

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: P331588-840

Luminaire Tested: **S122DIW-S1005D435U840-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331588-840
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-S1005D435U840-4F0-1E-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: 5592.2 lumens
Efficiency: N/A
Efficacy: 106.7 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

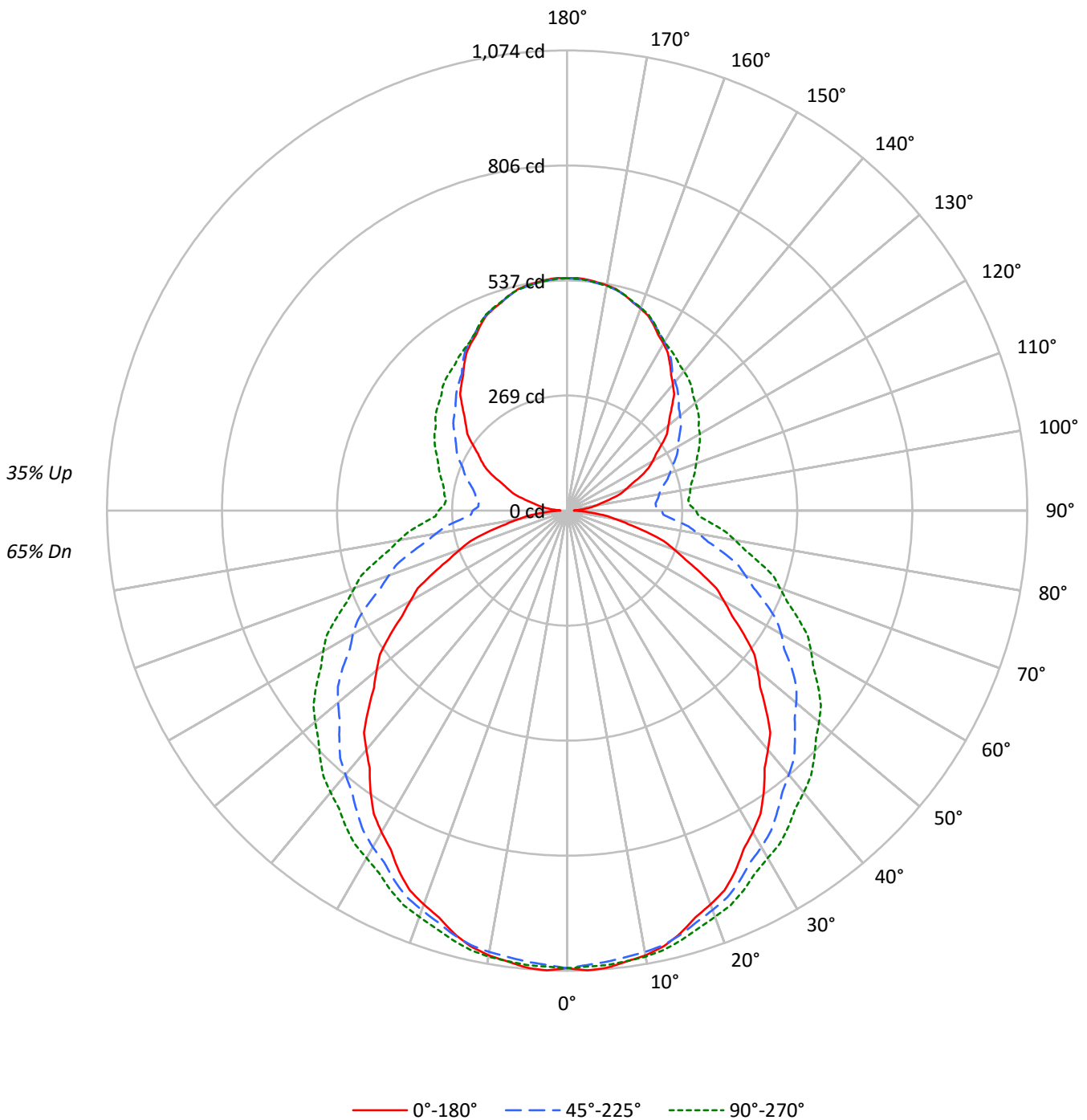
Input Watts (W): 52.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	17241	17241	17241
5°	17327	16597	16534
10°	17217	16106	15925
15°	16980	15587	15284
20°	16681	15031	14669
25°	16384	14494	14107
30°	15966	13945	13546
35°	15544	13412	13150
40°	15099	12958	12754
45°	14678	12551	12415
50°	14226	12185	12082
55°	13750	11789	11742
60°	13168	11380	11382
65°	12566	10901	10957
70°	11886	10385	10497
75°	11021	9881	10071
80°	9646	9362	9643
85°	8334	8915	9308



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	101.2	1.8
10°-20°	290.2	5.2
20°-30°	439.7	7.9
30°-40°	535.6	9.6
40°-50°	576.2	10.3
50°-60°	559.5	10.0
60°-70°	488.6	8.7
70°-80°	376.1	6.7
80°-90°	254.6	4.6
90°-100°	208.3	3.7
100°-110°	233.7	4.2
110°-120°	266.3	4.8
120°-130°	286.7	5.1
130°-140°	288.8	5.2
140°-150°	267.4	4.8
150°-160°	221.4	4.0
160°-170°	146.8	2.6
170°-180°	51.3	0.9
0°-30°	831.1	14.9
0°-40°	1366.6	24.4
0°-60°	2502.3	44.7
0°-90°	3621.6	64.8
90°-120°	708.2	12.7
90°-150°	1551.1	27.7
90°-180°	1971.0	35.2
0°-180°	5592.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1068	1068	1068	1068	1068	
5°	1071	1066	1057	1066	1065	102
15°	1022	1024	1024	1038	1037	288
25°	929	940	953	971	976	427
35°	800	827	856	889	901	500
45°	656	699	752	798	816	506
55°	503	560	639	693	715	450
65°	344	420	511	572	594	341
75°	190	278	376	440	463	201
85°	56	152	251	313	337	60
90°	16	112	220	279	300	12
95°	36	114	207	264	284	37
105°	106	154	234	287	306	113
115°	189	212	278	322	339	187
125°	269	276	322	361	376	241
135°	346	352	368	398	410	268
145°	418	421	424	434	440	262
155°	478	480	481	483	482	220
165°	520	520	520	523	521	147
175°	541	540	539	542	540	51
180°	542	542	542	542	542	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1067.8	1067.8	1067.8	1067.8	1067.8	1067.8	1067.8	1067.8	1067.8	1067.8	1067.8
2.5°	1074.1	1073.3	1072.4	1071.6	1070.8	1069.3	1067.4	1065.5	1063.6	1061.7	1063.1
5°	1071.0	1070.0	1068.9	1067.8	1066.8	1065.3	1063.3	1061.2	1059.1	1057.0	1059.1
7.5°	1061.4	1060.7	1060.0	1059.3	1058.6	1057.5	1055.9	1054.3	1052.8	1051.2	1053.6
10°	1054.0	1053.3	1052.6	1051.9	1051.2	1050.4	1049.4	1048.2	1047.2	1046.2	1048.9
12.5°	1041.6	1041.7	1041.9	1042.0	1042.1	1041.8	1041.1	1040.3	1039.6	1038.7	1041.6
15°	1021.5	1022.2	1022.8	1023.5	1024.2	1024.5	1024.5	1024.5	1024.5	1024.5	1027.6
17.5°	995.4	996.9	998.4	999.8	1001.2	1002.5	1003.6	1004.7	1005.8	1006.9	1010.2
20°	978.2	979.9	981.6	983.3	985.0	986.5	988.0	989.3	990.7	992.1	995.8
22.5°	959.6	961.5	963.5	965.5	967.6	969.5	971.4	973.3	975.2	977.1	981.0
25°	928.6	931.0	933.4	935.8	938.3	941.0	944.0	947.2	950.3	953.3	957.5
27.5°	891.4	895.3	899.3	903.2	907.2	910.9	914.5	918.2	921.8	925.5	930.7
30°	866.7	871.1	875.7	880.1	884.5	889.1	893.5	898.0	902.4	907.0	912.4
32.5°	839.4	844.4	849.5	854.5	859.5	864.6	870.0	875.3	880.6	885.9	892.2
35°	800.1	806.0	811.8	817.7	823.5	829.7	836.3	842.7	849.3	855.9	863.4
37.5°	757.4	764.2	770.9	777.6	784.4	791.9	800.4	808.9	817.4	825.9	834.2
40°	728.9	736.5	744.1	751.6	759.2	767.6	776.9	786.2	795.5	804.8	813.7
42.5°	701.8	709.2	716.8	724.4	732.0	741.0	751.7	762.4	773.1	783.8	793.5
45°	656.2	665.5	674.8	684.1	693.4	704.0	716.1	728.1	740.1	752.1	762.9
47.5°	611.4	621.5	631.6	641.7	651.8	663.9	678.0	692.1	706.2	720.2	731.4
50°	580.4	591.1	601.7	612.4	623.0	636.1	651.6	667.0	682.5	698.0	709.7
52.5°	550.7	561.9	573.1	584.3	595.5	609.3	625.5	641.9	658.1	674.5	686.4
55°	503.0	515.3	527.8	540.2	552.5	567.6	585.5	603.4	621.3	639.1	651.6
57.5°	456.0	469.9	483.8	497.9	511.8	527.9	546.1	564.3	582.6	600.8	614.1
60°	422.5	437.3	452.1	466.9	481.7	498.9	518.5	538.1	557.6	577.2	590.4
62.5°	392.8	408.1	423.4	438.8	454.1	471.6	491.2	510.8	530.5	550.1	563.9
65°	343.6	360.4	377.3	394.2	411.0	429.6	449.9	470.1	490.4	510.7	524.8
67.5°	298.4	316.0	333.6	351.2	368.8	388.0	408.8	429.6	450.3	471.1	485.3
70°	266.2	284.1	301.9	319.8	337.7	357.3	378.7	400.0	421.3	442.6	457.4
72.5°	236.5	254.9	273.4	291.8	310.2	330.2	351.8	373.4	395.1	416.7	431.1
75°	190.4	209.6	228.8	248.1	267.4	288.0	310.0	332.0	354.1	376.1	390.8
77.5°	145.8	165.9	186.1	206.2	226.4	247.6	270.0	292.4	314.7	337.1	351.8
80°	116.0	137.0	158.0	179.0	200.0	221.7	244.0	266.4	288.7	311.0	325.5
82.5°	91.3	112.0	132.7	153.4	174.1	195.8	218.4	241.1	263.7	286.3	300.7
85°	55.7	77.1	98.4	119.7	141.0	162.7	184.7	206.7	228.7	250.7	265.2
87.5°	30.4	51.2	71.9	92.6	113.4	135.0	157.4	180.0	202.4	224.8	238.8
90°	16.0	37.1	58.3	79.5	100.6	123.3	147.5	171.8	196.0	220.4	233.9
92.5°	22.4	41.8	61.3	80.8	100.3	120.9	142.6	164.3	186.0	207.7	221.3
95°	36.2	53.3	70.5	87.8	104.9	123.9	144.7	165.6	186.4	207.2	220.4
97.5°	54.3	69.6	84.8	100.1	115.4	133.1	153.3	173.5	193.7	213.9	226.6
100°	69.0	82.5	96.0	109.6	123.1	139.7	159.3	178.7	198.3	217.9	230.7
102.5°	83.1	95.3	107.7	119.9	132.2	147.8	166.9	186.0	205.1	224.3	236.8
105°	106.1	116.3	126.6	136.9	147.2	161.4	179.5	197.5	215.7	233.8	246.0
107.5°	130.9	139.3	147.7	156.1	164.6	177.3	194.5	211.6	228.7	245.9	257.5
110°	145.7	153.2	160.7	168.2	175.7	187.8	204.7	221.6	238.4	255.3	266.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	163.3	169.7	176.1	182.5	188.8	200.1	216.0	231.9	247.8	263.8	274.6
115°	189.2	193.6	198.0	202.4	206.8	216.6	231.9	247.1	262.5	277.7	287.9
117.5°	213.5	216.7	220.0	223.3	226.6	235.1	248.8	262.6	276.3	290.0	300.0
120°	230.7	232.9	235.0	237.2	239.4	247.0	259.9	272.9	285.8	298.7	308.4
122.5°	246.4	247.9	249.4	251.0	252.5	259.4	271.9	284.2	296.5	308.9	318.0
125°	269.3	270.3	271.2	272.2	273.1	278.8	289.5	300.2	310.9	321.6	330.6
127.5°	293.3	294.1	294.9	295.7	296.5	301.1	309.7	318.2	326.7	335.2	343.4
130°	308.3	309.2	310.2	311.2	312.1	316.2	323.2	330.2	337.2	344.3	352.3
132.5°	325.1	325.9	326.6	327.3	328.0	331.2	336.8	342.4	348.0	353.7	361.2
135°	346.1	347.2	348.3	349.4	350.5	352.9	356.6	360.2	363.9	367.5	374.7
137.5°	369.8	370.6	371.4	372.3	373.1	374.5	376.3	378.0	379.8	381.5	387.8
140°	384.1	384.7	385.2	385.8	386.4	387.2	388.4	389.6	390.8	392.0	397.5
142.5°	398.7	399.3	399.8	400.4	400.9	401.5	401.9	402.4	402.9	403.4	407.9
145°	418.2	418.9	419.6	420.3	421.0	421.7	422.3	422.9	423.5	424.1	426.3
147.5°	437.0	437.8	438.7	439.5	440.4	441.0	441.4	441.8	442.2	442.6	443.1
150°	449.8	450.4	451.0	451.6	452.2	452.7	453.1	453.5	453.9	454.3	454.6
152.5°	461.1	461.7	462.3	462.9	463.5	464.1	464.5	465.0	465.5	466.1	466.5
155°	478.1	478.4	478.7	479.1	479.4	479.7	480.0	480.3	480.6	480.9	481.4
157.5°	492.7	492.9	493.1	493.3	493.5	493.6	493.8	494.0	494.2	494.4	495.1
160°	501.5	501.7	501.9	502.1	502.3	502.4	502.5	502.6	502.7	502.8	503.4
162.5°	509.5	509.6	509.6	509.6	509.7	509.8	509.9	510.0	510.1	510.2	510.8
165°	520.2	520.1	520.0	519.9	519.8	519.8	519.8	519.8	519.8	519.8	520.5
167.5°	529.2	528.9	528.6	528.3	528.0	527.8	527.8	527.8	527.8	527.8	528.5
170°	533.9	533.6	533.3	533.0	532.7	532.5	532.4	532.3	532.2	532.1	532.8
172.5°	537.2	536.9	536.6	536.3	536.0	535.8	535.7	535.6	535.5	535.4	536.1
175°	541.3	541.0	540.7	540.4	540.1	539.8	539.6	539.4	539.2	539.0	539.7
177.5°	542.9	542.7	542.4	542.2	541.9	541.7	541.6	541.4	541.2	541.1	541.6
180°	542.2	542.2	542.2	542.2	542.2	542.2	542.2	542.2	542.2	542.2	542.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1067.8	1067.8	1067.8	1067.8	1067.8	1067.8	1067.8	1067.8
2.5°	1064.4	1065.8	1067.2	1067.6	1067.0	1066.5	1065.9	1065.4
5°	1061.2	1063.3	1065.3	1066.1	1065.8	1065.5	1065.1	1064.8
7.5°	1056.1	1058.6	1061.1	1062.2	1061.8	1061.5	1061.1	1060.8
10°	1051.7	1054.5	1057.2	1058.4	1058.0	1057.7	1057.4	1057.0
12.5°	1044.3	1047.0	1049.8	1051.0	1050.7	1050.3	1050.0	1049.7
15°	1030.8	1033.8	1036.9	1038.3	1037.9	1037.6	1037.2	1036.9
17.5°	1013.4	1016.6	1019.9	1021.5	1021.5	1021.5	1021.5	1021.5
20°	999.6	1003.4	1007.1	1009.1	1009.1	1009.1	1009.1	1009.1
22.5°	984.7	988.6	992.3	994.5	995.0	995.6	996.1	996.7
25°	961.6	965.7	969.9	972.4	973.5	974.5	975.5	976.5
27.5°	935.9	941.2	946.4	949.4	950.2	950.9	951.7	952.4
30°	918.0	923.4	929.0	932.2	933.2	934.2	935.3	936.3
32.5°	898.6	904.8	911.2	915.2	917.2	919.0	920.9	922.7
35°	871.0	878.6	886.2	891.1	893.5	896.0	898.4	900.7
37.5°	842.6	851.0	859.4	864.8	867.4	870.0	872.5	875.0
40°	822.6	831.6	840.5	846.6	849.7	852.7	855.9	859.0
42.5°	803.2	813.0	822.8	829.2	832.3	835.5	838.5	841.6
45°	773.5	784.2	794.8	801.8	805.3	808.7	812.1	815.6
47.5°	742.6	753.7	764.9	772.3	776.1	779.9	783.7	787.5
50°	721.3	733.1	744.8	752.6	756.3	760.0	763.9	767.6
52.5°	698.4	710.3	722.4	730.3	734.4	738.5	742.6	746.6
55°	664.0	676.3	688.7	697.1	701.6	706.1	710.5	715.0
57.5°	627.5	640.9	654.2	663.1	667.6	672.2	676.7	681.3
60°	603.4	616.5	629.5	638.5	643.3	648.1	653.0	657.7
62.5°	577.8	591.7	605.6	614.8	619.4	623.9	628.4	633.0
65°	539.0	553.0	567.1	576.4	580.9	585.3	589.9	594.3
67.5°	499.6	513.8	528.1	537.6	542.2	546.8	551.6	556.2
70°	472.2	487.0	501.8	511.2	515.3	519.5	523.6	527.8
72.5°	445.7	460.2	474.6	484.4	489.4	494.3	499.3	504.2
75°	405.7	420.4	435.3	444.8	449.3	453.8	458.3	462.7
77.5°	366.5	381.2	396.0	405.8	410.5	415.4	420.2	425.0
80°	339.9	354.5	368.9	378.5	383.3	388.1	392.9	397.8
82.5°	315.2	329.6	344.1	353.6	358.1	362.6	367.2	371.7
85°	279.6	294.1	308.5	318.1	323.0	327.8	332.5	337.4
87.5°	252.8	266.8	280.7	290.0	294.4	298.8	303.3	307.7
90°	247.4	260.9	274.5	283.4	287.6	291.9	296.1	300.3
92.5°	234.7	248.2	261.8	270.6	274.8	278.9	283.1	287.2
95°	233.4	246.5	259.5	268.0	272.0	275.9	279.8	283.8
97.5°	239.3	252.1	264.8	273.2	277.2	281.2	285.3	289.3
100°	243.4	256.1	268.8	277.0	280.6	284.4	288.0	291.8
102.5°	249.3	261.9	274.4	282.5	286.2	289.8	293.6	297.2
105°	258.2	270.4	282.8	290.7	294.5	298.3	302.1	305.9
107.5°	269.1	280.7	292.5	299.9	303.2	306.5	309.8	313.2
110°	277.3	288.3	299.3	306.5	310.0	313.5	317.0	320.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	285.3	296.1	306.9	314.0	317.6	321.1	324.7	328.2
115°	298.1	308.3	318.6	325.4	328.9	332.3	335.9	339.3
117.5°	309.9	319.9	329.8	336.4	339.6	342.8	346.0	349.2
120°	318.0	327.6	337.3	343.9	347.3	350.8	354.3	357.7
122.5°	327.1	336.2	345.4	351.4	354.4	357.4	360.4	363.5
125°	339.6	348.6	357.6	363.6	366.6	369.5	372.5	375.6
127.5°	351.5	359.7	367.9	373.2	376.0	378.7	381.4	384.1
130°	360.3	368.4	376.5	381.6	384.0	386.4	388.7	391.0
132.5°	368.7	376.3	383.7	388.8	391.2	393.6	396.1	398.5
135°	381.7	388.9	396.0	400.7	403.2	405.7	408.1	410.5
137.5°	394.0	400.3	406.6	410.6	412.6	414.5	416.5	418.4
140°	403.0	408.5	414.0	417.6	419.2	420.9	422.5	424.2
142.5°	412.4	416.9	421.3	424.2	425.7	427.1	428.5	429.8
145°	428.5	430.6	432.8	434.5	435.9	437.2	438.5	439.8
147.5°	443.6	444.1	444.6	445.0	445.6	446.0	446.4	446.9
150°	454.9	455.2	455.6	455.6	455.2	454.9	454.6	454.3
152.5°	466.8	467.2	467.6	467.6	467.2	466.8	466.5	466.1
155°	481.9	482.4	482.9	483.0	482.7	482.4	482.1	481.8
157.5°	495.7	496.4	497.2	497.3	496.8	496.2	495.8	495.3
160°	504.0	504.6	505.2	505.3	504.9	504.5	504.1	503.7
162.5°	511.5	512.2	512.9	513.0	512.5	512.0	511.5	511.1
165°	521.2	521.9	522.6	522.7	522.2	521.7	521.2	520.7
167.5°	529.2	529.9	530.6	530.7	530.1	529.6	529.1	528.6
170°	533.5	534.2	534.9	535.0	534.4	533.8	533.2	532.6
172.5°	536.8	537.6	538.3	538.3	537.7	537.0	536.4	535.8
175°	540.4	541.1	541.8	541.9	541.3	540.7	540.1	539.5
177.5°	542.1	542.5	543.0	543.0	542.5	542.1	541.6	541.1
180°	542.2	542.2	542.2	542.2	542.2	542.2	542.2	542.2

(END OF REPORT)