

California Electrical Examinations Statistical Overview 2014

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 November 2011 to June 2014. 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	4,991	100	47.29%	36.72%	0.6804	0.311	5,621
General Electrician – SPANISH	32	100	0%	0%	0.4405	0.199	43
Residential Electrician	269	80	29.24%	21.92%	0.5710	0.285	307
Residential Electrician - SPANISH	27	80	5.26%	3.70%	0.4424	0.273	28
Non-Residential Lighting Technician	68	50	59.11%	51.11%	0.6642	0.363	124
Non-Residential Lighting Technician - Spanish	11	50	14.29%	30.00%	0.4927	0.282	16
Fire-Life Safety Technician	312	50	80.59%	61.73%	0.6859	0.301	478
Fire-Life Safety Technician – Spanish	0	50	N/A	N/A	N/A	N/A	N/A
Voice Data Video Technician	143	50	83.48%	66.67%	0.7360	0.388	221
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. Note: The First Time Pass Rates are based on the current versions of the examination that became operational on January 1, 2011.

Repeat Pass Rate: The passing percentage of those candidates taking the test for the second (or more) time. Note: The Repeat Pass Rates are based on the current versions of the examination that became operational on January 1, 2011.

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 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.