

California Electrical Examinations Statistical Overview 2020

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, 2020 to December 31, 2020. 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	3322	100	53.29%	36.15%	.668	.308	793.13
General Electrician – SPANISH	8	100	NA	NA	NA	NA	NA
Residential Electrician	163	80	26.83%	33.33%	.632	.295	56.02
Residential Electrician - SPANISH	6	80	NA	NA	NA	NA	NA
Non-Residential Lighting Technician	55	50	45.45%	63.64%	.645	.321	28.89
Non-Residential Lighting Technician - Spanish	3	50	NA	NA	NA	NA	NA
Fire-Life Safety Technician	198	50	65.69%	66.67%	.738	.258	86.75
Fire-Life Safety Technician – Spanish	0	50	NA	NA	NA	NA	NA
Voice Data Video Technician	92	50	43.75%	63.64%	.691	.236	41.81
Voice Data Video Technician - SPANISH	0	50	NA	NA	NA	NA	NA

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