



TALOS-2026-2331

# LibRaw lossless\_jpeg\_load\_raw heap-based buffer overflow vulnerability

APRIL 7, 2026

CVE NUMBER

SUMMARY

CONFIRMED VULNERABLE VERSIONS

PRODUCT URLS

CVSSV3 SCORE

CWE

## DETAILS

`col``LibRaw::lossless_jpeg_load_raw() src/decoders/decoders_dcraw.cpp`

```
void LibRaw::lossless_jpeg_load_raw()
{
    int jwide, jhigh, jrow, jcol, val, jidx, i, j, row = 0, col = 0;
    struct jhead jh;
    ushort *rp;

    if (!ljpeg_start(&jh, 0))
        return;

    [...]

[1] jwide = jh.wide * jh.clrs;

    [...]

    try
    {
        for (jrow = 0; jrow < jh.high; jrow++)
        {
            [...]
            rp = ljpeg_row(jrow, &jh);
            [...]
[2]     for (jcol = 0; jcol < jwide; jcol++)
            {
[3]         val = curve[*rp++];
            if (cr2_slice[0])
            {
[4]                 jidx = jrow * jwide + jcol;
                    i = jidx / (cr2_slice[1] * raw_height);
                    if ((j = i >= cr2_slice[0]))
                        i = cr2_slice[0];
                    if(!cr2_slice[1+j])
```

```

        throw LIBRAW_EXCEPTION_IO_CORRUPT;

        jidx -= i * (cr2_slice[1] * raw_height);
        row = jidx / cr2_slice[1 + j];
[5]         col = jidx % cr2_slice[1 + j] + i * cr2_slice[1];
        }
        [...]
[6]         if (row > raw_height)
            throw LIBRAW_EXCEPTION_IO_CORRUPT;
[7]         if ((unsigned)row < raw_height)
            RAW(row, col) = val;
        [...]
    }
}
[...]
}

```



```

imgdata.rawdata.raw_image[row * raw_width + col]

```



```
imgdata.rawdata.raw_alloc =
    calloc(size_t(rwidth) * (size_t(rheight) + 8),
           sizeof(imgdata.rawdata.raw_image[0]));
```

```
raw_width * (raw_height + 8)          row * raw_width +
col
```

```
row * raw_width + col < raw_width * (raw_height + 8)
```

```
row < raw_height          col < raw_width
```

```
[5]
```

```
col = jidx % cr2_slice[1 + j] + i * cr2_slice[1]
```

```
i ≥ 1          i * cr2_slice[1]          col          cr2_slice[1]
col
```

```
cr2_slice[1] = 512    i = 3 col = X + 3 * 512 = X + 1536    raw_width = 32
col < 32    col ≥ 1536
```

```
val [7]
```

```
rp = ljpeg_row(jrow, &jh);
[...]
```

```
val = curve[*rp++];
```

```
rp          ljpeg_row()
             *rp          curve          curve
```

```

linear_table()          src/utils/curves.cpp          read_shorts(curve, len)

                        curve                        *rp
ljpeg_row()

                        unpack()                    [7]

```

## Crash Information

```

=====
==56971==ERROR: AddressSanitizer: heap-buffer-overflow on address 0x620000000e80 at
pc 0x000102b69620 bp 0x00016d23aa10 sp 0x00016d23aa08
WRITE of size 2 at 0x620000000e80 thread T0
   #0 0x000102b6961c in LibRaw::lossless_jpeg_load_raw() decoders_dcraw.cpp:592
   #1 0x000102c46b64 in LibRaw::unpack() unpack.cpp:447
   #2 0x000102b08e4c in main poc_cr2_oob.cpp:38
   #3 0x00018f671d50 (<unknown module>)

0x620000000e80 is located 0 bytes after 3584-byte region
[0x620000000080,0x620000000e80)
allocated by thread T0 here:
   #0 0x00010353d330 in malloc+0x78
(libclang_rt.asan_osx_dynamic.dylib:arm64e+0x3d330)
   #1 0x000102c4b4ac in LibRaw::malloc(unsigned long) utils_libraw.cpp:260
   #2 0x000102c46834 in LibRaw::unpack() unpack.cpp:395
   #3 0x000102b08e4c in main poc_cr2_oob.cpp:38
   #4 0x00018f671d50 (<unknown module>)

SUMMARY: AddressSanitizer: heap-buffer-overflow decoders_dcraw.cpp:592 in
LibRaw::lossless_jpeg_load_raw()
Shadow bytes around the buggy address:
 0x620000000c00: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
 0x620000000c80: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
 0x620000000d00: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
 0x620000000d80: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
 0x620000000e00: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
=>0x620000000e80:[fa]fa fa fa fa fa fa fa fa fa fa fa fa fa fa fa fa
 0x620000000f00: fa fa fa fa fa fa fa fa fa fa fa fa fa fa fa fa fa
 0x620000000f80: fa fa fa fa fa fa fa fa fa fa fa fa fa fa fa fa fa
 0x620000001000: fa fa fa fa fa fa fa fa fa fa fa fa fa fa fa fa fa
 0x620000001080: fa fa fa fa fa fa fa fa fa fa fa fa fa fa fa fa fa
 0x620000001100: fa fa fa fa fa fa fa fa fa fa fa fa fa fa fa fa fa
Shadow byte legend (one shadow byte represents 8 application bytes):
Addressable:          00
Partially addressable: 01 02 03 04 05 06 07
Heap left redzone:    fa
Freed heap region:    fd
Stack left redzone:   f1
Stack mid redzone:    f2

```

```
Stack right redzone:    f3
Stack after return:    f5
Stack use after scope: f8
Global redzone:        f9
Global init order:     f6
Poisoned by user:      f7
Container overflow:    fc
Array cookie:          ac
Intra object redzone:  bb
ASan internal:         fe
Left alloca redzone:   ca
Right alloca redzone:  cb
==56971==ABORTING
```

TIMELINE

CREDIT

VULNERABILITY REPORTS

NEXT REPORT

PREVIOUS REPORT

TALOS-2026-2358

TALOS-2026-2330



