

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: P331588-930

Luminaire Tested: **S122DIW-S1005D435U930-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331588-930
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-S1005D435U930-4F0-1E-UDD-D1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1005 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: 4514.8 lumens
Efficiency: N/A
Efficacy: 86.2 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

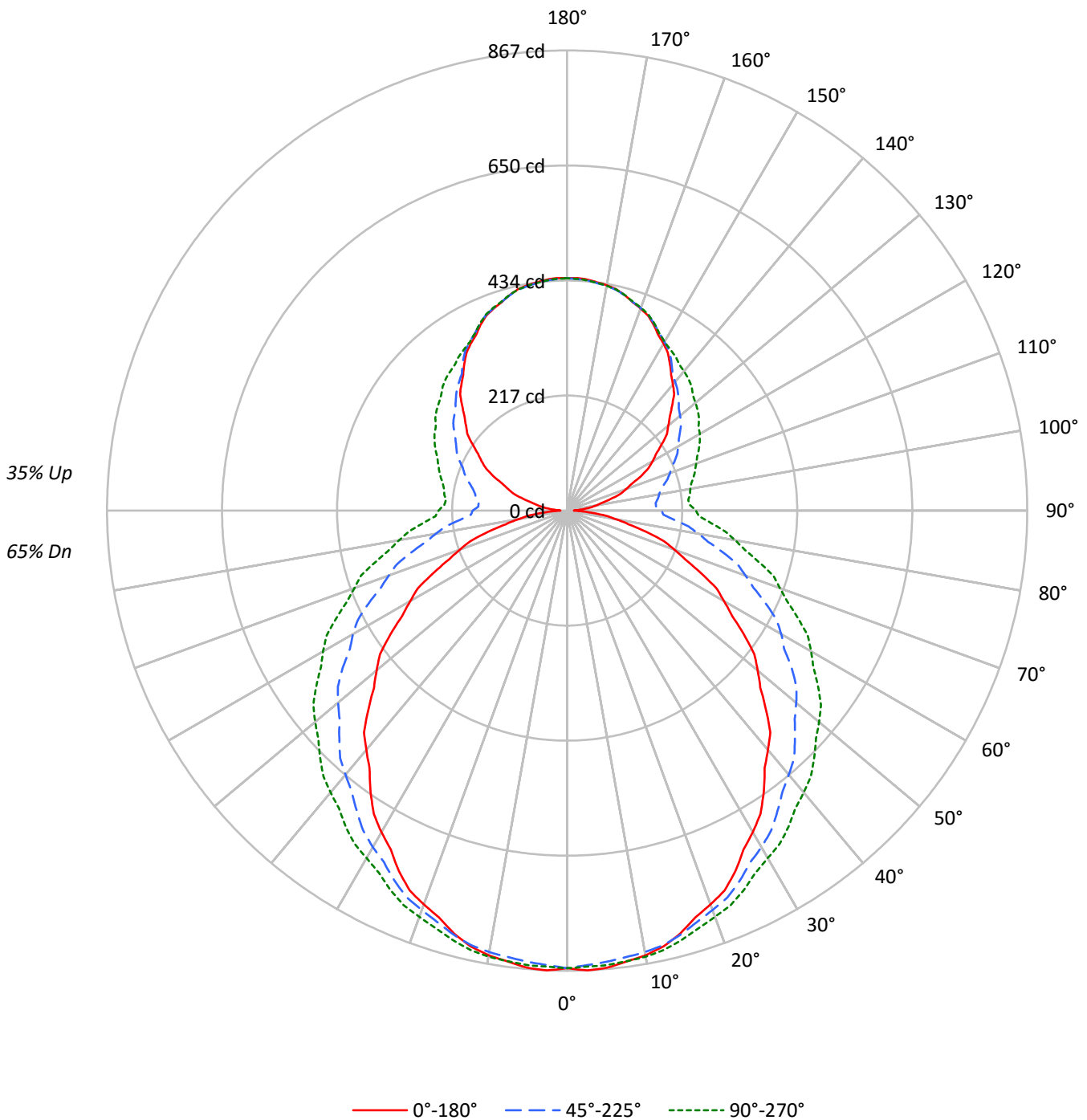
Input Watts (W): 52.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	111	111	111	111	104	104	104	104	92	92	92	80	80	80	70	70	70	65
1	99	94	89	85	93	88	84	80	77	74	71	68	65	63	59	57	55	51
2	90	81	74	68	84	76	70	64	67	62	58	58	54	51	50	47	45	41
3	81	71	62	56	76	66	59	53	58	52	48	51	46	42	44	40	37	34
4	74	62	53	47	69	58	50	44	51	45	40	45	40	36	39	35	32	28
5	68	55	46	40	63	52	44	38	46	39	34	40	35	31	35	31	27	24
6	62	49	41	34	58	47	39	33	41	35	30	36	31	27	32	27	24	21
7	58	44	36	30	54	42	34	29	37	31	26	33	28	23	29	24	21	18
8	54	40	32	26	50	38	31	25	34	28	23	30	25	21	26	22	19	16
9	50	37	29	23	47	35	28	23	31	25	21	28	22	19	24	20	17	15
10	47	34	26	21	44	32	25	20	29	23	19	26	20	17	23	18	15	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13919	13919	13919
5°	13988	13400	13350
10°	13899	13004	12858
15°	13709	12584	12339
20°	13467	12136	11842
25°	13227	11701	11390
30°	12890	11257	10936
35°	12550	10828	10617
40°	12191	10461	10297
45°	11850	10133	10022
50°	11485	9837	9754
55°	11101	9519	9479
60°	10631	9187	9189
65°	10145	8801	8846
70°	9596	8384	8474
75°	8897	7976	8132
80°	7792	7559	7784
85°	6733	7197	7515



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	81.7	1.8
10°-20°	234.3	5.2
20°-30°	355.0	7.9
30°-40°	432.4	9.6
40°-50°	465.2	10.3
50°-60°	451.7	10.0
60°-70°	394.4	8.7
70°-80°	303.7	6.7
80°-90°	205.5	4.6
90°-100°	168.1	3.7
100°-110°	188.7	4.2
110°-120°	215.0	4.8
120°-130°	231.4	5.1
130°-140°	233.2	5.2
140°-150°	215.9	4.8
150°-160°	178.7	4.0
160°-170°	118.6	2.6
170°-180°	41.4	0.9
0°-30°	670.9	14.9
0°-40°	1103.3	24.4
0°-60°	2020.2	44.7
0°-90°	2923.8	64.8
90°-120°	571.8	12.7
90°-150°	1252.2	27.7
90°-180°	1591.0	35.2
0°-180°	4514.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	862	862	862	862	862	
5°	865	861	853	860	860	82
15°	825	827	827	838	837	232
25°	750	759	770	784	788	345
35°	646	667	691	717	727	404
45°	530	564	607	644	658	409
55°	406	452	516	559	577	363
65°	277	339	412	462	480	275
75°	154	224	304	355	374	163
85°	45	123	202	253	272	48
90°	13	90	178	225	242	9
95°	29	92	167	213	229	30
105°	86	125	189	232	247	91
115°	153	171	224	260	274	151
125°	217	223	260	291	303	195
135°	279	284	297	322	331	216
145°	338	340	342	350	355	211
155°	386	387	388	390	389	178
165°	420	420	420	422	420	118
175°	437	436	435	437	436	41
180°	438	438	438	438	438	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	862.1	862.1	862.1	862.1	862.1	862.1	862.1	862.1	862.1	862.1	862.1
2.5°	867.2	866.5	865.8	865.1	864.5	863.3	861.8	860.2	858.7	857.1	858.3
5°	864.6	863.8	863.0	862.1	861.3	860.1	858.4	856.7	855.1	853.4	855.1
7.5°	856.9	856.3	855.7	855.2	854.7	853.8	852.5	851.2	849.9	848.6	850.6
10°	850.9	850.4	849.8	849.2	848.6	848.0	847.2	846.3	845.5	844.7	846.9
12.5°	840.9	841.0	841.1	841.2	841.3	841.1	840.5	839.8	839.3	838.6	840.9
15°	824.7	825.2	825.7	826.3	826.9	827.1	827.1	827.1	827.1	827.1	829.6
17.5°	803.6	804.9	806.0	807.1	808.3	809.3	810.2	811.1	812.0	812.9	815.5
20°	789.7	791.1	792.5	793.9	795.2	796.5	797.6	798.7	799.8	801.0	804.0
22.5°	774.7	776.2	777.9	779.5	781.1	782.7	784.2	785.8	787.3	788.9	792.0
25°	749.7	751.6	753.6	755.5	757.5	759.7	762.1	764.7	767.2	769.6	773.0
27.5°	719.7	722.8	726.0	729.2	732.4	735.4	738.3	741.3	744.2	747.2	751.4
30°	699.7	703.3	706.9	710.5	714.1	717.8	721.4	725.0	728.6	732.2	736.6
32.5°	677.7	681.8	685.8	689.9	693.9	698.1	702.4	706.6	710.9	715.2	720.3
35°	646.0	650.7	655.4	660.1	664.9	669.8	675.1	680.4	685.7	691.0	697.1
37.5°	611.5	616.9	622.4	627.8	633.2	639.4	646.2	653.1	659.9	666.8	673.5
40°	588.5	594.6	600.7	606.8	612.9	619.7	627.2	634.7	642.2	649.7	657.0
42.5°	566.6	572.6	578.7	584.8	590.9	598.3	606.9	615.6	624.1	632.8	640.6
45°	529.8	537.3	544.8	552.3	559.8	568.3	578.1	587.8	597.5	607.2	615.9
47.5°	493.6	501.7	509.9	518.0	526.2	536.0	547.4	558.7	570.1	581.5	590.5
50°	468.6	477.2	485.8	494.4	503.0	513.6	526.0	538.5	551.0	563.5	573.0
52.5°	444.6	453.6	462.7	471.7	480.8	491.9	505.0	518.2	531.3	544.5	554.2
55°	406.1	416.0	426.1	436.1	446.1	458.3	472.7	487.1	501.6	516.0	526.0
57.5°	368.1	379.4	390.6	401.9	413.2	426.2	440.9	455.6	470.3	485.0	495.8
60°	341.1	353.0	365.0	376.9	388.9	402.8	418.6	434.4	450.2	466.0	476.6
62.5°	317.2	329.5	341.9	354.2	366.6	380.7	396.6	412.4	428.3	444.1	455.3
65°	277.4	291.0	304.6	318.2	331.8	346.8	363.2	379.5	395.9	412.3	423.7
67.5°	240.9	255.1	269.3	283.6	297.7	313.2	330.0	346.8	363.5	380.3	391.8
70°	214.9	229.3	243.8	258.2	272.6	288.5	305.7	322.9	340.1	357.3	369.2
72.5°	190.9	205.8	220.7	235.5	250.5	266.6	284.1	301.5	318.9	336.4	348.1
75°	153.7	169.3	184.7	200.3	215.9	232.5	250.3	268.1	285.8	303.6	315.5
77.5°	117.7	134.0	150.3	166.5	182.8	199.9	218.0	236.0	254.0	272.1	284.1
80°	93.7	110.6	127.6	144.6	161.4	179.0	197.0	215.1	233.1	251.1	262.8
82.5°	73.7	90.4	107.1	123.8	140.6	158.1	176.3	194.6	212.9	231.1	242.8
85°	45.0	62.2	79.4	96.6	113.8	131.3	149.1	166.9	184.7	202.4	214.1
87.5°	24.5	41.3	58.0	74.8	91.6	109.0	127.1	145.3	163.4	181.5	192.8
90°	12.9	29.9	47.0	64.2	81.2	99.5	119.1	138.7	158.2	177.9	188.8
92.5°	18.1	33.8	49.5	65.2	81.0	97.6	115.1	132.6	150.2	167.7	178.6
95°	29.2	43.0	56.9	70.8	84.7	100.0	116.8	133.7	150.5	167.3	177.9
97.5°	43.9	56.2	68.5	80.8	93.2	107.5	123.8	140.1	156.4	172.7	183.0
100°	55.7	66.6	77.5	88.5	99.4	112.8	128.6	144.3	160.1	175.9	186.2
102.5°	67.1	77.0	86.9	96.8	106.7	119.4	134.8	150.2	165.6	181.1	191.2
105°	85.7	93.9	102.2	110.6	118.9	130.3	144.9	159.5	174.1	188.7	198.6
107.5°	105.7	112.4	119.3	126.0	132.9	143.2	157.0	170.8	184.7	198.5	207.9
110°	117.6	123.7	129.7	135.8	141.9	151.6	165.3	178.9	192.5	206.1	215.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	131.8	137.0	142.2	147.3	152.5	161.5	174.4	187.2	200.1	213.0	221.7
115°	152.8	156.3	159.9	163.4	167.0	174.9	187.2	199.5	211.9	224.2	232.4
117.5°	172.4	175.0	177.7	180.3	183.0	189.8	200.9	212.0	223.1	234.2	242.2
120°	186.2	188.0	189.7	191.5	193.3	199.4	209.9	220.3	230.7	241.2	249.0
122.5°	198.9	200.2	201.4	202.6	203.8	209.5	219.5	229.4	239.4	249.4	256.7
125°	217.4	218.3	219.0	219.7	220.5	225.1	233.7	242.4	251.0	259.7	266.9
127.5°	236.8	237.4	238.1	238.7	239.4	243.1	250.1	256.9	263.7	270.6	277.2
130°	248.9	249.6	250.5	251.3	252.0	255.3	260.9	266.6	272.2	277.9	284.5
132.5°	262.4	263.1	263.7	264.2	264.8	267.4	271.9	276.5	281.0	285.5	291.6
135°	279.4	280.3	281.2	282.1	283.0	284.9	287.9	290.8	293.8	296.7	302.5
137.5°	298.6	299.2	299.9	300.6	301.3	302.3	303.8	305.2	306.6	308.0	313.1
140°	310.1	310.5	311.0	311.4	311.9	312.6	313.6	314.5	315.5	316.5	320.9
142.5°	321.9	322.4	322.8	323.3	323.7	324.2	324.5	324.9	325.3	325.7	329.3
145°	337.6	338.2	338.8	339.3	339.9	340.5	341.0	341.4	341.9	342.4	344.1
147.5°	352.8	353.4	354.2	354.8	355.6	356.0	356.4	356.7	357.0	357.3	357.8
150°	363.1	363.6	364.1	364.6	365.1	365.5	365.8	366.2	366.5	366.8	367.0
152.5°	372.3	372.8	373.2	373.7	374.2	374.7	375.0	375.4	375.9	376.3	376.6
155°	386.0	386.2	386.5	386.8	387.0	387.3	387.5	387.8	388.0	388.2	388.7
157.5°	397.8	397.9	398.1	398.3	398.4	398.5	398.7	398.8	399.0	399.2	399.7
160°	404.9	405.0	405.2	405.4	405.5	405.6	405.7	405.8	405.9	405.9	406.4
162.5°	411.3	411.4	411.4	411.4	411.5	411.6	411.6	411.7	411.8	411.9	412.4
165°	420.0	419.9	419.8	419.7	419.6	419.6	419.6	419.6	419.6	419.6	420.2
167.5°	427.2	427.0	426.7	426.5	426.2	426.1	426.1	426.1	426.1	426.1	426.6
170°	431.0	430.8	430.6	430.3	430.1	429.9	429.8	429.7	429.7	429.6	430.2
172.5°	433.7	433.5	433.3	433.0	432.8	432.6	432.5	432.4	432.4	432.3	432.8
175°	437.0	436.8	436.5	436.3	436.0	435.8	435.6	435.5	435.3	435.1	435.7
177.5°	438.3	438.1	437.9	437.7	437.5	437.3	437.2	437.1	436.9	436.8	437.2
180°	437.7	437.7	437.7	437.7	437.7	437.7	437.7	437.7	437.7	437.7	437.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	862.1	862.1	862.1	862.1	862.1	862.1	862.1	862.1
2.5°	859.3	860.5	861.6	861.9	861.4	861.0	860.5	860.1
5°	856.7	858.4	860.1	860.7	860.5	860.2	859.9	859.7
7.5°	852.6	854.7	856.6	857.5	857.2	857.0	856.6	856.4
10°	849.1	851.3	853.5	854.5	854.2	853.9	853.7	853.4
12.5°	843.1	845.3	847.5	848.5	848.2	847.9	847.7	847.4
15°	832.2	834.6	837.1	838.3	838.0	837.7	837.4	837.1
17.5°	818.2	820.8	823.4	824.7	824.7	824.7	824.7	824.7
20°	807.0	810.1	813.1	814.6	814.6	814.6	814.6	814.6
22.5°	795.0	798.1	801.1	802.9	803.3	803.8	804.2	804.7
25°	776.3	779.7	783.0	785.1	785.9	786.8	787.6	788.4
27.5°	755.6	759.9	764.1	766.5	767.1	767.7	768.3	768.9
30°	741.1	745.5	750.0	752.6	753.4	754.2	755.1	755.9
32.5°	725.5	730.5	735.6	738.9	740.5	741.9	743.5	744.9
35°	703.2	709.3	715.4	719.4	721.4	723.3	725.3	727.2
37.5°	680.3	687.1	693.8	698.2	700.3	702.4	704.4	706.5
40°	664.1	671.4	678.6	683.5	686.0	688.4	691.0	693.5
42.5°	648.5	656.4	664.3	669.4	672.0	674.5	676.9	679.5
45°	624.4	633.1	641.6	647.3	650.1	652.9	655.7	658.4
47.5°	599.5	608.5	617.5	623.5	626.6	629.7	632.7	635.8
50°	582.4	591.8	601.3	607.6	610.6	613.6	616.7	619.7
52.5°	563.9	573.5	583.2	589.6	592.9	596.2	599.5	602.8
55°	536.1	546.0	556.0	562.8	566.4	570.1	573.6	577.2
57.5°	506.6	517.4	528.2	535.3	539.0	542.7	546.3	550.0
60°	487.1	497.7	508.3	515.5	519.3	523.3	527.2	531.0
62.5°	466.5	477.7	488.9	496.4	500.0	503.7	507.4	511.0
65°	435.1	446.5	457.9	465.4	469.0	472.5	476.2	479.8
67.5°	403.3	414.8	426.3	434.0	437.7	441.5	445.3	449.1
70°	381.2	393.1	405.1	412.7	416.0	419.4	422.7	426.1
72.5°	359.8	371.5	383.2	391.1	395.1	399.1	403.1	407.1
75°	327.5	339.4	351.4	359.1	362.7	366.4	370.0	373.6
77.5°	295.9	307.8	319.7	327.6	331.4	335.3	339.2	343.1
80°	274.4	286.2	297.8	305.6	309.5	313.3	317.2	321.1
82.5°	254.5	266.1	277.8	285.4	289.1	292.8	296.4	300.1
85°	225.8	237.4	249.1	256.8	260.7	264.6	268.5	272.4
87.5°	204.1	215.4	226.7	234.2	237.7	241.2	244.8	248.4
90°	199.7	210.7	221.6	228.8	232.2	235.6	239.0	242.5
92.5°	189.5	200.4	211.3	218.5	221.8	225.2	228.5	231.9
95°	188.4	199.0	209.5	216.4	219.6	222.7	225.9	229.1
97.5°	193.2	203.5	213.8	220.5	223.8	227.1	230.3	233.6
100°	196.5	206.8	217.0	223.6	226.6	229.6	232.5	235.5
102.5°	201.3	211.4	221.5	228.0	231.1	234.0	237.0	239.9
105°	208.5	218.3	228.3	234.7	237.7	240.8	243.9	247.0
107.5°	217.3	226.7	236.1	242.1	244.8	247.4	250.1	252.8
110°	223.9	232.8	241.7	247.4	250.3	253.1	255.9	258.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	230.3	239.0	247.8	253.5	256.4	259.3	262.1	265.0
115°	240.7	248.9	257.2	262.7	265.5	268.3	271.2	273.9
117.5°	250.2	258.3	266.3	271.6	274.2	276.8	279.3	281.9
120°	256.7	264.5	272.3	277.6	280.4	283.2	286.0	288.8
122.5°	264.1	271.4	278.8	283.7	286.1	288.5	291.0	293.4
125°	274.2	281.4	288.7	293.5	296.0	298.3	300.8	303.2
127.5°	283.8	290.4	297.0	301.3	303.5	305.7	307.9	310.1
130°	290.9	297.4	303.9	308.1	310.0	311.9	313.8	315.7
132.5°	297.7	303.8	309.8	313.9	315.8	317.8	319.8	321.7
135°	308.2	314.0	319.7	323.5	325.5	327.5	329.5	331.4
137.5°	318.1	323.2	328.2	331.5	333.1	334.7	336.2	337.8
140°	325.4	329.8	334.3	337.1	338.4	339.8	341.1	342.5
142.5°	333.0	336.6	340.1	342.5	343.6	344.8	345.9	347.0
145°	345.9	347.6	349.4	350.8	351.9	352.9	354.0	355.1
147.5°	358.2	358.6	359.0	359.3	359.7	360.0	360.4	360.8
150°	367.3	367.5	367.8	367.8	367.5	367.3	367.0	366.8
152.5°	376.8	377.2	377.5	377.5	377.2	376.8	376.6	376.3
155°	389.1	389.5	389.9	390.0	389.7	389.5	389.2	389.0
157.5°	400.2	400.8	401.4	401.5	401.0	400.6	400.3	399.9
160°	406.9	407.4	407.9	408.0	407.6	407.3	407.0	406.7
162.5°	412.9	413.5	414.1	414.2	413.8	413.4	412.9	412.6
165°	420.8	421.3	421.9	422.0	421.6	421.2	420.8	420.4
167.5°	427.2	427.8	428.4	428.4	428.0	427.5	427.1	426.7
170°	430.7	431.3	431.9	431.9	431.5	431.0	430.5	430.0
172.5°	433.4	434.0	434.6	434.6	434.1	433.6	433.1	432.6
175°	436.3	436.8	437.4	437.5	437.0	436.5	436.0	435.5
177.5°	437.7	438.0	438.4	438.4	438.0	437.7	437.2	436.8
180°	437.7	437.7	437.7	437.7	437.7	437.7	437.7	437.7

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