

## Muons in lawrencium (Lr)

Z	A [g/mol]	$\rho$ [g/cm <sup>3</sup> ]	I [eV]	a	$k = m_s$	$x_0$	$x_1$	$\bar{C}$	$\delta_0$
103 (Lr)	[262.110 (2)]	??	1034.0	0.26710	3.0000	0.6045	3.0000	6.4555	0.00
T	p [MeV/c]	Ionization	Brems	Pair prod [MeV cm <sup>2</sup> /g]	Photonucl	Total	CSDA range [g/cm <sup>2</sup> ]		
10.0 MeV	$4.704 \times 10^1$	3.583				3.583	$1.650 \times 10^0$		
14.0 MeV	$5.616 \times 10^1$	2.882				2.882	$2.906 \times 10^0$		
20.0 MeV	$6.802 \times 10^1$	2.312				2.312	$5.253 \times 10^0$		
30.0 MeV	$8.509 \times 10^1$	1.839				1.839	$1.016 \times 10^1$		
40.0 MeV	$1.003 \times 10^2$	1.595				1.595	$1.603 \times 10^1$		
80.0 MeV	$1.527 \times 10^2$	1.236				1.236	$4.534 \times 10^1$		
100. MeV	$1.764 \times 10^2$	1.174				1.174	$6.198 \times 10^1$		
140. MeV	$2.218 \times 10^2$	1.117				1.117	$9.706 \times 10^1$		
200. MeV	$2.868 \times 10^2$	1.096				1.096	$1.515 \times 10^2$		
209. MeV	$2.968 \times 10^2$	1.096	0.000			1.096	<i>Minimum ionization</i>		
300. MeV	$3.917 \times 10^2$	1.109	0.000		0.000	1.110	$2.423 \times 10^2$		
400. MeV	$4.945 \times 10^2$	1.136	0.000		0.000	1.137	$3.314 \times 10^2$		
800. MeV	$8.995 \times 10^2$	1.232	0.001		0.000	1.234	$6.681 \times 10^2$		
1.00 GeV	$1.101 \times 10^3$	1.268	0.002		0.000	1.270	$8.278 \times 10^2$		
1.40 GeV	$1.502 \times 10^3$	1.323	0.003		0.000	1.326	$1.136 \times 10^3$		
2.00 GeV	$2.103 \times 10^3$	1.381	0.005	0.001	0.001	1.387	$1.577 \times 10^3$		
3.00 GeV	$3.104 \times 10^3$	1.445	0.008	0.003	0.001	1.458	$2.279 \times 10^3$		
4.00 GeV	$4.104 \times 10^3$	1.488	0.012	0.006	0.001	1.509	$2.953 \times 10^3$		
8.00 GeV	$8.105 \times 10^3$	1.584	0.031	0.024	0.003	1.642	$5.484 \times 10^3$		
10.0 GeV	$1.011 \times 10^4$	1.612	0.041	0.035	0.004	1.692	$6.684 \times 10^3$		
14.0 GeV	$1.411 \times 10^4$	1.652	0.062	0.057	0.005	1.777	$8.989 \times 10^3$		
20.0 GeV	$2.011 \times 10^4$	1.691	0.097	0.096	0.007	1.891	$1.226 \times 10^4$		
30.0 GeV	$3.011 \times 10^4$	1.732	0.158	0.170	0.011	2.072	$1.731 \times 10^4$		
40.0 GeV	$4.011 \times 10^4$	1.759	0.224	0.252	0.014	2.250	$2.194 \times 10^4$		
80.0 GeV	$8.011 \times 10^4$	1.819	0.507	0.616	0.027	2.971	$3.737 \times 10^4$		
100. GeV	$1.001 \times 10^5$	1.838	0.656	0.813	0.034	3.342	$4.371 \times 10^4$		
120. GeV	$1.197 \times 10^5$	1.853	0.805	1.008	0.040	3.707	<i>Muon critical energy</i>		
140. GeV	$1.401 \times 10^5$	1.865	0.963	1.218	0.047	4.095	$5.451 \times 10^4$		
200. GeV	$2.001 \times 10^5$	1.894	1.443	1.860	0.067	5.266	$6.741 \times 10^4$		
300. GeV	$3.001 \times 10^5$	1.927	2.262	2.932	0.100	7.223	$8.357 \times 10^4$		
400. GeV	$4.001 \times 10^5$	1.950	3.108	4.043	0.134	9.236	$9.579 \times 10^4$		
800. GeV	$8.001 \times 10^5$	2.006	6.594	8.600	0.270	17.472	$1.268 \times 10^5$		
1.00 TeV	$1.000 \times 10^6$	2.025	8.383	10.931	0.339	21.680	$1.370 \times 10^5$		
1.40 TeV	$1.400 \times 10^6$	2.052	11.966	15.578	0.480	30.078	$1.526 \times 10^5$		
2.00 TeV	$2.000 \times 10^6$	2.082	17.441	22.669	0.694	42.889	$1.693 \times 10^5$		
3.00 TeV	$3.000 \times 10^6$	2.117	26.573	34.451	1.061	64.203	$1.882 \times 10^5$		
4.00 TeV	$4.000 \times 10^6$	2.142	35.820	46.357	1.433	85.754	$2.016 \times 10^5$		
8.00 TeV	$8.000 \times 10^6$	2.202	73.072	94.210	2.974	172.460	$2.339 \times 10^5$		
10.0 TeV	$1.000 \times 10^7$	2.223	91.831	118.260	3.764	216.080	$2.442 \times 10^5$		
14.0 TeV	$1.400 \times 10^7$	2.253	129.246	166.250	5.385	303.137	$2.598 \times 10^5$		
20.0 TeV	$2.000 \times 10^7$	2.286	185.670	238.540	7.868	434.366	$2.762 \times 10^5$		
30.0 TeV	$3.000 \times 10^7$	2.324	279.694	358.798	12.155	652.974	$2.949 \times 10^5$		
40.0 TeV	$4.000 \times 10^7$	2.352	374.051	479.331	16.541	872.277	$3.081 \times 10^5$		
80.0 TeV	$8.000 \times 10^7$	2.419	751.448	961.805	34.837	1750.511	$3.398 \times 10^5$		
100. TeV	$1.000 \times 10^8$	2.442	940.260	1203.260	44.280	2190.244	$3.500 \times 10^5$		