

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: P331497

Luminaire Tested: **S122DIW-S485D435U835-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331497  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S122DIW-S485D435U835-4F0-1E-UDD-D  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 485 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 435 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

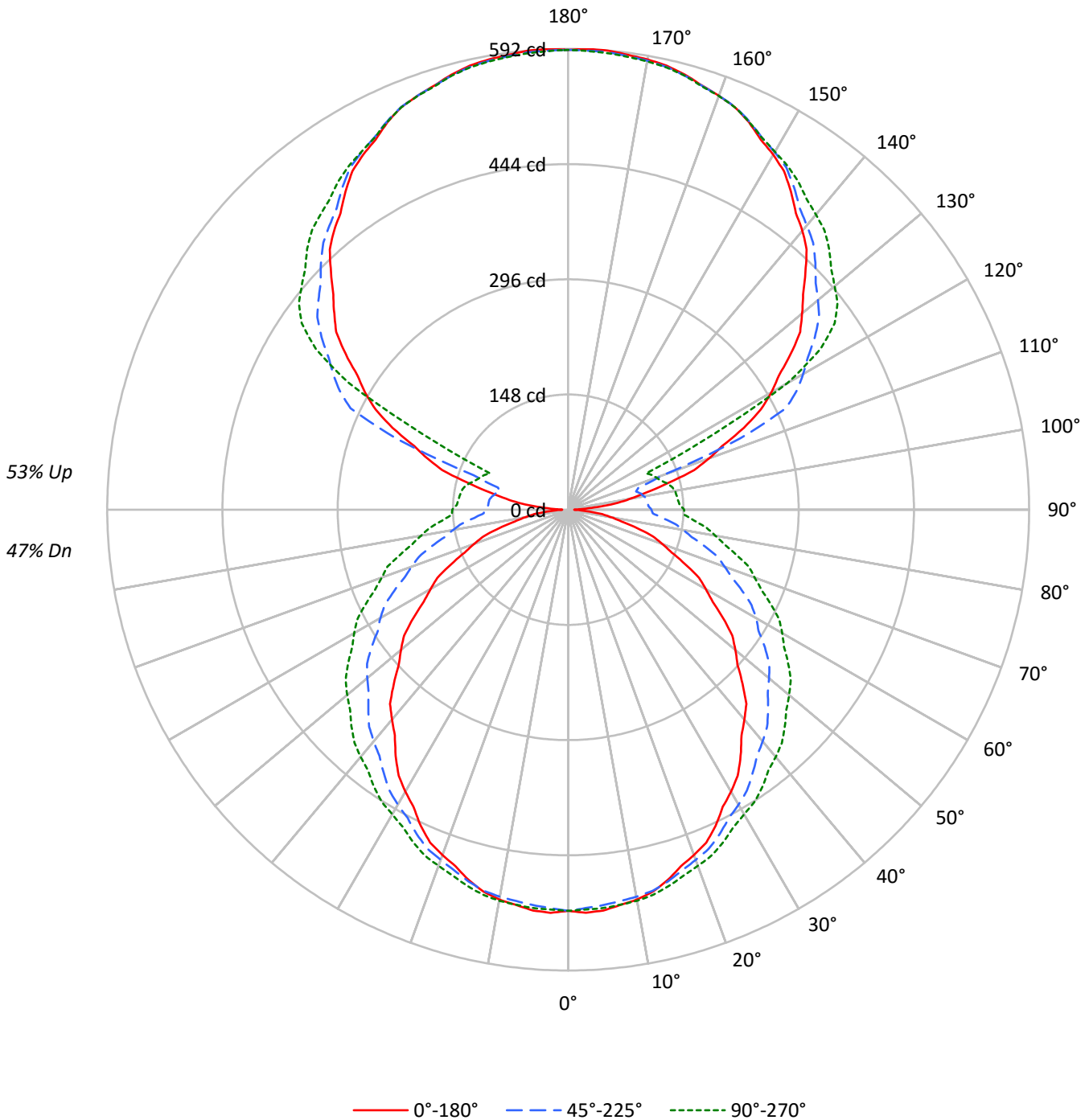
Lumens per Lamp: N/A  
Luminaire Lumens: 3698.5 lumens  
Efficiency: N/A  
Efficacy: 122.5 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')  
CIE Type: General Diffuse

Input Watts (W): 30.2  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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





TEST NUMBER: P331497

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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	106	106	106	106	98	98	98	98	82	82	82	67	67	67	54	54	54	47				47
1	96	91	86	82	88	83	80	76	70	67	64	57	55	53	45	44	42	37				37
2	87	78	72	66	79	72	66	61	60	56	52	49	46	43	39	37	35	30				30
3	79	69	61	54	72	63	56	51	53	47	43	43	39	36	34	31	29	25				25
4	72	60	52	46	65	56	48	42	46	41	36	38	34	30	30	27	24	21				21
5	66	54	45	39	60	49	42	36	41	35	31	34	29	26	27	24	21	18				18
6	60	48	39	33	55	44	37	31	37	31	27	31	26	23	24	21	18	15				15
7	56	43	35	29	51	40	32	27	34	28	23	28	23	20	22	19	16	13				13
8	52	39	31	26	47	36	29	24	30	25	21	25	21	18	20	17	14	12				12
9	48	36	28	23	44	33	26	21	28	22	18	23	19	16	19	15	13	11				11
10	45	33	25	20	41	30	23	19	26	20	17	21	17	14	17	14	12	10				10

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

	0°	45°	90°
0°	8320	8320	8320
5°	8361	8009	7978
10°	8308	7773	7685
15°	8193	7522	7376
20°	8049	7253	7078
25°	7906	6994	6809
30°	7704	6728	6536
35°	7501	6472	6346
40°	7287	6254	6154
45°	7084	6058	5992
50°	6865	5879	5830
55°	6634	5689	5666
60°	6355	5493	5493
65°	6063	5262	5287
70°	5738	5012	5065
75°	5319	4768	4860
80°	4657	4519	4652
85°	4025	4303	4491



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	48.8	1.3
10°-20°	140.0	3.8
20°-30°	212.2	5.7
30°-40°	258.4	7.0
40°-50°	278.0	7.5
50°-60°	270.0	7.3
60°-70°	235.8	6.4
70°-80°	181.5	4.9
80°-90°	123.3	3.3
90°-100°	103.6	2.8
100°-110°	133.5	3.6
110°-120°	233.6	6.3
120°-130°	341.4	9.2
130°-140°	348.5	9.4
140°-150°	316.8	8.6
150°-160°	253.4	6.9
160°-170°	163.3	4.4
170°-180°	56.2	1.5
0°-30°	401.0	10.8
0°-40°	659.5	17.8
0°-60°	1207.5	32.6
0°-90°	1748.1	47.3
90°-120°	470.8	12.7
90°-150°	1477.5	40.0
90°-180°	1950.0	52.7
0°-180°	3698.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	515	515	515	515	515	
5°	517	514	510	514	514	49
15°	493	494	494	501	500	139
25°	448	453	460	469	471	206
35°	386	399	413	429	435	241
45°	317	337	363	385	394	244
55°	243	270	308	334	345	217
65°	166	203	246	276	287	165
75°	92	134	182	212	223	97
85°	27	73	121	151	163	29
90°	8	56	107	138	149	6
95°	34	56	103	132	142	39
105°	134	162	90	120	131	143
115°	249	266	308	142	110	245
125°	349	356	387	409	418	311
135°	431	438	449	468	474	333
145°	499	499	506	513	515	312
155°	549	546	550	553	550	253
165°	579	576	577	580	577	163
175°	592	589	590	592	589	56
180°	591	591	591	591	591	



TEST NUMBER: P331497

CATALOG NUMBER: S122DIW-S485D435U835-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	515.3	515.3	515.3	515.3	515.3	515.3	515.3	515.3	515.3	515.3	515.3
2.5°	518.3	517.9	517.5	517.1	516.7	516.0	515.1	514.2	513.3	512.3	513.0
5°	516.8	516.3	515.8	515.3	514.8	514.1	513.1	512.1	511.1	510.1	511.1
7.5°	512.2	511.8	511.5	511.2	510.9	510.3	509.5	508.8	508.0	507.2	508.4
10°	508.6	508.3	507.9	507.6	507.3	506.9	506.4	505.9	505.4	504.9	506.2
12.5°	502.6	502.7	502.8	502.8	502.9	502.7	502.4	502.0	501.6	501.3	502.6
15°	492.9	493.2	493.6	493.9	494.2	494.4	494.4	494.4	494.4	494.4	495.9
17.5°	480.4	481.1	481.8	482.5	483.2	483.8	484.3	484.8	485.4	485.9	487.4
20°	472.0	472.8	473.7	474.5	475.3	476.1	476.7	477.4	478.1	478.7	480.5
22.5°	463.0	464.0	465.0	465.9	466.9	467.8	468.8	469.7	470.6	471.6	473.4
25°	448.1	449.3	450.4	451.6	452.7	454.1	455.6	457.1	458.6	460.0	462.0
27.5°	430.2	432.1	434.0	435.9	437.7	439.6	441.3	443.1	444.8	446.6	449.1
30°	418.2	420.4	422.5	424.7	426.9	429.0	431.2	433.3	435.5	437.6	440.3
32.5°	405.1	407.5	409.9	412.4	414.8	417.3	419.8	422.4	424.9	427.5	430.5
35°	386.1	388.9	391.8	394.6	397.4	400.4	403.5	406.7	409.8	413.0	416.6
37.5°	365.5	368.8	372.0	375.3	378.5	382.2	386.3	390.3	394.4	398.5	402.6
40°	351.8	355.4	359.1	362.7	366.4	370.4	374.9	379.4	383.9	388.4	392.7
42.5°	338.6	342.3	345.9	349.6	353.2	357.6	362.8	367.9	373.1	378.2	382.9
45°	316.7	321.1	325.6	330.1	334.6	339.7	345.5	351.3	357.2	363.0	368.1
47.5°	295.0	299.9	304.8	309.6	314.5	320.4	327.2	334.0	340.8	347.6	353.0
50°	280.1	285.2	290.4	295.5	300.6	306.9	314.4	321.9	329.4	336.8	342.5
52.5°	265.7	271.1	276.5	282.0	287.4	294.0	301.9	309.7	317.6	325.5	331.2
55°	242.7	248.7	254.7	260.6	266.6	273.9	282.6	291.2	299.8	308.4	314.4
57.5°	220.0	226.8	233.5	240.2	247.0	254.7	263.5	272.3	281.1	289.9	296.4
60°	203.9	211.0	218.2	225.3	232.4	240.7	250.2	259.6	269.1	278.6	284.9
62.5°	189.5	196.9	204.4	211.8	219.2	227.6	237.0	246.5	256.0	265.4	272.1
65°	165.8	173.9	182.1	190.2	198.3	207.3	217.1	226.9	236.7	246.5	253.3
67.5°	144.0	152.5	161.0	169.5	178.0	187.2	197.3	207.3	217.3	227.3	234.2
70°	128.5	137.1	145.7	154.3	163.0	172.4	182.7	193.0	203.3	213.6	220.7
72.5°	114.1	123.0	131.9	140.8	149.7	159.4	169.8	180.2	190.6	201.0	208.1
75°	91.9	101.2	110.4	119.7	129.0	139.0	149.6	160.2	170.9	181.5	188.6
77.5°	70.4	80.1	89.8	99.5	109.3	119.5	130.3	141.1	151.9	162.7	169.8
80°	56.0	66.1	76.3	86.4	96.5	107.0	117.8	128.5	139.3	150.1	157.1
82.5°	44.1	54.1	64.0	74.0	84.0	94.5	105.4	116.3	127.2	138.2	145.1
85°	26.9	37.2	47.5	57.8	68.0	78.5	89.1	99.7	110.4	121.0	128.0
87.5°	14.7	24.8	34.9	45.0	55.1	65.6	76.3	87.1	97.9	108.7	115.5
90°	7.9	18.6	29.2	39.9	50.6	61.6	73.0	84.4	95.7	107.1	114.2
92.5°	15.5	24.4	33.2	42.1	51.0	60.7	71.3	81.9	92.5	103.1	109.9
95°	33.8	38.4	43.1	47.8	52.4	60.1	70.7	81.3	91.9	102.6	109.3
97.5°	60.4	58.5	56.6	54.7	52.8	57.4	68.5	79.6	90.7	101.8	108.3
100°	80.9	74.0	67.1	60.3	53.4	55.4	66.3	77.2	88.1	99.0	105.9
102.5°	102.9	105.7	108.6	111.4	114.3	113.5	109.0	104.5	100.0	95.5	102.5
105°	133.7	141.3	149.0	156.7	164.3	159.5	142.2	124.9	107.6	90.3	97.2
107.5°	169.7	175.8	182.0	188.1	194.3	185.9	163.1	140.3	117.4	94.6	99.1
110°	192.3	197.6	203.0	208.3	213.6	206.6	187.3	168.0	148.6	129.3	125.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	214.2	218.8	223.3	227.9	232.4	235.2	236.1	237.1	238.0	239.0	209.7
115°	248.8	252.2	255.6	259.1	262.5	269.2	279.0	288.8	298.7	308.5	269.5
117.5°	278.9	281.9	284.9	287.9	290.9	296.6	305.2	313.7	322.2	330.8	325.1
120°	301.4	303.5	305.6	307.7	309.8	315.0	323.4	331.7	340.0	348.4	354.2
122.5°	320.6	322.3	324.1	325.9	327.6	332.6	340.7	348.8	356.9	365.0	370.2
125°	349.0	350.2	351.5	352.7	353.9	358.1	365.2	372.3	379.4	386.6	391.7
127.5°	375.4	376.6	377.8	379.0	380.2	383.6	389.3	394.9	400.5	406.1	411.2
130°	392.2	393.5	394.9	396.2	397.6	400.5	405.0	409.6	414.1	418.6	423.7
132.5°	409.2	410.4	411.5	412.6	413.8	416.2	419.9	423.6	427.4	431.1	435.9
135°	430.7	432.2	433.8	435.3	436.8	438.8	441.3	443.9	446.4	448.9	453.3
137.5°	453.2	454.2	455.3	456.3	457.3	458.7	460.4	462.1	463.8	465.5	469.5
140°	467.9	468.5	469.1	469.7	470.3	471.3	472.7	474.0	475.4	476.8	480.3
142.5°	480.2	480.7	481.3	481.8	482.3	483.2	484.4	485.7	487.0	488.2	491.1
145°	498.8	498.7	498.6	498.5	498.4	499.2	500.8	502.4	504.0	505.6	507.3
147.5°	515.6	515.3	514.9	514.6	514.2	514.8	516.4	518.0	519.6	521.2	521.8
150°	526.6	525.9	525.2	524.6	523.9	524.3	525.9	527.4	528.9	530.4	531.0
152.5°	535.8	535.1	534.3	533.6	532.8	533.2	534.6	536.1	537.5	539.0	539.5
155°	549.2	548.4	547.5	546.7	545.8	546.0	547.1	548.2	549.4	550.5	551.1
157.5°	559.7	559.0	558.3	557.6	556.9	556.9	557.7	558.5	559.3	560.1	560.7
160°	565.9	565.3	564.8	564.2	563.6	563.6	564.2	564.8	565.3	565.9	566.5
162.5°	571.4	570.8	570.2	569.7	569.1	569.1	569.5	570.0	570.5	571.0	571.7
165°	578.7	578.2	577.6	577.0	576.4	576.3	576.6	576.9	577.2	577.4	578.1
167.5°	584.2	583.6	583.1	582.5	581.9	581.8	582.0	582.3	582.6	582.8	583.5
170°	587.3	586.7	586.1	585.6	585.0	584.8	585.0	585.2	585.4	585.6	586.2
172.5°	589.3	588.8	588.2	587.6	587.0	586.9	587.0	587.2	587.4	587.6	588.3
175°	592.0	591.3	590.6	590.0	589.3	589.1	589.3	589.5	589.6	589.8	590.5
177.5°	592.4	591.9	591.3	590.8	590.3	590.0	590.1	590.2	590.3	590.3	590.9
180°	590.7	590.7	590.7	590.7	590.7	590.7	590.7	590.7	590.7	590.7	590.7



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	515.3	515.3	515.3	515.3	515.3	515.3	515.3	515.3
2.5°	513.7	514.3	515.0	515.2	514.9	514.7	514.4	514.1
5°	512.1	513.1	514.1	514.5	514.3	514.2	514.0	513.8
7.5°	509.6	510.8	512.0	512.5	512.4	512.2	512.0	511.9
10°	507.5	508.8	510.2	510.8	510.6	510.4	510.3	510.1
12.5°	503.9	505.3	506.6	507.2	507.0	506.8	506.7	506.5
15°	497.4	498.9	500.4	501.0	500.9	500.7	500.5	500.4
17.5°	489.0	490.6	492.1	492.9	492.9	492.9	492.9	492.9
20°	482.4	484.2	486.0	486.9	486.9	486.9	486.9	486.9
22.5°	475.2	477.0	478.9	479.9	480.2	480.4	480.7	481.0
25°	464.0	466.0	468.0	469.3	469.8	470.3	470.8	471.3
27.5°	451.7	454.2	456.7	458.1	458.5	458.9	459.2	459.6
30°	443.0	445.6	448.3	449.8	450.3	450.8	451.3	451.8
32.5°	433.6	436.6	439.7	441.7	442.6	443.5	444.4	445.3
35°	420.3	424.0	427.6	430.0	431.2	432.3	433.5	434.7
37.5°	406.6	410.7	414.7	417.3	418.6	419.8	421.0	422.3
40°	397.0	401.3	405.6	408.5	410.0	411.5	413.0	414.5
42.5°	387.6	392.3	397.0	400.2	401.6	403.1	404.6	406.1
45°	373.3	378.4	383.5	386.9	388.6	390.3	391.9	393.6
47.5°	358.3	363.7	369.1	372.7	374.5	376.3	378.2	380.0
50°	348.1	353.7	359.4	363.1	365.0	366.8	368.6	370.4
52.5°	337.0	342.8	348.6	352.4	354.4	356.4	358.3	360.3
55°	320.4	326.4	332.3	336.4	338.6	340.7	342.9	345.0
57.5°	302.8	309.2	315.7	320.0	322.2	324.4	326.6	328.8
60°	291.2	297.5	303.8	308.1	310.4	312.8	315.1	317.4
62.5°	278.8	285.5	292.2	296.7	298.9	301.1	303.3	305.5
65°	260.1	266.9	273.7	278.2	280.3	282.5	284.6	286.8
67.5°	241.1	247.9	254.8	259.4	261.6	263.9	266.2	268.4
70°	227.9	235.0	242.1	246.7	248.7	250.7	252.7	254.7
72.5°	215.1	222.1	229.1	233.8	236.1	238.5	240.9	243.3
75°	195.8	202.9	210.0	214.7	216.8	219.0	221.1	223.3
77.5°	176.9	184.0	191.1	195.8	198.1	200.4	202.8	205.1
80°	164.1	171.0	178.0	182.6	185.0	187.3	189.6	191.9
82.5°	152.1	159.1	166.0	170.6	172.8	175.0	177.2	179.4
85°	134.9	141.9	148.9	153.5	155.8	158.2	160.5	162.8
87.5°	122.4	129.3	136.1	140.6	142.8	145.0	147.1	149.3
90°	121.4	128.5	135.6	140.2	142.4	144.6	146.8	149.0
92.5°	116.6	123.4	130.1	134.6	136.7	138.8	140.9	143.0
95°	116.1	122.9	129.7	134.0	135.9	137.8	139.7	141.6
97.5°	114.8	121.3	127.9	132.2	134.2	136.3	138.4	140.4
100°	112.8	119.7	126.6	131.1	133.1	135.1	137.2	139.2
102.5°	109.5	116.5	123.5	128.1	130.2	132.3	134.3	136.4
105°	104.0	110.9	117.7	122.2	124.4	126.7	128.9	131.1
107.5°	103.6	108.1	112.7	116.0	118.2	120.4	122.6	124.8
110°	120.9	116.8	112.6	111.6	113.8	116.0	118.2	120.4





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	180.3	151.0	121.6	108.0	110.2	112.3	114.4	116.6
115°	230.5	191.5	152.5	130.5	125.5	120.5	115.5	110.5
117.5°	319.3	313.6	307.9	294.6	273.8	253.1	232.3	211.5
120°	360.0	365.8	371.5	368.9	357.9	346.9	335.9	325.0
122.5°	375.4	380.6	385.8	387.9	387.0	386.1	385.1	384.2
125°	396.9	402.0	407.1	410.6	412.4	414.2	415.9	417.7
127.5°	416.3	421.4	426.5	429.8	431.3	432.8	434.3	435.9
130°	428.7	433.7	438.7	441.9	443.1	444.3	445.6	446.8
132.5°	440.6	445.3	450.1	453.1	454.3	455.5	456.8	458.0
135°	457.8	462.2	466.6	469.4	470.5	471.7	472.8	474.0
137.5°	473.5	477.4	481.4	483.8	484.6	485.4	486.2	487.0
140°	483.8	487.3	490.8	492.8	493.4	493.9	494.4	494.9
142.5°	494.0	496.9	499.8	501.5	501.9	502.3	502.7	503.0
145°	509.0	510.6	512.3	513.3	513.6	514.0	514.3	514.7
147.5°	522.4	523.1	523.7	524.0	524.0	524.0	524.0	524.0
150°	531.6	532.1	532.7	532.8	532.3	531.8	531.3	530.9
152.5°	540.1	540.7	541.3	541.2	540.6	540.0	539.3	538.7
155°	551.7	552.2	552.8	552.7	551.9	551.2	550.4	549.7
157.5°	561.4	562.0	562.7	562.6	561.9	561.1	560.4	559.7
160°	567.0	567.6	568.2	568.1	567.5	566.8	566.1	565.5
162.5°	572.3	573.0	573.6	573.5	572.7	571.9	571.1	570.3
165°	578.8	579.4	580.1	580.1	579.4	578.8	578.1	577.4
167.5°	584.2	584.8	585.5	585.4	584.5	583.7	582.8	582.0
170°	586.9	587.6	588.2	588.1	587.3	586.4	585.6	584.7
172.5°	588.9	589.6	590.3	590.2	589.3	588.5	587.6	586.8
175°	591.2	591.8	592.5	592.4	591.4	590.5	589.5	588.6
177.5°	591.4	591.9	592.5	592.4	591.7	591.0	590.3	589.7
180°	590.7	590.7	590.7	590.7	590.7	590.7	590.7	590.7

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