

C-3 Report on Intensity Values

The USGS Lidar Base Specification Version 1.3 states: "Intensity values are required for each multiple discrete return. The values recorded in the LAS files shall be normalized to 16 bit, as required by the LAS Specification version 1.4-R13 (ASPRS, 2011). It warrants re-emphasis that intensity normalization is 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\65220171_USGS-TX_West_Texas\Production\Final_Client_Deliverables\Lot9_utm13\point_cloud\Swaths](#)

File	Minimum	Maximum	Mean	Median	Mode
CS_02002.las	320	12,928	5,933	6,176	6,976
CS_02029.las	32	55,680	5,739	5,664	4,960
CS_02038.las	48	65,520	4,925	4,928	4,928
CS_02067.las	32	65,535	5,135	5,312	5,568
CS_02070.las	256	65,535	6,524	6,720	7,456
CS_02087.las	48	65,520	4,565	4,528	4,352
CS_02097.las	1,584	7,728	5,219	5,264	5,120
CS_02112.las	592	65,520	4,553	4,640	2,352
CS_02113.las	528	65,520	3,983	3,952	3,888
CS_02115.las	48	65,520	4,428	4,416	4,592
CS_02117.las	320	65,520	4,195	4,176	4,240
CS_02122.las	32	47,200	4,767	4,928	5,056
CS_02123.las	32	56,384	4,122	4,384	5,184
CS_02125.las	32	65,535	5,173	5,376	5,760
CS_02126.las	32	65,535	5,889	5,888	4,928
CS_02129.las	256	65,535	6,520	6,720	7,392
CS_02137.las	192	23,936	4,328	4,544	5,232
CS_02146.las	48	65,520	4,293	4,272	4,224
CS_02163.las	784	10,992	5,912	6,096	6,480
CS_02170.las	32	50,720	5,142	5,312	5,440
CS_02175.las	464	65,520	4,269	4,400	4,752
CS_02176.las	512	65,520	4,170	4,160	4,112
CS_02178.las	352	65,520	5,109	5,168	5,232
CS_02180.las	288	65,520	4,091	4,064	3,552
CS_02186.las	32	65,535	4,580	4,768	4,864

C-3 Report on Intensity Values - continued

File	Minimum	Maximum	Mean	Median	Mode
CS_02187.las	32	65,535	4,191	4,480	5,248
CS_02188.las	32	65,535	4,363	4,800	5,312
CS_02189.las	32	65,535	4,485	5,056	5,408
CS_02193.las	128	65,535	5,718	5,504	4,704
CS_02197.las	192	60,800	6,385	6,560	7,264
CS_02214.las	48	65,520	4,190	4,272	4,352
CS_02215.las	48	65,520	4,373	4,368	4,272
CS_02240.las	32	62,592	5,107	5,280	5,408
CS_02245.las	464	65,520	4,406	4,400	4,384
CS_02247.las	528	65,520	4,269	4,272	4,208
CS_02251.las	304	65,520	4,275	4,272	4,608
CS_02257.las	32	65,535	4,507	4,736	4,896
CS_02258.las	32	65,535	4,355	4,672	5,152
CS_02259.las	32	65,535	4,568	5,120	5,536
CS_02260.las	32	65,535	4,399	4,960	5,344
CS_02264.las	160	53,824	5,773	5,504	4,736
CS_02268.las	224	65,535	6,381	6,560	7,264
CS_02277.las	240	35,520	4,876	5,008	5,104
CS_02287.las	48	65,520	4,154	4,224	4,320
CS_02288.las	32	65,520	4,484	4,496	4,336
CS_02310.las	32	65,535	5,050	5,248	5,376
CS_02313.las	480	65,520	4,687	4,496	4,368
CS_02315.las	448	65,520	4,212	4,160	3,824
CS_02318.las	320	65,520	4,309	4,336	4,624
CS_02324.las	32	41,760	4,323	4,640	5,088
CS_02325.las	32	65,535	4,713	5,056	5,344
CS_02327.las	32	65,535	4,205	4,800	5,312
CS_02331.las	192	21,184	6,018	5,824	5,056
CS_02334.las	48	65,520	5,170	5,104	4,896
CS_02344.las	112	24,240	4,799	4,896	4,928
CS_02346.las	64	65,520	4,221	4,240	4,320
CS_02353.las	400	65,520	3,739	3,824	3,904
CS_02354.las	48	65,520	4,720	4,736	4,656

C-3 Report on Intensity Values - continued

File	Minimum	Maximum	Mean	Median	Mode
CS_02358.las	128	65,520	5,029	5,216	5,488
CS_02365.las	160	65,520	3,251	3,264	1,328
CS_02369.las	5,648	8,752	6,836	6,816	6,192
CS_02370.las	64	65,520	4,852	4,960	4,960
CS_02373.las	32	65,535	4,899	5,024	4,960
CS_02376.las	80	65,520	4,727	4,720	4,912
CS_02378.las	464	65,520	3,812	3,696	3,440
CS_02387.las	32	43,456	4,281	4,640	5,248
CS_02388.las	32	65,535	4,797	5,088	5,280
CS_02390.las	32	65,535	4,219	4,800	5,376
CS_02394.las	192	65,535	6,056	5,920	5,120
CS_02396.las	48	65,520	5,032	5,008	5,040
CS_02404.las	64	65,520	4,615	4,672	4,688
CS_02407.las	96	65,520	5,083	5,088	5,024
CS_02417.las	48	65,520	5,046	5,248	5,792
CS_02425.las	112	65,520	4,332	4,656	5,008
CS_02431.las	64	65,520	4,718	4,832	5,040
CS_02436.las	80	65,520	4,885	4,848	4,848
CS_02438.las	448	58,288	3,663	3,520	3,456
CS_02446.las	32	41,120	4,495	4,928	5,472
CS_02447.las	32	65,535	5,040	5,312	5,472
CS_02450.las	32	65,535	7,082	7,552	8,000
CS_02454.las	48	65,520	4,955	4,896	4,560
CS_02463.las	160	54,064	4,642	4,608	4,464
CS_02465.las	592	53,872	4,947	4,864	4,640
CS_02466.las	192	65,520	5,083	5,072	5,024
CS_02474.las	64	65,520	4,845	4,928	5,200
CS_02475.las	48	65,520	5,039	5,184	5,616
CS_02483.las	224	65,520	4,656	4,960	5,120
CS_02488.las	64	65,520	4,682	4,816	5,072
CS_02491.las	32	65,535	4,954	4,992	4,800
CS_02494.las	80	65,520	4,768	4,624	4,384
CS_02496.las	448	65,520	3,659	3,552	3,456

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File	Minimum	Maximum	Mean	Median	Mode
CS_02505.las	32	65,535	4,761	5,152	5,536
CS_02506.las	32	65,535	5,315	5,568	5,696
CS_02511.las	96	65,520	5,256	5,280	5,264
CS_02512.las	112	65,520	4,957	4,896	4,064
CS_02513.las	48	65,520	4,189	4,048	3,264
CS_02517.las	48	65,520	4,622	4,592	4,592
CS_02520.las	64	52,432	4,597	4,544	4,416
CS_02522.las	128	65,520	4,231	4,256	4,320
CS_02523.las	48	65,520	5,127	5,184	5,152
CS_02530.las	64	65,520	4,877	4,976	5,024
CS_02531.las	64	65,520	5,184	5,328	5,520
CS_02539.las	256	65,520	4,885	5,200	5,456
CS_02544.las	48	65,520	4,543	4,672	4,752
CS_02547.las	32	65,535	5,121	5,120	4,864
CS_02550.las	80	65,520	4,766	4,640	4,352
CS_02552.las	432	65,520	3,595	3,568	3,488
CS_02553.las	32	65,535	4,879	5,088	5,120
CS_02555.las	224	65,520	4,501	4,928	5,408
CS_02561.las	32	39,392	4,680	4,928	5,248
CS_02562.las	32	65,535	5,141	5,536	5,760
CS_02566.las	256	65,535	5,969	5,952	4,992
CS_02567.las	48	65,520	5,291	5,312	5,152
CS_02569.las	96	65,520	4,117	3,968	3,360
CS_02573.las	112	65,520	4,331	4,288	4,240
CS_02577.las	64	65,520	4,217	4,240	4,336
CS_02578.las	112	50,464	5,240	5,280	5,136
CS_02584.las	48	65,520	4,748	4,864	4,960
CS_02585.las	48	65,520	5,058	5,296	5,776
CS_02589.las	48	65,520	4,932	4,976	4,912
CS_02592.las	160	65,520	5,045	5,360	5,472
CS_02599.las	768	35,120	4,832	4,864	5,072
CS_02602.las	512	65,520	4,582	4,464	4,320
CS_02604.las	352	65,520	4,277	4,288	4,064

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File	Minimum	Maximum	Mean	Median	Mode
CS_02605.las	32	65,535	4,841	5,056	5,216
CS_02607.las	224	65,520	4,102	4,496	5,056
CS_02613.las	32	48,512	4,452	4,736	5,152
CS_02614.las	32	65,535	4,995	5,408	5,696
CS_02617.las	224	65,535	6,300	6,400	7,424
CS_02618.las	48	65,520	5,299	5,312	5,312
CS_02619.las	128	65,520	4,998	4,928	4,336
CS_02620.las	64	65,520	4,099	4,000	3,712
CS_02624.las	64	65,520	4,294	4,256	4,224
CS_02628.las	48	65,520	4,165	4,192	4,208
CS_02629.las	816	9,696	5,736	5,904	6,112
CS_02634.las	64	65,520	4,814	4,880	4,960
CS_02638.las	304	65,520	5,036	5,024	4,944
CS_02641.las	144	65,520	5,183	5,504	5,776
CS_02647.las	112	65,520	4,197	4,128	3,760
CS_02651.las	528	65,520	4,587	4,464	4,384
CS_02652.las	32	65,535	5,651	5,504	4,960
CS_02655.las	224	65,520	4,146	4,576	5,024
CS_02661.las	32	58,464	4,102	4,384	4,992
CS_02662.las	32	65,535	4,948	5,408	5,728
CS_02666.las	48	65,520	5,305	5,296	5,280
CS_02667.las	48	65,520	5,161	5,072	5,104
CS_02668.las	64	65,520	4,260	4,176	4,000
CS_02672.las	48	65,520	4,275	4,256	4,288
CS_02676.las	64	65,520	4,012	4,080	4,240
CS_02681.las	48	65,520	4,684	4,608	4,224
CS_02685.las	64	65,520	5,215	5,216	5,152
CS_02688.las	48	65,520	5,136	5,408	5,504
CS_02693.las	48	21,824	4,790	4,848	4,896
CS_02695.las	48	65,520	4,248	4,144	3,760
CS_02699.las	384	65,520	4,247	4,272	4,272
CS_02700.las	32	65,535	5,533	5,344	4,832
CS_02710.las	32	65,535	4,761	5,216	5,760

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File	Minimum	Maximum	Mean	Median	Mode
CS_02713.las	48	65,520	5,453	5,456	5,328
CS_02714.las	64	65,520	5,024	4,912	5,104
CS_02715.las	176	65,520	4,361	4,256	4,192
CS_02718.las	128	65,520	4,400	4,368	4,400
CS_02722.las	128	65,520	4,195	4,240	4,272
CS_02727.las	64	65,520	5,221	5,312	5,472
CS_02731.las	304	65,520	5,242	5,264	5,216
CS_02739.las	64	18,752	4,822	4,848	4,928
CS_02740.las	48	65,520	4,177	4,112	3,936
CS_02743.las	448	65,520	4,229	4,240	4,384
CS_02744.las	32	65,535	5,390	5,184	4,800
CS_02748.las	256	65,520	3,982	4,352	4,960
CS_02755.las	32	65,535	4,408	4,832	5,344
CS_02758.las	48	65,520	5,514	5,520	5,568
CS_02759.las	48	65,520	4,807	4,720	3,344
CS_02760.las	48	65,520	4,499	4,384	4,272
CS_02763.las	64	65,520	4,538	4,480	4,400
CS_02765.las	112	56,016	4,677	4,640	4,688
CS_02767.las	64	65,520	4,196	4,144	4,048
CS_02772.las	112	65,520	5,602	5,824	6,176
CS_02776.las	112	65,520	5,253	5,296	5,376
CS_02783.las	512	65,520	4,368	4,416	4,448
CS_02784.las	48	65,520	4,187	4,096	3,920
CS_02789.las	32	50,176	5,090	5,024	4,768
CS_02802.las	64	65,520	4,658	4,464	3,728
CS_02805.las	48	65,520	4,666	4,512	4,304
CS_02807.las	64	65,520	4,470	4,448	4,544
CS_02814.las	64	65,520	5,556	5,776	6,048
CS_02818.las	384	65,520	5,259	5,312	5,376
CS_02821.las	160	65,520	5,265	5,344	5,600
CS_02824.las	384	40,752	4,390	4,464	4,736
CS_02828.las	592	12,592	5,746	5,872	6,128
CS_02843.las	64	65,520	4,582	4,416	3,440

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File	Minimum	Maximum	Mean	Median	Mode
CS_02844.las	64	65,520	4,475	4,400	4,304
CS_02846.las	48	65,520	4,634	4,512	4,224
CS_02852.las	128	65,520	5,415	5,616	5,856
CS_02858.las	336	65,520	5,364	5,424	5,424
CS_02882.las	64	65,520	4,169	4,240	4,368
CS_02887.las	64	65,520	5,549	5,728	6,080
CS_02893.las	320	65,520	5,310	5,392	5,456
CS_02895.las	112	65,520	4,592	4,720	4,928
CS_02898.las	128	65,520	5,715	5,808	5,888
CS_02925.las	512	65,520	3,833	3,904	4,096
CS_02937.las	64	65,520	4,078	4,144	4,304
CS_02938.las	64	65,520	4,359	4,272	4,048
CS_02957.las	64	65,520	4,307	4,336	4,384
CS_02983.las	224	17,120	3,696	3,584	3,840
CS_03027.las	192	21,168	4,697	4,816	5,136
CS_03041.las	112	28,352	4,257	4,320	4,528
CS_03042.las	96	65,520	4,400	4,208	4,000
Overall Statistics	32	65,535	4,712	4,720	4,768

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

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