

# Certificate

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**Certificate No: 53928/2**

**Issue No: 1**

**Date of issue: 11 February 2010**

This is to certify that

**BSRIA Limited**

Has tested a sample of the product described below in accordance with the test methods contained within EN 13030 : 2001 and has determined the item met the detailed classification shown on pages 3, 4 and 5 of this certificate. For further details of the test item see Page 2 of this certificate

<b>Manufacturer/Agent</b>	Renson Projects Maalbeekstraat 6 8790 Waregem Belgium
<b>Product</b>	Renson Louvre L.066V
<b>Test location</b>	BSRIA Ltd Old Bracknell Lane West Bracknell Berkshire, RG12 7AH
<b>Date of test</b>	18 January to 4 February 2010
<b>Expiry date</b>	11 February 2013
<b>Test engineer</b>	M Roper/ M Evans

<b>Quality approved</b>	Phil Stonard Laboratory Manager Testing & Certification
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**BSRIA Limited**

Old Bracknell Lane West, Bracknell, Berkshire RG12 7AH UK

T: +44 (0)1344 426511 F: +44 (0)1344 487575

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E: [bsria@bsria.co.uk](mailto:bsria@bsria.co.uk) W: [www.bsria.co.uk](http://www.bsria.co.uk)

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### TEST ITEM INFORMATION

<b>Contract</b>	53928A
<b>Date</b>	18/01/2001
<b>Manufacturer</b>	Renson
<b>Louvre Model</b>	L.066V vertical
<b>Material</b>	Aluminium
<b>Painted</b>	No
<b>Blade Height</b>	1000 mm
<b>Blade Width</b>	998 mm
<b>Blade Depth</b>	80 mm
<b>Frame Depth</b>	85 mm
<b>No.of Blades</b>	15
<b>Blade Pitch</b>	66 mm
<b>Blade Angle</b>	45 Degrees
<b>No.of Banks</b>	1
<b>Guard Type</b>	Insect
<b>Guard Spacing</b>	5
<b>Side Channels</b>	No
<b>Water Drip Tray</b>	Yes
<b>Blade Orientation</b>	Vertical



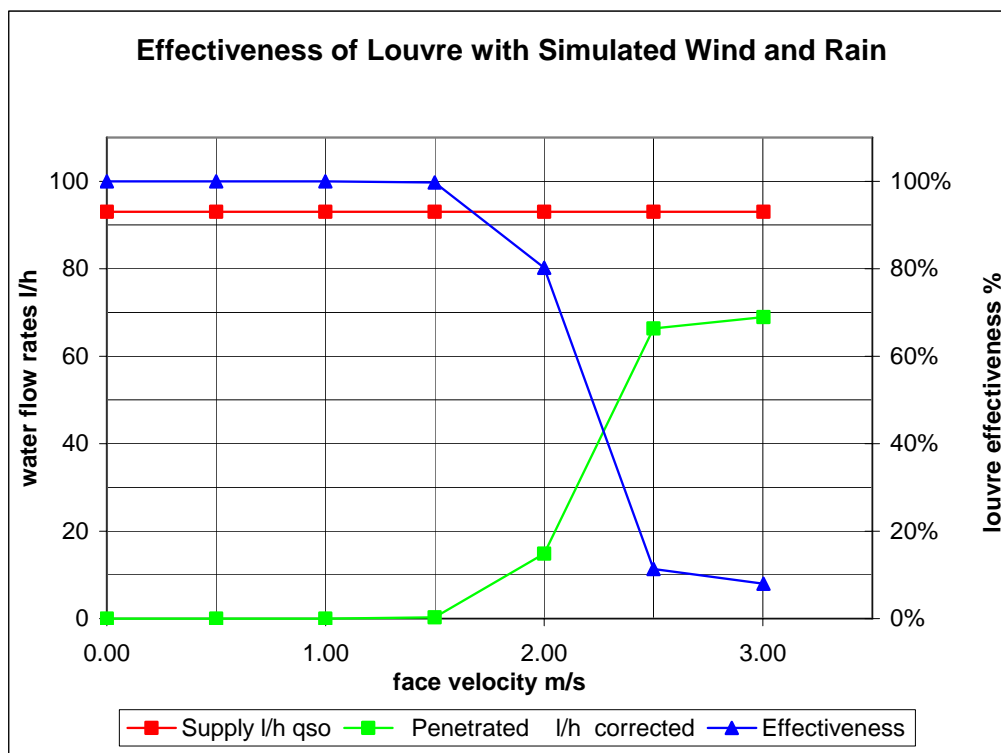
WATER PENETRATION

MANUFACTURER Renson  
 MODEL L.066V vertical

Date 18/01/2001  
 Contract 53928A

Simulated rainfall 75 mm/hr  
 Wind speed 13.0 m/s  
 louvre height 1000 mm  
 louvre width 998 mm  
 louvre area 0.998 m<sup>2</sup>

VENTILATION RATE		WATER FLOW RATES		Effectiveness	Class
Volume m <sup>3</sup> /s	Velocity m/s	Supply l/h	Penetrated l/h		
0.00	0.00	93.0	0.0	100.0%	A
0.50	0.50	93.0	0.0	100.0%	A
1.00	1.00	93.0	0.0	100.0%	A
1.50	1.50	93.0	0.2	99.7%	A
2.00	2.00	93.0	14.8	80.2%	C
2.50	2.50	93.0	66.4	11.3%	D
3.00	3.00	93.0	68.9	7.9%	D



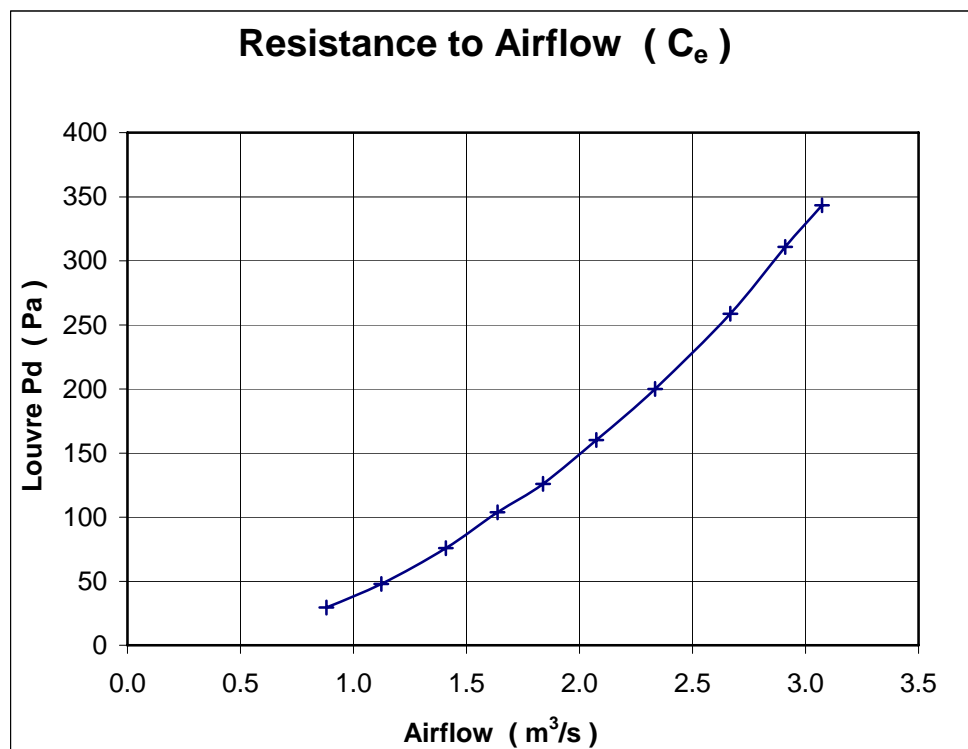
ENTRY LOSS COEFFICIENT

MANUFACTURER Renson  
 MODEL L.066V vertical

Date 18/01/2001  
 Contract 53928A

air temperature 14.9 °C      louvre height 1000 mm  
 barometer 1026 mbar      louvre width 998 mm  
 air density 1.236 kg/m<sup>3</sup>      louvre area 0.998 m<sup>2</sup>

louvre pd Pascals	louvre face velocity		air flow rate		coefficient C <sub>e</sub>
	m/s		test m <sup>3</sup> /s	theoretical m <sup>3</sup> /s	
29.5	0.88	0.880	6.895	0.128	
47.9	1.12	1.122	8.787	0.128	
75.8	1.41	1.408	11.053	0.127	
103.7	1.64	1.637	12.928	0.127	
126.0	1.84	1.839	14.251	0.129	
160.2	2.08	2.075	16.069	0.129	
200.1	2.34	2.335	17.959	0.130	
258.7	2.67	2.667	20.420	0.131	
310.8	2.92	2.910	22.382	0.130	
343.2	3.08	3.073	23.519	0.131	
mean C <sub>e</sub>				0.129	
Class				4	



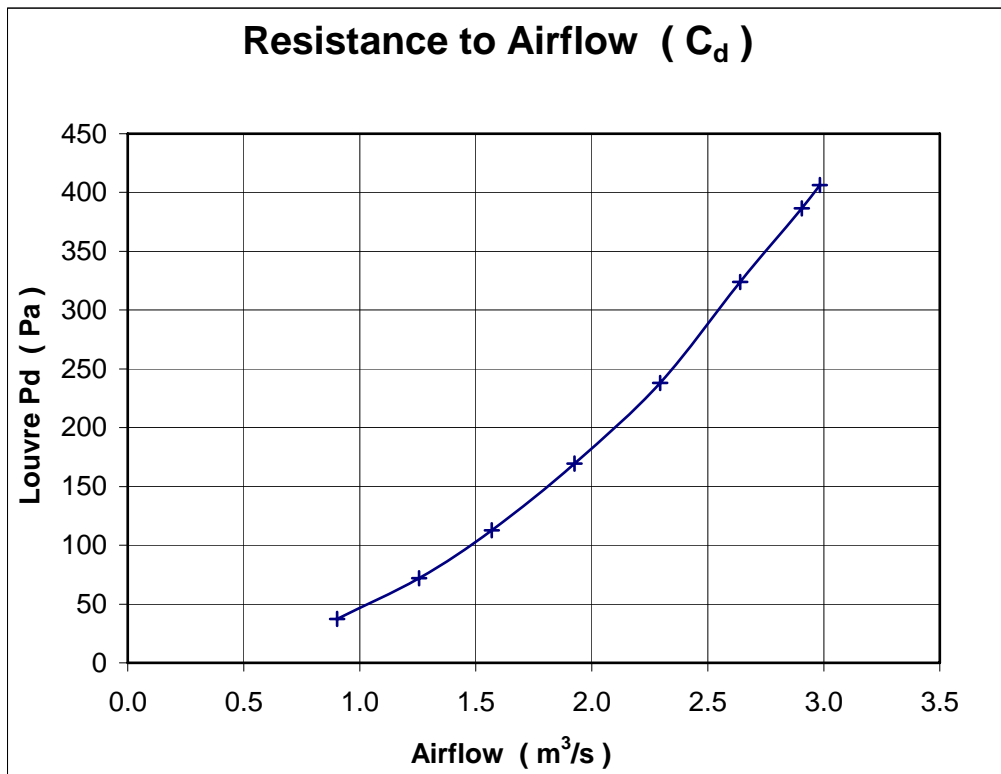
DISCHARGE LOSS COEFFICIENT

MANUFACTURER Renson  
 MODEL L.066V vertical

Date 04/02/2010  
 Contract 53928A

air temperature 18 °C      louvre height 1000 mm  
 barometer 999.4 mbar      louvre width 998 mm  
 air density 1.191 kg/m<sup>3</sup>      louvre area 0.998 m<sup>2</sup>

louvre pd Pascals	louvre face velocity	air flow rate		coefficient C <sub>d</sub>
	m/s	test m <sup>3</sup> /s	theoretical m <sup>3</sup> /s	
37.4	0.90	0.902	7.909	0.114
71.9	1.26	1.255	10.966	0.114
112.9	1.57	1.568	13.741	0.114
169.4	1.93	1.926	16.832	0.114
238.1	2.30	2.294	19.955	0.115
324.0	2.64	2.639	23.279	0.113
386.6	2.91	2.905	25.428	0.114
406.3	2.99	2.983	26.068	0.114
mean C <sub>d</sub>				0.114
Class				4



## CLASSIFICATION OF WEATHER LOUVRES

Weather louvres shall be classified by their ability to reject simulated rain.

### Penetration Classification

Table 1 shows the different classifications based on the maximum simulated rain penetration per square metre of louvre. The classification is determined in accordance with section 8 of EN 13030:2001.

Water penetration rating at a given louvre face velocity is determined by the water penetration while the louvre is subjected to a  $13 \text{ ms}^{-1}$  simulated wind velocity and a simulated rain fall at the nominal rate.

**Table 1 Penetration classification**

Class	Effectiveness	Maximum allowed penetration of simulated rain $\text{l.h}^{-1}.\text{m}^{-2}$
A	1 TO 0,99	0,75
B	0,989 TO 0,95	3,75
C	0,949 TO 0,80	15,0
D	Below 0,8	Greater than 15,0

These classifications apply to various core velocities.

### Discharge Loss Coefficient

The discharge loss coefficient given in Table 2, shall be determined in accordance with section 7.2 of test standard EN13030:2001.

**Table 2 Discharge loss coefficient classification**

Class	Discharge Loss Coefficient
1	0,4 and above
2	0,3 to 0,399
3	0,2 to 0,299
4	0,199 and below

(Note: The above also applies to entry loss coefficient)