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0000
%mem = getelementptr inbounds %struct.jpg_decompress_struct,
    @struct.jpg_decompress_struct, %cinfo, 64 0, 132 1
%0 = load %struct.jpg_memory_mgr*, %struct.jpg_memory_mgr*, %mem, align 8,
    !tbaa 12
%0.addr.small = getelementptr inbounds %struct.jpg_memory_mgr,
    @struct.jpg_memory_mgr, %0, 64 0, 132 1
%1 = load 18* (%struct.jpg_common_struct*, 132, 64 0, 18*)
%struct.jpg_common_struct*, 132, 64 0, 18*) = %0.addr.small, align 8, !tbaa 110
%2 = lhrast %struct.jpg_decompress_struct* %cinfo to
    %struct.jpg_common_struct*
%call = call @8* %1 (%struct.jpg_common_struct*, %2, 132 1, 64 256) 44
%upsampled = getelementptr inbounds %struct.jpg_decompress_struct,
    %struct.jpg_decompress_struct, %cinfo, 64 0, 132 41
%3 = lhrast %struct.jpg_upsample** %upsampled to 8**
store 18* %call, 8** %3, align 8, !tbaa 112
%start_posel = lhrast 8* %call to void (%struct.jpg_decompress_struct*)**
store void (%struct.jpg_decompress_struct*)* @start_posel, upsample, void
%upsampled = getelementptr inbounds 18, 8* %call, 64 8
%4 = lhrast 18* %upsampled to void (%struct.jpg_decompress_struct*, 8***,
    132*, 132*, 64*, 132*, 257*)
store void (%struct.jpg_decompress_struct*, 18***, 132*, 132*, 18***, 132*,
    132*)* %upsampled, void (%struct.jpg_decompress_struct*, 18***, 132*, 132*,
    18***, 132*, 132*)* %4, align 8, !tbaa 117
%need_context_rows = getelementptr inbounds 18, 8* %call, 64 16
%5 = lhrast 18* %need_context_rows to 132*
store 132 0, 132* %5, align 8, !tbaa 118
@CCT00401, sampling = getelementptr inbounds %struct.jpg_decompress_struct,
    @struct.jpg_decompress_struct, %cinfo, 64 0, 132 56
%6 = load 132, 132* @CCT00401, sampling, align 8, !tbaa 119
%0.addr.comp_eq = 132 66 6
br 11 %0.addr.comp_eq, label %if.end, label %if.then

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0000
%err = getelementptr inbounds %struct.jpg_decompress_struct,
    %struct.jpg_decompress_struct, %cinfo, 64 0, 132 0
%7 = load %struct.jpg_error_mgr*, %struct.jpg_error_mgr*, %err, align 8,
    !tbaa 120
%img_code = getelementptr inbounds %struct.jpg_error_mgr,
    %struct.jpg_error_mgr, %7, 64 0, 132 5
store 132 23, 132* %img_code, align 8, !tbaa 121
%error_addr = getelementptr inbounds %struct.jpg_error_mgr,
    %struct.jpg_error_mgr, %7, 64 0, 132 0
%8 = load void (%struct.jpg_common_struct*)*, %error_addr, align 8, !tbaa 122
call call void %8 (%struct.jpg_common_struct*, 8 2) 44
br label %if.end

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0000
%do_fancy_upsampling = getelementptr inbounds
    %struct.jpg_decompress_struct, %struct.jpg_decompress_struct, %cinfo, 64
    0, 132 17
%9 = load 132, 132* %do_fancy_upsampling, align 4, !tbaa 124
%ifbooleq7 = icmp eq 132 8 9, 0
br 11 %ifbooleq7, label %if.end, label %if.then

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0000
%min_DCT_scaled_size = getelementptr inbounds
    %struct.jpg_decompress_struct, %struct.jpg_decompress_struct, %cinfo, 64
    0, 132 50
%10 = load 132, 132* %min_DCT_scaled_size, align 4, !tbaa 125
%comp = icmp sgt 132 5 10, 1
br label %if.end

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0000
%11 = phi i1 [false, %if.end], [%comp, %if.then]
%min_components = getelementptr inbounds %struct.jpg_decompress_struct,
    %struct.jpg_decompress_struct, %cinfo, 64 0, 132 8
%12 = load 132, 132* %min_components, align 8, !tbaa 126
%comp193 = icmp sgt 132 5 12, 0
br 11 %comp193, label %for.body.lr.ph, label %for.end

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0000
%comp_info = getelementptr inbounds %struct.jpg_decompress_struct,
    %struct.jpg_decompress_struct, %cinfo, 64 0, 132 41
%13 = load %struct.jpg_component_info*, %struct.jpg_component_info*,
    %comp_info, align 8, !tbaa 127
%min_DCT_scaled_size = getelementptr inbounds
    %struct.jpg_decompress_struct, %struct.jpg_decompress_struct, %cinfo, 64
    0, 132 49
%max_x_samp_factor = getelementptr inbounds %struct.jpg_decompress_struct,
    %struct.jpg_decompress_struct, %cinfo, 64 0, 132 50
%max_x_samp_factor = getelementptr inbounds %struct.jpg_decompress_struct,
    %struct.jpg_decompress_struct, %cinfo, 64 0, 132 58
%img_ptr_height = getelementptr inbounds 18, 8* %call, 64 192
%14 = lhrast 18* %img_ptr_height to 110 x 132*
%widthcode = getelementptr inbounds 18, 8* %call, 64 104
%15 = lhrast 18* %widthcode to 110 x void (%struct.jpg_decompress_struct*,
    %struct.jpg_component_info*, 18***, 18***)**
%out_ptr_width = getelementptr inbounds %struct.jpg_decompress_struct,
    %struct.jpg_decompress_struct, %cinfo, 64 0, 132 26
%widthcode = getelementptr inbounds 18, 8* %call, 64 24
%16 = lhrast 18* %widthcode, but to 110 x 18***)**
%16_expand = getelementptr inbounds 18, 8* %call, 64 232
%16_expand = getelementptr inbounds 18, 8* %call, 64 242
%width = getelementptr inbounds %struct.jpg_decompress_struct,
    %struct.jpg_decompress_struct, %cinfo, 64 0, 132 0
br label %for.body

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0000
%for.body = phi i64 10, %for.body.lr.ph, 1, %indirect.next, %for.body
%comp_ptr0194 = phi %struct.jpg_component_info*, %13, %for.body.lr.ph, 1,
    %indirect.next, %for.body
%0, samp_factor = getelementptr inbounds %struct.jpg_component_info,
    %struct.jpg_component_info, %comp_ptr0194, 64 0, 132 2
%18 = lhrast 132*, 64, samp_factor to 64*
%18 = load 64, 64* %17, align 8
%19 = trunc 64 %18 to 132
%DCT_scaled_size = getelementptr inbounds %struct.jpg_component_info,
    %struct.jpg_component_info, %comp_ptr0194, 64 0, 132 9
%20 = load 132, 132* %DCT_scaled_size, align 4, !tbaa 128
%0.addr = mul new 132 5 20, 5 19
%21 = load 132, 132* %0.addr, DCT_scaled_size, align 4, !tbaa 125
%0 = sdiv 132 %0.addr, %21
%22 = lhr 64 %18, 32
%23 = trunc 64 %22 to 132
%0.addr1 = mul new 132 5 23, %20
%div13 = sdiv 132 %0.addr1, %21
%24 = load 132, 132* %max_x_samp_factor, align 4, !tbaa 130
%25 = load 132, 132* %max_x_samp_factor, align 8, !tbaa 131
%arrayidx = getelementptr inbounds 110 x 132, 110 x 132* %14, 64 0, 164
store 132 %div13, 132* %arrayidx, align 4, !tbaa 132
%component_needed = getelementptr inbounds %struct.jpg_component_info,
    %struct.jpg_component_info, %comp_ptr0194, 64 0, 132 12
%26 = load 132, 132* %component_needed, align 8, !tbaa 133
%ifbooleq4 = icmp eq 132 5 26, 0
br 11 %ifbooleq4, label %if.then5, label %if.else

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0000
%comp18 = icmp eq 132 %div, %24
%comp19 = icmp eq 132 %div13, %25
%or.cond = and i1 %comp18, %comp19
br 11 %or.cond, label %if.then20, label %if.else24

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0000
%ifbooleq25 = and new 132 %div, 1
%struct.jpg_component_info*, %comp_ptr0194, 64 0, 132 10
%or.cond16 = and i1 %comp26, %comp19
br 11 %or.cond16, label %if.then29, label %if.else42

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0000
%ifbooleq45 = and new 132 %div13, 1
%comp47 = icmp eq 132 %mul46, %25
%or.cond187 = and i1 %comp26, %comp47
br 11 %or.cond187, label %if.then53, label %if.else59

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%ifbooleq48 = and i1 %11, label %if.then58, label %if.else59

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0000
%ifbooleq51 = getelementptr inbounds %struct.jpg_component_info,
    %struct.jpg_component_info, %comp_ptr0194, 64 0, 132 10
%28 = load 132, 132* %ifbooleq51, align 8, !tbaa 153
%comp55 = icmp sgt 132 %28, 2
br 11 %comp55, label %if.then53, label %if.else59

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0000
%rem = rem 132 %24, %div
%comp65 = icmp eq 132 %rem, 0
br 11 %comp65, label %if.then56, label %if.else80

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0000
%ifbooleq56 = rem 132 %25, %div13
%comp66 = icmp eq 132 %rem, 0
br 11 %comp66, label %if.then59, label %if.else80

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0000
%arrayidx72 = getelementptr inbounds 110 x void
    (%struct.jpg_decompress_struct*, %struct.jpg_component_info*, 18***,
    18***)** 110 x void (%struct.jpg_decompress_struct*,
    18***, 18***)** 110 x void (%struct.jpg_decompress_struct*,
    18***, 18***)** 0*it, upsample, void (%struct.jpg_decompress_struct*,
    %struct.jpg_component_info*, 18***, 18***)** %arrayidx72, align 8, !tbaa 154
%div73 = sdiv 132 %24, %div
%conv = trunc 132 %div73 to 18
%arrayidx75 = getelementptr inbounds 18, 18* %16, expand, 64 %indirect.v
store 18 %conv, 18* %arrayidx75, align 1, !tbaa 156
%div76 = sdiv 132 %25, %div13
%conv77 = trunc 132 %div76 to 18
%arrayidx79 = getelementptr inbounds 18, 18* %16, expand, 64 %indirect.v
store 18 %conv77, 18* %arrayidx79, align 1, !tbaa 156
br label %if.then61

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0000
%29 = load %struct.jpg_error_mgr*, %struct.jpg_error_mgr*, %err1, align
    8, !tbaa 120
%conv_code82 = getelementptr inbounds %struct.jpg_error_mgr,
    %struct.jpg_error_mgr, %29, 64 0, 132 5
store 132 27, 132* %conv_code82, align 8, !tbaa 121
%err1_addr84 = getelementptr inbounds %struct.jpg_error_mgr,
    %struct.jpg_error_mgr, %29, 64 0, 132 0
%30 = load void (%struct.jpg_common_struct*)*, %err1_addr84, align 8, !tbaa 121
call call void %30 (%struct.jpg_common_struct*, %error_addr, align 8, !tbaa 122)
call call void %30 (%struct.jpg_common_struct*, %error_addr, align 8, !tbaa 122)
br label %if.then61

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0000
%31 = load %struct.jpg_memory_mgr*, %struct.jpg_memory_mgr*, %mem, align
    8, !tbaa 12
%width_sarry = getelementptr inbounds %struct.jpg_memory_mgr,
    %struct.jpg_memory_mgr, %31, 64 0, 132 2
%32 = load 18* (%struct.jpg_common_struct*, 132, 132, 132), 18**
    (%struct.jpg_common_struct*, 132, 132, 132)* %width_sarry, align 8, !tbaa
    137
%33 = load 132, 132* %conv, with, align 8, !tbaa 138
%conv93 = sdiv 132 %33 to 164
%34 = load 132, 132* %max_x_samp_factor, align 4, !tbaa 130
%conv95 = sdiv 132 %34 to 164
%call96 = call call 64 @round_up64 %conv93, 164 %conv95) 44
%conv97 = trunc 64 %call96 to 132
%35 = load 132, 132* %max_x_samp_factor, align 8, !tbaa 131
%conv97 = trunc 132 %35 to 64
%arrayidx101 = getelementptr inbounds 110 x 18***, 110 x 18***)** %16, 64 0,
    164
store 18** %call99, 18** %arrayidx101, align 8, !tbaa 134
br label %ifbooleq6

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0000
%arrayidx23 = getelementptr inbounds 110 x void
    (%struct.jpg_decompress_struct*, %struct.jpg_component_info*, 18***,
    18***)** 110 x void (%struct.jpg_decompress_struct*,
    18***, 18***)** 110 x void (%struct.jpg_decompress_struct*,
    18***, 18***)** 0*it, upsample, void (%struct.jpg_decompress_struct*,
    %struct.jpg_component_info*, 18***, 18***)** %arrayidx23, align 8, !tbaa 134
br label %ifbooleq6

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0000
%indirect.next = add new new 64 %indirect.v, 1, component_info,
    %struct.jpg_component_info*, %comp_ptr0194, 64 1
%36 = load 132, 132* %min_components, align 8, !tbaa 126
%37 = sdiv 132 %36 to 164
%comp8 = icmp slt 64 %indirect.v.next, %37
br 11 %comp8, label %for.body, label %for.end.loopexit

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0000
for.end.loopexit
br label %for.end

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0000
for.end

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