

**Table 048: Muons in Cadmium**

Z	A [g/mol]	$\rho$ [g/cm <sup>3</sup> ]	I [eV]	a	$k = m_s$	$x_0$	$x_1$	$\bar{C}$	$\delta_0$
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 <sup>2</sup> /g]	Photonucl	Total	CSDA range [g/cm <sup>2</sup> ]		
10.0 MeV	$4.704 \times 10^1$	4.631				4.631	$1.229 \times 10^0$		
14.0 MeV	$5.616 \times 10^1$	3.662				3.662	$2.210 \times 10^0$		
20.0 MeV	$6.802 \times 10^1$	2.894				2.894	$4.073 \times 10^0$		
30.0 MeV	$8.509 \times 10^1$	2.271				2.271	$8.025 \times 10^0$		
40.0 MeV	$1.003 \times 10^2$	1.953				1.953	$1.280 \times 10^1$		
80.0 MeV	$1.527 \times 10^2$	1.485				1.485	$3.701 \times 10^1$		
100. MeV	$1.764 \times 10^2$	1.402				1.403	$5.090 \times 10^1$		
140. MeV	$2.218 \times 10^2$	1.322				1.322	$8.041 \times 10^1$		
200. MeV	$2.868 \times 10^2$	1.283				1.283	$1.266 \times 10^2$		
247. MeV	$3.366 \times 10^2$	1.277				1.277	<i>Minimum ionization</i>		
300. MeV	$3.917 \times 10^2$	1.281	0.000		0.000	1.281	$2.048 \times 10^2$		
400. MeV	$4.945 \times 10^2$	1.299	0.000		0.000	1.299	$2.824 \times 10^2$		
800. MeV	$8.995 \times 10^2$	1.382	0.001		0.000	1.383	$5.805 \times 10^2$		
1.00 GeV	$1.101 \times 10^3$	1.415	0.001		0.000	1.417	$7.233 \times 10^2$		
1.40 GeV	$1.502 \times 10^3$	1.469	0.002	0.000	0.001	1.471	$1.000 \times 10^3$		
2.00 GeV	$2.103 \times 10^3$	1.527	0.003	0.001	0.001	1.532	$1.399 \times 10^3$		
3.00 GeV	$3.104 \times 10^3$	1.592	0.005	0.003	0.001	1.601	$2.037 \times 10^3$		
4.00 GeV	$4.104 \times 10^3$	1.637	0.007	0.005	0.002	1.651	$2.651 \times 10^3$		
8.00 GeV	$8.105 \times 10^3$	1.740	0.017	0.016	0.003	1.777	$4.977 \times 10^3$		
10.0 GeV	$1.011 \times 10^4$	1.771	0.022	0.023	0.004	1.820	$6.089 \times 10^3$		
14.0 GeV	$1.411 \times 10^4$	1.815	0.034	0.037	0.005	1.891	$8.244 \times 10^3$		
20.0 GeV	$2.011 \times 10^4$	1.858	0.052	0.060	0.008	1.979	$1.134 \times 10^4$		
30.0 GeV	$3.011 \times 10^4$	1.904	0.086	0.105	0.011	2.107	$1.624 \times 10^4$		
40.0 GeV	$4.011 \times 10^4$	1.935	0.121	0.154	0.015	2.226	$2.085 \times 10^4$		
80.0 GeV	$8.011 \times 10^4$	2.003	0.274	0.369	0.029	2.675	$3.721 \times 10^4$		
100. GeV	$1.001 \times 10^5$	2.023	0.354	0.485	0.036	2.900	$4.439 \times 10^4$		
140. GeV	$1.401 \times 10^5$	2.053	0.520	0.723	0.051	3.349	$5.722 \times 10^4$		
200. GeV	$2.001 \times 10^5$	2.084	0.780	1.101	0.072	4.039	$7.352 \times 10^4$		
213. GeV	$2.126 \times 10^5$	2.090	0.835	1.179	0.076	4.181	<i>Muon critical energy</i>		
300. GeV	$3.001 \times 10^5$	2.120	1.223	1.733	0.108	5.186	$9.532 \times 10^4$		
400. GeV	$4.001 \times 10^5$	2.145	1.682	2.388	0.144	6.360	$1.127 \times 10^5$		
800. GeV	$8.001 \times 10^5$	2.206	3.576	5.073	0.291	11.147	$1.596 \times 10^5$		
1.00 TeV	$1.000 \times 10^6$	2.226	4.549	6.447	0.365	13.589	$1.759 \times 10^5$		
1.40 TeV	$1.400 \times 10^6$	2.256	6.500	9.188	0.518	18.463	$2.010 \times 10^5$		
2.00 TeV	$2.000 \times 10^6$	2.289	9.484	13.371	0.749	25.894	$2.283 \times 10^5$		
3.00 TeV	$3.000 \times 10^6$	2.326	14.468	20.323	1.145	38.263	$2.599 \times 10^5$		
4.00 TeV	$4.000 \times 10^6$	2.353	19.519	27.349	1.547	50.769	$2.825 \times 10^5$		
8.00 TeV	$8.000 \times 10^6$	2.419	39.885	55.594	3.215	101.115	$3.373 \times 10^5$		
10.0 TeV	$1.000 \times 10^7$	2.441	50.149	69.793	4.072	126.456	$3.549 \times 10^5$		
14.0 TeV	$1.400 \times 10^7$	2.474	70.622	98.123	5.830	177.052	$3.816 \times 10^5$		
20.0 TeV	$2.000 \times 10^7$	2.510	101.516	140.802	8.524	253.354	$4.097 \times 10^5$		
30.0 TeV	$3.000 \times 10^7$	2.552	152.947	211.811	13.180	380.491	$4.417 \times 10^5$		
40.0 TeV	$4.000 \times 10^7$	2.581	204.566	282.990	17.947	508.085	$4.644 \times 10^5$		
80.0 TeV	$8.000 \times 10^7$	2.655	411.362	567.908	37.850	1019.777	$5.189 \times 10^5$		
100. TeV	$1.000 \times 10^8$	2.679	514.940	710.500	48.130	1276.251	$5.364 \times 10^5$		