Table 048: Muons in Cadmium

Z	A [g/mol]	ρ [g/cm^3]	I [eV]	a	$k = m_s$	x_0	x_1	$\overline{C}$	δ_0
48 (Cd)	112.411 (8)	8.650	469.0	0.24609	2.6772	0.1281	3.1667	5.2727	0.14

T	p [MeV/c]	Ionization	Brems	Pair prod [MeV cm^2/g]	Photonucl	Total	CSDA range [g/cm^2]
10.0 MeV	4.704×10^1	4.631				4.631	1.229×10^0
14.0 MeV	5.616×10^1	3.662				3.662	2.210×10^0
20.0 MeV	6.802×10^1	2.894				2.894	4.073×10^0
30.0 MeV	8.509×10^1	2.271				2.271	8.025×10^0
40.0 MeV	1.003×10^2	1.953				1.953	1.280×10^1
80.0 MeV	1.527×10^2	1.485				1.485	3.701×10^1
100. MeV	1.764×10^2	1.402				1.403	5.090×10^1
140. MeV	2.218×10^2	1.322				1.322	8.041×10^1
200. MeV	2.868×10^2	1.283				1.283	1.266×10^2
247. MeV	3.366×10^2	1.277				1.277	*Minimum ionization*
300. MeV	3.917×10^2	1.281	0.000		0.000	1.281	2.048×10^2
400. MeV	4.945×10^2	1.299	0.000		0.000	1.299	2.824×10^2
800. MeV	8.995×10^2	1.382	0.001		0.000	1.383	5.805×10^2
1.00 GeV	1.101×10^3	1.415	0.001		0.000	1.417	7.233×10^2
1.40 GeV	1.502×10^3	1.469	0.002	0.000	0.001	1.471	1.000×10^3
2.00 GeV	2.103×10^3	1.527	0.003	0.001	0.001	1.532	1.399×10^3
3.00 GeV	3.104×10^3	1.592	0.005	0.003	0.001	1.601	2.037×10^3
4.00 GeV	4.104×10^3	1.637	0.007	0.005	0.002	1.651	2.651×10^3
8.00 GeV	8.105×10^3	1.740	0.017	0.016	0.003	1.777	4.977×10^3
10.0 GeV	1.011×10^4	1.771	0.022	0.023	0.004	1.820	6.089×10^3
14.0 GeV	1.411×10^4	1.815	0.034	0.037	0.005	1.891	8.244×10^3
20.0 GeV	2.011×10^4	1.858	0.052	0.060	0.008	1.979	1.134×10^4
30.0 GeV	3.011×10^4	1.904	0.086	0.105	0.011	2.107	1.624×10^4
40.0 GeV	4.011×10^4	1.935	0.121	0.154	0.015	2.226	2.085×10^4
80.0 GeV	8.011×10^4	2.003	0.274	0.369	0.029	2.675	3.721×10^4
100. GeV	1.001×10^5	2.023	0.354	0.485	0.036	2.900	4.439×10^4
140. GeV	1.401×10^5	2.053	0.520	0.723	0.051	3.349	5.722×10^4
200. GeV	2.001×10^5	2.084	0.780	1.101	0.072	4.039	7.352×10^4
213. GeV	2.126×10^5	2.090	0.835	1.179	0.076	4.181	*Muon critical energy*
300. GeV	3.001×10^5	2.120	1.223	1.733	0.108	5.186	9.532×10^4
400. GeV	4.001×10^5	2.145	1.682	2.388	0.144	6.360	1.127×10^5
800. GeV	8.001×10^5	2.206	3.576	5.073	0.291	11.147	1.596×10^5
1.00 TeV	1.000×10^6	2.226	4.549	6.447	0.365	13.589	1.759×10^5
1.40 TeV	1.400×10^6	2.256	6.500	9.188	0.518	18.463	2.010×10^5
2.00 TeV	2.000×10^6	2.289	9.484	13.371	0.749	25.894	2.283×10^5
3.00 TeV	3.000×10^6	2.326	14.468	20.323	1.145	38.263	2.599×10^5
4.00 TeV	4.000×10^6	2.353	19.519	27.349	1.547	50.769	2.825×10^5
8.00 TeV	8.000×10^6	2.419	39.885	55.594	3.215	101.115	3.373×10^5
10.0 TeV	1.000×10^7	2.441	50.149	69.793	4.072	126.456	3.549×10^5
14.0 TeV	1.400×10^7	2.474	70.622	98.123	5.830	177.052	3.816×10^5
20.0 TeV	2.000×10^7	2.510	101.516	140.802	8.524	253.354	4.097×10^5
30.0 TeV	3.000×10^7	2.552	152.947	211.811	13.180	380.491	4.417×10^5
40.0 TeV	4.000×10^7	2.581	204.566	282.990	17.947	508.085	4.644×10^5
80.0 TeV	8.000×10^7	2.655	411.362	567.908	37.850	1019.777	5.189×10^5
100. TeV	1.000×10^8	2.679	514.940	710.500	48.130	1276.251	5.364×10^5