```
Boolean: trait
  % This trait is given for documentation only.
  % It is implicit in LSL.
  introduces
    true, false: → Bool
    ¬__: Bool → Bool
    __∧ __, __∨__, __⇒__: Bool, Bool → Bool
  asserts
    Bool generated by true, false
    ∀ b: Bool
      ¬ true == false;
      ¬ false == true;
      true ∧ b == b;
      false ∧ b == false;
      true ∨ b == true;
      false ∨ b == b;
      true ⇒ b == b;
      false ⇒ b == true
  implies
    AC (∧ , Bool),
    AC (∨, Bool),
    Distributive (∨ for +, ∧ for *, Bool for T),
    Distributive (∧ for +, ∨ for *, Bool for T),
    Involutive (¬__, Bool),
    Transitive (⇒ for ◇, Bool for T)
    ∀ b1, b2, b3: Bool
      ¬(b1 ∧ b2) == ¬b1 ∨ ¬b2;
      ¬(b1 ∨ b2) == ¬b1 ∧ ¬b2;
      b1 ∨ (b1 ∧ b2) == b1;
      b1 ∧ (b1 ∨ b2) == b1;
      b2 ∨ ¬b2;
      (b1 = b2) ∨ (b1 = b3) ∨ (b2 = b3);
      b1 ⇒ b2 == ¬b1 ∨ b2
```