



**Defense Threat Reduction Agency**  
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Fort Belvoir, VA 22060-6201



**DTRA-IR-13-67**

# TECHNICAL REPORT

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## Standardized Unclassified Little Boy and Fat Man Outputs

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September 2013

DE-AC52-06NA25396

Prepared by:  
Defense Threat Reduction  
Agency  
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## **STANDARDIZED UNCLASSIFIED LITTLE BOY AND FAT MAN OUTPUTS**

### **Preface**

Various US and international agencies have analyzed the outputs and effects from the Little Boy and Fat Man devices for efforts ranging from blast and fallout phenomenology to human radiation exposure. These efforts depend upon the unclassified neutron and gamma leakage spectra (less than 1  $\mu$ s) from each weapon, last reproduced in 2001 by Los Alamos National Laboratory (LANL) scientists White, Whalen, and Heath for the updated “Dosimetry System 2002” (DS02) of the Radiation Effects Research Foundation (RERF). These spectra and the associated radiation transport and dosimetry work compiled in the two volumes of DS02 represent a comprehensive effort to re-examine the devices used at Hiroshima and Nagasaki from the initial output leakage spectra through transport of the radiation in various media and into organic and inorganic material surrounding the epicenter of each event.

At the request of the Nuclear Technology Effects Office (NTE) of the Defense Threat Reduction Agency’s J9 Directorate (DTRA J9), LANL weapon designers reviewed and confirmed that these calculations from 2001 still meet basic confidence standards for generic weapons effects simulations and analyses. As a result, DTRA’s J9NTE office is publishing these outputs in a format that contains spectral tables, graphs, and basic instructions generally found in classified volumes on weapon outputs. The current scope of this document includes the same spectra published in the DS02, but re-worked to collapse the DS02’s 40-angle Little Boy leakage spectra into a 10-angle format. Accompanying these prompt gamma and neutron spectra are one-dimensional output spectra for the Fat Man device; tabular and graphical summaries for the outputs from each device; calculation descriptions; an explanation of the physics of weapon output; and a discussion of the applicability of these outputs to other devices.

Little Boy and Fat Man comparisons in this document illustrate the differences between the two devices, though graphical representations showing the neutron and gamma spectrum totals will match those found in the DS02. Additionally, the write-up provides comparisons of device output variations by angle, average variations by angle, and direct comparisons of the 40-angle versus 10-angle Little Boy neutron and gamma outputs. Finally, this document contains tabular output spectra for neutron and gamma leakage spectra in a one-dimensional format for Fat Man and in both the DS02 40-angle format and a 10-angle tabular format for Little Boy.

This work represents a standardized version of the Little Boy and Fat Man devices approved by DTRA for publication as a unified baseline for all DTRA clients at the unclassified level. This is essential for ensuring that users can compare their work using one standard set of data, thus eliminating a potential source of confusion. It meets a key user need within the community while allaying skepticism about whether or not various sets of leakage spectra are valid or invalid. These output spectra are now available for use by government agencies to drive their computational models in training scenarios that do not require Secret//Restricted Data-CNWDI (S//RD-N) outputs. These scenarios may now act as baselines for these agencies to coordinate and prepare for potential nuclear events within the United States and abroad.

### **Acknowledgements**

DTRA J9NTE gratefully acknowledges Dr. Richard Holmes (LANL) for his work with the technical write-up of this document, as well as Dr. Tim Goorley (LANL), Dr. Robert Weaver (LANL), Dr. Paul Blake (DTRA), and Dr. Jeff McAninch (DTRA) for their assistance in preparing it for publication.

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## CONVERSION TABLE

Conversion Factors for U.S. Customary to metric (SI) units of measurement.

MULTIPLY → BY ← DIVIDE  
TO GET ← BY → TO GET

angstrom	1.000 000 x E -10	meters (m)
atmosphere (normal)	1.013 25 x E +2	kilo pascal (kPa)
bar	1.000 000 x E +2	kilo pascal (kPa)
barn	1.000 000 x E -28	meter <sup>2</sup> (m <sup>2</sup> )
British thermal unit (thermochemical)	1.054 350 x E +3	joule (J)
calorie (thermochemical)	4.184 000	joule (J)
cal (thermochemical/cm <sup>2</sup> )	4.184 000 x E -2	mega joule/m <sup>2</sup> (MJ/m <sup>2</sup> )
curie	3.700 000 x E +1	*giga bacquerel (GBq)
degree (angle)	1.745 329 x E -2	radian (rad)
degree Fahrenheit	t <sub>k</sub> = (t°f + 459.67)/1.8	degree kelvin (K)
electron volt	1.602 19 x E -19	joule (J)
erg	1.000 000 x E -7	joule (J)
erg/second	1.000 000 x E -7	watt (W)
foot	3.048 000 x E -1	meter (m)
foot-pound-force	1.355 818	joule (J)
gallon (U.S. liquid)	3.785 412 x E -3	meter <sup>3</sup> (m <sup>3</sup> )
inch	2.540 000 x E -2	meter (m)
jerk	1.000 000 x E +9	joule (J)
joule/kilogram (J/kg) radiation dose absorbed	1.000 000	Gray (Gy)
kilotons	4.183	terajoules
kip (1000 lbf)	4.448 222 x E +3	newton (N)
kip/inch <sup>2</sup> (ksi)	6.894 757 x E +3	kilo pascal (kPa)
ktap	1.000 000 x E +2	newton-second/m <sup>2</sup> (N-s/m <sup>2</sup> )
micron	1.000 000 x E -6	meter (m)
mil	2.540 000 x E -5	meter (m)
mile (international)	1.609 344 x E +3	meter (m)
ounce	2.834 952 x E -2	kilogram (kg)
pound-force (lbs avoirdupois)	4.448 222	newton (N)
pound-force inch	1.129 848 x E -1	newton-meter (N-m)
pound-force/inch	1.751 268 x E +2	newton/meter (N/m)
pound-force/foot <sup>2</sup>	4.788 026 x E -2	kilo pascal (kPa)
pound-force/inch <sup>2</sup> (psi)	6.894 757	kilo pascal (kPa)
pound-mass (lbf avoirdupois)	4.535 924 x E -1	kilogram (kg)
pound-mass-foot <sup>2</sup> (moment of inertia)	4.214 011 x E -2	kilogram-meter <sup>2</sup> (kg-m <sup>2</sup> )
pound-mass/foot <sup>3</sup>	1.601 846 x E +1	kilogram-meter <sup>3</sup> (kg/m <sup>3</sup> )
rad (radiation dose absorbed)	1.000 000 x E -2	**Gray (Gy)
roentgen	2.579 760 x E -4	coulomb/kilogram (C/kg)
shake	1.000 000 x E -8	second (s)
slug	1.459 390 x E +1	kilogram (kg)
torr (mm Hg, 0° C)	1.333 22 x E -1	kilo pascal (kPa)

\*The bacquerel (Bq) is the SI unit of radioactivity; 1 Bq = 1 event/s.

\*\*The Gray (GY) is the SI unit of absorbed radiation.

# Output of Fat Man and Little Boy Devices

**Richard L. Holmes and Stephen W. White**

Los Alamos National Laboratory

*September 15, 2013*

LA-UR-13-26113

## Introduction

This report provides detailed neutron and gamma output information for the Fat Man and Little Boy devices. It has been prepared for the Defense Threat Reduction Agency (DTRA) for use by the agency, its contractors, and other interested parties in analysis of environments and effects generated by low-technology, fission-only nuclear devices.

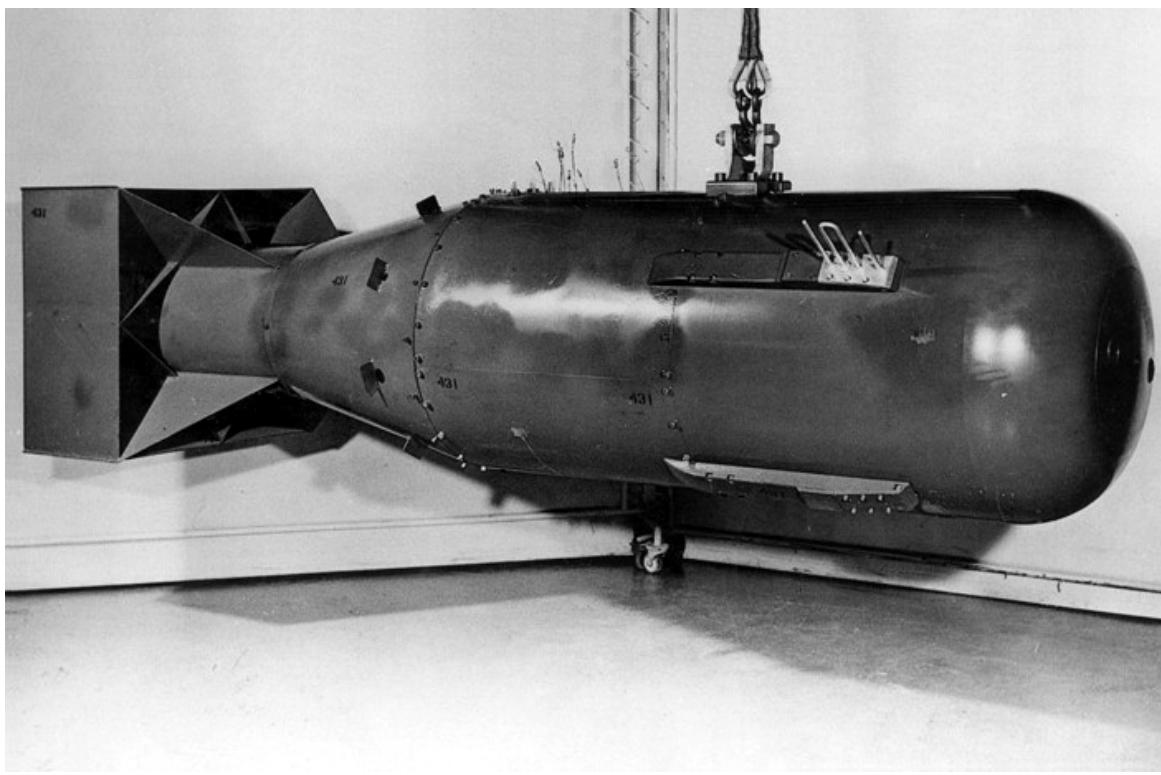
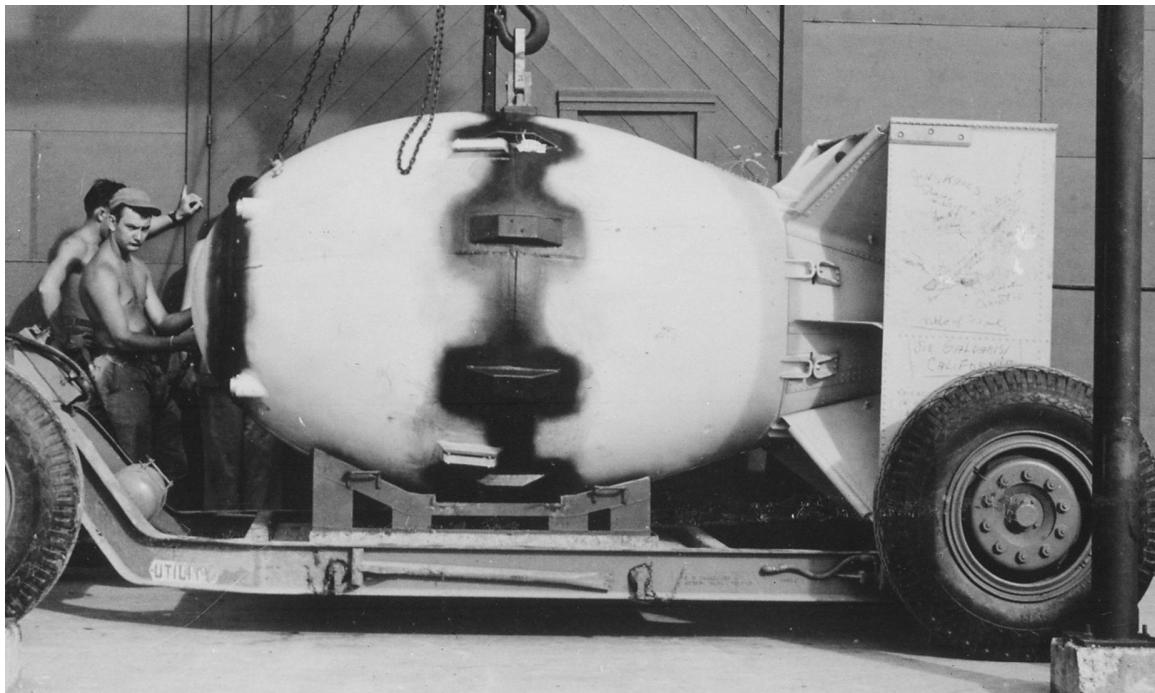
The detailed spectra given here are the same as those published previously by White and coworkers [1, 2]. This report has different goals than the earlier reports, and the results presented are limited to those useful for the prediction of weapons-generated environments. Specifically, we have restricted the presentation to prompt neutron and gamma outputs.

We begin by briefly describing how nuclear weapons generate radiative outputs and then describe the calculations and tabular and graphical summaries of the Little Boy and Fat Man outputs. We finish with the tables containing the detailed output information.

## The Generation of Nuclear Radiation in Nuclear Weapons

Nuclear explosions differ from chemical explosions in that nuclear processes, principally those involving neutrons, are fundamental to the former while atomic (electron) processes are fundamental to the latter. The result is not only a dramatic increase in energy production for a given weapon mass but also a similar increase in the rate of energy production. Furthermore, nuclear radiations appear in the form of neutrons and gammas. Here we focus on only the “prompt” radiative output during the first microsecond or so after nuclear detonation. We do not consider the late-time radiation from fission products (beta decay, delayed neutrons, etc.) or from activated materials.

The generation of large amounts of energy in a small mass raises the temperature of nuclear devices to very high temperatures, on the order of tens of millions of kelvins, within the core of the device. At these temperatures soft x-rays dominate the thermal emission. However, near-surface detonations are surrounded by air, which is sufficiently opaque to these x-rays that any escaping the device are absorbed within the first few feet.



**Figure 1: Fat Man (top) and Little Boy (bottom) weapons. The outputs presented here take into account the asymmetric construction of Little Boy but not the asymmetries of Fat Man.**

The source of energy in a nuclear detonation is a fission chain reaction. Within a supercritical mass of material, a neutron causes a fission event that releases sufficient secondary neutrons for additional, and increasing, fissions to follow. In such a neutron-induced fission of uranium-235, the energy is distributed amongst the fission fragments (~93% in two fragments), prompt secondary neutrons (~3% typically split across 2–3 neutrons), and prompt gammas (~4% in 6–8 photons). Additional energy is released in the form of delayed beta, neutron, gamma, and neutrino emissions from the fission products. Delayed emissions account for approximately 12% additional energy but are far too late to impact the explosion. The energy distribution from plutonium-239 fission is very similar.

The fission fragments initially retain the majority of the fission energy as their kinetic energy. Highly charged, they deposit this energy as heat in a very small volume around the fission event. The secondary neutrons, with a much smaller fraction of the energy, can meet one of several fates: they may produce additional fissions as part of the continuing chain reaction, they may stream unimpeded out of the device, or they may undergo a series of interactions with bomb materials before being absorbed by a nucleus or escaping. Similarly, the gammas may escape or be absorbed within the device. As will be shown in the spectral plots below, the balance of processes differs among weapons designs, and the resulting neutron and gamma spectra can be quite different.

### Applicability of Fat Man and Little Boy Outputs to Other Devices

The distinct characteristics of Fat Man and Little Boy radiative outputs illustrate the sensitivity of weapon outputs to changes in weapon design. As a consequence, any attempt to extrapolate the Fat Man or Little Boy results here to other nuclear devices should be approached with caution, as there is little guidance available on modifications in design and/or yield that would not significantly alter the radiative outputs. If users insist on applying these results to different, hypothetical, designs, these general recommendations are made:

- 1) Attempt extrapolations to different designs only if large uncertainties are acceptable.
- 2) Only extrapolate Fat Man outputs to other plutonium implosion devices, and Little Boy outputs to uranium gun designs.
- 3) Restrict yield changes to within a factor of 2.
- 4) Neutron and gamma output energy per kiloton should be taken as constant.
- 5) The shape of the neutron and gamma spectra should be taken as constant.

The weapon design laboratories are available for consultation, and the user is urged to contact them as needed.

### Tabular and Graphical Summaries

The calculations were performed with LANL codes validated against nuclear test data and with the highest-quality cross sections available in 2001 (ENDF/B-VI.2). Both devices were calculated using 200 neutron groups (0 to 20 MeV energies) and 43 gamma

groups (0 to 30 MeV). The Little Boy calculations were fully two-dimensional and incorporated the entire weapon geometry. Little Boy outputs were tallied over 40 segments covering the full sphere to record directional variations. The Fat Man calculation was one-dimensional under the assumption that a spherical implosion device has isotropic outputs. Such an assumption will be true for the unweaponized Trinity device, but may be violated for the weaponized devices (Trinity, Crossroads/Able, and Crossroads/Baker) given their asymmetric construction (see Figure 1). We do not consider two-dimensional effects in Fat Man at this time.

Calculations for both devices were run to 1 second. Again, the results are given for prompt outputs only and do not include delayed radiation from fission products or activated weapon materials.

Table 1 and Table 2 provide neutron and gamma output summaries for Little Boy and Fat Man, respectively, along with other important device details.

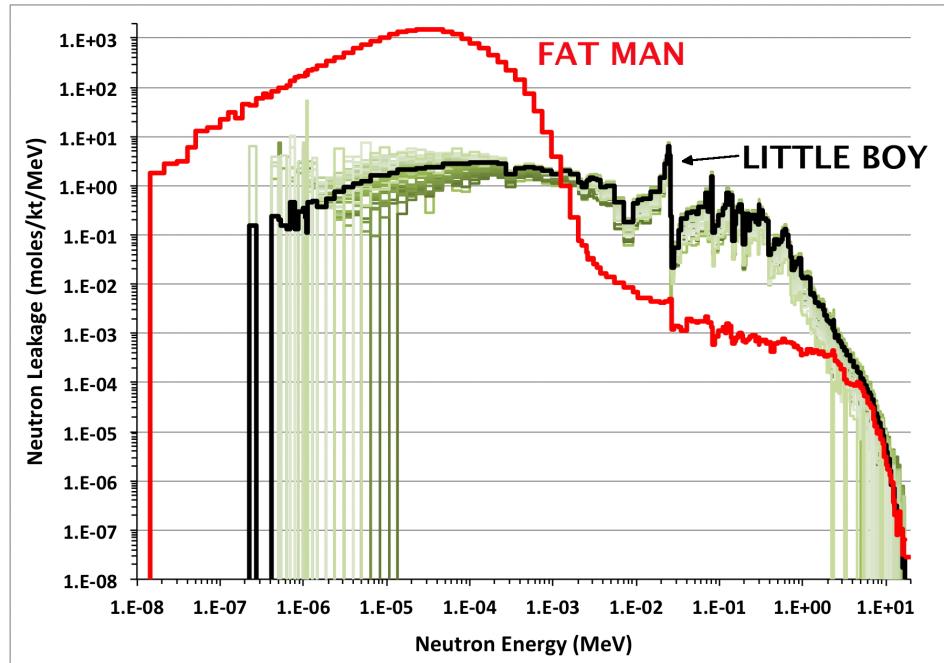
**Table 1: Little Boy Summary**

<b>Little Boy (Hiroshima)</b>	Gun-assembled device Uranium enriched to 84% $^{235}\text{U}$ .
Mass	4040 kg (8900 lb)
Yield	15 kt
Energy as neutrons	$3.31 \times 10^{22} \text{ MeV/kt}$ (0.127%)
Number of neutrons	0.177 mol/kt
Average neutron energy	0.311 MeV
Energy as gammas	$5.61 \times 10^{21} \text{ MeV/kt}$ (0.0216%)
Number of gammas	$6.67 \times 10^{-3} \text{ mol/kt}$
Average gamma energy	1.40 MeV

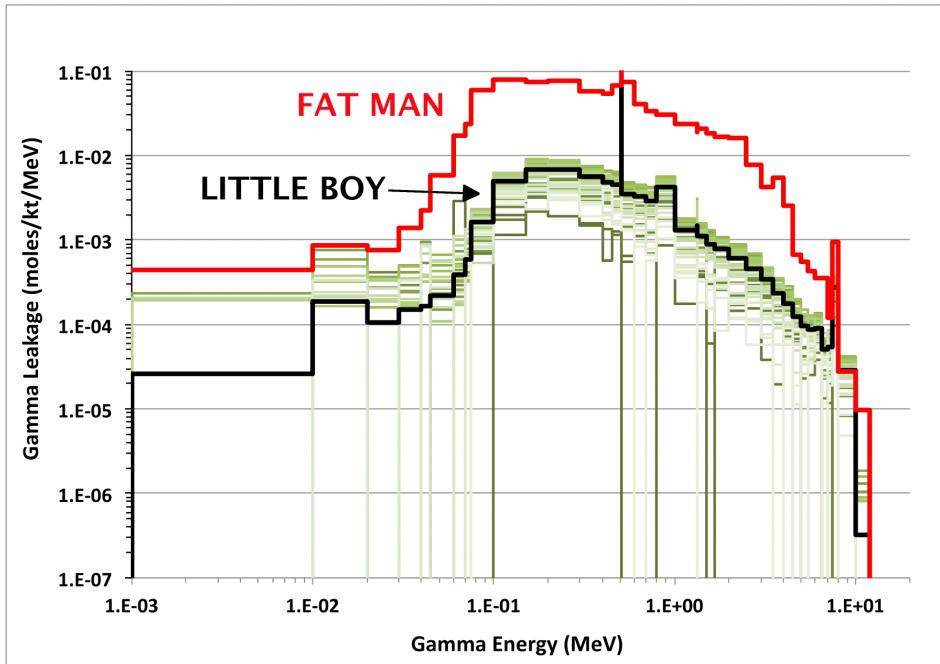
**Table 2: Fat Man Summary**

<b>Fat Man (Trinity, Nagasaki, Crossroads Able, Crossroads Baker)</b>	Implosion device 6 kg weapons grade plutonium with a natural uranium tamper.
Mass	4670 kg (10,300 lb)
Yield	$20 \pm 2 \text{ kt}$
Energy as neutrons	$2.00 \times 10^{21} \text{ MeV/kt}$ (0.0078%)
Number of neutrons	0.264 mol/kt
Average neutron energy	0.0126 MeV
Energy as gammas	$6.88 \times 10^{22} \text{ MeV/kt}$ (0.265%)
Number of gammas	$9.02 \times 10^{-2} \text{ moles/kt}$
Average gamma energy	1.27 MeV

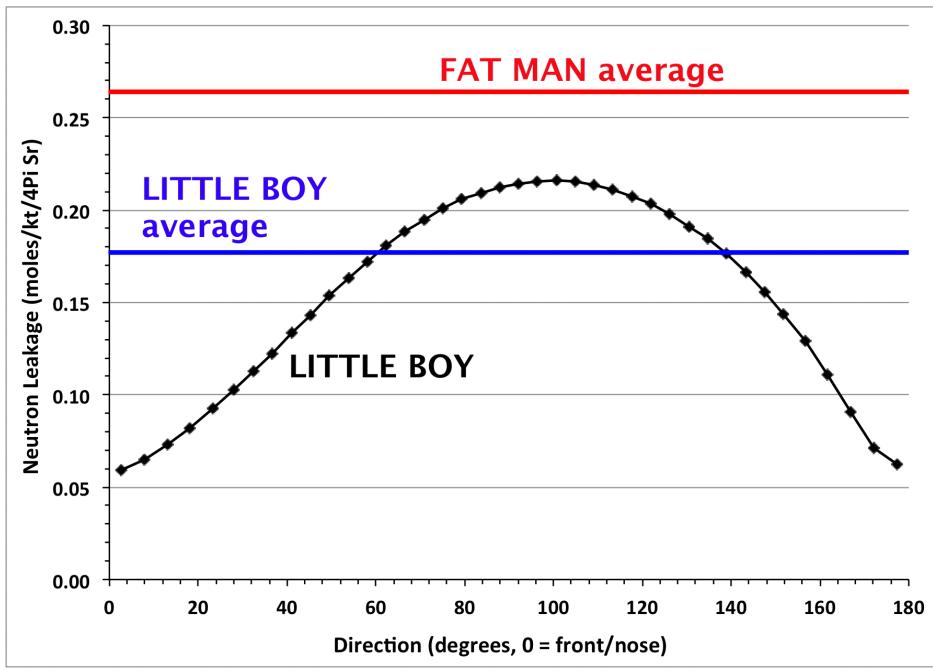
Figure 2 through Figure 5 compare Fat Man and Little Boy neutron and gamma outputs. For Little Boy we also compare the directional outputs to the average. There are significant differences in the neutron spectra for the two devices, and the Fat Man neutron output is about 50% greater than that of Little Boy. The gamma spectra of the two devices are similar in shape, but the Fat Man gamma output is more than 10 times that of Little Boy.



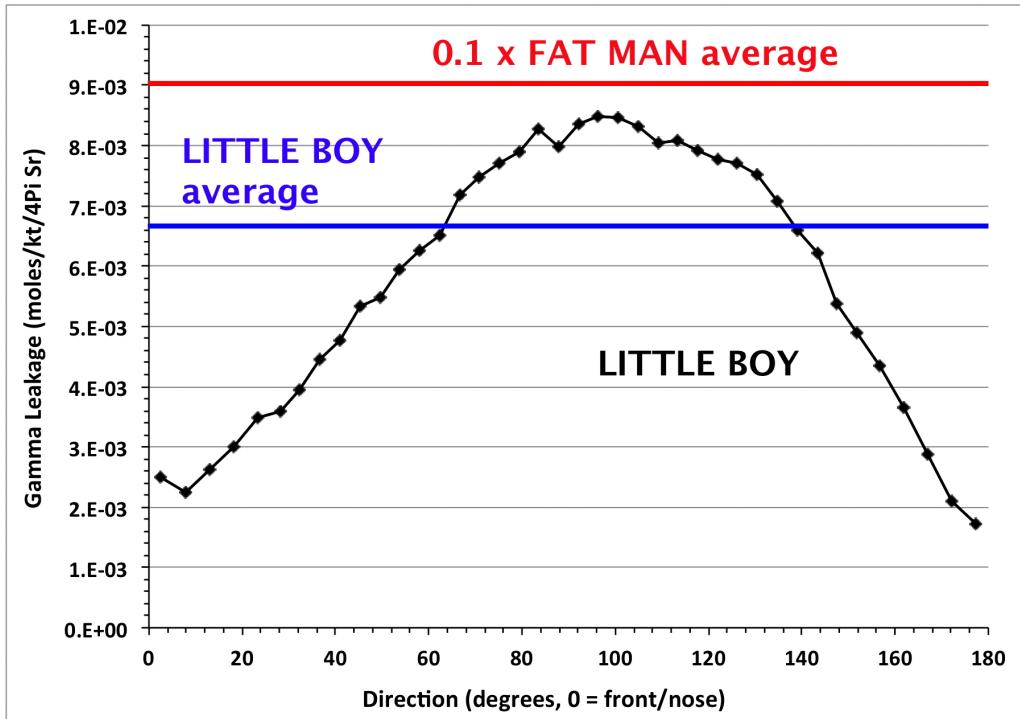
**Figure 2: Neutron spectra for Fat Man and Little Boy.** The total Little Boy output (sum over all angles) is shown along with the 40 individual segment tallies scaled up to the full sphere. The segment tallies illustrate the two-dimensional variation of the output.



**Figure 3: Gamma spectra for Fat Man and Little Boy.** The total Little Boy output (sum over all angles) is shown along with the 40 individual segment tallies scaled up to the full sphere. The segment tallies illustrate the two-dimensional variation of the output.



**Figure 4: Neutron output variation with angle.** Segment tallies have been scaled up to the full sphere. The output is suppressed toward the nose ( $0^\circ$ ) and tail ( $180^\circ$ ), though these directions represent a small solid angle and the average is heavily weighted toward the values near the waist ( $90^\circ$ ).



**Figure 5: Gamma output variation with angle.** Segment tallies have been scaled up to the full sphere. Note that the Fat Man value has been reduced by a factor of 10. As with neutrons, the output is suppressed toward the nose ( $0^\circ$ ) and tail ( $180^\circ$ ), though these directions represent a small solid angle and the average is heavily weighted toward the values near the waist ( $90^\circ$ ).

**Table 3: Angle definitions for Little Boy 40-angle tallies. Neutrons and gammas are assigned to a tally according to the angle that they escape the device ( $0^\circ$  toward nose,  $180^\circ$  toward tail). The "Fraction of Sphere" column indicates the solid-angle fraction of the full sphere covered by a given segment. These fractions sum to 1.**

Segment #	Lower cosine	Lower angle (deg)	Upper cosine	Upper angle (deg)	Fraction of sphere
1	-1.000	180.00	-0.996	174.80	2.06E-03
2	-0.996	174.80	-0.984	169.60	6.16E-03
3	-0.984	169.60	-0.963	164.40	1.02E-02
4	-0.963	164.40	-0.935	159.20	1.42E-02
5	-0.935	159.20	-0.899	154.00	1.80E-02
6	-0.899	154.00	-0.864	149.72	1.76E-02
7	-0.864	149.72	-0.824	145.44	2.00E-02
8	-0.824	145.44	-0.779	141.16	2.23E-02
9	-0.779	141.16	-0.730	136.88	2.45E-02
10	-0.730	136.88	-0.676	132.56	2.68E-02
11	-0.676	132.56	-0.620	128.30	2.83E-02
12	-0.620	128.30	-0.560	124.04	3.00E-02
13	-0.560	124.04	-0.497	119.78	3.16E-02
14	-0.497	119.78	-0.431	115.53	3.28E-02
15	-0.431	115.53	-0.363	111.27	3.41E-02
16	-0.363	111.27	-0.293	107.01	3.51E-02
17	-0.293	107.01	-0.221	102.76	3.58E-02
18	-0.221	102.76	-0.148	98.51	3.64E-02
19	-0.148	98.51	-0.074	94.25	3.69E-02
20	-0.074	94.25	0.000	90.00	3.71E-02
21	0.000	90.00	0.074	85.75	3.71E-02
22	0.074	85.75	0.148	81.49	3.69E-02
23	0.148	81.49	0.221	77.24	3.64E-02
24	0.221	77.24	0.293	72.99	3.58E-02
25	0.293	72.99	0.363	68.73	3.51E-02
26	0.363	68.73	0.431	64.47	3.41E-02
27	0.431	64.47	0.497	60.22	3.28E-02
28	0.497	60.22	0.560	55.96	3.16E-02
29	0.560	55.96	0.620	51.70	3.00E-02
30	0.620	51.70	0.676	47.44	2.83E-02
31	0.676	47.44	0.730	43.12	2.68E-02
32	0.730	43.12	0.779	38.84	2.45E-02
33	0.779	38.84	0.824	34.56	2.23E-02
34	0.824	34.56	0.864	30.28	2.00E-02
35	0.864	30.28	0.899	26.00	1.76E-02
36	0.899	26.00	0.935	20.80	1.80E-02
37	0.935	20.80	0.963	15.60	1.42E-02
38	0.963	15.60	0.984	10.40	1.02E-02
39	0.984	10.40	0.996	5.20	6.16E-03
40	0.996	5.20	1.000	0.00	2.06E-03

**Table 4: Little Boy neutron output by segment (see Table 3) in units of mol/MeV/kt.**  
**Segment values have been spherized, i.e., normalized by the fraction of the sphere covered by segment.**

Group #	Elo (MeV)	Ehi (MeV)	Total all segments	Seg. 1	2	3	4	5	6	7
1	1.00E-16	1.00E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2	1.00E-11	5.00E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
3	5.00E-10	2.00E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
4	2.00E-09	5.00E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
5	5.00E-09	1.00E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
6	1.00E-08	1.45E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
7	1.45E-08	2.10E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8	2.10E-08	3.00E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
9	3.00E-08	4.00E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
10	4.00E-08	5.00E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
11	5.00E-08	7.00E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
12	7.00E-08	1.00E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
13	1.00E-07	1.25E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
14	1.25E-07	1.50E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15	1.50E-07	1.84E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
16	1.84E-07	2.25E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
17	2.25E-07	2.75E-07	1.54E-01	0.00E+00						
18	2.75E-07	3.25E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
19	3.25E-07	3.67E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
20	3.67E-07	4.14E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
21	4.14E-07	5.00E-07	2.42E-01	0.00E+00						
22	5.00E-07	5.32E-07	2.03E-01	0.00E+00						
23	5.32E-07	6.25E-07	1.56E-01	0.00E+00						
24	6.25E-07	6.83E-07	1.34E-01	0.00E+00						
25	6.83E-07	8.00E-07	4.67E-01	0.00E+00						
26	8.00E-07	8.76E-07	1.29E-01	0.00E+00						
27	8.76E-07	1.00E-06	2.97E-01	0.00E+00						
28	1.00E-06	1.04E-06	3.49E-01	0.00E+00						
29	1.04E-06	1.08E-06	2.30E-01	0.00E+00						
30	1.08E-06	1.13E-06	1.09E-01	0.00E+00						
31	1.13E-06	1.30E-06	4.74E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.29E+00	0.00E+00	0.00E+00
32	1.30E-06	1.45E-06	4.85E-01	0.00E+00						
33	1.45E-06	1.86E-06	3.64E-01	0.00E+00	0.00E+00	1.18E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
34	1.86E-06	2.38E-06	5.51E-01	0.00E+00	0.00E+00	1.05E+00	0.00E+00	5.81E-01	0.00E+00	0.00E+00
35	2.38E-06	3.06E-06	7.69E-01	0.00E+00	0.00E+00	0.00E+00	8.43E-01	5.33E-01	4.72E-01	0.00E+00
36	3.06E-06	3.93E-06	9.31E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.71E-01	0.00E+00	2.92E-01
37	3.93E-06	5.04E-06	1.12E+00	0.00E+00	1.67E+00	0.00E+00	0.00E+00	2.52E-01	2.88E-01	0.00E+00
38	5.04E-06	6.48E-06	1.26E+00	0.00E+00	0.00E+00	0.00E+00	2.21E-01	3.79E-01	0.00E+00	0.00E+00
39	6.48E-06	8.32E-06	1.61E+00	0.00E+00	0.00E+00	0.00E+00	6.43E-01	4.28E-01	5.24E-01	3.28E-01
40	8.32E-06	1.07E-05	1.65E+00	0.00E+00	8.43E-01	0.00E+00	3.99E-01	4.54E-01	4.83E-01	7.66E-01
41	1.07E-05	1.37E-05	1.79E+00	0.00E+00	0.00E+00	5.26E-01	4.38E-01	8.98E-01	1.11E+00	8.59E-01
42	1.37E-05	1.76E-05	2.15E+00	8.39E-01	2.62E-01	9.38E-01	7.90E-01	7.35E-01	4.57E-01	1.46E+00
43	1.76E-05	2.26E-05	2.16E+00	1.45E+00	9.48E-01	6.79E-01	5.22E-01	8.92E-01	7.09E-01	8.25E-01
44	2.26E-05	2.90E-05	2.26E+00	9.06E-01	1.06E+00	7.92E-01	7.09E-01	9.25E-01	8.80E-01	7.71E-01
45	2.90E-05	3.73E-05	2.38E+00	2.87E-01	6.15E-01	7.50E-01	7.22E-01	6.88E-01	7.45E-01	1.15E+00
46	3.73E-05	4.79E-05	2.44E+00	1.48E+00	8.66E-01	8.98E-01	1.40E+00	1.05E+00	9.86E-01	8.04E-01
47	4.79E-05	6.14E-05	2.74E+00	1.51E+00	1.29E+00	1.26E+00	1.18E+00	1.25E+00	1.25E+00	1.16E+00
48	6.14E-05	7.89E-05	2.75E+00	7.82E-01	1.12E+00	1.23E+00	1.02E+00	1.21E+00	1.44E+00	1.65E+00
49	7.89E-05	1.01E-04	2.88E+00	7.44E-01	1.38E+00	9.45E-01	1.35E+00	1.43E+00	1.57E+00	1.42E+00
50	1.01E-04	1.30E-04	2.90E+00	1.36E+00	1.09E+00	1.29E+00	1.75E+00	1.58E+00	1.94E+00	1.78E+00

**Table 4 (cont.): Little Boy neutron output by segment in units of mol/MeV/kt for the full sphere.**

Group #	Elo (MeV)	Ehi (MeV)	Total all segments	Seg. 1	2	3	4	5	6	7
51	1.30E-04	1.67E-04	2.95E+00	1.56E+00	1.56E+00	1.35E+00	1.62E+00	1.74E+00	1.91E+00	2.08E+00
52	1.67E-04	2.14E-04	2.98E+00	2.52E+00	1.82E+00	1.71E+00	1.65E+00	1.81E+00	1.96E+00	1.89E+00
53	2.14E-04	2.75E-04	2.80E+00	1.43E+00	1.63E+00	1.46E+00	1.85E+00	1.73E+00	1.95E+00	2.18E+00
54	2.75E-04	3.54E-04	1.76E+00	1.04E+00	9.62E-01	1.20E+00	1.28E+00	1.38E+00	1.36E+00	1.40E+00
55	3.54E-04	4.54E-04	2.25E+00	1.27E+00	1.44E+00	1.47E+00	1.54E+00	1.62E+00	1.74E+00	1.85E+00
56	4.54E-04	5.83E-04	2.38E+00	1.33E+00	1.50E+00	1.59E+00	1.71E+00	1.79E+00	1.89E+00	1.91E+00
57	5.83E-04	7.49E-04	2.23E+00	1.64E+00	1.33E+00	1.41E+00	1.46E+00	1.65E+00	1.70E+00	1.93E+00
58	7.49E-04	9.61E-04	2.03E+00	1.12E+00	1.26E+00	1.34E+00	1.32E+00	1.61E+00	1.77E+00	1.68E+00
59	9.61E-04	1.23E-03	1.75E+00	9.73E-01	1.12E+00	1.16E+00	1.30E+00	1.30E+00	1.37E+00	1.43E+00
60	1.23E-03	1.58E-03	2.00E+00	1.18E+00	1.37E+00	1.24E+00	1.37E+00	1.49E+00	1.51E+00	1.61E+00
61	1.58E-03	2.03E-03	1.72E+00	1.02E+00	9.72E-01	1.01E+00	1.10E+00	1.15E+00	1.32E+00	1.37E+00
62	2.03E-03	2.25E-03	1.20E+00	7.84E-01	6.76E-01	7.37E-01	7.45E-01	8.33E-01	9.17E-01	9.08E-01
63	2.25E-03	2.49E-03	9.59E-01	5.08E-01	6.15E-01	5.60E-01	5.47E-01	6.92E-01	7.35E-01	7.70E-01
64	2.49E-03	2.61E-03	1.21E+00	5.10E-01	5.85E-01	7.18E-01	8.15E-01	8.13E-01	9.59E-01	8.85E-01
65	2.61E-03	2.75E-03	1.34E+00	6.06E-01	6.79E-01	7.40E-01	7.86E-01	9.28E-01	1.08E+00	1.12E+00
66	2.75E-03	3.04E-03	1.42E+00	6.74E-01	6.21E-01	7.69E-01	8.62E-01	8.96E-01	1.05E+00	1.14E+00
67	3.04E-03	3.35E-03	1.40E+00	5.60E-01	5.87E-01	6.93E-01	7.74E-01	8.92E-01	9.51E-01	1.10E+00
68	3.35E-03	3.71E-03	1.33E+00	4.91E-01	5.27E-01	7.02E-01	7.49E-01	8.70E-01	9.46E-01	1.07E+00
69	3.71E-03	4.31E-03	9.41E-01	4.25E-01	4.12E-01	4.65E-01	5.01E-01	5.64E-01	6.78E-01	7.45E-01
70	4.31E-03	5.53E-03	1.02E+00	3.91E-01	3.92E-01	4.33E-01	5.06E-01	6.02E-01	7.29E-01	8.11E-01
71	5.53E-03	7.10E-03	4.55E-01	1.36E-01	1.35E-01	1.62E-01	2.03E-01	2.55E-01	2.95E-01	3.31E-01
72	7.10E-03	9.12E-03	1.82E-01	5.98E-02	7.15E-02	8.07E-02	9.97E-02	1.10E-01	1.23E-01	1.42E-01
73	9.12E-03	1.06E-02	4.34E-01	1.30E-01	1.51E-01	1.90E-01	2.16E-01	2.63E-01	3.07E-01	3.20E-01
74	1.06E-02	1.17E-02	5.16E-01	1.75E-01	1.94E-01	2.33E-01	2.63E-01	3.34E-01	3.46E-01	3.97E-01
75	1.17E-02	1.50E-02	5.40E-01	1.92E-01	1.77E-01	2.33E-01	2.87E-01	3.33E-01	3.92E-01	4.23E-01
76	1.50E-02	1.93E-02	7.75E-01	2.72E-01	3.16E-01	3.75E-01	4.50E-01	5.33E-01	6.08E-01	6.56E-01
77	1.93E-02	2.19E-02	1.43E+00	6.00E-01	7.00E-01	8.22E-01	9.41E-01	1.09E+00	1.21E+00	1.27E+00
78	2.19E-02	2.36E-02	2.85E+00	1.13E+00	1.29E+00	1.63E+00	1.98E+00	2.24E+00	2.48E+00	2.64E+00
79	2.36E-02	2.42E-02	4.09E+00	1.89E+00	1.84E+00	2.47E+00	2.89E+00	3.37E+00	3.76E+00	3.85E+00
80	2.42E-02	2.48E-02	6.51E+00	2.87E+00	3.03E+00	4.11E+00	4.80E+00	5.28E+00	5.94E+00	6.04E+00
81	2.48E-02	2.61E-02	4.04E+00	1.50E+00	1.70E+00	2.20E+00	2.72E+00	3.06E+00	3.37E+00	3.78E+00
82	2.61E-02	2.70E-02	2.42E-01	5.62E-03	5.61E-02	5.82E-02	8.85E-02	1.12E-01	1.62E-01	1.67E-01
83	2.70E-02	2.85E-02	2.12E-02	1.55E-02	1.40E-02	1.51E-02	1.15E-02	1.80E-02	1.64E-02	2.26E-02
84	2.85E-02	3.18E-02	5.54E-02	2.31E-02	2.41E-02	2.65E-02	3.09E-02	3.21E-02	4.08E-02	4.26E-02
85	3.18E-02	3.43E-02	1.28E-01	4.72E-02	4.13E-02	5.55E-02	5.40E-02	6.79E-02	8.12E-02	9.48E-02
86	3.43E-02	4.09E-02	2.14E-01	4.53E-02	6.61E-02	8.00E-02	9.81E-02	1.22E-01	1.41E-01	1.55E-01
87	4.09E-02	4.63E-02	2.77E-01	6.30E-02	7.36E-02	9.93E-02	1.27E-01	1.60E-01	1.90E-01	2.04E-01
88	4.63E-02	5.25E-02	3.04E-01	6.24E-02	8.78E-02	1.02E-01	1.40E-01	1.79E-01	2.03E-01	2.36E-01
89	5.25E-02	5.66E-02	2.61E-01	6.49E-02	7.78E-02	1.03E-01	1.28E-01	1.65E-01	1.81E-01	2.04E-01
90	5.66E-02	6.74E-02	3.82E-01	9.67E-02	1.20E-01	1.58E-01	2.07E-01	2.47E-01	2.75E-01	3.09E-01
91	6.74E-02	7.20E-02	7.06E-01	1.82E-01	2.08E-01	3.08E-01	3.88E-01	4.83E-01	5.54E-01	6.00E-01
92	7.20E-02	7.95E-02	2.94E-01	7.26E-02	9.80E-02	1.21E-01	1.58E-01	1.95E-01	2.16E-01	2.35E-01
93	7.95E-02	8.25E-02	1.58E+00	6.69E-01	7.18E-01	8.88E-01	1.06E+00	1.23E+00	1.35E+00	1.41E+00
94	8.25E-02	8.65E-02	1.13E-01	3.84E-02	4.14E-02	4.99E-02	6.10E-02	7.08E-02	8.62E-02	8.96E-02
95	8.65E-02	9.80E-02	1.55E-01	4.32E-02	4.80E-02	5.99E-02	7.82E-02	9.34E-02	1.11E-01	1.24E-01
96	9.80E-02	1.11E-01	2.52E-01	6.35E-02	8.20E-02	1.05E-01	1.38E-01	1.63E-01	1.85E-01	2.11E-01
97	1.11E-01	1.17E-01	3.49E-01	8.56E-02	1.25E-01	1.61E-01	1.97E-01	2.36E-01	2.67E-01	2.83E-01
98	1.17E-01	1.23E-01	4.17E-01	1.49E-01	1.31E-01	1.91E-01	2.45E-01	2.86E-01	3.15E-01	3.50E-01
99	1.23E-01	1.29E-01	7.18E-01	2.55E-01	2.87E-01	3.85E-01	4.53E-01	5.40E-01	5.90E-01	6.50E-01
100	1.29E-01	1.36E-01	4.21E-01	1.17E-01	1.47E-01	2.05E-01	2.47E-01	3.02E-01	3.37E-01	3.64E-01

**Table 4 (cont.): Little Boy neutron output by segment in units of mol/MeV/kt for the full sphere.**

Group #	Elo (MeV)	Ehi (MeV)	Total all segments	Seg. 1	2	3	4	5	6	7
101	1.36E-01	1.43E-01	6.46E-01	3.28E-01	3.49E-01	4.36E-01	5.05E-01	5.59E-01	5.90E-01	6.30E-01
102	1.43E-01	1.50E-01	7.47E-02	3.17E-02	3.55E-02	3.48E-02	4.33E-02	5.18E-02	5.19E-02	6.01E-02
103	1.50E-01	1.58E-01	1.68E-01	3.94E-02	6.73E-02	7.03E-02	9.10E-02	1.11E-01	1.27E-01	1.42E-01
104	1.58E-01	1.66E-01	3.07E-01	9.68E-02	9.28E-02	1.30E-01	1.67E-01	2.11E-01	2.40E-01	2.56E-01
105	1.66E-01	1.74E-01	3.66E-01	1.32E-01	1.67E-01	2.17E-01	2.55E-01	2.87E-01	3.19E-01	3.38E-01
106	1.74E-01	1.83E-01	4.24E-01	1.40E-01	1.43E-01	2.02E-01	2.56E-01	3.00E-01	3.35E-01	3.68E-01
107	1.83E-01	1.93E-01	2.84E-01	1.04E-01	1.32E-01	1.71E-01	2.07E-01	2.26E-01	2.42E-01	2.61E-01
108	1.93E-01	2.02E-01	6.37E-02	1.97E-02	2.09E-02	2.64E-02	3.20E-02	3.98E-02	4.53E-02	4.76E-02
109	2.02E-01	2.13E-01	1.26E-01	2.39E-02	3.84E-02	5.16E-02	6.50E-02	7.81E-02	8.80E-02	9.99E-02
110	2.13E-01	2.24E-01	2.65E-01	1.30E-01	1.18E-01	1.40E-01	1.76E-01	2.01E-01	2.26E-01	2.39E-01
111	2.24E-01	2.35E-01	1.27E-01	3.73E-02	4.16E-02	4.91E-02	6.45E-02	8.24E-02	9.38E-02	1.08E-01
112	2.35E-01	2.47E-01	2.16E-01	6.82E-02	8.26E-02	1.05E-01	1.26E-01	1.54E-01	1.66E-01	1.90E-01
113	2.47E-01	2.73E-01	2.57E-01	8.08E-02	1.06E-01	1.36E-01	1.69E-01	1.95E-01	2.15E-01	2.35E-01
114	2.73E-01	2.87E-01	1.83E-01	8.84E-02	8.89E-02	1.15E-01	1.36E-01	1.50E-01	1.58E-01	1.70E-01
115	2.87E-01	2.95E-01	1.65E-01	4.12E-02	5.61E-02	7.48E-02	8.92E-02	1.20E-01	1.32E-01	1.42E-01
116	2.95E-01	2.97E-01	3.07E-01	6.05E-02	1.19E-01	1.57E-01	1.79E-01	2.29E-01	2.47E-01	2.68E-01
117	2.97E-01	2.98E-01	3.70E-01	1.53E-01	1.48E-01	1.88E-01	2.26E-01	2.75E-01	3.13E-01	3.31E-01
118	2.98E-01	3.02E-01	4.24E-01	1.42E-01	1.86E-01	2.21E-01	2.78E-01	3.19E-01	3.51E-01	3.88E-01
119	3.02E-01	3.34E-01	3.11E-01	1.34E-01	1.57E-01	1.93E-01	2.29E-01	2.54E-01	2.77E-01	2.96E-01
120	3.34E-01	3.69E-01	2.20E-01	8.35E-02	9.34E-02	1.24E-01	1.51E-01	1.68E-01	1.84E-01	1.99E-01
121	3.69E-01	3.88E-01	1.91E-01	8.16E-02	9.17E-02	1.13E-01	1.38E-01	1.53E-01	1.66E-01	1.72E-01
122	3.88E-01	4.08E-01	4.04E-02	9.46E-03	1.47E-02	1.61E-02	2.01E-02	2.68E-02	3.07E-02	3.22E-02
123	4.08E-01	4.50E-01	5.19E-02	1.43E-02	1.88E-02	2.56E-02	2.87E-02	3.55E-02	3.86E-02	4.39E-02
124	4.50E-01	4.98E-01	8.07E-02	2.53E-02	2.84E-02	3.71E-02	4.85E-02	5.69E-02	6.50E-02	7.14E-02
125	4.98E-01	5.23E-01	6.38E-02	1.67E-02	2.09E-02	2.61E-02	3.68E-02	4.27E-02	4.67E-02	5.36E-02
126	5.23E-01	5.50E-01	7.08E-02	1.90E-02	2.37E-02	3.20E-02	3.96E-02	5.01E-02	5.41E-02	5.98E-02
127	5.50E-01	5.78E-01	8.25E-02	2.17E-02	2.93E-02	3.69E-02	5.07E-02	5.61E-02	6.44E-02	7.25E-02
128	5.78E-01	6.08E-01	1.16E-01	3.11E-02	4.21E-02	5.70E-02	7.12E-02	8.63E-02	9.19E-02	1.05E-01
129	6.08E-01	6.39E-01	1.34E-01	4.95E-02	5.46E-02	7.48E-02	8.61E-02	1.02E-01	1.13E-01	1.20E-01
130	6.39E-01	6.72E-01	1.01E-01	3.71E-02	4.45E-02	5.92E-02	7.26E-02	8.15E-02	8.97E-02	9.16E-02
131	6.72E-01	7.07E-01	5.91E-02	2.35E-02	2.59E-02	3.20E-02	3.97E-02	4.54E-02	5.18E-02	5.30E-02
132	7.07E-01	7.43E-01	3.52E-02	1.16E-02	1.37E-02	1.63E-02	2.17E-02	2.63E-02	2.98E-02	3.24E-02
133	7.43E-01	7.81E-01	1.99E-02	4.10E-03	6.21E-03	8.34E-03	1.08E-02	1.38E-02	1.52E-02	1.65E-02
134	7.81E-01	8.21E-01	2.11E-02	4.40E-03	6.10E-03	8.69E-03	1.08E-02	1.34E-02	1.67E-02	1.87E-02
135	8.21E-01	8.63E-01	2.91E-02	8.28E-03	9.37E-03	1.40E-02	1.65E-02	2.25E-02	2.36E-02	2.71E-02
136	8.63E-01	9.07E-01	2.53E-02	6.14E-03	9.21E-03	1.12E-02	1.54E-02	1.76E-02	2.16E-02	2.20E-02
137	9.07E-01	9.62E-01	3.29E-02	1.10E-02	1.37E-02	1.74E-02	2.25E-02	2.42E-02	2.88E-02	2.94E-02
138	9.62E-01	1.00E+00	1.44E-02	6.15E-03	5.52E-03	6.00E-03	8.54E-03	9.68E-03	1.19E-02	1.33E-02
139	1.00E+00	1.11E+00	1.36E-02	3.64E-03	4.40E-03	6.63E-03	8.90E-03	9.82E-03	1.16E-02	1.21E-02
140	1.11E+00	1.16E+00	1.40E-02	3.84E-03	5.75E-03	6.53E-03	8.82E-03	1.03E-02	1.16E-02	1.29E-02
141	1.16E+00	1.22E+00	1.36E-02	6.67E-03	5.01E-03	8.07E-03	9.12E-03	9.91E-03	1.18E-02	1.22E-02
142	1.22E+00	1.29E+00	6.17E-03	1.84E-03	1.58E-03	2.73E-03	3.57E-03	4.40E-03	4.66E-03	5.46E-03
143	1.29E+00	1.35E+00	6.55E-03	2.19E-03	2.24E-03	3.41E-03	3.94E-03	4.48E-03	5.42E-03	5.65E-03
144	1.35E+00	1.42E+00	5.63E-03	1.49E-03	1.85E-03	2.76E-03	3.09E-03	4.33E-03	4.99E-03	5.25E-03
145	1.42E+00	1.50E+00	4.17E-03	6.74E-04	1.56E-03	2.07E-03	2.49E-03	3.16E-03	3.86E-03	3.76E-03
146	1.50E+00	1.57E+00	4.15E-03	1.22E-03	1.39E-03	2.11E-03	2.36E-03	3.05E-03	3.44E-03	3.80E-03
147	1.57E+00	1.65E+00	3.65E-03	1.21E-03	1.36E-03	1.89E-03	2.27E-03	2.84E-03	2.91E-03	3.48E-03
148	1.65E+00	1.74E+00	3.70E-03	1.30E-03	1.45E-03	1.22E-03	1.93E-03	2.75E-03	3.46E-03	3.47E-03
149	1.74E+00	1.83E+00	3.07E-03	9.13E-04	9.89E-04	1.56E-03	1.79E-03	2.10E-03	2.64E-03	2.50E-03
150	1.83E+00	1.92E+00	2.30E-03	4.70E-04	6.40E-04	1.13E-03	1.40E-03	1.45E-03	1.88E-03	2.12E-03

**Table 4 (cont.): Little Boy neutron output by segment in units of mol/MeV/kt for the full sphere.**

Group #	Elo (MeV)	Ehi (MeV)	Total all segments	Seg. 1	2	3	4	5	6	7
151	1.92E+00	2.02E+00	1.85E-03	8.22E-04	5.51E-04	8.56E-04	1.00E-03	1.43E-03	1.53E-03	1.86E-03
152	2.02E+00	2.12E+00	1.74E-03	5.92E-04	9.32E-04	7.97E-04	9.39E-04	1.29E-03	1.17E-03	1.38E-03
153	2.12E+00	2.23E+00	1.60E-03	4.01E-04	5.69E-04	6.46E-04	8.78E-04	1.16E-03	1.47E-03	1.54E-03
154	2.23E+00	2.31E+00	1.57E-03	1.82E-04	5.80E-04	7.37E-04	8.96E-04	1.28E-03	1.40E-03	1.61E-03
155	2.31E+00	2.35E+00	1.24E-03	8.41E-04	6.71E-04	5.98E-04	6.49E-04	9.87E-04	9.05E-04	1.10E-03
156	2.35E+00	2.37E+00	1.81E-03	4.16E-04	6.56E-04	7.97E-04	1.14E-03	1.22E-03	1.57E-03	1.73E-03
157	2.37E+00	2.39E+00	1.36E-03	4.13E-04	1.29E-04	4.41E-04	6.87E-04	1.03E-03	9.44E-04	1.37E-03
158	2.39E+00	2.47E+00	1.12E-03	2.11E-04	3.43E-04	4.80E-04	7.85E-04	8.01E-04	1.09E-03	1.06E-03
159	2.47E+00	2.59E+00	8.11E-04	2.73E-04	2.87E-04	3.75E-04	4.46E-04	5.43E-04	6.28E-04	6.86E-04
160	2.59E+00	2.73E+00	9.07E-04	2.76E-04	2.88E-04	3.88E-04	5.61E-04	5.64E-04	6.29E-04	8.18E-04
161	2.73E+00	2.87E+00	7.10E-04	2.15E-04	1.41E-04	3.52E-04	3.57E-04	5.24E-04	4.63E-04	7.15E-04
162	2.87E+00	3.01E+00	6.06E-04	1.04E-04	1.50E-04	2.20E-04	2.99E-04	4.30E-04	5.25E-04	4.88E-04
163	3.01E+00	3.17E+00	5.14E-04	2.50E-04	8.87E-05	2.31E-04	3.09E-04	2.88E-04	4.20E-04	5.58E-04
164	3.17E+00	3.33E+00	4.44E-04	7.05E-05	1.24E-04	1.22E-04	1.87E-04	3.45E-04	3.49E-04	3.58E-04
165	3.33E+00	3.68E+00	3.51E-04	4.70E-05	1.20E-04	1.52E-04	1.78E-04	2.45E-04	3.26E-04	3.76E-04
166	3.68E+00	4.07E+00	2.73E-04	4.93E-05	4.00E-05	1.34E-04	1.48E-04	2.05E-04	2.23E-04	2.51E-04
167	4.07E+00	4.49E+00	2.11E-04	1.05E-04	7.16E-05	8.96E-05	1.31E-04	1.55E-04	2.08E-04	1.95E-04
168	4.49E+00	4.72E+00	1.72E-04	3.57E-05	2.38E-05	1.18E-04	8.74E-05	1.14E-04	1.82E-04	1.53E-04
169	4.72E+00	4.97E+00	1.55E-04	8.89E-05	4.28E-05	6.21E-05	1.03E-04	1.28E-04	1.23E-04	1.27E-04
170	4.97E+00	5.23E+00	1.20E-04	0.00E+00	1.57E-05	7.93E-05	3.76E-05	9.37E-05	1.10E-04	9.52E-05
171	5.23E+00	5.49E+00	1.06E-04	5.40E-05	2.12E-05	3.62E-05	6.37E-05	9.36E-05	1.05E-04	9.60E-05
172	5.49E+00	5.77E+00	8.90E-05	0.00E+00	4.32E-05	3.75E-05	6.54E-05	8.54E-05	9.38E-05	8.56E-05
173	5.77E+00	6.07E+00	7.48E-05	0.00E+00	2.47E-05	4.27E-05	2.07E-05	5.95E-05	5.64E-05	5.69E-05
174	6.07E+00	6.38E+00	6.33E-05	0.00E+00	8.71E-06	1.53E-05	3.96E-05	4.15E-05	6.58E-05	5.92E-05
175	6.38E+00	6.59E+00	5.49E-05	0.00E+00	3.22E-05	7.50E-06	3.38E-05	4.63E-05	5.09E-05	7.53E-05
176	6.59E+00	6.70E+00	4.81E-05	0.00E+00	0.00E+00	0.00E+00	6.46E-05	3.83E-05	6.40E-05	5.90E-05
177	6.70E+00	7.05E+00	4.41E-05	0.00E+00	0.00E+00	1.87E-05	3.32E-05	2.99E-05	4.95E-05	4.78E-05
178	7.05E+00	7.41E+00	3.25E-05	0.00E+00	2.60E-05	1.49E-05	2.22E-05	2.94E-05	2.92E-05	2.59E-05
179	7.41E+00	7.79E+00	2.33E-05	0.00E+00	6.98E-06	6.76E-06	5.96E-06	9.06E-06	1.95E-05	2.87E-05
180	7.79E+00	8.19E+00	1.95E-05	0.00E+00	0.00E+00	2.68E-06	1.66E-05	1.75E-05	2.32E-05	1.74E-05
181	8.19E+00	8.61E+00	1.50E-05	0.00E+00	0.00E+00	3.71E-06	6.60E-06	8.58E-06	5.68E-06	1.15E-05
182	8.61E+00	9.05E+00	1.07E-05	0.00E+00	0.00E+00	4.61E-06	1.02E-05	5.91E-06	5.55E-06	6.76E-06
183	9.05E+00	9.51E+00	8.43E-06	0.00E+00	1.17E-05	3.48E-06	1.20E-05	6.86E-06	4.48E-06	8.84E-06
184	9.51E+00	1.00E+01	5.39E-06	0.00E+00	0.00E+00	1.95E-06	2.38E-06	0.00E+00	6.37E-06	1.75E-06
185	1.00E+01	1.05E+01	3.96E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.07E-06	6.06E-06	3.08E-06
186	1.05E+01	1.11E+01	2.71E-06	0.00E+00	0.00E+00	0.00E+00	5.11E-06	2.99E-06	6.71E-07	9.46E-07
187	1.11E+01	1.16E+01	1.62E-06	0.00E+00	0.00E+00	2.78E-06	1.78E-06	0.00E+00	1.19E-06	1.85E-06
188	1.16E+01	1.22E+01	8.44E-07	0.00E+00	0.00E+00	1.25E-06	0.00E+00	7.06E-07	1.54E-06	1.27E-06
189	1.22E+01	1.25E+01	7.14E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.32E-06
190	1.25E+01	1.28E+01	3.83E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.51E-06
191	1.28E+01	1.35E+01	3.16E-07	0.00E+00	0.00E+00	1.11E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00
192	1.35E+01	1.38E+01	2.31E-07	0.00E+00	0.00E+00	0.00E+00	3.08E-06	0.00E+00	0.00E+00	0.00E+00
193	1.38E+01	1.42E+01	1.24E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.74E-06	0.00E+00	0.00E+00
194	1.42E+01	1.46E+01	1.11E-07	0.00E+00						
195	1.46E+01	1.49E+01	1.03E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.15E-06
196	1.49E+01	1.57E+01	1.06E-07	0.00E+00						
197	1.57E+01	1.65E+01	1.77E-08	0.00E+00						
198	1.65E+01	1.69E+01	2.69E-08	0.00E+00						
199	1.69E+01	1.73E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
200	1.73E+01	1.96E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Segment total (mol/kt)		1.77E-01	6.21E-02	7.12E-02	9.09E-02	1.11E-01	1.29E-01	1.44E-01	1.55E-01	
Segment total (kt/kt)		1.27E-03	4.11E-04	4.83E-04	6.39E-04	7.96E-04	9.38E-04	1.06E-03	1.14E-03	

**Table 4 (cont.): Little Boy neutron output by segment in units of mol/MeV/kt for the full sphere.**

Group #	Elo (MeV)	Ehi (MeV)	Seg. 8	9	10	11	12	13	14	15
1	1.00E-16	1.00E-11	0.00E+00							
2	1.00E-11	5.00E-10	0.00E+00							
3	5.00E-10	2.00E-09	0.00E+00							
4	2.00E-09	5.00E-09	0.00E+00							
5	5.00E-09	1.00E-08	0.00E+00							
6	1.00E-08	1.45E-08	0.00E+00							
7	1.45E-08	2.10E-08	0.00E+00							
8	2.10E-08	3.00E-08	0.00E+00							
9	3.00E-08	4.00E-08	0.00E+00							
10	4.00E-08	5.00E-08	0.00E+00							
11	5.00E-08	7.00E-08	0.00E+00							
12	7.00E-08	1.00E-07	0.00E+00							
13	1.00E-07	1.25E-07	0.00E+00							
14	1.25E-07	1.50E-07	0.00E+00							
15	1.50E-07	1.84E-07	0.00E+00							
16	1.84E-07	2.25E-07	0.00E+00							
17	2.25E-07	2.75E-07	0.00E+00							
18	2.75E-07	3.25E-07	0.00E+00							
19	3.25E-07	3.67E-07	0.00E+00							
20	3.67E-07	4.14E-07	0.00E+00							
21	4.14E-07	5.00E-07	0.00E+00							
22	5.00E-07	5.32E-07	0.00E+00	0.00E+00	7.60E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
23	5.32E-07	6.25E-07	0.00E+00							
24	6.25E-07	6.83E-07	0.00E+00							
25	6.83E-07	8.00E-07	0.00E+00							
26	8.00E-07	8.76E-07	0.00E+00							
27	8.76E-07	1.00E-06	0.00E+00	2.96E+00						
28	1.00E-06	1.04E-06	0.00E+00							
29	1.04E-06	1.08E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.39E+00	0.00E+00	0.00E+00
30	1.08E-06	1.13E-06	0.00E+00							
31	1.13E-06	1.30E-06	0.00E+00							
32	1.30E-06	1.45E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.36E+00	0.00E+00	1.13E+00
33	1.45E-06	1.86E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.97E-01	5.43E-01
34	1.86E-06	2.38E-06	6.33E-01	4.94E-01	4.64E-01	3.62E-01	4.62E-01	0.00E+00	0.00E+00	0.00E+00
35	2.38E-06	3.06E-06	0.00E+00	3.68E-01	0.00E+00	3.02E-01	2.29E-01	9.10E-01	3.06E-01	1.26E+00
36	3.06E-06	3.93E-06	2.46E-01	0.00E+00	2.24E-01	7.62E-01	0.00E+00	5.51E-01	1.55E-01	8.03E-01
37	3.93E-06	5.04E-06	9.64E-01	2.92E-01	5.05E-01	4.23E-01	5.67E-01	7.14E-01	3.98E-01	9.42E-01
38	5.04E-06	6.48E-06	1.80E-01	9.37E-01	3.96E-01	1.18E-01	1.07E+00	6.53E-01	1.12E+00	6.66E-01
39	6.48E-06	8.32E-06	5.47E-01	9.45E-02	3.50E-01	6.04E-01	9.42E-01	1.08E+00	6.93E-01	1.28E+00
40	8.32E-06	1.07E-05	2.28E-01	4.05E-01	7.26E-01	4.12E-01	8.58E-01	4.83E-01	1.64E+00	1.07E+00
41	1.07E-05	1.37E-05	9.83E-01	8.28E-01	7.69E-01	8.07E-01	1.01E+00	1.01E+00	7.58E-01	1.06E+00
42	1.37E-05	1.76E-05	6.52E-01	1.02E+00	1.15E+00	6.95E-01	1.25E+00	1.62E+00	1.75E+00	1.57E+00
43	1.76E-05	2.26E-05	6.15E-01	1.02E+00	1.03E+00	7.96E-01	9.60E-01	9.78E-01	2.02E+00	1.64E+00
44	2.26E-05	2.90E-05	6.73E-01	1.00E+00	1.17E+00	1.14E+00	1.47E+00	1.12E+00	1.75E+00	1.86E+00
45	2.90E-05	3.73E-05	9.69E-01	1.17E+00	1.32E+00	1.71E+00	1.33E+00	1.47E+00	1.73E+00	1.59E+00
46	3.73E-05	4.79E-05	1.22E+00	1.18E+00	1.11E+00	1.34E+00	1.73E+00	1.59E+00	1.72E+00	1.84E+00
47	4.79E-05	6.14E-05	1.48E+00	1.46E+00	1.37E+00	1.51E+00	1.77E+00	2.11E+00	2.05E+00	2.11E+00
48	6.14E-05	7.89E-05	1.53E+00	1.71E+00	1.60E+00	1.79E+00	1.96E+00	1.87E+00	2.24E+00	2.19E+00
49	7.89E-05	1.01E-04	1.70E+00	1.83E+00	2.32E+00	2.08E+00	2.23E+00	2.25E+00	2.31E+00	2.33E+00
50	1.01E-04	1.30E-04	1.83E+00	2.21E+00	2.27E+00	2.01E+00	2.35E+00	2.51E+00	2.49E+00	2.37E+00

**Table 4 (cont.): Little Boy neutron output by segment in units of mol/MeV/kt for the full sphere.**

Group #	Elo (MeV)	Ehi (MeV)	Seg. 8	9	10	11	12	13	14	15
51	1.30E-04	1.67E-04	1.90E+00	2.12E+00	2.12E+00	2.07E+00	2.35E+00	2.62E+00	2.68E+00	2.87E+00
52	1.67E-04	2.14E-04	2.07E+00	2.26E+00	2.43E+00	2.59E+00	2.38E+00	2.62E+00	2.68E+00	2.82E+00
53	2.14E-04	2.75E-04	2.07E+00	2.24E+00	2.39E+00	2.38E+00	2.46E+00	2.64E+00	2.49E+00	2.59E+00
54	2.75E-04	3.54E-04	1.54E+00	1.44E+00	1.38E+00	1.59E+00	1.55E+00	1.61E+00	1.64E+00	1.77E+00
55	3.54E-04	4.54E-04	1.97E+00	1.85E+00	1.88E+00	2.04E+00	2.13E+00	2.14E+00	2.30E+00	2.30E+00
56	4.54E-04	5.83E-04	1.93E+00	1.89E+00	2.16E+00	2.09E+00	2.39E+00	2.30E+00	2.29E+00	2.29E+00
57	5.83E-04	7.49E-04	1.96E+00	1.97E+00	2.11E+00	2.09E+00	2.12E+00	2.19E+00	2.29E+00	2.26E+00
58	7.49E-04	9.61E-04	1.70E+00	1.68E+00	1.96E+00	1.93E+00	1.99E+00	2.02E+00	2.03E+00	2.10E+00
59	9.61E-04	1.23E-03	1.52E+00	1.53E+00	1.61E+00	1.67E+00	1.70E+00	1.75E+00	1.85E+00	1.78E+00
60	1.23E-03	1.58E-03	1.69E+00	1.75E+00	1.83E+00	1.94E+00	1.96E+00	2.02E+00	2.07E+00	2.09E+00
61	1.58E-03	2.03E-03	1.46E+00	1.51E+00	1.59E+00	1.72E+00	1.70E+00	1.75E+00	1.83E+00	1.87E+00
62	2.03E-03	2.25E-03	9.76E-01	1.04E+00	1.12E+00	1.14E+00	1.24E+00	1.28E+00	1.32E+00	1.37E+00
63	2.25E-03	2.49E-03	8.13E-01	8.89E-01	8.81E-01	9.10E-01	9.56E-01	9.79E-01	1.03E+00	1.03E+00
64	2.49E-03	2.61E-03	1.03E+00	1.11E+00	1.10E+00	1.16E+00	1.24E+00	1.29E+00	1.27E+00	1.37E+00
65	2.61E-03	2.75E-03	1.13E+00	1.22E+00	1.35E+00	1.19E+00	1.33E+00	1.37E+00	1.55E+00	1.44E+00
66	2.75E-03	3.04E-03	1.23E+00	1.31E+00	1.33E+00	1.38E+00	1.50E+00	1.54E+00	1.49E+00	1.59E+00
67	3.04E-03	3.35E-03	1.16E+00	1.28E+00	1.32E+00	1.41E+00	1.44E+00	1.49E+00	1.52E+00	1.59E+00
68	3.35E-03	3.71E-03	1.16E+00	1.27E+00	1.24E+00	1.37E+00	1.40E+00	1.46E+00	1.46E+00	1.51E+00
69	3.71E-03	4.31E-03	7.88E-01	8.93E-01	8.85E-01	9.38E-01	9.93E-01	1.04E+00	1.02E+00	1.11E+00
70	4.31E-03	5.53E-03	8.60E-01	9.23E-01	9.89E-01	1.04E+00	1.08E+00	1.12E+00	1.16E+00	1.17E+00
71	5.53E-03	7.10E-03	3.58E-01	4.03E-01	4.26E-01	4.47E-01	4.82E-01	5.12E-01	5.25E-01	5.36E-01
72	7.10E-03	9.12E-03	1.54E-01	1.55E-01	1.63E-01	1.74E-01	1.84E-01	1.95E-01	1.88E-01	2.01E-01
73	9.12E-03	1.06E-02	3.58E-01	3.83E-01	4.22E-01	4.41E-01	4.60E-01	4.77E-01	4.86E-01	5.03E-01
74	1.06E-02	1.17E-02	4.40E-01	4.73E-01	4.98E-01	5.58E-01	5.61E-01	5.87E-01	5.90E-01	5.99E-01
75	1.17E-02	1.50E-02	4.62E-01	5.09E-01	5.40E-01	5.82E-01	5.94E-01	6.05E-01	6.35E-01	6.49E-01
76	1.50E-02	1.93E-02	7.05E-01	7.65E-01	7.79E-01	8.10E-01	8.53E-01	8.59E-01	8.95E-01	8.96E-01
77	1.93E-02	2.19E-02	1.36E+00	1.43E+00	1.48E+00	1.52E+00	1.55E+00	1.60E+00	1.61E+00	1.63E+00
78	2.19E-02	2.36E-02	2.76E+00	2.95E+00	2.99E+00	3.08E+00	3.24E+00	3.25E+00	3.27E+00	3.37E+00
79	2.36E-02	2.42E-02	4.04E+00	4.19E+00	4.42E+00	4.60E+00	4.69E+00	4.70E+00	4.78E+00	4.81E+00
80	2.42E-02	2.48E-02	6.45E+00	6.83E+00	7.10E+00	7.02E+00	7.27E+00	7.43E+00	7.59E+00	7.58E+00
81	2.48E-02	2.61E-02	3.89E+00	4.20E+00	4.35E+00	4.35E+00	4.59E+00	4.74E+00	4.85E+00	4.83E+00
82	2.61E-02	2.70E-02	2.08E-01	2.31E-01	2.37E-01	2.53E-01	2.64E-01	2.67E-01	2.98E-01	2.92E-01
83	2.70E-02	2.85E-02	1.82E-02	1.77E-02	1.88E-02	1.94E-02	2.55E-02	2.22E-02	2.63E-02	2.45E-02
84	2.85E-02	3.18E-02	4.24E-02	4.92E-02	4.96E-02	4.99E-02	5.45E-02	5.77E-02	6.00E-02	6.43E-02
85	3.18E-02	3.43E-02	9.61E-02	1.10E-01	1.22E-01	1.22E-01	1.25E-01	1.39E-01	1.41E-01	1.48E-01
86	3.43E-02	4.09E-02	1.77E-01	1.99E-01	2.08E-01	2.24E-01	2.26E-01	2.38E-01	2.52E-01	2.50E-01
87	4.09E-02	4.63E-02	2.29E-01	2.57E-01	2.78E-01	2.82E-01	3.10E-01	3.20E-01	3.27E-01	3.35E-01
88	4.63E-02	5.25E-02	2.53E-01	2.87E-01	3.01E-01	3.18E-01	3.39E-01	3.45E-01	3.62E-01	3.67E-01
89	5.25E-02	5.66E-02	2.25E-01	2.38E-01	2.52E-01	2.77E-01	2.79E-01	2.99E-01	3.02E-01	3.16E-01
90	5.66E-02	6.74E-02	3.39E-01	3.66E-01	3.87E-01	4.11E-01	4.25E-01	4.47E-01	4.43E-01	4.62E-01
91	6.74E-02	7.20E-02	6.52E-01	7.14E-01	7.28E-01	7.84E-01	8.09E-01	8.32E-01	8.42E-01	8.54E-01
92	7.20E-02	7.95E-02	2.69E-01	2.84E-01	3.03E-01	3.09E-01	3.31E-01	3.36E-01	3.49E-01	3.53E-01
93	7.95E-02	8.25E-02	1.54E+00	1.61E+00	1.65E+00	1.74E+00	1.77E+00	1.84E+00	1.85E+00	1.86E+00
94	8.25E-02	8.65E-02	9.74E-02	1.04E-01	1.12E-01	1.17E-01	1.17E-01	1.29E-01	1.32E-01	1.39E-01
95	8.65E-02	9.80E-02	1.36E-01	1.49E-01	1.56E-01	1.57E-01	1.68E-01	1.73E-01	1.83E-01	1.79E-01
96	9.80E-02	1.11E-01	2.24E-01	2.35E-01	2.58E-01	2.63E-01	2.74E-01	2.88E-01	2.96E-01	2.99E-01
97	1.11E-01	1.17E-01	3.23E-01	3.27E-01	3.58E-01	3.75E-01	3.84E-01	4.02E-01	4.14E-01	4.14E-01
98	1.17E-01	1.23E-01	3.74E-01	4.03E-01	4.41E-01	4.50E-01	4.66E-01	4.89E-01	4.94E-01	5.02E-01
99	1.23E-01	1.29E-01	6.80E-01	7.28E-01	7.62E-01	7.87E-01	8.06E-01	8.33E-01	8.37E-01	8.64E-01
100	1.29E-01	1.36E-01	3.99E-01	4.28E-01	4.37E-01	4.50E-01	4.77E-01	4.84E-01	5.01E-01	5.18E-01

**Table 4 (cont.): Little Boy neutron output by segment in units of mol/MeV/kt for the full sphere.**

Group #	Elo (MeV)	Ehi (MeV)	Seg. 8	9	10	11	12	13	14	15
101	1.36E-01	1.43E-01	6.44E-01	6.94E-01	7.08E-01	7.13E-01	7.30E-01	7.41E-01	7.50E-01	7.57E-01
102	1.43E-01	1.50E-01	6.54E-02	6.96E-02	7.61E-02	7.78E-02	7.82E-02	8.17E-02	8.24E-02	8.39E-02
103	1.50E-01	1.58E-01	1.52E-01	1.65E-01	1.69E-01	1.75E-01	1.85E-01	1.91E-01	1.99E-01	2.00E-01
104	1.58E-01	1.66E-01	2.75E-01	3.12E-01	3.19E-01	3.34E-01	3.48E-01	3.60E-01	3.73E-01	3.77E-01
105	1.66E-01	1.74E-01	3.46E-01	3.77E-01	3.87E-01	3.90E-01	4.01E-01	4.20E-01	4.23E-01	4.32E-01
106	1.74E-01	1.83E-01	3.96E-01	4.21E-01	4.45E-01	4.61E-01	4.82E-01	4.90E-01	5.11E-01	5.17E-01
107	1.83E-01	1.93E-01	2.72E-01	2.94E-01	3.05E-01	3.18E-01	3.18E-01	3.33E-01	3.28E-01	3.33E-01
108	1.93E-01	2.02E-01	5.33E-02	6.01E-02	6.18E-02	6.67E-02	7.05E-02	7.01E-02	7.66E-02	7.41E-02
109	2.02E-01	2.13E-01	1.13E-01	1.23E-01	1.26E-01	1.33E-01	1.40E-01	1.47E-01	1.49E-01	1.51E-01
110	2.13E-01	2.24E-01	2.58E-01	2.63E-01	2.76E-01	2.85E-01	2.97E-01	3.03E-01	3.08E-01	3.20E-01
111	2.24E-01	2.35E-01	1.18E-01	1.22E-01	1.26E-01	1.36E-01	1.44E-01	1.44E-01	1.50E-01	1.53E-01
112	2.35E-01	2.47E-01	2.07E-01	2.14E-01	2.22E-01	2.35E-01	2.43E-01	2.46E-01	2.58E-01	2.60E-01
113	2.47E-01	2.73E-01	2.42E-01	2.59E-01	2.71E-01	2.75E-01	2.88E-01	2.99E-01	3.00E-01	3.05E-01
114	2.73E-01	2.87E-01	1.75E-01	1.87E-01	1.91E-01	1.96E-01	2.02E-01	2.03E-01	2.10E-01	2.19E-01
115	2.87E-01	2.95E-01	1.55E-01	1.60E-01	1.74E-01	1.76E-01	1.86E-01	1.90E-01	1.94E-01	1.98E-01
116	2.95E-01	2.97E-01	2.91E-01	3.08E-01	3.21E-01	3.24E-01	3.51E-01	3.59E-01	3.61E-01	3.77E-01
117	2.97E-01	2.98E-01	3.70E-01	3.84E-01	4.07E-01	4.03E-01	4.02E-01	4.42E-01	4.36E-01	4.63E-01
118	2.98E-01	3.02E-01	4.13E-01	4.34E-01	4.57E-01	4.72E-01	4.76E-01	4.95E-01	4.92E-01	5.14E-01
119	3.02E-01	3.34E-01	3.07E-01	3.22E-01	3.29E-01	3.40E-01	3.45E-01	3.51E-01	3.60E-01	3.62E-01
120	3.34E-01	3.69E-01	2.11E-01	2.23E-01	2.34E-01	2.41E-01	2.49E-01	2.53E-01	2.62E-01	2.65E-01
121	3.69E-01	3.88E-01	1.88E-01	1.97E-01	2.01E-01	2.07E-01	2.17E-01	2.19E-01	2.26E-01	2.26E-01
122	3.88E-01	4.08E-01	3.57E-02	3.98E-02	4.09E-02	4.31E-02	4.35E-02	4.80E-02	4.90E-02	4.81E-02
123	4.08E-01	4.50E-01	4.86E-02	5.04E-02	5.31E-02	5.54E-02	6.01E-02	6.12E-02	6.29E-02	6.37E-02
124	4.50E-01	4.98E-01	7.80E-02	7.97E-02	8.50E-02	8.98E-02	9.09E-02	9.45E-02	9.65E-02	1.01E-01
125	4.98E-01	5.23E-01	5.78E-02	6.21E-02	6.72E-02	7.08E-02	7.40E-02	7.27E-02	7.77E-02	7.90E-02
126	5.23E-01	5.50E-01	6.74E-02	6.91E-02	7.44E-02	7.80E-02	8.09E-02	8.35E-02	8.47E-02	8.59E-02
127	5.50E-01	5.78E-01	7.96E-02	8.27E-02	8.74E-02	8.98E-02	9.46E-02	9.78E-02	9.74E-02	1.00E-01
128	5.78E-01	6.08E-01	1.14E-01	1.19E-01	1.26E-01	1.31E-01	1.33E-01	1.38E-01	1.41E-01	1.39E-01
129	6.08E-01	6.39E-01	1.31E-01	1.38E-01	1.43E-01	1.47E-01	1.52E-01	1.59E-01	1.58E-01	1.65E-01
130	6.39E-01	6.72E-01	9.95E-02	1.02E-01	1.05E-01	1.12E-01	1.14E-01	1.17E-01	1.20E-01	1.22E-01
131	6.72E-01	7.07E-01	5.83E-02	6.08E-02	6.44E-02	6.62E-02	6.64E-02	7.05E-02	6.89E-02	7.18E-02
132	7.07E-01	7.43E-01	3.46E-02	3.65E-02	3.71E-02	3.92E-02	4.14E-02	4.15E-02	4.20E-02	4.31E-02
133	7.43E-01	7.81E-01	1.89E-02	1.96E-02	2.17E-02	2.23E-02	2.27E-02	2.38E-02	2.41E-02	2.39E-02
134	7.81E-01	8.21E-01	2.05E-02	2.20E-02	2.15E-02	2.28E-02	2.55E-02	2.46E-02	2.59E-02	2.71E-02
135	8.21E-01	8.63E-01	2.88E-02	2.92E-02	3.13E-02	3.15E-02	3.43E-02	3.35E-02	3.61E-02	3.62E-02
136	8.63E-01	9.07E-01	2.39E-02	2.49E-02	2.76E-02	2.86E-02	3.02E-02	3.09E-02	3.10E-02	3.14E-02
137	9.07E-01	9.62E-01	3.26E-02	3.41E-02	3.55E-02	3.73E-02	3.77E-02	3.84E-02	3.88E-02	3.95E-02
138	9.62E-01	1.00E+00	1.38E-02	1.45E-02	1.58E-02	1.72E-02	1.71E-02	1.71E-02	1.73E-02	1.80E-02
139	1.00E+00	1.11E+00	1.36E-02	1.39E-02	1.42E-02	1.49E-02	1.57E-02	1.59E-02	1.65E-02	1.68E-02
140	1.11E+00	1.16E+00	1.34E-02	1.45E-02	1.53E-02	1.54E-02	1.62E-02	1.64E-02	1.74E-02	1.74E-02
141	1.16E+00	1.22E+00	1.31E-02	1.38E-02	1.46E-02	1.49E-02	1.59E-02	1.56E-02	1.71E-02	1.70E-02
142	1.22E+00	1.29E+00	6.06E-03	6.74E-03	7.10E-03	7.12E-03	7.42E-03	7.70E-03	7.71E-03	7.79E-03
143	1.29E+00	1.35E+00	6.03E-03	6.31E-03	6.96E-03	7.03E-03	7.63E-03	7.89E-03	8.23E-03	8.36E-03
144	1.35E+00	1.42E+00	5.30E-03	5.72E-03	6.06E-03	6.32E-03	6.59E-03	6.67E-03	7.00E-03	7.02E-03
145	1.42E+00	1.50E+00	4.09E-03	3.94E-03	4.38E-03	4.61E-03	4.93E-03	4.91E-03	5.05E-03	5.10E-03
146	1.50E+00	1.57E+00	3.89E-03	4.43E-03	4.27E-03	4.43E-03	4.52E-03	5.06E-03	5.25E-03	5.08E-03
147	1.57E+00	1.65E+00	3.51E-03	3.39E-03	4.13E-03	4.22E-03	4.32E-03	4.03E-03	4.22E-03	4.33E-03
148	1.65E+00	1.74E+00	3.66E-03	4.22E-03	4.28E-03	4.18E-03	4.21E-03	4.38E-03	4.54E-03	4.60E-03
149	1.74E+00	1.83E+00	3.43E-03	3.17E-03	3.34E-03	3.54E-03	3.67E-03	3.55E-03	3.80E-03	3.77E-03
150	1.83E+00	1.92E+00	2.23E-03	2.61E-03	2.57E-03	2.78E-03	2.69E-03	2.68E-03	2.81E-03	2.99E-03

**Table 4 (cont.): Little Boy neutron output by segment in units of mol/MeV/kt for the full sphere.**

Group #	Elo (MeV)	Ehi (MeV)	Seg. 8	9	10	11	12	13	14	15
151	1.92E+00	2.02E+00	1.76E-03	1.94E-03	1.94E-03	2.11E-03	2.20E-03	2.41E-03	2.11E-03	2.15E-03
152	2.02E+00	2.12E+00	1.63E-03	1.99E-03	1.67E-03	2.20E-03	1.96E-03	2.10E-03	2.12E-03	2.28E-03
153	2.12E+00	2.23E+00	1.56E-03	1.74E-03	1.87E-03	1.92E-03	1.90E-03	1.91E-03	2.02E-03	1.88E-03
154	2.23E+00	2.31E+00	1.57E-03	1.74E-03	1.74E-03	1.85E-03	1.89E-03	1.89E-03	1.91E-03	1.88E-03
155	2.31E+00	2.35E+00	1.10E-03	1.54E-03	1.11E-03	1.44E-03	1.37E-03	1.58E-03	1.59E-03	1.82E-03
156	2.35E+00	2.37E+00	1.98E-03	1.40E-03	1.64E-03	1.76E-03	2.15E-03	1.83E-03	1.83E-03	2.55E-03
157	2.37E+00	2.39E+00	1.74E-03	1.55E-03	1.21E-03	1.48E-03	1.38E-03	1.59E-03	2.08E-03	1.87E-03
158	2.39E+00	2.47E+00	1.07E-03	1.08E-03	1.31E-03	1.24E-03	1.24E-03	1.35E-03	1.47E-03	1.40E-03
159	2.47E+00	2.59E+00	7.53E-04	9.10E-04	8.41E-04	8.94E-04	9.57E-04	1.01E-03	1.01E-03	1.01E-03
160	2.59E+00	2.73E+00	8.90E-04	9.74E-04	9.86E-04	9.38E-04	1.08E-03	1.14E-03	1.10E-03	1.19E-03
161	2.73E+00	2.87E+00	7.10E-04	6.91E-04	7.32E-04	7.78E-04	8.30E-04	8.43E-04	8.71E-04	8.43E-04
162	2.87E+00	3.01E+00	5.39E-04	7.18E-04	5.82E-04	6.40E-04	7.33E-04	6.73E-04	7.03E-04	7.42E-04
163	3.01E+00	3.17E+00	6.33E-04	5.02E-04	5.47E-04	5.61E-04	5.47E-04	6.09E-04	5.62E-04	6.37E-04
164	3.17E+00	3.33E+00	5.32E-04	4.67E-04	4.41E-04	4.53E-04	4.17E-04	4.76E-04	5.17E-04	6.28E-04
165	3.33E+00	3.68E+00	3.48E-04	3.50E-04	3.57E-04	3.67E-04	3.72E-04	4.08E-04	4.27E-04	4.61E-04
166	3.68E+00	4.07E+00	2.65E-04	2.60E-04	3.09E-04	2.96E-04	3.12E-04	3.27E-04	3.49E-04	3.23E-04
167	4.07E+00	4.49E+00	2.07E-04	2.13E-04	2.26E-04	2.28E-04	2.33E-04	2.30E-04	2.53E-04	2.69E-04
168	4.49E+00	4.72E+00	1.35E-04	1.53E-04	1.77E-04	1.61E-04	1.47E-04	2.28E-04	2.08E-04	2.22E-04
169	4.72E+00	4.97E+00	1.27E-04	1.65E-04	1.78E-04	1.90E-04	1.78E-04	1.84E-04	1.62E-04	1.93E-04
170	4.97E+00	5.23E+00	1.13E-04	1.32E-04	1.25E-04	1.32E-04	1.40E-04	1.12E-04	1.65E-04	1.49E-04
171	5.23E+00	5.49E+00	1.05E-04	1.09E-04	1.28E-04	1.12E-04	1.10E-04	1.04E-04	1.02E-04	1.41E-04
172	5.49E+00	5.77E+00	7.99E-05	8.30E-05	9.78E-05	1.07E-04	9.88E-05	1.24E-04	8.79E-05	1.10E-04
173	5.77E+00	6.07E+00	6.48E-05	6.46E-05	7.17E-05	9.99E-05	1.10E-04	9.31E-05	1.05E-04	7.21E-05
174	6.07E+00	6.38E+00	5.66E-05	5.91E-05	8.52E-05	9.50E-05	5.89E-05	6.33E-05	8.28E-05	1.00E-04
175	6.38E+00	6.59E+00	5.55E-05	6.23E-05	7.59E-05	3.88E-05	5.53E-05	6.38E-05	5.93E-05	7.61E-05
176	6.59E+00	6.70E+00	4.38E-05	6.82E-05	4.91E-05	5.84E-05	5.26E-05	3.82E-05	4.43E-05	7.21E-05
177	6.70E+00	7.05E+00	5.93E-05	5.07E-05	6.26E-05	4.35E-05	3.65E-05	4.98E-05	5.48E-05	5.06E-05
178	7.05E+00	7.41E+00	3.56E-05	3.11E-05	2.62E-05	4.02E-05	3.67E-05	4.28E-05	4.14E-05	4.29E-05
179	7.41E+00	7.79E+00	3.38E-05	2.43E-05	2.03E-05	1.63E-05	2.72E-05	3.00E-05	2.66E-05	3.06E-05
180	7.79E+00	8.19E+00	1.36E-05	1.83E-05	2.12E-05	3.00E-05	2.72E-05	2.74E-05	2.18E-05	2.92E-05
181	8.19E+00	8.61E+00	1.70E-05	1.50E-05	8.22E-06	1.72E-05	2.42E-05	2.30E-05	1.59E-05	1.87E-05
182	8.61E+00	9.05E+00	1.11E-05	1.14E-05	1.51E-05	1.15E-05	1.38E-05	1.15E-05	9.10E-06	1.29E-05
183	9.05E+00	9.51E+00	9.75E-06	6.21E-06	1.69E-05	5.24E-06	8.37E-06	8.75E-06	7.17E-06	4.57E-06
184	9.51E+00	1.00E+01	5.32E-06	7.76E-06	3.64E-06	6.51E-06	4.55E-06	1.14E-05	4.80E-06	1.04E-05
185	1.00E+01	1.05E+01	4.28E-06	2.46E-06	2.81E-06	4.06E-06	3.91E-06	6.26E-06	9.78E-06	5.49E-06
186	1.05E+01	1.11E+01	7.87E-06	1.71E-06	0.00E+00	2.76E-06	4.71E-06	4.42E-06	4.18E-06	1.03E-06
187	1.11E+01	1.16E+01	1.28E-06	2.04E-06	1.00E-06	1.82E-06	7.35E-07	7.38E-07	1.38E-06	1.60E-06
188	1.16E+01	1.22E+01	0.00E+00	0.00E+00	2.61E-06	1.51E-06	0.00E+00	9.07E-07	1.44E-06	1.35E-06
189	1.22E+01	1.25E+01	0.00E+00							
190	1.25E+01	1.28E+01	0.00E+00	3.89E-06	0.00E+00	1.04E-06	0.00E+00	0.00E+00	7.62E-07	0.00E+00
191	1.28E+01	1.35E+01	0.00E+00	0.00E+00	7.33E-07	5.86E-07	0.00E+00	0.00E+00	0.00E+00	4.64E-07
192	1.35E+01	1.38E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.38E-06	0.00E+00	0.00E+00
193	1.38E+01	1.42E+01	0.00E+00	0.00E+00	5.72E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
194	1.42E+01	1.46E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.40E-06	0.00E+00	0.00E+00
195	1.46E+01	1.49E+01	0.00E+00							
196	1.49E+01	1.57E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.02E-07	0.00E+00	5.70E-07
197	1.57E+01	1.65E+01	7.91E-07	0.00E+00						
198	1.65E+01	1.69E+01	0.00E+00							
199	1.69E+01	1.73E+01	0.00E+00							
200	1.73E+01	1.96E+01	0.00E+00							
Segment total (mol/kt)		1.66E-01	1.77E-01	1.84E-01	1.91E-01	1.98E-01	2.03E-01	2.07E-01	2.11E-01	
Segment total (kt/kt)		1.23E-03	1.29E-03	1.35E-03	1.40E-03	1.45E-03	1.48E-03	1.52E-03	1.55E-03	

**Table 4 (cont.): Little Boy neutron output by segment in units of mol/MeV/kt for the full sphere.**

Group #	Elo (MeV)	Ehi (MeV)	Seg. 16	17	18	19	20	21	22	23
1	1.00E-16	1.00E-11	0.00E+00							
2	1.00E-11	5.00E-10	0.00E+00							
3	5.00E-10	2.00E-09	0.00E+00							
4	2.00E-09	5.00E-09	0.00E+00							
5	5.00E-09	1.00E-08	0.00E+00							
6	1.00E-08	1.45E-08	0.00E+00							
7	1.45E-08	2.10E-08	0.00E+00							
8	2.10E-08	3.00E-08	0.00E+00							
9	3.00E-08	4.00E-08	0.00E+00							
10	4.00E-08	5.00E-08	0.00E+00							
11	5.00E-08	7.00E-08	0.00E+00							
12	7.00E-08	1.00E-07	0.00E+00							
13	1.00E-07	1.25E-07	0.00E+00							
14	1.25E-07	1.50E-07	0.00E+00							
15	1.50E-07	1.84E-07	0.00E+00							
16	1.84E-07	2.25E-07	0.00E+00							
17	2.25E-07	2.75E-07	0.00E+00							
18	2.75E-07	3.25E-07	0.00E+00							
19	3.25E-07	3.67E-07	0.00E+00							
20	3.67E-07	4.14E-07	0.00E+00							
21	4.14E-07	5.00E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.38E+00	0.00E+00	0.00E+00
22	5.00E-07	5.32E-07	0.00E+00							
23	5.32E-07	6.25E-07	0.00E+00	0.00E+00	2.21E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
24	6.25E-07	6.83E-07	0.00E+00							
25	6.83E-07	8.00E-07	0.00E+00	0.00E+00	1.25E+00	0.00E+00	1.45E+00	0.00E+00	0.00E+00	0.00E+00
26	8.00E-07	8.76E-07	0.00E+00	0.00E+00	1.87E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
27	8.76E-07	1.00E-06	0.00E+00	0.00E+00	1.80E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
28	1.00E-06	1.04E-06	0.00E+00							
29	1.04E-06	1.08E-06	0.00E+00							
30	1.08E-06	1.13E-06	0.00E+00							
31	1.13E-06	1.30E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.73E-01	1.87E+00	0.00E+00	1.02E+00
32	1.30E-06	1.45E-06	0.00E+00	0.00E+00	0.00E+00	8.69E-01	0.00E+00	0.00E+00	0.00E+00	1.32E+00
33	1.45E-06	1.86E-06	3.55E-01	5.07E-01	0.00E+00	0.00E+00	0.00E+00	6.94E-01	0.00E+00	4.18E-01
34	1.86E-06	2.38E-06	0.00E+00	1.33E+00	6.08E-01	7.32E-01	6.00E-01	5.13E-01	1.02E+00	0.00E+00
35	2.38E-06	3.06E-06	5.71E-01	7.17E-01	1.28E+00	7.50E-01	1.08E+00	1.41E+00	2.06E-01	2.87E-01
36	3.06E-06	3.93E-06	5.41E-01	7.83E-01	4.66E-01	3.06E-01	1.47E+00	6.57E-01	2.16E+00	6.36E-01
37	3.93E-06	5.04E-06	7.78E-01	4.36E-01	6.28E-01	9.93E-01	9.58E-01	1.46E+00	1.12E+00	1.04E+00
38	5.04E-06	6.48E-06	7.57E-01	3.89E-01	7.84E-01	1.22E+00	1.02E+00	1.47E+00	1.37E+00	1.47E+00
39	6.48E-06	8.32E-06	1.06E+00	1.30E+00	1.18E+00	1.17E+00	8.23E-01	1.53E+00	1.83E+00	1.83E+00
40	8.32E-06	1.07E-05	1.02E+00	1.45E+00	1.23E+00	1.41E+00	8.53E-01	1.42E+00	1.74E+00	1.86E+00
41	1.07E-05	1.37E-05	1.98E+00	1.14E+00	1.46E+00	1.53E+00	1.16E+00	2.41E+00	1.38E+00	1.91E+00
42	1.37E-05	1.76E-05	1.18E+00	1.40E+00	1.91E+00	1.61E+00	2.07E+00	1.72E+00	2.03E+00	2.62E+00
43	1.76E-05	2.26E-05	1.62E+00	1.76E+00	1.99E+00	1.52E+00	2.21E+00	2.07E+00	2.38E+00	2.20E+00
44	2.26E-05	2.90E-05	1.84E+00	1.67E+00	1.68E+00	1.84E+00	2.11E+00	2.04E+00	2.63E+00	2.97E+00
45	2.90E-05	3.73E-05	1.66E+00	2.33E+00	2.01E+00	1.93E+00	2.04E+00	2.91E+00	2.28E+00	2.88E+00
46	3.73E-05	4.79E-05	2.21E+00	1.83E+00	2.31E+00	2.39E+00	2.23E+00	2.56E+00	2.66E+00	2.54E+00
47	4.79E-05	6.14E-05	2.11E+00	2.24E+00	2.46E+00	2.67E+00	2.66E+00	2.66E+00	2.73E+00	2.72E+00
48	6.14E-05	7.89E-05	2.34E+00	2.53E+00	2.42E+00	2.41E+00	2.91E+00	2.76E+00	3.07E+00	2.89E+00
49	7.89E-05	1.01E-04	2.60E+00	2.75E+00	2.77E+00	2.98E+00	2.81E+00	2.97E+00	2.75E+00	2.99E+00
50	1.01E-04	1.30E-04	2.53E+00	2.87E+00	2.59E+00	2.96E+00	2.76E+00	3.04E+00	3.05E+00	2.88E+00

**Table 4 (cont.): Little Boy neutron output by segment in units of mol/MeV/kt for the full sphere.**

Group #	Elo (MeV)	Ehi (MeV)	Seg. 16	17	18	19	20	21	22	23
51	1.30E-04	1.67E-04	2.91E+00	2.56E+00	2.84E+00	2.90E+00	3.07E+00	3.04E+00	3.23E+00	3.27E+00
52	1.67E-04	2.14E-04	2.97E+00	3.01E+00	2.97E+00	3.04E+00	2.98E+00	3.35E+00	3.25E+00	3.16E+00
53	2.14E-04	2.75E-04	2.67E+00	2.92E+00	2.77E+00	2.75E+00	2.93E+00	2.98E+00	3.05E+00	3.10E+00
54	2.75E-04	3.54E-04	1.70E+00	1.88E+00	1.81E+00	1.84E+00	1.87E+00	1.70E+00	1.89E+00	1.79E+00
55	3.54E-04	4.54E-04	2.31E+00	2.23E+00	2.44E+00	2.35E+00	2.34E+00	2.47E+00	2.29E+00	2.44E+00
56	4.54E-04	5.83E-04	2.45E+00	2.45E+00	2.61E+00	2.45E+00	2.59E+00	2.60E+00	2.49E+00	2.59E+00
57	5.83E-04	7.49E-04	2.25E+00	2.31E+00	2.34E+00	2.40E+00	2.34E+00	2.38E+00	2.49E+00	2.36E+00
58	7.49E-04	9.61E-04	2.13E+00	2.14E+00	2.09E+00	2.19E+00	2.21E+00	2.21E+00	2.19E+00	2.22E+00
59	9.61E-04	1.23E-03	1.83E+00	1.83E+00	1.85E+00	1.87E+00	1.93E+00	1.85E+00	1.92E+00	1.87E+00
60	1.23E-03	1.58E-03	2.17E+00	2.22E+00	2.14E+00	2.21E+00	2.14E+00	2.21E+00	2.23E+00	2.15E+00
61	1.58E-03	2.03E-03	1.90E+00	1.91E+00	1.92E+00	1.96E+00	1.92E+00	1.96E+00	1.91E+00	1.94E+00
62	2.03E-03	2.25E-03	1.33E+00	1.38E+00	1.31E+00	1.32E+00	1.37E+00	1.41E+00	1.33E+00	1.37E+00
63	2.25E-03	2.49E-03	1.03E+00	1.09E+00	1.09E+00	1.12E+00	1.00E+00	1.08E+00	1.03E+00	1.09E+00
64	2.49E-03	2.61E-03	1.35E+00	1.38E+00	1.37E+00	1.39E+00	1.31E+00	1.38E+00	1.40E+00	1.33E+00
65	2.61E-03	2.75E-03	1.46E+00	1.51E+00	1.51E+00	1.60E+00	1.59E+00	1.53E+00	1.48E+00	1.55E+00
66	2.75E-03	3.04E-03	1.59E+00	1.63E+00	1.65E+00	1.63E+00	1.63E+00	1.66E+00	1.57E+00	1.65E+00
67	3.04E-03	3.35E-03	1.59E+00	1.57E+00	1.66E+00	1.69E+00	1.60E+00	1.63E+00	1.57E+00	1.59E+00
68	3.35E-03	3.71E-03	1.56E+00	1.51E+00	1.59E+00	1.54E+00	1.54E+00	1.53E+00	1.53E+00	1.58E+00
69	3.71E-03	4.31E-03	1.07E+00	1.11E+00	1.09E+00	1.09E+00	1.09E+00	1.09E+00	1.09E+00	1.08E+00
70	4.31E-03	5.53E-03	1.19E+00	1.22E+00	1.21E+00	1.23E+00	1.23E+00	1.20E+00	1.20E+00	1.18E+00
71	5.53E-03	7.10E-03	5.46E-01	5.40E-01	5.62E-01	5.43E-01	5.58E-01	5.55E-01	5.69E-01	5.47E-01
72	7.10E-03	9.12E-03	2.10E-01	2.12E-01	2.16E-01	2.20E-01	2.11E-01	2.20E-01	2.13E-01	2.11E-01
73	9.12E-03	1.06E-02	5.07E-01	5.10E-01	5.14E-01	5.21E-01	5.31E-01	5.20E-01	4.95E-01	5.07E-01
74	1.06E-02	1.17E-02	6.18E-01	6.18E-01	6.28E-01	6.23E-01	6.38E-01	6.20E-01	6.03E-01	6.21E-01
75	1.17E-02	1.50E-02	6.41E-01	6.52E-01	6.43E-01	6.47E-01	6.49E-01	6.37E-01	6.32E-01	6.33E-01
76	1.50E-02	1.93E-02	9.02E-01	8.97E-01	9.17E-01	9.27E-01	9.07E-01	8.96E-01	8.79E-01	8.81E-01
77	1.93E-02	2.19E-02	1.66E+00	1.65E+00	1.66E+00	1.63E+00	1.63E+00	1.63E+00	1.63E+00	1.59E+00
78	2.19E-02	2.36E-02	3.29E+00	3.37E+00	3.39E+00	3.34E+00	3.27E+00	3.30E+00	3.27E+00	3.20E+00
79	2.36E-02	2.42E-02	4.87E+00	4.92E+00	4.90E+00	4.83E+00	4.75E+00	4.71E+00	4.69E+00	4.55E+00
80	2.42E-02	2.48E-02	7.59E+00	7.67E+00	7.66E+00	7.60E+00	7.59E+00	7.43E+00	7.40E+00	7.35E+00
81	2.48E-02	2.61E-02	4.91E+00	4.95E+00	4.90E+00	4.93E+00	4.84E+00	4.78E+00	4.69E+00	4.63E+00
82	2.61E-02	2.70E-02	3.08E-01	3.01E-01	3.17E-01	3.18E-01	3.19E-01	3.06E-01	3.08E-01	2.88E-01
83	2.70E-02	2.85E-02	2.41E-02	2.30E-02	2.50E-02	2.08E-02	2.30E-02	2.17E-02	2.19E-02	2.25E-02
84	2.85E-02	3.18E-02	6.40E-02	6.78E-02	6.12E-02	6.42E-02	6.45E-02	7.10E-02	6.74E-02	6.68E-02
85	3.18E-02	3.43E-02	1.50E-01	1.57E-01	1.63E-01	1.56E-01	1.59E-01	1.59E-01	1.54E-01	1.64E-01
86	3.43E-02	4.09E-02	2.69E-01	2.66E-01	2.70E-01	2.70E-01	2.63E-01	2.64E-01	2.56E-01	2.59E-01
87	4.09E-02	4.63E-02	3.45E-01	3.48E-01	3.53E-01	3.48E-01	3.51E-01	3.38E-01	3.37E-01	3.30E-01
88	4.63E-02	5.25E-02	3.69E-01	3.81E-01	3.80E-01	3.81E-01	3.73E-01	3.81E-01	3.67E-01	3.60E-01
89	5.25E-02	5.66E-02	3.12E-01	3.20E-01	3.20E-01	3.25E-01	3.22E-01	3.20E-01	3.17E-01	3.14E-01
90	5.66E-02	6.74E-02	4.66E-01	4.75E-01	4.72E-01	4.75E-01	4.68E-01	4.61E-01	4.50E-01	4.54E-01
91	6.74E-02	7.20E-02	8.78E-01	8.80E-01	9.10E-01	8.90E-01	8.73E-01	8.55E-01	8.59E-01	8.30E-01
92	7.20E-02	7.95E-02	3.65E-01	3.63E-01	3.70E-01	3.63E-01	3.56E-01	3.58E-01	3.47E-01	3.46E-01
93	7.95E-02	8.25E-02	1.91E+00	1.90E+00	1.88E+00	1.87E+00	1.87E+00	1.86E+00	1.87E+00	1.81E+00
94	8.25E-02	8.65E-02	1.35E-01	1.31E-01	1.31E-01	1.41E-01	1.35E-01	1.38E-01	1.41E-01	1.26E-01
95	8.65E-02	9.80E-02	1.86E-01	1.90E-01	1.90E-01	1.89E-01	1.91E-01	1.85E-01	1.88E-01	1.81E-01
96	9.80E-02	1.11E-01	3.04E-01	3.07E-01	3.09E-01	3.09E-01	3.06E-01	3.07E-01	3.02E-01	2.99E-01
97	1.11E-01	1.17E-01	4.24E-01	4.32E-01	4.31E-01	4.23E-01	4.27E-01	4.24E-01	4.10E-01	4.16E-01
98	1.17E-01	1.23E-01	5.07E-01	5.16E-01	5.23E-01	5.13E-01	5.10E-01	5.09E-01	5.07E-01	4.89E-01
99	1.23E-01	1.29E-01	8.68E-01	8.78E-01	8.72E-01	8.84E-01	8.64E-01	8.53E-01	8.43E-01	8.29E-01
100	1.29E-01	1.36E-01	5.20E-01	5.25E-01	5.21E-01	5.21E-01	5.08E-01	5.18E-01	5.00E-01	4.90E-01

**Table 4 (cont.): Little Boy neutron output by segment in units of mol/MeV/kt for the full sphere.**

Group #	Elo (MeV)	Ehi (MeV)	Seg. 16	17	18	19	20	21	22	23
101	1.36E-01	1.43E-01	7.52E-01	7.56E-01	7.57E-01	7.54E-01	7.59E-01	7.52E-01	7.33E-01	7.32E-01
102	1.43E-01	1.50E-01	8.58E-02	8.85E-02	8.41E-02	8.62E-02	8.85E-02	8.51E-02	8.65E-02	8.81E-02
103	1.50E-01	1.58E-01	2.01E-01	2.06E-01	2.07E-01	2.09E-01	2.04E-01	1.98E-01	2.01E-01	2.01E-01
104	1.58E-01	1.66E-01	3.83E-01	3.79E-01	3.83E-01	3.86E-01	3.84E-01	3.77E-01	3.69E-01	3.61E-01
105	1.66E-01	1.74E-01	4.37E-01	4.33E-01	4.38E-01	4.34E-01	4.31E-01	4.33E-01	4.27E-01	4.22E-01
106	1.74E-01	1.83E-01	5.28E-01	5.20E-01	5.25E-01	5.25E-01	5.28E-01	5.21E-01	5.08E-01	5.07E-01
107	1.83E-01	1.93E-01	3.43E-01	3.38E-01	3.45E-01	3.37E-01	3.45E-01	3.35E-01	3.35E-01	3.30E-01
108	1.93E-01	2.02E-01	7.53E-02	7.67E-02	7.56E-02	7.90E-02	7.89E-02	7.53E-02	7.80E-02	7.51E-02
109	2.02E-01	2.13E-01	1.54E-01	1.54E-01	1.54E-01	1.59E-01	1.57E-01	1.50E-01	1.54E-01	1.51E-01
110	2.13E-01	2.24E-01	3.17E-01	3.19E-01	3.21E-01	3.18E-01	3.18E-01	3.15E-01	3.13E-01	3.09E-01
111	2.24E-01	2.35E-01	1.57E-01	1.56E-01	1.58E-01	1.54E-01	1.53E-01	1.57E-01	1.53E-01	1.54E-01
112	2.35E-01	2.47E-01	2.65E-01	2.68E-01	2.67E-01	2.65E-01	2.65E-01	2.66E-01	2.56E-01	2.54E-01
113	2.47E-01	2.73E-01	3.08E-01	3.13E-01	3.12E-01	3.15E-01	3.07E-01	3.04E-01	3.02E-01	2.94E-01
114	2.73E-01	2.87E-01	2.17E-01	2.15E-01	2.16E-01	2.11E-01	2.14E-01	2.14E-01	2.08E-01	2.08E-01
115	2.87E-01	2.95E-01	2.02E-01	2.05E-01	2.07E-01	2.07E-01	1.96E-01	2.01E-01	1.99E-01	1.92E-01
116	2.95E-01	2.97E-01	3.80E-01	3.78E-01	3.81E-01	3.89E-01	3.79E-01	3.74E-01	3.68E-01	3.64E-01
117	2.97E-01	2.98E-01	4.31E-01	4.39E-01	4.58E-01	4.69E-01	4.36E-01	4.40E-01	4.44E-01	4.39E-01
118	2.98E-01	3.02E-01	5.22E-01	5.33E-01	5.22E-01	5.18E-01	5.14E-01	5.12E-01	4.95E-01	4.91E-01
119	3.02E-01	3.34E-01	3.63E-01	3.71E-01	3.66E-01	3.66E-01	3.67E-01	3.58E-01	3.54E-01	3.52E-01
120	3.34E-01	3.69E-01	2.70E-01	2.69E-01	2.68E-01	2.72E-01	2.65E-01	2.66E-01	2.59E-01	2.56E-01
121	3.69E-01	3.88E-01	2.29E-01	2.28E-01	2.30E-01	2.29E-01	2.32E-01	2.26E-01	2.24E-01	2.19E-01
122	3.88E-01	4.08E-01	5.05E-02	5.00E-02	5.23E-02	5.13E-02	4.99E-02	4.84E-02	4.94E-02	4.74E-02
123	4.08E-01	4.50E-01	6.43E-02	6.27E-02	6.48E-02	6.55E-02	6.35E-02	6.39E-02	6.15E-02	6.04E-02
124	4.50E-01	4.98E-01	1.01E-01	1.00E-01	9.90E-02	9.94E-02	9.94E-02	1.00E-01	9.55E-02	9.41E-02
125	4.98E-01	5.23E-01	7.79E-02	7.95E-02	8.08E-02	7.91E-02	7.97E-02	7.92E-02	7.61E-02	7.57E-02
126	5.23E-01	5.50E-01	8.68E-02	8.86E-02	8.85E-02	8.76E-02	8.82E-02	8.76E-02	8.50E-02	8.45E-02
127	5.50E-01	5.78E-01	1.03E-01	1.03E-01	1.03E-01	1.01E-01	1.05E-01	1.04E-01	9.90E-02	9.70E-02
128	5.78E-01	6.08E-01	1.42E-01	1.46E-01	1.45E-01	1.45E-01	1.44E-01	1.40E-01	1.41E-01	1.35E-01
129	6.08E-01	6.39E-01	1.64E-01	1.65E-01	1.65E-01	1.65E-01	1.62E-01	1.58E-01	1.60E-01	1.58E-01
130	6.39E-01	6.72E-01	1.23E-01	1.25E-01	1.25E-01	1.25E-01	1.21E-01	1.22E-01	1.19E-01	1.16E-01
131	6.72E-01	7.07E-01	7.28E-02	7.29E-02	7.41E-02	7.30E-02	7.23E-02	7.17E-02	6.97E-02	6.93E-02
132	7.07E-01	7.43E-01	4.49E-02	4.38E-02	4.39E-02	4.49E-02	4.43E-02	4.33E-02	4.42E-02	4.34E-02
133	7.43E-01	7.81E-01	2.59E-02	2.56E-02	2.52E-02	2.46E-02	2.54E-02	2.50E-02	2.48E-02	2.40E-02
134	7.81E-01	8.21E-01	2.71E-02	2.68E-02	2.64E-02	2.71E-02	2.70E-02	2.64E-02	2.68E-02	2.52E-02
135	8.21E-01	8.63E-01	3.65E-02	3.69E-02	3.73E-02	3.72E-02	3.79E-02	3.65E-02	3.55E-02	3.50E-02
136	8.63E-01	9.07E-01	3.14E-02	3.23E-02	3.24E-02	3.25E-02	3.28E-02	3.23E-02	3.16E-02	3.06E-02
137	9.07E-01	9.62E-01	4.11E-02	4.16E-02	4.18E-02	4.21E-02	4.17E-02	4.15E-02	4.06E-02	3.96E-02
138	9.62E-01	1.00E+00	1.83E-02	1.91E-02	1.85E-02	1.85E-02	1.89E-02	1.78E-02	1.81E-02	1.79E-02
139	1.00E+00	1.11E+00	1.68E-02	1.74E-02	1.76E-02	1.77E-02	1.77E-02	1.74E-02	1.67E-02	1.71E-02
140	1.11E+00	1.16E+00	1.73E-02	1.82E-02	1.85E-02	1.80E-02	1.83E-02	1.85E-02	1.77E-02	1.69E-02
141	1.16E+00	1.22E+00	1.71E-02	1.77E-02	1.75E-02	1.76E-02	1.80E-02	1.69E-02	1.75E-02	1.63E-02
142	1.22E+00	1.29E+00	7.94E-03	7.97E-03	8.05E-03	8.17E-03	7.82E-03	7.97E-03	7.71E-03	7.44E-03
143	1.29E+00	1.35E+00	8.32E-03	8.48E-03	8.52E-03	8.83E-03	9.02E-03	8.11E-03	8.09E-03	8.31E-03
144	1.35E+00	1.42E+00	7.14E-03	7.19E-03	7.56E-03	7.59E-03	7.42E-03	7.29E-03	7.14E-03	6.89E-03
145	1.42E+00	1.50E+00	5.29E-03	5.33E-03	5.77E-03	5.67E-03	5.45E-03	5.62E-03	5.23E-03	5.11E-03
146	1.50E+00	1.57E+00	5.18E-03	5.43E-03	5.63E-03	5.83E-03	5.33E-03	5.51E-03	5.24E-03	5.40E-03
147	1.57E+00	1.65E+00	4.96E-03	5.05E-03	4.97E-03	4.62E-03	4.95E-03	4.57E-03	4.71E-03	4.44E-03
148	1.65E+00	1.74E+00	4.54E-03	5.07E-03	4.88E-03	5.07E-03	4.55E-03	4.64E-03	4.84E-03	4.72E-03
149	1.74E+00	1.83E+00	4.17E-03	3.91E-03	4.33E-03	4.18E-03	4.10E-03	3.92E-03	4.13E-03	3.86E-03
150	1.83E+00	1.92E+00	2.90E-03	3.20E-03	3.10E-03	3.00E-03	2.96E-03	2.96E-03	2.92E-03	2.99E-03

**Table 4 (cont.): Little Boy neutron output by segment in units of mol/MeV/kt for the full sphere.**

Group #	Elo (MeV)	Ehi (MeV)	Seg. 16	17	18	19	20	21	22	23
151	1.92E+00	2.02E+00	2.48E-03	2.50E-03	2.62E-03	2.38E-03	2.54E-03	2.29E-03	2.44E-03	2.26E-03
152	2.02E+00	2.12E+00	2.46E-03	2.20E-03	2.28E-03	2.58E-03	2.25E-03	2.28E-03	2.23E-03	2.20E-03
153	2.12E+00	2.23E+00	2.04E-03	1.98E-03	2.18E-03	2.06E-03	2.22E-03	2.13E-03	2.12E-03	1.87E-03
154	2.23E+00	2.31E+00	2.22E-03	2.08E-03	1.90E-03	2.13E-03	2.14E-03	1.96E-03	2.20E-03	1.93E-03
155	2.31E+00	2.35E+00	1.27E-03	1.56E-03	1.90E-03	1.42E-03	1.48E-03	1.55E-03	1.55E-03	1.65E-03
156	2.35E+00	2.37E+00	2.01E-03	2.81E-03	2.38E-03	3.02E-03	2.42E-03	2.65E-03	2.07E-03	2.73E-03
157	2.37E+00	2.39E+00	1.89E-03	1.73E-03	1.94E-03	1.52E-03	1.79E-03	1.65E-03	1.67E-03	1.70E-03
158	2.39E+00	2.47E+00	1.45E-03	1.45E-03	1.49E-03	1.51E-03	1.47E-03	1.45E-03	1.52E-03	1.44E-03
159	2.47E+00	2.59E+00	1.00E-03	1.07E-03	1.11E-03	9.42E-04	1.18E-03	1.17E-03	1.10E-03	1.01E-03
160	2.59E+00	2.73E+00	1.28E-03	1.13E-03	1.27E-03	1.20E-03	1.25E-03	1.20E-03	1.22E-03	1.03E-03
161	2.73E+00	2.87E+00	9.76E-04	9.23E-04	8.93E-04	1.03E-03	9.95E-04	1.01E-03	9.45E-04	8.83E-04
162	2.87E+00	3.01E+00	7.41E-04	8.35E-04	8.67E-04	8.82E-04	8.93E-04	8.42E-04	7.43E-04	8.51E-04
163	3.01E+00	3.17E+00	7.03E-04	6.67E-04	7.17E-04	7.53E-04	7.03E-04	6.93E-04	6.31E-04	6.27E-04
164	3.17E+00	3.33E+00	6.16E-04	5.65E-04	6.21E-04	6.23E-04	5.91E-04	6.09E-04	5.79E-04	5.62E-04
165	3.33E+00	3.68E+00	4.73E-04	4.51E-04	4.71E-04	4.75E-04	4.86E-04	4.83E-04	4.61E-04	4.62E-04
166	3.68E+00	4.07E+00	3.55E-04	3.46E-04	4.02E-04	3.67E-04	3.89E-04	3.96E-04	3.61E-04	3.45E-04
167	4.07E+00	4.49E+00	2.63E-04	3.00E-04	2.79E-04	2.91E-04	3.03E-04	2.96E-04	2.82E-04	2.74E-04
168	4.49E+00	4.72E+00	2.28E-04	2.46E-04	2.32E-04	2.51E-04	2.27E-04	2.33E-04	2.02E-04	2.58E-04
169	4.72E+00	4.97E+00	2.07E-04	1.90E-04	2.14E-04	2.36E-04	2.41E-04	2.12E-04	2.01E-04	1.86E-04
170	4.97E+00	5.23E+00	1.25E-04	1.64E-04	1.65E-04	1.74E-04	1.60E-04	2.12E-04	1.62E-04	1.59E-04
171	5.23E+00	5.49E+00	1.39E-04	1.31E-04	1.49E-04	1.28E-04	1.63E-04	1.45E-04	1.65E-04	1.40E-04
172	5.49E+00	5.77E+00	1.18E-04	1.13E-04	1.06E-04	1.11E-04	1.03E-04	1.34E-04	1.28E-04	1.06E-04
173	5.77E+00	6.07E+00	1.01E-04	1.31E-04	8.49E-05	1.04E-04	1.27E-04	9.84E-05	9.84E-05	1.10E-04
174	6.07E+00	6.38E+00	6.84E-05	8.72E-05	8.08E-05	1.03E-04	8.52E-05	9.40E-05	7.91E-05	7.30E-05
175	6.38E+00	6.59E+00	8.03E-05	5.69E-05	8.00E-05	9.98E-05	7.87E-05	6.74E-05	8.46E-05	5.37E-05
176	6.59E+00	6.70E+00	5.64E-05	6.10E-05	5.84E-05	9.06E-05	5.78E-05	7.23E-05	5.30E-05	8.01E-05
177	6.70E+00	7.05E+00	5.88E-05	6.67E-05	4.29E-05	6.05E-05	6.96E-05	6.79E-05	5.24E-05	5.26E-05
178	7.05E+00	7.41E+00	4.93E-05	4.61E-05	3.80E-05	4.94E-05	3.43E-05	5.47E-05	5.77E-05	4.49E-05
179	7.41E+00	7.79E+00	4.33E-05	2.78E-05	3.49E-05	3.58E-05	3.82E-05	2.67E-05	3.21E-05	3.10E-05
180	7.79E+00	8.19E+00	2.27E-05	3.04E-05	2.53E-05	2.77E-05	2.59E-05	1.97E-05	2.18E-05	3.41E-05
181	8.19E+00	8.61E+00	2.54E-05	2.29E-05	2.10E-05	2.18E-05	2.17E-05	2.50E-05	2.66E-05	2.32E-05
182	8.61E+00	9.05E+00	2.26E-05	9.55E-06	1.22E-05	2.04E-05	1.08E-05	1.87E-05	1.28E-05	9.50E-06
183	9.05E+00	9.51E+00	1.33E-05	9.54E-06	1.47E-05	8.90E-06	1.24E-05	1.88E-05	1.34E-05	1.35E-05
184	9.51E+00	1.00E+01	6.02E-06	8.97E-06	4.67E-06	7.15E-06	1.03E-05	2.61E-06	8.35E-06	5.45E-06
185	1.00E+01	1.05E+01	5.03E-06	4.85E-06	8.19E-06	2.38E-06	2.17E-06	3.85E-06	6.64E-06	5.99E-06
186	1.05E+01	1.11E+01	1.92E-06	3.28E-06	2.37E-06	2.22E-06	3.52E-06	5.19E-06	7.23E-06	4.19E-06
187	1.11E+01	1.16E+01	2.90E-06	2.63E-06	1.45E-06	3.19E-06	0.00E+00	3.52E-06	3.04E-06	3.25E-06
188	1.16E+01	1.22E+01	6.97E-07	1.51E-06	7.80E-07	7.13E-07	1.66E-06	3.27E-07	2.18E-06	3.13E-06
189	1.22E+01	1.25E+01	1.35E-06	2.76E-06	1.42E-06	0.00E+00	1.12E-06	1.07E-06	0.00E+00	4.07E-06
190	1.25E+01	1.28E+01	0.00E+00	0.00E+00	0.00E+00	1.19E-06	0.00E+00	2.35E-06	0.00E+00	8.56E-07
191	1.28E+01	1.35E+01	0.00E+00	5.25E-07	8.04E-07	0.00E+00	0.00E+00	0.00E+00	1.67E-06	1.20E-06
192	1.35E+01	1.38E+01	0.00E+00	0.00E+00	8.95E-07	0.00E+00	6.27E-07	0.00E+00	1.26E-06	1.13E-06
193	1.38E+01	1.42E+01	0.00E+00							
194	1.42E+01	1.46E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.20E-07	7.21E-07	0.00E+00	0.00E+00
195	1.46E+01	1.49E+01	0.00E+00							
196	1.49E+01	1.57E+01	0.00E+00	0.00E+00	4.03E-07	3.26E-07	3.42E-07	0.00E+00	0.00E+00	2.09E-07
197	1.57E+01	1.65E+01	0.00E+00							
198	1.65E+01	1.69E+01	0.00E+00	0.00E+00	3.18E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
199	1.69E+01	1.73E+01	0.00E+00							
200	1.73E+01	1.96E+01	0.00E+00							
Segment total (mol/kt)		2.13E-01	2.15E-01	2.16E-01	2.16E-01	2.14E-01	2.12E-01	2.09E-01	2.06E-01	
Segment total (kt/kt)		1.58E-03	1.59E-03	1.60E-03	1.60E-03	1.59E-03	1.58E-03	1.55E-03	1.52E-03	

**Table 4 (cont.): Little Boy neutron output by segment in units of mol/MeV/kt for the full sphere.**

Group #	Elo (MeV)	Ehi (MeV)	Seg. 24	25	26	27	28	29	30	31
1	1.00E-16	1.00E-11	0.00E+00							
2	1.00E-11	5.00E-10	0.00E+00							
3	5.00E-10	2.00E-09	0.00E+00							
4	2.00E-09	5.00E-09	0.00E+00							
5	5.00E-09	1.00E-08	0.00E+00							
6	1.00E-08	1.45E-08	0.00E+00							
7	1.45E-08	2.10E-08	0.00E+00							
8	2.10E-08	3.00E-08	0.00E+00							
9	3.00E-08	4.00E-08	0.00E+00							
10	4.00E-08	5.00E-08	0.00E+00							
11	5.00E-08	7.00E-08	0.00E+00							
12	7.00E-08	1.00E-07	0.00E+00							
13	1.00E-07	1.25E-07	0.00E+00							
14	1.25E-07	1.50E-07	0.00E+00							
15	1.50E-07	1.84E-07	0.00E+00							
16	1.84E-07	2.25E-07	0.00E+00							
17	2.25E-07	2.75E-07	0.00E+00							
18	2.75E-07	3.25E-07	0.00E+00							
19	3.25E-07	3.67E-07	0.00E+00							
20	3.67E-07	4.14E-07	0.00E+00							
21	4.14E-07	5.00E-07	0.00E+00							
22	5.00E-07	5.32E-07	0.00E+00							
23	5.32E-07	6.25E-07	0.00E+00							
24	6.25E-07	6.83E-07	0.00E+00	3.81E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
25	6.83E-07	8.00E-07	1.42E+00	0.00E+00	0.00E+00	0.00E+00	2.29E+00	2.40E+00	0.00E+00	0.00E+00
26	8.00E-07	8.76E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.15E+00	0.00E+00
27	8.76E-07	1.00E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.21E+00	0.00E+00	0.00E+00
28	1.00E-06	1.04E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.86E+00	0.00E+00	0.00E+00	0.00E+00
29	1.04E-06	1.08E-06	0.00E+00	0.00E+00	0.00E+00	3.76E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
30	1.08E-06	1.13E-06	0.00E+00							
31	1.13E-06	1.30E-06	0.00E+00	0.00E+00	3.13E+00	0.00E+00	9.34E-01	1.14E+00	0.00E+00	0.00E+00
32	1.30E-06	1.45E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.81E+00	1.31E+00	0.00E+00	0.00E+00
33	1.45E-06	1.86E-06	0.00E+00	6.77E-01	8.87E-01	0.00E+00	1.42E+00	3.68E-01	9.67E-01	5.82E-01
34	1.86E-06	2.38E-06	5.21E-01	9.11E-01	1.20E+00	1.21E+00	5.87E-01	3.89E-01	1.17E+00	3.80E-01
35	2.38E-06	3.06E-06	9.89E-01	1.17E+00	5.09E-01	2.48E-01	1.85E+00	7.97E-01	9.50E-01	1.04E+00
36	3.06E-06	3.93E-06	9.43E-01	1.83E+00	9.94E-01	1.29E+00	1.45E+00	1.69E+00	1.52E+00	1.60E+00
37	3.93E-06	5.04E-06	9.89E-01	1.33E+00	1.94E+00	2.46E+00	1.97E+00	1.58E+00	1.20E+00	1.76E+00
38	5.04E-06	6.48E-06	1.06E+00	1.88E+00	2.42E+00	1.35E+00	1.68E+00	1.73E+00	2.72E+00	1.99E+00
39	6.48E-06	8.32E-06	2.65E+00	2.42E+00	2.19E+00	2.54E+00	2.28E+00	3.23E+00	2.59E+00	1.81E+00
40	8.32E-06	1.07E-05	2.29E+00	1.93E+00	2.51E+00	2.34E+00	1.98E+00	2.21E+00	2.31E+00	3.43E+00
41	1.07E-05	1.37E-05	1.60E+00	2.94E+00	2.33E+00	2.86E+00	2.72E+00	2.05E+00	3.13E+00	2.78E+00
42	1.37E-05	1.76E-05	2.80E+00	2.69E+00	2.56E+00	2.83E+00	3.24E+00	3.10E+00	2.94E+00	3.40E+00
43	1.76E-05	2.26E-05	2.67E+00	1.81E+00	2.62E+00	2.79E+00	3.32E+00	3.00E+00	3.19E+00	3.16E+00
44	2.26E-05	2.90E-05	2.80E+00	2.81E+00	2.73E+00	2.86E+00	3.20E+00	2.88E+00	3.14E+00	3.09E+00
45	2.90E-05	3.73E-05	2.67E+00	2.59E+00	2.82E+00	3.10E+00	3.51E+00	3.65E+00	3.72E+00	3.54E+00
46	3.73E-05	4.79E-05	2.48E+00	2.81E+00	3.04E+00	3.06E+00	3.55E+00	3.46E+00	3.77E+00	3.67E+00
47	4.79E-05	6.14E-05	3.11E+00	3.18E+00	3.35E+00	3.51E+00	3.93E+00	3.85E+00	4.08E+00	3.83E+00
48	6.14E-05	7.89E-05	2.98E+00	3.13E+00	3.57E+00	3.39E+00	3.40E+00	3.61E+00	3.60E+00	3.81E+00
49	7.89E-05	1.01E-04	3.22E+00	3.19E+00	3.55E+00	3.35E+00	3.36E+00	3.69E+00	3.77E+00	3.58E+00
50	1.01E-04	1.30E-04	3.35E+00	3.24E+00	3.49E+00	3.69E+00	3.52E+00	3.60E+00	3.63E+00	3.55E+00

**Table 4 (cont.): Little Boy neutron output by segment in units of mol/MeV/kt for the full sphere.**

Group #	Elo (MeV)	Ehi (MeV)	Seg. 24	25	26	27	28	29	30	31
51	1.30E-04	1.67E-04	3.33E+00	3.30E+00	3.48E+00	3.22E+00	3.44E+00	3.49E+00	3.56E+00	3.24E+00
52	1.67E-04	2.14E-04	3.28E+00	3.42E+00	3.33E+00	3.40E+00	3.49E+00	3.44E+00	3.29E+00	3.33E+00
53	2.14E-04	2.75E-04	3.14E+00	2.98E+00	3.15E+00	2.99E+00	3.25E+00	3.26E+00	3.28E+00	3.03E+00
54	2.75E-04	3.54E-04	1.87E+00	1.88E+00	1.93E+00	2.05E+00	2.02E+00	1.81E+00	1.93E+00	1.78E+00
55	3.54E-04	4.54E-04	2.31E+00	2.52E+00	2.50E+00	2.41E+00	2.32E+00	2.42E+00	2.51E+00	2.35E+00
56	4.54E-04	5.83E-04	2.45E+00	2.59E+00	2.70E+00	2.51E+00	2.48E+00	2.58E+00	2.43E+00	2.54E+00
57	5.83E-04	7.49E-04	2.38E+00	2.38E+00	2.37E+00	2.47E+00	2.39E+00	2.34E+00	2.24E+00	2.32E+00
58	7.49E-04	9.61E-04	2.22E+00	2.17E+00	2.17E+00	2.14E+00	2.09E+00	2.17E+00	2.08E+00	2.07E+00
59	9.61E-04	1.23E-03	1.95E+00	1.87E+00	1.83E+00	1.89E+00	1.84E+00	1.73E+00	1.80E+00	1.78E+00
60	1.23E-03	1.58E-03	2.18E+00	2.23E+00	2.15E+00	2.06E+00	1.99E+00	2.11E+00	1.99E+00	1.98E+00
61	1.58E-03	2.03E-03	1.92E+00	1.90E+00	1.82E+00	1.81E+00	1.78E+00	1.79E+00	1.71E+00	1.65E+00
62	2.03E-03	2.25E-03	1.34E+00	1.31E+00	1.32E+00	1.23E+00	1.30E+00	1.25E+00	1.22E+00	1.21E+00
63	2.25E-03	2.49E-03	1.10E+00	1.02E+00	1.09E+00	9.75E-01	9.82E-01	9.98E-01	9.50E-01	9.54E-01
64	2.49E-03	2.61E-03	1.43E+00	1.29E+00	1.30E+00	1.23E+00	1.20E+00	1.25E+00	1.19E+00	1.11E+00
65	2.61E-03	2.75E-03	1.43E+00	1.50E+00	1.45E+00	1.42E+00	1.40E+00	1.40E+00	1.15E+00	1.28E+00
66	2.75E-03	3.04E-03	1.68E+00	1.51E+00	1.48E+00	1.57E+00	1.48E+00	1.47E+00	1.36E+00	1.32E+00
67	3.04E-03	3.35E-03	1.57E+00	1.66E+00	1.54E+00	1.47E+00	1.37E+00	1.40E+00	1.35E+00	1.35E+00
68	3.35E-03	3.71E-03	1.46E+00	1.50E+00	1.47E+00	1.42E+00	1.35E+00	1.31E+00	1.28E+00	1.14E+00
69	3.71E-03	4.31E-03	1.06E+00	1.09E+00	1.03E+00	9.58E-01	9.65E-01	9.65E-01	9.31E-01	9.07E-01
70	4.31E-03	5.53E-03	1.17E+00	1.14E+00	1.11E+00	1.07E+00	1.04E+00	9.89E-01	9.47E-01	9.23E-01
71	5.53E-03	7.10E-03	5.20E-01	5.13E-01	5.10E-01	4.94E-01	4.63E-01	4.56E-01	4.42E-01	3.96E-01
72	7.10E-03	9.12E-03	2.10E-01	2.16E-01	2.03E-01	2.01E-01	1.94E-01	1.81E-01	1.90E-01	1.74E-01
73	9.12E-03	1.06E-02	5.14E-01	4.91E-01	4.90E-01	4.55E-01	4.46E-01	4.26E-01	4.19E-01	3.90E-01
74	1.06E-02	1.17E-02	5.82E-01	5.74E-01	5.48E-01	5.19E-01	5.41E-01	4.98E-01	4.70E-01	4.59E-01
75	1.17E-02	1.50E-02	6.16E-01	5.89E-01	5.85E-01	5.62E-01	5.46E-01	5.25E-01	4.87E-01	4.66E-01
76	1.50E-02	1.93E-02	8.59E-01	8.40E-01	8.29E-01	8.09E-01	7.75E-01	7.56E-01	7.00E-01	6.88E-01
77	1.93E-02	2.19E-02	1.56E+00	1.55E+00	1.49E+00	1.45E+00	1.42E+00	1.37E+00	1.30E+00	1.23E+00
78	2.19E-02	2.36E-02	3.13E+00	3.12E+00	3.03E+00	2.92E+00	2.77E+00	2.68E+00	2.56E+00	2.43E+00
79	2.36E-02	2.42E-02	4.55E+00	4.37E+00	4.38E+00	4.11E+00	3.93E+00	3.72E+00	3.59E+00	3.42E+00
80	2.42E-02	2.48E-02	7.13E+00	6.95E+00	6.76E+00	6.55E+00	6.33E+00	6.06E+00	5.79E+00	5.41E+00
81	2.48E-02	2.61E-02	4.60E+00	4.42E+00	4.29E+00	4.11E+00	3.88E+00	3.70E+00	3.49E+00	3.20E+00
82	2.61E-02	2.70E-02	2.87E-01	2.99E-01	2.62E-01	2.71E-01	2.36E-01	2.44E-01	2.00E-01	1.91E-01
83	2.70E-02	2.85E-02	2.48E-02	2.45E-02	2.54E-02	1.81E-02	2.21E-02	1.80E-02	2.03E-02	2.18E-02
84	2.85E-02	3.18E-02	6.39E-02	6.38E-02	6.21E-02	6.04E-02	5.97E-02	6.16E-02	5.43E-02	5.02E-02
85	3.18E-02	3.43E-02	1.50E-01	1.42E-01	1.48E-01	1.39E-01	1.37E-01	1.26E-01	1.18E-01	1.18E-01
86	3.43E-02	4.09E-02	2.50E-01	2.46E-01	2.33E-01	2.30E-01	2.12E-01	2.14E-01	1.96E-01	1.77E-01
87	4.09E-02	4.63E-02	3.17E-01	3.11E-01	3.06E-01	2.93E-01	2.73E-01	2.62E-01	2.44E-01	2.39E-01
88	4.63E-02	5.25E-02	3.61E-01	3.45E-01	3.34E-01	3.18E-01	3.10E-01	2.81E-01	2.68E-01	2.58E-01
89	5.25E-02	5.66E-02	2.96E-01	2.89E-01	2.87E-01	2.73E-01	2.68E-01	2.59E-01	2.38E-01	2.24E-01
90	5.66E-02	6.74E-02	4.45E-01	4.28E-01	4.11E-01	3.97E-01	3.81E-01	3.60E-01	3.38E-01	3.20E-01
91	6.74E-02	7.20E-02	8.12E-01	7.79E-01	7.62E-01	7.14E-01	6.79E-01	6.34E-01	6.01E-01	5.35E-01
92	7.20E-02	7.95E-02	3.35E-01	3.26E-01	3.19E-01	3.13E-01	2.83E-01	2.79E-01	2.56E-01	2.42E-01
93	7.95E-02	8.25E-02	1.79E+00	1.74E+00	1.66E+00	1.62E+00	1.55E+00	1.46E+00	1.39E+00	1.28E+00
94	8.25E-02	8.65E-02	1.34E-01	1.27E-01	1.23E-01	1.20E-01	1.16E-01	1.13E-01	1.01E-01	9.41E-02
95	8.65E-02	9.80E-02	1.82E-01	1.76E-01	1.67E-01	1.67E-01	1.56E-01	1.46E-01	1.41E-01	1.30E-01
96	9.80E-02	1.11E-01	2.92E-01	2.79E-01	2.71E-01	2.63E-01	2.50E-01	2.34E-01	2.25E-01	2.10E-01
97	1.11E-01	1.17E-01	4.08E-01	3.88E-01	3.74E-01	3.55E-01	3.46E-01	3.27E-01	3.08E-01	2.90E-01
98	1.17E-01	1.23E-01	4.78E-01	4.56E-01	4.54E-01	4.29E-01	4.02E-01	3.86E-01	3.71E-01	3.32E-01
99	1.23E-01	1.29E-01	8.14E-01	7.81E-01	7.65E-01	7.24E-01	6.97E-01	6.58E-01	6.24E-01	5.86E-01
100	1.29E-01	1.36E-01	4.83E-01	4.70E-01	4.49E-01	4.25E-01	4.08E-01	3.83E-01	3.63E-01	3.34E-01

**Table 4 (cont.): Little Boy neutron output by segment in units of mol/MeV/kt for the full sphere.**

Group #	Elo (MeV)	Ehi (MeV)	Seg. 24	25	26	27	28	29	30	31
101	1.36E-01	1.43E-01	7.09E-01	6.92E-01	6.72E-01	6.49E-01	6.18E-01	5.97E-01	5.52E-01	5.30E-01
102	1.43E-01	1.50E-01	8.47E-02	8.58E-02	7.99E-02	7.98E-02	7.42E-02	7.16E-02	7.12E-02	7.00E-02
103	1.50E-01	1.58E-01	1.93E-01	1.87E-01	1.76E-01	1.73E-01	1.66E-01	1.54E-01	1.50E-01	1.38E-01
104	1.58E-01	1.66E-01	3.56E-01	3.39E-01	3.33E-01	3.17E-01	3.03E-01	2.66E-01	2.63E-01	2.39E-01
105	1.66E-01	1.74E-01	4.06E-01	4.01E-01	3.81E-01	3.76E-01	3.55E-01	3.46E-01	3.25E-01	2.98E-01
106	1.74E-01	1.83E-01	4.88E-01	4.78E-01	4.58E-01	4.30E-01	4.09E-01	3.86E-01	3.53E-01	3.26E-01
107	1.83E-01	1.93E-01	3.18E-01	3.10E-01	2.95E-01	2.85E-01	2.70E-01	2.63E-01	2.48E-01	2.31E-01
108	1.93E-01	2.02E-01	7.37E-02	7.08E-02	6.99E-02	6.67E-02	6.22E-02	6.26E-02	6.05E-02	5.80E-02
109	2.02E-01	2.13E-01	1.47E-01	1.43E-01	1.39E-01	1.34E-01	1.22E-01	1.20E-01	1.09E-01	1.04E-01
110	2.13E-01	2.24E-01	2.96E-01	2.88E-01	2.81E-01	2.64E-01	2.59E-01	2.41E-01	2.31E-01	2.15E-01
111	2.24E-01	2.35E-01	1.44E-01	1.40E-01	1.35E-01	1.27E-01	1.29E-01	1.18E-01	1.13E-01	1.04E-01
112	2.35E-01	2.47E-01	2.45E-01	2.39E-01	2.30E-01	2.19E-01	2.11E-01	1.95E-01	1.83E-01	1.72E-01
113	2.47E-01	2.73E-01	2.91E-01	2.85E-01	2.71E-01	2.64E-01	2.49E-01	2.37E-01	2.20E-01	2.10E-01
114	2.73E-01	2.87E-01	1.99E-01	1.98E-01	1.93E-01	1.85E-01	1.78E-01	1.70E-01	1.66E-01	1.55E-01
115	2.87E-01	2.95E-01	1.90E-01	1.83E-01	1.72E-01	1.70E-01	1.63E-01	1.47E-01	1.48E-01	1.36E-01
116	2.95E-01	2.97E-01	3.45E-01	3.46E-01	3.25E-01	3.07E-01	2.99E-01	2.86E-01	2.61E-01	2.52E-01
117	2.97E-01	2.98E-01	4.04E-01	4.18E-01	3.90E-01	3.88E-01	3.51E-01	3.25E-01	3.25E-01	3.04E-01
118	2.98E-01	3.02E-01	4.79E-01	4.65E-01	4.48E-01	4.28E-01	4.12E-01	3.79E-01	3.68E-01	3.39E-01
119	3.02E-01	3.34E-01	3.42E-01	3.35E-01	3.27E-01	3.16E-01	3.01E-01	2.86E-01	2.73E-01	2.58E-01
120	3.34E-01	3.69E-01	2.51E-01	2.40E-01	2.32E-01	2.23E-01	2.09E-01	2.03E-01	1.90E-01	1.74E-01
121	3.69E-01	3.88E-01	2.17E-01	2.10E-01	2.00E-01	1.92E-01	1.86E-01	1.77E-01	1.68E-01	1.50E-01
122	3.88E-01	4.08E-01	4.72E-02	4.38E-02	4.45E-02	4.05E-02	4.11E-02	3.76E-02	3.53E-02	3.18E-02
123	4.08E-01	4.50E-01	5.94E-02	5.61E-02	5.56E-02	5.40E-02	5.17E-02	4.74E-02	4.47E-02	4.06E-02
124	4.50E-01	4.98E-01	9.27E-02	8.93E-02	8.47E-02	8.14E-02	7.76E-02	7.30E-02	6.82E-02	6.16E-02
125	4.98E-01	5.23E-01	7.56E-02	7.02E-02	6.92E-02	6.49E-02	6.11E-02	5.89E-02	5.36E-02	4.92E-02
126	5.23E-01	5.50E-01	8.14E-02	7.86E-02	7.66E-02	7.35E-02	6.89E-02	6.45E-02	5.93E-02	5.60E-02
127	5.50E-01	5.78E-01	9.55E-02	9.19E-02	8.90E-02	8.16E-02	8.07E-02	7.38E-02	6.96E-02	6.34E-02
128	5.78E-01	6.08E-01	1.33E-01	1.26E-01	1.24E-01	1.17E-01	1.10E-01	1.03E-01	9.73E-02	8.70E-02
129	6.08E-01	6.39E-01	1.52E-01	1.47E-01	1.40E-01	1.34E-01	1.30E-01	1.18E-01	1.12E-01	1.03E-01
130	6.39E-01	6.72E-01	1.14E-01	1.12E-01	1.08E-01	1.01E-01	9.95E-02	9.12E-02	8.19E-02	7.92E-02
131	6.72E-01	7.07E-01	6.75E-02	6.53E-02	6.19E-02	5.97E-02	5.52E-02	5.29E-02	4.80E-02	4.55E-02
132	7.07E-01	7.43E-01	4.08E-02	3.86E-02	3.79E-02	3.53E-02	3.40E-02	3.12E-02	2.75E-02	2.62E-02
133	7.43E-01	7.81E-01	2.30E-02	2.24E-02	2.12E-02	1.98E-02	1.80E-02	1.80E-02	1.62E-02	1.42E-02
134	7.81E-01	8.21E-01	2.45E-02	2.36E-02	2.28E-02	2.13E-02	2.00E-02	1.75E-02	1.81E-02	1.62E-02
135	8.21E-01	8.63E-01	3.30E-02	3.24E-02	3.05E-02	2.95E-02	2.70E-02	2.53E-02	2.27E-02	2.12E-02
136	8.63E-01	9.07E-01	2.89E-02	2.76E-02	2.70E-02	2.52E-02	2.29E-02	2.19E-02	2.16E-02	1.78E-02
137	9.07E-01	9.62E-01	3.84E-02	3.64E-02	3.48E-02	3.22E-02	3.14E-02	2.85E-02	2.51E-02	2.37E-02
138	9.62E-01	1.00E+00	1.66E-02	1.56E-02	1.51E-02	1.40E-02	1.30E-02	1.18E-02	1.14E-02	1.03E-02
139	1.00E+00	1.11E+00	1.60E-02	1.49E-02	1.40E-02	1.36E-02	1.24E-02	1.15E-02	1.07E-02	9.58E-03
140	1.11E+00	1.16E+00	1.67E-02	1.61E-02	1.47E-02	1.41E-02	1.27E-02	1.24E-02	1.06E-02	9.50E-03
141	1.16E+00	1.22E+00	1.60E-02	1.48E-02	1.49E-02	1.35E-02	1.26E-02	1.14E-02	1.07E-02	9.19E-03
142	1.22E+00	1.29E+00	7.20E-03	7.06E-03	5.95E-03	6.25E-03	5.28E-03	4.93E-03	4.64E-03	4.55E-03
143	1.29E+00	1.35E+00	7.87E-03	7.63E-03	6.95E-03	6.35E-03	5.96E-03	5.50E-03	4.77E-03	4.61E-03
144	1.35E+00	1.42E+00	6.43E-03	6.06E-03	6.38E-03	5.86E-03	5.35E-03	4.57E-03	4.05E-03	3.49E-03
145	1.42E+00	1.50E+00	4.81E-03	4.72E-03	4.54E-03	4.03E-03	3.54E-03	3.49E-03	3.07E-03	2.77E-03
146	1.50E+00	1.57E+00	4.92E-03	4.70E-03	4.48E-03	3.72E-03	3.87E-03	3.70E-03	2.86E-03	2.70E-03
147	1.57E+00	1.65E+00	4.26E-03	3.91E-03	3.92E-03	3.64E-03	3.37E-03	2.97E-03	2.70E-03	2.48E-03
148	1.65E+00	1.74E+00	4.55E-03	4.01E-03	4.00E-03	3.53E-03	3.40E-03	2.79E-03	2.74E-03	2.26E-03
149	1.74E+00	1.83E+00	3.54E-03	3.47E-03	3.34E-03	2.81E-03	2.80E-03	2.33E-03	2.10E-03	1.67E-03
150	1.83E+00	1.92E+00	2.76E-03	2.67E-03	2.36E-03	2.34E-03	2.13E-03	1.80E-03	1.65E-03	1.44E-03

**Table 4 (cont.): Little Boy neutron output by segment in units of mol/MeV/kt for the full sphere.**

Group #	Elo (MeV)	Ehi (MeV)	Seg. 24	25	26	27	28	29	30	31
151	1.92E+00	2.02E+00	2.42E-03	2.01E-03	2.09E-03	1.68E-03	1.64E-03	1.53E-03	1.30E-03	9.26E-04
152	2.02E+00	2.12E+00	2.19E-03	1.75E-03	1.84E-03	1.72E-03	1.66E-03	1.50E-03	1.13E-03	1.08E-03
153	2.12E+00	2.23E+00	1.98E-03	1.74E-03	1.74E-03	1.52E-03	1.31E-03	1.21E-03	1.16E-03	9.91E-04
154	2.23E+00	2.31E+00	1.90E-03	1.74E-03	1.72E-03	1.70E-03	1.35E-03	1.20E-03	1.10E-03	8.47E-04
155	2.31E+00	2.35E+00	1.52E-03	1.56E-03	1.39E-03	1.18E-03	1.25E-03	7.94E-04	8.90E-04	9.19E-04
156	2.35E+00	2.37E+00	2.08E-03	2.50E-03	1.80E-03	1.75E-03	1.90E-03	1.53E-03	1.28E-03	1.04E-03
157	2.37E+00	2.39E+00	1.81E-03	1.33E-03	1.55E-03	1.30E-03	1.04E-03	1.08E-03	1.48E-03	8.46E-04
158	2.39E+00	2.47E+00	1.31E-03	1.28E-03	1.21E-03	1.13E-03	9.48E-04	8.01E-04	8.43E-04	6.56E-04
159	2.47E+00	2.59E+00	9.59E-04	9.02E-04	8.16E-04	8.21E-04	7.32E-04	6.11E-04	5.87E-04	5.04E-04
160	2.59E+00	2.73E+00	1.04E-03	9.86E-04	9.31E-04	9.19E-04	8.19E-04	7.91E-04	5.85E-04	5.66E-04
161	2.73E+00	2.87E+00	9.68E-04	8.23E-04	7.72E-04	6.74E-04	6.29E-04	5.77E-04	4.30E-04	4.31E-04
162	2.87E+00	3.01E+00	7.18E-04	6.73E-04	6.81E-04	6.71E-04	5.54E-04	4.57E-04	3.53E-04	3.91E-04
163	3.01E+00	3.17E+00	6.93E-04	6.45E-04	5.45E-04	5.01E-04	4.36E-04	3.79E-04	3.21E-04	2.46E-04
164	3.17E+00	3.33E+00	6.00E-04	5.55E-04	5.69E-04	4.29E-04	4.21E-04	3.90E-04	2.80E-04	2.25E-04
165	3.33E+00	3.68E+00	3.86E-04	4.42E-04	4.09E-04	3.67E-04	3.29E-04	2.48E-04	2.45E-04	1.96E-04
166	3.68E+00	4.07E+00	3.41E-04	3.06E-04	3.17E-04	2.83E-04	2.51E-04	1.98E-04	1.92E-04	1.41E-04
167	4.07E+00	4.49E+00	2.48E-04	2.43E-04	2.25E-04	2.25E-04	1.76E-04	1.62E-04	1.74E-04	1.32E-04
168	4.49E+00	4.72E+00	2.08E-04	2.26E-04	2.09E-04	1.89E-04	1.55E-04	1.35E-04	1.13E-04	7.94E-05
169	4.72E+00	4.97E+00	2.20E-04	1.72E-04	1.78E-04	1.37E-04	1.23E-04	1.14E-04	9.58E-05	8.78E-05
170	4.97E+00	5.23E+00	1.42E-04	1.40E-04	1.42E-04	1.52E-04	1.08E-04	9.67E-05	7.11E-05	5.74E-05
171	5.23E+00	5.49E+00	1.36E-04	1.10E-04	1.04E-04	9.08E-05	1.04E-04	9.58E-05	8.72E-05	5.94E-05
172	5.49E+00	5.77E+00	1.02E-04	1.03E-04	1.11E-04	1.18E-04	6.90E-05	5.40E-05	6.71E-05	7.81E-05
173	5.77E+00	6.07E+00	1.01E-04	1.01E-04	6.63E-05	7.06E-05	5.21E-05	4.54E-05	4.00E-05	3.04E-05
174	6.07E+00	6.38E+00	7.28E-05	6.43E-05	5.57E-05	8.21E-05	6.31E-05	5.20E-05	3.11E-05	3.46E-05
175	6.38E+00	6.59E+00	5.20E-05	6.14E-05	6.58E-05	4.74E-05	4.62E-05	3.92E-05	4.61E-05	3.56E-05
176	6.59E+00	6.70E+00	4.65E-05	5.67E-05	6.57E-05	6.24E-05	4.20E-05	1.61E-05	2.43E-05	2.61E-05
177	6.70E+00	7.05E+00	6.07E-05	4.28E-05	5.35E-05	4.00E-05	4.60E-05	3.35E-05	2.52E-05	1.75E-05
178	7.05E+00	7.41E+00	5.02E-05	4.15E-05	2.08E-05	3.18E-05	2.49E-05	2.29E-05	1.06E-05	8.61E-06
179	7.41E+00	7.79E+00	2.45E-05	3.07E-05	3.26E-05	2.51E-05	1.12E-05	1.89E-05	9.84E-06	1.45E-05
180	7.79E+00	8.19E+00	1.82E-05	1.72E-05	2.11E-05	2.76E-05	9.02E-06	1.44E-05	1.22E-05	1.31E-05
181	8.19E+00	8.61E+00	1.46E-05	1.37E-05	9.88E-06	1.60E-05	1.64E-05	7.37E-06	5.92E-06	5.46E-06
182	8.61E+00	9.05E+00	1.62E-05	1.19E-05	1.19E-05	1.03E-05	1.26E-05	4.52E-06	5.39E-06	8.12E-06
183	9.05E+00	9.51E+00	1.22E-05	6.30E-06	1.10E-05	3.83E-06	9.56E-06	4.80E-06	6.66E-06	1.22E-06
184	9.51E+00	1.00E+01	7.39E-06	6.91E-06	5.51E-06	5.63E-06	5.27E-06	2.73E-06	4.50E-06	5.00E-06
185	1.00E+01	1.05E+01	3.58E-06	5.94E-06	5.75E-06	2.92E-06	4.05E-06	3.44E-06	1.68E-06	2.77E-06
186	1.05E+01	1.11E+01	4.42E-06	1.17E-06	5.20E-06	3.30E-06	8.67E-07	0.00E+00	1.92E-06	1.06E-06
187	1.11E+01	1.16E+01	4.47E-06	2.32E-06	8.37E-07	5.80E-07	1.79E-06	1.34E-06	0.00E+00	0.00E+00
188	1.16E+01	1.22E+01	0.00E+00	8.11E-07	7.55E-07	5.47E-07	1.49E-06	0.00E+00	0.00E+00	4.23E-07
189	1.22E+01	1.25E+01	0.00E+00	1.37E-06	2.08E-06	0.00E+00	1.32E-06	0.00E+00	0.00E+00	0.00E+00
190	1.25E+01	1.28E+01	5.69E-07	0.00E+00						
191	1.28E+01	1.35E+01	1.59E-06	0.00E+00	0.00E+00	0.00E+00	1.13E-06	0.00E+00	0.00E+00	0.00E+00
192	1.35E+01	1.38E+01	0.00E+00							
193	1.38E+01	1.42E+01	3.53E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.51E-06	0.00E+00	0.00E+00
194	1.42E+01	1.46E+01	0.00E+00	8.14E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
195	1.46E+01	1.49E+01	1.67E-06	0.00E+00						
196	1.49E+01	1.57E+01	4.75E-07	0.00E+00						
197	1.57E+01	1.65E+01	0.00E+00							
198	1.65E+01	1.69E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.84E-07	0.00E+00	0.00E+00	0.00E+00
199	1.69E+01	1.73E+01	0.00E+00							
200	1.73E+01	1.96E+01	0.00E+00							
Segment total (mol/kt)		2.01E-01	1.95E-01	1.88E-01	1.81E-01	1.72E-01	1.63E-01	1.54E-01	1.43E-01	
Segment total (kt/kt)		1.47E-03	1.41E-03	1.35E-03	1.28E-03	1.20E-03	1.11E-03	1.03E-03	9.43E-04	

**Table 4 (cont.): Little Boy neutron output by segment in units of mol/MeV/kt for the full sphere.**

Group #	Elo (MeV)	Ehi (MeV)	Seg. 32	33	34	35	36	37	38	39	40
1	1.00E-16	1.00E-11	0.00E+00								
2	1.00E-11	5.00E-10	0.00E+00								
3	5.00E-10	2.00E-09	0.00E+00								
4	2.00E-09	5.00E-09	0.00E+00								
5	5.00E-09	1.00E-08	0.00E+00								
6	1.00E-08	1.45E-08	0.00E+00								
7	1.45E-08	2.10E-08	0.00E+00								
8	2.10E-08	3.00E-08	0.00E+00								
9	3.00E-08	4.00E-08	0.00E+00								
10	4.00E-08	5.00E-08	0.00E+00								
11	5.00E-08	7.00E-08	0.00E+00								
12	7.00E-08	1.00E-07	0.00E+00								
13	1.00E-07	1.25E-07	0.00E+00								
14	1.25E-07	1.50E-07	0.00E+00								
15	1.50E-07	1.84E-07	0.00E+00								
16	1.84E-07	2.25E-07	0.00E+00								
17	2.25E-07	2.75E-07	6.27E+00	0.00E+00							
18	2.75E-07	3.25E-07	0.00E+00								
19	3.25E-07	3.67E-07	0.00E+00								
20	3.67E-07	4.14E-07	0.00E+00								
21	4.14E-07	5.00E-07	2.91E+00	0.00E+00	2.51E+00	0.00E+00	3.81E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
22	5.00E-07	5.32E-07	0.00E+00								
23	5.32E-07	6.25E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.17E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
24	6.25E-07	6.83E-07	0.00E+00								
25	6.83E-07	8.00E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.92E+00	0.00E+00	0.00E+00	1.07E+01	0.00E+00
26	8.00E-07	8.76E-07	0.00E+00								
27	8.76E-07	1.00E-06	0.00E+00	0.00E+00	3.18E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
28	1.00E-06	1.04E-06	0.00E+00	7.35E+00	0.00E+00						
29	1.04E-06	1.08E-06	0.00E+00								
30	1.08E-06	1.13E-06	0.00E+00	5.29E+01							
31	1.13E-06	1.30E-06	1.31E+00	0.00E+00	1.90E+00	0.00E+00	1.60E+00	0.00E+00	2.70E+00	0.00E+00	0.00E+00
32	1.30E-06	1.45E-06	2.99E+00	0.00E+00	1.49E+00	0.00E+00	2.13E+00	3.79E+00	0.00E+00	0.00E+00	0.00E+00
33	1.45E-06	1.86E-06	0.00E+00	1.08E+00	5.35E-01	1.17E+00	7.28E-01	8.60E-01	1.15E+00	0.00E+00	0.00E+00
34	1.86E-06	2.38E-06	3.45E-01	1.09E+00	1.45E+00	1.38E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
35	2.38E-06	3.06E-06	1.43E+00	1.44E+00	1.31E+00	1.20E+00	3.82E-01	1.02E+00	1.57E+00	0.00E+00	5.73E+00
36	3.06E-06	3.93E-06	1.53E+00	7.32E-01	1.48E+00	9.59E-01	1.80E+00	3.21E+00	2.06E+00	3.99E+00	0.00E+00
37	3.93E-06	5.04E-06	1.22E+00	2.92E+00	2.41E+00	7.85E-01	1.70E+00	3.81E+00	2.92E+00	0.00E+00	0.00E+00
38	5.04E-06	6.48E-06	1.90E+00	1.35E+00	3.31E+00	2.87E+00	2.09E+00	2.19E+00	1.18E+00	7.41E+00	1.60E+00
39	6.48E-06	8.32E-06	1.54E+00	2.27E+00	2.87E+00	3.82E+00	3.66E+00	4.00E+00	2.60E+00	1.94E+00	4.58E+00
40	8.32E-06	1.07E-05	3.28E+00	2.69E+00	3.00E+00	4.08E+00	3.74E+00	2.75E+00	2.46E+00	1.77E+00	5.95E+00
41	1.07E-05	1.37E-05	2.18E+00	3.08E+00	3.13E+00	3.80E+00	2.22E+00	4.29E+00	2.34E+00	2.99E+00	4.39E+00
42	1.37E-05	1.76E-05	3.22E+00	3.40E+00	3.95E+00	3.56E+00	4.79E+00	3.24E+00	3.83E+00	4.84E+00	4.51E+00
43	1.76E-05	2.26E-05	2.89E+00	4.75E+00	3.53E+00	3.86E+00	3.55E+00	4.64E+00	5.79E+00	3.74E+00	3.87E+00
44	2.26E-05	2.90E-05	3.53E+00	3.57E+00	3.78E+00	4.18E+00	5.32E+00	3.51E+00	3.07E+00	3.83E+00	3.50E+00
45	2.90E-05	3.73E-05	3.39E+00	3.48E+00	3.25E+00	3.48E+00	4.02E+00	4.91E+00	4.55E+00	4.12E+00	4.34E+00
46	3.73E-05	4.79E-05	4.12E+00	4.09E+00	3.24E+00	3.49E+00	3.11E+00	4.05E+00	4.64E+00	3.60E+00	2.28E+00
47	4.79E-05	6.14E-05	3.86E+00	3.96E+00	4.52E+00	4.23E+00	4.23E+00	4.63E+00	4.51E+00	4.40E+00	4.29E+00
48	6.14E-05	7.89E-05	3.72E+00	3.86E+00	4.13E+00	4.18E+00	4.13E+00	4.23E+00	4.53E+00	4.03E+00	5.65E+00
49	7.89E-05	1.01E-04	4.10E+00	4.16E+00	3.73E+00	4.36E+00	4.21E+00	4.33E+00	4.16E+00	3.90E+00	4.17E+00
50	1.01E-04	1.30E-04	3.62E+00	3.54E+00	3.91E+00	3.77E+00	4.07E+00	3.85E+00	3.47E+00	3.78E+00	4.85E+00

**Table 4 (cont.): Little Boy neutron output by segment in units of mol/MeV/kt for the full sphere.**

Group #	Elo (MeV)	Ehi (MeV)	Seg. 32	33	34	35	36	37	38	39	40
51	1.30E-04	1.67E-04	3.73E+00	3.47E+00	3.76E+00	3.74E+00	4.25E+00	4.24E+00	3.89E+00	3.78E+00	3.82E+00
52	1.67E-04	2.14E-04	3.40E+00	3.55E+00	3.38E+00	3.65E+00	3.64E+00	3.80E+00	3.27E+00	3.42E+00	3.25E+00
53	2.14E-04	2.75E-04	3.10E+00	3.05E+00	3.11E+00	3.17E+00	3.12E+00	3.45E+00	3.64E+00	3.69E+00	3.52E+00
54	2.75E-04	3.54E-04	1.92E+00	1.91E+00	1.97E+00	1.92E+00	2.05E+00	1.89E+00	1.88E+00	2.04E+00	2.06E+00
55	3.54E-04	4.54E-04	2.24E+00	2.43E+00	2.49E+00	2.16E+00	2.46E+00	2.45E+00	2.48E+00	2.37E+00	2.57E+00
56	4.54E-04	5.83E-04	2.44E+00	2.50E+00	2.30E+00	2.76E+00	2.36E+00	2.55E+00	2.36E+00	2.57E+00	2.84E+00
57	5.83E-04	7.49E-04	2.16E+00	2.27E+00	2.28E+00	2.25E+00	2.25E+00	2.21E+00	2.22E+00	2.09E+00	2.23E+00
58	7.49E-04	9.61E-04	1.97E+00	1.95E+00	2.06E+00	2.09E+00	1.95E+00	2.01E+00	1.84E+00	2.07E+00	2.10E+00
59	9.61E-04	1.23E-03	1.76E+00	1.74E+00	1.74E+00	1.66E+00	1.61E+00	1.55E+00	1.65E+00	1.69E+00	1.69E+00
60	1.23E-03	1.58E-03	2.02E+00	1.87E+00	1.81E+00	1.84E+00	1.84E+00	1.85E+00	1.71E+00	1.88E+00	1.81E+00
61	1.58E-03	2.03E-03	1.60E+00	1.59E+00	1.55E+00	1.52E+00	1.43E+00	1.41E+00	1.41E+00	1.43E+00	1.54E+00
62	2.03E-03	2.25E-03	1.13E+00	1.08E+00	1.03E+00	9.76E-01	9.20E-01	8.93E-01	8.81E-01	8.55E-01	9.14E-01
63	2.25E-03	2.49E-03	8.77E-01	9.41E-01	8.72E-01	8.03E-01	7.95E-01	7.21E-01	7.87E-01	7.29E-01	8.57E-01
64	2.49E-03	2.61E-03	1.12E+00	1.13E+00	9.32E-01	1.02E+00	1.03E+00	1.03E+00	9.50E-01	9.74E-01	9.89E-01
65	2.61E-03	2.75E-03	1.21E+00	1.11E+00	1.14E+00	1.08E+00	1.01E+00	9.63E-01	1.02E+00	1.08E+00	1.18E+00
66	2.75E-03	3.04E-03	1.24E+00	1.19E+00	1.09E+00	1.20E+00	1.12E+00	9.63E-01	1.01E+00	1.15E+00	1.02E+00
67	3.04E-03	3.35E-03	1.32E+00	1.18E+00	1.12E+00	1.09E+00	1.04E+00	1.07E+00	9.70E-01	9.58E-01	9.76E-01
68	3.35E-03	3.71E-03	1.15E+00	1.09E+00	1.08E+00	9.46E-01	9.22E-01	9.36E-01	8.72E-01	7.28E-01	8.62E-01
69	3.71E-03	4.31E-03	8.20E-01	7.71E-01	7.22E-01	6.79E-01	6.62E-01	6.24E-01	5.49E-01	5.86E-01	5.17E-01
70	4.31E-03	5.53E-03	8.45E-01	8.19E-01	7.98E-01	7.41E-01	6.84E-01	6.42E-01	5.89E-01	5.55E-01	5.35E-01
71	5.53E-03	7.10E-03	3.88E-01	3.47E-01	3.30E-01	3.15E-01	2.86E-01	2.54E-01	2.29E-01	2.20E-01	1.98E-01
72	7.10E-03	9.12E-03	1.59E-01	1.55E-01	1.44E-01	1.31E-01	1.23E-01	1.26E-01	1.04E-01	9.23E-02	1.07E-01
73	9.12E-03	1.06E-02	3.76E-01	3.59E-01	3.32E-01	3.08E-01	2.85E-01	2.58E-01	2.44E-01	2.23E-01	1.94E-01
74	1.06E-02	1.17E-02	4.38E-01	3.86E-01	3.79E-01	3.38E-01	3.19E-01	2.95E-01	2.60E-01	2.33E-01	2.10E-01
75	1.17E-02	1.50E-02	4.41E-01	4.15E-01	3.85E-01	3.58E-01	3.33E-01	2.99E-01	2.69E-01	2.59E-01	2.33E-01
76	1.50E-02	1.93E-02	6.45E-01	6.14E-01	5.82E-01	5.56E-01	5.16E-01	4.62E-01	4.42E-01	3.96E-01	3.74E-01
77	1.93E-02	2.19E-02	1.18E+00	1.11E+00	1.07E+00	1.02E+00	9.28E-01	8.79E-01	8.26E-01	7.44E-01	7.49E-01
78	2.19E-02	2.36E-02	2.28E+00	2.11E+00	1.98E+00	1.86E+00	1.59E+00	1.49E+00	1.36E+00	1.23E+00	1.06E+00
79	2.36E-02	2.42E-02	3.15E+00	2.85E+00	2.63E+00	2.42E+00	2.13E+00	1.89E+00	1.81E+00	1.61E+00	1.56E+00
80	2.42E-02	2.48E-02	5.17E+00	4.77E+00	4.39E+00	4.10E+00	3.75E+00	3.39E+00	3.04E+00	2.64E+00	2.70E+00
81	2.48E-02	2.61E-02	2.96E+00	2.68E+00	2.44E+00	2.25E+00	1.95E+00	1.66E+00	1.47E+00	1.34E+00	1.27E+00
82	2.61E-02	2.70E-02	1.80E-01	1.47E-01	1.41E-01	1.37E-01	1.34E-01	9.58E-02	6.96E-02	6.21E-02	5.43E-02
83	2.70E-02	2.85E-02	1.71E-02	2.45E-02	2.03E-02	1.43E-02	1.36E-02	1.64E-02	1.79E-02	1.40E-02	9.97E-03
84	2.85E-02	3.18E-02	4.83E-02	4.57E-02	4.06E-02	3.96E-02	3.35E-02	3.45E-02	3.16E-02	2.80E-02	3.53E-02
85	3.18E-02	3.43E-02	1.04E-01	9.63E-02	9.87E-02	9.14E-02	7.27E-02	7.13E-02	5.39E-02	5.51E-02	2.66E-02
86	3.43E-02	4.09E-02	1.72E-01	1.60E-01	1.41E-01	1.27E-01	1.15E-01	1.04E-01	8.89E-02	7.24E-02	6.31E-02
87	4.09E-02	4.63E-02	2.20E-01	2.00E-01	1.89E-01	1.63E-01	1.38E-01	1.27E-01	1.12E-01	9.90E-02	6.99E-02
88	4.63E-02	5.25E-02	2.31E-01	2.17E-01	1.96E-01	1.68E-01	1.60E-01	1.45E-01	1.16E-01	9.99E-02	8.73E-02
89	5.25E-02	5.66E-02	2.10E-01	1.92E-01	1.80E-01	1.63E-01	1.45E-01	1.29E-01	1.17E-01	9.35E-02	7.93E-02
90	5.66E-02	6.74E-02	2.93E-01	2.69E-01	2.53E-01	2.27E-01	2.07E-01	1.74E-01	1.52E-01	1.32E-01	1.07E-01
91	6.74E-02	7.20E-02	5.15E-01	4.63E-01	4.23E-01	3.81E-01	3.18E-01	2.86E-01	2.36E-01	2.01E-01	1.80E-01
92	7.20E-02	7.95E-02	2.28E-01	2.08E-01	1.92E-01	1.68E-01	1.55E-01	1.37E-01	1.13E-01	1.04E-01	8.50E-02
93	7.95E-02	8.25E-02	1.17E+00	1.08E+00	1.01E+00	8.92E-01	8.01E-01	6.99E-01	6.58E-01	5.39E-01	5.04E-01
94	8.25E-02	8.65E-02	9.97E-02	7.52E-02	8.02E-02	7.15E-02	6.28E-02	5.81E-02	4.73E-02	4.83E-02	2.28E-02
95	8.65E-02	9.80E-02	1.20E-01	1.12E-01	1.02E-01	9.65E-02	8.93E-02	7.79E-02	7.03E-02	5.79E-02	5.20E-02
96	9.80E-02	1.11E-01	1.98E-01	1.83E-01	1.63E-01	1.60E-01	1.44E-01	1.25E-01	1.11E-01	9.47E-02	8.87E-02
97	1.11E-01	1.17E-01	2.66E-01	2.44E-01	2.27E-01	2.04E-01	1.91E-01	1.60E-01	1.34E-01	1.11E-01	1.04E-01
98	1.17E-01	1.23E-01	3.07E-01	2.87E-01	2.55E-01	2.49E-01	2.08E-01	1.88E-01	1.56E-01	1.35E-01	1.20E-01
99	1.23E-01	1.29E-01	5.36E-01	5.05E-01	4.44E-01	4.02E-01	3.64E-01	3.29E-01	2.82E-01	2.36E-01	1.86E-01
100	1.29E-01	1.36E-01	3.10E-01	2.81E-01	2.60E-01	2.32E-01	2.05E-01	1.76E-01	1.55E-01	1.34E-01	1.14E-01

**Table 4 (cont.): Little Boy neutron output by segment in units of mol/MeV/kt for the full sphere.**

Group #	Elo (MeV)	Ehi (MeV)	Seg. 32	33	34	35	36	37	38	39	40
101	1.36E-01	1.43E-01	4.91E-01	4.43E-01	4.14E-01	3.85E-01	3.40E-01	3.06E-01	2.83E-01	2.63E-01	2.42E-01
102	1.43E-01	1.50E-01	6.69E-02	6.26E-02	6.00E-02	5.67E-02	4.76E-02	4.02E-02	4.44E-02	4.11E-02	3.19E-02
103	1.50E-01	1.58E-01	1.33E-01	1.21E-01	1.13E-01	1.03E-01	9.38E-02	8.13E-02	7.47E-02	6.52E-02	4.47E-02
104	1.58E-01	1.66E-01	2.23E-01	2.01E-01	1.80E-01	1.61E-01	1.45E-01	1.23E-01	1.07E-01	9.37E-02	7.27E-02
105	1.66E-01	1.74E-01	2.82E-01	2.59E-01	2.39E-01	2.18E-01	1.95E-01	1.71E-01	1.56E-01	1.44E-01	1.21E-01
106	1.74E-01	1.83E-01	3.05E-01	2.70E-01	2.42E-01	2.14E-01	1.94E-01	1.67E-01	1.50E-01	1.23E-01	1.28E-01
107	1.83E-01	1.93E-01	2.15E-01	1.88E-01	1.76E-01	1.66E-01	1.41E-01	1.25E-01	1.15E-01	9.58E-02	8.68E-02
108	1.93E-01	2.02E-01	5.27E-02	4.83E-02	4.46E-02	4.23E-02	3.47E-02	3.23E-02	2.93E-02	2.71E-02	2.42E-02
109	2.02E-01	2.13E-01	9.59E-02	8.77E-02	7.85E-02	7.11E-02	6.56E-02	5.48E-02	4.81E-02	4.12E-02	4.29E-02
110	2.13E-01	2.24E-01	2.03E-01	1.91E-01	1.68E-01	1.55E-01	1.44E-01	1.23E-01	1.07E-01	1.07E-01	8.32E-02
111	2.24E-01	2.35E-01	9.99E-02	8.69E-02	8.15E-02	7.66E-02	6.77E-02	6.05E-02	4.64E-02	4.36E-02	3.78E-02
112	2.35E-01	2.47E-01	1.57E-01	1.43E-01	1.30E-01	1.19E-01	1.11E-01	9.45E-02	8.53E-02	7.29E-02	6.81E-02
113	2.47E-01	2.73E-01	1.92E-01	1.82E-01	1.66E-01	1.49E-01	1.30E-01	1.20E-01	1.08E-01	9.68E-02	8.59E-02
114	2.73E-01	2.87E-01	1.45E-01	1.32E-01	1.28E-01	1.20E-01	1.08E-01	9.54E-02	8.62E-02	7.76E-02	7.67E-02
115	2.87E-01	2.95E-01	1.20E-01	1.17E-01	1.07E-01	9.30E-02	8.34E-02	7.38E-02	6.40E-02	5.55E-02	3.95E-02
116	2.95E-01	2.97E-01	2.22E-01	1.91E-01	1.72E-01	1.64E-01	1.55E-01	1.28E-01	9.89E-02	8.91E-02	9.76E-02
117	2.97E-01	2.98E-01	2.82E-01	2.25E-01	2.49E-01	1.89E-01	1.72E-01	1.48E-01	1.15E-01	1.03E-01	1.01E-01
118	2.98E-01	3.02E-01	3.05E-01	2.81E-01	2.56E-01	2.20E-01	1.97E-01	1.79E-01	1.41E-01	1.38E-01	1.22E-01
119	3.02E-01	3.34E-01	2.41E-01	2.22E-01	2.08E-01	1.91E-01	1.74E-01	1.53E-01	1.40E-01	1.26E-01	1.22E-01
120	3.34E-01	3.69E-01	1.64E-01	1.48E-01	1.32E-01	1.22E-01	1.10E-01	9.29E-02	8.20E-02	7.11E-02	6.43E-02
121	3.69E-01	3.88E-01	1.39E-01	1.29E-01	1.14E-01	1.08E-01	9.56E-02	8.32E-02	7.08E-02	7.04E-02	6.60E-02
122	3.88E-01	4.08E-01	2.98E-02	2.68E-02	2.55E-02	2.32E-02	2.10E-02	1.75E-02	1.52E-02	1.02E-02	1.31E-02
123	4.08E-01	4.50E-01	3.98E-02	3.46E-02	3.25E-02	2.77E-02	2.50E-02	2.24E-02	1.82E-02	1.65E-02	1.32E-02
124	4.50E-01	4.98E-01	5.78E-02	5.38E-02	4.78E-02	4.25E-02	3.79E-02	3.16E-02	2.78E-02	2.47E-02	2.29E-02
125	4.98E-01	5.23E-01	4.59E-02	4.14E-02	3.97E-02	3.49E-02	2.83E-02	2.64E-02	2.06E-02	1.89E-02	1.75E-02
126	5.23E-01	5.50E-01	5.06E-02	4.59E-02	4.12E-02	3.72E-02	3.26E-02	2.82E-02	2.15E-02	1.96E-02	1.68E-02
127	5.50E-01	5.78E-01	5.81E-02	5.24E-02	4.83E-02	4.29E-02	3.74E-02	3.07E-02	2.75E-02	2.28E-02	1.65E-02
128	5.78E-01	6.08E-01	8.31E-02	7.14E-02	6.55E-02	5.80E-02	5.16E-02	4.32E-02	3.82E-02	2.98E-02	2.68E-02
129	6.08E-01	6.39E-01	9.31E-02	8.51E-02	7.67E-02	6.92E-02	5.95E-02	5.18E-02	4.49E-02	3.70E-02	3.13E-02
130	6.39E-01	6.72E-01	7.29E-02	6.47E-02	6.00E-02	5.22E-02	4.71E-02	4.19E-02	3.66E-02	3.20E-02	3.15E-02
131	6.72E-01	7.07E-01	4.08E-02	3.79E-02	3.37E-02	2.98E-02	2.63E-02	2.23E-02	2.00E-02	1.45E-02	1.58E-02
132	7.07E-01	7.43E-01	2.31E-02	2.01E-02	1.85E-02	1.54E-02	1.37E-02	1.15E-02	1.07E-02	6.68E-03	5.99E-03
133	7.43E-01	7.81E-01	1.36E-02	1.26E-02	1.09E-02	9.56E-03	7.74E-03	7.53E-03	5.74E-03	4.32E-03	4.13E-03
134	7.81E-01	8.21E-01	1.39E-02	1.30E-02	1.14E-02	9.13E-03	8.55E-03	6.55E-03	6.07E-03	4.93E-03	3.86E-03
135	8.21E-01	8.63E-01	1.92E-02	1.66E-02	1.55E-02	1.26E-02	1.18E-02	9.82E-03	7.47E-03	7.22E-03	5.69E-03
136	8.63E-01	9.07E-01	1.60E-02	1.44E-02	1.29E-02	1.13E-02	9.25E-03	7.99E-03	6.83E-03	4.96E-03	4.59E-03
137	9.07E-01	9.62E-01	2.14E-02	1.86E-02	1.65E-02	1.47E-02	1.31E-02	1.06E-02	8.75E-03	8.39E-03	6.88E-03
138	9.62E-01	1.00E+00	9.27E-03	8.45E-03	6.70E-03	5.74E-03	5.21E-03	4.91E-03	4.44E-03	2.51E-03	2.91E-03
139	1.00E+00	1.11E+00	8.38E-03	7.26E-03	6.77E-03	5.69E-03	4.90E-03	4.17E-03	3.38E-03	2.43E-03	2.37E-03
140	1.11E+00	1.16E+00	8.57E-03	7.36E-03	6.38E-03	5.39E-03	4.88E-03	3.84E-03	3.72E-03	2.87E-03	1.60E-03
141	1.16E+00	1.22E+00	8.68E-03	6.91E-03	6.32E-03	5.64E-03	4.95E-03	4.46E-03	3.51E-03	2.86E-03	2.01E-03
142	1.22E+00	1.29E+00	3.50E-03	3.19E-03	3.01E-03	2.41E-03	2.12E-03	1.90E-03	1.38E-03	9.53E-04	1.29E-03
143	1.29E+00	1.35E+00	3.99E-03	3.36E-03	2.94E-03	2.91E-03	2.15E-03	1.57E-03	1.65E-03	1.28E-03	1.22E-03
144	1.35E+00	1.42E+00	3.29E-03	2.76E-03	2.41E-03	2.09E-03	1.78E-03	1.59E-03	1.44E-03	1.13E-03	1.14E-03
145	1.42E+00	1.50E+00	2.52E-03	2.19E-03	1.66E-03	1.64E-03	1.68E-03	1.19E-03	1.11E-03	1.06E-03	5.35E-04
146	1.50E+00	1.57E+00	2.27E-03	2.18E-03	1.66E-03	1.49E-03	1.48E-03	1.17E-03	9.09E-04	1.05E-03	7.15E-04
147	1.57E+00	1.65E+00	2.04E-03	2.01E-03	1.60E-03	1.46E-03	1.22E-03	9.69E-04	1.07E-03	7.24E-04	4.49E-04
148	1.65E+00	1.74E+00	2.29E-03	1.72E-03	1.72E-03	1.37E-03	1.05E-03	9.49E-04	8.45E-04	7.49E-04	6.51E-04
149	1.74E+00	1.83E+00	1.90E-03	1.45E-03	1.26E-03	1.11E-03	9.94E-04	7.61E-04	6.66E-04	6.45E-04	5.84E-04
150	1.83E+00	1.92E+00	1.31E-03	1.03E-03	8.42E-04	7.91E-04	5.85E-04	5.80E-04	3.86E-04	5.16E-04	4.58E-04

**Table 4 (cont.): Little Boy neutron output by segment in units of mol/MeV/kt for the full sphere.**

Group #	Elo (MeV)	Ehi (MeV)	Seg. 32	33	34	35	36	37	38	39	40
151	1.92E+00	2.02E+00	1.18E-03	7.77E-04	8.24E-04	5.90E-04	5.17E-04	4.99E-04	4.03E-04	3.60E-04	1.61E-04
152	2.02E+00	2.12E+00	1.04E-03	8.70E-04	6.44E-04	4.94E-04	4.90E-04	4.06E-04	4.03E-04	2.27E-04	4.24E-04
153	2.12E+00	2.23E+00	9.42E-04	8.17E-04	7.32E-04	6.66E-04	3.09E-04	3.99E-04	2.69E-04	2.35E-04	1.51E-04
154	2.23E+00	2.31E+00	7.84E-04	6.88E-04	5.49E-04	5.28E-04	3.19E-04	2.73E-04	3.92E-04	2.26E-04	0.00E+00
155	2.31E+00	2.35E+00	7.84E-04	5.25E-04	6.38E-04	3.11E-04	2.61E-04	3.69E-04	2.12E-04	2.04E-04	0.00E+00
156	2.35E+00	2.37E+00	8.41E-04	6.63E-04	5.86E-04	3.81E-04	6.10E-04	2.69E-04	2.44E-04	3.93E-04	0.00E+00
157	2.37E+00	2.39E+00	6.27E-04	6.92E-04	4.72E-04	5.82E-04	1.57E-04	4.33E-04	2.89E-04	2.35E-04	0.00E+00
158	2.39E+00	2.47E+00	6.83E-04	4.60E-04	5.44E-04	2.66E-04	3.12E-04	3.43E-04	1.57E-04	2.50E-04	1.02E-04
159	2.47E+00	2.59E+00	4.66E-04	3.87E-04	3.75E-04	2.97E-04	2.32E-04	2.35E-04	1.66E-04	1.07E-04	6.46E-05
160	2.59E+00	2.73E+00	6.54E-04	4.31E-04	4.29E-04	2.74E-04	2.07E-04	2.86E-04	1.19E-04	1.18E-04	2.07E-04
161	2.73E+00	2.87E+00	3.63E-04	3.39E-04	2.49E-04	2.08E-04	1.95E-04	1.58E-04	1.30E-04	1.01E-04	5.89E-05
162	2.87E+00	3.01E+00	2.87E-04	2.89E-04	2.33E-04	1.44E-04	1.79E-04	1.58E-04	1.02E-04	4.03E-05	1.12E-04
163	3.01E+00	3.17E+00	2.82E-04	2.59E-04	1.89E-04	1.88E-04	1.98E-04	6.27E-05	1.01E-04	1.42E-04	1.04E-04
164	3.17E+00	3.33E+00	2.39E-04	1.42E-04	1.43E-04	9.72E-05	1.26E-04	7.98E-05	8.31E-05	3.38E-05	0.00E+00
165	3.33E+00	3.68E+00	1.54E-04	1.46E-04	1.29E-04	1.02E-04	9.98E-05	6.70E-05	5.28E-05	4.81E-05	7.09E-05
166	3.68E+00	4.07E+00	1.20E-04	1.15E-04	9.22E-05	6.14E-05	6.78E-05	5.56E-05	5.97E-05	3.50E-05	2.13E-05
167	4.07E+00	4.49E+00	7.65E-05	7.53E-05	7.55E-05	6.66E-05	3.72E-05	3.75E-05	3.73E-05	2.83E-05	1.76E-05
168	4.49E+00	4.72E+00	1.06E-04	5.92E-05	5.75E-05	4.86E-05	9.86E-06	5.04E-05	3.31E-05	2.88E-05	0.00E+00
169	4.72E+00	4.97E+00	5.42E-05	8.36E-05	5.10E-05	4.43E-05	3.00E-05	5.21E-05	6.85E-06	2.27E-05	0.00E+00
170	4.97E+00	5.23E+00	3.98E-05	5.23E-05	4.42E-05	3.57E-05	1.87E-05	1.24E-05	2.22E-05	2.09E-05	0.00E+00
171	5.23E+00	5.49E+00	4.51E-05	3.42E-05	5.64E-05	2.43E-05	2.71E-05	2.14E-05	1.43E-05	2.10E-05	2.70E-05
172	5.49E+00	5.77E+00	5.49E-05	3.98E-05	1.24E-05	9.29E-06	1.42E-05	9.62E-06	1.39E-05	9.71E-06	0.00E+00
173	5.77E+00	6.07E+00	4.35E-05	2.87E-05	1.19E-05	2.33E-05	1.28E-05	1.05E-05	1.85E-05	0.00E+00	0.00E+00
174	6.07E+00	6.38E+00	3.55E-05	2.72E-05	1.88E-05	6.88E-06	1.29E-05	6.60E-06	1.45E-05	8.61E-06	0.00E+00
175	6.38E+00	6.59E+00	1.96E-05	3.09E-05	2.32E-05	1.07E-05	4.22E-06	5.44E-06	7.55E-06	1.24E-05	0.00E+00
176	6.59E+00	6.70E+00	1.41E-05	2.49E-05	0.00E+00	6.96E-06	0.00E+00	2.75E-05	0.00E+00	0.00E+00	0.00E+00
177	6.70E+00	7.05E+00	1.97E-05	2.14E-05	1.21E-05	1.30E-05	5.22E-06	5.85E-06	8.55E-06	1.51E-05	0.00E+00
178	7.05E+00	7.41E+00	1.22E-05	6.04E-06	8.65E-06	1.43E-05	2.54E-06	5.14E-06	3.10E-06	0.00E+00	0.00E+00
179	7.41E+00	7.79E+00	7.97E-06	8.26E-06	3.48E-06	9.14E-06	4.63E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00
180	7.79E+00	8.19E+00	1.25E-05	4.44E-06	9.58E-06	2.35E-06	2.74E-06	1.93E-06	0.00E+00	0.00E+00	0.00E+00
181	8.19E+00	8.61E+00	9.32E-06	4.36E-06	5.23E-06	2.24E-06	2.90E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00
182	8.61E+00	9.05E+00	2.24E-06	4.95E-06	6.64E-06	4.01E-06	0.00E+00	4.91E-06	0.00E+00	0.00E+00	1.77E-05
183	9.05E+00	9.51E+00	1.13E-06	0.00E+00	3.20E-06	3.74E-06	2.73E-06	2.51E-06	0.00E+00	0.00E+00	0.00E+00
184	9.51E+00	1.00E+01	2.40E-06	1.25E-06	3.14E-06	1.91E-06	0.00E+00	1.89E-06	2.14E-06	2.64E-06	0.00E+00
185	1.00E+01	1.05E+01	3.38E-06	2.52E-06	9.61E-07	0.00E+00	0.00E+00	0.00E+00	2.62E-06	0.00E+00	0.00E+00
186	1.05E+01	1.11E+01	1.86E-06	0.00E+00	1.35E-06	1.65E-06	0.00E+00	1.14E-06	0.00E+00	0.00E+00	0.00E+00
187	1.11E+01	1.16E+01	1.78E-06	0.00E+00	0.00E+00	0.00E+00	1.51E-06	0.00E+00	2.53E-06	0.00E+00	0.00E+00
188	1.16E+01	1.22E+01	0.00E+00								
189	1.22E+01	1.25E+01	0.00E+00	0.00E+00	2.00E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
190	1.25E+01	1.28E+01	0.00E+00								
191	1.28E+01	1.35E+01	0.00E+00	0.00E+00	3.24E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
192	1.35E+01	1.38E+01	0.00E+00								
193	1.38E+01	1.42E+01	8.12E-07	0.00E+00							
194	1.42E+01	1.46E+01	0.00E+00								
195	1.46E+01	1.49E+01	0.00E+00								
196	1.49E+01	1.57E+01	0.00E+00								
197	1.57E+01	1.65E+01	0.00E+00								
198	1.65E+01	1.69E+01	0.00E+00								
199	1.69E+01	1.73E+01	0.00E+00								
200	1.73E+01	1.96E+01	0.00E+00								
<b>Segment total (mol/kt)</b>		1.34E-01	1.22E-01	1.13E-01	1.03E-01	9.23E-02	8.19E-02	7.30E-02	6.48E-02	5.92E-02	
<b>Segment total (kt/kt)</b>		8.68E-04	7.75E-04	7.01E-04	6.20E-04	5.46E-04	4.74E-04	4.11E-04	3.52E-04	3.11E-04	

**Table 5: Little Boy gamma output by segment in units of mol/MeV/kt. Segment values have been spherized, i.e., normalized by the fraction of the sphere covered by segment.**

Group #	Elo (MeV)	Ehi (MeV)	Total all segments	Seg. 1	2	3	4	5	6	7
1	0.000	0.001	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2	0.001	0.010	2.63E-05	0.00E+00						
3	0.010	0.020	1.89E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.29E-04	0.00E+00	0.00E+00
4	0.020	0.030	1.05E-04	0.00E+00	0.00E+00	0.00E+00	4.17E-04	0.00E+00	0.00E+00	0.00E+00
5	0.030	0.040	1.50E-04	0.00E+00	0.00E+00	0.00E+00	4.17E-04	0.00E+00	0.00E+00	2.96E-04
6	0.040	0.045	1.66E-04	0.00E+00						
7	0.045	0.060	2.22E-04	0.00E+00	0.00E+00	0.00E+00	2.78E-04	2.18E-04	0.00E+00	2.37E-04
8	0.060	0.070	3.95E-04	2.88E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.37E-04	2.95E-04
9	0.070	0.075	5.83E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.35E-03	0.00E+00
10	0.075	0.100	1.61E-03	0.00E+00	1.54E-03	6.96E-04	1.67E-03	8.06E-04	9.61E-04	1.30E-03
11	0.100	0.150	5.02E-03	1.15E-03	2.00E-03	1.74E-03	2.46E-03	3.55E-03	2.98E-03	3.16E-03
12	0.150	0.200	6.73E-03	3.77E-03	2.16E-03	3.17E-03	3.43E-03	4.39E-03	4.27E-03	4.71E-03
13	0.200	0.300	6.75E-03	1.89E-03	2.98E-03	3.76E-03	3.70E-03	4.04E-03	5.12E-03	5.27E-03
14	0.300	0.400	5.61E-03	1.49E-03	1.58E-03	2.62E-03	3.30E-03	2.98E-03	3.98E-03	4.21E-03
15	0.400	0.450	4.74E-03	5.76E-04	1.35E-03	2.83E-03	2.85E-03	2.74E-03	3.22E-03	3.57E-03
16	0.450	0.510	4.46E-03	1.26E-03	1.15E-03	2.23E-03	2.39E-03	2.69E-03	3.24E-03	3.56E-03
17	0.510	0.512	6.45E-02	0.00E+00	4.42E-02	3.48E-02	3.88E-02	4.62E-02	5.06E-02	3.84E-02
18	0.512	0.600	3.44E-03	6.51E-04	5.47E-04	1.55E-03	1.46E-03	2.53E-03	2.62E-03	2.35E-03
19	0.600	0.700	3.28E-03	0.00E+00	1.11E-03	1.11E-03	1.54E-03	2.11E-03	2.20E-03	2.58E-03
20	0.700	0.800	2.86E-03	0.00E+00	1.18E-03	6.97E-04	1.27E-03	1.84E-03	2.08E-03	2.29E-03
21	0.800	1.000	4.18E-03	1.74E-03	8.73E-04	1.68E-03	2.43E-03	2.83E-03	2.95E-03	3.29E-03
22	1.000	1.330	1.31E-03	1.75E-04	4.14E-04	5.07E-04	7.20E-04	7.85E-04	1.06E-03	9.81E-04
23	1.330	1.340	1.47E-03	0.00E+00	9.63E-04	5.81E-04	4.19E-04	3.29E-04	3.37E-04	8.88E-04
24	1.340	1.500	1.13E-03	3.60E-04	4.22E-04	3.90E-04	7.21E-04	7.84E-04	8.01E-04	1.06E-03
25	1.500	1.660	9.00E-04	0.00E+00	6.02E-05	2.98E-04	3.66E-04	7.26E-04	7.14E-04	1.07E-03
26	1.660	2.000	7.88E-04	2.54E-04	2.91E-04	3.13E-04	5.87E-04	4.90E-04	6.32E-04	7.49E-04
27	2.000	2.500	6.15E-04	1.73E-04	1.47E-04	2.20E-04	3.11E-04	4.91E-04	4.38E-04	5.92E-04
28	2.500	3.000	4.59E-04	2.88E-04	1.54E-04	2.34E-04	2.40E-04	3.34E-04	4.65E-04	3.56E-04
29	3.000	3.500	3.40E-04	5.75E-05	3.85E-05	1.44E-04	2.20E-04	2.63E-04	2.03E-04	2.92E-04
30	3.500	4.000	2.36E-04	0.00E+00	1.93E-05	1.04E-04	1.46E-04	1.64E-04	1.02E-04	2.64E-04
31	4.000	4.500	1.77E-04	0.00E+00	5.75E-05	7.13E-05	8.34E-05	8.53E-05	1.75E-04	1.45E-04
32	4.500	5.000	1.25E-04	5.74E-05	7.70E-05	6.23E-05	6.68E-05	1.34E-04	1.01E-04	1.49E-04
33	5.000	5.500	9.63E-05	0.00E+00	0.00E+00	2.32E-05	4.17E-05	5.25E-05	5.47E-05	1.16E-04
34	5.500	6.000	8.72E-05	5.74E-05	7.68E-05	3.47E-05	2.50E-05	7.40E-05	9.42E-05	8.26E-05
35	6.000	6.500	9.06E-05	1.15E-04	3.85E-05	5.79E-05	8.50E-05	4.59E-05	6.05E-05	7.68E-05
36	6.500	7.000	5.04E-05	0.00E+00	0.00E+00	2.32E-05	2.49E-05	1.32E-05	4.71E-05	4.73E-05
37	7.000	7.500	5.42E-05	0.00E+00	1.93E-05	1.16E-05	0.00E+00	2.62E-05	4.71E-05	4.13E-05
38	7.500	8.000	2.71E-04	5.74E-05	9.60E-05	1.20E-04	1.87E-04	1.98E-04	2.28E-04	2.21E-04
39	8.000	10.000	2.84E-05	0.00E+00	1.44E-05	1.45E-05	8.34E-06	1.80E-05	3.03E-05	2.36E-05
40	10.000	12.000	3.26E-07	0.00E+00						
41	12.000	14.000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
42	14.000	20.000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
43	20.000	30.000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Segment total (mol/kt)			6.67E-03	1.73E-03	2.09E-03	2.87E-03	3.65E-03	4.35E-03	4.89E-03	5.37E-03
Segment total (kt/kt)			2.15E-04	5.55E-05	6.69E-05	9.08E-05	1.17E-04	1.45E-04	1.68E-04	1.88E-04

**Table 5 (cont.): Little Boy gamma output by segment in units of mol/MeV/kt for full sphere.**

Group #	Elo (MeV)	Ehi (MeV)	Seg. 8	9	10	11	12	13	14	15
1	0.000	0.001	0.00E+00							
2	0.001	0.010	0.00E+00	0.00E+00	0.00E+00	2.33E-04	0.00E+00	0.00E+00	2.01E-04	0.00E+00
3	0.010	0.020	0.00E+00	0.00E+00	0.00E+00	7.51E-04	5.92E-04	1.87E-04	1.80E-04	2.13E-04
4	0.020	0.030	0.00E+00	0.00E+00	2.22E-04	0.00E+00	0.00E+00	1.88E-04	3.61E-04	0.00E+00
5	0.030	0.040	0.00E+00	2.42E-04	0.00E+00	4.19E-04	2.48E-04	0.00E+00	1.80E-04	3.46E-04
6	0.040	0.045	5.31E-04	9.63E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.61E-04	0.00E+00
7	0.045	0.060	0.00E+00	3.22E-04	1.48E-04	5.58E-04	2.63E-04	5.01E-04	0.00E+00	2.32E-04
8	0.060	0.070	0.00E+00	7.27E-04	4.43E-04	2.10E-04	5.93E-04	2.54E-04	3.60E-04	5.20E-04
9	0.070	0.075	0.00E+00	0.00E+00	1.33E-03	4.19E-04	7.91E-04	0.00E+00	7.20E-04	6.95E-04
10	0.075	0.100	7.44E-04	1.06E-03	1.72E-03	1.01E-03	1.68E-03	2.06E-03	2.31E-03	1.50E-03
11	0.100	0.150	4.48E-03	4.48E-03	4.43E-03	4.50E-03	5.53E-03	5.38E-03	4.86E-03	5.59E-03
12	0.150	0.200	5.71E-03	6.26E-03	6.85E-03	6.53E-03	6.48E-03	7.25E-03	8.75E-03	7.12E-03
13	0.200	0.300	6.21E-03	6.24E-03	6.56E-03	6.94E-03	7.20E-03	7.13E-03	7.26E-03	7.44E-03
14	0.300	0.400	5.07E-03	4.69E-03	6.17E-03	6.05E-03	6.31E-03	5.95E-03	6.46E-03	6.76E-03
15	0.400	0.450	4.40E-03	3.55E-03	5.04E-03	4.96E-03	5.52E-03	6.67E-03	5.28E-03	5.80E-03
16	0.450	0.510	3.85E-03	4.51E-03	4.31E-03	5.03E-03	4.86E-03	5.23E-03	5.23E-03	6.20E-03
17	0.510	0.512	5.69E-02	5.20E-02	5.60E-02	5.07E-02	5.22E-02	6.06E-02	6.87E-02	8.74E-02
18	0.512	0.600	3.74E-03	3.26E-03	3.99E-03	4.39E-03	4.16E-03	3.31E-03	3.89E-03	4.74E-03
19	0.600	0.700	3.06E-03	3.26E-03	3.34E-03	4.22E-03	4.21E-03	3.87E-03	4.23E-03	3.97E-03
20	0.700	0.800	2.51E-03	2.94E-03	3.17E-03	3.30E-03	3.40E-03	3.61E-03	4.19E-03	3.61E-03
21	0.800	1.000	3.37E-03	4.26E-03	4.44E-03	4.77E-03	5.04E-03	5.30E-03	5.13E-03	5.30E-03
22	1.000	1.330	1.45E-03	1.24E-03	1.26E-03	1.50E-03	1.70E-03	1.64E-03	1.67E-03	1.71E-03
23	1.330	1.340	1.59E-03	1.45E-03	1.33E-03	2.61E-03	1.42E-03	1.50E-03	2.22E-03	2.20E-03
24	1.340	1.500	1.05E-03	1.36E-03	1.38E-03	1.32E-03	1.45E-03	1.42E-03	1.19E-03	1.29E-03
25	1.500	1.660	1.00E-03	1.13E-03	1.04E-03	1.12E-03	1.19E-03	1.24E-03	1.20E-03	1.15E-03
26	1.660	2.000	8.30E-04	1.07E-03	9.54E-04	9.50E-04	9.20E-04	1.06E-03	9.20E-04	9.63E-04
27	2.000	2.500	6.38E-04	6.82E-04	6.89E-04	6.86E-04	6.95E-04	7.48E-04	8.09E-04	6.79E-04
28	2.500	3.000	4.31E-04	4.79E-04	5.81E-04	5.93E-04	6.61E-04	5.50E-04	4.75E-04	6.04E-04
29	3.000	3.500	3.85E-04	3.88E-04	4.29E-04	4.58E-04	4.05E-04	3.78E-04	3.21E-04	4.45E-04
30	3.500	4.000	2.81E-04	2.36E-04	2.69E-04	2.53E-04	2.70E-04	2.80E-04	2.91E-04	2.39E-04
31	4.000	4.500	1.54E-04	1.46E-04	1.52E-04	2.61E-04	1.91E-04	2.04E-04	2.42E-04	2.39E-04
32	4.500	5.000	1.23E-04	1.45E-04	1.44E-04	1.36E-04	1.19E-04	1.05E-04	1.81E-04	1.57E-04
33	5.000	5.500	1.01E-04	1.08E-04	1.11E-04	1.31E-04	1.03E-04	9.10E-05	9.07E-05	1.28E-04
34	5.500	6.000	6.46E-05	1.26E-04	9.44E-05	1.11E-04	9.79E-05	6.37E-05	8.64E-05	1.13E-04
35	6.000	6.500	6.88E-05	6.02E-05	6.64E-05	1.06E-04	9.46E-05	1.12E-04	1.35E-04	9.03E-05
36	6.500	7.000	4.77E-05	2.90E-05	6.18E-05	5.01E-05	6.85E-05	6.74E-05	6.12E-05	5.91E-05
37	7.000	7.500	4.77E-05	3.87E-05	6.52E-05	6.26E-05	5.96E-05	6.50E-05	6.85E-05	2.77E-05
38	7.500	8.000	2.12E-04	2.88E-04	2.96E-04	3.17E-04	2.93E-04	3.13E-04	2.95E-04	2.71E-04
39	8.000	10.000	1.99E-05	3.14E-05	2.65E-05	2.71E-05	2.28E-05	2.81E-05	3.70E-05	3.12E-05
40	10.000	12.000	1.33E-06	0.00E+00	0.00E+00	1.05E-06	0.00E+00	1.88E-06	9.03E-07	0.00E+00
41	12.000	14.000	0.00E+00							
42	14.000	20.000	0.00E+00							
43	20.000	30.000	0.00E+00							
Segment total (mol/kt)			6.21E-03	6.60E-03	7.08E-03	7.52E-03	7.71E-03	7.76E-03	7.93E-03	8.08E-03
Segment total (kt/kt)			2.01E-04	2.23E-04	2.34E-04	2.53E-04	2.47E-04	2.50E-04	2.57E-04	2.54E-04

**Table 5 (cont.): Little Boy gamma output by segment in units of mol/MeV/kt for full sphere.**

Group #	Elo (MeV)	Ehi (MeV)	Seg. 16	17	18	19	20	21	22	23
1	0.000	0.001	0.00E+00							
2	0.001	0.010	0.00E+00							
3	0.010	0.020	0.00E+00	3.29E-04	0.00E+00	3.21E-04	3.19E-04	4.80E-04	0.00E+00	4.88E-04
4	0.020	0.030	0.00E+00	2.78E-04	1.61E-04	1.60E-04	0.00E+00	1.59E-04	0.00E+00	3.35E-04
5	0.030	0.040	5.06E-04	1.65E-04	1.63E-04	0.00E+00	4.80E-04	1.60E-04	0.00E+00	1.82E-04
6	0.040	0.045	0.00E+00	0.00E+00	0.00E+00	3.21E-04	0.00E+00	0.00E+00	3.20E-04	3.25E-04
7	0.045	0.060	2.25E-04	6.61E-04	3.25E-04	2.13E-04	4.32E-04	0.00E+00	2.14E-04	1.08E-04
8	0.060	0.070	3.37E-04	3.31E-04	3.25E-04	6.16E-04	6.39E-04	4.79E-04	4.81E-04	1.01E-03
9	0.070	0.075	9.09E-04	3.31E-04	0.00E+00	9.60E-04	1.00E-03	3.18E-04	9.61E-04	6.87E-04
10	0.075	0.100	1.85E-03	1.60E-03	2.26E-03	1.99E-03	1.90E-03	2.26E-03	2.33E-03	1.87E-03
11	0.100	0.150	6.16E-03	5.63E-03	6.03E-03	6.24E-03	5.90E-03	6.03E-03	6.11E-03	5.92E-03
12	0.150	0.200	7.59E-03	7.37E-03	7.31E-03	7.88E-03	8.00E-03	8.39E-03	9.15E-03	7.60E-03
13	0.200	0.300	8.05E-03	7.97E-03	8.11E-03	8.07E-03	8.24E-03	7.64E-03	8.32E-03	8.75E-03
14	0.300	0.400	6.65E-03	7.24E-03	6.81E-03	7.49E-03	6.71E-03	6.70E-03	6.89E-03	6.62E-03
15	0.400	0.450	5.66E-03	5.81E-03	5.69E-03	6.43E-03	5.65E-03	5.55E-03	5.42E-03	5.73E-03
16	0.450	0.510	5.20E-03	5.55E-03	5.82E-03	6.34E-03	6.35E-03	5.22E-03	5.20E-03	5.45E-03
17	0.510	0.512	6.69E-02	8.05E-02	9.22E-02	7.44E-02	7.62E-02	7.17E-02	8.18E-02	7.83E-02
18	0.512	0.600	4.37E-03	4.29E-03	4.73E-03	4.46E-03	4.37E-03	4.18E-03	4.27E-03	3.77E-03
19	0.600	0.700	4.06E-03	4.39E-03	4.44E-03	3.60E-03	4.41E-03	3.67E-03	3.82E-03	3.53E-03
20	0.700	0.800	3.48E-03	3.41E-03	3.48E-03	4.04E-03	3.42E-03	3.31E-03	3.62E-03	3.41E-03
21	0.800	1.000	4.91E-03	5.53E-03	5.67E-03	5.22E-03	5.40E-03	5.06E-03	5.15E-03	4.99E-03
22	1.000	1.330	1.66E-03	1.78E-03	1.81E-03	1.75E-03	1.76E-03	1.70E-03	1.67E-03	1.54E-03
23	1.330	1.340	1.86E-03	2.22E-03	3.08E-03	2.25E-03	1.60E-03	1.92E-03	1.76E-03	1.79E-03
24	1.340	1.500	1.44E-03	1.40E-03	1.58E-03	1.49E-03	1.20E-03	1.33E-03	1.59E-03	1.29E-03
25	1.500	1.660	9.03E-04	1.31E-03	1.09E-03	1.14E-03	9.56E-04	1.15E-03	1.02E-03	1.05E-03
26	1.660	2.000	1.05E-03	9.16E-04	9.89E-04	9.98E-04	9.76E-04	9.20E-04	1.02E-03	8.21E-04
27	2.000	2.500	8.00E-04	7.38E-04	8.86E-04	6.87E-04	8.47E-04	7.89E-04	7.72E-04	7.60E-04
28	2.500	3.000	6.18E-04	5.24E-04	5.45E-04	6.80E-04	5.11E-04	5.78E-04	5.51E-04	6.12E-04
29	3.000	3.500	4.38E-04	3.97E-04	3.75E-04	4.36E-04	4.45E-04	3.07E-04	4.73E-04	4.25E-04
30	3.500	4.000	3.33E-04	3.05E-04	2.99E-04	2.74E-04	3.02E-04	3.56E-04	2.24E-04	2.88E-04
31	4.000	4.500	1.77E-04	2.79E-04	2.34E-04	2.31E-04	2.31E-04	2.17E-04	2.33E-04	2.40E-04
32	4.500	5.000	1.25E-04	1.91E-04	1.28E-04	1.76E-04	1.97E-04	1.44E-04	1.42E-04	1.37E-04
33	5.000	5.500	1.25E-04	1.14E-04	1.16E-04	1.26E-04	1.49E-04	1.21E-04	1.21E-04	1.19E-04
34	5.500	6.000	1.08E-04	7.69E-05	1.24E-04	1.29E-04	1.09E-04	1.05E-04	1.25E-04	8.11E-05
35	6.000	6.500	8.43E-05	1.22E-04	6.97E-05	1.02E-04	1.31E-04	1.18E-04	1.07E-04	1.15E-04
36	6.500	7.000	5.05E-05	6.60E-05	6.84E-05	4.48E-05	5.32E-05	6.06E-05	6.08E-05	6.82E-05
37	7.000	7.500	7.75E-05	3.96E-05	4.62E-05	8.39E-05	8.01E-05	7.66E-05	6.41E-05	5.88E-05
38	7.500	8.000	2.90E-04	3.63E-04	2.97E-04	3.53E-04	2.90E-04	2.87E-04	3.63E-04	2.51E-04
39	8.000	10.000	3.39E-05	3.88E-05	4.22E-05	4.00E-05	3.84E-05	3.59E-05	3.28E-05	3.33E-05
40	10.000	12.000	8.45E-07	0.00E+00	8.14E-07	1.61E-06	0.00E+00	0.00E+00	8.03E-07	0.00E+00
41	12.000	14.000	0.00E+00							
42	14.000	20.000	0.00E+00							
43	20.000	30.000	0.00E+00							
Segment total (mol/kt)		8.05E-03	8.32E-03	8.46E-03	8.49E-03	8.35E-03	7.98E-03	8.27E-03	7.90E-03	
Segment total (kt/kt)		2.59E-04	2.72E-04	2.68E-04	2.78E-04	2.72E-04	2.59E-04	2.68E-04	2.50E-04	

**Table 5 (cont.): Little Boy gamma output by segment in units of mol/MeV/kt for full sphere.**

Group #	Elo (MeV)	Ehi (MeV)	Set. 24	25	26	27	28	29	30	31
1	0.000	0.001	0.00E+00							
2	0.001	0.010	0.00E+00	0.00E+00	1.92E-04	0.00E+00	2.08E-04	0.00E+00	0.00E+00	0.00E+00
3	0.010	0.020	1.65E-04	3.37E-04	0.00E+00	3.82E-04	0.00E+00	0.00E+00	2.10E-04	2.21E-04
4	0.020	0.030	0.00E+00	0.00E+00	3.46E-04	0.00E+00	1.88E-04	1.98E-04	0.00E+00	2.20E-04
5	0.030	0.040	0.00E+00	1.69E-04	1.74E-04	3.59E-04	0.00E+00	1.98E-04	0.00E+00	0.00E+00
6	0.040	0.045	0.00E+00	0.00E+00	6.93E-04	3.61E-04	0.00E+00	3.95E-04	0.00E+00	8.83E-04
7	0.045	0.060	0.00E+00	3.37E-04	5.78E-04	3.60E-04	0.00E+00	0.00E+00	5.59E-04	0.00E+00
8	0.060	0.070	4.95E-04	1.69E-04	8.67E-04	1.80E-04	1.87E-04	0.00E+00	6.28E-04	0.00E+00
9	0.070	0.075	6.60E-04	1.01E-03	6.95E-04	7.20E-04	3.76E-04	1.19E-03	9.56E-04	0.00E+00
10	0.075	0.100	1.39E-03	2.23E-03	1.52E-03	1.84E-03	1.76E-03	1.04E-03	2.13E-03	5.30E-04
11	0.100	0.150	6.24E-03	6.28E-03	5.63E-03	5.01E-03	5.12E-03	5.36E-03	4.81E-03	4.41E-03
12	0.150	0.200	8.42E-03	7.55E-03	7.48E-03	6.89E-03	7.06E-03	6.74E-03	6.06E-03	6.50E-03
13	0.200	0.300	7.84E-03	7.34E-03	7.72E-03	6.61E-03	7.14E-03	6.96E-03	5.99E-03	6.24E-03
14	0.300	0.400	6.44E-03	6.37E-03	6.02E-03	5.71E-03	5.58E-03	4.96E-03	4.69E-03	5.37E-03
15	0.400	0.450	5.50E-03	5.58E-03	4.47E-03	4.83E-03	4.96E-03	4.10E-03	4.09E-03	4.49E-03
16	0.450	0.510	4.98E-03	4.84E-03	5.38E-03	3.98E-03	3.86E-03	3.76E-03	3.93E-03	3.62E-03
17	0.510	0.512	6.97E-02	7.75E-02	5.85E-02	5.85E-02	7.41E-02	5.69E-02	6.27E-02	5.22E-02
18	0.512	0.600	3.33E-03	3.77E-03	3.78E-03	3.46E-03	2.94E-03	2.97E-03	2.56E-03	3.09E-03
19	0.600	0.700	3.54E-03	3.71E-03	3.73E-03	3.18E-03	3.42E-03	2.80E-03	3.11E-03	2.19E-03
20	0.700	0.800	3.70E-03	3.35E-03	3.13E-03	2.81E-03	2.27E-03	2.25E-03	2.18E-03	2.29E-03
21	0.800	1.000	4.71E-03	4.53E-03	4.30E-03	3.89E-03	3.82E-03	3.96E-03	3.48E-03	3.19E-03
22	1.000	1.330	1.51E-03	1.54E-03	1.29E-03	1.21E-03	1.05E-03	1.05E-03	9.65E-04	7.43E-04
23	1.330	1.340	1.50E-03	8.44E-04	2.92E-03	1.26E-03	1.51E-03	9.87E-04	4.19E-04	7.82E-04
24	1.340	1.500	1.23E-03	1.22E-03	1.30E-03	1.14E-03	9.09E-04	9.95E-04	9.21E-04	7.68E-04
25	1.500	1.660	1.04E-03	8.06E-04	9.47E-04	9.39E-04	7.66E-04	6.34E-04	6.14E-04	7.32E-04
26	1.660	2.000	9.93E-04	9.36E-04	7.61E-04	7.31E-04	7.35E-04	5.96E-04	5.49E-04	5.60E-04
27	2.000	2.500	7.51E-04	7.13E-04	6.72E-04	5.87E-04	5.19E-04	5.21E-04	4.82E-04	3.87E-04
28	2.500	3.000	5.26E-04	5.02E-04	4.62E-04	4.54E-04	4.30E-04	3.86E-04	2.37E-04	2.62E-04
29	3.000	3.500	4.31E-04	3.80E-04	3.98E-04	3.53E-04	3.39E-04	2.60E-04	2.82E-04	2.41E-04
30	3.500	4.000	2.23E-04	2.85E-04	3.01E-04	2.75E-04	2.46E-04	2.07E-04	1.69E-04	1.92E-04
31	4.000	4.500	2.02E-04	1.64E-04	1.57E-04	1.77E-04	1.67E-04	1.34E-04	1.27E-04	1.58E-04
32	4.500	5.000	1.52E-04	1.48E-04	1.19E-04	1.09E-04	1.19E-04	1.14E-04	9.19E-05	9.78E-05
33	5.000	5.500	1.31E-04	1.12E-04	9.02E-05	8.36E-05	7.14E-05	8.73E-05	7.52E-05	7.96E-05
34	5.500	6.000	9.41E-05	9.26E-05	1.15E-04	6.91E-05	5.25E-05	6.93E-05	7.52E-05	7.50E-05
35	6.000	6.500	1.16E-04	1.15E-04	7.95E-05	1.01E-04	8.71E-05	8.05E-05	7.95E-05	7.06E-05
36	6.500	7.000	3.66E-05	5.40E-05	4.85E-05	5.04E-05	5.63E-05	3.55E-05	7.94E-05	4.89E-05
37	7.000	7.500	6.60E-05	4.72E-05	6.93E-05	5.41E-05	4.96E-05	4.34E-05	5.85E-05	5.31E-05
38	7.500	8.000	3.32E-04	3.04E-04	3.10E-04	2.64E-04	2.32E-04	2.81E-04	2.13E-04	2.64E-04
39	8.000	10.000	3.71E-05	2.45E-05	3.12E-05	2.99E-05	1.97E-05	3.35E-05	2.31E-05	2.43E-05
40	10.000	12.000	0.00E+00	0.00E+00	8.68E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
41	12.000	14.000	0.00E+00							
42	14.000	20.000	0.00E+00							
43	20.000	30.000	0.00E+00							
Segment total (mol/kt)		7.70E-03	7.47E-03	7.19E-03	6.51E-03	6.25E-03	5.94E-03	5.49E-03	5.33E-03	
Segment total (kt/kt)		2.52E-04	2.36E-04	2.31E-04	2.11E-04	1.92E-04	1.89E-04	1.70E-04	1.68E-04	

**Table 5 (cont.): Little Boy gamma output by segment in units of mol/MeV/kt for full sphere.**

Group #	Elo (MeV)	Ehi (MeV)	Seg. 32	33	34	35	36	37	38	39	40
1	0.000	0.001	0.00E+00								
2	0.001	0.010	0.00E+00								
3	0.010	0.020	2.42E-04	0.00E+00	0.00E+00	0.00E+00	3.29E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00
4	0.020	0.030	0.00E+00	2.66E-04	0.00E+00						
5	0.030	0.040	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.27E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00
6	0.040	0.045	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.36E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00
7	0.045	0.060	1.61E-04	0.00E+00	1.96E-04	0.00E+00	0.00E+00	2.78E-04	0.00E+00	0.00E+00	0.00E+00
8	0.060	0.070	2.41E-04	1.12E-03	0.00E+00	0.00E+00	6.55E-04	4.19E-04	0.00E+00	0.00E+00	0.00E+00
9	0.070	0.075	4.84E-04	1.06E-03	5.92E-04	1.34E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
10	0.075	0.100	1.46E-03	1.82E-03	8.28E-04	8.11E-04	1.32E-03	1.17E-03	9.28E-04	1.54E-03	1.15E-03
11	0.100	0.150	4.10E-03	4.10E-03	3.92E-03	3.47E-03	3.47E-03	3.21E-03	3.69E-03	2.67E-03	2.89E-03
12	0.150	0.200	5.74E-03	6.17E-03	3.90E-03	5.35E-03	4.49E-03	4.09E-03	3.99E-03	2.32E-03	3.45E-03
13	0.200	0.300	6.18E-03	4.39E-03	4.36E-03	3.83E-03	4.59E-03	4.25E-03	3.63E-03	3.01E-03	3.16E-03
14	0.300	0.400	4.20E-03	4.15E-03	3.56E-03	3.06E-03	3.74E-03	2.74E-03	2.81E-03	1.92E-03	2.59E-03
15	0.400	0.450	3.07E-03	3.41E-03	2.98E-03	3.15E-03	2.07E-03	1.96E-03	2.44E-03	1.76E-03	4.26E-03
16	0.450	0.510	2.90E-03	2.72E-03	2.57E-03	2.17E-03	2.28E-03	1.71E-03	1.51E-03	1.63E-03	2.12E-03
17	0.510	0.512	5.77E-02	4.54E-02	6.60E-02	6.20E-02	7.11E-02	5.97E-02	2.35E-02	5.29E-02	1.43E-02
18	0.512	0.600	2.20E-03	2.03E-03	1.83E-03	2.06E-03	2.48E-03	1.30E-03	1.33E-03	1.52E-03	1.31E-03
19	0.600	0.700	2.22E-03	2.34E-03	2.00E-03	1.77E-03	1.47E-03	1.30E-03	9.61E-04	8.41E-04	0.00E+00
20	0.700	0.800	1.78E-03	1.79E-03	2.04E-03	1.29E-03	1.14E-03	9.62E-04	7.75E-04	6.73E-04	5.75E-04
21	0.800	1.000	3.12E-03	2.42E-03	2.42E-03	2.11E-03	1.82E-03	1.68E-03	1.45E-03	1.03E-03	1.85E-03
22	1.000	1.330	6.83E-04	8.11E-04	7.47E-04	6.25E-04	5.00E-04	4.74E-04	3.97E-04	4.27E-04	3.49E-04
23	1.330	1.340	7.67E-04	1.06E-03	8.87E-04	0.00E+00	3.29E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00
24	1.340	1.500	7.16E-04	6.25E-04	4.57E-04	4.63E-04	4.49E-04	5.26E-04	3.27E-04	1.81E-04	5.40E-04
25	1.500	1.660	6.53E-04	5.81E-04	3.93E-04	3.61E-04	3.63E-04	1.56E-04	3.26E-04	2.57E-04	3.60E-04
26	1.660	2.000	4.96E-04	4.74E-04	3.49E-04	2.70E-04	2.90E-04	3.31E-04	2.05E-04	8.47E-05	3.50E-04
27	2.000	2.500	4.06E-04	3.68E-04	2.34E-04	3.01E-04	2.09E-04	1.21E-04	1.76E-04	1.15E-04	1.86E-04
28	2.500	3.000	2.69E-04	2.37E-04	2.80E-04	2.16E-04	1.81E-04	1.84E-04	1.16E-04	1.09E-04	5.74E-05
29	3.000	3.500	2.70E-04	1.81E-04	1.53E-04	1.30E-04	1.19E-04	1.17E-04	6.95E-05	7.69E-05	5.73E-05
30	3.500	4.000	1.36E-04	1.36E-04	9.04E-05	1.21E-04	1.05E-04	3.34E-05	5.78E-05	9.62E-05	0.00E+00
31	4.000	4.500	1.07E-04	9.53E-05	1.00E-04	6.73E-05	1.05E-04	6.74E-05	9.27E-05	7.69E-05	5.73E-05
32	4.500	5.000	4.88E-05	1.09E-04	8.27E-05	2.69E-05	5.90E-05	5.85E-05	1.16E-05	1.92E-05	0.00E+00
33	5.000	5.500	3.86E-05	8.48E-05	7.11E-05	3.36E-05	2.62E-05	3.35E-05	8.11E-05	0.00E+00	0.00E+00
34	5.500	6.000	3.86E-05	6.30E-05	4.81E-05	4.02E-05	6.75E-05	8.49E-05	3.47E-05	7.68E-05	5.73E-05
35	6.000	6.500	7.26E-05	5.82E-05	6.50E-05	8.72E-05	6.55E-05	5.00E-05	3.47E-05	5.76E-05	5.73E-05
36	6.500	7.000	4.34E-05	3.71E-05	2.36E-05	3.35E-05	3.94E-05	2.58E-05	3.48E-05	3.85E-05	0.00E+00
37	7.000	7.500	8.22E-05	2.65E-05	2.36E-05	6.23E-05	3.28E-05	4.18E-05	3.48E-05	1.92E-05	5.73E-05
38	7.500	8.000	2.46E-04	2.86E-04	2.35E-04	2.00E-04	1.18E-04	1.62E-04	5.78E-05	1.73E-04	5.73E-05
39	8.000	10.000	1.81E-05	1.99E-05	2.51E-05	1.51E-05	1.48E-05	1.46E-05	8.66E-06	4.82E-06	0.00E+00
40	10.000	12.000	0.00E+00								
41	12.000	14.000	0.00E+00								
42	14.000	20.000	0.00E+00								
43	20.000	30.000	0.00E+00								
Segment total (mol/kt)			4.77E-03	4.45E-03	3.96E-03	3.60E-03	3.49E-03	3.00E-03	2.61E-03	2.24E-03	2.50E-03
Segment total (kt/kt)			1.49E-04	1.45E-04	1.28E-04	1.13E-04	1.01E-04	9.29E-05	7.15E-05	7.29E-05	6.15E-05

**Table 6: Fat Man neutron output spectrum.**

Group #	Elo (MeV)	Ehi (MeV)	Group leakage (mol/MeV/kt)	Group #	Elo (MeV)	Ehi (MeV)	Group leakage (mol/MeV/kt)
1	1.00E-16	1.00E-11	1.00E-09	51	1.30E-04	1.67E-04	6.14E+02
2	1.00E-11	5.00E-10	2.04E-11	52	1.67E-04	2.14E-04	4.62E+02
3	5.00E-10	2.00E-09	6.67E-12	53	2.14E-04	2.75E-04	3.34E+02
4	2.00E-09	5.00E-09	3.33E-12	54	2.75E-04	3.54E-04	2.28E+02
5	5.00E-09	1.00E-08	2.00E-12	55	3.54E-04	4.54E-04	1.41E+02
6	1.00E-08	1.45E-08	2.22E-12	56	4.54E-04	5.83E-04	7.48E+01
7	1.45E-08	2.10E-08	1.78E+00	57	5.83E-04	7.49E-04	3.33E+01
8	2.10E-08	3.00E-08	2.75E+00	58	7.49E-04	9.61E-04	1.24E+01
9	3.00E-08	4.00E-08	3.07E+00	59	9.61E-04	1.23E-03	3.84E+00
10	4.00E-08	5.00E-08	5.95E+00	60	1.23E-03	1.58E-03	1.02E+00
11	5.00E-08	7.00E-08	1.27E+01	61	1.58E-03	2.03E-03	2.26E-01
12	7.00E-08	1.00E-07	1.55E+01	62	2.03E-03	2.25E-03	7.77E-02
13	1.00E-07	1.25E-07	2.28E+01	63	2.25E-03	2.49E-03	6.15E-02
14	1.25E-07	1.50E-07	3.19E+01	64	2.49E-03	2.61E-03	4.43E-02
15	1.50E-07	1.84E-07	2.39E+01	65	2.61E-03	2.75E-03	3.12E-02
16	1.84E-07	2.25E-07	4.60E+01	66	2.75E-03	3.04E-03	3.34E-02
17	2.25E-07	2.75E-07	4.41E+01	67	3.04E-03	3.35E-03	2.52E-02
18	2.75E-07	3.25E-07	5.92E+01	68	3.35E-03	3.71E-03	2.17E-02
19	3.25E-07	3.67E-07	7.57E+01	69	3.71E-03	4.31E-03	1.67E-02
20	3.67E-07	4.14E-07	6.42E+01	70	4.31E-03	5.53E-03	1.40E-02
21	4.14E-07	5.00E-07	8.09E+01	71	5.53E-03	7.10E-03	1.08E-02
22	5.00E-07	5.32E-07	9.97E+01	72	7.10E-03	9.12E-03	8.59E-03
23	5.32E-07	6.25E-07	1.00E+02	73	9.12E-03	1.06E-02	6.76E-03
24	6.25E-07	6.83E-07	1.11E+02	74	1.06E-02	1.17E-02	5.36E-03
25	6.83E-07	8.00E-07	1.39E+02	75	1.17E-02	1.50E-02	5.23E-03
26	8.00E-07	8.76E-07	1.59E+02	76	1.50E-02	1.93E-02	4.57E-03
27	8.76E-07	1.00E-06	1.70E+02	77	1.93E-02	2.19E-02	4.19E-03
28	1.00E-06	1.04E-06	1.74E+02	78	2.19E-02	2.36E-02	4.43E-03
29	1.04E-06	1.08E-06	1.97E+02	79	2.36E-02	2.42E-02	4.53E-03
30	1.08E-06	1.13E-06	1.82E+02	80	2.42E-02	2.48E-02	4.36E-03
31	1.13E-06	1.30E-06	2.18E+02	81	2.48E-02	2.61E-02	4.87E-03
32	1.30E-06	1.45E-06	2.35E+02	82	2.61E-02	2.70E-02	4.89E-03
33	1.45E-06	1.86E-06	2.71E+02	83	2.70E-02	2.85E-02	1.20E-03
34	1.86E-06	2.38E-06	3.39E+02	84	2.85E-02	3.18E-02	1.42E-03
35	2.38E-06	3.06E-06	4.10E+02	85	3.18E-02	3.43E-02	1.31E-03
36	3.06E-06	3.93E-06	5.12E+02	86	3.43E-02	4.09E-02	1.13E-03
37	3.93E-06	5.04E-06	6.16E+02	87	4.09E-02	4.63E-02	1.92E-03
38	5.04E-06	6.48E-06	7.48E+02	88	4.63E-02	5.25E-02	1.76E-03
39	6.48E-06	8.32E-06	8.86E+02	89	5.25E-02	5.66E-02	1.65E-03
40	8.32E-06	1.07E-05	1.04E+03	90	5.66E-02	6.74E-02	1.79E-03
41	1.07E-05	1.37E-05	1.19E+03	91	6.74E-02	7.20E-02	2.17E-03
42	1.37E-05	1.76E-05	1.34E+03	92	7.20E-02	7.95E-02	1.70E-03
43	1.76E-05	2.26E-05	1.45E+03	93	7.95E-02	8.25E-02	1.30E-03
44	2.26E-05	2.90E-05	1.52E+03	94	8.25E-02	8.65E-02	5.97E-04
45	2.90E-05	3.73E-05	1.54E+03	95	8.65E-02	9.80E-02	8.85E-04
46	3.73E-05	4.79E-05	1.48E+03	96	9.80E-02	1.11E-01	1.16E-03
47	4.79E-05	6.14E-05	1.36E+03	97	1.11E-01	1.17E-01	1.33E-03
48	6.14E-05	7.89E-05	1.19E+03	98	1.17E-01	1.23E-01	1.01E-03
49	7.89E-05	1.01E-04	9.96E+02	99	1.23E-01	1.29E-01	1.55E-03
50	1.01E-04	1.30E-04	7.94E+02	100	1.29E-01	1.36E-01	1.44E-03

**Table 6: Fat Man neutron output spectrum (cont.)**

Group #	Elo (MeV)	Ehi (MeV)	Group leakage (mol/MeV/kt)	Group #	Elo (MeV)	Ehi (MeV)	Group leakage (mol/MeV/kt)
101	1.36E-01	1.43E-01	8.36E-04	151	1.92E+00	2.02E+00	3.39E-04
102	1.43E-01	1.50E-01	6.13E-04	152	2.02E+00	2.12E+00	3.51E-04
103	1.50E-01	1.58E-01	7.12E-04	153	2.12E+00	2.23E+00	3.54E-04
104	1.58E-01	1.66E-01	8.11E-04	154	2.23E+00	2.31E+00	3.70E-04
105	1.66E-01	1.74E-01	9.41E-04	155	2.31E+00	2.35E+00	4.51E-04
106	1.74E-01	1.83E-01	1.04E-03	156	2.35E+00	2.37E+00	4.31E-04
107	1.83E-01	1.93E-01	9.16E-04	157	2.37E+00	2.39E+00	4.45E-04
108	1.93E-01	2.02E-01	7.07E-04	158	2.39E+00	2.47E+00	3.63E-04
109	2.02E-01	2.13E-01	6.42E-04	159	2.47E+00	2.59E+00	2.79E-04
110	2.13E-01	2.24E-01	7.43E-04	160	2.59E+00	2.73E+00	2.60E-04
111	2.24E-01	2.35E-01	7.87E-04	161	2.73E+00	2.87E+00	2.27E-04
112	2.35E-01	2.47E-01	8.82E-04	162	2.87E+00	3.01E+00	1.84E-04
113	2.47E-01	2.73E-01	9.11E-04	163	3.01E+00	3.17E+00	1.83E-04
114	2.73E-01	2.87E-01	7.03E-04	164	3.17E+00	3.33E+00	1.16E-04
115	2.87E-01	2.95E-01	7.30E-04	165	3.33E+00	3.68E+00	9.70E-05
116	2.95E-01	2.97E-01	8.21E-04	166	3.68E+00	4.07E+00	9.33E-05
117	2.97E-01	2.98E-01	6.02E-04	167	4.07E+00	4.49E+00	8.52E-05
118	2.98E-01	3.02E-01	7.36E-04	168	4.49E+00	4.72E+00	1.00E-04
119	3.02E-01	3.34E-01	6.93E-04	169	4.72E+00	4.97E+00	9.49E-05
120	3.34E-01	3.69E-01	7.46E-04	170	4.97E+00	5.23E+00	7.73E-05
121	3.69E-01	3.88E-01	6.05E-04	171	5.23E+00	5.49E+00	6.52E-05
122	3.88E-01	4.08E-01	6.61E-04	172	5.49E+00	5.77E+00	5.32E-05
123	4.08E-01	4.50E-01	4.35E-04	173	5.77E+00	6.07E+00	5.05E-05
124	4.50E-01	4.98E-01	6.21E-04	174	6.07E+00	6.38E+00	3.92E-05
125	4.98E-01	5.23E-01	6.59E-04	175	6.38E+00	6.59E+00	3.45E-05
126	5.23E-01	5.50E-01	6.69E-04	176	6.59E+00	6.70E+00	3.18E-05
127	5.50E-01	5.78E-01	6.71E-04	177	6.70E+00	7.05E+00	3.03E-05
128	5.78E-01	6.08E-01	7.90E-04	178	7.05E+00	7.41E+00	1.79E-05
129	6.08E-01	6.39E-01	7.04E-04	179	7.41E+00	7.79E+00	1.26E-05
130	6.39E-01	6.72E-01	6.70E-04	180	7.79E+00	8.19E+00	9.18E-06
131	6.72E-01	7.07E-01	6.48E-04	181	8.19E+00	8.61E+00	1.02E-05
132	7.07E-01	7.43E-01	6.64E-04	182	8.61E+00	9.05E+00	6.88E-06
133	7.43E-01	7.81E-01	6.06E-04	183	9.05E+00	9.51E+00	5.81E-06
134	7.81E-01	8.21E-01	5.40E-04	184	9.51E+00	1.00E+01	3.17E-06
135	8.21E-01	8.63E-01	5.52E-04	185	1.00E+01	1.05E+01	2.07E-06
136	8.63E-01	9.07E-01	4.98E-04	186	1.05E+01	1.11E+01	1.75E-06
137	9.07E-01	9.62E-01	4.85E-04	187	1.11E+01	1.16E+01	1.29E-06
138	9.62E-01	1.00E+00	3.69E-04	188	1.16E+01	1.22E+01	9.17E-07
139	1.00E+00	1.11E+00	3.88E-04	189	1.22E+01	1.25E+01	3.68E-07
140	1.11E+00	1.16E+00	4.68E-04	190	1.25E+01	1.28E+01	4.17E-07
141	1.16E+00	1.22E+00	4.65E-04	191	1.28E+01	1.35E+01	1.96E-07
142	1.22E+00	1.29E+00	4.67E-04	192	1.35E+01	1.38E+01	8.11E-08
143	1.29E+00	1.35E+00	3.91E-04	193	1.38E+01	1.42E+01	2.01E-07
144	1.35E+00	1.42E+00	4.46E-04	194	1.42E+01	1.46E+01	1.63E-07
145	1.42E+00	1.50E+00	4.48E-04	195	1.46E+01	1.49E+01	2.43E-07
146	1.50E+00	1.57E+00	4.17E-04	196	1.49E+01	1.57E+01	1.05E-07
147	1.57E+00	1.65E+00	3.76E-04	197	1.57E+01	1.65E+01	3.11E-08
148	1.65E+00	1.74E+00	4.15E-04	198	1.65E+01	1.69E+01	6.58E-08
149	1.74E+00	1.83E+00	3.74E-04	199	1.69E+01	1.73E+01	0.00E+00
150	1.83E+00	1.92E+00	3.37E-04	200	1.73E+01	2.00E+01	2.86E-08

**Table 7: Fat Man gamma output spectrum**

Group #	Elo (MeV)	Ehi (MeV)	Group leakage (mol/MeV/kt)
1	0.000	0.001	0.00E+00
2	0.001	0.010	4.43E-04
3	0.010	0.020	8.51E-04
4	0.020	0.030	7.53E-04
5	0.030	0.040	1.39E-03
6	0.040	0.045	2.25E-03
7	0.045	0.060	5.86E-03
8	0.060	0.070	1.72E-02
9	0.070	0.075	2.38E-02
10	0.075	0.100	5.85E-02
11	0.100	0.150	8.00E-02
12	0.150	0.200	7.46E-02
13	0.200	0.300	7.76E-02
14	0.300	0.400	5.83E-02
15	0.400	0.450	5.48E-02
16	0.450	0.510	6.76E-02
17	0.510	0.512	3.85E-01
18	0.512	0.600	7.32E-02
19	0.600	0.700	4.00E-02
20	0.700	0.800	3.35E-02
21	0.800	1.000	3.08E-02
22	1.000	1.330	2.34E-02
23	1.330	1.340	1.90E-02
24	1.340	1.500	2.07E-02
25	1.500	1.660	1.84E-02
26	1.660	2.000	1.66E-02
27	2.000	2.500	1.59E-02
28	2.500	3.000	7.66E-03
29	3.000	3.500	4.25E-03
30	3.500	4.000	5.43E-03
31	4.000	4.500	2.58E-03
32	4.500	5.000	6.75E-04
33	5.000	5.500	5.44E-04
34	5.500	6.000	4.29E-04
35	6.000	6.500	3.55E-04
36	6.500	7.000	3.50E-04
37	7.000	7.500	1.20E-04
38	7.500	8.000	9.42E-04
39	8.000	10.000	2.79E-05
40	10.000	12.000	9.69E-06
41	12.000	14.000	3.38E-08
42	14.000	20.000	1.67E-13
43	20.000	30.000	0.00E+00

## Acknowledgements

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