

California Electrical Examinations Statistical Overview 2023

Background: PSI began administering the following California Electrical examinations in 2009: General Electrician, Residential Electrician, Non-Residential Lighting Technician, Fire-Life Safety Technician, and Voice Data Video Technician. PSI currently administers both English and Spanish versions of these examinations.

Statistical Review of the Examinations: PSI recently conducted a statistical review of the California Electrical examinations from January 1, 2023 to December 31, 2023. The statistical results are compiled in the table below.

Exam	Annual # of Attempts	Test Length	First Time Pass Rate	Repeat Pass Rate	Average P-Value	Average PBIS	Average Item N
General Electrician	4150	100	51.22%	39.75%	0.68	0.30	1035
General Electrician – SPANISH	5	100	100.00%	100.00%	0.63	0.18	3
Residential Electrician	204	80	49.24%	40.28%	0.66	0.30	105
Residential Electrician - SPANISH	7	80	0.00%	0.00%	0.53	0.19	2
Non-Residential Lighting Technician	19	50	53.85%	16.67%	0.68	0.32	13
Non-Residential Lighting Technician - Spanish	0	50	N/A	N/A	N/A	N/A	N/A
Fire-Life Safety Technician	257	50	52.28%	56.67%	0.75	0.29	85
Fire-Life Safety Technician – Spanish	0	50	N/A	N/A	N/A	N/A	N/A
Voice Data Video Technician	187	50	42.28%	59.38%	0.68	0.25	59
Voice Data Video Technician - SPANISH	0	50	N/A	N/A	N/A	N/A	N/A

The statistics listed in each of the table's columns is described below:

Annual # of Attempts: The approximate number of candidates (both first time candidates and repeat candidates) taking the exam each year.

Test Length: The number of items in the test.

First Time Pass Rate: The passing percentage of those candidates taking the test for the first time.

Repeat Pass Rate: The passing percentage of those candidates taking the test for the second (or more) time.

Average P-Value: The average number of candidates that get each test question correct

Average PBIS: The biserial correlation is an indication of how well each item differentiates between the good candidates and the poorer candidates. These correlations can range from -1.00 (negatively correlated) to 0 (no correlation) to +1.00 (positive correlation). For exams with a high enough sample size (over 30), an average PBIS over 0.20 is acceptable, and an average PBIS over 0.30 is considered to be good.

Average Item N: The average number of candidates that have taken each item. Statistics generated from sample sizes below 30 are typically regarded as being unstable.

N/A: Not enough candidate data to calculate meaningful averages