
# RIVALE PROFILE

## NOISE MEASUREMENTS

AYRTON

## 1. Inspection instructions

This test was carried out in the semi-silencing room of Guangzhou Quality Supervision and Testing Institute (GQT) The indoor environmental noise was less than 5dB (A). The stage lamp was placed on the standard test table of the semi- silencing room, When the stage lamp was turned on, the test microphone was 1m away from the four directions of the stage lamp to detect its sound pressure level.

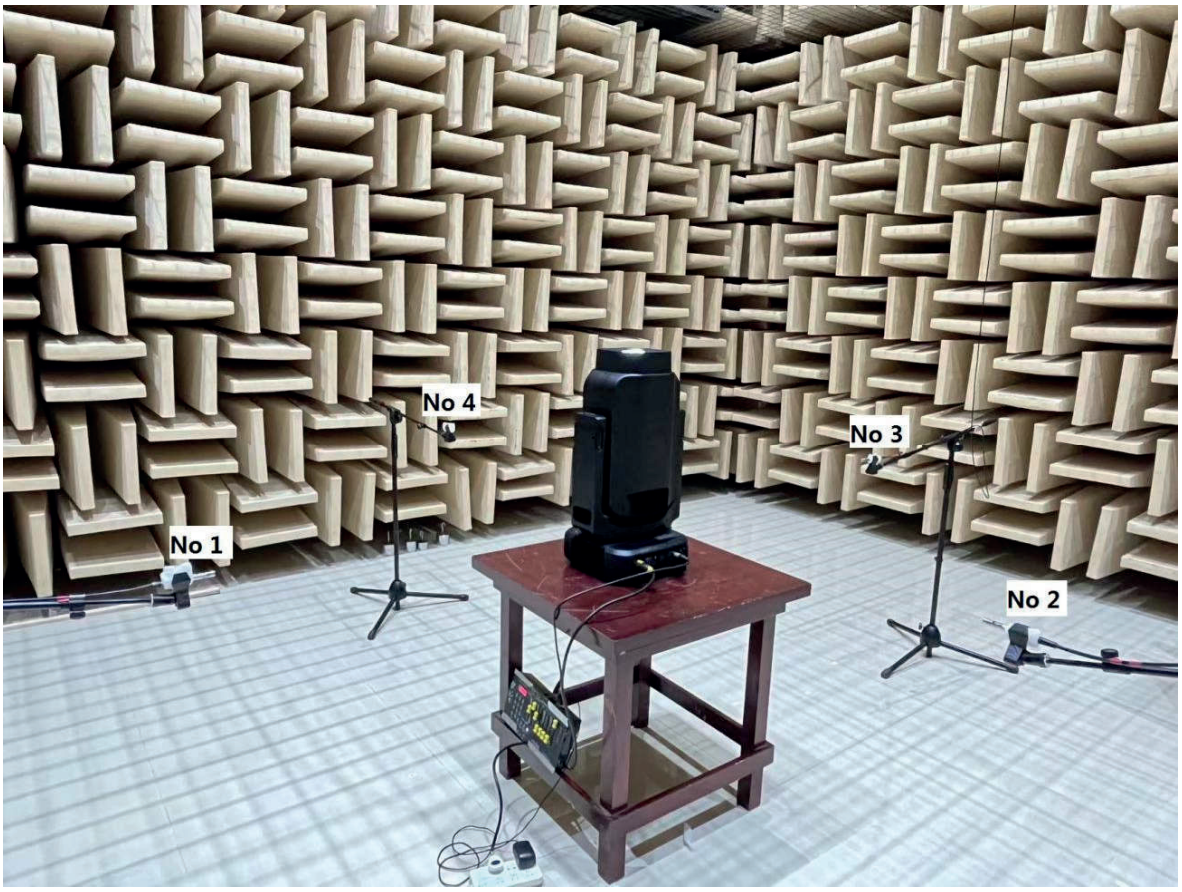


**Figure 1 Test setup**


**Figure 2 Sample serial number information**

## 2. Noise Detection Results of Stage Luminaires (The Auto mode)

| Frequency (Hz) | Sound Pressure Level in Auto Mode（dB） | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Static | | | | Dynamic | | | |
| | No 1 | No 2 | No 3 | No 4 | No 1 | No 2 | No 3 | No 4 |
| 63 | 15.6 | 16.6 | 16.3 | 16.2 | 17.9 | 18.0 | 16.1 | 16.6 |
| 80 | 15.7 | 17.5 | 17.3 | 17.3 | 23.0 | 26.1 | 22.4 | 21.8 |
| 100 | 26.5 | 28.3 | 31.1 | 26.5 | 28.2 | 29.9 | 32.1 | 27.5 |
| 125 | 11.9 | 17.6 | 13.6 | 16.8 | 24.0 | 27.7 | 25.1 | 22.3 |
| 160 | 11.3 | 17.9 | 12.9 | 17.6 | 25.3 | 29.1 | 27.9 | 28.3 |
| 200 | 15.7 | 22.4 | 17.4 | 21.7 | 33.3 | 36.4 | 38.0 | 36.8 |
| 250 | 19.3 | 27.3 | 21.1 | 27.0 | 35.5 | 36.1 | 35.4 | 35.7 |
| 315 | 23.8 | 33.8 | 27.9 | 31.1 | 39.7 | 41.7 | 42.5 | 39.8 |
| 400 | 21.0 | 25.5 | 24.0 | 23.9 | 35.1 | 39.7 | 39.2 | 37.9 |
| 500 | 22.6 | 28.4 | 25.5 | 27.0 | 37.8 | 39.2 | 40.3 | 37.5 |
| 630 | 28.0 | 28.2 | 27.6 | 28.6 | 39.8 | 40.9 | 40.7 | 38.2 |
| 800 | 24.3 | 27.8 | 26.5 | 27.2 | 29.2 | 33.2 | 31.8 | 33.5 |
| 1000 | 28.4 | 27.3 | 29.5 | 26.7 | 29.1 | 32.3 | 31.3 | 32.8 |
| 1250 | 28.4 | 27.2 | 28.7 | 27.6 | 29.1 | 32.7 | 31.8 | 31.9 |
| 1600 | 26.0 | 29.2 | 26.1 | 27.8 | 27.3 | 29.7 | 29.8 | 30.0 |
| 2000 | 20.1 | 23.8 | 22.0 | 24.7 | 24.2 | 26.8 | 26.9 | 25.9 |
| 2500 | 16.7 | 20.8 | 18.3 | 20.7 | 21.1 | 25.2 | 26.8 | 24.6 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 3150 | 14.7 | 18.6 | 17.4 | 17.4 | 18.3 | 22.4 | 22.8 | 21.0 |
| 4000 | 11.0 | 16.3 | 12.3 | 14.7 | 15.4 | 17.5 | 17.3 | 16.5 |
| 5000 | 8.8 | 14.4 | 10.4 | 10.6 | 12.3 | 13.4 | 14.4 | 13.5 |
| 6300 | 7.8 | 11.3 | 9.4 | 9.3 | 9.8 | 11.5 | 12.1 | 11.2 |
| 8000 | 7.2 | 10.0 | 8.7 | 8.0 | 8.9 | 10.1 | 10.5 | 9.3 |
| 10000 | 9.2 | 8.8 | 8.2 | 9.8 | 10.0 | 9.9 | 9.4 | 10.5 |
| 12500 | 6.9 | 9.0 | 8.0 | 7.1 | 8.2 | 9.3 | 9.1 | 8.0 |
| 16000 | 11.5 | 18.6 | 12.8 | 9.3 | 18.3 | 18.4 | 17.9 | 17.4 |
| 20000 | 31.4 | 39.9 | 32.9 | 27.5 | 38.9 | 37.9 | 36.9 | 37.8 |
| Leq | 38.5 | 43.1 | 40.1 | 39.7 | 47.1 | 49.0 | 49.1 | 47.5 |
| A-weighted dB（A) | 35.1 | 37.7 | 36.1 | 36.2 | 42.5 | 44.6 | 44.6 | 43.2 |
| Average sound pressure level dB(A) | 36.3 | | | | 43.7 | | | |

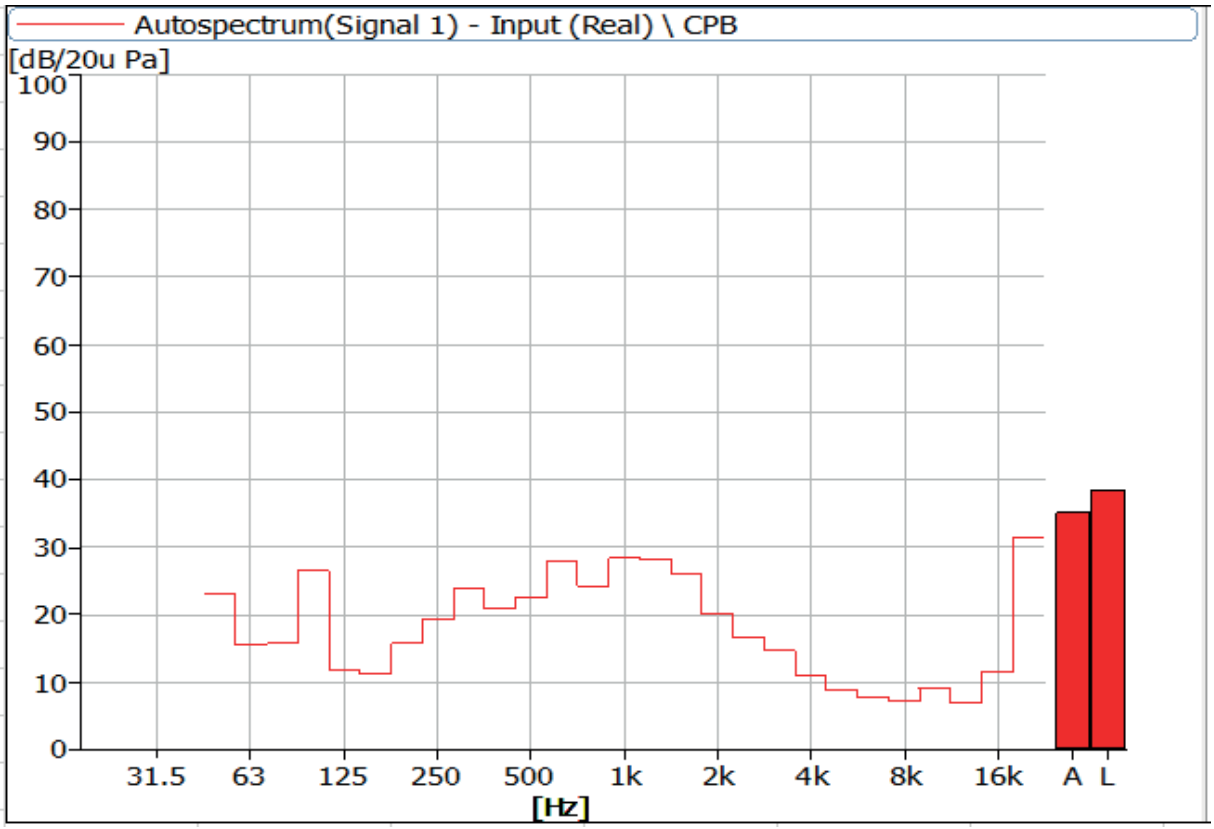


Figure 3 Noise Spectrum of Stage Luminaires (The Auto mode, static,No 1)

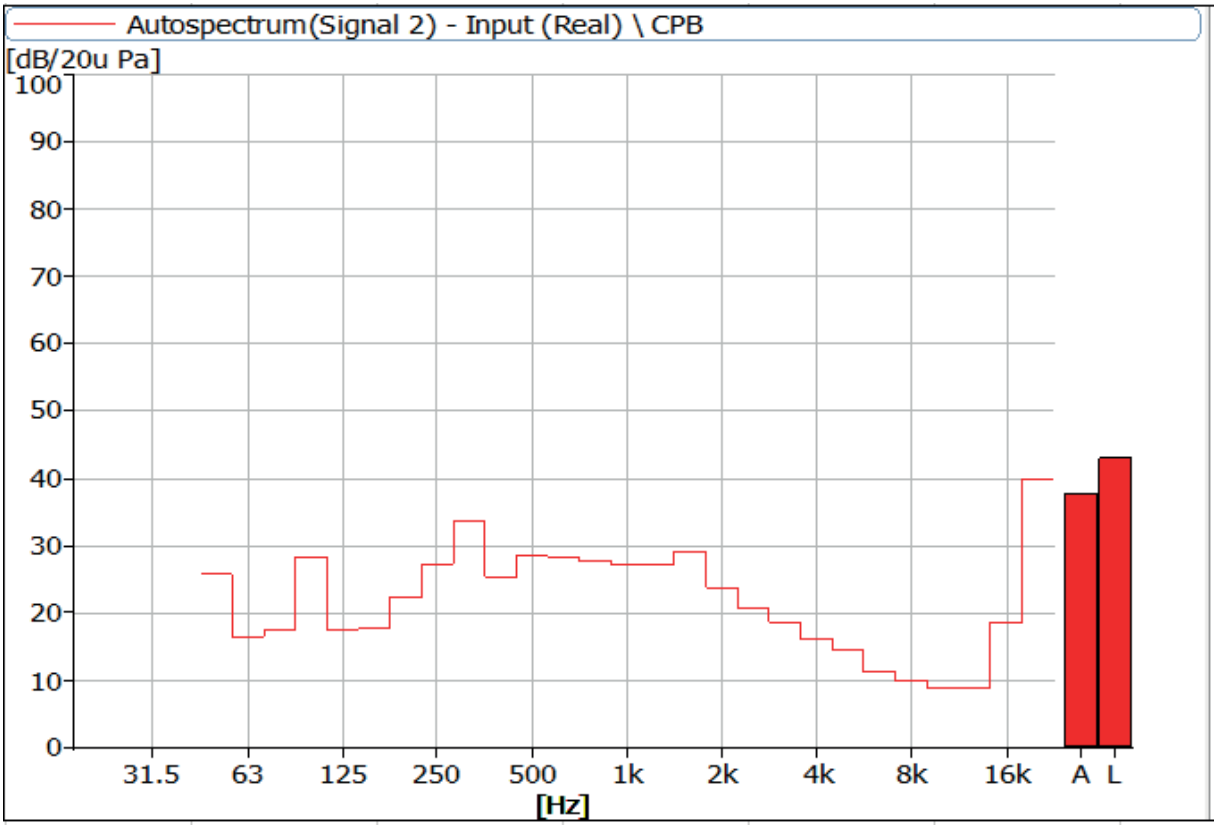


Figure 4 Noise Spectrum of Stage Luminaires (The Auto mode, static,No 2)

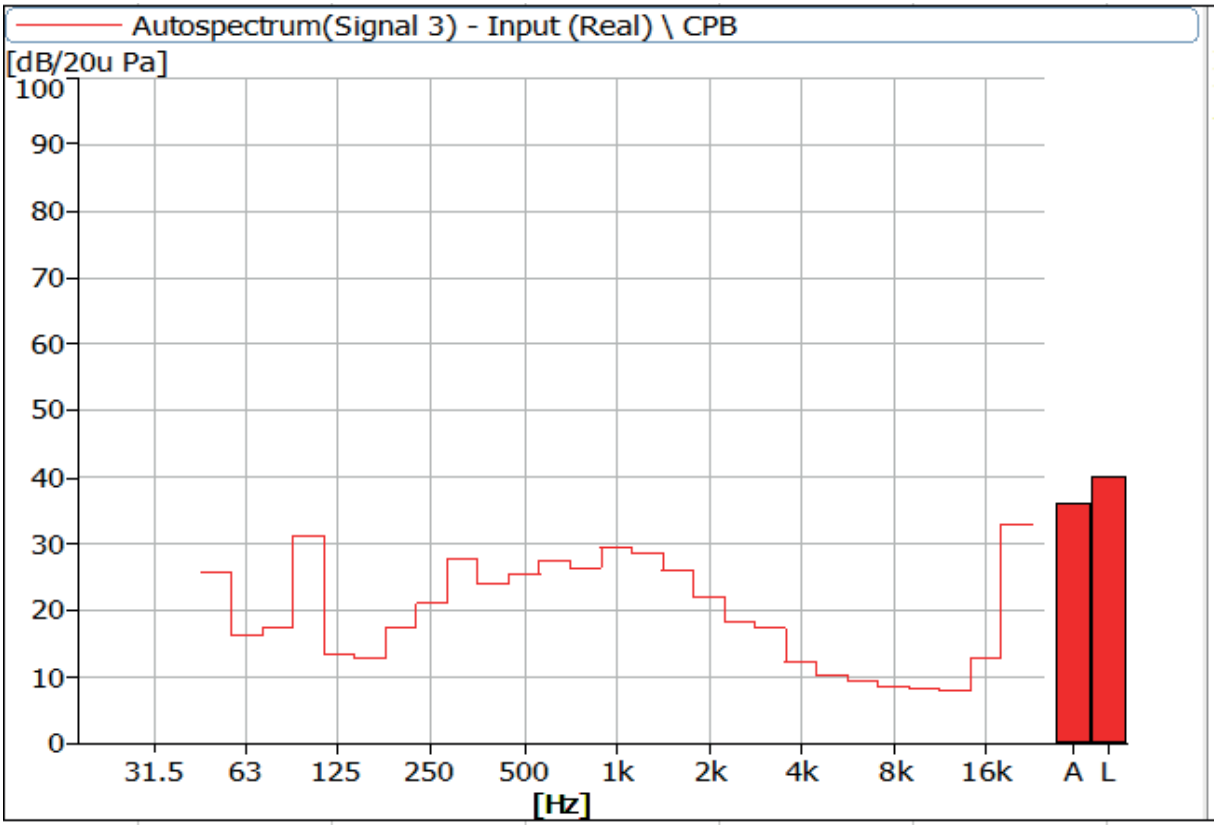


Figure 5 Noise Spectrum of Stage Luminaires (The Auto mode, static,No 3)

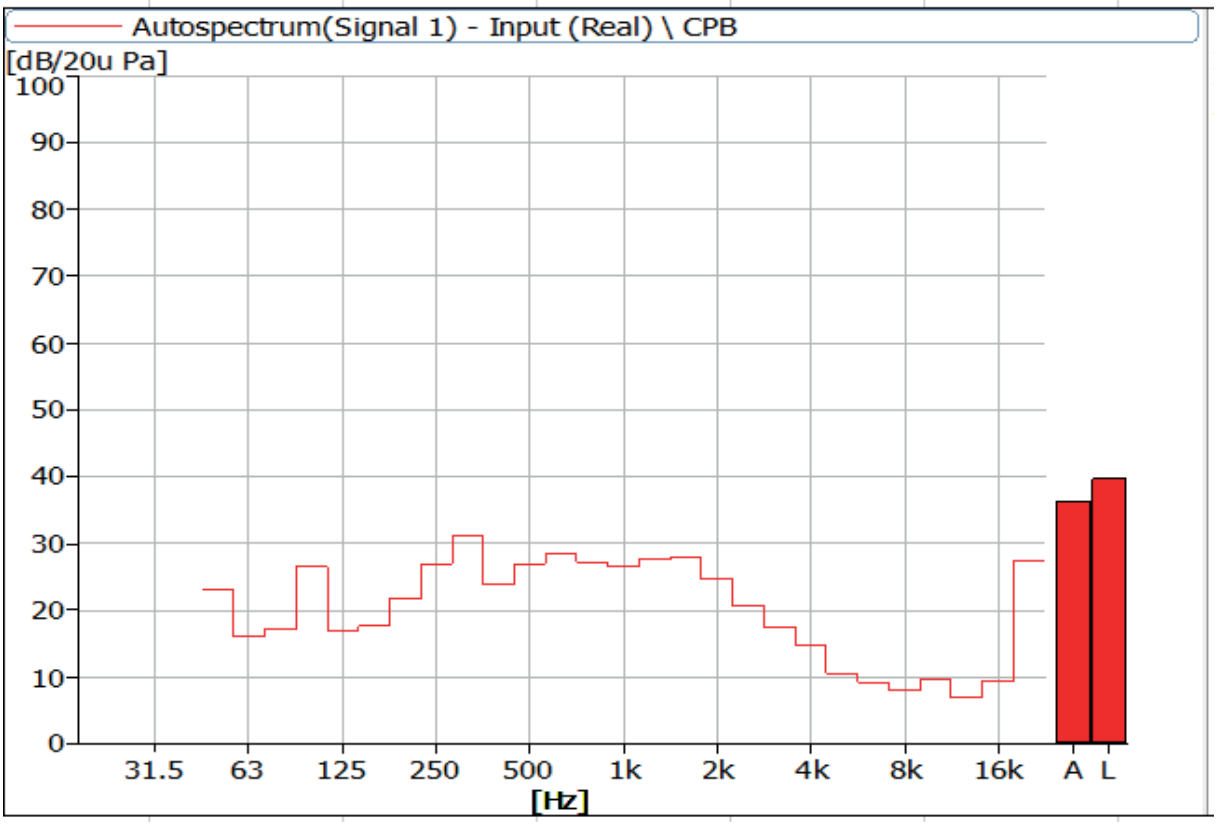


Figure 6 Noise Spectrum of Stage Luminaires (The Auto mode, static,No 4)

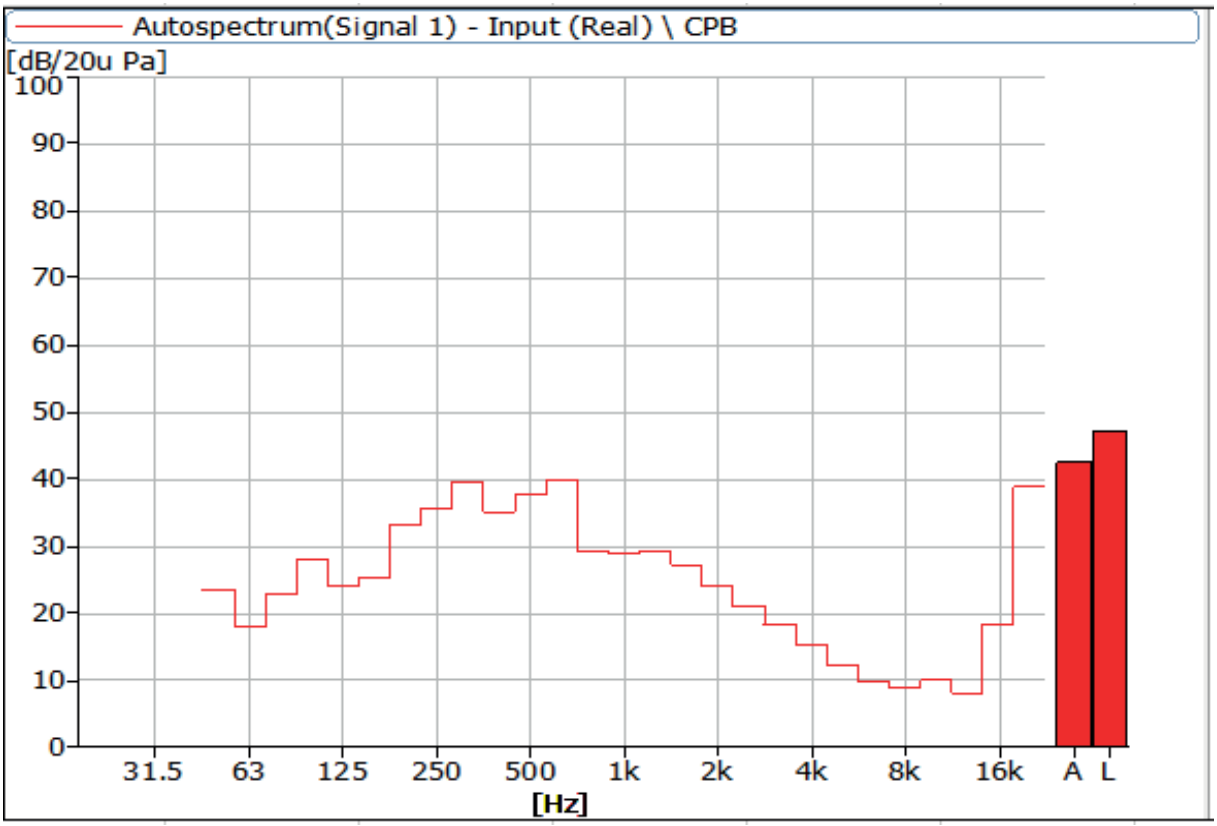


Figure 7 Noise Spectrum of Stage Luminaires (The Auto mode, Dynamic,No 1)

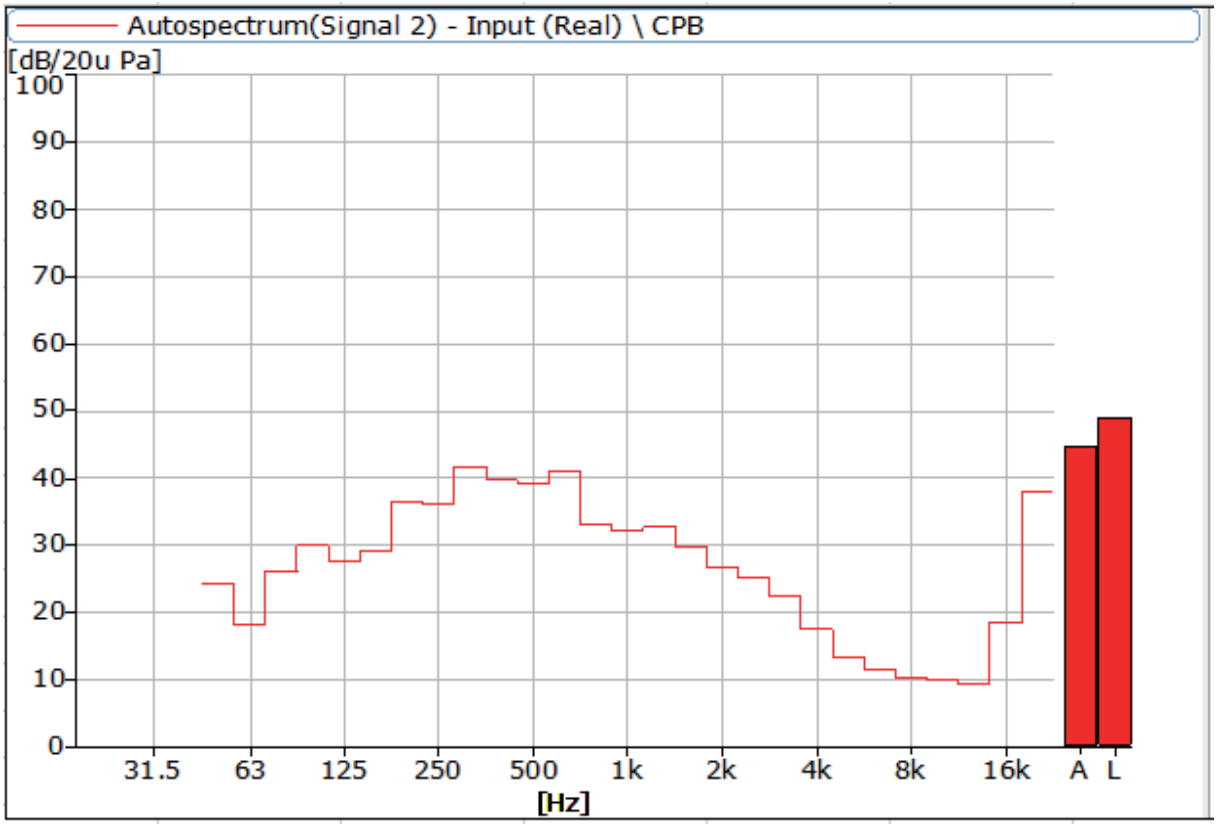


Figure 8 Noise Spectrum of Stage Luminaires (The Auto mode, Dynamic,No 2)

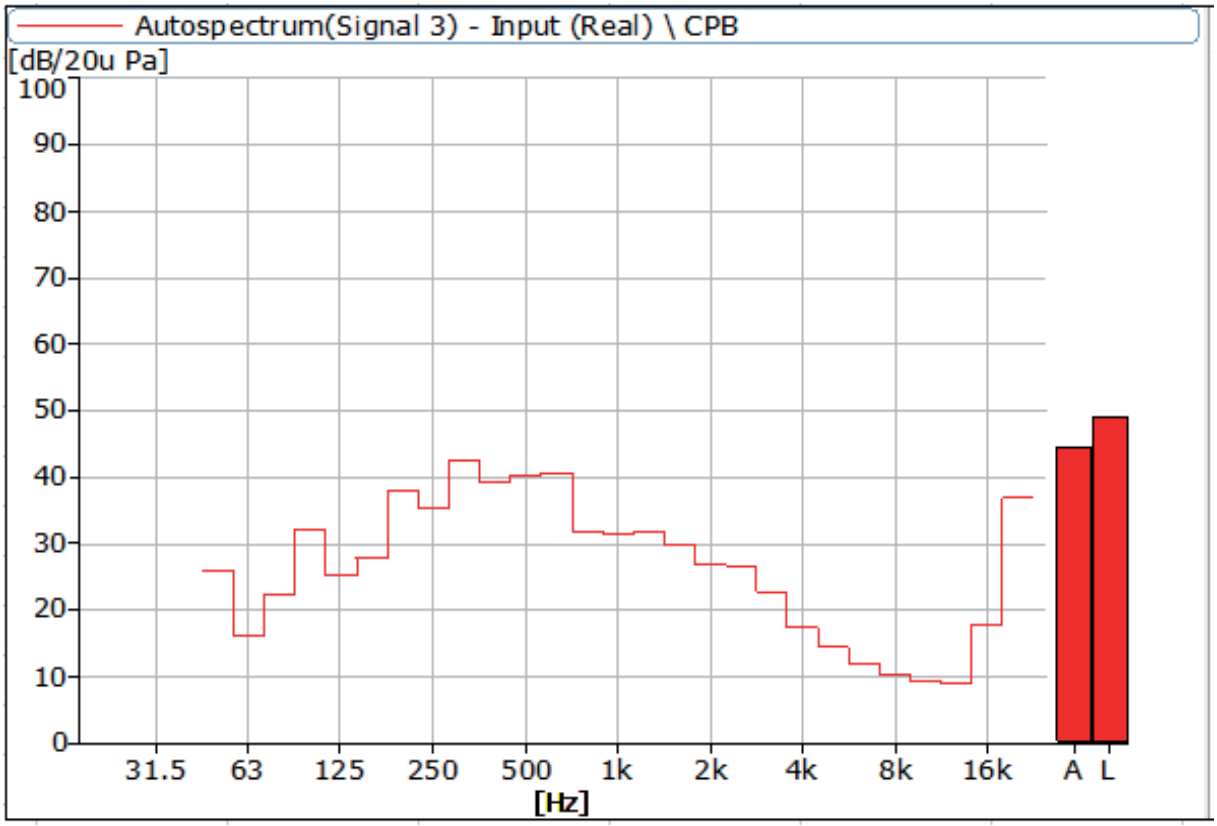


Figure 9 Noise Spectrum of Stage Luminaires (The Auto mode, Dynamic,No 3)

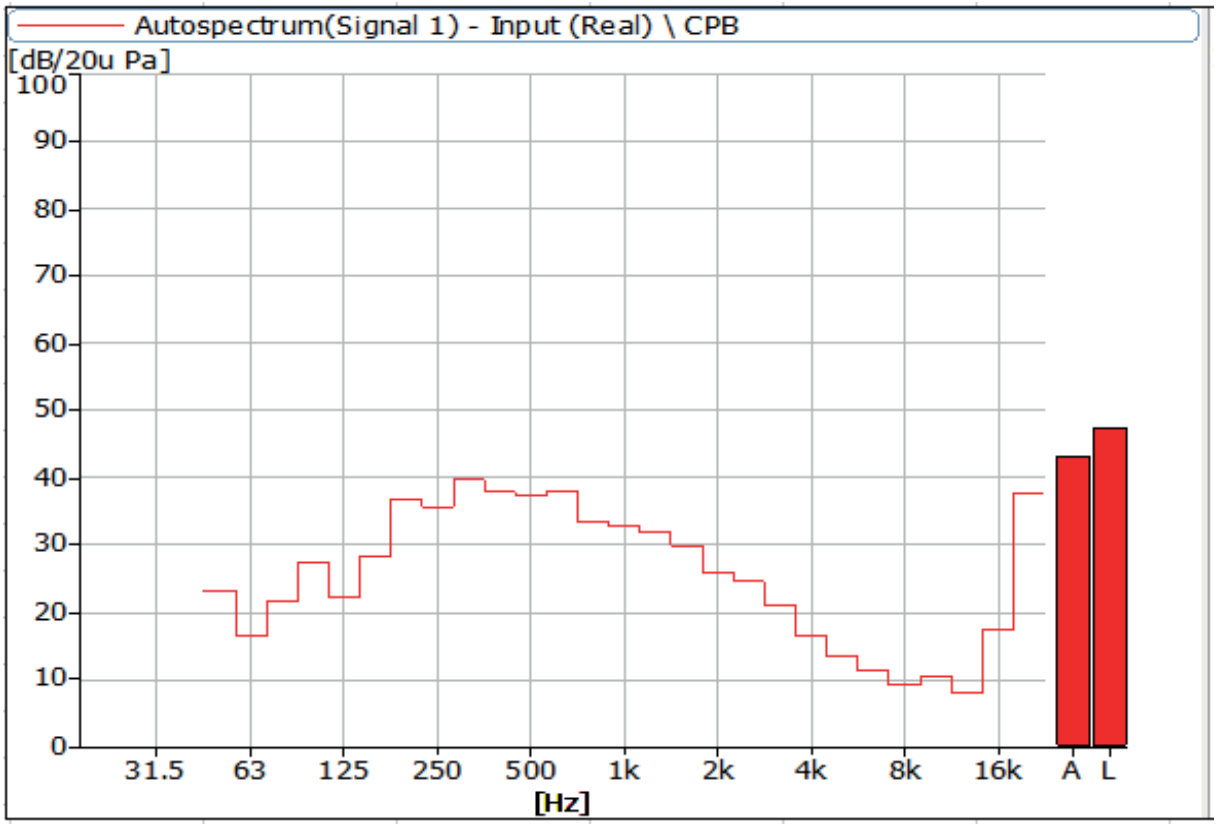


Figure 10 Noise Spectrum of Stage Luminaires (The Auto mode, Dynamic,No 4)

## 3. Noise Detection Results of Stage Luminaires (The Stage mode)

| Frequency (Hz) | Sound Pressure Level in Stage Mod（dB） | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Static | | | | Dynamic | | | |
| | No 1 | No 2 | No 3 | No 4 | No 1 | No 2 | No 3 | No 4 |
| 63 | 14.5 | 16.1 | 15.0 | 16.6 | 15.9 | 17.4 | 16.1 | 16.4 |
| 80 | 19.8 | 22.1 | 21.5 | 19.9 | 23.0 | 28.6 | 25.5 | 24.8 |
| 100 | 17.5 | 20.1 | 21.9 | 19.6 | 24.5 | 24.8 | 26.6 | 23.1 |
| 125 | 14.3 | 19.5 | 14.0 | 17.6 | 23.5 | 27.1 | 24.3 | 21.5 |
| 160 | 16.3 | 22.5 | 20.9 | 20.9 | 24.9 | 29.2 | 27.4 | 28.1 |
| 200 | 16.1 | 24.1 | 17.7 | 22.3 | 33.6 | 36.3 | 37.6 | 37.3 |
| 250 | 20.2 | 28.9 | 23.4 | 27.2 | 36.0 | 36.7 | 35.7 | 36.6 |
| 315 | 29.5 | 33.1 | 27.1 | 34.0 | 40.2 | 42.7 | 43.9 | 40.6 |
| 400 | 22.8 | 27.3 | 24.4 | 25.7 | 36.0 | 39.8 | 39.7 | 37.1 |
| 500 | 23.1 | 27.8 | 24.9 | 26.4 | 37.3 | 39.2 | 40.0 | 37.1 |
| 630 | 29.2 | 32.6 | 29.1 | 28.6 | 39.2 | 41.6 | 40.2 | 38.7 |
| 800 | 26.4 | 30.2 | 28.4 | 28.3 | 30.0 | 33.2 | 31.6 | 33.4 |
| 1000 | 31.0 | 28.7 | 31.8 | 27.0 | 31.7 | 31.7 | 31.6 | 32.8 |
| 1250 | 31.8 | 30.0 | 31.0 | 28.7 | 32.4 | 33.0 | 32.4 | 33.3 |
| 1600 | 29.5 | 32.8 | 28.5 | 29.0 | 29.7 | 30.6 | 30.7 | 31.1 |
| 2000 | 22.4 | 26.2 | 24.0 | 26.1 | 26.6 | 26.6 | 26.9 | 27.1 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 3150 | 17.3 | 21.0 | 19.9 | 18.8 | 22.8 | 21.8 | 22.3 | 21.0 |
| 4000 | 13.3 | 18.8 | 14.8 | 16.1 | 18.6 | 16.9 | 18.2 | 17.6 |
| 5000 | 10.6 | 16.8 | 12.5 | 11.5 | 14.4 | 14.0 | 15.9 | 15.2 |
| 6300 | 9.5 | 13.0 | 11.2 | 10.0 | 12.8 | 12.1 | 13.8 | 12.8 |
| 8000 | 7.7 | 10.9 | 9.3 | 8.4 | 9.8 | 10.1 | 11.0 | 10.0 |
| 10000 | 9.4 | 9.1 | 8.4 | 10.0 | 10.5 | 10.1 | 9.9 | 11.1 |
| 12500 | 7.0 | 8.6 | 8.0 | 7.0 | 8.2 | 9.2 | 9.1 | 8.2 |
| 16000 | 11.9 | 14.7 | 12.3 | 9.2 | 16.2 | 18.1 | 17.5 | 17.1 |
| 20000 | 32.0 | 35.3 | 32.3 | 27.2 | 36.0 | 37.4 | 36.4 | 37.4 |
| Leq | 40.4 | 40.4 | 42.4 | 40.1 | 47.1 | 49.1 | 49.1 | 47.7 |
| A-weighted dB（A) | 37.3 | 37.9 | 39.5 | 37.8 | 43.0 | 44.9 | 44.7 | 43.5 |
| Average sound pressure level dB(A) | 38.1 | | | | 44.0 | | | |

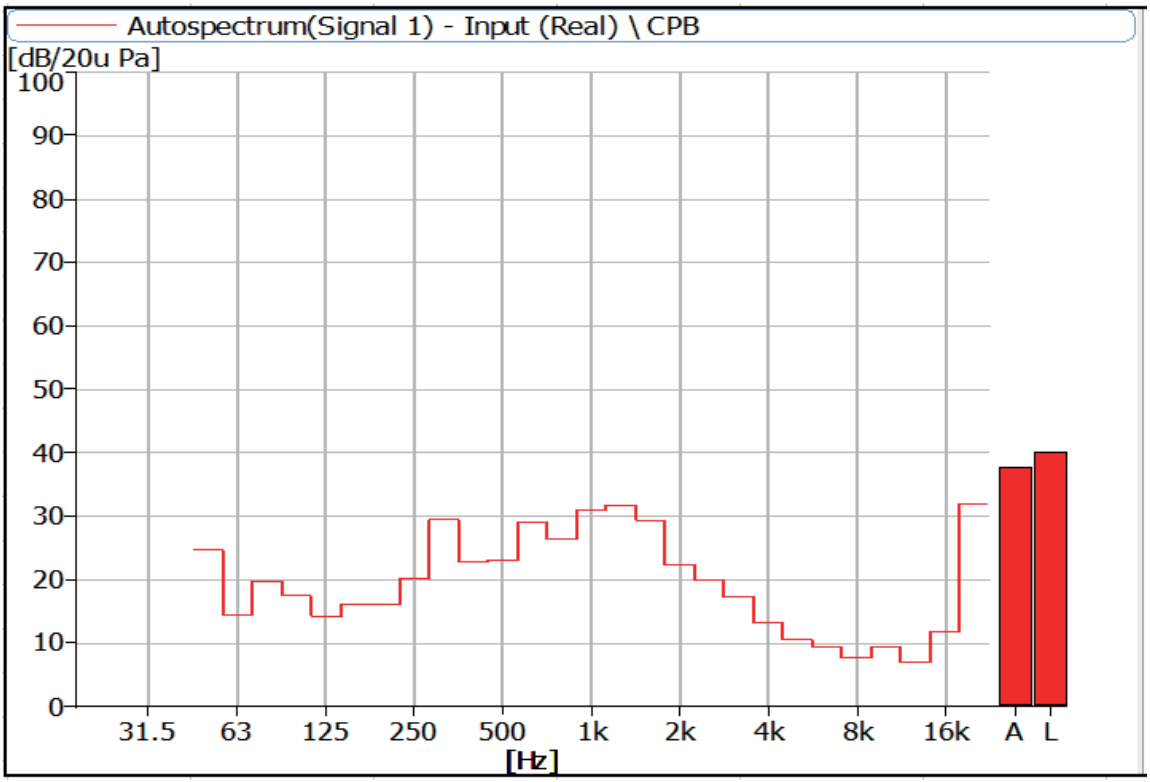


Figure 11 Noise Spectrum of Stage Luminaires (The Stage mode, static,No 1)

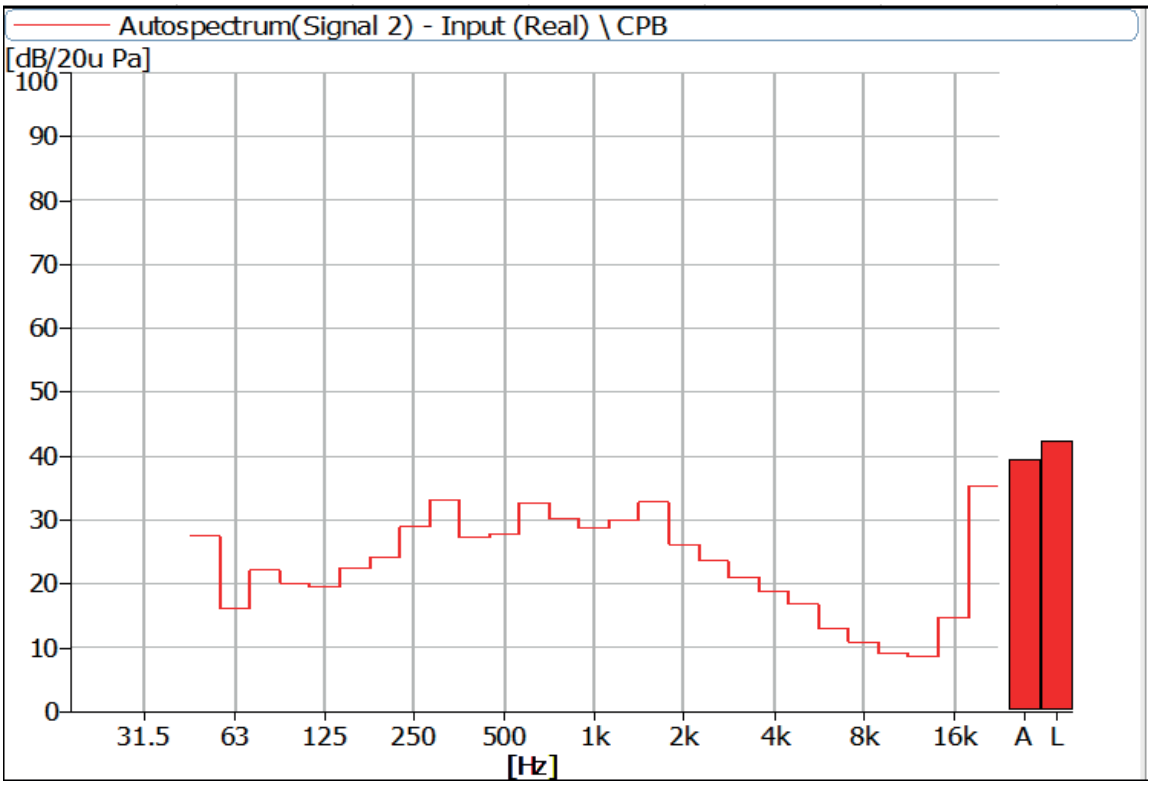


Figure 12 Noise Spectrum of Stage Luminaires (The Stage mode, static,No 2)

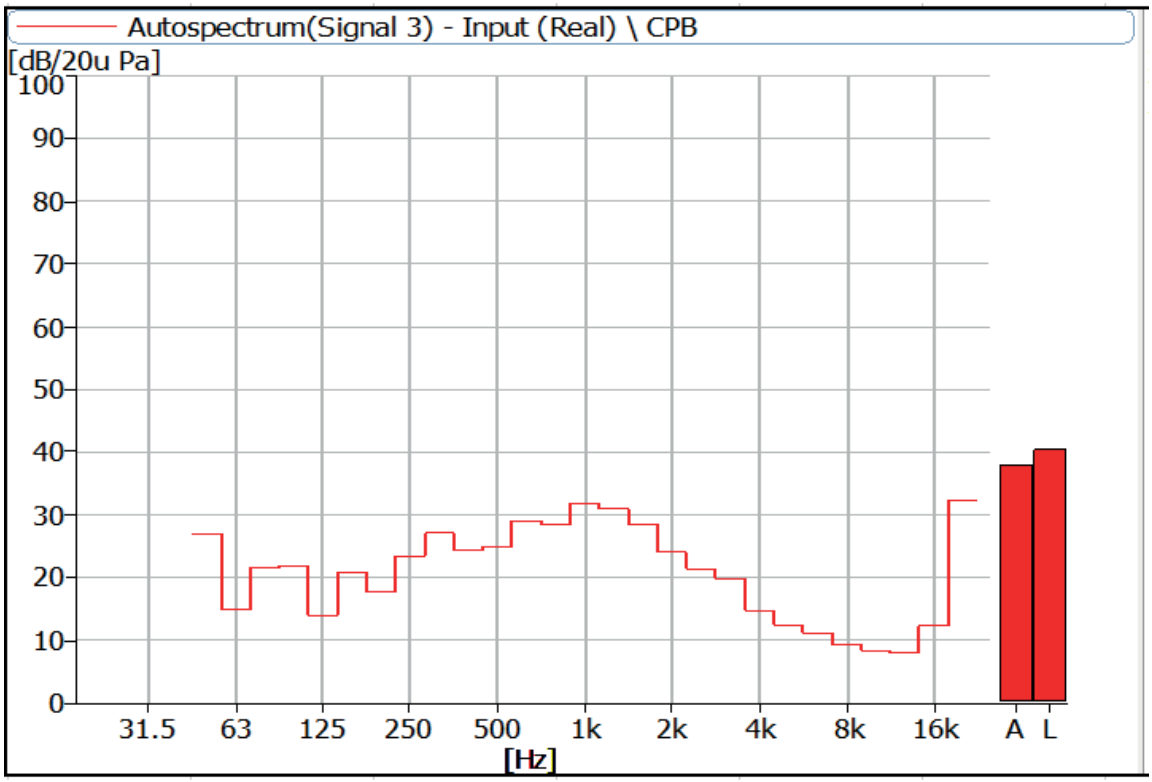


Figure 13 Noise Spectrum of Stage Luminaires (The Stage mode, static,No 3)

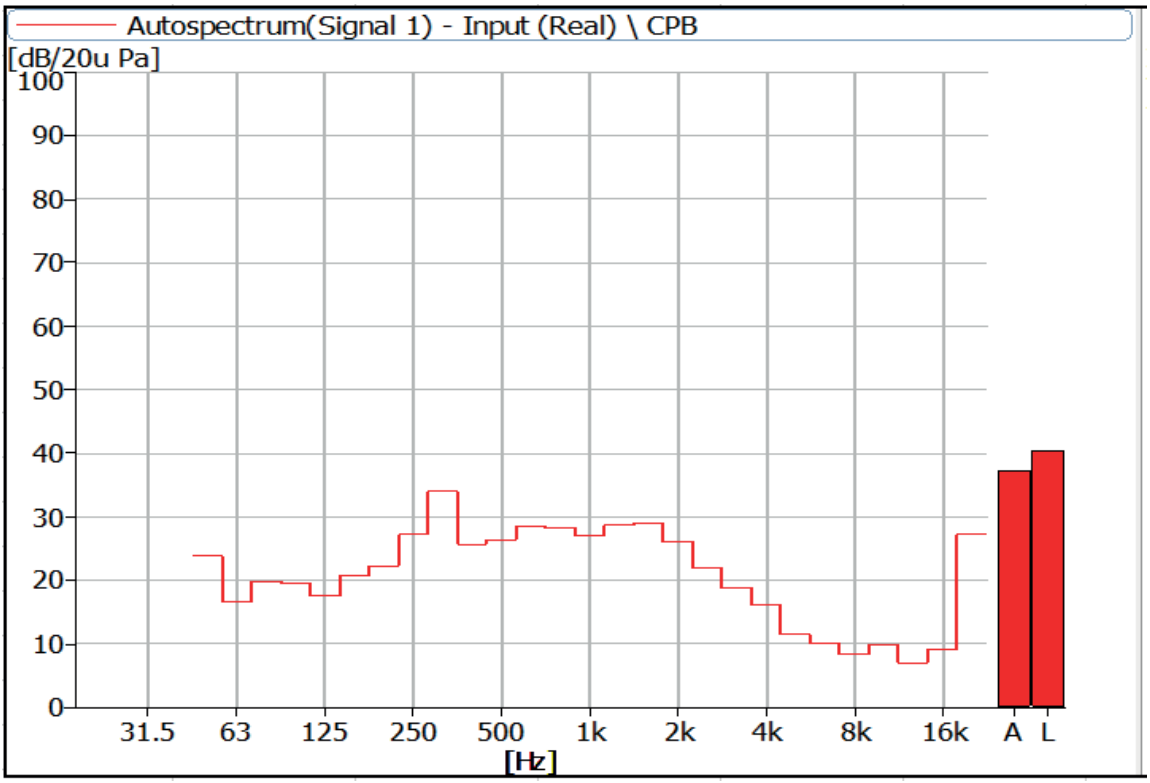


Figure 14 Noise Spectrum of Stage Luminaires (The Stage mode, static,No 4)

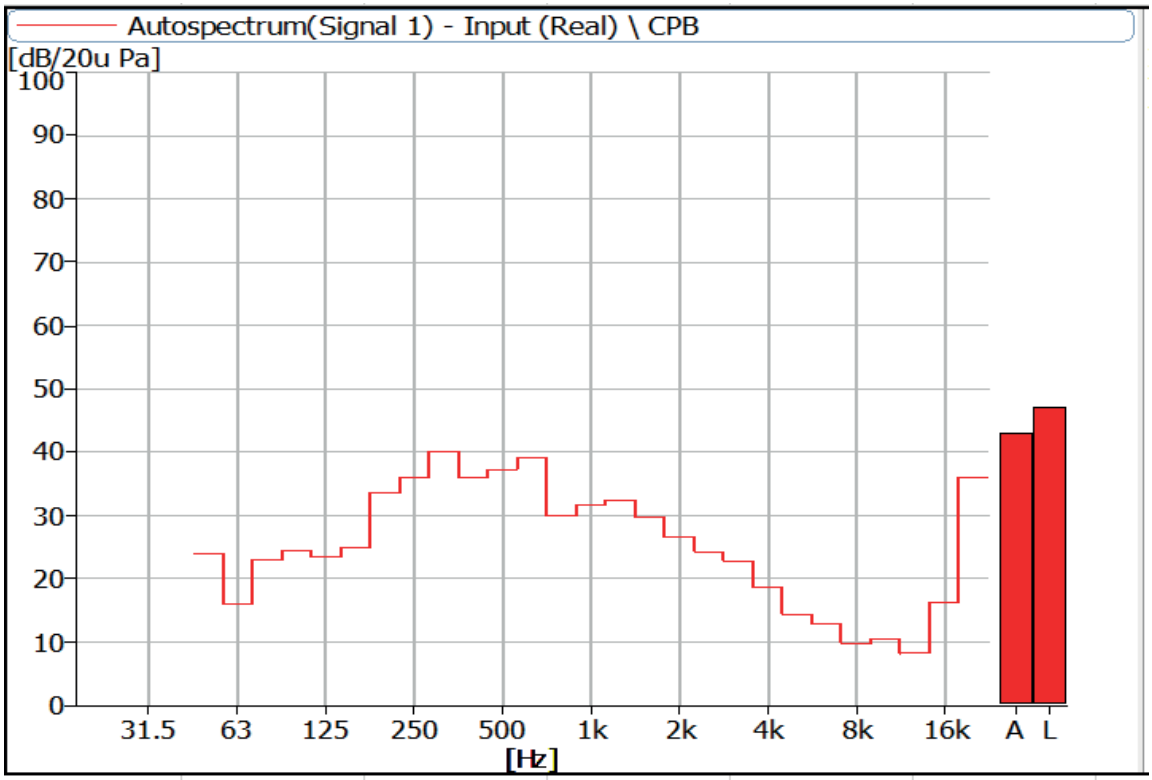


Figure 15 Noise Spectrum of Stage Luminaires (The Stage mode, Dynamic,No 1)

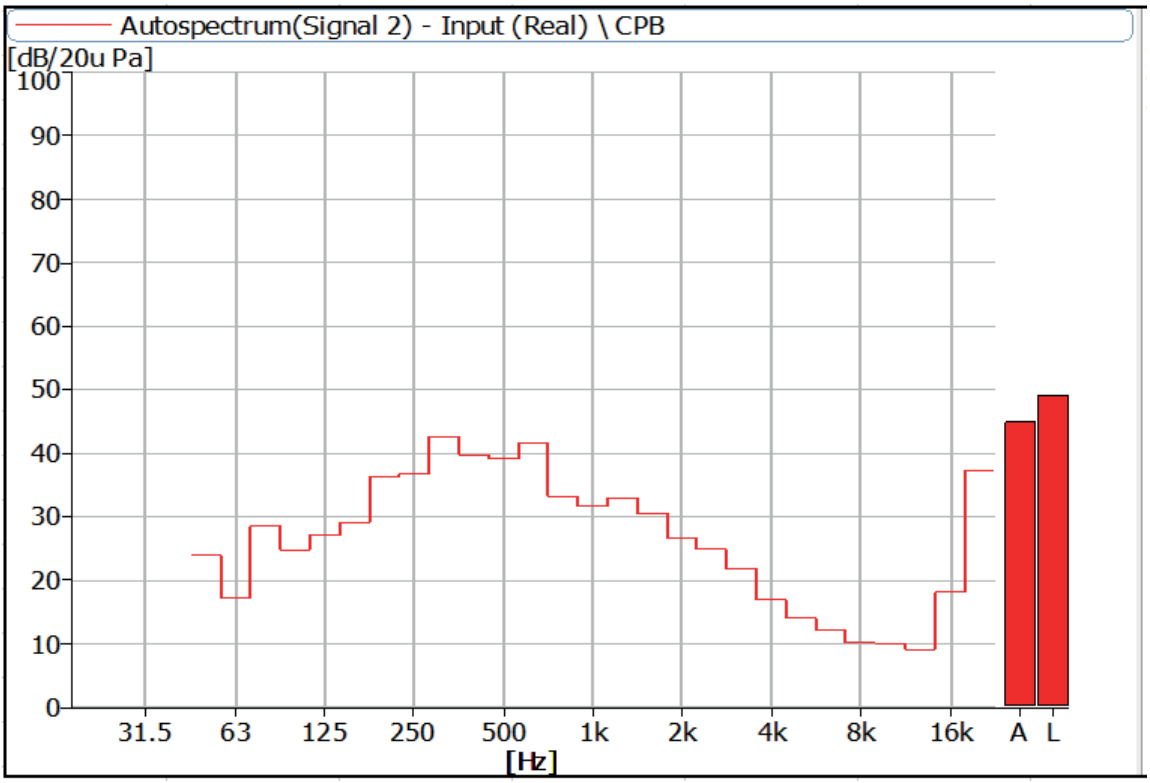


Figure 16 Noise Spectrum of Stage Luminaires (The Stage mode, Dynamic,No 2)

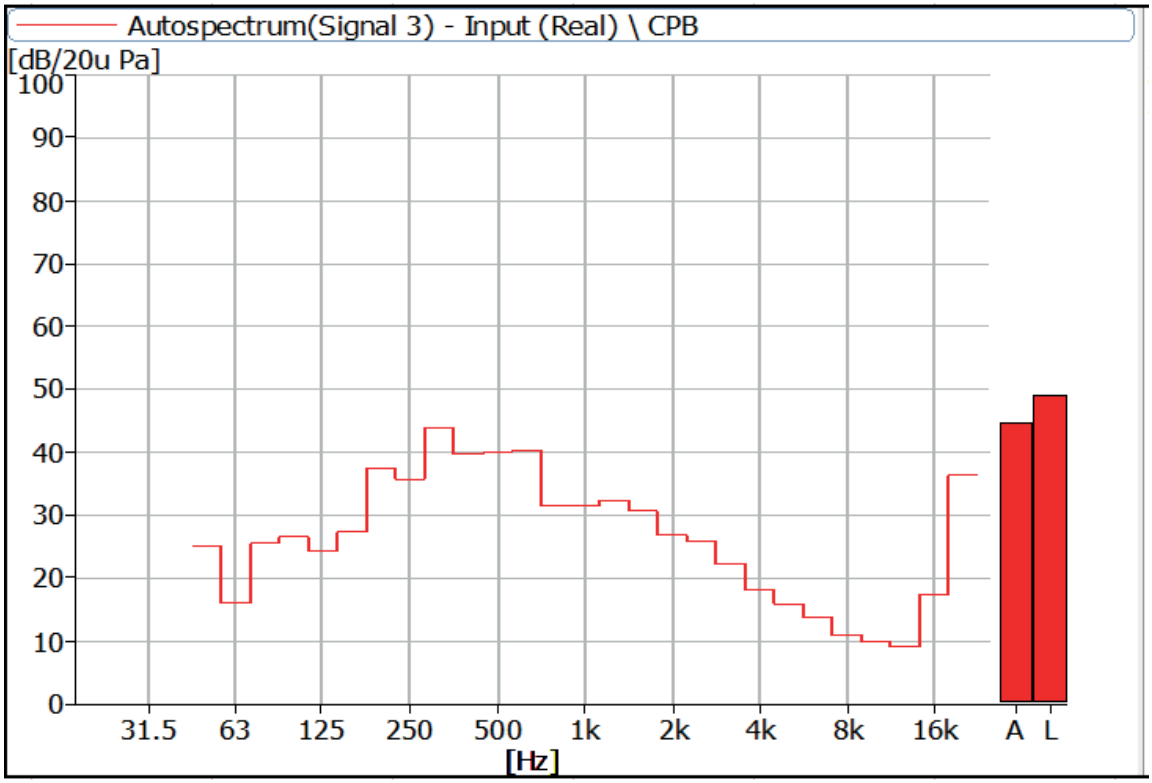


Figure 17 Noise Spectrum of Stage Luminaires (The Stage mode, Dynamic,No 3)

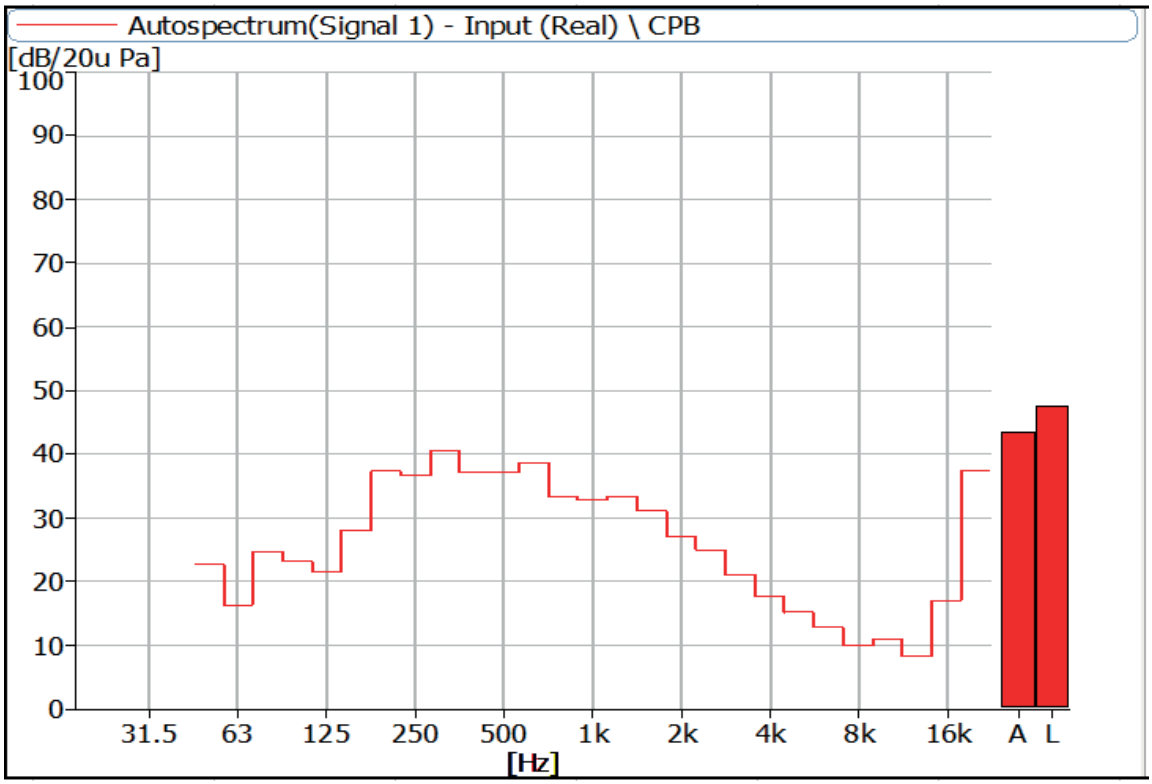


Figure 18 Noise Spectrum of Stage Luminaires (The Stage mode, Dynamic,No 4)

## 4. Noise Detection Results of Stage Luminaires (The Silence mode)

| Frequency (Hz) | Sound Pressure Level in Silence Mode（dB） | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Static | | | | Dynamic | | | |
| | No 1 | No 2 | No 3 | No 4 | No 1 | No 2 | No 3 | No 4 |
| 63 | 12.5 | 13.3 | 13.3 | 14.2 | 15.2 | 17.2 | 15.1 | 15.3 |
| 80 | 13.9 | 14.1 | 14.5 | 13.2 | 21.4 | 25.2 | 21.1 | 21.1 |
| 100 | 18.1 | 18.9 | 23.8 | 18.8 | 23.0 | 24.3 | 26.4 | 22.7 |
| 125 | 12.8 | 14.3 | 11.5 | 13.0 | 22.4 | 27.1 | 23.3 | 20.5 |
| 160 | 12.8 | 15.8 | 15.8 | 15.2 | 24.7 | 29.4 | 27.1 | 27.6 |
| 200 | 9.6 | 13.0 | 11.0 | 12.0 | 33.8 | 36.1 | 38.0 | 37.8 |
| 250 | 12.8 | 18.2 | 12.5 | 16.2 | 35.3 | 36.0 | 35.3 | 36.2 |
| 315 | 14.8 | 23.6 | 16.7 | 22.4 | 40.5 | 43.4 | 45.0 | 40.9 |
| 400 | 14.8 | 19.4 | 19.0 | 16.5 | 36.0 | 40.8 | 40.7 | 37.3 |
| 500 | 11.6 | 16.7 | 13.9 | 12.8 | 38.1 | 40.9 | 39.1 | 36.3 |
| 630 | 16.7 | 19.8 | 16.8 | 21.3 | 39.5 | 43.1 | 39.3 | 39.0 |
| 800 | 18.1 | 15.5 | 20.5 | 11.7 | 28.2 | 33.8 | 30.1 | 32.4 |
| 1000 | 14.0 | 15.7 | 17.2 | 12.3 | 26.4 | 29.0 | 27.2 | 27.6 |
| 1250 | 17.8 | 17.7 | 16.9 | 17.1 | 24.2 | 26.7 | 25.8 | 25.2 |
| 1600 | 14.2 | 16.3 | 13.7 | 14.3 | 20.7 | 22.1 | 22.1 | 20.6 |
| 2000 | 8.8 | 12.7 | 9.3 | 10.5 | 18.7 | 22.0 | 20.3 | 18.6 |
| 2500 | 7.6 | 10.2 | 9.4 | 8.4 | 17.1 | 23.0 | 22.6 | 20.3 |
| 3150 | 7.4 | 10.2 | 9.9 | 9.4 | 14.4 | 19.4 | 17.9 | 15.5 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 4000 | 6.7 | 8.7 | 8.0 | 6.9 | 10.6 | 13.1 | 12.6 | 11.2 |
| 5000 | 6.9 | 8.9 | 8.9 | 7.5 | 8.6 | 10.9 | 10.3 | 8.3 |
| 6300 | 6.9 | 8.4 | 8.2 | 7.6 | 7.7 | 9.7 | 9.4 | 8.5 |
| 8000 | 7.2 | 8.9 | 8.4 | 7.3 | 7.9 | 9.3 | 9.2 | 8.0 |
| 10000 | 9.2 | 8.2 | 8.1 | 9.5 | 9.8 | 9.7 | 9.3 | 10.2 |
| 12500 | 6.9 | 8.1 | 8.0 | 7.3 | 7.7 | 9.1 | 8.7 | 7.8 |
| 16000 | 10.2 | 13.8 | 12.1 | 14.3 | 16.3 | 18.0 | 18.0 | 16.9 |
| 20000 | 29.5 | 34.3 | 31.9 | 35.1 | 35.9 | 37.1 | 36.9 | 37.0 |
| Leq | 34.8 | 37.3 | 36.5 | 39.2 | 46.8 | 47.3 | 49.8 | 49.3 |
| A-weighted dB（A) | 25.9 | 28.8 | 27.5 | 28.5 | 42.0 | 42.2 | 45.4 | 44.0 |
| Average sound pressure level dB(A) | 27.7 | | | | 43.4 | | | |

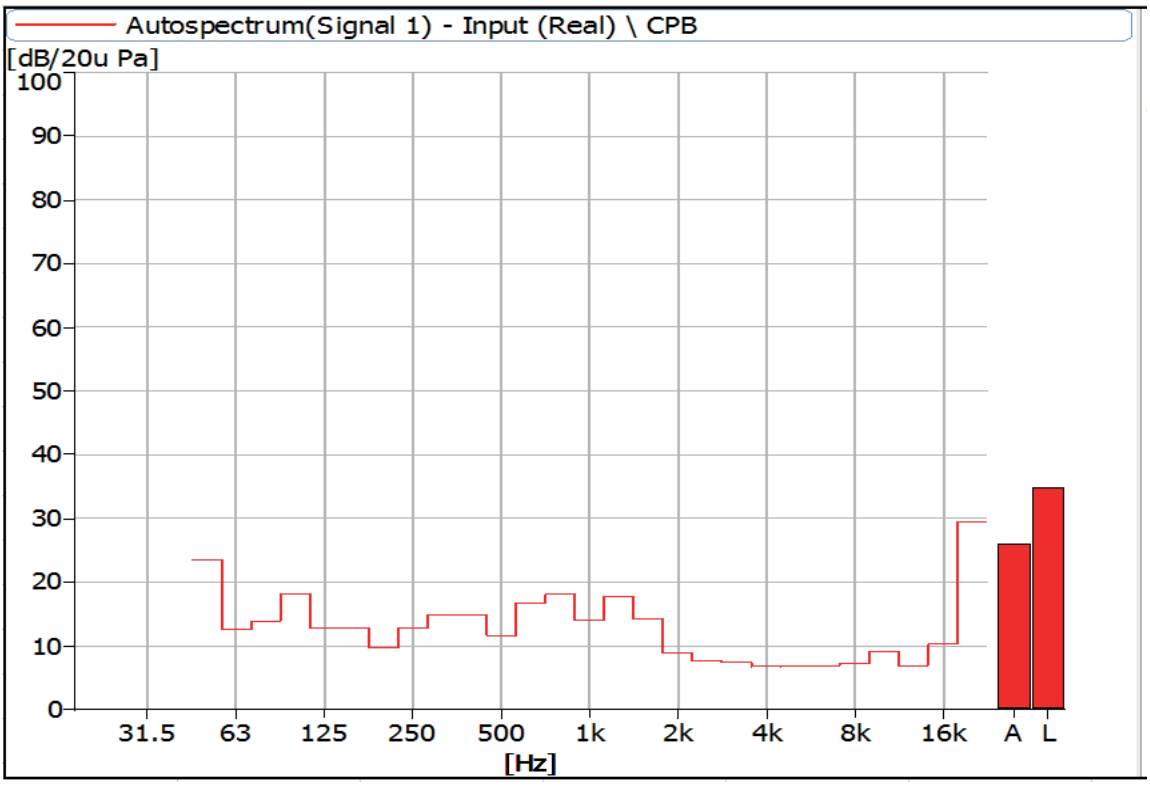


Figure 19 Noise Spectrum of Stage Luminaires (The Silence mode, static,No 1)

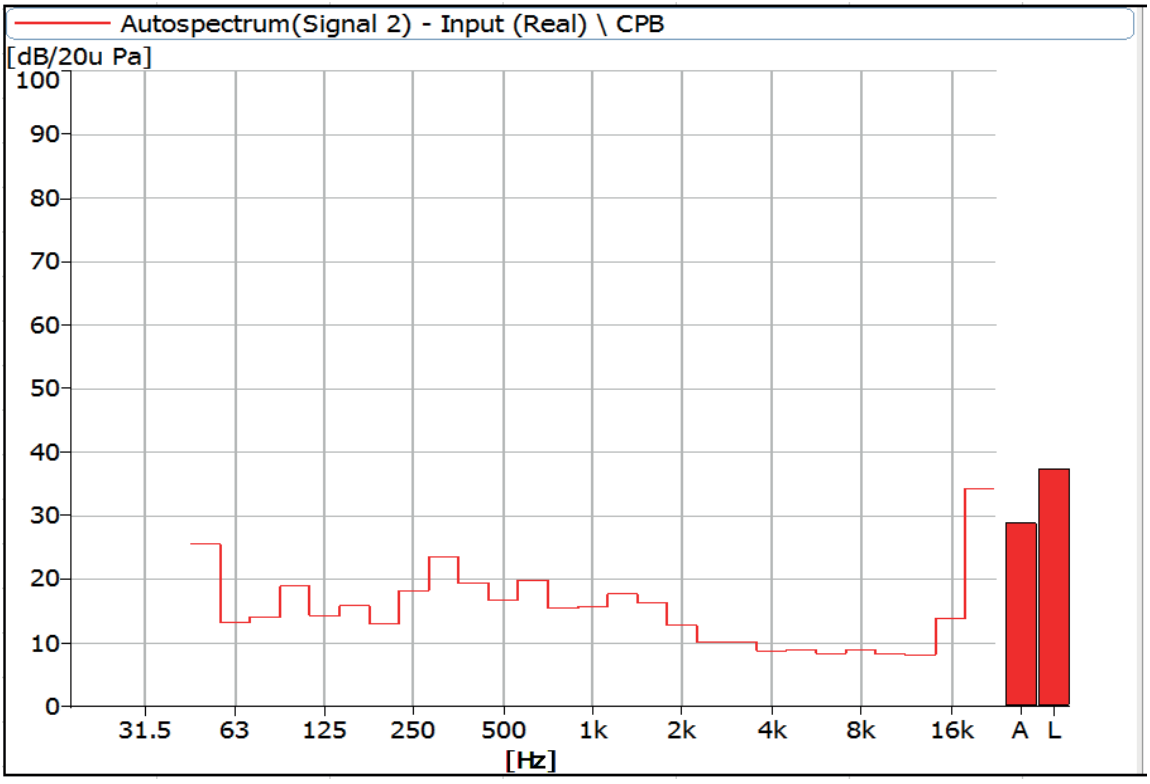


Figure 20 Noise Spectrum of Stage Luminaires (The Silence mode, static,No 2)

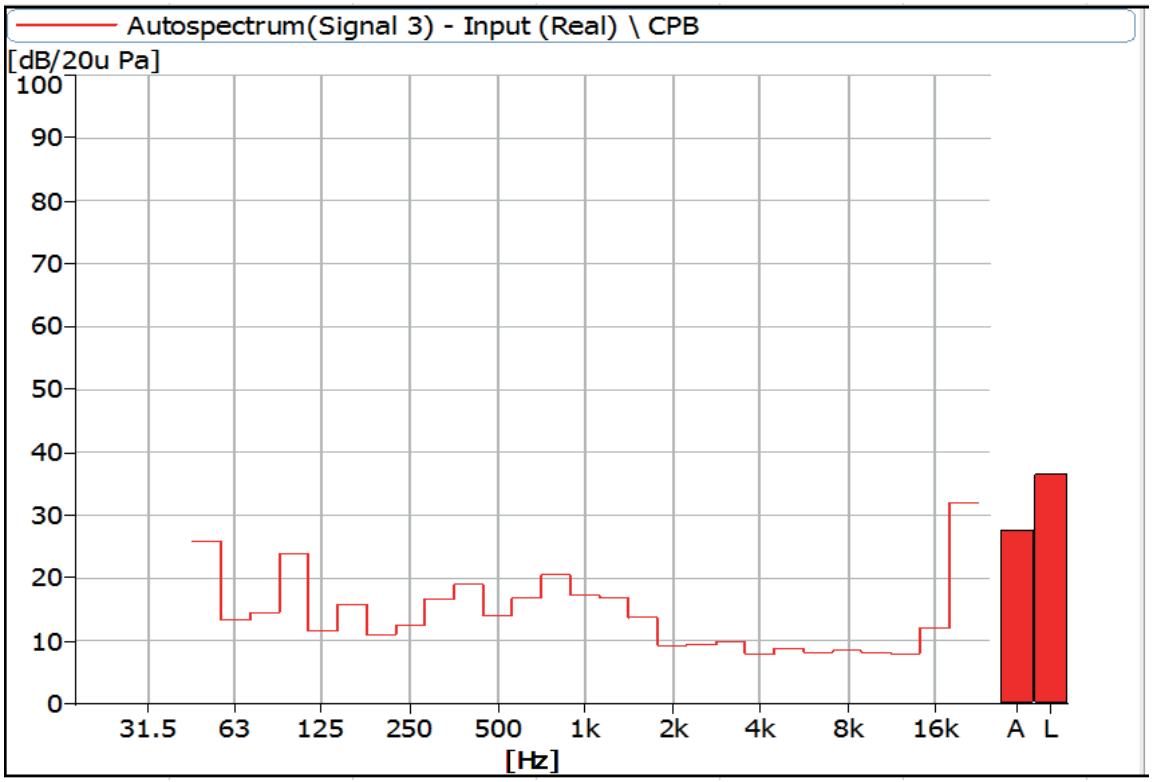


Figure 21 Noise Spectrum of Stage Luminaires (The Silence mode, static,No 3)

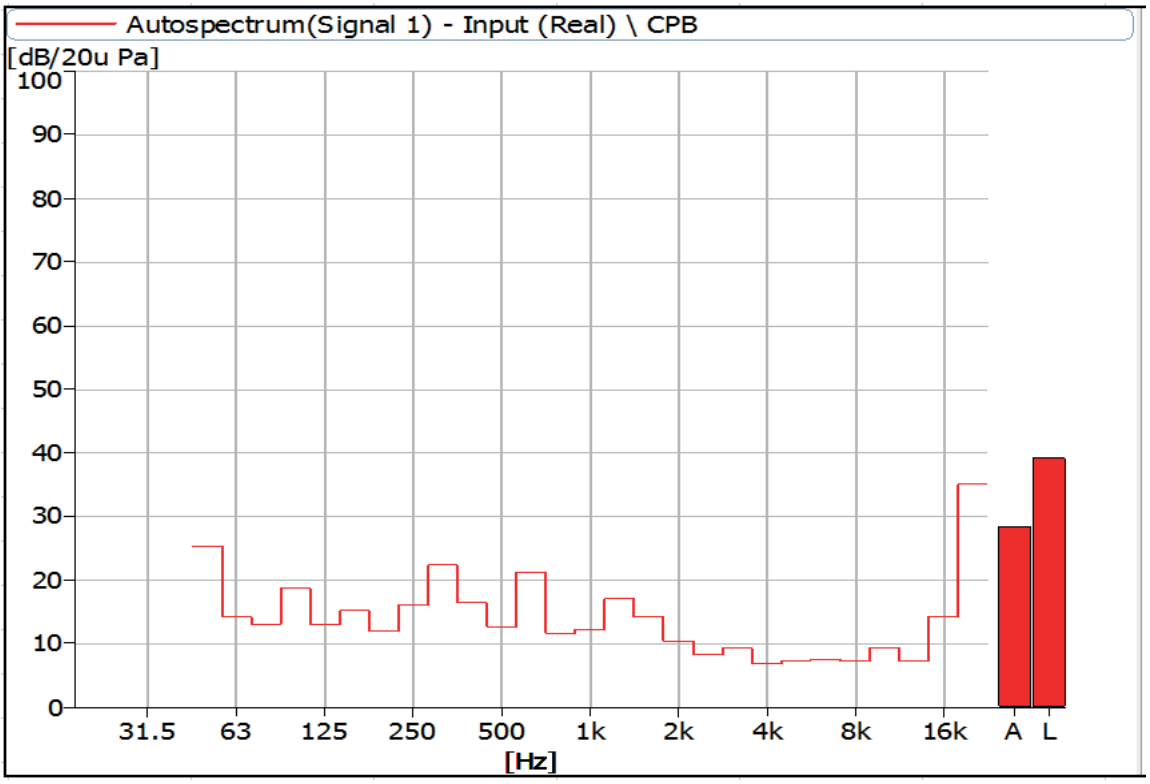


Figure 22 Noise Spectrum of Stage Luminaires (The Silence mode, static,No 4)

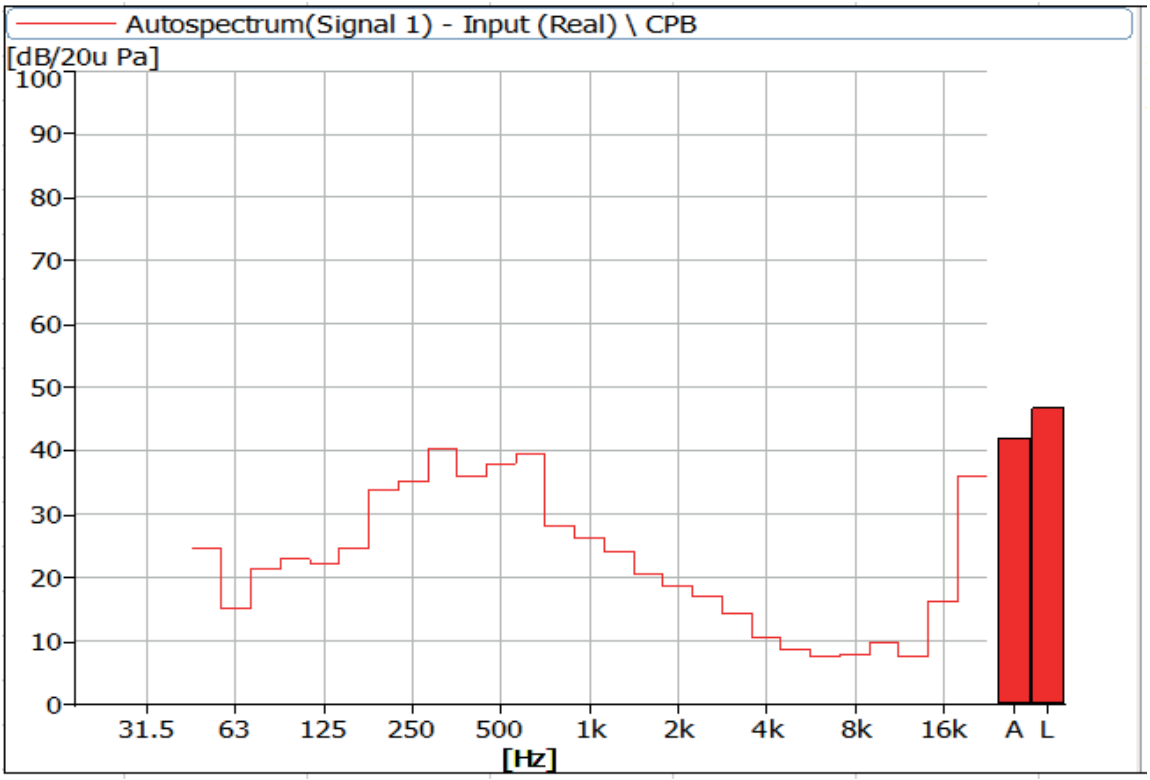


Figure 23 Noise Spectrum of Stage Luminaires (The Silence mode, Dynamic,No 1)

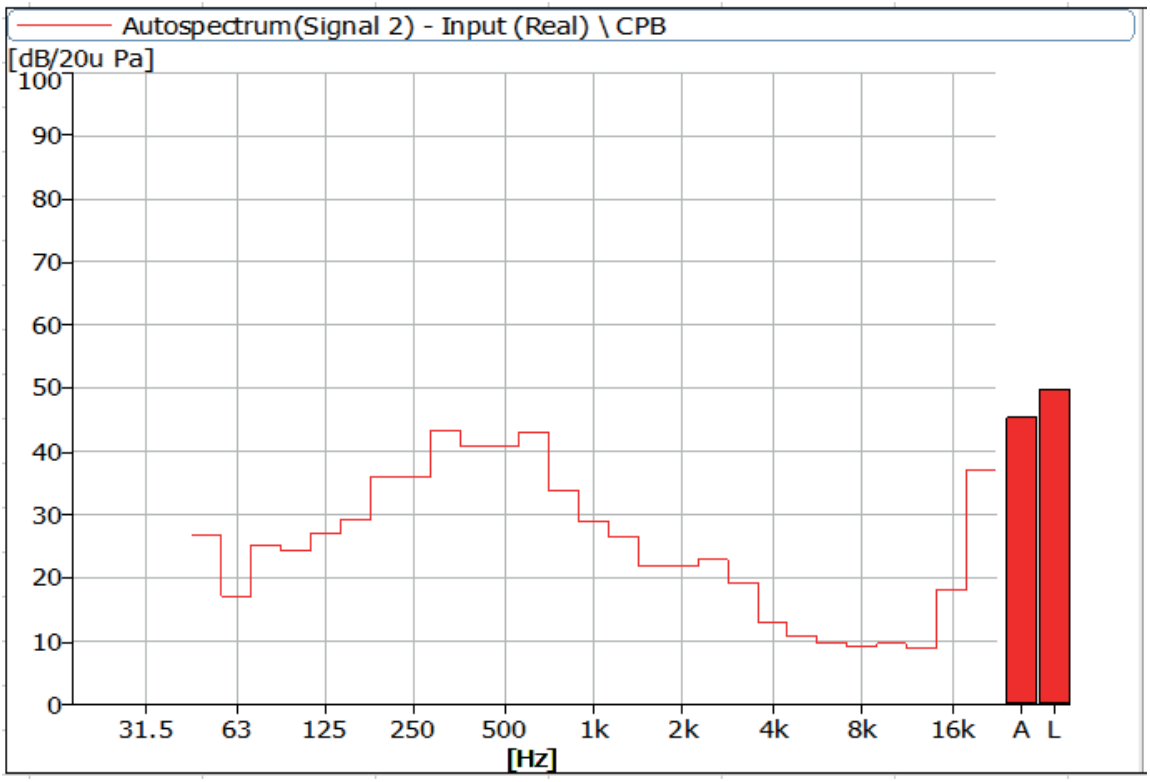


Figure 24 Noise Spectrum of Stage Luminaires (The Silence mode, Dynamic,No 2)

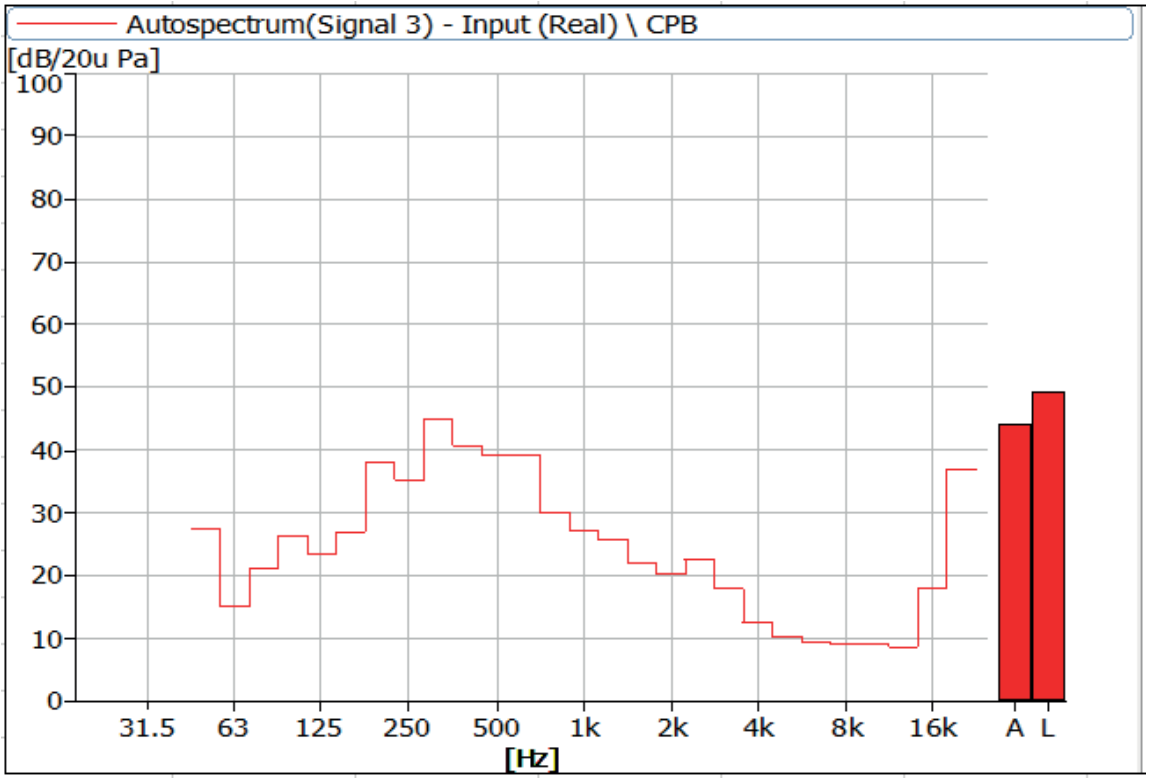


Figure 25 Noise Spectrum of Stage Luminaires (The Silence mode, Dynamic,No 3)

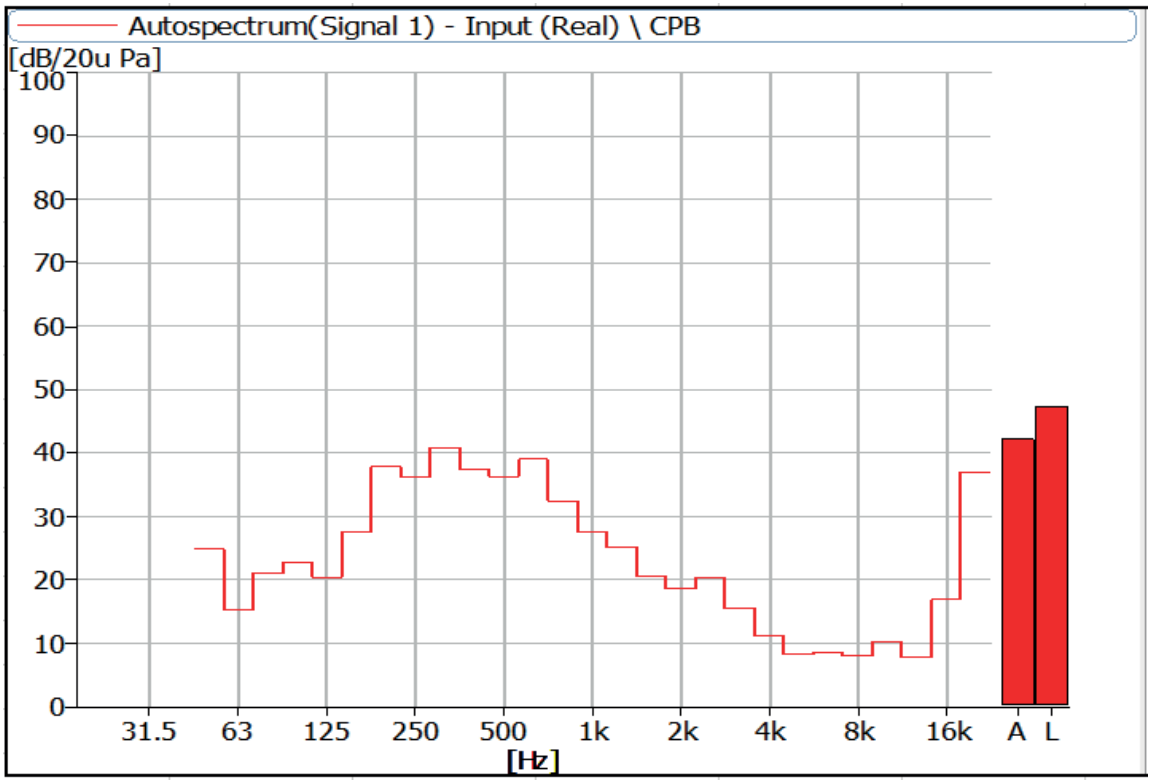


Figure 26 Noise Spectrum of Stage Luminaires (The Silence mode, Dynamic,No 4)

## 5. Noise Detection Results of Stage Luminaires (The Super Silence mode)

| Frequency (Hz) | Sound Pressure Level in Super Silence Mode（dB） | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Static | | | | Dynamic | | | |
| | No 1 | No 2 | No 3 | No 4 | No 1 | No 2 | No 3 | No 4 |
| 63 | 13.5 | 14.2 | 14.2 | 13.8 | 15.1 | 17.3 | 14.9 | 15.5 |
| 80 | 14.7 | 14.3 | 14.2 | 13.6 | 21.7 | 25.9 | 21.5 | 22.0 |
| 100 | 16.3 | 16.5 | 21.8 | 18.5 | 23.1 | 24.5 | 26.5 | 22.8 |
| 125 | 13.2 | 14.2 | 11.7 | 13.2 | 22.4 | 26.7 | 22.8 | 20.0 |
| 160 | 8.6 | 11.9 | 9.9 | 10.3 | 25.5 | 29.9 | 27.6 | 28.2 |
| 200 | 8.5 | 16.0 | 16.9 | 13.3 | 33.6 | 36.3 | 38.1 | 37.7 |
| 250 | 8.4 | 11.7 | 9.3 | 11.0 | 34.7 | 36.1 | 35.5 | 36.3 |
| 315 | 14.7 | 21.4 | 17.1 | 18.1 | 41.0 | 44.5 | 45.3 | 41.3 |
| 400 | 15.4 | 18.1 | 17.4 | 18.7 | 37.1 | 42.1 | 41.8 | 38.3 |
| 500 | 16.6 | 16.7 | 15.1 | 14.2 | 39.5 | 41.6 | 40.5 | 37.1 |
| 630 | 17.3 | 22.2 | 19.0 | 15.6 | 40.1 | 44.0 | 40.6 | 40.5 |
| 800 | 10.6 | 12.2 | 13.2 | 9.8 | 28.7 | 33.5 | 30.0 | 32.2 |
| 1000 | 12.4 | 15.3 | 16.6 | 10.4 | 26.4 | 31.5 | 27.8 | 28.6 |
| 1250 | 17.7 | 19.0 | 17.9 | 15.1 | 23.7 | 29.2 | 27.4 | 28.0 |
| 1600 | 19.3 | 18.1 | 19.7 | 15.0 | 19.8 | 27.0 | 25.4 | 23.6 |
| 2000 | 12.6 | 14.5 | 13.3 | 10.5 | 18.9 | 24.2 | 20.9 | 22.5 |
| 2500 | 13.6 | 12.9 | 11.5 | 10.5 | 17.7 | 24.2 | 22.7 | 21.9 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 3150 | 10.5 | 13.1 | 10.7 | 9.2 | 13.2 | 20.7 | 18.6 | 17.7 |
| 4000 | 6.8 | 9.5 | 8.0 | 7.0 | 10.6 | 13.4 | 13.4 | 12.1 |
| 5000 | 7.0 | 8.5 | 8.5 | 7.6 | 9.0 | 11.2 | 10.7 | 8.9 |
| 6300 | 6.9 | 8.5 | 8.3 | 6.9 | 8.3 | 9.8 | 9.6 | 7.6 |
| 8000 | 7.1 | 8.9 | 8.5 | 7.5 | 8.0 | 9.5 | 9.2 | 8.3 |
| 10000 | 9.1 | 8.3 | 8.1 | 9.7 | 9.5 | 9.4 | 9.0 | 10.1 |
| 12500 | 6.9 | 8.1 | 8.0 | 7.1 | 7.7 | 8.9 | 8.7 | 7.6 |
| 16000 | 7.1 | 14.0 | 13.4 | 10.4 | 16.6 | 17.7 | 17.8 | 16.8 |
| 20000 | 19.9 | 34.6 | 33.8 | 29.5 | 35.9 | 37.0 | 37.1 | 37.0 |
| Leq | 35.1 | 38.0 | 37.4 | 38.1 | 47.3 | 50.2 | 49.9 | 47.8 |
| A-weighted dB（A) | 25.9 | 29.4 | 28.6 | 25.5 | 42.7 | 45.8 | 44.9 | 43.1 |
| Average sound pressure level dB(A) | 27.4 | | | | 44.1 | | | |

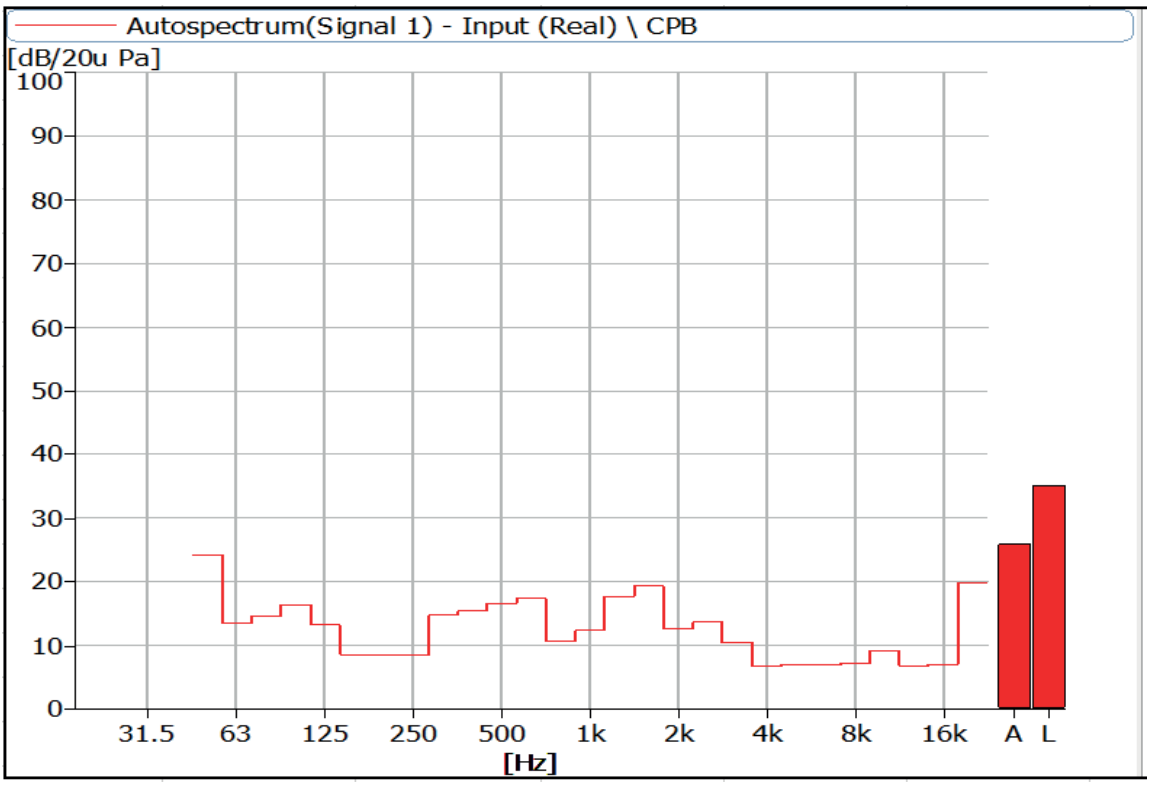


Figure 27 Noise Spectrum of Stage Luminaires (The Super Silence mode, static,No 1)

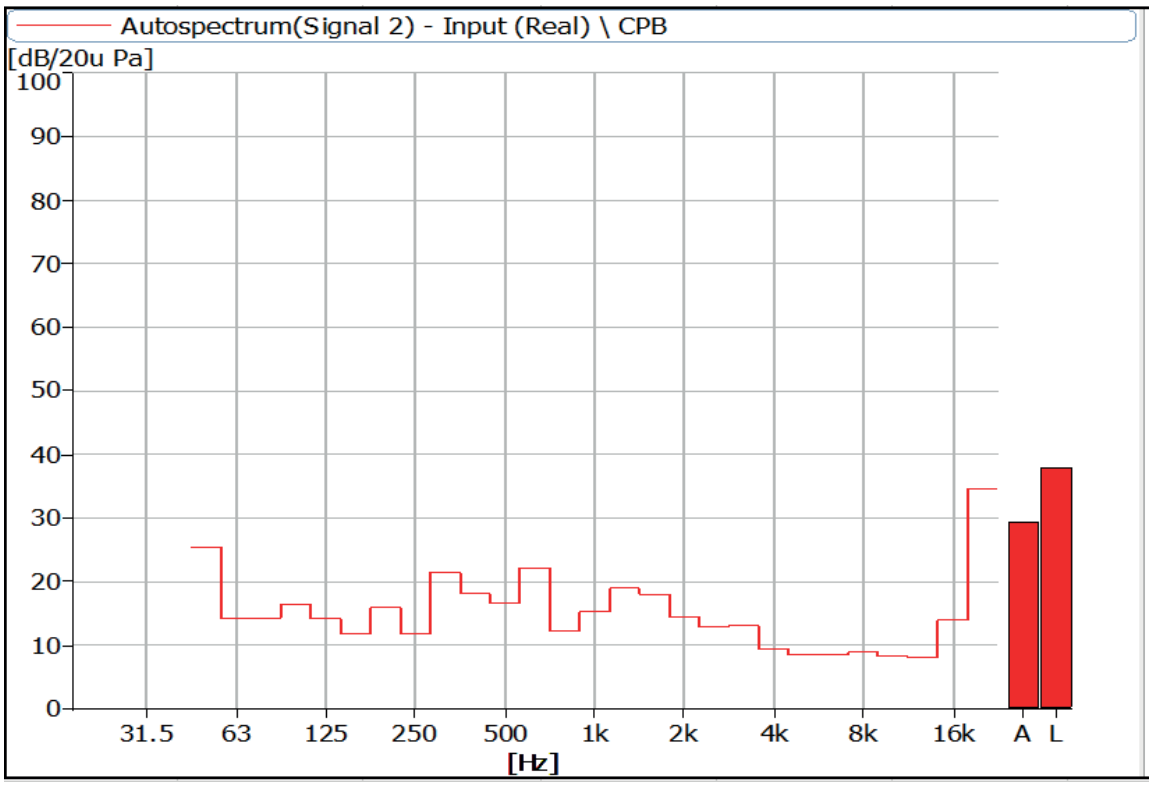


Figure 28 Noise Spectrum of Stage Luminaires (The Super Silence mode, static,No 2)

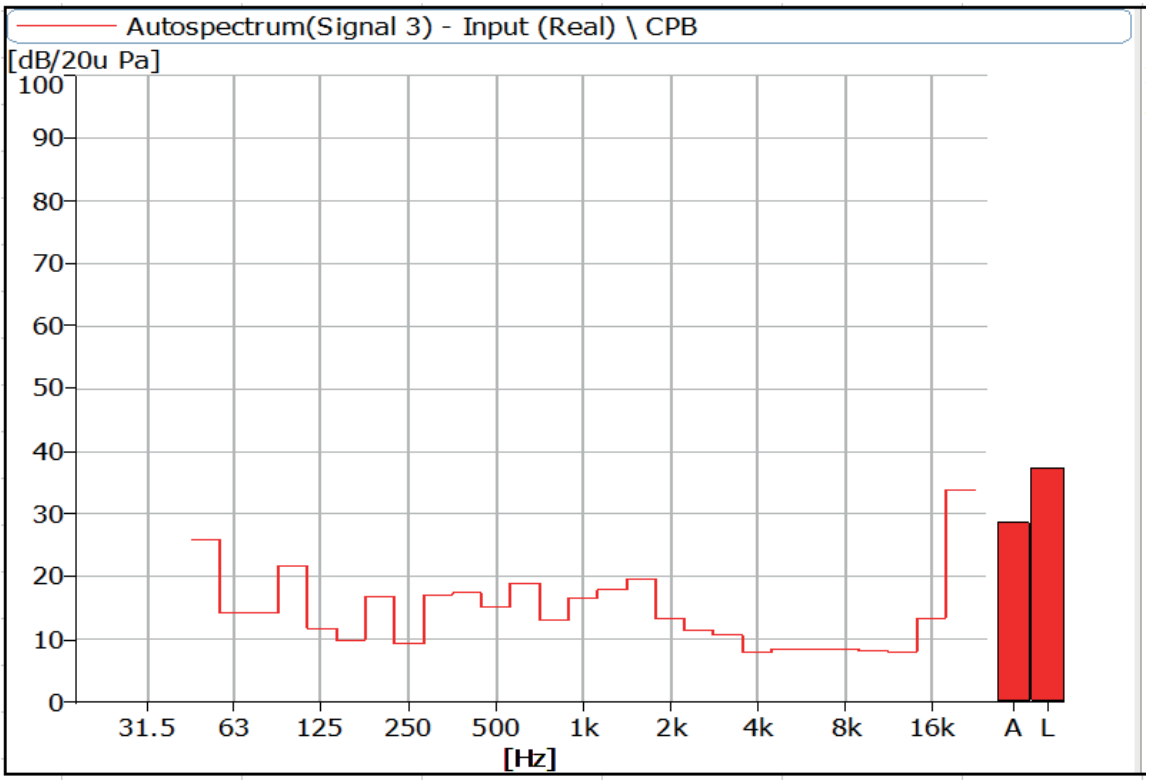


Figure 29 Noise Spectrum of Stage Luminaires (The Super Silence mode, static,No 3)

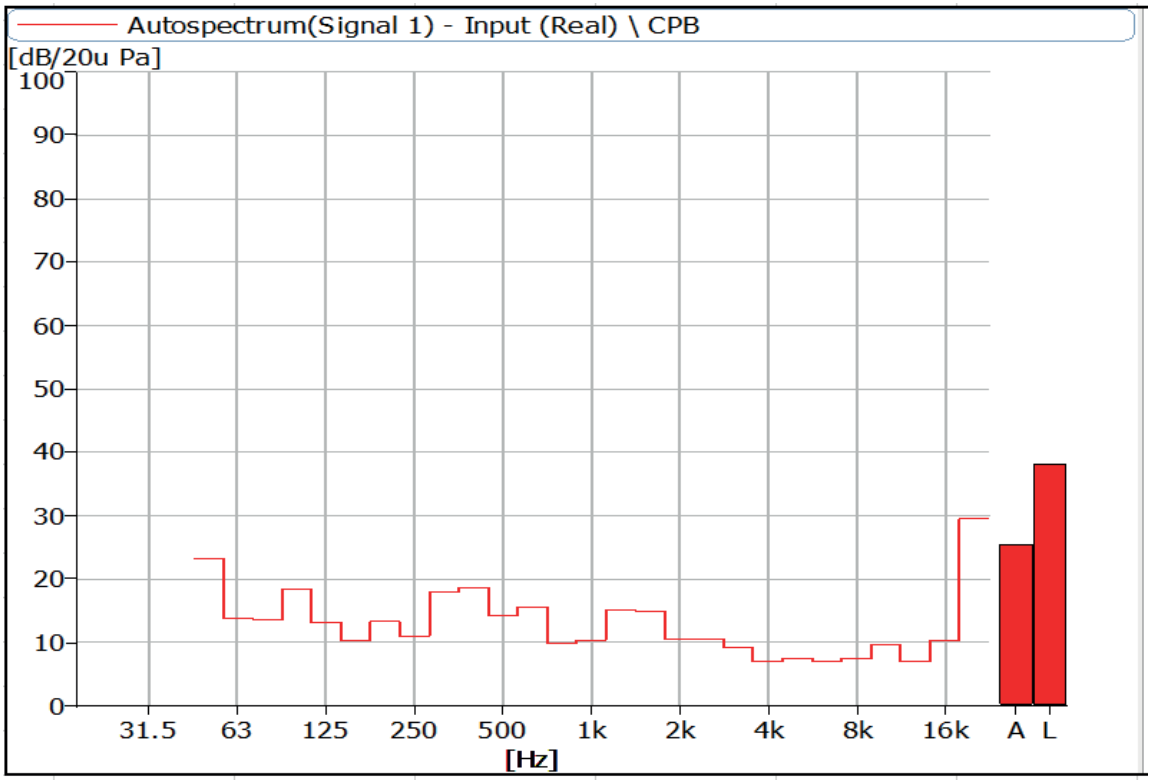


Figure 30 Noise Spectrum of Stage Luminaires (The Super Silence mode, static,No 4)

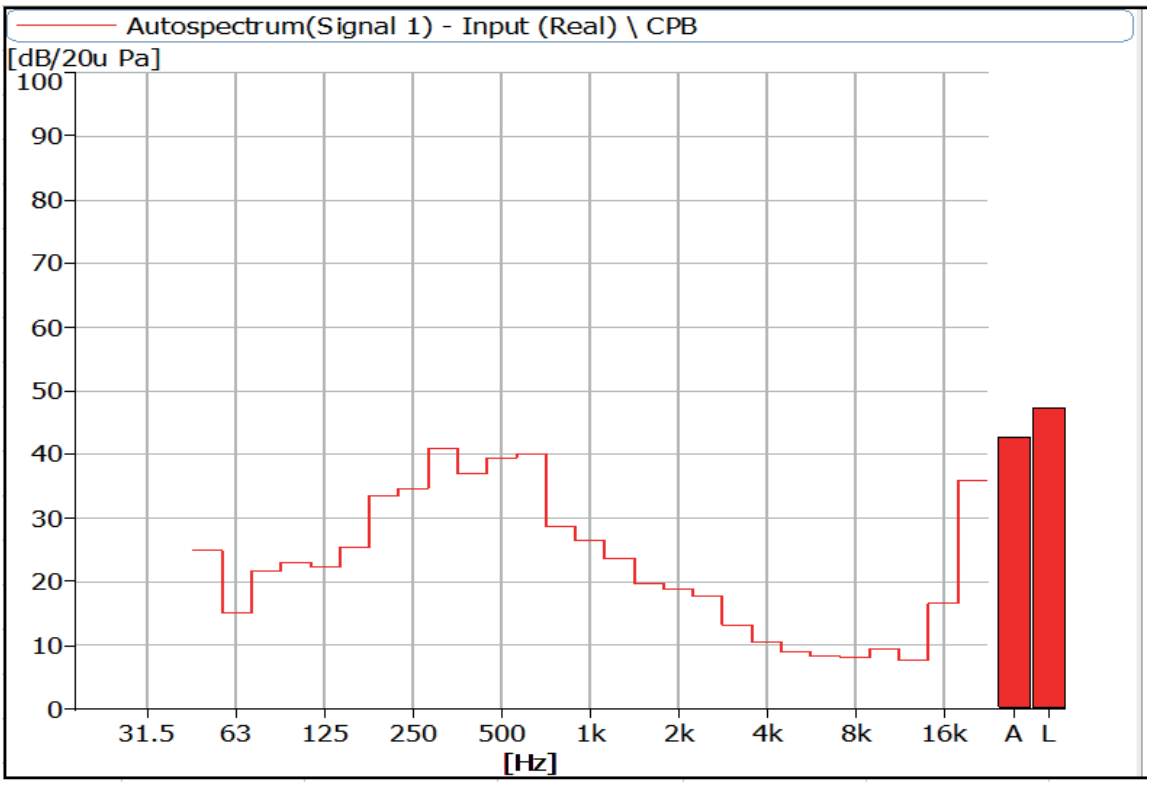


Figure 31 Noise Spectrum of Stage Luminaires (The Super Silence mode, Dynamic,No 1)

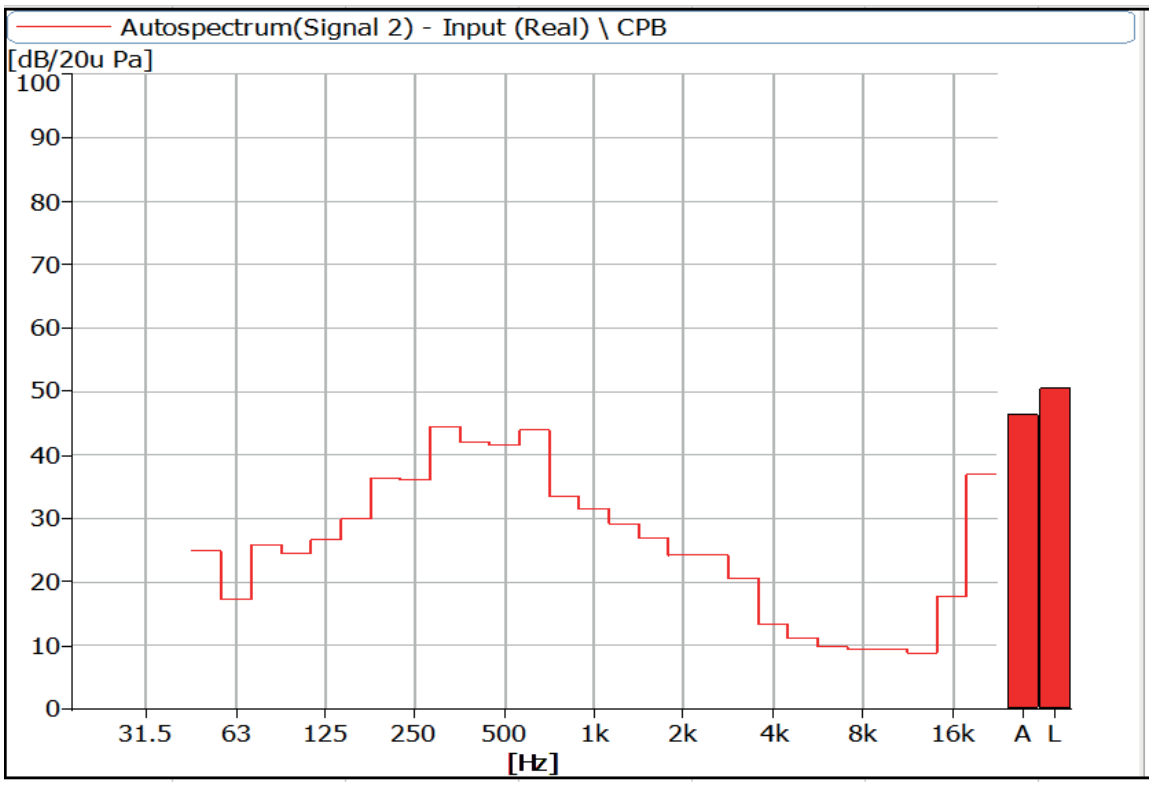


Figure 32 Noise Spectrum of Stage Luminaires (The Super Silence mode, Dynamic,No 2)

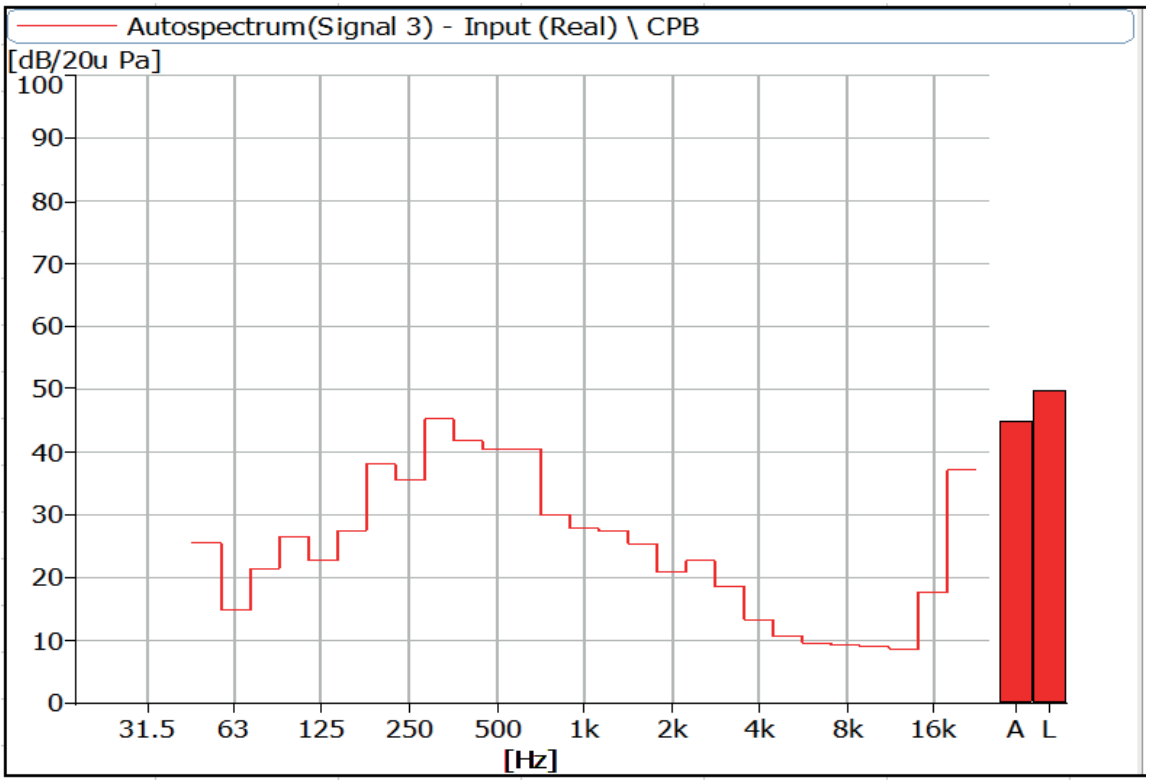


Figure 33 Noise Spectrum of Stage Luminaires (The Super Silence mode, Dynamic,No 3)

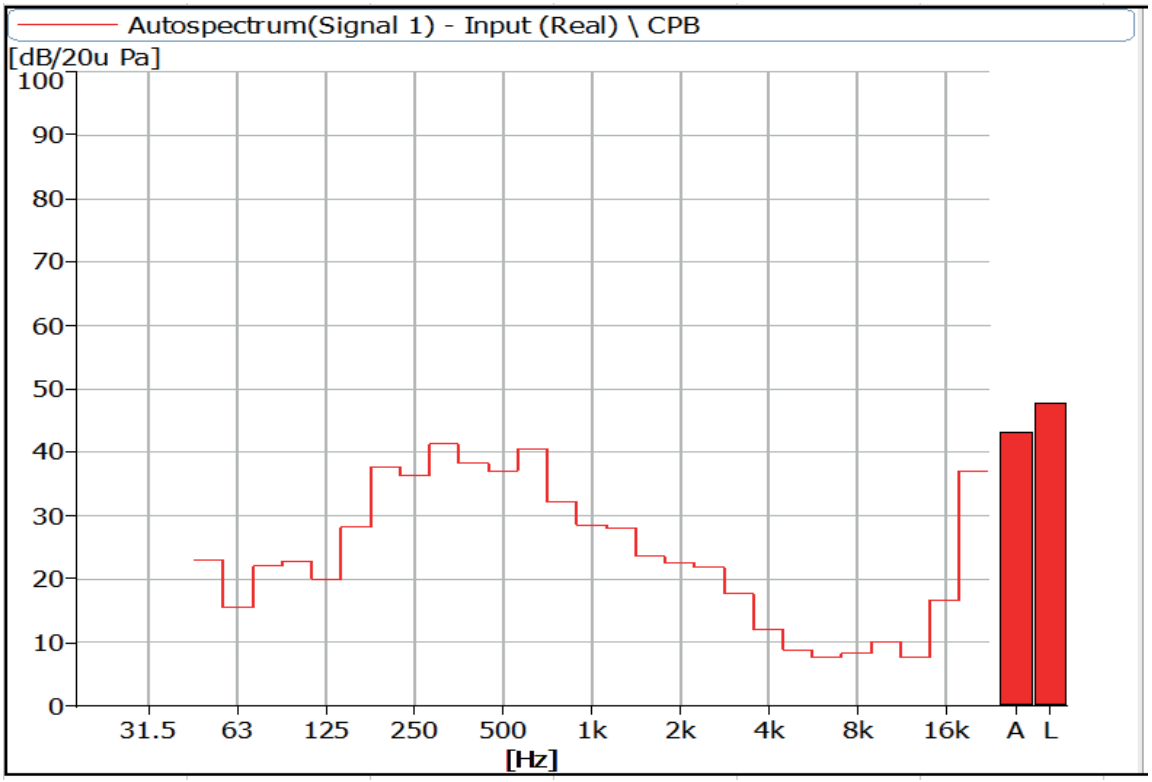


Figure 34 Noise Spectrum of Stage Luminaires (The Super Silence mode, Dynamic,No 4)

## Instrumentation

| No | Equipment | Type | Number | Calibration period |
|---|---|---|---|---|
| 1 | Anechoicrooms | —— | R40010 | 2024-07-09 |
| 2 | Noise Analyzer | 3160-A-042 | R40011-2 | 2025-06-19 |
| 3 | acoustic calibrator | 4231 | R40011-1 | 2024-04-15 |
| 4 | gas-pressure meter | （970-1050）hPa | T40058-1 | 2024-06-14 |
| 5 | steel tap | 5m | ad040 | 2024-03-15 |


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