California Electrical Examinations
Statistical Overview 2021

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, 2021 to December 31, 2021. 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	3754	100	54.23%	37.40%	0.69	0.31	988
General Electrician – SPANISH	14	100	14.29%	0.0%	0.46	0.26	9
Residential Electrician	193	80	44.25%	38.75%	0.66	0.33	90
Residential Electrician - SPANISH	12	80	20.00%	14.29%	0.58	0.23	8
Non-Residential Lighting Technician	39	50	50.00%	48.00%	0.67	0.32	24
Non-Residential Lighting Technician - Spanish	5	50	N/A	40.00%	0.65	0.08	3
Fire-Life Safety Technician	258	50	52.41%	53.10%	0.71	0.27	112
Fire-Life Safety Technician – Spanish	0	50	N/A	N/A	N/A	N/A	N/A
Voice Data Video Technician	183	50	57.14%	43.86%	0.68	0.27	83
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