



Methodology for the Reconstitution of Juice Concentrates

Purpose

To provide guidelines to Manufacturers on the available methods commonly used to calculate dilution rate in order to produce single strength reconstituted juice from concentrate.

Dilution rate specifies the number of parts by volume of water which are required to be added to one part by volume of the concentrated juice in order to obtain juice which complies with the provisions of the <u>Codex Standard 247-2005</u> (single strength reference values).

Background

Reconstituted juice is defined as single strength juice produced from a juice concentrate.

There are several processing steps:

- 1. Concentration:
 - The juice is either steam heated to evaporate the water present in the juice (between 50-80% of the water is removed) or ultra-filtered and then concentrated using **reverse osmosis**.
 - Reverse osmosis is a purification process that uses a partially permeable membrane/ filter to remove large unwanted particles by applying pressure. The water content of the juice moves in the opposite direction through a semi-permeable membrane, producing a concentrated juice.
- 2. Reconstitution:
 - To bring the concentrate back to its previous form, enough water is added to reconstitute the concentrated juice back to that of the undiluted juice from which it was made. The measurement of this is known as **standard brix**.
- 3. Finally, the juice is then pasteurised before packaging.

For further illustration on how reconstituted juice is manufactured, please refer to <u>https://www.australianbeverages.org/juice-australia-microsite/</u>.

Definitions

Single-strength Juice

The term assigned to juice at its natural strength, either directly from the extraction process or in a reconstituted form.

A Concentrated Juice

Is a product that has been concentrated by the removal of water in a sufficient amount to increase the ^oBrix level to a value of at least 50% greater than the ^oBrix value established for reconstituted juice from the same fruit, as indicated in the <u>Codex Stan 247-2005 Annex</u>.

Disclaimer:

Reconstituted Juice

Reconstituted juice is a product produced from a juice concentrate that has been diluted with the same amount of water that was taken away during the concentration process.

Juice Concentrate

Juice concentrate is produced commercially by concentrating juice to a defined °Brix by evaporation.

As juice is produced on a seasonal basis, it must be stored between seasons to ensure a year-round supply to consumer markets. Most juice is produced as frozen concentrated juice because it can be stored for long periods of time and shipped at lower cost as it contains less water.

Evaporation

The process of removing water from juice by heat.

°Brix

°Brix measurement is the determination of pure sucrose content in water:

1-degree Brix ($^{\circ}Bx$) = 1g of sucrose / in 100g of solution @ 20 $^{\circ}C$

However, for juice ^oBrix is the measure of all soluble solids in juice. In juice, it does not represent sugars/sucrose only, though sugars make up the bulk of the solids in the juice and the remaining smaller amounts are organic acids, vitamins, proteins, free amino acids, essential oils, glucosides and colour pigments.

For fruit juice products, ^oBrix is determined by measuring juice density or refractive index.

Single strength °Brix reference values

Single Strength °Brix reference values are used to determine the minimum °Brix level for the preparation of reconstituted fruit juice/puree from concentrate. Codex Stan 247-2005 is used as the relevant international standard to obtain the minimum Brix reference values. The <u>Annex</u> to this Standard sets out the minimum Brix level for each reconstituted fruit juice/puree.

The preparation of fruit juice that requires reconstitution of concentrated juices must be in accordance with the minimum Brix level established in the Annex to Codex Stan 247-2005.

If there is no Brix level specified in the Table to the Annex of Codex Stan 247-2005, minimum [•]Brix shall be calculated on the basis of the soluble solids content of the single strength juice used to produce such concentrated juice.

Juice content (% juice)

This is the quantity of juice in the beverage, expressed as percent juice. It can be calculated as a percentage in a number of different ways including: $\frac{v}{v}$, $\frac{w}{v}$ and $\frac{w}{w}$.

Corrected °Brix

^oBrix results for citrus juices, by convention are typically corrected for acidity.

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[°]Brix value obtained after correction for the acid content of juice represents the actual sugar concentration of juice. Dissolved substances other than sugars will influence the result of Brix measurements. Thus, the level of acid, the second most abundant dissolved material, is often measured and a correction of the [°]Brix value is made.

For single-strength juices, acid correction is small and the term °Brix is commonly used without correction to mean only the sugar content. However, in measuring °Brix of juice concentrates, the acid correction is important due to the much higher acid content of concentrate. In Codex Stan 247-2005 this is referred to 'acid corrected'. Here, the **term "°Brix, corrected" is used.**

Determining the °Brix corrected value

The °Brix corrected value, is calculated based on the following calculation:

[°]Brix + Correction Factor (CF)

CF = Correction Factor can be obtained from <u>Acid Correction Brix Tables (Cobell)</u>.

Example:

If an Orange Juice has a °Brix of 65 and a citric acid (%w/w) of 3.00 the °Brix, corrected value is as follows:

°Brix, corrected = 65 + 0.59 = 65.59

Typically, fruits that are high in acid such as citrus are acid corrected. However, when purchasing raw materials, it is best to confirm from the supplier if acid correction has been applied to the specification.

Using •Brix to calculate Reconstitution

Methods

Manufacturers use various methods to calculate the dilution rate in order to produce reconstituted juice from concentrate.

Things to know:

- [°]Brix is the % of sucrose by weight
- Density or Specific Gravity (SG) is g/mL
- Volume = Mass / SG.

There are 3 main methods used by manufacturers:

Method 1

This is a mass-based method which calculates the quantity of single strength reconstituted juice by dividing the concentrate ^oBrix by the single strength ^oBrix (as provided in Codex 247-2005 Annex).

Concentrate ^oBrix is determined by refractometer.

Please note: If it is a Citrus product the refractometer ^oBrix reading is acid corrected using <u>Acid</u> <u>Correction Brix Tables (Cobell).</u>

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Single strength ^oBrix can be obtained from Codex Standard 247-2005 or AIJN.

Example 1: Determining the reconstitution factor using ^oBrix

Lime Juice Concentrate

Concentration of lime juice concentrate = 47 °Brix (uncorrected)

Acid Correction Factor (CF) = 6.52

Acid Corrected °Brix: 47 + 6.52 (CF)= 53.52 °Brix

Codex minimum single strength (SS) Brix for lime: 8 °Brix

NOTE: This value is acid corrected.

Concentration factor: 53.52/8 = 6.69

100g of the juice concentrate x 6.69 = 669g of SS juice

In summary:

100g of lime juice concentrate + 569g water will produce 669g SS Lime Juice.

NOTE: The outcome is in mass.

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Method 2

This method uses ^oBrix to determine the concentration factor, however it also uses the density or specific gravity (g/mL) of the single strength juice as part of the calculation.

Example 2: Determining the reconstitution factor using $^\circ$ Brix and then converting to volume using Specific Gravity (SG)

Lime Juice Concentrate

Concentration of lime juice concentrate = 47 °Brix (uncorrected)

Acid Correction Factor (CF) = 6.52

Acid Corrected °Brix: 47 + 6.52 (CF)= 53.52 °Brix

Codex minimum single strength (SS) Brix for lime: 8 °Brix

NOTE: This value is acid corrected.

Density (specific gravity) of single strength (SS) lime (8 °Brix): 1.0318

Specific gravity (SG) is obtained from the sugar tables in the Appendix by referencing '8.0 Degrees Brix' and selecting the corresponding specific gravity.

From **example 1** we know that:

100g of the juice concentrate x 6.69 = 669g of SS juice

Convert the weight of the SS juice to volume by dividing by the SG of the SS juice: 669/1.0318 = 648 mL

In summary:

100g of lime juice concentrate + 569g water will produce 648 mL of SS Lime Juice.

NOTE: The outcome is in volume.

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Method 3

The concentration factor is determined by the conversion of the concentrate ^oBrix and single strength ^oBrix to grams of sucrose per Litre using sugar tables provided in the Appendix.

Example 3: Determining the reconstitution factor using grams of sucrose per 100 mL
Lime Juice Concentrate
Concentration of lime juice concentrate = 47 °Brix (uncorrected)
Acid Correction Factor (CF) = 6.52
Acid Corrected °Brix: 47 + 6.52 (CF)= 53.52 °Brix
Codex minimum single strength (SS) °Brix for lime: 8 °Brix
NOTE: This value is acid corrected.
Using figures from sugars tables in the Appendix:
For the lime juice concentrate:
% of sucrose by weight (°Brix) for concentrate is 53.52
g of sucrose per Litre for concentrate is 667.7
For the SS Lime Juice:
% of sucrose by weight (°Brix) for SS juice is 8
g of sucrose per Litre for SS juice is 82.31
Concentration factor: 667.7/82.31 = 8.11
100 mL of the juice concentrate x 8.11 = 811 mL of SS juice
In summary:
100 mL of lime juice concentrate + 711 mL water will produce 811 mL of SS Lime Juice.
NOTE: The outcome is in volume.

As described, these are the most commonly used methods across industry. It is recommended that Members determine the most suitable and appropriate method for the business.

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	ES	APPARENT	WEIGHT PER LITER	GRANS OF Sucrose	WEIGHT PER U.S.GAL-	POUNDS OF Sucrose	WEIGHT PER Cubic FT	POUNDS OF Sucrose
PERC	ENT	GRAVITY	IN AIR	PER	LON IN AIR	PER GALLON	IN AIR	PER CUNIC
BY WE	IGHT	20/20 C	AT 20 C	LITER IN	AT 20 C	IN AIR	AT 20C	FT IN AIR
SUCRO	SE		(GRANS)	AIR .	(POUNDS)		(POUNDS)	
5.	0	1.0197	1016.8	50.84	8.486	0.424	63.477	3.174
5.	1 .	1.0201	1017.2	51.88	8.489	0.433	63.502	3.239
5.	.2	1.0205	1017.6	52.92	8.472	0.442	63.526	3.30,3
. 5.	3	1.0209	1018.0	53.95	8.496	0.450	63.551	3.368
5.	4	1.0213	1018.4	54.99	8.499	0.459	63.3/6	3.433
5.	5	1.0217	1018.8	56.03	8.502	0.468	63,601	- 3.478
5.	. 6	1.0221	1019.2	5/.0/	8.000	V.9/0	03.020	3.003
5.	.7	1.0225	1019.6	58.12	8.307	0.485	03.001	3.028
5.	.8	1.0229	1020.0	27.10	8.012	V.474	63.0/0	3.073
ຼ່ວ	. 7	1.0233	1020.4	60.20	0.010	0.502	43 724	3.730
<u>,</u>	.0	1.0237	1020.0	42 28	9 522	0.520	43.751	3,889
<u> </u>	• (•)	1.0245	1021.2	62.27	8.52X	0.529	43.777	3/954
0 4	• 2 7	1 0245	1027.0	64.39	8.529	0.537	63.802	4.020
		1 0253	1022.4	45.43	8.532	0.546	63.827	4.085
4	• 7 5	1 0257	1022.8	66.48	8.536	0.555	63.852	4.150
4		1 0241	1023.2	67.53	8.539	0.564	63.877	4.216
6	.0	1 0245	1023.6	68.58	8-542	0.572	63.902	4.281
	.,	1.0269	1024.0	69.63	8.546	0.581	63.928	4.347
	. 9	1.0273	1024.4	70.69	8.549	0.590	63.953	4.413
7	.0	1.0277	1024.8	71.74	8.553	0.599	63.978	4.478
. 7	.1	1.0281	1025.2	72.79	8.556	0.607	64.003	4.544
. 7	.2	1.0285	1025.6	73.85	8.559	0.616	64.029	4.610
7	.3	1.0289	1026.0	74.90	8.563	0.625	64.054	4.676
7	.4	1,0293	1026.4	75.96	8.566	0.634	64.079	4,742
7	.5	1.0298	1026.9	77.01	8.569	0.643	64.104	4.808
7	.6	1.0302	1027.3	78.07	8.573	0.652	64.130	4.874
7	.7	1.0306	1027.7	79.13	8.576	0.660	64.155	4.940
7	.8	1.0310	1028.1	80.19	8.580	0.669	64.1B1	5.004
7	.9	1.0314	1028.5	81.25	8.583	0.678	64.206	5.072
8	.0	1.0318	1028.9	82.31	8.586	0.687	64.231	5.139
8	.1	1.0322	1029.3	83.37	8.590	0.696	64.257	5.205
8	.2	1.0326	1029.7	84.44	8.593	0.705	64.282	5.271
8	.3	1.0330	1030.1	85.50	8.597	0.714	64.308	5.338
8	.4	1.0334	1030.5	86.56	8.600	0.722	64.333	.5.404
8	.5	1.0338	1030.9	87.63	8.603	0.731	64.359	0,9/ E E
8	.6	1.0342	1031.3	88.70	8.607	0.740	64.384	5.5
8	.7	1.0347	1031.7	89.76	8.610	0.749	64.410	5.6 K (
-8	.8	1.0351	1032.2	90.83	8.614	0./58	64.430	5.
8	.9	1.0355	1032.6	91.90	8.61/	0.767	04.401	5.7
9	•••	1.0359	1033.0	92.97	8.621	0.776	09.90/	5
9	• 1	1.0363	1033.4	74.04	5,624	V./83	01.JIZ 11 570	5.
5	.2	1.0367	1033.8	73.11	0.02/	V./74	09.JJG	а, А
. 9		1.03/1	1034.2	70.10	0.031	0.003	67.J07 11 K00	Ă
5	. 1	1.03/3	1034.0	7/.23	0.034 8 478	0.012	44.507 44.415	6.
۲ ۲	• 3	1.0380	1033.0	70.33 99 Añ	8.641	0.830	KA . KA1	6.
···. ,	2 7	1 0700	1033.4	100 49	8.445	0.810	AA	. 6.
1		1.0388	1033.7	100.40	8.419	0.849	XA 197	6.
,	• 8	1.0372	1030.3	101.00		V.070	1. 2.0	<u> </u>

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 TABLE OF BRIX, APPARENT SPECIFIC GRAVITY, WEIGHT, AND SOLIDS WEIGHT OF SUCROSE SOLUTIONS

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JEGREES	APPARENT	WEIGHT	BRAMS OF	WEIGHT PER	POUNDS OF	WEIGHT PER	POUNDS OF
BRIX OR	SPECIFIC	PER LITER	SUCROSE	U.S.GAL-	SUCROSE	CUBIC FT	SUCROSE
PER CENT	GRAVITY	IN AIR	PER	LON IN AIR	PER GALLON	IN AIR	PER CUBI
BY WEIGHT	20/20 C	AT 20 C	LITER IN	AT 20 C	IN AIR	AT 20C	FT IN AIR
SUCROSE		(BRAMS)	AIR	(POUNDS)		(POUNDS)	
10.0	1.0400	1037.1	103.71	8.655	0.865	64.743	6.474
10.1	1.0404	1037.5	104.79	8.458	0.874	64.769	6.542
10.2	1.0409	1037.9	105.87	8.662	0.883	64.795	6.609
10.3	1.0413	1038.3	106.95	8.665	0.893	64.820	6.676
10.4	1.0417	1038.7	108.03	8.669	0.902	64.846	6.744
10.5	1.0421	1039.1	107.11	8.672	0.911	64.872	6.812
10.6	1.0425	1039.6	110.19	8.676	0.920	64.878	6.879
10.7	1.0429	1040.0	111.28	8.679	0.929	64.924	6.947
10.8	1.0433	1040.4	112.36	8.682	0.938	64.950	7.015
10.9	1.0438	1040.8	113.45	8.686	0.947	64.976	7.082
11.0	1.0442	1041.2	114.04	8.687	0.956	65.002	7.150
11.1	1.0450	1041.0	113.62	8.673	0.965	65.028	7.218
11.2	1 0454	1042.1	117 90	0.070	V.7/4	63.034	7.286
11.3	1 0459	1042.5	110 00	8 7 7 7	0.783	63.080	7.334
11.5	1.0443	1043.3	110.09	8 707	1 001	0J.1V0 15 172	7.922
11.6	1.0447	1043.7	121.07	8 710	1 010	45 150	7.550
11.7	1.0471	1044.1	122.17	B.714	1 020	45 194	7.330
11.8	1.0475	1044.6	123.26	8.717	1 029	45 210	7.027
11.9	1.0479	1045.0	124.35	8.721	1 079	45 274	7.075
12.0	1_0484	1045.4	125.45	8.724	1.047	45 247	7 972
12.1	1.0488	1045.8	126.55	8.728	1.056	45.289	7.900
12.2	1.0492	1046.2	127.64	8.731	1.045	45.315	7.968
12.3	1.0496	1046.7	128.74	8.735	1.074	65.341	8.037
12.4	1.0501	1047.1	129.84	8.738	1.084	65.367	8.106
12.5	1.0505	1047.5	130.94	8.742	1.093	65.394	8.174
12.6	1.0509	1047.9	132.04	8.745	1.102	65.420	8.243
12.7	1.0513	1048.3	133.14	8.749	1.111	65.446	8.312
12.8	1.0517	1048.8	134.24	8.752	1.120	65.472	8.380
12.9	1.0522	1049.2	135.35	8.756	1.130	65.499	8.449
13.0	1.0526	1049.6	136.45	8.759	1.139	65.525	8.518
13.1	1.0530	1050.0	137.55	8.763	1.148	65.551	8.587
13.2	1.0534	1050.5	138.66	8.766	1.157	65.578	8.656
13.3	1.0539	1050.9	139.77	8.770	1.166	65.604	8,725
13.4	1.0543	1051.3	140.87	8.773	1.176	65.631	8.795
13.5	1.0547	1051.7	141.98	8.777	1.185	65.657	8.864
13.0	1.0331	1052.2	143.09	8./81	1.194	65.684	8.933
17.0	1.0536	1032.0	144.20	0.709	1.203	65.710	9.002
13.8	1.0544	1053.0	140.01	8./88	1.213	65.736	9.0/2
13.7	1.0549	1053.9	147 54	0./71	1.222	63./63	9.141
14.1	1.0577	1054.3	149 45	0.//J 8 704	1.231	63./7V	7.211
14.2	1.0577	1054.7	149.77	8.802	1.250	42 092010	7.24V 0 150
14.3	1.0581	1055-1	150.88	8.805	1.259	63.643	9.410
14-4	1.0585	1055.6	152.00	8.809	1.248	45-894	9.489
14.5	1.0590	1056.0	153.12	8.813	1.278	45.922	9.559
14.6	1.0594	1056.4	154.24	8.816	1.287	65.949	9.429
14.7	1.0598	1056.8	155.35	8.820	1.296	65.976	9.65
14.8	1.0603	1057.3	156.47	8.823	1.306	66.002	9.768
14.9	1.0607	1057.7	157.60	8.827	1.315	66.029	9.838

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 TABLE OF BRIX, APPARENT SPECIFIC GRAVITY, WEIGHT, AND SOLIDS WEIGHT OF SUCROSE SOLUTIONS

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12.827

12.974

.13.047

13.119

13.192

13.245

13.33B

13,411

12,902 .

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67.168

67.195

67.223

67.251

67.278

67.306

67.333

67.361

67.389

NFGREES X DR PER CENT DY WEIGHT SUCRDSE	APPARENT SPECIFIC GRAVITY 20/20 C	WEIGHT PER LITER In Air At 20 C (brams)	GRAMS OF Sucrose Per Liter in Air	VEIGHT PER U.S.GAL- LON IN AIR AT 20 C (POUNDS)	POUNDS OF Sucrose Per Gallon In Air	WEIGHT PER CUBIC FT IN AIR AT 20C (PDUNDS)	POUNDS OF Sucrose Per Cubi Ft in Ai
15.0	1.0611	1058.1	158.72	8.830	1.325	66.056	9.908
15.1	1.0615	1058.5	157.84	8.834	1.334	66.082	'9 . 9 78
15.2	1.0620	1059.0	160.96	8.837	1.343	66.109	10.049
15.3	1.0624	1059.4	162.09	B.841	1.353	66.136	10.119
15.4	1.0628	1059.8	163.21	8.845	1.362	66.163	10.189
15.5	1.0633	1060.3	164.34	8.848	1.371	66.190	10.259
15.6	1.0637	1060.7	165.47	8.852	1.381	66.216	10.330
15.7	1.0641	1061.1	166.60	8.855	1.390	66.243	10.400
15.8	1.0646	1061.6	167.72	8.859	1.400	66.270	10.471
15.9	1.0650	1062.0	168.85	8.863	1.409	66.297	10.541
16.0	1.0654	1062.4	169.99	8.866	1.419	66.324	10.612
16.1	1.0659	1062.8	171.12	8.870	1.428	66.351	10.683
16.2	1.0663	1063.3	172.25	8.873	1.437	66.378	10.753
16.3	1.0667	1063.7	173.38	8.877	1.447	66.405	10.824
16.4	1.0672	1064.1	174.52	8.881	1.456	66.432	10.87
16.5	1.0676	1064.6	175.65	8.884	1.466	66.459	10.960
16.6	1.0680	1065.0	176.79	8.888	1.475	66.486	11.032
16.7	1.0685	1065-4	177.93	8.871	1.485	66.513	11.10
16.8	1.0689	1065.9	179.07	8.895	1.494	66.540	11.175
16.9	1.0693	1066.3	180.21	8.877	1.504	66.567	11.25
17.0	1.0698	1066.7	181.35	8.902	1.513	66.594	11.32
.7.1	1.0702	1067.2	182.49	8.906	1.523	66.621	11.39
17.2	1.0706	1067.6	183.63	8.910	1.532	66.64B	11.46
17.3	1.0711	1068.0	184.77	8.913	1.542	66.676	11.53
17.4	1.0715	1068.5	185.92	8.917	1.552	66.703	11.60
17.5	1.0719	1068.9	187.06	8.920	1.561	66.730	11.67
17.6	1.0724	1069.4	188.21	8.924	1.571	66.757	11.74
17.7	1.0728	1069.8	189.35	8.928	1.580	66.784	11.82
17.8	1.0733	1070.2	190.50	8.931	1.590	66,812	11.89
17.9	1.0737	1070.7	191.65	8.935	1.599	66.839	11.76
18.0	1.0741	1071.1	192.80	8.939	1.609	66.866	12.03
18.1	1.0746	1071.5	193.95	8.942	1.419	66.874	12.10
18.2	1.0750	1072.0	195.10	8.946	1.628	66.921	12.18
18.3	1.0755	1072.4	196.25	8.950	1.638	66.948	12.25
18.4	1.0759	1072.9	197.41	8.953	1.647	66.976	12.32
18.5	1.0763	1073 3	198.56	8.957	1.657	67.003	12.39
18-4	1.0748	1073.7	199.72	8,961	1.667	67.031	12.46
18.7	1.0772	1074-2	200.87	8.964	1.676	67.058	12.54
18.8	1.0777	1074.6	202.03	8.948	1.686	67.085	12.61
18.9	1.0781	1075.0	203.19	8.972	1.696	67.113	12.68
10.0	1 0705	1075 5	204.34	8.975	1.705	67.140	12.7

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 TABLE XX
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 TABLE OF BRIX, APPARENT SPECIFIC GRAVITY, WEIGHT, AND SOLIDS WEIGHT OF SUCROSE SOLUTIONS

DEGREES BRIX OR PER CENT BY WEIGH SUCROSE	APPARENT SPECIFIC GRAVITY T 20/20 C	WEIGHT PER LITER In Air At 20 C (grams)	GRAMS OF SUCROSE PER Liter in Air	WEIGHT PER U.S.GAL- Lon in Air At 20 C (Pounds)	POUNDS OF Sucrose Per Gallon In Air	WEIGHT PER CUBIC FT IN AIR AT 20C (POUNDS)	POUNDS OF Sucrose Per Cubic Ft in Air
20 0	1.0830	1079.9	215.98	9.012	1.802	67.417	13.484
20.0	1.0834	1080.4	217.15	9.016	1.812	67.445	13.556
20.1	1.0839	1080.8	218.32	9.020	1.822	67.473	13.630
2012	1.0843	1081.3	219.50	9.023	1.832	67.501	13.703
20.4	1.0848	1081.7	220.67	9.027	1.842	67.528	13.776
20.5	1.0852	1082.1	221.84	9.031	1.851	67.556	13.849
20.6	1.0857	1082.6	223.01	9.035	1.861	67.584	13.922
20.7	1.0861	1083.0	224.19	9.038	1.871	67.612	13.996
20.8	1.0866	1083.5	225.37	9.042	1.881	67.640	14.049
20.9	1.0870	1083.9	226.54	9.046	1.891	67.667	14.143
21.0	1.0875	1084.4	227.72	9.050	1.900	67.695	14.216
21.1	1.0879	1084.8	228.90	9.053	1.910	67.723	14.290
21.2	1.0883	1085.3	230.08	9.057	1.920	67.751	14.363
21.3	1.0888	1085.7	231.26	9.061	1.930	67.779	14.437
21.4	1.0892	1086.2	232.44	9.064	1.940	67.807	14.511
21.5	1.0897	1086.6	233.62	9.068	1.950	67.835	14.585
21.6	1.0901	1087.1	234.81	9.072	1.960	67.863	14.659
21.7	1.0906	1087.5	235.99	9.076	1.969	67.891	14.732
21.8	1.0910	1088.0	237.18	9.079	1.979	67.919	14.806
21.9	1.0915	1088.4	238.36	9.083	1.989	67.947	14.881
22.0	1.0919	1088.9	239.55	9.087	1.999	67.975	14.955
22.1	1.0924	1089.3	240.74	9.091	2.009	68.003	15.029
22.2	1.0929	1087.8	241.93	9.094	2.019	68.032	15.103
22.3	1.0933	1090.2	243.12	9.098	2.029	68.060	15.177
22.4	1.0738	1090.7	244.31	9.102	2.039	68.088	15.252
22.5	1.0942	1091.1	245.50	9.106	2.049	68.116	15.326
22.6	1.0947	1091.6	246.70	9.110	2.059	68.144	15.401
22.7	1.0951	1092.0	247.89	9.113	2.069	68.173	10.4/0
22.8	1.0956	1092.5	249.09	9.117	2.0/9	68.201	10.000
22.9	1.0960	1092.9	250.28	9.121	2.089	68,229	13.023
23.0	1.0965	1093.4	251.48	9.125	2.099	68.257	13.077
23.1	1.0969	1093.8	252.68	9.128	2.109	08.280	10.774
23.2	1.0974	1094.3	203.88	9.132	2.117	40 747	15 974
23.3	1.09/8	1074.7	233.08	7.120	2.127	10.312	13.727
23.4	1.0983	1095.2	230.28	7.140	2.137	40.371	14 074
23.5	1.0988	1095.7	237.90	0 147	2.177	49.428	14.149
23.6	1.0992	1070-1	230.00	7.14/	2.137	48 454	14.224
23.7	1.0777	1070.0	237.07	9 155	2 1 7 9	48.484	16.300
23.8	1 1001	1077.0	267.07	9.159	2,189	68.513	16.375
23.7	1 1010	1077.5	263.51	9.163	2,199	68.541	16.450
29.0	1 1015	1098 4	264.71	9,144	2.209	68.570	16.526
21.1	1 1020	1098.8	265.92	9,170	2.219	68-598	16.601
21.2	1 1024	1099.3	267-13	9,174	2.229	68.627	16.677
21.3	1.1029	1099_R	268.34	9,178	2.239	68.656	16.752
29.9	1.1027	1100.2	269.56	9.182	2.250	68-684	16.828
24.3	1.1038	1100.7	270.77	9.186	2.260	68.713	16.904
24.0	1,1043	1101.1	271.98	9.189	2.270	68.741	16.975
21.2	1,1047	1101.6	273.20	9.193	2.280	68.770	17.055
27.0	1 1052	1102.1	274.41	9.197	2.290	68.799	17.131

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DEGREES	APPARENT	WEIGHT	GRANS OF	WEIGHT PER	POUNDS OF	UFIGHT PER	POUNDS OF
BRIX DR	SPECIFIC	PER LITER	SUCROSE	U.S.GAL-	SUCROSE	CURIC FT	SUCROSE
PER CENT	GRAVITY	IN AIR	PER	LON IN ATR	PER GALLON	TN ATP	DED CUDIC
BY WEIGHT	T 20/20 C	AT 20 C	LITER IN	AT 20 C	TH ATR	AT 200 .	ET TN ATD
SUCROSE		(GRANS)	AIR	(POUNDS)			LI TH WIK
						(FOURDS)	
25.0	1.1057	1102.5	275.63	9.201	2.300	68.828	17,207
25.1	1.1061	1103.0	276.85	9.205	2.310	68-857	17.283
25.2	1.1066	1103.4	278.07	9.209	2.321	68.886	17.159
25.3	1.1070	1103.9	279.29	9.212	2.331	68.915	17.435
25.4	1.1075	1104.4	280.51	9.216	2.341	68.943	17.512
25.5	1.1080	1104.8	281.73	9.220	2.351	68.972	17.588
25.6	1.1084	1105.3	282.95	9.224	2.361	49.001	17.444
25.7	1.1089	1105.8	284.18	9.228	2.372	69.030	17.741
25.8	1.1094	1106.2	285.40	9.232	2.382	69.059	17.817
25.9	1.1098	1106.7	286.63	9.236	2.392	49-088	17.894
26.0	1.1103	1107.1	287.86	9.239	2.402	69-116	17.970
26.1	1.1107	1107.6	289.09	9.243	2.413	69-145	18.047
26.2	1.1112	1108.1	290.31	9.247	2.423	69.174	18.174
26.3	1.1117	1108.5	291.54	9.251	2.433	49.203	18.201
26.4	1.1121	1109.0	292.78	9.255	2.443	69.232	18.277
26.5	1.1126	1109.5	294.01	9.259	2.454	49.241	18.354
26.6	1.1131	1109.9	295.24	9.263	2.464	49 200	19 471
26.7	1.1135	1110.4	296.48	9.267	2.474	67.270	10 500
26.8	1.1140	1110.9	297.71	9.220	2.485	40 740	10.505
26.9	1.1145	1111-3	298.95	9.274	2.495	40 170	10.000
27.0	1.1149	1111.8	300.18	9.278	2.775	67.J/6	10.003
27.1	1.1154	1112.3	301.42	9.282	2.505	40 471	10./10
27.2	1.1159	1112.7	302.66	9 284	2 5 3 1 3	07.130	10.01/
27.3	1:1164	1113.2	303.90	9.290	2.320	07.40J 40 404	18.873
27.4	1.1168	1113.7	305.14	9 294	2.330	67.171 10 507	18.772
27.5	1.1173	1114.1	304 79	0 200	2.37/	07.323	19.030
27.6	1.1178	1114.4	307.63	9 302	2.337	07.000	17.127
27.7	1.1182	1115.1	308.87	9 304	2.50/	67.382	19,203
27.8	1.1187	1115.5	310.12	9 310	2.500	07.011	19.282
27.9	1.1192	1116.0	311.37	9 317	2.300	07.010	19.300
28.0	1.1196	1116.5	312.41	9 317	2.370	67.0/0	17.438
28.1	1 1201	1116 9	313 84	9 201	2.007	67.677	17.010
28.2	1.1204	1117.4	315.11	9 325	2.017	07./20	19.374
28.3	1,1211	1117.9	314 34	9 100	2 4 4 4	47.730	17.0/2
28.4	1.1215	1118.4	317.61	7.527	2.070	07.+707	17.730
28.5	1.1220	1118.8	318.87	9.333	2.021	. 07.01/	19.828
28.4	1.1225	1119.3	320,12	9.341	2.479	07.090 10 075	17.700
28.7	1.1229	1119.8	321.38	9.345	2.012	67.87J	17.703
28.8	1.1234	1120.2	322.63	0 740	2.002	67.7VJ	20.003
28.9	1.1239	1120.7	323.89	9.357	2 7 7 7	10 014	20.171
29.0	1.1244	1121.2	325.15	0.357	2.703	07.704	20.220
29.1	1.1248	1121-7	326.41	9.341	2 7 7 4	07.773 70 007	20.270
29.2	1.1253	1122.1	397.47	0 745	2.727	70.023	20.3//
29.7	1.1258	1122.4	328.07	0 7/0	20/39 2 745	70.033	20.436
29.4	1.1247	1123.1	330.10	7.307	2.19J 3 7KI	70.082	20.534
29.5	1.1247	1123 4	331.45	7.3/3	2.730	70.112	20.613
20 1	1.1070	1124 0	337.73	7.3/0 0 70A	4./00	70.141	20.692
29.7	1.1277	1124 5	333.99	9.304	4./// 2 707	70.171	20.771
20 0	1.1292	1125 0	115 25	7.301	4./0/	/0.201	20.850
20.0	1 1297	1125 5	114 53	7.300	4./75	70.230	20.929
L/ • /	1.1207	1.12985		7.372	2.808	70.260	21.008

TABLE XX
 TABLE XX
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 TABLE OF BRIX, APPARENT SPECIFIC GRAVITY, WEIGHT, AND SOLIDS WEIGHT OF SUCROSE SOLUTIONS

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<i>.</i>	TABLE XX	Page 7 of 21
TABLE OF BRIX, APPARENT SPE	CIFIC GRAVITY, WEIGHT, AND SOLIDS WEIGH	r of sucrose solutions

DEGREES	APPARENT	WEIGHT	GRAMS OF	WEIGHT PER	POUNDS OF	WEIGHT PER	POUNDS OF
BRIX OR	SPECIFIC	PER LITER	SUCROSE	U.S.GAL-	SUCROSE	CUBIC FT	SUCROSE
PER CENT	GRAVITY	IN AIR	PER	LON IN AIR	PER GALLON	IN AIR	PER CUBIC
BY WEIGHT	20/20 C	AT 20 C	LITER IN	AT 20 C	IN AIR	AT 20C	FT IN AIR
SUCROSE		(GRANS)	AIR	(POUNDS)		(POUNDS)	
30.0	1.1292	1126.0	337.79	9.397	2.819	70.291	21.087
30.1	1.1296	1126.4	339.06	9.400	2.830	70.321	21.167
30.2	1.1301	1126.9	340.33	9.404	2.840	70.351	21.246
30.3	1.1306	1127.4	341.60	9.408	2.851	70.381	21.325
30.4	1.1311	1127.9	342.87	9.412	2.861	70.410	21.405
30.5	1.1315	1128.3	344.15	9.416	2.872	70.440	21.484
30.6	1.1320	1128.8	345.42	9.420	2.883	70.470	21.564
30.7	1.1325	1129.3	346.70	9.424	2.893	70.500	21.644
30.8	1.1330	1127.8	347.97	9.428	2.904	70.530	21.723
30.9	1.1335	1130.3	349.25	9.432	2.915	70.560	21.803
31.0	1.1339	1130.7	350.53	9.436	2.925	70.590	21.883
31.1	1.1344	1131.2	351.81	9.440	2.936	70.620	21.963
31.2	1.1349	1131.7	353.09	9.444	2.947	70.650	22.043
31.3	1.1354	1132.2	354.37	9.448	2.957	70.680	22.123
31.4	1.1359	1132.7	355.66	9.452	2.968	70.710	22.203
31.5	1.1364	1133-1	356.94	9.456	2.979	70.740	22.283
31.6	1.1368	1133.6	358.23	9.461	2.990	70.770	22,363
31.7	1.1373	1134.1	324.21	9.460	3.000	70.800	22.444
31.8	1.13/8	1134.6	360.80	9.469	3.011	70.830	22.524
31.9	1.1383	1135.1	362.09	9.4/3	3.022	70.860	22.603
32.0	1.1388	1135.6	303.30	Y.9//	3.033	70.871	22.000
32.1	1 1700	1130.0	304.0/	7 + 4 0 I 0 A D K	3.043	70.721	22.700
32.2	1 1402	1130.J	363.76	7.40J 9 400	3.039	70.731	22.070
32.3	1 1407	F137.V	J0/ . 20 710 85	7.107	3.003	74.701	22.727
32.9	1 1 4 1 2	1137.5	300.33	0 497	3.0/0	71.012	23.000
32.5	1.1412	1130.0	307.03	7.177 9.501	3.000	71.072	23.007
32.0	1.1417	1170.0	371.19	9.501	3.077	71.072	23.170
32.7	1 1427	1137.0	372.74	9 509	3.100	71 177	23, 332
32.0	1.1432	1139.9	375.04	9.513	3,130	71.163	23.413
33.0	1.1436	1140-4	376.34	9-517	3,141	71,194	23.494
33.1	1.1441	1140.9	377.64	9.521	3,152	71.224	23.575
33.2	1.1446	1141.4	378.94	9.525	3.162	71.254	23.657
33.3	1.1451	1141.9	380.25	9.529	3,173	71.285	23.738
33.4	1.1456	1142.4	381.55	9.533	3.184	71.315	23.820
33.5	1.1461	1142.9	382.86	9.538	3.195	71.346	23.901
33.6	1.1466	1143.3	384.16	9.542	3.206	71.376	23.983
33.7	1.1471	1143.8	385.47	9.546	3.217	71.407	24.064
33.8	1.1476	1144.3	386.78	9.550	3.228	71.438	24.146
33.9	1.1481	1144.8	388.09	9.554	3.239	71.46B	24.228
34.0	1.1486	1145.3	387.41	9.558	3.250	71.499	24.310
34.1	1.1490	1145.8	390.72	9.562	3.261	71.529	24.392
34.2	1.1495	1146.3	392.03	9.566	3.272	71.560	24.474
34.3	1.1500	1146.8	393.35	9.570	3.283	71.591	24.556
34.4	1.1505	1147.3	394.66	9.574	3.294	71.622	24.638
34.5	1.1510	1147.8	395.98	9.578	3.305	71.652	24.720
34.6	1.1515	1148.3	397.30	9.583	3.316	71.683	24.803
34.7	1.1520	1148.7	398.62	9.587	3.327	71.714	24.885
34.8	1.1525	1149.2	399.94	9.591	3.338	71.744	24.967

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 TABLE OF BRIX, APPARENT SPECIFIC GRAVITY, WEIGHT, AND SOLIDS WEIGHT OF SUCROSE SOLUTIONS

GREES BRIX OR PER CENT	APPARENT SPECIFIC GRAVITY	WEIGHT PER LITER In Air	GRANS OF Sucrose Per	WEIGHT PER U.S.GAL- Lon IN AIR	POUNDS OF SUCROSE PER GALLON	WEIGHT PER Cubic Ft In Air	POUNDS OF SUCROSE PER CUBIC
BY WEIGHT	20/20 C	AT 20 C	LITER IN	AT 20 C	IN AIR	AT 20C	FT IN AIR
SUCROSE		(GRANS)	AIR	(POUNDS)		(POUNDS)	
35.0	1.1535	1150.2	402.59	9.599	3.360	71.807	25.133
35.1	1.1540	1150.7	403.91	9.603	3.371	71.838	25.215
35.2	1.1545	1151.2	405.23	9.607	3.382	71.869	25.298
33.3	1.1550	1101.7	400.00	7.012 D 111	3.373	71.900	23.361
33.4	1.1540	1152.2	407.07	7.010	3.404	71.731	20.901
35.6	1.1545	1153.2	410.54	9.624	3.426	71.993	25.430
35.7	1,1570	1153.7	411.88	9.628	3.437	72.024	25.713
35.8	1.1575	1154.2	413.21	9.632	3.448	72.055	25.796
35.9	1.1580	1154.7	414.54	9.636	3.459	72.086	25.879
36.0	1.1585	1155.2	415.87	9.641	3.471	72.117	25.962
36.1	1.1590	1155.7	417.21	9.645	3.482	72.148	26.045
36.2	1.1595	1156.2	418.54	9.649	3.493	72.179	26.129
36.3	1.1600	1156.7	419.88	9.653	3.504	72.210	26.212
36.4	1.1605	1157.2	421.22	9.657	3.515	72.241	26.296
36.5	1.1610	1157.7	422.56	9.661	3.526	72.273	26.380
36.6	1.1615	1158.2	423.90	9.666	3.538	72.304	26.463
36.7	1.1620	1158.7	425.24	9.670	3.549	72.335	26.547
36.8	1.1625	1159.2	426.58	9.674	3.560	72.366	26.631
36.9	1.1630	1159./	427.93	9.678	3.571	72.397	26.715
37.0	1.1635	1160.2	429.27	9.682	3.582	72.429	26./99
37.1	1.1040	1100.7	430.02	7.000	3.374	72.400	20.003
3/ . 2	1 1450	1141 7	431.77	7.071	3.003	72.971	20.70/
37.4	1.1655	1142.2	434.67	9.499	3.677	72.554	27.135
37.5	1.1660	1162.7	436.02	9.703	3.639	72.585	27.220
37.6	1.1665	1163.2	437.37	9.707	3.650	72.617	27.304
37.7	1.1670	1163.7	438.72	9.712	3.661	72.648	27.389
37.8	1.1675	1164.2	440.08	9.716	3.673	72.680	27.473
37.9	1.1680	1164.7	441.43	9.720	3.684	72.711	27,558
38.0	1.1685	1165.2	442.79	9.724	3.695	72.743	27.642
38.1	1.1690	1165.7	444.15	9.728	3.707	72.774	27.727
38.2	1.1696	1166.2	445.50	9.733	3.718	72.806	27.812
38.3	1.1701	1166.7	446.87	9.737	3.729	72.837	27.897
38.4	1.1706	1167.3	448.23	9.741	3.741	72.869	27.982
38.5	1.1711	1167.8	449.39	9.745	3.752	72,901	28.00/
38.6	1.1/16	1100.5	430.73	7./30	3./63	72.932	20.102
38.7	1.1/21	1100.0	432.32	7./34	3.//3	72.709	20.23/
30.0	1.1/20	1167.3	455 65	9 745	3,700	74.770	20.022
30.7 70 A	1 1771	1170 3	456.49	9.747	3.849	73.047	28.493
70 1	1.1741	1170 8	457.79	9.771	3.820	73.091	28.579
39.2	1.1744	1171.3	459.16	9.775	3.832	73.123	28.66
39.3	1.1752	1171.8	460.53	9.779	3.843	73.154	28.75
39.4	1.1757	1172.3	461.90	9.784	3.855	73.186	28.834
39.5	1.1762	1172.8	463.28	9.788	3.866	73.218	28.921
39.6	1.1767	1173.4	464.65	9.792	3.878	73.250	29.007
39.7	1.1772	1173.9	466.03	9.796	3.889	73.282	27.073
39.8	1.1777	1174.4	467.40	9.801	3.901	73.314	29.17
39.9	1,1782	1174.9	468.78	9.805	3.912	73.346	29.26

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 TABLE OF BRIX, APPARENT SPECIFIC GRAVITY, WEIGHT, AND SOLIDS WEIGHT OF SUCROSE SOLUTIONS

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DEGREES BRIX OR PER CENT BY WEIGHT SUCROSE	APPARENT SPECIFIC GRAVITY 20/20 C	WEIGHT PER LITER In Air At 20 C (grams)	GRAMS OF Sucrose Per Liter in Air	WEIGHT PER U.S.GAL- Lon in Air At 20 C (Pounds)	POUNDS OF Sucrose Per Gallon In Air	WEIGHT PER CUBIC FT IN AIR AT 20C (POUNDS)	POUNDS OF Sucrose Per cubic Ft in Air
A0.0	1.1788	1175.4	470.17	9.809	3.924	73.380	29.352
40.1	1.1793	1175.9	471.55	9.814	3.935	73.412	29.438
40.2	1.1798	1176.5	472.94	9.818	3.947	73.444	29.524
40.3	1.1803	1177.0	474.32	9.822	3.958	73.476	29.611
40.4	1.1808	1177.5	475.70	9.827	3.970	73.508	29.697
40.5	1.1813	1178.0	477.09	9.831	3.981	73.540	29.784
40.6	1.1819	1178.5	478.48	9.835	3.993	73.572	29.870
40.7	1.1824	1179.0	479.86	9.839	4.005	73.604	29.957
40.8	1.1829	1179-5	481.25	9.844	4.016	73.636	30.044
40.9	1.1834	1180.1	482.64	9.848	4.028	73.009	30.131
41.0	1.1839	1180.6	484.04	748J2 D 057	4.037	73.701	30.304
41.1	1.1844	1181.1	401 07	7.007	4.031	73.745	30.391
41.2	1.1855	1182.1	488.22	9,845	4.074	73.798	30-47B
71.3	1.1033	1182.4	489.41	9,870	4.084	73.830	30.566
41.5	1 1845	1183.2	491.01	9.874	4.098	73.862	30.653
41.5	1.1870	1183.7	492.41	9.878	4.109	73.894	30.740
41.0	1.1875	1184.2	493.81	9.883	4.121	73.927	30.828
A1.8	1.1881	1184.7	495.21	9.887	4.133	73.959	30.915
41.9	1.1886	1185.2	496.61	9.891	4.144	73.992	31.003
42.0	1.1891	1185.8	498.02	9.896	4.156	74.024	31.090
42.1	1.1896	1186.3	499.42	9.900	4.168	74.056	31.178
42.2	1.1902	1186.8	500,83	9.904	4.180	74.089	31.266
42.3	1.1907	1187.3	502.23	9.909	4.391	74.121	31.353
42.4	1.1912	1187.8	503.64	9.913	4.203	74.154	31.441
42.5	1.1917	1188.4	505.05	9.917	4.215	74.186	31.529
42.6	1.1922	1188.9	506,46	9.922	4.227	74.219	31.617
42.7	1.1928	1189.4	507.87	9,926	4.238	74.251	31.706
42.8	1.1933	1189.9	509.29	9.930	4.250	74.284	31.794
42.9	1.1938	1190.4	510.70	9.935	4.262	74.317	31.882
43.0	1.1943	1191.0	512.12	9.939	4.274	74,349	31.9/0
43.1	1.1949	1191.5	513.53	9.943	4.286	74.382	32.039
43.2	1.1954	1192.0	514.95	9.948	4.29/	/4.415	- 32.14/
43.3	1.1959	1192.5	516.37	9.932 9.932	4.307	/9.44/ 78 AOA	32.230 77 774
43.4	1.1964	1193.1	D1/4/9	7.73/	9.321	77.90V 74 517	32.323
43.5	1.1970	1173.6	017.21 890 17	7.JOI 9.01%	4.333	74.513	32.502
43.6	1.19/5	1174.1	J2V.03 527 Al	9.970	4.357	74.579	32.591
43.7	1.1780	1105 2	523 49	9.974	4.349	74.611	32.680
43.8	1.1785	1173.2	523.90	9.978	4.381	74.644	32.769
43.7	1.1004	1194.2	526.34	9,983	4.392	74-677	32.858
44.0	1.2001	1194.7	527.77	9.987	4.404	74.710	32.947
44.2	1.2007	1197.3	529.19	9.992	4.416	74.743	33.037
44.3	1,2012	1197.8	530.63	9.996	4.428	74.776	33.126
44.4	1.2017	1198.3	532.06	10.000	4.440	74.809	33.215
44.5	1.2022	1198.9	533.49	10.005	4.452	74.842	33.305
44.6	1.2028	1199.4	534.93	10.009	4.464	74.875	33.39
44.7	1.2033	1199.9	536.36	10.014	4.476	74.908	33.484
44.8	1.2038	1200.4	537.80	10.018	4.488	74.941	33.574
44 0	1.2044	1201.0	539.24	10.023	4.500	74.974	33.664

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 TABLE OF BRIX, APPARENT SPECIFIC GRAVITY, WEIGHT, AND SOLIDS WEIGHT OF SUCROSE SOLUTIONS

DEGREES	APPARENT	WEIGHT	GRANS OF	VEIGHT PER	POUNDS OF	WEIGHT PER	POUNDS OF
RIX OR	SPECIFIC	PER LITER	SUCKOSE	U.5.6AL-	SUCKUSE	CUBIC FI	SUCKUSE
PER CENT	GRAVITY	IN AIK	FER LITCO IN	LUN IN BIK	TH ATD	IN BIK	FER LUBIC
BY WEIGHT	20/20 C	A1 20 C	LIILK IN	11 20 C	TH BIR	(POUNDE)	FT IN AIK
SUCROSE		(UKANS)	HIK	(PUUNUS)		(FUURDS)	
45.0	1.2049	1201.5	540.69	10.027	4.512	75.009	33.754
45.1	1.2055	1202.1	542.13	10.032	4.524	75.043	33.844
45.2	1.2060	1202.6	543.57	10.036	4.536	75.076	33.934
45.3	1.2065	1203.1	545,02	10.041	4.548	75.109	34.024
45.4	1.2071	1203.7	546.46	10.045	4,560	75.142	34.115
45.5	1.2076	1204.2	547.91	10.049	4.572	75.175	34.205
45.6	1.2081	1204.7	549.35	10.054	4.585	75.209	34.295
45.7	1.2087	1205.3	550.80	10.058	4.397	75.242	34.386
45.8	1.2092	1205.8	552.25	10.063	4.609	75.275	34.4/6
45.9	1.2097	1206.3	553.70	10.067	4.621	75.308	34.567
46.0	1.2103	1206.9	555.16	10.072	4.633	75.342	34.60/
46.1	1.2108	1207.4	336.61	10.0/6	4.040	/2.3/2	34./48
46.2	1.2114	1207.9	558.06	10.081	4.65/	20.409 76 447	34.837
46.3	1.2119	1208.5	337.32	10.082	1.007 A 107	/0.442 75 A75	34.734
46.4	1.2124	1209.0	300.98	10.070	7.002 A 404	/J.4/J 75 840	33.021
46.5	1.2130	1209.5	202.99	10.074	9=079	73,347	33.112
46.6	1.2135	1210-1	363.7V 8/6 7/	10.078	4.700	73.392	33.203
46.7	1.2140	1210.6	202.30	10.103	4.710	73.370	33.279
46.8	1.2146	1211.2	300.02	10.107	4.730	75.447	75 477
46.9	1.2151	1211.7	368.28 5/0 7K	10.112	9./93	75 477	35 549
47.0	1.215/	1212.2	571 21	10.170	4.733	75 710	35,500
4/.1	1.2102	1212.0	572 48	10 125	1 779	75 744	35.751
47.2	1.2107	1213.3	574 15	10.130	4.791	75.777	35.843
47.3	1 2173	1213.0	575.42	10.134	4.804	25.811	35,935
47 5	1 2194	1217.7	577.09	10.139	4.814	25.845	36.026
47.5	1 2199	1215.5	578.54	10.143	4.828	75.879	36.118
47.0	1 2107	1216.0	580.03	10.148	4.841	75.912	36.210
4/ +/	1 2200	1216.5	581.51	10.152	4.853	75.946	36.302
47.9	1.2205	1217.1	582.98	10.157	4.865	75.980	36.395
48 0	1.2211	1217.6	584.46	10.161	4.878	76.014	36.487
49.1	1.2216	1218.2	585.94	10.166	4.890	76.048	36.579
AR. 2	1.2222	1218.7	587.42	10.171	4.902	76.081	36.671
48.3	1.2227	1219.3	588.90	10.175	4.915	76.115	36.764
48.4	1.2232	1219.8	590.3B	10.180	4.927	76.149	36.856
48.5	1.2238	1220.3	591.87	10.184	4.939	76.183	36.949
48.6	1.2243	1220.9	593.35	10.189	4.952	76.217	37.042
48.7	1.2249	1221.4	594.84	10.193	4.964	76.251	37.134
48.8	1.2254	1222.0	596.32	10.198	4.977	76.285	37.227
48.9	1.2260	1222.5	597.81	10.202	4.989	76.319	37.320
49.0	1.2265	1223.1	599.30	10.207	5.001	76.353	37.413
49.1	1.2271	1223.6	600.79	10.211	5.014	76.387	37.506
49.2	1.2276	1224.2	602.29	10.216	5.026	76.421	37.600
49.3	1.2282	1224.7	603.78	10.221	5.039	76.455	37.693
47.4	1.2287	1225.2	605.27	10.225	5.051	76.490	37.786
49.5	1.2293	1225.8	606.77	10.230	5.064	76.524	37.880
47.6	1.2298	1226.3	608.27	10.234	5.076	76.558	37.973
49.7	1.2304	1226.9	609.77	10.239	5.089	76.592	c 38.067
49.B	1.2309	1227.4	611.27	10.243	5.101	76.626	38.160

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 TABLE OF BRIX, APPARENT SPECIFIC GRAVITY, WEIGHT, AND SOLIDS WEIGHT OF SUCROSE SOLUTIONS

DEGREES BRIX DR PER CENT BY WEIGHT	APPARENT SPECIFIC GRAVITY 20/20 C	WEIGHT PER LITER IN AIR AT 20 C (grams)	GRAMS OF Sucrose Per Liter IN Air	WEIGHT PER U.S.GAL- Lon in Air At 20 C (Pounds)	POUNDS OF Sucrose Per Ballon In Air	WEIGHT PER Cubic Ft In Air At 20C (Pounds)	POUNDS OF Sucrose Per Cubic Ft in Air
50CK052				10 253	5 124	71 191	38.348
50.0	1.2320	1228.6	014.28	10.233	5.120	74 711	18.442
50.1	1.2326	1229.1	613.78	10.237	5 181	76.751	38.534
50.2	1.2331	1229.7	61/.27	10.202	5 148	74.700	38.430
50.3	1.2337	1230.2	018.8V	10.207	5 177	76 934	38.724
50.4	1.2342	1230.8	620.30	10.271	5 109	74 848	38.819
50.5	1.2348	1231.3	407 70	10.270	5 202	74.903	38.913
50.6	1.2354	1231.9	023.32	10.200	5 214	76.937	39.007
50.7	1.2359	1232.4	029,03	10 290	5 227	76.972	39,102
50.8	1.2365	1233.0	477 84	10.294	5.240	77.004	39.176
50.9	1.23/0	1233.3	479 78	10.299	5.252	77.041	39.291
51.0	1.23/6	1239+1	470 89	10 303	5.245	77.075	39.386
51.1	1.2381	1237.0	A32 A1	10.308	5.278	77.110	39.480
51.2	1.2387	1233.2	433.93	10.313	5.290	77.144	39.575
51.3	1.2372	1774 7	435.45	10.317	5.303	77.179	39.670
51.4	1.2370	1230.3	474.98	10.322	5.316	77.214	39.765
51.5	1.2494	1230.0	438.50	10.327	5.329	77.248	39.860
51.6	1.2407	1237.1	640.02	10.331	5.341	77.283	39.955
51./	1.2413	1230.0	441.55	10.336	5.354	77.318	40.051
51.8	1.2420	1230.5	643.08	10.340	5.367	77.352	40.146
51.9	1 2471	1239.6	644.61	10.345	5.379	77.387	40.241
52.0	1 2437	1240.2	646.14	10.350	5.392	77.422	40.337
52.1	1.2443	1240.7	647.67	10.354	5.405	77.457	40.433
52.2	1 7448	1241.3	649.20	10.359	5.418	77.492	40.528
52.5	1.2454	1241.9	650.73	10.364	5.431	77.527	40.624
52.5	1.2459	1242.4	652.27	10.368	5.443	77.561	40.720
52.6	1.2465	1243.0	653.81	10.373	5.456	77.596	40.816
52.7	1.2471	1243.5	655.34	10.378	5.469	77.631	40.912
52.8	1.2476	1244.1	656.88	10.382	5.482	77.666	41.008
52.9	1.2482	1244.7	658.42	10.387	5.495	77.701	41.104
53.0	1.2487	1245.2	659.97	10.392	5.508	77.736	41.200
53.1	1.2493	1245.8	661.51	10.396	5.521	77.771	41.297
53.2	1.2499	1246.3	663.05	10.401	5.533	77.806	\$1.393
53.3	1.2504	1246.9	664.60	10.406	5.546	77.841	41.490
53.4	1.2510	1247.5	666.15	10.411	5.559	77.876	41.586
53.5	1.2516	1248.0	667.70	10.415	5.572	77.912	41.683
53.6	1.2521	1248.6	669.25	10.420	5.585	77.947	41./80
53.7	1.2527	1249.2	670.80	10.425	5.598	77.982	91.0//
53.8	1.2533	1249.7	672.35	10.429	5.611	78.017	41.7/3
53.9	1.2538	1250.3	673.90	10.434	5.624	78.032	42.0/0
54.0	1.2544	1250.8	675.46	10.439	5.63/	78.988	47 745
54.1	1.2550	1251.4	677.01	10.443	5.650	78.123	74+49J 49 749
54.2	1.2555	1252.0	678.57	10.448	2.663	70.100	47 159
54.3	1.2561	1252.5	680.13	10.453	J.0/0	70.173	42.557
54.4	1.2567	1253.1	681.69	10.458	5.667	70.227	42 .JJ/
54.5	1.2572	1253.7	683.25	10.462	0./VZ	70.201	42.752
54.6	1.2578	1254.2	684.82	10.46/	3./13 8 740	70.300	42.849
54.7	1.2584	1254.8	686.38	10.472	5 741	70.333	47.947
54.8	1.2589	1255.4	08/.70	10.4//	3./41	70.370	47 648
			100 80	10 491	5,754	28.40A	43.04.1

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 TABLE OF BRIX, APPARENT SPECIFIC GRAVITY, WEIGHT, AND SOLIDS WEIGHT OF SUCROSE SOLUTIONS

	DEGREES RIX OR . ER CENT	APPARENT Specific Gravity	WEIGHT PER LITER IN AIR	GRAMS OF Sucrose Per	WEIGHT PER U.S.GAL- Lon in Air	POUNDS OF Sucrose Per Gallon	WEIGHT PER Cubic FT In Air	POUNDS OF SUCROSE PER CUBIC
	BY WEIGHT SUCROSE	20/20 C	AT 20 C (grahs)	LITER IN AIR	AT 20 C (PDUNDS)	IN AIR	AT 20C (Pounds)	FI IN AIK
-	55.0	1.2601	1256.5	691.09	10,486	5.767	78.443	43.143
	55.1	1.2607	1257.1	692.66	10.491	5.781	78.478	43.241
	55.2	1.2612	1257.7	694.23	10.496	5.794	78.514	43.340
	55.3	1.2618	1258.2	695.81	10.500	5.807	78.549	43.438
	55.4	1.2624	1258.8	697.38	10.505	5.820	78.585	43.536
	55.5	1.2630	1259.4	698.95	10.510	5.833	78.620	43.634
	55.6	1.2635	1260.0	700.53	10.515	5.846	.78.626	43./33
	55.7	1.2641	1260.5	702.11	10.520	5.859	78.692	43.831
	55.8	1.2647	1261-1	703.69	10.524	5.8/3	78.727	43.930
	55.9	1.2653	1261.7	705.27	10.529	5,886	78.703	44.027
	56.0	1.2658	1262.2	708.85	10.034	J.677	70.777	44.724
	56.1	1.2664	1262.8	708.44	10.039	J.712 5 025	70.035	44.325
	56.2	1.2670	1203.4	710.02	10.549	5.910	78.906	44.424
	20.3	1.20/0	1207-0	713 19	10.553	5.952	78.942	44.523
	00.4 K/K	1.2001	1207.5	714.78	10.558	5.945	78.978	44.622
	30.5	1 2/07	1245.7	716.37	10.543	5.978	79.014	44.722
	30.0	1 24070	1263.7	717.97	10.567	5.992	79.049	44.821
	30.7	1.2077	1266,5	719.54	10.572	6.005	79.085	44.921
	30.0	1 2710	1265.0	721.15	10.577	6.018	79.121	45.020
	30.7	1 2714	1267.17	729.75	10.582	6.032	79.157	45.120
	37.9	1 2722	1268.6	724.35	10.587	6.045	79.193	45.219
	57 5	1 2722	1269.1	725.94	10.591	6.058	79.229	45.319
	57 1	1.2733	1269.7	727.54	10.596	6.072	79.265	45.419
	57 4	1.2739	1270.3	729.15	10.601	6.085	29.301	45.519
	57.5	1.2745	1270.9	230.75	10.606	6.098	79.337	45.619
	57.6	1.2751	1271.4	732.35	10.611	6.112	79.374	45.719
	57.7	1.2756	1272.0	733.96	10.616	6.125	79.410	45.820
	57.8	1.2762	1272.6	735.56	10.620	6.139	79.446	45,920
	57.9	1.2768	1273.2	737.17	10.625	6.152	79.482	46.020
	58.0	1.2774	1273.8	738.78	10.630	6.165	79.518	46.121
	58.1	1.2780	1274.3	740.39	10.635	6.179	79.554	46.221
	58.2	1.2785	1274.9	742.01	10.640	6.192	79.591	46.322
	58.3	1.2791	1275.5	743.62	10.645	6.206	79.627	46.423
	58.4	1.2797	1276.1	745.23	10.649	6.219	79.663	46.524
	58.5	1.2803	1276.7	746.85	10.654	6.233	79.700	46,624
	58.6	1.2809	1277.2	748.47	10.659	6.246	79.736	46.725
	58.7	1.2815	1277.8	750.09	10.664	6.260	79.772	46.827
	58.8	1.2821	1278.4	751.71	10.669	6.273	79.809	46.928
	58.9	1.2826	1279.0	753.33	10.674	6.287	79.845	47.029
	59.0	1.2832	1279.6	754.95	10.679	6.309	79.882	47.130
	59.1	1.2838	1280.2	756.58	10.683	6.314	79.918	47.232
	59.2	1.2844	1280.8	758.21	10.688	6.328	79.954	47.333
	59.3	1.2850	1281.3	759.83	10.693	6.341	79.991	4/.430
	59.4	1.2856	1281.9	761.46	10.698	4.355	80.028	4/.03/
	59.5	1.2862	1282.5	763.09	10.703	6.368	80.064	4/.038
	59.6	1.2867	1283.1	764.72	10.708	6.382	80.101	4/./40
	59.7	1.2873	1283.7	766.36	10.713	6.396	80.137	47 044
	59.8	1.2879	1284.3	767.99	10.718	6.409	80.174	9/4799 Ab Ali
	50 0	1.2885	1284.9	769.63	10.723	6.423	80.211	40.046

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 TABLE OF BRIX, APPARENT SPECIFIC GRAVITY, WEIGHT, AND SOLIDS WEIGHT OF SUCROSE SOLUTIONS

DEGREES BRIX OR PER CENT BY WEIGHT	APPARENT Specific Gravity 20/20 c	WEIGHT PER LITER In Air At 20 C	GRANS OF Sucrose Per Liter in	WEIGHT PER U.S.GAL- Lon in Air At 20 C	POUNDS OF Sucrose Per Gallon	WEIGHT PER CUBIC FT IN AIR	POUNDS OF SUCROSE PER CUBIC
SUCROSE		(GRANS)	AIR	(POUNDS)	40 NAN	(POUNDS)	LI TH WIK
60.0	1.2891	1285.4	771.27	10.728	6.436	80.248	48.149
60.1	1.2897	1286.0	772.90	10.732	6.450	80.284	48.251
60.2	1.2903	1286.6	774.54	10.737	6.464	80.321	48.353
60.3	1.2909	1287.2	776.19	10.742	6.478	80.358	48.456
60.4	1.2914	1287.8	777.83	10.747	6.491	80.395	48.558
60.5	1.2720	1288.4	779.47	10.752	6.505	80.431	48.661
60.6	1.2926	1289.0	781.12	10.757	6.519	80.468	48.764
60.7	1.2932	1287.6	782.77	10.762	6.532	80.505	48.867
60.B	1.2938	1290.2	784.42	10,767	6.546	80.542	48.970
60.9	1.2944	1290.8	786.07	10.772	6.560	80.579	49.073
61.0	1.2950	1291.3	787.72	10.777	6.574	80.616	49.176
61.1	1.2956	1291.9	789.37	10.782	6.588	80.653	49.279
61.2	1.2962	1292.5	791.02	10.787	6.601	80.690	49.382
61.3	1.2768	1293.1	792.68	10.792	6.615	80.727	49.486
01.4	1 2000	1293.7	794.34	10./9/	6.629	80.764	49.589
41 4	1.2700	1279.3	770.00	10.801	6.613	80.801	49.692
01.0	1.2780	1274.7	/9/.00	10.806	6.657	80.838	49.796
01.7	1.2772	1293.3	799.32	10.811	6.671	80.875	49.900
01.0	1.2778	1270.1	800.78	10.815	6.684	80.912	50.004
61.7	1.3004	1270./	842.03	10.821	6.678	80.949	50.108
02.0	1.3010	1297.3	804.31	10.826	6.712	80.986	50.212
02.1	1.3013	1297.9	843.48	10.831	6.726	81.023	50.316
02.2	1.3021	1278.0	807.00	10.838	6./40	81.060	50.420
42.5	1.3027	1277.1	BU7.32	10.841	6./34	81.098	50.524
12 5	1.3033	1277.7	010.77	10.840	6./68	81.135	50.628
42.5	1.3040	1300.3	012.00	10.831	0.782	81.1/4	50./34
42 7	1 7052	1300.7	914 07	10.030	0./70	81.212	50.837
42.9	1 7059	1301.3	010.00	10.001	0.810	81.249	20.943
42 9	1 3038	1302.1	017.71	10.000	0.027	81.280	31.048
63.0	1.3070	1303.3	821.07	10.874	0.030 1 057	01.324	51,133
63.1	1.3076	1303.9	822.75	10.881	A 844	01.301	51 747
63.2	1.3082	1304.5	824.43	10.884	A 880	81 434	51 449
63.3	1.3088	1305.1	824.12	10.891	4 894	81 473	51 577
63.4	1.3094	1305.7	827.80	10.894	809 4	81 511	51 478
63.5	1.3100	1306.3	829.49	10.901	A.922	81.548	51.783
63.6	1.3106	1306.9	831.18	10.906	6.936	81.586	51.889
63.7	1.3112	1307.5	832.87	10.911	6.951	81.624	51.994
63.8	1.3118	1308.1	834.56	10.916	6.965	81.661	52,100
63.9	1.3124	1308.7	836.25	10,922	6.979	81.699	52.206
64.0	1.3130	1309.3	837.95	10.927	6.993	81.736	52.311
64.1	1.3136	1309.9	839.64	10.932	7.007	81.774	52.417
64.2	1.3142	1310.5	841.34	10.937	7.021	81.812	52.523
64.3	1.3148	1311.1	843.04	10.942	7.035	81.849	52.629
64.4	1.3154	1311.7	844.74	10.947	7.050	81.887	52.735
64.5	1.3160	1312.3	846.44	10.952	7.064	81.925	52.842
64.6	1.3166	1312.9	848.15	10.957	7.078	81.963	52,948
64.7	1.3172	1313.5	849:85	10.962	7.092	82.000	53.054
64.8	1.3178	1314.1	851.56	10.967	7.107	82.038	53.161
64.9	1.3184	1314.7	853.26	10.972	7.121	82.076	53.268

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 TABLE OF BRIX, APPARENT SPECIFIC GRAVITY, WEIGHT, AND SOLIDS WEIGHT OF SUCROSE SOLUTIONS

DEGREES	APPARENT	WEIGHT	GRANS OF	WEIGHT PER	POUNDS OF	WEIGHT PER	POUNDS OF
BRIA UK PER CENT	GRAUTTY	TH ATR	PER	1 AN IN ATR	PER GALLON	IN AIR	PER CHRIC
BY UFIGHT	20/20 C	AT 20 C	LITER IN	AT 20 C	IN AIR	AT 20C	FT IN AIR
SUCROSE	20/20 0	(GRANS)	AIR	(POUNDS)		(POUNDS)	
65.0	1.3191	1315.3	854.97	10.977	7.135	82.114	53.374
65.1	1.3197	1315.9	856.68	10.982	7.149	82.152	53.481
65.2	1.3203	1316.6	858.39	10.987	7.164	82.190	53.588
65.3	1.3209	1317.2	860.11	10.992	7.178	82.228	53.695
65.4	1.3215	1317.8	861.82	10.997	7.192	82.266	53.802
65.5	1.3221	1318.4	863.54	11.002	7.207	82.304	53.909
65.6	1.3227	1319.0	865.25	11.007	7.221	82.342	54.016
65.7	1.3233	1319.6	866.97	11.013	7.235	82.380	54.123
65.8	1.3239	1320.2	868.69	11.018	7.250	82.418	54.231
65.9	1.3246	1320.8	870.42	11.023	7.264	82,456	34.338
66.0	1.3252	1321.4	8/2.14	11.028	7.278	82.474	01.140 84 584
00.1	1.3238	1322.0	8/3.80 075 50	11.033	7.273	82.332	54.141
00.2	1.3204	1322.0	073.37	11.030	7.307	02.379	54 749
66.3	1.3274	1323.9	879.05	11.048	7.336	82.646	54.877
44.5	1.3282	1324.5	880.78	11.053	7.350	82.685	54,985
66.6	1.3288	1325.1	882.51	11.058	7.365	82.723	55.093
66.7	1.3295	1325.7	884.25	11.064	7.379	82.761	55.202
66.8	1.3301	1326.3	885.98	11.069	7.394	82.799	55.310
66.9	1.3307	1326.9	887.72	11.074	7.408	82.838	55.418
67.0	1.3313	1327.5	887.46	11.079	7.423	82.876	55.527
67.1	1.3319	1328.2	891.20	11.084	7.437	82.914	55.636
67.2	1.3325	1328.8	892.94	11.089	7.452	82.953	55.744
67.3	1.3332	1327.4	874.68	11.094	7.466	82.991	55.853
67.4	1.3338	1330.0	896.42	11.099	7.481	83.029	55.962
67.5	1.3344	1330.6	898.17	11.105	7.496	83.068	56.071
67.6	1.3350	1331.2	899.92	11.110	7.510	83.106	56.180
67.7	1.3356	1331.9	901.67	11.115	7.525	83.145	56.289
67.8	1.3362	1332.5	903.42	11.120	7.539	83.183	56.398
67.9	1.3369	1333.1	905.17	11.125	7.554	83.222	56.508
68.0	1.3375	1333.7	906.92	11.130	7.569	83.260	56.617
68.1	1.3381	1334.3	908.68	11.135	7.583	83.299	56.727
68.2	1.3387	1334.9	910.43	11.141	7.598	83.338	56.836
68.3	1.3393	1335.6	912.19	11.146	7.613	B3.376	56.946
68.4	1.3400	1336.2	913.95	11.151	7.627	83.415	5/.056
68.5	1.3406	1336.8	915.71	11.156	7.642	83.453	57.166
68.6	1.3412	1337.4	917.47	11.161	7.657	83.492	5/.2/0
68.7	1.3418	1338.0	919.23	11.166	7.6/1	83.331	3/.300
68.8	1.3424	1338.7	921.00	11.1/2	7.686	83.370	57.470
68.9	1.3431	1339.3	922.76	11.1//	7.701	83.608	37.000
67.0	1.343/	1337.7	729.03	11.102	7.716	83.64/ 97 101	57 877
67.1 10 0	1.3443	1340.3	720.3V 070 A7	11,10/	7 7 45	03.000 07 775	57 979
07.2	1.3447	1341.1	740.V/ 070 05	11 100	7.743	87 744	58.018
67.3	1 7449	1371.0 1747 A	911 40	11.003	7.775	83.00 83.000	59.159
07.9 40 K	1 7440	1374.7	977 70	11.209	7.790	83 941	58.270
67.J	1.3400	1747.4	935.17	11.917	7.804	83.880	58.381
69.7	1.3481	1344.3	936.95	11.219	7.819	83.919	58.492
69.8	1.3487	1344.9	938.73	11.224	7.834	83.958	58.403
69.9	1.3493	1345.5	940.51	11.229	7.849	83.997	58.714
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 TABLE OF BRIX, APPARENT SPECIFIC GRAVITY, WEIGHT, AND SOLIDS WEIGHT OF SUCROSE SOLUTIONS

DEGREES	APPARENT	WEIGHT	GRANS OF	WEIGHT PER	POUNDS OF	WEIGHT PER	POINNS OF
BRIX OR	SPECIFIC	PER LITER	SUCROSE	U.S.GAL-	SUCROSE	CUBIC FT	SUCROSE
PER CENT	GRAVITY	IN AIR	PER	LON IN AIR	PER GALLON	IN AIR	PER CURIC
BY WEIGHT	20/20 C	AT 20 C	LITER IN	AT 20 C	IN AIR	AT 20C	FT TH ATP
SUCROSE		(GRAMS)	AIR	(POUNDS)		(POUNDS)	· · · · han
70.0	1.3500	1346.2	942.34	11.235	7.864	84.041	58.829
70.1	1.3506	1346.8	944.13	11.240	7.879	84.080	58 940
70.2	1.3513	1347.5	945.91	11.245	7.894	84-119	59.051
70.3	1.3519	1348.1	947.70	11.250	7.909	84.158	59.143
70.4	1.3525	13487	949.49	11.255	7.924	84.197	59.275
70.5	1.3531	1349.3	951.28	11.261	7.939	84.236	59.387
70.6	1.3538	1350.0	953.07	11.266	7.954	84.275	59.498
70.7	1.3544	1350.6	954.86	11.271	7.969	84.314	59.610
70.8	1.3550	1351.2	956.66	11.276	7.984	84.354	59.722
70.9	1.3557	1351.8	958.46	11.282	7.999	84.393	59.835
71.0	1.3563	1352.5	960.25	11.287	8.014	84.432	59.947
71.1	1.3569	1353.1	962.05	11.292	8.029	84.471	60.059
71.2	1.3576	1353.7	963.86	11.297	8.044	84.511	60.172
71.3	1.3582	1354.4	965.66	11.303	8.059	84.550	60.284
71.4	1.3588	1355.0	967.46	11.308	8.074	84.589	60.397
71.5	1.3595	1355.6	969.27	11.313	8.089	84.629	60.509
71.6	1.3601	1356.3	971.08	11.318	8.104	84.668	60.622
71.7	1.3607	1356.9	972.88	11.324	8.119	84.707	60.735
71.8	1.3614	1357.5	974.69	11.329	B.134	84.747	40.848
71.9	1.3620	1358.1	976.51	11.334	8.149	84.786	60.961
72.0	1.3626	1358.8	978.32	11.340	8.164	84.826	61.075
72.1	1.3633	1359.4	980.13	11.345	8.180	84.865	61.188
72.2	1.3639	1360.0	981.95	11.350	8.195	84.905	61.301
72.3	1.3645	1360.7	983.77	11.355	8.210	84.944	61.415
72.4	1.3652	1361.3	985.59	11.361	8.225	84.984	61.528
72.5	1.3658	1361.9	987.41	11.366	8.240	85.023	61.642
72.6	1.3664	1362.6	989.23	11.371	8.255	85.063	61.756
72.7	1.3671	1363.2	991.05	11.377	8.271	85.102	61.870
72.8	1.3677	1363.8	992.88	11.382	8.286	85.142	61.984
72.9	1.3683	1364.5	994.71	11.387	8.301	85.182	62.098
73.0	1.3690	1365.1	996.54	11.392	8.316	85.221	62.212
73.1	1.3696	1365.8	998.37	11.398	8.332	85.261	62.326
73.2	1.3703	1366.4	1000.20	11.403	8.347	85.301	62.440
73.3	1.3709	1367.0	1002.03	11.408	8.362	85.341	62.555
/3.4	1.3/15	1367.7	1003.87	11.414	8.378	85.380	62.669
/3.5	1.3/22	1368.3	1005.70	11.419	8.393	85.420	62.784
/3.6	1.3/28	1368.9	100/.54	11.424	8.408	85.460	62.899
/3./	1.3/34	1307.0	1007.38	11.430	8.424	85.500	65.014
73.8	1.3/41	1370.2	1011.22	11.430	8.439	83.340	03.128
/3.9	1.3/4/	1370.9	1013-06	11.440	8.434	82.2/7	63.243
74.0	1.3/34	13/1.0	1014.91	11.446	8.4/0	82.619	63.359
74.1	1.3/60	13/2.1	1010./0	11.451	8.485	83.659	63.474
74.2	1.3/6/	13/2.8	1018-60	11.406	8.391	80.699	63.589
74.3	1.3//3	13/3.4	1020.90	11.447	0 5 7 6	80./37	03./V4
74.9	1.3//7	13/9.1	1022.30	11 472	0.031	00.//7	03.820
74.4	1.3700	12/9./	1024.10	11.479	0.J7/ 8 517	0J.017 QK 080	03.73D
74.7	1.3799	1373.3	1027.85	11.483	8.579	03.037	67.VJJ 88.117
74.R	1.3805	1376.4	1029.71	11.4RR	8.501	0J.077 05 070	67 + 1 07 6 A 707
74.9	1.3812	1377.7	1031.57	11.494	8 409	03.737	64,403 68 700
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