



**CALIFORNIA STATE SCIENCE FAIR  
2016 PROJECT SUMMARY**

<b>Name(s)</b> Ana Daisy Torres; Arien Alexandra Valencia	<b>Project Number</b> <b>S0922</b>
<b>Project Title</b> <b>How Does Light Intensity Affect the Resistance of a Photoresistor?</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> This project examines how photo resistors work and examines new applications for them. It investigates the relationship between light intensity and the resistance of a photo resistor.</p> <p><b>Methods/Materials</b> The materials needed for this experiment are: photocell, incandescent light bulb (4W, 15W, 25W, 40W, and 60W), multi meter, laptop, paper, and pencil. Our procedure starts with setting up the experiment based on the following diagram:</p> <p><b>Results</b> By taking the line of the best fit, one can conclude that light intensity (measured in LUX) is inversely proportional to electrical resistance (K&amp;#8486;). When light intensity increases the electrical resistance of the photocell decreases. We only tested light intensity values between 20 to 850 LUX. We assume that this linear relationship will continue if we expand our light intensity scale. Hence, we demonstrated that our hypothesis was correct. QED.</p> <p><b>Conclusions/Discussion</b> We then found the LUX (light intensity) of each light bulb and graphed our data. On this graph LUX is the independent variable and the photocell's electrical resistance is the dependent variable:</p>	
<b>Summary Statement</b> As concluded in our project the more the light intensity is the less the resistance it has and vice versa.	
<b>Help Received</b> Mr.Incze, Mrs.Wilkonson and AHS robotics club	