

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: P331558-927

Luminaire Tested: **S122DIW-S865D435U927-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331558-927  
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-S865D435U927-4F0-1E-UDD-D1  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 865 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 435 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

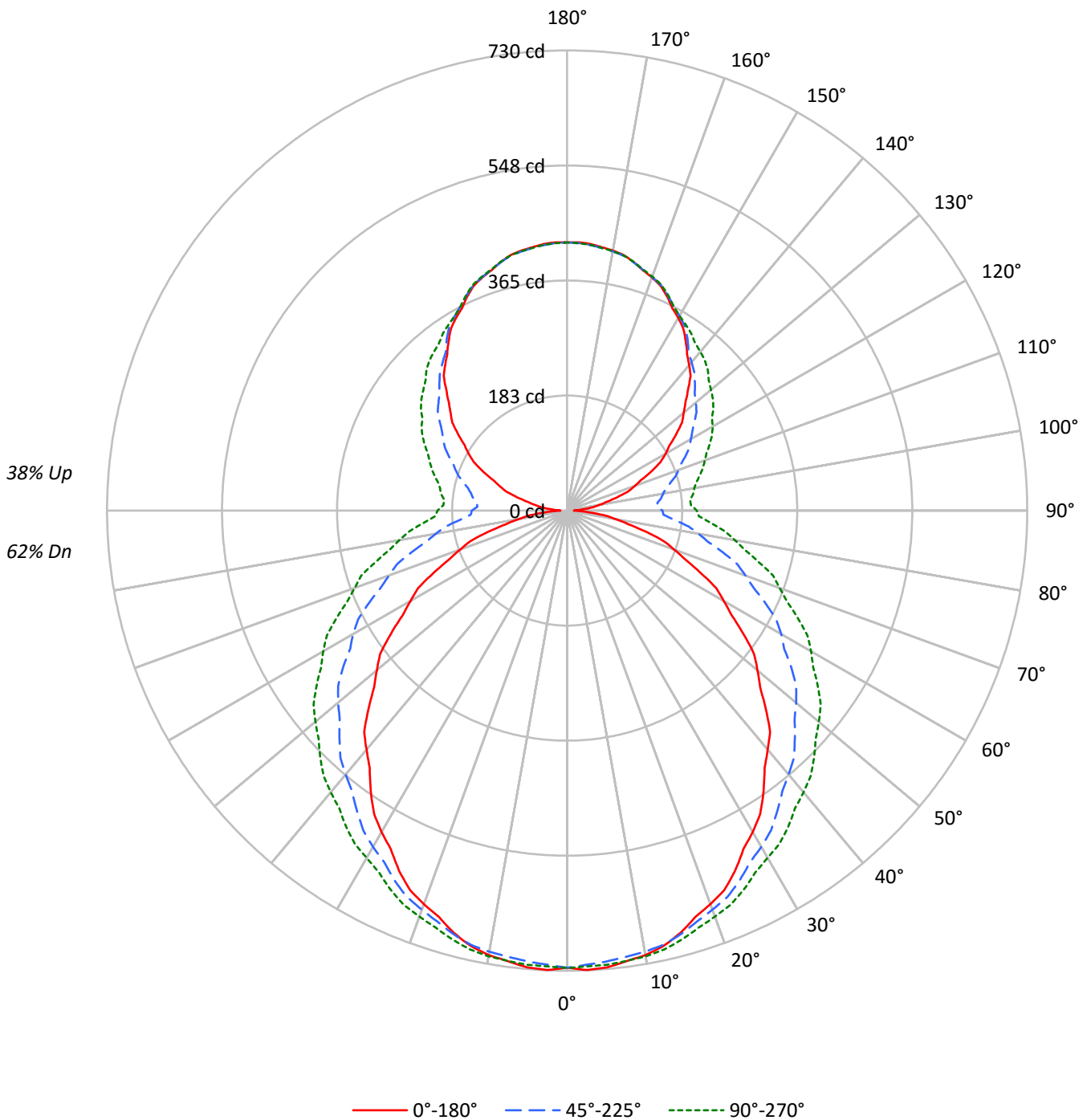
Lumens per Lamp: N/A  
Luminaire Lumens: 3958.1 lumens  
Efficiency: N/A  
Efficacy: 85.7 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')  
CIE Type: Semi-Direct  
  
Input Watts (W): 46.2  
Input Voltage (V): 120  
Input 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				20
RC	80				70				50				30				10
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	110	110	110	110	103	103	103	103	90	90	90	78	78	78	67	67	67
1	99	93	89	85	92	87	83	80	76	73	70	66	64	61	57	55	53
2	89	81	73	68	83	75	69	64	66	61	57	57	53	50	49	46	43
3	81	70	62	55	75	66	58	53	57	52	47	50	45	41	43	39	36
4	74	62	53	46	68	58	50	44	51	44	39	44	39	35	38	34	31
5	68	55	46	40	63	52	44	38	45	39	34	39	34	30	34	30	26
6	62	49	40	34	58	46	38	32	41	34	29	35	30	26	30	26	23
7	57	44	36	30	53	42	34	28	37	30	26	32	27	23	28	24	20
8	53	40	32	26	50	38	30	25	33	27	23	29	24	20	25	21	18
9	50	37	29	23	46	35	27	22	31	25	20	27	22	18	23	19	16
10	46	34	26	21	43	32	25	20	28	22	18	25	20	16	22	18	15

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

	0°	45°	90°
0°	11711	11711	11711
5°	11768	11274	11230
10°	11694	10940	10818
15°	11533	10587	10382
20°	11328	10209	9963
25°	11128	9845	9582
30°	10845	9471	9201
35°	10557	9109	8932
40°	10256	8801	8662
45°	9969	8526	8433
50°	9662	8276	8207
55°	9341	8008	7975
60°	8945	7730	7732
65°	8536	7405	7441
70°	8073	7053	7130
75°	7484	6710	6841
80°	6553	6361	6548
85°	5671	6056	6323



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	68.7	1.7
10°-20°	197.1	5.0
20°-30°	298.7	7.5
30°-40°	363.8	9.2
40°-50°	391.3	9.9
50°-60°	380.0	9.6
60°-70°	331.8	8.4
70°-80°	255.5	6.5
80°-90°	173.2	4.4
90°-100°	145.1	3.7
100°-110°	170.0	4.3
110°-120°	200.0	5.1
120°-130°	219.9	5.6
130°-140°	224.5	5.7
140°-150°	209.4	5.3
150°-160°	173.7	4.4
160°-170°	115.2	2.9
170°-180°	40.3	1.0
0°-30°	564.5	14.3
0°-40°	928.2	23.5
0°-60°	1699.6	42.9
0°-90°	2460.1	62.2
90°-120°	515.1	13.0
90°-150°	1168.9	29.5
90°-180°	1498.0	37.8
0°-180°	3958.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	725	725	725	725	725	
5°	727	724	718	724	723	69
15°	694	696	696	705	704	195
25°	631	638	648	660	663	290
35°	543	562	581	604	612	340
45°	446	475	511	542	554	344
55°	342	380	434	471	486	305
65°	233	286	347	388	404	232
75°	129	189	255	299	314	137
85°	38	103	170	213	229	41
90°	11	77	151	191	206	8
95°	27	81	144	182	196	28
105°	82	115	169	205	218	87
115°	148	163	208	238	250	146
125°	211	216	247	273	283	189
135°	271	276	286	307	316	210
145°	328	331	333	339	343	205
155°	375	376	377	379	378	173
165°	408	408	408	410	408	115
175°	425	424	423	425	423	40
180°	425	425	425	425	425	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	725.3	725.3	725.3	725.3	725.3	725.3	725.3	725.3	725.3	725.3	725.3
2.5°	729.5	729.0	728.4	727.9	727.3	726.4	725.0	723.7	722.4	721.1	722.1
5°	727.4	726.7	726.0	725.3	724.6	723.6	722.2	720.7	719.4	718.0	719.4
7.5°	720.9	720.4	719.9	719.5	719.1	718.3	717.2	716.1	715.0	714.0	715.7
10°	715.9	715.4	714.9	714.5	714.0	713.4	712.7	712.0	711.3	710.6	712.5
12.5°	707.4	707.6	707.7	707.7	707.8	707.6	707.1	706.5	706.1	705.5	707.4
15°	693.8	694.3	694.7	695.2	695.6	695.9	695.9	695.9	695.9	695.9	698.0
17.5°	676.1	677.1	678.1	679.1	680.0	680.9	681.7	682.4	683.2	683.9	686.1
20°	664.3	665.5	666.7	667.9	669.0	670.1	671.0	671.9	672.9	673.8	676.4
22.5°	651.7	653.1	654.4	655.8	657.1	658.5	659.8	661.1	662.4	663.7	666.3
25°	630.7	632.3	634.0	635.6	637.2	639.1	641.2	643.3	645.4	647.5	650.3
27.5°	605.5	608.2	610.8	613.5	616.2	618.7	621.2	623.7	626.1	628.6	632.2
30°	588.7	591.7	594.8	597.8	600.8	603.9	606.9	609.9	613.0	616.0	619.7
32.5°	570.1	573.5	576.9	580.4	583.8	587.3	590.9	594.5	598.1	601.7	606.0
35°	543.4	547.4	551.4	555.4	559.4	563.6	568.0	572.4	576.9	581.3	586.5
37.5°	514.4	519.0	523.6	528.1	532.7	537.9	543.7	549.5	555.2	560.9	566.6
40°	495.1	500.3	505.4	510.6	515.6	521.4	527.7	534.0	540.3	546.6	552.7
42.5°	476.6	481.7	486.9	492.0	497.2	503.4	510.6	517.8	525.1	532.3	538.9
45°	445.7	452.0	458.3	464.6	471.0	478.2	486.3	494.6	502.7	510.9	518.1
47.5°	415.2	422.1	429.0	435.9	442.7	450.9	460.5	470.1	479.7	489.3	496.8
50°	394.2	401.4	408.7	415.9	423.2	432.1	442.5	453.0	463.6	474.1	482.0
52.5°	374.0	381.6	389.3	396.9	404.5	413.8	424.9	435.9	447.0	458.1	466.2
55°	341.7	350.1	358.5	366.9	375.3	385.6	397.7	409.9	422.0	434.1	442.5
57.5°	309.7	319.2	328.7	338.1	347.6	358.5	370.9	383.3	395.7	408.1	417.2
60°	287.0	297.0	307.0	317.1	327.2	338.8	352.1	365.4	378.7	392.1	401.0
62.5°	266.8	277.2	287.6	298.0	308.5	320.4	333.7	347.0	360.3	373.6	383.0
65°	233.4	244.8	256.3	267.7	279.2	291.8	305.5	319.3	333.1	346.9	356.5
67.5°	202.6	214.6	226.6	238.5	250.5	263.6	277.7	291.8	305.9	320.0	329.6
70°	180.8	193.0	205.1	217.2	229.4	242.7	257.2	271.6	286.1	300.6	310.7
72.5°	160.7	173.2	185.7	198.2	210.7	224.3	239.0	253.7	268.3	283.0	292.9
75°	129.3	142.4	155.4	168.6	181.6	195.7	210.6	225.5	240.5	255.4	265.5
77.5°	99.0	112.7	126.4	140.1	153.8	168.2	183.4	198.6	213.7	228.9	238.9
80°	78.8	93.1	107.3	121.6	135.9	150.5	165.7	180.9	196.1	211.3	221.1
82.5°	62.0	76.0	90.2	104.2	118.3	133.0	148.4	163.7	179.1	194.5	204.3
85°	37.9	52.4	66.8	81.3	95.8	110.5	125.4	140.4	155.3	170.3	180.1
87.5°	20.7	34.8	48.9	63.0	77.2	91.8	107.1	122.5	137.8	153.0	162.6
90°	10.9	25.3	39.8	54.4	68.9	84.5	101.2	117.9	134.6	151.3	160.5
92.5°	16.1	29.4	42.7	56.0	69.3	83.4	98.2	113.0	127.8	142.6	151.8
95°	27.1	38.8	50.6	62.4	74.1	87.1	101.3	115.5	129.7	143.9	152.7
97.5°	41.4	51.9	62.4	72.9	83.3	95.5	109.2	122.9	136.7	150.4	159.1
100°	52.9	62.2	71.5	80.8	90.1	101.4	114.7	128.0	141.3	154.6	163.3
102.5°	64.2	72.6	81.0	89.4	97.8	108.5	121.5	134.5	147.5	160.5	169.1
105°	82.4	89.4	96.4	103.5	110.5	120.2	132.5	144.7	157.1	169.4	177.7
107.5°	101.9	107.7	113.4	119.2	124.9	133.6	145.3	156.9	168.6	180.2	188.1
110°	113.7	118.8	124.0	129.1	134.3	142.6	154.0	165.5	176.9	188.4	195.8



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	127.5	131.8	136.3	140.7	145.0	152.7	163.5	174.4	185.1	196.0	203.3
115°	147.7	150.8	153.8	156.9	159.9	166.7	177.0	187.4	197.7	208.1	215.0
117.5°	167.0	169.3	171.6	173.9	176.3	182.0	191.3	200.6	209.8	219.1	225.9
120°	180.5	182.0	183.6	185.1	186.7	191.9	200.6	209.3	218.0	226.7	233.2
122.5°	192.8	193.9	195.1	196.2	197.3	202.1	210.4	218.8	227.1	235.4	241.6
125°	211.0	211.7	212.4	213.2	213.9	217.9	225.1	232.3	239.6	246.8	252.9
127.5°	229.7	230.4	231.1	231.7	232.4	235.6	241.4	247.1	252.9	258.6	264.1
130°	241.5	242.3	243.1	243.9	244.7	247.5	252.2	257.0	261.7	266.5	271.9
132.5°	254.7	255.3	256.0	256.5	257.1	259.4	263.2	267.0	270.8	274.6	279.7
135°	271.3	272.2	273.1	273.9	274.8	276.5	279.0	281.5	284.0	286.5	291.3
137.5°	289.9	290.6	291.2	291.9	292.6	293.5	294.8	296.0	297.2	298.5	302.7
140°	301.1	301.6	302.1	302.5	303.0	303.7	304.6	305.5	306.3	307.2	310.9
142.5°	312.6	313.1	313.5	314.0	314.5	315.0	315.3	315.7	316.0	316.4	319.5
145°	328.0	328.6	329.2	329.7	330.3	330.8	331.3	331.8	332.2	332.7	334.2
147.5°	342.8	343.4	344.1	344.8	345.5	345.9	346.3	346.6	346.9	347.2	347.5
150°	352.8	353.3	353.8	354.3	354.7	355.1	355.5	355.8	356.1	356.4	356.6
152.5°	361.7	362.2	362.7	363.1	363.6	364.1	364.4	364.8	365.2	365.6	365.9
155°	375.0	375.3	375.5	375.8	376.0	376.3	376.5	376.8	377.0	377.2	377.6
157.5°	386.5	386.7	386.8	387.0	387.1	387.2	387.4	387.5	387.7	387.9	388.4
160°	393.4	393.6	393.7	393.9	394.0	394.1	394.2	394.3	394.3	394.4	394.9
162.5°	399.7	399.7	399.7	399.7	399.8	399.9	400.0	400.1	400.1	400.2	400.7
165°	408.1	408.0	407.9	407.8	407.7	407.7	407.7	407.7	407.7	407.7	408.3
167.5°	415.1	414.9	414.6	414.4	414.2	414.0	414.0	414.0	414.0	414.0	414.5
170°	418.8	418.6	418.4	418.1	417.9	417.7	417.6	417.6	417.5	417.4	418.0
172.5°	421.4	421.2	421.0	420.7	420.5	420.3	420.3	420.2	420.1	420.0	420.6
175°	424.6	424.4	424.1	423.9	423.7	423.4	423.3	423.1	422.9	422.8	423.3
177.5°	425.9	425.7	425.5	425.3	425.1	424.9	424.8	424.7	424.5	424.5	424.8
180°	425.3	425.3	425.3	425.3	425.3	425.3	425.3	425.3	425.3	425.3	425.3



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	725.3	725.3	725.3	725.3	725.3	725.3	725.3	725.3
2.5°	722.9	723.9	724.8	725.2	724.8	724.4	724.0	723.7
5°	720.7	722.2	723.6	724.1	723.9	723.7	723.4	723.2
7.5°	717.3	719.0	720.7	721.4	721.2	721.0	720.7	720.5
10°	714.3	716.2	718.1	718.9	718.7	718.4	718.2	718.0
12.5°	709.3	711.1	713.0	713.8	713.6	713.4	713.1	712.9
15°	700.1	702.2	704.3	705.2	705.0	704.7	704.5	704.3
17.5°	688.3	690.5	692.7	693.8	693.8	693.8	693.8	693.8
20°	679.0	681.5	684.0	685.4	685.4	685.4	685.4	685.4
22.5°	668.8	671.5	674.0	675.5	675.8	676.2	676.6	677.0
25°	653.2	655.9	658.8	660.5	661.2	661.9	662.6	663.3
27.5°	635.7	639.3	642.8	644.8	645.4	645.9	646.4	646.9
30°	623.4	627.2	631.0	633.2	633.8	634.5	635.3	636.0
32.5°	610.3	614.6	618.9	621.7	622.9	624.2	625.4	626.7
35°	591.6	596.8	601.9	605.2	606.9	608.6	610.1	611.8
37.5°	572.3	578.0	583.7	587.4	589.1	590.9	592.6	594.4
40°	558.7	564.8	570.9	575.0	577.1	579.2	581.3	583.4
42.5°	545.6	552.2	558.9	563.2	565.3	567.4	569.5	571.6
45°	525.4	532.6	539.9	544.6	547.0	549.3	551.7	554.0
47.5°	504.4	511.9	519.5	524.6	527.1	529.7	532.3	534.9
50°	490.0	497.9	505.9	511.1	513.7	516.3	518.8	521.4
52.5°	474.4	482.5	490.6	496.1	498.8	501.6	504.3	507.1
55°	451.0	459.4	467.8	473.5	476.5	479.6	482.6	485.6
57.5°	426.2	435.2	444.3	450.4	453.4	456.5	459.6	462.7
60°	409.9	418.7	427.6	433.6	437.0	440.2	443.5	446.8
62.5°	392.4	401.9	411.3	417.6	420.6	423.7	426.8	429.9
65°	366.1	375.7	385.2	391.5	394.5	397.6	400.6	403.6
67.5°	339.3	349.0	358.7	365.1	368.3	371.5	374.6	377.8
70°	320.8	330.7	340.8	347.2	350.1	352.8	355.7	358.5
72.5°	302.7	312.5	322.4	329.0	332.4	335.7	339.1	342.5
75°	275.5	285.6	295.6	302.1	305.2	308.2	311.2	314.3
77.5°	249.0	259.0	268.9	275.6	278.8	282.1	285.4	288.7
80°	230.9	240.7	250.6	257.1	260.3	263.6	266.9	270.1
82.5°	214.1	223.9	233.7	240.2	243.3	246.3	249.4	252.5
85°	189.9	199.7	209.5	216.1	219.4	222.6	225.9	229.2
87.5°	172.1	181.6	191.1	197.3	200.3	203.3	206.3	209.3
90°	169.7	178.9	188.1	194.1	196.9	199.9	202.7	205.7
92.5°	161.0	170.2	179.4	185.4	188.1	191.0	193.8	196.6
95°	161.6	170.5	179.4	185.1	187.7	190.4	193.1	195.7
97.5°	167.8	176.4	185.1	190.8	193.5	196.2	198.9	201.7
100°	171.9	180.5	189.3	194.8	197.3	199.8	202.2	204.8
102.5°	177.6	186.1	194.6	200.1	202.6	205.1	207.6	210.1
105°	186.0	194.4	202.7	208.2	210.7	213.3	215.9	218.4
107.5°	196.0	203.9	211.8	216.9	219.1	221.3	223.5	225.7
110°	203.3	210.8	218.2	223.2	225.5	227.8	230.1	232.5





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	210.6	217.9	225.1	230.0	232.3	234.7	237.1	239.5
115°	221.9	228.9	235.8	240.4	242.7	245.1	247.4	249.7
117.5°	232.6	239.3	246.0	250.4	252.5	254.8	256.9	259.0
120°	239.8	246.3	252.9	257.3	259.6	262.0	264.3	266.6
122.5°	247.8	253.9	260.1	264.2	266.2	268.2	270.2	272.3
125°	258.9	265.0	271.1	275.1	277.1	279.2	281.1	283.2
127.5°	269.6	275.1	280.6	284.2	286.1	287.9	289.7	291.4
130°	277.3	282.8	288.3	291.8	293.3	294.9	296.4	297.9
132.5°	284.8	289.9	294.9	298.3	299.8	301.5	303.1	304.7
135°	296.1	301.0	305.8	309.0	310.6	312.3	313.9	315.5
137.5°	307.0	311.2	315.4	318.1	319.4	320.7	321.9	323.2
140°	314.7	318.4	322.1	324.6	325.6	326.7	327.8	328.8
142.5°	322.5	325.6	328.6	330.6	331.4	332.4	333.3	334.1
145°	335.6	337.2	338.7	339.8	340.6	341.5	342.3	343.2
147.5°	347.9	348.3	348.6	349.0	349.2	349.5	349.7	350.0
150°	356.9	357.1	357.4	357.4	357.1	356.9	356.6	356.4
152.5°	366.1	366.5	366.8	366.8	366.5	366.1	365.9	365.6
155°	378.0	378.4	378.8	378.9	378.7	378.4	378.2	378.0
157.5°	388.9	389.4	390.0	390.1	389.7	389.3	389.0	388.6
160°	395.4	395.9	396.3	396.4	396.1	395.8	395.5	395.1
162.5°	401.2	401.8	402.3	402.4	402.0	401.6	401.2	400.9
165°	408.8	409.4	410.0	410.0	409.6	409.2	408.8	408.4
167.5°	415.1	415.7	416.2	416.3	415.8	415.4	415.0	414.6
170°	418.5	419.1	419.6	419.7	419.2	418.7	418.3	417.8
172.5°	421.1	421.7	422.2	422.2	421.8	421.3	420.8	420.3
175°	423.9	424.5	425.0	425.1	424.6	424.1	423.7	423.2
177.5°	425.2	425.6	426.0	426.0	425.6	425.2	424.8	424.5
180°	425.3	425.3	425.3	425.3	425.3	425.3	425.3	425.3

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