

## Saturated Steam Tables

PSIG	Density #/ Ft <sup>3</sup>	Specific Volume Ft <sup>3</sup> / #	Temperature Degrees F	PSIA
0.0	0.0373	26.7990	212.0	14.696
1.0	0.0397	25.1889	215.3	15.696
2.0	0.0420	23.8095	218.4	16.696
3.0	0.0445	22.4719	221.6	17.696
4.0	0.0467	21.4133	224.4	18.696
5.0	0.0490	20.4082	227.1	19.696
6.0	0.0514	19.4553	229.8	20.696
7.0	0.0537	18.6220	232.3	21.696
8.0	0.0561	17.8253	234.8	22.696
9.0	0.0583	17.1527	237.1	23.696
10.0	0.0606	16.5017	239.4	24.696
11.0	0.0629	15.8983	241.6	25.696
12.0	0.0652	15.3374	243.7	26.696
13.0	0.0674	14.8368	245.7	27.696
14.0	0.0699	14.3062	247.9	28.696
15.0	0.0721	13.8696	249.8	29.696
16.0	0.0742	13.4771	251.6	30.696
17.0	0.0767	13.0378	253.6	31.696
18.0	0.0788	12.6904	255.3	32.696
19.0	0.0811	12.3305	257.1	33.696
20.0	0.0833	12.0048	258.7	34.696
21.0	0.0856	11.6822	260.4	35.696
22.0	0.0879	11.3766	262.1	36.696
23.0	0.0902	11.0865	263.7	37.696
24.0	0.0923	10.8342	265.2	38.696
25.0	0.0945	10.5820	266.8	39.696
26.0	0.0967	10.3413	268.2	40.696
27.0	0.0991	10.0908	269.8	41.696

28.0	0.1013	9.8717	271.2	42.696
29.0	0.1034	9.6712	272.6	43.696
30.0	0.1058	9.4518	274.1	44.696
31.0	0.1079	9.2678	275.4	45.696
32.0	0.1101	9.0827	276.7	46.696
33.0	0.1123	8.9047	278.0	47.696
34.0	0.1146	8.7260	279.4	48.696
35.0	0.1168	8.5616	280.7	49.696
36.0	0.1189	8.4104	281.9	50.696
37.0	0.1211	8.2576	283.1	51.696
38.0	0.1234	8.1037	284.4	52.696
39.0	0.1256	7.9618	285.6	53.696
40.0	0.1277	7.8309	286.7	54.696
41.0	0.1301	7.6864	287.9	55.696
42.0	0.1322	7.5643	289.0	56.696
43.0	0.1344	7.4405	290.2	57.696
44.0	0.1365	7.3260	291.3	58.696
45.0	0.1387	7.2098	292.3	59.696
46.0	0.1410	7.0922	293.5	60.696
47.0	0.1431	6.9881	294.5	61.696
48.0	0.1453	6.8823	295.6	62.696
49.0	0.1475	6.7797	296.7	63.696
50.0	0.1496	6.6845	297.7	64.696
51.0	0.1519	6.5833	298.7	65.696
52.0	0.1540	6.4935	299.7	66.696
53.0	0.1561	6.4061	300.7	67.696
54.0	0.1583	6.3171	301.7	68.696
55.0	0.1605	6.2305	302.6	69.696
56.0	0.1626	6.1501	303.6	70.696
57.0	0.1648	6.0680	304.6	71.696
58.0	0.1669	5.9916	305.5	72.696
59.0	0.1692	5.9102	306.4	73.696

60.0	0.1712	5.8411	307.3	74.696
61.0	0.1735	5.7637	308.2	75.696
62.0	0.1757	5.6915	309.2	76.696
63.0	0.1778	5.6243	310.0	77.696
64.0	0.1799	5.5586	310.9	78.696
65.0	0.1822	5.4885	311.8	79.696
66.0	0.1843	5.4259	312.7	80.696
67.0	0.1865	5.3619	313.5	81.696
68.0	0.1886	5.3022	314.4	82.696
69.0	0.1907	5.2438	315.2	83.696
70.0	0.1929	5.1840	316.0	84.696
71.0	0.1950	5.1282	316.8	85.696
72.0	0.1971	5.0736	317.6	86.696
73.0	0.1993	5.0176	318.4	87.696
74.0	0.2014	4.9652	319.2	88.696
75.0	0.2037	4.9092	320.1	89.696
76.0	0.2057	4.8614	320.8	90.696
77.0	0.2078	4.8123	321.6	91.696
78.0	0.2100	4.7619	322.4	92.696
79.0	0.2122	4.7125	323.2	93.696
80.0	0.2143	4.6664	323.9	94.696
81.0	0.2164	4.6211	324.6	95.696
82.0	0.2186	4.5746	325.4	96.696
83.0	0.2208	4.5290	326.2	97.696
84.0	0.2228	4.4883	326.9	98.696
85.0	0.2250	4.4444	327.6	99.696
86.0	0.2271	4.4033	328.3	100.696
87.0	0.2293	4.3611	329.0	101.696
88.0	0.2315	4.3197	329.8	102.696
89.0	0.2335	4.2827	330.5	103.696
90.0	0.2357	4.2427	331.2	104.696
91.0	0.2379	4.2034	331.9	105.696

92.0	0.2399	4.1684	332.5	106.696
93.0	0.2420	4.1322	333.2	107.696
94.0	0.2443	4.0933	333.9	108.696
95.0	0.2464	4.0584	334.6	109.696
96.0	0.2485	4.0241	335.2	110.696
97.0	0.2506	3.9904	335.9	111.696
98.0	0.2528	3.9557	336.6	112.696
99.0	0.2548	3.9246	337.2	113.696
100.0	0.2570	3.8911	337.9	114.696
101.0	0.2591	3.8595	338.5	115.696
102.0	0.2613	3.8270	339.2	116.696
103.0	0.2633	3.7979	339.8	117.696
104.0	0.2655	3.7665	340.4	118.696
105.0	0.2675	3.7383	341.1	119.696
106.0	0.2698	3.7064	341.7	120.696
107.0	0.2719	3.6778	342.3	121.696
108.0	0.2739	3.6510	342.9	122.696
109.0	0.2761	3.6219	343.5	123.696
110.0	0.2782	3.5945	344.2	124.696
111.0	0.2803	3.5676	344.8	125.696
112.0	0.2824	3.5411	345.3	126.696
113.0	0.2846	3.5137	346.0	127.696
114.0	0.2866	3.4892	346.5	128.696
115.0	0.2888	3.4626	347.1	129.696
116.0	0.2909	3.4376	347.7	130.696
117.0	0.2930	3.4130	348.3	131.696
118.0	0.2951	3.3887	348.9	132.696
119.0	0.2973	3.3636	349.5	133.696
120.0	0.2994	3.3400	350.1	134.696
121.0	0.3014	3.3179	350.6	135.696
122.0	0.3037	3.2927	351.2	136.696
123.0	0.3057	3.2712	351.7	137.696

124.0	0.3079	3.2478	352.3	138.696
125.0	0.3100	3.2258	352.9	139.696
126.0	0.3122	3.2031	353.4	140.696
127.0	0.3143	3.1817	354.0	141.696
128.0	0.3163	3.1616	354.5	142.696
129.0	0.3185	3.1397	355.1	143.696
130.0	0.3206	3.1192	355.6	144.696
131.0	0.3227	3.0989	356.1	145.696
132.0	0.3248	3.0788	356.7	146.696
133.0	0.3268	3.0600	357.2	147.696
134.0	0.3291	3.0386	357.8	148.696
135.0	0.3311	3.0202	358.3	149.696
136.0	0.3332	3.0012	358.8	150.696
137.0	0.3354	2.9815	359.3	151.696
138.0	0.3374	2.9638	359.8	152.696
139.0	0.3396	2.9446	360.4	153.696
140.0	0.3417	2.9265	360.9	154.696
141.0	0.3437	2.9095	361.4	155.696
142.0	0.3459	2.8910	361.9	156.696
143.0	0.3481	2.8727	362.4	157.696
144.0	0.3501	2.8563	362.9	158.696
145.0	0.3522	2.8393	363.4	159.696
146.0	0.3543	2.8225	363.9	160.696
147.0	0.3565	2.8050	364.4	161.696
148.0	0.3586	2.7886	364.9	162.696
149.0	0.3606	2.7732	365.4	163.696
150.0	0.3629	2.7556	365.9	164.696
151.0	0.3649	2.7405	366.3	165.696
152.0	0.3669	2.7255	366.8	166.696
153.0	0.3691	2.7093	367.3	167.696
154.0	0.3711	2.6947	367.8	168.696
155.0	0.3733	2.6788	368.3	169.696

156.0	0.3755	2.6631	368.8	170.696
157.0	0.3774	2.6497	369.2	171.696
158.0	0.3796	2.6344	369.7	172.696
159.0	0.3818	2.6192	370.2	173.696
160.0	0.3839	2.6048	370.6	174.696
161.0	0.3859	2.5913	371.1	175.696
162.0	0.3881	2.5767	371.6	176.696
163.0	0.3902	2.5628	372.0	177.696
164.0	0.3922	2.5497	372.5	178.696
165.0	0.3945	2.5349	372.9	179.696
166.0	0.3964	2.5227	373.4	180.696
167.0	0.3987	2.5082	373.9	181.696
168.0	0.4007	2.4956	374.3	182.696
169.0	0.4027	2.4832	374.7	183.696
170.0	0.4049	2.4697	375.2	184.696
171.0	0.4071	2.4564	375.6	185.696
172.0	0.4092	2.4438	376.1	186.696
173.0	0.4112	2.4319	376.5	187.696
174.0	0.4133	2.4195	376.9	188.696
175.0	0.4153	2.4079	377.4	189.696
176.0	0.4176	2.3946	377.8	190.696
177.0	0.4197	2.3827	378.3	191.696
178.0	0.4218	2.3708	378.7	192.696
179.0	0.4239	2.3590	379.1	193.696
180.0	0.4259	2.3480	379.5	194.696
181.0	0.4282	2.3354	380.0	195.696
182.0	0.4302	2.3245	380.4	196.696
183.0	0.4323	2.3132	380.8	197.696
184.0	0.4345	2.3015	381.3	198.696
185.0	0.4365	2.2910	381.7	199.696
186.0	0.4387	2.2795	382.1	200.696
187.0	0.4408	2.2686	382.5	201.696

188.0	0.4428	2.2584	382.9	202.696
189.0	0.4450	2.2472	383.3	203.696
190.0	0.4471	2.2366	383.8	204.696
191.0	0.4491	2.2267	384.2	205.696
192.0	0.4512	2.2163	384.6	206.696
193.0	0.4533	2.2060	385.0	207.696
194.0	0.4555	2.1954	385.4	208.696
195.0	0.4576	2.1853	385.8	209.696
196.0	0.4597	2.1753	386.2	210.696
197.0	0.4618	2.1654	386.6	211.696
198.0	0.4638	2.1561	387.0	212.696
199.0	0.4660	2.1459	387.4	213.696
200.0	0.4681	2.1363	387.8	214.696
201.0	0.4703	2.1263	388.2	215.696
202.0	0.4723	2.1173	388.6	216.696
203.0	0.4743	2.1084	389.0	217.696
204.0	0.4766	2.0982	389.4	218.696
205.0	0.4786	2.0894	389.8	219.696
206.0	0.4807	2.0803	390.1	220.696
207.0	0.4829	2.0708	390.5	221.696
208.0	0.4850	2.0619	390.9	222.696
209.0	0.4871	2.0530	391.3	223.696
210.0	0.4891	2.0446	391.7	224.696
211.0	0.4913	2.0354	392.1	225.696
212.0	0.4933	2.0272	392.4	226.696
213.0	0.4954	2.0186	392.8	227.696
214.0	0.4975	2.0101	393.2	228.696
215.0	0.4997	2.0012	393.6	229.696
216.0	0.5019	1.9924	394.0	230.696
217.0	0.5039	1.9845	394.3	231.696
218.0	0.5060	1.9763	394.7	232.696
219.0	0.5080	1.9685	395.1	233.696

220.0	0.5101	1.9604	395.4	234.696
221.0	0.5123	1.9520	395.8	235.696
222.0	0.5144	1.9440	396.2	236.696
223.0	0.5166	1.9357	396.6	237.696
224.0	0.5186	1.9283	396.9	238.696
225.0	0.5208	1.9201	397.3	239.696
226.0	0.5229	1.9124	397.6	240.696
227.0	0.5250	1.9048	398.0	241.696
228.0	0.5271	1.8972	398.4	242.696
229.0	0.5292	1.8896	398.7	243.696
230.0	0.5313	1.8822	399.1	244.696
231.0	0.5334	1.8748	399.4	245.696
232.0	0.5355	1.8674	399.8	246.696
233.0	0.5376	1.8601	400.1	247.696
234.0	0.5397	1.8529	400.5	248.696
235.0	0.5419	1.8454	400.9	249.696
236.0	0.5439	1.8386	401.2	250.696
237.0	0.5461	1.8312	401.6	251.696
238.0	0.5481	1.8245	401.9	252.696
239.0	0.5504	1.8169	402.3	253.696
240.0	0.5523	1.8106	402.6	254.696
241.0	0.5545	1.8034	403.0	255.696
242.0	0.5567	1.7963	403.3	256.696
243.0	0.5588	1.7895	403.7	257.696
244.0	0.5609	1.7828	404.0	258.696
245.0	0.5630	1.7762	404.3	259.696
246.0	0.5650	1.7699	404.7	260.696
247.0	0.5672	1.7630	405.0	261.696
248.0	0.5692	1.7569	405.3	262.696
249.0	0.5714	1.7501	405.7	263.696
250.0	0.5736	1.7434	406.0	264.696
251.0	0.5756	1.7373	406.4	265.696



252.0	0.5777	1.7310	406.7	266.696
253.0	0.5797	1.7250	407.0	267.696
254.0	0.5819	1.7185	407.4	268.696
255.0	0.5841	1.7120	407.7	269.696
256.0	0.5863	1.7056	408.0	270.696
257.0	0.5882	1.7001	408.3	271.696
258.0	0.5905	1.6935	408.7	272.696
259.0	0.5926	1.6875	409.0	273.696
260.0	0.5947	1.6815	409.4	274.696
261.0	0.5968	1.6756	409.7	275.696
262.0	0.5989	1.6697	410.0	276.696
263.0	0.6010	1.6639	410.3	277.696
264.0	0.6031	1.6581	410.7	278.696
265.0	0.6052	1.6523	411.0	279.696
266.0	0.6073	1.6466	411.3	280.696
267.0	0.6094	1.6410	411.6	281.696
268.0	0.6117	1.6348	412.0	282.696
269.0	0.6137	1.6295	412.3	283.696
270.0	0.6157	1.6242	412.6	284.696
271.0	0.6179	1.6184	412.9	285.696
272.0	0.6200	1.6129	413.2	286.696
273.0	0.6221	1.6075	413.5	287.696
274.0	0.6242	1.6021	413.8	288.696
275.0	0.6263	1.5967	414.1	289.696
276.0	0.6284	1.5913	414.5	290.696
277.0	0.6306	1.5858	414.8	291.696
278.0	0.6327	1.5805	415.1	292.696
279.0	0.6349	1.5751	415.4	293.696
280.0	0.6370	1.5699	415.7	294.696
281.0	0.6391	1.5647	416.0	295.696
282.0	0.6412	1.5596	416.3	296.696
283.0	0.6432	1.5547	416.6	297.696

284.0	0.6454	1.5494	416.9	298.696
285.0	0.6475	1.5444	417.3	299.696
286.0	0.6496	1.5394	417.6	300.696
287.0	0.6517	1.5344	417.9	301.696
288.0	0.6539	1.5293	418.2	302.696
289.0	0.6560	1.5244	418.5	303.696
290.0	0.6581	1.5195	418.8	304.696
291.0	0.6602	1.5147	419.1	305.696
292.0	0.6623	1.5099	419.4	306.696
293.0	0.6645	1.5049	419.7	307.696
294.0	0.6666	1.5002	420.0	308.696
295.0	0.6687	1.4954	420.3	309.696
296.0	0.6707	1.4910	420.6	310.696
297.0	0.6729	1.4861	420.9	311.696
298.0	0.6751	1.4813	421.2	312.696
299.0	0.6772	1.4767	421.5	313.696
300.0	0.6793	1.4721	421.8	314.696
301.0	0.6814	1.4676	422.0	315.696
302.0	0.6835	1.4631	422.3	316.696
303.0	0.6857	1.4584	422.6	317.696
304.0	0.6878	1.4539	422.9	318.696
305.0	0.6899	1.4495	423.2	319.696
306.0	0.6921	1.4449	423.5	320.696
307.0	0.6941	1.4407	423.8	321.696
308.0	0.6964	1.4360	424.1	322.696
309.0	0.6984	1.4318	424.4	323.696
310.0	0.7005	1.4276	424.7	324.696
311.0	0.7026	1.4233	424.9	325.696
312.0	0.7048	1.4188	425.2	326.696
313.0	0.7070	1.4144	424.5	327.696
314.0	0.7089	1.4106	425.8	328.696
315.0	0.7112	1.4061	426.1	329.696

316.0	0.7133	1.4019	426.4	330.696
317.0	0.7154	1.3978	426.7	331.696
318.0	0.7175	1.3937	426.9	332.696
319.0	0.7196	1.3897	427.2	333.696
320.0	0.7218	1.3854	427.5	334.696
321.0	0.7239	1.3814	427.8	335.696
322.0	0.7260	1.3774	428.1	336.696
323.0	0.7282	1.3732	428.3	337.696
324.0	0.7302	1.3695	428.6	338.696
325.0	0.7324	1.3654	428.9	339.696
326.0	0.7344	1.3617	429.2	340.696
327.0	0.7366	1.3576	429.4	341.696
328.0	0.7388	1.3535	429.7	342.696
329.0	0.7410	1.3495	430.0	343.696
330.0	0.7431	1.3457	430.3	344.696
331.0	0.7452	1.3419	430.5	345.696
332.0	0.7473	1.3382	430.8	346.696
333.0	0.7495	1.3342	431.1	347.696
334.0	0.7517	1.3303	431.4	348.696
335.0	0.7536	1.3270	431.6	349.696
336.0	0.7559	1.3229	431.9	350.696
337.0	0.7581	1.3191	432.2	351.696
338.0	0.7600	1.3158	432.4	352.696
339.0	0.7623	1.3118	432.7	353.696
340.0	0.7644	1.3082	433.0	354.696
341.0	0.7664	1.3048	433.3	355.696
342.0	0.7686	1.3011	433.5	356.696
343.0	0.7708	1.2974	433.8	357.696
344.0	0.7728	1.2940	434.1	358.696
345.0	0.7751	1.2902	434.3	359.696
346.0	0.7771	1.2868	434.6	360.696
347.0	0.7793	1.2832	434.9	361.696

348.0	0.7813	1.2799	435.1	362.696
349.0	0.7836	1.2762	435.4	363.696
350.0	0.7858	1.2726	435.7	364.696
351.0	0.7878	1.2694	435.9	365.696
352.0	0.7901	1.2657	436.2	366.696
353.0	0.7921	1.2625	436.4	367.696
354.0	0.7942	1.2591	436.7	368.696
355.0	0.7963	1.2558	436.9	369.696
356.0	0.7986	1.2522	437.2	370.696
357.0	0.8007	1.2489	437.5	371.696
358.0	0.8028	1.2456	437.7	372.696
359.0	0.8051	1.2421	438.0	373.696
360.0	0.8071	1.2390	438.3	374.696
361.0	0.8093	1.2356	438.5	375.696
362.0	0.8114	1.2324	438.8	376.696
363.0	0.8134	1.2294	439.0	377.696
364.0	0.8156	1.2261	439.3	378.696
365.0	0.8178	1.2228	439.5	379.696
366.0	0.8200	1.2195	439.8	380.696
367.0	0.8221	1.2164	440.0	381.696
368.0	0.8243	1.2132	440.3	382.696
369.0	0.8264	1.2101	440.6	383.696
370.0	0.8285	1.2070	440.8	384.696
371.0	0.8306	1.2039	441.0	385.696
372.0	0.8327	1.2009	441.3	386.696
373.0	0.8349	1.1977	441.5	387.696
374.0	0.8370	1.1947	441.8	388.696
375.0	0.8392	1.1916	442.0	389.696
376.0	0.8414	1.1885	442.3	390.696
377.0	0.8434	1.1857	442.5	391.696
378.0	0.8456	1.1826	442.8	392.696
379.0	0.8477	1.1797	443.0	393.696

380.0	0.8499	1.1766	443.3	394.696
381.0	0.8521	1.1736	443.5	395.696
382.0	0.8543	1.1705	443.8	396.696
383.0	0.8564	1.1677	444.0	397.696
384.0	0.8585	1.1648	444.3	398.696
385.0	0.8607	1.1618	444.5	399.696
386.0	0.8628	1.1590	444.8	400.696
387.0	0.8650	1.1561	445.0	401.696
388.0	0.8670	1.1534	445.3	402.696
389.0	0.8692	1.1505	445.5	403.696
390.0	0.8715	1.1474	445.7	404.696
391.0	0.8736	1.1447	446.0	405.696
392.0	0.8757	1.1419	446.2	406.696
393.0	0.8778	1.1392	446.5	407.696
394.0	0.8800	1.1364	446.7	408.696
395.0	0.8822	1.1335	447.0	409.696
396.0	0.8843	1.1308	447.2	410.696
397.0	0.8864	1.1282	447.4	411.696
398.0	0.8886	1.1254	447.7	412.696
399.0	0.8908	1.1226	447.9	413.696
400.0	0.8929	1.1199	448.1	414.696
401.0	0.8949	1.1174	448.4	415.696
402.0	0.8971	1.1147	448.6	416.696
403.0	0.8994	1.1119	448.9	417.696
404.0	0.9014	1.1094	449.1	418.696
405.0	0.9037	1.1066	449.3	419.696
406.0	0.9059	1.1039	449.6	420.696
407.0	0.9081	1.1012	449.8	421.696
408.0	0.9103	1.0985	450.0	422.696
409.0	0.9123	1.0961	450.3	423.696
410.0	0.9145	1.0935	450.5	424.696
411.0	0.9166	1.0910	450.7	425.696

412.0	0.9188	1.0884	451.0	426.696
413.0	0.9209	1.0859	451.2	427.696
414.0	0.9231	1.0833	451.4	428.696
415.0	0.9252	1.0808	451.7	429.696
416.0	0.9273	1.0784	451.9	430.696
417.0	0.9296	1.0757	452.1	431.696
418.0	0.9317	1.0733	452.4	432.696
419.0	0.9339	1.0708	452.6	433.696
420.0	0.9359	1.0685	452.8	434.696
421.0	0.9382	1.0659	453.1	435.696
422.0	0.9403	1.0635	453.3	436.696
423.0	0.9425	1.0610	453.5	437.696
424.0	0.9448	1.0584	453.7	438.696
425.0	0.9468	1.0562	454.0	439.696
426.0	0.9491	1.0536	454.2	440.696
427.0	0.9511	1.0514	454.4	441.696
428.0	0.9533	1.0490	454.6	442.696
429.0	0.9555	1.0466	454.9	443.696
430.0	0.9576	1.0443	455.1	444.696
431.0	0.9598	1.0419	455.3	445.696
432.0	0.9619	1.0396	455.5	446.696
433.0	0.9641	1.0372	455.8	447.696
434.0	0.9664	1.0348	456.0	448.696
435.0	0.9685	1.0325	456.2	449.696
436.0	0.9706	1.0303	456.4	450.696
437.0	0.9728	1.0280	456.7	451.696
438.0	0.9750	1.0256	456.9	452.696
439.0	0.9771	1.0234	457.1	453.696
440.0	0.9793	1.0211	457.3	454.696
441.0	0.9814	1.0190	457.5	455.696
442.0	0.9838	1.0165	457.8	456.696
443.0	0.9860	1.0142	458.0	457.696

444.0	0.9880	1.0121	458.2	458.696
445.0	0.9901	1.0100	458.4	459.696
446.0	0.9924	1.0077	458.7	460.696
447.0	0.9945	1.0055	458.9	461.696
448.0	0.9966	1.0034	459.1	462.696
449.0	0.9988	1.0012	459.3	463.696
450.0	1.0010	0.9990	459.5	464.696
451.0	1.0032	0.9968	459.7	465.696
452.0	1.0055	0.9945	460.0	466.696
453.0	1.0076	0.9925	460.2	467.696
454.0	1.0097	0.9904	460.4	468.696
455.0	1.0112	0.9889	460.6	469.696
456.0	1.0140	0.9862	460.8	470.696
457.0	1.0161	0.9842	461.0	471.696
458.0	1.0184	0.9819	461.3	472.696
459.0	1.0205	0.9799	461.5	473.696
460.0	1.0227	0.9778	461.7	474.696
461.0	1.0249	0.9757	461.9	475.696
462.0	1.0271	0.9736	462.1	476.696
463.0	1.0293	0.9715	462.3	477.696
464.0	1.0314	0.9696	462.5	478.696
465.0	1.0336	0.9675	462.8	479.696
466.0	1.0359	0.9653	463.0	480.696
467.0	1.0381	0.9633	463.2	481.696
468.0	1.0402	0.9614	463.4	482.696
469.0	1.0425	0.9592	463.6	483.696
470.0	1.0446	0.9573	463.8	484.696
471.0	1.0468	0.9553	464.0	485.696
472.0	1.0489	0.9534	464.2	486.696
473.0	1.0511	0.9514	464.4	487.696
474.0	1.0532	0.9495	464.6	488.696
475.0	1.0555	0.9474	464.9	489.696

476.0	1.0576	0.9455	465.1	490.696
477.0	1.0597	0.9437	465.3	491.696
478.0	1.0620	0.9416	465.5	492.696
479.0	1.0642	0.9397	465.7	493.696
480.0	1.0664	0.9377	465.9	494.696
481.0	1.0686	0.9358	466.1	495.696
482.0	1.0707	0.9340	466.3	496.696
483.0	1.0729	0.9321	466.5	497.696
484.0	1.0750	0.9302	466.7	498.696
485.0	1.0773	0.9282	466.9	499.696
486.0	1.0795	0.9264	467.2	500.696
487.0	1.0817	0.9245	467.4	501.696
488.0	1.0839	0.9226	467.6	502.696
489.0	1.0860	0.9208	467.8	503.696
490.0	1.0884	0.9188	468.0	504.696
491.0	1.0905	0.9170	468.2	505.696
492.0	1.0926	0.9152	468.4	506.696
493.0	1.0948	0.9134	468.6	507.696
494.0	1.0969	0.9117	468.8	508.696
495.0	1.0991	0.9098	469.0	509.696
496.0	1.1014	0.9079	469.2	510.696
497.0	1.1035	0.9062	469.4	511.696
498.0	1.1058	0.9043	469.6	512.696
499.0	1.1080	0.9025	469.8	513.696
500.0	1.1102	0.9007	470.0	514.696
501.0	1.1124	0.8990	470.2	515.696
502.0	1.1146	0.8972	470.4	516.696
503.0	1.1168	0.8954	470.6	517.696
504.0	1.1189	0.8937	470.8	518.696
505.0	1.1212	0.8919	471.0	519.696
506.0	1.1233	0.8902	471.2	520.696
507.0	1.1255	0.8885	471.4	521.696



508.0	1.1278	0.8867	471.6	522.696
509.0	1.1299	0.8850	471.8	523.696
510.0	1.1322	0.8832	472.0	524.696
511.0	1.1344	0.8815	472.2	525.696
512.0	1.1364	0.8800	472.4	526.696
513.0	1.1387	0.8782	472.6	527.696
514.0	1.1409	0.8765	472.8	528.696
515.0	1.1431	0.8748	473.0	529.696
516.0	1.1453	0.8731	473.2	530.696
517.0	1.1475	0.8715	473.4	531.696
518.0	1.1497	0.8698	473.6	532.696
519.0	1.1520	0.8681	473.8	533.696
520.0	1.1542	0.8664	474.0	534.696
521.0	1.1563	0.8648	474.2	535.696
522.0	1.1586	0.8631	474.4	536.696
523.0	1.1608	0.8615	474.6	537.696
524.0	1.1630	0.8598	474.8	538.696
525.0	1.1651	0.8583	474.9	539.696
526.0	1.1673	0.8567	475.1	540.696
527.0	1.1695	0.8551	475.3	541.696
528.0	1.1718	0.8534	475.5	542.696
529.0	1.1740	0.8518	475.7	543.696
530.0	1.1762	0.8502	475.9	544.696
531.0	1.1784	0.8486	476.1	545.696
532.0	1.1806	0.8470	476.3	546.696
533.0	1.1827	0.8455	476.5	547.696
534.0	1.1850	0.8439	476.7	548.696
535.0	1.1872	0.8423	476.9	549.696
536.0	1.1894	0.8408	477.1	550.696
537.0	1.1916	0.8392	477.3	551.696
538.0	1.1938	0.8377	477.4	552.696
539.0	1.1960	0.8361	477.6	553.696

540.0	1.1984	0.8344	477.8	554.696
541.0	1.2006	0.8329	478.0	555.696
542.0	1.2027	0.8315	478.2	556.696
543.0	1.2049	0.8299	478.4	557.696
544.0	1.2071	0.8284	478.6	558.696
545.0	1.2092	0.8270	478.8	559.696
546.0	1.2115	0.8254	479.0	560.696
547.0	1.2137	0.8239	479.2	561.696
548.0	1.2159	0.8224	479.3	562.696
549.0	1.2182	0.8209	479.5	563.696
550.0	1.2205	0.8193	479.7	564.696
551.0	1.2226	0.8179	479.9	565.696
552.0	1.2249	0.8164	480.1	566.696
553.0	1.2270	0.8150	480.3	567.696
554.0	1.2293	0.8135	480.5	568.696
555.0	1.2316	0.8120	480.7	569.696
556.0	1.2337	0.8106	480.8	570.696
557.0	1.2360	0.8091	481.0	571.696
558.0	1.2381	0.8077	481.2	572.696
559.0	1.2404	0.8062	481.4	573.696
560.0	1.2425	0.8048	481.6	574.696
561.0	1.2450	0.8032	481.8	575.696
562.0	1.2472	0.8018	482.0	576.696
563.0	1.2493	0.8004	482.1	577.696
564.0	1.2516	0.7990	482.3	578.696
565.0	1.2537	0.7976	482.5	579.696
566.0	1.2559	0.7962	482.7	580.696
567.0	1.2583	0.7947	482.9	581.696
568.0	1.2604	0.7934	483.1	582.696
569.0	1.2627	0.7920	483.3	583.696
570.0	1.2648	0.7906	483.4	584.696
571.0	1.2671	0.7892	483.6	585.696

572.0	1.2694	0.7878	483.8	586.696
573.0	1.2716	0.7864	484.0	587.696
574.0	1.2738	0.7851	484.2	588.696
575.0	1.2760	0.7837	484.3	589.696
576.0	1.2782	0.7824	484.5	590.696
577.0	1.2805	0.7809	484.7	591.696
578.0	1.2826	0.7797	484.9	592.696
579.0	1.2850	0.7782	485.1	593.696
580.0	1.2871	0.7769	485.2	594.696
581.0	1.2894	0.7756	485.4	595.696
582.0	1.2917	0.7742	485.6	596.696
583.0	1.2940	0.7728	485.8	597.696
584.0	1.2962	0.7715	486.0	598.696
585.0	1.2985	0.7701	486.2	599.696
586.0	1.3006	0.7689	486.3	600.696
587.0	1.3028	0.7676	486.5	601.696
588.0	1.3051	0.7662	486.7	602.696
589.0	1.3073	0.7649	486.9	603.696
590.0	1.3095	0.7637	487.0	604.696
591.0	1.3118	0.7623	487.2	605.696
592.0	1.3140	0.7610	487.4	606.696
593.0	1.3163	0.7597	487.6	607.696
594.0	1.3187	0.7583	487.8	608.696
595.0	1.3208	0.7571	487.9	609.696
596.0	1.3230	0.7559	488.1	610.696
597.0	1.3252	0.7546	488.3	611.696
598.0	1.3275	0.7533	488.5	612.696
599.0	1.3298	0.7520	488.7	613.696
600.0	1.3319	0.7508	488.8	614.696
601.0	1.3341	0.7496	489.0	615.696
602.0	1.3364	0.7483	489.2	616.696
603.0	1.3388	0.7469	489.3	617.696

604.0	1.3409	0.7458	489.5	618.696
605.0	1.3431	0.7445	489.7	619.696
606.0	1.3455	0.7432	489.9	620.696
607.0	1.3478	0.7419	490.0	621.696
608.0	1.3500	0.7407	490.2	622.696
609.0	1.3521	0.7396	490.4	623.696
610.0	1.3544	0.7383	490.6	624.696
611.0	1.3566	0.7371	490.7	625.696
612.0	1.3589	0.7359	490.9	626.696
613.0	1.3612	0.7346	491.1	627.696
614.0	1.3634	0.7335	491.2	628.696
615.0	1.3656	0.7323	491.4	629.696
616.0	1.3679	0.7310	491.6	630.696
617.0	1.3702	0.7298	491.8	631.696
618.0	1.3725	0.7286	491.9	632.696
619.0	1.3748	0.7274	492.1	633.696
620.0	1.3770	0.7262	492.3	634.696
621.0	1.3792	0.7251	492.5	635.696
622.0	1.3814	0.7239	492.6	636.696
623.0	1.3836	0.7228	492.8	637.696
624.0	1.3859	0.7216	493.0	638.696
625.0	1.3881	0.7204	493.1	639.696
626.0	1.3904	0.7192	493.3	640.696
627.0	1.3928	0.7180	493.5	641.696
628.0	1.3950	0.7168	493.7	642.696
629.0	1.3973	0.7157	493.8	643.696
630.0	1.3996	0.7145	494.0	644.696
631.0	1.4018	0.7134	494.2	645.696
632.0	1.4041	0.7122	494.3	646.696
633.0	1.4063	0.7111	494.5	647.696
634.0	1.4086	0.7099	494.7	648.696
635.0	1.4107	0.7089	494.8	649.696

636.0	1.4130	0.7077	495.0	650.696
637.0	1.4152	0.7066	495.2	651.696
638.0	1.4176	0.7054	495.3	652.696
639.0	1.4198	0.7043	495.5	653.696
640.0	1.4220	0.7032	495.7	654.696
641.0	1.4244	0.7020	495.8	655.696
642.0	1.4267	0.7009	496.0	656.696
643.0	1.4289	0.6998	496.2	657.696
644.0	1.4313	0.6987	496.4	658.696
645.0	1.4335	0.6976	496.5	659.696
646.0	1.4356	0.6966	496.7	660.696
647.0	1.4380	0.6954	496.8	661.696
648.0	1.4403	0.6943	497.0	662.696
649.0	1.4425	0.6932	497.2	663.696
650.0	1.4449	0.6921	497.3	664.696
651.0	1.4471	0.6910	497.5	665.696
652.0	1.4494	0.6899	497.7	666.696
653.0	1.4516	0.6889	497.8	667.696
654.0	1.4540	0.6878	498.0	668.696
655.0	1.4563	0.6867	498.2	669.696
656.0	1.4583	0.6857	498.3	670.696
657.0	1.4606	0.6847	498.5	671.696
658.0	1.4629	0.6836	498.7	672.696
659.0	1.4652	0.6825	498.8	673.696
660.0	1.4675	0.6814	499.0	674.696
661.0	1.4698	0.6804	499.2	675.696
662.0	1.4722	0.6793	499.3	676.696
663.0	1.4744	0.6782	499.5	677.696
664.0	1.4766	0.6772	499.6	678.696
665.0	1.4789	0.6762	499.8	679.696
666.0	1.4813	0.6751	500.0	680.696
667.0	1.4836	0.6740	500.1	681.696

668.0	1.4857	0.6731	500.3	682.696
669.0	1.4881	0.6720	500.5	683.696
670.0	1.4904	0.6710	500.6	684.696
671.0	1.4925	0.6700	500.8	685.696
672.0	1.4949	0.6689	500.9	686.696
673.0	1.4972	0.6679	501.1	687.696
674.0	1.4994	0.6669	501.3	688.696
675.0	1.5017	0.6659	501.4	689.696
676.0	1.5041	0.6648	501.6	690.696
677.0	1.5064	0.6638	501.8	691.696
678.0	1.5088	0.6628	501.9	692.696
679.0	1.5110	0.6618	502.1	693.696
680.0	1.5133	0.6608	502.3	694.696
681.0	1.5156	0.6598	502.4	695.696
682.0	1.5177	0.6589	502.6	696.696
683.0	1.5201	0.6579	502.7	697.696
684.0	1.5222	0.6569	502.9	698.696
685.0	1.5245	0.6560	503.0	699.696
686.0	1.5269	0.6549	503.2	700.696
687.0	1.5291	0.6540	503.3	701.696
688.0	1.5315	0.6530	503.5	702.696
689.0	1.5338	0.6520	503.7	703.696
690.0	1.5361	0.6510	503.8	704.696
691.0	1.5385	0.6500	504.0	705.696
692.0	1.5408	0.6490	504.1	706.696
693.0	1.5430	0.6481	504.3	707.696
694.0	1.5453	0.6471	504.5	708.696
695.0	1.5476	0.6462	504.6	709.696
696.0	1.5497	0.6453	504.8	710.696
697.0	1.5521	0.6443	504.9	711.696
698.0	1.5545	0.6433	505.1	712.696
699.0	1.5567	0.6424	505.2	713.696

700.0

1.5591

0.6414

505.4

714.696