```
entry:
 %call.i = call i32 @rand() #7
 %rem.i = srem i32 %call.i, 5
 %call.i9 = call i32 @rand() #7
 %rem.i10 = srem i32 %call.i9, 5
 %add = add nsw i32 %rem.i10, %rem.i
 %call3 = call nonnull align 8 dereferenceable(8)
 ... %"class.std::basic_ostream"* @_ZNSolsEi(%"class.std::basic_ostream"* nonnull
 ... align 8 dereferenceable(8) @_ZSt4cout, i32 %add)
 %i = bitcast %"class.std::basic_ostream"* %call3 to i8**
 %vtable.i = load i8*, i8** %i, align 8, !tbaa !3
 %vbase.offset.ptr.i = getelementptr i8, i8* %vtable.i, i64 -24
 %i1 = bitcast i8* %vbase.offset.ptr.i to i64*
 %vbase.offset.i = load i64, i64* %i1, align 8
 %i2 = bitcast %"class.std::basic_ostream"* %call3 to i8*
 %_M_ctype.i.idx.i = add nsw i64 %vbase.offset.i, 240
 %_M_ctype.i.i = getelementptr inbounds i8, i8* %i2, i64 %_M_ctype.i.idx.i
 %i3 = bitcast i8* %_M_ctype.i.i to %"class.std::ctype"**
 %i4 = load %"class.std::ctype"*, %"class.std::ctype"** %i3, align 8, !tbaa !6
 %tobool.not.i.i.i = icmp eq %"class.std::ctype"* %i4, null
 br i1 %tobool.not.i.i.i, label %if.then.i.i.i, label
 ... %_ZSt13__check_facetISt5ctypeIcEERKT_PS3_.exit.i.i
```

T	F

```
if.then.i.i.i:
 call void @_ZSt16__throw_bad_castv() #8
 unreachable
```

```
_ZSt13__check_facetISt5ctypeIcEERKT_PS3_.exit.i.i:
 %_M_widen_ok.i.i.i = getelementptr inbounds %"class.std::ctype",
 ... %"class.std::ctype"* %i4, i64 0, i32 8
 %i5 = load i8, i8* %_M_widen_ok.i.i.i, align 8, !tbaa !11
 %tobool.not.i3.i.i = icmp eq i8 %i5, 0
 br i1 %tobool.not.i3.i.i, label %if.end.i.i.i, label %if.then.i4.i.i
```

T	F

```
if.end.i.i.i:
 call void @_ZNKSt5ctypeIcE13_M_widen_initEv(%"class.std::ctype"* nonnull
 ... align 8 dereferenceable(570) %i4)
 %i7 = bitcast %"class.std::ctype"* %i4 to i8 (%"class.std::ctype"*, i8)***
 %vtable.i.i.i = load i8 (%"class.std::ctype"*, i8)**, i8
 ... (%"class.std::ctype"*, i8)*** %i7, align 8, !tbaa !3
 %vfn.i.i.i = getelementptr inbounds i8 (%"class.std::ctype"*, i8)*, i8
 ... (%"class.std::ctype"*, i8)** %vtable.i.i.i, i64 6
 %i8 = load i8 (%"class.std::ctype"*, i8)*, i8 (%"class.std::ctype"*, i8)**
 ... %vfn.i.i.i, align 8
 %call.i.i.i = call signext i8 %i8(%"class.std::ctype"* nonnull align 8
 ... dereferenceable(570) %i4, i8 signext 10)
 br label %_ZSt4endlIcSt11char_traitsIcEERSt13basic_ostreamIT_T0_ES6_.exit
```

```
if.then.i4.i.i:
 %arrayidx.i.i.i = getelementptr inbounds %"class.std::ctype",
 ... %"class.std::ctype"* %i4, i64 0, i32 9, i64 10
 %i6 = load i8, i8* %arrayidx.i.i.i, align 1, !tbaa !13
 br label %_ZSt4endlIcSt11char_traitsIcEERSt13basic_ostreamIT_T0_ES6_.exit
```

```
_ZSt4endlIcSt11char_traitsIcEERSt13basic_ostreamIT_T0_ES6_.exit:
 %retval.0.i.i.i = phi i8 [ %i6, %if.then.i4.i.i ], [ %call.i.i.i,
 ... %if.end.i.i.i ]
 %call1.i = call nonnull align 8 dereferenceable(8)
 ... %"class.std::basic_ostream"* @_ZNSo3putEc(%"class.std::basic_ostream"*
 ... nonnull align 8 dereferenceable(8) %call3, i8 signext %retval.0.i.i.i)
 %call.i.i = call nonnull align 8 dereferenceable(8)
 ... %"class.std::basic_ostream"* @_ZNSo5flushEv(%"class.std::basic_ostream"*
 ... nonnull align 8 dereferenceable(8) %call1.i)
 ret i32 0
```

CFG for 'main' function