

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: P331941-830

Luminaire Tested: **S123DIP-S560D1025U830-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331941-830
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: S123DIP-S560D1025U830-4F0-1E-UDD-D1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1025 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5549.3 lumens
Efficiency: N/A
Efficacy: 124.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

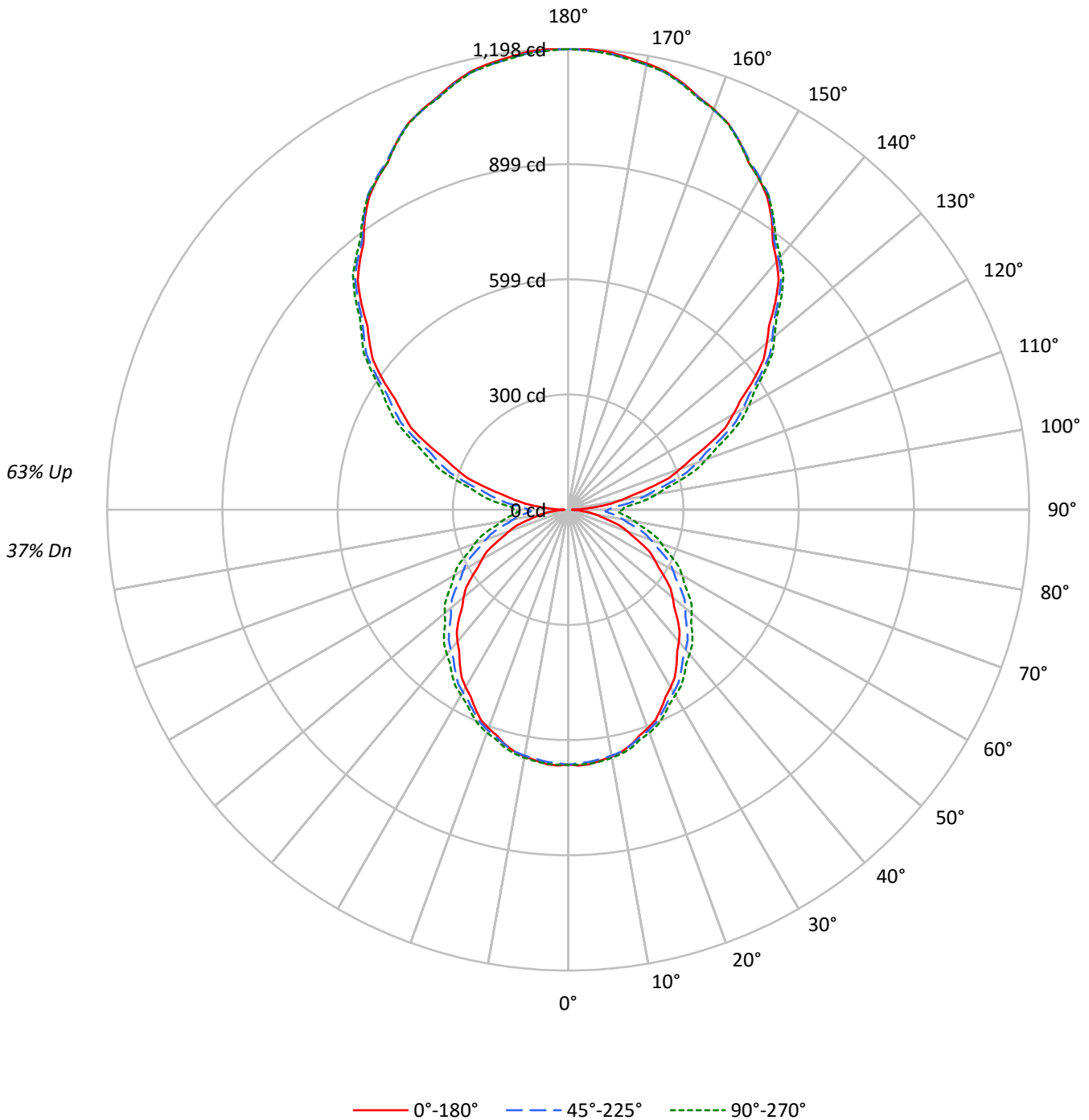
Input Watts (W): 44.5
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	94	94	94	94	76	76	76		59	59	59		44	44	44	37
1	94	89	85	82	85	81	78	74	65	63	61		51	49	48		38	37	36	29
2	85	78	71	66	77	70	65	60	57	53	50		44	42	39		33	31	29	24
3	78	68	61	55	70	62	55	50	50	45	41		39	36	33		29	27	25	20
4	71	60	52	46	64	54	47	42	44	39	35		34	31	28		25	23	21	17
5	65	53	45	39	58	48	41	36	39	34	30		31	27	24		23	20	18	15
6	60	48	39	34	54	43	36	31	35	30	26		28	24	21		21	18	16	13
7	55	43	35	29	50	39	32	27	32	27	23		25	21	18		19	16	14	11
8	51	39	31	26	46	35	29	24	29	24	20		23	19	16		17	15	13	10
9	47	35	28	23	43	32	26	21	26	21	18		21	17	14		16	13	11	9
10	44	32	25	20	40	29	23	19	24	19	16		19	16	13		15	12	10	8

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7134	7134	7134
5°	7156	6954	6959
10°	7093	6795	6761
15°	7001	6612	6544
20°	6871	6405	6306
25°	6709	6166	6056
30°	6544	5951	5803
35°	6359	5723	5601
40°	6181	5515	5382
45°	5986	5318	5210
50°	5793	5121	5019
55°	5578	4919	4848
60°	5369	4716	4670
65°	5156	4499	4462
70°	4837	4254	4245
75°	4430	3973	4029
80°	3958	3698	3779
85°	3521	3508	3633



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	62.8	1.1
10°-20°	179.1	3.2
20°-30°	267.9	4.8
30°-40°	319.9	5.8
40°-50°	334.7	6.0
50°-60°	314.1	5.7
60°-70°	262.3	4.7
70°-80°	187.7	3.4
80°-90°	115.5	2.1
90°-100°	148.3	2.7
100°-110°	285.2	5.1
110°-120°	431.7	7.8
120°-130°	542.2	9.8
130°-140°	596.1	10.7
140°-150°	579.1	10.4
150°-160°	486.0	8.8
160°-170°	323.5	5.8
170°-180°	113.3	2.0
0°-30°	509.8	9.2
0°-40°	829.7	15.0
0°-60°	1478.6	26.6
0°-90°	2044.1	36.8
90°-120°	865.1	15.6
90°-150°	2582.5	46.5
90°-180°	3505.0	63.2
0°-180°	5549.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	663	663	663	663	663	
5°	664	662	658	663	663	63
15°	632	634	633	640	640	178
25°	570	577	580	589	589	263
35°	491	502	512	522	526	307
45°	401	419	437	450	456	310
55°	306	330	356	375	381	274
65°	212	240	272	292	300	209
75°	115	149	185	208	217	123
85°	35	72	110	133	142	37
90°	10	55	104	131	142	10
95°	63	99	141	166	174	69
105°	217	238	276	296	305	233
115°	404	416	439	457	462	399
125°	587	591	609	620	622	524
135°	761	766	773	781	784	586
145°	922	923	926	930	930	575
155°	1055	1055	1056	1059	1053	485
165°	1149	1146	1146	1151	1145	324
175°	1195	1191	1191	1196	1190	113
180°	1198	1198	1198	1198	1198	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	662.8	662.8	662.8	662.8	662.8	662.8	662.8	662.8	662.8	662.8	662.8
2.5°	665.7	665.3	665.0	664.5	664.1	663.5	662.4	661.4	660.3	659.3	660.3
5°	663.5	663.2	662.9	662.6	662.2	661.6	660.6	659.7	658.7	657.7	659.0
7.5°	657.0	657.0	657.1	657.2	657.3	656.9	655.9	655.0	654.0	653.1	654.7
10°	651.3	651.6	651.9	652.2	652.5	652.3	651.5	650.7	649.9	649.1	650.7
12.5°	644.3	644.8	645.3	645.6	646.1	646.1	645.5	645.0	644.4	643.9	645.4
15°	631.8	632.3	632.7	633.2	633.7	633.9	633.7	633.5	633.4	633.2	634.8
17.5°	615.9	616.8	617.8	618.8	619.7	620.2	620.1	620.0	620.0	619.9	621.3
20°	604.4	605.3	606.2	607.2	608.1	608.8	609.2	609.4	609.7	610.1	611.5
22.5°	592.2	593.1	594.1	595.1	596.1	596.7	597.2	597.7	598.1	598.5	600.4
25°	570.4	572.0	573.6	575.2	576.8	577.9	578.3	578.8	579.3	579.8	581.8
27.5°	548.5	550.3	552.1	553.9	555.7	557.1	558.2	559.2	560.2	561.3	563.1
30°	532.8	534.9	537.0	539.1	541.2	542.9	544.1	545.4	546.7	548.0	550.0
32.5°	515.5	517.8	520.2	522.5	524.9	526.9	528.6	530.2	531.9	533.6	535.6
35°	491.0	493.5	496.1	498.7	501.2	503.6	505.7	507.7	509.8	511.9	514.3
37.5°	465.0	467.9	470.7	473.6	476.5	479.3	481.8	484.4	486.9	489.6	492.3
40°	447.6	450.5	453.5	456.3	459.2	462.2	465.4	468.6	471.8	475.0	477.8
42.5°	428.6	432.2	435.6	439.1	442.7	446.1	449.5	452.8	456.2	459.5	462.5
45°	401.4	405.3	409.2	413.0	416.8	420.8	424.8	428.8	432.8	436.8	439.9
47.5°	373.0	377.4	381.7	386.1	390.4	394.9	399.5	404.1	408.7	413.3	416.7
50°	354.5	359.0	363.4	368.0	372.5	377.2	382.2	387.2	392.1	397.1	400.8
52.5°	334.9	339.6	344.4	349.1	353.8	359.0	364.5	369.9	375.4	381.0	384.7
55°	306.1	311.4	316.7	322.0	327.3	332.8	338.7	344.4	350.2	355.9	360.2
57.5°	278.1	283.6	289.2	294.6	300.2	306.1	312.5	318.8	325.1	331.4	335.7
60°	258.4	264.3	270.0	275.8	281.5	287.8	294.4	301.0	307.5	314.1	318.6
62.5°	240.0	245.9	251.8	257.7	263.6	270.0	277.0	284.0	291.0	297.9	302.4
65°	211.5	217.8	224.0	230.4	236.6	243.3	250.3	257.3	264.4	271.5	276.3
67.5°	182.7	189.4	196.0	202.6	209.2	216.1	223.4	230.5	237.7	244.9	250.2
70°	162.5	169.4	176.3	183.1	190.0	197.4	205.0	212.7	220.5	228.2	233.3
72.5°	143.9	150.9	157.8	164.7	171.5	179.0	186.9	194.9	202.8	210.8	216.1
75°	114.8	122.3	129.9	137.4	145.0	152.8	160.8	168.8	176.8	184.8	190.1
77.5°	89.4	97.0	104.6	112.2	119.8	127.6	135.7	143.8	151.9	160.0	165.6
80°	71.4	79.4	87.2	95.1	102.9	111.0	119.3	127.7	136.1	144.4	149.9
82.5°	55.9	63.9	71.8	79.8	87.8	96.0	104.5	113.0	121.5	130.0	135.4
85°	35.3	43.4	51.5	59.5	67.5	75.7	84.3	92.7	101.2	109.7	115.2
87.5°	19.4	27.8	36.2	44.6	53.1	61.5	70.3	79.1	87.8	96.5	102.1
90°	10.4	20.3	30.3	40.2	50.1	60.6	71.4	82.4	93.3	104.2	110.5
92.5°	31.6	40.1	48.6	57.1	65.6	74.6	84.3	93.9	103.5	113.1	119.1
95°	63.4	71.2	78.9	86.6	94.3	102.9	112.5	122.1	131.6	141.1	146.9
97.5°	105.7	112.4	119.1	125.9	132.6	140.3	149.1	157.8	166.5	175.2	181.0
100°	134.5	140.8	147.2	153.6	160.0	167.4	175.9	184.3	192.7	201.1	206.4
102.5°	167.8	173.1	178.5	183.9	189.3	196.2	204.9	213.5	222.2	230.7	235.9
105°	217.4	221.8	226.0	230.3	234.5	241.1	249.9	258.6	267.4	276.2	280.7
107.5°	274.6	278.1	281.6	285.1	288.7	294.1	301.3	308.7	315.9	323.3	328.2
110°	310.1	313.4	316.7	320.0	323.3	328.4	335.3	342.0	348.9	355.7	360.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	347.7	350.3	353.0	355.6	358.3	362.7	368.9	375.1	381.4	387.7	392.7
115°	403.5	406.0	408.6	411.1	413.7	417.6	423.0	428.4	433.8	439.0	443.1
117.5°	460.1	461.8	463.4	465.0	466.6	469.9	474.7	479.6	484.5	489.4	493.1
120°	494.9	497.0	499.1	501.1	503.2	506.3	510.6	514.8	519.1	523.3	526.8
122.5°	531.9	533.2	534.5	535.8	537.2	540.1	544.6	549.1	553.6	558.1	561.1
125°	587.4	588.0	588.6	589.3	589.8	592.3	596.5	600.8	605.0	609.3	611.8
127.5°	639.3	640.5	641.7	642.8	644.0	646.3	649.7	653.1	656.5	659.9	661.9
130°	673.9	675.4	676.9	678.4	680.0	682.0	684.6	687.2	689.8	692.4	694.6
132.5°	707.9	709.6	711.2	712.9	714.5	716.4	718.5	720.7	722.7	724.8	726.8
135°	760.7	761.8	762.9	764.0	765.1	766.4	768.0	769.5	771.1	772.6	774.7
137.5°	809.5	810.4	811.3	812.3	813.1	814.4	816.0	817.5	819.0	820.6	822.2
140°	842.8	843.9	844.9	845.9	847.0	847.8	848.6	849.2	849.9	850.6	852.8
142.5°	873.6	874.6	875.4	876.4	877.3	878.0	878.4	878.9	879.4	879.9	881.8
145°	921.8	922.1	922.4	922.6	922.8	923.3	923.9	924.5	925.2	925.8	926.9
147.5°	963.3	964.0	964.8	965.5	966.3	967.0	967.5	968.1	968.7	969.3	969.7
150°	992.6	993.1	993.4	993.8	994.3	994.7	995.1	995.5	996.0	996.4	996.4
152.5°	1016.7	1017.3	1017.9	1018.4	1019.0	1019.5	1019.7	1019.9	1020.2	1020.5	1020.8
155°	1054.7	1054.7	1054.7	1054.7	1054.7	1054.8	1055.0	1055.2	1055.5	1055.6	1056.5
157.5°	1087.0	1086.8	1086.6	1086.3	1086.1	1086.0	1086.2	1086.4	1086.6	1086.7	1087.6
160°	1107.4	1106.9	1106.5	1106.2	1105.7	1105.5	1105.5	1105.5	1105.5	1105.5	1106.5
162.5°	1125.5	1124.8	1124.3	1123.7	1123.1	1122.9	1123.0	1123.2	1123.4	1123.6	1124.6
165°	1148.8	1148.1	1147.5	1146.9	1146.3	1145.9	1145.9	1145.9	1145.9	1145.9	1147.2
167.5°	1167.4	1166.6	1165.7	1164.9	1164.0	1163.8	1163.9	1164.0	1164.2	1164.4	1165.7
170°	1178.0	1177.1	1176.3	1175.4	1174.6	1174.2	1174.2	1174.2	1174.2	1174.2	1175.6
172.5°	1186.2	1185.4	1184.6	1183.7	1182.9	1182.4	1182.4	1182.4	1182.4	1182.4	1183.7
175°	1194.9	1194.0	1193.2	1192.4	1191.6	1191.1	1191.1	1191.1	1191.1	1191.1	1192.4
177.5°	1198.4	1197.8	1197.1	1196.5	1195.8	1195.4	1195.4	1195.4	1195.4	1195.4	1196.5
180°	1197.7	1197.7	1197.7	1197.7	1197.7	1197.7	1197.7	1197.7	1197.7	1197.7	1197.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	662.8	662.8	662.8	662.8	662.8	662.8	662.8	662.8
2.5°	661.4	662.4	663.5	663.9	663.7	663.6	663.5	663.4
5°	660.3	661.6	662.9	663.5	663.3	663.1	663.0	662.8
7.5°	656.3	657.9	659.6	660.3	660.1	659.9	659.7	659.5
10°	652.3	653.9	655.5	656.1	655.8	655.5	655.2	654.9
12.5°	646.9	648.3	649.8	650.4	650.1	649.7	649.4	649.1
15°	636.4	638.0	639.6	640.4	640.2	640.0	639.9	639.7
17.5°	622.8	624.2	625.7	626.3	626.0	625.8	625.7	625.4
20°	613.0	614.4	615.9	616.7	616.8	617.0	617.2	617.3
22.5°	602.2	604.1	605.9	606.7	606.6	606.5	606.4	606.3
25°	583.9	586.1	588.1	589.2	589.2	589.2	589.2	589.2
27.5°	564.9	566.7	568.4	569.5	569.6	569.7	569.9	570.0
30°	551.9	553.7	555.7	556.7	556.7	556.7	556.7	556.7
32.5°	537.6	539.7	541.8	543.0	543.4	543.8	544.1	544.5
35°	516.7	519.2	521.5	523.0	523.7	524.3	525.0	525.7
37.5°	494.9	497.7	500.4	502.1	502.6	503.0	503.6	504.1
40°	480.5	483.2	486.0	487.7	488.3	489.0	489.6	490.2
42.5°	465.4	468.4	471.5	473.3	474.3	475.1	476.1	476.9
45°	442.9	445.9	449.0	451.2	452.4	453.7	455.1	456.3
47.5°	420.2	423.6	427.0	429.2	430.2	431.2	432.3	433.2
50°	404.4	408.2	411.9	414.2	415.4	416.5	417.6	418.8
52.5°	388.6	392.4	396.2	398.8	400.2	401.5	402.9	404.4
55°	364.6	368.9	373.2	376.1	377.4	378.6	379.9	381.3
57.5°	340.2	344.5	348.8	351.8	353.3	354.8	356.3	357.8
60°	323.1	327.5	332.1	335.2	337.0	338.7	340.4	342.2
62.5°	306.9	311.4	315.8	319.0	320.6	322.2	323.9	325.5
65°	281.1	285.9	290.8	294.0	295.6	297.2	298.8	300.4
67.5°	255.4	260.7	266.0	269.3	270.6	271.9	273.3	274.7
70°	238.5	243.6	248.7	252.0	253.6	255.2	256.8	258.4
72.5°	221.3	226.6	231.9	235.4	237.0	238.6	240.2	241.8
75°	195.4	200.8	206.0	209.6	211.5	213.5	215.4	217.4
77.5°	171.2	176.7	182.3	185.9	187.4	188.8	190.3	191.8
80°	155.3	160.8	166.3	169.8	171.4	173.0	174.6	176.2
82.5°	140.9	146.3	151.7	155.3	156.9	158.5	160.1	161.7
85°	120.6	126.1	131.6	135.1	136.7	138.3	139.9	141.5
87.5°	107.7	113.4	118.9	122.6	124.3	126.0	127.7	129.4
90°	116.8	123.0	129.3	133.5	135.5	137.5	139.6	141.6
92.5°	125.1	131.1	137.0	140.7	141.9	143.2	144.4	145.6
95°	152.7	158.5	164.4	168.1	169.7	171.3	172.9	174.5
97.5°	186.7	192.5	198.2	201.8	203.4	204.9	206.4	207.9
100°	211.7	217.0	222.3	225.9	227.9	230.0	232.0	233.9
102.5°	241.1	246.2	251.4	254.7	256.3	257.8	259.3	260.8
105°	285.2	289.6	294.2	297.4	299.2	301.0	302.9	304.8
107.5°	333.2	338.2	343.2	346.2	347.3	348.6	349.7	350.8
110°	365.8	370.8	375.8	378.7	379.6	380.4	381.4	382.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	397.8	402.8	407.8	411.0	412.4	413.7	415.0	416.3
115°	447.2	451.3	455.3	457.9	458.9	460.1	461.1	462.1
117.5°	496.9	500.7	504.4	506.7	507.4	508.0	508.7	509.3
120°	530.3	533.8	537.2	539.3	540.1	540.7	541.5	542.2
122.5°	564.1	567.1	570.1	571.9	572.5	573.0	573.5	574.1
125°	614.3	616.9	619.3	620.8	621.0	621.4	621.7	622.0
127.5°	663.9	665.9	667.9	668.9	669.1	669.2	669.4	669.5
130°	696.8	699.0	701.3	702.1	701.5	701.1	700.6	700.0
132.5°	728.7	730.6	732.5	733.5	733.4	733.4	733.3	733.3
135°	776.7	778.8	780.8	782.0	782.4	782.9	783.3	783.6
137.5°	823.9	825.5	827.2	828.0	828.0	828.0	828.0	828.0
140°	855.0	857.1	859.4	860.2	859.5	858.8	858.2	857.5
142.5°	883.8	885.7	887.7	888.4	888.2	887.8	887.5	887.1
145°	927.9	929.1	930.1	930.6	930.4	930.2	929.9	929.7
147.5°	970.1	970.4	970.8	970.6	970.0	969.3	968.7	968.0
150°	996.4	996.4	996.4	995.9	994.9	994.0	993.1	992.1
152.5°	1021.2	1021.4	1021.8	1021.4	1020.4	1019.4	1018.4	1017.4
155°	1057.3	1058.2	1058.9	1058.7	1057.2	1055.7	1054.2	1052.8
157.5°	1088.4	1089.3	1090.2	1090.1	1088.9	1087.7	1086.6	1085.3
160°	1107.6	1108.6	1109.7	1109.7	1109.0	1108.1	1107.3	1106.5
162.5°	1125.7	1126.7	1127.8	1127.6	1126.2	1124.9	1123.6	1122.3
165°	1148.5	1149.7	1150.9	1150.8	1149.4	1147.9	1146.5	1145.0
167.5°	1167.0	1168.3	1169.6	1169.6	1168.3	1167.0	1165.7	1164.4
170°	1177.1	1178.6	1180.1	1180.1	1178.6	1177.1	1175.6	1174.2
172.5°	1185.1	1186.4	1187.6	1187.6	1186.1	1184.7	1183.2	1181.7
175°	1193.6	1194.9	1196.2	1196.0	1194.6	1193.1	1191.7	1190.1
177.5°	1197.5	1198.4	1199.5	1199.4	1198.3	1197.0	1195.9	1194.7
180°	1197.7	1197.7	1197.7	1197.7	1197.7	1197.7	1197.7	1197.7

(END OF REPORT)