

C-3 Report on Intensity Values

The USGS Lidar Base Specification Version 2.1 states: "Intensity values are required for each multiple discrete return. The intensity values recorded in the LAS files shall be normalized to 16 bit, as required by the LAS Specification version 1.4-R13 (ASPRS, 2011). Intensity normalization should be strictly linear. Common image stretches (minimum-maximum, standard deviations, percent clip, histogram, and so forth) are expressly forbidden."

The purpose of this section is to report on the presence and quantities of lidar intensity in the LAS data.

[Data Source - D:\00_Aubrey\Client_Swaths_Final](#)

| File | Minimum | Maximum | Mean | Median | Mode |
|--------------|---------|---------|-------|--------|-------|
| CS_00001.las | 320 | 10,784 | 4,112 | 4,176 | 6,256 |
| CS_00002.las | 240 | 25,920 | 3,949 | 3,904 | 992 |
| CS_00003.las | 288 | 65,520 | 3,768 | 3,760 | 1,024 |
| CS_00004.las | 272 | 39,376 | 3,357 | 3,472 | 1,024 |
| CS_00005.las | 288 | 65,520 | 3,762 | 3,872 | 1,008 |
| CS_00006.las | 272 | 10,688 | 5,359 | 5,552 | 5,760 |
| CS_00007.las | 240 | 65,520 | 3,601 | 3,680 | 1,008 |
| CS_00008.las | 240 | 34,336 | 3,572 | 3,648 | 4,032 |
| CS_00009.las | 432 | 8,944 | 3,222 | 3,120 | 1,008 |
| CS_00010.las | 432 | 9,856 | 3,495 | 3,408 | 1,008 |
| CS_00011.las | 400 | 65,520 | 3,270 | 3,168 | 1,200 |
| CS_00012.las | 432 | 9,312 | 2,969 | 2,928 | 1,040 |
| CS_00013.las | 400 | 65,520 | 3,309 | 3,296 | 1,216 |
| CS_00014.las | 432 | 9,392 | 4,915 | 5,120 | 5,312 |
| CS_00015.las | 128 | 65,520 | 3,169 | 3,104 | 1,024 |
| CS_00016.las | 320 | 28,576 | 3,168 | 3,104 | 1,040 |
| CS_00017.las | 336 | 18,832 | 3,099 | 3,040 | 1,024 |
| CS_00018.las | 368 | 22,992 | 3,109 | 3,072 | 1,040 |
| CS_00019.las | 240 | 65,520 | 3,632 | 3,712 | 1,040 |
| CS_00020.las | 224 | 37,728 | 3,552 | 3,616 | 1,024 |
| CS_00021.las | 240 | 40,080 | 3,637 | 3,776 | 4,400 |
| CS_00022.las | 304 | 10,816 | 3,441 | 3,568 | 1,024 |
| CS_00023.las | 256 | 26,336 | 3,714 | 3,872 | 4,400 |
| CS_00024.las | 336 | 10,784 | 5,506 | 5,696 | 5,936 |
| CS_00025.las | 208 | 37,472 | 3,904 | 4,128 | 4,752 |
| CS_00026.las | 272 | 12,000 | 5,183 | 6,208 | 6,896 |
| CS_00027.las | 112 | 40,048 | 4,123 | 4,384 | 4,928 |

C-3 Report on Intensity Values - continued

| File | Minimum | Maximum | Mean | Median | Mode |
|--------------|---------|---------|-------|--------|-------|
| CS_00028.las | 224 | 40,272 | 4,357 | 4,688 | 5,488 |
| CS_00029.las | 256 | 35,632 | 4,543 | 4,880 | 5,488 |
| CS_00030.las | 368 | 12,128 | 3,082 | 3,072 | 1,040 |
| CS_00031.las | 416 | 8,928 | 2,902 | 2,848 | 1,040 |
| CS_00032.las | 368 | 11,312 | 3,187 | 3,232 | 1,200 |
| CS_00033.las | 400 | 9,232 | 4,975 | 5,168 | 5,472 |
| CS_00034.las | 368 | 22,256 | 3,287 | 3,392 | 4,064 |
| CS_00035.las | 448 | 10,432 | 4,357 | 5,104 | 5,552 |
| CS_00036.las | 352 | 65,520 | 3,534 | 3,728 | 4,464 |
| CS_00037.las | 336 | 11,552 | 3,711 | 3,952 | 4,672 |
| CS_00038.las | 336 | 11,152 | 3,928 | 4,224 | 4,976 |
| CS_00039.las | 64 | 40,688 | 4,821 | 5,248 | 5,936 |
| CS_00040.las | 304 | 14,080 | 5,667 | 6,688 | 7,216 |
| CS_00041.las | 240 | 40,032 | 5,051 | 5,520 | 6,144 |
| CS_00042.las | 320 | 11,360 | 5,690 | 5,888 | 6,112 |
| CS_00043.las | 240 | 40,928 | 5,224 | 5,744 | 6,304 |
| CS_00044.las | 240 | 39,184 | 5,330 | 5,840 | 6,464 |
| CS_00045.las | 240 | 65,520 | 5,415 | 5,936 | 6,496 |
| CS_00046.las | 240 | 65,520 | 5,486 | 5,968 | 6,432 |
| CS_00047.las | 352 | 11,792 | 4,416 | 4,832 | 5,664 |
| CS_00048.las | 400 | 11,712 | 5,054 | 6,000 | 6,560 |
| CS_00049.las | 352 | 12,864 | 4,640 | 5,120 | 6,000 |
| CS_00050.las | 464 | 10,704 | 5,334 | 5,552 | 5,840 |
| CS_00051.las | 352 | 13,376 | 4,790 | 5,296 | 5,840 |
| CS_00052.las | 336 | 18,000 | 4,907 | 5,456 | 6,016 |
| CS_00053.las | 352 | 12,768 | 4,961 | 5,488 | 6,032 |
| CS_00054.las | 256 | 14,352 | 5,006 | 5,504 | 5,824 |
| CS_00055.las | 256 | 65,520 | 5,257 | 5,696 | 6,080 |
| CS_00056.las | 240 | 37,312 | 4,273 | 4,064 | 992 |
| CS_00057.las | 160 | 65,520 | 5,358 | 5,808 | 6,304 |
| CS_00058.las | 320 | 65,520 | 6,151 | 6,416 | 7,136 |
| CS_00059.las | 240 | 65,520 | 5,420 | 5,952 | 6,624 |
| CS_00060.las | 176 | 65,520 | 5,438 | 6,048 | 6,816 |

C-3 Report on Intensity Values - continued

| File | Minimum | Maximum | Mean | Median | Mode |
|--------------|---------|---------|-------|--------|-------|
| CS_00061.las | 32 | 65,520 | 5,536 | 6,224 | 6,832 |
| CS_00062.las | 32 | 65,520 | 5,692 | 6,432 | 7,008 |
| CS_00063.las | 32 | 65,520 | 5,820 | 6,592 | 7,136 |
| CS_00064.las | 32 | 65,520 | 5,829 | 6,640 | 7,168 |
| CS_00065.las | 112 | 65,520 | 5,606 | 6,448 | 7,008 |
| CS_00066.las | 32 | 65,520 | 5,488 | 6,352 | 6,992 |
| CS_00067.las | 352 | 65,520 | 4,765 | 5,232 | 5,680 |
| CS_00068.las | 368 | 11,904 | 3,692 | 3,328 | 1,008 |
| CS_00069.las | 368 | 65,520 | 4,901 | 5,328 | 6,016 |
| CS_00070.las | 464 | 17,856 | 5,671 | 5,952 | 6,528 |
| CS_00071.las | 368 | 65,520 | 4,991 | 5,520 | 6,192 |
| CS_00072.las | 32 | 65,520 | 4,979 | 5,552 | 6,544 |
| CS_00073.las | 32 | 65,520 | 5,177 | 5,840 | 6,544 |
| CS_00074.las | 32 | 65,520 | 5,253 | 5,968 | 6,704 |
| CS_00075.las | 32 | 65,520 | 5,288 | 6,016 | 6,544 |
| CS_00076.las | 32 | 65,520 | 5,243 | 5,984 | 6,704 |
| CS_00077.las | 32 | 65,520 | 5,133 | 5,936 | 6,704 |
| CS_00078.las | 32 | 65,520 | 5,000 | 5,776 | 6,688 |
| CS_00079.las | 32 | 65,520 | 5,338 | 6,240 | 6,976 |
| CS_00080.las | 240 | 14,080 | 3,977 | 3,328 | 976 |
| CS_00081.las | 80 | 65,520 | 5,322 | 6,256 | 6,992 |
| CS_00082.las | 352 | 23,648 | 6,522 | 6,928 | 7,280 |
| CS_00083.las | 80 | 65,520 | 5,376 | 6,400 | 7,136 |
| CS_00084.las | 272 | 40,080 | 3,521 | 2,848 | 1,024 |
| CS_00085.las | 176 | 65,520 | 5,193 | 6,256 | 7,168 |
| CS_00086.las | 64 | 65,520 | 4,858 | 5,696 | 7,008 |
| CS_00087.las | 208 | 65,520 | 4,567 | 4,928 | 6,960 |
| CS_00088.las | 64 | 65,520 | 4,449 | 4,544 | 976 |
| CS_00089.las | 192 | 57,920 | 4,547 | 4,736 | 832 |
| CS_00090.las | 256 | 65,520 | 4,821 | 5,616 | 6,368 |
| CS_00091.las | 352 | 12,480 | 3,340 | 2,624 | 992 |
| CS_00092.las | 112 | 65,520 | 4,863 | 5,712 | 6,528 |
| CS_00093.las | 480 | 17,920 | 6,035 | 6,448 | 6,688 |

C-3 Report on Intensity Values - continued

| File | Minimum | Maximum | Mean | Median | Mode |
|--------------|---------|---------|-------|--------|-------|
| CS_00094.las | 224 | 65,520 | 4,864 | 5,776 | 6,528 |
| CS_00095.las | 320 | 22,912 | 3,015 | 2,288 | 1,024 |
| CS_00096.las | 112 | 65,520 | 4,671 | 5,536 | 6,720 |
| CS_00097.las | 256 | 65,520 | 4,356 | 4,800 | 6,544 |
| CS_00098.las | 288 | 65,520 | 4,104 | 4,128 | 1,008 |
| CS_00099.las | 288 | 54,096 | 4,033 | 3,856 | 992 |
| CS_00100.las | 288 | 65,520 | 4,164 | 4,112 | 992 |
| CS_00101.las | 144 | 65,520 | 4,605 | 5,232 | 6,896 |
| CS_00102.las | 256 | 46,224 | 3,364 | 2,688 | 1,040 |
| CS_00103.las | 176 | 65,520 | 4,874 | 5,808 | 6,960 |
| CS_00104.las | 288 | 65,520 | 5,737 | 6,480 | 6,848 |
| CS_00105.las | 176 | 65,520 | 5,093 | 6,144 | 6,992 |
| CS_00106.las | 176 | 65,520 | 5,174 | 6,272 | 6,992 |
| CS_00107.las | 192 | 65,520 | 5,245 | 6,336 | 7,040 |
| CS_00108.las | 224 | 65,520 | 5,364 | 6,432 | 7,040 |
| CS_00109.las | 32 | 65,520 | 5,444 | 6,480 | 7,040 |
| CS_00110.las | 160 | 65,520 | 5,481 | 6,544 | 7,072 |
| CS_00111.las | 192 | 65,520 | 5,407 | 6,512 | 7,072 |
| CS_00112.las | 272 | 65,520 | 4,031 | 4,256 | 960 |
| CS_00113.las | 352 | 13,664 | 2,800 | 2,080 | 1,008 |
| CS_00114.las | 304 | 65,520 | 4,331 | 4,944 | 992 |
| CS_00115.las | 48 | 65,520 | 4,836 | 5,600 | 6,208 |
| CS_00116.las | 288 | 65,520 | 4,587 | 5,488 | 6,560 |
| CS_00117.las | 288 | 65,520 | 4,667 | 5,616 | 6,736 |
| CS_00118.las | 320 | 65,520 | 4,801 | 5,808 | 6,560 |
| CS_00119.las | 32 | 65,520 | 4,925 | 5,936 | 6,688 |
| CS_00120.las | 32 | 65,520 | 5,113 | 6,160 | 6,736 |
| CS_00121.las | 32 | 65,520 | 5,113 | 6,160 | 6,768 |
| CS_00122.las | 128 | 65,520 | 5,107 | 6,224 | 6,752 |
| CS_00123.las | 192 | 65,520 | 5,149 | 6,224 | 6,832 |
| CS_00124.las | 208 | 27,344 | 3,132 | 2,352 | 992 |
| CS_00125.las | 32 | 65,520 | 5,241 | 6,352 | 7,008 |
| CS_00126.las | 224 | 65,520 | 4,181 | 4,144 | 1,008 |

C-3 Report on Intensity Values - continued

| File | Minimum | Maximum | Mean | Median | Mode |
|--------------|---------|---------|-------|--------|-------|
| CS_00127.las | 176 | 65,520 | 5,209 | 6,320 | 7,072 |
| CS_00128.las | 256 | 65,520 | 4,476 | 5,392 | 6,016 |
| CS_00129.las | 304 | 12,160 | 2,531 | 1,744 | 992 |
| CS_00130.las | 32 | 65,520 | 4,551 | 5,520 | 6,224 |
| CS_00131.las | 352 | 65,520 | 3,634 | 3,504 | 1,008 |
| CS_00132.las | 160 | 65,520 | 4,646 | 5,648 | 6,320 |
| CS_00133.las | 96 | 65,520 | 5,468 | 6,352 | 7,328 |
| CS_00134.las | 192 | 13,376 | 3,034 | 2,288 | 832 |
| CS_00135.las | 144 | 65,520 | 5,416 | 6,384 | 7,600 |
| CS_00136.las | 272 | 65,520 | 4,352 | 4,224 | 992 |
| CS_00137.las | 176 | 65,520 | 5,233 | 6,352 | 7,568 |
| CS_00138.las | 144 | 65,520 | 5,198 | 6,432 | 7,472 |
| CS_00139.las | 176 | 65,520 | 5,181 | 6,416 | 7,424 |
| CS_00140.las | 192 | 65,520 | 5,213 | 6,464 | 7,328 |
| CS_00141.las | 64 | 65,520 | 5,262 | 6,528 | 7,328 |
| CS_00142.las | 192 | 65,520 | 5,466 | 6,720 | 7,376 |
| CS_00143.las | 160 | 65,520 | 5,827 | 6,960 | 7,376 |
| CS_00144.las | 176 | 65,520 | 6,267 | 7,104 | 7,360 |
| CS_00145.las | 32 | 65,520 | 4,765 | 5,536 | 944 |
| CS_00146.las | 112 | 10,448 | 2,476 | 1,728 | 992 |
| CS_00147.las | 64 | 65,520 | 4,804 | 5,440 | 816 |
| CS_00148.las | 400 | 65,520 | 3,774 | 3,280 | 1,008 |
| CS_00149.las | 96 | 65,520 | 4,653 | 5,584 | 960 |
| CS_00150.las | 16 | 65,520 | 4,568 | 5,552 | 6,800 |
| CS_00151.las | 128 | 65,520 | 4,555 | 5,584 | 6,768 |
| CS_00152.las | 64 | 65,520 | 4,581 | 5,632 | 6,688 |
| CS_00153.las | 32 | 65,520 | 4,607 | 5,696 | 6,592 |
| CS_00154.las | 96 | 65,520 | 4,819 | 5,968 | 6,800 |
| CS_00155.las | 304 | 65,520 | 5,181 | 6,272 | 6,784 |
| CS_00156.las | 32 | 65,520 | 5,645 | 6,496 | 6,768 |
| CS_00157.las | 192 | 65,520 | 6,601 | 7,104 | 7,248 |
| CS_00158.las | 208 | 15,568 | 3,166 | 2,432 | 992 |
| CS_00159.las | 272 | 65,520 | 6,701 | 7,120 | 7,200 |

C-3 Report on Intensity Values - continued

| File | Minimum | Maximum | Mean | Median | Mode |
|--------------------|---------|---------|-------|--------|-------|
| CS_00160.las | 256 | 65,520 | 4,549 | 4,880 | 1,008 |
| CS_00161.las | 304 | 65,520 | 4,781 | 5,216 | 6,720 |
| CS_00162.las | 272 | 65,520 | 6,576 | 7,056 | 7,184 |
| CS_00163.las | 288 | 65,520 | 6,356 | 6,912 | 7,072 |
| CS_00164.las | 272 | 65,520 | 6,274 | 6,944 | 7,200 |
| CS_00165.las | 256 | 65,520 | 5,958 | 6,784 | 7,216 |
| CS_00166.las | 240 | 65,520 | 5,741 | 6,672 | 7,216 |
| CS_00167.las | 272 | 65,520 | 5,337 | 6,256 | 7,024 |
| CS_00168.las | 304 | 65,520 | 5,104 | 5,840 | 7,040 |
| CS_00169.las | 336 | 65,520 | 4,847 | 5,264 | 6,864 |
| CS_00170.las | 32 | 65,520 | 5,934 | 6,448 | 6,592 |
| CS_00171.las | 320 | 12,496 | 2,538 | 1,808 | 992 |
| CS_00172.las | 32 | 65,520 | 6,057 | 6,480 | 6,576 |
| CS_00173.las | 352 | 65,520 | 3,969 | 4,000 | 1,008 |
| CS_00174.las | 336 | 65,520 | 4,112 | 4,272 | 1,024 |
| CS_00175.las | 400 | 65,520 | 5,893 | 6,352 | 6,544 |
| CS_00176.las | 384 | 65,520 | 5,746 | 6,304 | 6,400 |
| CS_00177.las | 416 | 65,520 | 5,565 | 6,208 | 6,560 |
| CS_00178.las | 368 | 65,520 | 5,342 | 6,160 | 6,560 |
| CS_00179.las | 368 | 65,520 | 5,006 | 5,808 | 6,384 |
| CS_00180.las | 416 | 65,520 | 4,732 | 5,584 | 6,384 |
| CS_00181.las | 352 | 65,520 | 4,311 | 4,832 | 1,040 |
| CS_00182.las | 448 | 27,024 | 4,267 | 4,544 | 6,240 |
| Overall Statistics | 16 | 65,520 | 4,873 | 5,584 | 6,768 |

C-3 Report on Intensity Values - continued

The purpose of this section is to show a frequency distribution chart of intensities throughout all of the lidar files.

[Data Source - D:\00_Aubrey\Client_Swaths_Final](#)

