

Element I: Testing, data collection and analysis

The visibility team was unable to perform the Material Reflectance Test on its intended date because of technical complications described in the following Engineering Notebook entry:

90
PAGE

1
BOOK NO.

Forklift Safety
PROJECT

Testing I obtained a laptop from the physics department and [redacted] (Contact 7) which has the Science Workshop software installed on it. I logged onto the computer within range of the wireless routers in the physics classroom because otherwise the laptops cannot connect to the school network and log in.

I set up the laptop, Science Workshop Interface, and Pasco Scientific CI-6504A light sensor for the performance of the Material Reflectance Test written on 12/19/12. I acquired a mirror sample ~~at~~ from the classroom and a laser pointer from [redacted] (Contact 12). I set up the testing equipment and materials with assistance from Ian.

I submitted my Material Reflectance Test for ~~at~~ authorization and it was approved.

[redacted] and I were unable to perform the test because the laptop was unable to open the Science Workshop software ^{or any programs} when not in range of the physics classroom routers.

I returned the borrowed equipment to the physics department.

I told [redacted] some of the major milestones of the visibility component of the project including ones that ~~we~~ ^{we} had met already and ones that we still need to complete before the end of the quarter. The purpose of telling him this is so that he can update the schedule.

I talked with [redacted] about the possibility of using her laptop for the ~~at~~ Material Reflectance Test. She will check to see if her laptop has a serial port to find out if this could work.

INVENTOR SIGNATURE [redacted] PRINTED NAME [redacted] DATE 12/20/12

DISCLOSED TO AND UNDERSTOOD BY [redacted] PRINTED NAME [redacted] DATE

Picture of [redacted student name] Engineering Notebook entry on 12/20/12

Later, after speaking with [redacted instructor name], the team realized that this test was not necessary to the development of a viable visibility design because the problem statement indicates that the goal for the project is to improve the safety of forklifts by improving the visibility and stability. The team realized that the decision matrix that this test was intended to determine information for was not necessary, as the purpose of our project is not to reinvent an alternative to a mirror.

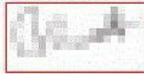
[redacted instructor name]

The team performed the Mirror Angle Test on 5/1/13. The details of this test may be found in Element H. The data was collected in a printout of the test document featured below:

The analysis of the results of the Mirror Angle Test performed on 5/1/13 is included in the following page from [redacted student name] Engineering Notebook:

2. Ensure that all initial conditions are met
3. Ensure that all safety controls are in place
4. Angle the laser pointer upward until a degree measurement off from the 90° mark on the protractor sheet can be discerned.
5. Record this measurement in the Angle Difference data table.
6. Deactivate the laser pointer.
7. Repeat steps 4 through 6 for a total of five trials.
8. Calculate the average of the data in the Angle Difference data table.

Authorized Signature:



01 May 2013


Data:



Angle Difference	
Trial Number	Angle Measurement from 90°
1	2° to the right
2	1° to the right
3	4° to the left
4	2° to the right
5	4° to the left

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BOOK NO.

Forklift S
PROJECT

I submitted the copy of the Mirror on my flash drive and that Mr.  (Contact-13) for approval. One recommendation, I changed "Any of the Control scene Safety Concerns section a compliance."

I submitted the revised version to Mr.  for approval. Ian and I performed the app as described in the testing process we collected was recorded the test which is in the To calculate the average of the results, I assumed that on the right of 90° was a positive that any angle measurement negative. I calculated the of 90°. This resulting a device prototype has passed Test because the average from 90° is 5° or less. I an error in the lab which in accuracy of the results in involved in angling the laser upward.  and I both two of the trials were handled the laser pointer. performed when I had related error may have in holding the laser point second tester to make a c on the protractor sheet. For

INVENTOR SIGNATURE



PRINTED NAME



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Picture of [redacted student name] Engineering
Notebook entry on 5/1/13

The following is an analysis of the potential failure of the stability solution, created by [redacted student name] on 3/26/2013.