

```
%8:  
%9 = sext i32 %2 to i64  
%10 = icmp slt i64 %9, 256  
%11 = select i1 %10, i64 %9, i64 256  
%mul.i.i = shl i64 %5, 8  
%cmp561.i = icmp sgt i32 %3, 0, !llvm.access.group !12  
%wide.trip.count.i = zext i32 %3 to i64, !llvm.access.group !12  
%12 = icmp ugt i64 %11, 1  
%umax = select i1 %12, i64 %11, i64 1  
br label %preregion_for_entry.entry.i
```

```
preregion for entry.entry.i:  
%_local_id_x.0 = phi i64 [ 0, %8 ], [ %27, %if.end.loopexit.i ]  
%add1.i.i = add i64 %_local_id_x.0, %mul.i.i, !llvm.access.group !12  
%conv.i = trunc i64 %add1.i.i to i32, !llvm.access.group !12  
%mul.i = mul nsw i32 %conv.i, %2, !llvm.access.group !12  
%sext.i = shl i64 %add1.i.i, 32, !llvm.access.group !12  
%13 = ashr exact i64 %sext.i, 32, !llvm.access.group !12  
%14 = sext i32 %mul.i to i64, !llvm.access.group !12  
br label %for.body.i, !llvm.access.group !12
```

```
for.body.i:  
%indvars.iv.next70.i5 = phi i64 [ %indvars.iv.next70.i, %for.end.i ], [ %13,  
... %preregion_for_entry.entry.i ]  
%15 = add nsw i64 %indvars.iv.next70.i5, %14, !llvm.access.group !12  
%arrayidx.i = getelementptr inbounds float, float* %0, i64 %15,  
... !llvm.access.group !12  
store float 0.000000e+00, float* %arrayidx.i, align 4, !tbaa !14,  
... !llvm.access.group !12  
br i1 %cmp561.i, label %for.body7.i.preheader, label %for.end.i,  
... !llvm.access.group !12
```

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```
for.body7.i.preheader:  
br label %for.body7.i
```

```
for.body7.i:  
%indvars.iv.next.i3 = phi i64 [ %indvars.iv.next.i, %for.body7.i ], [ 0,  
... %for.body7.i.preheader ]  
%16 = phi float [ %23, %for.body7.i ], [ 0.000000e+00,  
... %for.body7.i.preheader ]  
%17 = mul nsw i64 %indvars.iv.next.i3, %9, !llvm.access.group !12  
%18 = add nsw i64 %17, %13, !llvm.access.group !12  
%arrayidx11.i = getelementptr inbounds float, float* %1, i64 %18,  
... !llvm.access.group !12  
%19 = load float, float* %arrayidx11.i, align 4, !tbaa !14,  
... !llvm.access.group !12  
%20 = add nsw i64 %17, %indvars.iv.next70.i5, !llvm.access.group !12  
%arrayidx15.i = getelementptr inbounds float, float* %1, i64 %20,  
... !llvm.access.group !12  
%21 = load float, float* %arrayidx15.i, align 4, !tbaa !14,  
... !llvm.access.group !12  
%22 = fmul float %19, %21, !llvm.access.group !12  
%23 = fadd float %16, %22, !llvm.access.group !12  
store float %23, float* %arrayidx.i, align 4, !tbaa !14, !llvm.access.group  
... !12  
%indvars.iv.next.i = add nuw nsw i64 %indvars.iv.next.i3, 1,  
... !llvm.access.group !12  
%exitcond.not.i = icmp eq i64 %indvars.iv.next.i, %wide.trip.count.i,  
... !llvm.access.group !12  
br i1 %exitcond.not.i, label %for.end.i.loopexit, label %for.body7.i,  
... !llvm.loop !18, !llvm.access.group !12
```

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```
for.end.i.loopexit:  
%.lcssa = phi float [ %23, %for.body7.i ]  
br label %for.end.i
```

```
for.end.i:  
%24 = phi float [ 0.000000e+00, %for.body.i ], [ %.lcssa,  
... %for.end.i.loopexit ]  
%25 = mul nsw i64 %indvars.iv.next70.i5, %9, !llvm.access.group !12  
%26 = add nsw i64 %25, %13, !llvm.access.group !12  
%arrayidx28.i = getelementptr inbounds float, float* %0, i64 %26,  
... !llvm.access.group !12  
store float %24, float* %arrayidx28.i, align 4, !tbaa !14,  
... !llvm.access.group !12  
%indvars.iv.next70.i = add nsw i64 %indvars.iv.next70.i5, 1,  
... !llvm.access.group !12  
%exitcond75.not.i = icmp eq i64 %indvars.iv.next70.i, %9, !llvm.access.group  
... !12  
br i1 %exitcond75.not.i, label %if.end.loopexit.i, label %for.body.i,  
... !llvm.loop !20, !llvm.access.group !12
```

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```
if.end.loopexit.i:  
%27 = add nuw i64 %_local_id_x.0, 1  
%exitcond.not = icmp eq i64 %27, %umax  
br i1 %exitcond.not, label %covar_kernel.exit, label  
... %preregion_for_entry.entry.i, !llvm.loop !21
```

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```
covar_kernel.exit:  
ret void
```

CFG for '\_pocl\_kernel\_covar\_kernel' function