

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: P331588-940

Luminaire Tested: **S122DIW-S1005D435U940-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331588-940
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-S1005D435U940-4F0-1E-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: 4937.9 lumens
Efficiency: N/A
Efficacy: 94.2 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

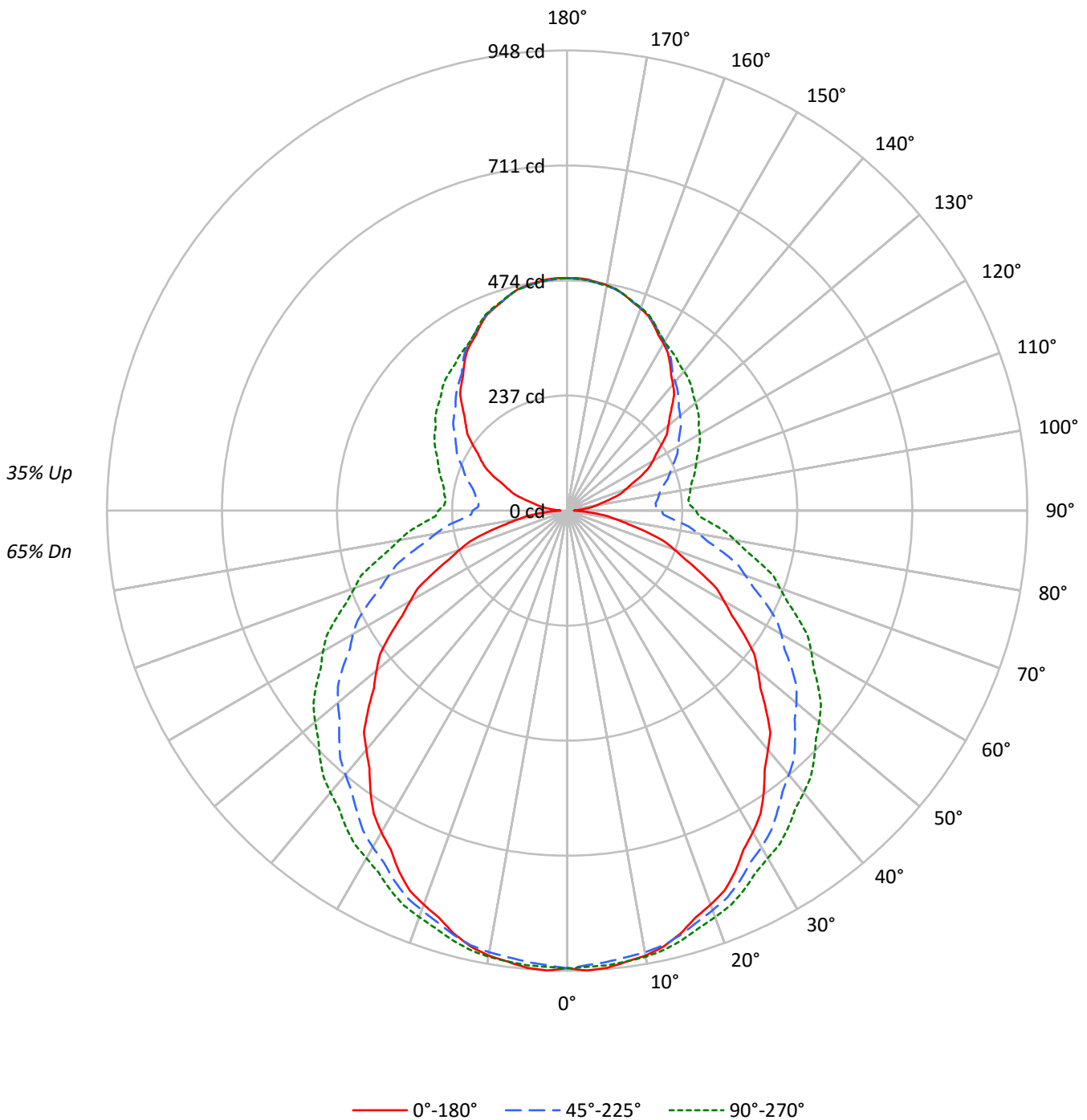
Input Watts (W): 52.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	15224	15224	15224
5°	15300	14656	14600
10°	15203	14222	14063
15°	14994	13763	13496
20°	14728	13272	12952
25°	14466	12799	12457
30°	14098	12312	11962
35°	13725	11842	11611
40°	13332	11442	11262
45°	12960	11082	10962
50°	12561	10760	10668
55°	12143	10411	10368
60°	11628	10049	10051
65°	11095	9625	9675
70°	10498	9170	9268
75°	9730	8725	8894
80°	8523	8267	8514
85°	7361	7873	8218



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	89.3	1.8
10°-20°	256.2	5.2
20°-30°	388.3	7.9
30°-40°	472.9	9.6
40°-50°	508.8	10.3
50°-60°	494.1	10.0
60°-70°	431.4	8.7
70°-80°	332.1	6.7
80°-90°	224.8	4.6
90°-100°	183.9	3.7
100°-110°	206.3	4.2
110°-120°	235.1	4.8
120°-130°	253.1	5.1
130°-140°	255.0	5.2
140°-150°	236.1	4.8
150°-160°	195.5	4.0
160°-170°	129.7	2.6
170°-180°	45.3	0.9
0°-30°	733.8	14.9
0°-40°	1206.7	24.4
0°-60°	2209.5	44.7
0°-90°	3197.8	64.8
90°-120°	625.3	12.7
90°-150°	1369.6	27.7
90°-180°	1740.0	35.2
0°-180°	4937.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	943	943	943	943	943	
5°	946	941	933	941	940	90
15°	902	904	905	916	916	254
25°	820	830	842	858	862	377
35°	706	730	756	785	795	441
45°	579	617	664	705	720	447
55°	444	495	564	612	631	397
65°	303	371	451	505	525	301
75°	168	245	332	389	409	178
85°	49	134	221	277	298	53
90°	14	99	195	246	265	10
95°	32	101	183	233	251	33
105°	94	136	206	253	270	100
115°	167	187	245	284	300	165
125°	238	244	284	318	332	213
135°	306	311	324	352	362	236
145°	369	372	374	383	388	231
155°	422	423	425	426	425	194
165°	459	459	459	462	460	129
175°	478	477	476	478	476	45
180°	479	479	479	479	479	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	942.9	942.9	942.9	942.9	942.9	942.9	942.9	942.9	942.9	942.9	942.9
2.5°	948.4	947.7	946.9	946.2	945.5	944.2	942.5	940.8	939.1	937.5	938.7
5°	945.7	944.8	943.9	942.9	942.0	940.7	938.9	937.0	935.2	933.4	935.2
7.5°	937.2	936.6	935.9	935.4	934.8	933.8	932.4	930.9	929.6	928.2	930.3
10°	930.7	930.1	929.4	928.8	928.2	927.5	926.6	925.6	924.7	923.8	926.2
12.5°	919.7	919.8	920.0	920.1	920.2	919.9	919.3	918.6	917.9	917.2	919.7
15°	902.0	902.6	903.1	903.7	904.4	904.6	904.6	904.6	904.6	904.6	907.4
17.5°	879.0	880.3	881.5	882.8	884.0	885.2	886.2	887.2	888.1	889.1	892.0
20°	863.7	865.2	866.7	868.3	869.8	871.1	872.4	873.5	874.8	876.0	879.3
22.5°	847.3	849.0	850.8	852.6	854.3	856.0	857.7	859.4	861.1	862.8	866.2
25°	819.9	822.1	824.2	826.3	828.5	830.9	833.6	836.3	839.1	841.8	845.4
27.5°	787.1	790.6	794.1	797.5	801.0	804.3	807.5	810.7	814.0	817.3	821.8
30°	765.3	769.2	773.2	777.1	781.0	785.1	789.0	792.9	796.8	800.8	805.7
32.5°	741.2	745.6	750.1	754.6	758.9	763.5	768.2	772.8	777.6	782.2	787.8
35°	706.5	711.7	716.8	722.0	727.2	732.6	738.4	744.1	749.9	755.7	762.4
37.5°	668.8	674.8	680.7	686.6	692.6	699.3	706.8	714.3	721.8	729.2	736.6
40°	643.6	650.3	657.0	663.7	670.4	677.8	686.0	694.2	702.4	710.6	718.5
42.5°	619.6	626.2	632.9	639.6	646.3	654.3	663.8	673.2	682.6	692.1	700.6
45°	579.4	587.6	595.8	604.0	612.2	621.6	632.3	642.9	653.5	664.1	673.6
47.5°	539.8	548.8	557.7	566.6	575.5	586.2	598.7	611.1	623.6	636.0	645.9
50°	512.5	521.9	531.3	540.7	550.1	561.7	575.3	589.0	602.6	616.4	626.7
52.5°	486.2	496.1	506.0	515.9	525.8	538.0	552.3	566.8	581.1	595.6	606.1
55°	444.2	455.0	466.0	477.0	487.9	501.2	517.0	532.8	548.6	564.4	575.3
57.5°	402.6	414.9	427.2	439.6	451.9	466.1	482.2	498.3	514.4	530.5	542.2
60°	373.1	386.1	399.2	412.2	425.3	440.5	457.8	475.1	492.4	509.7	521.3
62.5°	346.9	360.3	373.9	387.4	401.0	416.4	433.7	451.0	468.4	485.7	497.9
65°	303.4	318.3	333.1	348.0	362.9	379.3	397.3	415.1	433.0	450.9	463.4
67.5°	263.5	279.0	294.5	310.1	325.7	342.6	361.0	379.3	397.6	416.0	428.6
70°	235.1	250.8	266.6	282.4	298.2	315.5	334.4	353.2	372.0	390.8	403.9
72.5°	208.8	225.1	241.4	257.6	273.9	291.6	310.7	329.8	348.8	367.9	380.7
75°	168.1	185.1	202.1	219.1	236.1	254.3	273.8	293.2	312.6	332.1	345.1
77.5°	128.8	146.5	164.3	182.1	199.9	218.6	238.4	258.2	277.9	297.7	310.7
80°	102.5	121.0	139.6	158.1	176.6	195.7	215.4	235.2	254.9	274.6	287.4
82.5°	80.6	98.9	117.2	135.5	153.7	172.9	192.9	212.9	232.8	252.8	265.6
85°	49.2	68.0	86.9	105.7	124.5	143.7	163.1	182.5	202.0	221.4	234.2
87.5°	26.8	45.2	63.5	81.8	100.1	119.2	139.0	158.9	178.7	198.5	210.9
90°	14.1	32.7	51.5	70.2	88.8	108.9	130.3	151.7	173.1	194.6	206.5
92.5°	19.8	36.9	54.1	71.3	88.5	106.7	125.9	145.1	164.3	183.4	195.4
95°	31.9	47.1	62.2	77.5	92.6	109.4	127.8	146.2	164.6	183.0	194.6
97.5°	48.0	61.4	74.9	88.4	101.9	117.5	135.4	153.2	171.0	188.9	200.1
100°	60.9	72.9	84.8	96.8	108.7	123.3	140.6	157.8	175.1	192.4	203.7
102.5°	73.4	84.2	95.1	105.8	116.7	130.5	147.4	164.3	181.1	198.0	209.1
105°	93.7	102.7	111.8	120.9	130.0	142.5	158.5	174.4	190.5	206.4	217.2
107.5°	115.6	123.0	130.5	137.9	145.3	156.6	171.7	186.8	202.0	217.1	227.4
110°	128.7	135.3	141.9	148.6	155.2	165.9	180.7	195.6	210.5	225.4	235.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	144.2	149.8	155.5	161.1	166.7	176.6	190.7	204.7	218.8	232.9	242.5
115°	167.1	170.9	174.9	178.7	182.6	191.3	204.7	218.2	231.8	245.2	254.2
117.5°	188.5	191.4	194.3	197.2	200.1	207.6	219.7	231.8	244.0	256.1	264.9
120°	203.7	205.6	207.5	209.5	211.4	218.1	229.5	240.9	252.4	263.8	272.3
122.5°	217.6	218.9	220.3	221.6	222.9	229.1	240.0	250.9	261.8	272.8	280.8
125°	237.8	238.7	239.5	240.3	241.1	246.2	255.7	265.1	274.6	284.0	291.9
127.5°	259.0	259.7	260.4	261.1	261.8	265.9	273.5	281.0	288.5	296.0	303.2
130°	272.2	273.0	273.9	274.8	275.6	279.2	285.3	291.6	297.7	304.0	311.1
132.5°	287.0	287.8	288.4	289.0	289.6	292.5	297.4	302.4	307.3	312.3	319.0
135°	305.6	306.6	307.6	308.5	309.5	311.7	314.9	318.1	321.3	324.5	330.8
137.5°	326.5	327.3	328.0	328.8	329.5	330.6	332.3	333.8	335.4	336.9	342.4
140°	339.1	339.7	340.1	340.6	341.2	341.9	343.0	344.0	345.1	346.2	351.0
142.5°	352.0	352.6	353.0	353.6	354.0	354.5	354.9	355.3	355.8	356.2	360.2
145°	369.3	369.9	370.5	371.1	371.8	372.4	372.9	373.4	374.0	374.5	376.4
147.5°	385.8	386.6	387.4	388.1	388.9	389.4	389.8	390.1	390.5	390.8	391.3
150°	397.2	397.7	398.2	398.8	399.3	399.8	400.1	400.5	400.8	401.2	401.4
152.5°	407.2	407.7	408.2	408.8	409.3	409.8	410.2	410.6	411.1	411.5	411.9
155°	422.1	422.4	422.7	423.0	423.3	423.6	423.8	424.1	424.4	424.6	425.1
157.5°	435.1	435.2	435.4	435.6	435.8	435.9	436.0	436.2	436.4	436.6	437.2
160°	442.8	443.0	443.2	443.4	443.5	443.6	443.7	443.8	443.9	444.0	444.5
162.5°	449.9	450.0	450.0	450.0	450.0	450.1	450.2	450.3	450.4	450.5	451.0
165°	459.3	459.2	459.1	459.1	459.0	459.0	459.0	459.0	459.0	459.0	459.6
167.5°	467.3	467.0	466.7	466.5	466.2	466.0	466.0	466.0	466.0	466.0	466.6
170°	471.4	471.2	470.9	470.6	470.4	470.2	470.1	470.0	469.9	469.8	470.5
172.5°	474.4	474.1	473.9	473.6	473.3	473.1	473.1	473.0	472.9	472.8	473.4
175°	478.0	477.7	477.4	477.2	476.9	476.6	476.4	476.3	476.1	475.9	476.5
177.5°	479.4	479.2	478.9	478.8	478.5	478.3	478.2	478.0	477.9	477.8	478.2
180°	478.8	478.8	478.8	478.8	478.8	478.8	478.8	478.8	478.8	478.8	478.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	942.9	942.9	942.9	942.9	942.9	942.9	942.9	942.9
2.5°	939.9	941.1	942.4	942.7	942.2	941.7	941.2	940.8
5°	937.0	938.9	940.7	941.4	941.1	940.8	940.5	940.2
7.5°	932.6	934.8	936.9	937.9	937.5	937.3	936.9	936.7
10°	928.6	931.1	933.5	934.6	934.2	934.0	933.7	933.4
12.5°	922.1	924.5	926.9	928.0	927.7	927.4	927.1	926.8
15°	910.2	912.8	915.6	916.9	916.5	916.2	915.9	915.6
17.5°	894.8	897.7	900.5	902.0	902.0	902.0	902.0	902.0
20°	882.6	886.0	889.3	891.0	891.0	891.0	891.0	891.0
22.5°	869.5	872.9	876.2	878.2	878.6	879.1	879.6	880.1
25°	849.1	852.7	856.4	858.6	859.6	860.5	861.4	862.3
27.5°	826.4	831.1	835.7	838.3	839.0	839.6	840.3	841.0
30°	810.6	815.4	820.3	823.1	824.0	824.9	825.9	826.8
32.5°	793.4	799.0	804.6	808.2	809.9	811.5	813.2	814.8
35°	769.1	775.8	782.5	786.8	789.0	791.1	793.3	795.3
37.5°	744.0	751.4	758.8	763.7	765.9	768.2	770.4	772.7
40°	726.4	734.3	742.2	747.5	750.3	753.0	755.7	758.5
42.5°	709.3	717.9	726.6	732.2	734.9	737.7	740.4	743.2
45°	683.0	692.4	701.8	708.0	711.1	714.1	717.1	720.1
47.5°	655.7	665.5	675.4	682.0	685.3	688.7	692.0	695.4
50°	636.9	647.3	657.6	664.5	667.8	671.1	674.5	677.8
52.5°	616.7	627.2	637.8	644.9	648.5	652.1	655.7	659.2
55°	586.3	597.2	608.1	615.5	619.5	623.5	627.4	631.3
57.5°	554.1	565.9	577.7	585.5	589.5	593.5	597.5	601.5
60°	532.8	544.4	555.9	563.8	568.0	572.3	576.6	580.8
62.5°	510.2	522.5	534.8	542.9	546.9	550.9	554.9	558.9
65°	475.9	488.3	500.8	509.0	512.9	516.8	520.8	524.8
67.5°	441.1	453.7	466.3	474.7	478.8	482.9	487.1	491.2
70°	417.0	430.0	443.1	451.4	455.0	458.7	462.4	466.0
72.5°	393.5	406.4	419.1	427.8	432.1	436.5	440.9	445.2
75°	358.2	371.2	384.3	392.8	396.7	400.7	404.7	408.6
77.5°	323.6	336.6	349.6	358.3	362.5	366.8	371.0	375.2
80°	300.1	313.0	325.7	334.2	338.5	342.7	347.0	351.2
82.5°	278.3	291.1	303.8	312.2	316.2	320.2	324.2	328.2
85°	246.9	259.7	272.4	280.9	285.2	289.4	293.6	297.9
87.5°	223.2	235.6	247.9	256.1	259.9	263.9	267.8	271.7
90°	218.5	230.4	242.4	250.2	254.0	257.7	261.4	265.2
92.5°	207.2	219.2	231.1	239.0	242.6	246.3	249.9	253.6
95°	206.1	217.7	229.2	236.7	240.1	243.6	247.1	250.6
97.5°	211.3	222.6	233.8	241.2	244.8	248.3	251.9	255.5
100°	214.9	226.1	237.4	244.6	247.8	251.1	254.3	257.6
102.5°	220.2	231.2	242.3	249.4	252.7	255.9	259.2	262.4
105°	228.0	238.8	249.7	256.7	260.0	263.4	266.7	270.1
107.5°	237.6	247.9	258.2	264.8	267.7	270.6	273.6	276.5
110°	244.9	254.6	264.3	270.6	273.8	276.8	279.9	282.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	251.9	261.4	271.0	277.2	280.4	283.6	286.7	289.8
115°	263.2	272.2	281.3	287.3	290.4	293.5	296.6	299.6
117.5°	273.7	282.5	291.2	297.0	299.9	302.7	305.5	308.4
120°	280.8	289.3	297.8	303.6	306.7	309.8	312.8	315.8
122.5°	288.8	296.9	305.0	310.3	312.9	315.6	318.3	320.9
125°	299.9	307.8	315.8	321.0	323.7	326.3	329.0	331.6
127.5°	310.4	317.6	324.9	329.6	332.0	334.4	336.8	339.1
130°	318.2	325.3	332.4	337.0	339.0	341.2	343.2	345.3
132.5°	325.6	332.3	338.9	343.3	345.4	347.6	349.7	351.9
135°	337.1	343.4	349.6	353.8	356.1	358.2	360.3	362.5
137.5°	347.9	353.5	359.0	362.6	364.4	366.0	367.7	369.4
140°	355.9	360.7	365.6	368.7	370.1	371.7	373.1	374.6
142.5°	364.2	368.1	372.0	374.6	375.9	377.1	378.4	379.5
145°	378.4	380.2	382.2	383.7	384.9	386.0	387.2	388.3
147.5°	391.7	392.2	392.6	393.0	393.4	393.8	394.1	394.6
150°	401.7	402.0	402.3	402.3	402.0	401.7	401.4	401.2
152.5°	412.1	412.5	412.9	412.9	412.5	412.1	411.9	411.5
155°	425.5	426.0	426.4	426.5	426.2	426.0	425.7	425.4
157.5°	437.7	438.4	439.0	439.1	438.6	438.2	437.8	437.4
160°	445.1	445.6	446.1	446.2	445.9	445.5	445.1	444.8
162.5°	451.7	452.3	452.9	453.0	452.5	452.1	451.7	451.3
165°	460.2	460.8	461.5	461.5	461.1	460.7	460.2	459.8
167.5°	467.3	467.9	468.5	468.6	468.1	467.6	467.2	466.7
170°	471.1	471.7	472.3	472.4	471.9	471.4	470.8	470.3
172.5°	474.0	474.7	475.3	475.3	474.7	474.2	473.7	473.1
175°	477.2	477.8	478.4	478.5	478.0	477.4	476.9	476.4
177.5°	478.7	479.0	479.5	479.5	479.0	478.7	478.2	477.8
180°	478.8	478.8	478.8	478.8	478.8	478.8	478.8	478.8

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