

## 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 - Y:\Mapping\Projects\65220751\\_NE\\_Southwest\Production\Final\\_Client\\_Deliverables\Projectwide\UTM14\point\\_cloud\Swaths](#)

File	Minimum	Maximum	Mean	Median	Mode
CS_00001.las	416	65,520	22,227	22,336	22,032
CS_00002.las	528	65,520	21,777	21,504	21,248
CS_00003.las	128	65,520	21,293	21,824	21,536
CS_00004.las	144	65,520	22,996	22,576	21,776
CS_00005.las	128	65,520	20,434	21,200	21,520
CS_00006.las	800	65,520	22,499	21,376	20,736
CS_00007.las	144	65,520	21,824	22,032	21,696
CS_00008.las	144	65,520	20,825	21,488	21,232
CS_00009.las	128	65,520	22,288	22,480	22,528
CS_00010.las	384	65,520	21,392	21,680	21,248
CS_00011.las	128	65,520	22,619	21,136	20,128
CS_00012.las	144	65,520	21,417	21,504	20,992
CS_00013.las	128	65,520	22,687	22,512	21,904
CS_00014.las	128	65,520	22,928	22,640	22,016
CS_00015.las	528	65,520	21,775	21,408	21,088
CS_00016.las	128	65,520	21,215	21,024	20,944
CS_00017.las	144	65,520	21,767	22,320	22,464
CS_00018.las	128	65,520	20,891	21,888	21,872
CS_00019.las	128	65,520	21,731	21,088	20,800
CS_00020.las	144	65,520	23,833	23,056	22,016
CS_00021.las	128	65,520	24,603	24,208	22,736
CS_00022.las	128	65,520	22,121	22,368	21,936
CS_00023.las	128	65,520	22,047	22,480	22,416
CS_00024.las	128	65,520	22,194	22,144	21,744
CS_00025.las	512	65,520	21,309	21,648	21,136

### *C-3 Report on Intensity Values - continued*

File	Minimum	Maximum	Mean	Median	Mode
CS_00026.las	288	65,520	22,059	21,296	20,896
CS_00027.las	128	65,520	20,917	21,984	21,808
CS_00028.las	144	65,520	20,176	19,888	20,000
CS_00029.las	160	65,520	19,929	20,432	20,128
CS_00030.las	128	65,520	21,579	21,328	21,120
CS_00031.las	128	65,520	23,496	23,040	21,792
CS_00032.las	128	65,520	20,964	21,616	21,664
CS_00033.las	128	65,520	23,122	22,800	22,064
CS_00034.las	128	65,520	22,306	22,352	21,776
CS_00035.las	144	65,520	21,052	20,704	20,352
CS_00036.las	272	65,520	20,225	21,104	21,008
CS_00037.las	272	65,520	20,216	20,960	20,928
CS_00038.las	128	65,520	21,447	21,184	20,928
CS_00039.las	128	65,520	23,165	22,688	21,648
CS_00040.las	384	65,520	20,297	20,864	20,656
CS_00041.las	128	65,520	24,219	23,392	22,592
CS_00042.las	128	65,520	20,681	21,488	21,536
CS_00043.las	128	65,520	22,032	22,560	22,448
CS_00044.las	128	65,520	21,107	21,904	21,808
CS_00045.las	144	65,520	23,991	23,696	22,528
CS_00046.las	128	65,520	23,474	23,232	22,400
CS_00048.las	272	65,520	21,432	21,104	21,008
CS_00049.las	144	65,520	21,704	21,440	20,944
CS_00050.las	128	65,520	23,939	23,776	22,624
CS_00051.las	272	65,520	21,387	21,088	21,040
CS_00052.las	144	65,520	20,971	21,408	21,632
CS_00053.las	144	65,520	24,219	23,648	23,392
CS_00054.las	704	65,520	23,701	23,008	22,400
CS_00055.las	448	65,520	24,249	23,488	22,496
CS_00056.las	928	65,520	22,713	21,856	20,896
CS_00057.las	144	65,520	24,167	23,712	23,312
CS_00058.las	144	65,520	25,215	24,384	23,184
CS_00059.las	272	65,520	23,602	22,112	20,864

### *C-3 Report on Intensity Values - continued*

File	Minimum	Maximum	Mean	Median	Mode
CS_00060.las	288	65,520	22,664	21,952	20,960
CS_00061.las	144	65,520	21,294	20,288	19,296
CS_00062.las	1,040	65,520	25,496	25,520	22,400
CS_00063.las	1,408	65,520	20,798	20,688	20,848
CS_00064.las	560	65,520	24,974	24,528	24,256
CS_00065.las	144	65,520	24,394	23,568	22,592
CS_00066.las	128	65,520	24,395	23,712	22,624
CS_00067.las	144	65,520	23,945	22,560	21,440
CS_00068.las	144	65,520	24,193	23,488	22,496
CS_00069.las	144	65,520	21,004	20,256	19,392
CS_00070.las	416	65,520	22,304	21,744	21,056
CS_00071.las	144	65,520	24,488	23,872	23,264
CS_00072.las	256	65,520	24,769	23,840	22,560
CS_00073.las	288	65,520	23,736	22,304	20,896
CS_00074.las	272	65,520	24,357	23,024	20,896
CS_00075.las	288	65,520	24,650	23,584	22,528
CS_00076.las	272	65,520	23,293	22,304	20,896
CS_00077.las	128	65,520	24,929	24,192	23,296
CS_00078.las	544	65,520	22,635	21,632	20,048
CS_00079.las	144	65,520	26,178	25,040	23,328
CS_00080.las	256	65,520	25,413	24,288	21,056
CS_00081.las	416	65,520	22,887	21,760	19,872
CS_00082.las	128	65,520	23,100	22,016	20,864
CS_00083.las	288	65,520	23,709	22,720	21,440
CS_00084.las	1,008	65,520	22,521	22,320	21,760
CS_00085.las	272	65,520	25,097	24,832	24,272
CS_00086.las	144	65,520	20,769	19,872	19,200
CS_00087.las	144	65,520	25,853	24,480	22,576
CS_00088.las	144	65,520	24,665	24,448	24,192
CS_00089.las	688	65,520	24,008	22,608	21,072
CS_00090.las	144	65,520	22,582	21,536	19,808
CS_00091.las	128	65,520	23,746	22,512	21,424
CS_00092.las	1,056	65,520	23,711	23,312	22,464

### *C-3 Report on Intensity Values - continued*

File	Minimum	Maximum	Mean	Median	Mode
CS_00093.las	144	65,520	24,031	23,696	23,216
CS_00094.las	144	65,520	25,063	24,432	23,520
CS_00095.las	128	65,520	24,103	22,656	20,816
CS_00096.las	144	65,520	24,450	23,744	23,248
CS_00097.las	1,104	65,520	24,268	23,696	21,824
CS_00098.las	1,248	65,520	22,865	21,680	20,832
CS_00099.las	128	65,520	24,681	23,184	20,784
CS_00100.las	128	65,520	23,294	22,176	20,736
CS_00101.las	272	65,520	24,770	24,256	23,280
CS_00102.las	272	65,520	24,565	23,296	21,888
CS_00103.las	128	65,520	24,257	23,808	23,328
CS_00104.las	128	65,520	21,590	20,560	19,424
CS_00105.las	400	65,520	24,205	23,376	22,672
CS_00106.las	1,056	65,520	22,376	22,144	21,824
CS_00107.las	256	65,520	22,950	22,032	20,880
CS_00108.las	1,136	34,672	16,578	16,304	15,760
CS_00109.las	272	65,520	22,150	21,456	20,496
CS_00110.las	144	65,520	21,628	21,104	20,480
CS_00111.las	144	65,520	23,957	22,448	20,800
CS_00112.las	128	65,520	22,255	21,488	20,528
CS_00113.las	256	65,520	23,348	22,720	21,632
CS_00114.las	144	65,520	22,812	22,160	21,472
CS_00116.las	816	65,520	21,990	21,856	24,976
CS_00117.las	400	65,520	21,503	20,864	19,920
CS_00118.las	128	65,520	24,180	22,864	20,512
CS_00119.las	288	65,520	23,406	22,464	21,392
CS_00120.las	128	65,520	21,558	20,960	20,160
CS_00121.las	288	65,520	22,695	21,936	20,496
CS_00122.las	128	65,520	22,866	22,192	21,280
CS_00123.las	128	65,520	22,043	21,456	20,720
CS_00124.las	128	65,520	23,310	22,608	21,808
CS_00125.las	128	65,520	21,492	20,768	19,696
CS_00126.las	128	65,520	22,813	21,968	20,736

### *C-3 Report on Intensity Values - continued*

File	Minimum	Maximum	Mean	Median	Mode
CS_00127.las	864	65,520	22,337	21,840	21,280
CS_00129.las	144	65,520	20,542	19,952	19,392
CS_01036.las	352	51,984	7,118	7,072	6,992
CS_01037.las	336	15,552	6,945	6,880	6,768
CS_01041.las	320	65,520	8,534	8,448	6,720
CS_01042.las	272	65,520	8,844	8,768	7,024
CS_01043.las	32	65,520	8,757	8,656	6,992
CS_01044.las	32	65,520	8,894	8,800	7,008
CS_01045.las	112	65,520	8,779	8,576	6,992
CS_01046.las	32	65,520	8,225	7,648	6,752
CS_01047.las	32	65,520	7,905	7,472	6,560
CS_01048.las	32	65,520	7,972	7,536	6,560
CS_01049.las	32	65,520	7,269	7,008	6,720
CS_01050.las	32	65,520	6,707	6,752	6,752
CS_01051.las	80	65,520	6,944	6,816	6,768
CS_01052.las	32	65,520	7,733	7,296	6,768
CS_01053.las	48	65,520	7,575	7,312	6,784
CS_01054.las	32	65,520	7,169	7,120	6,976
CS_01056.las	32	65,520	6,902	6,928	6,784
CS_01057.las	160	65,520	6,617	6,864	6,800
CS_01058.las	32	65,520	6,796	6,928	6,832
CS_01059.las	192	65,520	6,636	6,960	7,008
CS_01060.las	32	65,520	6,553	6,848	6,800
CS_01061.las	32	65,520	6,603	6,864	6,816
CS_01062.las	32	65,520	6,679	6,848	6,784
CS_01063.las	32	65,520	6,867	6,912	6,800
CS_01064.las	32	65,520	6,990	6,976	7,008
CS_01065.las	304	65,520	7,005	6,992	7,008
CS_01066.las	32	65,520	7,006	6,976	6,976
CS_01067.las	320	65,520	6,942	6,928	6,976
CS_01068.las	288	65,520	6,500	6,448	6,336
CS_01069.las	80	65,520	6,677	6,624	6,560
CS_01070.las	368	65,520	6,755	6,768	6,752
Overall Statistics	32	65,520	20,651	21,440	21,392

## 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 - Y:\Mapping\Projects\65220751\\_NE\\_Southwest\Production\Final\\_Client\\_Deliverables\Projectwide\UTM14\point\\_cloud\Swaths](#)

