

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: P331499-927

Luminaire Tested: **S122DIW-S485D435U927-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331499-927  
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-S485D435U927-4F0-1E-UDD-F  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 485 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 435 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2937.9 lumens  
Efficiency: N/A  
Efficacy: 97.3 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: General Diffuse

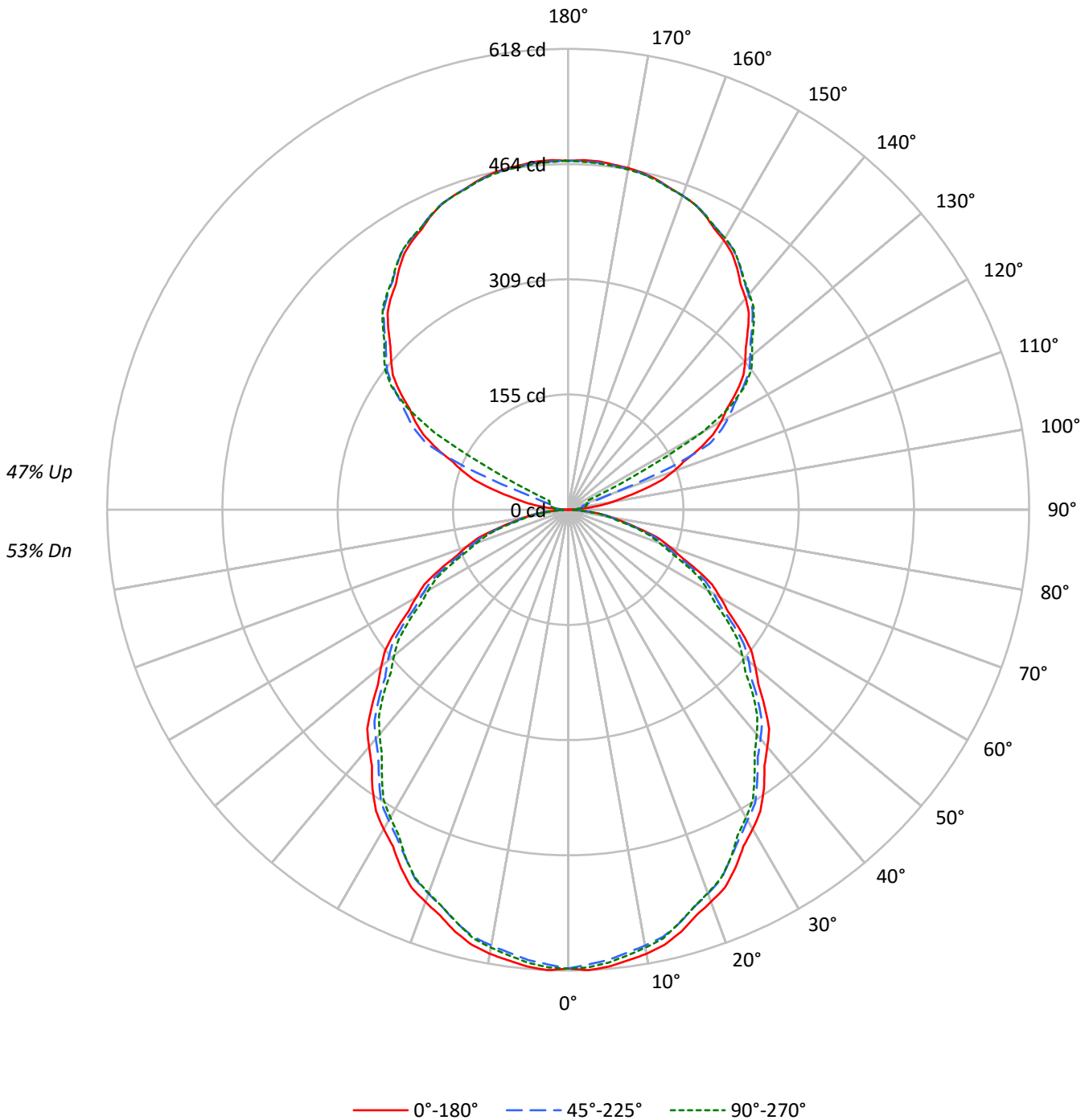
Input Watts (W): 30.2  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	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	50	30	10	0														
RCR																																						
0	108	108	108	108	100	100	100	100	85	85	85	72	72	72	59	59	59	53																				
1	99	94	90	87	91	87	84	81	75	72	70	63	61	60	52	51	50	45																				
2	90	82	76	71	83	76	71	66	65	61	58	55	52	50	46	44	42	38																				
3	82	72	65	59	76	67	61	56	58	53	49	49	45	42	41	38	36	32																				
4	75	64	56	50	69	60	53	47	51	46	42	44	39	36	36	33	31	27																				
5	69	57	49	43	63	53	46	40	46	40	36	39	35	31	33	30	27	24																				
6	63	51	43	37	59	48	41	35	41	36	31	35	31	27	30	26	24	21																				
7	59	46	38	33	54	43	36	31	38	32	28	32	28	24	27	24	21	19																				
8	54	42	34	29	50	39	32	27	34	29	25	30	25	22	25	22	19	17																				
9	51	38	31	26	47	36	29	24	31	26	22	27	23	20	23	20	17	15																				
10	47	35	28	23	44	33	26	22	29	24	20	25	21	18	21	18	16	14																				

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

	0°	45°	90°
0°	9935	9935	9935
5°	9972	9828	9887
10°	9914	9729	9778
15°	9790	9603	9593
20°	9617	9414	9402
25°	9444	9180	9180
30°	9221	8968	8889
35°	9014	8712	8584
40°	8753	8456	8292
45°	8499	8200	7996
50°	8219	7935	7654
55°	7927	7626	7344
60°	7601	7259	6991
65°	7255	6896	6575
70°	6812	6453	6146
75°	6201	5939	5795
80°	5504	5337	5058
85°	4483	4279	3835



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	57.9	2.0
10°-20°	162.8	5.5
20°-30°	239.3	8.1
30°-40°	278.0	9.5
40°-50°	277.7	9.5
50°-60°	242.1	8.2
60°-70°	179.0	6.1
70°-80°	101.4	3.5
80°-90°	28.4	1.0
90°-100°	15.6	0.5
100°-110°	57.2	1.9
110°-120°	153.0	5.2
120°-130°	252.6	8.6
130°-140°	268.6	9.1
140°-150°	249.7	8.5
150°-160°	200.7	6.8
160°-170°	129.3	4.4
170°-180°	44.5	1.5
0°-30°	459.9	15.7
0°-40°	737.9	25.1
0°-60°	1257.7	42.8
0°-90°	1566.6	53.3
90°-120°	225.9	7.7
90°-150°	996.7	33.9
90°-180°	1371.0	46.7
0°-180°	2937.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	615	615	615	615	615	
5°	615	613	606	611	610	58
15°	586	582	574	577	574	165
25°	530	525	515	516	515	244
35°	457	451	442	438	436	285
45°	372	368	359	353	350	287
55°	282	278	271	264	261	252
65°	190	186	180	175	172	188
75°	99	98	95	92	93	106
85°	24	24	23	21	21	28
90°	0	4	7	8	9	2
95°	22	12	13	15	15	27
105°	103	107	21	24	26	110
115°	195	201	209	60	28	192
125°	275	280	286	288	290	245
135°	341	346	349	352	352	263
145°	395	395	400	403	401	247
155°	435	432	436	438	436	200
165°	458	457	457	460	457	129
175°	469	467	467	469	466	45
180°	468	468	468	468	468	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	615.3	615.3	615.3	615.3	615.3	615.3	615.3	615.3	615.3	615.3	615.3
2.5°	618.1	617.6	617.1	616.6	616.0	615.2	614.0	612.9	611.7	610.5	611.6
5°	615.3	614.7	614.3	613.7	613.2	612.2	610.8	609.3	607.8	606.4	607.4
7.5°	609.8	609.0	608.2	607.4	606.6	605.5	604.0	602.5	601.0	599.5	600.6
10°	604.7	603.7	602.8	601.9	600.9	599.7	598.1	596.6	595.0	593.4	594.5
12.5°	597.5	596.8	595.9	595.1	594.3	593.1	591.5	589.9	588.4	586.8	587.5
15°	585.7	584.9	584.2	583.4	582.6	581.3	579.6	577.9	576.2	574.5	575.0
17.5°	570.5	569.8	569.0	568.2	567.4	566.2	564.4	562.7	560.9	559.2	559.8
20°	559.7	558.9	558.1	557.3	556.5	555.2	553.3	551.5	549.7	547.9	548.3
22.5°	548.8	547.7	546.6	545.5	544.4	543.0	541.2	539.5	537.7	536.0	536.1
25°	530.1	529.0	528.0	527.0	525.9	524.3	522.0	519.8	517.5	515.3	515.6
27.5°	508.8	507.9	506.9	506.0	505.0	503.7	501.9	500.1	498.4	496.6	496.2
30°	494.6	493.5	492.5	491.5	490.4	488.9	486.9	485.0	483.0	481.0	480.6
32.5°	479.4	478.6	477.8	476.9	476.1	474.6	472.5	470.5	468.4	466.4	465.6
35°	457.3	456.0	454.7	453.4	452.1	450.4	448.3	446.2	444.0	442.0	441.2
37.5°	432.4	431.2	430.1	428.9	427.7	426.1	424.0	421.9	419.8	417.7	416.7
40°	415.3	414.2	413.2	412.2	411.1	409.6	407.4	405.4	403.2	401.2	400.0
42.5°	398.8	397.7	396.6	395.6	394.6	393.0	390.9	388.8	386.7	384.5	383.3
45°	372.2	371.2	370.3	369.4	368.4	367.0	365.0	363.1	361.1	359.1	357.7
47.5°	345.6	344.8	343.9	343.0	342.1	340.7	338.7	336.6	334.5	332.5	331.0
50°	327.2	326.5	325.8	325.2	324.6	323.3	321.5	319.6	317.7	315.9	314.1
52.5°	309.2	308.3	307.4	306.6	305.7	304.4	302.7	301.0	299.2	297.5	296.0
55°	281.6	280.8	280.0	279.2	278.5	277.3	275.7	274.1	272.5	270.9	269.4
57.5°	253.9	253.3	252.6	252.1	251.4	250.3	248.5	246.8	245.0	243.3	241.7
60°	235.4	235.0	234.4	233.9	233.4	232.2	230.4	228.5	226.6	224.8	223.4
62.5°	217.5	216.7	215.8	214.9	214.1	213.0	211.6	210.2	208.7	207.3	206.0
65°	189.9	189.1	188.3	187.5	186.8	185.7	184.4	183.1	181.7	180.5	179.3
67.5°	161.8	161.2	160.6	159.9	159.3	158.4	157.2	156.1	154.9	153.7	152.8
70°	144.3	143.9	143.3	142.8	142.3	141.4	140.2	139.0	137.8	136.7	135.8
72.5°	126.4	125.9	125.3	124.8	124.3	123.7	122.9	122.1	121.4	120.6	119.6
75°	99.4	99.1	98.9	98.6	98.3	97.9	97.2	96.6	95.9	95.2	94.4
77.5°	75.3	74.8	74.4	73.9	73.4	73.1	72.9	72.6	72.3	72.1	71.7
80°	59.2	59.0	58.9	58.8	58.6	58.5	58.1	57.9	57.7	57.4	57.0
82.5°	44.0	44.0	44.0	44.0	43.9	43.8	43.6	43.5	43.3	43.2	42.7
85°	24.2	24.2	24.0	23.8	23.8	23.6	23.4	23.4	23.2	23.1	22.7
87.5°	8.6	8.6	8.5	8.5	8.4	8.3	8.2	8.2	8.1	8.0	7.8
90°	0.3	1.2	2.0	2.9	3.6	4.4	5.0	5.5	6.2	6.7	7.1
92.5°	6.8	6.7	6.7	6.6	6.6	6.7	7.0	7.3	7.5	7.8	8.1
95°	22.0	19.5	17.0	14.6	12.0	11.1	11.6	12.1	12.7	13.2	13.5
97.5°	43.6	36.7	29.7	22.7	15.7	12.8	14.0	15.2	16.5	17.7	18.0
100°	60.0	49.6	39.3	29.0	18.7	14.2	15.4	16.7	18.0	19.3	19.9
102.5°	77.8	75.7	73.4	71.3	69.1	62.7	52.0	41.3	30.6	19.8	20.6
105°	102.9	105.2	107.4	109.7	111.9	102.8	82.3	61.7	41.2	20.7	21.5
107.5°	131.6	133.4	135.2	137.0	138.9	127.5	102.8	78.2	53.6	28.9	28.0
110°	150.0	151.5	153.1	154.7	156.3	146.2	124.5	102.7	81.0	59.3	51.7



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	167.3	168.7	170.2	171.5	172.9	171.0	165.6	160.2	154.8	149.5	122.0
115°	194.7	196.0	197.3	198.5	199.8	201.4	203.3	205.2	207.0	208.9	174.0
117.5°	219.1	220.5	222.0	223.4	224.8	226.2	227.5	228.8	230.1	231.4	223.0
120°	237.0	238.1	239.2	240.4	241.5	242.8	244.2	245.5	246.8	248.2	249.1
122.5°	252.2	253.3	254.5	255.7	256.9	258.3	259.8	261.2	262.7	264.2	264.7
125°	275.3	276.2	277.3	278.2	279.2	280.4	281.9	283.3	284.7	286.1	286.6
127.5°	296.2	297.3	298.3	299.4	300.6	301.6	302.7	303.7	304.8	305.9	306.7
130°	309.5	310.7	311.9	313.1	314.3	315.3	316.2	317.0	317.8	318.6	319.4
132.5°	323.1	324.0	325.0	326.1	327.1	328.0	328.8	329.7	330.5	331.4	332.1
135°	340.6	341.8	343.0	344.2	345.5	346.3	347.1	347.8	348.4	349.1	349.8
137.5°	358.5	359.3	360.1	361.0	361.8	362.6	363.4	364.2	364.9	365.7	366.4
140°	370.1	370.7	371.3	371.9	372.5	373.2	374.1	374.9	375.7	376.5	377.2
142.5°	379.9	380.4	380.9	381.4	382.0	382.8	383.7	384.6	385.6	386.5	387.1
145°	395.1	395.1	395.0	394.9	394.8	395.5	396.7	398.0	399.3	400.5	401.1
147.5°	408.4	408.2	407.9	407.7	407.3	407.8	409.1	410.4	411.6	412.9	413.3
150°	417.2	416.6	416.1	415.6	415.0	415.3	416.6	417.8	419.0	420.2	420.6
152.5°	424.5	423.9	423.3	422.7	422.1	422.4	423.5	424.7	425.8	427.0	427.4
155°	435.1	434.4	433.7	433.1	432.4	432.5	433.4	434.3	435.2	436.1	436.6
157.5°	443.4	442.8	442.3	441.7	441.2	441.2	441.8	442.4	443.1	443.7	444.2
160°	448.3	447.8	447.4	446.9	446.5	446.5	446.9	447.4	447.8	448.3	448.8
162.5°	452.7	452.2	451.7	451.3	450.8	450.8	451.1	451.5	451.9	452.3	452.9
165°	458.4	458.0	457.6	457.1	456.6	456.5	456.8	457.0	457.2	457.4	458.0
167.5°	462.8	462.3	461.9	461.4	461.0	460.9	461.1	461.3	461.5	461.7	462.2
170°	465.2	464.8	464.3	463.9	463.4	463.3	463.4	463.6	463.7	463.9	464.4
172.5°	466.8	466.4	466.0	465.5	465.0	464.9	465.0	465.2	465.3	465.5	466.0
175°	469.0	468.4	467.9	467.4	466.8	466.7	466.8	467.0	467.1	467.2	467.8
177.5°	469.3	468.9	468.4	468.0	467.6	467.4	467.5	467.5	467.6	467.6	468.1
180°	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	615.3	615.3	615.3	615.3	615.3	615.3	615.3	615.3
2.5°	612.7	613.7	614.7	615.2	615.0	614.7	614.6	614.3
5°	608.6	609.6	610.6	611.0	610.8	610.5	610.2	610.0
7.5°	601.7	602.7	603.8	604.1	603.9	603.6	603.2	603.0
10°	595.5	596.6	597.6	597.9	597.5	597.1	596.8	596.4
12.5°	588.3	589.0	589.7	589.9	589.6	589.4	589.1	588.7
15°	575.5	576.1	576.6	576.5	575.8	575.2	574.6	573.9
17.5°	560.4	561.0	561.7	561.6	560.9	560.4	559.8	559.1
20°	548.7	549.1	549.5	549.4	548.8	548.3	547.8	547.2
22.5°	536.1	536.2	536.3	536.2	535.9	535.6	535.3	535.0
25°	515.9	516.1	516.3	516.3	516.1	515.9	515.6	515.3
27.5°	495.8	495.4	495.0	494.6	493.9	493.3	492.7	492.0
30°	480.2	479.8	479.4	479.0	478.4	477.9	477.4	476.8
32.5°	464.9	464.2	463.5	462.9	462.3	461.8	461.3	460.7
35°	440.4	439.6	438.8	438.1	437.4	436.7	436.1	435.5
37.5°	415.7	414.8	413.8	413.0	412.3	411.7	411.1	410.5
40°	398.8	397.6	396.4	395.5	395.0	394.5	394.0	393.4
42.5°	382.0	380.7	379.4	378.4	377.6	376.9	376.2	375.4
45°	356.2	354.8	353.3	352.4	351.8	351.3	350.8	350.2
47.5°	329.5	327.9	326.4	325.3	324.5	323.8	323.0	322.2
50°	312.3	310.4	308.6	307.3	306.7	306.0	305.3	304.7
52.5°	294.5	292.9	291.4	290.2	289.3	288.4	287.6	286.7
55°	267.8	266.3	264.7	263.6	262.8	262.2	261.6	260.9
57.5°	240.2	238.6	237.1	236.1	235.5	235.0	234.6	234.0
60°	221.9	220.5	219.0	218.1	217.7	217.3	216.9	216.5
62.5°	204.6	203.3	201.9	201.1	200.5	200.0	199.6	199.0
65°	178.1	176.9	175.7	174.8	174.1	173.5	172.9	172.1
67.5°	151.9	150.9	150.0	149.3	148.8	148.2	147.7	147.2
70°	134.8	133.9	133.0	132.3	131.7	131.2	130.7	130.2
72.5°	118.7	117.8	116.9	116.2	115.8	115.3	114.9	114.5
75°	93.6	92.9	92.1	91.8	92.1	92.4	92.6	92.9
77.5°	71.3	70.9	70.5	70.1	69.7	69.4	69.0	68.6
80°	56.6	56.2	55.8	55.5	55.2	55.0	54.7	54.4
82.5°	42.2	41.7	41.2	40.9	40.9	40.8	40.7	40.7
85°	22.3	21.9	21.5	21.2	21.1	21.0	20.8	20.7
87.5°	7.5	7.3	7.1	6.9	6.8	6.7	6.7	6.6
90°	7.5	7.9	8.2	8.6	8.7	8.9	9.0	9.1
92.5°	8.2	8.5	8.6	8.8	8.9	9.0	9.0	9.1
95°	13.9	14.3	14.7	14.9	14.8	14.7	14.7	14.6
97.5°	18.3	18.6	18.9	19.1	19.2	19.3	19.3	19.4
100°	20.5	21.1	21.7	22.1	22.3	22.4	22.5	22.7
102.5°	21.4	22.2	23.0	23.4	23.7	23.9	24.1	24.3
105°	22.3	23.1	24.0	24.6	24.8	25.1	25.4	25.7
107.5°	27.3	26.4	25.5	25.3	25.6	25.9	26.1	26.5
110°	44.2	36.7	29.2	25.5	25.8	26.1	26.5	26.8





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	94.6	67.1	39.7	26.1	26.3	26.5	26.8	27.0
115°	139.3	104.4	69.6	49.4	44.0	38.6	33.2	27.7
117.5°	214.5	206.1	197.6	184.6	166.8	148.9	131.2	113.4
120°	250.0	250.9	251.8	247.2	237.0	226.9	216.7	206.5
122.5°	265.2	265.8	266.3	265.6	263.6	261.7	259.7	257.7
125°	287.2	287.7	288.2	288.6	288.8	289.1	289.3	289.5
127.5°	307.4	308.2	309.0	309.3	309.4	309.4	309.5	309.5
130°	320.3	321.1	321.9	322.3	322.3	322.2	322.1	322.0
132.5°	332.8	333.4	334.1	334.5	334.4	334.3	334.3	334.2
135°	350.6	351.3	352.1	352.4	352.3	352.1	352.0	351.8
137.5°	367.2	367.9	368.6	368.8	368.6	368.4	368.1	367.8
140°	377.9	378.6	379.2	379.4	379.0	378.6	378.3	377.9
142.5°	387.8	388.4	389.0	389.1	388.7	388.4	388.0	387.6
145°	401.6	402.1	402.7	402.7	402.3	402.0	401.6	401.2
147.5°	413.7	414.1	414.5	414.5	414.2	413.8	413.5	413.2
150°	421.1	421.5	422.0	422.1	421.7	421.3	420.9	420.6
152.5°	427.9	428.3	428.8	428.7	428.3	427.8	427.2	426.7
155°	437.0	437.4	437.9	437.8	437.2	436.7	436.0	435.5
157.5°	444.7	445.2	445.8	445.7	445.1	444.5	443.9	443.4
160°	449.2	449.6	450.1	450.0	449.6	449.0	448.5	448.0
162.5°	453.4	453.9	454.4	454.3	453.7	453.0	452.4	451.8
165°	458.5	459.0	459.5	459.5	459.0	458.5	458.0	457.4
167.5°	462.8	463.3	463.8	463.7	463.0	462.4	461.7	461.1
170°	464.9	465.5	466.0	465.9	465.2	464.5	463.9	463.2
172.5°	466.5	467.1	467.6	467.5	466.8	466.2	465.5	464.9
175°	468.3	468.8	469.4	469.3	468.5	467.8	467.0	466.3
177.5°	468.5	468.9	469.4	469.3	468.7	468.2	467.6	467.1
180°	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9

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