GOOD GAME!® NEW DEAL FOR SPORT

Report REF-EVAL[®] Level 2

Botafogo 1-2 Flamengo 2023/09/02 Competition: Brazil Serie A 2023

Report Publication Date: 2023/11/14



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GLOSSARY

- **CRD:** Correct Referee Decision
- **IRD: Incorrect Referee Decision**
- AI: Artifical Intelligence



1-REF-EVAL® METHOD

The REF-EVAL[®] method is the exclusive property of the GOOD GAME![®] company. The REF-EVAL[®] method uses multifactorial analysis of player physiological, biomechanical and tactical performance combined with all refereeing decisions.

The REF-EVAL[®] method, developed over 15 years of analysing players and referees performance data, provides more than 99% correct answers on all refereeing situations. The REF-EVAL® method leverages complex algorithms from artificial intelligence (AI) to identify all what are called IRD (Incorrect Referee Decision) to be opposed to CRD (Correct Referee Decision).

We then distinguish between IRD High, i.e. referee errors that directly influence the score (e.g. an invalid penalty whistled...) or the number of players (e.g. a red card not given...) and IRD Low, i.e. referee errors that do not directly influence the score (e.g. a foul not whistled...). In the same way we distinguish the CRD Low when the referee makes the right decision on a simple decision, from the CRD High when the referee makes a right decision on a complex situation (a penalty rightly whistled for example).

Furthermore the REF-EVAL[®] distinguish the unintentional IRD that occur in all football matches from intentional IRD to also identify potential match-fixing related to referees. The REF-EVAL[®] method is today the most advanced tool to secure competitions results and evaluate referees.



2-MATCH INFORMATION

General Information

Date	2023/09/02	
Time	20:00	
Country	Brazil	
City	Rio de Janeiro	
Stadium	Estadio Nilton Santos	
Field length (m)	/	
Field width (m)	/	
	Wind	Rain
	/	/

Referees

Position	NAME	First name
Referee	CLAUS	Raphael
Assistant referee	INES BACK	Neuza
Assistant referee	CARVALHO VAN GASSE	Marcelo
Fourth official	GOMES STEFANO	Alex
Video Assistant Referee	MUNIZ DOS SANTOS	Daiane Caroline
Assistant Video Assistant Referee	ESTEVAM DA SILVA	llbert



Video Assistant Referee YES



3-REFEREEING SITUATIONS (from chrono)

First Half: 0 to 15min

ORDER	PERIOD	TYPE	VAR	TEAM CODE	CHRONO	VIDEO TIME WHISTLED / NOT	DECISION	CRD/IRD* Type	CRD/IRD Classification	IRD team benefit
1	First Half	Start first half	No	Flamengo	000:00	Whistled	Correct		CRD Low	
2	First Half	Throw-in (for)	No	Botafogo	000:18	Whistled	Correct		CRD Low	
3	First Half	Throw-in (for)	No	Flamengo	000:55	Whistled	Correct		CRD Low	
4	First Half	Offside (from)	No	Flamengo	001:21	Not Whistled	Incorrect	Valid Offside Not Whistled (VONW)	IRD Low	Flamengo
5	First Half	Goal (for)	No	Flamengo	001:25	Whistled	Incorrect	Invalid Goal Accepted (IGA)	IRD High	Flamengo
6	First Half	Throw-in (for)	No	Flamengo	002:54	Whistled	Correct		CRD Low	
7	First Half	Offside (from)	No	Flamengo	003:19	Whistled	Correct		CRD Low	
8	First Half	Foul (from)	No	Botafogo	005:19	Whistled	Not Assessed		CRD Low	
9	First Half	Goal kick (for)	No	Botafogo	007:00	Whistled	Correct		CRD Low	
10	First Half	Throw-in (for)	No	Botafogo	007:20	Whistled	Correct		CRD Low	
11	First Half	Throw-in (for)	No	Botafogo	007:30	Whistled	Correct		CRD Low	
12	First Half	Corner kick (for)	No	Botafogo	008:17	Whistled	Correct		CRD Low	
13	First Half	Foul (from)	No	Botafogo	008:49	Not Whistled	Incorrect	Valid Foul Not Whistled (VFNW)	IRD Low	Botafogo
14	First Half	Throw-in (for)	No	Flamengo	008:54	Whistled	Correct		CRD Low	
15	First Half	Goal kick (for)	No	Flamengo	010:25	Whistled	Correct		CRD Low	
16	First Half	Throw-in (for)	No	Botafogo	011:07	Whistled	Incorrect	Reverse Team (RT)	IRD Low	Botafogo
17	First Half	Corner kick (for)	No	Botafogo	013:29	Whistled	Correct		CRD Low	
18	First Half	Throw-in (for)	No	Flamengo	014:33	Whistled	Correct		CRD Low	



First Half: 15 to 30min

ORDER	PERIOD	TYPE	VAR	TEAM CODE	CHRONO	VIDEO TIME WHISTLED / NOT	DECISION	CRD/IRD* Type	CRD/IRD Classification	IRD team benefit
19	First Half	Throw-in (for)	No	Botafogo	015:30	Whistled	Correct		CRD Low	
20	First Half	Throw-in (for)	No	Botafogo	017:51	Whistled	Correct		CRD Low	
21	First Half	Goal (for)	No	Botafogo	018:13	Whistled	Correct		CRD Low	
22	First Half	Throw-in (for)	No	Flamengo	021:06	Whistled	Correct		CRD Low	
23	First Half	Throw-in (for)	No	Flamengo	021:38	Whistled	Correct		CRD Low	
24	First Half	Foul (from)	No	Flamengo	022:47	Not Whistled	Correct	Advantage	CRD Low	
25	First Half	Goal kick (for)	No	Flamengo	022:59	Whistled	Correct		CRD Low	
26	First Half	Corner kick (for)	No	Flamengo	023:57	Whistled	Correct		CRD Low	
27	First Half	Foul (from)	No	Flamengo	024:17	Not Whistled	Incorrect	Valid Foul Not Whistled (VFNW)	IRD Low	Flamengo
28	First Half	Throw-in (for)	No	Flamengo	024:34	Whistled	Correct		CRD Low	
29	First Half	Corner kick (for)	No	Flamengo	025:02	Whistled	Correct		CRD Low	
30	First Half	Corner kick (for)	No	Flamengo	025:45	Whistled	Correct		CRD Low	
31	First Half	Corner kick (for)	No	Flamengo	026:12	Whistled	Correct		CRD Low	
32	First Half	Foul (from)	No	Flamengo	027:41	Whistled	Correct		CRD Low	
33	First Half	Offside (from)	No	Flamengo	029:00	Whistled	Correct		CRD Low	
34	First Half	Foul (from)	No	Botafogo	029:44	Whistled	Correct		CRD Low	



First Half: 30min to half time

ORDER	PERIOD	TYPE	VAR	TEAM CODE	CHRONO	VIDEO TIME WHISTLED / NOT	DECISION	CRD/IRD* Type	CRD/IRD Classification	IRD team benefit
35	First Half	Foul (from)	No	Botafogo	030:55	Not Whistled	Correct	Advantage	CRD Low	
36	First Half	Foul (from)	No	Flamengo	031:15	Whistled	Correct		CRD Low	
37	First Half	Other	No	Flamengo	031:40	Whistled	Correct		CRD Low	
38	First Half	Throw-in (for)	No	Botafogo	033:18	Whistled	Correct		CRD Low	
39	First Half	Penalty foul (for)	No	Botafogo	033:56	Not Whistled	Correct	No Penalty (NP)	CRD High	
40	First Half	Foul (from)	No	Botafogo	034:37	Not Whistled	Correct	Advantage	CRD Low	
41	First Half	Foul (from)	No	Botafogo	034:40	Whistled	Correct		CRD Low	
42	First Half	Foul (from)	No	Botafogo	035:49	Whistled	Correct		CRD Low	
43	First Half	Foul (from)	No	Botafogo	036:50	Whistled	Correct		CRD Low	
44	First Half	Corner kick (for)	No	Flamengo	038:25	Whistled	Correct		CRD Low	
45	First Half	Foul (from)	No	Botafogo	039:28	Not Whistled	Incorrect	Valid Foul Not Whistled (VFNW)	IRD Low	Botafogo
46	First Half	Throw-in (for)	No	Flamengo	040:02	Whistled	Correct		CRD Low	
47	First Half	Foul (from)	No	Flamengo	040:56	Whistled	Correct		CRD Low	
48	First Half	Foul (from)	No	Flamengo	042:25	Whistled	Correct		CRD Low	
49	First Half	Yellow card (for)	No	Flamengo	042:31	Whistled	Correct		CRD Low	
50	First Half	Foul (from)	No	Flamengo	043:52	Whistled	Correct		CRD Low	
51	First Half	Yellow card (for)	No	Flamengo	043:59	Whistled	Correct		CRD Low	
52	First Half	Throw-in (for)	No	Flamengo	045:24	Whistled	Correct		CRD Low	
53	First Half	Foul (from)	No	Botafogo	046:15	Not Whistled	Correct	Advantage	CRD Low	
54	First Half	Foul (from)	No	Flamengo	046:50	Not Whistled	Incorrect	Valid Foul Not Whistled (VFNW)	IRD Low	Flamengo
55	First Half	Corner kick (for)	No	Flamengo	047:00	Whistled	Correct		CRD Low	
56	First Half	Other	No	Flamengo	047:37	Whistled	Correct		CRD Low	
57	First Half	Goal kick (for)	No	Flamengo	048:17	Whistled	Correct		CRD Low	
58	First Half	End first half	No	Flamengo	048:37	Whistled	Correct		CRD Low	



Second Half: 45 to 60min

ORDER	PERIOD	TYPE	VAR	TEAM CODE	CHRONO	VIDEO TIME WHISTLED / NOT	DECISION	CRD/IRD* Type	CRD/IRD Classification	IRD team benefit
59	Second Half	Start second half	No	Botafogo	045:00	Whistled	Correct		CRD Low	
60	Second Half	Goal kick (for)	No	Botafogo	045:46	Whistled	Correct		CRD Low	
61	Second Half	Throw-in (for)	No	Flamengo	046:22	Whistled	Correct		CRD Low	
62	Second Half	Offside (from)	No	Flamengo	047:11	Whistled	Correct		CRD Low	
63	Second Half	Goal canceled (for)	No	Flamengo	047:15	Whistled	Correct	Invalid Goal Canceled (IGC)	CRD High	
64	Second Half	Throw-in (for)	No	Botafogo	048:57	Whistled	Correct		CRD Low	
65	Second Half	Foul (from)	No	Botafogo	049:23	Whistled	Correct		CRD Low	
66	Second Half	Yellow card (for)	No	Botafogo	049:30	Whistled	Correct		CRD Low	
67	Second Half	Foul (from)	No	Botafogo	050:58	Whistled	Correct		CRD Low	
68	Second Half	Foul (from)	No	Botafogo	052:02	Whistled	Correct		CRD Low	
69	Second Half	Throw-in (for)	No	Flamengo	052:26	Whistled	Correct		CRD Low	
70	Second Half	Goal kick (for)	No	Botafogo	053:26	Whistled	Correct		CRD Low	
71	Second Half	Throw-in (for)	No	Botafogo	053:40	Whistled	Correct		CRD Low	
72	Second Half	Other	No	Flamengo	053:45	Whistled	Correct		CRD Low	
73	Second Half	Corner kick (for)	No	Botafogo	054:08	Whistled	Correct		CRD Low	
74	Second Half	Throw-in (for)	No	Flamengo	055:16	Whistled	Correct		CRD Low	
75	Second Half	Substitution (for)	No	Botafogo	055:44	Whistled	Correct		CRD Low	
76	Second Half	Substitution (for)	No	Botafogo	056:01	Whistled	Correct		CRD Low	
77	Second Half	Substitution (for)	No	Botafogo	056:06	Whistled	Correct		CRD Low	
78	Second Half	Foul (from)	No	Flamengo	057:18	Whistled	Correct		CRD Low	
79	Second Half	Goal kick (for)	No	Flamengo	058:40	Whistled	Correct		CRD Low	
80	Second Half	Throw-in (for)	No	Botafogo	059:01	Whistled	Correct		CRD Low	
81	Second Half	Foul (from)	No	Botafogo	059:18	Not Whistled	Incorrect	Valid Foul Not Whistled (VFNW)	IRD Low	Botafogo



Second Half: 60 to 75min

ORDER	PERIOD	TYPE	VAR	TEAM CODE	CHRONO	VIDEO TIME WHISTLED / NOT	DECISION	CRD/IRD* Type	CRD/IRD Classification	IRD team benef
82	Second Half	Foul (from)	No	Flamengo	061:23	Not Whistled	Incorrect	Valid Foul Not Whistled (VFNW)	IRD Low	Flamengo
83	Second Half	Foul (from)	No	Flamengo	061:39	Whistled	Correct		CRD Low	
84	Second Half	Other	No	Botafogo	061:52	Whistled	Correct		CRD Low	
85	Second Half	Goal kick (for)	No	Botafogo	063:50	Whistled	Correct		CRD Low	
86	Second Half	Other	No	Flamengo	065:15	Whistled	Correct		CRD Low	
87	Second Half	Drop ball	No	Flamengo	065:40	Whistled	Correct		CRD Low	
88	Second Half	Foul (from)	No	Botafogo	065:53	Not Whistled	Incorrect	Valid Foul Not Whistled (VFNW)	IRD Low	Botafogo
89	Second Half	Goal kick (for)	No	Flamengo	066:24	Whistled	Correct		CRD Low	
90	Second Half	Substitution (for)	No	Flamengo	067:08	Whistled	Correct		CRD Low	
91	Second Half	Corner kick (for)	No	Botafogo	067:46	Whistled	Correct		CRD Low	
92	Second Half	Corner kick (for)	No	Botafogo	068:25	Whistled	Correct		CRD Low	
93	Second Half	Throw-in (for)	No	Flamengo	069:02	Whistled	Correct		CRD Low	
94	Second Half	Throw-in (for)	No	Botafogo	069:25	Whistled	Correct		CRD Low	
95	Second Half	Throw-in (for)	No	Flamengo	069:39	Whistled	Correct		CRD Low	
96	Second Half	Throw-in (for)	No	Flamengo	070:00	Whistled	Correct		CRD Low	
97	Second Half	Foul (from)	No	Botafogo	070:15	Whistled	Correct		CRD Low	
98	Second Half	Foul (from)	No	Flamengo	071:47	Not Whistled	Incorrect	Valid Foul Not Whistled (VFNW)	IRD Low	Flamengo
aa	Second Half	Goal (for)	No	Flamendo	072.22	Whistled	Incorrect	Invalid Goal Accepted (IGA)	IRD High	Elamendo



Second Half: 75min to end second half

ORDER	PERIOD	TYPE	VAR	TEAM CODE	CHRONO	VIDEO TIME WHISTLED / NOT	DECISION	CRD/IRD* Type	CRD/IRD Classification	IRD team benefit
100	Second Half	Corner kick (for)	No	Botafogo	075:04	Whistled	Correct		CRD Low	
101	Second Half	Corner kick (for)	No	Botafogo	075:38	Whistled	Correct		CRD Low	
102	Second Half	Goal kick (for)	No	Flamengo	075:58	Whistled	Correct		CRD Low	
103	Second Half	Substitution (for)	No	Flamengo	076:35	Whistled	Correct		CRD Low	
104	Second Half	Substitution (for)	No	Flamengo	076:40	Whistled	Correct		CRD Low	
105	Second Half	Goal kick (for)	No	Botafogo	077:16	Whistled	Correct		CRD Low	
106	Second Half	Throw-in (for)	No	Flamengo	078:54	Whistled	Correct		CRD Low	
107	Second Half	Foul (from)	No	Botafogo	079:25	Whistled	Correct		CRD Low	
108	Second Half	Other	No	Flamengo	079:45	Whistled	Correct		CRD Low	
109	Second Half	Foul (from)	No	Botafogo	081:05	Whistled	Correct		CRD Low	
110	Second Half	Substitution (for)	No	Botafogo	081:20	Whistled	Correct		CRD Low	
111	Second Half	Throw-in (for)	No	Flamengo	082:55	Whistled	Correct		CRD Low	
112	Second Half	Foul (from)	No	Botafogo	083:08	Whistled	Correct		CRD Low	
113	Second Half	Substitution (for)	No	Botafogo	083:46	Whistled	Correct		CRD Low	
114	Second Half	Throw-in (for)	No	Botafogo	084:30	Whistled	Correct		CRD Low	
115	Second Half	Throw-in (for)	No	Botafogo	084:30	Whistled	Correct		CRD Low	
116	Second Half	Foul (from)	No	Botafogo	084:56	Whistled	Correct		CRD Low	
117	Second Half	Yellow card (for)	No	Botafogo	085:02	Whistled	Correct		CRD Low	
118	Second Half	Substitution (for)	No	Flamengo	085:38	Whistled	Correct		CRD Low	
119	Second Half	Throw-in (for)	No	Botafogo	086:00	Whistled	Correct		CRD Low	
120	Second Half	Foul (from)	No	Flamengo	087:16	Not Whistled	Incorrect	Valid Foul Not Whistled (VFNW)	IRD Low	Flamengo
121	Second Half	Throw-in (for)	No	Botafogo	087:25	Whistled	Correct		CRD Low	
122	Second Half	Throw-in (for)	No	Botafogo	088:03	Whistled	Correct		CRD Low	
123	Second Half	Other	No	Flamengo	088:20	Whistled	Correct		CRD Low	
124	Second Half	Corner kick (for)	No	Botafogo	088:55	Whistled	Correct		CRD Low	
125	Second Half	Throw-in (for)	No	Botafogo	089:34	Whistled	Correct		CRD Low	
126	Second Half	Throw-in (for)	No	Botafogo	089:52	Whistled	Correct		CRD Low	
127	Second Half	Foul (from)	No	Botafogo	090:25	Whistled	Correct		CRD Low	
128	Second Half	Foul (from)	No	Botafogo	091:39	Not Whistled	Correct	Advantage	CRD Low	
129	Second Half	Corner kick (for)	No	Botafogo	093:13	Whistled	Correct		CRD Low	
130	Second Half	Corner kick (for)	No	Botafogo	093:46	Whistled	Correct		CRD Low	
131	Second Half	Corner kick (for)	No	Botafogo	094:34	Whistled	Correct		CRD Low	
132	Second Half	Goal kick (for)	No	Flamengo	094:46	Whistled	Correct		CRD Low	
133	Second Half	Yellow card (for)	No	Flamengo	094:54	Whistled	Correct		CRD Low	
134	Second Half	Foul (from)	No	Flamengo	095:46	Whistled	Correct		CRD Low	
135	Second Half	Corner kick (for)	No	Botafogo	096:10	Whistled	Correct		CRD Low	_
136	Second Half	Foul (from)	No	Flamengo	096:44	Not Whistled	Incorrect	Valid Foul Not Whistled (VFNW)	IRD Low	Flamengo
137	Second Half	Goal kick (for)	No	Flamengo	096:48	Whistled	Correct		CRD Low	
138	Second Half	End second half	No	Botafogo	097:24	Whistled	Correct		CRD Low	
139	Second Half	Yellow card (for)	No	Botafogo	097:50	Whistled	Not Assessed		CRD Low	
140	Second Half	Red card (for)	No	Botafogo	097:55	Whistled	Not Assessed		CRD Low	



4-LIVE IRD & CRD High AI results

0125 IRD High: Invalid Goal Accepted (IGA)

	GAME !®	VAR-ASSIST AI
Final re	esult	Back to the Menu >> Restart Analysis >>
	GOAL VALIDATION REPORT - Download >>	·····
	NO GOAL	
	GV6-7Y8N9N10N11Y-NG	

Unique analysis AI code: GV6-7Y8N9N10N11Y-NG









T0 + 40ms : the ball on the center is not touched by the Botafogo player.





3356 CRD High: No Penalty (NP)

GOOD NEW DEA	GAME I®	VAR-ASSIST AI
Final re	sult	Back to the Menu >>
	PENALTY HAND REPORT - Download >>	Restart Analysis >>
	NO PENALTY	
	PH9-10Y13Y14A15N-NP	

Unique analysis AI code: PH9-10Y13Y14A15N-NP



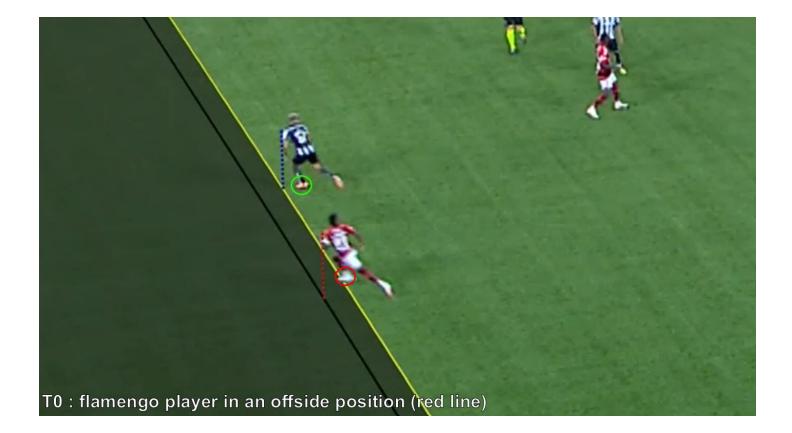




4715 CRD High: Invalid Goal Canceled (IGC)

GOOD NEW DEA	GAME I®	VAR-ASSIST AI
Final re	esult	Back to the Menu >> Restart Analysis >>
	GOAL VALIDATION REPORT - Download >>	
	NO GOAL	
	GV7-8Y9N10N11N12Y-NG	

Unique analysis AI code: GV7-8Y9N10N11N12Y-NG







7222 IRD High: Invalid Goal Accepted (IGA)

	GAME !®	VAR-ASSIST AI
Final re	sult	Back to the Menu >> Restart Analysis >>
	GOAL VALIDATION REPORT - Download >>	Kesturt Andrysis 22
	NO GOAL	
	GV4-5Y6N7N8Y-NG	

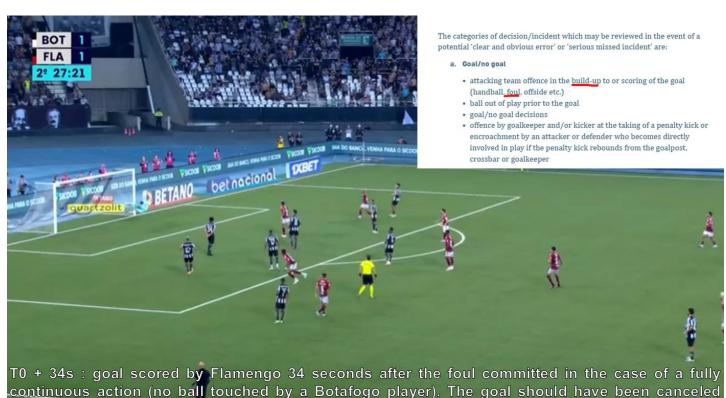
Unique analysis AI code: GV4-5Y6N7N8Y-NG







extension of the elbow) (red arrow).



(p139 Laws of the Game 2023/24 – VAR protocol).



5-REFEREEING DECISIONS ASSESSMENT

Half time note

/

Full time note

/



REFEREEING SITUATIONS	Total	%
Total number of refereeing situations	140	/
Whis Not whis		88 12
Cor Incorrect (I Not asses	rrect123RD)14ssed3	88 10 2

IRD Distribution	Total	%
Benefits for Botafogo	5	36
Benefits for Flamengo	9	64



IRD Botafogo	Total
Total number of IRD High with benefit	0
Total number of IRD Low with benefit	5
Total number of IRD High with deficit	2
Total number of IRD Low with deficit	7

IRD Distribution with benefits for Botafogo	Total
Reverse team	1
Valid goal canceled	/
Invalid goal accepted	/
Valid penalty not whistled	/
Invalid penalty whistled	/
Invalid penalty goal	/
Valid foul not whistled	4
Invalid foul whistled	/
Valid offside not whistled	/
Invalid offside whistled	/
Valid corner kick not whistled	/
Invalid corner kick whistled	/
Valid throw-in not whistled	/
Invalid throw-in whistled	/
Valid yellow card not given	/
Invalid yellow card given	/
Valid red card not given	/
Invalid red card given	/



IRD Flamengo	Total
Total number of IRD High with benefit	2
Total number of IRD Low with benefit	7
Total number of IRD High with deficit	0
Total number of IRD Low with deficit	5

IRD Distribution with benefits for Flamengo	Total
Reverse team	/
Valid goal canceled	/
Invalid goal accepted	2
Valid penalty not whistled	/
Invalid penalty whistled	/
Invalid penalty goal	/
Valid foul not whistled	6
Invalid foul whistled	/
Valid offside not whistled	1
Invalid offside whistled	/
Valid corner kick not whistled	/
Invalid corner kick whistled	/
Valid throw-in not whistled	/
Invalid throw-in whistled	/
Valid yellow card not given	/
Invalid yellow card given	/
Valid red card not given	/
Invalid red card given	/



6-CONCLUSION

The presence of 2 IRD (Incorrect Referee Decision) High (with direct influence on the score and/or number of players) with benefits for Flamengo in the match between Botafogo and Flamengo on 2023/09/02, part of the Brazil Serie A 2023, has completely changed the official score and points for each team.

POINTS	OFFICIAL	REAL
Botafogo	0	3
Flamengo	3	0
RESULTS	OFFICIAL	REAL
Botafogo - Flamengo	1-2	1-0

The presence of these 2 IRD High with benefits for Flamengo, the distribution of total IRDs (High and Low) with 64% benefits for Flamengo despite the presence of VAR (Video Assistant Referee), is a potentially abnormal distribution in a professional football match and would require further investigations into refereeing related to manipulation.

On November 14, 2023,

SP, Ph.D.

W

