

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: P331504-930

Luminaire Tested: **S122DIW-S485D710U930-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331504-930  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S122DIW-S485D710U930-4F0-1E-UDD-D1  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 485 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 710 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3610.4 lumens  
Efficiency: N/A  
Efficacy: 96.0 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-Indirect

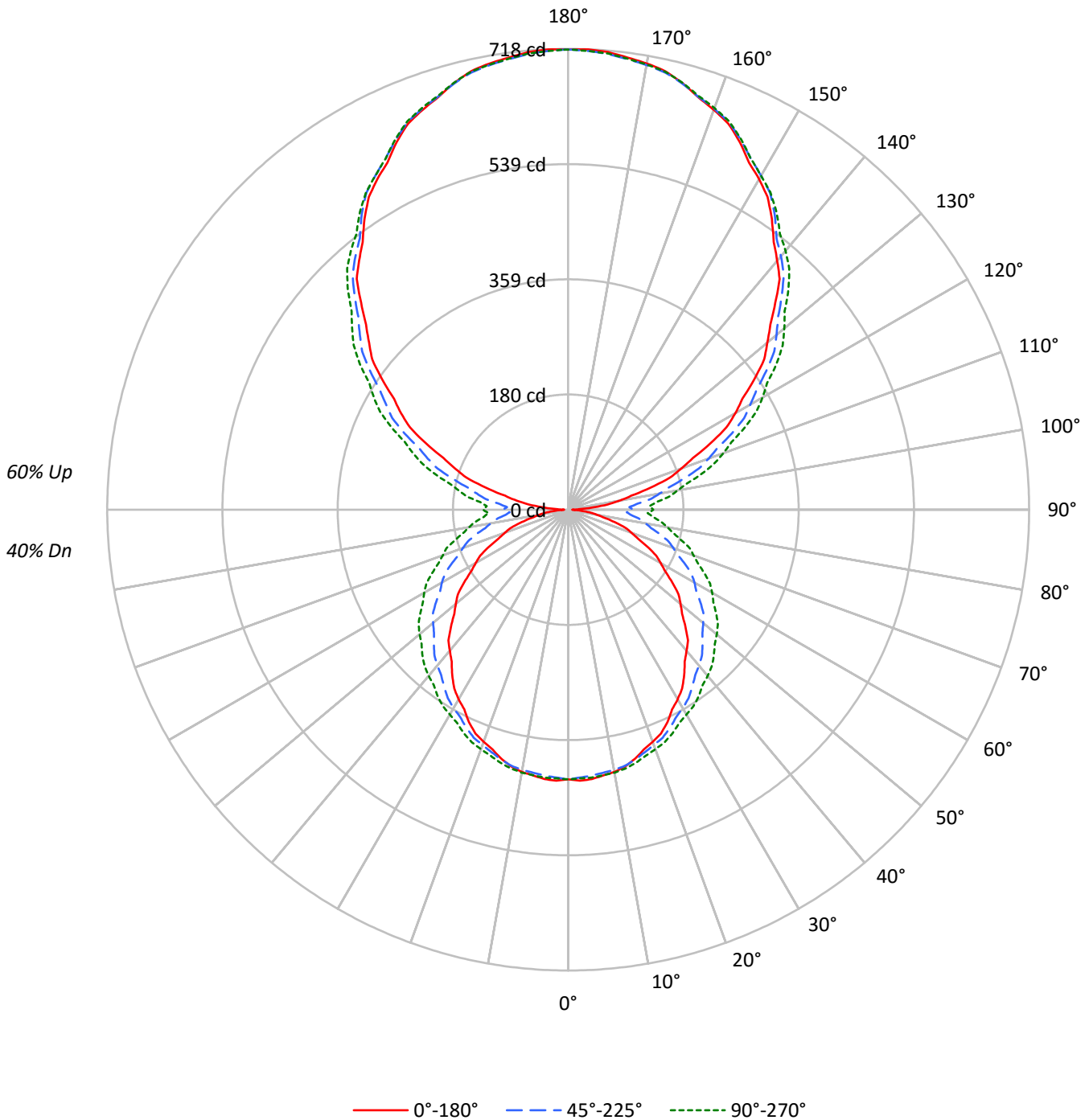
Input Watts (W): 37.6  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	0
RCR																		
0	105	105	105	105	95	95	95	95	78	78	78	61	61	61	46	46	46	40
1	94	89	85	81	85	81	78	74	66	63	61	52	50	49	39	38	37	31
2	85	77	71	65	77	70	65	60	57	53	50	45	42	40	34	32	30	25
3	77	68	60	54	70	62	55	50	50	45	41	39	36	33	30	27	25	21
4	71	60	51	45	64	54	47	42	44	39	35	35	31	28	26	23	21	17
5	65	53	44	38	58	48	41	35	39	34	30	31	27	24	23	21	18	15
6	59	47	39	33	54	43	36	30	35	30	26	28	24	21	21	18	16	13
7	55	42	34	29	50	39	32	27	32	26	22	25	21	18	19	16	14	11
8	51	38	31	25	46	35	28	23	29	24	20	23	19	16	18	15	13	10
9	47	35	27	22	43	32	25	21	26	21	17	21	17	14	16	13	11	9
10	44	32	25	20	40	29	23	18	24	19	16	20	16	13	15	12	10	8

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

	0°	45°	90°
0°	6783	6783	6783
5°	6816	6530	6505
10°	6774	6337	6266
15°	6681	6133	6014
20°	6562	5913	5771
25°	6445	5701	5552
30°	6282	5486	5330
35°	6116	5276	5174
40°	5941	5099	5017
45°	5775	4940	4885
50°	5598	4794	4753
55°	5410	4638	4620
60°	5180	4477	4479
65°	4944	4290	4310
70°	4679	4085	4131
75°	4335	3888	3964
80°	3800	3685	3794
85°	3277	3510	3661



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	39.8	1.1
10°-20°	114.2	3.2
20°-30°	173.0	4.8
30°-40°	210.7	5.8
40°-50°	226.7	6.3
50°-60°	220.1	6.1
60°-70°	192.2	5.3
70°-80°	148.0	4.1
80°-90°	102.2	2.8
90°-100°	113.8	3.2
100°-110°	191.0	5.3
110°-120°	274.2	7.6
120°-130°	335.6	9.3
130°-140°	363.7	10.1
140°-150°	350.4	9.7
150°-160°	292.8	8.1
160°-170°	194.2	5.4
170°-180°	67.9	1.9
0°-30°	327.0	9.1
0°-40°	537.7	14.9
0°-60°	984.5	27.3
0°-90°	1426.9	39.5
90°-120°	579.1	16.0
90°-150°	1628.7	45.1
90°-180°	2183.0	60.5
0°-180°	3610.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	420	420	420	420	420	
5°	421	419	416	419	419	40
15°	402	403	403	408	408	113
25°	365	370	375	382	384	168
35°	315	325	337	350	354	197
45°	258	275	296	314	321	199
55°	198	220	251	273	281	177
65°	135	165	201	225	234	134
75°	75	109	148	173	182	79
85°	22	60	99	123	133	24
90°	7	50	102	124	133	6
95°	36	71	109	131	138	40
105°	133	153	186	207	215	141
115°	244	256	281	298	304	241
125°	353	360	376	391	396	316
135°	456	463	470	482	485	352
145°	553	557	561	565	566	345
155°	632	634	636	639	637	291
165°	688	687	687	691	688	194
175°	716	714	713	716	713	68
180°	717	717	717	717	717	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	420.1	420.1	420.1	420.1	420.1	420.1	420.1	420.1	420.1	420.1	420.1
2.5°	422.6	422.2	421.9	421.6	421.3	420.7	420.0	419.2	418.5	417.7	418.2
5°	421.3	420.9	420.5	420.1	419.7	419.1	418.3	417.5	416.7	415.9	416.7
7.5°	417.6	417.3	417.0	416.8	416.5	416.0	415.4	414.8	414.2	413.5	414.5
10°	414.7	414.4	414.1	413.8	413.6	413.3	412.9	412.5	412.1	411.6	412.7
12.5°	409.8	409.9	409.9	409.9	410.0	409.9	409.6	409.3	409.0	408.7	409.8
15°	401.9	402.1	402.4	402.7	402.9	403.1	403.1	403.1	403.1	403.1	404.3
17.5°	391.7	392.2	392.8	393.4	394.0	394.4	394.8	395.3	395.7	396.2	397.4
20°	384.8	385.5	386.2	386.9	387.5	388.2	388.7	389.2	389.8	390.3	391.8
22.5°	377.5	378.3	379.1	379.8	380.7	381.4	382.2	382.9	383.7	384.5	386.0
25°	365.3	366.3	367.2	368.2	369.1	370.2	371.5	372.7	373.9	375.0	376.7
27.5°	350.7	352.3	353.8	355.4	356.9	358.4	359.8	361.3	362.6	364.1	366.2
30°	341.0	342.8	344.5	346.3	348.1	349.8	351.6	353.3	355.1	356.8	359.0
32.5°	330.3	332.2	334.2	336.2	338.2	340.2	342.3	344.4	346.4	348.5	351.0
35°	314.8	317.1	319.4	321.7	324.0	326.4	329.0	331.6	334.1	336.7	339.7
37.5°	298.0	300.7	303.3	306.0	308.6	311.6	315.0	318.2	321.6	324.9	328.2
40°	286.8	289.8	292.8	295.7	298.7	302.0	305.7	309.3	313.0	316.7	320.2
42.5°	276.1	279.1	282.0	285.0	288.0	291.6	295.8	299.9	304.2	308.3	312.2
45°	258.2	261.8	265.5	269.1	272.8	277.0	281.7	286.4	291.2	296.0	300.1
47.5°	240.5	244.5	248.5	252.4	256.4	261.2	266.8	272.3	277.9	283.4	287.8
50°	228.4	232.5	236.8	240.9	245.1	250.2	256.3	262.4	268.6	274.6	279.2
52.5°	216.6	221.0	225.4	229.9	234.3	239.7	246.1	252.5	258.9	265.4	270.0
55°	197.9	202.8	207.7	212.5	217.4	223.3	230.4	237.4	244.4	251.4	256.3
57.5°	179.4	184.9	190.4	195.8	201.4	207.7	214.8	222.0	229.2	236.4	241.7
60°	166.2	172.0	177.9	183.7	189.5	196.2	204.0	211.7	219.4	227.1	232.3
62.5°	154.5	160.5	166.6	172.7	178.7	185.6	193.2	201.0	208.7	216.4	221.8
65°	135.2	141.8	148.5	155.1	161.7	169.0	177.0	185.0	193.0	201.0	206.5
67.5°	117.4	124.3	131.3	138.2	145.1	152.6	160.9	169.0	177.2	185.3	190.9
70°	104.8	111.8	118.8	125.8	132.9	140.6	149.0	157.4	165.8	174.1	179.9
72.5°	93.0	100.3	107.5	114.8	122.1	130.0	138.4	146.9	155.4	163.9	169.7
75°	74.9	82.5	90.0	97.6	105.2	113.3	122.0	130.6	139.3	148.0	153.8
77.5°	57.4	65.3	73.2	81.1	89.1	97.4	106.2	115.0	123.8	132.6	138.4
80°	45.7	53.9	62.2	70.4	78.7	87.2	96.0	104.8	113.6	122.4	128.1
82.5°	36.0	44.1	52.2	60.3	68.5	77.0	85.9	94.8	103.7	112.7	118.3
85°	21.9	30.3	38.7	47.1	55.4	64.0	72.6	81.3	90.0	98.7	104.4
87.5°	12.1	20.5	28.9	37.2	45.6	54.5	63.7	72.9	82.2	91.4	96.9
90°	6.7	16.1	25.6	35.1	44.5	55.1	66.7	78.4	89.9	101.6	106.7
92.5°	16.4	24.9	33.3	41.8	50.3	59.1	68.2	77.1	86.2	95.2	100.6
95°	36.4	44.0	51.8	59.4	67.2	75.2	83.6	92.0	100.4	108.8	113.9
97.5°	61.7	68.6	75.4	82.3	89.1	96.7	104.9	113.2	121.6	129.9	134.9
100°	81.1	87.2	93.3	99.3	105.4	112.4	120.4	128.4	136.4	144.4	149.4
102.5°	100.9	106.4	111.8	117.2	122.7	129.3	137.2	145.0	153.0	160.8	165.8
105°	133.1	137.5	141.8	146.1	150.4	156.2	163.5	170.9	178.1	185.5	190.5
107.5°	166.2	169.9	173.6	177.3	181.1	186.3	193.1	199.7	206.5	213.3	217.9
110°	186.9	190.5	194.0	197.5	201.0	206.1	212.7	219.3	226.0	232.6	236.9



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	210.2	213.3	216.4	219.4	222.5	227.1	233.3	239.5	245.7	251.9	255.9
115°	244.4	246.7	249.0	251.4	253.6	257.6	263.5	269.3	275.2	281.0	284.9
117.5°	277.9	280.0	282.0	284.1	286.2	289.6	294.5	299.4	304.3	309.1	312.8
120°	300.7	302.3	303.9	305.6	307.1	310.1	314.5	318.8	323.2	327.5	331.3
122.5°	321.5	323.0	324.5	326.0	327.5	330.4	334.8	339.2	343.5	347.8	351.1
125°	353.4	354.6	355.7	356.9	358.2	360.8	364.7	368.6	372.5	376.4	379.7
127.5°	384.9	386.3	387.7	389.1	390.5	392.7	395.7	398.7	401.7	404.7	407.6
130°	404.7	406.3	408.0	409.6	411.2	413.3	415.9	418.4	421.0	423.5	426.6
132.5°	427.0	428.3	429.6	430.9	432.2	433.9	436.2	438.5	440.7	443.0	445.5
135°	456.2	457.6	459.1	460.6	462.1	463.7	465.3	466.8	468.5	470.1	472.8
137.5°	487.5	488.7	489.9	491.1	492.3	493.3	494.2	495.2	496.1	497.1	499.5
140°	506.4	507.4	508.5	509.6	510.7	511.7	512.7	513.6	514.5	515.4	517.6
142.5°	525.7	526.8	527.9	529.0	530.0	530.8	531.3	531.8	532.4	532.9	534.8
145°	552.9	553.9	554.8	555.8	556.8	557.6	558.4	559.2	560.0	560.8	561.7
147.5°	577.8	578.9	580.0	581.1	582.3	583.1	583.7	584.2	584.7	585.3	585.7
150°	594.7	595.5	596.3	597.1	597.9	598.6	599.2	599.7	600.2	600.8	601.2
152.5°	609.7	610.5	611.3	612.1	612.9	613.7	614.3	615.0	615.6	616.3	616.8
155°	632.2	632.6	633.0	633.4	633.8	634.2	634.6	635.0	635.4	635.9	636.5
157.5°	651.4	651.8	652.0	652.2	652.6	652.8	653.1	653.3	653.5	653.8	654.7
160°	663.1	663.3	663.6	663.9	664.1	664.4	664.5	664.6	664.7	664.9	665.7
162.5°	673.7	673.8	673.8	673.8	673.9	674.0	674.2	674.3	674.4	674.6	675.5
165°	687.9	687.7	687.6	687.5	687.4	687.3	687.3	687.3	687.3	687.3	688.2
167.5°	699.8	699.4	699.0	698.5	698.1	697.9	697.9	697.8	697.8	697.8	698.7
170°	706.0	705.6	705.2	704.8	704.4	704.2	704.0	703.8	703.8	703.6	704.6
172.5°	710.4	710.0	709.6	709.1	708.7	708.5	708.3	708.3	708.1	707.9	708.9
175°	715.7	715.3	714.9	714.5	714.1	713.8	713.5	713.2	713.0	712.7	713.6
177.5°	717.9	717.5	717.2	716.9	716.6	716.3	716.1	715.9	715.7	715.4	716.1
180°	716.9	716.9	716.9	716.9	716.9	716.9	716.9	716.9	716.9	716.9	716.9



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	420.1	420.1	420.1	420.1	420.1	420.1	420.1	420.1
2.5°	418.8	419.3	419.9	420.0	419.8	419.6	419.4	419.1
5°	417.5	418.3	419.1	419.5	419.3	419.2	419.1	418.9
7.5°	415.5	416.5	417.4	417.8	417.8	417.6	417.4	417.4
10°	413.8	414.8	416.0	416.5	416.3	416.1	416.0	415.9
12.5°	410.8	412.0	413.0	413.5	413.4	413.2	413.1	412.9
15°	405.5	406.8	408.0	408.5	408.4	408.2	408.1	408.0
17.5°	398.7	400.0	401.2	401.9	401.9	401.9	401.9	401.9
20°	393.3	394.8	396.2	397.0	397.0	397.0	397.0	397.0
22.5°	387.4	388.9	390.4	391.3	391.5	391.7	391.9	392.2
25°	378.3	379.9	381.6	382.6	383.0	383.4	383.8	384.3
27.5°	368.3	370.3	372.3	373.5	373.8	374.1	374.4	374.7
30°	361.2	363.3	365.5	366.7	367.1	367.5	367.9	368.4
32.5°	353.5	356.0	358.5	360.1	360.9	361.6	362.3	363.1
35°	342.7	345.7	348.6	350.6	351.6	352.5	353.4	354.4
37.5°	331.5	334.8	338.1	340.2	341.3	342.3	343.2	344.3
40°	323.7	327.2	330.7	333.0	334.3	335.5	336.7	337.9
42.5°	316.0	319.8	323.7	326.3	327.4	328.6	329.9	331.1
45°	304.4	308.5	312.7	315.4	316.8	318.2	319.5	320.9
47.5°	292.1	296.5	300.9	303.9	305.3	306.8	308.3	309.8
50°	283.8	288.4	293.0	296.0	297.6	299.1	300.5	302.0
52.5°	274.8	279.5	284.2	287.3	288.9	290.6	292.1	293.8
55°	261.2	266.1	270.9	274.3	276.1	277.8	279.6	281.3
57.5°	246.9	252.1	257.4	260.9	262.7	264.5	266.3	268.1
60°	237.4	242.6	247.7	251.2	253.1	255.0	256.9	258.8
62.5°	227.3	232.8	238.2	241.9	243.7	245.5	247.3	249.1
65°	212.1	217.6	223.1	226.8	228.5	230.3	232.0	233.8
67.5°	196.6	202.1	207.7	211.5	213.3	215.2	217.0	218.8
70°	185.8	191.6	197.4	201.1	202.8	204.4	206.0	207.7
72.5°	175.4	181.1	186.8	190.6	192.5	194.4	196.4	198.4
75°	159.6	165.4	171.2	175.0	176.8	178.6	180.3	182.1
77.5°	144.2	150.0	155.8	159.6	161.5	163.4	165.3	167.2
80°	133.8	139.4	145.1	148.9	150.8	152.7	154.6	156.5
82.5°	124.0	129.7	135.3	139.1	140.9	142.7	144.5	146.3
85°	110.0	115.7	121.4	125.1	127.0	129.0	130.9	132.7
87.5°	102.4	107.9	113.3	116.9	118.7	120.4	122.2	123.9
90°	111.9	117.0	122.1	125.6	127.3	129.1	130.9	132.6
92.5°	105.9	111.3	116.7	120.2	121.8	123.4	125.1	126.8
95°	119.0	124.2	129.3	132.6	133.9	135.3	136.6	137.9
97.5°	139.9	144.9	149.9	153.2	154.7	156.4	157.9	159.5
100°	154.4	159.4	164.4	167.5	168.9	170.3	171.6	173.0
102.5°	170.8	175.9	180.8	184.0	185.4	186.7	188.1	189.4
105°	195.5	200.5	205.5	208.7	210.2	211.7	213.2	214.7
107.5°	222.6	227.2	231.9	234.6	235.5	236.4	237.3	238.1
110°	241.2	245.6	249.9	252.7	253.7	254.8	255.9	257.0





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	259.9	264.0	268.0	270.6	271.7	273.0	274.2	275.3
115°	288.8	292.7	296.7	299.1	300.3	301.3	302.4	303.5
117.5°	316.5	320.2	323.8	326.2	327.2	328.2	329.1	330.1
120°	335.1	338.8	342.7	345.1	346.2	347.2	348.3	349.4
122.5°	354.5	357.8	361.3	363.4	364.4	365.3	366.3	367.3
125°	382.9	386.2	389.5	391.6	392.6	393.8	394.8	395.9
127.5°	410.5	413.4	416.2	418.0	418.8	419.6	420.3	421.1
130°	429.5	432.5	435.5	437.2	437.8	438.4	438.9	439.4
132.5°	448.0	450.5	453.1	454.7	455.3	456.0	456.6	457.3
135°	475.6	478.3	480.9	482.7	483.3	484.0	484.7	485.3
137.5°	501.8	504.3	506.6	508.0	508.3	508.7	509.2	509.6
140°	519.8	522.0	524.2	525.4	525.6	525.9	526.2	526.4
142.5°	536.5	538.4	540.2	541.3	541.4	541.6	541.8	541.9
145°	562.7	563.7	564.6	565.2	565.3	565.4	565.6	565.7
147.5°	586.1	586.4	586.9	587.0	586.8	586.6	586.4	586.3
150°	601.5	601.9	602.3	602.3	601.9	601.5	601.2	600.8
152.5°	617.3	617.8	618.3	618.3	617.8	617.3	616.8	616.3
155°	637.2	637.9	638.5	638.7	638.3	637.9	637.5	637.1
157.5°	655.6	656.5	657.4	657.5	656.9	656.2	655.6	654.9
160°	666.5	667.3	668.1	668.2	667.7	667.2	666.7	666.1
162.5°	676.4	677.4	678.2	678.3	677.7	677.1	676.5	675.8
165°	689.2	690.1	691.0	691.2	690.5	689.8	689.2	688.5
167.5°	699.7	700.6	701.6	701.6	701.0	700.3	699.6	698.9
170°	705.5	706.5	707.4	707.4	706.6	705.8	705.0	704.2
172.5°	709.9	710.8	711.8	711.8	711.0	710.2	709.4	708.6
175°	714.5	715.5	716.5	716.5	715.7	714.9	714.1	713.3
177.5°	716.7	717.4	718.0	718.0	717.4	716.7	716.1	715.4
180°	716.9	716.9	716.9	716.9	716.9	716.9	716.9	716.9

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