ARGO 6 FX

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.

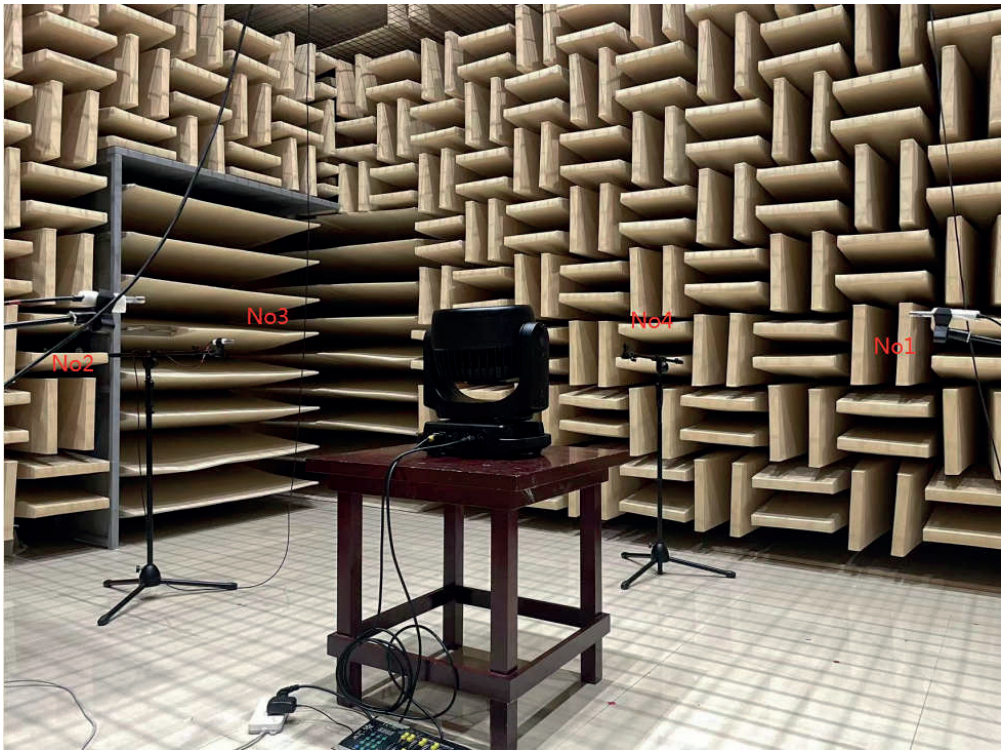

Figure 1 Test setup

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	17.8	19.5	20.1	19.1	22.7	22.1	20.8	23.3
80	19.4	21.2	20.3	20.4	33.0	32.3	27.4	33.5
100	22.1	23.9	24.6	22.9	22.8	23.8	25.0	21.7
125	18.1	24.0	17.3	24.8	23.1	23.3	22.7	23.0
160	21.6	24.7	18.6	24.9	26.5	26.1	26.1	26.1
200	23.4	34.0	28.9	27.3	33.2	32.6	32.9	33.2
250	24.4	29.4	25.9	27.5	45.4	44.1	44.9	44.6
315	23.4	26.6	23.5	26.2	33.7	33.1	33.1	33.3
400	27.0	30.6	30.4	30.7	36.0	35.7	37.9	35.8
500	39.0	41.4	33.8	44.3	40.6	41.6	40.6	40.6
630	32.2	32.6	32.1	33.7	35.5	35.9	35.2	34.9
800	39.9	35.4	39.7	35.5	37.7	37.3	37.6	37.4
1000	38.1	38.9	38.1	36.3	38.1	37.4	37.8	38.0
1250	37.7	36.4	38.7	36.6	37.4	36.5	36.8	36.9
1600	32.3	35.1	34.6	35.1	49.7	47.6	46.9	47.2
2000	30.0	30.5	30.7	29.3	33.2	32.2	32.3	32.2
2500	29.1	24.5	30.0	29.6	28.9	29.0	29.1	29.2

3150	24.8	24.4	25.6	23.9	27.9	27.9	28.1	28.8
4000	23.0	19.2	23.6	21.1	24.5	22.9	23.8	24.2
5000	18.1	17.7	17.3	16.1	21.2	21.4	21.3	21.7
6300	17.4	13.3	16.5	14.6	19.2	18.5	19.1	19.1
8000	13.5	10.9	13.3	11.7	15.9	14.9	15.3	15.2
10000	10.9	9.8	10.9	9.7	12.8	12.5	12.3	12.3
12500	9.3	8.7	9.7	8.7	14.7	13.1	15.6	13.1
16000	9.8	9.1	9.4	8.8	13.8	14.6	13.1	14.6
20000	21.7	21.9	18.9	22.6	28.6	29.3	27.8	28.3
Leq	46.3	46.7	46.4	47.6	52.8	51.5	51.6	51.6
A-weighted dB（A)	45.1	44.9	45.2	45.4	51.8	50.3	49.9	50.0
Average sound pressure level dB(A)	45.2				50.5			

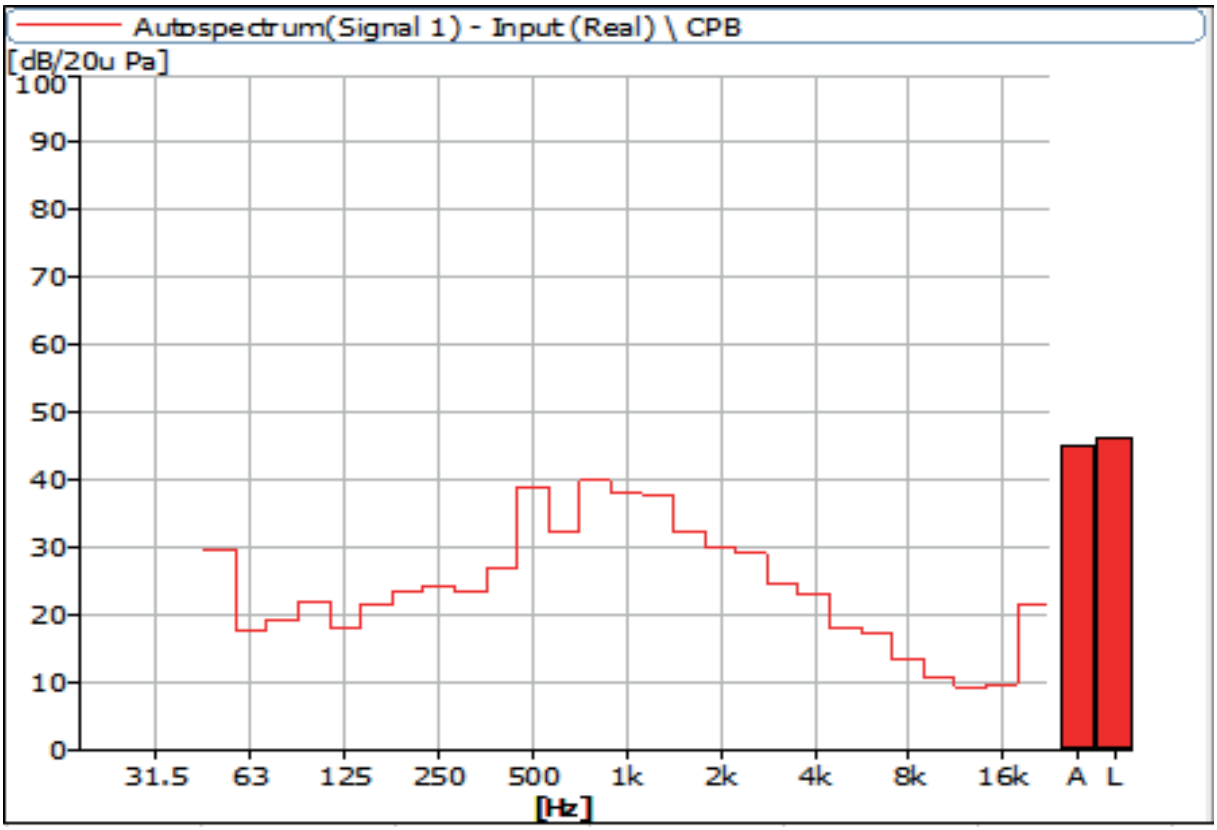

Figure 3 Noise Spectrum of Stage Luminaires (The Auto mode, static,No 1)

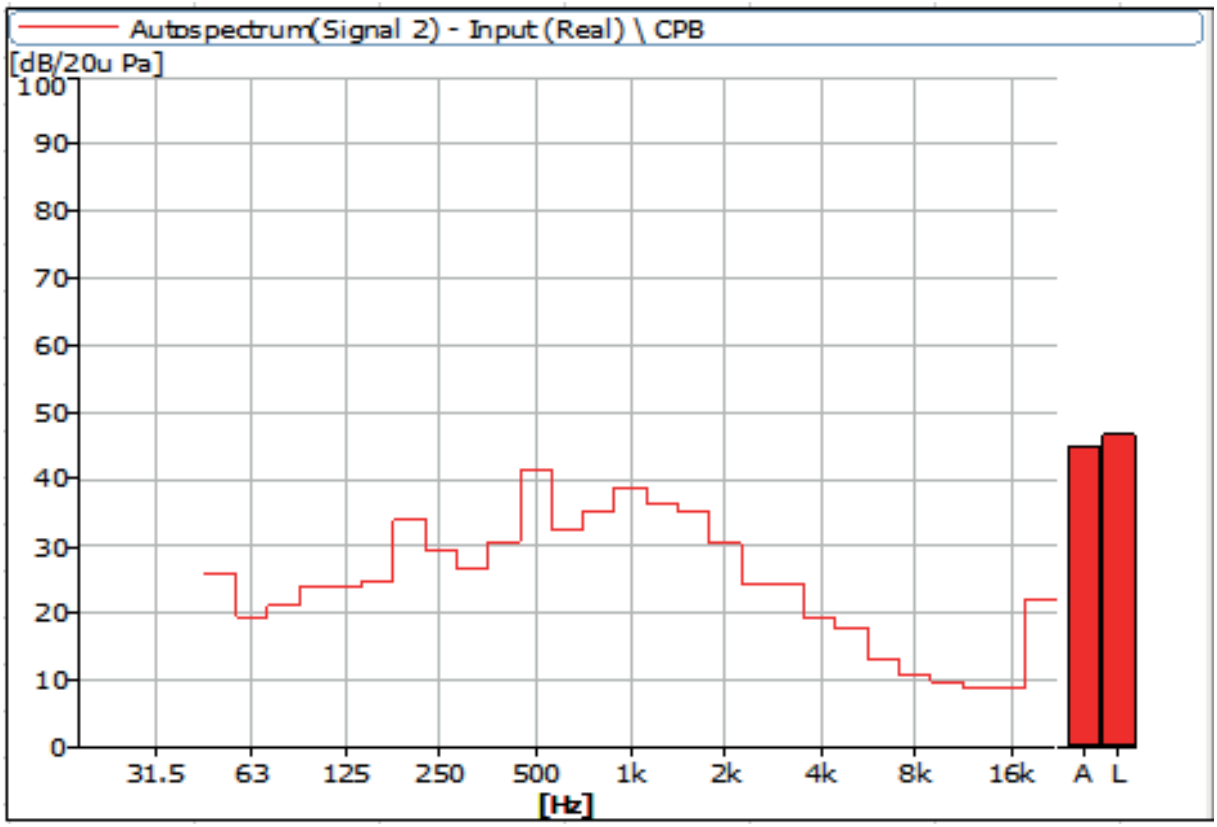

Figure 4 Noise Spectrum of Stage Luminaires (The Auto mode, static,No 2)

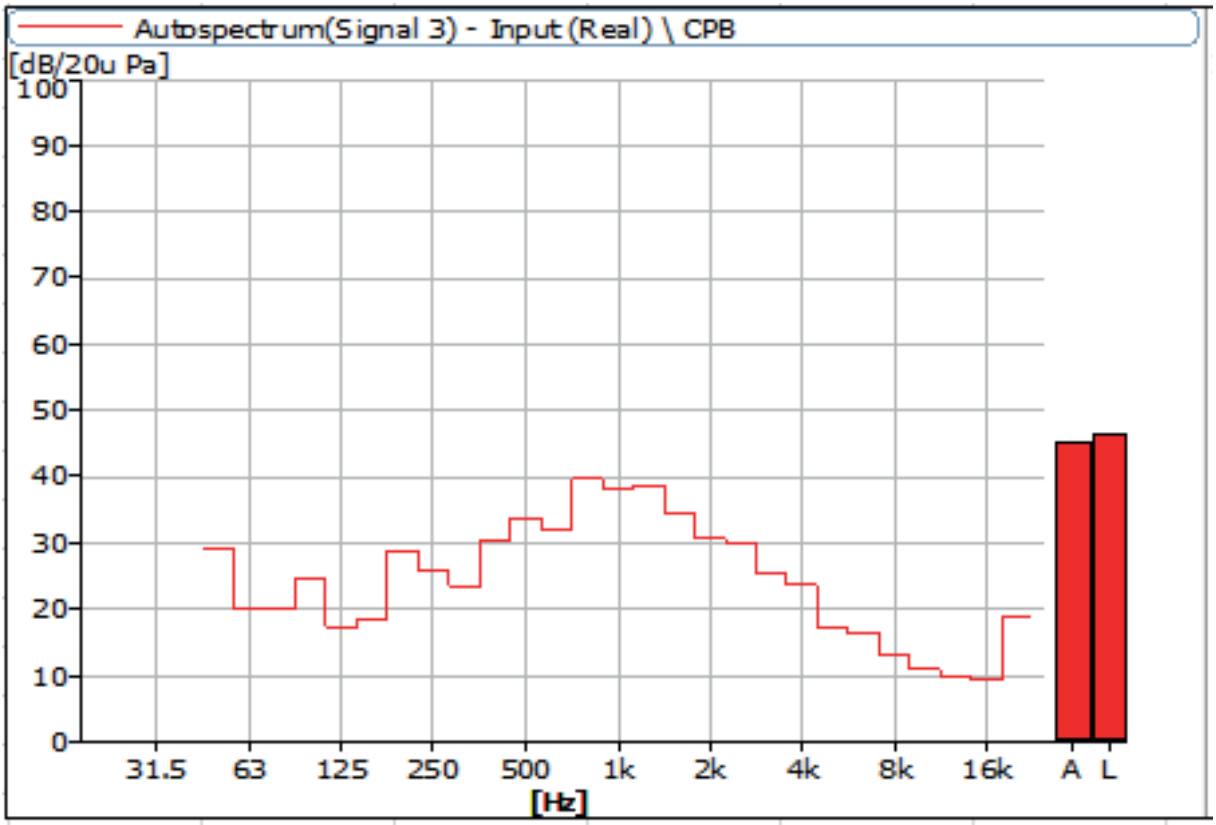

Figure 5 Noise Spectrum of Stage Luminaires (The Auto mode, static,No 3)

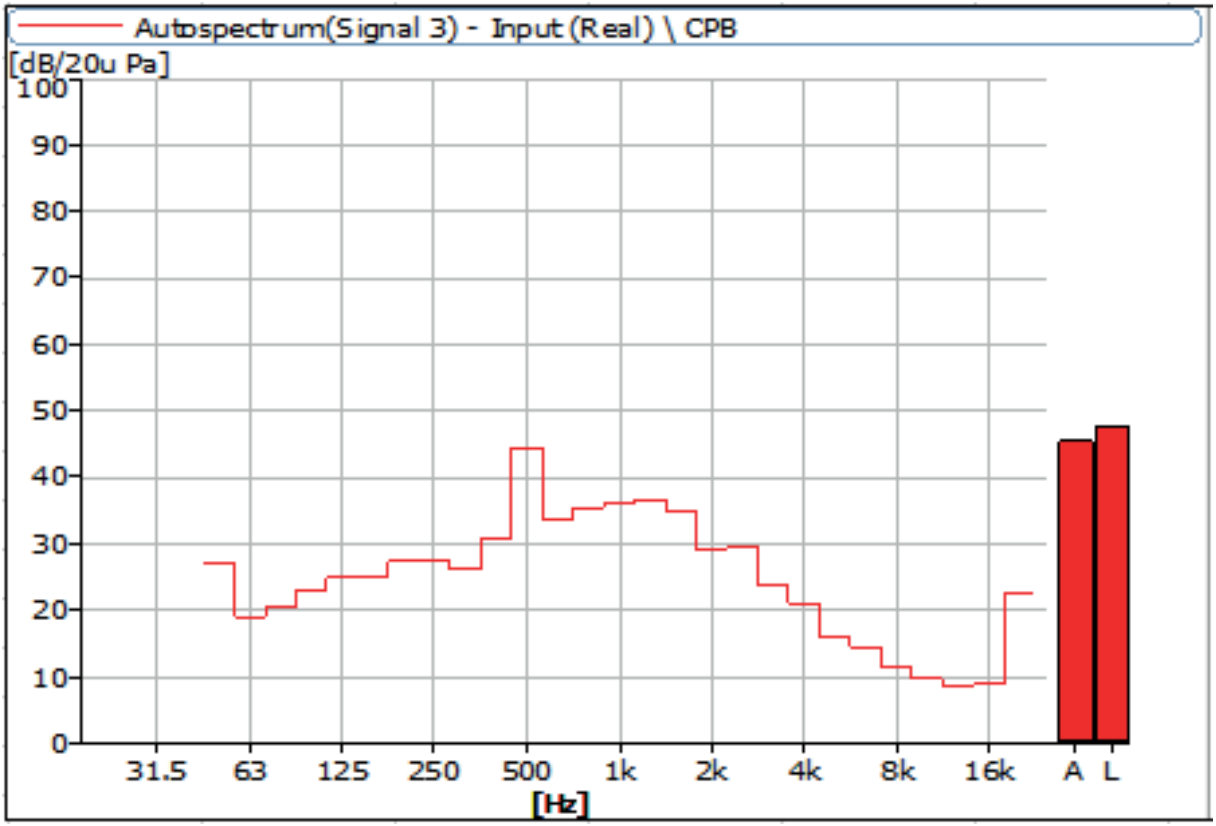

Figure 6 Noise Spectrum of Stage Luminaires (The Auto mode, static,No 4)

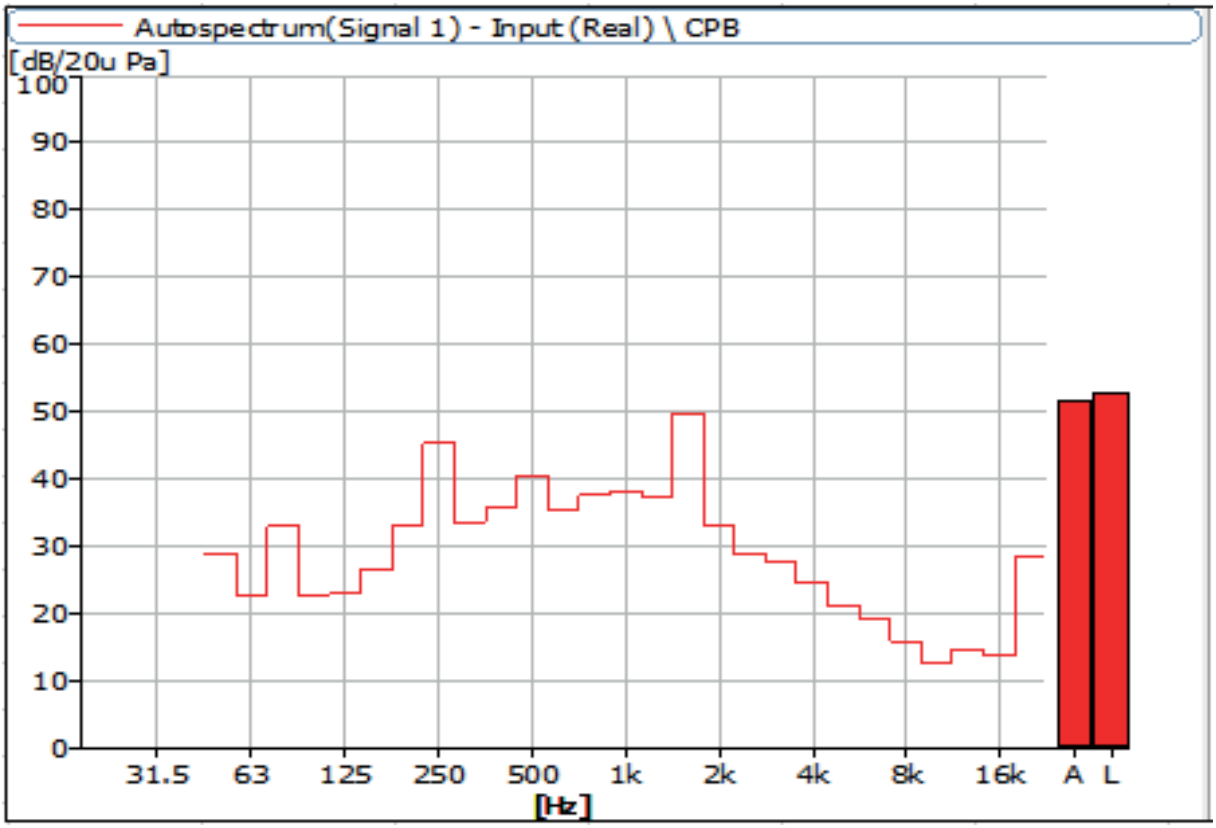

Figure 7 Noise Spectrum of Stage Luminaires (The Auto mode, Dynamic,No 1)

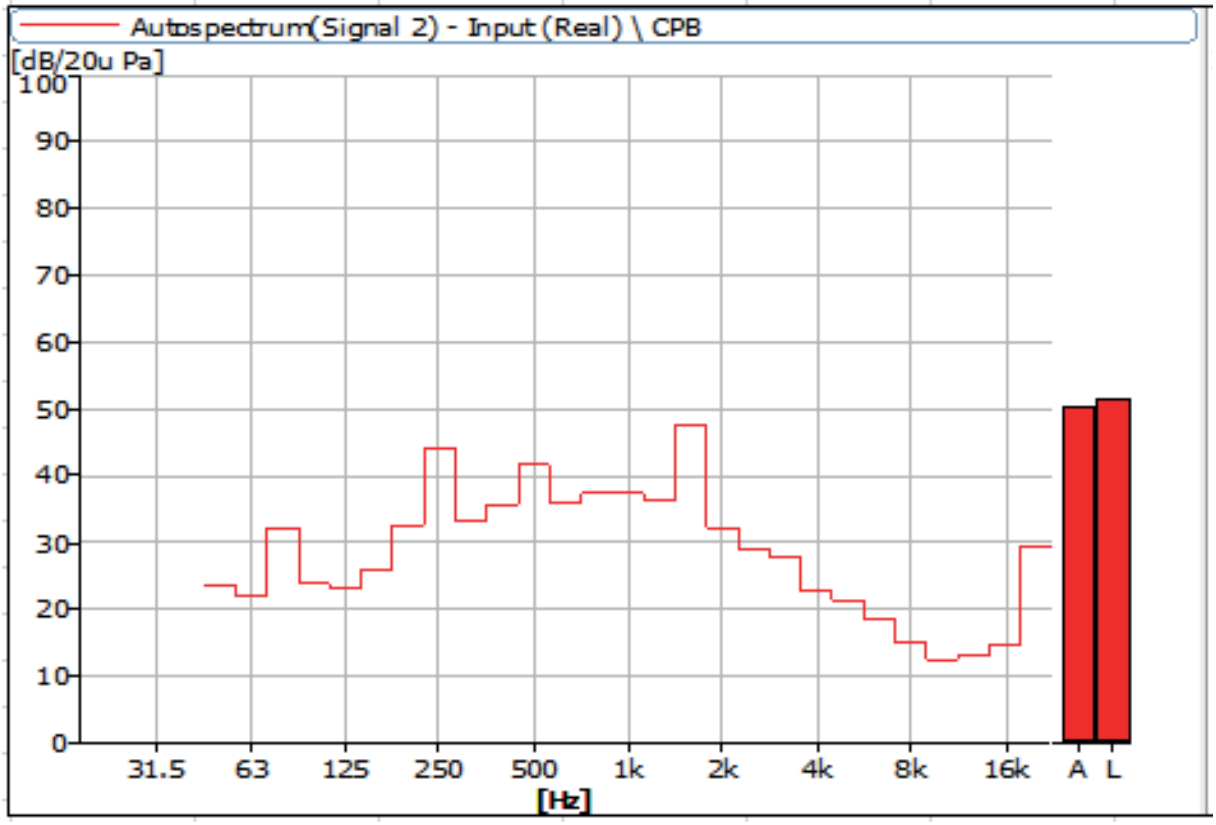

Figure 8 Noise Spectrum of Stage Luminaires (The Auto mode, Dynamic,No 2)

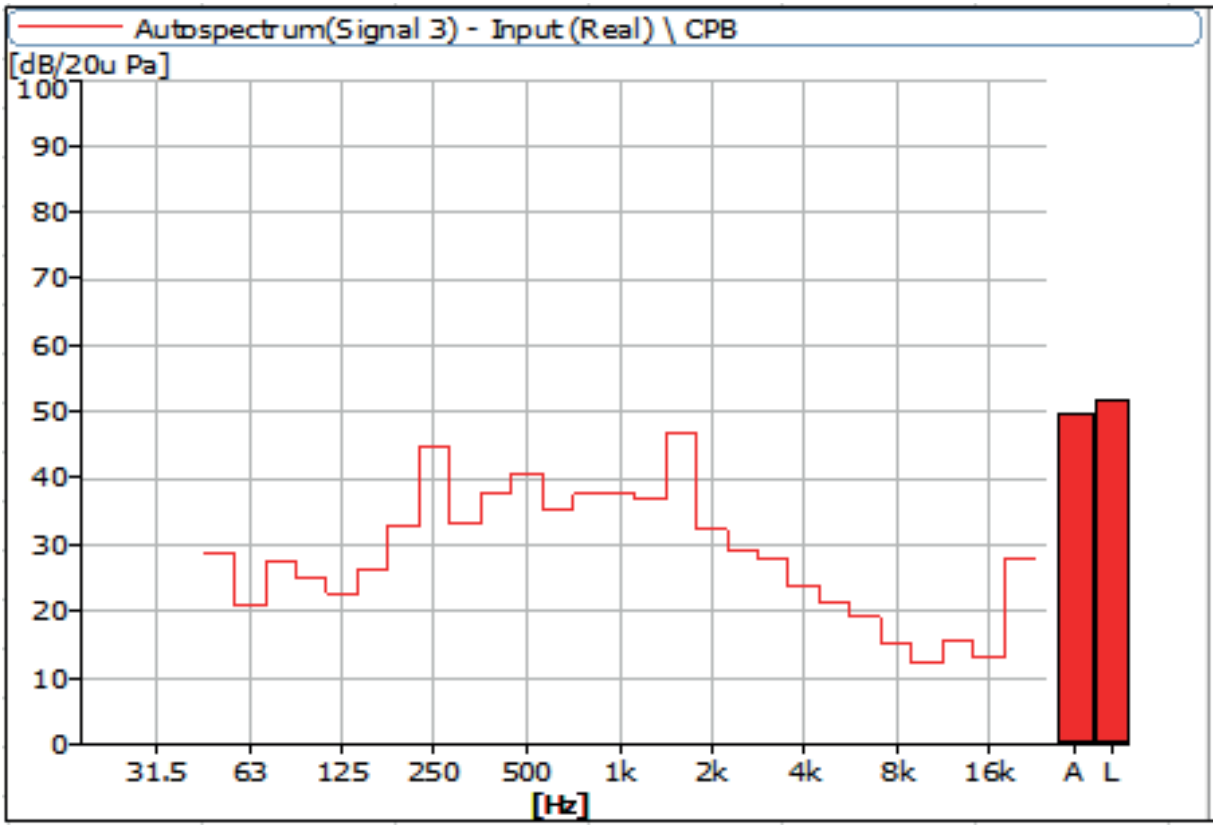

Figure 9 Noise Spectrum of Stage Luminaires (The Auto mode, Dynamic,No 3)

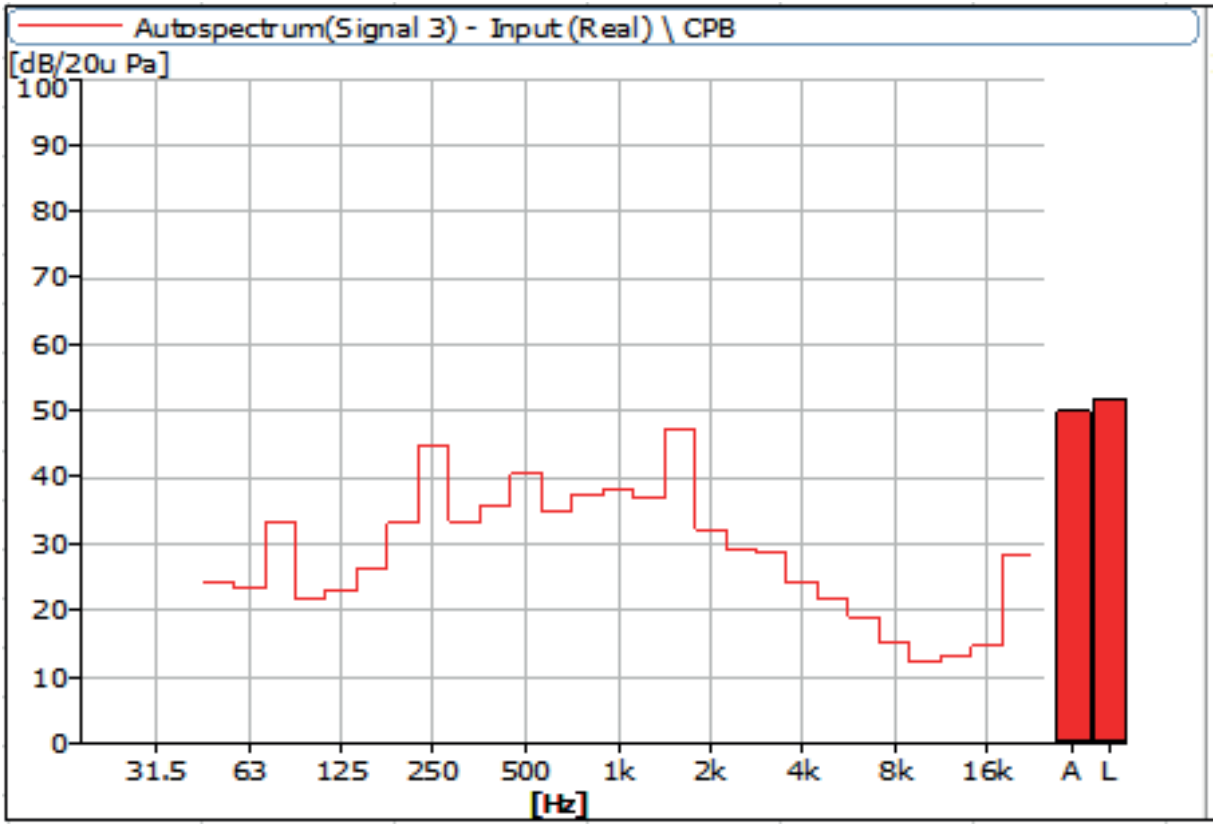

Figure 10 Noise Spectrum of Stage Luminaires (The Auto mode, Dynamic,No 4)

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

Frequency (Hz)	Sound Pressure Level in Stage Mode（dB）							
	Static				Dynamic			
	No 1	No 2	No 3	No 4	No 1	No 2	No 3	No 4
63	21.3	17.2	17.3	18.3	22.3	22.0	20.6	22.8
80	20.5	22.9	24.4	23.7	32.8	32.3	28.8	33.0
100	21.8	23.6	23.7	22.8	23.4	24.6	24.7	22.4
125	17.1	24.0	17.3	25.0	22.8	23.5	23.0	23.0
160	22.4	28.6	20.0	28.5	30.4	29.8	30.2	29.9
200	23.7	28.4	23.0	28.5	30.3	29.7	30.4	30.4
250	28.9	37.8	29.0	34.7	45.7	44.4	45.2	45.0
315	25.5	28.6	25.6	28.3	34.9	35.0	35.7	35.0
400	29.5	30.6	29.6	31.9	32.9	32.9	37.3	33.3
500	37.9	41.7	38.6	41.3	42.1	42.2	41.3	41.8
630	37.8	35.2	35.2	38.5	39.5	38.9	39.4	39.3
800	41.2	36.3	41.4	37.7	39.4	39.2	39.3	39.4
1000	40.2	41.9	41.6	38.7	40.6	39.9	39.8	40.5
1250	40.9	40.7	41.0	39.8	40.2	39.4	40.0	39.8
1600	35.2	37.6	35.2	34.6	49.1	47.7	47.0	47.1
2000	32.2	33.5	32.7	31.4	34.5	33.7	34.0	33.8

2500	29.9	28.6	30.2	30.3	31.3	31.4	32.0	31.2
3150	27.5	26.5	28.1	26.6	29.8	29.8	29.8	30.5
4000	26.0	21.1	26.2	23.6	27.1	25.3	26.2	26.5
5000	21.3	20.8	20.6	19.1	24.2	24.5	24.5	24.7
6300	20.8	15.7	19.5	17.6	22.6	21.8	22.6	22.6
8000	15.8	12.3	15.4	14.0	18.8	17.8	18.3	18.2
10000	12.3	10.5	12.2	11.1	15.1	14.4	14.5	14.6
12500	10.4	9.0	10.6	9.4	14.8	13.6	15.3	13.5
16000	10.2	9.2	10.0	9.2	14.9	16.0	13.9	16.7
20000	22.0	21.8	20.8	22.5	29.5	30.2	28.8	30.1
Leq	50.1	48.7	49.0	48.0	53.1	52.6	54.3	52.9
A-weighted dB（A)	47.1	47.4	47.4	46.3	52	50.9	50.7	50.7
Average sound pressure level dB(A)	47.0				51.1			

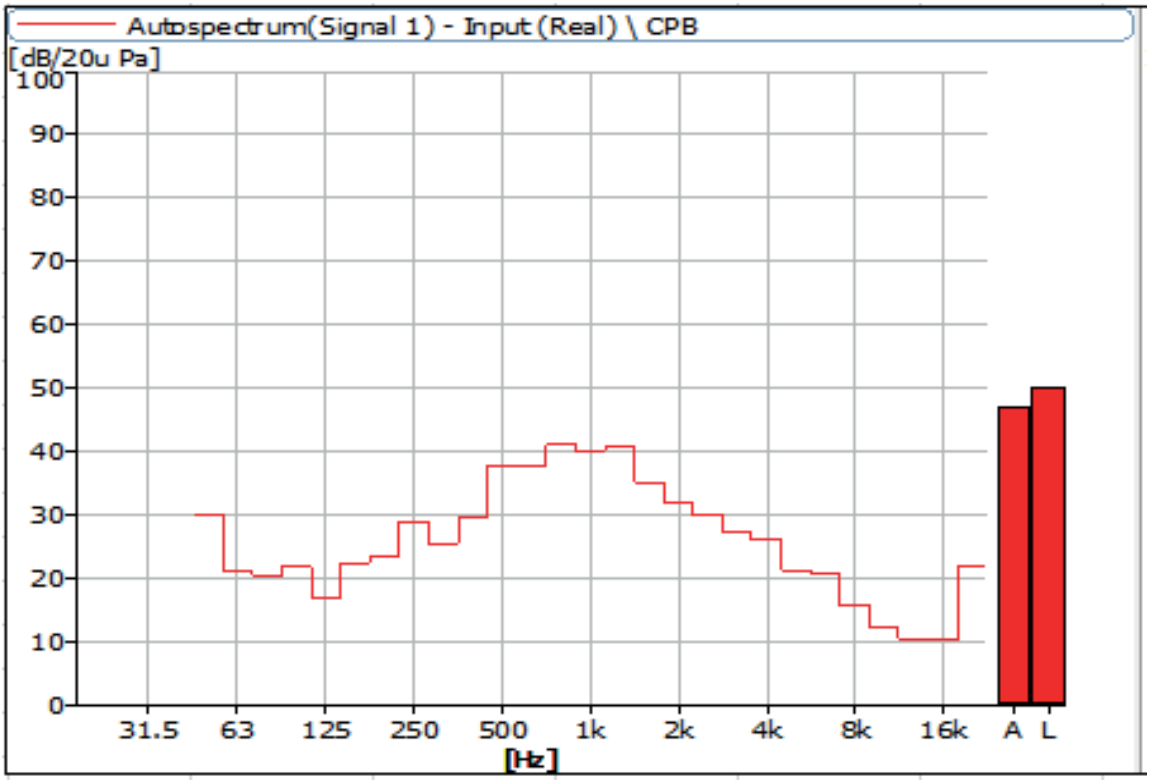

Figure 11 Noise Spectrum of Stage Luminaires (The Stage mode, static,No 1)

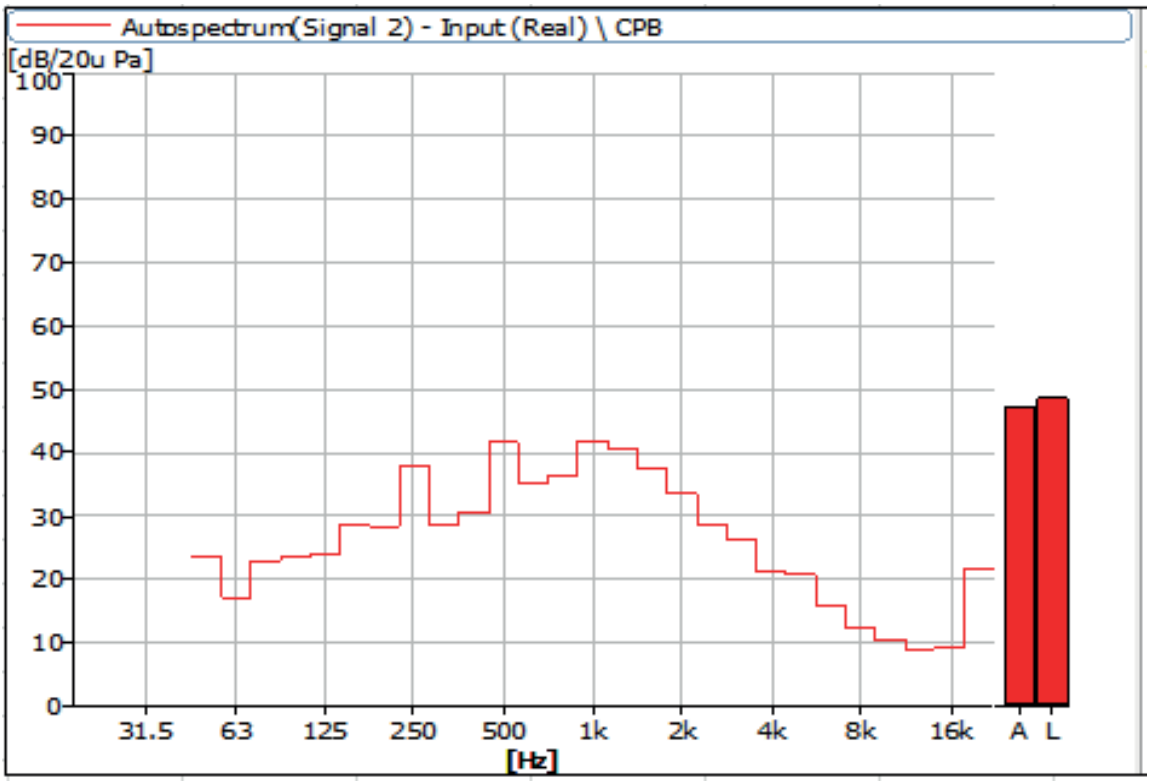

Figure 12 Noise Spectrum of Stage Luminaires (The Stage mode, static,No 2)

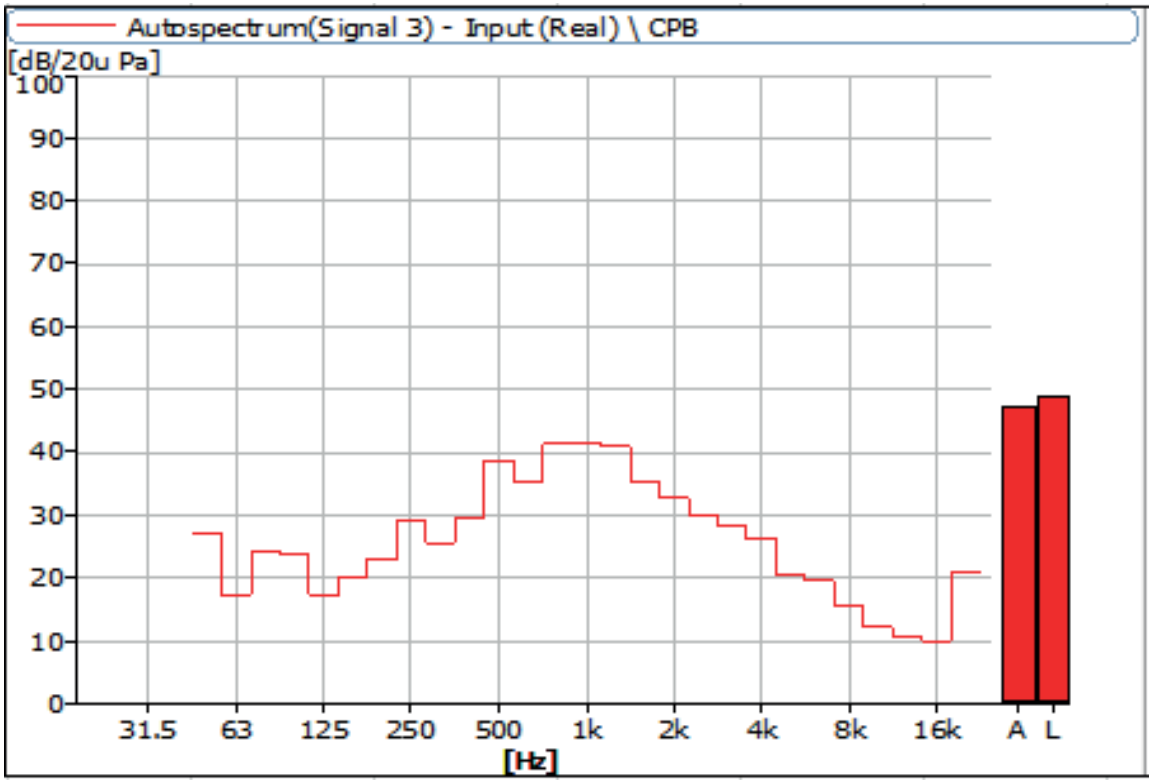

Figure 13 Noise Spectrum of Stage Luminaires (The Stage mode, static,No 3)

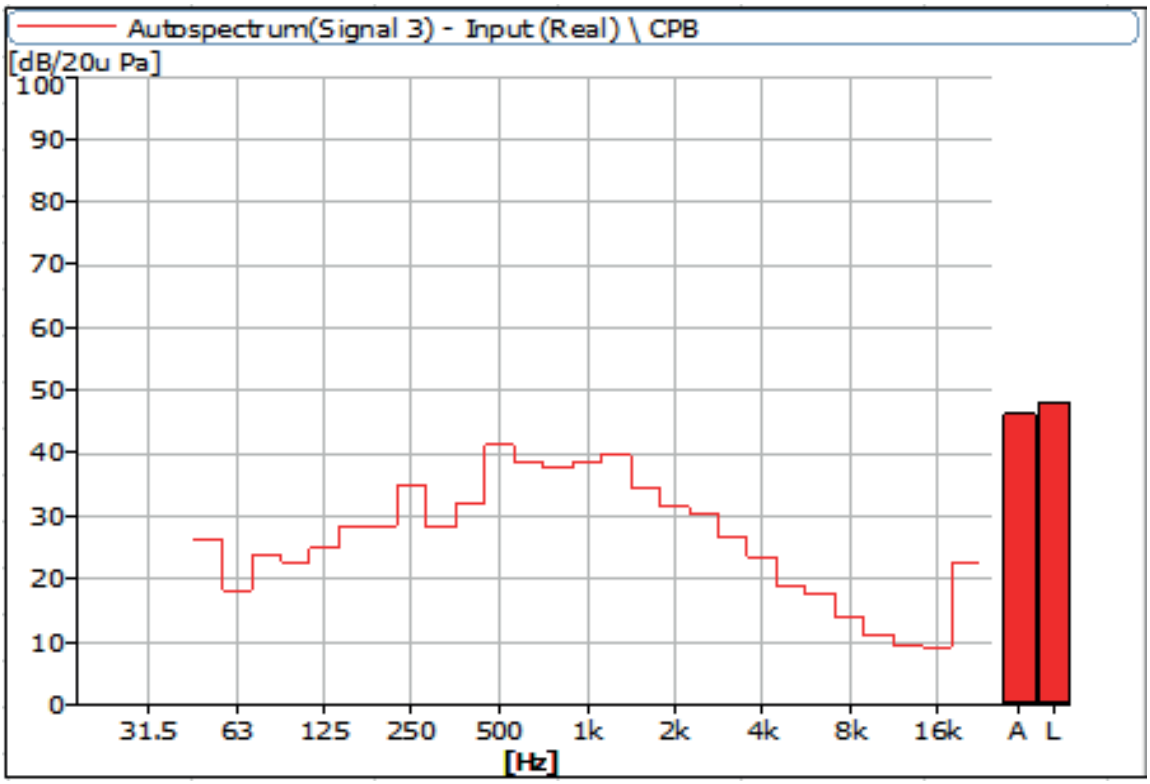

Figure 14 Noise Spectrum of Stage Luminaires (The Stage mode, static,No 4)

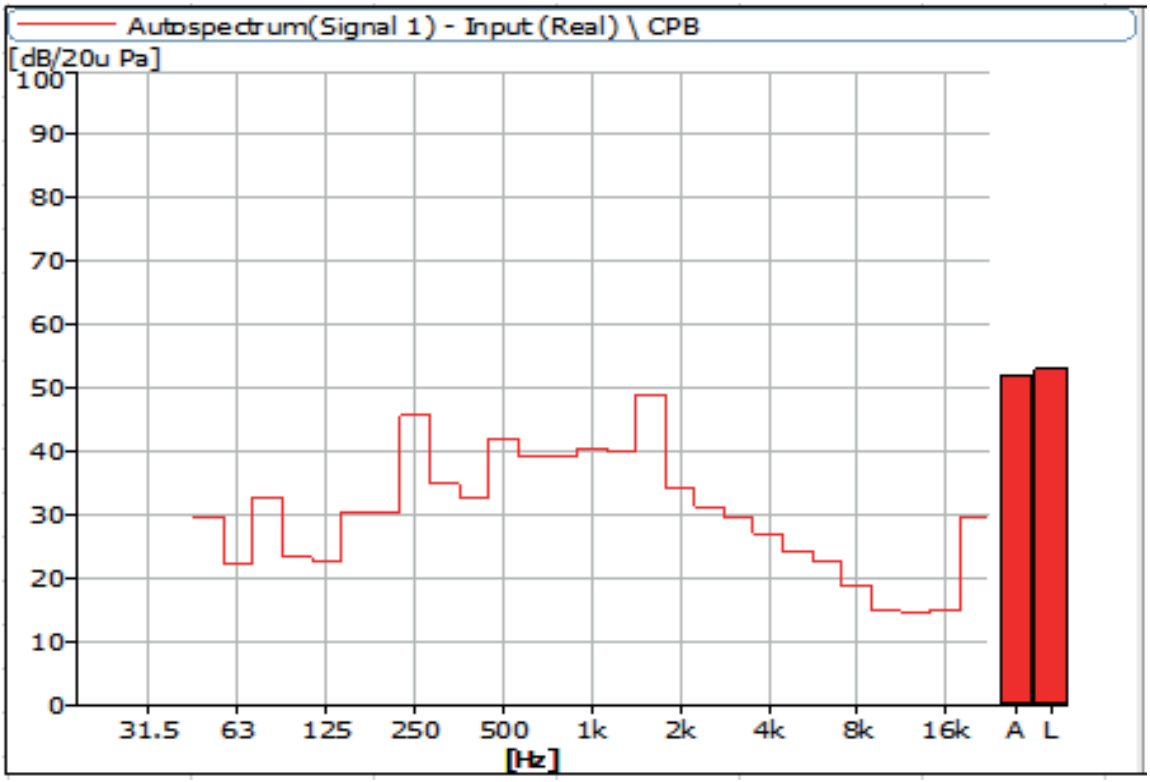

Figure 15 Noise Spectrum of Stage Luminaires (The Stage mode, Dynamic,No 1)

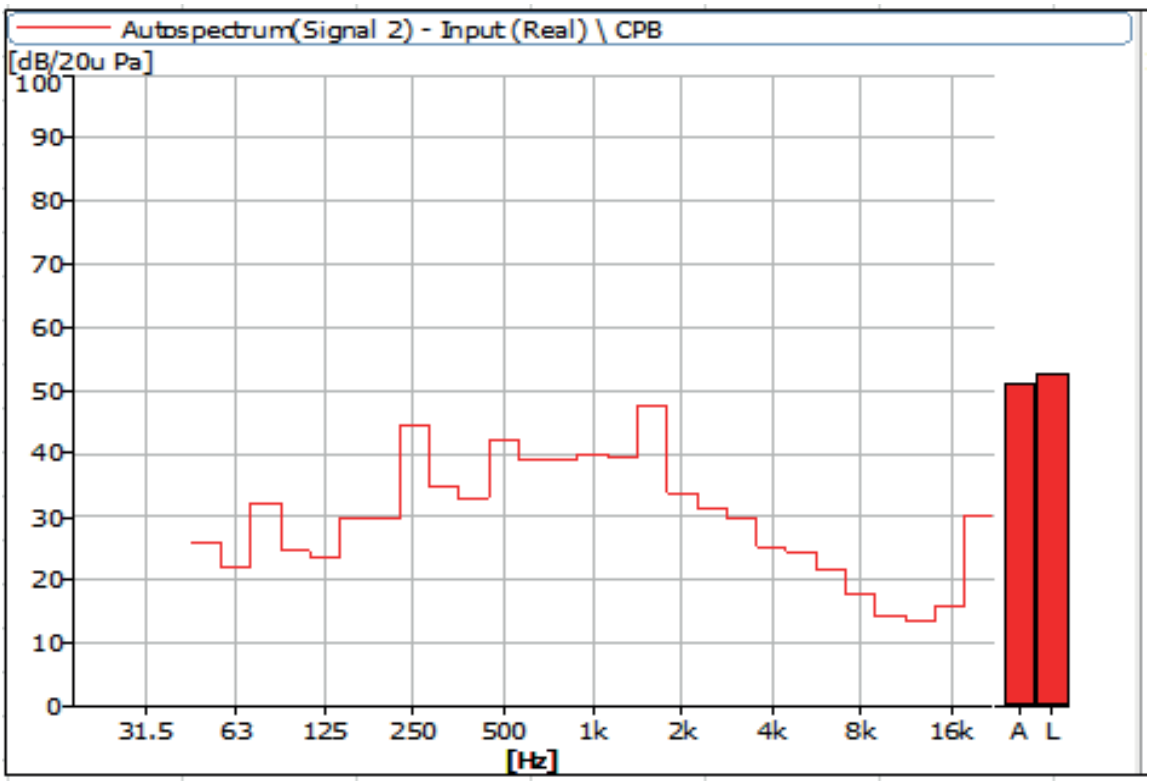

Figure 16 Noise Spectrum of Stage Luminaires (The Stage mode, Dynamic,No 2)

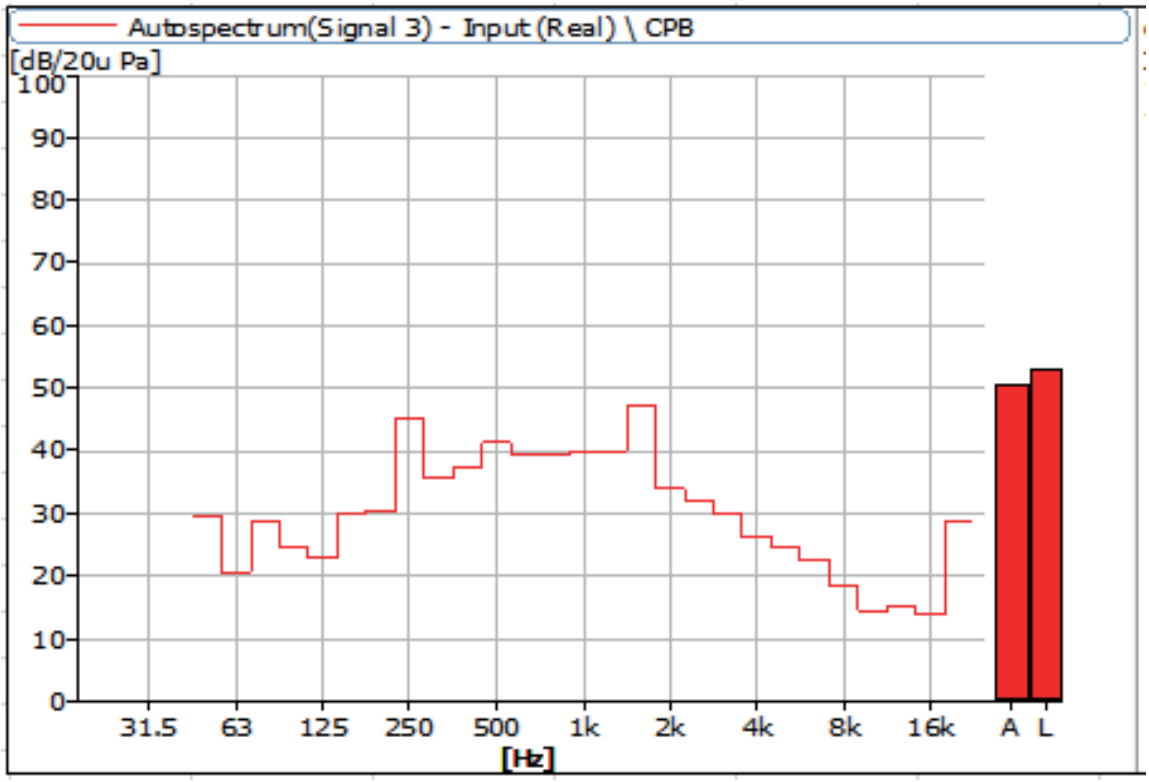

Figure 17 Noise Spectrum of Stage Luminaires (The Stage mode, Dynamic,No 3)

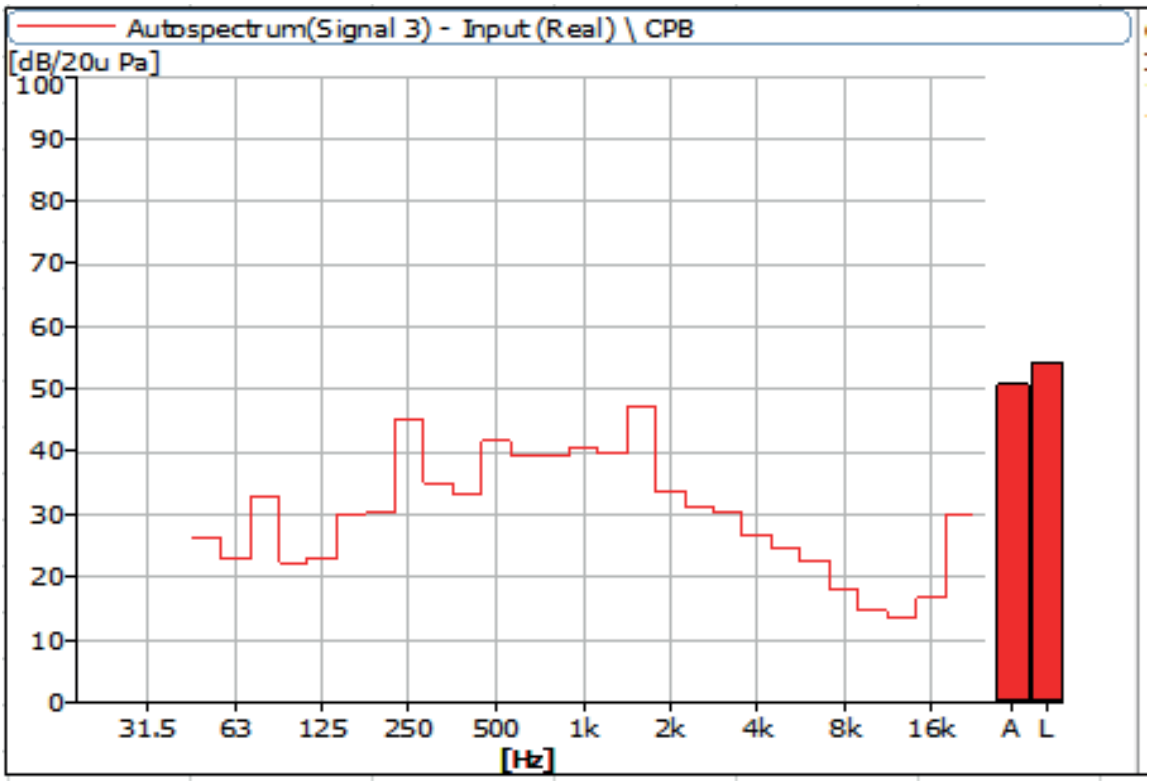

Figure 18 Noise Spectrum of Stage Luminaires (The Stage mode, Dynamic,No 4)

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	17.7	18.8	18.2	17.5	21.9	21.3	19.4	22.4
80	28.8	30.2	27.0	28.4	33.2	33.0	29.3	33.3
100	23.5	24.0	24.3	23.5	21.6	22.7	24.1	20.2
125	15.0	17.5	14.3	18.3	18.9	19.0	18.5	18.7
160	20.9	22.8	19.9	21.9	28.5	27.7	27.4	27.7
200	17.4	18.9	17.3	18.6	27.5	26.6	27.5	27.4
250	19.9	21.4	20.1	21.7	47.0	45.6	45.3	46.0
315	20.6	21.6	20.1	21.7	35.2	34.6	34.3	35.0
400	23.8	26.4	26.2	26.7	31.0	30.6	32.2	31.1
500	28.6	31.9	27.0	32.2	38.4	38.4	38.5	38.1
630	25.1	24.7	25.4	26.3	31.6	31.4	32.4	31.4
800	34.3	29.2	34.4	28.4	33.9	33.9	34.1	34.0
1000	32.3	31.9	31.5	30.0	33.7	33.4	32.7	33.4
1250	33.9	30.9	33.9	31.7	33.9	32.9	33.6	33.2
1600	26.2	28.9	28.0	26.1	49.0	47.5	46.7	46.9
2000	23.8	23.1	24.4	21.3	30.0	28.9	28.4	28.7
2500	20.9	20.1	22.7	19.7	27.0	27.3	27.1	27.4

3150	20.3	19.1	21.3	18.1	26.2	26.7	26.2	27.4
4000	16.6	13.5	17.1	14.3	20.5	19.0	19.2	20.4
5000	10.7	10.2	10.8	9.4	18.0	18.0	17.8	19.4
6300	10.2	8.9	10.5	9.1	14.7	14.2	13.9	14.6
8000	9.3	8.5	9.5	8.5	11.6	11.5	10.9	11.4
10000	9.3	8.7	9.7	8.4	10.5	10.6	10.0	10.2
12500	8.3	8.2	8.7	8.0	11.5	11.0	12.9	10.4
16000	9.3	8.7	8.7	8.4	14.1	15.6	13.3	16.1
20000	23.0	21.6	19.3	22.0	29.8	30.6	29.2	30.4
Leq	41.8	41.3	42.6	41.5	52.1	51.0	50.7	52.3
A-weighted dB（A)	39.3	38.0	39.4	37.4	50.8	49.5	48.9	49.1
Average sound pressure level dB(A)	38.5				49.6			

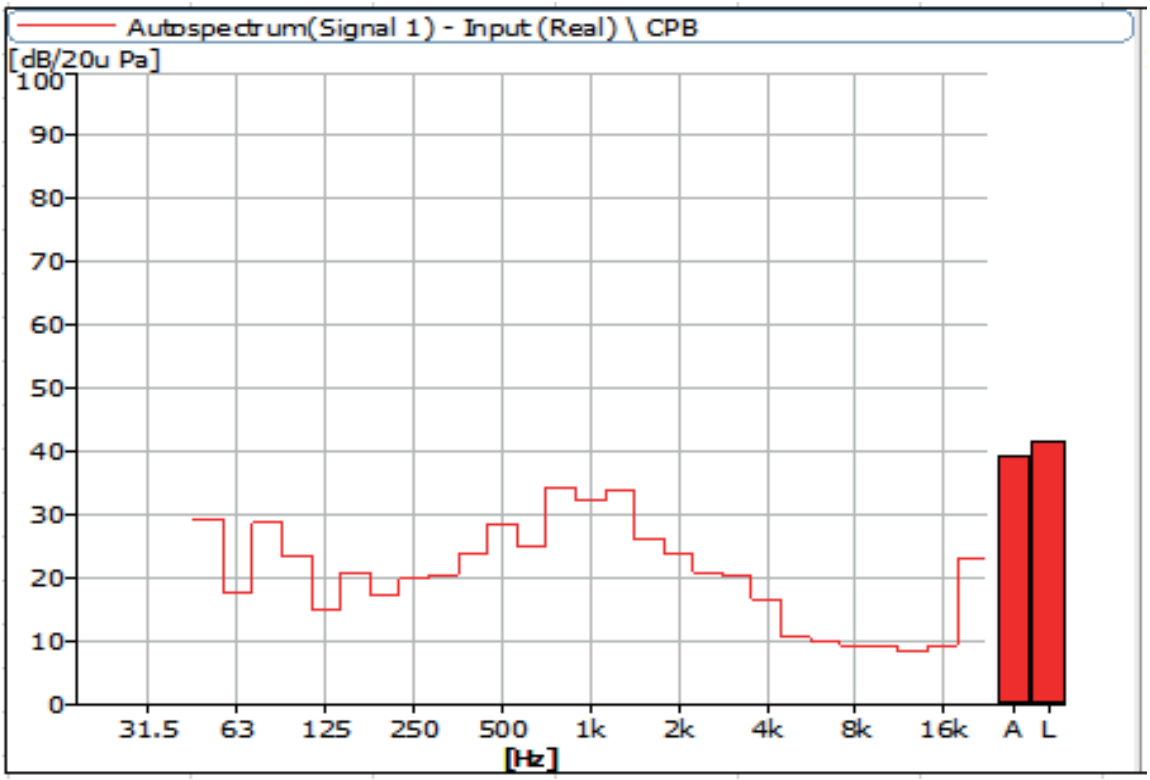

Figure 19 Noise Spectrum of Stage Luminaires (The Silence mode, static,No 1)

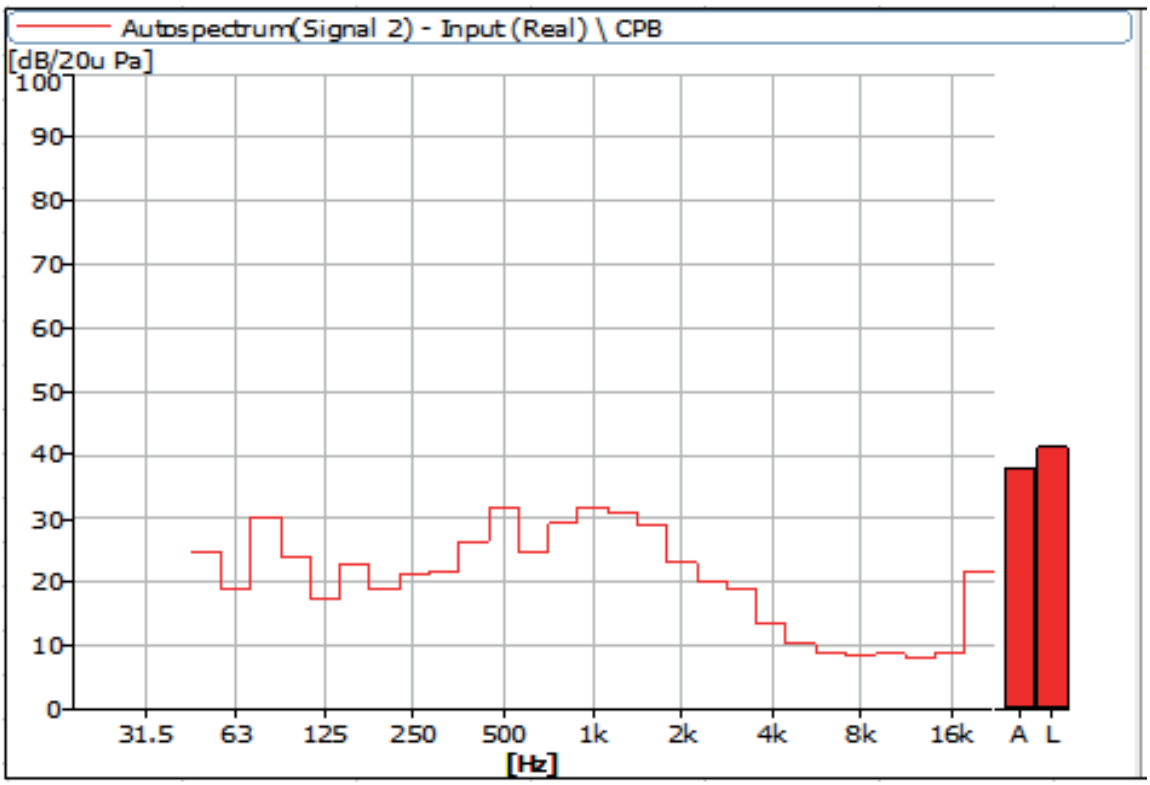

Figure 20 Noise Spectrum of Stage Luminaires (The Silence mode, static,No 2)

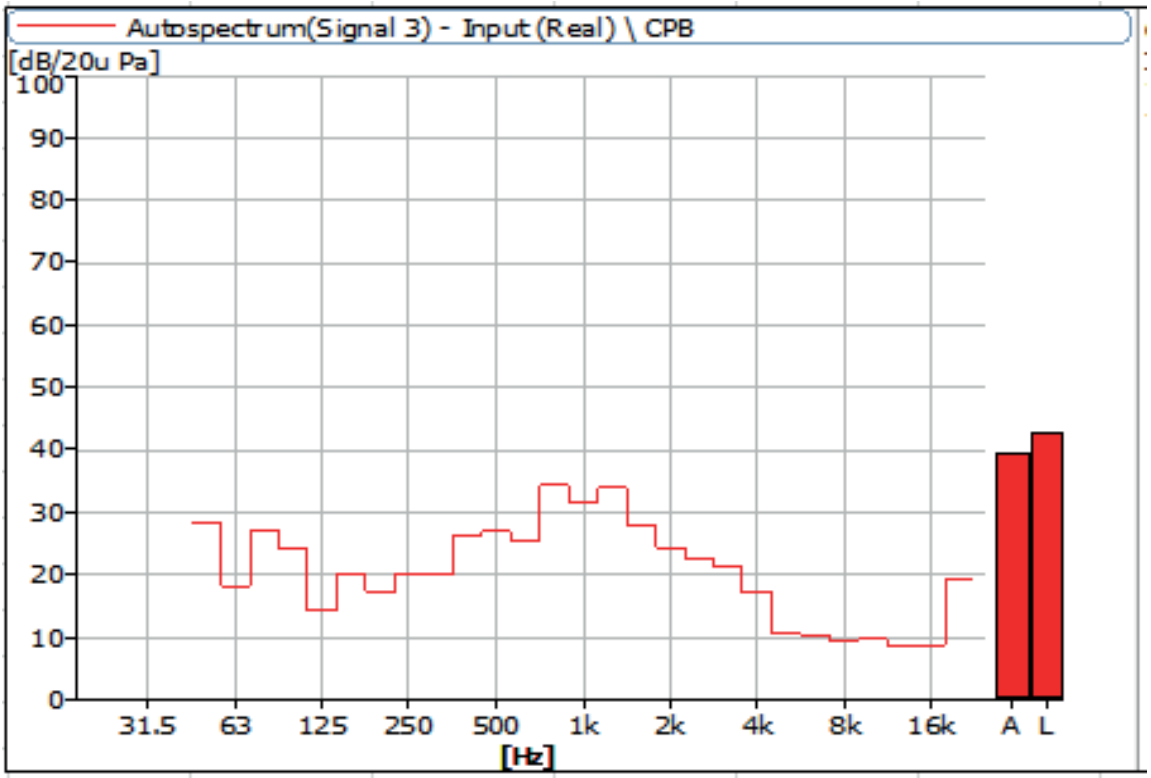

Figure 21 Noise Spectrum of Stage Luminaires (The Silence mode, static,No 3)

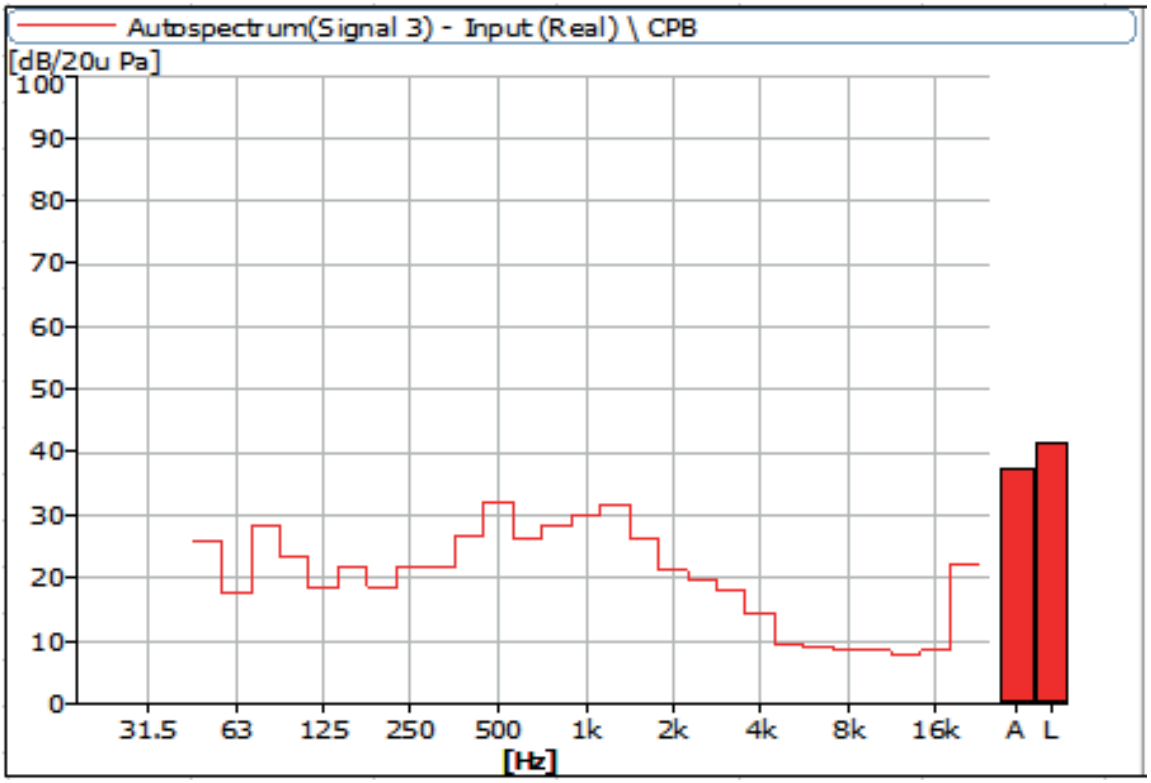

Figure 22 Noise Spectrum of Stage Luminaires (The Silence mode, static,No 4)

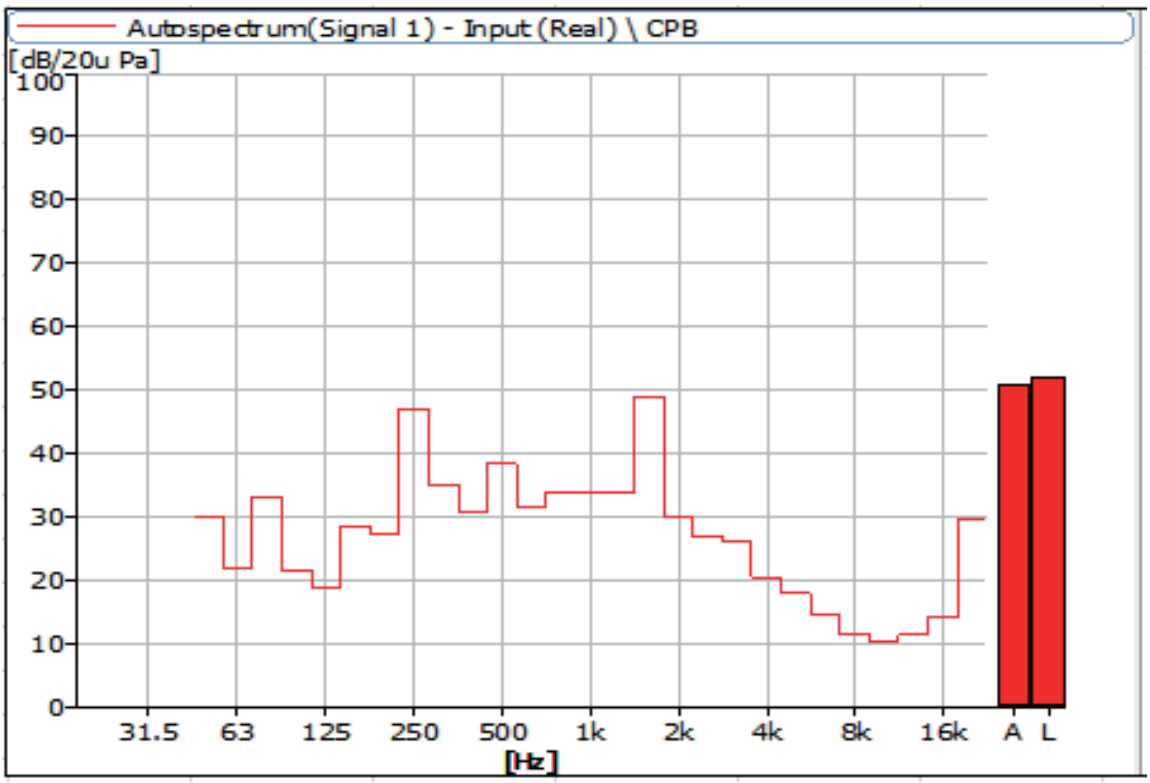

Figure 23 Noise Spectrum of Stage Luminaires (The Silence mode, Dynamic,No 1)

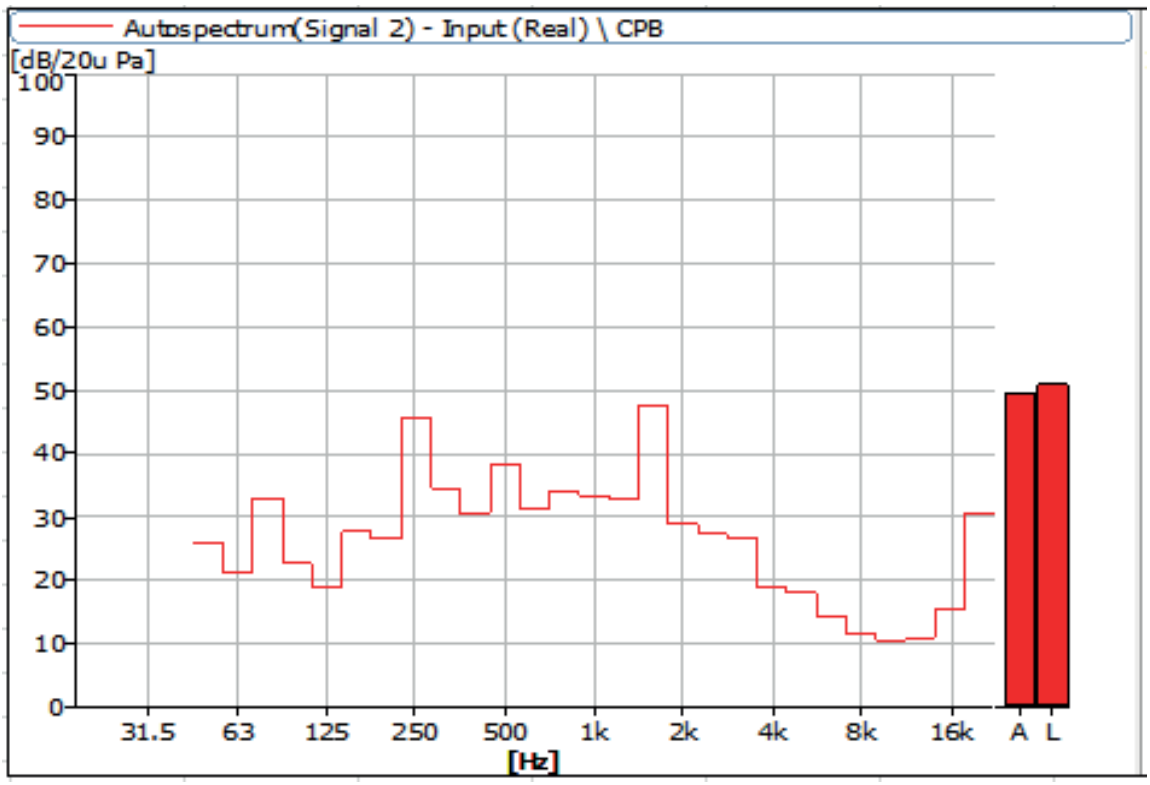

Figure 24 Noise Spectrum of Stage Luminaires (The Silence mode, Dynamic,No 2)

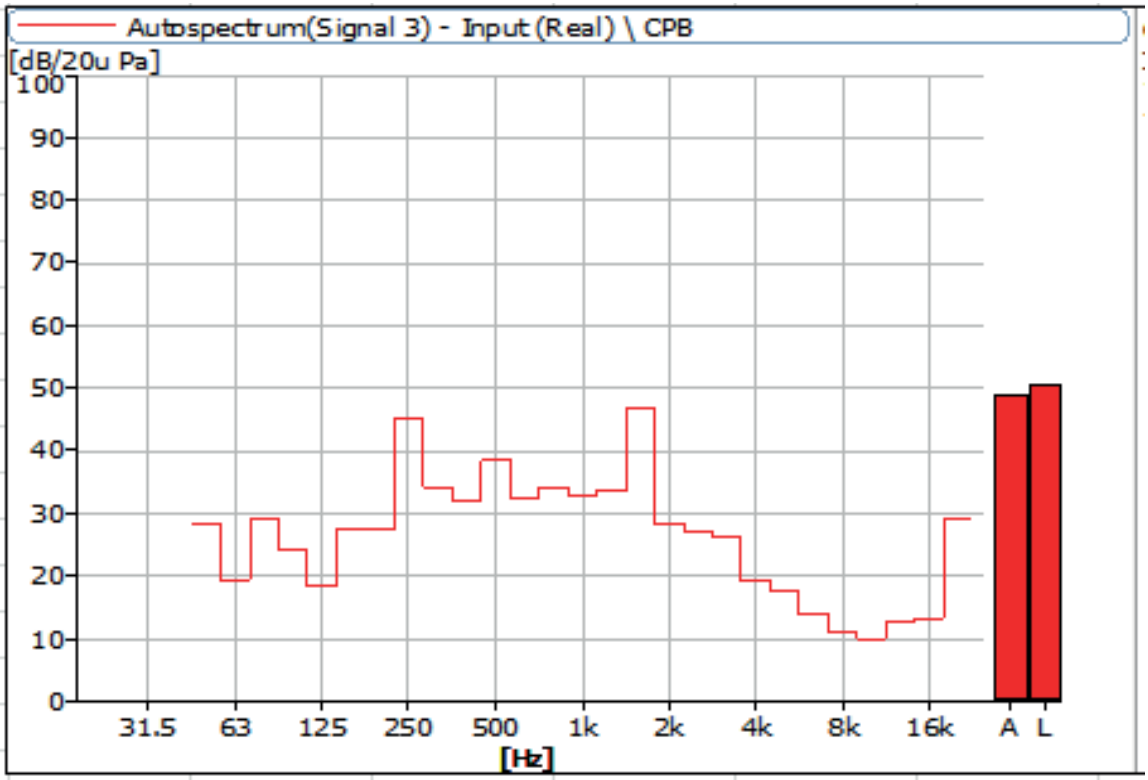

Figure 25 Noise Spectrum of Stage Luminaires (The Silence mode, Dynamic,No 3)

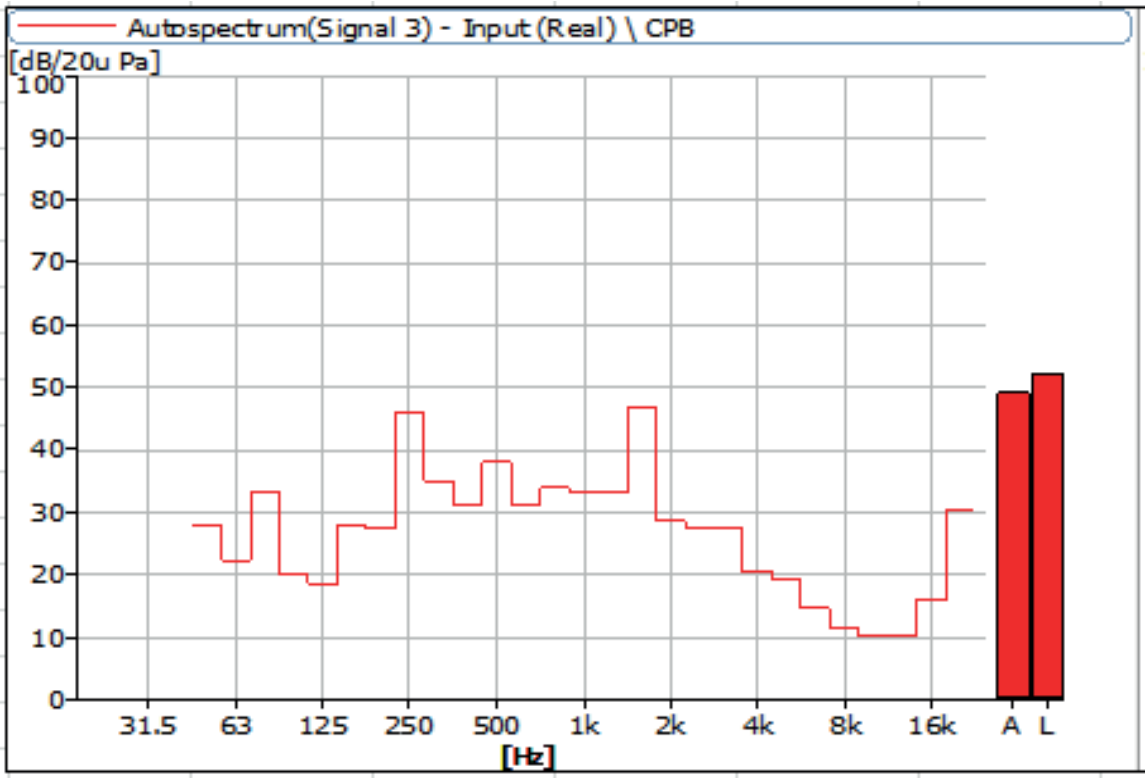

Figure 26 Noise Spectrum of Stage Luminaires (The Silence mode, Dynamic,No 4)

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	15.1	14.9	15.8	15.6	23.2	23.6	19.2	23.3
80	13.6	14.7	16.6	16.4	33.5	32.6	29.4	33.9
100	17.1	19.9	21.4	15.8	20.0	21.0	20.4	18.3
125	15.0	13.2	13.7	13.8	18.2	18.2	18.0	17.6
160	21.0	17.3	16.8	14.8	30.4	30.0	29.4	29.9
200	17.7	17.6	18.6	18.8	28.2	27.4	28.3	28.1
250	17.2	16.0	17.2	17.0	47.4	45.9	46.4	46.5
315	13.2	12.4	13.3	11.6	36.6	36.2	36.8	36.7
400	14.6	18.4	14.9	15.8	29.9	29.7	30.7	30.6
500	18.1	19.3	18.7	19.8	37.9	37.9	38.2	37.8
630	16.9	15.9	18.5	16.6	33.5	33.3	33.7	34.4
800	21.4	18.4	21.5	18.1	32.2	32.3	32.6	32.2
1000	26.0	24.1	24.6	25.0	33.1	32.6	31.7	32.7
1250	26.6	20.5	25.2	22.8	33.1	32.3	32.1	32.6
1600	19.8	21.3	21.0	21.2	48.6	47.8	48.3	47.3
2000	18.1	14.9	18.9	14.1	29.5	28.7	29.0	28.6
2500	18.1	12.0	16.4	14.8	28.9	28.9	28.5	29.4

3150	17.6	17.4	17.9	15.7	26.2	27.1	26.8	27.6
4000	12.8	12.4	13.3	11.1	19.8	18.2	18.5	19.8
5000	7.8	7.8	8.4	7.8	18.2	18.3	18.1	20.0
6300	7.9	8.0	8.3	7.9	14.3	13.6	13.7	13.9
8000	8.3	8.2	8.5	8.0	11.7	11.3	11.2	11.8
10000	8.7	8.4	8.8	8.0	9.8	9.8	9.4	9.7
12500	8.0	8.1	8.3	7.8	10.2	10.0	10.7	9.6
16000	8.5	8.1	8.5	8.8	14.3	16.0	14.3	16.5
20000	20.7	17.4	21.5	24.8	30.8	31.7	30.9	31.3
Leq	38.6	38.1	40.4	39.4	53.4	53.2	52.3	52.0
A-weighted dB（A)	31.9	29.6	31.3	30.3	50.5	49.7	50.1	49.4
Average sound pressure level dB(A)	30.8				50.0			

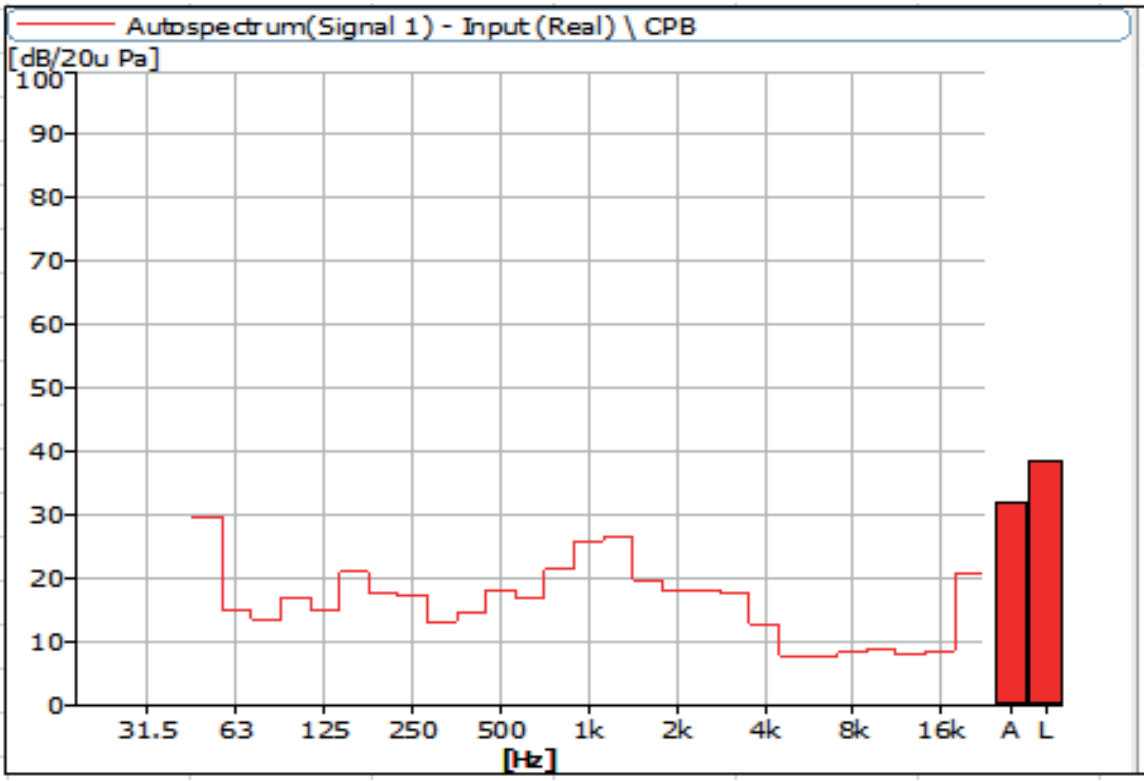

Figure 27 Noise Spectrum of Stage Luminaires (The Super Silence mode, static,No 1)

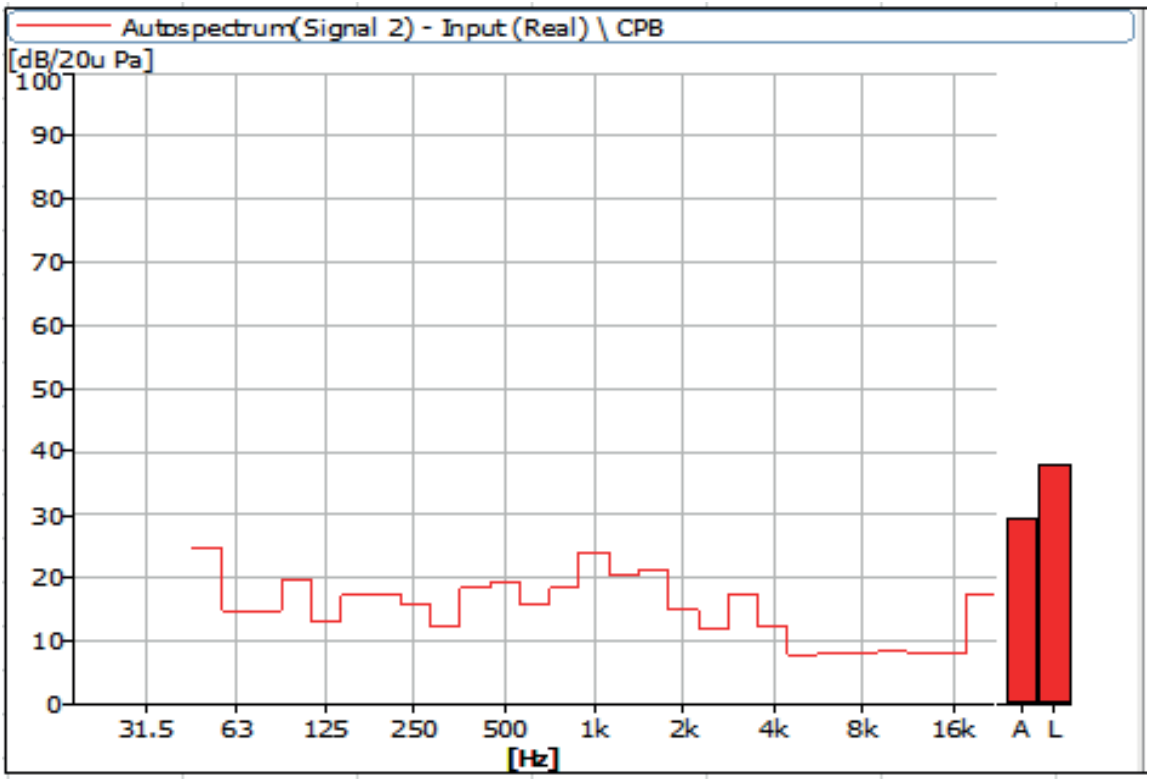

Figure 28 Noise Spectrum of Stage Luminaires (The Super Silence mode, static,No 2)

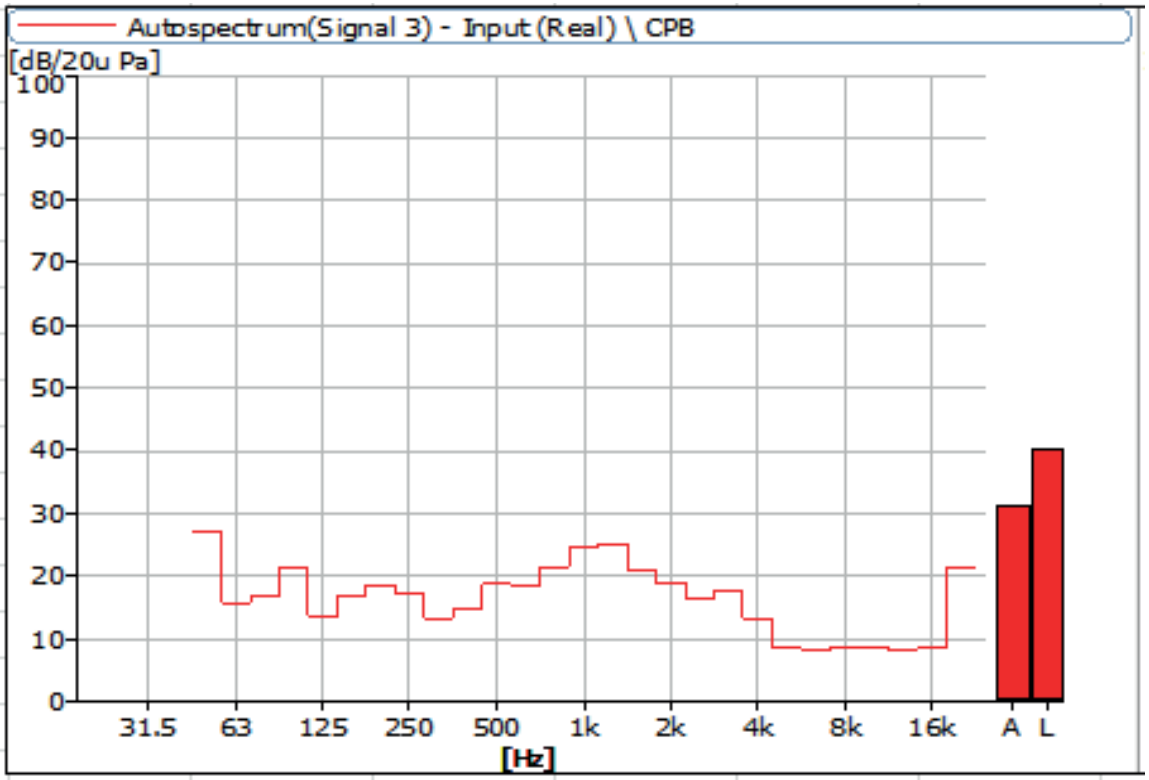

Figure 29 Noise Spectrum of Stage Luminaires (The Super Silence mode, static,No 3)

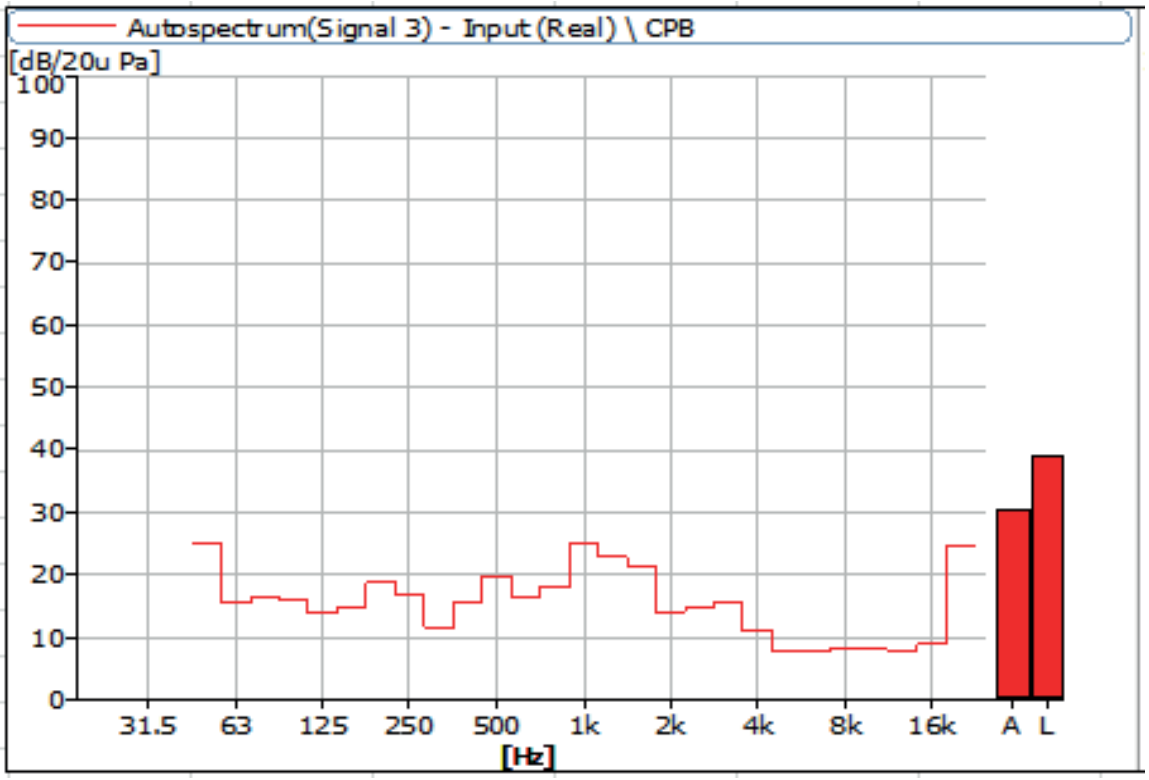

Figure 30 Noise Spectrum of Stage Luminaires (The Super Silence mode, static,No 4)

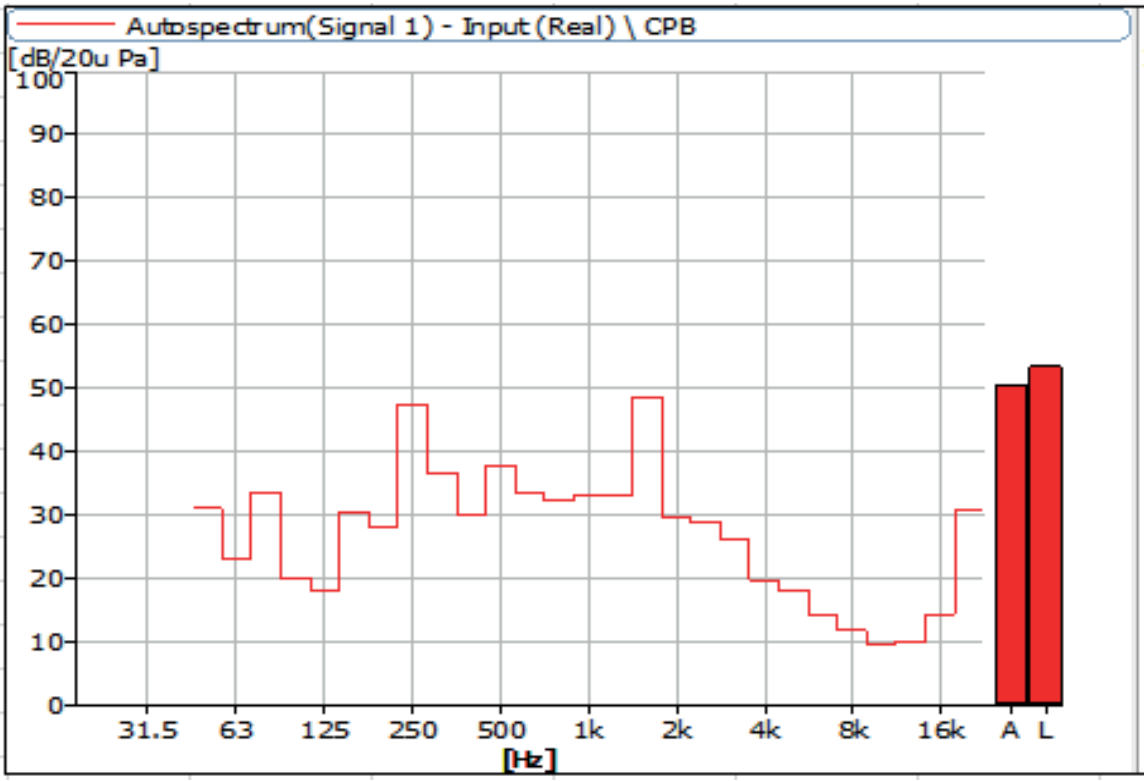

Figure 31 Noise Spectrum of Stage Luminaires (The Super Silence mode, Dynamic,No 1)

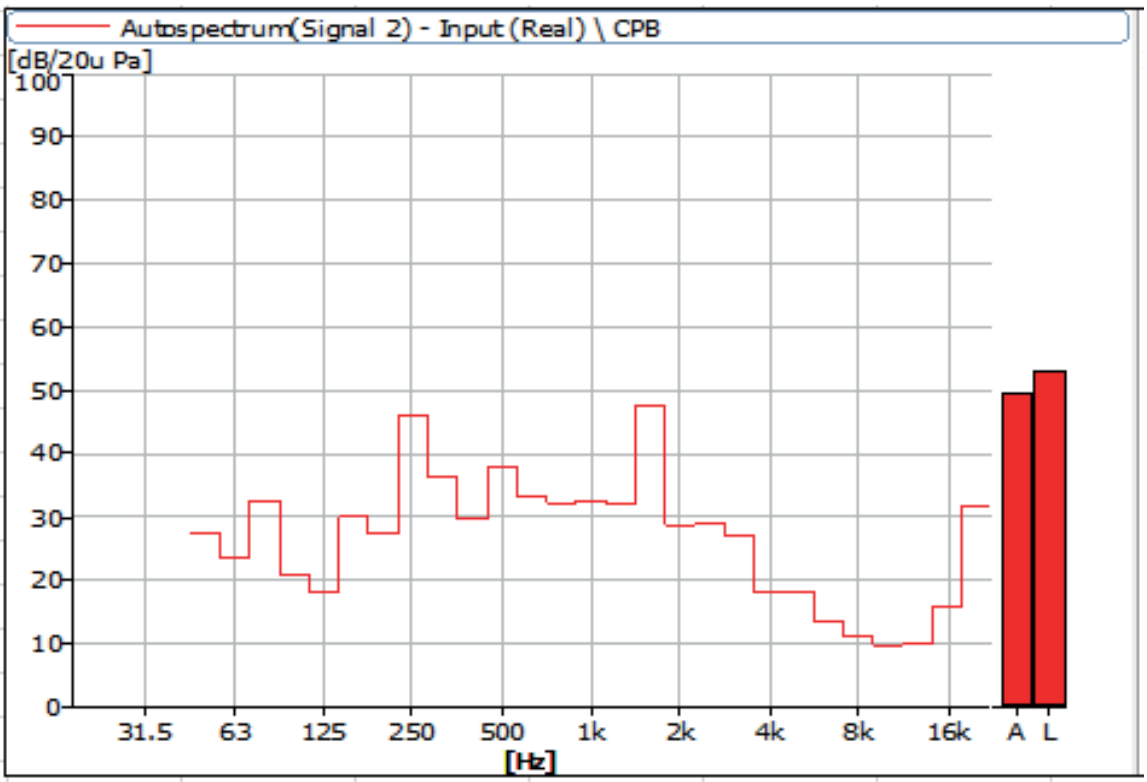

Figure 32 Noise Spectrum of Stage Luminaires (The Super Silence mode, Dynamic,No 2)

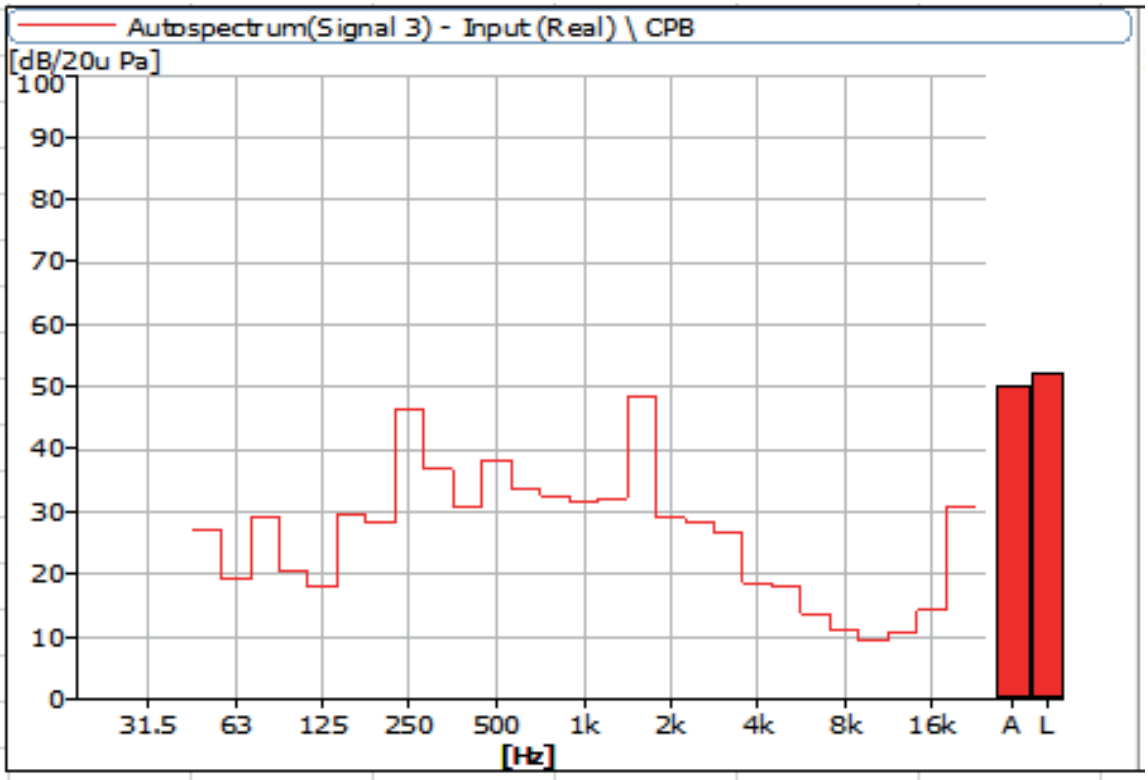

Figure 33 Noise Spectrum of Stage Luminaires (The Super Silence mode, Dynamic,No 3)

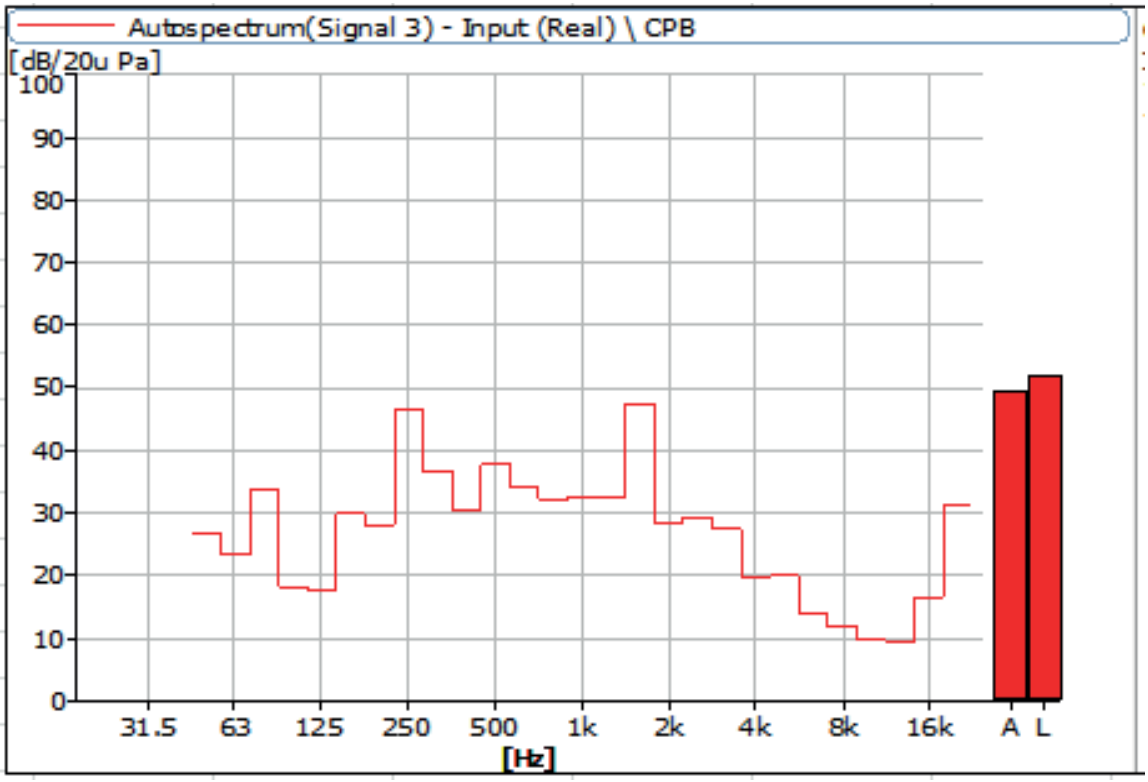

Figure 34 Noise Spectrum of Stage Luminaires (The Super Silence mode, Dynamic,No 4)

Instrumentation

No	Equipment	Type	Number	Calibration period
1	Anechoic rooms	——	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

AYRTON

Digital Lighting