

Point cloud metric	Height threshold (m)	Return type	Description	Data type	Link
zmean_above2_first	2	First returns	Mean of return heights (m)	Float	https://ptompalski.github.io/lidRmetrics/reference/metrics_basic.html
zsd_above2_first	2	First returns	Standard deviation of return heights (m)	Float	https://ptompalski.github.io/lidRmetrics/reference/metrics_basic.html
zcv_above2_first	2	First returns	Coefficient of variation of return heights (%)	Float	https://ptompalski.github.io/lidRmetrics/reference/metrics_basic.html
zq1_above2_first	2	First returns	Height percentile (m)	Float	https://ptompalski.github.io/lidRmetrics/reference/metrics_percentiles.html
zq5_above2_first	2	First returns	Height percentile (m)	Float	https://ptompalski.github.io/lidRmetrics/reference/metrics_percentiles.html
zq10_above2_first	2	First returns	Height percentile (m)	Float	https://ptompalski.github.io/lidRmetrics/reference/metrics_percentiles.html
zq20_above2_first	2	First returns	Height percentile (m)	Float	https://ptompalski.github.io/lidRmetrics/reference/metrics_percentiles.html
zq25_above2_first	2	First returns	Height percentile (m)	Float	https://ptompalski.github.io/lidRmetrics/reference/metrics_percentiles.html
zq30_above2_first	2	First returns	Height percentile (m)	Float	https://ptompalski.github.io/lidRmetrics/reference/metrics_percentiles.html
zq40_above2_first	2	First returns	Height percentile (m)	Float	https://ptompalski.github.io/lidRmetrics/reference/metrics_percentiles.html
zq50_above2_first	2	First returns	Height percentile (m)	Float	https://ptompalski.github.io/lidRmetrics/reference/metrics_percentiles.html
zq60_above2_first	2	First returns	Height percentile (m)	Float	https://ptompalski.github.io/lidRmetrics/reference/metrics_percentiles.html
zq70_above2_first	2	First returns	Height percentile (m)	Float	https://ptompalski.github.io/lidRmetrics/reference/metrics_percentiles.html
zq75_above2_first	2	First returns	Height percentile (m)	Float	https://ptompalski.github.io/lidRmetrics/reference/metrics_percentiles.html
zq80_above2_first	2	First returns	Height percentile (m)	Float	https://ptompalski.github.io/lidRmetrics/reference/metrics_percentiles.html
zq90_above2_first	2	First returns	Height percentile (m)	Float	https://ptompalski.github.io/lidRmetrics/reference/metrics_percentiles.html
zq95_above2_first	2	First returns	Height percentile (m)	Float	https://ptompalski.github.io/lidRmetrics/reference/metrics_percentiles.html
zq99_above2_first	2	First returns	Height percentile (m)	Float	https://ptompalski.github.io/lidRmetrics/reference/metrics_percentiles.html
rumple_above2_first	2	First returns	Ratio of 3D canopy surface area to 2D terrain surface area	Float	https://ptompalski.github.io/lidRmetrics/reference/metrics_rumple.html
pzabovemean_first	0	First returns	Percentage of returns above mean return height (%)	Float	https://ptompalski.github.io/lidRmetrics/reference/metrics_percabove.html
pzabove2_first	0	First returns	Percentage of returns above 2 m (%)	Float	https://ptompalski.github.io/lidRmetrics/reference/metrics_percabove.html

pz_0_1	0	All returns	Percentage of points calculated for a set of horizontal layers (> 0 & ≤ 1) (%)	Float	https://ptompalski.github.io/lidRmetrics/reference/metrics_interval.html
pz_1_2	0	All returns	Percentage of points calculated for a set of horizontal layers (%)	Float	https://ptompalski.github.io/lidRmetrics/reference/metrics_interval.html
pz_2_3	0	All returns	Percentage of points calculated for a set of horizontal layers (%)	Float	https://ptompalski.github.io/lidRmetrics/reference/metrics_interval.html
pz_3_4	0	All returns	Percentage of points calculated for a set of horizontal layers (%)	Float	https://ptompalski.github.io/lidRmetrics/reference/metrics_interval.html
pz_4_5	0	All returns	Percentage of points calculated for a set of horizontal layers (%)	Float	https://ptompalski.github.io/lidRmetrics/reference/metrics_interval.html
pz_5_6	0	All returns	Percentage of points calculated for a set of horizontal layers (%)	Float	https://ptompalski.github.io/lidRmetrics/reference/metrics_interval.html
pz_6_7	0	All returns	Percentage of points calculated for a set of horizontal layers (%)	Float	https://ptompalski.github.io/lidRmetrics/reference/metrics_interval.html
pz_7_8	0	All returns	Percentage of points calculated for a set of horizontal layers (%)	Float	https://ptompalski.github.io/lidRmetrics/reference/metrics_interval.html
pz_8_9	0	All returns	Percentage of points calculated for a set of horizontal layers (%)	Float	https://ptompalski.github.io/lidRmetrics/reference/metrics_interval.html
pz_9_10	0	All returns	Percentage of points calculated for a set of horizontal layers (%)	Float	https://ptompalski.github.io/lidRmetrics/reference/metrics_interval.html
pz_10_15	0	All returns	Percentage of points calculated for a set of horizontal layers (%)	Float	https://ptompalski.github.io/lidRmetrics/reference/metrics_interval.html
pz_15_20	0	All returns	Percentage of points calculated for a set of horizontal layers (%)	Float	https://ptompalski.github.io/lidRmetrics/reference/metrics_interval.html
pz_20_25	0	All returns	Percentage of points calculated for a set of horizontal layers (%)	Float	https://ptompalski.github.io/lidRmetrics/reference/metrics_interval.html
pz_25_30	0	All returns	Percentage of points calculated for a set of horizontal layers (%)	Float	https://ptompalski.github.io/lidRmetrics/reference/metrics_interval.html
pz_30_35	0	All returns	Percentage of points calculated for a set of horizontal layers (%)	Float	https://ptompalski.github.io/lidRmetrics/reference/metrics_interval.html
pz_35_40	0	All returns	Percentage of points calculated for a set of horizontal layers (%)	Float	https://ptompalski.github.io/lidRmetrics/reference/metrics_interval.html
pz_40_45	0	All returns	Percentage of points calculated for a set of horizontal layers (%)	Float	https://ptompalski.github.io/lidRmetrics/reference/metrics_interval.html
pz_45_50	0	All returns	Percentage of points calculated for a set of horizontal layers (%)	Float	https://ptompalski.github.io/lidRmetrics/reference/metrics_interval.html
pz_above_50	0	All returns	Percentage of points calculated for a set of horizontal layers (%)	Float	https://ptompalski.github.io/lidRmetrics/reference/metrics_interval.html