population size - (benchmark 1)							
Test no.	**Number of fireflies**	**Iterations**	**Average best solution**	**|Average best solution - optimum solution|**	**Average best solution standard deviation**	**Average best solution std. dev. (Rank)**	**Average best solution (Rank)**
1	6	333	5,85E-01	5,85E-01	2,34E+00	34	34
2	8	250	1,41E-01	1,41E-01	8,57E-01	32	32
3	10	200	5,76E-03	5,76E-03	5,28E-02	21	16
4	12	166	9,51E-04	9,51E-04	4,09E-03	8	3
5	14	142	2,24E-01	2,24E-01	1,60E+00	33	33
6	16	125	8,49E-04	8,49E-04	1,08E-03	3	2
7	18	111	1,67E-02	1,67E-02	1,25E-01	27	23
8	20	100	6,08E-02	6,08E-02	5,18E-01	30	30
9	22	90	7,96E-04	7,96E-04	8,63E-04	1	1
10	24	83	7,12E-02	7,12E-02	6,57E-01	31	31
11	28	71	9,64E-04	9,64E-04	1,07E-03	2	4
12	30	66	5,87E-02	5,87E-02	4,03E-01	29	29
13	32	62	1,06E-02	1,06E-02	9,23E-02	23	21
14	36	55	2,20E-03	2,20E-03	7,19E-03	9	6
15	40	50	1,17E-03	1,17E-03	1,96E-03	4	5
16	44	45	2,94E-03	2,94E-03	1,27E-02	15	12
17	50	40	2,25E-02	2,25E-02	1,22E-01	26	24
18	54	37	2,66E-03	2,66E-03	1,00E-02	13	9
19	60	33	2,74E-03	2,74E-03	1,09E-02	14	11
20	62	32	7,08E-03	7,08E-03	3,57E-02	20	18
21	64	31	3,20E-03	3,20E-03	7,51E-03	10	13
22	66	30	6,61E-03	6,61E-03	3,26E-02	19	17
23	74	27	2,70E-03	2,70E-03	3,84E-03	7	10
24	80	25	2,24E-03	2,24E-03	2,46E-03	6	7
25	90	22	2,58E-03	2,58E-03	2,44E-03	5	8
26	100	20	4,92E-03	4,92E-03	8,15E-03	11	15
27	110	18	4,15E-03	4,15E-03	9,22E-03	12	14
28	124	16	9,13E-03	9,13E-03	1,96E-02	16	19
29	132	15	2,51E-02	2,51E-02	1,01E-01	24	26
30	142	14	1,04E-02	1,04E-02	2,23E-02	17	20
31	166	12	2,34E-02	2,34E-02	7,94E-02	22	25
32	180	11	3,55E-02	3,55E-02	1,30E-01	28	27
33	198	10	4,99E-02	4,99E-02	1,18E-01	25	28
34	200	10	1,56E-02	1,56E-02	2,91E-02	18	22

population size - (benchmark 2)							
Test no.	**Number of fireflies**	**Iterations**	**Average best solution**	**|Average best solution - optimum solution|**	**Average best solution standard deviation**	**Average best solution std. dev. (Rank)**	**Average best solution (Rank)**
1	6	333	3,18E+03	3,18E+03	2,21E+02	18	34
2	8	250	3,09E+03	3,09E+03	2,83E+02	34	33
3	10	200	3,03E+03	3,03E+03	2,62E+02	33	32
4	12	166	2,99E+03	2,99E+03	2,57E+02	32	31
5	14	142	2,97E+03	2,97E+03	2,32E+02	25	30
6	16	125	2,91E+03	2,91E+03	2,47E+02	31	29
7	18	111	2,88E+03	2,88E+03	2,33E+02	27	27
8	20	100	2,91E+03	2,91E+03	1,91E+02	5	28
9	22	90	2,85E+03	2,85E+03	2,39E+02	29	26
10	24	83	2,82E+03	2,82E+03	2,33E+02	26	24
11	28	71	2,83E+03	2,83E+03	1,80E+02	2	25
12	30	66	2,76E+03	2,76E+03	2,29E+02	23	23
13	32	62	2,74E+03	2,74E+03	2,29E+02	22	22
14	36	55	2,70E+03	2,70E+03	2,37E+02	28	20
15	40	50	2,69E+03	2,69E+03	2,31E+02	24	19
16	44	45	2,72E+03	2,72E+03	1,99E+02	8	21
17	50	40	2,64E+03	2,64E+03	2,29E+02	21	17
18	54	37	2,66E+03	2,66E+03	1,80E+02	1	18
19	60	33	2,60E+03	2,60E+03	2,02E+02	13	13
20	62	32	2,60E+03	2,60E+03	2,02E+02	12	14
21	64	31	2,61E+03	2,61E+03	1,91E+02	3	16
22	66	30	2,61E+03	2,61E+03	2,10E+02	15	15
23	74	27	2,57E+03	2,57E+03	2,01E+02	9	10
24	80	25	2,58E+03	2,58E+03	1,91E+02	4	12
25	90	22	2,57E+03	2,57E+03	2,24E+02	19	11
26	100	20	2,56E+03	2,56E+03	2,02E+02	11	9
27	110	18	2,56E+03	2,56E+03	2,10E+02	16	8
28	124	16	2,53E+03	2,53E+03	2,01E+02	10	7
29	132	15	2,48E+03	2,48E+03	2,24E+02	20	6
30	142	14	2,48E+03	2,48E+03	2,44E+02	30	5
31	166	12	2,45E+03	2,45E+03	2,04E+02	14	4
32	180	11	2,42E+03	2,42E+03	1,94E+02	6	2
33	198	10	2,41E+03	2,41E+03	2,11E+02	17	1
34	200	10	2,43E+03	2,43E+03	1,96E+02	7	3

population size - (benchmark 3)							
Test no.	**Number of fireflies**	**Iterations**	**Average best solution**	**|Average best solution - optimum solution|**	**Average best solution standard deviation**	**Average best solution std. dev. (Rank)**	**Average best solution (Rank)**
1	6	333	-1,69E-01	8,31E-01	3,49E-01	13	33
2	8	250	-1,34E-01	8,66E-01	3,25E-01	2	34
3	10	200	-1,72E-01	8,28E-01	3,45E-01	10	32
4	12	166	-2,52E-01	7,48E-01	3,85E-01	34	20
5	14	142	-1,93E-01	8,07E-01	3,68E-01	26	29
6	16	125	-2,13E-01	7,87E-01	3,78E-01	31	24
7	18	111	-2,10E-01	7,90E-01	3,70E-01	27	27
8	20	100	-1,82E-01	8,18E-01	3,49E-01	14	31
9	22	90	-2,12E-01	7,88E-01	3,57E-01	18	25
10	24	83	-1,91E-01	8,09E-01	3,38E-01	5	30
11	28	71	-2,37E-01	7,63E-01	3,62E-01	23	23
12	30	66	-2,45E-01	7,55E-01	3,59E-01	19	21
13	32	62	-2,08E-01	7,92E-01	3,44E-01	8	28
14	36	55	-2,63E-01	7,37E-01	3,67E-01	25	18
15	40	50	-2,39E-01	7,61E-01	3,56E-01	16	22
16	44	45	-2,10E-01	7,90E-01	3,47E-01	11	26
17	50	40	-2,89E-01	7,11E-01	3,63E-01	24	15
18	54	37	-3,31E-01	6,69E-01	3,82E-01	33	7
19	60	33	-3,22E-01	6,78E-01	3,47E-01	12	9
20	62	32	-2,98E-01	7,02E-01	3,60E-01	21	13
21	64	31	-3,17E-01	6,83E-01	3,77E-01	30	10
22	66	30	-3,16E-01	6,84E-01	3,80E-01	32	11
23	74	27	-2,55E-01	7,45E-01	3,26E-01	3	19
24	80	25	-3,70E-01	6,30E-01	3,61E-01	22	2
25	90	22	-2,84E-01	7,16E-01	3,44E-01	9	16
26	100	20	-3,61E-01	6,39E-01	3,70E-01	28	3
27	110	18	-3,47E-01	6,53E-01	3,55E-01	15	4
28	124	16	-3,42E-01	6,58E-01	3,38E-01	7	5
29	132	15	-2,83E-01	7,17E-01	2,93E-01	1	17
30	142	14	-3,02E-01	6,98E-01	3,32E-01	4	12
31	166	12	-2,94E-01	7,06E-01	3,38E-01	6	14
32	180	11	-4,01E-01	5,99E-01	3,72E-01	29	1
33	198	10	-3,41E-01	6,59E-01	3,57E-01	17	6
34	200	10	-3,26E-01	6,74E-01	3,59E-01	20	8

population size - (benchmark 4)							
Test no.	**Number of fireflies**	**Iterations**	**Average best solution**	**|Average best solution - optimum solution|**	**Average best solution standard deviation**	**Average best solution std. dev. (Rank)**	**Average best solution (Rank)**
1	6	333	5,92E+00	5,92E+00	3,19E+00	33	4
2	8	250	5,56E+00	5,56E+00	2,04E+00	21	1
3	10	200	5,76E+00	5,76E+00	2,32E+00	29	2
4	12	166	5,95E+00	5,95E+00	3,48E+00	34	5
5	14	142	5,91E+00	5,91E+00	2,08E+00	23	3
6	16	125	6,42E+00	6,42E+00	2,10E+00	26	7
7	18	111	6,58E+00	6,58E+00	2,42E+00	31	9
8	20	100	6,09E+00	6,09E+00	1,35E+00	5	6
9	22	90	6,48E+00	6,48E+00	1,63E+00	13	8
10	24	83	6,86E+00	6,86E+00	1,92E+00	17	10
11	28	71	6,97E+00	6,97E+00	1,86E+00	15	11
12	30	66	7,34E+00	7,34E+00	2,19E+00	28	17
13	32	62	7,10E+00	7,10E+00	2,00E+00	20	12
14	36	55	7,95E+00	7,95E+00	2,82E+00	32	31
15	40	50	7,53E+00	7,53E+00	1,95E+00	19	23
16	44	45	7,85E+00	7,85E+00	2,10E+00	25	26
17	50	40	7,67E+00	7,67E+00	1,92E+00	16	25
18	54	37	7,91E+00	7,91E+00	2,09E+00	24	29
19	60	33	7,86E+00	7,86E+00	1,92E+00	18	28
20	62	32	7,86E+00	7,86E+00	2,15E+00	27	27
21	64	31	7,26E+00	7,26E+00	1,73E+00	14	14
22	66	30	7,33E+00	7,33E+00	1,41E+00	8	16
23	74	27	7,45E+00	7,45E+00	2,06E+00	22	22
24	80	25	7,94E+00	7,94E+00	2,41E+00	30	30
25	90	22	7,41E+00	7,41E+00	1,35E+00	6	19
26	100	20	7,44E+00	7,44E+00	1,58E+00	11	21
27	110	18	7,37E+00	7,37E+00	1,35E+00	4	18
28	124	16	7,11E+00	7,11E+00	1,45E+00	10	13
29	132	15	7,44E+00	7,44E+00	1,16E+00	1	20
30	142	14	7,32E+00	7,32E+00	1,28E+00	3	15
31	166	12	7,64E+00	7,64E+00	1,59E+00	12	24
32	180	11	8,05E+00	8,05E+00	1,43E+00	9	34
33	198	10	7,99E+00	7,99E+00	1,36E+00	7	32
34	200	10	8,00E+00	8,00E+00	1,19E+00	2	33

population size - (benchmark 5)							
Test no.	**Number of fireflies**	**Iterations**	**Average best solution**	**|Average best solution - optimum solution|**	**Average best solution standard deviation**	**Average best solution std. dev. (Rank)**	**Average best solution (Rank)**
1	6	333	8,01E-01	8,01E-01	2,12E-01	34	34
2	8	250	7,05E-01	7,05E-01	1,90E-01	33	33
3	10	200	6,72E-01	6,72E-01	1,64E-01	31	32
4	12	166	6,50E-01	6,50E-01	1,65E-01	32	31
5	14	142	6,35E-01	6,35E-01	1,47E-01	24	30
6	16	125	6,17E-01	6,17E-01	1,30E-01	7	27
7	18	111	6,33E-01	6,33E-01	1,61E-01	30	28
8	20	100	5,95E-01	5,95E-01	1,25E-01	6	14
9	22	90	6,13E-01	6,13E-01	1,38E-01	14	23
10	24	83	6,17E-01	6,17E-01	1,36E-01	11	26
11	28	71	5,87E-01	5,87E-01	1,51E-01	25	8
12	30	66	5,91E-01	5,91E-01	1,47E-01	23	11
13	32	62	5,88E-01	5,88E-01	1,57E-01	29	10
14	36	55	6,14E-01	6,14E-01	1,20E-01	3	24
15	40	50	5,91E-01	5,91E-01	1,22E-01	4	12
16	44	45	5,84E-01	5,84E-01	1,17E-01	1	5
17	50	40	5,77E-01	5,77E-01	1,23E-01	5	4
18	54	37	5,60E-01	5,60E-01	1,52E-01	26	2
19	60	33	5,68E-01	5,68E-01	1,43E-01	21	3
20	62	32	5,98E-01	5,98E-01	1,19E-01	2	16
21	64	31	5,96E-01	5,96E-01	1,39E-01	16	15
22	66	30	5,51E-01	5,51E-01	1,41E-01	17	1
23	74	27	5,86E-01	5,86E-01	1,42E-01	19	7
24	80	25	5,93E-01	5,93E-01	1,36E-01	13	13
25	90	22	6,05E-01	6,05E-01	1,38E-01	15	18
26	100	20	5,98E-01	5,98E-01	1,54E-01	28	17
27	110	18	5,87E-01	5,87E-01	1,43E-01	22	9
28	124	16	6,15E-01	6,15E-01	1,42E-01	20	25
29	132	15	6,11E-01	6,11E-01	1,33E-01	10	21
30	142	14	5,84E-01	5,84E-01	1,42E-01	18	6
31	166	12	6,09E-01	6,09E-01	1,31E-01	8	20
32	180	11	6,12E-01	6,12E-01	1,36E-01	12	22
33	198	10	6,08E-01	6,08E-01	1,32E-01	9	19
34	200	10	6,34E-01	6,34E-01	1,52E-01	27	29

population size - (benchmark 6)							
Test no.	**Number of fireflies**	**Iterations**	**Average best solution**	**|Average best solution - optimum solution|**	**Average best solution standard deviation**	**Average best solution std. dev. (Rank)**	**Average best solution (Rank)**
1	6	333	1,25E+00	1,25E+00	8,04E-01	1	1
2	8	250	1,57E+00	1,57E+00	8,48E-01	2	2
3	10	200	1,65E+00	1,65E+00	9,01E-01	5	3
4	12	166	2,06E+00	2,06E+00	9,44E-01	7	5
5	14	142	2,13E+00	2,13E+00	8,90E-01	3	6
6	16	125	1,94E+00	1,94E+00	8,97E-01	4	4
7	18	111	2,28E+00	2,28E+00	9,99E-01	9	7
8	20	100	2,32E+00	2,32E+00	1,70E+00	27	9
9	22	90	2,54E+00	2,54E+00	1,29E+00	14	12
10	24	83	2,44E+00	2,44E+00	9,22E-01	6	11
11	28	71	2,90E+00	2,90E+00	1,48E+00	19	22
12	30	66	2,31E+00	2,31E+00	1,16E+00	10	8
13	32	62	2,77E+00	2,77E+00	1,23E+00	12	18
14	36	55	2,66E+00	2,66E+00	1,57E+00	23	14
15	40	50	2,44E+00	2,44E+00	1,40E+00	18	10
16	44	45	2,82E+00	2,82E+00	1,85E+00	31	20
17	50	40	2,76E+00	2,76E+00	1,78E+00	30	17
18	54	37	2,73E+00	2,73E+00	1,62E+00	25	16
19	60	33	2,80E+00	2,80E+00	1,94E+00	33	19
20	62	32	3,01E+00	3,01E+00	1,73E+00	29	27
21	64	31	3,02E+00	3,02E+00	2,04E+00	34	28
22	66	30	3,02E+00	3,02E+00	1,19E+00	11	29
23	74	27	2,99E+00	2,99E+00	1,71E+00	28	24
24	80	25	2,67E+00	2,67E+00	9,78E-01	8	15
25	90	22	2,97E+00	2,97E+00	1,40E+00	17	23
26	100	20	2,61E+00	2,61E+00	1,70E+00	26	13
27	110	18	3,22E+00	3,22E+00	1,86E+00	32	34
28	124	16	3,13E+00	3,13E+00	1,54E+00	22	32
29	132	15	2,89E+00	2,89E+00	1,49E+00	20	21
30	142	14	3,03E+00	3,03E+00	1,58E+00	24	30
31	166	12	2,99E+00	2,99E+00	1,27E+00	13	25
32	180	11	3,15E+00	3,15E+00	1,34E+00	16	33
33	198	10	3,00E+00	3,00E+00	1,53E+00	21	26
34	200	10	3,08E+00	3,08E+00	1,31E+00	15	31

population size - (benchmark 7)							
Test no.	**Number of fireflies**	**Iterations**	**Average best solution**	**|Average best solution - optimum solution|**	**Average best solution standard deviation**	**Average best solution std. dev. (Rank)**	**Average best solution (Rank)**
1	6	333	8,99E-05	8,99E-05	1,04E-04	1	1
2	8	250	3,60E-03	3,60E-03	2,44E-02	4	4
3	10	200	2,25E-03	2,25E-03	2,03E-02	3	3
4	12	166	9,66E-02	9,66E-02	7,65E-01	24	19
5	14	142	6,89E-01	6,89E-01	6,63E+00	34	32
6	16	125	1,62E-03	1,62E-03	1,32E-02	2	2
7	18	111	3,50E-02	3,50E-02	2,27E-01	14	6
8	20	100	1,16E-02	1,16E-02	5,88E-02	5	5
9	22	90	2,06E-01	2,06E-01	8,78E-01	25	25
10	24	83	6,92E-01	6,92E-01	4,36E+00	33	33
11	28	71	2,47E-01	2,47E-01	9,35E-01	26	31
12	30	66	1,86E-01	1,86E-01	7,51E-01	23	24
13	32	62	7,37E-02	7,37E-02	3,51E-01	20	13
14	36	55	1,23E-01	1,23E-01	5,13E-01	21	22
15	40	50	8,27E-02	8,27E-02	3,04E-01	16	15
16	44	45	2,21E-01	2,21E-01	1,36E+00	28	26
17	50	40	5,82E-02	5,82E-02	1,34E-01	10	10
18	54	37	2,30E-01	2,30E-01	6,29E-01	22	28
19	60	33	1,01E-01	1,01E-01	2,32E-01	15	20
20	62	32	6,34E-02	6,34E-02	1,37E-01	11	11
21	64	31	7,15E-01	7,15E-01	3,97E+00	32	34
22	66	30	2,40E-01	2,40E-01	1,37E+00	29	30
23	74	27	8,74E-02	8,74E-02	3,28E-01	18	16
24	80	25	2,35E-01	2,35E-01	1,82E+00	31	29
25	90	22	9,33E-02	9,33E-02	2,04E-01	13	18
26	100	20	2,22E-01	2,22E-01	1,45E+00	30	27
27	110	18	9,07E-02	9,07E-02	3,24E-01	17	17
28	124	16	1,61E-01	1,61E-01	1,14E+00	27	23
29	132	15	5,36E-02	5,36E-02	1,15E-01	8	8
30	142	14	1,13E-01	1,13E-01	3,37E-01	19	21
31	166	12	6,70E-02	6,70E-02	1,16E-01	9	12
32	180	11	7,44E-02	7,44E-02	1,58E-01	12	14
33	198	10	5,49E-02	5,49E-02	6,72E-02	6	9
34	200	10	4,91E-02	4,91E-02	8,41E-02	7	7

population size - (benchmark 8)							
Test no.	**Number of fireflies**	**Iterations**	**Average best solution**	**|Average best solution - optimum solution|**	**Average best solution standard deviation**	**Average best solution std. dev. (Rank)**	**Average best solution (Rank)**
1	6	333	-3,59E+00	2,76E-01	6,12E-01	34	34
2	8	250	-3,71E+00	1,49E-01	2,78E-01	33	33
3	10	200	-3,75E+00	1,17E-01	2,25E-01	30	30
4	12	166	-3,72E+00	1,46E-01	2,55E-01	31	32
5	14	142	-3,72E+00	1,38E-01	2,62E-01	32	31
6	16	125	-3,77E+00	9,38E-02	1,73E-01	29	27
7	18	111	-3,79E+00	7,41E-02	1,09E-01	23	21
8	20	100	-3,78E+00	8,36E-02	1,27E-01	25	24
9	22	90	-3,77E+00	8,86E-02	6,89E-02	20	26
10	24	83	-3,79E+00	7,67E-02	1,29E-01	26	22
11	28	71	-3,77E+00	9,65E-02	1,53E-01	27	28
12	30	66	-3,77E+00	9,72E-02	1,61E-01	28	29
13	32	62	-3,78E+00	8,13E-02	1,25E-01	24	23
14	36	55	-3,77E+00	8,85E-02	9,76E-02	21	25
15	40	50	-3,81E+00	5,36E-02	4,55E-02	14	15
16	44	45	-3,82E+00	4,27E-02	3,36E-02	2	1
17	50	40	-3,80E+00	6,32E-02	6,16E-02	19	20
18	54	37	-3,81E+00	5,38E-02	4,88E-02	16	16
19	60	33	-3,80E+00	5,84E-02	9,90E-02	22	19
20	62	32	-3,81E+00	5,58E-02	5,34E-02	18	18
21	64	31	-3,81E+00	5,26E-02	4,37E-02	13	13
22	66	30	-3,81E+00	4,98E-02	3,78E-02	7	6
23	74	27	-3,81E+00	5,10E-02	4,67E-02	15	9
24	80	25	-3,81E+00	5,08E-02	4,88E-02	17	8
25	90	22	-3,81E+00	5,14E-02	3,98E-02	11	10
26	100	20	-3,81E+00	4,80E-02	4,16E-02	12	5
27	110	18	-3,82E+00	4,41E-02	3,68E-02	6	3
28	124	16	-3,81E+00	5,02E-02	3,89E-02	9	7
29	132	15	-3,81E+00	5,41E-02	3,94E-02	10	17
30	142	14	-3,81E+00	5,17E-02	3,61E-02	4	12
31	166	12	-3,81E+00	5,34E-02	3,89E-02	8	14
32	180	11	-3,82E+00	4,68E-02	3,63E-02	5	4
33	198	10	-3,81E+00	5,16E-02	3,59E-02	3	11
34	200	10	-3,82E+00	4,36E-02	3,27E-02	1	2

population size - (benchmark 9)							
Test no.	**Number of fireflies**	**Iterations**	**Average best solution**	**|Average best solution - optimum solution|**	**Average best solution standard deviation**	**Average best solution std. dev. (Rank)**	**Average best solution (Rank)**
1	6	333	-2,72E+00	6,04E-01	4,11E-01	31	11
2	8	250	-2,72E+00	6,05E-01	4,03E-01	29	12
3	10	200	-2,68E+00	6,43E-01	3,57E-01	20	20
4	12	166	-2,60E+00	7,23E-01	4,68E-01	33	31
5	14	142	-2,61E+00	7,17E-01	4,08E-01	30	30
6	16	125	-2,58E+00	7,46E-01	4,02E-01	28	33
7	18	111	-2,70E+00	6,25E-01	3,64E-01	22	14
8	20	100	-2,57E+00	7,53E-01	4,86E-01	34	34
9	22	90	-2,69E+00	6,36E-01	3,76E-01	23	16
10	24	83	-2,62E+00	7,01E-01	4,29E-01	32	29
11	28	71	-2,59E+00	7,35E-01	3,91E-01	25	32
12	30	66	-2,67E+00	6,55E-01	3,41E-01	17	22
13	32	62	-2,68E+00	6,40E-01	4,00E-01	27	18
14	36	55	-2,63E+00	6,91E-01	3,55E-01	19	28
15	40	50	-2,64E+00	6,80E-01	3,91E-01	26	27
16	44	45	-2,68E+00	6,38E-01	2,94E-01	11	17
17	50	40	-2,65E+00	6,77E-01	3,58E-01	21	26
18	54	37	-2,68E+00	6,42E-01	3,18E-01	13	19
19	60	33	-2,66E+00	6,65E-01	3,21E-01	15	23
20	62	32	-2,65E+00	6,77E-01	3,51E-01	18	25
21	64	31	-2,68E+00	6,46E-01	3,81E-01	24	21
22	66	30	-2,69E+00	6,32E-01	3,25E-01	16	15
23	74	27	-2,73E+00	5,92E-01	2,87E-01	10	10
24	80	25	-2,65E+00	6,75E-01	3,20E-01	14	24
25	90	22	-2,73E+00	5,90E-01	2,63E-01	6	9
26	100	20	-2,71E+00	6,14E-01	3,03E-01	12	13
27	110	18	-2,78E+00	5,41E-01	2,43E-01	4	5
28	124	16	-2,77E+00	5,48E-01	2,57E-01	5	6
29	132	15	-2,76E+00	5,62E-01	2,76E-01	9	7
30	142	14	-2,74E+00	5,78E-01	2,67E-01	8	8
31	166	12	-2,84E+00	4,79E-01	2,65E-01	7	2
32	180	11	-2,83E+00	4,93E-01	2,02E-01	3	3
33	198	10	-2,85E+00	4,77E-01	1,98E-01	1	1
34	200	10	-2,80E+00	5,22E-01	2,02E-01	2	4

population size - (benchmark 10)							
No	**Number of fireflies**	**Iterations**	**Average best solution**	**|Average best solution - optimum solution|**	**Average best solution standard deviation**	**Average best solution std. dev. (Rank)**	**Average best solution (Rank)**
1	6	333	-8,46E+00	2,08E+00	3,40E+00	33	5
2	8	250	-8,66E+00	1,88E+00	3,19E+00	32	3
3	10	200	-9,32E+00	1,22E+00	2,67E+00	14	1
4	12	166	-8,08E+00	2,45E+00	3,44E+00	34	9
5	14	142	-8,40E+00	2,14E+00	3,13E+00	30	6
6	16	125	-8,16E+00	2,38E+00	3,13E+00	31	7
7	18	111	-8,62E+00	1,91E+00	2,76E+00	19	4
8	20	100	-8,83E+00	1,70E+00	2,66E+00	13	2
9	22	90	-8,14E+00	2,39E+00	3,05E+00	28	8
10	24	83	-7,13E+00	3,40E+00	3,12E+00	29	22
11	28	71	-7,83E+00	2,71E+00	2,98E+00	26	13
12	30	66	-7,81E+00	2,73E+00	3,00E+00	27	14
13	32	62	-7,97E+00	2,57E+00	2,79E+00	20	11
14	36	55	-7,42E+00	3,12E+00	2,91E+00	24	18
15	40	50	-7,99E+00	2,55E+00	2,51E+00	10	10
16	44	45	-7,21E+00	3,33E+00	2,84E+00	23	20
17	50	40	-7,09E+00	3,45E+00	2,80E+00	21	24
18	54	37	-7,45E+00	3,09E+00	2,60E+00	12	16
19	60	33	-7,32E+00	3,22E+00	2,70E+00	15	19
20	62	32	-6,92E+00	3,62E+00	2,75E+00	18	30
21	64	31	-7,04E+00	3,50E+00	2,93E+00	25	26
22	66	30	-6,99E+00	3,54E+00	2,80E+00	22	28
23	74	27	-6,97E+00	3,57E+00	2,55E+00	11	29
24	80	25	-7,53E+00	3,01E+00	2,73E+00	17	15
25	90	22	-6,74E+00	3,80E+00	2,70E+00	16	32
26	100	20	-6,71E+00	3,82E+00	2,49E+00	9	33
27	110	18	-6,43E+00	4,11E+00	2,41E+00	8	34
28	124	16	-7,01E+00	3,52E+00	2,35E+00	7	27
29	132	15	-7,06E+00	3,47E+00	2,27E+00	5	25
30	142	14	-6,86E+00	3,68E+00	2,30E+00	6	31
31	166	12	-7,14E+00	3,39E+00	2,22E+00	3	21
32	180	11	-7,10E+00	3,43E+00	2,22E+00	4	23
33	198	10	-7,42E+00	3,12E+00	2,08E+00	2	17
34	200	10	-7,86E+00	2,68E+00	2,07E+00	1	12

population size - (benchmark 11)							
Test no.	**Number of fireflies**	**Iterations**	**Average best solution**	**|Average best solution - optimum solution|**	**Average best solution standard deviation**	**Average best solution std. dev. (Rank)**	**Average best solution (Rank)**
1	6	333	1,18E-01	1,18E-01	8,68E-02	33	15
2	8	250	1,15E-01	1,15E-01	8,47E-02	32	12
3	10	200	1,13E-01	1,13E-01	7,59E-02	23	11
4	12	166	1,19E-01	1,19E-01	8,96E-02	34	17
5	14	142	1,01E-01	1,01E-01	7,37E-02	19	3
6	16	125	9,17E-02	9,17E-02	7,22E-02	16	1
7	18	111	1,08E-01	1,08E-01	7,43E-02	20	8
8	20	100	1,08E-01	1,08E-01	7,68E-02	24	7
9	22	90	1,02E-01	1,02E-01	8,04E-02	29	4
10	24	83	1,26E-01	1,26E-01	7,31E-02	17	30
11	28	71	9,66E-02	9,66E-02	7,44E-02	21	2
12	30	66	1,16E-01	1,16E-01	6,98E-02	14	13
13	32	62	1,19E-01	1,19E-01	7,76E-02	26	18
14	36	55	1,26E-01	1,26E-01	8,06E-02	30	31
15	40	50	1,17E-01	1,17E-01	7,06E-02	15	14
16	44	45	1,20E-01	1,20E-01	7,95E-02	28	19
17	50	40	1,11E-01	1,11E-01	8,14E-02	31	9
18	54	37	1,07E-01	1,07E-01	6,24E-02	8	5
19	60	33	1,21E-01	1,21E-01	6,71E-02	12	20
20	62	32	1,08E-01	1,08E-01	7,32E-02	18	6
21	64	31	1,29E-01	1,29E-01	7,51E-02	22	33
22	66	30	1,25E-01	1,25E-01	7,87E-02	27	28
23	74	27	1,21E-01	1,21E-01	6,37E-02	11	21
24	80	25	1,27E-01	1,27E-01	7,74E-02	25	32
25	90	22	1,12E-01	1,12E-01	6,20E-02	7	10
26	100	20	1,24E-01	1,24E-01	6,81E-02	13	26
27	110	18	1,23E-01	1,23E-01	6,25E-02	9	25
28	124	16	1,19E-01	1,19E-01	6,14E-02	6	16
29	132	15	1,23E-01	1,23E-01	5,56E-02	2	23
30	142	14	1,30E-01	1,30E-01	5,85E-02	4	34
31	166	12	1,23E-01	1,23E-01	4,83E-02	1	24
32	180	11	1,25E-01	1,25E-01	5,99E-02	5	29
33	198	10	1,21E-01	1,21E-01	5,58E-02	3	22
34	200	10	1,24E-01	1,24E-01	6,31E-02	10	27

population size - (benchmark 12)							
Test no.	**Number of fireflies**	**Iterations**	**Average best solution**	**|Average best solution - optimum solution|**	**Average best solution standard deviation**	**Average best solution std. dev. (Rank)**	**Average best solution (Rank)**
1	6	333	4,69E-05	4,69E-05	2,77E-05	3	5
2	8	250	5,07E-05	5,07E-05	2,89E-05	8	14
3	10	200	4,64E-05	4,64E-05	3,07E-05	15	4
4	12	166	5,24E-05	5,24E-05	2,71E-05	2	15
5	14	142	4,88E-05	4,88E-05	2,77E-05	4	9
6	16	125	5,28E-05	5,28E-05	3,13E-05	16	16
7	18	111	4,99E-05	4,99E-05	2,99E-05	13	12
8	20	100	4,58E-05	4,58E-05	3,01E-05	14	3
9	22	90	4,46E-05	4,46E-05	2,86E-05	6	2
10	24	83	5,03E-05	5,03E-05	2,90E-05	9	13
11	28	71	4,10E-05	4,10E-05	2,88E-05	7	1
12	30	66	4,72E-05	4,72E-05	2,83E-05	5	6
13	32	62	4,94E-05	4,94E-05	2,96E-05	12	10
14	36	55	4,73E-05	4,73E-05	2,95E-05	11	7
15	40	50	4,97E-05	4,97E-05	2,91E-05	10	11
16	44	45	4,79E-05	4,79E-05	8,59E-06	1	8
17	50	40	5,43E-05	5,43E-05	3,53E-05	18	19
18	54	37	5,31E-05	5,31E-05	3,32E-05	17	18
19	60	33	5,47E-05	5,47E-05	4,39E-05	21	20
20	62	32	6,09E-05	6,09E-05	4,18E-05	19	22
21	64	31	5,94E-05	5,94E-05	5,60E-05	22	21
22	66	30	5,30E-05	5,30E-05	4,33E-05	20	17
23	74	27	8,59E-05	8,59E-05	1,93E-04	24	23
24	80	25	1,27E-04	1,27E-04	3,30E-04	25	26
25	90	22	1,55E-04	1,55E-04	3,82E-04	27	27
26	100	20	1,12E-04	1,12E-04	3,42E-04	26	25
27	110	18	1,09E-04	1,09E-04	1,36E-04	23	24
28	124	16	1,07E-03	1,07E-03	3,86E-03	33	33
29	132	15	4,67E-04	4,67E-04	2,98E-03	32	31
30	142	14	4,66E-04	4,66E-04	2,82E-03	31	30
31	166	12	3,48E-04	3,48E-04	6,28E-04	28	28
32	180	11	3,73E-04	3,73E-04	7,07E-04	29	29
33	198	10	1,11E-03	1,11E-03	4,39E-03	34	34
34	200	10	5,96E-04	5,96E-04	1,59E-03	30	32

population size - (benchmark 13)							
Test no.	**Number of fireflies**	**Iterations**	**Average best solution**	**|Average best solution - optimum solution|**	**Average best solution standard deviation**	**Average best solution std. dev. (Rank)**	**Average best solution (Rank)**
1	6	333	-1,61E+00	1,90E-01	3,37E-01	34	32
2	8	250	-1,61E+00	1,86E-01	3,22E-01	32	31
3	10	200	-1,61E+00	1,96E-01	3,22E-01	31	34
4	12	166	-1,61E+00	1,96E-01	3,24E-01	33	33
5	14	142	-1,63E+00	1,71E-01	3,06E-01	30	30
6	16	125	-1,65E+00	1,48E-01	2,90E-01	29	29
7	18	111	-1,74E+00	6,23E-02	2,05E-01	22	22
8	20	100	-1,71E+00	9,30E-02	2,43E-01	27	27
9	22	90	-1,72E+00	8,23E-02	2,31E-01	25	24
10	24	83	-1,68E+00	1,17E-01	2,45E-01	28	28
11	28	71	-1,73E+00	7,45E-02	2,13E-01	23	23
12	30	66	-1,72E+00	8,44E-02	2,19E-01	24	25
13	32	62	-1,71E+00	9,13E-02	2,40E-01	26	26
14	36	55	-1,77E+00	2,96E-02	1,34E-01	19	17
15	40	50	-1,76E+00	4,21E-02	1,60E-01	21	21
16	44	45	-1,76E+00	3,86E-02	1,54E-01	20	20
17	50	40	-1,77E+00	3,18E-02	1,25E-01	16	18
18	54	37	-1,78E+00	1,90E-02	1,01E-01	14	13
19	60	33	-1,78E+00	2,61E-02	1,30E-01	18	14
20	62	32	-1,77E+00	2,79E-02	1,25E-01	17	15
21	64	31	-1,77E+00	2,85E-02	9,92E-02	13	16
22	66	30	-1,79E+00	1,16E-02	4,96E-02	10	8
23	74	27	-1,78E+00	1,71E-02	7,90E-02	12	11
24	80	25	-1,76E+00	3,65E-02	1,19E-01	15	19
25	90	22	-1,78E+00	1,81E-02	7,72E-02	11	12
26	100	20	-1,79E+00	8,31E-03	2,79E-02	4	5
27	110	18	-1,79E+00	1,09E-02	4,22E-02	8	7
28	124	16	-1,80E+00	2,82E-03	8,27E-03	1	1
29	132	15	-1,79E+00	1,29E-02	3,21E-02	6	10
30	142	14	-1,79E+00	1,21E-02	4,83E-02	9	9
31	166	12	-1,79E+00	7,75E-03	2,94E-02	5	4
32	180	11	-1,79E+00	1,07E-02	4,13E-02	7	6
33	198	10	-1,80E+00	4,84E-03	1,56E-02	2	2
34	200	10	-1,80E+00	5,40E-03	2,08E-02	3	3

population size - (benchmark 14)							
Test no.	**Number of fireflies**	**Iterations**	**Average best solution**	**|Average best solution - optimum solution|**	**Average best solution standard deviation**	**Average best solution std. dev. (Rank)**	**Average best solution (Rank)**
1	6	333	8,14E+03	8,14E+03	1,26E+03	33	34
2	8	250	8,06E+03	8,06E+03	1,04E+03	27	33
3	10	200	7,76E+03	7,76E+03	1,16E+03	29	30
4	12	166	7,89E+03	7,89E+03	1,05E+03	28	32
5	14	142	7,83E+03	7,83E+03	1,23E+03	32	31
6	16	125	7,57E+03	7,57E+03	1,22E+03	31	28
7	18	111	7,61E+03	7,61E+03	1,57E+03	34	29
8	20	100	7,50E+03	7,50E+03	9,68E+02	24	27
9	22	90	7,48E+03	7,48E+03	9,59E+02	23	26
10	24	83	7,21E+03	7,21E+03	1,17E+03	30	22
11	28	71	7,29E+03	7,29E+03	9,51E+02	22	25
12	30	66	7,07E+03	7,07E+03	1,01E+03	25	21
13	32	62	7,23E+03	7,23E+03	8,69E+02	14	23
14	36	55	7,27E+03	7,27E+03	8,55E+02	13	24
15	40	50	7,05E+03	7,05E+03	1,03E+03	26	19
16	44	45	7,06E+03	7,06E+03	8,93E+02	15	20
17	50	40	6,67E+03	6,67E+03	9,05E+02	19	16
18	54	37	6,71E+03	6,71E+03	8,13E+02	10	18
19	60	33	6,62E+03	6,62E+03	8,95E+02	16	14
20	62	32	6,62E+03	6,62E+03	8,04E+02	8	15
21	64	31	6,62E+03	6,62E+03	7,72E+02	6	13
22	66	30	6,67E+03	6,67E+03	8,41E+02	12	17
23	74	27	6,52E+03	6,52E+03	9,01E+02	17	12
24	80	25	6,32E+03	6,32E+03	9,39E+02	21	10
25	90	22	6,40E+03	6,40E+03	8,35E+02	11	11
26	100	20	6,28E+03	6,28E+03	9,01E+02	18	9
27	110	18	5,93E+03	5,93E+03	9,25E+02	20	4
28	124	16	6,18E+03	6,18E+03	7,05E+02	2	8
29	132	15	6,17E+03	6,17E+03	7,83E+02	7	7
30	142	14	6,09E+03	6,09E+03	6,91E+02	1	6
31	166	12	6,09E+03	6,09E+03	7,58E+02	5	5
32	180	11	5,77E+03	5,77E+03	7,40E+02	4	1
33	198	10	5,84E+03	5,84E+03	8,11E+02	9	3
34	200	10	5,79E+03	5,79E+03	7,08E+02	3	2