F1 BRAKE FACTS

2014 FORMULA 1 ETIHAD AIRWAYS
ABU DHABI GRAND PRIX
21–23 NOV 2014

YAS MARINA CIRCUIT (YAS ISLAND)

TYPE OF CIRCUIT — **HARD**

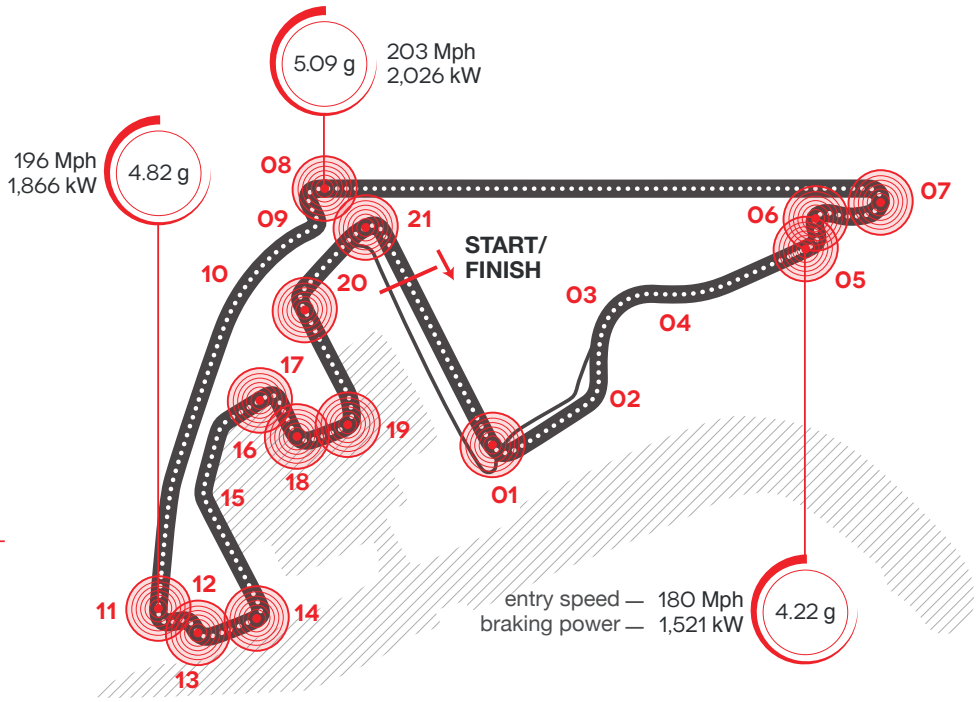
TIME SPENT BRAKING — **18%**

AVERAGE DECELERATION — **3.03 g**

BRAKING ENERGY PRODUCED — **149 kWh**

HARDER BRAKING

	STOPPING DISTANCE	MAXIMUM PEDAL LOAD
05	276 ft	240 lbsf
08	436 ft	284 lbsf
11	413 ft	271 lbsf



CIRCUIT DATA

Length: 3.451 miles
Number of laps: 55
Number of brake zones/lap: 13

COMMENT

The same considerations which were made for the Bahrain circuit are also valid here, although the make up of the track leads to lower speeds and therefore less stress on the brakes. On this track the stress the braking system is subjected to is in any case quite significant and above average: here the drivers spend more than 18% of each lap with a foot on the brake. The 13 braking sections are rather demanding and the heated pace and torrid climate, with their correlated effects of increased grip and stress, can create thermal dissipation problems as well as problems with friction material wear.

*** Turn 08 is considered the most demanding for the braking system.**

01

Entry speed	176	(Mph)
Exit speed	91	(Mph)
Braking distance	262	(ft)
Braking time	1.40	(sec)
Maximum deceleration	4.08	(g)
Maximum pedal load	234	(lbsf)
Braking power	1447	(Kw)

05

Entry speed	180	(Mph)
Exit speed	72	(Mph)
Braking distance	276	(ft)
Braking time	1.46	(sec)
Maximum deceleration	4.22	(g)
Maximum pedal load	240	(lbsf)
Braking power	1521	(Kw)

06

Entry speed	75	(Mph)
Exit speed	55	(Mph)
Braking distance	59	(ft)
Braking time	0.60	(sec)
Maximum deceleration	1.66	(g)
Maximum pedal load	101	(lbsf)
Braking power	269	(Kw)

07

Entry speed	93	(Mph)
Exit speed	39	(Mph)
Braking distance	125	(ft)
Braking time	1.21	(sec)
Maximum deceleration	1.95	(g)
Maximum pedal load	104	(lbsf)
Braking power	342	(Kw)

08*

Entry speed	203	(Mph)
Exit speed	39	(Mph)
Braking distance	436	(ft)
Braking time	2.58	(sec)
Maximum deceleration	5.09	(g)
Maximum pedal load	284	(lbsf)
Braking power	2026	(Kw)

11

Entry speed	196	(Mph)
Exit speed	52	(Mph)
Braking distance	413	(ft)
Braking time	2.45	(sec)
Maximum deceleration	4.82	(g)
Maximum pedal load	271	(lbsf)
Braking power	1866	(Kw)

13

Entry speed	78	(Mph)
Exit speed	71	(Mph)
Braking distance	20	(ft)
Braking time	0.17	(sec)
Maximum deceleration	1.70	(g)
Maximum pedal load	90	(lbsf)
Braking power	261	(Kw)

14

Entry speed	106	(Mph)
Exit speed	63	(Mph)
Braking distance	131	(ft)
Braking time	1.07	(sec)
Maximum deceleration	2.21	(g)
Maximum pedal load	126	(lbsf)
Braking power	466	(Kw)

17

Entry speed	157	(Mph)
Exit speed	57	(Mph)
Braking distance	282	(ft)
Braking time	1.80	(sec)
Maximum deceleration	3.49	(g)
Maximum pedal load	196	(lbsf)
Braking power	1113	(Kw)

18

Entry speed	88	(Mph)
Exit speed	68	(Mph)
Braking distance	52	(ft)
Braking time	0.44	(sec)
Maximum deceleration	1.87	(g)
Maximum pedal load	99	(lbsf)
Braking power	315	(Kw)

F1 BRAKE FACTS

2014 FORMULA 1 ETIHAD AIRWAYS
ABU DHABI GRAND PRIX
21–23 NOV 2014

YAS MARINA CIRCUIT (YAS ISLAND)

TYPE OF CIRCUIT **HARD**

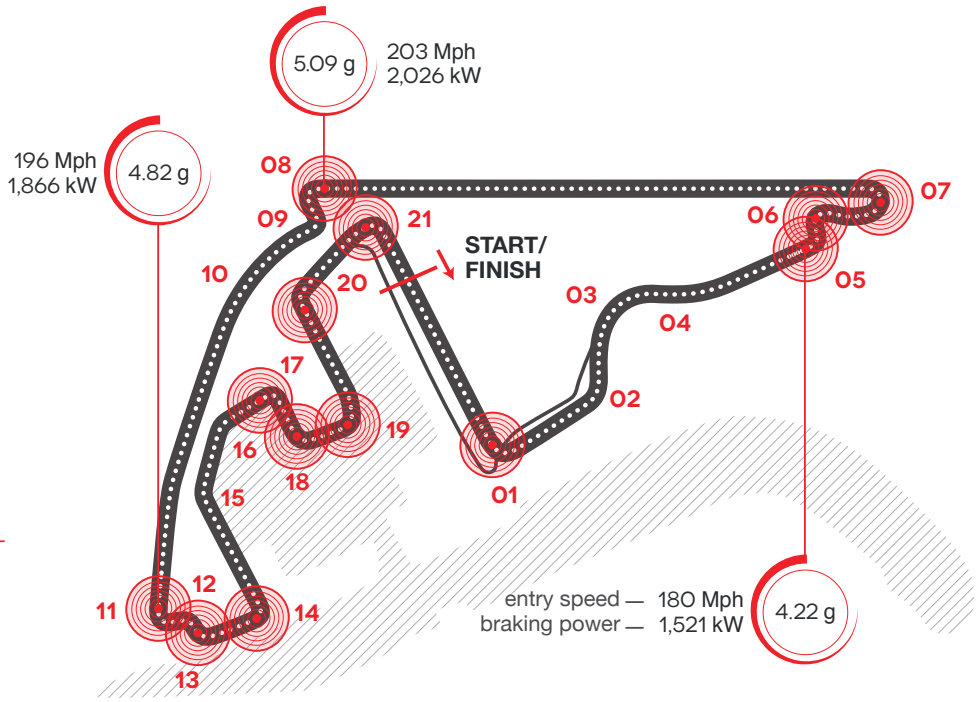
TIME SPENT BRAKING **18%**

AVERAGE DECELERATION **3.03 g**

BRAKING ENERGY PRODUCED **149 kWh**

HARDER BRAKING

	STOPPING DISTANCE	MAXIMUM PEDAL LOAD
05	276 ft	240 lbsf
08	436 ft	284 lbsf
11	413 ft	271 lbsf



CIRCUIT DATA

Length: 3.451 miles
Number of laps: 55
Number of brake zones/lap: 13

COMMENT

The same considerations which were made for the Bahrain circuit are also valid here, although the make up of the track leads to lower speeds and therefore less stress on the brakes. On this track the stress the braking system is subjected to is in any case quite significant and above average: here the drivers spend more than 18% of each lap with a foot on the brake. The 13 braking sections are rather demanding and the heated pace and torrid climate, with their correlated effects of increased grip and stress, can create thermal dissipation problems as well as problems with friction material wear.

*** Turn 08 is considered the most demanding for the braking system.**

19

Entry speed	98	(Mph)
Exit speed	73	(Mph)
Braking distance	79	(ft)
Braking time	0.63	(sec)
Maximum deceleration	2.04	(g)
Maximum pedal load	112	(lbsf)
Braking power	374	(Kw)

20

Entry speed	149	(Mph)
Exit speed	104	(Mph)
Braking distance	141	(ft)
Braking time	0.78	(sec)
Maximum deceleration	3.24	(g)
Maximum pedal load	185	(lbsf)
Braking power	971	(Kw)

21

Entry speed	140	(Mph)
Exit speed	76	(Mph)
Braking distance	207	(ft)
Braking time	1.33	(sec)
Maximum deceleration	3.00	(g)
Maximum pedal load	172	(lbsf)
Braking power	853	(Kw)