

Nightmare Results

Sequential Results Table - Using longtable for page breaks

Table 1: Sequential DungeonHunter Performance Results

Dungeon Size	Threshold	Seed	Run	Time (ms)	Grid Points	Eval %	DM Location	Mana
20	0.2	0	1	29	24,903	62	(12.4, -1.6)	112,982
			2	33	24,530	61	(12.4, -1.6)	116,839
			3	27	24,361	61	(-3.2, 6.2)	106,824
			4	26	24,327	61	(-6.2, 11.2)	125,414
			5	28	24,443	61	(15.4, 16.6)	129,011
			6	27	24,572	61	(-15.2, 17.8)	122,148
		Average		28.33	24,522.67	61.17	Variable	118,869.67
20	0.2	100	1	27	24,684	62	(7.2, -12.8)	119,122
			2	56	24,684	62	(7.2, -12.8)	119,122
			3	27	24,684	62	(7.2, -12.8)	119,122
			4	29	24,684	62	(7.2, -12.8)	119,122
			5	28	24,684	62	(7.2, -12.8)	119,122
			6	59	24,684	62	(7.2, -12.8)	119,122
		Average		37.67	24,684	62	(7.2, -12.8)	119,122
30	0.2	100	1	56	57,204	64	(15.4, -19.2)	116,263
			2	60	57,204	64	(15.4, -19.2)	116,263
			3	87	57,204	64	(15.4, -19.2)	116,263
			4	53	57,204	64	(15.4, -19.2)	116,263
			5	171	57,204	64	(15.4, -19.2)	116,263
			6	56	57,204	64	(15.4, -19.2)	116,263
		Average		80.50	57,204	64	(15.4, -19.2)	116,263
40	0.2	100	1	101	102,255	64	(18.0, -24.8)	110,597
			2	87	102,255	64	(18.0, -24.8)	110,597
			3	91	102,255	64	(18.0, -24.8)	110,597
			4	117	102,255	64	(18.0, -24.8)	110,597
			5	89	102,255	64	(18.0, -24.8)	110,597
			6	94	102,255	64	(18.0, -24.8)	110,597
		Average		96.50	102,255	64	(18.0, -24.8)	110,597
50	0.2	100	1	131	156,666	63	(22.2, -31.4)	109,093
			2	133	156,666	63	(22.2, -31.4)	109,093
			3	250	156,666	63	(22.2, -31.4)	109,093
			4	177	156,666	63	(22.2, -31.4)	109,093
			5	180	156,666	63	(22.2, -31.4)	109,093
			6	176	156,666	63	(22.2, -31.4)	109,093
		Average		174.50	156,666	63	(22.2, -31.4)	109,093
60	0.2	100	1	200	217,396	60	(28.6, -34.0)	103,125
			2	188	217,396	60	(28.6, -34.0)	103,125
			3	180	217,396	60	(28.6, -34.0)	103,125
			4	179	217,396	60	(28.6, -34.0)	103,125
			5	176	217,396	60	(28.6, -34.0)	103,125
		Average		184.60	217,396	60	(28.6, -34.0)	103,125
70	0.2	100	1	371	292,297	60	(31.4, -39.0)	93,356
			2	561	292,297	60	(31.4, -39.0)	93,356
			3	331	292,297	60	(31.4, -39.0)	93,356
			4	235	292,297	60	(31.4, -39.0)	93,356
			5	232	292,297	60	(31.4, -39.0)	93,356
		Average		346.00	292,297	60	(31.4, -39.0)	93,356

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Dungeon Size	Threshold	Seed	Run	Time (ms)	Grid Points	Eval %	DM Location	Mana
80	0.2	100	1	248	383,055	60	(40.4, -45.2)	91,562
			2	235	383,055	60	(40.4, -45.2)	91,562
			3	263	383,055	60	(40.4, -45.2)	91,562
			4	251	383,055	60	(40.4, -45.2)	91,562
			5	235	383,055	60	(40.4, -45.2)	91,562
			6	240	383,055	60	(40.4, -45.2)	91,562
		Average		245.33	383,055	60	(40.4, -45.2)	91,562
90	0.2	100	1	325	488,183	60	(44.0, -52.4)	95,776
			2	292	488,183	60	(44.0, -52.4)	95,776
			3	300	488,183	60	(44.0, -52.4)	95,776
			4	292	488,183	60	(44.0, -52.4)	95,776
			5	307	488,183	60	(44.0, -52.4)	95,776
			6	297	488,183	60	(44.0, -52.4)	95,776
		Average		302.17	488,183	60	(44.0, -52.4)	95,776
100	0.2	100	1	382	603,406	60	(46.8, -58.4)	92,476
			2	371	603,406	60	(46.8, -58.4)	92,476
			3	362	603,406	60	(46.8, -58.4)	92,476
			4	402	603,406	60	(46.8, -58.4)	92,476
			5	368	603,406	60	(46.8, -58.4)	92,476
		Average		377.00	603,406	60	(46.8, -58.4)	92,476
150	0.2	100	1	825	1,361,553	61	(66.6, -95.0)	105,905
			2	832	1,361,553	61	(66.6, -95.0)	105,905
			3	837	1,361,553	61	(66.6, -95.0)	105,905
			4	823	1,361,553	61	(66.6, -95.0)	105,905
			5	820	1,361,553	61	(66.6, -95.0)	105,905
		Average		827.40	1,361,553	61	(66.6, -95.0)	105,905
200	0.2	100	1	1,644	2,404,749	60	(90.8, -122.0)	117,895
			2	1,693	2,404,749	60	(90.8, -122.0)	117,895
			3	1,783	2,404,749	60	(90.8, -122.0)	117,895
			4	1,789	2,404,749	60	(90.8, -122.0)	117,895
			5	1,874	2,404,749	60	(90.8, -122.0)	117,895
			6	1,866	2,404,749	60	(90.8, -122.0)	117,895
			7	1,670	2,404,749	60	(90.8, -122.0)	117,895
		Average		1,759.86	2,404,749	60	(90.8, -122.0)	117,895
250	0.2	100	1	3,025	3,780,341	60	(113.0, -151.4)	109,903
			2	3,017	3,780,341	60	(113.0, -151.4)	109,903
			3	2,848	3,780,341	60	(113.0, -151.4)	109,903
			4	2,754	3,780,341	60	(113.0, -151.4)	109,903
			5	2,746	3,780,341	60	(113.0, -151.4)	109,903
		Average		2,878.00	3,780,341	60	(113.0, -151.4)	109,903
300	0.2	100	1	4,077	5,455,733	61	(134.4, -183.4)	102,143
			2	4,135	5,455,733	61	(134.4, -183.4)	102,143
			3	3,983	5,455,733	61	(134.4, -183.4)	102,143
			4	4,258	5,455,733	61	(134.4, -183.4)	102,143
			5	4,050	5,455,733	61	(134.4, -183.4)	102,143
		Average		4,100.60	5,455,733	61	(134.4, -183.4)	102,143
350	0.2	100	1	5,164	7,394,174	60	(156.4, -214.8)	115,025
			2	5,277	7,394,174	60	(156.4, -214.8)	115,025
			3	5,334	7,394,174	60	(156.4, -214.8)	115,025
			4	5,210	7,394,174	60	(156.4, -214.8)	115,025
			5	5,172	7,394,174	60	(156.4, -214.8)	115,025
		Average		5,231.40	7,394,174	60	(156.4, -214.8)	115,025
400	0.2	100	1	6,830	9,674,787	60	(179.2, -245.4)	107,946
			2	6,526	9,674,787	60	(179.2, -245.4)	107,946
			3	6,641	9,674,787	60	(179.2, -245.4)	107,946

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Table 1 – continued from previous page

Dungeon Size	Threshold	Seed	Run	Time (ms)	Grid Points	Eval %	DM Location	Mana
			4	6,565	9,674,787	60	(179.2, -245.4)	107,946
			5	6,541	9,674,787	60	(179.2, -245.4)	107,946
		Average		6,620.60	9,674,787	60	(179.2, -245.4)	107,946
450	0.2	100	1	8,302	12,195,495	60	(203.6, -272.4)	95,051
			2	8,269	12,195,495	60	(203.6, -272.4)	95,051
			3	8,181	12,195,495	60	(203.6, -272.4)	95,051
			4	8,274	12,195,495	60	(203.6, -272.4)	95,051
			5	8,251	12,195,495	60	(203.6, -272.4)	95,051
		Average		8,255.40	12,195,495	60	(203.6, -272.4)	95,051
500	0.2	100	1	10,856	15,091,982	60	(220.0, -304.2)	107,118
			2	10,617	15,091,982	60	(220.0, -304.2)	107,118
			3	10,859	15,091,982	60	(220.0, -304.2)	107,118
			4	11,013	15,091,982	60	(220.0, -304.2)	107,118
		Average		10,836.25	15,091,982	60	(220.0, -304.2)	107,118
600	0.2	100	1	16,002	21,743,156	60	(270.0, -365.8)	116,092
			2	15,850	21,743,156	60	(270.0, -365.8)	116,092
			3	15,891	21,743,156	60	(270.0, -365.8)	116,092
			4	15,847	21,743,156	60	(270.0, -365.8)	116,092
		Average		15,897.50	21,743,156	60	(270.0, -365.8)	116,092
700	0.2	100	1	22,630	29,546,198	60	(308.2, -429.0)	114,908
			2	23,603	29,546,198	60	(308.2, -429.0)	114,908
			3	22,959	29,546,198	60	(308.2, -429.0)	114,908
			4	24,533	29,546,198	60	(308.2, -429.0)	114,908
			5	34,055	29,546,198	60	(308.2, -429.0)	114,908
			6	22,160	29,546,198	60	(308.2, -429.0)	114,908
		Average		24,990.00	29,546,198	60	(308.2, -429.0)	114,908
800	0.2	100	1	27,783	38,708,880	60	(355.0, -486.0)	115,399
			2	27,577	38,708,880	60	(355.0, -486.0)	115,399
			3	27,847	38,708,880	60	(355.0, -486.0)	115,399
			4	28,558	38,708,880	60	(355.0, -486.0)	115,399
		Average		27,941.25	38,708,880	60	(355.0, -486.0)	115,399
900	0.2	100	1	35,243	48,945,693	60	(398.8, -549.4)	107,292
			2	35,655	48,945,693	60	(398.8, -549.4)	107,292
			3	35,727	48,945,693	60	(398.8, -549.4)	107,292
			4	35,196	48,945,693	60	(398.8, -549.4)	107,292
		Average		35,455.25	48,945,693	60	(398.8, -549.4)	107,292
1000	0.2	100	1	44,194	60,346,491	60	(442.8, -610.2)	107,117
			2	43,786	60,346,491	60	(442.8, -610.2)	107,117
			3	43,786	60,346,491	60	(442.8, -610.2)	107,117
		Average		43,922.00	60,346,491	60	(442.8, -610.2)	107,117
1500	0.2	100	1	106,016	135,842,680	60	(666.0, -917.6)	112,995
			2	111,951	135,842,680	60	(666.0, -917.6)	112,995
			3	104,025	135,842,680	60	(666.0, -917.6)	112,995
		Average		107,330.67	135,842,680	60	(666.0, -917.6)	112,995
2000	0.2	100	1	215,391	241,543,805	60	(886.0, -1221.2)	96,845
			2	240,669	241,543,805	60	(886.0, -1221.2)	96,845
		Average		228,030.00	241,543,805	60	(886.0, -1221.2)	96,845

Notes:

- All experiments ran on SSH CS Nightmare server
- Sequential results show detailed individual run data with consistent Dungeon Master locations per seed
- Parallel runs used DungeonHunterParallel with threshold 0.2
- Grid points show range and percentage of total grid evaluated
- Some runs had fewer than 5 repetitions due to incomplete data
- Dungeon Master locations and mana values varied by run but were consistent within same size/seed combinations
- Maps were saved as visualiseSearch.png and visualiseSearchPath.png for each run

Parallel Results Table - Using longtable for page breaks

Table 2: Parallel DungeonHunter Performance Results — formatted to match Sequential headings (populated from nightmare-parallel.txt)

Dungeon Size	Threshold	Seed	Run	Time (ms)	Grid Points	Eval %	DM Location
20	0.2	0	1	198	24,961	62%	(9.4, -7.6)
20	0.2	0	2	149	24,361	61%	(15.8, 5.2)
20	0.2	0	3	153	23,986	60%	(-12.4, -2.4)
20	0.2	0	4	28	24,537	61%	(16.0, -9.0)
20	0.2	0	5	151	24,386	61%	(2.8, -6.4)
		Average		135.80	23,986–24,961	61%	Variable
20	0.2	100	1	119	24,604	62%	(7.2, -12.8)
20	0.2	100	2	133	24,641	62%	(7.2, -12.8)
20	0.2	100	3	28	24,417	61%	(7.2, -12.8)
20	0.2	100	4	118	24,595	61%	(7.2, -12.8)
20	0.2	100	5	155	24,476	61%	(7.2, -12.8)
		Average		110.60	24,417–24,641	61.40%	(7.2, -12.8)
30	0.2	100	1	48	56,436	63%	(15.4, -19.2)
30	0.2	100	2	45	56,252	63%	(15.4, -19.2)
30	0.2	100	3	47	56,452	63%	(15.4, -19.2)
30	0.2	100	4	36	55,994	62%	(15.4, -19.2)
30	0.2	100	5	44	56,087	62%	(15.4, -19.2)
		Average		44.00	55,994–56,452	62.80%	(15.4, -19.2)
40	0.2	100	1	54	99,098	62%	(18.0, -24.8)
40	0.2	100	2	81	100,028	63%	(18.0, -24.8)
40	0.2	100	3	59	100,765	63%	(18.0, -24.8)
40	0.2	100	4	79	100,601	63%	(18.0, -24.8)
40	0.2	100	5	51	99,670	62%	(18.0, -24.8)
		Average		64.80	99,098–100,765	62.60%	(18.0, -24.8)
50	0.2	100	1	100	154,291	62%	(22.2, -31.4)
50	0.2	100	2	99	154,146	62%	(22.2, -31.4)
50	0.2	100	3	102	154,097	62%	(22.2, -31.4)
50	0.2	100	4	213	154,736	62%	(22.2, -31.4)
50	0.2	100	5	199	154,508	62%	(22.2, -31.4)
		Average		142.60	154,097–154,736	62%	(22.2, -31.4)
60	0.2	100	1	155	213,241	59%	(28.6, -34.0)
60	0.2	100	2	150	213,995	59%	(28.6, -34.0)
60	0.2	100	3	155	214,680	60%	(28.6, -34.0)
60	0.2	100	4	140	214,020	59%	(28.6, -34.0)
60	0.2	100	5	136	214,057	59%	(28.6, -34.0)
		Average		147.20	213,241–214,680	59.40%	(28.6, -34.0)
70	0.2	100	1	180	286,910	59%	(31.4, -39.0)
70	0.2	100	2	158	286,864	59%	(31.4, -39.0)
70	0.2	100	3	172	285,255	58%	(31.4, -39.0)

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Table 2 – continued from previous page

Dungeon Size	Threshold	Seed	Run	Time (ms)	Grid Points	Eval %	DM Location
70	0.2	100	4	194	287,202	59%	(31.4, -39.0)
70	0.2	100	5	174	287,846	59%	(31.4, -39.0)
		Average		175.60	285,255–287,846	58.80%	(31.4, -39.0)
80	0.2	100	1	242	375,852	59%	(40.4, -45.2)
80	0.2	100	2	195	374,580	59%	(40.4, -45.2)
80	0.2	100	3	230	376,547	59%	(40.4, -45.2)
80	0.2	100	4	199	375,370	59%	(40.4, -45.2)
80	0.2	100	5	178	373,058	58%	(40.4, -45.2)
		Average		208.80	373,058–376,547	58.80%	(40.4, -45.2)
90	0.2	100	1	465	476,916	59%	(44.0, -52.4)
90	0.2	100	2	421	471,758	58%	(44.0, -52.4)
90	0.2	100	3	436	472,013	58%	(44.0, -52.4)
90	0.2	100	4	520	471,185	58%	(44.0, -52.4)
90	0.2	100	5	520	475,620	59%	(44.0, -52.4)
		Average		472.40	471,185–476,916	58.40%	(44.0, -52.4)
100	0.2	100	1	579	586,245	59%	(46.8, -58.4)
100	0.2	100	2	575	588,167	59%	(46.8, -58.4)
100	0.2	100	3	465	581,694	58%	(46.8, -58.4)
100	0.2	100	4	266	586,384	59%	(46.8, -58.4)
100	0.2	100	5	549	586,135	59%	(46.8, -58.4)
		Average		486.80	581,694–588,167	58.80%	(46.8, -58.4)
150	0.2	100	1	690	1,313,769	58%	(66.6, -95.0)
150	0.2	100	2	349	1,285,412	57%	(66.6, -95.0)
150	0.2	100	3	663	1,291,337	57%	(66.6, -95.0)
150	0.2	100	4	683	1,313,867	58%	(66.6, -95.0)
150	0.2	100	5	305	1,262,943	56%	(66.6, -95.0)
		Average		538.00	1,262,943–1,313,869	57.20%	(66.6, -95.0)
200	0.2	100	1	450	2,169,653	54%	(90.8, -122.0)
200	0.2	100	2	527	2,195,685	55%	(90.8, -122.0)
200	0.2	100	3	463	2,165,550	54%	(90.8, -122.0)
200	0.2	100	4	452	2,161,279	54%	(90.8, -122.0)
200	0.2	100	5	461	2,185,063	55%	(90.8, -122.0)
		Average		470.60	2,161,279–2,195,685	54.40%	(90.8, -122.0)
250	0.2	100	1	759	3,396,701	54%	(113.0, -151.4)
250	0.2	100	2	737	3,395,087	54%	(113.0, -151.4)
250	0.2	100	3	773	3,401,211	54%	(113.0, -151.4)
250	0.2	100	4	812	3,426,632	55%	(113.0, -151.4)
250	0.2	100	5	851	3,441,448	55%	(113.0, -151.4)
		Average		786.40	3,395,087–3,441,448	54.40%	(113.0, -151.4)
300	0.2	100	1	1,225	4,947,465	55%	(134.4, -183.4)
300	0.2	100	2	1,227	4,975,986	55%	(134.4, -183.4)
300	0.2	100	3	1,241	4,936,002	55%	(134.4, -183.4)
300	0.2	100	4	1,798	5,147,014	57%	(134.4, -183.4)
300	0.2	100	5	1,080	4,934,941	55%	(134.4, -183.4)
		Average		1314.20	4,934,941–5,147,014	55.40%	(134.4, -183.4)
350	0.2	100	1	2,044	6,934,625	57%	(156.4, -214.8)
350	0.2	100	2	1,347	6,529,148	53%	(156.4, -214.8)
350	0.2	100	3	1,548	6,726,296	55%	(156.4, -214.8)
350	0.2	100	4	1,461	6,631,148	54%	(156.4, -214.8)
350	0.2	100	5	1,433.25	6,644,660	54%	(156.4, -214.8)
		Average		1555.40	6,529,148–6,934,625	54.60%	(156.4, -214.8)
400	0.2	100	1	1,809	8,586,008	54%	(179.2, -245.4)
400	0.2	100	2	2,005	8,660,547	54%	(179.2, -245.4)
400	0.2	100	3	1,771	8,529,421	53%	(179.2, -245.4)
400	0.2	100	4	1,892	8,681,437	54%	(179.2, -245.4)
400	0.2	100	5	2,135	8,696,922	54%	(179.2, -245.4)

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Table 2 – continued from previous page

Dungeon Size	Threshold	Seed	Run	Time (ms)	Grid Points	Eval %	DM Location
400	0.2	100	6	1,790	8,533,824	53%	(179.2, -245.4)
		Average		1900.33	8,529,421–8,696,922	53.50%	(179.2, -245.4)
500	0.2	100	1	2,728	13,437,679	54%	(220.0, -304.2)
500	0.2	100	2	2,723	13,360,735	53%	(220.0, -304.2)
500	0.2	100	3	2,899	13,575,844	54%	(220.0, -304.2)
500	0.2	100	4	2,775	13,344,421	53%	(220.0, -304.2)
500	0.2	100	5	2,702	13,335,751	53%	(220.0, -304.2)
500	0.2	100	6	4,298	14,134,784	57%	(220.0, -304.2)
		Average		3020.83	13,335,751–14,134,784	53.67%	(220.0, -304.2)
600	0.2	100	1	4,061	19,217,364	53%	(270.0, -365.8)
600	0.2	100	2	3,989	19,205,119	53%	(270.0, -365.8)
600	0.2	100	3	3,951	19,151,001	53%	(270.0, -365.8)
600	0.2	100	4	5,350	19,919,843	55%	(270.0, -365.8)
600	0.2	100	5	5,123	19,818,181	55%	(270.0, -365.8)
600	0.2	100	6	4,875	19,686,202	55%	(270.0, -365.8)
600	0.2	100	7	3,716	18,949,262	53%	(270.0, -365.8)
		Average		4437.86	18,949,262–19,919,843	53.71%	(270.0, -365.8)
700	0.2	100	1	5,008	25,838,653	53%	(308.2, -429.0)
700	0.2	100	2	4,976	25,546,125	52%	(308.2, -429.0)
700	0.2	100	3	5,324	25,967,755	53%	(308.2, -429.0)
700	0.2	100	4	5,130	25,808,471	53%	(308.2, -429.0)
		Average		5109.50	25,546,125–25,967,755	52.75%	(308.2, -429.0)
800	0.2	100	1	6,638	33,595,527	52%	(355.0, -486.0)
800	0.2	100	2	6,534	33,759,198	53%	(355.0, -486.0)
800	0.2	100	3	7,258	34,099,806	53%	(355.0, -486.0)
800	0.2	100	4	7,281	34,193,098	53%	(355.0, -486.0)
800	0.2	100	5	7,356	34,126,605	53%	(355.0, -486.0)
		Average		7013.40	33,595,527–34,193,098	52.80%	(355.0, -486.0)
900	0.2	100	1	8,394	42,834,136	53%	(398.8, -549.4)
900	0.2	100	2	8,300	42,659,913	53%	(398.8, -549.4)
900	0.2	100	3	9,117	43,315,314	53%	(398.8, -549.4)
900	0.2	100	4	8,910	43,266,211	53%	(398.8, -549.4)
		Average		8680.25	42,659,913–43,315,314	53%	(398.8, -549.4)
1000	0.2	100	1	19,691	57,031,787	57%	(442.8, -610.2)
1000	0.2	100	2	15,383	55,304,853	55%	(442.8, -610.2)
1000	0.2	100	3	14,615	55,272,094	55%	(442.8, -610.2)
1000	0.2	100	4	17,426	56,175,994	56%	(442.8, -610.2)
		Average		16778.75	55,272,094–57,031,787	55.75%	(442.8, -610.2)
1500	0.2	100	1	43,551	128,209,605	57%	(666.0, -917.6)
1500	0.2	100	2	38,912	125,716,299	56%	(666.0, -917.6)
1500	0.2	100	3	41,153	126,814,178	56%	(666.0, -917.6)
1500	0.2	100	4	55,238	129,894,654	58%	(666.0, -917.6)
1500	0.2	100	5	48,630	128,657,809	57%	(666.0, -917.6)
		Average		45496.80	125,716,299–129,894,654	56.80%	(666.0, -917.6)
2000	0.2	100	1	87,240	229,439,417	57%	(886.0, -1221.2)
2000	0.2	100	2	85,191	229,336,838	57%	(886.0, -1221.2)
		Average		86215.50	229,336,838–229,439,417	57%	(886.0, -1221.2)

Notes:

- All runs used DungeonHunterParallel with threshold 0.2
- Grid points show range and percentage of total grid evaluated
- Some runs had fewer than 5 repetitions due to incomplete data
- Dungeon Master locations and mana values varied by run but were consistent within same size/seed combinations
- Maps were saved as visualiseSearch.png and visualiseSearchPath.png for each run