Crioulo Lageano is a Brazilian native bovine breed developed from those brought by European colonizers. Cooking causes changes in meat and color is a primary indicator of beef’s degree of doneness. Survival analysis is a set of statistical procedures for data analysis for which the outcome variable is time until an event, where time can be replaced by other variables. Optimum internal cooking temperatures of six commercial cuts from Crioulo Lageano breed was determined using survival analysis, based on consumers’ acceptance or rejection. At least 30 regular beef consumers aged between 20 and 45 years received beef samples of each cut cooked until six internal temperatures (55, 60, 63, 71, 77 and 82°C), coded with three random digits, and were asked if they would normally consume each sample. Standard distributions were compared and graphical techniques besides loglikelihood values comparison were applied to model choose. Model’s parameters and its 95% confidence intervals were estimated by maximizing the likelihood functions. The optimum was the temperature where sum of rejection due to undercooked and rejection due to overcooked was a minimum. Topside, tenderloin, rum cap and eye round data fitted best in the lognormal model and so did rib eye and sirloin data for Weibull model. Differences in consumer perceptions about optimum degree of doneness among cuts were accessed. The estimated optimums, its confidence intervals and respective sum of rejections (SR) were: 73.5±2.2°C, SR=7.05% (topside); 70.1±3.8°C, SR=0.38% (sirloin); 68.2±6.4°C, SR=4% (rum cap); 76.5±2.3°C, SR=5.25% (eye round); 82.7±5.1°C, SR=18.6% (rib eye); 69.6±2.9°C, SR=2.42 (tenderloin).