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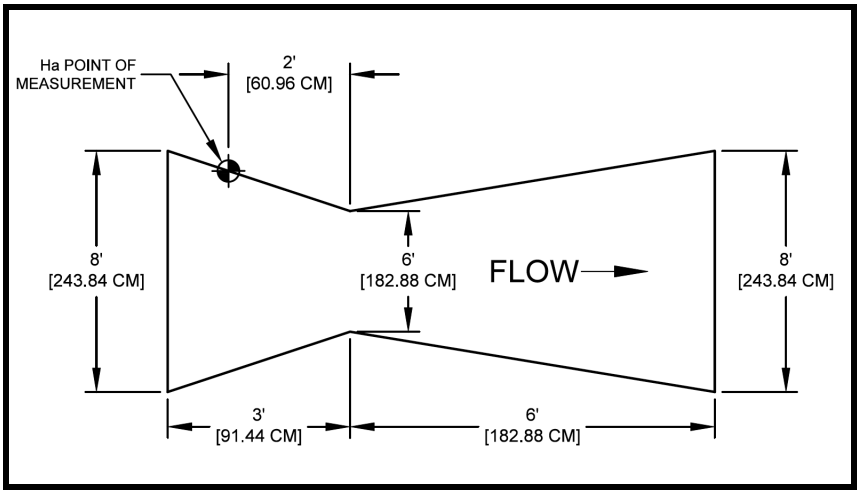
108-Inch L x 72-Inch W Cutthroat Flume Discharge Table

80% Submergence Transition ±3% Accuracy

Formulas (H in feet): CFS = 22.0 $H_{ft.}^{1.56}$ GPM = 9874 $H_{ft.}^{1.56}$ MGD = 14.44 $H_{ft.}^{1.56}$

Formulas (H in meters): L/S = 3974 $H_m^{1.56}$ M3/HR = 14307 $H_m^{1.56}$

FEET	INCHES	METERS	CFS	GPM	MGD	L/S	M3/HR
0.01	0.12	0.0030	Excessive error due to fluid-flow properties and boundary conditions				
0.02	0.24	0.0061					
0.03	0.36	0.0091					
0.04	0.48	0.0122					
0.05	0.60	0.0152					
0.06	0.72	0.0183					
0.07	0.84	0.0213					
0.08	0.96	0.0244					
0.09	1.08	0.0274					
0.10	1.20	0.0305	0.6059	271.9	0.3916	17.16	61.74
0.11	1.32	0.0335	0.7031	315.5	0.4544	19.91	71.64
0.12	1.44	0.0366	0.8053	361.4	0.5205	22.81	82.06
0.13	1.56	0.0396	0.9124	409.5	0.5897	25.84	92.97
0.14	1.68	0.0427	1.024	459.7	0.6619	29.01	104.4
0.15	1.80	0.0457	1.141	511.9	0.7372	32.30	116.2
0.16	1.92	0.0488	1.261	566.1	0.8152	35.72	128.5
0.17	2.04	0.0518	1.387	622.3	0.8961	39.27	141.3
0.18	2.16	0.0549	1.516	680.3	0.9797	42.93	154.5
0.19	2.28	0.0579	1.649	740.2	1.066	46.71	168.1
0.20	2.40	0.0610	1.787	801.8	1.155	50.60	182.1
0.21	2.52	0.0640	1.928	865.2	1.246	54.60	196.5
0.22	2.64	0.0671	2.073	930.4	1.340	58.71	211.2
0.23	2.76	0.0701	2.222	997.2	1.436	62.92	226.4
0.24	2.88	0.0732	2.374	1066	1.535	67.24	242.0
0.25	3.00	0.0762	2.531	1136	1.635	71.66	257.9
0.26	3.12	0.0792	2.690	1207	1.739	76.19	274.1
0.27	3.24	0.0823	2.853	1281	1.844	80.81	290.8
0.28	3.36	0.0853	3.020	1355	1.952	85.52	307.7
0.29	3.48	0.0884	3.190	1432	2.062	90.34	325.0
0.30	3.60	0.0914	3.363	1509	2.174	95.24	342.7



Note: Discharge is calculated to top of flume

Sources: Cutthroat Flume Discharge Relations, Water Management Technical Paper No. 16, Colorado State University, AER71-72RSB6, March 1972

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FEET	INCHES	METERS	CFS	GPM	MGD	L/S	M3/HR
0.31	3.72	0.0945	3.540	1589	2.288	100.2	360.7
0.32	3.84	0.0975	3.719	1669	2.404	105.3	379.0
0.33	3.96	0.1006	3.902	1751	2.522	110.5	397.6
0.34	4.08	0.1036	4.088	1835	2.642	115.8	416.6
0.35	4.20	0.1067	4.277	1920	2.764	121.1	435.9
0.36	4.32	0.1097	4.469	2006	2.889	126.6	455.4
0.37	4.44	0.1128	4.665	2093	3.015	132.1	475.3
0.38	4.56	0.1158	4.863	2182	3.143	137.7	495.5
0.39	4.68	0.1189	5.064	2273	3.273	143.4	516.0
0.40	4.80	0.1219	5.268	2364	3.405	149.2	536.8
0.41	4.92	0.1250	5.475	2457	3.538	155.0	557.9
0.42	5.04	0.1280	5.684	2551	3.674	161.0	579.2
0.43	5.16	0.1311	5.897	2647	3.811	167.0	600.9
0.44	5.28	0.1341	6.112	2743	3.950	173.1	622.8
0.45	5.40	0.1372	6.330	2841	4.091	179.3	645.1
0.46	5.52	0.1402	6.551	2940	4.234	185.5	667.6
0.47	5.64	0.1433	6.775	3041	4.379	191.9	690.4
0.48	5.76	0.1463	7.001	3142	4.525	198.3	713.4
0.49	5.88	0.1494	7.230	3245	4.673	204.7	736.7
0.50	6.00	0.1524	7.461	3349	4.822	211.3	760.3
0.51	6.12	0.1554	7.695	3454	4.974	217.9	784.2
0.52	6.24	0.1585	7.932	3560	5.127	224.6	808.3
0.53	6.36	0.1615	8.171	3667	5.281	231.4	832.7
0.54	6.48	0.1646	8.413	3776	5.437	238.3	857.3
0.55	6.60	0.1676	8.657	3885	5.595	245.2	882.2
0.56	6.72	0.1707	8.904	3996	5.755	252.2	907.3
0.57	6.84	0.1737	9.154	4108	5.916	259.2	932.7
0.58	6.96	0.1768	9.405	4221	6.079	266.4	958.4
0.59	7.08	0.1798	9.659	4335	6.243	273.6	984.3
0.60	7.20	0.1829	9.916	4450	6.409	280.8	1010
0.61	7.32	0.1859	10.18	4567	6.576	288.2	1037
0.62	7.44	0.1890	10.44	4684	6.745	295.6	1063
0.63	7.56	0.1920	10.70	4802	6.916	303.0	1090
0.64	7.68	0.1951	10.97	4922	7.088	310.6	1117
0.65	7.80	0.1981	11.23	5042	7.261	318.2	1145
0.66	7.92	0.2012	11.51	5164	7.436	325.8	1172
0.67	8.04	0.2042	11.78	5286	7.613	333.6	1200
0.68	8.16	0.2073	12.05	5410	7.791	341.4	1228
0.69	8.28	0.2103	12.33	5535	7.970	349.2	1257
0.70	8.40	0.2134	12.61	5660	8.151	357.2	1285
0.71	8.52	0.2164	12.89	5787	8.333	365.2	1314
0.72	8.64	0.2195	13.18	5914	8.517	373.2	1343
0.73	8.76	0.2225	13.46	6043	8.702	381.3	1372
0.74	8.88	0.2256	13.75	6173	8.889	389.5	1402
0.75	9.00	0.2286	14.04	6303	9.077	397.8	1431
0.76	9.12	0.2316	14.34	6435	9.267	406.1	1461
0.77	9.24	0.2347	14.63	6568	9.458	414.4	1491
0.78	9.36	0.2377	14.93	6701	9.650	422.8	1521
0.79	9.48	0.2408	15.23	6836	9.844	431.3	1552
0.80	9.60	0.2438	15.53	6971	10.04	439.9	1583

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Formulas (H in meters): L/S = 3974 $H_{m}^{1.56}$ M3/HR = 14307 $H_{m}^{1.56}$

FEET	INCHES	METERS	CFS	GPM	MGD	L/S	M3/HR
0.81	9.72	0.2469	15.84	7107	10.24	448.5	1614
0.82	9.84	0.2499	16.14	7245	10.43	457.2	1645
0.83	9.96	0.2530	16.45	7383	10.63	465.9	1676
0.84	10.08	0.2560	16.76	7522	10.83	474.7	1708
0.85	10.20	0.2591	17.07	7662	11.03	483.5	1740
0.86	10.32	0.2621	17.39	7804	11.24	492.4	1772
0.87	10.44	0.2652	17.70	7946	11.44	501.4	1804
0.88	10.56	0.2682	18.02	8089	11.65	510.4	1836
0.89	10.68	0.2713	18.34	8232	11.86	519.5	1869
0.90	10.80	0.2743	18.67	8377	12.06	528.6	1902
0.91	10.92	0.2774	18.99	8523	12.27	537.8	1935
0.92	11.04	0.2804	19.32	8669	12.48	547.0	1968
0.93	11.16	0.2835	19.65	8817	12.70	556.4	2002
0.94	11.28	0.2865	19.98	8965	12.91	565.7	2036
0.95	11.40	0.2896	20.31	9114	13.13	575.1	2069
0.96	11.52	0.2926	20.64	9264	13.34	584.6	2103
0.97	11.64	0.2957	20.98	9415	13.56	594.1	2138
0.98	11.76	0.2987	21.32	9567	13.78	603.7	2172
0.99	11.88	0.3018	21.66	9720	14.00	613.3	2207
1.00	12.00	0.3048	22.00	9874	14.22	623.0	2242
1.01	12.12	0.3078	22.34	10028	14.44	632.8	2277
1.02	12.24	0.3109	22.69	10183	14.66	642.6	2312
1.03	12.36	0.3139	23.04	10340	14.89	652.4	2348
1.04	12.48	0.3170	23.39	10497	15.12	662.4	2383
1.05	12.60	0.3200	23.74	10654	15.34	672.3	2419
1.06	12.72	0.3231	24.09	10813	15.57	682.3	2455
1.07	12.84	0.3261	24.45	10973	15.80	692.4	2491
1.08	12.96	0.3292	24.81	11133	16.03	702.5	2528
1.09	13.08	0.3322	25.17	11294	16.26	712.7	2564
1.10	13.20	0.3353	25.53	11456	16.50	722.9	2601
1.11	13.32	0.3383	25.89	11619	16.73	733.2	2638
1.12	13.44	0.3414	26.25	11783	16.97	743.5	2675
1.13	13.56	0.3444	26.62	11948	17.21	753.9	2713
1.14	13.68	0.3475	26.99	12113	17.44	764.3	2750
1.15	13.80	0.3505	27.36	12279	17.68	774.8	2788
1.16	13.92	0.3536	27.73	12446	17.92	785.4	2826
1.17	14.04	0.3566	28.11	12614	18.16	796.0	2864
1.18	14.16	0.3597	28.48	12782	18.41	806.6	2902
1.19	14.28	0.3627	28.86	12952	18.65	817.3	2941
1.20	14.40	0.3658	29.24	13122	18.90	828.0	2979
1.21	14.52	0.3688	29.62	13293	19.14	838.8	3018
1.22	14.64	0.3719	30.00	13465	19.39	849.6	3057
1.23	14.76	0.3749	30.39	13637	19.64	860.5	3096
1.24	14.88	0.3780	30.77	13811	19.89	871.5	3136
1.25	15.00	0.3810	31.16	13985	20.14	882.5	3175
1.26	15.12	0.3840	31.55	14160	20.39	893.5	3215
1.27	15.24	0.3871	31.94	14335	20.64	904.6	3255
1.28	15.36	0.3901	32.33	14512	20.90	915.7	3295
1.29	15.48	0.3932	32.73	14689	21.15	926.9	3335
1.30	15.60	0.3962	33.13	14867	21.41	938.1	3376

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Formulas (H in meters): L/S = 3974 $H_{m}^{1.56}$ M3/HR = 14307 $H_{m}^{1.56}$

FEET	INCHES	METERS	CFS	GPM	MGD	L/S	M3/HR
1.31	15.72	0.3993	33.52	15046	21.67	949.4	3416
1.32	15.84	0.4023	33.92	15225	21.93	960.8	3457
1.33	15.96	0.4054	34.33	15406	22.19	972.1	3498
1.34	16.08	0.4084	34.73	15587	22.45	983.6	3539
1.35	16.20	0.4115	35.14	15769	22.71	995.0	3580
1.36	16.32	0.4145	35.54	15951	22.97	1007	3622
1.37	16.44	0.4176	35.95	16135	23.23	1018	3663
1.38	16.56	0.4206	36.36	16319	23.50	1030	3705
1.39	16.68	0.4237	36.77	16504	23.77	1041	3747
1.40	16.80	0.4267	37.19	16689	24.03	1053	3789
1.41	16.92	0.4298	37.60	16876	24.30	1065	3832
1.42	17.04	0.4328	38.02	17063	24.57	1077	3874
1.43	17.16	0.4359	38.44	17250	24.84	1089	3917
1.44	17.28	0.4389	38.86	17439	25.11	1100	3960
1.45	17.40	0.4420	39.28	17628	25.39	1112	4002
1.46	17.52	0.4450	39.70	17818	25.66	1124	4046
1.47	17.64	0.4481	40.13	18009	25.93	1136	4089
1.48	17.76	0.4511	40.55	18201	26.21	1148	4132
1.49	17.88	0.4542	40.98	18393	26.49	1161	4176
1.50	18.00	0.4572	41.41	18586	26.76	1173	4220
1.51	18.12	0.4602	41.84	18779	27.04	1185	4264
1.52	18.24	0.4633	42.28	18974	27.32	1197	4308
1.53	18.36	0.4663	42.71	19169	27.60	1210	4352
1.54	18.48	0.4694	43.15	19365	27.89	1222	4397
1.55	18.60	0.4724	43.59	19561	28.17	1234	4441
1.56	18.72	0.4755	44.02	19758	28.45	1247	4486
1.57	18.84	0.4785	44.47	19956	28.74	1259	4531
1.58	18.96	0.4816	44.91	20155	29.02	1272	4576
1.59	19.08	0.4846	45.35	20354	29.31	1284	4621
1.60	19.20	0.4877	45.80	20554	29.60	1297	4667
1.61	19.32	0.4907	46.25	20755	29.89	1310	4712
1.62	19.44	0.4938	46.69	20957	30.18	1322	4758
1.63	19.56	0.4968	47.14	21159	30.47	1335	4804
1.64	19.68	0.4999	47.60	21362	30.76	1348	4850
1.65	19.80	0.5029	48.05	21565	31.06	1361	4896
1.66	19.92	0.5060	48.51	21769	31.35	1374	4943
1.67	20.04	0.5090	48.96	21974	31.64	1387	4989
1.68	20.16	0.5121	49.42	22180	31.94	1400	5036
1.69	20.28	0.5151	49.88	22386	32.24	1413	5083
1.70	20.40	0.5182	50.34	22593	32.54	1426	5130
1.71	20.52	0.5212	50.80	22801	32.83	1439	5177
1.72	20.64	0.5243	51.27	23009	33.13	1452	5224
1.73	20.76	0.5273	51.73	23218	33.44	1465	5272
1.74	20.88	0.5304	52.20	23428	33.74	1478	5319
1.75	21.00	0.5334	52.67	23638	34.04	1492	5367
1.76	21.12	0.5364	53.14	23849	34.34	1505	5415
1.77	21.24	0.5395	53.61	24061	34.65	1518	5463
1.78	21.36	0.5425	54.09	24273	34.96	1532	5511
1.79	21.48	0.5456	54.56	24486	35.26	1545	5560
1.80	21.60	0.5486	55.04	24700	35.57	1559	5608

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FEET	INCHES	METERS	CFS	GPM	MGD	L/S	M3/HR
1.81	21.72	0.5517	55.51	24915	35.88	1572	5657
1.82	21.84	0.5547	55.99	25130	36.19	1586	5706
1.83	21.96	0.5578	56.47	25345	36.50	1599	5755
1.84	22.08	0.5608	56.96	25562	36.81	1613	5804
1.85	22.20	0.5639	57.44	25779	37.12	1627	5853
1.86	22.32	0.5669	57.92	25997	37.44	1640	5903
1.87	22.44	0.5700	58.41	26215	37.75	1654	5952
1.88	22.56	0.5730	58.90	26434	38.07	1668	6002
1.89	22.68	0.5761	59.39	26654	38.38	1682	6052
1.90	22.80	0.5791	59.88	26874	38.70	1696	6102
1.91	22.92	0.5822	60.37	27095	39.02	1710	6152
1.92	23.04	0.5852	60.87	27317	39.34	1724	6202
1.93	23.16	0.5883	61.36	27539	39.66	1738	6253
1.94	23.28	0.5913	61.86	27762	39.98	1752	6303
1.95	23.40	0.5944	62.36	27985	40.30	1766	6354
1.96	23.52	0.5974	62.86	28209	40.62	1780	6405
1.97	23.64	0.6005	63.36	28434	40.95	1794	6456
1.98	23.76	0.6035	63.86	28660	41.27	1808	6507
1.99	23.88	0.6066	64.36	28886	41.60	1823	6559
2.00	24.00	0.6096	64.87	29113	41.92	1837	6610
2.01	24.12	0.6126	65.37	29340	42.25	1851	6662
2.02	24.24	0.6157	65.88	29568	42.58	1866	6713
2.03	24.36	0.6187	66.39	29797	42.91	1880	6765
2.04	24.48	0.6218	66.90	30026	43.24	1895	6817
2.05	24.60	0.6248	67.42	30256	43.57	1909	6870
2.06	24.72	0.6279	67.93	30487	43.90	1924	6922
2.07	24.84	0.6309	68.44	30718	44.24	1938	6974
2.08	24.96	0.6340	68.96	30950	44.57	1953	7027
2.09	25.08	0.6370	69.48	31182	44.90	1968	7080
2.10	25.20	0.6401	70.00	31415	45.24	1982	7133
2.11	25.32	0.6431	70.52	31649	45.58	1997	7186
2.12	25.44	0.6462	71.04	31883	45.91	2012	7239
2.13	25.56	0.6492	71.56	32118	46.25	2027	7292
2.14	25.68	0.6523	72.09	32353	46.59	2042	7346
2.15	25.80	0.6553	72.62	32590	46.93	2056	7399
2.16	25.92	0.6584	73.14	32826	47.27	2071	7453
2.17	26.04	0.6614	73.67	33064	47.61	2086	7507
2.18	26.16	0.6645	74.20	33302	47.96	2101	7561
2.19	26.28	0.6675	74.73	33540	48.30	2116	7615
2.20	26.40	0.6706	75.27	33780	48.64	2132	7670
2.21	26.52	0.6736	75.80	34019	48.99	2147	7724
2.22	26.64	0.6767	76.34	34260	49.34	2162	7779
2.23	26.76	0.6797	76.87	34501	49.68	2177	7833
2.24	26.88	0.6828	77.41	34743	50.03	2192	7888
2.25	27.00	0.6858	77.95	34985	50.38	2208	7943
2.26	27.12	0.6888	78.49	35228	50.73	2223	7998
2.27	27.24	0.6919	79.04	35471	51.08	2238	8054
2.28	27.36	0.6949	79.58	35715	51.43	2254	8109
2.29	27.48	0.6980	80.12	35960	51.78	2269	8165
2.30	27.60	0.7010	80.67	36205	52.14	2285	8220

Sources: Cutthroat Flume Discharge Relations, Water Management Technical Paper No. 16, Colorado State University, AER71-72RSB6, March 1972

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108-Inch L x 72-Inch W Cutthroat Flume Discharge Table

80% Submergence Transition ±3% Accuracy

Formulas (H in feet): CFS = 22.0 $H_{ft.}^{1.56}$ GPM = 9874 $H_{ft.}^{1.56}$ MGD = 14.44 $H_{ft.}^{1.56}$

Formulas (H in meters): L/S = 3974 $H_{m}^{1.56}$ M3/HR = 14307 $H_{m}^{1.56}$

FEET	INCHES	METERS	CFS	GPM	MGD	L/S	M3/HR
2.31	27.72	0.7041	81.22	36451	52.49	2300	8276
2.32	27.84	0.7071	81.77	36698	52.85	2316	8332
2.33	27.96	0.7102	82.32	36945	53.20	2331	8388
2.34	28.08	0.7132	82.87	37192	53.56	2347	8444
2.35	28.20	0.7163	83.42	37440	53.92	2363	8501
2.36	28.32	0.7193	83.98	37689	54.27	2378	8557
2.37	28.44	0.7224	84.53	37939	54.63	2394	8614
2.38	28.56	0.7254	85.09	38189	54.99	2410	8671
2.39	28.68	0.7285	85.65	38439	55.36	2426	8728
2.40	28.80	0.7315	86.21	38691	55.72	2441	8785
2.41	28.92	0.7346	86.77	38942	56.08	2457	8842
2.42	29.04	0.7376	87.33	39195	56.44	2473	8899
2.43	29.16	0.7407	87.90	39448	56.81	2489	8957
2.44	29.28	0.7437	88.46	39701	57.17	2505	9014
2.45	29.40	0.7468	89.03	39955	57.54	2521	9072
2.46	29.52	0.7498	89.59	40210	57.90	2537	9130
2.47	29.64	0.7529	90.16	40465	58.27	2553	9188
2.48	29.76	0.7559	90.73	40721	58.64	2570	9246
2.49	29.88	0.7590	91.30	40978	59.01	2586	9304
2.50	30.00	0.7620	91.88	41235	59.38	2602	9362
2.51	30.12	0.7650	92.45	41492	59.75	2618	9421
2.52	30.24	0.7681	93.03	41750	60.12	2635	9479
2.53	30.36	0.7711	93.60	42009	60.50	2651	9538
2.54	30.48	0.7742	94.18	42268	60.87	2667	9597
2.55	30.60	0.7772	94.76	42528	61.24	2684	9656
2.56	30.72	0.7803	95.34	42789	61.62	2700	9715
2.57	30.84	0.7833	95.92	43050	61.99	2717	9774
2.58	30.96	0.7864	96.50	43311	62.37	2733	9834
2.59	31.08	0.7894	97.09	43574	62.75	2750	9893
2.60	31.20	0.7925	97.67	43836	63.13	2766	9953
2.61	31.32	0.7955	98.26	44100	63.51	2783	10013
2.62	31.44	0.7986	98.85	44363	63.89	2799	10073
2.63	31.56	0.8016	99.44	44628	64.27	2816	10133
2.64	31.68	0.8047	100.0	44893	64.65	2833	10193
2.65	31.80	0.8077	100.6	45158	65.03	2850	10253
2.66	31.92	0.8108	101.2	45425	65.41	2866	10314
2.67	32.04	0.8138	101.8	45691	65.80	2883	10374
2.68	32.16	0.8169	102.4	45958	66.18	2900	10435
2.69	32.28	0.8199	103.0	46226	66.57	2917	10496
2.70	32.40	0.8230	103.6	46495	66.96	2934	10557
2.71	32.52	0.8260	104.2	46764	67.34	2951	10618
2.72	32.64	0.8291	104.8	47033	67.73	2968	10679
2.73	32.76	0.8321	105.4	47303	68.12	2985	10740
2.74	32.88	0.8352	106.0	47574	68.51	3002	10802
2.75	33.00	0.8382	106.6	47845	68.90	3019	10863
2.76	33.12	0.8412	107.2	48116	69.29	3036	10925
2.77	33.24	0.8443	107.8	48389	69.68	3053	10987
2.78	33.36	0.8473	108.4	48661	70.08	3071	11049
2.79	33.48	0.8504	109.0	48935	70.47	3088	11111
2.80	33.60	0.8534	109.6	49209	70.86	3105	11173

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Formulas (H in meters): L/S = 3974 $H_{m}^{1.56}$ M3/HR = 14307 $H_{m}^{1.56}$

FEET	INCHES	METERS	CFS	GPM	MGD	L/S	M3/HR
2.81	33.72	0.8565	110.3	49483	71.26	3122	11235
2.82	33.84	0.8595	110.9	49758	71.65	3140	11298
2.83	33.96	0.8626	111.5	50034	72.05	3157	11360
2.84	34.08	0.8656	112.1	50310	72.45	3175	11423
2.85	34.20	0.8687	112.7	50586	72.85	3192	11486
2.86	34.32	0.8717	113.3	50864	73.25	3210	11549
2.87	34.44	0.8748	114.0	51141	73.65	3227	11612
2.88	34.56	0.8778	114.6	51419	74.05	3245	11675
2.89	34.68	0.8809	115.2	51698	74.45	3262	11738
2.90	34.80	0.8839	115.8	51978	74.85	3280	11802
2.91	34.92	0.8870	116.4	52257	75.25	3298	11865
2.92	35.04	0.8900	117.1	52538	75.66	3315	11929
2.93	35.16	0.8931	117.7	52819	76.06	3333	11993
2.94	35.28	0.8961	118.3	53100	76.47	3351	12056
2.95	35.40	0.8992	118.9	53382	76.87	3369	12120
2.96	35.52	0.9022	119.6	53665	77.28	3386	12185
2.97	35.64	0.9053	120.2	53948	77.69	3404	12249
2.98	35.76	0.9083	120.8	54232	78.10	3422	12313
2.99	35.88	0.9114	121.5	54516	78.51	3440	12378
3.00	36.00	0.9144	122.1	54801	78.92	3458	12442

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