Project Timeline: Students designed and built the car in two years from fall 2012 to summer 2014
Project Budget: $350,000 raised by team members (including value of cash/product donations)
Street Legality: DOT registered vehicle
Vehicle Weight: 398lb car + 176lb driver = 574lb
Solar Array: 391 cells, $14ea, 65ft², 25% efficient SunPower C60 monocrystalline Si, 1.35kWh array
Batteries: 210 Boston Power Swing 3.3kWh Li-ion batteries, 42lb, 4.1kWh capacity, 50.4V to charge
Motor: Single rear mounted 10HP peak NuGen Mobility SCM150 3-phase AC synchronous in hub motor
Aerodynamics: Cd=1.1, CdA=0.067m² (from ANSYS CFD computer simulation)
Speed: 75MPH top speed, 45MPH exclusively on solar, 45-55MPH typical highway race speed
Driving Range: All day if sunny, up to 150 miles at 45MPH
Body Material: Prepreg carbon fiber composite with W thick Nomex honeycomb core
Frame: 1” OD 6061-T6 thin walled (0.065”-0.125”) aluminum tubular space frame
Suspension: 3 wheel vehicle, double wishbone pull rod (front), single trailing arm (rear)
Tires: 18.5” diameter 90PSI Bridgestone Ecopia slick tires
Brakes: Regenerative brake (rear), hydraulic actuated disk brakes (front), parking brake
History: PrisUm is the only team that has raced a new vehicle in all 12 cross-country American Solar Challenges
FSGP ’14: 5th Place in the 2014 Formula Sun Grand Prix track race at Circuit of the Americas, TX, fastest lap time
ASC ’14: 3rd Place in the 2014 American Solar Challenge from Austin, TX to Minneapolis, MN (1700 miles)
FSGP ’15: 2nd Place in the 2015 Formula Sun Grand Prix track race at Circuit of the Americas, TX, fastest lap time
Honors: Best Mechanical Design award for 2014 American Solar Challenge

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IOWA STATE UNIVERSITY
SOLAR CAR TEAM