

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: P331558-935

Luminaire Tested: **S122DIW-S865D435U935-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331558-935
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-S865D435U935-4F0-1E-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: 4301.9 lumens
Efficiency: N/A
Efficacy: 93.1 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

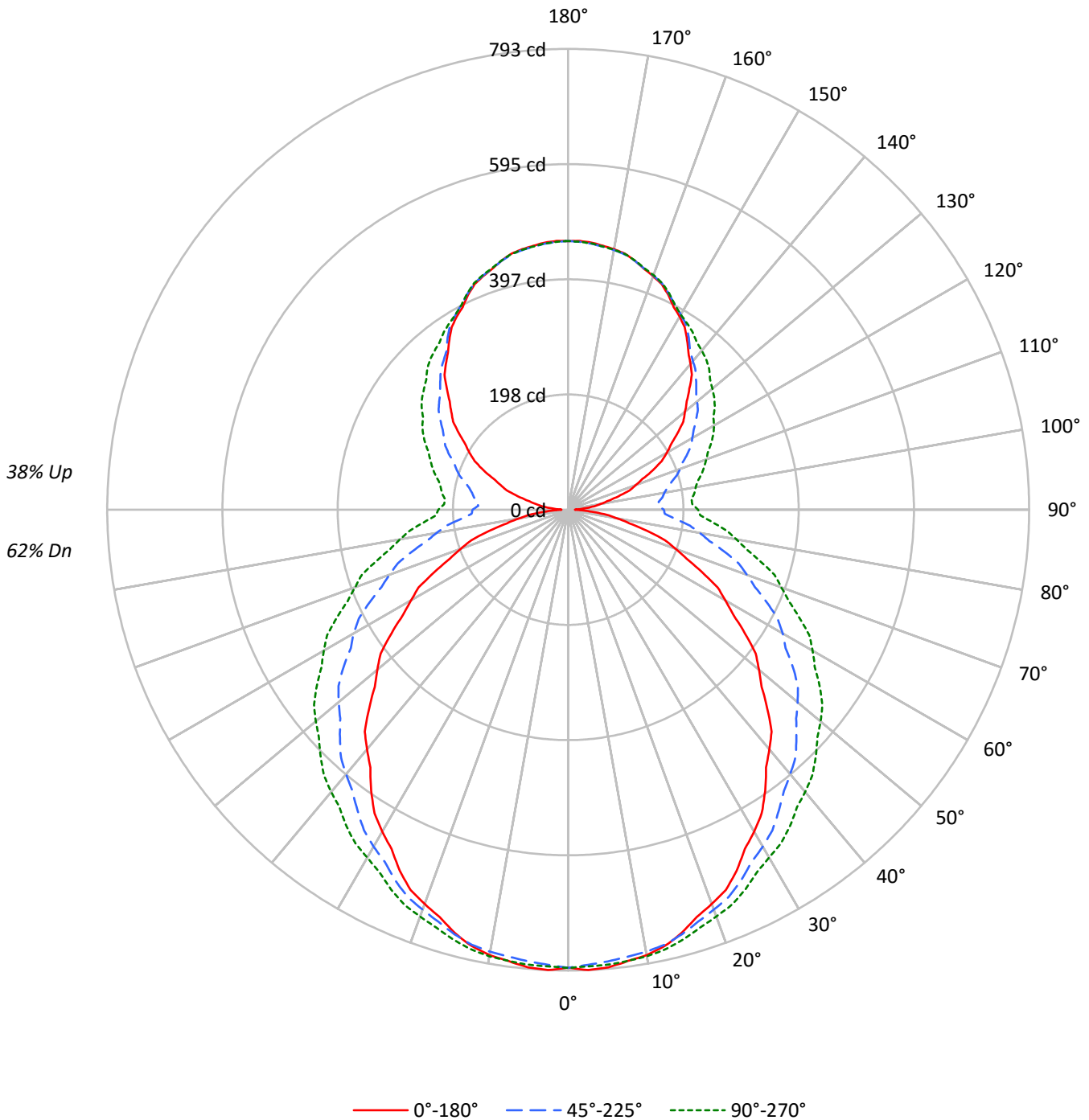
Input Watts (W): 46.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	110	110	110	110	103	103	103	103	90	90	90	78	78	78	67	67	67	62
1	99	93	89	85	92	87	83	80	76	73	70	66	64	61	57	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	53	57	52	47	50	45	41	43	39	36	32
4	74	62	53	46	68	58	50	44	51	44	39	44	39	35	38	34	31	27
5	68	55	46	40	63	52	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	24	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°	12728	12728	12728
5°	12790	12252	12205
10°	12710	11890	11756
15°	12535	11506	11284
20°	12312	11097	10828
25°	12095	10701	10415
30°	11786	10293	10000
35°	11474	9900	9708
40°	11147	9566	9415
45°	10835	9267	9165
50°	10500	8995	8920
55°	10150	8703	8668
60°	9721	8403	8403
65°	9278	8047	8088
70°	8774	7666	7748
75°	8132	7293	7435
80°	7126	6912	7117
85°	6164	6582	6872



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	74.7	1.7
10°-20°	214.2	5.0
20°-30°	324.6	7.5
30°-40°	395.4	9.2
40°-50°	425.3	9.9
50°-60°	413.1	9.6
60°-70°	360.7	8.4
70°-80°	277.7	6.5
80°-90°	188.2	4.4
90°-100°	157.7	3.7
100°-110°	184.7	4.3
110°-120°	217.4	5.1
120°-130°	239.1	5.6
130°-140°	244.0	5.7
140°-150°	227.6	5.3
150°-160°	188.8	4.4
160°-170°	125.2	2.9
170°-180°	43.8	1.0
0°-30°	613.5	14.3
0°-40°	1008.9	23.5
0°-60°	1847.2	42.9
0°-90°	2673.8	62.2
90°-120°	559.8	13.0
90°-150°	1270.4	29.5
90°-180°	1628.0	37.8
0°-180°	4301.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	788	788	788	788	788	
5°	791	787	780	787	786	75
15°	754	756	756	766	766	212
25°	686	694	704	717	721	315
35°	591	610	632	656	665	369
45°	484	516	555	589	602	374
55°	371	413	472	512	528	332
65°	254	310	377	422	439	252
75°	140	205	278	325	342	149
85°	41	112	185	231	249	44
90°	12	83	164	208	224	9
95°	29	88	156	198	213	30
105°	90	125	184	223	237	95
115°	161	178	226	259	271	158
125°	229	235	268	297	308	205
135°	295	300	311	334	343	228
145°	356	359	362	369	373	223
155°	408	409	410	412	411	188
165°	444	443	443	446	444	125
175°	462	460	460	462	460	44
180°	462	462	462	462	462	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	788.3	788.3	788.3	788.3	788.3	788.3	788.3	788.3	788.3	788.3	788.3
2.5°	792.9	792.3	791.7	791.1	790.5	789.5	788.0	786.6	785.1	783.8	784.8
5°	790.6	789.9	789.1	788.3	787.6	786.4	784.9	783.3	781.9	780.3	781.9
7.5°	783.5	783.0	782.5	782.0	781.5	780.7	779.5	778.3	777.1	776.0	777.8
10°	778.1	777.6	777.1	776.5	776.0	775.4	774.6	773.9	773.1	772.3	774.4
12.5°	768.9	769.0	769.1	769.2	769.3	769.0	768.5	767.9	767.4	766.8	768.9
15°	754.1	754.6	755.1	755.6	756.0	756.3	756.3	756.3	756.3	756.3	758.6
17.5°	734.9	735.9	737.0	738.0	739.1	740.0	740.9	741.7	742.5	743.3	745.7
20°	722.0	723.3	724.6	725.9	727.1	728.3	729.3	730.3	731.3	732.4	735.1
22.5°	708.3	709.8	711.3	712.7	714.2	715.7	717.1	718.5	720.0	721.3	724.2
25°	685.5	687.3	689.1	690.9	692.6	694.7	696.9	699.2	701.5	703.8	706.8
27.5°	658.1	661.0	663.8	666.8	669.7	672.4	675.1	677.9	680.5	683.2	687.1
30°	639.8	643.1	646.4	649.7	653.0	656.3	659.6	662.9	666.2	669.5	673.6
32.5°	619.7	623.4	627.1	630.9	634.6	638.3	642.2	646.2	650.1	653.9	658.7
35°	590.6	595.0	599.3	603.6	608.0	612.5	617.3	622.2	627.0	631.8	637.4
37.5°	559.1	564.1	569.1	574.0	579.0	584.6	590.9	597.2	603.4	609.7	615.9
40°	538.1	543.7	549.3	554.9	560.4	566.7	573.5	580.4	587.3	594.1	600.7
42.5°	518.0	523.6	529.2	534.8	540.4	547.1	554.9	562.8	570.7	578.6	585.7
45°	484.4	491.3	498.1	505.0	511.9	519.7	528.6	537.5	546.4	555.3	563.1
47.5°	451.3	458.7	466.2	473.7	481.1	490.1	500.5	510.9	521.3	531.8	539.9
50°	428.4	436.3	444.2	452.0	459.9	469.6	481.0	492.4	503.9	515.3	523.9
52.5°	406.5	414.7	423.1	431.4	439.6	449.8	461.8	473.8	485.9	497.9	506.7
55°	371.3	380.5	389.6	398.7	407.9	419.0	432.2	445.5	458.7	471.8	481.0
57.5°	336.6	346.9	357.2	367.5	377.8	389.7	403.1	416.6	430.1	443.5	453.4
60°	311.9	322.8	333.7	344.7	355.6	368.2	382.7	397.2	411.6	426.2	435.8
62.5°	290.0	301.3	312.6	323.9	335.3	348.2	362.7	377.1	391.6	406.0	416.3
65°	253.7	266.0	278.5	290.9	303.4	317.1	332.1	347.1	362.1	377.0	387.4
67.5°	220.2	233.2	246.2	259.2	272.2	286.5	301.8	317.1	332.4	347.8	358.3
70°	196.5	209.7	222.9	236.1	249.3	263.8	279.6	295.2	311.0	326.7	337.7
72.5°	174.6	188.2	201.8	215.4	229.0	243.7	259.8	275.7	291.6	307.5	318.3
75°	140.5	154.7	168.9	183.2	197.4	212.7	228.9	245.1	261.4	277.6	288.5
77.5°	107.6	122.5	137.4	152.2	167.1	182.8	199.3	215.9	232.3	248.8	259.7
80°	85.7	101.2	116.7	132.2	147.7	163.6	180.1	196.7	213.1	229.6	240.3
82.5°	67.4	82.7	98.0	113.2	128.5	144.6	161.3	178.0	194.7	211.4	222.1
85°	41.2	56.9	72.6	88.3	104.1	120.1	136.3	152.6	168.8	185.1	195.8
87.5°	22.5	37.8	53.1	68.4	83.9	99.8	116.4	133.1	149.7	166.3	176.7
90°	11.8	27.6	43.3	59.2	74.9	91.9	110.0	128.1	146.3	164.5	174.4
92.5°	17.5	31.9	46.4	60.9	75.3	90.7	106.7	122.8	138.9	155.0	165.0
95°	29.4	42.2	55.0	67.8	80.6	94.7	110.1	125.5	140.9	156.4	166.0
97.5°	45.0	56.4	67.8	79.2	90.6	103.8	118.6	133.6	148.6	163.5	172.9
100°	57.5	67.6	77.7	87.8	97.9	110.2	124.7	139.1	153.6	168.1	177.5
102.5°	69.7	78.9	88.0	97.1	106.2	118.0	132.1	146.2	160.3	174.4	183.7
105°	89.5	97.2	104.8	112.4	120.1	130.6	144.0	157.3	170.7	184.1	193.1
107.5°	110.7	117.0	123.3	129.6	135.8	145.3	157.9	170.6	183.2	195.9	204.5
110°	123.6	129.2	134.7	140.3	145.9	155.0	167.4	179.9	192.3	204.7	212.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	138.5	143.3	148.1	152.9	157.6	165.9	177.7	189.5	201.2	213.0	220.9
115°	160.6	163.9	167.2	170.6	173.8	181.2	192.3	203.6	214.9	226.2	233.7
117.5°	181.5	184.0	186.5	189.0	191.6	197.9	207.9	218.0	228.1	238.2	245.5
120°	196.1	197.9	199.6	201.2	202.9	208.5	218.0	227.5	236.9	246.4	253.5
122.5°	209.6	210.8	212.1	213.3	214.5	219.6	228.7	237.8	246.8	255.9	262.6
125°	229.3	230.1	230.8	231.7	232.5	236.8	244.6	252.4	260.4	268.2	274.8
127.5°	249.7	250.4	251.2	251.8	252.6	256.1	262.3	268.5	274.8	281.0	287.1
130°	262.4	263.4	264.2	265.1	266.0	269.0	274.1	279.3	284.5	289.6	295.5
132.5°	276.8	277.5	278.2	278.8	279.5	281.9	286.0	290.2	294.4	298.5	304.0
135°	294.9	295.8	296.8	297.7	298.7	300.5	303.2	305.9	308.7	311.3	316.6
137.5°	315.0	315.8	316.5	317.3	318.0	319.0	320.4	321.8	323.0	324.4	329.0
140°	327.3	327.8	328.3	328.8	329.3	330.1	331.1	332.0	332.9	333.9	337.9
142.5°	339.8	340.3	340.8	341.3	341.8	342.3	342.7	343.1	343.5	343.9	347.2
145°	356.5	357.1	357.7	358.3	359.0	359.6	360.1	360.6	361.1	361.6	363.3
147.5°	372.6	373.2	374.0	374.7	375.5	376.0	376.3	376.7	377.0	377.4	377.7
150°	383.5	384.0	384.5	385.0	385.6	386.0	386.3	386.7	387.0	387.4	387.6
152.5°	393.1	393.6	394.2	394.7	395.2	395.7	396.1	396.5	396.9	397.4	397.7
155°	407.6	407.9	408.1	408.5	408.7	409.0	409.2	409.5	409.7	410.0	410.4
157.5°	420.1	420.3	420.4	420.6	420.8	420.9	421.0	421.2	421.4	421.5	422.1
160°	427.6	427.7	427.9	428.1	428.3	428.3	428.4	428.5	428.6	428.7	429.2
162.5°	434.4	434.5	434.5	434.5	434.5	434.6	434.7	434.8	434.9	435.0	435.5
165°	443.5	443.4	443.3	443.2	443.2	443.2	443.2	443.2	443.2	443.2	443.8
167.5°	451.2	450.9	450.6	450.4	450.1	450.0	450.0	450.0	450.0	450.0	450.6
170°	455.2	455.0	454.7	454.4	454.2	454.0	453.9	453.8	453.7	453.7	454.3
172.5°	458.1	457.8	457.5	457.3	457.0	456.8	456.8	456.7	456.6	456.5	457.1
175°	461.5	461.2	461.0	460.7	460.5	460.2	460.0	459.9	459.7	459.5	460.1
177.5°	462.9	462.7	462.4	462.3	462.0	461.8	461.8	461.6	461.4	461.3	461.8
180°	462.3	462.3	462.3	462.3	462.3	462.3	462.3	462.3	462.3	462.3	462.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	788.3	788.3	788.3	788.3	788.3	788.3	788.3	788.3
2.5°	785.7	786.8	787.8	788.2	787.7	787.3	786.9	786.5
5°	783.3	784.9	786.4	787.0	786.8	786.5	786.3	786.0
7.5°	779.6	781.4	783.3	784.1	783.9	783.6	783.3	783.1
10°	776.4	778.4	780.5	781.4	781.1	780.8	780.6	780.3
12.5°	770.9	772.9	775.0	775.8	775.6	775.3	775.1	774.8
15°	760.9	763.2	765.5	766.5	766.2	765.9	765.7	765.5
17.5°	748.1	750.4	752.9	754.1	754.1	754.1	754.1	754.1
20°	738.0	740.7	743.5	744.9	744.9	744.9	744.9	744.9
22.5°	726.9	729.8	732.5	734.2	734.5	734.9	735.4	735.8
25°	709.9	712.9	716.0	717.9	718.6	719.4	720.1	720.9
27.5°	691.0	694.8	698.6	700.9	701.5	702.0	702.6	703.1
30°	677.6	681.7	685.8	688.2	688.9	689.7	690.4	691.2
32.5°	663.3	668.0	672.6	675.7	677.0	678.4	679.8	681.1
35°	643.0	648.6	654.2	657.8	659.6	661.4	663.1	665.0
37.5°	622.0	628.2	634.4	638.4	640.3	642.2	644.1	646.0
40°	607.3	613.9	620.5	624.9	627.2	629.5	631.8	634.1
42.5°	593.0	600.2	607.4	612.2	614.4	616.7	619.0	621.3
45°	571.0	578.9	586.8	591.9	594.5	597.0	599.6	602.1
47.5°	548.2	556.4	564.6	570.2	572.9	575.8	578.5	581.3
50°	532.5	541.1	549.8	555.5	558.3	561.1	563.9	566.7
52.5°	515.6	524.4	533.2	539.2	542.2	545.2	548.1	551.1
55°	490.2	499.3	508.4	514.6	517.9	521.2	524.5	527.8
57.5°	463.2	473.0	482.9	489.6	492.8	496.2	499.6	502.9
60°	445.5	455.1	464.8	471.3	474.9	478.5	482.0	485.6
62.5°	426.5	436.8	447.0	453.9	457.2	460.5	463.9	467.3
65°	397.9	408.3	418.7	425.5	428.8	432.1	435.4	438.7
67.5°	368.8	379.3	389.9	396.8	400.3	403.7	407.2	410.6
70°	348.6	359.5	370.4	377.4	380.5	383.5	386.6	389.6
72.5°	329.0	339.7	350.4	357.6	361.3	364.9	368.6	372.2
75°	299.5	310.4	321.3	328.4	331.7	335.0	338.3	341.6
77.5°	270.6	281.5	292.3	299.5	303.1	306.6	310.2	313.7
80°	251.0	261.7	272.3	279.4	282.9	286.5	290.1	293.6
82.5°	232.7	243.3	254.0	261.1	264.4	267.7	271.0	274.4
85°	206.4	217.1	227.7	234.9	238.4	241.9	245.5	249.1
87.5°	187.0	197.3	207.7	214.4	217.7	220.9	224.2	227.5
90°	184.4	194.4	204.4	210.9	214.0	217.2	220.3	223.5
92.5°	175.0	184.9	194.9	201.5	204.5	207.6	210.7	213.7
95°	175.6	185.3	194.9	201.2	204.1	207.0	209.8	212.7
97.5°	182.4	191.7	201.1	207.3	210.3	213.3	216.2	219.2
100°	186.8	196.2	205.7	211.7	214.4	217.1	219.8	222.6
102.5°	193.0	202.2	211.5	217.5	220.2	222.9	225.6	228.3
105°	202.2	211.3	220.3	226.3	229.0	231.8	234.6	237.4
107.5°	213.0	221.6	230.2	235.7	238.2	240.6	242.9	245.3
110°	220.9	229.1	237.2	242.5	245.0	247.6	250.1	252.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	228.9	236.8	244.6	249.9	252.5	255.1	257.7	260.3
115°	241.2	248.7	256.2	261.3	263.8	266.4	268.9	271.4
117.5°	252.8	260.1	267.3	272.2	274.5	276.9	279.2	281.5
120°	260.6	267.7	274.8	279.7	282.1	284.7	287.2	289.8
122.5°	269.3	276.0	282.7	287.1	289.3	291.5	293.7	295.9
125°	281.4	288.0	294.6	299.0	301.2	303.4	305.6	307.8
127.5°	293.0	299.0	305.0	308.9	310.9	312.9	314.9	316.8
130°	301.4	307.4	313.3	317.1	318.7	320.5	322.2	323.8
132.5°	309.5	315.0	320.6	324.2	325.9	327.7	329.4	331.1
135°	321.8	327.1	332.3	335.9	337.6	339.4	341.2	342.9
137.5°	333.6	338.2	342.9	345.8	347.2	348.5	349.9	351.3
140°	342.0	346.0	350.1	352.8	353.9	355.1	356.3	357.4
142.5°	350.5	353.9	357.1	359.3	360.2	361.3	362.2	363.2
145°	364.8	366.4	368.1	369.3	370.2	371.2	372.0	373.0
147.5°	378.2	378.6	378.9	379.3	379.5	379.9	380.1	380.4
150°	387.9	388.1	388.4	388.4	388.1	387.9	387.6	387.4
152.5°	398.0	398.3	398.6	398.6	398.3	398.0	397.7	397.4
155°	410.9	411.3	411.7	411.8	411.6	411.3	411.0	410.8
157.5°	422.7	423.3	423.9	424.0	423.5	423.1	422.8	422.3
160°	429.7	430.2	430.8	430.8	430.5	430.2	429.8	429.5
162.5°	436.1	436.7	437.3	437.4	437.0	436.5	436.1	435.8
165°	444.4	445.0	445.6	445.7	445.2	444.8	444.4	443.9
167.5°	451.2	451.8	452.4	452.5	451.9	451.5	451.1	450.6
170°	454.9	455.5	456.1	456.2	455.6	455.1	454.6	454.1
172.5°	457.7	458.3	458.9	458.9	458.4	457.9	457.4	456.8
175°	460.7	461.3	461.9	462.0	461.5	461.0	460.5	459.9
177.5°	462.2	462.5	463.0	463.0	462.5	462.2	461.8	461.3
180°	462.3	462.3	462.3	462.3	462.3	462.3	462.3	462.3

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