

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: P332420-930

Luminaire Tested: **S123RDIW-S560D1030U930-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332420-930
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123RDIW-S560D1030U930-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1030 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5104.0 lumens
Efficiency: N/A
Efficacy: 112.9 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Indirect

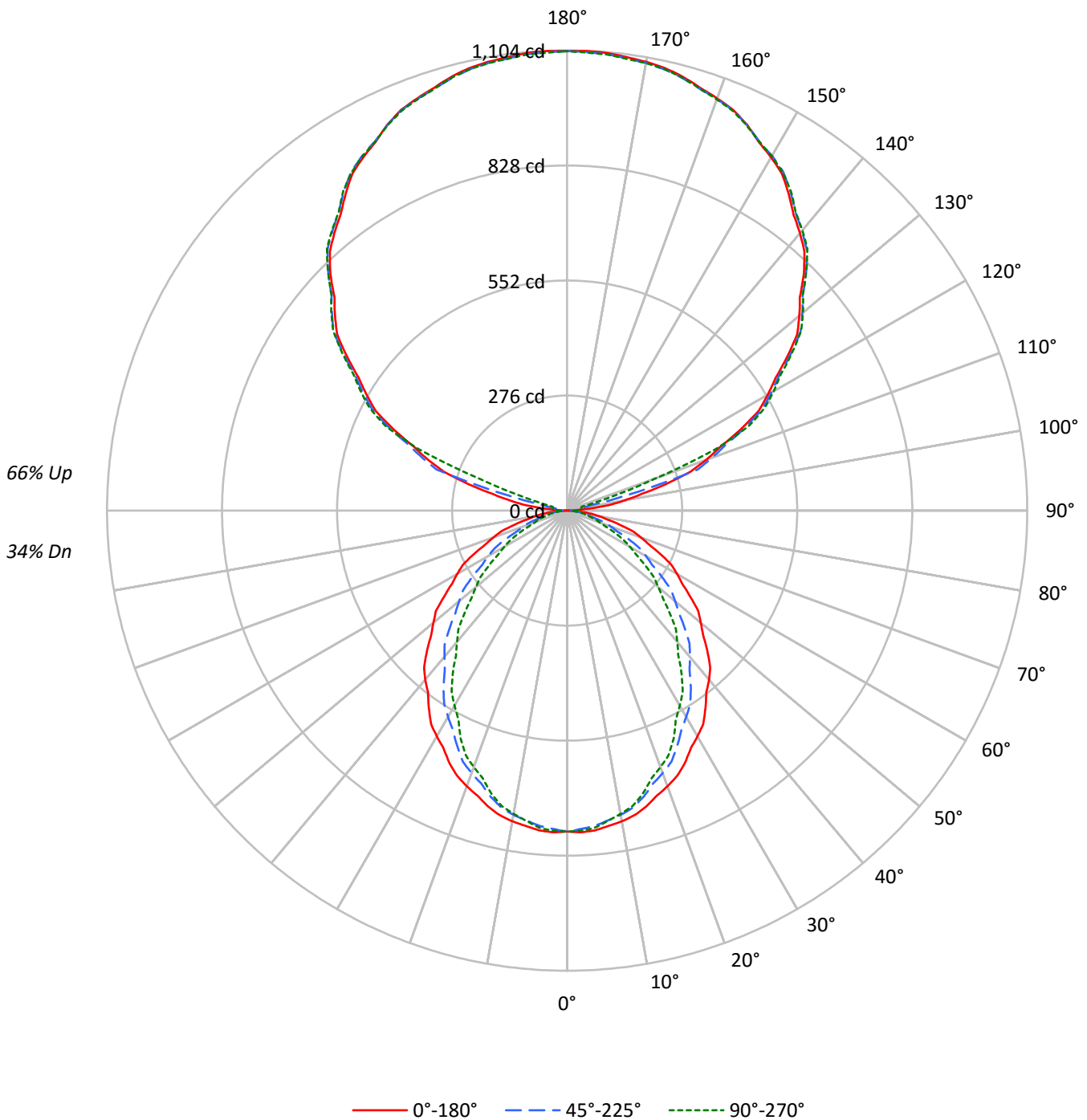
Input Watts (W): 45.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	103	103	103	103	93	93	93	93	75	75	75	57	57	57	42	42	42	34
1	94	90	87	83	85	82	79	76	66	63	61	51	49	48	37	36	35	29
2	86	79	73	68	78	72	67	62	58	54	51	45	42	40	33	31	30	25
3	79	70	63	57	71	63	57	52	51	47	43	40	37	34	29	27	26	21
4	72	62	54	48	65	56	50	44	45	41	37	35	32	30	26	24	22	18
5	66	55	47	41	59	50	43	38	41	36	32	32	28	26	24	21	20	16
6	61	49	41	36	55	45	38	33	37	32	28	29	25	23	22	19	17	14
7	56	44	37	31	51	41	34	29	33	28	24	26	23	20	20	17	15	13
8	52	40	33	28	47	37	30	26	30	25	22	24	20	18	18	16	14	11
9	48	37	29	25	44	34	27	23	28	23	19	22	19	16	17	14	13	10
10	45	34	27	22	41	31	25	20	25	21	17	20	17	14	16	13	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8289	8289	8289
5°	8321	8206	8253
10°	8273	8103	8075
15°	8184	7913	7830
20°	8062	7676	7497
25°	7936	7410	7172
30°	7771	7102	6714
35°	7599	6795	6294
40°	7442	6433	5774
45°	7234	6075	5305
50°	7006	5668	4779
55°	6775	5204	4290
60°	6562	4706	3750
65°	6283	4167	3212
70°	5936	3500	2593
75°	5427	2753	2441
80°	4841	2442	2244
85°	4088	2149	2001



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	72.3	1.4
10°-20°	201.2	3.9
20°-30°	289.7	5.7
30°-40°	326.3	6.4
40°-50°	312.2	6.1
50°-60°	255.7	5.0
60°-70°	172.5	3.4
70°-80°	86.8	1.7
80°-90°	26.0	0.5
90°-100°	40.1	0.8
100°-110°	191.0	3.7
110°-120°	458.8	9.0
120°-130°	584.2	11.4
130°-140°	624.2	12.2
140°-150°	583.7	11.4
150°-160°	470.8	9.2
160°-170°	303.9	6.0
170°-180°	104.7	2.1
0°-30°	563.2	11.0
0°-40°	889.5	17.4
0°-60°	1457.4	28.6
0°-90°	1742.7	34.1
90°-120°	689.8	13.5
90°-150°	2481.9	48.6
90°-180°	3361.0	65.9
0°-180°	5104.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	770	770	770	770	770	
5°	770	767	760	765	764	73
15°	734	727	710	707	703	207
25°	668	652	624	611	604	307
35°	578	555	517	491	479	362
45°	475	446	399	365	348	367
55°	361	329	277	242	229	324
65°	247	212	164	134	126	244
75°	130	100	66	60	59	139
85°	33	20	17	16	16	37
90°	1	9	20	23	24	4
95°	50	19	25	31	31	62
105°	244	248	179	43	36	259
115°	458	463	470	478	482	452
125°	645	652	655	657	658	576
135°	803	808	812	814	812	618
145°	927	932	934	936	936	580
155°	1021	1020	1020	1024	1020	470
165°	1077	1074	1074	1079	1074	304
175°	1102	1098	1099	1104	1098	105
180°	1102	1102	1102	1102	1102	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	770.1	770.1	770.1	770.1	770.1	770.1	770.1	770.1	770.1	770.1	770.1
2.5°	772.6	772.1	771.7	771.2	770.8	769.9	768.6	767.2	765.9	764.6	765.8
5°	770.1	769.4	768.7	768.0	767.3	766.1	764.4	762.8	761.1	759.5	760.7
7.5°	763.0	762.2	761.4	760.7	759.9	758.5	756.4	754.2	752.0	749.8	750.5
10°	756.9	755.9	755.0	754.0	753.1	751.3	748.9	746.3	743.8	741.4	741.4
12.5°	748.4	747.4	746.2	745.2	744.1	742.1	739.0	736.0	732.9	729.9	729.8
15°	734.4	733.0	731.4	729.9	728.4	725.6	721.8	717.9	714.0	710.1	709.4
17.5°	716.8	715.1	713.3	711.5	709.7	706.4	701.4	696.5	691.5	686.6	685.2
20°	703.8	701.6	699.4	697.2	695.0	691.2	685.9	680.7	675.4	670.1	668.3
22.5°	689.3	686.8	684.3	681.7	679.1	675.1	669.4	663.8	658.3	652.6	650.4
25°	668.2	664.8	661.3	657.9	654.4	649.5	643.0	636.7	630.3	623.9	621.0
27.5°	642.6	638.8	635.0	631.1	627.3	621.8	614.7	607.6	600.5	593.5	589.4
30°	625.2	621.0	616.9	612.7	608.5	602.5	594.8	587.0	579.2	571.4	566.7
32.5°	607.6	603.0	598.3	593.5	588.8	582.4	574.1	565.9	557.7	549.4	544.3
35°	578.3	573.3	568.3	563.4	558.3	551.5	542.9	534.3	525.7	517.1	511.1
37.5°	548.6	543.1	537.5	531.9	526.4	519.0	509.8	500.7	491.5	482.2	475.5
40°	529.6	523.5	517.4	511.3	505.2	497.2	487.4	477.5	467.7	457.8	450.5
42.5°	508.1	502.0	495.9	489.8	483.7	475.6	465.4	455.2	445.0	434.8	426.9
45°	475.2	469.0	462.8	456.6	450.3	441.8	431.1	420.4	409.8	399.1	391.2
47.5°	442.4	435.5	428.7	421.8	415.0	406.3	395.5	384.8	374.1	363.5	354.9
50°	418.4	411.9	405.4	398.8	392.3	383.4	372.2	361.0	349.8	338.5	329.9
52.5°	397.0	389.9	382.8	375.7	368.7	359.5	348.4	337.3	326.1	315.0	306.1
55°	361.0	354.2	347.4	340.6	333.8	324.5	312.7	300.9	289.1	277.3	269.2
57.5°	327.8	320.3	312.9	305.5	298.1	288.5	276.6	264.8	252.9	241.1	233.5
60°	304.8	297.2	289.5	281.8	274.3	264.6	253.2	241.7	230.1	218.6	211.1
62.5°	281.8	274.2	266.5	258.9	251.3	241.7	230.2	218.7	207.1	195.6	188.6
65°	246.7	239.0	231.5	223.8	216.1	206.9	196.1	185.3	174.5	163.6	156.9
67.5°	211.6	203.9	196.2	188.4	180.8	171.7	161.3	150.9	140.6	130.1	125.1
70°	188.6	181.1	173.7	166.2	158.7	150.0	140.3	130.6	120.9	111.2	106.3
72.5°	165.6	158.2	150.8	143.5	136.1	128.0	119.2	110.3	101.5	92.7	88.7
75°	130.5	123.8	117.2	110.6	103.9	96.7	89.1	81.4	73.9	66.2	64.8
77.5°	98.6	92.5	86.5	80.5	74.4	69.0	64.1	59.2	54.2	49.3	48.6
80°	78.1	72.4	66.7	61.0	55.3	51.0	48.1	45.2	42.2	39.4	38.9
82.5°	58.6	53.6	48.8	43.9	38.9	35.8	34.4	33.1	31.7	30.3	29.9
85°	33.1	30.1	27.0	24.0	20.9	19.2	18.8	18.3	17.9	17.4	17.2
87.5°	12.1	11.3	10.4	9.6	8.7	8.6	9.0	9.5	9.9	10.4	10.4
90°	0.8	2.6	4.5	6.3	8.1	10.2	12.6	14.9	17.3	19.6	20.4
92.5°	15.2	14.8	14.2	13.7	13.2	13.9	15.7	17.4	19.2	21.0	22.1
95°	50.0	42.5	35.1	27.6	20.1	17.4	19.4	21.4	23.4	25.4	26.7
97.5°	100.4	97.0	93.7	90.3	87.0	78.8	65.7	52.6	39.5	26.3	27.8
100°	138.4	142.0	145.7	149.3	153.0	140.6	112.2	83.8	55.4	27.0	28.5
102.5°	181.6	184.3	186.9	189.5	192.1	177.9	146.9	115.9	84.9	53.9	49.4
105°	244.0	246.1	248.0	250.1	252.0	244.8	228.4	212.1	195.8	179.4	147.2
107.5°	309.9	311.4	313.1	314.7	316.3	318.4	321.0	323.5	326.1	328.7	305.1
110°	353.8	355.2	356.7	358.2	359.5	361.3	363.3	365.3	367.3	369.3	363.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	395.7	397.0	398.3	399.7	401.0	402.6	404.6	406.6	408.6	410.6	410.7
115°	457.8	458.9	459.9	461.1	462.1	463.5	465.1	466.8	468.4	470.0	471.9
117.5°	517.9	519.2	520.6	521.9	523.3	524.3	525.2	526.0	526.8	527.7	529.1
120°	555.2	556.8	558.5	560.1	561.7	562.9	563.4	563.9	564.5	565.0	566.5
122.5°	593.2	594.5	595.9	597.2	598.6	599.6	600.3	601.0	601.7	602.3	603.4
125°	645.3	646.8	648.2	649.6	651.1	652.2	652.9	653.6	654.4	655.1	655.5
127.5°	695.7	697.2	698.6	700.1	701.6	702.7	703.6	704.5	705.3	706.2	706.8
130°	727.2	728.6	730.1	731.6	733.0	734.1	734.8	735.6	736.3	737.0	737.8
132.5°	757.3	758.8	760.2	761.7	763.1	764.2	764.8	765.3	765.9	766.5	767.2
135°	803.3	804.5	805.5	806.6	807.7	808.6	809.3	810.1	810.8	811.5	812.0
137.5°	842.6	844.0	845.4	846.8	848.2	849.1	849.5	849.9	850.3	850.7	851.5
140°	868.9	869.9	871.1	872.1	873.2	874.0	874.6	875.1	875.6	876.2	876.9
142.5°	893.1	894.1	895.3	896.3	897.5	898.3	898.8	899.4	899.9	900.4	901.1
145°	927.0	928.2	929.5	930.8	932.1	932.9	933.3	933.6	934.0	934.3	934.7
147.5°	959.0	959.8	960.6	961.4	962.3	962.9	963.2	963.6	963.9	964.3	964.7
150°	978.6	979.1	979.7	980.2	980.7	981.2	981.5	981.9	982.3	982.7	983.0
152.5°	996.3	996.5	996.8	997.0	997.3	997.5	997.8	997.9	998.2	998.4	999.1
155°	1021.2	1020.8	1020.4	1020.1	1019.7	1019.6	1019.8	1019.9	1020.2	1020.3	1021.2
157.5°	1040.5	1040.5	1040.4	1040.4	1040.3	1040.2	1040.1	1039.8	1039.7	1039.5	1040.6
160°	1052.3	1052.1	1051.9	1051.7	1051.6	1051.3	1051.2	1051.0	1050.8	1050.7	1051.7
162.5°	1063.4	1062.9	1062.5	1062.0	1061.5	1061.2	1061.0	1060.9	1060.6	1060.5	1061.7
165°	1076.8	1076.3	1075.8	1075.2	1074.6	1074.3	1074.1	1073.9	1073.7	1073.6	1075.1
167.5°	1087.3	1086.6	1085.9	1085.2	1084.4	1084.0	1084.0	1084.0	1084.0	1084.0	1085.5
170°	1093.2	1092.5	1091.8	1091.0	1090.3	1090.0	1090.0	1090.0	1090.0	1090.0	1091.4
172.5°	1097.1	1096.3	1095.4	1094.5	1093.6	1093.3	1093.4	1093.6	1093.7	1093.9	1095.4
175°	1102.2	1101.3	1100.4	1099.5	1098.6	1098.2	1098.4	1098.6	1098.8	1098.9	1100.2
177.5°	1103.5	1102.8	1102.1	1101.4	1100.7	1100.3	1100.5	1100.7	1100.7	1100.9	1102.1
180°	1102.2	1102.2	1102.2	1102.2	1102.2	1102.2	1102.2	1102.2	1102.2	1102.2	1102.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	770.1	770.1	770.1	770.1	770.1	770.1	770.1	770.1
2.5°	767.0	768.3	769.5	770.0	769.7	769.5	769.3	769.1
5°	761.9	763.2	764.4	764.9	764.7	764.3	764.1	763.8
7.5°	751.2	751.9	752.6	752.7	752.2	751.8	751.3	750.8
10°	741.6	741.8	741.8	741.6	740.9	740.2	739.6	738.8
12.5°	729.7	729.6	729.5	729.0	728.2	727.4	726.7	725.9
15°	708.7	708.0	707.4	706.5	705.5	704.6	703.6	702.6
17.5°	683.7	682.2	680.7	679.3	677.8	676.4	674.9	673.5
20°	666.5	664.7	662.9	661.2	659.5	657.9	656.2	654.5
22.5°	648.2	645.9	643.7	641.7	640.2	638.6	637.1	635.5
25°	618.1	615.1	612.3	610.0	608.5	607.0	605.4	603.9
27.5°	585.3	581.3	577.2	574.1	571.7	569.4	567.0	564.7
30°	562.0	557.3	552.6	549.1	546.9	544.7	542.4	540.2
32.5°	539.2	533.9	528.8	525.1	522.8	520.4	518.0	515.8
35°	505.2	499.2	493.3	489.0	486.5	484.0	481.5	479.0
37.5°	468.7	461.9	455.2	450.3	447.2	444.1	441.0	437.9
40°	443.4	436.1	428.9	423.7	420.5	417.4	414.2	410.9
42.5°	419.1	411.2	403.2	397.9	395.0	392.2	389.3	386.5
45°	383.3	375.4	367.5	361.8	358.5	355.1	351.8	348.5
47.5°	346.3	337.7	329.1	323.3	320.3	317.3	314.4	311.4
50°	321.3	312.7	304.1	298.2	295.0	291.8	288.6	285.4
52.5°	297.2	288.2	279.2	273.4	270.5	267.7	264.8	262.0
55°	261.2	253.2	245.1	239.7	236.9	234.2	231.4	228.6
57.5°	225.8	218.3	210.7	205.7	203.3	201.0	198.6	196.2
60°	203.6	196.1	188.6	183.7	181.3	179.0	176.6	174.2
62.5°	181.5	174.5	167.4	162.7	160.2	157.7	155.2	152.8
65°	150.0	143.2	136.4	132.2	130.8	129.2	127.7	126.1
67.5°	120.0	114.9	109.8	106.5	104.8	103.2	101.6	100.0
70°	101.4	96.6	91.7	88.5	87.0	85.5	84.0	82.4
72.5°	84.7	80.8	76.8	74.5	73.9	73.2	72.6	71.9
75°	63.4	62.0	60.7	59.8	59.5	59.3	58.9	58.7
77.5°	47.9	47.1	46.3	45.8	45.6	45.2	45.0	44.7
80°	38.5	38.1	37.7	37.3	37.1	36.8	36.5	36.2
82.5°	29.5	29.1	28.7	28.5	28.4	28.4	28.3	28.2
85°	17.0	16.6	16.4	16.2	16.2	16.2	16.2	16.2
87.5°	10.5	10.5	10.6	10.6	10.5	10.5	10.4	10.4
90°	21.1	21.9	22.6	23.1	23.5	23.8	24.2	24.5
92.5°	23.3	24.5	25.6	26.3	26.5	26.7	27.0	27.1
95°	28.0	29.2	30.5	31.1	31.1	31.1	31.1	31.1
97.5°	29.3	30.7	32.2	33.0	33.2	33.3	33.6	33.8
100°	29.9	31.4	32.9	33.7	33.8	34.0	34.2	34.4
102.5°	44.8	40.4	35.8	33.8	34.1	34.4	34.7	35.1
105°	115.0	82.7	50.5	34.6	35.0	35.3	35.6	36.0
107.5°	281.4	257.9	234.2	210.3	186.0	161.8	137.5	113.2
110°	357.3	351.3	345.3	329.3	303.3	277.2	251.2	225.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	410.8	410.9	411.0	408.3	402.8	397.4	391.8	386.4
115°	473.7	475.5	477.4	478.6	479.3	480.0	480.8	481.5
117.5°	530.6	532.1	533.5	534.3	534.4	534.6	534.8	534.9
120°	567.9	569.4	570.9	571.6	571.6	571.6	571.6	571.6
122.5°	604.4	605.4	606.4	607.1	607.2	607.3	607.5	607.6
125°	655.8	656.2	656.6	657.0	657.3	657.6	658.0	658.4
127.5°	707.4	707.9	708.6	708.7	708.3	707.9	707.6	707.2
130°	738.5	739.2	739.9	740.1	739.7	739.4	739.0	738.7
132.5°	767.9	768.7	769.4	769.5	769.0	768.5	768.0	767.4
135°	812.6	813.2	813.7	813.7	813.2	812.6	812.0	811.5
137.5°	852.4	853.3	854.2	854.4	854.0	853.7	853.3	853.0
140°	877.7	878.4	879.1	879.3	879.0	878.6	878.2	877.8
142.5°	901.6	902.2	902.8	902.8	902.3	901.8	901.3	900.7
145°	935.1	935.5	935.8	936.0	936.0	936.0	936.0	936.0
147.5°	965.1	965.4	965.8	965.6	964.7	963.8	963.0	962.2
150°	983.4	983.7	984.1	984.1	983.5	982.9	982.4	981.9
152.5°	999.7	1000.4	1001.0	1000.9	1000.0	999.2	998.4	997.6
155°	1022.1	1023.0	1024.0	1023.9	1022.8	1021.7	1020.6	1019.5
157.5°	1041.7	1042.8	1043.8	1043.7	1042.3	1040.9	1039.4	1038.0
160°	1052.8	1053.9	1055.0	1054.9	1053.6	1052.4	1051.1	1049.8
162.5°	1062.9	1064.2	1065.4	1065.4	1064.4	1063.2	1062.1	1060.9
165°	1076.4	1077.9	1079.4	1079.5	1078.2	1076.9	1075.6	1074.4
167.5°	1087.0	1088.4	1089.9	1089.9	1088.4	1087.0	1085.5	1084.0
170°	1092.8	1094.3	1095.8	1095.8	1094.3	1092.8	1091.4	1090.0
172.5°	1096.8	1098.2	1099.7	1099.6	1098.0	1096.4	1094.8	1093.2
175°	1101.5	1102.8	1104.1	1104.0	1102.5	1101.1	1099.6	1098.1
177.5°	1103.3	1104.4	1105.5	1105.5	1104.0	1102.5	1101.1	1099.6
180°	1102.2	1102.2	1102.2	1102.2	1102.2	1102.2	1102.2	1102.2

(END OF REPORT)