```
equivalence_weakening_lemma  THM

⊢  ∀eq:{T=₂}, f:{T≡₂}, x,y:T. eq(x,y) ⇒ f(x,y)
| by RepeatFor 5 (Analyze 0)
|
1. T : Type
2. eq : {T=₂}
3. f : {T≡₂}
4. x : T
5. y : T
⊢  eq(x,y) ⇒ f(x,y)  by DiscreteEq 2 THEN Analyze 0
|
3. eq ∈ T→T→𝔹
4. ∀x,y:T. eq(x,y) ⟺ x = y
5. f : {T≡₂}
6. x : T
7. y : T
8. eq(x,y)
⊢  f(x,y)  by FwdThru 4 [8] THEN Equivalence 5
|
6. f ∈ T→T→𝔹
7. ∀x:T. f(x,x)
8. ∀x,y:T. f(x,y) ⟺ f(y,x)
9. ∀x,y,z:T. f(x,y) ⇒ f(y,z) ⇒ f(x,z)
10. x : T
11. y : T
12. eq(x,y)
13. x = y
⊢  f(x,y)  by HypSubst -1 0 THEN Witness7 y THEN Trivial
END
```