| Info |
|---|
| Matthew Brown |
| Engineering 115 |
| Lab Section Thursday 2-5 |
| 10/6/2011 |

| Parameters | | |
|---|---|---|
| Calibration factor | 4.12 | |
| Cost of Power | 12 | cents/KWh |
| Life expectancy of CFL | 6000 | hours |
| Life expectancy of PV | 175200 | hours |
| Amount of sunlight | 371.7888 | watts/m2 |
| Energy to run CFL | 19.8 | watts |
| Energy to run incandescent | 74.3 | watts |
| Number of CFL's | 2500 | bulbs |
| Solar Power Efficieny | 0.108 | % |
| Amount of solar panels | 14.28 | $m^2$ |

| PV Analysis | | |
|---|---|---|
| Measurement Number | Pyranometer (mv) | Solar Power (W/m2) |
| 1 | 243.6 | 1003.632 |
| 2 | 10.6 | 43.672 |
| 3 | 52.5 | 216.3 |
| 4 | 143.9 | 592.868 |
| 5 | 0.6 | 2.472 |
| Average W/m2 | | 371.7888 |

| Bulb Analysis | | |
|---|---|---|
| Type of Bulb | Rated Power of Bulb (W) | Measured Power of Bulb (W) |
| CFL | 20 | 19.8 |
| Incandescent | 75 | 74.3 |

| PV Savings | | |
|---|---|---|
| Average Solar Radiation (W/m2) | Amount of energy Produced (W/m2) | Total Energy Captured with Efficiency(W) |
| 371.7888 | 5309.144064 | 573.3875589 |

| Bulb Savings | | |
|---|---|---|
| Type of Bulb | Measured Power (W) | Convert to KWh |
| CFL | 19.8 | 247769.28 |
| Incandescent | 74.3 | 929760.48 |

| Conditions of Mearsurement |
|---|
| Direct Sunlight |
| Shade |
| Partial Shade |
| Indirect Sunlight |
| Dark |
| |

| Energy per hour created by PV (Wh) | Convert to KWh | Convert to Dollars ($) |
|---|---|---|
| 100457500.3 | 100457.5003 | 1,205,490.00 |

| Convert to dollars ($) | Difference in cost ($) |
|---|---|
| 2,973,231.36 | 8,183,894.40 |
| 11,157,125.76 | |