

California Electrical Examinations Statistical Overview 2022

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, 2022 to December 31, 2022. 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	3894	100	52.95%	38.02%	0.68	0.30	1036
General Electrician – SPANISH	7	100	0.00%	20.00%	0.63	0.18	4
Residential Electrician	228	80	43.70%	41.28%	0.66	0.30	105
Residential Electrician - SPANISH	3	80	N/A	33.33%	0.53	0.19	2
Non-Residential Lighting Technician	21	50	66.67%	53.33%	0.68	0.32	13
Non-Residential Lighting Technician - Spanish	1	50	N/A	100.00%	0.70	0.00	1
Fire-Life Safety Technician	339	50	66.84%	63.7%	0.73	0.28	145
Fire-Life Safety Technician – Spanish	0	50	N/A	N/A	N/A	N/A	N/A
Voice Data Video Technician	224	50	45.52%	60.67%	0.68	0.25	96
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