



<h1>Test Report</h1> <p>Issued by University of Salford (Acoustics Test Laboratory)  Date of Issue: 9<sup>th</sup> August 2024  Report Number: 06681/11 Rev.2</p>	
<p>Page 1 of 16</p>	
<p>APPROVED SIGNATORIES</p> <p>Claire Lomax [x]      Andy Moorhouse [ ]        Gary Phillips [ ]      Danny McCaul [ ]</p>	
<p><b>acoustic test &amp; calibration laboratory</b></p> <p>The University of Salford, Salford, Greater Manchester, M5 4WT, UK  <a href="http://www.acoustics.salford.ac.uk">http://www.acoustics.salford.ac.uk</a>  t 0161 295 3030/0161 295 3319 f 0161 295 4456 e c.lomax1@salford.ac.uk</p>	

## Determination of airborne noise from an appliance

**Measurements described in this test report comply with:-**  
**BS EN ISO 3744:2010 ‘Acoustics. Determination of sound power levels and sound energy levels of noise sources using sound pressure. Engineering methods for an essentially free field over a reflecting plane’**

COMPANY NAME & ADDRESS:	Chauvet UK POD 1 EVO Park Nottingham NG16 6NT
FOR ATTENTION OF:	Ben Virgo
UNIT UNDER TEST:	Lighting unit, Maverick Force 2 Beamwash
DATE OF TEST:	5 <sup>th</sup> March 2024
TEST ENGINEER:	Alex Spencer
MEASUREMENT PURPOSE:	To determine airborne noise by measurements to the above standards.

*Results relate only to samples tested. Items tested are the samples supplied by the manufacturer, who was responsible for selecting at random from a standard production run.*

# Test Report

Issued by University of Salford (Acoustics Test Laboratory)

Date of Issue: 9<sup>th</sup> August 2024

Report Number: 06681/11 Rev.2

Page 2 of 16

## 1.0 Description of Appliance Under Test

CATEGORY:	Lighting Unit
DESIGN CHARACTERISTICS:	Floor mounted
MANUFACTURER:	Chauvet
MODEL:	Maverick Force 2 Beamwash
TEST REF NUMBERS:	06681/11_1 to 7
SERIAL NUMBER:	Not Stated
POWER:	Not Stated
POWER SOURCE:	UK Mains
SETTINGS: <i>*See Table 1.0 below for explanation of settings</i>	06681/11_1 “Ambient” 06681/11_2 “Max” 06681/11_3 “Eco” 06681/11_4 “Auto” 06681/11_5 “Full” 06681/11_6 “TV25” 06681/11_7 “TV35”

*\* Table 1.0 – Explanation of the “Settings” used to create the Test Configuration of the sample for each measurement.*

Explanation of Settings Used for Each Test	
Setting Name	Test Configuration
Ambient	Unit is in idle state, switched on and no output or movements
Max	Unit is using all mechanical options and the light output is on
Eco	All Effects Static, 100% Light output — ECO Fan mode
Auto	All Effects Static, 100% Light output — Auto Fan mode
Full	All Effects Static, 100% Light output — Full Fan mode
TV25	All Effects Static, 100% Light output — TV25 Fan mode
TV35	All Effects Static, 100% Light output — TV35 Fan mode

*This report is issued in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service. It provides traceability of measurement to recognised national standards, and to the units of measurement realised at the National Physical Laboratory or other recognised national standards laboratories. This certificate may not be reproduced other than in full except with the prior written approval of the issuing laboratory.*

# Test Report

Issued by University of Salford (Acoustics Test Laboratory)

Date of Issue: 9<sup>th</sup> August 2024

Report Number: 06681/11 Rev.2

Page 3 of 16

## 2.0 Test Conditions

2.1 The following conditions were measured over duration of the test:-

	Measured Average Value
<b>TEST REF NUMBER:</b>	<b>06681/11_1 to 7</b>
<b>SERIAL NO. / SAMPLE REF.</b>	Maverick Force 2 Beamwash
Atmospheric Pressure	100.738
Ambient Temperature	22.8
Ambient Relative Humidity	31.7

2.2 The test was carried out in the hemi-anechoic chamber at the University of Salford.

2.3 The unit under test was mounted directly on the floor, in the centre of the hemi-anechoic chamber.

2.4 Unit operation was controlled by the client from outside the chamber, after initial configuration directly at the unit. Measurements were taken immediately after each setting of the unit was set and confirmed by the client.

2.5 For measurement of the sound pressure level of the Reference Sound Source (RSS), the RSS was placed directly on the floor of the hemi-anechoic chamber at the same location as the unit under test as defined in BS EN ISO 3744: 2010.



Figure 1.0 – Client image of unit type under test, “Maverick Force 2 Beamwash”.

# Test Report

Issued by University of Salford (Acoustics Test Laboratory)

Date of Issue: 9<sup>th</sup> August 2024

Report Number: 06681/11 Rev.2

Page 4 of 16



*Figure 2.1 – Example of the typical arrangement of a unit under test, as mounted in the hemi-anechoic chamber at the University of Salford.  
(N.B. this image does not represent the specific unit covered by this Test Report.)*

## **3 Acoustical Data**

### **3.1 Measurement method**

A direct measurement method was used as stated in BS EN ISO 3744: 2010.

### **3.2 Reference Sound Source**

The Laboratory reference sound source (RSS) type B&K 4204, serial number 1460189 was used on mains supply.

### **3.3 Microphone Array**

Ten laboratory free field, low noise microphones were used for the measurement, placed in fixed positions 1 to 10 on a hemispherical surface ( $d = 1.75$  m) with guidance from BS EN ISO 3744: 2010. The location of each measurement position is provided in Appendix 1 to this report.

# Test Report

Issued by University of Salford (Acoustics Test Laboratory)

Date of Issue: 9<sup>th</sup> August 2024

Report Number: 06681/11 Rev.2

Page 5 of 16

## 3.4 Measured sound pressure levels of the unit

Each unit was run at the selected setting. Six measurements were made at each setting,

Mean sound pressure levels were measured over 30 seconds to give the measured sound pressure levels,  $L_{pi}$  at each measurement position in each third octave band. The sound power level was then calculated.

The background noise corrections  $K_1$ , environmental correction calculated from RSS levels  $K_2$ , measured sound pressure levels,  $L_{pi}$  at each measurement point, corrected sound pressure levels,  $L_{pf}$ , and the sound power level,  $L_w$  of the source in each third octave frequency band are given in Appendix 2 of this report. The measured time averaged sound pressure level of the RSS,  $L'_{P(RSS)}$ , at each microphone position is reported in Appendix 3 to this report.

## 3.5 Calculated sound power levels

The calculated A-Weighted sound power level,  $L_{WA}$  in dBA for each setting is given in table 3.1.

Table 3.1 –A-weighted noise emissions for each setting, averaged over 30 seconds and over 10 microphone positions.

Test Number	06681/11_1	06681/11_2	06681/11_3	06681/11_4	06681/11_5	06681/11_6	06681/11_7
Setting	Ambient	Max	Eco	Auto	Full	TV25	TV35
A-weighted sound power level, $L_{WA}$ in dBA	47.4	59.0	46.7	57.2	59.2	46.5	44.3

# Test Report

Issued by University of Salford (Acoustics Test Laboratory)

Date of Issue: 9<sup>th</sup> August 2024

Report Number: 06681/11 Rev.2

Page 6 of 16

## 3.6 Sound Pressure Level at 1 m from the source (not covered by BS EN 3744: 2010)

The A-weighted Sound Power Level can be used to calculate the A-weighted sound pressure level expected at different distances from the source in hemi-anechoic free field conditions\*.

The calculation of the sound pressure levels is based on the formulae in BS EN 3744: 2010 for a parallelepiped measurement surface (for a noise source measured, in this case, above a single reflective plane).

The calculations show that to estimate the average sound pressure level expected at a distance of 1 m from the surface of the unit, 12.5 dB should be subtracted from the sound power value. This would give A-weighted average sound pressure levels in table 3.2 for each unit setting at 1 m from the surface of the unit:-

Table 3.2 – Calculated A-weighted sound pressure level\* for each setting at 1 m from the unit surface

Test Number	06681/11_1	06681/11_2	06681/11_3	06681/11_4	06681/11_5	06681/11_6	06681/11_7
Setting	Ambient	Max	Eco	Auto	Full	TV25	TV35
A-weighted sound pressure level, $L_p$ in dBA	34.9	46.5	34.2	44.7	46.7	34.0	31.8

*\*This calculation represents an estimate of the levels that would be obtained in hemi-anechoic free field conditions and should not be assumed to be valid for any specific building environments where the characteristics of the room should be accounted for.*

# Test Report

Issued by University of Salford (Acoustics Test Laboratory)

Date of Issue: 9<sup>th</sup> August 2024

Report Number: 06681/11 Rev.2

Page 7 of 16

## Appendix 1 – Locations of measurement positions

### Defining measurement surface & Co-ordinates

Measurement distance, d

1.75 m

	x, mm	y, mm	z, mm
Microphone Position 1	280	-1680	385
Microphone Position 2	1365	-1050	350
Microphone Position 3	1365	962.5	542.5
Microphone Position 4	280	1575	717.5
Microphone Position 5	-1452.5	560	787.5
Microphone Position 6	-1452.5	-700	665
Microphone Position 7	-455	-1137.5	1242.5
Microphone Position 8	1295	-122.5	1172.5
Microphone Position 9	-455	875	1452.5
Microphone Position 10	175	-175	1732.5

Surface Area, m<sup>2</sup>

19.24 m<sup>2</sup>

# Test Report

Issued by University of Salford (Acoustics Test Laboratory)

Date of Issue: 9<sup>th</sup> August 2024

Report Number: 06681/11 Rev.2

Page 8 of 16

## Appendix 2 – Measurements and calculations according to BS EN ISO 3744

The following tables include measurement details that provide in each third octave band, for each of the seven settings:-

- measured  $L_{pi}$ , averaged over 30 s, at each measurement position
- background noise corrections  $K_1$
- environmental correction  $K_2$ , calculated from RSS levels
- corrected sound pressure levels,  $L_{pf}$
- the sound power level,  $L_w$  of the source
- the A-weighted sound power level,  $L_{wA}$  of the source

! The levels at these frequencies are affected by background level and therefore levels quoted represent an upper limit for the sound pressure levels of the noise source.

# Test Report

Issued by University of Salford (Acoustics Test Laboratory)

Date of Issue: 9<sup>th</sup> August 2024

Report Number: 06681/11 Rev.2

Page 9 of 16

MEASURED TIME AVERAGED SPL at 1.75 m, L'P - [06681/11_1 – Ambient Setting]											Mean L <sub>p</sub> over mic positions	$\Delta L_p$ [dB]	BG corr. K <sub>1</sub> , [dB]	Env corr. K <sub>2</sub> , [dB]	L <sub>p</sub> [dB]	Sound Power, L <sub>w</sub> [dB]	A- weighting corrections [dB]	Sound Power, L <sub>wA</sub> [dB]
Frequency [Hz]	Mic 1 [dB]	Mic 2 [dB]	Mic 3 [dB]	Mic 4 [dB]	Mic 5 [dB]	Mic 6 [dB]	Mic 7 [dB]	Mic 8 [dB]	Mic 9 [dB]	Mic 10 [dB]								
100	12.5	13.9	11.9	8.9	13.9	14.4	8.3	12.7	8.9	7.9	12.0	-0.8	1.30	-2.1	12.8	25.6	-19.1	6.5
125	9.7	15.2	14.2	10.4	15.2	15.0	11.6	16.0	11.4	9.0	13.4	6.6	1.07	1.4	11.0	23.8	-16.1	7.7
160	14.9	20.9	21.4	14.6	23.5	24.0	15.6	22.7	13.2	16.8	20.4	17.4	0.00	0.8	19.6	32.4	-13.4	19.0
200	14.9	22.5	22.6	13.7	22.7	23.6	17.8	22.7	15.9	14.0	20.6	24.9	0.00	1.6	19.0	31.8	-10.9	20.9
250	17.8	24.2	23.9	17.4	23.2	23.2	19.9	23.2	18.8	18.6	21.8	27.5	0.00	1.7	20.1	32.9	-8.6	24.3
315	22.4	26.3	26.2	22.7	26.7	26.9	25.9	27.3	24.8	25.2	25.7	33.6	0.00	-0.3	26.0	38.8	-6.6	32.2
400	24.9	26.3	27.7	25.8	26.9	27.3	27.5	28.1	27.6	28.5	27.2	35.4	0.00	0.9	26.3	39.1	-4.8	34.3
500	26.3	25.9	25.9	25.0	25.3	25.5	25.4	25.6	25.7	27.7	25.9	34.4	0.00	0.4	25.5	38.3	-3.2	35.1
630	29.7	31.7	30.8	30.0	32.3	29.7	31.7	30.8	31.3	34.3	31.5	40.5	0.00	0.0	31.5	44.3	-1.9	42.4
800	24.1	30.4	29.0	25.0	29.1	29.3	26.4	29.4	25.0	22.2	27.7	36.6	0.00	-0.2	27.9	40.8	-0.8	40.0
1000	20.4	27.4	26.5	20.8	26.3	25.9	22.3	25.7	21.6	20.5	24.5	32.7	0.00	-0.7	25.2	38.0	0	38.0
1250	23.6	26.4	24.6	20.7	24.5	24.1	21.4	24.6	20.1	19.9	23.5	31.0	0.00	-0.5	24.0	36.8	0.6	37.4
1600	22.3	23.9	21.4	17.8	18.9	19.6	16.4	18.8	16.3	14.7	19.9	26.8	0.00	0.0	19.9	32.7	1	33.7
2000	22.4	22.4	17.5	17.4	17.9	16.8	16.1	19.7	14.8	15.9	18.9	25.1	0.00	0.6	18.3	31.1	1.2	32.3
2500	20.9	19.2	18.7	19.3	17.4	18.0	16.6	17.7	15.2	14.1	18.1	23.6	0.00	-0.1	18.2	31.0	1.3	32.3
3150	16.4	16.9	15.1	15.7	16.5	16.2	14.7	15.6	12.9	11.2	15.4	20.3	0.00	0.4	15.1	27.9	1.2	29.1
4000	9.5	13.9	13.1	11.2	14.6	13.1	10.2	13.1	10.5	6.7	12.1	16.4	0.00	0.7	11.5	24.3	1	25.3
5000	8.2	12.2	10.8	7.3	9.8	9.6	9.6	8.2	7.8	4.6	9.2	13.2	0.21	-0.5	9.6	22.4	0.5	22.9
6300	6.6	11.5	10.8	6.5	8.7	8.7	7.6	14.5	7.3	6.7	9.7	13.9	0.18	-0.2	9.8	22.6	-0.1	22.5
8000	2.7	5.9	5.7	1.8	13.3	11.4	7.5	6.5	8.7	0.1	8.1	11.8	0.29	0.0	7.8	20.6	-1.1	19.5
10000	2.7	3.5	3.5	4.1	7.2	8.7	2.7	4.9	1.9	0.8	4.7	7.4	0.87	0.4	3.4	16.3	-2.5	13.8
<b>A-WEIGHTED SOUND POWER LEVEL</b>																		<b>47.4</b>

*This report is issued in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service. It provides traceability of measurement to recognised national standards, and to the units of measurement realised at the National Physical Laboratory or other recognised national standards laboratories. This certificate may not be reproduced other than in full except with the prior written approval of the issuing laboratory.*

# Test Report

Issued by University of Salford (Acoustics Test Laboratory)

Date of Issue: 9<sup>th</sup> August 2024

Report Number: 06681/11 Rev.2

Page 10 of 16

MEASURED TIME AVERAGED SPL at 1.75 m, L'P - [06681/11_2 - Max Setting]											Mean L <sub>p</sub> over mic positions	$\Delta L_p$ [dB]	BG corr. K <sub>1</sub> , [dB]	Env corr. K <sub>2</sub> , [dB]	L <sub>p</sub> [dB]	Sound Power, L <sub>w</sub> [dB]	A- weighting corrections [dB]	Sound Power, L <sub>wA</sub> [dB]
Frequency [Hz]	Mic 1 [dB]	Mic 2 [dB]	Mic 3 [dB]	Mic 4 [dB]	Mic 5 [dB]	Mic 6 [dB]	Mic 7 [dB]	Mic 8 [dB]	Mic 9 [dB]	Mic 10 [dB]								
100	21.1	19.1	16.8	18.0	18.0	17.7	16.6	19.4	15.8	18.3	18.3	5.6	1.30	-2.1	19.1	32.0	-19.1	12.9
125	19.6	20.6	20.0	19.5	20.3	20.4	19.3	21.2	18.0	17.3	19.7	12.9	0.23	1.4	18.1	31.0	-16.1	14.9
160	22.3	23.0	22.7	21.0	24.5	24.6	19.7	23.4	18.4	19.5	22.4	19.4	0.00	0.8	21.6	34.4	-13.4	21.0
200	24.8	31.4	31.0	23.2	30.9	31.3	26.0	30.2	25.4	23.1	28.9	33.2	0.00	1.6	27.3	40.1	-10.9	29.2
250	28.0	33.0	32.8	26.9	31.7	31.9	28.8	31.1	27.5	27.5	30.5	36.2	0.00	1.7	28.8	41.6	-8.6	33.0
315	32.1	33.9	32.8	30.9	32.8	32.9	30.7	32.0	29.9	30.7	32.0	39.9	0.00	-0.3	32.3	45.1	-6.6	38.5
400	41.2	41.4	41.7	39.2	39.5	40.5	38.2	38.0	38.3	40.3	40.0	48.3	0.00	0.9	39.2	52.0	-4.8	47.2
500	35.7	36.0	36.3	34.6	34.8	35.7	34.7	35.1	35.1	36.3	35.5	44.0	0.00	0.4	35.0	47.9	-3.2	44.7
630	34.0	34.6	33.5	32.3	32.4	32.5	34.3	33.0	34.2	35.7	33.8	42.9	0.00	0.0	33.8	46.6	-1.9	44.7
800	39.2	44.0	41.6	40.9	40.7	38.9	40.8	42.4	39.5	38.8	41.0	49.9	0.00	-0.2	41.2	54.0	-0.8	53.2
1000	33.8	37.6	35.2	33.6	36.6	35.6	35.1	36.7	33.8	33.9	35.4	43.6	0.00	-0.7	36.1	48.9	0	48.9
1250	34.9	36.9	36.9	38.6	39.7	39.5	37.6	37.3	36.6	35.1	37.6	45.1	0.00	-0.5	38.0	50.9	0.6	51.5
1600	37.4	36.3	39.0	40.0	40.1	40.8	38.2	36.8	36.3	34.5	38.3	45.3	0.00	0.0	38.3	51.2	1	52.2
2000	33.7	31.3	32.6	31.5	31.2	31.6	30.6	31.3	29.9	28.1	31.4	37.7	0.00	0.6	30.8	43.7	1.2	44.9
2500	31.4	30.6	29.2	28.8	28.8	28.5	28.0	30.3	26.6	25.8	29.1	34.6	0.00	-0.1	29.2	42.0	1.3	43.3
3150	27.1	28.3	26.6	26.3	27.2	26.7	25.6	27.3	24.3	23.1	26.5	31.3	0.00	0.4	26.1	39.0	1.2	40.2
4000	22.4	26.5	25.7	24.4	26.3	26.1	23.7	25.4	23.7	20.9	24.8	29.1	0.00	0.7	24.2	37.0	1	38.0
5000	21.6	22.3	23.0	20.6	23.1	23.1	21.9	21.4	20.0	17.2	21.7	25.7	0.00	-0.5	22.3	35.1	0.5	35.6
6300	19.8	22.4	21.5	18.6	20.8	21.5	18.5	21.5	18.3	15.8	20.2	24.4	0.00	-0.2	20.5	33.3	-0.1	33.2
8000	15.9	17.7	16.8	13.6	19.2	17.9	16.4	16.8	16.7	10.4	16.7	20.4	0.00	0.0	16.6	29.5	-1.1	28.4
10000	12.9	14.2	12.8	12.4	14.2	14.2	10.6	14.1	11.0	9.1	12.8	15.6	0.00	0.4	12.5	25.3	-2.5	22.8
<b>A-WEIGHTED SOUND POWER LEVEL</b>																		<b>59.0</b>

*This report is issued in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service. It provides traceability of measurement to recognised national standards, and to the units of measurement realised at the National Physical Laboratory or other recognised national standards laboratories. This certificate may not be reproduced other than in full except with the prior written approval of the issuing laboratory.*

# Test Report

Issued by University of Salford (Acoustics Test Laboratory)

Date of Issue: 9<sup>th</sup> August 2024

Report Number: 06681/11 Rev.2

Page 11 of 16

MEASURED TIME AVERAGED SPL at 1.75 m, L'P - [06681/11_3 – Eco Setting]											Mean L <sub>p</sub> over mic positions	$\Delta L_p$ [dB]	BG corr. K <sub>1</sub> , [dB]	Env corr. K <sub>2</sub> , [dB]	L <sub>p</sub> [dB]	Sound Power, L <sub>w</sub> [dB]	A- weighting corrections [dB]	Sound Power, L <sub>wA</sub> [dB]
Frequency [Hz]	Mic 1 [dB]	Mic 2 [dB]	Mic 3 [dB]	Mic 4 [dB]	Mic 5 [dB]	Mic 6 [dB]	Mic 7 [dB]	Mic 8 [dB]	Mic 9 [dB]	Mic 10 [dB]								
100	16.3	15.6	13.8	13.0	16.7	16.5	12.1	15.6	12.5	13.4	14.9	2.1	1.30	-2.1	15.7	28.5	-19.1	9.4
125	14.3	17.9	17.7	14.9	18.0	18.2	15.9	19.2	14.7	12.6	16.8	10.0	0.46	1.4	14.9	27.8	-16.1	11.7
160	15.7	17.1	17.1	15.2	18.7	18.7	13.6	17.1	12.3	13.2	16.4	13.4	0.20	0.8	15.4	28.2	-13.4	14.8
200	16.9	20.3	19.6	14.9	19.6	19.9	15.2	18.7	14.4	11.8	17.9	22.2	0.00	1.6	16.3	29.2	-10.9	18.3
250	28.9	29.6	28.0	26.3	24.5	24.1	25.7	23.4	24.0	20.1	26.2	32.0	0.00	1.7	24.6	37.4	-8.6	28.8
315	31.2	29.9	25.5	28.6	26.4	26.3	24.8	24.1	24.3	25.3	27.3	35.2	0.00	-0.3	27.6	40.4	-6.6	33.8
400	25.6	25.4	24.2	23.7	23.6	23.7	22.0	22.4	22.7	25.2	24.0	32.3	0.00	0.9	23.1	36.0	-4.8	31.2
500	28.3	29.3	26.4	27.0	26.6	24.0	23.5	27.4	26.6	27.2	26.9	35.5	0.00	0.4	26.5	39.4	-3.2	36.2
630	26.4	26.7	26.0	24.0	22.7	23.5	23.1	21.7	23.9	27.1	24.9	33.9	0.00	0.0	24.9	37.7	-1.9	35.8
800	25.1	26.6	24.4	20.8	23.6	24.2	22.6	25.0	22.0	23.7	24.1	33.0	0.00	-0.2	24.3	37.1	-0.8	36.3
1000	26.7	26.2	23.4	21.4	23.2	22.5	24.3	28.7	23.8	24.2	25.0	33.1	0.00	-0.7	25.6	38.5	0	38.5
1250	28.4	26.0	23.3	21.7	26.0	23.0	28.7	27.7	26.9	23.3	26.1	33.6	0.00	-0.5	26.6	39.4	0.6	40.0
1600	23.5	23.0	24.4	26.9	28.8	27.1	24.3	25.9	24.3	23.4	25.6	32.5	0.00	0.0	25.6	38.4	1	39.4
2000	20.2	16.2	19.3	21.1	17.0	18.0	18.7	17.5	18.4	15.8	18.5	24.8	0.00	0.6	17.9	30.8	1.2	32.0
2500	19.9	16.2	17.1	18.4	14.6	16.3	17.0	15.3	14.3	12.6	16.6	22.2	0.00	-0.1	16.7	29.6	1.3	30.9
3150	16.2	14.7	13.4	14.9	13.2	13.0	13.2	13.1	12.2	9.0	13.7	18.5	0.00	0.4	13.3	26.1	1.2	27.3
4000	14.0	15.0	13.5	13.5	15.0	11.2	13.8	14.1	13.0	10.0	13.5	17.8	0.00	0.7	12.9	25.7	1	26.7
5000	9.4	10.7	9.4	10.4	7.5	8.2	10.3	7.9	9.1	4.5	9.1	13.0	0.22	-0.5	9.4	22.2	0.5	22.7
6300	7.6	11.1	9.7	11.2	8.9	8.0	8.5	11.5	10.3	6.1	9.6	13.8	0.19	-0.2	9.6	22.5	-0.1	22.4
8000	1.9	7.0	3.9	4.4	12.8	10.3	7.1	4.8	8.5	-0.5	7.6	11.3	0.33	0.0	7.2	20.1	-1.1	19.0
10000	-0.1	1.4	1.4	1.5	5.1	4.1	1.5	1.4	1.1	-0.8	2.0	4.8	1.30	0.4	0.3	13.2	-2.5	10.7
<b>A-WEIGHTED SOUND POWER LEVEL</b>																		<b>46.7</b>

*This report is issued in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service. It provides traceability of measurement to recognised national standards, and to the units of measurement realised at the National Physical Laboratory or other recognised national standards laboratories. This certificate may not be reproduced other than in full except with the prior written approval of the issuing laboratory.*

# Test Report

Issued by University of Salford (Acoustics Test Laboratory)

Date of Issue: 9<sup>th</sup> August 2024

Report Number: 06681/11 Rev.2

Page 12 of 16

MEASURED TIME AVERAGED SPL at 1.75 m, L'P - [06681/11 4 – Auto Setting]											Mean L <sub>p</sub> over mic positions	$\Delta L_p$ [dB]	BG corr. K <sub>1</sub> , [dB]	Env corr. K <sub>2</sub> , [dB]	L <sub>p</sub> [dB]	Sound Power, L <sub>w</sub> [dB]	A- weighting corrections [dB]	Sound Power, L <sub>wA</sub> [dB]
Frequency [Hz]	Mic 1 [dB]	Mic 2 [dB]	Mic 3 [dB]	Mic 4 [dB]	Mic 5 [dB]	Mic 6 [dB]	Mic 7 [dB]	Mic 8 [dB]	Mic 9 [dB]	Mic 10 [dB]								
100	18.9	16.5	15.6	17.2	17.4	17.0	15.3	18.2	15.8	17.8	17.1	4.4	1.30	-2.1	17.9	30.8	-19.1	11.7
125	18.0	19.2	18.8	17.9	19.5	19.4	17.9	20.1	17.2	15.3	18.5	11.7	0.30	1.4	16.8	29.7	-16.1	13.6
160	20.4	21.8	21.4	19.5	23.6	23.7	17.9	22.2	16.8	17.2	21.1	18.1	0.00	0.8	20.3	33.1	-13.4	19.7
200	23.5	31.0	30.5	21.8	30.6	30.9	25.3	29.7	24.6	21.7	28.3	32.6	0.00	1.6	26.8	39.6	-10.9	28.7
250	26.8	32.6	32.5	25.9	31.4	31.5	28.2	30.9	26.7	26.7	30.0	35.8	0.00	1.7	28.4	41.2	-8.6	32.6
315	30.2	32.1	30.9	28.8	31.1	31.3	29.9	31.1	29.0	30.1	30.6	38.4	0.00	-0.3	30.8	43.7	-6.6	37.1
400	41.5	40.7	38.9	40.2	38.5	37.8	36.4	35.5	36.6	38.7	38.9	47.1	0.00	0.9	38.0	50.8	-4.8	46.0
500	35.1	35.1	35.4	34.1	34.0	34.9	33.8	34.3	34.2	36.0	34.7	43.3	0.00	0.4	34.3	47.1	-3.2	43.9
630	33.2	34.0	33.8	32.0	32.6	33.0	33.5	32.1	33.5	35.4	33.4	42.5	0.00	0.0	33.4	46.3	-1.9	44.4
800	38.2	43.7	41.9	40.8	40.7	39.2	39.8	42.1	37.9	37.1	40.6	49.5	0.00	-0.2	40.8	53.6	-0.8	52.8
1000	33.9	36.6	35.1	30.8	34.5	33.9	33.0	37.3	32.3	32.3	34.4	42.5	0.00	-0.7	35.0	47.9	0	47.9
1250	36.5	35.6	33.4	30.4	33.4	32.8	36.5	36.5	34.5	32.0	34.6	42.1	0.00	-0.5	35.1	47.9	0.6	48.5
1600	34.1	34.2	35.3	35.2	33.4	35.3	31.2	32.1	30.3	29.1	33.5	40.5	0.00	0.0	33.5	46.3	1	47.3
2000	31.1	29.2	29.4	30.5	28.0	28.4	28.4	28.9	27.8	26.2	29.0	35.2	0.00	0.6	28.4	41.3	1.2	42.5
2500	30.6	29.5	27.9	28.4	26.8	26.3	26.7	28.2	24.4	24.1	27.7	33.2	0.00	-0.1	27.8	40.6	1.3	41.9
3150	26.8	26.8	25.2	26.3	25.6	25.3	24.6	25.5	22.8	20.0	25.2	30.1	0.00	0.4	24.9	37.7	1.2	38.9
4000	21.3	25.1	23.5	23.4	24.3	22.3	21.7	23.6	22.5	17.6	22.9	27.2	0.00	0.7	22.2	35.1	1	36.1
5000	19.9	20.5	20.1	19.6	19.6	20.4	19.9	18.1	18.5	13.9	19.3	23.3	0.00	-0.5	19.9	32.7	0.5	33.2
6300	17.2	20.4	19.9	18.6	17.9	18.5	16.7	20.2	17.4	13.2	18.4	22.6	0.00	-0.2	18.6	31.5	-0.1	31.4
8000	14.0	17.0	15.5	12.5	18.2	16.3	14.7	15.6	15.0	8.2	15.3	19.1	0.00	0.0	15.3	28.1	-1.1	27.0
10000	10.6	13.3	11.3	11.3	13.0	12.7	9.0	13.1	9.6	7.6	11.5	14.2	0.17	0.4	11.0	23.8	-2.5	21.3
<b>A-WEIGHTED SOUND POWER LEVEL</b>																		<b>57.2</b>

*This report is issued in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service. It provides traceability of measurement to recognised national standards, and to the units of measurement realised at the National Physical Laboratory or other recognised national standards laboratories. This certificate may not be reproduced other than in full except with the prior written approval of the issuing laboratory.*

# Test Report

Issued by University of Salford (Acoustics Test Laboratory)

Date of Issue: 9<sup>th</sup> August 2024

Report Number: 06681/11 Rev.2

Page 13 of 16

MEASURED TIME AVERAGED SPL at 1.75 m, L'P - [06681/11_5 - Full Setting]											Mean L <sub>p</sub> over mic positions	$\Delta L_p$ [dB]	BG corr. K <sub>1</sub> , [dB]	Env corr. K <sub>2</sub> , [dB]	L <sub>p</sub> [dB]	Sound Power, L <sub>w</sub> [dB]	A- weighting corrections [dB]	Sound Power, L <sub>wA</sub> [dB]
Frequency [Hz]	Mic 1 [dB]	Mic 2 [dB]	Mic 3 [dB]	Mic 4 [dB]	Mic 5 [dB]	Mic 6 [dB]	Mic 7 [dB]	Mic 8 [dB]	Mic 9 [dB]	Mic 10 [dB]								
100	20.4	16.9	16.4	18.3	17.3	16.8	16.3	19.0	16.7	18.4	17.9	5.1	1.30	-2.1	18.7	31.5	-19.1	12.4
125	19.8	20.7	20.4	19.6	21.0	21.1	19.6	21.7	18.6	16.6	20.1	13.3	0.21	1.4	18.5	31.3	-16.1	15.2
160	22.5	22.9	22.4	21.4	24.7	24.6	19.4	22.9	18.5	17.7	22.3	19.3	0.00	0.8	21.5	34.3	-13.4	20.9
200	25.1	31.5	30.9	23.0	30.8	31.2	25.8	30.0	24.9	22.1	28.8	33.1	0.00	1.6	27.2	40.0	-10.9	29.1
250	27.7	32.9	32.7	26.6	31.5	31.7	28.6	31.0	27.0	27.0	30.3	36.0	0.00	1.7	28.6	41.5	-8.6	32.9
315	29.8	32.2	31.1	28.2	31.1	31.5	29.9	31.2	29.1	30.4	30.6	38.5	0.00	-0.3	30.9	43.7	-6.6	37.1
400	44.1	43.2	41.1	42.1	38.8	38.6	37.5	35.9	36.2	38.7	40.5	48.7	0.00	0.9	39.6	52.4	-4.8	47.6
500	39.4	38.7	37.5	37.7	35.6	36.2	34.9	34.6	34.7	36.9	36.9	45.5	0.00	0.4	36.5	49.3	-3.2	46.1
630	34.6	35.3	34.5	32.5	32.9	33.6	32.6	32.3	33.1	36.3	34.0	43.0	0.00	0.0	34.0	46.8	-1.9	44.9
800	39.1	43.8	42.0	40.9	40.9	39.3	40.1	42.5	38.5	38.2	40.9	49.8	0.00	-0.2	41.1	53.9	-0.8	53.1
1000	36.5	37.8	35.6	32.1	35.0	34.1	34.6	39.2	34.2	34.6	35.8	44.0	0.00	-0.7	36.5	49.3	0	49.3
1250	40.6	37.8	35.4	34.4	35.9	34.9	41.2	38.5	39.2	34.8	37.9	45.4	0.00	-0.5	38.4	51.3	0.6	51.9
1600	36.1	35.1	37.2	37.2	42.3	39.1	36.4	40.1	37.6	34.4	38.2	45.1	0.00	0.0	38.2	51.0	1	52.0
2000	33.4	30.4	32.7	34.0	30.1	31.3	31.8	30.9	31.1	29.0	31.7	38.0	0.00	0.6	31.1	44.0	1.2	45.2
2500	32.5	30.5	30.0	30.4	28.1	27.7	29.5	29.3	26.7	25.6	29.4	35.0	0.00	-0.1	29.5	42.4	1.3	43.7
3150	29.7	29.0	27.1	28.7	27.0	26.9	26.9	27.1	25.2	21.8	27.4	32.3	0.00	0.4	27.0	39.9	1.2	41.1
4000	24.5	27.8	25.1	26.8	26.7	24.1	25.6	25.6	26.3	20.2	25.7	29.9	0.00	0.7	25.0	37.8	1	38.8
5000	23.7	22.5	22.2	23.8	21.3	23.3	23.8	21.1	22.5	17.5	22.5	26.4	0.00	-0.5	23.0	35.9	0.5	36.4
6300	20.5	22.1	21.9	22.9	19.5	20.0	19.8	21.3	20.5	15.9	20.8	24.9	0.00	-0.2	21.0	33.8	-0.1	33.7
8000	16.6	18.0	16.9	16.4	19.1	17.3	17.3	16.5	17.3	10.4	17.0	20.7	0.00	0.0	16.9	29.8	-1.1	28.7
10000	12.6	14.2	13.1	14.2	14.1	13.8	11.8	13.6	12.4	8.9	13.1	15.8	0.00	0.4	12.7	25.6	-2.5	23.1
<b>A-WEIGHTED SOUND POWER LEVEL</b>																		<b>59.2</b>

*This report is issued in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service. It provides traceability of measurement to recognised national standards, and to the units of measurement realised at the National Physical Laboratory or other recognised national standards laboratories. This certificate may not be reproduced other than in full except with the prior written approval of the issuing laboratory.*

# Test Report

Issued by University of Salford (Acoustics Test Laboratory)

Date of Issue: 9<sup>th</sup> August 2024

Report Number: 06681/11 Rev.2

Page 14 of 16

MEASURED TIME AVERAGED SPL at 1.75 m, L'P - [06681/11 6 – TV25 Setting]											Mean L <sub>p</sub> over mic positions	$\Delta L_p$ [dB]	BG corr. K <sub>1</sub> , [dB]	Env corr. K <sub>2</sub> , [dB]	L <sub>p</sub> [dB]	Sound Power, L <sub>w</sub> [dB]	A- weighting corrections [dB]	Sound Power, L <sub>wA</sub> [dB]
Frequency [Hz]	Mic 1 [dB]	Mic 2 [dB]	Mic 3 [dB]	Mic 4 [dB]	Mic 5 [dB]	Mic 6 [dB]	Mic 7 [dB]	Mic 8 [dB]	Mic 9 [dB]	Mic 10 [dB]								
100	15.1	14.9	13.1	12.2	16.2	16.2	10.9	14.8	11.2	11.6	14.1	1.3	1.30	-2.1	14.9	27.7	-19.1	8.6
125	14.0	17.7	17.5	14.4	17.9	18.2	15.6	19.1	14.6	11.7	16.6	9.8	0.48	1.4	14.7	27.5	-16.1	11.4
160	15.3	16.9	17.0	14.8	18.8	18.6	13.3	17.0	12.1	13.2	16.2	13.3	0.21	0.8	15.2	28.1	-13.4	14.7
200	16.6	20.0	19.4	14.6	19.4	19.6	14.9	18.5	14.0	11.5	17.6	21.9	0.00	1.6	16.1	28.9	-10.9	18.0
250	29.0	29.5	27.8	26.3	24.4	24.1	25.7	23.1	24.1	20.1	26.2	31.9	0.00	1.7	24.5	37.4	-8.6	28.8
315	31.7	30.2	25.5	28.9	26.4	26.1	25.0	23.8	24.2	24.4	27.5	35.4	0.00	-0.3	27.8	40.6	-6.6	34.0
400	25.0	25.0	23.9	23.1	22.9	23.0	21.6	22.0	22.2	24.2	23.4	31.7	0.00	0.9	22.6	35.4	-4.8	30.6
500	28.1	29.2	26.3	27.1	26.6	23.8	23.5	27.3	26.6	27.2	26.9	35.4	0.00	0.4	26.4	39.3	-3.2	36.1
630	26.1	26.3	25.6	23.6	22.6	23.4	22.7	21.7	23.6	26.8	24.6	33.6	0.00	0.0	24.6	37.4	-1.9	35.5
800	24.8	26.5	24.2	20.6	23.5	24.1	22.5	25.0	21.7	23.3	23.9	32.8	0.00	-0.2	24.1	37.0	-0.8	36.2
1000	26.3	26.1	23.4	21.0	23.0	22.5	23.9	28.1	23.3	23.9	24.6	32.8	0.00	-0.7	25.3	38.1	0	38.1
1250	28.2	25.9	23.0	21.4	25.0	22.5	28.4	27.2	26.5	23.1	25.7	33.2	0.00	-0.5	26.2	39.0	0.6	39.6
1600	23.5	22.2	23.9	27.1	28.4	26.8	23.8	25.7	23.4	23.8	25.3	32.3	0.00	0.0	25.3	38.1	1	39.1
2000	22.2	16.3	20.3	21.0	21.3	19.7	21.1	18.7	20.2	18.9	20.2	26.5	0.00	0.6	19.6	32.5	1.2	33.7
2500	19.4	16.0	16.9	18.1	14.4	15.9	16.6	15.1	13.8	12.4	16.3	21.8	0.00	-0.1	16.4	29.2	1.3	30.5
3150	16.0	14.5	13.1	14.7	13.0	12.7	13.0	12.9	11.9	9.0	13.4	18.3	0.00	0.4	13.1	25.9	1.2	27.1
4000	12.2	14.4	12.8	13.2	14.7	10.7	12.7	12.4	12.7	8.1	12.7	17.0	0.00	0.7	12.0	24.9	1	25.9
5000	9.2	10.9	9.4	10.5	7.9	8.1	10.3	8.0	9.2	4.6	9.1	13.1	0.22	-0.5	9.4	22.3	0.5	22.8
6300	9.8	13.2	10.2	12.5	13.0	10.2	10.5	12.4	11.2	7.6	11.4	15.5	0.00	-0.2	11.6	24.4	-0.1	24.3
8000	2.3	7.3	4.9	4.9	12.9	10.7	7.9	5.1	9.4	0.0	8.0	11.8	0.30	0.0	7.7	20.5	-1.1	19.4
10000	0.5	1.7	2.6	2.7	5.7	5.1	3.1	3.1	2.7	0.0	3.0	5.8	1.30	0.4	1.4	14.2	-2.5	11.7
								<b>A-WEIGHTED SOUND POWER LEVEL</b>								<b>46.5</b>		

*This report is issued in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service. It provides traceability of measurement to recognised national standards, and to the units of measurement realised at the National Physical Laboratory or other recognised national standards laboratories. This certificate may not be reproduced other than in full except with the prior written approval of the issuing laboratory.*

# Test Report

Issued by University of Salford (Acoustics Test Laboratory)

Date of Issue: 9<sup>th</sup> August 2024

Report Number: 06681/11 Rev.2

Page 15 of 16

MEASURED TIME AVERAGED SPL at 1.75 m, L'P - [06681/11 7 – TV35 Setting]											Mean L <sub>p</sub> over mic positions	$\Delta L_p$ [dB]	BG corr. K <sub>1</sub> , [dB]	Env corr. K <sub>2</sub> , [dB]	L <sub>p</sub> [dB]	Sound Power, L <sub>w</sub> [dB]	A- weighting corrections [dB]	Sound Power, L <sub>wA</sub> [dB]
Frequency [Hz]	Mic 1 [dB]	Mic 2 [dB]	Mic 3 [dB]	Mic 4 [dB]	Mic 5 [dB]	Mic 6 [dB]	Mic 7 [dB]	Mic 8 [dB]	Mic 9 [dB]	Mic 10 [dB]								
100	12.3	12.1	11.0	9.5	13.1	12.9	8.6	12.5	8.8	9.3	11.3	-1.4	1.30	-2.1	12.1	25.0	-19.1	5.9
125	12.1	16.9	16.8	12.6	17.2	17.6	14.3	18.6	13.1	10.7	15.7	8.9	0.60	1.4	13.7	26.6	-16.1	10.5
160	13.7	15.5	15.8	12.9	17.3	18.0	11.9	16.3	10.3	10.9	15.0	12.0	0.28	0.8	13.9	26.7	-13.4	13.3
200	15.7	19.4	18.8	13.5	18.6	19.0	14.4	18.1	13.4	10.5	17.0	21.3	0.00	1.6	15.4	28.2	-10.9	17.3
250	30.6	30.6	29.0	27.7	25.0	24.6	27.0	23.4	25.3	20.1	27.4	33.1	0.00	1.7	25.7	38.5	-8.6	29.9
315	20.0	22.1	21.7	18.8	20.5	21.2	20.5	21.4	19.2	19.7	20.6	28.5	0.00	-0.3	20.9	33.7	-6.6	27.1
400	21.1	22.2	22.1	20.1	21.3	21.5	20.7	21.4	21.2	22.7	21.5	29.8	0.00	0.9	20.6	33.5	-4.8	28.7
500	27.9	29.0	26.0	26.9	26.5	23.3	23.3	27.3	26.5	26.9	26.7	35.2	0.00	0.4	26.3	39.1	-3.2	35.9
630	22.1	23.0	22.7	20.7	21.6	21.9	21.4	21.1	21.8	24.5	22.2	31.3	0.00	0.0	22.2	35.1	-1.9	33.2
800	22.8	25.4	23.6	19.7	23.4	23.8	21.5	24.2	20.4	20.8	22.9	31.8	0.00	-0.2	23.1	35.9	-0.8	35.1
1000	22.0	24.0	22.2	17.7	22.0	21.7	19.9	24.6	20.1	20.1	21.9	30.0	0.00	-0.7	22.5	35.4	0	35.4
1250	23.8	22.4	20.2	17.8	20.9	19.8	23.8	23.2	22.3	19.0	21.8	29.2	0.00	-0.5	22.2	35.1	0.6	35.7
1600	20.5	20.7	21.5	25.7	25.8	24.2	19.2	22.1	19.3	22.2	22.7	29.7	0.00	0.0	22.7	35.6	1	36.6
2000	20.2	14.9	17.5	16.0	19.9	17.3	19.7	17.2	18.0	17.7	18.1	24.4	0.00	0.6	17.5	30.4	1.2	31.6
2500	18.2	14.8	15.6	17.3	13.4	15.6	14.9	13.9	12.3	11.5	15.2	20.7	0.00	-0.1	15.2	28.1	1.3	29.4
3150	13.4	12.5	11.0	12.5	11.7	11.2	11.1	11.2	9.9	7.8	11.5	16.3	0.00	0.4	11.1	23.9	1.2	25.1
4000	16.0	14.7	13.0	17.5	16.7	13.5	16.6	19.9	13.8	11.7	16.0	20.2	0.00	0.7	15.3	28.1	1	29.1
5000	6.7	10.0	8.3	8.5	6.8	6.1	8.5	6.9	7.3	3.3	7.5	11.5	0.32	-0.5	7.8	20.6	0.5	21.1
6300	6.3	10.7	8.8	10.4	8.7	7.0	7.8	11.1	9.7	5.6	9.0	13.1	0.22	-0.2	9.0	21.8	-0.1	21.7
8000	1.8	7.1	5.9	3.4	12.8	10.5	8.0	5.2	9.0	0.8	7.9	11.6	0.31	0.0	7.6	20.4	-1.1	19.3
10000	0.1	1.7	2.9	1.8	5.3	4.3	2.3	2.4	1.4	-0.4	2.5	5.2	1.30	0.4	0.8	13.7	-2.5	11.2
<b>A-WEIGHTED SOUND POWER LEVEL</b>																		<b>44.3</b>

*This report is issued in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service. It provides traceability of measurement to recognised national standards, and to the units of measurement realised at the National Physical Laboratory or other recognised national standards laboratories. This certificate may not be reproduced other than in full except with the prior written approval of the issuing laboratory.*

# Test Report

Issued by University of Salford (Acoustics Test Laboratory)

Date of Issue: 9<sup>th</sup> August 2024

Report Number: 06681/11 Rev.2

Page 16 of 16

## Appendix 3 – Measured time averaged sound pressure level of RSS, $L'_{P(RSS)}$ at each microphone position

Frequency	Mic 1	Mic 2	Mic 3	Mic 4	Mic 5	Mic 6	Mic 7	Mic 8	Mic 9	Mic 10	Average $L'_{P(RSS)}$ over microphone positions	Calculated Sound Power of RSS
[Hz]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
100	63.7	60.7	60.1	62.6	60.5	59.3	59.1	61.7	57.7	55.2	60.6	73.5
125	65.0	65.0	63.5	64.2	64.1	64.2	62.2	64.9	62.9	56.7	63.7	76.6
160	65.8	63.9	63.9	64.0	66.1	65.5	61.8	62.7	61.2	57.9	63.8	76.7
200	65.2	66.7	66.3	63.6	66.4	66.8	61.4	64.7	60.5	56.5	64.7	77.5
250	65.6	67.7	66.6	64.1	64.2	65.0	63.5	63.3	61.5	58.7	64.6	77.5
315	64.6	65.1	64.0	62.8	63.2	63.6	61.3	62.0	60.0	60.0	63.0	75.8
400	66.4	66.2	65.9	64.9	64.4	65.3	59.9	61.9	59.2	58.8	64.1	76.9
500	67.2	66.4	65.7	63.9	63.2	64.6	59.8	60.6	59.7	60.1	64.0	76.8
630	66.4	66.8	65.7	63.2	62.0	63.7	62.1	59.7	62.7	64.0	64.1	77.0
800	66.8	68.0	65.1	61.5	60.4	62.9	65.9	62.8	66.6	67.5	65.4	78.3
1000	67.0	68.5	64.1	60.0	60.9	60.1	68.8	67.1	68.3	65.1	66.1	78.9
1250	67.4	68.2	60.9	66.7	68.0	64.8	69.3	70.8	66.8	69.4	67.9	80.7
1600	63.6	64.6	65.1	71.0	71.2	69.9	67.2	67.9	69.5	68.5	68.5	81.4
2000	65.4	61.7	69.3	71.3	70.0	70.8	69.4	67.0	68.6	65.9	68.7	81.6
2500	66.7	62.8	69.0	66.5	65.3	67.6	65.9	67.9	65.1	62.7	66.4	79.2
3150	68.1	68.3	68.0	66.8	67.7	65.6	65.3	66.7	63.9	61.0	66.6	79.4
4000	66.6	69.7	65.5	68.0	67.5	67.4	65.6	66.3	64.3	61.1	66.7	79.5
5000	64.5	64.6	66.2	66.0	65.5	65.8	64.8	65.5	63.7	58.9	64.9	77.7
6300	66.2	65.0	65.3	64.7	64.2	64.8	61.7	63.6	61.6	57.5	64.0	76.8
8000	65.3	63.0	63.3	62.7	62.7	62.9	61.7	62.4	61.4	55.6	62.6	75.4
10000	61.9	61.0	62.3	61.6	61.2	61.6	59.4	61.0	59.7	54.2	60.8	73.6

*This report is issued in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service. It provides traceability of measurement to recognised national standards, and to the units of measurement realised at the National Physical Laboratory or other recognised national standards laboratories. This certificate may not be reproduced other than in full except with the prior written approval of the issuing laboratory.*