TABLE I: PHP Patterns

ID	Pattern	#i	API	SEC	Dyn	OOP	Neg	Tools	SC prj	SC med	G_L prj	G_L med	G_M prj	G_M med	G_H prj	G_H med
1	static_variables	1			S			−−−−−−	50	13	443	4	635	7	712	14.0
2	global_variables	1			S			−S−−FC	89	10	203	7	213	10	210	12.0
3	global_array	1			S			−−WP−C	33	6	138	4.0	162	5.0	179	7
4	conditional_assignment	1			S			R−WPFC	221	74	795	18	890	31.5	908	59.0
5	combined_operator	1			S			R−WPFC	335	170	919	33	942	64.0	934	97.5
6	coalesce	1			S			RS−−FC	0	0	0	0	280	6.0	433	11
7	string_arithmetic_operations	1		✓	S			RSW−FC	277	10	523	6	636	9.0	707	11
8	simple_reference	1			S			−−−−F−	42	39	163	9	231	5	292	6.0
9	reference_argument	1			S			−−−−FC	208	14	387	7	399	10	486	9.0
10	return_by_reference	1			S			−−−−−−	19	11	83	4	95	4	132	4.0
11	foreach_with_reference	1			S			−−−−−−	41	7	182	3.0	238	4.0	321	4
12	make_ref	2			S		✓	−−−P−$\overline{C}$	25	6	116	6.0	134	4.0	180	4.0
13	assign_static_prop_ref	1			S			−−−PF−	9	1.0	19	1	10	1.0	17	1
14	object_assigned_by_reference	1			S			−−−−F−	22	21	100	6.5	107	7	155	5
15	nested_function	1			S			−SWPF−	66	3.5	166	4.0	222	4.0	283	5
16	variadic_functions	1			S			−−−−FC	1	12	59	3	143	3	239	3
17	get_arguments	1			S			R−−−−C	23	5.0	106	4.0	137	4	191	4
18	send_unpack	1			S			RS−−F−	1	31	73	3	146	3.0	264	4.0
19	closures	2			D2			−−−−FC	36	1	543	7	733	11	782	25.5
20	use_with_closures	2			D2		✓	−−−−F$\overline{C}$	25	1	321	4	524	5.0	614	12.0
21	simple_object	1			S	✓		−−−PFC	336	199	968	350.5	977	863	974	1536.5
22	assign_object	1			S	✓		−−W−F−	30	3	138	4.0	212	4.0	325	4
23	object_argument	1			S	✓		−−−−F−	119	30	591	23	718	53.5	804	79.5
24	new_self	1			S	✓		−−−−F−	41	6	162	2.0	249	3	351	3
25	clone	1			S	✓		−−−PF−	41	6	147	3	238	5.0	338	5.0
26	late_static_binding	2			D2	✓	✓	−−−−$\overline{F}$−	13	1.0	165	4	279	5	386	8.0
27	get_called_class	1			D2	✓		−−−−−−	0	0	16	1.0	28	1.0	34	2.0
28	static_methods	1			S	✓		−−−PF−	119	17	792	29.0	865	61	898	126.5
29	static_properties	1			S	✓		−−−PF−	93	48	406	12.0	498	14.0	615	20
30	anonymous_classes	1			S	✓		−−−−FC	1	6	30	2.0	81	3	174	3.0
31	static_method_variable	2			D2,D4	✓		−−−−−−	1	1	23	1	51	2	68	2.0
32	set_overloading	1			S	✓		−−−−F−	0	0	44	6.0	50	7.0	61	8
33	get_overloading	1			S	✓		−−−−−−	1	1	56	6.5	70	7.0	81	8
34	isset_overloading	1			S	✓		−−−−−−	1	1	32	6.5	34	7.0	49	7
35	unset_overloading	1			S	✓		−−−−F−	0	0	24	5.5	23	8	29	7
36	call_overloading	1			S	✓		−−−−−−	6	1.0	47	4	59	7	68	7.5
37	callstatic_overloading	1			S	✓		−−−−−−	3	22	12	35.0	20	141.0	26	41.0
38	invoke	1			S	✓		−−−−F−	1	21	6	1.5	9	3	11	4
39	serialize_unserialize	1			S	✓		−−−P−−	42	1.5	135	5	143	8	188	6.0
40	trait	1			S	✓		−−−−FC	87	6	800	13.0	881	26	907	43
41	self_methods	1			S	✓		−−−PF−	68	35	360	12.0	482	15.0	602	22.5
42	destructor	1			S	✓		−−−−−−	102	1	59	4	78	5.5	88	7.0
43	tostring_echo_object	1			S	✓		−−−−FC	9	12	76	14.5	86	25.0	108	16.0
44	verify_return_type	2			S	✓		−−−PF−	41	32	454	9.0	607	21	713	44
45	static_method_from_variable	1			D2	✓		−−−P−C	23	3	98	2.0	166	4.0	235	4
46	object_to_array	1			D2	✓		−−−−−−	50	13	290	4.0	405	4	475	5
47	Overriding	1			S	✓		−−−PFC	62	11	569	16	698	24	750	49
48	construct_with_inheritance	1			S	✓		−−−PF−	64	4.5	471	7	590	11	680	17
49	static_instance	1			S	✓		−−−−−−	9	3	103	1	114	3	161	2
50	throw_exception	1			D2			−−−−−−	84	24	610	9.0	739	13	810	21.0
51	catch_exception	1			S			RS−−−C	95	6	466	4.5	612	6.0	687	11
52	try_catch_finally	2			D2		✓	R−−−$\overline{F}$$\overline{C}$	3	6	39	2	86	2.0	197	2
53	track_error	1			S			−−−P−−	135	20	333	5	407	6	521	7
54	generators	1			S			R−−−F−	5	1.0	57	2	113	3	204	5.0
55	goto	1			S			−−−−F−	3	8	68	8.0	95	4	155	5
56	exit	1		✓	S			RSWP−−	261	3	182	2.0	185	4	226	4.0
57	JS_redirect	1			S			−−−−−−	151	8	27	3.0	115	3	137	4.0
58	simple_array	2			D1		✓	R−−PF$\overline{C}$	338	336.5	973	120	970	224.5	963	439
59	foreach_with_array	1	✓		S			R−−−−$\overline{C}$	68	9.5	208	4.0	237	5	297	4
	foreach_with_array	1			S			R−−PF$\overline{C}$	262	21	831	10	883	21	917	29
60	array_walk	2	✓		D2,D4			−−−−−−	19	1.0	43	1	60	2.0	74	2.0
61	array_map	2	✓		D2,D4			−−−−−−	41	12	167	3	214	5.0	280	4.0
62	parse_str_function	1	✓		D4			R−−−−−	17	4.0	76	1.0	88	3.0	112	2.0
63	substring_replace_function	1	✓		S			RS−−−C	38	4.0	80	3.0	97	3	118	3.0
64	preg_match	1	✓		S			R−−−F−	100	6.0	277	6	279	9	355	6
65	system (system)	1	✓	✓	S			R−−PFC	1	1	20	3.0	37	3	41	2
	system (exec)	1	✓	✓	S			R−−PFC	20	3	78	2	100	3.0	130	3.0
	system (unlink)	1	✓	✓	S			R−−PFC	101	3	159	4	181	6	237	5
66	superglobals	1		✓	S			−SWPF−	177	7.0	331	4	355	6	413	6
	superglobals	1		✓	S			R−W−F−	323	19	112	4.0	133	8	148	5.0
	superglobals	1		✓	S			−S−−F−	9	1	58	1.5	81	2	102	2.0
	superglobals	1		✓	S			RSWP−C	240	9	90	4.0	120	4.0	124	4.0
67	odbc	1	✓	✓	S			RS−PFC	1	1	48	2.0	60	2.0	63	2
68	compact	2	✓		D2-D4			−−−−−−	1	1	48	2.0	60	2.0	63	2
69	create_function	1	✓		D1			−−−−−−	1	3	49	2	38	4.0	44	2.0
70	extract	1	✓		D2			−−−−−−	117	15	80	2.5	100	3.0	89	2
71	array_functions	1	✓		S			−−−−−$\overline{C}$	23	1.0	86	2.0	114	2.0	155	3
	array_functions	1	✓		S			R−−−−$\overline{C}$	10	1.0	23	2	37	1	40	2.0
72	procedural_queries	1	✓	✓	S			R−−PFC	187	26	30	2.5	33	4	24	4
	procedural_queries	2	✓	✓	S			−−−−FC	73	4	43	3	38	4	38	2.0
73	wrong_sanitizers	2	✓	✓	S			RS−PF−	174	5	242	5.0	303	5	332	5.0
74	dirname	1	✓	✓	D1			−−−−−−	23	3.0	101	4	111	4	131	4
75	buffer	1	✓		S			−−−−−−	27	2	150	2.5	190	3.0	181	4
76	function_variable	2			D2,D4			−−−−−−	40	2.5	315	3	465	4	602	7.0
77	object_callable	2			D2,D4			−−−−−−	12	6	89	2	141	3	252	4.0
78	autoloading_classes	1	✓		D2	✓		−−−P−−	50	1	123	1	138	1.0	150	2.0
79	dynamic_include	1			D1	✓		R−−PF−	337	44	549	5	600	5.0	636	6.0
	dynamic_include	1			D2	✓		R−−PF−	7	2	14	2.0	19	1	27	2
	dynamic_include	2			D3			−−−−−−	137	2	155	5	190	4.5	219	4

#	Name				D			Tools								
	dynamic_include	1			D4			$------$	337	85.0	665	6	712	7.0	754	7.0
80	callback_functions	1			D1			$---P-C$	41	2	128	3.0	159	3	208	2.5
	callback_functions	2			D2			$---P--$	5	2	11	2	15	2	31	2
	callback_functions	1			D3			$------$	8	7	17	2	29	1	38	1.5
	callback_functions	1			D4			$------$	65	6	180	4.0	188	4.5	269	5
81	new_from_variable	1			D2	✓		$------$	12	7	90	5.0	122	3.0	127	3
	new_from_variable	1			D3	✓		$------$	0	0	0	0	0	0	0	0
	new_from_variable	1			D4	✓		$------$	39	8	394	4.0	503	5	600	6.0
82	methods_variable	1			D2	✓		$------$	14	4.0	99	4	163	4	211	4
	methods_variable	1			D4	✓		$------$	46	3	223	3	351	3	448	4.0
83	array_variable_key	2			D2		✓	$R---\overline{FC}$	74	8.0	173	8	255	8	277	5
	array_variable_key	2			D4		✓	$----\overline{FC}$	238	21	763	12	831	18	883	32
84	variable_variables	1			D2			$------$	24	5.0	20	5.0	27	5	47	5
	variable_variables	1			D4			$------$	123	5	81	4	108	4.5	147	3
	Total	122	26	16		39	7		7623	1716	22687	1031	27875	2004.5	32572	3097.5
	Average								74	16.66	220.2	10	270.6	19.5	316.23	30.07

Legenda for column Tools: RIPS (R), phpSAFE (S), WAP (W), Progpilot (P), Fortify (F), Checkmarx(C)