AME 20216 – Lab Report Score Sheet

A6 and A7 – Solar Panels

NDID#: _____

Lab Section (Day/time): _____

General Requirements (12 points)

Item and Description	Points Awarded	Possible Points
Overall quality of writing (spelling, grammar, readability and discussion)		5
Format (font, margins, page numbers, grading sheet, heading, abstract/summary, findings, and conclusion)		3
Technical Elements (numbered equations, variables, and figures)		3
References (2 sources must be included in the reference section and cited in the text)		1
TOTAL		12

Overall quality of writing – The student must clearly explain the procedure and *discuss* the results using college-level English. Reports should avoid long-winded descriptions of the experimental method and focus on discussing the results per the suggested talking points in the lab handout.

Format

- Use a 12 point "serifed" font such as Times New Roman.
- Document should be double-spaced.
- Document should have 1" margins in all directions.
- Page numbers are required centered at bottom of screen.
- Equations must be numbered.
- All variables must be italicized.
- All variables in an equations must be defined (i.e. "where *c* is the speed of sound").
- Plots should always have axes clearly labeled with units.
- Plots should always be centered with captions beneath labeled Fig. 1, etc.
- Tables should always be centered with captions above labeled Table 1, etc..
- Captions should be the same font as the rest of the document.
- References should follow the ASME format. (https://www.asme.org/shop/proceedings/conference-publications/references)

References – The report must include 2 references. These can be data sheets from Prof. Ott's website, articles from the Internet, the textbook, etc.

Additional information on technical writing and proper format can be found in Chapters 15 and 16 of the textbook (*Dunn*).

Specific Requirements for A6 and A7 (23 points)

Note that any curve fit or theoretical curve must be plotted as a *smooth, continuous* line, and the equation for said curve *must* be included as a numbered equation in the main text with all the variables defined. For more details on any of the items below, please refer to the lab handout.

Item and Description	Points Awarded	Possible Points
Plot of measured efficiency vs. load for the three different Variac settings		4
A table containing the maximum power, load resistance that yielded the maximum power, and estimated internal resistance of the solar panel for the three different Variac settings		2
A plot of measured irradiance vs. distance on a *linear scale* for the three different Variac settings		3
A log-log plot of irradiance vs. distance with linear curve fits and appropriate discussion of the inverse square-law for the three different Variac settings		3
Plot and/or table of data from your independent measurements		3
An original schematic illustrating your independent experimental set-up		3
A brief case study of the student's choosing (Analysis must contain **quantitative** information*.)		5
TOTAL		23

* For the case study, a bland, qualitative discussion of energy policy is NOT acceptable and will be awarded ZERO points.

OVERALL SCORE _____ / 35