295.2	300.7	303.1	305.6	308.0	310.4
72.5°	262.2	270.6	279.2	284.9	287.8	290.8	293.6	296.6
75°	238.6	247.3	256.0	261.6	264.3	266.9	269.6	272.2
77.5°	215.6	224.3	232.9	238.6	241.5	244.3	247.1	249.9
80°	199.9	208.5	217.0	222.7	225.4	228.3	231.1	234.0
82.5°	185.4	193.9	202.4	207.9	210.6	213.3	216.0	218.6
85°	164.4	173.0	181.5	187.1	189.9	192.8	195.6	198.4
87.5°	149.0	157.2	165.5	170.9	173.4	176.1	178.7	181.3
90°	147.1	155.1	163.0	168.2	170.7	173.2	175.7	178.2
92.5°	139.6	147.5	155.4	160.7	163.1	165.5	168.0	170.4
95°	140.3	147.9	155.6	160.6	162.8	165.1	167.5	169.7
97.5°	145.7	153.2	160.7	165.6	168.0	170.4	172.7	175.1
100°	149.5	156.9	164.4	169.2	171.4	173.6	175.8	177.9
102.5°	154.5	161.8	169.2	174.1	176.2	178.3	180.5	182.6
105°	162.0	169.2	176.5	181.2	183.4	185.7	187.9	190.1
107.5°	170.9	177.8	184.6	189.0	190.9	192.8	194.7	196.6
110°	177.4	183.9	190.3	194.6	196.6	198.6	200.6	202.6





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	183.8	190.1	196.4	200.5	202.7	204.7	206.8	208.8
115°	193.9	199.9	205.9	209.9	211.9	213.9	216.0	217.9
117.5°	203.3	209.2	215.0	218.8	220.7	222.5	224.4	226.2
120°	209.7	215.4	221.1	224.9	226.9	228.9	231.0	233.0
122.5°	216.8	222.1	227.5	231.0	232.7	234.5	236.3	238.0
125°	226.7	231.9	237.2	240.7	242.5	244.2	245.9	247.7
127.5°	236.2	240.9	245.8	248.9	250.4	252.0	253.5	255.1
130°	243.1	247.8	252.4	255.5	256.8	258.2	259.5	260.8
132.5°	249.6	254.0	258.4	261.3	262.7	264.0	265.5	266.9
135°	259.7	263.9	268.0	270.8	272.2	273.7	275.1	276.4
137.5°	269.3	273.0	276.6	279.0	280.1	281.2	282.2	283.4
140°	276.1	279.3	282.6	284.6	285.6	286.5	287.4	288.4
142.5°	283.0	285.7	288.3	290.0	290.8	291.6	292.3	293.1
145°	294.6	295.9	297.2	298.2	298.9	299.6	300.4	301.1
147.5°	305.4	305.7	306.0	306.3	306.5	306.7	306.9	307.2
150°	313.3	313.4	313.7	313.7	313.4	313.3	313.1	312.8
152.5°	321.5	321.7	322.0	322.0	321.7	321.5	321.2	320.9
155°	331.8	332.2	332.5	332.6	332.3	332.2	332.0	331.7
157.5°	341.3	341.9	342.3	342.4	342.1	341.7	341.4	341.1
160°	347.1	347.5	347.9	347.9	347.7	347.4	347.1	346.9
162.5°	352.2	352.7	353.2	353.2	352.9	352.6	352.2	351.9
165°	358.8	359.4	359.8	359.9	359.5	359.2	358.8	358.6
167.5°	364.4	364.8	365.3	365.4	365.1	364.6	364.3	363.9
170°	367.4	367.8	368.4	368.4	368.0	367.6	367.1	366.7
172.5°	369.6	370.1	370.6	370.7	370.2	369.8	369.4	369.0
175°	372.1	372.6	373.1	373.1	372.7	372.3	371.8	371.4
177.5°	373.3	373.5	373.9	373.9	373.5	373.3	372.9	372.6
180°	373.4	373.4	373.4	373.4	373.4	373.4	373.4	373.4

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