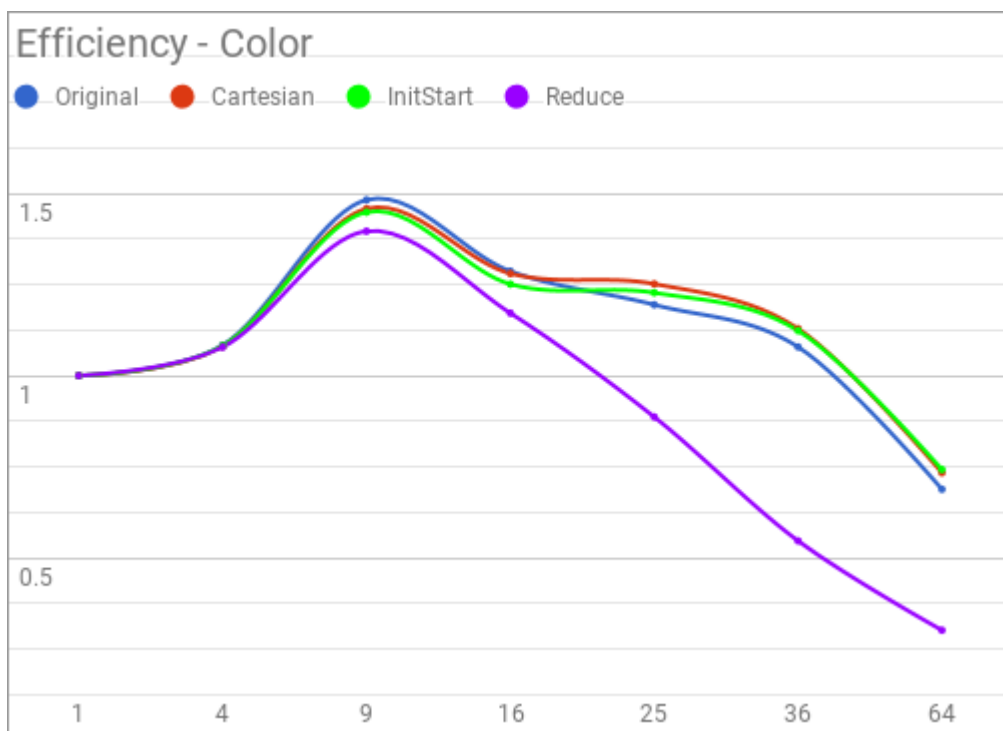
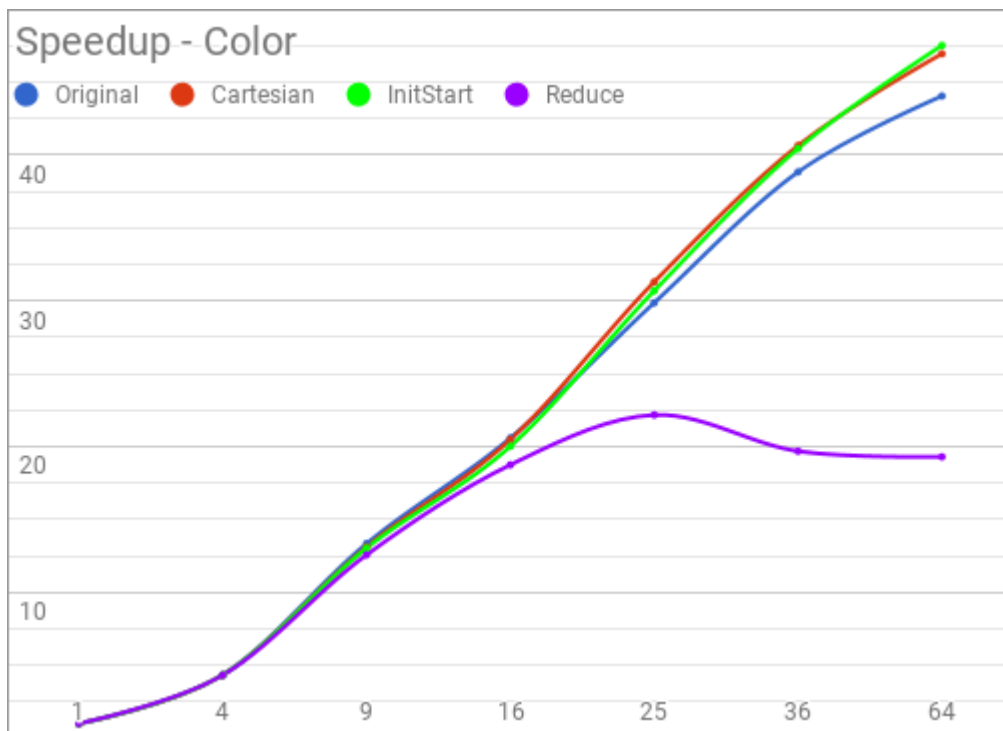
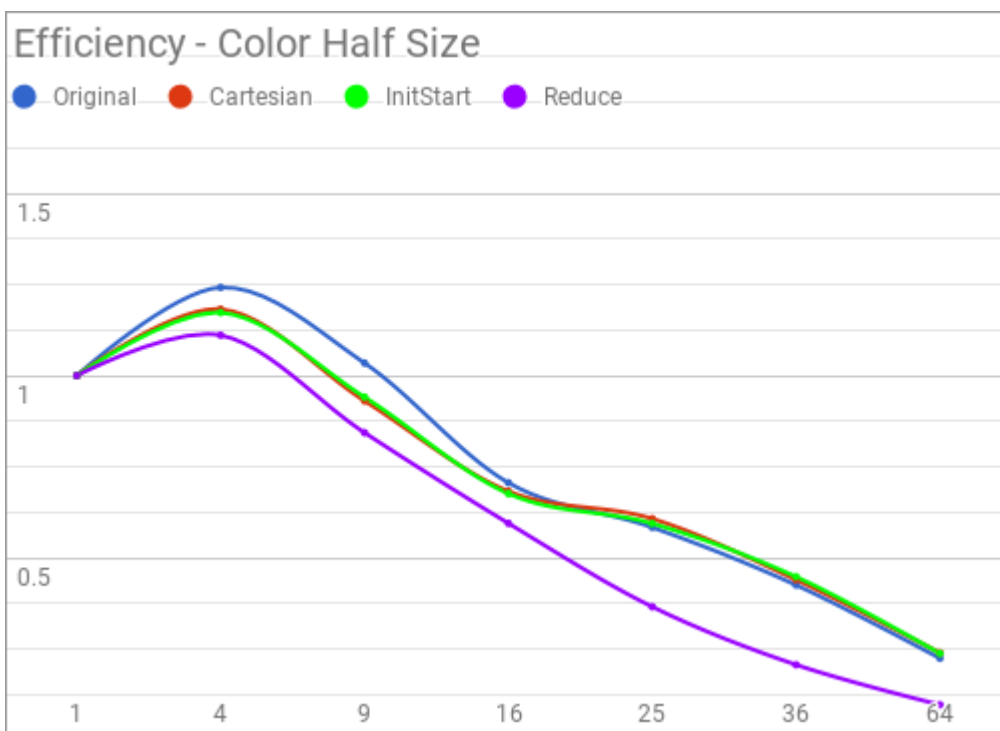
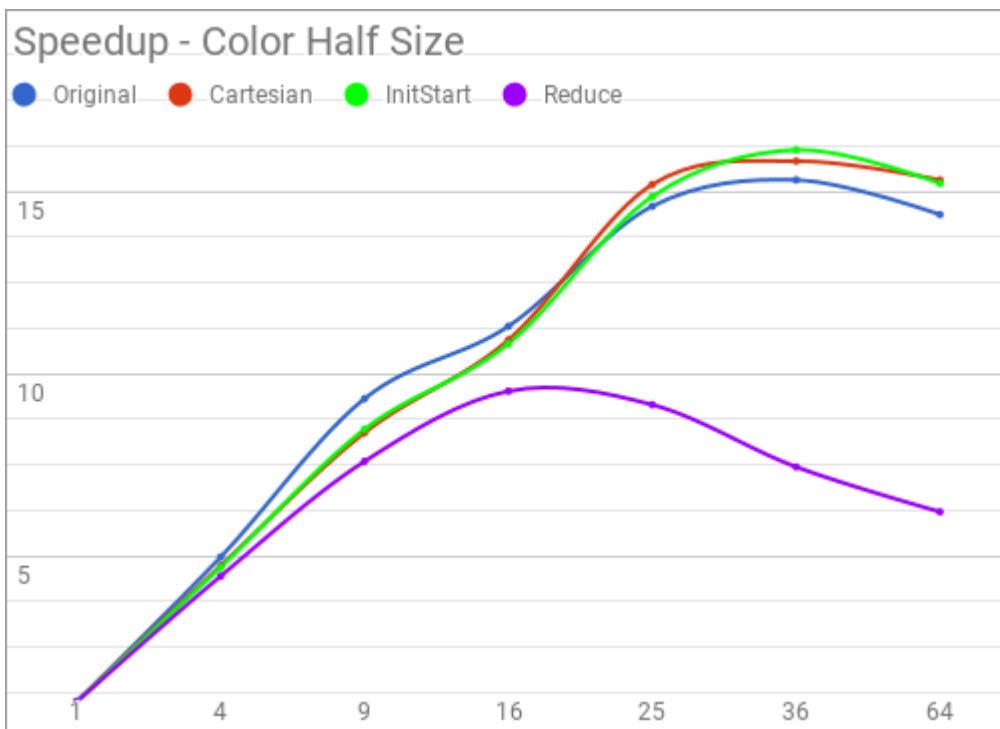


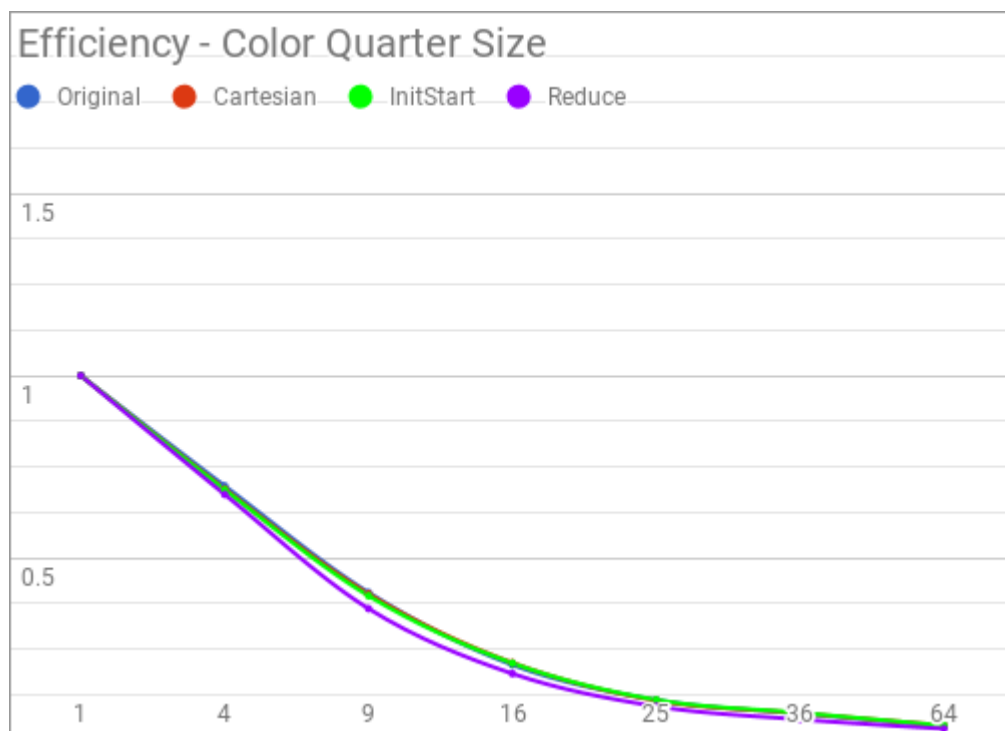
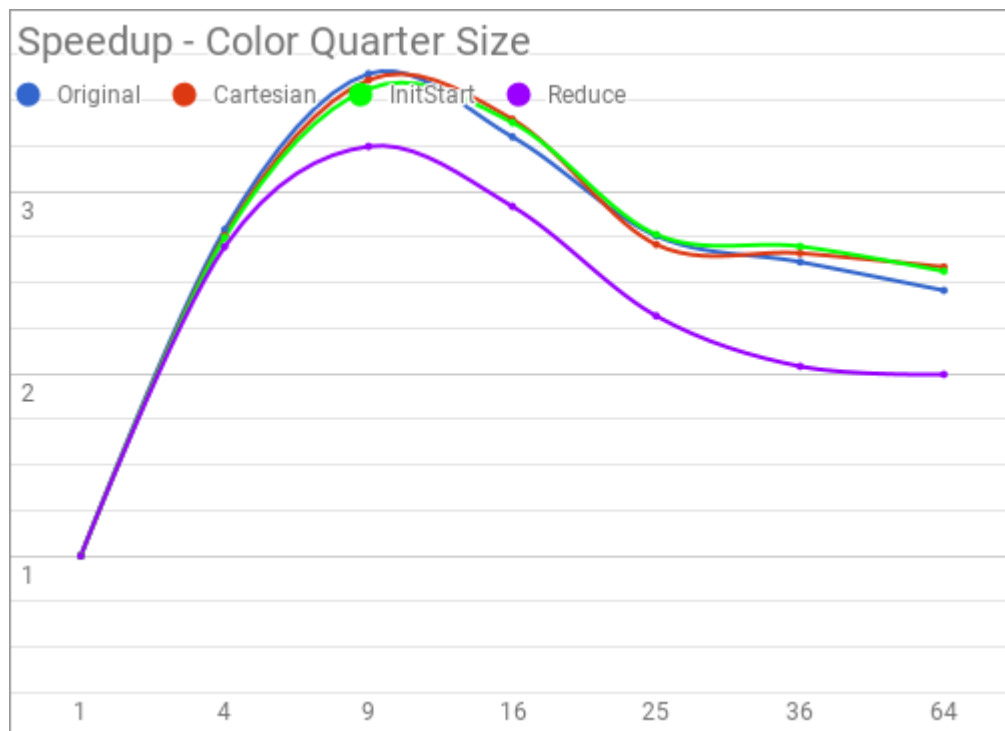
Time In Seconds							
Color - Full Size	1	4	9	16	25	36	64
Original	78.83	18.19	5.91	3.83	2.64	2.03	1.79
Cartesian	78.85	18.25	6.01	3.85	2.52	1.94	1.68
InitStart	78.86	18.23	6.05	3.94	2.57	1.95	1.66
Reduce	78.91	18.3	6.28	4.21	3.56	4.01	4.09
Color - Half Size	1	4	9	16	25	36	64
Original	18.53	3.73	1.99	1.64	1.27	1.21	1.29
Cartesian	18.68	3.95	2.23	1.71	1.23	1.18	1.22
InitStart	18.72	3.99	2.21	1.73	1.26	1.16	1.23
Reduce	18.75	4.22	2.47	1.97	2.05	2.52	3.02
Color - Quarter Size	1	4	9	16	25	36	64
Original	4.52	1.62	1.24	1.37	1.64	1.73	1.84
Cartesian	4.55	1.65	1.26	1.34	1.68	1.71	1.76
InitStart	4.56	1.66	1.28	1.35	1.65	1.69	1.78
Reduce	4.61	1.71	1.42	1.58	1.99	2.26	2.31
Gray - Full Size	1	4	9	16	25	36	64
Original	28.82	5.74	3.09	1.94	1.56	1.47	1.59
Cartesian	28.87	5.92	3.18	1.95	1.46	1.38	1.54
InitStart	28.91	5.95	3.22	1.98	1.47	1.41	1.53
Reduce	28.98	6.02	3.4	2.26	2.49	2.99	3.43
Gray - Half Size	1	4	9	16	25	36	64
Original	6.03	1.41	1.17	1.24	1.26	1.35	1.55
Cartesian	6.08	1.45	1.18	1.22	1.3	1.34	1.51
InitStart	6.1	1.45	1.23	1.28	1.29	1.37	1.5
Reduce	6.15	1.52	1.39	1.49	1.67	1.89	2.07
Gray - Quarter Size	1	4	9	16	25	36	64
Original	1.42	0.81	1.15	1.23	1.24	1.32	1.49
Cartesian	1.45	0.84	1.14	1.2	1.22	1.33	1.46
InitStart	1.46	0.83	1.17	1.24	1.26	1.35	1.44
Reduce	1.5	0.86	1.23	1.4	1.65	1.82	2.01

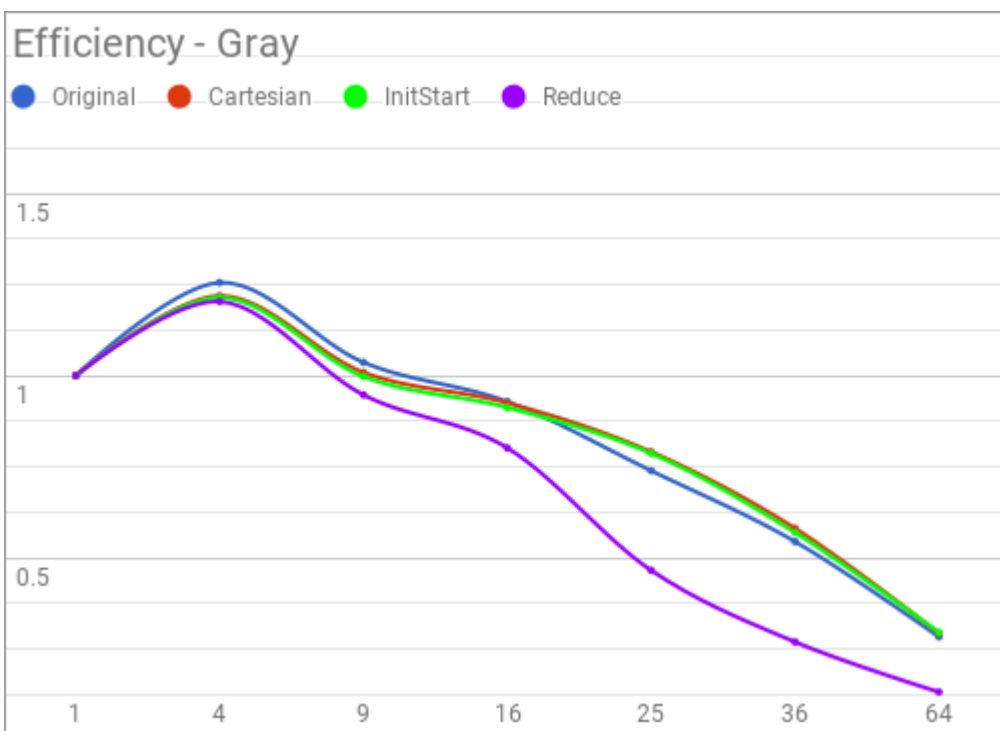
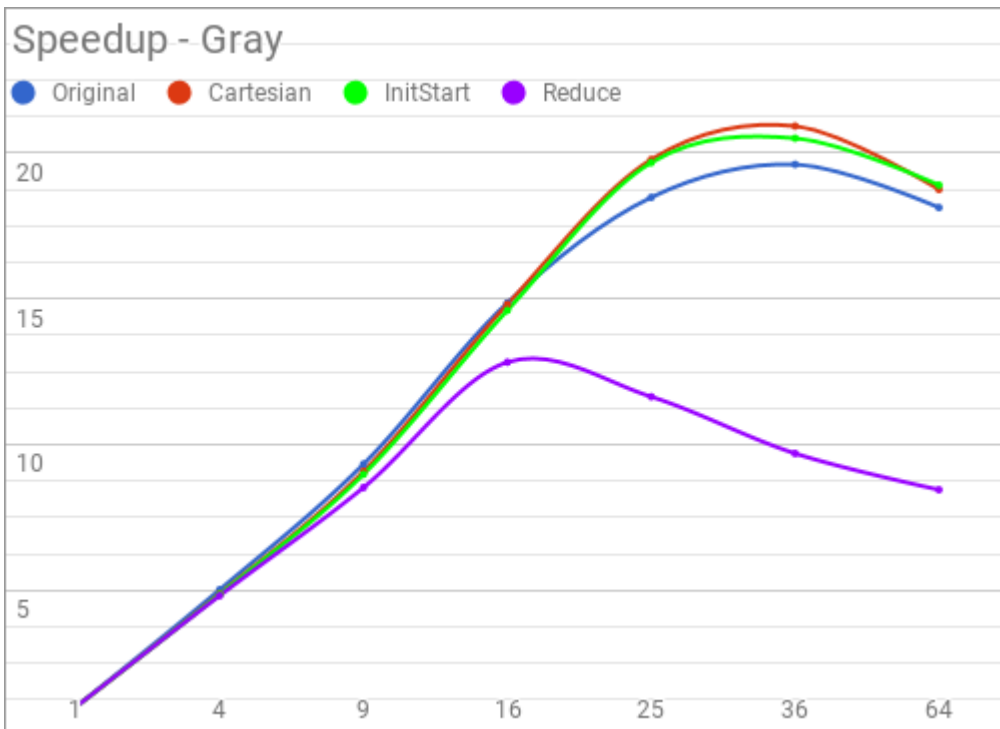
Speedup							
Color - Full Size	1	4	9	16	25	36	64
Original	1	4.333699835	13.33840948	20.58224543	29.85984848	38.83251232	44.03910615
Cartesian	1	4.320547945	13.11980033	20.48051948	31.28968254	40.6443299	46.93452381
InitStart	1	4.325836533	13.03471074	20.01522843	30.6848249	40.44102564	47.5060241
Reduce	1	4.312021858	12.56528662	18.74346793	22.16573034	19.67830424	19.29339853
Color - Half Size	1	4	9	16	25	36	64
Original	1	4.967828418	9.311557789	11.29878049	14.59055118	15.31404959	14.36434109
Cartesian	1	4.729113924	8.376681614	10.92397661	15.18699187	15.83050847	15.31147541
InitStart	1	4.691729323	8.470588235	10.82080925	14.85714286	16.13793103	15.2195122
Reduce	1	4.443127962	7.591093117	9.517766497	9.146341463	7.44047619	6.208609272
Color - Quarter Size	1	4	9	16	25	36	64
Original	1	2.790123457	3.64516129	3.299270073	2.756097561	2.612716763	2.456521739
Cartesian	1	2.757575758	3.611111111	3.395522388	2.708333333	2.660818713	2.585227273
InitStart	1	2.746987952	3.5625	3.377777778	2.763636364	2.698224852	2.561797753
Reduce	1	2.695906433	3.246478873	2.917721519	2.316582915	2.039823009	1.995670996
Gray - Full Size	1	4	9	16	25	36	64
Original	1	5.020905923	9.326860841	14.8556701	18.47435897	19.60544218	18.12578616
Cartesian	1	4.876689189	9.078616352	14.80512821	19.7739726	20.92028986	18.74675325
InitStart	1	4.858823529	8.97826087	14.6010101	19.66666667	20.5035461	18.89542484
Reduce	1	4.813953488	8.523529412	12.82300885	11.63855422	9.692307692	8.448979592
Gray - Half Size	1	4	9	16	25	36	64
Original	1	4.276595745	5.153846154	4.862903226	4.785714286	4.466666667	3.890322581
Cartesian	1	4.193103448	5.152542373	4.983606557	4.676923077	4.537313433	4.026490066
InitStart	1	4.206896552	4.959349593	4.765625	4.728682171	4.452554745	4.066666667
Reduce	1	4.046052632	4.424460432	4.127516779	3.682634731	3.253968254	2.971014493
Gray - Quarter Size	1	4	9	16	25	36	64
Original	1	1.75308642	1.234782609	1.154471545	1.14516129	1.075757576	0.9530201342
Cartesian	1	1.726190476	1.271929825	1.208333333	1.18852459	1.090225564	0.9931506849
InitStart	1	1.759036145	1.247863248	1.177419355	1.158730159	1.081481481	1.013888889
Reduce	1	1.744186047	1.219512195	1.071428571	0.9090909091	0.8241758242	0.7462686567

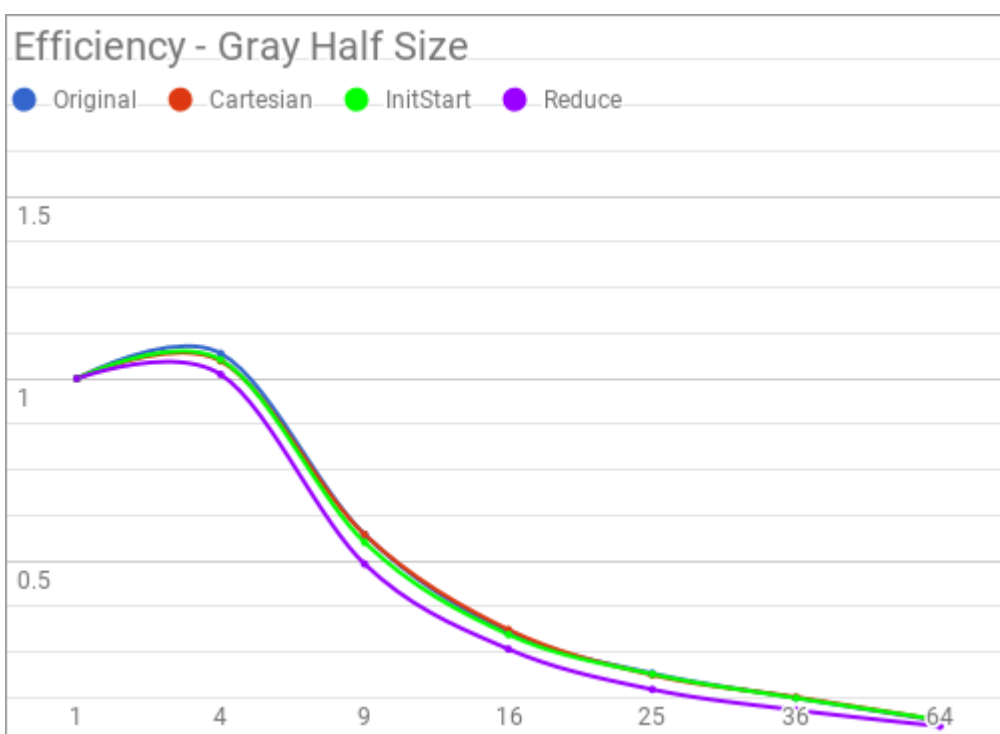
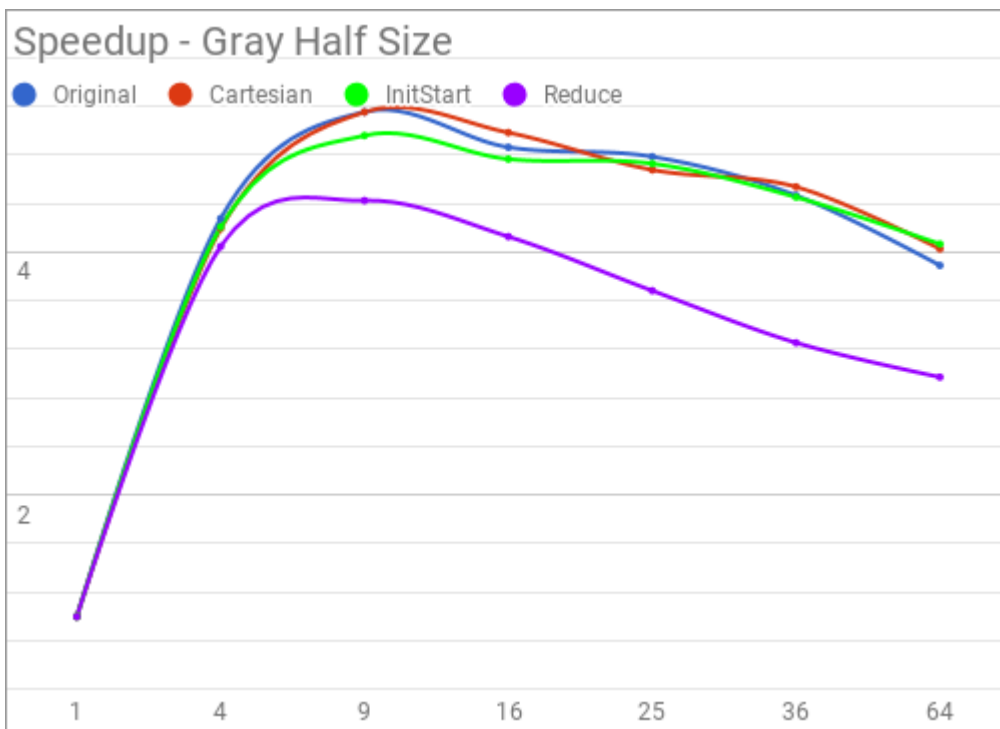
Efficiency							
Color - Full Size	1	4	9	16	25	36	64
Original	1	1.083424959	1.482045497	1.286390339	1.194393939	1.078680898	0.6881110335
Cartesian	1	1.080136986	1.457755593	1.280032468	1.251587302	1.129009164	0.7333519345
InitStart	1	1.081459133	1.448301194	1.250951777	1.227392996	1.123361823	0.7422816265
Reduce	1	1.078005464	1.396142958	1.171466746	0.8866292135	0.5466195622	0.3014593521
Color - Half Size	1	4	9	16	25	36	64
Original	1	1.241957105	1.034617532	0.7061737805	0.5836220472	0.4253902663	0.2244428295
Cartesian	1	1.182278481	0.9307424016	0.682748538	0.6074796748	0.4397363465	0.2392418033
InitStart	1	1.172932331	0.9411764706	0.676300578	0.5942857143	0.4482758621	0.237804878
Reduce	1	1.110781991	0.8434547908	0.5948604061	0.3658536585	0.2066798942	0.09700951987
Color - Quarter Size	1	4	9	16	25	36	64
Original	1	0.6975308642	0.4050179211	0.2062043796	0.1102439024	0.07257546564	0.03838315217
Cartesian	1	0.6893939394	0.4012345679	0.2122201493	0.1083333333	0.07391163093	0.04039417614
InitStart	1	0.686746988	0.3958333333	0.2111111111	0.1105454545	0.07495069034	0.04002808989
Reduce	1	0.6739766082	0.3607198748	0.1823575949	0.09266331658	0.05666175025	0.03118235931
Gray - Full Size	1	4	9	16	25	36	64
Original	1	1.255226481	1.036317871	0.9284793814	0.738974359	0.544595616	0.2832154088
Cartesian	1	1.219172297	1.00873515	0.9253205128	0.7909589041	0.5811191626	0.2929180195
InitStart	1	1.214705882	0.9975845411	0.9125631313	0.7866666667	0.5695429472	0.2952410131
Reduce	1	1.203488372	0.9470588235	0.8014380531	0.4655421687	0.2692307692	0.1320153061
Gray - Half Size	1	4	9	16	25	36	64
Original	1	1.069148936	0.5726495726	0.3039314516	0.1914285714	0.1240740741	0.06078629032
Cartesian	1	1.048275862	0.5725047081	0.3114754098	0.1870769231	0.1260364842	0.06291390728
InitStart	1	1.051724138	0.5510388437	0.2978515625	0.1891472868	0.1236820762	0.06354166667
Reduce	1	1.011513158	0.4916067146	0.2579697987	0.1473053892	0.09038800705	0.04642210145
Gray - Quarter Size	1	4	9	16	25	36	64
Original	1	0.4382716049	0.1371980676	0.07215447154	0.04580645161	0.02988215488	0.0148909396
Cartesian	1	0.431547619	0.1413255361	0.07552083333	0.04754098361	0.03028404344	0.01551797945
InitStart	1	0.4397590361	0.138651472	0.07358870968	0.04634920635	0.03004115226	0.01584201389
Reduce	1	0.4360465116	0.135501355	0.06696428571	0.03636363636	0.02289377289	0.01166044776

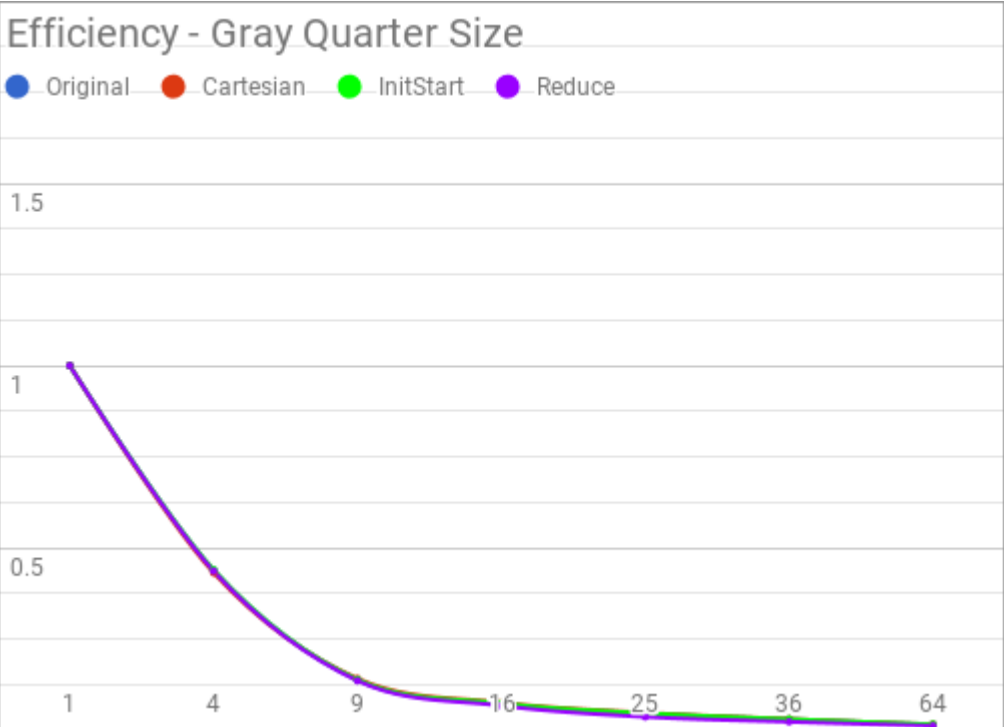
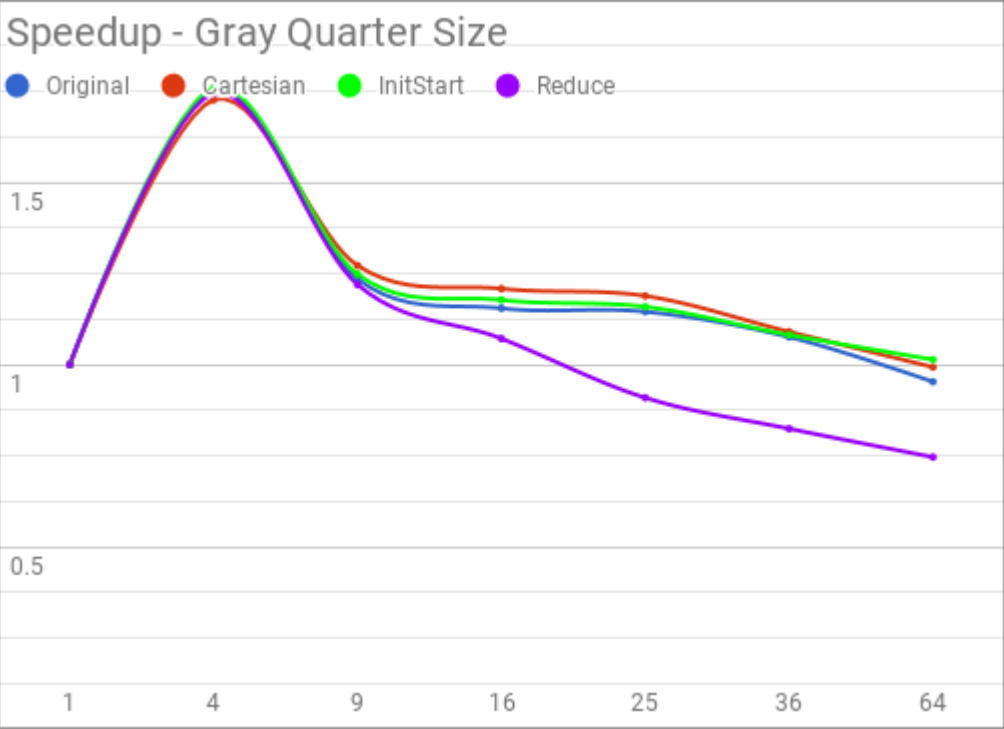












OpenMP vs MPI - Time in Seconds				
Gray	1	4	9	16
MPI	28.82	5.74	3.09	1.94
OpenMP & MPI	27.34	5.39	2.98	2.12
Color	1	4	9	16
MPI	78.83	18.19	5.91	3.53
OpenMP & MPI	75.52	17.37	5.79	3.84
OpenMP vs MPI - Speedup				
Gray	1	4	9	16
MPI	1	5.020905923	9.326860841	14.8556701
OpenMP & MPI	1	5.072356215	9.174496644	12.89622642
Color				
MPI	1	4.333699835	13.33840948	22.33144476
OpenMP & MPI	1	4.347725964	13.04317789	19.66666667
OpenMP vs MPI - Efficiency				
Gray	1	4	9	16
MPI	1	1.255226481	1.036317871	0.9284793814
OpenMP & MPI	1	1.268089054	1.019388516	0.8060141509
Color				
MPI	1	1.083424959	1.482045497	1.395715297
OpenMP & MPI	1	1.086931491	1.449241988	1.229166667