Supplementary material to

ROCKFALL IN OPEN PIT MINES: MANAGEMENT OF THE PIT GEOMETRY AND PROTECTION MEASURES DESIGN

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SM-1 Design charts

The appendix reports the design charts. To help the reader, the reference to each design chart is reported in Table 1.

Table 1: Design charts.

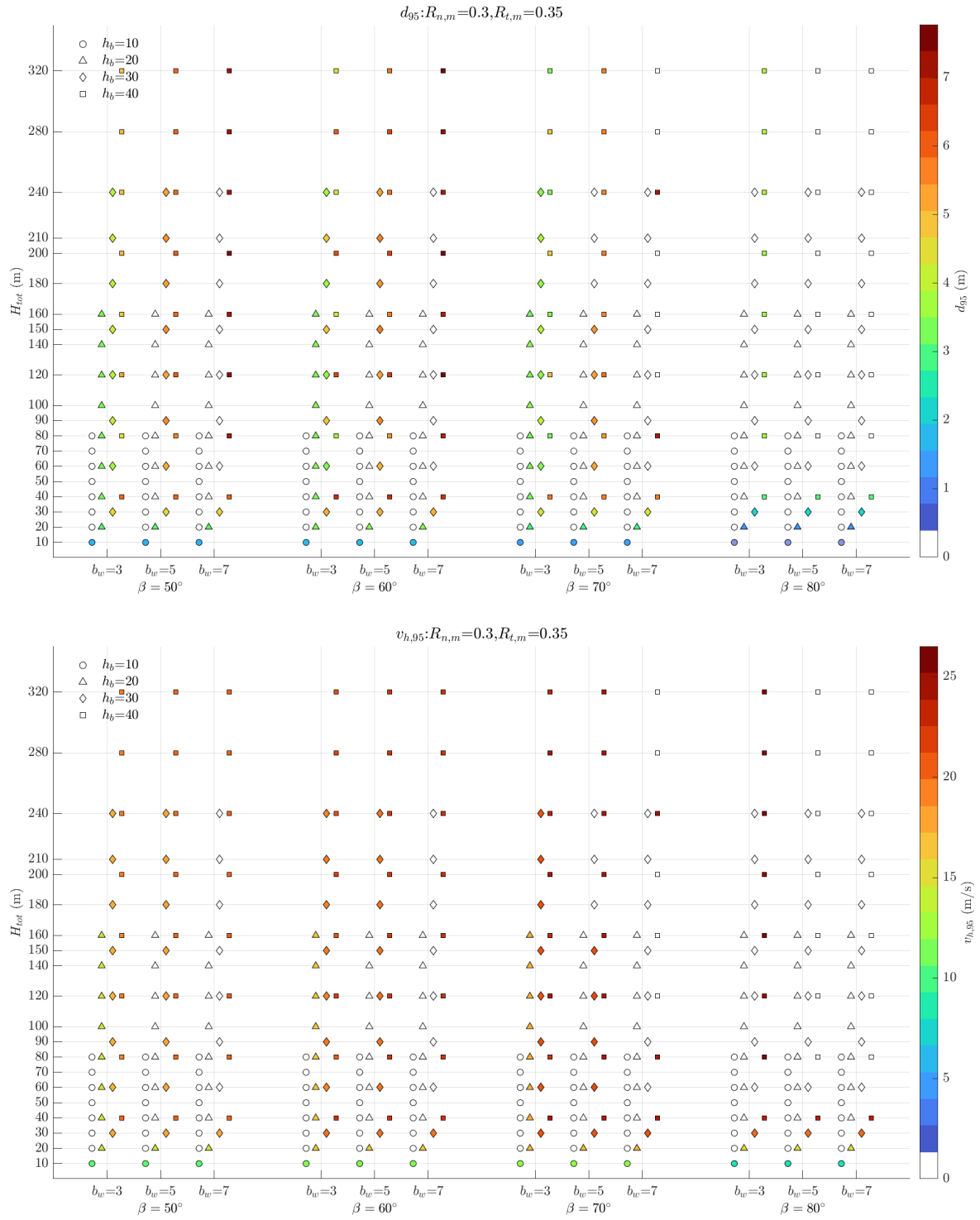| $R_{n,m}$	$R_{t,m}$	Figures
0.30	0.35	Figures SM-1 and SM-2
0.30	0.55	Figures SM-3 and SM-4
0.30	0.75	Figures SM-5 and SM-6
0.30	0.85	Figures SM-7 and SM-8
0.40	0.35	Figures SM-9 and SM-10
0.40	0.55	Figures SM-11 and SM-12
0.40	0.75	Figures SM-13 and SM-14
0.40	0.85	Figures SM-15 and SM-16
0.50	0.35	Figures SM-17 and SM-18
0.50	0.55	Figures SM-19 and SM-20
0.50	0.75	Figures SM-21 and SM-22
0.50	0.85	Figures SM-23 and SM-24

Figure SM-1: Design charts of d_{95} and $v_{h,95}$ values for $R_{n,m} = 0.30$ and $R_{t,m} = 0.35$.
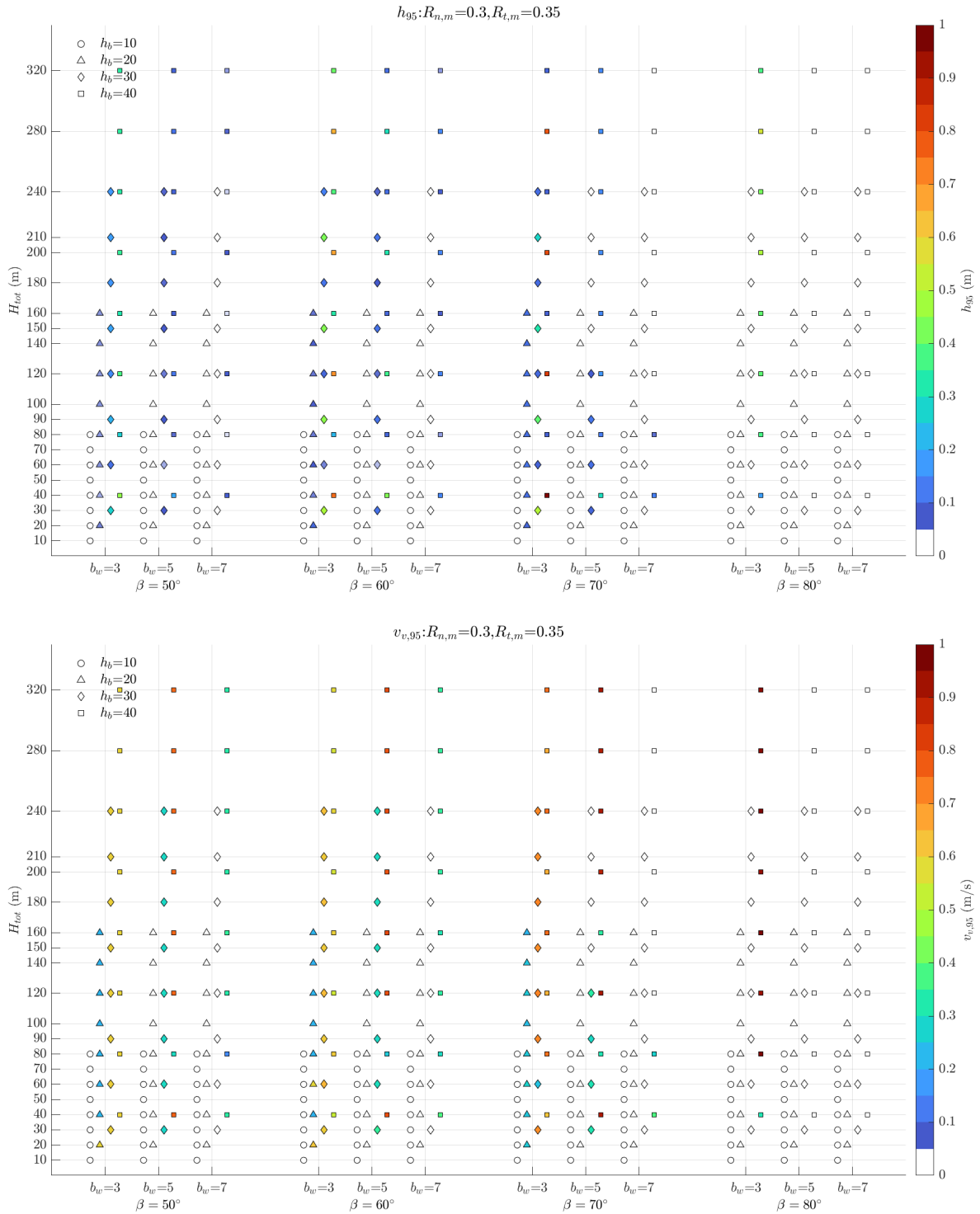
Figure SM-2: Design charts of h_{95} and $v_{v,95}$ values for $R_{n,m} = 0.30$ and $R_{t,m} = 0.35$.
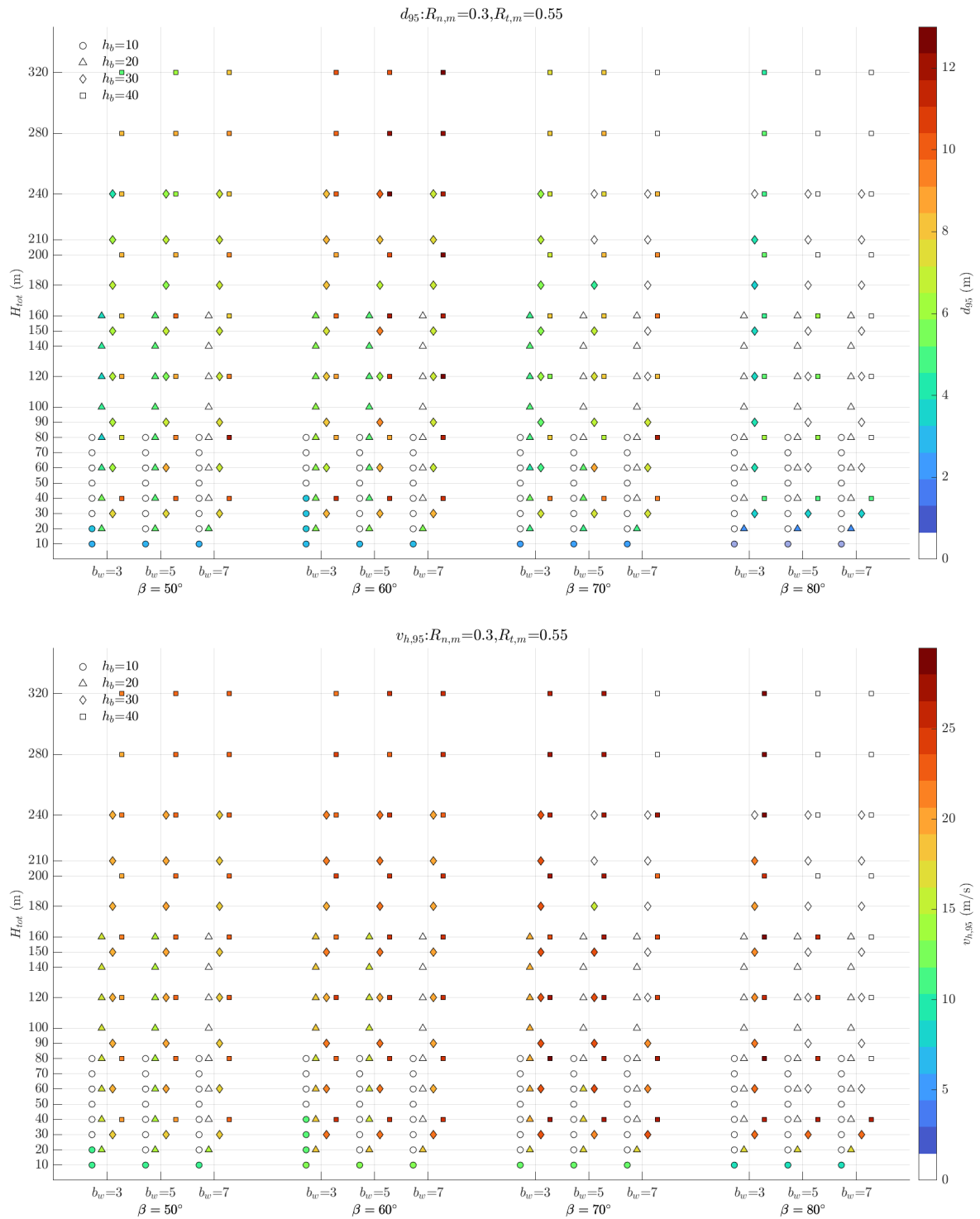
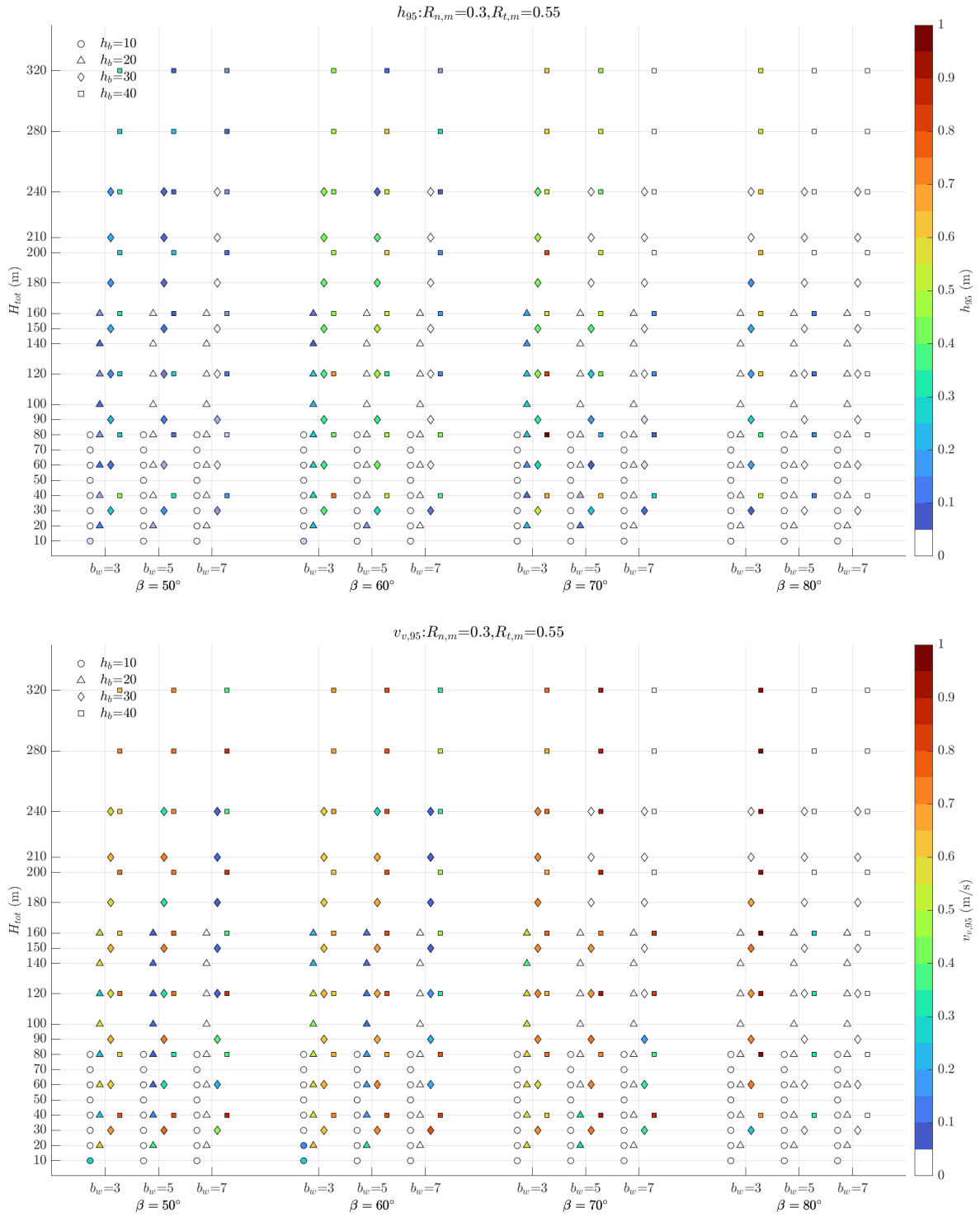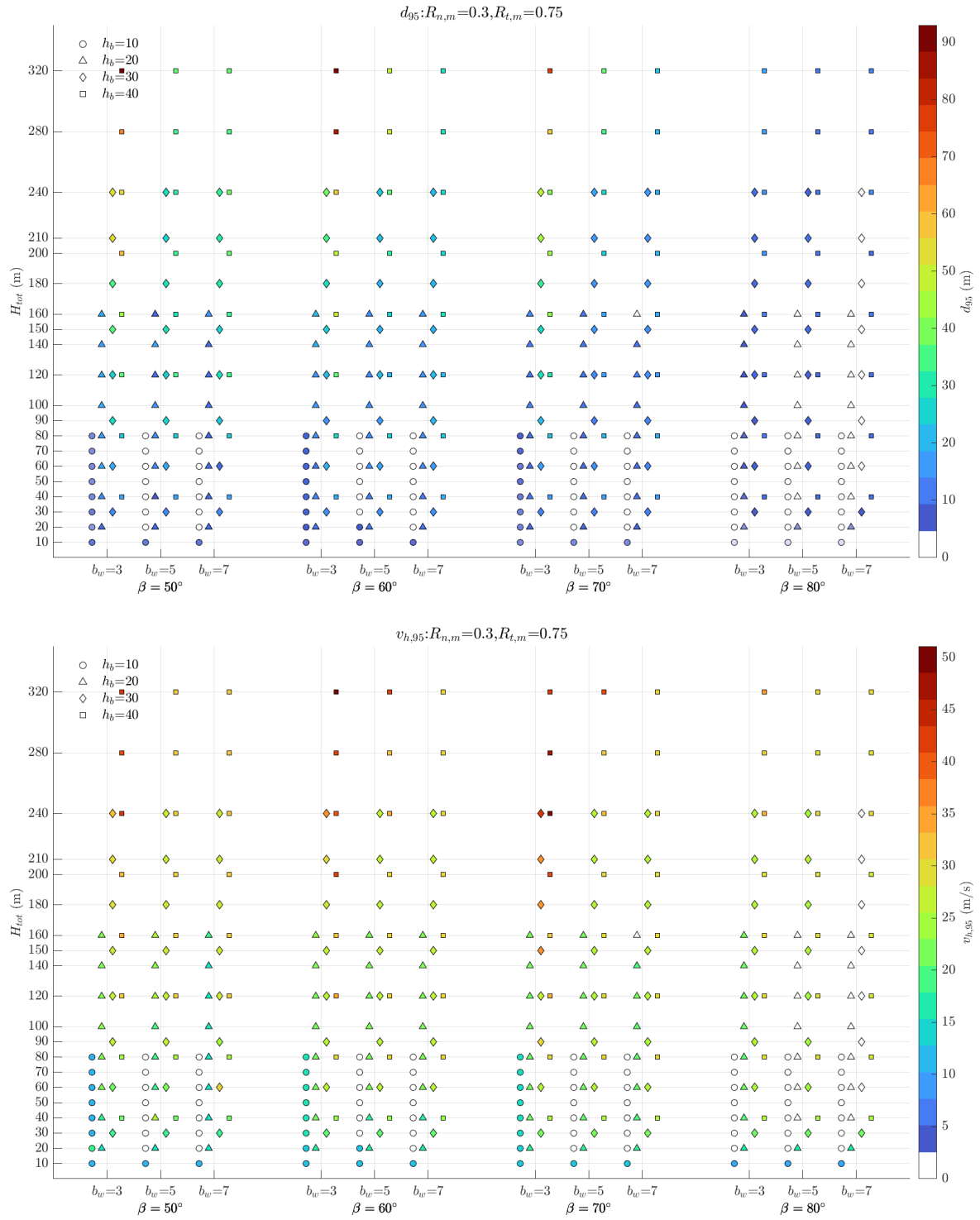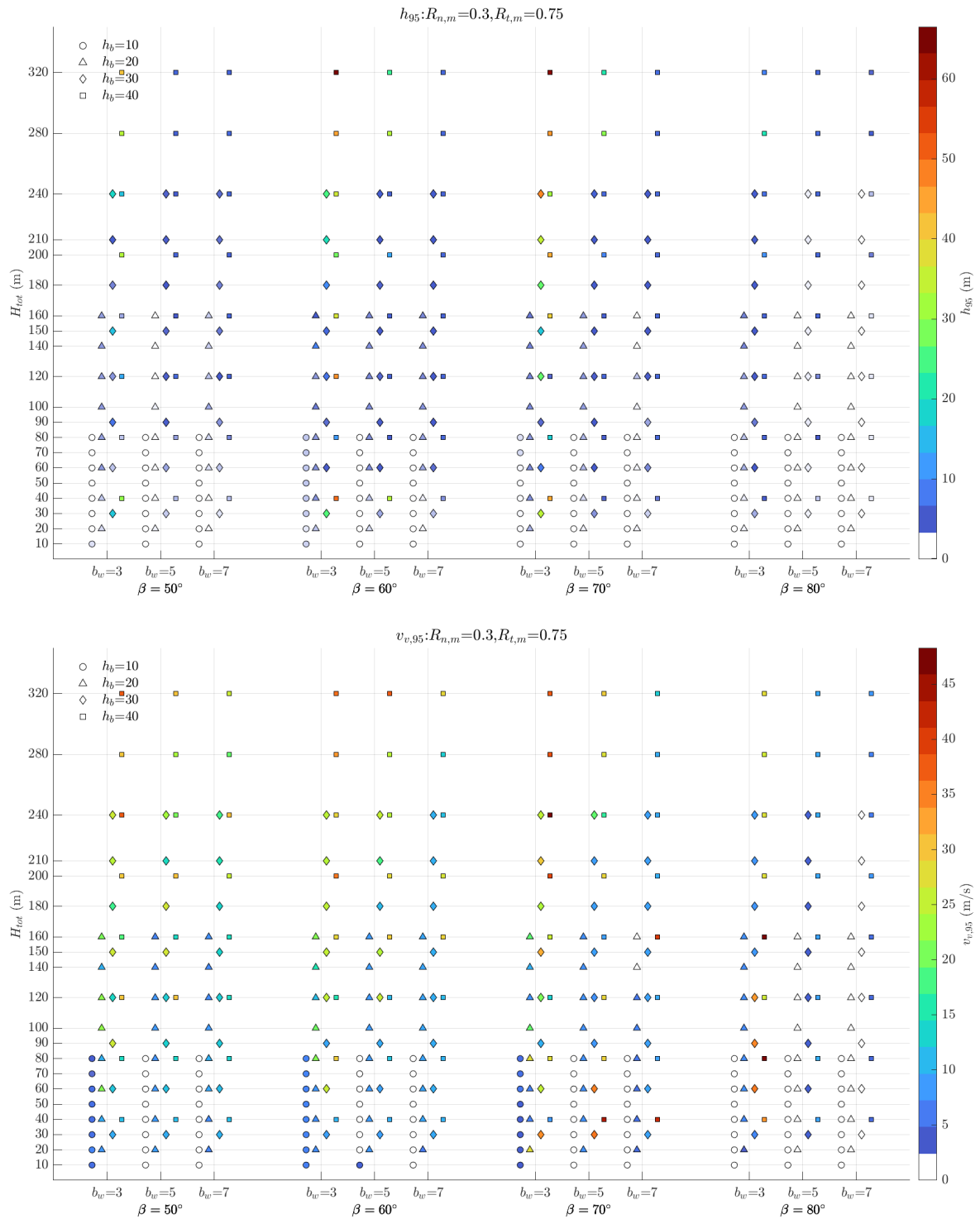Figure SM-3: Design charts of d_{95} and $v_{h,95}$ values for $R_{n,m} = 0.30$ and $R_{t,m} = 0.55$.

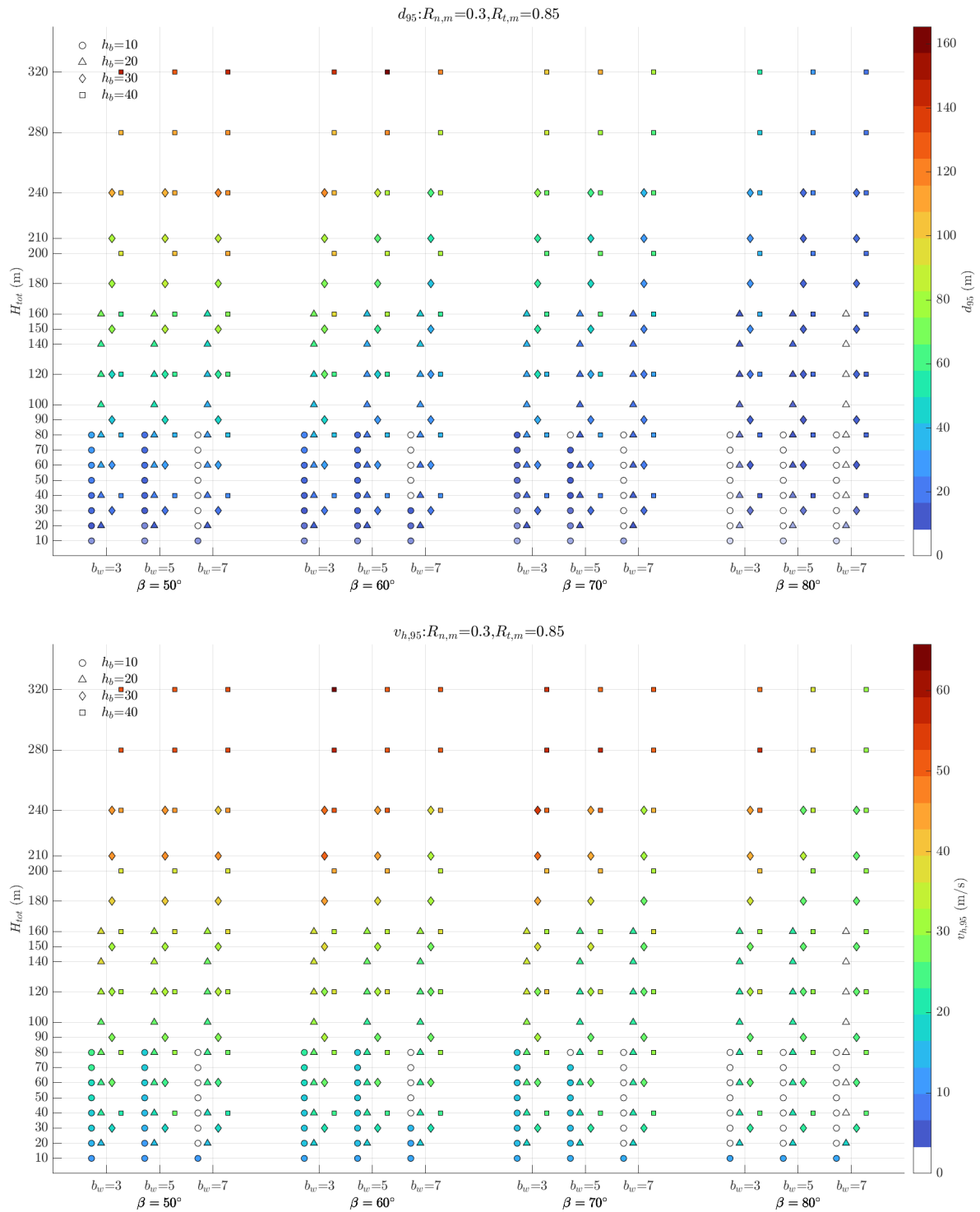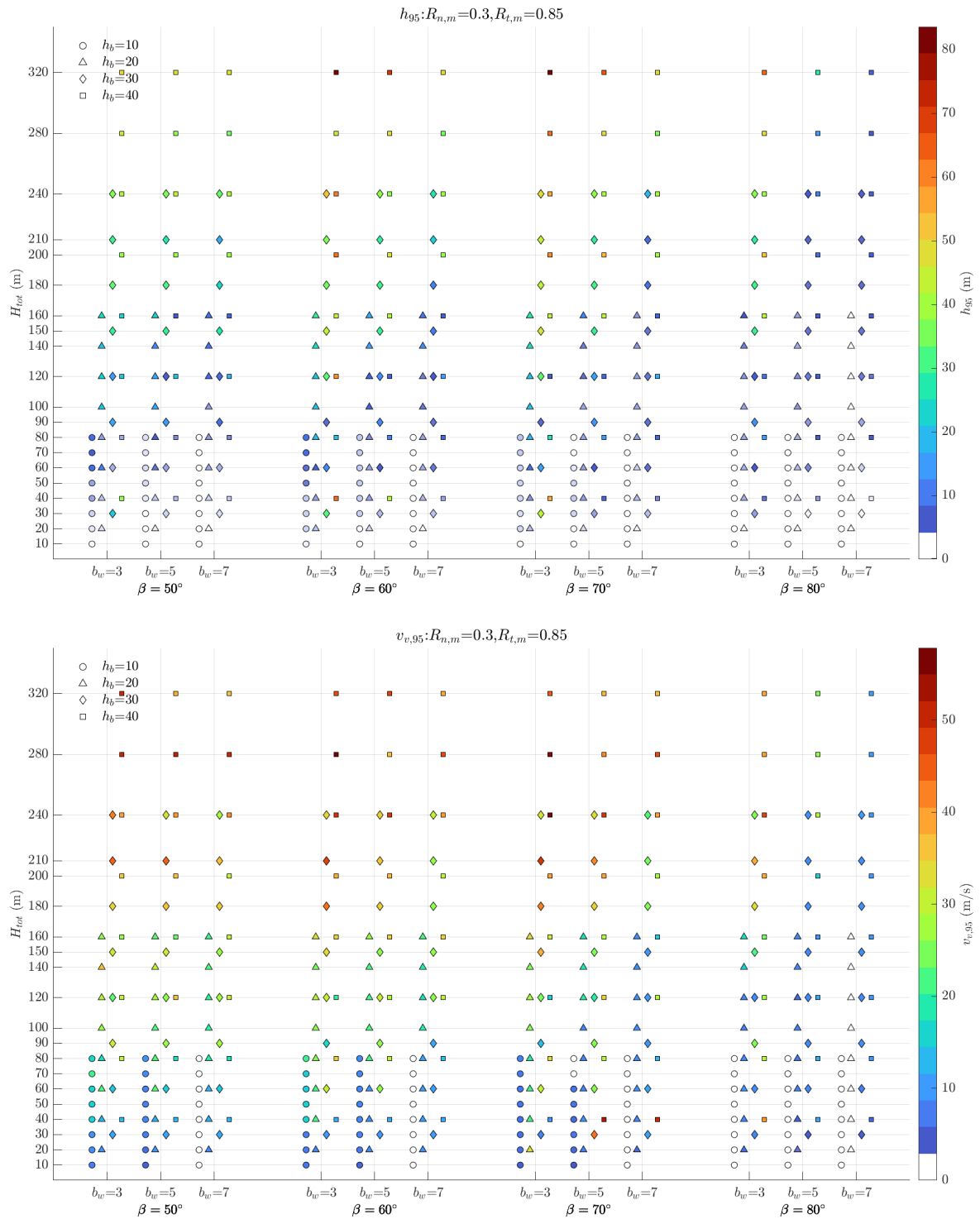Figure SM-4: Design charts of h_{95} and $v_{v,95}$ values for $R_{n,m} = 0.30$ and $R_{t,m} = 0.55$.

Figure SM-5: Design charts of d_{95} and $v_{h,95}$ values for $R_{n,m} = 0.30$ and $R_{t,m} = 0.75$.

Figure SM-6: Design charts of h_{95} and $v_{v,95}$ values for $R_{n,m} = 0.30$ and $R_{t,m} = 0.75$.
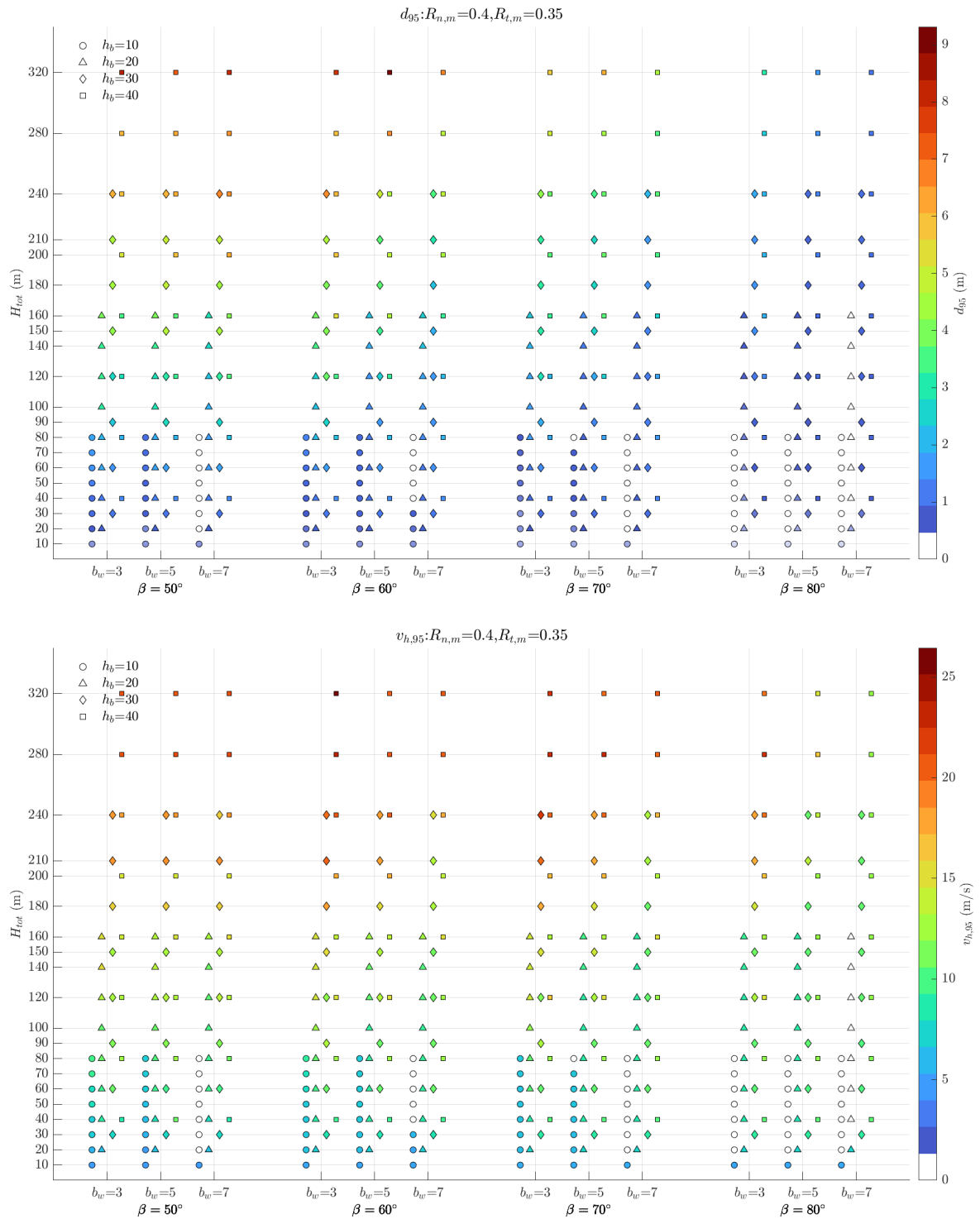
Figure SM-7: Design charts of h_{95} and $v_{v,95}$ values for $R_{n,m} = 0.30$ and $R_{t,m} = 0.75$.

Figure SM-8: Design charts of h_{95} and $v_{v,95}$ values for $R_{n,m} = 0.30$ and $R_{t,m} = 0.75$.

Figure SM-9: Design charts of d_{95} and $v_{h,95}$ values for $R_{n,m} = 0.40$ and $R_{t,m} = 0.35$.
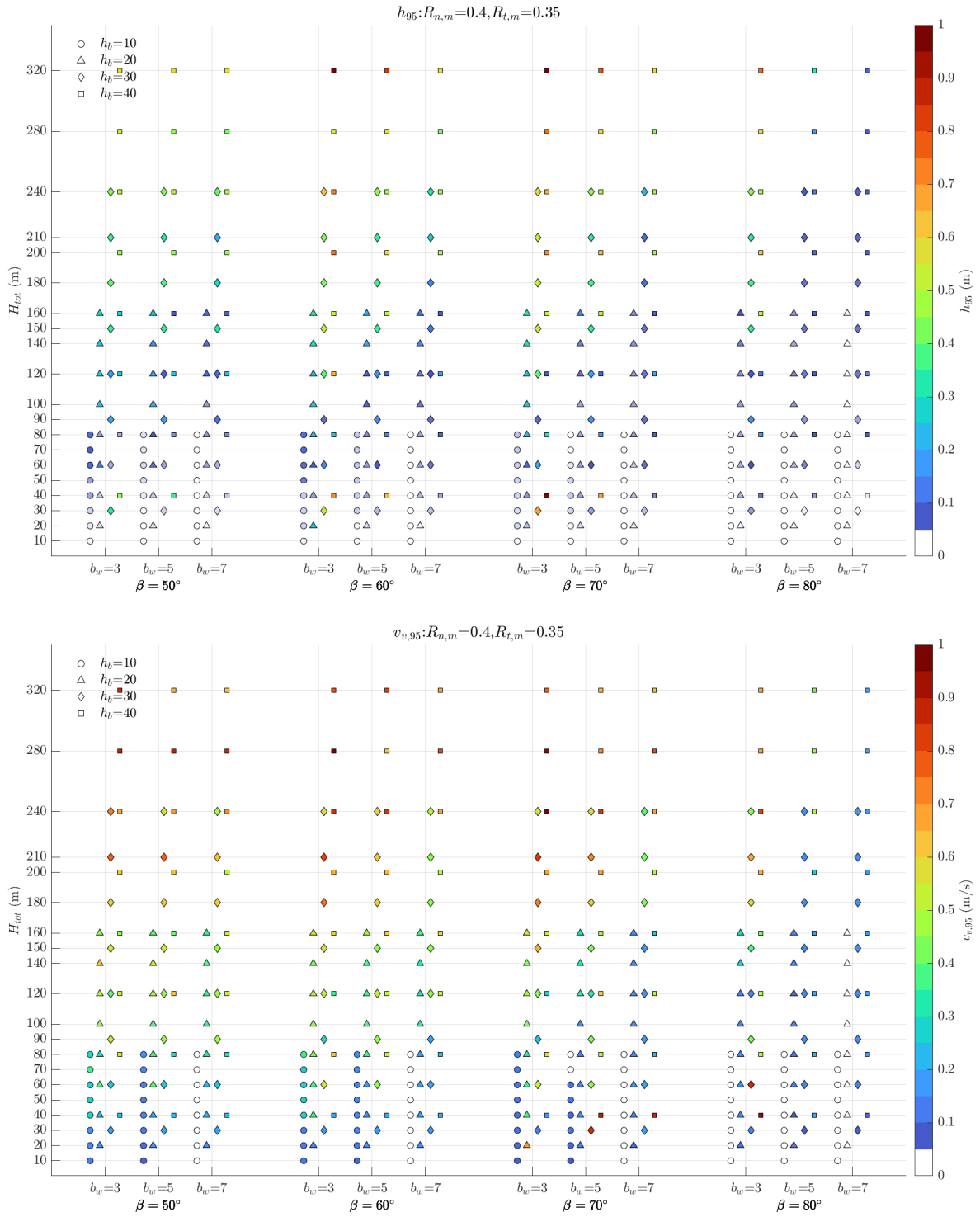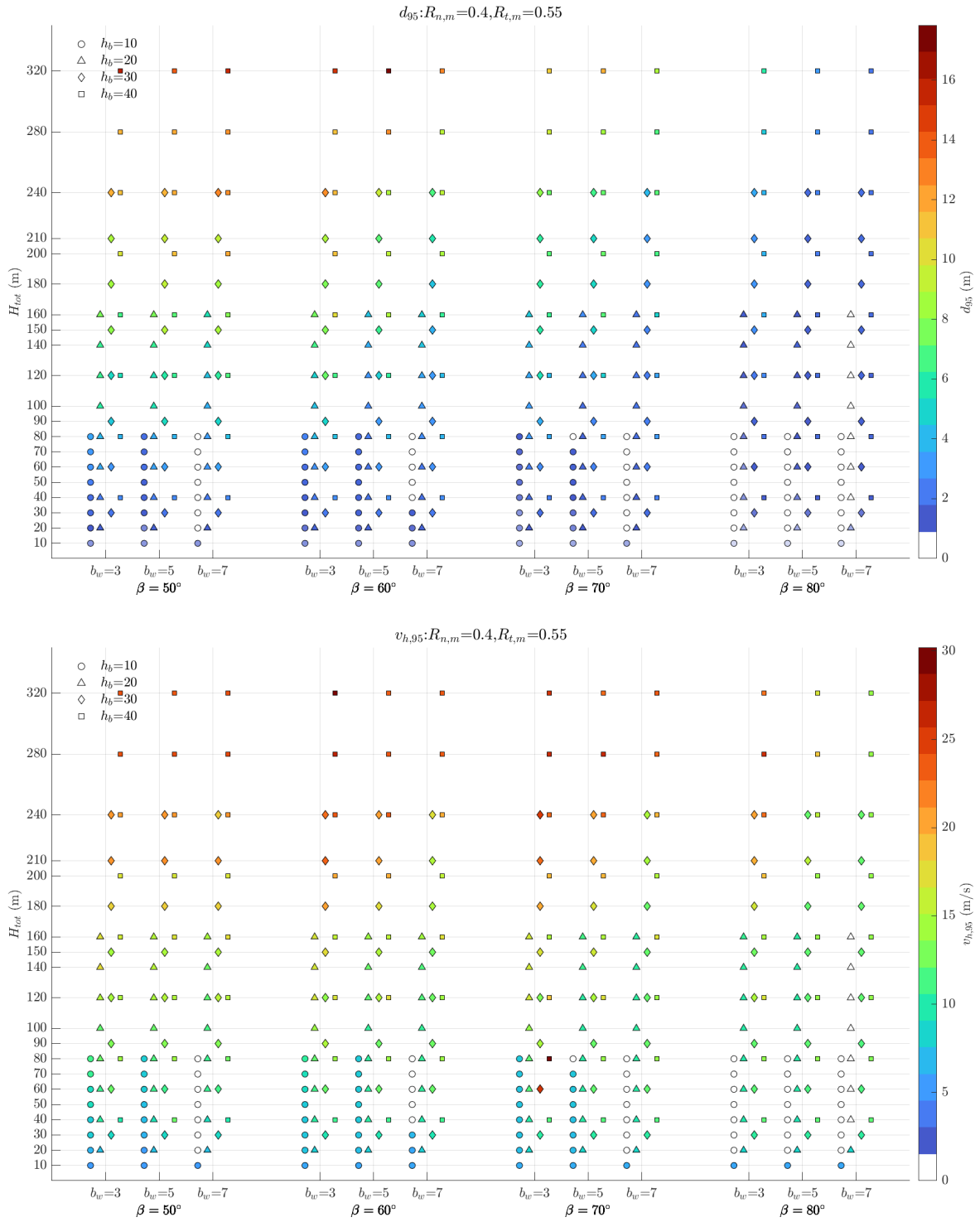
Figure SM-10: Design charts of h_{95} and $v_{v,95}$ values for $R_{n,m} = 0.40$ and $R_{t,m} = 0.35$.

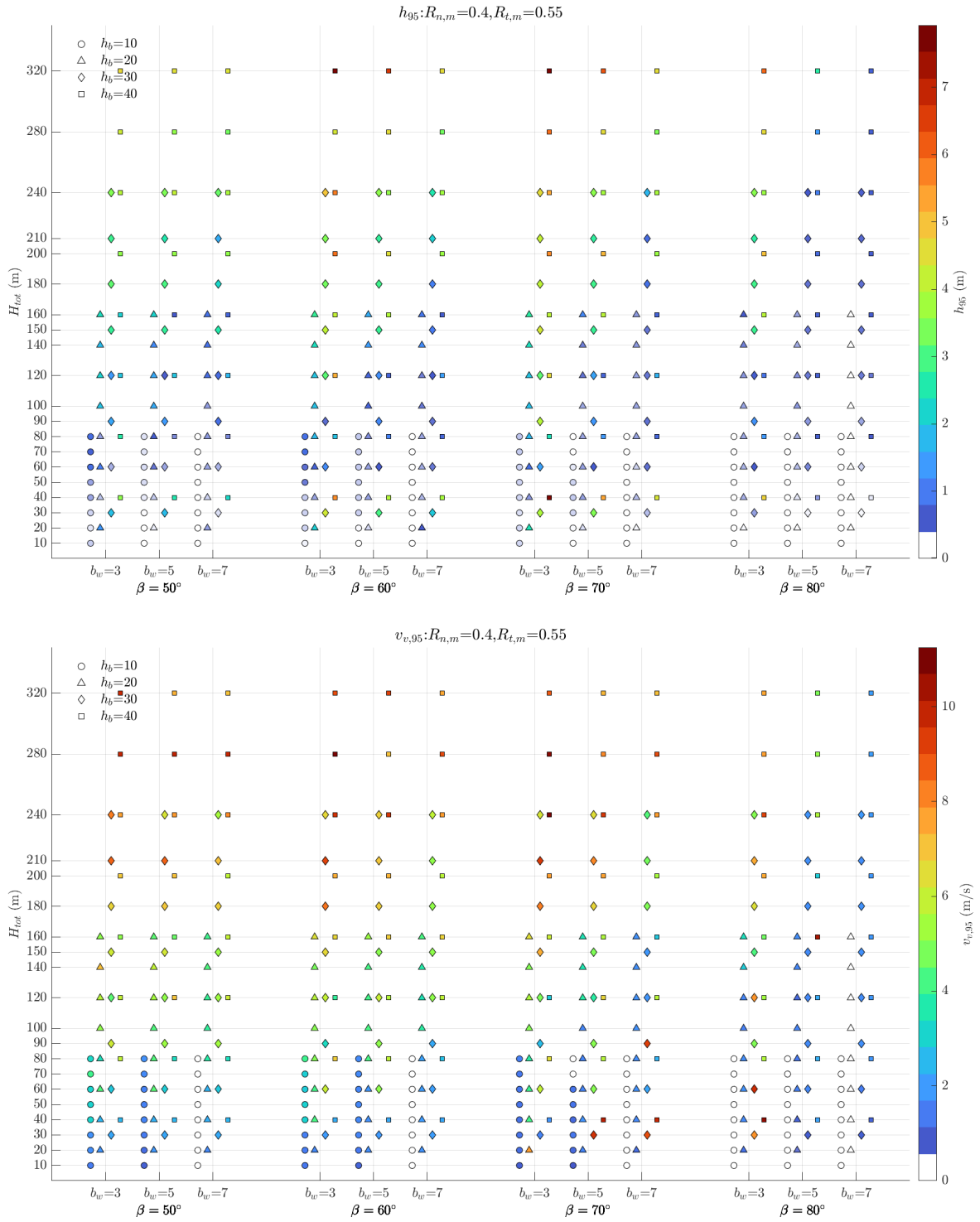Figure SM-11: Design charts of d_{95} and $v_{h,95}$ values for $R_{n,m} = 0.40$ and $R_{t,m} = 0.55$.

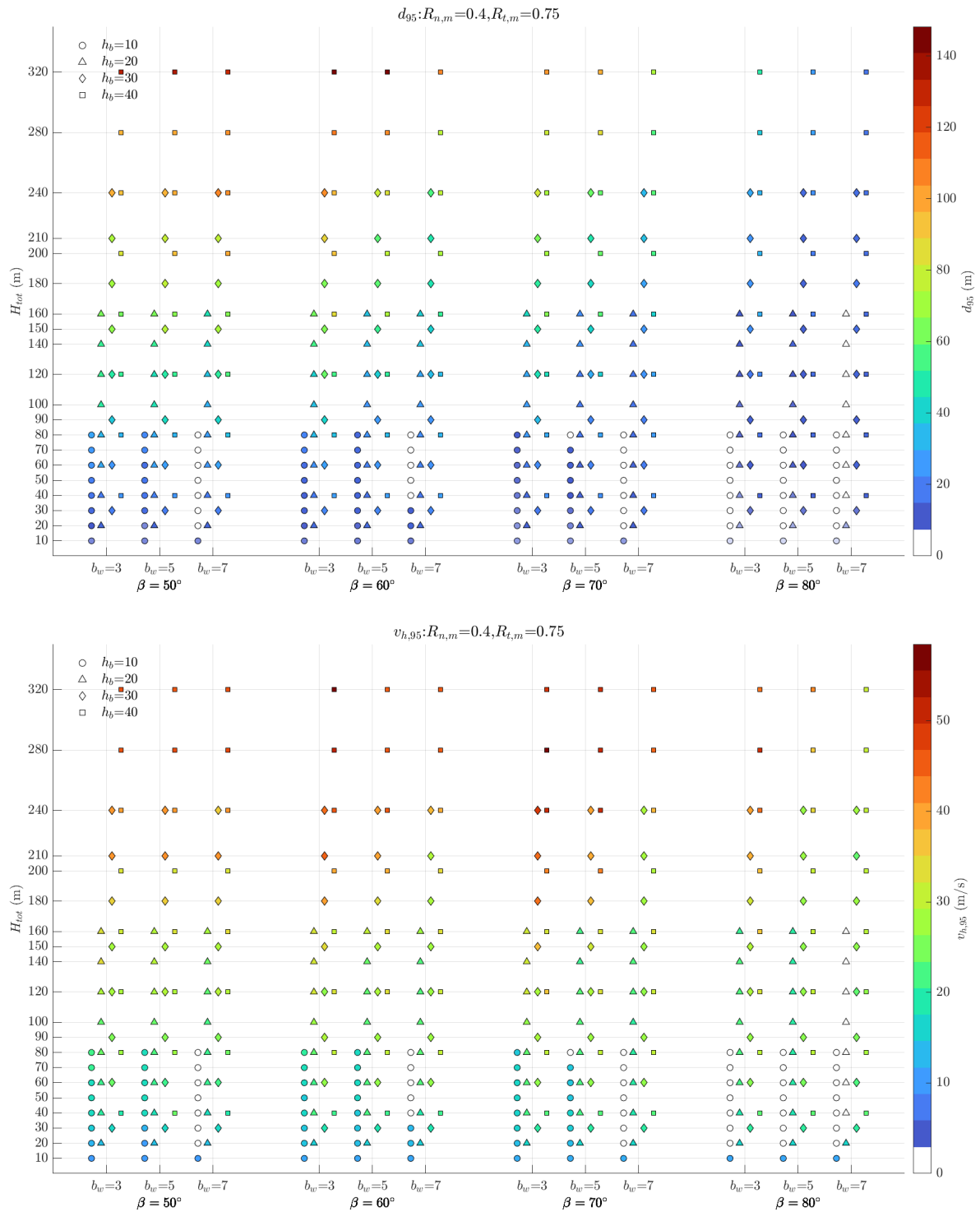Figure SM-12: Design charts of h_{95} and $v_{v,95}$ values for $R_{n,m} = 0.40$ and $R_{t,m} = 0.55$.

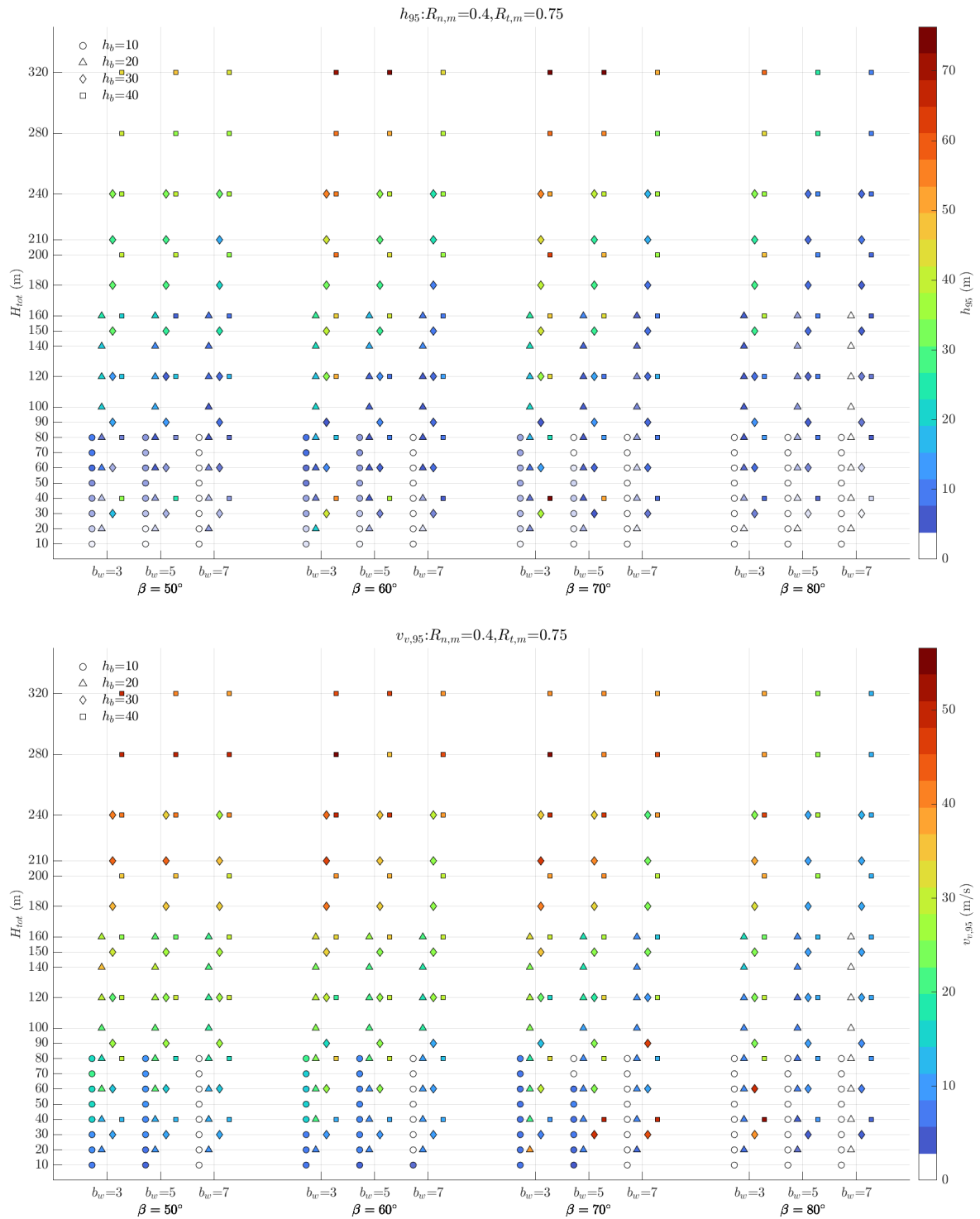Figure SM-13: Design charts of d_{95} and $v_{h,95}$ values for $R_{n,m} = 0.40$ and $R_{t,m} = 0.75$.

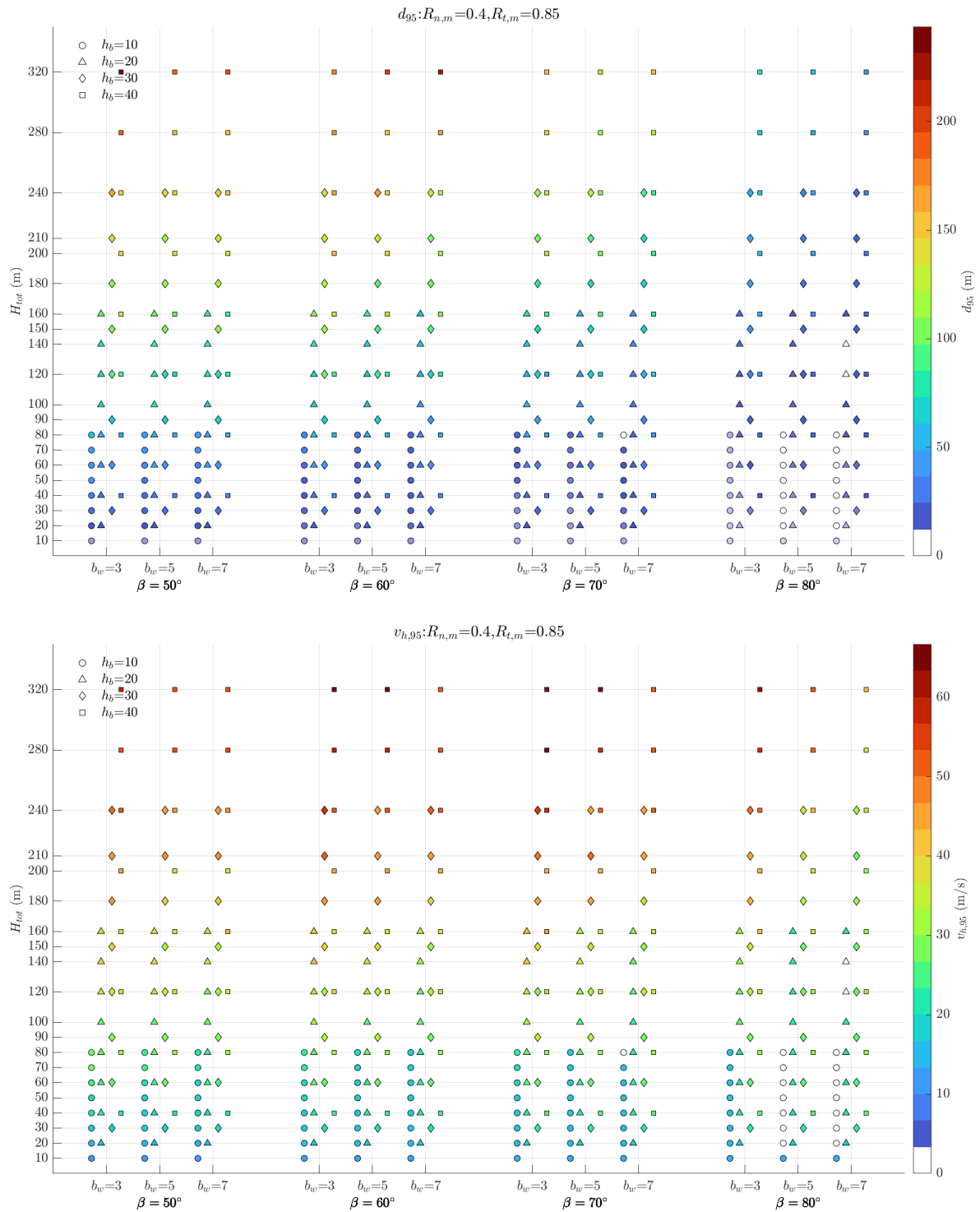Figure SM-14: Design charts of h_{95} and $v_{v,95}$ values for $R_{n,m} = 0.40$ and $R_{t,m} = 0.75$.

Figure SM-15: Design charts of d_{95} and $v_{h,95}$ values for $R_{n,m} = 0.40$ and $R_{t,m} = 0.85$.
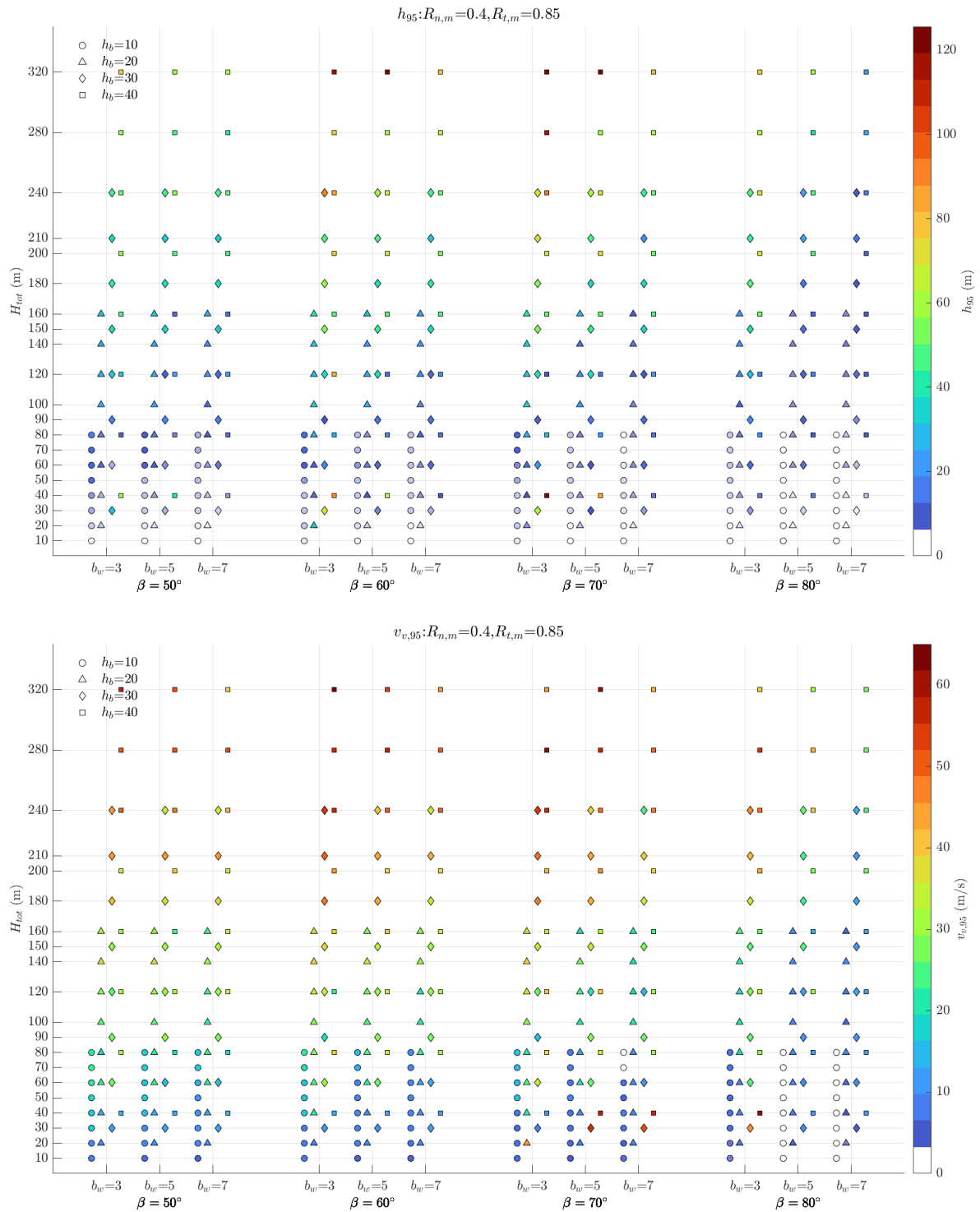
Figure SM-16: Design charts of h_{95} and $v_{v,95}$ values for $R_{n,m} = 0.40$ and $R_{t,m} = 0.85$.
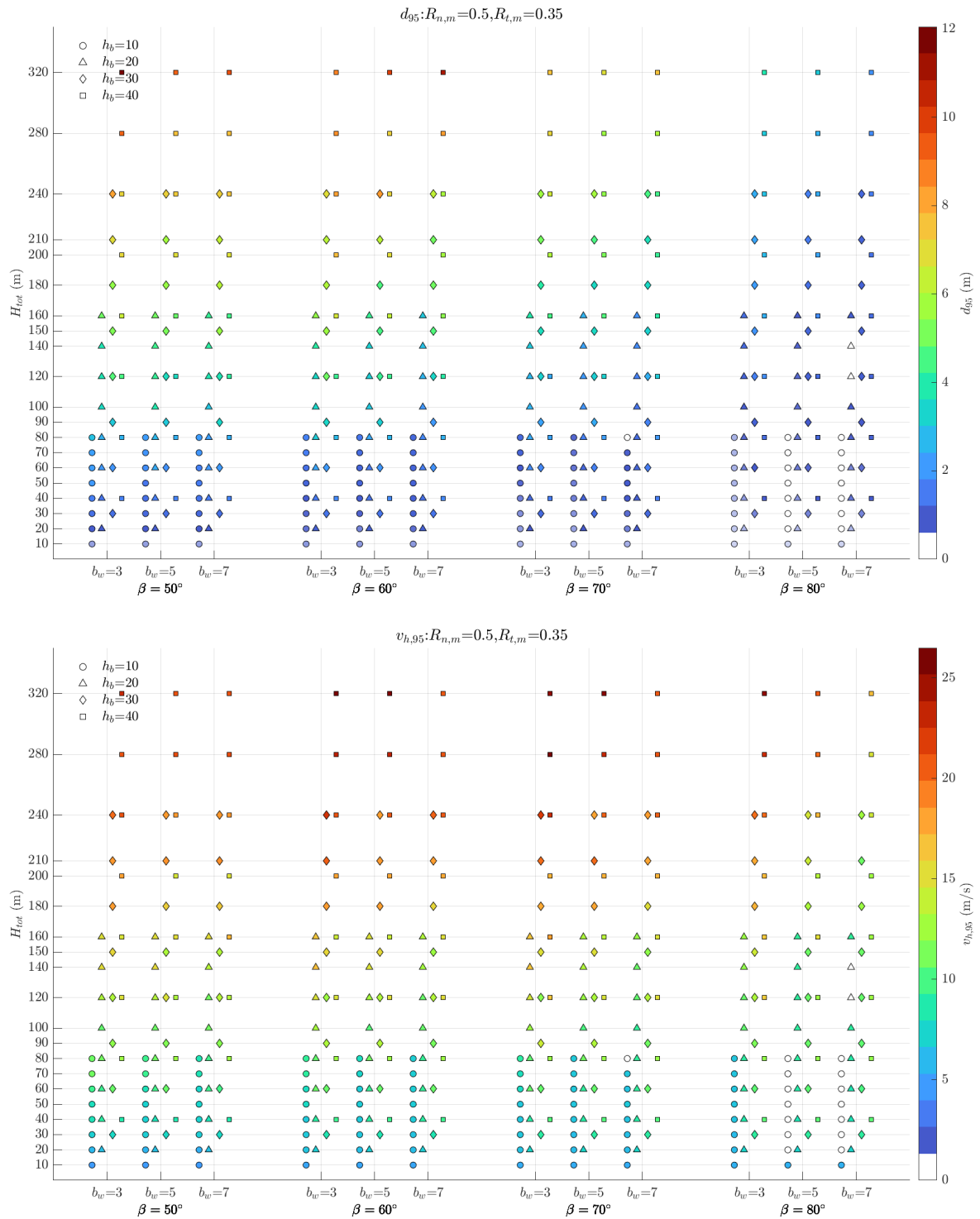
Figure SM-17: Design charts of d_{95} and $v_{h,95}$ values for $R_{n,m} = 0.50$ and $R_{t,m} = 0.35$.
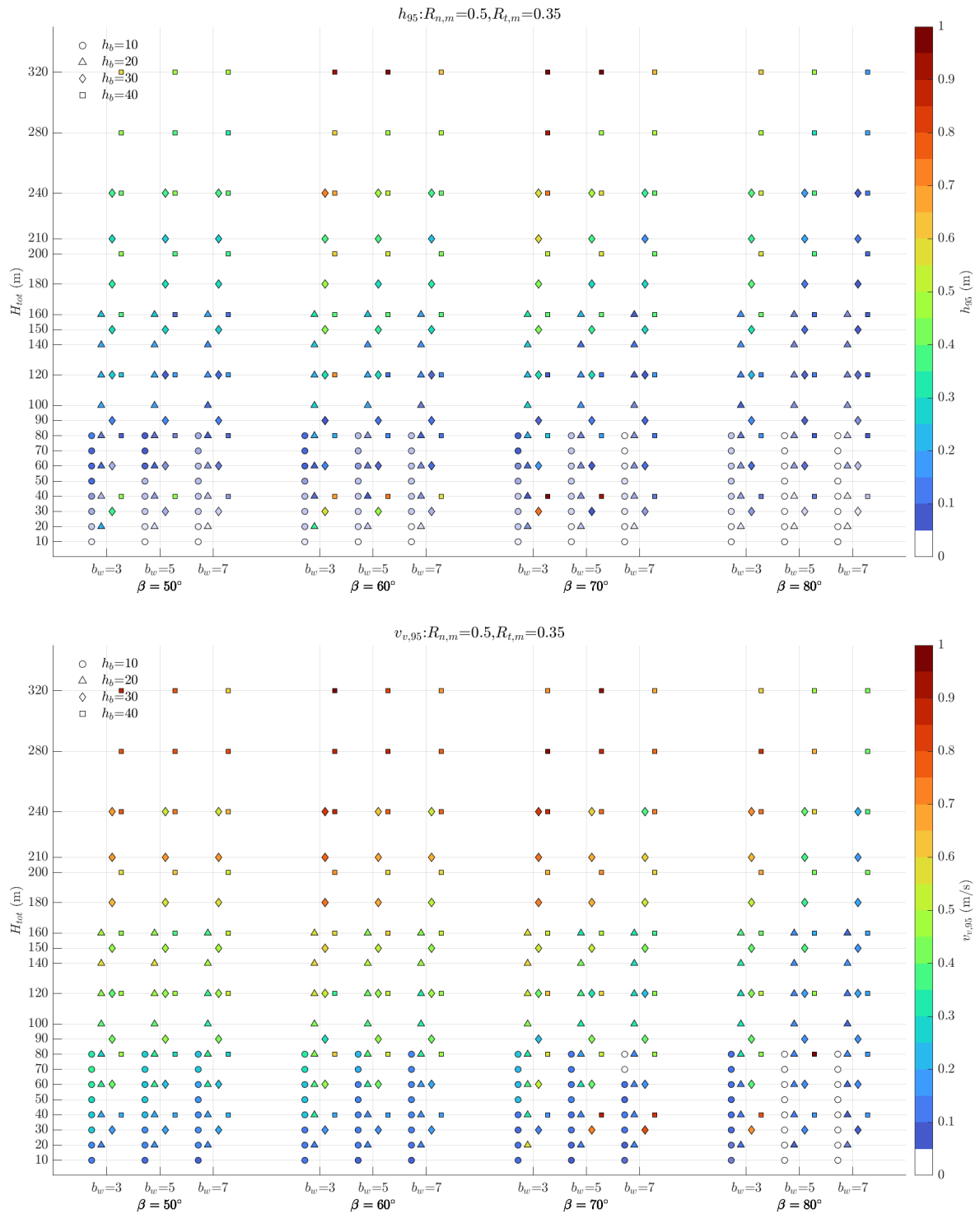
Figure SM-18: Design charts of h_{95} and $v_{v,95}$ values for $R_{n,m} = 0.50$ and $R_{t,m} = 0.35$.
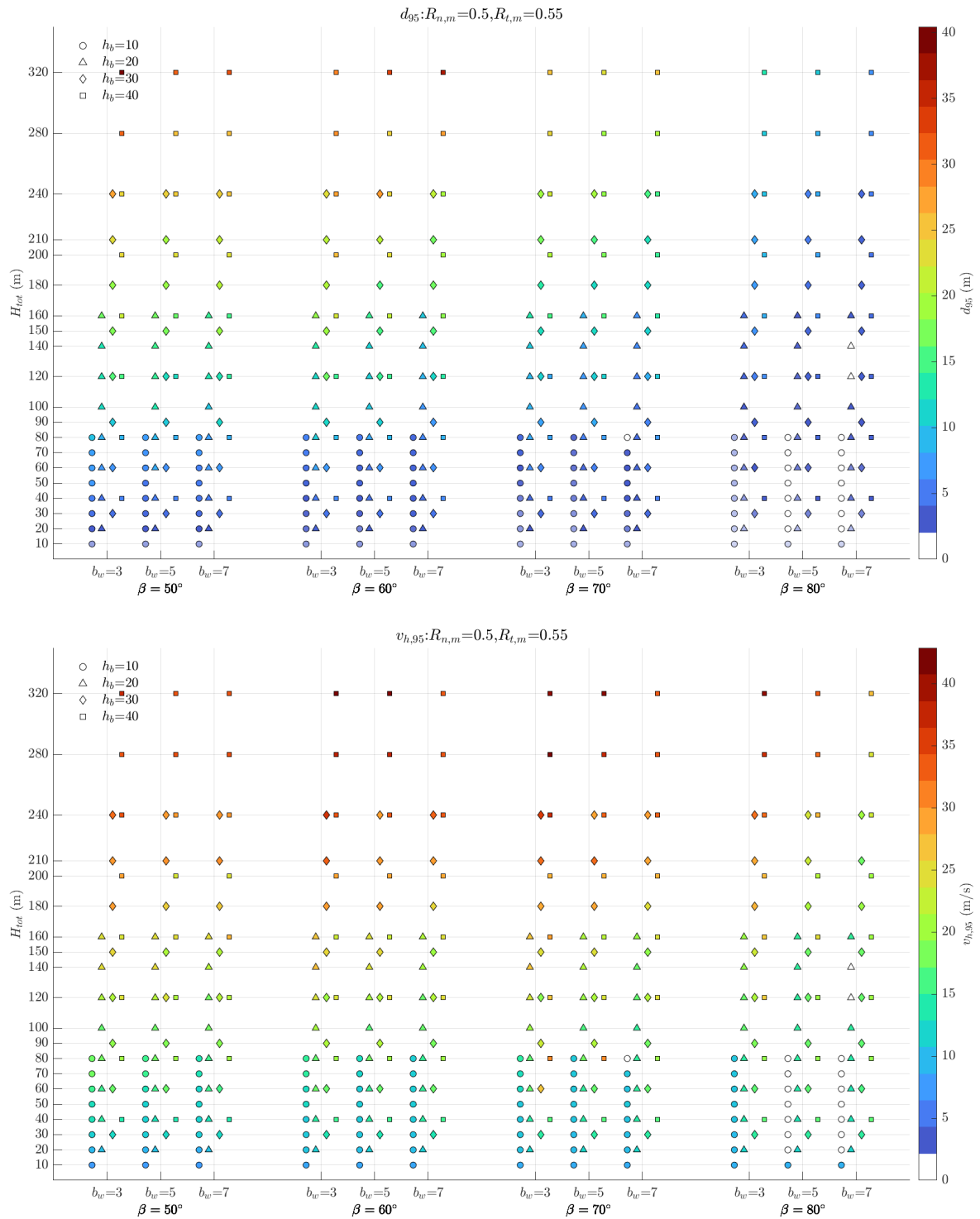
Figure SM-19: Design charts of d_{95} and $v_{h,95}$ values for $R_{n,m} = 0.50$ and $R_{t,m} = 0.55$.
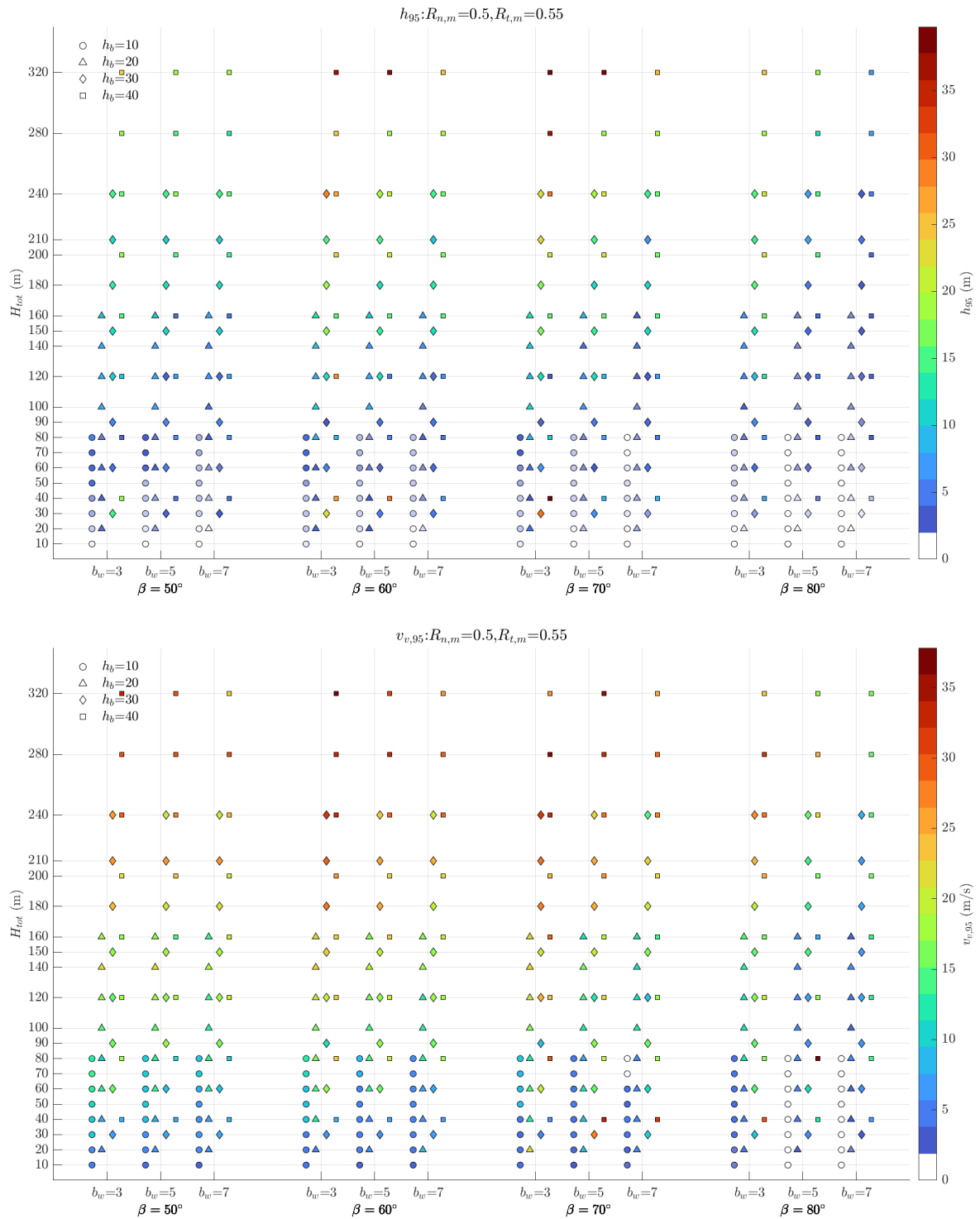
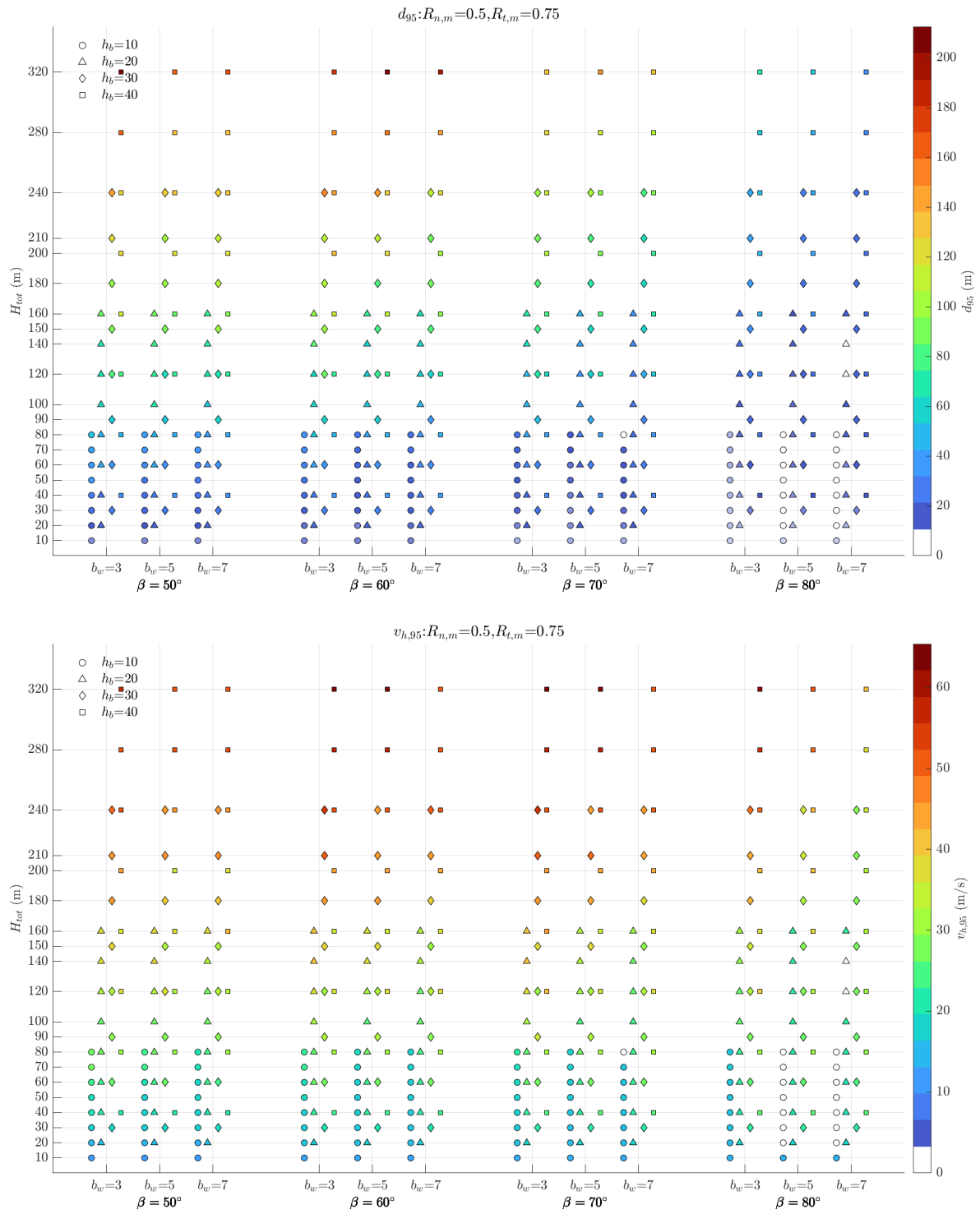Figure SM-20: Design charts of h_{95} and $v_{v,95}$ values for $R_{n,m} = 0.50$ and $R_{t,m} = 0.55$.

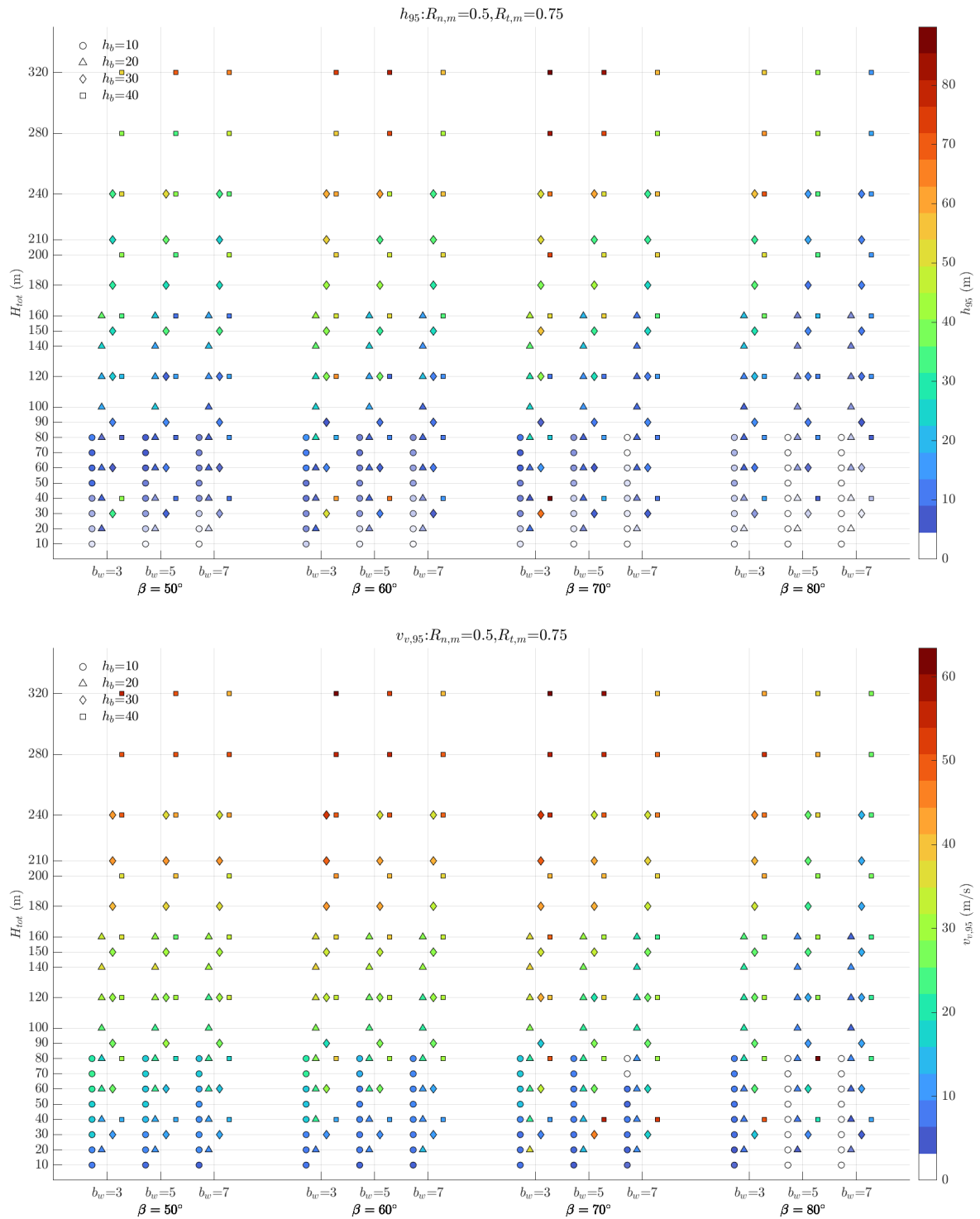Figure SM-21: Design charts of d_{95} and $v_{h,95}$ values for $R_{n,m} = 0.50$ and $R_{t,m} = 0.75$.

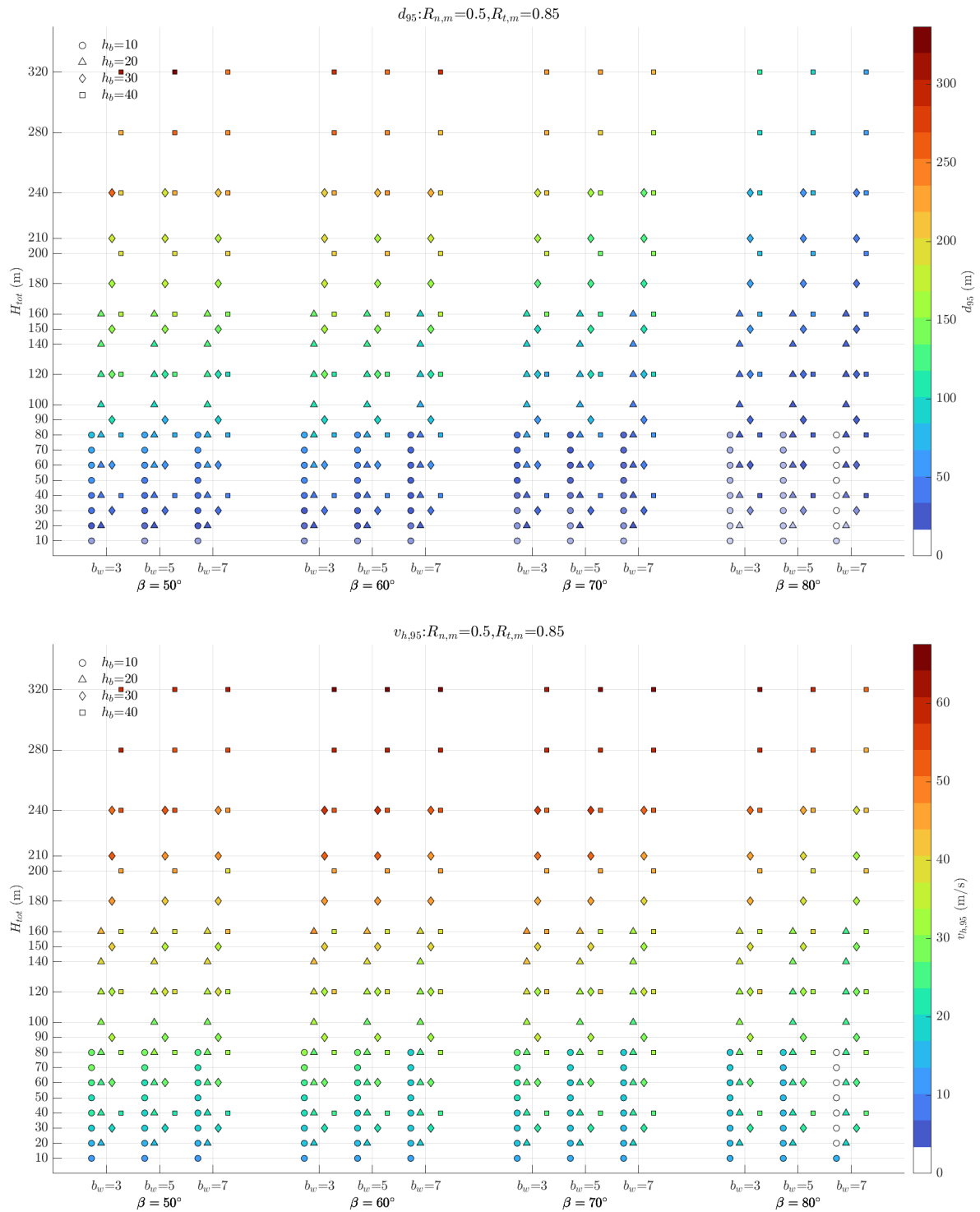Figure SM-22: Design charts of h_{95} and $v_{v,95}$ values for $R_{n,m} = 0.50$ and $R_{t,m} = 0.75$.

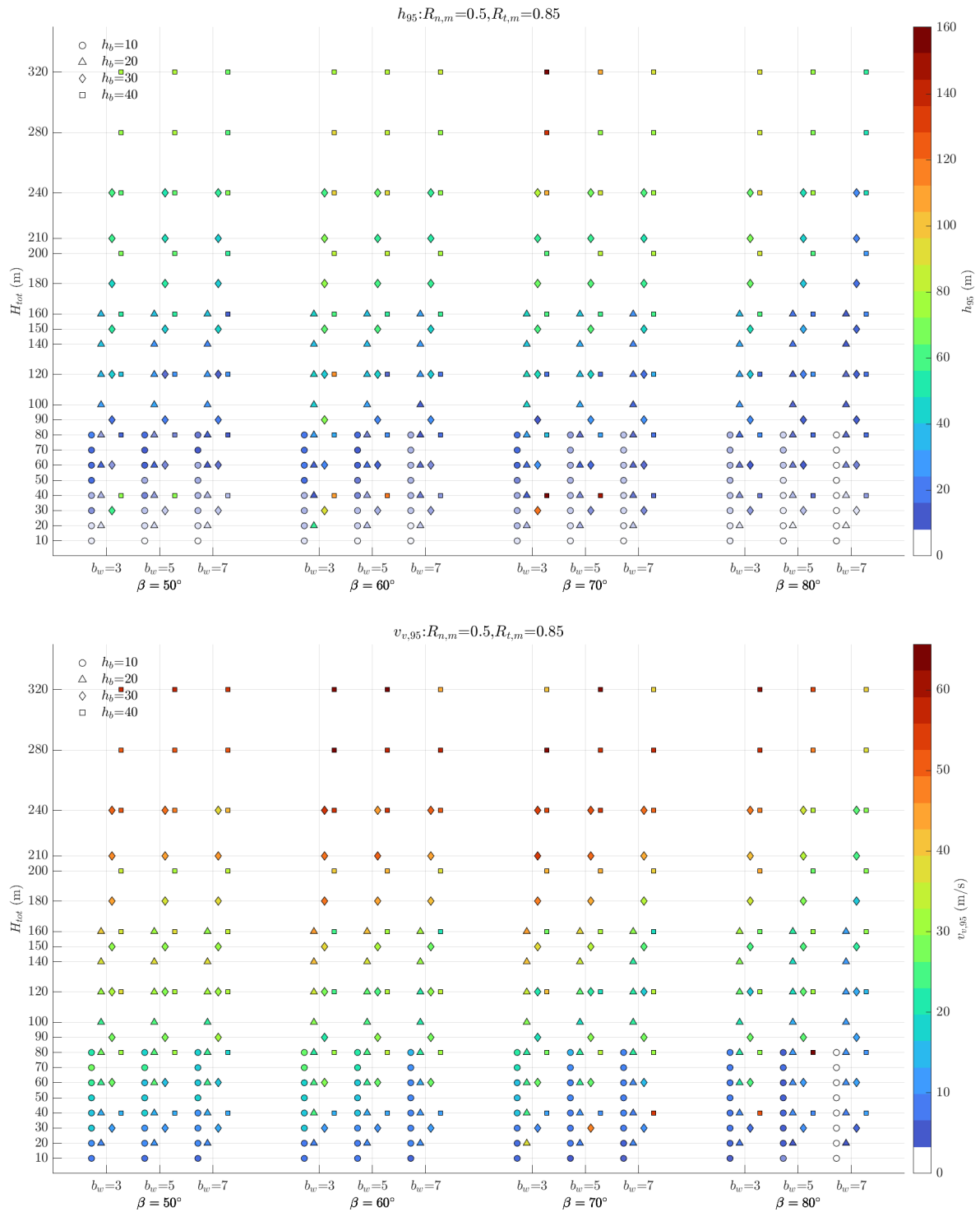Figure SM-23: Design charts of d_{95} and $v_{h,95}$ values for $R_{n,m} = 0.50$ and $R_{t,m} = 0.85$.

Figure SM-24: Design charts of h_{95} and $v_{v,95}$ values for $R_{n,m} = 0.50$ and $R_{t,m} = 0.85$.