

GOOD GAME![®]
NEW DEAL FOR SPORT

Report REF-EVAL[®] Level 2

Botafogo 3-4 Palmeiras

2023/11/02

Competition: Brazil Serie A 2023

Report Publication Date: 2023/11/02

TABLE OF CONTENTS

Part 1 :	REF-EVAL [®] Method	02
Part 2 :	Match information	03
Part 3 :	Refereeing situations	04
Part 4 :	Live IRD & CRD High AI results	10
Part 5 :	Refereeing decisions assessment	18
Part 6 :	Conclusion	22

GLOSSARY

CRD: Correct Referee Decision

IRD: Incorrect Referee Decision

AI: Artificial 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	2023/11/02	
Time	01:30	
Country	Brazil	
City	Rio de Janeiro	
Stadium	Estadio Nilton Santos	
Field length (m)	/	
Field width (m)	/	
	Wind	Rain
	/	/

Position	NAME	First name
Referee	DA SILVA MACHADO	Braulio
Assistant referee	PIRES	Bruno Raphael
Assistant referee	DA SILVA ALVES	Rafael
Fourth official	MACIEL ROCHA	Grazianni
Video Assistant Referee	TRACI	Rafael
Assistant Video Assistant Referee	POMBO LOPEZ	Diego



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	Palmeiras	000:00		Whistled	Correct	None		
2	First half	Throw-in (for)	No	Botafogo	000:13		Whistled	Correct	None		
3	First half	Foul (from)	No	Palmeiras	000:46		Whistled	Correct	None		
4	First half	Throw-in (for)	No	Botafogo	002:00		Whistled	Correct	None		
5	First half	Throw-in (for)	No	Palmeiras	002:23		Whistled	Correct	None		
6	First half	Foul (from)	No	Botafogo	002:41		Not whistled	Correct	Advantage		
7	First half	Throw-in (for)	No	Palmeiras	002:45		Whistled	Correct	None		
8	First half	Throw-in (for)	No	Palmeiras	003:52		Whistled	Correct	None		
9	First half	Throw-in (for)	No	Palmeiras	004:38		Whistled	Correct	None		
10	First half	Throw-in (for)	No	Palmeiras	005:10		Whistled	Correct	None		
11	First half	Throw-in (for)	No	Palmeiras	006:02		Whistled	Correct	None		
12	First half	Goal kick (for)	No	Botafogo	007:09		Whistled	Correct	None		
13	First half	Other	No	Palmeiras	008:11		Whistled	Correct	None		
14	First half	Drop ball	No	Palmeiras	008:28		Whistled	Correct	None		
15	First half	Foul (from)	No	Palmeiras	008:53		Not whistled	Correct	Advantage		
16	First half	Foul (from)	No	Palmeiras	009:52		Whistled	Correct	None		
17	First half	Yellow card (for)	No	Palmeiras	010:10		Whistled	Not assessed	None		
18	First half	Goal kick (for)	No	Palmeiras	011:11		Whistled	Correct	None		
19	First half	Goal kick (for)	No	Palmeiras	012:22		Whistled	Correct	None		
20	First half	Throw-in (for)	No	Palmeiras	013:01		Whistled	Correct	None		
21	First half	Goal kick (for)	No	Botafogo	013:39		Whistled	Correct	None		
22	First half	Foul (from)	No	Palmeiras	014:10		Not whistled	Incorrect	Valid Foul Not Whistled	IRD Low	Palmeiras
23	First half	Throw-in (for)	No	Palmeiras	014:12		Whistled	Correct	None		

*CRD(Correct Referee Decision) / IRD (Incorrect Referee Decision)

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
24	First half	Goal kick (for)	No	Palmeiras	016:44	Whistled	Correct	None		
25	First half	Throw-in (for)	No	Palmeiras	018:14	Whistled	Correct	None		
26	First half	Goal (for)	No	Botafogo	020:23	Whistled	Correct	None		
27	First half	Goal kick (for)	No	Palmeiras	024:05	Whistled	Correct	None		
28	First half	Foul (from)	No	Botafogo	024:38	Whistled	Correct	None		
29	First half	Goal kick (for)	No	Botafogo	025:32	Whistled	Correct	None		
30	First half	Throw-in (for)	No	Palmeiras	026:48	Whistled	Correct	None		
31	First half	Foul (from)	No	Palmeiras	027:33	Whistled	Correct	None		
32	First half	Foul (from)	No	Palmeiras	028:03	Whistled	Correct	None		
33	First half	Goal kick (for)	No	Botafogo	029:13	Whistled	Correct	None		
34	First half	Goal (for)	No	Botafogo	029:39	Whistled	Correct	None		

*CRD(Correct Referee Decision) / IRD (Incorrect Referee Decision)

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	Throw-in (for)	No	Palmeiras	031:21	Whistled	Correct	None		
36	First half	Foul (from)	No	Botafogo	032:32	Whistled	Correct	None		
37	First half	Yellow card (for)	No	Botafogo	032:40	Whistled	Correct	None		
38	First half	Throw-in (for)	No	Palmeiras	034:47	Whistled	Correct	None		
39	First half	Goal (for)	No	Botafogo	035:06	Whistled	Correct	None		
40	First half	Goal kick (for)	No	Palmeiras	039:41	Whistled	Correct	None		
41	First half	Throw-in (for)	No	Botafogo	040:45	Whistled	Correct	None		
42	First half	Foul (from)	No	Palmeiras	042:31	Whistled	Correct	None		
43	First half	Goal kick (for)	No	Palmeiras	043:03	Whistled	Correct	None		
44	First half	Goal kick (for)	No	Botafogo	043:40	Whistled	Correct	None		
45	First half	Foul (from)	No	Botafogo	045:03	Whistled	Correct	None		
46	First half	Throw-in (for)	No	Palmeiras	045:35	Whistled	Correct	None		
47	First half	Throw-in (for)	No	Palmeiras	046:15	Whistled	Correct	None		
48	First half	End first half	No	Palmeiras	047:50	Whistled	Correct	None		

*CRD(Correct Referee Decision) / IRD (Incorrect Referee Decision)

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
49	Second half	Start second half	No	Botafogo	045:00	Whistled	Correct	None		
50	Second half	Goal kick (for)	No	Palmeiras	045:00	Whistled	Correct	None		
51	Second half	Foul (from)	No	Palmeiras	046:03	Whistled	Correct	None		
52	Second half	Throw-in (for)	No	Botafogo	047:28	Whistled	Correct	None		
53	Second half	Throw-in (for)	No	Botafogo	048:08	Whistled	Correct	None		
54	Second half	Goal (for)	No	Palmeiras	048:58	Whistled	Correct	None		
55	Second half	Goal kick (for)	No	Botafogo	050:28	Whistled	Correct	None		
56	Second half	Throw-in (for)	No	Palmeiras	051:00	Whistled	Correct	None		
57	Second half	Goal kick (for)	No	Botafogo	051:24	Whistled	Correct	None		
58	Second half	Foul (from)	No	Botafogo	052:04	Whistled	Correct	None		
59	Second half	Throw-in (for)	No	Botafogo	053:24	Whistled	Correct	None		
60	Second half	Goal kick (for)	No	Palmeiras	053:58	Whistled	Correct	None		
61	Second half	Throw-in (for)	No	Palmeiras	054:47	Whistled	Correct	None		
62	Second half	Foul (from)	No	Botafogo	055:09	Not whistled	Incorrect	Valid Foul Not Whistled	IRD Low	Botafogo
63	Second half	Throw-in (for)	No	Palmeiras	055:10	Whistled	Correct	None		
64	Second half	Goal kick (for)	No	Botafogo	055:50	Whistled	Correct	None		
65	Second half	Throw-in (for)	No	Botafogo	056:34	Whistled	Correct	None		
66	Second half	Throw-in (for)	No	Botafogo	056:58	Whistled	Correct	None		
67	Second half	Foul (from)	No	Botafogo	057:23	Whistled	Correct	None		
68	Second half	Throw-in (for)	No	Botafogo	058:12	Whistled	Correct	None		
69	Second half	Offside (from)	No	Palmeiras	058:51	Whistled	Correct	None		
70	Second half	Goal canceled (for)	No	Palmeiras	058:53	Whistled	Correct	Invalid Goal Canceled	CRD Hight	
71	Second half	Foul (from)	No	Palmeiras	059:48	Whistled	Correct	None		

*CRD(Correct Referee Decision) / IRD (Incorrect Referee Decision)

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 benefit
72	Second half	Foul (from)	No	Botafogo	060:51	Whistled	Correct	None		
73	Second half	Throw-in (for)	No	Botafogo	062:18	Whistled	Correct	None		
74	Second half	Foul (from)	No	Palmeiras	062:56	Whistled	Correct	None		
75	Second half	Throw-in (for)	No	Palmeiras	064:04	Whistled	Correct	None		
76	Second half	Goal kick (for)	No	Palmeiras	064:23	Whistled	Correct	None		
77	Second half	Goal kick (for)	No	Botafogo	064:50	Whistled	Correct	None		
78	Second half	Throw-in (for)	No	Botafogo	066:10	Whistled	Correct	None		
79	Second half	Throw-in (for)	No	Botafogo	067:32	Whistled	Correct	None		
80	Second half	Substitution (for)	No	Palmeiras	067:47	Whistled	Correct	None		
81	Second half	Penalty foul (for)	No	Botafogo	068:21	Not whistled	Correct	No Penalty	CRD Hight	
82	Second half	Goal kick (for)	No	Palmeiras	068:24	Whistled	Correct	None		
83	Second half	Yellow card (for)	No	Botafogo	068:27	Whistled	Correct	None		
84	Second half	Throw-in (for)	No	Palmeiras	069:03	Whistled	Correct	None		
85	Second half	Throw-in (for)	No	Palmeiras	069:34	Whistled	Correct	None		
86	Second half	Goal kick (for)	No	Palmeiras	069:48	Whistled	Correct	None		
87	Second half	Goal kick (for)	No	Botafogo	070:17	Whistled	Correct	None		
88	Second half	Goal kick (for)	No	Palmeiras	071:03	Whistled	Correct	None		
89	Second half	Other	No	Botafogo	071:40	Whistled	Not assessed	None		
90	Second half	Substitution (for)	No	Botafogo	072:15	Whistled	Correct	None		
91	Second half	Substitution (for)	No	Botafogo	072:45	Whistled	Correct	None		
92	Second half	Foul (from)	No	Botafogo	073:05	Whistled	Correct	None		

*CRD(Correct Referee Decision) / IRD (Incorrect Referee Decision)

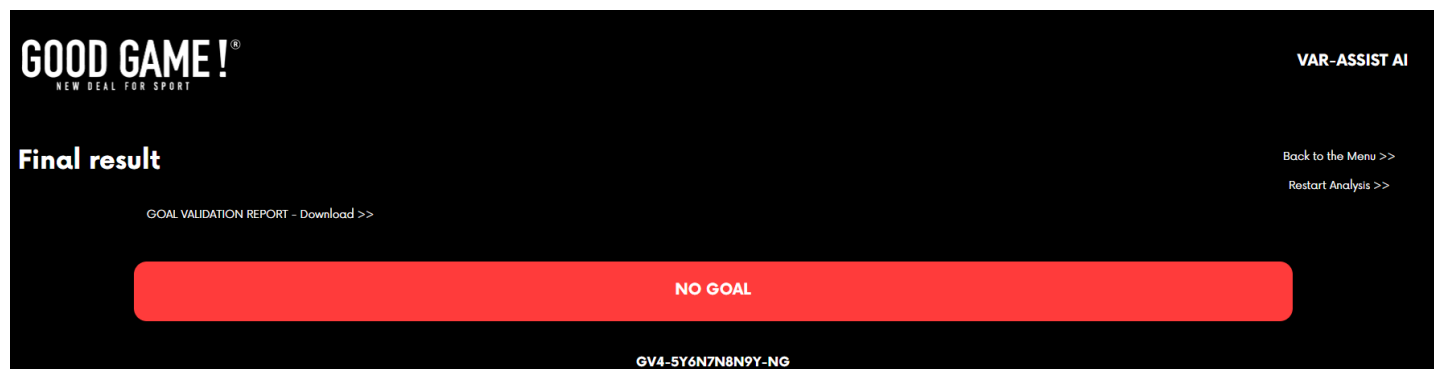
Second Half: 75min to end second half

ORDER	PERIOD	TYPE	VAR	TEAM CODE	CHRONO	VIDEO TIME	WHISTLED / NOT	DECISION	CRD/IRD* Type	CRD/IRD Classification	IRD team benefit
93	Second half	Red card (for)	Yes	Botafogo	075:43		Whistled	Incorrect	Invalid Red Card Given	IRD Hight	Palmeiras
94	Second half	Substitution (for)	No	Botafogo	077:53		Whistled	Correct	None		
95	Second half	Penalty foul (for)	No	Botafogo	078:42		Whistled	Correct	Valid Penalty Whisthled	CRD Hight	
96	Second half	Yellow card (for)	No	Palmeiras	078:50		Whistled	Not assessed	None		
97	Second half	Yellow card (for)	No	Botafogo	079:20		Whistled	Not assessed	None		
98	Second half	Yellow card (for)	No	Palmeiras	079:25		Whistled	Not assessed	None		
99	Second half	Foul (from)	No	Botafogo	082:24		Whistled	Correct	None		
100	Second half	Yellow card (for)	No	Botafogo	082:31		Whistled	Correct	None		
101	Second half	Goal (for)	No	Palmeiras	083:12		Whistled	Correct	None		
102	Second half	Goal kick (for)	No	Palmeiras	084:10		Whistled	Correct	None		
103	Second half	Throw-in (for)	No	Palmeiras	084:42		Whistled	Correct	None		
104	Second half	Goal kick (for)	No	Palmeiras	085:09		Whistled	Correct	None		
105	Second half	Yellow card (for)	No	Palmeiras	085:21		Whistled	Correct	None		
106	Second half	Offside (from)	No	Palmeiras	085:48		Whistled	Correct	None		
107	Second half	Substitution (for)	No	Palmeiras	086:30		Whistled	Not assessed	None		
108	Second half	Goal (for)	No	Palmeiras	088:48		Whistled	Correct	None		
109	Second half	Foul (from)	No	Botafogo	091:36		Whistled	Correct	None		
110	Second half	Other	No	Palmeiras	091:41		Whistled	Correct	None		
111	Second half	Goal kick (for)	No	Palmeiras	092:01		Whistled	Correct	None		
112	Second half	Offside (from)	No	Palmeiras	092:38		Whistled	Correct	None		
113	Second half	Substitution (for)	No	Botafogo	093:13		Whistled	Correct	None		
114	Second half	Foul (from)	No	Palmeiras	093:25		Whistled	Correct	None		
115	Second half	Other	No	Palmeiras	094:05		Whistled	Correct	None		
116	Second half	Throw-in (for)	No	Botafogo	094:33		Whistled	Correct	None		
117	Second half	Foul (from)	No	Botafogo	095:00		Whistled	Correct	None		
118	Second half	Foul (from)	No	Palmeiras	095:52		Whistled	Correct	None		
119	Second half	Foul (from)	No	Palmeiras	096:27		Whistled	Correct	None		
120	Second half	Yellow card (for)	No	Botafogo	096:37		Whistled	Not assessed	None		
121	Second half	Foul (from)	No	Palmeiras	097:15		Whistled	Correct	None		
122	Second half	Foul (from)	No	Botafogo	097:59		Whistled	Correct	None		
123	Second half	Yellow card (for)	No	Botafogo	098:03		Whistled	Correct	None		
124	Second half	Goal (for)	No	Palmeiras	098:45		Whistled	Correct	None		
125	Second half	Yellow card (for)	No	Palmeiras	099:30		Whistled	Not assessed	None		
126	Second half	End second half	No	Botafogo	100:30		Whistled	Not assessed	None		

*CRD(Correct Referee Decision) / IRD (Incorrect Referee Decision)

4-LIVE IRD & CRD High AI results

5853 CRD High: Invalid Goal Canceled (IGC)



Unique analysis AI code: GV4-5Y6N7N8N9Y-NG



6821 CRD High: No Penalty (NP)

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VAR-ASSIST AI

Final result

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NO PENALTY

PF5-6N-NP

Unique analysis AI code: PF5-6N-NP



7543 IRD High: Invalid Red Card Given (IRCG)

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VAR-ASSIST AI

Final result

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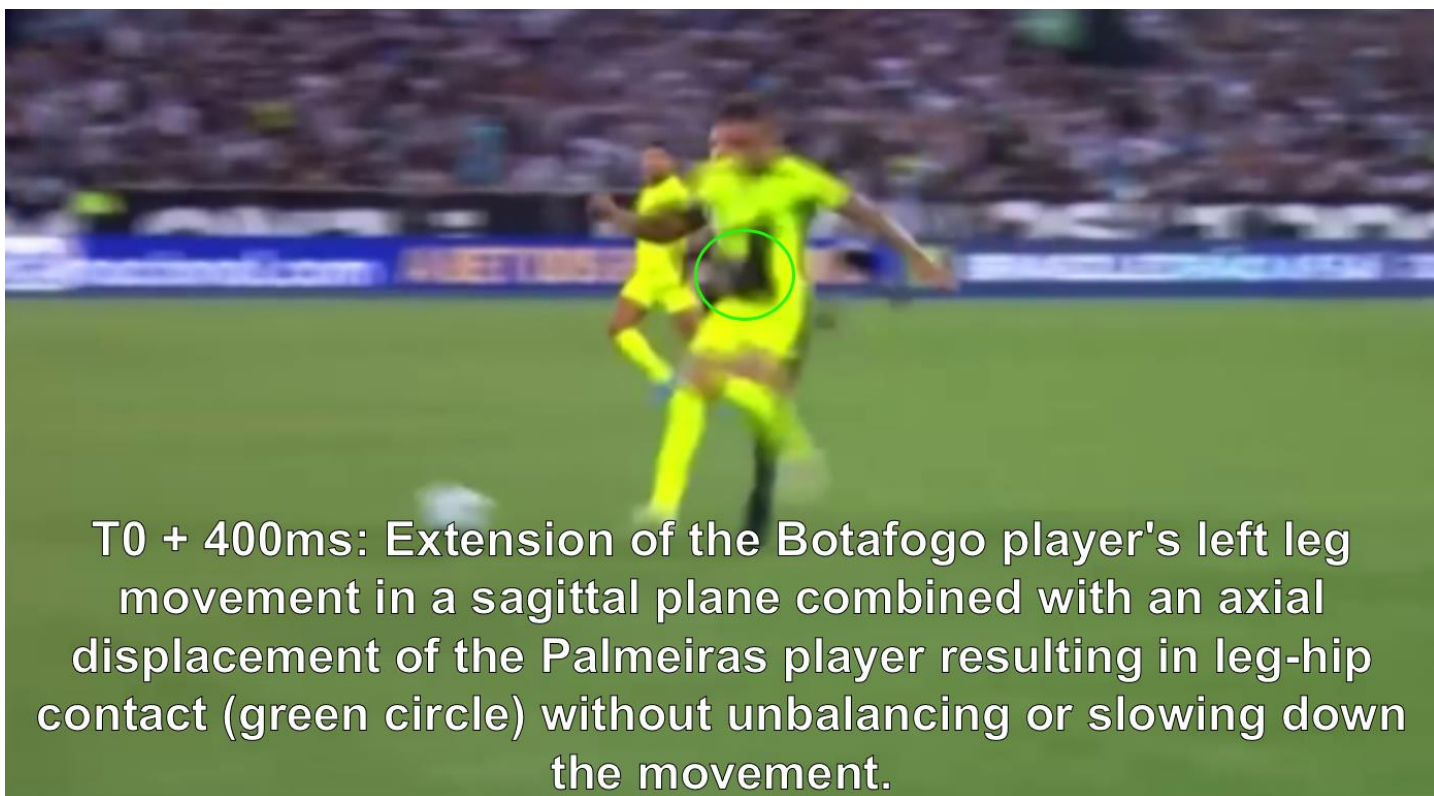
[Restart Analysis >>](#)

YELLOW CARD

C4-5N7Y8N9N10N11B12B13M14N15N-YC

Unique analysis AI code: C4-5N7Y8N9N10N11B12B13M14N15N-YC



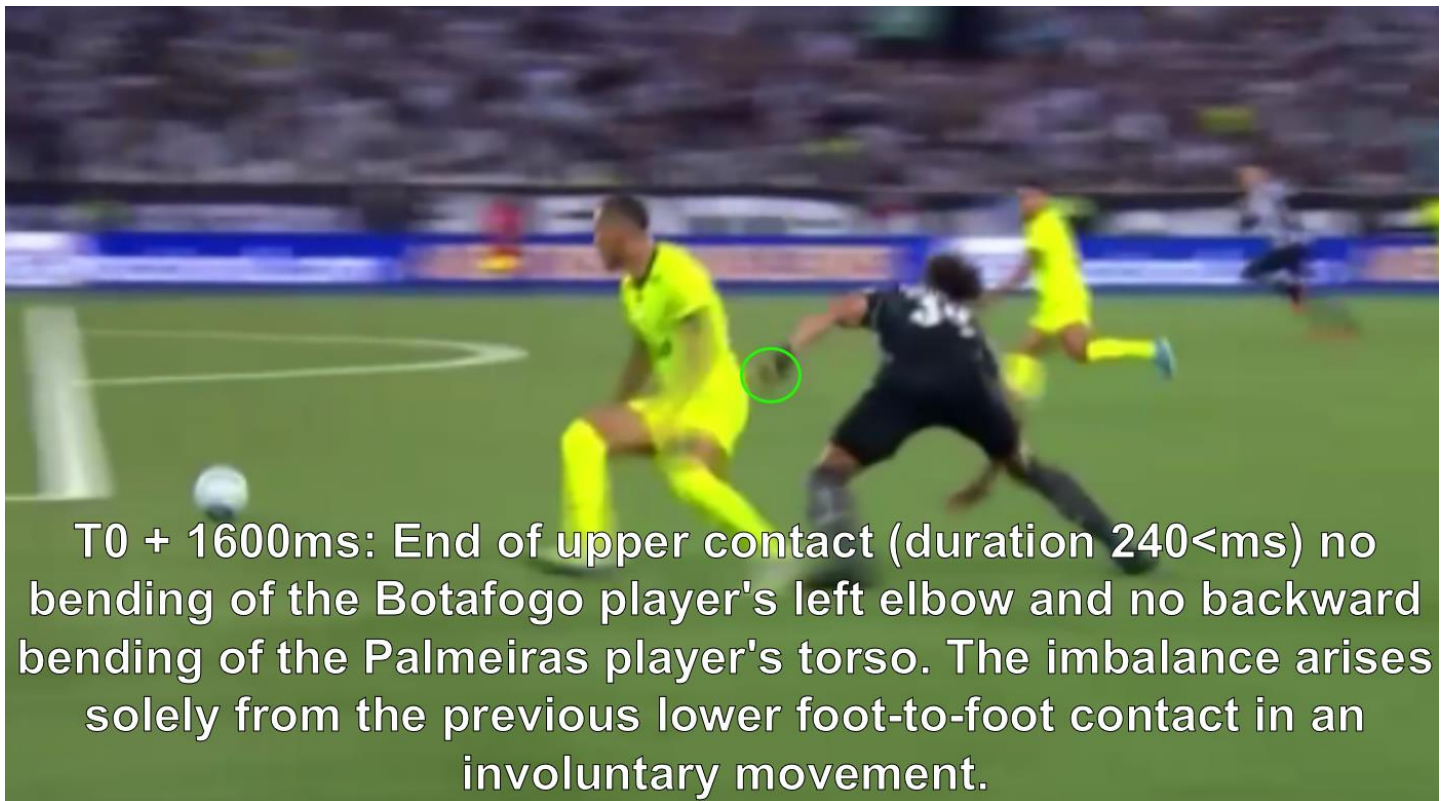




T0 + 1280ms: The Botafogo player's natural movement resulting from this contact is a clockwise rotation (green arrow) on an axis at the level of the right foot (green cross).



T0 + 1360ms: Unintentional lower foot-to-foot contact (lower red circle) by the Botafogo player (withdrawal movement by bending the knee) combined with upper grabbing contact (upper red circle).



7842 CRD High: Valid Penalty Whistled (VPW)

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VAR-ASSIST AI

Final result

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PENALTY

PF5-6Y7Y8D9N12N17Y21Y-P

Unique analysis AI code: PF5-6Y7Y8D9N12N17Y21Y-P





5-REFEREEING DECISIONS ASSESSMENT

Half time note

/

Full time note

/

REFEREEING SITUATIONS	Total	%
Total number of refereeing situations	126	/
Whistled	121	96
Not whistled	5	4
Correct	114	90
Incorrect (IRD)	3	2
Not assessed	9	8

IRD Distribution	Total	%
Benefits for Botafogo	1	33
Benefits for Palmeiras	2	67

IRD Botafogo	Total
Total number of IRD High with benefit	0
Total number of IRD Low with benefit	1
Total number of IRD High with deficit	1
Total number of IRD Low with deficit	1

IRD Distribution with benefits for Botafogo	Total
Reverse team	/
Valid goal canceled	/
Invalid goal accepted	/
Valid penalty not whistled	/
Invalid penalty whistled	/
Invalid penalty goal	/
Valid foul not whistled	1
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 Palmeiras	Total
Total number of IRD High with benefit	1
Total number of IRD Low with benefit	1
Total number of IRD High with deficit	0
Total number of IRD Low with deficit	1

IRD Distribution with benefits for Palmeiras	Total
Reverse team	/
Valid goal canceled	/
Invalid goal accepted	/
Valid penalty not whistled	/
Invalid penalty whistled	/
Invalid penalty goal	/
Valid foul not whistled	1
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	1

6-CONCLUSION

The presence of 1 IRD (Incorrect Referee Decision) High (with direct influence on the number of players) with benefits for Palmeiras in the match between Botafogo and Palmeiras, part of the Brazil Serie A 2023, may have influenced the final result of the match.

POINTS	OFFICIAL	REAL
Botafogo	0	0
Palmeiras	3	3

RESULTS	OFFICIAL	REAL
Botafogo - Palmeiras	3-4	3-4

Furthermore all the technical and scientific elements assessed and presented in this expert report show that the refereeing is NORMAL related to match-fixing.

On November 02, 2023,

SP, Ph.D.

