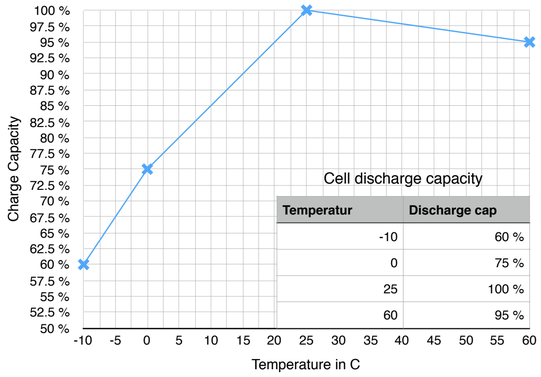
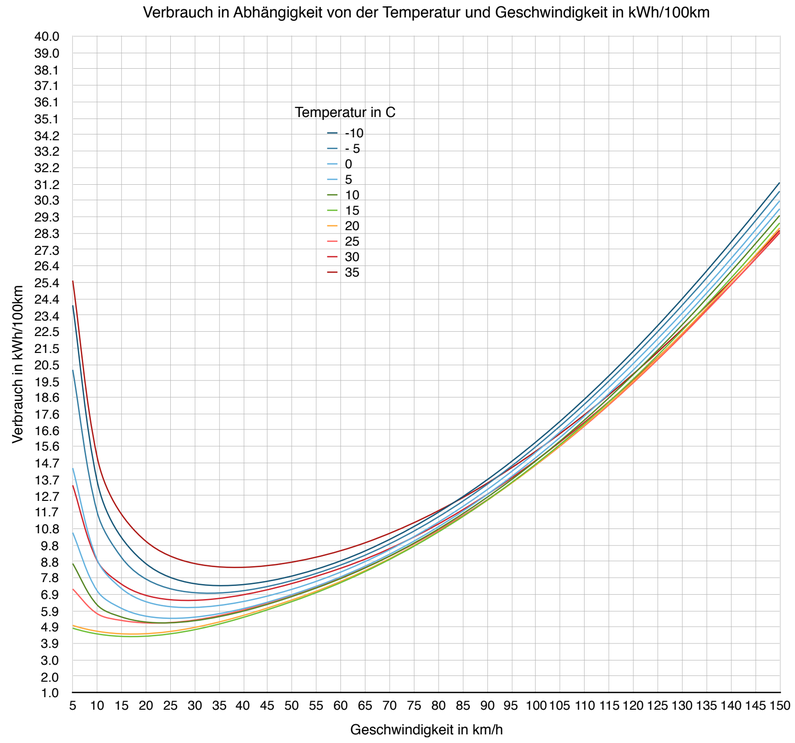
Technische Daten BMW i3		
Gewicht	1320	kg
Nettokapazität Batterie	18.8	kWh
Recuperation	40 %	
Antriebsstrang Max	95 %	
cwWert	0.29	
Stirnfläche	2.38	m²
cw*Stirnfläche	0.6902	
Ständige Verbraucher	0.05	kW
g	9.81	m/s^2
KT /C ISO8767	0.01	
KT /C IS28580	0.008	
KT /C SAE J1269	0.006	
KT /C SAE J2452	0.0078	

Temperatur in C	-10	-5	0	5	10	15	20	25	30	35
Luftdichte	1.3413	1.3163	1.2920	1.2690	1.2466	1.2250	1.2041	1.1839	1.1644	1.1455
Zusatzverbrauch (Klima) in kW	1.00	0.80	0.50	0.30	0.20	0.00	0.00	0.10	0.40	1.00
Gesamt Zusatz verbraucher in kW	1.05	0.85	0.55	0.35	0.25	0.05	0.05	0.15	0.45	1.05
Batteriekapazität %	60 %	70 %	75 %	85 %	90 %	95 %	97 %	100 %	99 %	98 %
Batteriekapazität in kWh	11.28	13.16	14.10	15.98	16.92	17.86	18.24	18.80	18.61	18.42



Rollreibungskräfte

Reifen Energielabel	Rollwiderstands beiwert CR in kg/t	F Reibung in N m in t * CR*g	-10	-5	0	5	10	15	20	25	30	35
A	6.5	84.1698	61.3	64.6	68.0	71.4	74.7	78.1	81.5	84.8	88.2	91.6
B	7.7	99.70884	72.6	76.6	80.6	84.6	88.5	92.5	96.5	100.5	104.5	108.5
C	9.0	116.5428	84.8	89.5	94.2	98.8	103.5	108.2	112.8	117.5	122.1	126.8
E	10.5	135.9666	99.0	104.4	109.9	115.3	120.7	126.2	131.6	137.1	142.5	147.9
F	12	155.3904	113.1	119.3	125.6	131.8	138.0	144.2	150.4	156.6	162.8	169.1



Verbrauch in Abhängigkeit von der Temperatur und Geschwindigkeit

		Luftwiderstand in Abhängigkeit zur Temperatur in N										Wirkungs grad Getriebe in %	Wirkungs grad Motor in %	Gesamt Wirkungs grad	Verbrauch in kWh/100km									Range in km									
		-10	-5	0	5	10	15	20	25	30	35				-10	-5	0	5	10	15	20	25	30	35	-10	-5	0	5	10	15	20	25	30	35
km/h	m/s																																		
5	1.39	0.9	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.8	90.00	79.15	71.24	24.0	20.2	14.3	10.5	8.7	4.8	5.0	7.2	13.3	25.5	47.0	65.2	98.3	152.1	195.2	369.7	365.1	262.7	139.7	72.3
10	2.78	3.6	3.5	3.4	3.4	3.3	3.3	3.2	3.2	3.1	3.1	90.00	80.31	72.28	13.6	11.7	8.9	7.1	6.2	4.4	4.5	5.7	8.9	15.0	83.1	112.1	158.5	226.4	272.2	408.2	402.2	330.2	210.2	122.7
15	4.17	8.0	7.9	7.7	7.6	7.5	7.3	7.2	7.1	7.0	6.9	90.00	81.46	73.32	10.2	9.0	7.2	6.0	5.5	4.3	4.5	5.3	7.4	11.6	110.4	145.7	196.1	265.9	307.9	413.8	407.9	355.3	250.0	158.8
20	5.56	14.3	14.0	13.8	13.5	13.3	13.0	12.8	12.6	12.4	12.2	90.00	82.62	74.35	8.7	7.8	6.5	5.6	5.3	4.4	4.5	5.2	6.8	10.0	130.2	168.4	218.3	285.0	322.0	405.7	400.8	361.7	271.8	184.3
25	6.94	22.3	21.9	21.5	21.1	20.7	20.4	20.0	19.7	19.4	19.1	90.00	83.77	75.39	7.9	7.2	6.2	5.5	5.2	4.6	4.7	5.3	6.6	9.1	143.1	182.3	229.0	290.6	323.0	390.0	386.3	357.3	281.8	201.4
30	8.33	32.1	31.5	31.0	30.4	29.9	29.4	28.9	28.4	27.9	27.5	90.00	84.92	76.43	7.5	7.0	6.1	5.6	5.4	4.8	5.0	5.4	6.6	8.7	150.3	188.8	231.1	287.2	315.5	369.8	367.4	346.2	283.5	211.8
35	9.72	43.8	42.9	42.1	41.4	40.7	40.0	39.3	38.6	38.0	37.4	90.00	86.08	77.47	7.4	6.9	6.2	5.8	5.6	5.1	5.3	5.7	6.7	8.5	152.6	189.6	227.3	277.7	302.6	347.2	346.1	331.0	279.3	216.6
40	11.11	57.1	56.1	55.0	54.1	53.1	52.2	51.3	50.4	49.6	48.8	90.00	87.23	78.51	7.5	7.1	6.4	6.0	5.9	5.5	5.6	6.0	6.9	8.5	151.3	186.3	219.4	264.7	286.7	323.8	323.9	313.5	271.1	217.2
45	12.50	72.3	71.0	69.7	68.4	67.2	66.1	64.9	63.8	62.8	61.8	90.00	88.38	79.55	7.7	7.3	6.7	6.4	6.3	5.9	6.0	6.4	7.1	8.6	147.3	180.0	209.1	249.6	269.4	300.7	301.6	294.9	260.3	214.4
50	13.89	89.3	87.6	86.0	84.5	83.0	81.5	80.2	78.8	77.5	76.3	90.00	89.54	80.58	8.0	7.7	7.1	6.8	6.7	6.4	6.5	6.8	7.5	8.8	141.5	171.8	197.4	233.9	251.6	278.4	280.1	276.2	248.0	209.3
55	15.28	108.0	106.0	104.1	102.2	100.4	98.7	97.0	95.4	93.8	92.3	90.00	90.69	81.62	8.4	8.1	7.6	7.3	7.2	6.9	7.0	7.3	7.9	9.1	134.6	162.7	185.2	218.1	234.2	257.3	259.7	257.9	235.0	202.4
60	16.67	128.6	126.2	123.9	121.6	119.5	117.4	115.4	113.5	111.6	109.8	90.00	91.85	82.66	8.9	8.6	8.1	7.9	7.8	7.5	7.6	7.8	8.4	9.5	127.2	153.2	173.1	202.9	217.6	237.8	240.6	240.4	221.7	194.5
65	18.06	150.9	148.1	145.4	142.8	140.2	137.8	135.5	133.2	131.0	128.9	90.00	93.00	83.70	9.4	9.2	8.7	8.5	8.4	8.1	8.2	8.4	8.9	9.9	119.7	143.7	161.4	188.5	202.0	219.8	222.9	223.9	208.7	186.0
70	19.44	175.0	171.7	168.6	165.6	162.7	159.8	157.1	154.5	151.9	149.5	90.00	93.00	83.70	10.1	9.9	9.5	9.2	9.1	8.9	8.9	9.1	9.6	10.5	111.1	133.1	148.6	173.0	185.3	201.0	204.2	206.1	193.9	175.3
75	20.83	200.9	197.2	193.5	190.1	186.7	183.5	180.4	177.3	174.4	171.6	90.00	93.00	83.70	11.0	10.7	10.3	10.1	9.9	9.7	9.7	9.9	10.3	11.2	103.0	123.0	136.8	158.8	170.1	184.0	187.2	189.8	179.9	164.7
80	22.22	228.6	224.3	220.2	216.3	212.4	208.8	205.2	201.8	198.4	195.2	90.00	93.00	83.70	11.8	11.6	11.2	10.9	10.8	10.6	10.6	10.7	11.1	11.9	95.3	113.7	126.0	146.0	156.3	168.7	172.0	174.9	167.0	154.5
85	23.61	258.0	253.2	248.6	244.1	239.8	235.7	231.7	227.8	224.0	220.4	90.00	93.00	83.70	12.8	12.5	12.1	11.9	11.8	11.5	11.5	11.6	12.0	12.7	88.2	105.1	116.1	134.3	143.8	155.0	158.3	161.5	155.0	144.8
90	25.00	289.3	283.9	278.7	273.7	268.9	264.2	259.7	255.4	251.1	247.1	90.00	93.00	83.70	13.8	13.5	13.2	12.9	12.8	12.5	12.5	12.6	12.9	13.6	81.7	97.2	107.1	123.8	132.6	142.7	145.9	149.2	144.0	135.6
95	26.39	322.3	316.3	310.5	305.0	299.6	294.4	289.4	284.5	279.8	275.3	90.00	93.00	83.70	14.9	14.6	14.2	14.0	13.8	13.6	13.5	13.6	13.9	14.5	75.7	90.0	99.0	114.3	122.4	131.6	134.8	138.2	133.9	127.0
100	27.78	357.2	350.5	344.0	337.9	331.9	326.2	320.6	315.2	310.1	305.0	90.00	93.00	83.70	16.1	15.8	15.4	15.1	14.9	14.7	14.6	14.7	14.9	15.5	70.2	83.5	91.7	105.8	113.3	121.7	124.7	128.1	124.6	118.9
105	29.17	393.8	386.4	379.3	372.5	366.0	359.6	353.5	347.6	341.8	336.3	90.00	93.00	83.70	17.3	17.0	16.6	16.3	16.1	15.8	15.8	15.8	16.0	16.5	65.2	77.5	85.0	98.0	105.0	112.7	115.6	119.0	116.2	111.4
110	30.56	432.2	424.1	416.3	408.9	401.7	394.7	388.0	381.5	375.2	369.1	90.00	93.00	83.70	18.6	18.3	17.9	17.6	17.4	17.1	17.0	17.0	17.2	17.6	60.7	72.1	79.0	91.0	97.5	104.7	107.5	110.8	108.4	104.5
115	31.94	472.3	463.5	455.0	446.9	439.0	431.4	424.0	416.9	410.1	403.4	90.00	93.00	83.70	19.9	19.6	19.2	18.9	18.6	18.3	18.2	18.2	18.4	18.8	56.5	67.1	73.5	84.7	90.7	97.4	100.0	103.3	101.3	98.0
120	33.33	514.3	504.7	495.4	486.6	478.0	469.7	461.7	454.0	446.5	439.2	90.00	93.00	83.70	21.4	21.0	20.6	20.2	20.0	19.7	19.5	19.5	19.6	20.0	52.8	62.6	68.5	78.9	84.6	90.7	93.3	96.4	94.8	92.1
125	34.72	558.1	547.7	537.6	528.0	518.7	509.7	501.0	492.6	484.5	476.6	90.00	93.00	83.70	22.9	22.5	22.0	21.7	21.4	21.1	20.9	20.8	20.9	21.3	49.3	58.5	64.0	73.7	79.0	84.7	87.2	90.2	88.9	86.6
130	36.11	603.6	592.4	581.4	571.1	561.0	551.3	541.9	532.8	524.0	515.5	90.00	93.00	83.70	24.4	24.0	23.5	23.2	22.9	22.5	22.3	22.2	22.3	22.6	46.2	54.8	59.9	69.0	73.9	79.3	81.6	84.5	83.5	81.5
135	37.50	650.9	638.8	627.0	615.8	605.0	594.5	584.3	574.5	565.1	555.9	90.00	93.00	83.70	26.1	25.6	25.1	24.7	24.4	24.0	23.8	23.7	23.7	24.0	43.3	51.4	56.1	64.6	69.3	74.3	76.5	79.3	78.5	76.8
140	38.89	700.0	687.0	674.3	662.3	650.6	639.3	628.4	617.9	607.7	597.8	90.00	93.00	83.70	27.7	27.3	26.8	26.3	26.0	25.6	25.4	25.2	25.2	25.4	40.7	48.2	52.7	60.7	65.1	69.8	71.9	74.6	73.9	72.5
145	40.28	750.9	736.9	723.3	710.5	697.9	685.8	674.1	662.8	651.9	641.3	90.00	93.00	83.70	29.5	29.0	28.5	28.0	27.6	27.2	27.0	26.8	26.7	26.9	38.2	45.4	49.5	57.0	61.2	65.6	67.7	70.2	69.6	68.4
150	41.67	803.6	788.6	774.1	760.3	746.9	733.9	721.4	709.3	697.6	686.3	90.00	93.00	83.70	31.3	30.8	30.2	29.7	29.4	28.9	28.6	28.4	28.3	28.5	36.0	42.7	46.7	53.7	57.6	61.8	63.7	66.2	65.7	64.7

		km/h	Reichweite in km	Verbrauch in kWh/ 100km	Zeit in h:m	Akkukapazität in kWh	
http://www.goingelectric.de/forum/bmw-i3-batterie-reichweite/hypermiling-the-i3-t11039.html		42.8	186	9.5	4:21	17.67	
		46	240	7.6	5:13	18.24	
		51.1	150	8.9	2:56	13.35	
		56.2	185	9.8	3:18	18.13	
		82.7	165	10.6	2:00	17.49	
		82.5	169	10.5	2:03	17.745	
		101.4	71	22.4	0:42	15.904	
		52.4	202	9.0	3:51	18.18	
	mit Klima bei 31C	82.5	169	10.5	2:03	17.745	
		48	215	8.4	4:29	18.06	
		46	240	7.6	5:13	18.24	
	rex	82.2	172	10.6	2:06	18.232	
		42.8	186	9.5	4:21	17.67	
		51.1	190	8.9	3:43	16.91	
		56.2	185	9.8	3:18	18.13	
https://dl.dropboxusercontent.com/u/35513642/Hilden_BMW_i3.pdf	**tempomat 90**	77.9	167	12.0	2:09	20.04	
	tempomat 90	78.2	146	12.6	1:52	18.396	
	tempomat 90	78.9	171	11.4	2:10	19.494	
	tempomat 120	89.6	128	12.8	1:26	16.384	
https://www.youtube.com/watch?v=0EMMG8ir5Mw&list=FL0GsfN9h_zCIF2tP7yAi7Mg 17:21 min,12.23 km ->= 42.2 km/h		42.2		9.2	0:00	0	

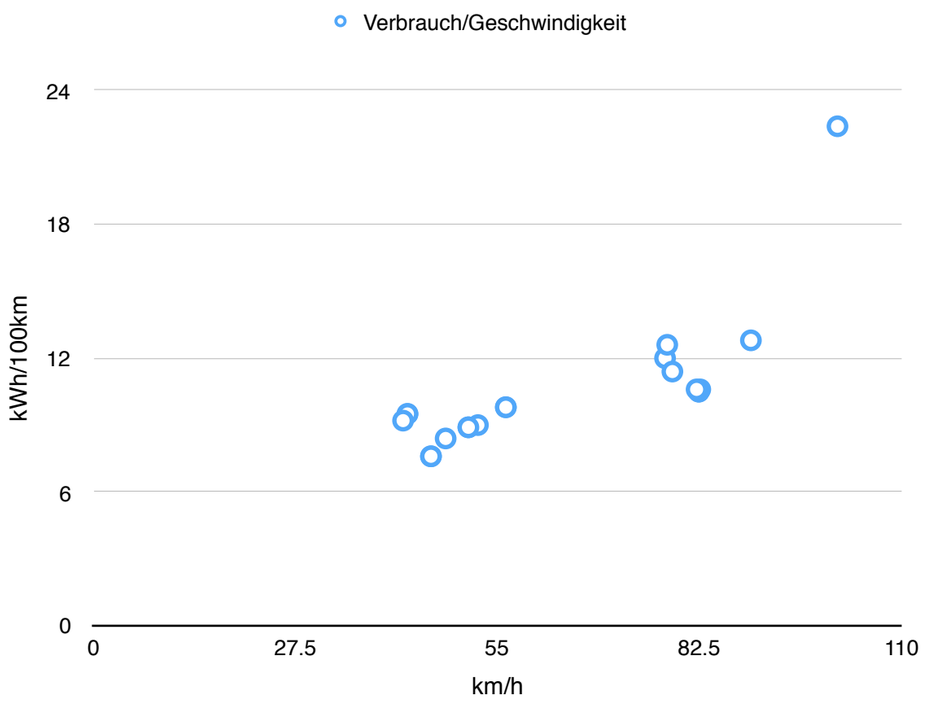


Table 1

	Gewicht	1245	kg	9.81														
	Batterieinhalt	30.1	kWh			Luftdichte bei	30	1.1644										
	Recovery	70	%				25	1.1839										
	Rollwiderstand	0.011	Sommerreifen				20	1.2041										
	Rekuperation	0.6					15	1.2250										
	Antriebsstrang	0.7					10	1.2466										
	cwWert	0.29		cw SC	0.6902		5	1.2690										
	Stirnfläche	2.38	m²				0	1.2920										
	Luftdichte	1.2041					-5	1.3163										
	F Reibung =	134.34795					-10	1.3413										
	Konstante Verbraucher	0.3	kW				Zusatzverbraucher	Temperatur	-10	-5	0	5	10	15	20	25	30	35
								Rollwiderstand	0.015	0.015	0.015	0.015	0.015	0.011	0.011	0.011	0.011	0.011
							1.5	Luftdichte	1.3413	1.3163	1.2920	1.2690	1.2466	1.2250	1.2041	1.1839	1.1644	1.1455
							-10	Zusatzverbrauch Klima	1.5	1.2	1.0	0.5	0.5	0	0	0	1	1
								Gesamtverbraucher	1.8	1.5	1.3	0.8	0.8	0.3	0.3	0.3	1.3	1.3
								Batteriekapazität	50 %	60 %	70 %	75 %	80 %	90 %	95 %	100 %	95 %	90 %
								Batteriekapazität in kWh	15.05	18.06	21.07	22.575	24.08	27.09	28.595	30.1	28.595	27.09
km/h	m/s	F luft	F Gesamt	Fahr Leistung in kW	Gesamt Leistung incl. Verbraucher	Verbrauch kWh/ 100km	Reichweite	Reichweite bei Temperatur										
150	41.667	721.415	855.763	50.938	52.438	34.959	86.101		37.290	45.646	54.229	59.449	64.314	78.169	83.712	89.374	84.397	81.029
145	40.278	674.122	808.470	46.519	48.019	33.117	90.891		39.285	48.098	57.146	62.683	67.799	82.709	88.559	94.534	89.090	85.520
140	38.889	628.432	762.780	42.377	43.877	31.340	96.042		41.420	50.726	60.274	66.157	71.540	87.624	93.805	100.116	94.139	90.348
135	37.500	584.346	718.694	38.501	40.001	29.631	101.584		43.707	53.543	63.629	69.890	75.559	92.951	99.489	106.162	99.572	95.542
130	36.111	541.863	676.211	34.884	36.384	27.988	107.548		46.156	56.561	67.226	73.903	79.876	98.733	105.655	112.718	105.420	101.130
125	34.722	500.982	635.330	31.514	33.014	26.412	113.965		48.776	59.796	71.083	78.218	84.515	105.014	112.351	119.834	111.716	107.143
120	33.333	461.705	596.053	28.383	29.883	24.903	120.869		51.578	63.260	75.217	82.857	89.500	111.845	119.630	127.566	118.493	113.611
115	31.944	424.032	558.380	25.482	26.982	23.462	128.291		54.570	66.966	79.644	87.843	94.855	119.282	127.549	135.975	125.783	120.564
110	30.556	387.961	522.309	22.799	24.299	22.090	136.260		57.761	70.925	84.378	93.199	100.602	127.384	136.171	145.123	133.617	128.030
105	29.167	353.493	487.841	20.327	21.827	20.787	144.800		61.154	75.146	89.433	98.946	106.764	136.213	145.562	155.081	142.021	136.034
100	27.778	320.629	454.977	18.055	19.555	19.555	153.928		64.751	79.634	94.816	105.102	113.358	145.837	155.792	165.921	151.016	144.592
95	26.389	289.367	423.715	15.973	17.473	18.393	163.649		68.547	84.386	100.528	111.681	120.399	156.326	166.930	177.715	160.611	153.714
90	25.000	259.709	394.057	14.073	15.573	17.304	173.950		72.530	89.393	106.562	118.690	127.891	167.746	179.049	190.535	170.800	163.389
85	23.611	231.654	366.002	12.345	13.845	16.289	184.792		76.678	94.635	112.897	126.123	135.829	180.163	192.212	204.447	181.553	173.588
80	22.222	205.202	339.550	10.779	12.279	15.349	196.101		80.954	100.074	119.497	133.962	144.189	193.631	206.474	219.506	192.809	184.249
75	20.833	180.354	314.702	9.366	10.866	14.488	207.756		85.306	105.653	126.299	142.167	152.927	208.186	221.870	235.744	204.461	195.269
70	19.444	157.108	291.456	8.096	9.596	13.709	219.571		89.657	111.288	133.214	150.668	161.967	223.838	238.405	253.160	216.345	206.487
65	18.056	135.466	269.814	6.959	8.459	13.015	231.279		93.902	116.862	140.112	159.360	171.192	240.549	256.034	271.704	228.219	217.673
60	16.667	115.426	249.774	5.947	7.447	12.412	242.514		97.904	122.216	146.815	168.087	180.438	258.217	274.644	291.248	239.744	228.503
55	15.278	96.990	231.338	5.049	6.549	11.907	252.785		101.483	127.142	153.088	176.633	189.470	276.645	294.020	311.563	250.464	238.544
50	13.889	80.157	214.505	4.256	5.756	11.512	261.464		104.418	131.373	158.624	184.705	197.977	295.506	313.813	332.276	259.784	247.232
45	12.500	64.927	199.275	3.558	5.058	11.241	267.768		106.436	134.577	163.038	191.915	205.547	314.301	333.492	352.823	266.951	253.860
40	11.111	51.301	185.649	2.947	4.447	11.117	270.756		107.212	136.350	165.850	197.760	211.646	332.297	352.285	372.393	271.046	257.560
35	9.722	39.277	173.625	2.411	3.911	11.176	269.337		106.368	136.205	166.475	201.594	215.592	348.466	369.110	389.852	270.971	257.306
30	8.333	28.857	163.205	1.943	3.443	11.476	262.278		103.468	133.563	164.200	202.586	216.506	361.381	382.472	403.639	265.458	251.907
25	6.944	20.039	154.387	1.532	3.032	12.126	248.217		98.009	127.730	158.146	199.638	213.226	369.059	390.297	411.588	253.047	239.994
20	5.556	12.825	147.173	1.168	2.668	13.340	225.634		89.387	117.837	147.178	191.212	204.123	368.620	389.567	410.548	232.038	219.968
15	4.167	7.214	141.562	0.843	2.343	15.618	192.732		76.830	102.714	129.711	174.933	186.672	355.395	375.383	395.390	200.318	189.835
10	2.778	3.206	137.554	0.546	2.046	20.459	147.127		59.225	80.593	103.252	146.553	156.347	320.186	338.062	355.945	154.950	146.811
5	1.389	0.802	135.150	0.268	1.768	35.363	85.117		34.753	48.412	63.266	96.874	103.335	238.392	251.648	264.905	91.177	86.380