

\*\*\* LISp-Miner ReverseMiner module

\*\*\* Evolution Report

#### RMCase Base Parameters

RMCase: Evolve vsech vztahu\_07  
Comment: -  
Status: Paused  
StartTime: 4.5.2015 00:36:36  
Duration: 10h 5m 30s

#### Evolution parameters:

Target Data Rows: 1000  
Initial Data: Newly created

Population Size: 70  
Population Size Init: 100  
Tournament Size: 15

Fitness Tolerance: 0.000  
Max Iterations: 100000  
Max Time: 120 hour(s) + 0 mins

Operation	Crossover	Mutation	Reproduction
Probability:	30 %	60 %	10 %

Crossover	Column	Row
Probability:	50 %	50 %

Mutation	Swap	Fill
Probability:	50 %	50 %
Length Max:	250	10
Count Max:	1	1

RandSeedInit: 1836102080  
Processing Mode: TaskPooler  
Working Dir: C:\bordel\LISp-Miner.Core\ReverseMiner\ba4de1c\

#### Time Decomposition (in seconds)

Phase	TotalTime	Time per individual			Time per DataRow		Time per DataColumn	
EA Initialisation		0.86	0.012	0.001	0.108			
EA operations	5.004	0.071	0.005	0.625				
Preparing files/DB	905.335		12.933	0.905	113.167			
Launching ext-apps	6075.074		86.787	6.075	759.384			
Importing results	57.506	0.822	0.058	7.188				
Removing files	133.527		1.908	0.134	16.691			
Waiting (approx)	29152.694		416.467		29.153	3644.087		
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Total	36330 519	36.33	4541.25					

## Evolutionary operations

Evolutionary operation an individual was created by									
Individual	Random	Crossover			Cols	Cross Row	Random	Cross Row	Half
Mutation Swap		Mutation Fill							
Newly created	100	146	0	41358	21492	21307			
Becoming the best	1	0	0	343	41	409			
Becoming parent	73	174	0	56705	5388	21963			
Copied w/o change	661	18	0	7011	7639	8208			
Removed	100	146	0	41323	21471	21293			

## Evolution History

Step	FitnessBest	FitnessWorst	Fitness Change	Best Changed	Best Type
Step	Duration [sec]	Step	Speed [Individuals/sec]		
1	13.098	18.077	Y	Random	44.375 2.254
2	13.098	18.067		Random	22.547 3.105
3	13.084	16.314	0.014 Y	Mutation Fill	20.594 3.399
4	13.030	17.387	0.054 Y	Cross Row Half	21.406 3.270
5	12.806	16.343	0.224 Y	Cross Row Half	20.844 3.358
6	12.712	15.725	0.094 Y	Mutation Swap	21.687 3.228
7	12.640	15.725	0.072 Y	Mutation Swap	21.516 3.253
8	12.616	16.292	0.024 Y	Mutation Fill	19.781 3.539
9	12.303	15.725	0.313 Y	Cross Row Half	20.797 3.366
10	12.210	15.725	0.093 Y	Mutation Swap	20.516 3.412
11	11.999	15.964	0.211 Y	Cross Row Half	20.031 3.495
12	11.766	15.725	0.233 Y	Cross Row Half	20.969 3.338
13	11.419	15.725	0.347 Y	Cross Row Half	22.234 3.148
14	11.288	15.725	0.131 Y	Cross Row Half	20.813 3.363
15	11.178	15.725	0.110 Y	Cross Row Half	20.656 3.389
16	10.874	15.725	0.304 Y	Mutation Fill	21.875 3.200
17	10.874	15.725		Mutation Fill	20.484 3.417
18	10.766	15.725	0.108 Y	Mutation Fill	22.422 3.122
19	10.706	15.725	0.060 Y	Cross Row Half	20.063 3.489
20	10.583	15.725	0.123 Y	Cross Row Half	19.656 3.561
21	10.559	15.725	0.024 Y	Cross Row Half	19.187 3.648
22	10.473	15.725	0.086 Y	Mutation Fill	20.219 3.462
23	10.427	15.725	0.046 Y	Cross Row Half	19.453 3.598
24	10.318	15.725	0.109 Y	Cross Row Half	21.032 3.328
25	10.239	15.725	0.079 Y	Cross Row Half	19.515 3.587
26	10.189	15.725	0.050 Y	Cross Row Half	19.438 3.601
27	10.094	15.725	0.095 Y	Mutation Swap	18.468 3.790
28	9.940	15.725	0.154 Y	Cross Row Half	18.813 3.721
29	9.802	15.725	0.138 Y	Cross Row Half	19.969 3.505
30	9.654	15.725	0.148 Y	Cross Row Half	19.890 3.519
31	9.630	15.725	0.024 Y	Cross Row Half	19.047 3.675
32	9.611	15.725	0.019 Y	Cross Row Half	19.063 3.672
33	9.522	15.725	0.089 Y	Mutation Swap	21.672 3.230
34	9.495	15.725	0.027 Y	Cross Row Half	19.937 3.511
35	9.468	15.725	0.027 Y	Cross Row Half	19.578 3.575
36	9.452	15.725	0.016 Y	Cross Row Half	20.063 3.489
37	9.429	15.725	0.023 Y	Cross Row Half	19.922 3.514

38	9.336	15.725	0.093	Y	Mutation Fill	19.765	3.542
39	9.308	15.725	0.028	Y	Cross Row Half	20.000	3.500
40	9.281	15.725	0.027	Y	Cross Row Half	20.078	3.486
41	9.149	15.725	0.132	Y	Mutation Fill	18.953	3.693
42	9.122	15.725	0.027	Y	Cross Row Half	20.375	3.436
43	9.081	15.725	0.041	Y	Cross Row Half	19.641	3.564
44	9.043	15.725	0.038	Y	Cross Row Half	19.953	3.508
45	8.975	15.725	0.068	Y	Mutation Swap	21.641	3.235
46	8.944	15.725	0.031	Y	Mutation Fill	19.422	3.604
47	8.895	15.725	0.049	Y	Mutation Fill	17.953	3.899
48	8.870	15.725	0.025	Y	Cross Row Half	20.297	3.449
49	8.846	15.725	0.024	Y	Cross Row Half	19.672	3.558
50	8.815	15.725	0.031	Y	Cross Row Half	19.750	3.544
51	8.765	15.725	0.050	Y	Cross Row Half	19.375	3.613
52	8.755	15.725	0.010	Y	Cross Row Half	19.875	3.522
53	8.741	15.725	0.014	Y	Cross Row Half	20.000	3.500
54	8.648	15.725	0.093	Y	Mutation Fill	19.968	3.506
55	8.611	15.725	0.037	Y	Mutation Swap	19.188	3.648
56	8.480	15.725	0.131	Y	Mutation Fill	19.422	3.604
57	8.340	15.725	0.140	Y	Cross Row Half	20.125	3.478
58	8.323	15.725	0.017	Y	Cross Row Half	19.531	3.584
59	8.316	15.725	0.007	Y	Mutation Fill	20.062	3.489
60	8.307	15.725	0.009	Y	Mutation Fill	20.047	3.492
61	8.204	15.725	0.103	Y	Mutation Fill	19.110	3.663
62	8.195	15.725	0.009	Y	Cross Row Half	20.047	3.492
63	8.145	15.725	0.050	Y	Mutation Fill	20.531	3.409
64	8.099	15.725	0.046	Y	Cross Row Half	18.422	3.800
65	8.040	15.725	0.059	Y	Mutation Fill	19.640	3.564
66	7.953	15.725	0.087	Y	Cross Row Half	20.047	3.492
67	7.953	15.725	0.000	Y	Mutation Fill	19.641	3.564
68	7.894	15.725	0.059	Y	Mutation Swap	20.453	3.422
69	7.889	15.725	0.005	Y	Mutation Fill	19.047	3.675
70	7.784	15.725	0.105	Y	Mutation Fill	19.094	3.666
71	7.766	15.725	0.018	Y	Cross Row Half	19.546	3.581
72	7.753	15.725	0.013	Y	Mutation Fill	19.594	3.573
73	7.742	15.725	0.011	Y	Mutation Swap	20.281	3.452
74	7.721	15.725	0.021	Y	Cross Row Half	21.641	3.235
75	7.692	15.725	0.029	Y	Mutation Fill	19.750	3.544
76	7.677	15.725	0.015	Y	Cross Row Half	19.359	3.616
77	7.637	15.725	0.040	Y	Mutation Swap	21.829	3.207
78	7.611	15.725	0.026	Y	Cross Row Half	20.203	3.465
79	7.591	15.725	0.020	Y	Cross Row Half	20.640	3.391
80	7.553	15.725	0.038	Y	Cross Row Half	21.875	3.200
81	7.510	15.725	0.043	Y	Mutation Fill	20.500	3.415
82	7.472	15.725	0.038	Y	Cross Row Half	22.407	3.124
83	7.455	15.725	0.017	Y	Mutation Swap	21.437	3.265
84	7.445	15.725	0.010	Y	Cross Row Half	20.359	3.438
85	7.433	15.551	0.012	Y	Cross Row Half	20.766	3.371
86	7.402	15.551	0.031	Y	Cross Row Half	19.375	3.613
87	7.264	15.551	0.138	Y	Mutation Fill	19.578	3.575
88	7.237	15.551	0.027	Y	Cross Row Half	19.625	3.567
89	7.215	15.551	0.022	Y	Cross Row Half	20.125	3.478

90	7.211	15.551	0.004	Y	Mutation Fill	20.156	3.473
91	7.203	15.551	0.008	Y	Cross Row Half	20.766	3.371
92	7.190	15.551	0.013	Y	Mutation Fill	19.969	3.505
93	7.184	15.551	0.006	Y	Cross Row Half	20.765	3.371
94	7.115	15.551	0.069	Y	Mutation Fill	20.063	3.489
95	7.095	15.551	0.020	Y	Mutation Fill	21.734	3.221
96	7.018	15.551	0.077	Y	Cross Row Half	21.688	3.228
97	6.718	15.551	0.300	Y	Cross Row Half	21.187	3.304
98	6.645	15.551	0.073	Y	Cross Row Half	21.391	3.272
99	6.640	15.551	0.005	Y	Cross Row Half	21.750	3.218
100	6.631	15.551	0.009	Y	Mutation Swap	22.172	3.157
101	6.586	15.551	0.045	Y	Mutation Fill	21.437	3.265
102	6.572	15.551	0.014	Y	Cross Row Half	21.657	3.232
103	6.467	15.551	0.105	Y	Mutation Fill	21.875	3.200
104	6.433	15.551	0.034	Y	Cross Row Half	21.718	3.223
105	6.415	15.551	0.018	Y	Mutation Fill	21.875	3.200
106	6.367	15.551	0.048	Y	Mutation Fill	22.188	3.155
107	6.361	15.551	0.006	Y	Cross Row Half	22.297	3.139
108	6.322	15.551	0.039	Y	Cross Row Half	20.734	3.376
109	6.301	15.551	0.021	Y	Mutation Swap	22.156	3.159
110	6.261	15.551	0.040	Y	Cross Row Half	21.500	3.256
111	6.261	15.551			Cross Row Half	21.532	3.251
112	6.247	15.551	0.014	Y	Mutation Fill	21.578	3.244
113	6.228	15.551	0.019	Y	Mutation Fill	19.500	3.590
114	6.135	15.551	0.093	Y	Mutation Fill	21.922	3.193
115	6.104	15.551	0.031	Y	Mutation Fill	19.562	3.578
116	6.099	15.551	0.005	Y	Cross Row Half	21.703	3.225
117	5.990	15.551	0.109	Y	Mutation Swap	19.906	3.517
118	5.944	15.551	0.046	Y	Cross Row Half	19.047	3.675
119	5.881	15.551	0.063	Y	Cross Row Half	21.266	3.292
120	5.881	15.551			Cross Row Half	20.281	3.452
121	5.874	15.551	0.007	Y	Cross Row Half	20.516	3.412
122	5.867	15.551	0.007	Y	Mutation Fill	20.453	3.422
123	5.860	15.551	0.007	Y	Mutation Fill	20.594	3.399
124	5.853	15.551	0.007	Y	Cross Row Half	21.812	3.209
125	5.843	15.551	0.010	Y	Cross Row Half	22.235	3.148
126	5.791	15.551	0.052	Y	Mutation Fill	21.796	3.212
127	5.784	15.551	0.007	Y	Cross Row Half	22.047	3.175
128	5.774	15.551	0.010	Y	Cross Row Half	21.719	3.223
129	5.765	15.551	0.009	Y	Cross Row Half	21.750	3.218
130	5.750	15.551	0.015	Y	Cross Row Half	21.453	3.263
131	5.736	15.551	0.014	Y	Cross Row Half	23.031	3.039
132	5.722	15.551	0.014	Y	Cross Row Half	21.782	3.214
133	5.710	15.551	0.012	Y	Cross Row Half	21.547	3.249
134	5.706	15.551	0.004	Y	Mutation Swap	22.015	3.180
135	5.636	15.551	0.070	Y	Mutation Fill	22.063	3.173
136	5.626	15.551	0.010	Y	Cross Row Half	22.172	3.157
137	5.610	15.551	0.016	Y	Cross Row Half	21.687	3.228
138	5.588	15.551	0.022	Y	Cross Row Half	22.813	3.068
139	5.588	15.551			Cross Row Half	22.531	3.107
140	5.586	15.551	0.002	Y	Mutation Fill	21.906	3.195
141	5.571	15.551	0.015	Y	Mutation Swap	22.063	3.173

142	5.563	15.551	0.008	Y	Mutation Fill	22.078	3.171
143	5.542	15.551	0.021	Y	Mutation Fill	23.031	3.039
144	5.534	15.551	0.008	Y	Cross Row Half	27.000	2.593
145	5.521	15.551	0.013	Y	Cross Row Half	22.156	3.159
146	5.521	15.551			Cross Row Half	22.172	3.157
147	5.507	15.551	0.014	Y	Mutation Fill	21.688	3.228
148	5.507	15.551			Mutation Fill	19.375	3.613
149	5.504	15.551	0.003	Y	Mutation Fill	20.812	3.363
150	5.472	15.551	0.032	Y	Mutation Fill	22.078	3.171
151	5.408	15.551	0.064	Y	Mutation Fill	21.235	3.296
152	5.372	15.551	0.036	Y	Cross Row Half	21.437	3.265
153	5.363	15.551	0.009	Y	Mutation Fill	21.234	3.297
154	5.309	15.551	0.054	Y	Mutation Fill	21.469	3.261
155	5.281	15.551	0.028	Y	Cross Row Half	21.985	3.184
156	5.241	15.551	0.040	Y	Cross Row Half	21.703	3.225
157	5.204	15.551	0.037	Y	Cross Row Half	22.390	3.126
158	5.204	15.551			Cross Row Half	22.250	3.146
159	5.197	15.551	0.007	Y	Cross Row Half	22.375	3.128
160	5.146	15.551	0.051	Y	Mutation Fill	21.500	3.256
161	4.975	15.551	0.171	Y	Mutation Fill	22.282	3.142
162	4.914	15.551	0.061	Y	Cross Row Half	22.140	3.162
163	4.913	15.551	0.001	Y	Mutation Fill	22.297	3.139
164	4.879	15.551	0.034	Y	Cross Row Half	22.422	3.122
165	4.866	15.551	0.013	Y	Mutation Fill	21.719	3.223
166	4.834	15.551	0.032	Y	Mutation Fill	22.640	3.092
167	4.791	15.551	0.043	Y	Cross Row Half	22.485	3.113
168	4.778	15.551	0.013	Y	Cross Row Half	22.484	3.113
169	4.767	15.551	0.011	Y	Cross Row Half	21.938	3.191
170	4.760	15.551	0.007	Y	Mutation Fill	22.468	3.116
171	4.757	15.551	0.003	Y	Mutation Fill	21.469	3.261
172	4.721	15.551	0.036	Y	Mutation Fill	21.406	3.270
173	4.719	15.551	0.002	Y	Cross Row Half	22.594	3.098
174	4.716	15.551	0.003	Y	Cross Row Half	22.391	3.126
175	4.704	15.551	0.012	Y	Mutation Fill	22.484	3.113
176	4.703	15.551	0.001	Y	Cross Row Half	21.625	3.237
177	4.689	15.551	0.014	Y	Cross Row Half	22.047	3.175
178	4.689	15.551			Cross Row Half	21.937	3.191
179	4.686	15.551	0.003	Y	Mutation Fill	21.516	3.253
180	4.686	15.551			Mutation Fill	22.109	3.166
181	4.673	15.551	0.013	Y	Mutation Fill	22.766	3.075
182	4.664	15.551	0.009	Y	Cross Row Half	21.203	3.301
183	4.642	15.551	0.022	Y	Mutation Swap	21.266	3.292
184	4.631	15.551	0.011	Y	Cross Row Half	22.469	3.115
185	4.627	15.551	0.004	Y	Cross Row Half	22.421	3.122
186	4.616	15.551	0.011	Y	Cross Row Half	21.438	3.265
187	4.613	15.551	0.003	Y	Cross Row Half	23.187	3.019
188	4.613	15.551			Cross Row Half	22.610	3.096
189	4.609	15.551	0.004	Y	Mutation Fill	22.922	3.054
190	4.601	15.551	0.008	Y	Mutation Fill	22.328	3.135
191	4.553	15.551	0.048	Y	Mutation Fill	21.328	3.282
192	4.502	15.551	0.051	Y	Cross Row Half	21.906	3.195
193	4.494	15.551	0.008	Y	Cross Row Half	22.531	3.107

194	4.484	15.551	0.010	Y	Mutation Fill	21.438	3.265
195	4.476	15.551	0.008	Y	Cross Row Half	21.687	3.228
196	4.468	15.551	0.008	Y	Cross Row Half	21.719	3.223
197	4.455	15.551	0.013	Y	Cross Row Half	20.906	3.348
198	4.453	15.551	0.002	Y	Cross Row Half	21.735	3.221
199	4.439	15.551	0.014	Y	Mutation Swap	21.828	3.207
200	4.408	15.551	0.031	Y	Cross Row Half	22.766	3.075
201	4.375	15.551	0.033	Y	Cross Row Half	22.437	3.120
202	4.312	15.551	0.063	Y	Mutation Fill	23.766	2.945
203	4.312	15.551			Mutation Fill	22.593	3.098
204	4.260	15.551	0.052	Y	Cross Row Half	21.704	3.225
205	4.232	15.551	0.028	Y	Mutation Fill	22.296	3.140
206	4.232	15.551			Mutation Fill	22.813	3.068
207	4.225	15.551	0.007	Y	Mutation Fill	22.187	3.155
208	4.223	15.551	0.002	Y	Mutation Fill	22.329	3.135
209	4.222	15.551	0.001	Y	Cross Row Half	22.500	3.111
210	4.199	15.551	0.023	Y	Mutation Swap	22.953	3.050
211	4.186	15.551	0.013	Y	Cross Row Half	22.218	3.151
212	4.182	15.551	0.004	Y	Cross Row Half	21.938	3.191
213	4.149	15.551	0.033	Y	Mutation Fill	21.187	3.304
214	4.137	15.551	0.012	Y	Cross Row Half	22.563	3.102
215	4.133	15.551	0.004	Y	Cross Row Half	22.859	3.062
216	4.123	15.551	0.010	Y	Mutation Fill	22.360	3.131
217	4.117	15.551	0.006	Y	Mutation Fill	23.640	2.961
218	4.117	15.551			Mutation Fill	22.516	3.109
219	4.072	15.551	0.045	Y	Mutation Fill	23.531	2.975
220	4.072	15.551			Mutation Fill	22.203	3.153
221	4.058	15.551	0.014	Y	Cross Row Half	23.235	3.013
222	4.047	15.551	0.011	Y	Cross Row Half	22.547	3.105
223	4.038	15.551	0.009	Y	Mutation Fill	22.390	3.126
224	4.024	15.551	0.014	Y	Cross Row Half	22.438	3.120
225	4.006	15.551	0.018	Y	Cross Row Half	22.156	3.159
226	4.002	15.549	0.004	Y	Cross Row Half	22.609	3.096
227	4.000	15.549	0.002	Y	Mutation Fill	22.625	3.094
228	3.988	15.549	0.012	Y	Mutation Swap	23.078	3.033
229	3.975	15.549	0.013	Y	Mutation Fill	21.610	3.239
230	3.973	15.549	0.002	Y	Cross Row Half	24.187	2.894
231	3.945	12.434	0.028	Y	Mutation Fill	22.203	3.153
232	3.940	12.434	0.005	Y	Cross Row Half	22.969	3.048
233	3.936	12.434	0.004	Y	Cross Row Half	22.719	3.081
234	3.911	12.434	0.025	Y	Mutation Fill	21.797	3.211
235	3.899	12.434	0.012	Y	Cross Row Half	22.890	3.058
236	3.897	12.434	0.002	Y	Mutation Swap	28.375	2.467
237	3.858	12.434	0.039	Y	Mutation Fill	23.375	2.995
238	3.844	12.434	0.014	Y	Cross Row Half	22.360	3.131
239	3.836	12.434	0.008	Y	Mutation Swap	23.203	3.017
240	3.834	12.434	0.002	Y	Cross Row Half	22.312	3.137
241	3.825	12.434	0.009	Y	Mutation Fill	22.875	3.060
242	3.820	12.434	0.005	Y	Mutation Fill	22.985	3.045
243	3.820	12.434			Mutation Fill	21.953	3.189
244	3.805	12.434	0.015	Y	Mutation Fill	22.797	3.071
245	3.762	12.434	0.043	Y	Mutation Fill	21.844	3.205

246	3.762	12.434		Mutation Fill	22.656	3.090	
247	3.755	12.434	0.007	Y	Mutation Fill	22.797	3.071
248	3.746	12.434	0.009	Y	Mutation Swap	22.703	3.083
249	3.732	12.434	0.014	Y	Mutation Fill	23.609	2.965
250	3.726	12.434	0.006	Y	Mutation Swap	23.438	2.987
251	3.712	12.434	0.014	Y	Mutation Fill	23.750	2.947
252	3.692	12.434	0.020	Y	Cross Row Half	23.000	3.043
253	3.680	12.434	0.012	Y	Cross Row Half	22.234	3.148
254	3.672	12.434	0.008	Y	Cross Row Half	22.297	3.139
255	3.663	12.434	0.009	Y	Mutation Fill	23.359	2.997
256	3.645	12.434	0.018	Y	Cross Row Half	23.172	3.021
257	3.635	12.434	0.010	Y	Cross Row Half	22.531	3.107
258	3.619	12.434	0.016	Y	Cross Row Half	23.032	3.039
259	3.613	12.434	0.006	Y	Cross Row Half	23.922	2.926
260	3.608	12.434	0.005	Y	Cross Row Half	22.687	3.085
261	3.597	12.434	0.011	Y	Cross Row Half	22.656	3.090
262	3.589	12.434	0.008	Y	Cross Row Half	22.407	3.124
263	3.583	12.434	0.006	Y	Mutation Fill	22.859	3.062
264	3.554	12.434	0.029	Y	Mutation Fill	22.828	3.066
265	3.554	12.434			Mutation Fill	21.844	3.205
266	3.544	12.434	0.010	Y	Cross Row Half	23.406	2.991
267	3.543	12.434	0.001	Y	Mutation Fill	23.297	3.005
268	3.539	12.434	0.004	Y	Cross Row Half	22.125	3.164
269	3.538	12.434	0.001	Y	Cross Row Half	22.312	3.137
270	3.537	12.434	0.001	Y	Mutation Fill	22.500	3.111
271	3.536	12.434	0.001	Y	Mutation Fill	22.204	3.153
272	3.533	12.434	0.003	Y	Mutation Fill	23.500	2.979
273	3.527	12.434	0.006	Y	Mutation Fill	22.609	3.096
274	3.525	12.434	0.002	Y	Mutation Swap	24.656	2.839
275	3.519	12.434	0.006	Y	Mutation Fill	23.188	3.019
276	3.502	12.434	0.017	Y	Cross Row Half	23.343	2.999
277	3.485	12.434	0.017	Y	Cross Row Half	23.204	3.017
278	3.478	12.434	0.007	Y	Mutation Fill	23.375	2.995
279	3.474	12.434	0.004	Y	Cross Row Half	23.015	3.041
280	3.469	12.434	0.005	Y	Mutation Fill	23.078	3.033
281	3.461	12.434	0.008	Y	Mutation Fill	22.922	3.054
282	3.457	12.434	0.004	Y	Cross Row Half	23.906	2.928
283	3.455	12.434	0.002	Y	Mutation Fill	23.782	2.943
284	3.452	12.434	0.003	Y	Mutation Fill	21.156	3.309
285	3.433	12.434	0.019	Y	Mutation Fill	24.203	2.892
286	3.432	12.434	0.001	Y	Cross Row Half	24.875	2.814
287	3.432	12.434			Cross Row Half	23.109	3.029
288	3.427	12.434	0.005	Y	Mutation Fill	22.235	3.148
289	3.427	12.434			Mutation Fill	21.984	3.184
290	3.425	12.434	0.002	Y	Cross Row Half	23.563	2.971
291	3.423	12.434	0.002	Y	Mutation Swap	22.593	3.098
292	3.416	12.434	0.007	Y	Mutation Fill	23.907	2.928
293	3.406	12.434	0.010	Y	Mutation Fill	23.234	3.013
294	3.392	12.434	0.014	Y	Cross Row Half	23.766	2.945
295	3.384	12.434	0.008	Y	Mutation Fill	23.140	3.025
296	3.384	12.434			Mutation Fill	24.094	2.905
297	3.380	12.434	0.004	Y	Mutation Fill	24.734	2.830

298	3.380	12.434		Mutation Fill	22.297	3.139	
299	3.365	12.434	0.015	Y	Mutation Fill	24.110	2.903
300	3.355	12.434	0.010	Y	Cross Row Half	24.125	2.902
301	3.355	12.434			Cross Row Half	23.703	2.953
302	3.345	12.434	0.010	Y	Cross Row Half	23.172	3.021
303	3.327	12.434	0.018	Y	Mutation Fill	24.422	2.866
304	3.325	12.434	0.002	Y	Mutation Fill	23.734	2.949
305	3.295	12.434	0.030	Y	Mutation Fill	21.766	3.216
306	3.277	12.434	0.018	Y	Mutation Fill	23.406	2.991
307	3.277	12.434			Mutation Fill	24.375	2.872
308	3.233	10.439	0.044	Y	Mutation Fill	24.422	2.866
309	3.232	10.439	0.001	Y	Cross Row Half	24.125	2.902
310	3.196	10.439	0.036	Y	Mutation Fill	24.672	2.837
311	3.189	10.439	0.007	Y	Cross Row Half	24.578	2.848
312	3.188	10.439	0.001	Y	Cross Row Half	23.937	2.924
313	3.188	10.439			Cross Row Half	24.938	2.807
314	3.168	10.439	0.020	Y	Mutation Fill	30.531	2.293
315	3.168	10.439			Mutation Fill	23.953	2.922
316	3.155	10.439	0.013	Y	Mutation Swap	24.297	2.881
317	3.146	10.439	0.009	Y	Cross Row Half	22.500	3.111
318	3.137	10.439	0.009	Y	Mutation Fill	23.594	2.967
319	3.127	10.439	0.010	Y	Cross Row Half	24.703	2.834
320	3.127	10.439			Cross Row Half	23.500	2.979
321	3.121	10.439	0.006	Y	Mutation Fill	23.890	2.930
322	3.116	10.439	0.005	Y	Cross Row Half	24.219	2.890
323	3.116	10.439			Cross Row Half	24.078	2.907
324	3.108	10.439	0.008	Y	Mutation Fill	24.532	2.853
325	3.105	10.439	0.003	Y	Cross Row Half	24.218	2.890
326	3.103	10.439	0.002	Y	Mutation Fill	24.328	2.877
327	3.097	10.439	0.006	Y	Mutation Fill	22.594	3.098
328	3.092	10.439	0.005	Y	Cross Row Half	23.203	3.017
329	3.087	10.623	0.005	Y	Mutation Fill	24.063	2.909
330	3.073	10.439	0.014	Y	Mutation Fill	23.437	2.987
331	3.068	10.439	0.005	Y	Cross Row Half	23.391	2.993
332	3.063	10.439	0.005	Y	Cross Row Half	23.734	2.949
333	3.060	10.439	0.003	Y	Cross Row Half	23.907	2.928
334	3.060	10.439			Cross Row Half	24.390	2.870
335	3.053	10.439	0.007	Y	Mutation Fill	22.141	3.162
336	3.046	10.439	0.007	Y	Mutation Fill	22.859	3.062
337	3.042	10.439	0.004	Y	Cross Row Half	23.672	2.957
338	3.031	10.439	0.011	Y	Cross Row Half	24.219	2.890
339	3.025	10.439	0.006	Y	Cross Row Half	24.515	2.855
340	3.021	10.439	0.004	Y	Cross Row Half	23.844	2.936
341	3.013	10.439	0.008	Y	Mutation Fill	24.391	2.870
342	3.009	10.439	0.004	Y	Cross Row Half	22.812	3.069
343	3.009	10.439			Cross Row Half	23.875	2.932
344	3.000	10.439	0.009	Y	Mutation Fill	23.719	2.951
345	2.995	10.439	0.005	Y	Mutation Fill	22.188	3.155
346	2.994	10.439	0.001	Y	Mutation Swap	22.625	3.094
347	2.961	10.439	0.033	Y	Cross Row Half	23.406	2.991
348	2.908	10.439	0.053	Y	Mutation Fill	23.844	2.936
349	2.908	10.439			Mutation Fill	24.484	2.859



350	2.899	10.439	0.009	Y	Cross Row Half	24.141	2.900
351	2.888	10.439	0.011	Y	Mutation Fill	23.093	3.031
352	2.888	10.439			Mutation Fill	23.203	3.017
353	2.872	10.439	0.016	Y	Mutation Fill	24.047	2.911
354	2.867	10.439	0.005	Y	Cross Row Half	23.328	3.001
355	2.860	10.439	0.007	Y	Cross Row Half	23.563	2.971
356	2.855	10.439	0.005	Y	Mutation Fill	23.766	2.945
357	2.854	10.439	0.001	Y	Mutation Fill	23.453	2.985
358	2.854	10.439			Mutation Fill	23.437	2.987
359	2.852	10.439	0.002	Y	Mutation Fill	22.828	3.066
360	2.847	10.439	0.005	Y	Mutation Fill	23.813	2.940
361	2.845	10.439	0.002	Y	Cross Row Half	23.640	2.961
362	2.843	10.439	0.002	Y	Mutation Fill	23.563	2.971
363	2.841	10.439	0.002	Y	Cross Row Half	24.312	2.879
364	2.838	10.439	0.003	Y	Cross Row Half	22.563	3.102
365	2.821	10.439	0.017	Y	Mutation Fill	23.953	2.922
366	2.816	10.439	0.005	Y	Cross Row Half	23.797	2.942
367	2.812	10.439	0.004	Y	Mutation Fill	22.922	3.054
368	2.807	10.439	0.005	Y	Cross Row Half	22.265	3.144
369	2.802	10.439	0.005	Y	Mutation Fill	24.407	2.868
370	2.794	10.439	0.008	Y	Mutation Fill	22.656	3.090
371	2.784	10.439	0.010	Y	Cross Row Half	23.344	2.999
372	2.778	10.439	0.006	Y	Mutation Fill	24.187	2.894
373	2.758	10.439	0.020	Y	Mutation Fill	22.797	3.071
374	2.752	10.439	0.006	Y	Cross Row Half	24.141	2.900
375	2.739	10.439	0.013	Y	Mutation Swap	22.828	3.066
376	2.738	10.439	0.001	Y	Cross Row Half	24.328	2.877
377	2.723	10.439	0.015	Y	Mutation Fill	23.437	2.987
378	2.723	10.439			Mutation Fill	22.782	3.073
379	2.719	10.439	0.004	Y	Cross Row Half	24.343	2.876
380	2.699	10.439	0.020	Y	Mutation Fill	23.750	2.947
381	2.694	10.439	0.005	Y	Mutation Fill	23.782	2.943
382	2.694	10.439			Mutation Fill	22.859	3.062
383	2.690	10.439	0.004	Y	Cross Row Half	23.422	2.989
384	2.687	10.439	0.003	Y	Cross Row Half	24.312	2.879
385	2.674	10.439	0.013	Y	Cross Row Half	23.407	2.991
386	2.665	10.439	0.009	Y	Cross Row Half	24.468	2.861
387	2.665	10.439			Cross Row Half	24.547	2.852
388	2.659	10.439	0.006	Y	Cross Row Half	23.828	2.938
389	2.658	10.439	0.001	Y	Cross Row Half	24.235	2.888
390	2.652	10.439	0.006	Y	Mutation Fill	22.750	3.077
391	2.647	10.439	0.005	Y	Cross Row Half	23.469	2.983
392	2.641	10.439	0.006	Y	Mutation Fill	23.203	3.017
393	2.636	10.439	0.005	Y	Cross Row Half	24.062	2.909
394	2.636	10.439			Cross Row Half	25.797	2.713
395	2.636	10.439			Cross Row Half	24.188	2.894
396	2.632	10.439	0.004	Y	Mutation Fill	24.562	2.850
397	2.614	10.439	0.018	Y	Mutation Fill	23.672	2.957
398	2.614	10.439			Mutation Fill	22.953	3.050
399	2.575	10.439	0.039	Y	Mutation Fill	22.641	3.092
400	2.575	10.439			Mutation Fill	24.437	2.865
401	2.571	10.439	0.004	Y	Cross Row Half	22.860	3.062

402	2.554	10.439	0.017	Y	Mutation Swap	21.796	3.212
403	2.551	10.439	0.003	Y	Cross Row Half	22.719	3.081
404	2.551	10.439			Cross Row Half	22.625	3.094
405	2.550	10.439	0.001	Y	Mutation Fill	23.766	2.945
406	2.550	10.439			Mutation Fill	21.953	3.189
407	2.549	10.439	0.001	Y	Cross Row Half	22.844	3.064
408	2.546	10.439	0.003	Y	Mutation Swap	22.765	3.075
409	2.540	10.439	0.006	Y	Cross Row Half	23.047	3.037
410	2.529	10.439	0.011	Y	Mutation Fill	22.469	3.115
411	2.526	10.439	0.003	Y	Cross Row Half	23.641	2.961
412	2.524	10.439	0.002	Y	Cross Row Half	22.421	3.122
413	2.519	10.439	0.005	Y	Mutation Fill	29.157	2.401
414	2.511	10.439	0.008	Y	Cross Row Half	22.859	3.062
415	2.503	10.439	0.008	Y	Cross Row Half	21.359	3.277
416	2.497	10.439	0.006	Y	Cross Row Half	22.844	3.064
417	2.488	10.439	0.009	Y	Mutation Fill	24.860	2.816
418	2.488	10.439			Mutation Fill	22.765	3.075
419	2.481	10.439	0.007	Y	Cross Row Half	21.844	3.205
420	2.471	10.439	0.010	Y	Mutation Fill	22.125	3.164
421	2.451	10.439	0.020	Y	Mutation Fill	23.391	2.993
422	2.451	10.439			Mutation Fill	24.953	2.805
423	2.445	10.439	0.006	Y	Cross Row Half	22.265	3.144
424	2.445	10.439			Cross Row Half	22.657	3.090
425	2.443	10.439	0.002	Y	Mutation Fill	21.812	3.209
426	2.438	10.439	0.005	Y	Mutation Fill	23.344	2.999
427	2.436	10.439	0.002	Y	Cross Row Half	22.422	3.122
428	2.433	10.439	0.003	Y	Mutation Fill	22.328	3.135
429	2.431	10.439	0.002	Y	Cross Row Half	21.953	3.189
430	2.422	10.439	0.010	Y	Mutation Fill	22.375	3.128
431	2.420	10.439	0.002	Y	Cross Row Half	23.453	2.985
432	2.414	10.439	0.006	Y	Cross Row Half	22.688	3.085
433	2.412	10.439	0.001	Y	Mutation Fill	21.953	3.189
434	2.406	10.439	0.007	Y	Cross Row Half	22.859	3.062
435	2.400	10.439	0.006	Y	Cross Row Half	24.531	2.854
436	2.400	10.439			Cross Row Half	22.313	3.137
437	2.400	10.439			Cross Row Half	22.531	3.107
438	2.376	10.439	0.024	Y	Mutation Fill	20.484	3.417
439	2.368	10.439	0.008	Y	Cross Row Half	22.844	3.064
440	2.367	10.439	0.001	Y	Mutation Fill	24.110	2.903
441	2.367	10.439			Mutation Fill	22.281	3.142
442	2.367	10.439			Mutation Fill	22.250	3.146
443	2.367	10.439			Mutation Fill	23.594	2.967
444	2.359	10.439	0.008	Y	Mutation Fill	22.625	3.094
445	2.350	10.439	0.009	Y	Mutation Fill	22.703	3.083
446	2.343	10.439	0.007	Y	Cross Row Half	22.234	3.148
447	2.336	10.439	0.007	Y	Cross Row Half	23.469	2.983
448	2.334	10.439	0.002	Y	Mutation Fill	23.281	3.007
449	2.328	10.439	0.006	Y	Cross Row Half	22.719	3.081
450	2.328	10.439			Cross Row Half	23.047	3.037
451	2.326	10.439	0.002	Y	Mutation Fill	22.125	3.164
452	2.326	10.439			Mutation Fill	21.656	3.232
453	2.320	10.439	0.007	Y	Mutation Fill	22.172	3.157

454	2.320	10.439		Mutation Fill	22.312	3.137	
455	2.311	10.439	0.009	Y	Mutation Fill	22.532	3.107
456	2.310	10.439	0.001	Y	Cross Row Half	23.890	2.930
457	2.304	10.439	0.006	Y	Cross Row Half	22.625	3.094
458	2.297	10.439	0.007	Y	Mutation Fill	22.500	3.111
459	2.238	10.439	0.059	Y	Mutation Fill	23.156	3.023
460	2.230	10.439	0.008	Y	Cross Row Half	23.688	2.955
461	2.230	10.439			Cross Row Half	23.984	2.919
462	2.223	10.439	0.007	Y	Mutation Fill	23.547	2.973
463	2.223	10.439			Mutation Fill	22.531	3.107
464	2.223	10.439			Mutation Fill	23.532	2.975
465	2.218	10.439	0.005	Y	Mutation Fill	23.156	3.023
466	2.217	10.439	0.001	Y	Cross Row Half	23.687	2.955
467	2.215	10.439	0.002	Y	Mutation Fill	22.297	3.139
468	2.215	10.439			Mutation Fill	23.282	3.007
469	2.215	10.439			Mutation Fill	24.281	2.883
470	2.214	10.439	0.001	Y	Mutation Fill	23.500	2.979
471	2.207	10.439	0.007	Y	Mutation Fill	22.844	3.064
472	2.206	10.439	0.001	Y	Cross Row Half	23.718	2.951
473	2.199	10.439	0.007	Y	Cross Row Half	22.922	3.054
474	2.198	10.439	0.001	Y	Cross Row Half	24.063	2.909
475	2.198	10.439			Cross Row Half	22.281	3.142
476	2.191	10.439	0.007	Y	Mutation Fill	24.406	2.868
477	2.185	10.439	0.006	Y	Mutation Swap	24.375	2.872
478	2.176	10.439	0.009	Y	Mutation Fill	23.360	2.997
479	2.175	10.439	0.001	Y	Mutation Fill	23.531	2.975
480	2.169	10.439	0.006	Y	Mutation Fill	24.484	2.859
481	2.163	10.439	0.006	Y	Cross Row Half	23.500	2.979
482	2.162	10.439	0.001	Y	Cross Row Half	23.485	2.981
483	2.159	10.439	0.003	Y	Mutation Fill	22.375	3.128
484	2.153	10.439	0.006	Y	Mutation Fill	24.421	2.866
485	2.144	10.439	0.009	Y	Cross Row Half	24.204	2.892
486	2.144	10.439			Cross Row Half	26.156	2.676
487	2.139	10.439	0.005	Y	Cross Row Half	24.578	2.848
488	2.139	10.439			Cross Row Half	23.906	2.928
489	2.136	10.439	0.003	Y	Mutation Fill	23.313	3.003
490	2.136	10.439			Mutation Fill	23.984	2.919
491	2.134	10.439	0.002	Y	Mutation Fill	24.984	2.802
492	2.134	10.439			Mutation Fill	24.657	2.839
493	2.134	10.439			Mutation Fill	24.234	2.889
494	2.129	10.439	0.005	Y	Mutation Fill	22.781	3.073
495	2.128	10.439	0.001	Y	Cross Row Half	22.844	3.064
496	2.128	10.439			Cross Row Half	22.875	3.060
497	2.121	10.439	0.007	Y	Mutation Swap	23.313	3.003
498	2.116	10.439	0.005	Y	Cross Row Half	24.421	2.866
499	2.116	10.439			Cross Row Half	22.922	3.054
500	2.115	10.439	0.001	Y	Mutation Fill	24.391	2.870
501	2.111	10.439	0.004	Y	Mutation Fill	23.750	2.947
502	2.109	10.439	0.002	Y	Cross Row Half	22.859	3.062
503	2.104	10.439	0.005	Y	Mutation Fill	23.719	2.951
504	2.104	10.439			Mutation Fill	24.422	2.866
505	2.102	10.439	0.002	Y	Cross Row Half	23.859	2.934

506	2.102	10.439		Cross Row Half	22.922 3.054
507	2.102	10.439		Cross Row Half	24.110 2.903
508	2.102	10.439		Cross Row Half	24.234 2.889
509	2.097	10.439	0.005 Y	Mutation Fill	24.203 2.892
510	2.097	10.439		Mutation Fill	24.313 2.879
511	2.068	10.439	0.029 Y	Mutation Fill	23.031 3.039
512	2.068	10.439		Mutation Fill	23.031 3.039
513	2.068	10.439		Mutation Fill	22.875 3.060
514	2.065	10.439	0.003 Y	Mutation Fill	22.484 3.113
515	2.059	10.439	0.006 Y	Mutation Fill	21.829 3.207
516	2.056	10.439	0.003 Y	Cross Row Half	24.312 2.879
517	2.056	10.439		Cross Row Half	22.641 3.092
518	2.056	10.439		Cross Row Half	21.734 3.221
519	2.056	10.439		Cross Row Half	22.438 3.120
520	2.056	10.439		Cross Row Half	24.468 2.861
521	2.056	10.439		Cross Row Half	22.719 3.081
522	2.050	10.439	0.006 Y	Mutation Fill	23.531 2.975
523	2.050	10.439		Mutation Fill	20.657 3.389
524	2.047	10.439	0.003 Y	Cross Row Half	24.343 2.876
525	2.047	10.439		Cross Row Half	22.875 3.060
526	2.046	10.439	0.001 Y	Mutation Fill	23.657 2.959
527	2.045	10.439	0.001 Y	Cross Row Half	23.140 3.025
528	2.013	10.439	0.032 Y	Mutation Fill	23.953 2.922
529	2.011	10.439	0.002 Y	Cross Row Half	22.672 3.088
530	2.004	10.439	0.007 Y	Mutation Fill	23.031 3.039
531	2.002	10.439	0.002 Y	Cross Row Half	23.125 3.027
532	2.002	10.439		Cross Row Half	22.891 3.058
533	2.002	10.439		Cross Row Half	24.594 2.846
534	1.999	10.439	0.003 Y	Mutation Fill	22.781 3.073
535	1.999	10.439		Mutation Fill	22.328 3.135
536	1.990	10.439	0.009 Y	Mutation Fill	23.094 3.031
537	1.990	10.439		Mutation Fill	22.016 3.180
538	1.987	10.439	0.003 Y	Cross Row Half	24.171 2.896
539	1.987	10.439		Cross Row Half	24.485 2.859
540	1.987	10.439		Cross Row Half	23.515 2.977
541	1.985	10.439	0.002 Y	Mutation Fill	23.547 2.973
542	1.985	10.439		Mutation Fill	24.360 2.874
543	1.984	10.439	0.001 Y	Cross Row Half	22.515 3.109
544	1.973	10.439	0.011 Y	Mutation Fill	24.125 2.902
545	1.963	10.439	0.010 Y	Cross Row Half	22.610 3.096
546	1.963	10.439		Cross Row Half	23.078 3.033
547	1.963	10.439		Cross Row Half	22.484 3.113
548	1.951	10.439	0.012 Y	Mutation Fill	22.875 3.060
549	1.951	10.439		Mutation Fill	23.266 3.009
550	1.943	10.439	0.008 Y	Mutation Fill	22.594 3.098
551	1.941	10.439	0.002 Y	Mutation Fill	23.296 3.005
552	1.936	10.439	0.005 Y	Cross Row Half	24.063 2.909
553	1.932	10.439	0.004 Y	Mutation Fill	22.922 3.054
554	1.932	10.439		Mutation Fill	23.172 3.021
555	1.931	10.439	0.001 Y	Cross Row Half	23.640 2.961
556	1.926	10.439	0.005 Y	Mutation Swap	23.766 2.945
557	1.924	10.439	0.002 Y	Cross Row Half	21.906 3.195

558	1.922	10.439	0.002	Y	Mutation Fill	23.891	2.930
559	1.922	10.439			Mutation Fill	22.937	3.052
560	1.922	10.439			Mutation Fill	23.391	2.993
561	1.922	10.439			Mutation Fill	22.406	3.124
562	1.921	10.439	0.001	Y	Mutation Fill	22.047	3.175
563	1.916	10.439	0.005	Y	Mutation Fill	22.719	3.081
564	1.915	10.439	0.001	Y	Cross Row Half	21.984	3.184
565	1.906	10.439	0.009	Y	Mutation Fill	22.656	3.090
566	1.905	10.439	0.001	Y	Cross Row Half	23.829	2.938
567	1.899	10.439	0.006	Y	Cross Row Half	23.578	2.969
568	1.897	10.439	0.002	Y	Cross Row Half	23.234	3.013
569	1.897	10.439			Cross Row Half	24.297	2.881
570	1.888	10.439	0.010	Y	Mutation Fill	22.562	3.103
571	1.885	10.439	0.003	Y	Cross Row Half	23.422	2.989
572	1.878	10.439	0.007	Y	Mutation Fill	23.469	2.983
573	1.875	10.439	0.003	Y	Cross Row Half	22.734	3.079
574	1.872	10.439	0.003	Y	Cross Row Half	23.188	3.019
575	1.872	10.439			Cross Row Half	21.906	3.195
576	1.867	10.439	0.005	Y	Mutation Swap	22.719	3.081
577	1.866	10.439	0.001	Y	Cross Row Half	24.375	2.872
578	1.863	10.439	0.003	Y	Mutation Fill	22.797	3.071
579	1.858	10.439	0.005	Y	Mutation Fill	23.406	2.991
580	1.853	10.439	0.005	Y	Mutation Fill	23.828	2.938
581	1.847	10.439	0.006	Y	Cross Row Half	23.453	2.985
582	1.847	10.439			Cross Row Half	24.266	2.885
583	1.847	10.439			Cross Row Half	23.937	2.924
584	1.847	10.439			Cross Row Half	22.047	3.175
585	1.847	10.439			Cross Row Half	22.782	3.073
586	1.847	10.439			Cross Row Half	23.531	2.975
587	1.847	10.439			Cross Row Half	22.203	3.153
588	1.847	10.439			Cross Row Half	21.609	3.239
589	1.846	10.439	0.001	Y	Mutation Fill	21.641	3.235
590	1.842	10.439	0.004	Y	Mutation Fill	24.797	2.823
591	1.841	10.439	0.001	Y	Cross Row Half	22.500	3.111
592	1.841	10.439			Cross Row Half	22.797	3.071
593	1.836	10.439	0.005	Y	Cross Row Half	23.359	2.997
594	1.832	10.439	0.004	Y	Mutation Fill	21.703	3.225
595	1.832	10.439			Mutation Fill	22.531	3.107
596	1.827	10.439	0.005	Y	Mutation Fill	23.469	2.983
597	1.827	10.439			Mutation Fill	24.047	2.911
598	1.821	10.439	0.006	Y	Mutation Swap	23.688	2.955
599	1.821	10.439			Mutation Swap	22.359	3.131
600	1.812	10.439	0.009	Y	Mutation Fill	23.219	3.015
601	1.806	10.439	0.006	Y	Cross Row Half	23.640	2.961
602	1.805	10.439	0.001	Y	Cross Row Half	23.641	2.961
603	1.804	10.439	0.001	Y	Cross Row Half	25.000	2.800
604	1.802	10.439	0.002	Y	Cross Row Half	24.172	2.896
605	1.801	10.439	0.001	Y	Cross Row Half	23.640	2.961
606	1.800	10.439	0.001	Y	Mutation Fill	23.860	2.934
607	1.800	10.439			Mutation Fill	22.781	3.073
608	1.796	10.439	0.004	Y	Mutation Fill	23.156	3.023
609	1.794	10.439	0.002	Y	Cross Row Half	23.297	3.005

610	1.794	10.439		Cross Row Half	22.156 3.159
611	1.789	10.439 0.005	Y	Mutation Fill	23.344 2.999
612	1.789	10.439		Mutation Fill	22.531 3.107
613	1.789	10.439		Mutation Fill	21.875 3.200
614	1.787	10.439 0.002	Y	Mutation Fill	21.969 3.186
615	1.787	10.439		Mutation Fill	22.531 3.107
616	1.787	10.439		Mutation Fill	22.125 3.164
617	1.787	10.439		Mutation Fill	22.641 3.092
618	1.785	10.439 0.002	Y	Mutation Fill	22.344 3.133
619	1.785	10.439		Mutation Fill	20.797 3.366
620	1.780	10.439 0.005	Y	Mutation Fill	22.578 3.100
621	1.779	10.439 0.001	Y	Cross Row Half	22.031 3.177
622	1.777	10.439 0.002	Y	Cross Row Half	22.266 3.144
623	1.775	10.439 0.002	Y	Mutation Fill	21.843 3.205
624	1.773	10.439 0.002	Y	Cross Row Half	23.625 2.963
625	1.773	10.439		Cross Row Half	23.157 3.023
626	1.771	10.439 0.002	Y	Mutation Fill	22.359 3.131
627	1.771	10.439		Mutation Fill	22.547 3.105
628	1.771	10.439		Mutation Fill	24.312 2.879
629	1.771	10.439		Mutation Fill	22.516 3.109
630	1.769	10.439 0.002	Y	Mutation Fill	23.359 2.997
631	1.769	10.439		Mutation Fill	22.735 3.079
632	1.769	10.439		Mutation Fill	22.640 3.092
633	1.769	10.439		Mutation Fill	24.375 2.872
634	1.769	10.439		Mutation Fill	23.297 3.005
635	1.764	10.439 0.005	Y	Mutation Fill	22.703 3.083
636	1.764	10.439		Mutation Fill	24.125 2.902
637	1.764	10.439		Mutation Fill	23.907 2.928
638	1.757	10.439 0.007	Y	Mutation Fill	23.078 3.033
639	1.757	10.439		Mutation Fill	23.656 2.959
640	1.746	10.439 0.011	Y	Mutation Fill	22.875 3.060
641	1.746	10.439		Mutation Fill	23.250 3.011
642	1.746	10.439		Mutation Fill	23.406 2.991
643	1.738	10.439 0.008	Y	Mutation Fill	23.360 2.997
644	1.736	10.439 0.002	Y	Mutation Fill	23.578 2.969
645	1.734	10.439 0.002	Y	Mutation Fill	23.328 3.001
646	1.731	10.439 0.003	Y	Mutation Fill	22.609 3.096
647	1.731	10.439		Mutation Fill	23.344 2.999
648	1.729	10.439 0.002	Y	Cross Row Half	23.656 2.959
649	1.729	10.439		Cross Row Half	22.641 3.092
650	1.724	10.439 0.005	Y	Mutation Fill	22.969 3.048
651	1.723	10.439 0.001	Y	Mutation Fill	22.656 3.090
652	1.717	10.439 0.006	Y	Cross Row Half	24.234 2.889
653	1.716	10.439 0.001	Y	Cross Row Half	24.563 2.850
654	1.714	10.439 0.002	Y	Mutation Swap	24.594 2.846
655	1.713	10.439 0.001	Y	Cross Row Half	23.578 2.969
656	1.712	10.439 0.001	Y	Cross Row Half	23.484 2.981
657	1.712	10.439		Cross Row Half	24.719 2.832
658	1.701	10.439 0.011	Y	Mutation Fill	23.906 2.928
659	1.700	10.439 0.001	Y	Cross Row Half	22.938 3.052
660	1.689	10.439 0.011	Y	Cross Row Half	23.812 2.940
661	1.687	10.439 0.002	Y	Cross Row Half	23.516 2.977

662	1.687	10.439		Cross Row Half	23.953	2.922
663	1.687	10.439		Cross Row Half	22.859	3.062
664	1.678	10.439	0.009	Y	Mutation Fill	23.860 2.934
665	1.671	10.439	0.007	Y	Cross Row Half	25.109 2.788
666	1.671	10.439			Cross Row Half	22.766 3.075
667	1.670	10.439	0.001	Y	Cross Row Half	24.046 2.911
668	1.670	10.439			Cross Row Half	24.032 2.913
669	1.668	10.439	0.002	Y	Mutation Fill	22.672 3.088
670	1.667	10.439	0.001	Y	Cross Row Half	23.015 3.041
671	1.660	10.439	0.007	Y	Mutation Fill	22.797 3.071
672	1.657	10.439	0.003	Y	Cross Row Half	24.609 2.844
673	1.657	10.439			Cross Row Half	24.297 2.881
674	1.604	10.439	0.053	Y	Mutation Fill	23.375 2.995
675	1.604	10.439			Mutation Fill	24.219 2.890
676	1.604	10.439			Mutation Fill	22.953 3.050
677	1.604	10.439			Mutation Fill	23.047 3.037
678	1.603	10.439	0.001	Y	Mutation Fill	24.031 2.913
679	1.603	10.439			Mutation Fill	22.766 3.075
680	1.602	10.439	0.001	Y	Mutation Fill	23.641 2.961
681	1.601	10.439	0.001	Y	Mutation Fill	23.937 2.924
682	1.601	10.439			Mutation Fill	22.359 3.131
683	1.591	10.439	0.010	Y	Mutation Fill	23.641 2.961
684	1.578	10.439	0.014	Y	Cross Row Half	22.547 3.105
685	1.578	10.439			Cross Row Half	23.812 2.940
686	1.577	10.439	0.001	Y	Mutation Fill	24.672 2.837
687	1.577	10.439			Mutation Fill	23.360 2.997
688	1.577	10.439			Mutation Fill	28.109 2.490
689	1.577	10.439			Mutation Fill	24.875 2.814
690	1.576	10.439	0.001	Y	Mutation Fill	23.516 2.977
691	1.576	10.439			Mutation Fill	23.718 2.951
692	1.576	10.439			Mutation Fill	23.922 2.926
693	1.575	10.439	0.001	Y	Mutation Fill	24.157 2.898
694	1.575	10.439			Mutation Fill	22.906 3.056
695	1.575	10.439			Mutation Fill	23.937 2.924
696	1.569	10.439	0.006	Y	Mutation Swap	23.860 2.934
697	1.565	10.439	0.004	Y	Mutation Fill	24.312 2.879
698	1.563	10.439	0.002	Y	Cross Row Half	23.610 2.965
699	1.561	10.439	0.002	Y	Cross Row Half	23.921 2.926
700	1.558	10.439	0.003	Y	Cross Row Half	24.219 2.890
701	1.558	10.439			Cross Row Half	23.500 2.979
702	1.558	10.439			Cross Row Half	24.235 2.888
703	1.537	10.439	0.021	Y	Mutation Fill	21.890 3.198
704	1.537	10.439			Mutation Fill	24.547 2.852
705	1.537	10.439			Mutation Fill	24.281 2.883
706	1.537	10.439			Mutation Fill	22.719 3.081
707	1.537	10.439			Mutation Fill	23.063 3.035
708	1.537	10.439			Mutation Fill	22.843 3.064
709	1.536	10.439	0.001	Y	Mutation Fill	24.047 2.911
710	1.536	10.439			Mutation Fill	23.516 2.977
711	1.535	10.439	0.001	Y	Mutation Fill	24.703 2.834
712	1.534	10.439	0.001	Y	Mutation Fill	23.422 2.989
713	1.533	10.439	0.001	Y	Cross Row Half	24.234 2.889

714	1.532	10.439	0.001	Y	Cross Row Half	24.813	2.821
715	1.528	10.439	0.004	Y	Mutation Fill	22.828	3.066
716	1.522	10.439	0.006	Y	Mutation Fill	22.953	3.050
717	1.522	10.439			Mutation Fill	23.172	3.021
718	1.522	10.439			Mutation Fill	23.031	3.039
719	1.521	10.439	0.001	Y	Mutation Fill	22.563	3.102
720	1.521	10.439			Mutation Fill	23.796	2.942
721	1.521	10.439			Mutation Fill	23.532	2.975
722	1.521	10.439			Mutation Fill	23.843	2.936
723	1.521	10.439			Mutation Fill	24.141	2.900
724	1.519	10.439	0.002	Y	Mutation Fill	23.516	2.977
725	1.519	10.439			Mutation Fill	22.265	3.144
726	1.518	10.439	0.001	Y	Mutation Fill	24.407	2.868
727	1.501	10.439	0.017	Y	Mutation Fill	23.859	2.934
728	1.500	10.439	0.001	Y	Cross Row Half	24.812	2.821
729	1.500	10.439			Cross Row Half	24.375	2.872
730	1.500	10.439			Cross Row Half	21.750	3.218
731	1.496	10.439	0.004	Y	Mutation Fill	24.125	2.902
732	1.496	10.439			Mutation Fill	22.907	3.056
733	1.494	10.439	0.002	Y	Mutation Fill	23.078	3.033
734	1.493	10.439	0.001	Y	Cross Row Half	22.625	3.094
735	1.492	10.439	0.001	Y	Mutation Fill	21.531	3.251
736	1.492	10.439			Mutation Fill	23.922	2.926
737	1.492	10.439			Mutation Fill	23.250	3.011
738	1.487	10.439	0.005	Y	Mutation Swap	22.359	3.131
739	1.487	10.439			Mutation Swap	23.563	2.971
740	1.486	10.439	0.001	Y	Mutation Fill	24.656	2.839
741	1.486	10.439			Mutation Fill	23.906	2.928
742	1.486	10.439			Mutation Fill	23.016	3.041
743	1.484	10.439	0.002	Y	Mutation Fill	23.062	3.035
744	1.484	10.439			Mutation Fill	25.407	2.755
745	1.484	10.439			Mutation Fill	23.547	2.973
746	1.484	10.439			Mutation Fill	22.500	3.111
747	1.484	10.439			Mutation Fill	23.156	3.023
748	1.484	10.439			Mutation Fill	22.828	3.066
749	1.484	10.439			Mutation Fill	22.656	3.090
750	1.483	10.439	0.001	Y	Mutation Fill	22.563	3.102
751	1.483	10.439			Mutation Fill	22.453	3.118
752	1.483	10.439			Mutation Fill	23.578	2.969
753	1.483	10.439			Mutation Fill	21.594	3.242
754	1.483	10.439			Mutation Fill	23.547	2.973
755	1.472	10.439	0.011	Y	Mutation Fill	22.000	3.182
756	1.467	10.439	0.005	Y	Mutation Fill	23.109	3.029
757	1.467	10.439			Mutation Fill	23.375	2.995
758	1.465	10.439	0.002	Y	Mutation Fill	24.094	2.905
759	1.465	10.439			Mutation Fill	23.828	2.938
760	1.465	10.439			Mutation Fill	23.859	2.934
761	1.465	10.439			Mutation Fill	22.781	3.073
762	1.465	10.439			Mutation Fill	24.391	2.870
763	1.465	10.439			Mutation Fill	23.688	2.955
764	1.465	10.439			Mutation Fill	24.593	2.846
765	1.465	10.439			Mutation Fill	25.141	2.784



766	1.464	10.439	0.001	Y	Mutation Fill	25.250	2.772
767	1.464	10.439			Mutation Fill	23.094	3.031
768	1.464	10.439			Mutation Fill	23.062	3.035
769	1.464	10.439			Mutation Fill	25.563	2.738
770	1.463	10.439	0.001	Y	Mutation Fill	22.531	3.107
771	1.462	10.439	0.001	Y	Mutation Fill	23.578	2.969
772	1.460	10.439	0.002	Y	Cross Row Half	23.500	2.979
773	1.459	10.439	0.001	Y	Mutation Fill	23.641	2.961
774	1.458	10.439	0.001	Y	Cross Row Half	24.078	2.907
775	1.451	10.439	0.007	Y	Mutation Fill	24.844	2.818
776	1.446	10.439	0.005	Y	Cross Row Half	25.000	2.800
777	1.432	10.439	0.014	Y	Mutation Fill	24.062	2.909
778	1.431	10.439	0.001	Y	Cross Row Half	24.047	2.911
779	1.431	10.439			Cross Row Half	25.641	2.730
780	1.428	10.439	0.003	Y	Mutation Fill	24.906	2.811
781	1.427	10.439	0.001	Y	Cross Row Half	24.812	2.821
782	1.424	10.439	0.003	Y	Mutation Fill	26.735	2.618
783	1.423	10.439	0.001	Y	Cross Row Half	24.781	2.825
784	1.422	10.439	0.001	Y	Cross Row Half	25.328	2.764
785	1.422	10.439			Cross Row Half	24.344	2.875
786	1.421	10.439	0.001	Y	Cross Row Half	23.781	2.944
787	1.421	10.439			Cross Row Half	24.094	2.905
788	1.421	10.439			Cross Row Half	25.594	2.735
789	1.421	10.439			Cross Row Half	25.015	2.798
790	1.414	10.439	0.007	Y	Mutation Fill	22.969	3.048
791	1.414	10.439			Mutation Fill	25.234	2.774
792	1.414	10.439			Mutation Fill	24.532	2.853
793	1.414	10.439			Mutation Fill	23.843	2.936
794	1.414	10.439			Mutation Fill	22.516	3.109
795	1.413	10.439	0.001	Y	Mutation Fill	22.812	3.069
796	1.413	10.439			Mutation Fill	24.766	2.826
797	1.413	10.439			Mutation Fill	23.781	2.944
798	1.405	10.439	0.008	Y	Mutation Fill	24.547	2.852
799	1.404	10.439	0.001	Y	Mutation Fill	22.672	3.088
800	1.404	10.439	0.000	Y	Mutation Fill	24.984	2.802
801	1.403	10.439	0.001	Y	Cross Row Half	23.875	2.932
802	1.403	10.439			Cross Row Half	25.344	2.762
803	1.402	10.439	0.001	Y	Mutation Fill	24.000	2.917
804	1.402	10.439			Mutation Fill	23.703	2.953
805	1.400	10.439	0.002	Y	Mutation Fill	23.813	2.940
806	1.399	10.439	0.001	Y	Mutation Fill	24.640	2.841
807	1.399	10.439			Mutation Fill	24.594	2.846
808	1.399	10.439			Mutation Fill	23.563	2.971
809	1.399	10.439			Mutation Fill	23.390	2.993
810	1.397	10.439	0.002	Y	Mutation Fill	24.625	2.843
811	1.390	10.439	0.007	Y	Mutation Fill	22.422	3.122
812	1.390	10.439			Mutation Fill	23.703	2.953
813	1.388	10.439	0.002	Y	Cross Row Half	25.110	2.788
814	1.386	10.439	0.002	Y	Mutation Fill	26.218	2.670
815	1.384	10.439	0.002	Y	Cross Row Half	23.438	2.987
816	1.381	10.439	0.003	Y	Cross Row Half	22.734	3.079
817	1.373	10.439	0.008	Y	Mutation Fill	24.141	2.900

818	1.370	10.439	0.003	Y	Cross Row Half	23.078	3.033
819	1.365	10.439	0.005	Y	Mutation Fill	24.891	2.812
820	1.363	10.439	0.002	Y	Cross Row Half	23.453	2.985
821	1.362	10.439	0.001	Y	Cross Row Half	24.672	2.837
822	1.359	10.439	0.003	Y	Mutation Fill	24.281	2.883
823	1.358	10.439	0.001	Y	Cross Row Half	25.141	2.784
824	1.348	10.439	0.010	Y	Mutation Fill	25.125	2.786
825	1.347	10.439	0.001	Y	Cross Row Half	24.328	2.877
826	1.347	10.439			Cross Row Half	23.312	3.003
827	1.347	10.439			Cross Row Half	24.000	2.917
828	1.347	10.439			Cross Row Half	23.703	2.953
829	1.346	10.439	0.001	Y	Mutation Fill	22.766	3.075
830	1.346	10.439			Mutation Fill	23.828	2.938
831	1.346	6.777			Mutation Fill	22.688	3.085
832	1.345	7.408	0.001	Y	Mutation Fill	24.250	2.887
833	1.345	6.777			Mutation Fill	24.296	2.881
834	1.345	7.327			Mutation Fill	24.094	2.905
835	1.332	6.777	0.013	Y	Mutation Fill	23.266	3.009
836	1.330	6.777	0.002	Y	Mutation Fill	24.234	2.889
837	1.330	7.318			Mutation Fill	24.969	2.803
838	1.329	8.193	0.001	Y	Mutation Fill	25.594	2.735
839	1.327	7.491	0.002	Y	Cross Row Half	23.109	3.029
840	1.327	7.175			Cross Row Half	24.719	2.832
841	1.327	6.777			Cross Row Half	24.156	2.898
842	1.324	7.659	0.003	Y	Mutation Fill	24.547	2.852
843	1.323	6.777	0.001	Y	Mutation Fill	24.781	2.825
844	1.320	7.560	0.003	Y	Cross Row Half	23.547	2.973
845	1.319	6.900	0.001	Y	Cross Row Half	22.781	3.073
846	1.318	6.777	0.001	Y	Mutation Fill	24.375	2.872
847	1.318	6.777			Mutation Fill	22.375	3.128
848	1.317	7.848	0.001	Y	Mutation Fill	24.532	2.853
849	1.317	6.777			Mutation Fill	24.203	2.892
850	1.317	7.201			Mutation Fill	24.359	2.874
851	1.317	6.777			Mutation Fill	24.625	2.843
852	1.316	7.567	0.001	Y	Mutation Fill	23.938	2.924
853	1.315	6.777	0.001	Y	Cross Row Half	23.671	2.957
854	1.315	7.229			Cross Row Half	23.454	2.985
855	1.312	6.777	0.003	Y	Mutation Fill	24.343	2.876
856	1.311	6.777	0.001	Y	Cross Row Half	24.438	2.864
857	1.310	6.777	0.001	Y	Cross Row Half	25.234	2.774
858	1.310	6.777			Cross Row Half	24.250	2.887
859	1.310	9.104			Cross Row Half	25.219	2.776
860	1.310	6.777			Cross Row Half	23.000	3.043
861	1.309	6.777	0.001	Y	Cross Row Half	23.328	3.001
862	1.307	8.165	0.002	Y	Mutation Fill	24.969	2.803
863	1.307	9.147			Mutation Fill	23.469	2.983
864	1.306	8.174	0.001	Y	Cross Row Half	23.718	2.951
865	1.304	6.777	0.002	Y	Mutation Fill	24.469	2.861
866	1.304	6.777			Mutation Fill	23.250	3.011
867	1.299	6.936	0.005	Y	Mutation Fill	23.594	2.967
868	1.299	6.777			Mutation Fill	25.390	2.757
869	1.299	6.777			Mutation Fill	24.782	2.825

870	1.248	6.777	0.051	Y	Mutation Fill	23.781	2.944
871	1.247	8.546	0.001	Y	Cross Row Half	23.812	2.940
872	1.246	9.699	0.001	Y	Cross Row Half	23.391	2.993
873	1.245	7.589	0.001	Y	Cross Row Half	24.203	2.892
874	1.245	6.777			Cross Row Half	23.922	2.926
875	1.244	8.078	0.001	Y	Mutation Fill	23.984	2.919
876	1.243	6.777	0.001	Y	Cross Row Half	25.032	2.796
877	1.243	6.777			Cross Row Half	24.625	2.843
878	1.243	6.777			Cross Row Half	24.953	2.805
879	1.242	7.429	0.001	Y	Mutation Fill	21.922	3.193
880	1.242	6.777			Mutation Fill	24.156	2.898
881	1.241	6.777	0.001	Y	Mutation Fill	24.016	2.915
882	1.241	7.461			Mutation Fill	23.437	2.987
883	1.240	6.777	0.001	Y	Mutation Swap	23.688	2.955
884	1.240	7.207			Mutation Swap	24.031	2.913
885	1.239	7.957	0.001	Y	Mutation Fill	25.109	2.788
886	1.239	7.413			Mutation Fill	22.391	3.126
887	1.231	6.777	0.008	Y	Cross Row Half	23.640	2.961
888	1.230	6.777	0.001	Y	Cross Row Half	23.547	2.973
889	1.230	7.629			Cross Row Half	24.422	2.866
890	1.229	6.777	0.001	Y	Mutation Fill	25.250	2.772
891	1.229	7.730			Mutation Fill	24.078	2.907
892	1.213	6.777	0.016	Y	Mutation Fill	24.250	2.887
893	1.210	8.589	0.003	Y	Mutation Fill	24.688	2.835
894	1.194	6.895	0.016	Y	Cross Row Half	24.547	2.852
895	1.193	7.934	0.001	Y	Cross Row Half	26.140	2.678
896	1.193	6.777			Cross Row Half	29.547	2.369
897	1.192	6.777	0.001	Y	Cross Row Half	25.391	2.757
898	1.192	6.777			Cross Row Half	24.078	2.907
899	1.192	6.777			Cross Row Half	24.469	2.861
900	1.192	6.777			Cross Row Half	24.734	2.830
901	1.192	6.777			Cross Row Half	24.531	2.854
902	1.192	6.777			Cross Row Half	22.578	3.100
903	1.191	7.066	0.001	Y	Mutation Fill	25.282	2.769
904	1.191	6.777			Mutation Fill	24.109	2.903
905	1.189	6.777	0.002	Y	Mutation Fill	25.672	2.727
906	1.189	6.777			Mutation Fill	23.906	2.928
907	1.188	6.811	0.001	Y	Mutation Fill	24.500	2.857
908	1.186	6.777	0.002	Y	Mutation Fill	24.922	2.809
909	1.186	6.777			Mutation Fill	26.484	2.643
910	1.186	8.790			Mutation Fill	25.813	2.712
911	1.184	7.487	0.002	Y	Mutation Fill	23.766	2.945
912	1.184	6.934			Mutation Fill	24.578	2.848
913	1.184	6.777			Mutation Fill	24.625	2.843
914	1.182	7.130	0.002	Y	Mutation Fill	26.000	2.692
915	1.182	6.777			Mutation Fill	23.500	2.979
916	1.182	6.777			Mutation Fill	25.875	2.705
917	1.182	7.158			Mutation Fill	25.297	2.767
918	1.182	6.777			Mutation Fill	23.671	2.957
919	1.182	6.777			Mutation Fill	24.329	2.877
920	1.182	7.448			Mutation Fill	23.375	2.995
921	1.182	6.777			Mutation Fill	24.109	2.903

922	1.182	7.959			Mutation Fill	23.891	2.930
923	1.181	6.864	0.001	Y	Mutation Fill	23.859	2.934
924	1.181	6.777			Mutation Fill	25.094	2.790
925	1.172	7.045	0.009	Y	Mutation Fill	24.672	2.837
926	1.172	6.777			Mutation Fill	25.671	2.727
927	1.172	6.777			Mutation Fill	24.625	2.843
928	1.167	6.777	0.005	Y	Mutation Fill	24.438	2.864
929	1.167	6.777			Mutation Fill	25.078	2.791
930	1.167	6.777			Mutation Fill	22.484	3.113
931	1.167	7.890			Mutation Fill	25.079	2.791
932	1.167	6.777			Mutation Fill	23.656	2.959
933	1.166	6.777	0.001	Y	Mutation Fill	27.140	2.579
934	1.166	6.777			Mutation Fill	21.766	3.216
935	1.166	6.777			Mutation Fill	25.500	2.745
936	1.166	6.777			Mutation Fill	24.703	2.834
937	1.165	6.777	0.001	Y	Cross Row Half	24.938	2.807
938	1.164	6.777	0.001	Y	Mutation Fill	24.265	2.885
939	1.163	8.398	0.001	Y	Cross Row Half	26.516	2.640
940	1.163	6.777			Cross Row Half	24.906	2.811
941	1.163	6.777			Cross Row Half	25.500	2.745
942	1.163	6.777			Cross Row Half	23.766	2.945
943	1.163	6.850			Cross Row Half	26.375	2.654
944	1.163	6.777			Cross Row Half	26.594	2.632
945	1.163	6.777			Cross Row Half	23.343	2.999
946	1.163	6.777			Cross Row Half	23.000	3.043
947	1.163	6.777			Cross Row Half	24.422	2.866
948	1.163	7.952			Cross Row Half	25.016	2.798
949	1.163	7.513			Cross Row Half	22.375	3.128
950	1.162	6.777	0.001	Y	Mutation Fill	26.281	2.664
951	1.158	7.673	0.004	Y	Mutation Fill	26.750	2.617
952	1.158	6.777			Mutation Fill	25.094	2.790
953	1.125	6.777	0.033	Y	Mutation Fill	25.594	2.735
954	1.125	6.777			Mutation Fill	25.562	2.738
955	1.124	7.206	0.001	Y	Cross Row Half	23.656	2.959
956	1.124	6.777			Cross Row Half	25.938	2.699
957	1.124	6.777			Cross Row Half	24.594	2.846
958	1.124	6.897			Cross Row Half	24.906	2.811
959	1.124	6.788			Cross Row Half	26.203	2.671
960	1.124	6.777			Cross Row Half	24.578	2.848
961	1.124	6.843			Cross Row Half	23.484	2.981
962	1.124	7.556			Cross Row Half	23.438	2.987
963	1.124	6.781			Cross Row Half	24.500	2.857
964	1.124	7.150			Cross Row Half	23.750	2.947
965	1.123	6.985	0.001	Y	Mutation Fill	22.766	3.075
966	1.123	8.565			Mutation Fill	25.093	2.790
967	1.120	8.228	0.003	Y	Cross Row Half	25.688	2.725
968	1.120	7.506			Cross Row Half	26.828	2.609
969	1.120	6.777			Cross Row Half	24.875	2.814
970	1.120	6.777			Cross Row Half	30.312	2.309
971	1.119	8.075	0.001	Y	Mutation Swap	25.282	2.769
972	1.112	6.777	0.007	Y	Cross Row Half	25.047	2.795
973	1.112	7.280			Cross Row Half	25.515	2.743

974	1.112	6.777			Cross Row Half	25.813	2.712
975	1.112	6.777			Cross Row Half	24.406	2.868
976	1.112	6.777			Cross Row Half	24.766	2.826
977	1.108	6.777	0.004	Y	Mutation Fill	25.390	2.757
978	1.108	6.777			Mutation Fill	24.281	2.883
979	1.107	6.777	0.001	Y	Mutation Fill	24.782	2.825
980	1.107	6.777			Mutation Fill	24.968	2.804
981	1.107	7.389			Mutation Fill	24.532	2.853
982	1.105	9.306	0.002	Y	Mutation Fill	23.015	3.041
983	1.103	6.777	0.002	Y	Mutation Fill	24.782	2.825
984	1.101	8.682	0.002	Y	Cross Row Half	23.546	2.973
985	1.101	7.783			Cross Row Half	25.172	2.781
986	1.101	7.824			Cross Row Half	25.219	2.776
987	1.090	6.777	0.011	Y	Mutation Fill	23.375	2.995
988	1.090	6.777			Mutation Fill	25.875	2.705
989	1.090	6.777			Mutation Fill	24.547	2.852
990	1.090	6.777			Mutation Fill	24.781	2.825
991	1.085	6.777	0.005	Y	Mutation Fill	24.344	2.875
992	1.081	6.777	0.004	Y	Mutation Fill	24.000	2.917
993	1.076	6.777	0.005	Y	Cross Row Half	26.219	2.670
994	1.075	6.777	0.001	Y	Mutation Fill	25.718	2.722
995	1.075	6.777			Mutation Fill	26.422	2.649
996	1.074	6.777	0.001	Y	Mutation Fill	24.141	2.900
997	1.074	8.162			Mutation Fill	24.984	2.802
998	1.073	8.553	0.001	Y	Cross Row Half	24.891	2.812
999	1.073	6.777			Cross Row Half	26.703	2.621
1000	1.073	7.265			Cross Row Half	24.938	2.807
1001	1.073	6.777			Cross Row Half	24.656	2.839
1002	1.073	6.777			Cross Row Half	24.250	2.887
1003	1.073	7.183			Cross Row Half	24.547	2.852
1004	1.072	9.101	0.001	Y	Mutation Fill	23.328	3.001
1005	1.072	6.777			Mutation Fill	23.937	2.924
1006	1.072	6.777			Mutation Fill	24.344	2.875
1007	1.072	7.003			Mutation Fill	26.469	2.645
1008	1.072	7.503			Mutation Fill	24.515	2.855
1009	1.072	7.173			Mutation Fill	24.563	2.850
1010	1.070	6.919	0.002	Y	Mutation Fill	25.516	2.743
1011	1.070	6.777			Mutation Fill	25.312	2.765
1012	1.070	6.777			Mutation Fill	25.203	2.777
1013	1.070	7.790			Mutation Fill	25.172	2.781
1014	1.070	7.396			Mutation Fill	25.609	2.733
1015	1.070	6.777			Mutation Fill	24.063	2.909
1016	1.069	6.777	0.001	Y	Cross Row Half	23.891	2.930
1017	1.069	6.777			Cross Row Half	24.453	2.863
1018	1.068	6.777	0.001	Y	Cross Row Half	25.875	2.705
1019	1.067	6.875	0.001	Y	Mutation Fill	24.593	2.846
1020	1.066	6.777	0.001	Y	Cross Row Half	25.485	2.747
1021	1.066	6.777			Cross Row Half	25.031	2.797
1022	1.066	6.777			Cross Row Half	25.328	2.764
1023	1.066	7.322			Cross Row Half	24.688	2.835
1024	1.065	6.777	0.001	Y	Mutation Fill	24.797	2.823
1025	1.064	6.777	0.001	Y	Mutation Fill	25.437	2.752

1026	1.062	6.777	0.002	Y	Mutation Fill	23.984	2.919
1027	1.062	6.777			Mutation Fill	25.219	2.776
1028	1.062	6.777			Mutation Fill	25.485	2.747
1029	1.062	6.777			Mutation Fill	23.671	2.957
1030	1.061	7.336	0.001	Y	Mutation Fill	26.391	2.652
1031	1.061	7.710			Mutation Fill	25.375	2.759
1032	1.060	6.777	0.001	Y	Mutation Fill	24.125	2.902
1033	1.058	6.777	0.002	Y	Mutation Fill	25.000	2.800
1034	1.058	6.777			Mutation Fill	24.719	2.832
1035	1.058	6.777			Mutation Fill	25.359	2.760
1036	1.058	6.777			Mutation Fill	24.922	2.809
1037	1.027	7.360	0.031	Y	Mutation Fill	25.109	2.788
1038	1.027	6.777			Mutation Fill	22.766	3.075
1039	1.027	6.777			Mutation Fill	24.406	2.868
1040	1.027	6.777			Mutation Fill	24.891	2.812
1041	1.027	8.053			Mutation Fill	24.109	2.903
1042	1.027	7.447			Mutation Fill	24.578	2.848
1043	1.027	6.777			Mutation Fill	25.579	2.737
1044	1.027	6.777			Mutation Fill	24.234	2.889
1045	1.027	7.968			Mutation Fill	23.844	2.936
1046	1.027	6.777			Mutation Fill	22.437	3.120
1047	1.027	6.777			Mutation Fill	23.797	2.942
1048	1.027	7.442			Mutation Fill	24.266	2.885
1049	1.027	7.095			Mutation Fill	23.547	2.973
1050	1.022	6.777	0.005	Y	Mutation Fill	24.609	2.844
1051	1.022	8.223			Mutation Fill	24.797	2.823
1052	1.022	6.777			Mutation Fill	25.015	2.798
1053	1.022	8.028			Mutation Fill	24.250	2.887
1054	1.022	6.777			Mutation Fill	24.422	2.866
1055	1.022	6.777			Mutation Fill	25.828	2.710
1056	1.022	6.777			Mutation Fill	25.063	2.793
1057	1.022	7.281			Mutation Fill	23.125	3.027
1058	1.022	7.032			Mutation Fill	24.937	2.807
1059	1.022	6.777			Mutation Fill	23.563	2.971
1060	1.022	6.777			Mutation Fill	23.422	2.989
1061	1.022	6.777			Mutation Fill	24.140	2.900
1062	1.022	6.777			Mutation Fill	25.016	2.798
1063	1.022	6.777			Mutation Fill	25.000	2.800
1064	1.021	6.777	0.001	Y	Mutation Fill	23.766	2.945
1065	1.020	6.777	0.001	Y	Cross Row Half	24.797	2.823
1066	1.020	6.777			Cross Row Half	25.000	2.800
1067	1.019	8.736	0.001	Y	Mutation Fill	24.468	2.861
1068	1.016	6.777	0.003	Y	Mutation Fill	23.407	2.991
1069	1.016	7.249			Mutation Fill	33.468	2.092
1070	1.011	6.777	0.005	Y	Cross Row Half	24.547	2.852
1071	1.011	6.777			Cross Row Half	25.344	2.762
1072	1.011	7.137			Cross Row Half	23.984	2.919
1073	1.007	7.811	0.004	Y	Mutation Fill	24.610	2.844
1074	1.007	6.777			Mutation Fill	22.890	3.058
1075	1.007	7.006			Mutation Fill	25.016	2.798
1076	1.007	6.777			Mutation Fill	24.969	2.803
1077	1.007	7.157			Mutation Fill	23.531	2.975

1078	1.007	6.777			Mutation Fill	24.703	2.834
1079	1.003	8.168	0.004	Y	Mutation Fill	25.234	2.774
1080	1.003	7.005			Mutation Fill	24.735	2.830
1081	1.002	6.777	0.001	Y	Mutation Fill	24.937	2.807
1082	1.002	7.890			Mutation Fill	25.344	2.762
1083	1.001	7.281	0.001	Y	Mutation Fill	24.781	2.825
1084	1.001	7.191			Mutation Fill	25.610	2.733
1085	1.001	6.777			Mutation Fill	24.515	2.855
1086	1.000	7.691	0.001	Y	Mutation Fill	23.547	2.973
1087	1.000	6.777			Mutation Fill	24.656	2.839
1088	0.999	8.275	0.001	Y	Mutation Fill	25.344	2.762
1089	0.999	6.928			Mutation Fill	24.906	2.811
1090	0.999	9.398			Mutation Fill	23.985	2.918
1091	0.999	6.777			Mutation Fill	24.922	2.809
1092	0.999	6.777			Mutation Fill	24.000	2.917
1093	0.994	6.777	0.005	Y	Mutation Fill	25.375	2.759
1094	0.994	6.777			Mutation Fill	23.750	2.947
1095	0.994	6.777			Mutation Fill	24.593	2.846
1096	0.989	6.777	0.005	Y	Mutation Fill	22.829	3.066
1097	0.989	6.988			Mutation Fill	24.687	2.836
1098	0.987	6.777	0.002	Y	Cross Row Half	24.297	2.881
1099	0.987	7.187			Cross Row Half	23.922	2.926
1100	0.987	8.062			Cross Row Half	24.000	2.917
1101	0.987	6.777			Cross Row Half	22.969	3.048
1102	0.986	7.508	0.001	Y	Mutation Fill	23.531	2.975
1103	0.986	6.777			Mutation Fill	23.000	3.043
1104	0.986	7.319			Mutation Fill	23.359	2.997
1105	0.985	6.777	0.001	Y	Cross Row Half	23.406	2.991
1106	0.985	6.935			Cross Row Half	24.625	2.843
1107	0.985	6.777			Cross Row Half	24.016	2.915
1108	0.975	8.063	0.010	Y	Mutation Fill	25.922	2.700
1109	0.975	7.530			Mutation Fill	25.047	2.795
1110	0.975	9.239			Mutation Fill	24.672	2.837
1111	0.970	6.777	0.005	Y	Mutation Fill	24.593	2.846
1112	0.970	6.777			Mutation Fill	24.907	2.810
1113	0.970	8.378			Mutation Fill	25.187	2.779
1114	0.970	6.777			Mutation Fill	24.703	2.834
1115	0.970	7.898			Mutation Fill	25.422	2.754
1116	0.970	6.777			Mutation Fill	24.625	2.843
1117	0.970	6.777			Mutation Fill	27.625	2.534
1118	0.970	6.777			Mutation Fill	25.610	2.733
1119	0.970	6.777			Mutation Fill	23.515	2.977
1120	0.970	6.777			Mutation Fill	25.656	2.728
1121	0.970	7.317			Mutation Fill	26.141	2.678
1122	0.970	6.777			Mutation Fill	24.953	2.805
1123	0.965	7.423	0.005	Y	Mutation Fill	23.750	2.947
1124	0.965	6.864			Mutation Fill	24.875	2.814
1125	0.963	6.877	0.002	Y	Cross Row Half	23.578	2.969
1126	0.962	6.777	0.001	Y	Mutation Fill	24.907	2.810
1127	0.962	6.777			Mutation Fill	23.906	2.928
1128	0.962	6.777			Mutation Fill	25.125	2.786
1129	0.962	6.777			Mutation Fill	24.672	2.837

1130	0.962	6.777			Mutation Fill	25.140	2.784
1131	0.962	6.777			Mutation Fill	24.250	2.887
1132	0.961	6.777	0.001	Y	Mutation Fill	24.000	2.917
1133	0.959	6.777	0.002	Y	Cross Row Half	25.750	2.718
1134	0.959	6.777			Cross Row Half	24.282	2.883
1135	0.957	6.777	0.002	Y	Cross Row Half	24.921	2.809
1136	0.957	6.777			Cross Row Half	24.922	2.809
1137	0.957	6.777			Cross Row Half	24.438	2.864
1138	0.957	7.911			Cross Row Half	23.609	2.965
1139	0.957	6.777			Cross Row Half	25.563	2.738
1140	0.957	6.841			Cross Row Half	26.359	2.656
1141	0.957	6.777			Cross Row Half	25.672	2.727
1142	0.954	7.225	0.003	Y	Cross Row Half	24.297	2.881
1143	0.954	7.086			Cross Row Half	26.031	2.689
1144	0.954	6.777			Cross Row Half	26.344	2.657
1145	0.954	8.898			Cross Row Half	24.594	2.846
1146	0.954	7.767			Cross Row Half	24.671	2.837
1147	0.954	6.777			Cross Row Half	26.079	2.684
1148	0.954	6.777			Cross Row Half	24.000	2.917
1149	0.952	8.718	0.002	Y	Mutation Fill	24.781	2.825
1150	0.952	7.057			Mutation Fill	24.687	2.836
1151	0.952	6.777			Mutation Fill	24.016	2.915
1152	0.951	6.777	0.001	Y	Cross Row Half	24.984	2.802
1153	0.951	6.777			Cross Row Half	26.672	2.624
1154	0.951	6.777			Cross Row Half	26.672	2.624
1155	0.949	8.070	0.002	Y	Mutation Fill	24.953	2.805
1156	0.949	8.578			Mutation Fill	25.328	2.764
1157	0.949	7.258			Mutation Fill	24.344	2.875
1158	0.949	6.777			Mutation Fill	26.156	2.676
1159	0.949	6.777			Mutation Fill	24.328	2.877
1160	0.941	6.777	0.008	Y	Mutation Fill	24.969	2.803
1161	0.941	6.777			Mutation Fill	23.203	3.017
1162	0.941	6.777			Mutation Fill	26.828	2.609
1163	0.941	6.777			Mutation Fill	25.188	2.779
1164	0.941	6.777			Mutation Fill	25.703	2.723
1165	0.940	7.018	0.001	Y	Mutation Fill	25.094	2.790
1166	0.940	6.777			Mutation Fill	24.203	2.892
1167	0.940	6.777			Mutation Fill	24.703	2.834
1168	0.940	6.777			Mutation Fill	24.406	2.868
1169	0.939	6.777	0.001	Y	Mutation Fill	25.219	2.776
1170	0.939	6.777			Mutation Fill	22.797	3.071
1171	0.939	6.777			Mutation Fill	24.969	2.803
1172	0.939	6.777			Mutation Fill	25.047	2.795
1173	0.939	6.777			Mutation Fill	23.937	2.924
1174	0.939	6.777			Mutation Fill	23.141	3.025
1175	0.939	8.166			Mutation Fill	25.359	2.760
1176	0.939	7.446			Mutation Fill	23.891	2.930
1177	0.937	8.005	0.002	Y	Mutation Fill	23.968	2.921
1178	0.937	6.777			Mutation Fill	23.922	2.926
1179	0.937	6.777			Mutation Fill	24.782	2.825
1180	0.937	7.665			Mutation Fill	24.171	2.896
1181	0.936	6.777	0.001	Y	Mutation Fill	23.672	2.957



1182	0.936	8.138			Mutation Fill	25.313	2.765
1183	0.935	6.777	0.001	Y	Cross Row Half	26.640	2.628
1184	0.935	6.777			Cross Row Half	25.110	2.788
1185	0.935	6.777			Cross Row Half	24.734	2.830
1186	0.935	6.777			Cross Row Half	25.656	2.728
1187	0.935	6.777			Cross Row Half	28.688	2.440
1188	0.935	7.577			Cross Row Half	24.531	2.854
1189	0.935	6.777			Cross Row Half	24.047	2.911
1190	0.935	6.846			Cross Row Half	24.828	2.819
1191	0.935	6.777			Cross Row Half	25.203	2.777
1192	0.934	6.777	0.001	Y	Mutation Fill	25.578	2.737
1193	0.934	6.777			Mutation Fill	23.782	2.943
1194	0.934	6.777			Mutation Fill	24.187	2.894
1195	0.934	6.935			Mutation Fill	25.031	2.797
1196	0.933	7.092	0.001	Y	Mutation Fill	24.204	2.892
1197	0.933	6.777			Mutation Fill	24.734	2.830
1198	0.933	6.777			Mutation Fill	24.547	2.852
1199	0.933	6.777			Mutation Fill	23.781	2.944
1200	0.933	7.330			Mutation Fill	26.156	2.676
1201	0.932	6.777	0.001	Y	Mutation Fill	24.766	2.826
1202	0.931	6.777	0.001	Y	Mutation Fill	25.156	2.783
1203	0.931	6.777			Mutation Fill	23.703	2.953
1204	0.930	8.465	0.001	Y	Cross Row Half	24.844	2.818
1205	0.930	6.777			Cross Row Half	25.641	2.730
1206	0.930	7.790			Cross Row Half	24.578	2.848
1207	0.930	7.292			Cross Row Half	25.015	2.798
1208	0.930	6.898			Cross Row Half	25.063	2.793
1209	0.930	10.435			Cross Row Half	22.937	3.052
1210	0.930	6.777			Cross Row Half	23.657	2.959
1211	0.930	7.508			Cross Row Half	25.047	2.795
1212	0.929	6.777	0.001	Y	Mutation Fill	24.765	2.827
1213	0.929	6.777			Mutation Fill	23.875	2.932
1214	0.928	6.777	0.001	Y	Mutation Fill	25.703	2.723
1215	0.928	6.777			Mutation Fill	24.578	2.848
1216	0.927	6.777	0.001	Y	Mutation Fill	25.766	2.717
1217	0.926	7.748	0.001	Y	Mutation Fill	25.344	2.762
1218	0.926	7.565			Mutation Fill	25.297	2.767
1219	0.926	6.777			Mutation Fill	25.531	2.742
1220	0.925	7.542	0.001	Y	Cross Row Half	25.422	2.754
1221	0.924	6.777	0.001	Y	Mutation Fill	25.219	2.776
1222	0.924	6.777			Mutation Fill	25.406	2.755
1223	0.924	6.777			Mutation Fill	25.156	2.783
1224	0.924	6.777			Mutation Fill	25.625	2.732
1225	0.924	6.777			Mutation Fill	24.672	2.837
1226	0.924	6.936			Mutation Fill	25.516	2.743
1227	0.924	9.164			Mutation Fill	25.718	2.722
1228	0.924	6.777			Mutation Fill	25.063	2.793
1229	0.924	6.777			Mutation Fill	24.640	2.841
1230	0.924	7.960			Mutation Fill	24.391	2.870
1231	0.922	6.777	0.002	Y	Mutation Fill	24.906	2.811
1232	0.920	6.777	0.002	Y	Cross Row Half	23.500	2.979
1233	0.920	6.839			Cross Row Half	25.188	2.779

1234	0.920	6.777			Cross Row Half	25.203 2.777
1235	0.920	6.777			Cross Row Half	23.328 3.001
1236	0.920	6.848			Cross Row Half	24.188 2.894
1237	0.920	6.777			Cross Row Half	25.390 2.757
1238	0.920	6.777			Cross Row Half	23.969 2.920
1239	0.920	6.777			Cross Row Half	24.516 2.855
1240	0.919	6.777	0.001	Y	Cross Row Half	25.656 2.728
1241	0.919	6.777			Cross Row Half	24.906 2.811
1242	0.919	8.638			Cross Row Half	24.547 2.852
1243	0.919	8.071			Cross Row Half	25.406 2.755
1244	0.919	6.777			Cross Row Half	24.985 2.802
1245	0.919	9.450			Cross Row Half	25.031 2.797
1246	0.917	6.777	0.002	Y	Mutation Fill	23.531 2.975
1247	0.917	6.777			Mutation Fill	23.594 2.967
1248	0.917	7.464			Mutation Fill	24.015 2.915
1249	0.917	7.358			Mutation Fill	24.985 2.802
1250	0.917	7.906			Mutation Fill	25.422 2.754
1251	0.917	6.777			Mutation Fill	25.812 2.712
1252	0.917	7.053			Mutation Fill	26.016 2.691
1253	0.917	7.687			Mutation Fill	24.234 2.889
1254	0.917	6.798			Mutation Fill	24.563 2.850
1255	0.917	6.974			Mutation Fill	25.156 2.783
1256	0.916	8.236	0.001	Y	Mutation Fill	26.047 2.687
1257	0.916	7.838			Mutation Fill	25.828 2.710
1258	0.916	6.777			Mutation Fill	25.469 2.748
1259	0.916	6.777			Mutation Fill	26.750 2.617
1260	0.910	7.041	0.005	Y	Mutation Fill	23.906 2.928
1261	0.910	7.052			Mutation Fill	26.000 2.692
1262	0.910	6.777			Mutation Fill	26.359 2.656
1263	0.910	6.777			Mutation Fill	24.000 2.917
1264	0.909	6.777	0.001	Y	Mutation Fill	24.391 2.870
1265	0.909	6.777			Mutation Fill	25.922 2.700
1266	0.909	6.777			Mutation Fill	25.515 2.743
1267	0.909	6.777			Mutation Fill	25.610 2.733
1268	0.909	6.777			Mutation Fill	25.031 2.797
1269	0.909	8.361			Mutation Fill	23.063 3.035
1270	0.908	6.777	0.001	Y	Mutation Fill	27.531 2.543
1271	0.908	7.433			Mutation Fill	24.969 2.803
1272	0.908	6.777			Mutation Fill	26.578 2.634
1273	0.908	6.777			Mutation Fill	24.828 2.819
1274	0.908	6.777			Mutation Fill	24.375 2.872
1275	0.908	5.764			Mutation Fill	25.812 2.712
1276	0.908	5.473			Mutation Fill	25.172 2.781
1277	0.908	4.941			Mutation Fill	24.203 2.892
1278	0.908	6.973			Mutation Fill	25.813 2.712
1279	0.908	4.941			Mutation Fill	23.078 3.033
1280	0.908	5.421			Mutation Fill	23.391 2.993
1281	0.907	5.230	0.001	Y	Mutation Fill	25.062 2.793
1282	0.907	7.966			Mutation Fill	24.766 2.826
1283	0.907	6.203			Mutation Fill	25.015 2.798
1284	0.907	7.496			Mutation Fill	22.766 3.075
1285	0.906	6.713	0.001	Y	Mutation Fill	24.594 2.846

1286	0.906	6.237			Mutation Fill	24.609	2.844
1287	0.906	6.923			Mutation Fill	25.484	2.747
1288	0.906	6.563			Mutation Fill	22.672	3.088
1289	0.906	4.941			Mutation Fill	26.328	2.659
1290	0.906	4.941			Mutation Fill	24.672	2.837
1291	0.906	8.242			Mutation Fill	23.125	3.027
1292	0.906	4.941			Mutation Fill	22.750	3.077
1293	0.906	7.698			Mutation Fill	23.344	2.999
1294	0.906	4.941			Mutation Fill	24.828	2.819
1295	0.906	5.712			Mutation Fill	24.813	2.821
1296	0.906	5.599			Mutation Fill	25.547	2.740
1297	0.906	5.994			Mutation Fill	25.234	2.774
1298	0.906	8.247			Mutation Fill	25.125	2.786
1299	0.906	6.938			Mutation Fill	24.734	2.830
1300	0.905	6.338	0.001	Y	Mutation Fill	25.110	2.788
1301	0.904	7.590	0.001	Y	Mutation Fill	24.781	2.825
1302	0.904	4.941			Mutation Fill	24.250	2.887
1303	0.901	6.555	0.003	Y	Mutation Fill	23.937	2.924
1304	0.901	8.591			Mutation Fill	25.454	2.750
1305	0.900	5.789	0.001	Y	Cross Row Half	24.609	2.844
1306	0.900	4.991			Cross Row Half	24.750	2.828
1307	0.899	4.941	0.001	Y	Mutation Fill	31.484	2.223
1308	0.897	4.941	0.002	Y	Cross Row Half	23.610	2.965
1309	0.897	5.975			Cross Row Half	25.250	2.772
1310	0.897	7.263			Cross Row Half	26.875	2.605
1311	0.897	4.941			Cross Row Half	25.500	2.745
1312	0.897	4.941			Cross Row Half	24.765	2.827
1313	0.897	4.941			Cross Row Half	24.766	2.826
1314	0.897	5.697			Cross Row Half	23.547	2.973
1315	0.897	7.391			Cross Row Half	24.390	2.870
1316	0.897	5.421			Cross Row Half	25.297	2.767
1317	0.897	7.255			Cross Row Half	23.797	2.942
1318	0.897	4.941			Cross Row Half	24.750	2.828
1319	0.897	8.343			Cross Row Half	23.453	2.985
1320	0.896	6.509	0.001	Y	Mutation Fill	23.985	2.918
1321	0.895	7.347	0.001	Y	Cross Row Half	24.922	2.809
1322	0.895	6.085			Cross Row Half	24.843	2.818
1323	0.895	5.707			Cross Row Half	24.907	2.810
1324	0.895	6.530			Cross Row Half	25.312	2.765
1325	0.895	4.941			Cross Row Half	23.281	3.007
1326	0.895	5.520			Cross Row Half	23.578	2.969
1327	0.895	7.242			Cross Row Half	24.032	2.913
1328	0.895	4.981			Cross Row Half	25.140	2.784
1329	0.894	8.419	0.001	Y	Cross Row Half	25.032	2.796
1330	0.894	8.241			Cross Row Half	23.578	2.969
1331	0.894	5.753			Cross Row Half	24.328	2.877
1332	0.894	6.462			Cross Row Half	25.515	2.743
1333	0.894	7.237			Cross Row Half	25.094	2.790
1334	0.894	4.941			Cross Row Half	24.625	2.843
1335	0.894	4.941			Cross Row Half	25.656	2.728
1336	0.893	8.486	0.001	Y	Mutation Fill	25.110	2.788
1337	0.892	5.953	0.001	Y	Cross Row Half	28.031	2.497

1338	0.892	4.941			Cross Row Half	25.047	2.795
1339	0.890	4.941	0.002	Y	Cross Row Half	24.672	2.837
1340	0.890	6.324			Cross Row Half	24.172	2.896
1341	0.885	4.941	0.005	Y	Mutation Fill	24.718	2.832
1342	0.883	4.941	0.002	Y	Cross Row Half	25.375	2.759
1343	0.883	7.503			Cross Row Half	33.407	2.095
1344	0.883	4.941			Cross Row Half	24.875	2.814
1345	0.883	4.941			Cross Row Half	25.656	2.728
1346	0.883	6.076			Cross Row Half	23.703	2.953
1347	0.883	7.555			Cross Row Half	23.844	2.936
1348	0.883	7.567			Cross Row Half	24.765	2.827
1349	0.881	7.865	0.002	Y	Mutation Fill	26.250	2.667
1350	0.881	6.182			Mutation Fill	25.657	2.728
1351	0.881	4.941			Mutation Fill	25.922	2.700
1352	0.881	7.485			Mutation Fill	23.781	2.944
1353	0.881	6.937			Mutation Fill	25.078	2.791
1354	0.881	5.312			Mutation Fill	26.969	2.596
1355	0.881	5.263			Mutation Fill	25.687	2.725
1356	0.881	5.314			Mutation Fill	25.860	2.707
1357	0.881	6.628			Mutation Fill	24.640	2.841
1358	0.881	7.174			Mutation Fill	25.360	2.760
1359	0.881	7.053			Mutation Fill	23.609	2.965
1360	0.881	4.941			Mutation Fill	25.484	2.747
1361	0.881	4.941			Mutation Fill	23.641	2.961
1362	0.881	6.796			Mutation Fill	25.406	2.755
1363	0.881	5.651			Mutation Fill	25.219	2.776
1364	0.880	6.326	0.001	Y	Mutation Fill	25.672	2.727
1365	0.880	5.459			Mutation Fill	25.453	2.750
1366	0.880	5.571			Mutation Fill	25.875	2.705
1367	0.880	5.534			Mutation Fill	26.891	2.603
1368	0.880	5.648			Mutation Fill	25.468	2.749
1369	0.880	6.123			Mutation Fill	25.594	2.735
1370	0.880	6.091			Mutation Fill	26.266	2.665
1371	0.880	6.106			Mutation Fill	25.422	2.754
1372	0.880	6.762			Mutation Fill	26.140	2.678
1373	0.880	7.200			Mutation Fill	24.500	2.857
1374	0.880	6.781			Mutation Fill	26.735	2.618
1375	0.880	7.198			Mutation Fill	26.843	2.608
1376	0.880	4.941			Mutation Fill	24.500	2.857
1377	0.880	5.142			Mutation Fill	25.516	2.743
1378	0.880	6.119			Mutation Fill	25.094	2.790
1379	0.880	5.089			Mutation Fill	24.359	2.874
1380	0.880	5.992			Mutation Fill	24.984	2.802
1381	0.880	7.216			Mutation Fill	25.407	2.755
1382	0.880	7.563			Mutation Fill	25.593	2.735
1383	0.880	5.633			Mutation Fill	23.563	2.971
1384	0.880	4.941			Mutation Fill	24.437	2.865
1385	0.880	4.941			Mutation Fill	24.110	2.903
1386	0.880	5.088			Mutation Fill	23.484	2.981
1387	0.880	8.859			Mutation Fill	25.735	2.720
1388	0.880	6.931			Mutation Fill	22.937	3.052
1389	0.879	5.675	0.001	Y	Mutation Fill	26.641	2.628

1390	0.879	7.227			Mutation Fill	23.156	3.023
1391	0.879	6.765			Mutation Fill	26.391	2.652
1392	0.879	5.458			Mutation Fill	25.609	2.733
1393	0.879	6.540			Mutation Fill	25.656	2.728
1394	0.879	7.132			Mutation Fill	26.703	2.621
1395	0.879	7.621			Mutation Fill	24.953	2.805
1396	0.879	4.941			Mutation Fill	24.407	2.868
1397	0.879	6.892			Mutation Fill	24.812	2.821
1398	0.878	5.627	0.001	Y	Mutation Fill	25.188	2.779
1399	0.878	4.941			Mutation Fill	25.625	2.732
1400	0.878	8.061			Mutation Fill	24.375	2.872
1401	0.878	7.566			Mutation Fill	24.828	2.819
1402	0.878	4.941			Mutation Fill	25.047	2.795
1403	0.878	6.234			Mutation Fill	26.312	2.660
1404	0.878	7.769			Mutation Fill	26.906	2.602
1405	0.878	5.323			Mutation Fill	25.094	2.790
1406	0.878	7.693			Mutation Fill	24.297	2.881
1407	0.878	4.941			Mutation Fill	25.109	2.788
1408	0.877	5.397	0.001	Y	Cross Row Half	25.485	2.747
1409	0.877	7.734			Cross Row Half	25.672	2.727
1410	0.877	4.941			Cross Row Half	26.422	2.649
1411	0.877	5.051			Cross Row Half	25.312	2.765
1412	0.877	5.141			Cross Row Half	24.813	2.821
1413	0.877	4.941			Cross Row Half	25.343	2.762
1414	0.877	8.718			Cross Row Half	25.719	2.722
1415	0.877	5.959			Cross Row Half	24.813	2.821
1416	0.877	5.765			Cross Row Half	25.843	2.709
1417	0.877	4.941			Cross Row Half	24.313	2.879
1418	0.876	7.090	0.001	Y	Mutation Fill	23.515	2.977
1419	0.876	4.941			Mutation Fill	24.875	2.814
1420	0.876	4.941			Mutation Fill	25.985	2.694
1421	0.875	5.287	0.001	Y	Mutation Fill	24.922	2.809
1422	0.875	5.725			Mutation Fill	25.359	2.760
1423	0.873	7.521	0.002	Y	Cross Row Half	27.109	2.582
1424	0.873	5.014			Cross Row Half	27.579	2.538
1425	0.873	7.446			Cross Row Half	25.515	2.743
1426	0.873	8.792			Cross Row Half	23.860	2.934
1427	0.873	6.901			Cross Row Half	25.906	2.702
1428	0.873	8.460			Cross Row Half	26.422	2.649
1429	0.873	8.179			Cross Row Half	30.297	2.310
1430	0.873	6.527			Cross Row Half	25.234	2.774
1431	0.873	6.509			Cross Row Half	25.484	2.747
1432	0.872	7.477	0.001	Y	Mutation Fill	25.532	2.742
1433	0.872	6.491			Mutation Fill	25.453	2.750
1434	0.872	7.072			Mutation Fill	25.562	2.738
1435	0.871	7.628	0.001	Y	Mutation Fill	25.110	2.788
1436	0.871	5.593			Mutation Fill	24.593	2.846
1437	0.871	7.736			Mutation Fill	25.172	2.781
1438	0.871	6.757			Mutation Fill	24.500	2.857
1439	0.871	6.098			Mutation Fill	25.313	2.765
1440	0.869	7.509	0.002	Y	Mutation Fill	26.031	2.689
1441	0.869	4.941			Mutation Fill	24.531	2.854

1442	0.868	7.445	0.001	Y	Cross Row Half	26.578	2.634
1443	0.868	5.336			Cross Row Half	26.953	2.597
1444	0.868	7.684			Cross Row Half	25.313	2.765
1445	0.868	7.060			Cross Row Half	23.531	2.975
1446	0.868	7.220			Cross Row Half	25.141	2.784
1447	0.867	6.346	0.001	Y	Mutation Fill	24.219	2.890
1448	0.867	6.140			Mutation Fill	24.968	2.804
1449	0.867	4.941			Mutation Fill	24.922	2.809
1450	0.867	8.130			Mutation Fill	24.547	2.852
1451	0.858	5.397	0.010	Y	Mutation Fill	25.688	2.725
1452	0.856	8.660	0.002	Y	Cross Row Half	27.031	2.590
1453	0.856	6.709			Cross Row Half	25.797	2.713
1454	0.856	6.051			Cross Row Half	26.484	2.643
1455	0.856	7.864			Cross Row Half	24.344	2.875
1456	0.856	4.983			Cross Row Half	26.359	2.656
1457	0.856	7.167			Cross Row Half	26.110	2.681
1458	0.856	7.409			Cross Row Half	25.859	2.707
1459	0.856	8.175			Cross Row Half	26.734	2.618
1460	0.855	4.941	0.001	Y	Mutation Fill	26.219	2.670
1461	0.855	4.941			Mutation Fill	23.813	2.940
1462	0.855	6.905			Mutation Fill	26.500	2.642
1463	0.855	7.925			Mutation Fill	24.500	2.857
1464	0.855	4.941			Mutation Fill	25.484	2.747
1465	0.855	4.941			Mutation Fill	25.687	2.725
1466	0.855	6.072			Mutation Fill	24.547	2.852
1467	0.855	7.692			Mutation Fill	25.328	2.764
1468	0.855	7.542			Mutation Fill	24.547	2.852
1469	0.855	6.526			Mutation Fill	25.250	2.772
1470	0.854	5.391	0.001	Y	Mutation Fill	23.828	2.938
1471	0.853	5.278	0.001	Y	Cross Row Half	23.454	2.985
1472	0.853	4.941			Cross Row Half	24.640	2.841
1473	0.853	6.162			Cross Row Half	25.781	2.715
1474	0.853	4.941			Cross Row Half	25.688	2.725
1475	0.853	7.811			Cross Row Half	25.562	2.738
1476	0.853	5.932			Cross Row Half	25.250	2.772
1477	0.853	8.470			Cross Row Half	23.719	2.951
1478	0.853	6.270			Cross Row Half	24.516	2.855
1479	0.853	5.475			Cross Row Half	25.359	2.760
1480	0.853	6.598			Cross Row Half	24.860	2.816
1481	0.853	5.806			Cross Row Half	24.906	2.811
1482	0.853	8.131			Cross Row Half	24.609	2.844
1483	0.853	8.056			Cross Row Half	24.469	2.861
1484	0.853	7.418			Cross Row Half	25.562	2.738
1485	0.853	6.853			Cross Row Half	24.485	2.859
1486	0.853	7.232			Cross Row Half	25.000	2.800
1487	0.853	4.941			Cross Row Half	25.875	2.705
1488	0.850	5.499	0.003	Y	Mutation Fill	25.672	2.727
1489	0.850	6.032			Mutation Fill	27.468	2.548
1490	0.849	4.941	0.001	Y	Mutation Fill	26.454	2.646
1491	0.849	6.469			Mutation Fill	27.093	2.584
1492	0.849	8.897			Mutation Fill	25.797	2.713
1493	0.849	6.437			Mutation Fill	23.844	2.936

1494	0.847	5.331	0.002	Y	Mutation Fill	26.875	2.605
1495	0.847	6.905			Mutation Fill	24.953	2.805
1496	0.844	6.874	0.002	Y	Mutation Fill	24.703	2.834
1497	0.843	6.308	0.001	Y	Cross Row Half	27.610	2.535
1498	0.843	5.745			Cross Row Half	26.000	2.692
1499	0.843	6.335			Cross Row Half	26.046	2.688
1500	0.843	5.426			Cross Row Half	23.922	2.926
1501	0.843	5.959			Cross Row Half	25.657	2.728
1502	0.843	4.941			Cross Row Half	25.906	2.702
1503	0.843	6.224			Cross Row Half	25.375	2.759
1504	0.843	7.843			Cross Row Half	25.656	2.728
1505	0.843	5.325			Cross Row Half	24.875	2.814
1506	0.843	6.280			Cross Row Half	25.938	2.699
1507	0.843	5.970			Cross Row Half	24.828	2.819
1508	0.843	6.643			Cross Row Half	24.922	2.809
1509	0.843	7.381			Cross Row Half	25.609	2.733
1510	0.843	7.403			Cross Row Half	25.234	2.774
1511	0.843	5.496			Cross Row Half	26.078	2.684
1512	0.843	5.626			Cross Row Half	26.047	2.687
1513	0.843	5.462			Cross Row Half	25.969	2.696
1514	0.843	5.633			Cross Row Half	23.172	3.021
1515	0.843	5.818			Cross Row Half	26.625	2.629
1516	0.843	4.941			Cross Row Half	24.391	2.870
1517	0.843	7.008			Cross Row Half	25.828	2.710
1518	0.843	6.154			Cross Row Half	27.328	2.561
1519	0.843	8.352			Cross Row Half	25.094	2.790
1520	0.843	6.660			Cross Row Half	25.484	2.747
1521	0.843	4.982			Cross Row Half	26.359	2.656
1522	0.843	4.941			Cross Row Half	23.922	2.926
1523	0.843	8.368			Cross Row Half	24.281	2.883
1524	0.843	4.941			Cross Row Half	25.532	2.742
1525	0.843	4.941			Cross Row Half	25.984	2.694
1526	0.843	6.663			Cross Row Half	25.109	2.788

\*\*\* End of output