

Inputs	Y_now (Gy)	Y_inf (Gy)	z_eq	a_from	a_to	a_factor	Cosmocalc-Lean © 2012 Jorrie		
	13.9	16.3	3350	1.00E-04	10	0.03406	['a' is multiplied by (1+a_factor)]		
Derived	Omega_r	Omega_m	Omega_v	H_0	to 0.0000084			Basic 13.9/16.3 comparison	
	8.141E-05	0.2728	0.7272	0.0719					
Outputs	a	z(a)	t(a) (Gy)	Y(a) (Gy)	D_now (Gly)	D_then (Gly)	H(t) Gy^(-1)	t_a	% error
Start	1.00E-04	9 999.00	0	0.000013	46.695	0.0047	75002.6092	0.0000177	
	1.03E-04	9 669.62	0.000000	0.000014	46.691	0.0048	70442.2717	0.0000187	3889.8%
	1.07E-04	9 351.09	0.000001	0.000015	46.686	0.0050	66166.3058	0.0000196	1932.0%
	1.11E-04	9 043.05	0.000001	0.000016	46.681	0.0052	62156.6684	0.0000206	1279.5%
	1.14E-04	8 745.15	0.000002	0.000017	46.676	0.0053	58396.4730	0.0000217	953.3%
	1.18E-04	8 457.07	0.000003	0.000018	46.671	0.0055	54869.9155	0.0000228	757.6%
	1.22E-04	8 178.48	0.000003	0.000019	46.666	0.0057	51562.2039	0.0000240	627.1%
	1.26E-04	7 909.06	0.000004	0.000021	46.661	0.0059	48459.4934	0.0000252	533.9%
	1.31E-04	7 648.52	0.000005	0.000022	46.655	0.0061	45548.8254	0.0000265	464.1%
	1.35E-04	7 396.56	0.000005	0.000023	46.649	0.0063	42818.0703	0.0000279	409.7%
	1.40E-04	7 152.90	0.000006	0.000025	46.643	0.0065	40255.8745	0.0000293	366.3%
	1.45E-04	6 917.26	0.000007	0.000026	46.637	0.0067	37851.6098	0.0000308	330.7%
	1.49E-04	6 689.39	0.000008	0.000028	46.631	0.0070	35595.3274	0.0000324	301.0%
	1.55E-04	6 469.02	0.000009	0.000030	46.625	0.0072	33477.7135	0.0000341	275.9%
	1.60E-04	6 255.91	0.000010	0.000032	46.618	0.0075	31490.0492	0.0000358	254.4%
	1.65E-04	6 049.82	0.000011	0.000034	46.611	0.0077	29624.1715	0.0000377	235.8%
	1.71E-04	5 850.51	0.000012	0.000036	46.605	0.0080	27872.4383	0.0000396	219.5%
	1.77E-04	5 657.78	0.000014	0.000038	46.597	0.0082	26227.6941	0.0000417	205.0%
	1.83E-04	5 471.39	0.000015	0.000041	46.590	0.0085	24683.2395	0.0000438	192.2%
	1.89E-04	5 291.14	0.000016	0.000043	46.583	0.0088	23232.8013	0.0000461	180.7%
	1.95E-04	5 116.82	0.000018	0.000046	46.575	0.0091	21870.5056	0.0000485	170.4%
	2.02E-04	4 948.25	0.000020	0.000049	46.567	0.0094	20590.8518	0.0000510	161.0%
	2.09E-04	4 785.23	0.000021	0.000052	46.559	0.0097	19388.6888	0.0000536	152.5%
	2.16E-04	4 627.58	0.000023	0.000055	46.550	0.0101	18259.1925	0.0000563	144.7%
	2.23E-04	4 475.13	0.000025	0.000058	46.542	0.0104	17197.8449	0.0000592	137.6%
	2.31E-04	4 327.69	0.000027	0.000062	46.533	0.0107	16200.4144	0.0000623	131.0%
	2.39E-04	4 185.11	0.000029	0.000066	46.524	0.0111	15262.9376	0.0000655	124.9%
	2.47E-04	4 047.23	0.000031	0.000070	46.515	0.0115	14381.7018	0.0000689	119.2%
	2.55E-04	3 913.89	0.000034	0.000074	46.505	0.0119	13553.2292	0.0000724	114.0%
	2.64E-04	3 784.94	0.000036	0.000078	46.495	0.0123	12774.2619	0.0000762	109.1%
2.73E-04	3 660.24	0.000039	0.000083	46.485	0.0127	12041.7475	0.0000801	104.5%	

	2.82E-04	3 539.64	0.000042	0.000088	46.475	0.0131	11352.8262	0.0000842	100.2%
	2.92E-04	3 423.02	0.000045	0.000093	46.464	0.0136	10704.8187	0.0000886	96.2%
Equal	3.02E-04	3 310.24	0.00004841	0.000099	46.453	0.0140	10095.2139	0.0000931	92.4%
	3.12E-04	3 201.17	0.000052	0.000105	46.442	0.0145	9521.6591	0.0000979	88.8%
	3.23E-04	3 095.70	0.000056	0.000111	46.431	0.0150	8981.9492	0.0001030	85.4%
	3.34E-04	2 993.70	0.000059	0.000118	46.419	0.0155	8474.0176	0.0001083	82.2%
	3.45E-04	2 895.06	0.000064	0.000125	46.407	0.0160	7995.9272	0.0001138	79.2%
	3.57E-04	2 799.67	0.000068	0.000133	46.395	0.0166	7545.8622	0.0001197	76.3%
	3.69E-04	2 707.42	0.000073	0.000140	46.382	0.0171	7122.1205	0.0001259	73.5%
	3.82E-04	2 618.21	0.000077	0.000149	46.369	0.0177	6723.1062	0.0001324	70.9%
	3.95E-04	2 531.94	0.000083	0.000158	46.356	0.0183	6347.3231	0.0001392	68.5%
	4.08E-04	2 448.51	0.000088	0.000167	46.343	0.0189	5993.3682	0.0001463	66.1%
	4.22E-04	2 367.83	0.000094	0.000177	46.329	0.0196	5659.9258	0.0001539	63.8%
	4.37E-04	2 289.80	0.000100	0.000187	46.315	0.0202	5345.7620	0.0001618	61.7%
	4.51E-04	2 214.35	0.000107	0.000198	46.300	0.0209	5049.7193	0.0001702	59.6%
	4.67E-04	2 141.38	0.000114	0.000210	46.285	0.0216	4770.7122	0.0001789	57.6%
	4.83E-04	2 070.81	0.000121	0.000222	46.270	0.0223	4507.7222	0.0001881	55.7%
	4.99E-04	2 002.57	0.000129	0.000235	46.254	0.0231	4259.7938	0.0001978	53.9%
	5.16E-04	1 936.58	0.000137	0.000248	46.239	0.0239	4026.0304	0.0002080	52.1%
	5.34E-04	1 872.76	0.000145	0.000263	46.222	0.0247	3805.5906	0.0002187	50.4%
	5.52E-04	1 811.04	0.000155	0.000278	46.206	0.0255	3597.6848	0.0002300	48.8%
	5.71E-04	1 751.35	0.000164	0.000294	46.188	0.0264	3401.5718	0.0002419	47.3%
	5.90E-04	1 693.63	0.000174	0.000311	46.171	0.0272	3216.5558	0.0002543	45.8%
	6.10E-04	1 637.82	0.000185	0.000329	46.153	0.0282	3041.9837	0.0002674	44.3%
	6.31E-04	1 583.84	0.000197	0.000348	46.135	0.0291	2877.2419	0.0002812	42.9%
	6.52E-04	1 531.63	0.000209	0.000367	46.116	0.0301	2721.7548	0.0002957	41.6%
	6.75E-04	1 481.15	0.000222	0.000388	46.097	0.0311	2574.9811	0.0003109	40.3%
	6.98E-04	1 432.33	0.000235	0.000410	46.078	0.0321	2436.4130	0.0003269	39.0%
	7.21E-04	1 385.12	0.000249	0.000434	46.058	0.0332	2305.5729	0.0003438	37.8%
	7.46E-04	1 339.47	0.000265	0.000458	46.037	0.0343	2182.0125	0.0003615	36.7%
	7.71E-04	1 295.31	0.000280	0.000484	46.017	0.0355	2065.3104	0.0003801	35.5%
	7.98E-04	1 252.62	0.000297	0.000511	45.995	0.0367	1955.0705	0.0003997	34.4%
	8.25E-04	1 211.32	0.000315	0.000540	45.974	0.0379	1850.9205	0.0004203	33.4%
	8.53E-04	1 171.39	0.000334	0.000571	45.952	0.0392	1752.5105	0.0004420	32.4%
	8.82E-04	1 132.78	0.000354	0.000603	45.929	0.0405	1659.5115	0.0004647	31.4%
CMB	9.12E-04	1 095.43	0.000375	0.000636	45.906	0.0419	1571.6141	0.0004887	30.4%
	9.43E-04	1 059.32	0.000397	0.000672	45.882	0.0433	1488.5274	0.0005139	29.5%

9.75E-04	1 024.39	0.000420	0.000709	45.858	0.0447	1409.9776	0.0005403	28.6%
1.01E-03	990.62	0.000445	0.000749	45.833	0.0462	1335.7072	0.0005682	27.7%
1.04E-03	957.96	0.000471	0.000790	45.808	0.0478	1265.4741	0.0005975	26.9%
1.08E-03	926.37	0.000498	0.000834	45.783	0.0494	1199.0503	0.0006282	26.1%
1.12E-03	895.82	0.000527	0.000880	45.756	0.0510	1136.2212	0.0006606	25.3%
1.15E-03	866.28	0.000558	0.000929	45.730	0.0527	1076.7849	0.0006946	24.5%
1.19E-03	837.72	0.000590	0.000980	45.703	0.0545	1020.5512	0.0007304	23.8%
1.23E-03	810.09	0.000624	0.001034	45.675	0.0563	967.3411	0.0007681	23.0%
1.27E-03	783.38	0.000660	0.001091	45.646	0.0582	916.9860	0.0008076	22.3%
1.32E-03	757.54	0.000698	0.001150	45.617	0.0601	869.3271	0.0008492	21.7%
1.36E-03	732.55	0.000738	0.001213	45.588	0.0621	824.2147	0.0008930	21.0%
1.41E-03	708.39	0.000780	0.001280	45.558	0.0642	781.5080	0.0009390	20.4%
1.46E-03	685.03	0.000825	0.001349	45.527	0.0664	741.0741	0.0009874	19.7%
1.51E-03	662.43	0.000872	0.001423	45.496	0.0686	702.7877	0.0010383	19.1%
1.56E-03	640.58	0.000921	0.001500	45.464	0.0709	666.5309	0.0010918	18.5%
1.61E-03	619.45	0.000973	0.001582	45.431	0.0732	632.1924	0.0011480	18.0%
1.67E-03	599.01	0.001028	0.001668	45.398	0.0757	599.6673	0.0012072	17.4%
1.72E-03	579.25	0.001086	0.001758	45.364	0.0782	568.8567	0.0012694	16.9%
1.78E-03	560.13	0.001147	0.001853	45.330	0.0808	539.6672	0.0013348	16.4%
1.84E-03	541.65	0.001211	0.001953	45.295	0.0835	512.0107	0.0014035	15.9%
1.91E-03	523.78	0.001279	0.002058	45.259	0.0862	485.8043	0.0014758	15.4%
1.97E-03	506.49	0.001350	0.002169	45.222	0.0891	460.9694	0.0015519	14.9%
2.04E-03	489.78	0.001426	0.002286	45.185	0.0921	437.4322	0.0016318	14.5%
2.11E-03	473.61	0.001505	0.002409	45.147	0.0951	415.1227	0.0017159	14.0%
2.18E-03	457.98	0.001589	0.002538	45.108	0.0983	393.9751	0.0018043	13.6%
2.25E-03	442.86	0.001677	0.002674	45.069	0.1015	373.9270	0.0018973	13.1%
2.33E-03	428.24	0.001770	0.002818	45.029	0.1049	354.9196	0.0019950	12.7%
2.41E-03	414.10	0.001867	0.002968	44.988	0.1084	336.8975	0.0020978	12.3%
2.49E-03	400.43	0.001970	0.003127	44.946	0.1120	319.8080	0.0022059	12.0%
2.58E-03	387.21	0.002079	0.003294	44.904	0.1157	303.6017	0.0023196	11.6%
2.66E-03	374.42	0.002193	0.003469	44.861	0.1195	288.2317	0.0024391	11.2%
2.75E-03	362.05	0.002314	0.003654	44.817	0.1234	273.6537	0.0025647	10.9%
2.85E-03	350.10	0.002440	0.003849	44.772	0.1275	259.8259	0.0026969	10.5%
2.95E-03	338.53	0.002574	0.004053	44.726	0.1317	246.7087	0.0028358	10.2%
3.05E-03	327.35	0.002714	0.004269	44.680	0.1361	234.2647	0.0029819	9.9%
3.15E-03	316.53	0.002862	0.004495	44.632	0.1406	222.4585	0.0031356	9.5%
3.26E-03	306.07	0.003018	0.004734	44.584	0.1452	211.2567	0.0032971	9.2%

3.37E-03	295.96	0.003183	0.004984	44.535	0.1500	200.6276	0.0034670	8.9%
3.48E-03	286.18	0.003355	0.005248	44.485	0.1549	190.5412	0.0036456	8.6%
3.60E-03	276.72	0.003537	0.005526	44.434	0.1600	180.9694	0.0038335	8.4%
3.72E-03	267.57	0.003729	0.005818	44.382	0.1653	171.8852	0.0040310	8.1%
3.85E-03	258.73	0.003931	0.006125	44.329	0.1707	163.2632	0.0042387	7.8%
3.98E-03	250.17	0.004143	0.006448	44.275	0.1763	155.0796	0.0044571	7.6%
4.12E-03	241.90	0.004367	0.006788	44.221	0.1821	147.3116	0.0046867	7.3%
4.26E-03	233.90	0.004602	0.007146	44.165	0.1880	139.9376	0.0049282	7.1%
4.40E-03	226.16	0.004850	0.007522	44.108	0.1942	132.9372	0.0051821	6.8%
4.55E-03	218.68	0.005111	0.007918	44.051	0.2005	126.2913	0.0054491	6.6%
4.71E-03	211.44	0.005385	0.008335	43.992	0.2071	119.9815	0.0057298	6.4%
4.87E-03	204.44	0.005674	0.008773	43.932	0.2138	113.9906	0.0060250	6.2%
5.03E-03	197.68	0.005978	0.009233	43.871	0.2208	108.3021	0.0063355	6.0%
5.20E-03	191.13	0.006298	0.009718	43.809	0.2280	102.9005	0.0066619	5.8%
5.38E-03	184.80	0.006635	0.010228	43.746	0.2354	97.7711	0.0070051	5.6%
5.57E-03	178.68	0.006990	0.010764	43.682	0.2431	92.9001	0.0073660	5.4%
5.75E-03	172.77	0.007363	0.011328	43.616	0.2510	88.2741	0.0077456	5.2%
5.95E-03	167.04	0.007756	0.011922	43.550	0.2592	83.8806	0.0081446	5.0%
6.15E-03	161.51	0.008169	0.012546	43.482	0.2676	79.7079	0.0085643	4.8%
6.36E-03	156.16	0.008604	0.013202	43.413	0.2762	75.7446	0.0090055	4.7%
6.58E-03	150.98	0.009061	0.013893	43.343	0.2852	71.9801	0.0094695	4.5%
6.80E-03	145.97	0.009543	0.014619	43.272	0.2944	68.4043	0.0099574	4.3%
7.04E-03	141.13	0.010050	0.015383	43.199	0.3039	65.0076	0.0104704	4.2%
7.28E-03	136.45	0.010583	0.016186	43.125	0.3138	61.7809	0.0110099	4.0%
7.52E-03	131.92	0.011144	0.017031	43.050	0.3239	58.7156	0.0115771	3.9%
7.78E-03	127.54	0.011734	0.017920	42.974	0.3343	55.8036	0.0121736	3.7%
8.04E-03	123.31	0.012355	0.018855	42.896	0.3451	53.0370	0.0128008	3.6%
8.32E-03	119.22	0.013008	0.019838	42.817	0.3562	50.4086	0.0134604	3.5%
8.60E-03	115.26	0.013696	0.020872	42.736	0.3676	47.9113	0.0141539	3.3%
8.89E-03	111.43	0.014419	0.021959	42.654	0.3794	45.5386	0.0148831	3.2%
9.20E-03	107.72	0.015180	0.023103	42.571	0.3915	43.2841	0.0156500	3.1%
9.51E-03	104.14	0.015981	0.024306	42.486	0.4041	41.1420	0.0164563	3.0%
9.83E-03	100.68	0.016823	0.025571	42.400	0.4170	39.1065	0.0173041	2.9%
1.02E-02	97.33	0.017709	0.026902	42.312	0.4303	37.1723	0.0181957	2.7%
1.05E-02	94.09	0.018641	0.028301	42.222	0.4440	35.3343	0.0191332	2.6%
1.09E-02	90.96	0.019622	0.029773	42.131	0.4582	33.5878	0.0201190	2.5%
1.12E-02	87.93	0.020654	0.031320	42.039	0.4727	31.9280	0.0211556	2.4%

1.16E-02	85.00	0.021739	0.032948	41.945	0.4877	30.3506	0.0222456	2.3%
1.20E-02	82.17	0.022881	0.034660	41.849	0.5032	28.8516	0.0233917	2.2%
1.24E-02	79.43	0.024081	0.036460	41.752	0.5191	27.4270	0.0245969	2.1%
1.29E-02	76.78	0.025345	0.038354	41.653	0.5355	26.0731	0.0258642	2.0%
1.33E-02	74.22	0.026674	0.040345	41.552	0.5524	24.7863	0.0271968	2.0%
1.37E-02	71.74	0.028072	0.042439	41.449	0.5698	23.5633	0.0285980	1.9%
1.42E-02	69.34	0.029542	0.044641	41.345	0.5878	22.4009	0.0300715	1.8%
1.47E-02	67.03	0.031089	0.046957	41.239	0.6062	21.2961	0.0316208	1.7%
1.52E-02	64.79	0.032716	0.049392	41.131	0.6252	20.2460	0.0332500	1.6%
1.57E-02	62.62	0.034427	0.051954	41.021	0.6448	19.2479	0.0349631	1.6%
1.63E-02	60.52	0.036227	0.054647	40.910	0.6649	18.2992	0.0367645	1.5%
1.68E-02	58.50	0.038120	0.057480	40.796	0.6857	17.3974	0.0386587	1.4%
1.74E-02	56.54	0.040111	0.060459	40.681	0.7070	16.5402	0.0406505	1.3%
1.80E-02	54.64	0.042206	0.063591	40.563	0.7290	15.7254	0.0427449	1.3%
1.86E-02	52.81	0.044409	0.066886	40.443	0.7516	14.9509	0.0449472	1.2%
1.92E-02	51.04	0.046726	0.070350	40.322	0.7749	14.2146	0.0472630	1.1%
1.99E-02	49.32	0.049163	0.073993	40.198	0.7988	13.5147	0.0496981	1.1%
2.05E-02	47.67	0.051727	0.077824	40.072	0.8234	12.8494	0.0522586	1.0%
2.12E-02	46.06	0.054423	0.081853	39.945	0.8487	12.2170	0.0549511	1.0%
2.20E-02	44.51	0.057259	0.086090	39.814	0.8748	11.6157	0.0577823	0.9%
2.27E-02	43.01	0.060241	0.090546	39.682	0.9016	11.0442	0.0607594	0.9%
2.35E-02	41.56	0.063378	0.095231	39.547	0.9291	10.5008	0.0638898	0.8%
2.43E-02	40.16	0.066677	0.100158	39.410	0.9574	9.9842	0.0671816	0.8%
2.51E-02	38.81	0.070146	0.105339	39.271	0.9866	9.4931	0.0706429	0.7%
2.60E-02	37.50	0.073796	0.110788	39.130	1.0165	9.0263	0.0742825	0.7%
2.69E-02	36.23	0.077633	0.116517	38.986	1.0472	8.5824	0.0781097	0.6%
2.78E-02	35.00	0.081670	0.122543	38.839	1.0788	8.1604	0.0821340	0.6%
2.87E-02	33.82	0.085915	0.128878	38.690	1.1113	7.7593	0.0863657	0.5%
2.97E-02	32.67	0.090379	0.135541	38.538	1.1446	7.3778	0.0908154	0.5%
3.07E-02	31.56	0.095075	0.142547	38.384	1.1789	7.0152	0.0954943	0.4%
3.18E-02	30.49	0.100012	0.149915	38.227	1.2141	6.6705	0.1004143	0.4%
3.28E-02	29.45	0.105206	0.157662	38.068	1.2502	6.3427	0.1055877	0.4%
3.40E-02	28.45	0.110667	0.165809	37.906	1.2873	6.0310	0.1110277	0.3%
3.51E-02	27.48	0.116411	0.174376	37.741	1.3253	5.7347	0.1167479	0.3%
3.63E-02	26.54	0.122451	0.183385	37.573	1.3644	5.4530	0.1227628	0.3%
3.75E-02	25.63	0.128803	0.192858	37.403	1.4044	5.1852	0.1290876	0.2%
3.88E-02	24.75	0.135484	0.202819	37.229	1.4455	4.9305	0.1357382	0.2%

4.02E-02	23.91	0.142509	0.213294	37.053	1.4877	4.6884	0.1427314	0.2%
4.15E-02	23.09	0.149898	0.224309	36.873	1.5309	4.4581	0.1500848	0.1%
4.29E-02	22.29	0.157667	0.235891	36.691	1.5752	4.2392	0.1578171	0.1%
4.44E-02	21.53	0.165838	0.248070	36.505	1.6206	4.0311	0.1659476	0.1%
4.59E-02	20.78	0.174431	0.260877	36.316	1.6671	3.8332	0.1744969	0.0%
4.75E-02	20.07	0.183468	0.274344	36.124	1.7148	3.6451	0.1834866	0.0%
4.91E-02	19.37	0.192970	0.288504	35.929	1.7636	3.4662	0.1929394	0.0%
5.08E-02	18.70	0.202964	0.303394	35.731	1.8136	3.2960	0.2028790	0.0%
5.25E-02	18.05	0.213473	0.319050	35.529	1.8648	3.1343	0.2133305	-0.1%
5.43E-02	17.42	0.224524	0.335513	35.324	1.9172	2.9805	0.2243203	-0.1%
5.61E-02	16.82	0.236145	0.352823	35.115	1.9708	2.8343	0.2358761	-0.1%
5.80E-02	16.23	0.248366	0.371025	34.902	2.0256	2.6952	0.2480270	-0.1%
6.00E-02	15.66	0.261217	0.390163	34.686	2.0816	2.5630	0.2608036	-0.2%
6.21E-02	15.11	0.274731	0.410286	34.467	2.1389	2.4373	0.2742381	-0.2%
6.42E-02	14.58	0.288942	0.431445	34.244	2.1974	2.3178	0.2883643	-0.2%
6.64E-02	14.07	0.303886	0.453691	34.016	2.2572	2.2041	0.3032178	-0.2%
6.86E-02	13.57	0.319600	0.477082	33.785	2.3182	2.0961	0.3188360	-0.2%
7.10E-02	13.09	0.336124	0.501676	33.551	2.3805	1.9933	0.3352582	-0.3%
7.34E-02	12.63	0.353500	0.527534	33.312	2.4440	1.8956	0.3525257	-0.3%
7.59E-02	12.18	0.371772	0.554720	33.069	2.5089	1.8027	0.3706818	-0.3%
7.85E-02	11.75	0.390985	0.583302	32.822	2.5749	1.7144	0.3897724	-0.3%
8.11E-02	11.33	0.411187	0.613352	32.571	2.6423	1.6304	0.4098451	-0.3%
8.39E-02	10.92	0.432431	0.644944	32.316	2.7108	1.5505	0.4309506	-0.3%
8.67E-02	10.53	0.454768	0.678157	32.056	2.7806	1.4746	0.4531418	-0.4%
8.97E-02	10.15	0.478255	0.713072	31.792	2.8517	1.4024	0.4764742	-0.4%
9.28E-02	9.78	0.502951	0.749777	31.523	2.9239	1.3337	0.5010065	-0.4%
9.59E-02	9.43	0.528918	0.788361	31.250	2.9973	1.2685	0.5267999	-0.4%
9.92E-02	9.08	0.556221	0.828919	30.973	3.0719	1.2064	0.5539191	-0.4%
1.03E-01	8.75	0.584929	0.871551	30.690	3.1475	1.1474	0.5824318	-0.4%
1.06E-01	8.43	0.615112	0.916360	30.403	3.2243	1.0913	0.6124093	-0.4%
1.10E-01	8.12	0.646846	0.963457	30.112	3.3021	1.0379	0.6439262	-0.5%
1.13E-01	7.82	0.680211	1.012955	29.815	3.3809	0.9872	0.6770611	-0.5%
1.17E-01	7.53	0.715289	1.064974	29.513	3.4607	0.9390	0.7118965	-0.5%
1.21E-01	7.25	0.752168	1.119638	29.206	3.5414	0.8931	0.7485187	-0.5%
1.25E-01	6.98	0.790939	1.177078	28.895	3.6229	0.8496	0.7870187	-0.5%
1.30E-01	6.71	0.831698	1.237432	28.577	3.7052	0.8081	0.8274917	-0.5%
1.34E-01	6.46	0.874545	1.300840	28.255	3.7882	0.7687	0.8700375	-0.5%

1.39E-01	6.21	0.919586	1.367452	27.927	3.8718	0.7313	0.9147611	-0.5%
1.43E-01	5.98	0.966932	1.437423	27.594	3.9559	0.6957	0.9617723	-0.5%
1.48E-01	5.75	1.016699	1.510913	27.256	4.0405	0.6619	1.0111862	-0.5%
1.53E-01	5.52	1.069008	1.588090	26.912	4.1253	0.6297	1.0631235	-0.6%
1.59E-01	5.31	1.123985	1.669128	26.562	4.2104	0.5991	1.1177107	-0.6%
1.64E-01	5.10	1.181766	1.754208	26.206	4.2955	0.5701	1.1750801	-0.6%
1.69E-01	4.90	1.242488	1.843516	25.845	4.3805	0.5424	1.2353700	-0.6%
1.75E-01	4.71	1.306297	1.937245	25.478	4.4654	0.5162	1.2987254	-0.6%
1.81E-01	4.52	1.373346	2.035593	25.104	4.5498	0.4913	1.3652977	-0.6%
1.87E-01	4.34	1.443793	2.138767	24.725	4.6337	0.4676	1.4352449	-0.6%
1.94E-01	4.16	1.517804	2.246976	24.340	4.7169	0.4450	1.5087323	-0.6%
2.00E-01	3.99	1.595552	2.360436	23.948	4.7991	0.4237	1.5859319	-0.6%
2.07E-01	3.83	1.677218	2.479364	23.551	4.8802	0.4033	1.6670234	-0.6%
2.14E-01	3.67	1.762988	2.603986	23.147	4.9598	0.3840	1.7521936	-0.6%
2.22E-01	3.51	1.853058	2.734525	22.737	5.0379	0.3657	1.8416370	-0.6%
2.29E-01	3.36	1.947631	2.871209	22.320	5.1140	0.3483	1.9355554	-0.6%
2.37E-01	3.22	2.046915	3.014265	21.897	5.1880	0.3318	2.0341587	-0.6%
2.45E-01	3.08	2.151128	3.163918	21.468	5.2595	0.3161	2.1376638	-0.6%
2.53E-01	2.95	2.260496	3.320390	21.032	5.3283	0.3012	2.2462954	-0.6%
2.62E-01	2.82	2.375249	3.483897	20.590	5.3939	0.2870	2.3602857	-0.6%
2.71E-01	2.69	2.495626	3.654649	20.141	5.4561	0.2736	2.4798736	-0.6%
2.80E-01	2.57	2.621873	3.832842	19.686	5.5145	0.2609	2.6053051	-0.6%
2.90E-01	2.45	2.754240	4.018660	19.225	5.5686	0.2488	2.7368326	-0.6%
3.00E-01	2.34	2.892984	4.212269	18.757	5.6182	0.2374	2.8747141	-0.6%
3.10E-01	2.23	3.038367	4.413813	18.283	5.6626	0.2266	3.0192131	-0.6%
3.20E-01	2.12	3.190653	4.623409	17.802	5.7017	0.2163	3.1705972	-0.6%
3.31E-01	2.02	3.350112	4.841146	17.316	5.7347	0.2066	3.3291378	-0.6%
3.42E-01	1.92	3.517012	5.067075	16.823	5.7613	0.1974	3.4951083	-0.6%
3.54E-01	1.82	3.691623	5.301207	16.325	5.7810	0.1886	3.6687833	-0.6%
3.66E-01	1.73	3.874216	5.543505	15.821	5.7933	0.1804	3.8504371	-0.6%
3.79E-01	1.64	4.065056	5.793880	15.311	5.7976	0.1726	4.0403416	-0.6%
3.92E-01	1.55	4.264403	6.052185	14.796	5.7934	0.1652	4.2387649	-0.6%
4.05E-01	1.47	4.472513	6.318208	14.275	5.7801	0.1583	4.4459693	-0.6%
4.19E-01	1.39	4.689630	6.591670	13.750	5.7571	0.1517	4.6622086	-0.6%
4.33E-01	1.31	4.915988	6.872215	13.221	5.7240	0.1455	4.8877262	-0.6%
4.48E-01	1.23	5.151806	7.159412	12.687	5.6800	0.1397	5.1227520	-0.6%
4.63E-01	1.16	5.397285	7.452745	12.150	5.6247	0.1342	5.3675003	-0.6%

	4.79E-01	1.09	5.652609	7.751618	11.609	5.5574	0.1290	5.6221668	-0.5%
	4.95E-01	1.02	5.917937	8.055353	11.065	5.4775	0.1241	5.8869257	-0.5%
	5.12E-01	0.95	6.193405	8.363189	10.519	5.3846	0.1196	6.1619272	-0.5%
	5.29E-01	0.89	6.479120	8.674287	9.971	5.2779	0.1153	6.4472947	-0.5%
	5.47E-01	0.83	6.775159	8.987740	9.422	5.1569	0.1113	6.7431223	-0.5%
	5.66E-01	0.77	7.081569	9.302574	8.871	5.0211	0.1075	7.0494726	-0.5%
	5.85E-01	0.71	7.398360	9.617766	8.321	4.8699	0.1040	7.3663746	-0.4%
	6.05E-01	0.65	7.725510	9.932249	7.771	4.7029	0.1007	7.6938226	-0.4%
	6.26E-01	0.60	8.062959	10.244935	7.222	4.5195	0.0976	8.0317744	-0.4%
	6.47E-01	0.55	8.410611	10.554722	6.675	4.3193	0.0947	8.3801514	-0.4%
	6.69E-01	0.49	8.768337	10.860520	6.130	4.1017	0.0921	8.7388380	-0.3%
	6.92E-01	0.45	9.135968	11.161260	5.588	3.8664	0.0896	9.1076826	-0.3%
	7.16E-01	0.40	9.513304	11.455918	5.049	3.6130	0.0873	9.4864985	-0.3%
	7.4E-01	0.35	9.900114	11.743529	4.516	3.3410	0.0852	9.8750656	-0.3%
	7.65E-01	0.31	10.296136	12.023200	3.987	3.0501	0.0832	10.2731327	-0.2%
	7.91E-01	0.26	10.701081	12.294129	3.463	2.7398	0.0813	10.6804201	-0.2%
	8.18E-01	0.22	11.114639	12.555610	2.946	2.4100	0.0796	11.0966230	-0.2%
	8.46E-01	0.18	11.536479	12.807045	2.435	2.0602	0.0781	11.5214146	-0.1%
	8.75E-01	0.14	11.966254	13.047947	1.932	1.6901	0.0766	11.9544501	-0.1%
	9.05E-01	0.11	12.403605	13.277944	1.436	1.2993	0.0753	12.3953703	-0.1%
	9.35E-01	0.07	12.848164	13.496776	0.949	0.8876	0.0741	12.8438052	0.0%
	9.67E-01	0.03	13.299557	13.704296	0.470	0.4546	0.0730	13.2993783	0.0%
Now	1.000180E+00	(0.00)	13.757412	13.900458	-	-	0.0719	13.7617098	0.0%
	1.03E+00	(0.03)	14.221356	14.085317			0.0710	14.2304201	0.1%
	1.07E+00	(0.06)	14.691022	14.259013			0.0701	14.7051326	0.1%
	1.11E+00	(0.10)	15.166047	14.421764			0.0693	15.1854772	0.1%
	1.14E+00	(0.13)	15.646083	14.573858			0.0686	15.6710920	0.2%
	1.18E+00	(0.15)	16.130789	14.715636			0.0680	16.1616258	0.2%
	1.22E+00	(0.18)	16.619837	14.847488			0.0674	16.6567396	0.2%
	1.26E+00	(0.21)	17.112915	14.969838			0.0668	17.1561080	0.3%
	1.31E+00	(0.24)	17.609726	15.083135			0.0663	17.6594204	0.3%
	1.35E+00	(0.26)	18.109985	15.187847			0.0658	18.1663813	0.3%
	1.40E+00	(0.28)	18.613426	15.284451			0.0654	18.6767115	0.3%
	1.45E+00	(0.31)	19.119798	15.373425			0.0650	19.1901473	0.4%
	1.49E+00	(0.33)	19.628865	15.455246			0.0647	19.7064413	0.4%
	1.55E+00	(0.35)	20.140406	15.530380			0.0644	20.2253618	0.4%
	1.60E+00	(0.37)	20.654218	15.599283			0.0641	20.7466926	0.4%