

Table 1: Performance Results for Barrier\_5D\_mu0.1 Problem

Optimizer	Mean Final Value	Std Dev	Best Value	Worst Value	Mean Func Evals	Success Rate (%)	Mean Time (s)
<b>Adam-AMSGrad</b>	1.03e0	1.71e-2	1.01e0	1.07e0	2502.0	0.0	0.058
Adam-Robust	1.01e0	4.00e-3	1.00e0	1.01e0	2502.0	0.0	0.058
Adam	9.99e-1	9.02e-6	9.99e-1	9.99e-1	2502.0	0.0	0.052
Adam-WeightDecay	9.99e-1	2.90e-9	9.99e-1	9.99e-1	1316.6	0.0	0.029
L-BFGS-Conservative	9.99e-1	6.66e-9	9.99e-1	9.99e-1	599.6	0.0	0.015
Trust Region-Conservative	1.04e0	6.35e-2	9.99e-1	1.18e0	1250.3	0.0	0.009
GD	9.99e-1	2.58e-11	9.99e-1	9.99e-1	304.1	0.0	0.008
L-BFGS-Limited	1.00e0	7.64e-3	9.99e-1	1.03e0	182.4	0.0	0.004
Trust Region-Precise	1.02e0	1.49e-2	1.00e0	1.07e0	220.3	0.0	0.002
GD-WeightDecay	9.99e-1	1.40e-5	9.99e-1	9.99e-1	49.2	0.0	0.002
Adam-Fast	1.28e0	5.59e-2	1.19e0	1.40e0	31.7	0.0	0.001
GD-Nesterov	1.26e0	2.76e-2	1.22e0	1.30e0	20.4	0.0	0.001
GD-Momentum	1.37e0	9.02e-2	1.28e0	1.64e0	21.0	0.0	0.001
Trust Region-Adaptive	1.10e0	1.36e-1	9.99e-1	1.37e0	56.7	0.0	0.000
Trust Region-Standard	1.32e0	4.17e-1	9.99e-1	2.27e0	18.4	0.0	0.000
Trust Region-Aggressive	1.86e0	2.57e-1	1.53e0	2.39e0	6.8	0.0	0.000