

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: P332292-930

Luminaire Tested: **S123RDIP-S560D1025U930-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332292-930
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123RDIP-S560D1025U930-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1025 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4613.1 lumens
Efficiency: N/A
Efficacy: 103.7 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

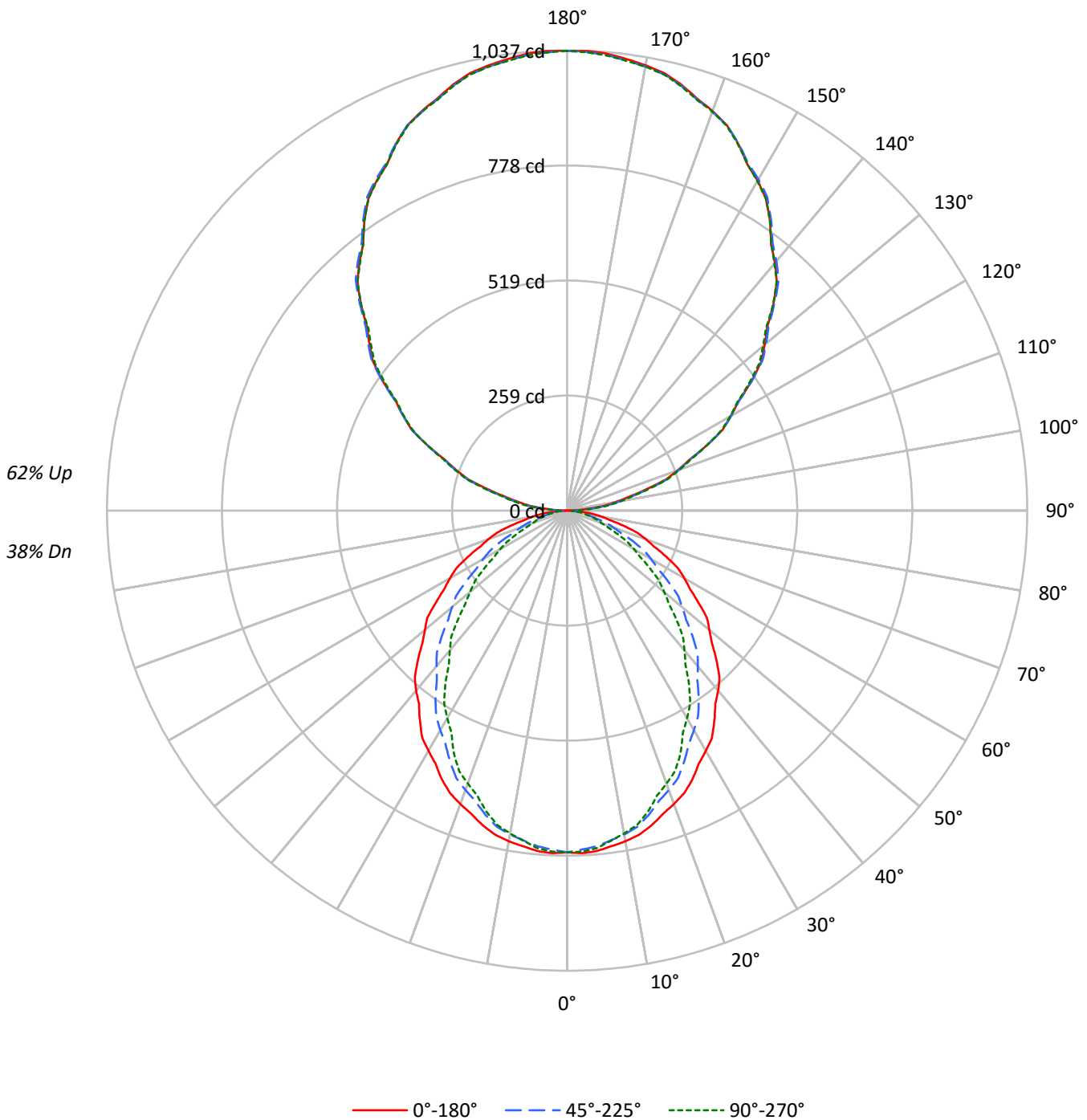
Input Watts (W): 44.5
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	104	104	104	104	95	95	95	95	77	77	77	60	60	60	45	45	45	38
1	95	91	87	84	86	83	80	77	67	65	63	53	52	50	40	39	38	32
2	87	80	74	69	79	73	68	63	59	56	53	47	45	42	35	34	33	27
3	79	70	63	58	72	64	58	53	52	48	45	42	39	36	32	30	28	23
4	73	62	55	49	66	57	50	45	47	42	38	37	34	31	28	26	24	20
5	67	56	48	42	60	51	44	39	42	37	33	33	30	27	26	23	21	18
6	61	50	42	36	56	46	39	34	38	33	29	30	27	24	23	21	19	16
7	57	45	37	32	51	41	34	30	34	29	25	28	24	21	21	19	17	14
8	53	41	33	28	48	37	31	26	31	26	22	25	21	19	20	17	15	13
9	49	37	30	25	45	34	28	23	29	24	20	23	20	17	18	16	14	11
10	46	34	27	22	42	31	25	21	26	21	18	21	18	15	17	14	12	10

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	1.6
10°-20°	201.2	4.4
20°-30°	289.7	6.3
30°-40°	326.3	7.1
40°-50°	312.2	6.8
50°-60°	255.7	5.5
60°-70°	172.5	3.7
70°-80°	86.8	1.9
80°-90°	26.0	0.6
90°-100°	67.5	1.5
100°-110°	202.0	4.4
110°-120°	343.6	7.4
120°-130°	451.9	9.8
130°-140°	508.0	11.0
140°-150°	499.3	10.8
150°-160°	420.4	9.1
160°-170°	279.8	6.1
170°-180°	98.0	2.1
0°-30°	563.2	12.2
0°-40°	889.5	19.3
0°-60°	1457.4	31.6
0°-90°	1742.7	37.8
90°-120°	613.1	13.3
90°-150°	2072.3	44.9
90°-180°	2870.0	62.2
0°-180°	4613.1	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	5
95°	48	54	60	63	64	54
105°	183	185	192	192	194	196
115°	346	348	347	347	347	342
125°	506	508	507	504	500	451
135°	657	661	661	658	656	506
145°	797	798	801	800	797	497
155°	912	912	913	916	911	420
165°	994	991	991	996	990	280
175°	1034	1030	1030	1035	1030	98
180°	1036	1036	1036	1036	1036	



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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	9.5	8.7	8.6	9.0	9.5	9.9	10.4	10.4
90°	0.8	2.6	4.4	6.3	8.1	10.1	12.5	14.8	17.2	19.6	20.2
92.5°	19.7	21.0	22.2	23.4	24.6	25.9	27.2	28.5	29.9	31.2	31.8
95°	48.0	49.2	50.5	51.9	53.1	54.5	55.8	57.3	58.8	60.3	61.0
97.5°	85.3	86.3	87.2	88.1	89.0	90.0	91.1	92.1	93.2	94.2	95.1
100°	110.7	111.8	112.8	113.9	115.0	116.0	116.9	117.8	118.7	119.6	120.2
102.5°	140.0	140.6	141.3	141.9	142.6	143.5	144.7	145.9	147.1	148.3	148.8
105°	183.1	183.4	183.8	184.2	184.6	185.6	187.2	188.8	190.5	192.1	192.1
107.5°	233.3	233.5	233.7	233.9	234.2	234.6	235.2	235.9	236.5	237.2	237.7
110°	264.5	264.9	265.2	265.5	266.0	266.3	266.7	267.0	267.4	267.7	268.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	297.0	297.3	297.5	297.7	297.9	298.1	298.2	298.2	298.3	298.3	299.2
115°	345.8	346.4	347.0	347.5	348.1	348.1	347.8	347.4	347.1	346.7	346.9
117.5°	395.0	395.4	395.7	396.2	396.5	396.4	396.0	395.5	395.0	394.5	394.5
120°	425.7	426.7	427.8	428.9	430.0	430.1	429.2	428.3	427.4	426.5	426.2
122.5°	457.5	458.4	459.1	459.9	460.7	460.9	460.4	459.9	459.5	459.0	458.5
125°	506.2	506.8	507.3	507.8	508.3	508.5	508.1	507.8	507.4	507.0	506.3
127.5°	551.1	552.3	553.4	554.6	555.8	556.1	555.7	555.4	555.0	554.6	553.5
130°	581.1	582.5	584.0	585.4	586.9	587.3	586.8	586.2	585.7	585.1	584.4
132.5°	611.1	612.5	613.9	615.4	616.9	617.3	616.9	616.5	616.1	615.7	614.9
135°	656.8	657.9	658.9	660.0	661.1	661.5	661.4	661.2	661.0	660.8	660.1
137.5°	699.1	700.0	700.9	701.8	702.7	703.4	703.8	704.3	704.8	705.2	704.5
140°	728.4	729.3	730.2	731.1	732.0	732.5	732.7	732.9	733.1	733.3	733.1
142.5°	755.0	755.9	756.9	757.8	758.7	759.3	759.6	759.9	760.3	760.6	760.4
145°	796.7	797.1	797.4	797.9	798.2	798.7	799.2	799.7	800.3	800.8	800.6
147.5°	833.2	833.9	834.5	835.2	835.8	836.4	836.9	837.4	837.9	838.5	838.5
150°	858.6	859.0	859.3	859.7	860.1	860.4	860.8	861.1	861.5	861.9	861.9
152.5°	879.5	880.0	880.4	880.9	881.4	881.8	882.1	882.2	882.5	882.7	883.0
155°	912.3	912.3	912.3	912.3	912.3	912.4	912.6	912.7	913.0	913.1	913.9
157.5°	940.3	940.1	939.9	939.6	939.5	939.4	939.6	939.7	939.9	940.0	940.8
160°	957.9	957.5	957.2	956.8	956.4	956.3	956.3	956.3	956.3	956.3	957.2
162.5°	973.5	973.0	972.5	972.0	971.5	971.3	971.4	971.6	971.8	971.9	972.8
165°	993.7	993.1	992.6	992.1	991.6	991.2	991.2	991.2	991.2	991.2	992.3
167.5°	1009.8	1009.1	1008.4	1007.6	1006.9	1006.7	1006.8	1006.9	1007.1	1007.2	1008.4
170°	1019.0	1018.2	1017.5	1016.8	1016.0	1015.7	1015.7	1015.7	1015.7	1015.7	1016.9
172.5°	1026.1	1025.4	1024.7	1023.9	1023.2	1022.8	1022.8	1022.8	1022.8	1022.8	1023.9
175°	1033.6	1032.8	1032.1	1031.4	1030.7	1030.3	1030.3	1030.3	1030.3	1030.3	1031.4
177.5°	1036.7	1036.1	1035.5	1034.9	1034.4	1034.0	1034.0	1034.0	1034.0	1034.0	1034.9
180°	1036.0	1036.0	1036.0	1036.0	1036.0	1036.0	1036.0	1036.0	1036.0	1036.0	1036.0



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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°	10.4	10.5	10.5	10.5	10.5	10.4	10.4	10.4
90°	21.0	21.7	22.4	23.0	23.3	23.7	24.1	24.4
92.5°	32.4	33.0	33.6	33.8	33.5	33.3	33.1	32.9
95°	61.6	62.4	63.1	63.5	63.5	63.5	63.5	63.5
97.5°	95.9	96.8	97.6	97.9	97.9	97.8	97.8	97.7
100°	120.7	121.2	121.8	122.3	122.6	122.9	123.4	123.7
102.5°	149.4	149.9	150.4	150.7	150.6	150.5	150.5	150.4
105°	192.1	192.1	192.1	192.2	192.6	193.0	193.3	193.7
107.5°	238.3	238.9	239.5	239.6	239.5	239.2	239.0	238.8
110°	269.2	269.9	270.7	270.8	270.4	270.1	269.8	269.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	300.1	300.9	301.8	302.2	302.1	302.1	302.0	301.9
115°	347.1	347.2	347.4	347.4	347.2	347.1	346.9	346.7
117.5°	394.4	394.4	394.4	394.1	393.6	393.1	392.6	392.1
120°	426.1	425.9	425.7	425.4	425.1	424.8	424.4	424.0
122.5°	458.0	457.6	457.1	456.6	456.2	455.6	455.1	454.6
125°	505.6	504.8	504.1	503.4	502.7	502.0	501.2	500.5
127.5°	552.5	551.5	550.5	549.6	548.8	547.9	547.1	546.3
130°	583.7	582.9	582.3	581.2	580.0	578.7	577.5	576.2
132.5°	614.0	613.2	612.3	611.4	610.4	609.4	608.5	607.5
135°	659.4	658.7	657.9	657.4	657.0	656.6	656.3	656.0
137.5°	703.8	703.0	702.2	701.5	700.8	700.1	699.4	698.8
140°	732.9	732.7	732.5	731.8	730.6	729.3	728.1	726.8
142.5°	760.3	760.1	759.9	759.3	758.3	757.3	756.4	755.4
145°	800.5	800.3	800.1	799.6	798.9	798.2	797.4	796.7
147.5°	838.5	838.5	838.5	837.9	836.8	835.7	834.6	833.6
150°	861.9	861.9	861.9	861.3	860.2	859.2	858.0	857.0
152.5°	883.3	883.5	883.9	883.5	882.6	881.7	880.7	879.8
155°	914.6	915.3	916.0	915.7	914.5	913.2	911.9	910.7
157.5°	941.5	942.2	943.1	942.9	941.9	940.9	939.9	938.8
160°	958.1	959.0	959.9	959.9	959.3	958.5	957.8	957.1
162.5°	973.7	974.6	975.5	975.3	974.2	973.1	971.9	970.8
165°	993.4	994.5	995.6	995.5	994.3	993.0	991.7	990.4
167.5°	1009.4	1010.6	1011.7	1011.7	1010.6	1009.4	1008.4	1007.2
170°	1018.2	1019.5	1020.8	1020.8	1019.5	1018.2	1016.9	1015.7
172.5°	1025.1	1026.2	1027.3	1027.3	1026.0	1024.7	1023.4	1022.1
175°	1032.5	1033.6	1034.7	1034.5	1033.3	1032.0	1030.8	1029.5
177.5°	1035.8	1036.7	1037.5	1037.5	1036.5	1035.4	1034.5	1033.4
180°	1036.0	1036.0	1036.0	1036.0	1036.0	1036.0	1036.0	1036.0

(END OF REPORT)