



NANDO 1202

NOISE MEASUREMENTS

AYRTON

1 Test instructions

This test was conducted in the semi-anechoic room of Guangzhou Quality Supervision and Testing Institute, with indoor ambient noise less than 10dB (A). The test was carried out in accordance with the requirements of Article 9.4.1 of GB/T 6882-2016.

The stage light is placed on the standard test bench of the semi-anechoic room and connected to the power supply of 220V~/50Hz.

The indoor ambient temperature is 25°C, the relative humidity is 56%, and the air pressure is 101.1kPa. When the stage light is in the set normal working state, the test microphone is 1m away from the outlet of the measured luminaire in four horizontal directions to detect its sound pressure level.

During the test, there is no additional vibration of the ground and surrounding structures.



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
50	22.3	20.2	23.5	20.7	22.6	20.5	23.1	20.6
63	18.4	18.8	18.0	18.4	19.3	19.4	19.7	20.0
80	21.9	24.3	23.3	23.5	25.8	28.1	25.4	26.0
100	21.6	21.9	20.0	21.4	28.9	29.8	29.3	28.3
125	22.0	23.6	22.2	22.6	32.4	34.8	34.3	32.0
160	24.4	25.4	23.9	26.1	34.5	35.6	35.8	36.9
200	26.9	27.8	26.5	29.3	33.5	32.7	35.7	33.8
250	29.6	30.7	29.2	30.5	39.6	39.9	41.8	39.4
315	32.6	34.2	32.3	32.8	39.5	38.7	39.2	37.6
400	40.3	39.6	41.1	37.8	41.4	44.2	43.7	43.6
500	37.8	34.9	36.4	33.7	37.9	38.4	37.9	37.7
630	35.5	31.0	35.1	30.3	35.4	35.8	35.7	36.0
800	39.3	35.1	37.0	34.0	38.0	38.9	38.9	38.7
1000	33.1	32.9	33.8	32.9	33.9	34.6	34.7	34.6
1250	33.1	33.4	33.3	32.9	34.6	33.6	33.8	34.0
1600	31.8	29.8	30.8	31.2	53.9	44.1	46.9	51.3
2000	29.0	30.1	28.3	31.2	38.2	34.1	35.2	37.0
2500	26.3	30.0	27.5	29.1	34.4	33.0	35.5	32.9
3150	26.3	28.1	30.3	29.0	29.6	29.6	30.9	30.6
4000	24.6	26.1	23.8	25.7	26.1	26.6	26.2	27.1
5000	21.7	23.5	21.4	21.9	23.1	24.3	24.3	23.7
6300	21.5	20.1	18.8	19.0	20.9	22.8	21.5	21.5
8000	16.1	16.4	15.1	14.6	18.4	18.2	19.4	19.1
10000	13.3	11.8	12.1	10.3	19.7	21.0	21.4	18.8
12500	12.2	14.0	13.5	10.7	20.8	22.5	23.5	21.1
16000	11.3	13.5	12.0	10.4	20.2	23.9	23.3	19.1
20000	19.8	23.6	16.9	21.2	29.6	27.4	27.0	26.2

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
Leq	46.2	45.0	45.9	44.4	55.0	50.5	51.5	53.4
A-weighted dB(A)	44.0	42.7	43.6	42.3	55.3	48.4	50.1	53.2
Average sound pressure level dB(A)	43.2				51.8			

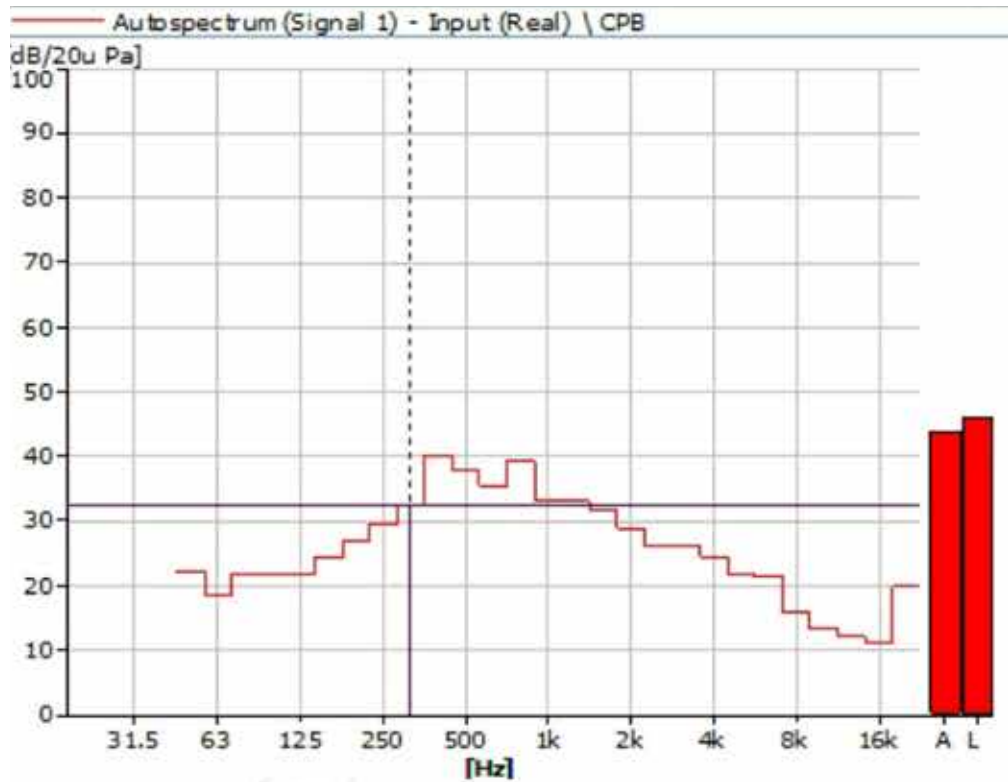


Figure 3 Noise Spectrum of Stage Luminaires (The Auto mode, Static, No 1)

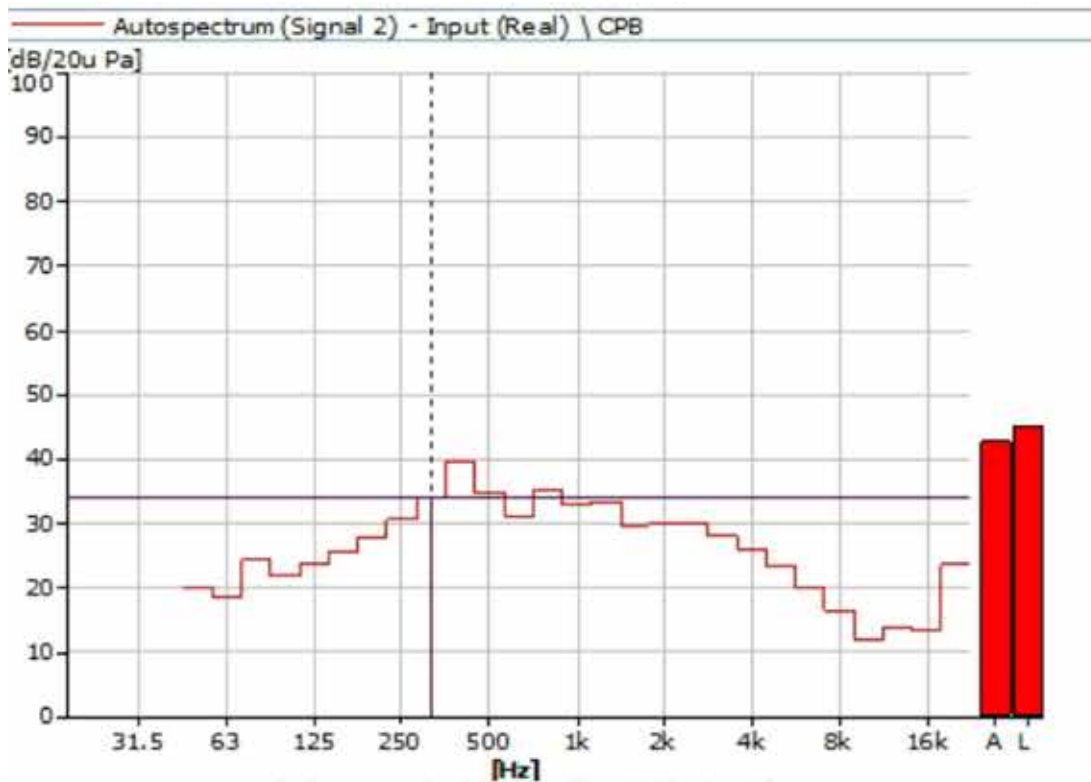


Figure 4 Noise Spectrum of Stage Luminaires (The Auto mode, Static, No 2)

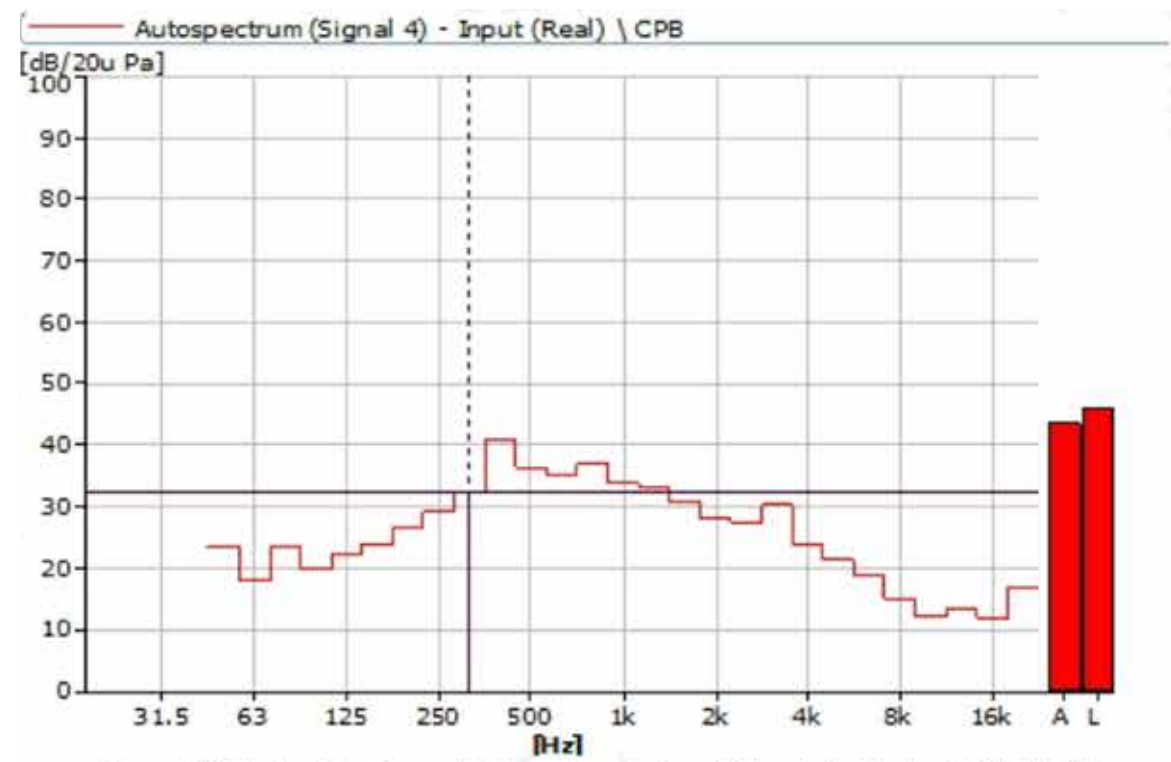


Figure 5 Noise Spectrum of Stage Luminaires (The Auto mode, Static, No 3)

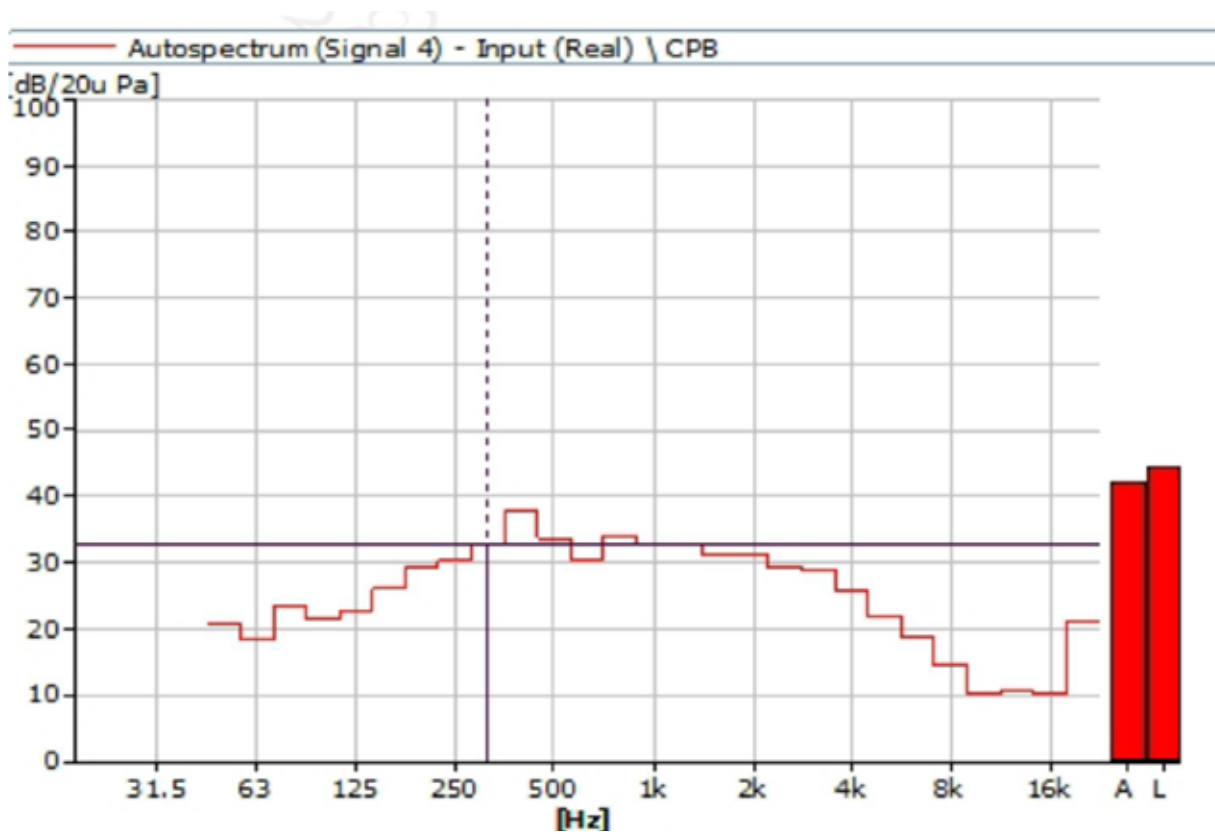


Figure 6 Noise Spectrum of Stage Luminaires (The Auto mode, Static, No 4)

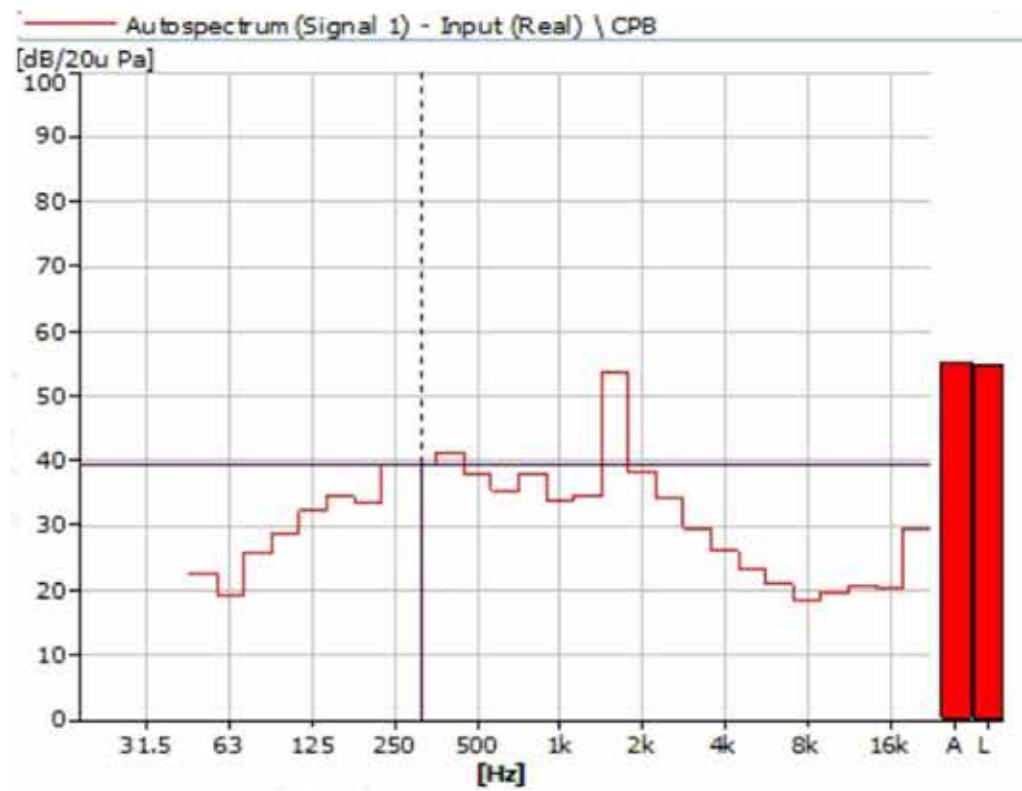


Figure 7 Noise Spectrum of Stage Luminaires (The Auto mode, Dynamic, No 1)

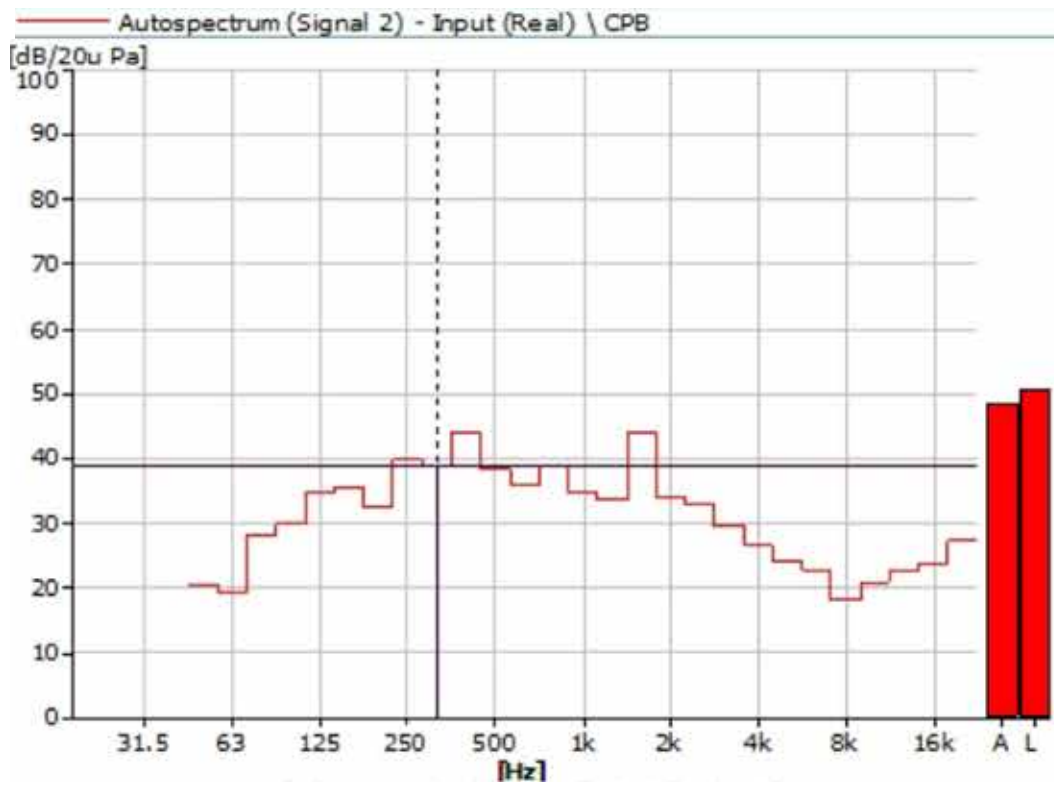


Figure 8 Noise Spectrum of Stage Luminaires (The Auto mode, Dynamic, No 2)

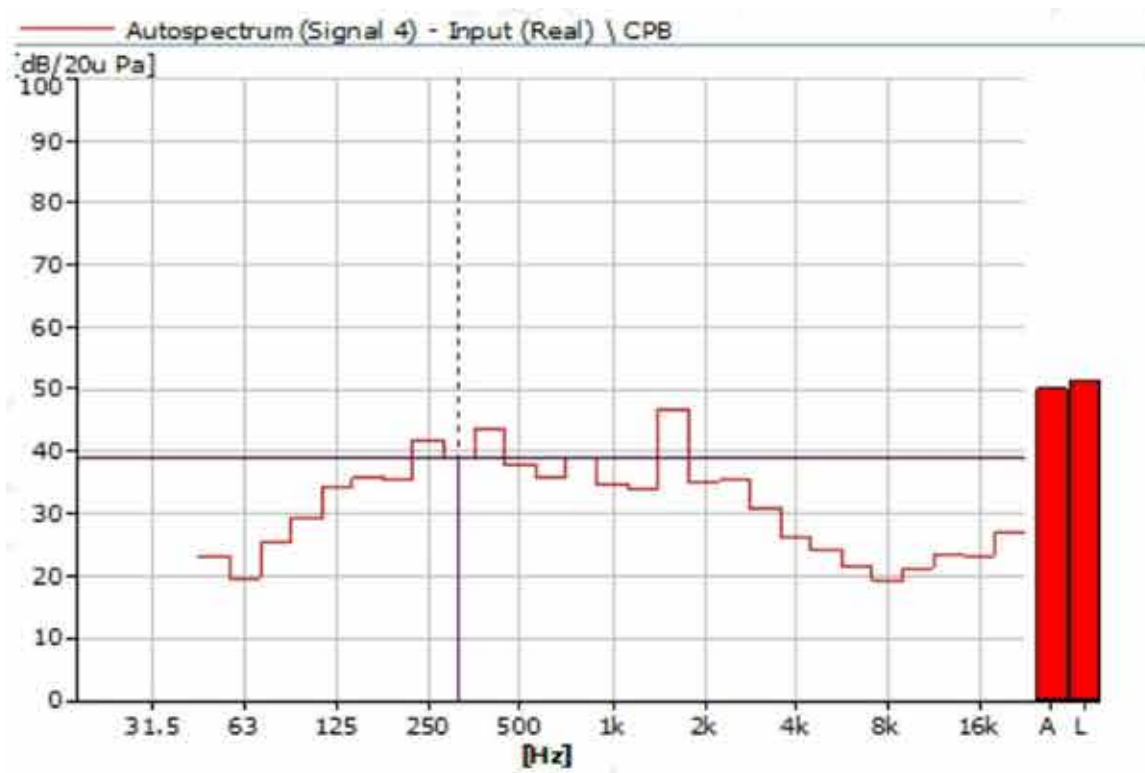


Figure 9 Noise Spectrum of Stage Luminaires (The Auto mode, Dynamic, No 3)

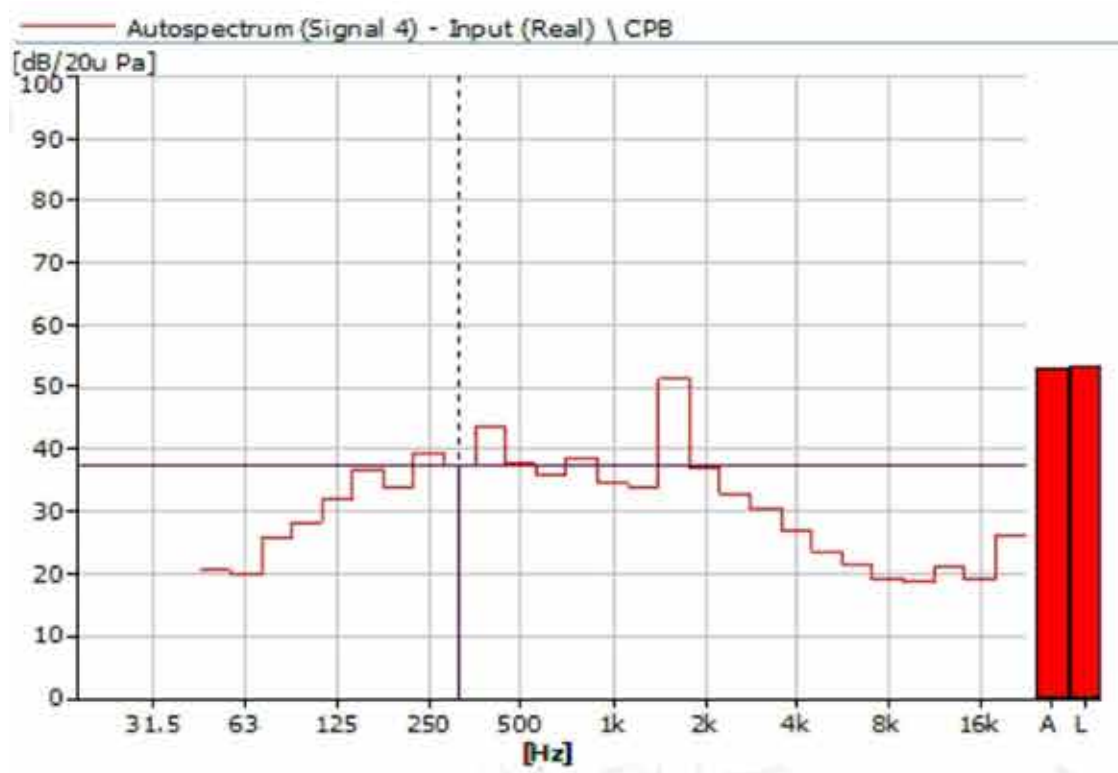


Figure 10 Noise Spectrum of Stage Luminaires (The Auto mode, Dynamic, No 4)

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
50	23.1	52.3	22.6	54.7	23.0	20.1	23.2	21.3
63	19.6	48.8	19.0	51.8	19.4	21.0	18.1	19.8
80	22.9	44.6	23.2	48.3	26.3	30.8	26.2	25.6
100	22.8	40.4	21.3	44.1	28.4	28.9	28.5	27.9
125	23.9	35.1	24.0	38.7	31.1	33.3	33.6	31.0
160	27.8	31.0	26.2	33.7	34.0	35.2	35.3	35.8
200	28.9	29.3	28.1	31.1	32.9	32.3	35.4	33.3
250	33.4	34.3	33.8	34.1	41.1	41.1	42.0	41.4
315	40.1	40.7	38.2	40.3	41.3	41.2	40.2	41.1
400	43.2	43.7	41.9	42.4	37.7	41.6	39.7	39.9
500	41.3	38.2	39.9	37.3	39.3	38.1	36.6	37.8
630	38.9	35.0	38.6	35.5	38.2	37.5	35.7	37.7
800	42.6	41.0	42.4	40.2	38.9	38.8	38.6	38.8
1000	41.1	37.8	40.9	38.8	37.4	38.3	36.0	38.4
1250	37.1	37.5	36.4	37.3	37.1	35.0	34.0	34.6
1600	36.1	33.3	35.0	34.4	58.9	51.2	44.2	47.6
2000	34.0	32.8	32.9	33.5	42.5	36.9	34.0	35.1
2500	30.3	32.2	30.8	31.5	34.7	34.6	33.1	32.3
3150	29.9	31.2	33.0	31.7	30.5	29.3	29.6	29.6
4000	27.6	28.3	26.5	27.7	26.7	25.3	24.7	25.8
5000	24.5	24.2	24.0	23.7	23.2	22.0	21.9	22.0
6300	24.2	20.8	21.7	20.4	21.6	20.5	19.4	19.8
8000	18.9	17.8	17.7	17.3	19.3	17.5	17.8	17.8
10000	15.6	12.7	13.9	12.3	19.6	21.5	20.1	19.0
12500	13.5	12.5	13.9	11.6	20.9	22.6	22.7	22.6
16000	12.0	11.2	11.9	10.6	20.5	23.7	22.2	19.1
20000	20.1	22.6	17.0	22.5	29.2	27.1	26.5	26.1

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
Leq	50.1	66.6	49.4	68.9	59.4	53.5	50.1	51.6
A-weighted dB(A)	48.3	47.0	47.7	46.9	60.1	53.2	48.2	50.4
Average sound pressure level dB(A)	47.5				53.0			

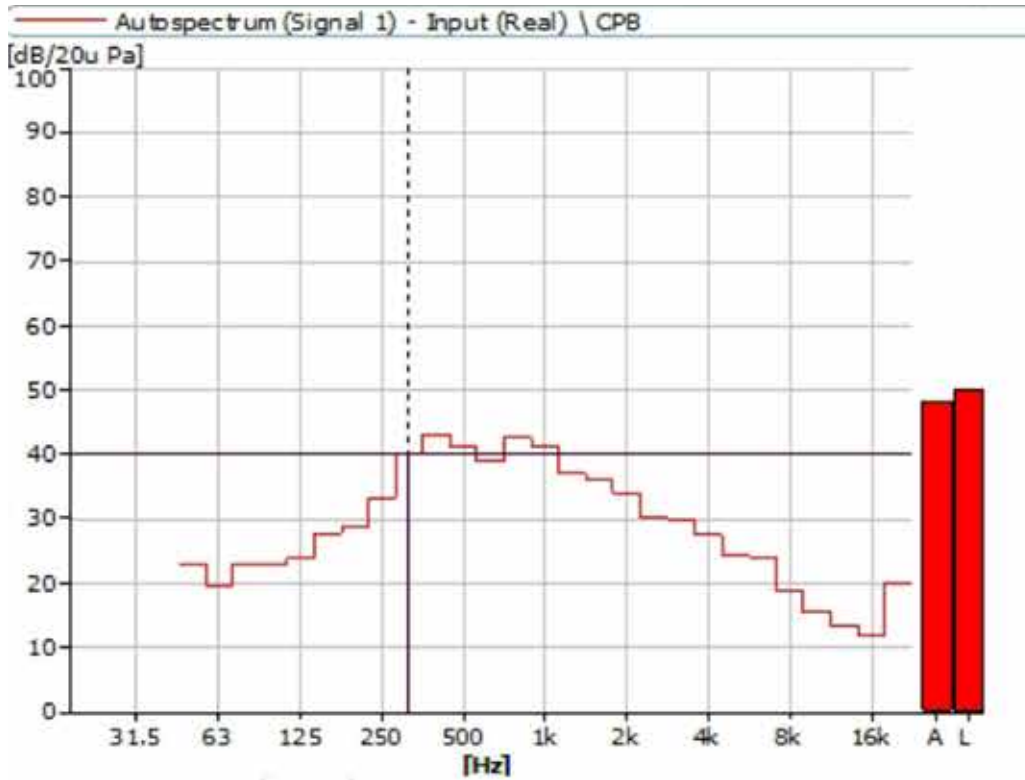


Figure 11 Noise Spectrum of Stage Luminaires (The Stage mode, Static, No 1)

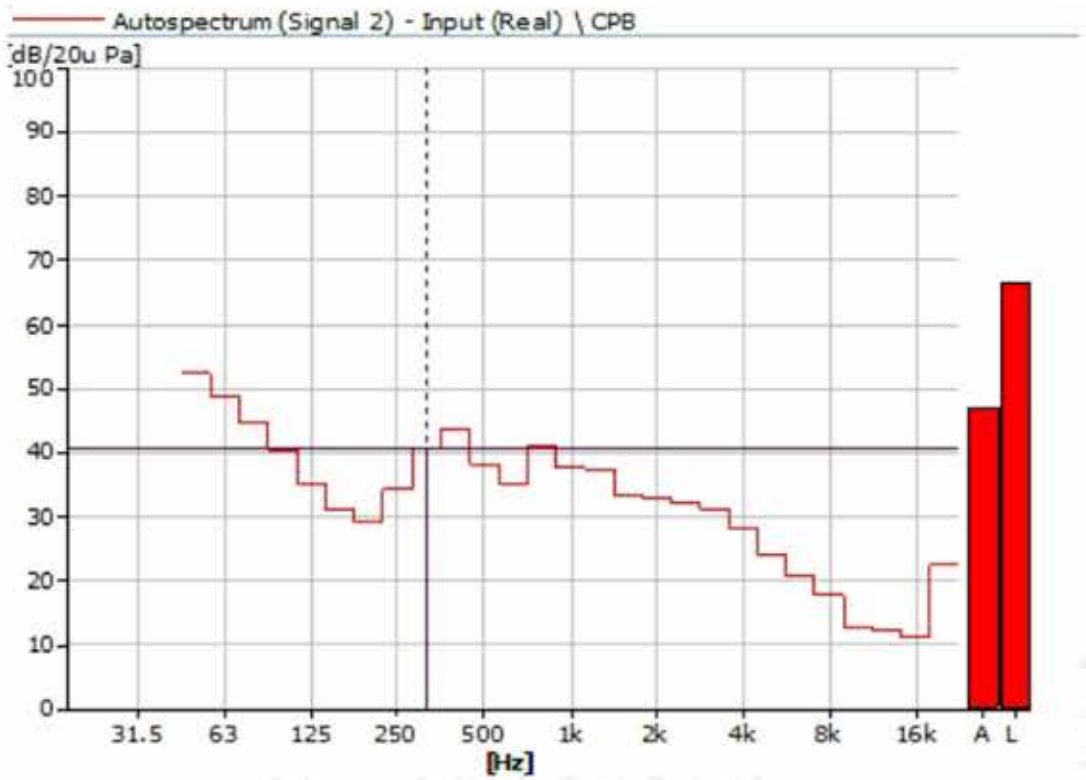


Figure 12 Noise Spectrum of Stage Luminaires (The Stage mode, Static, No 2)

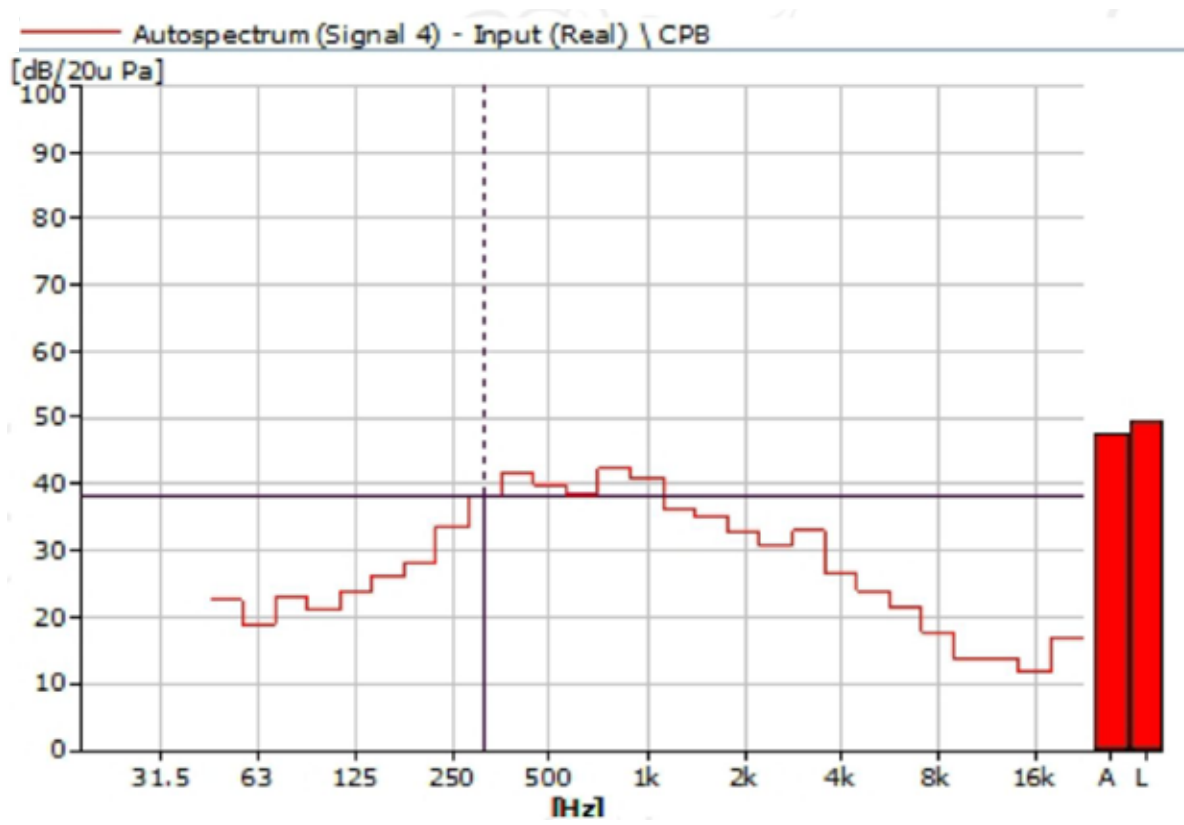


Figure 13 Noise Spectrum of Stage Luminaires (The Stage mode, Static, No 3)

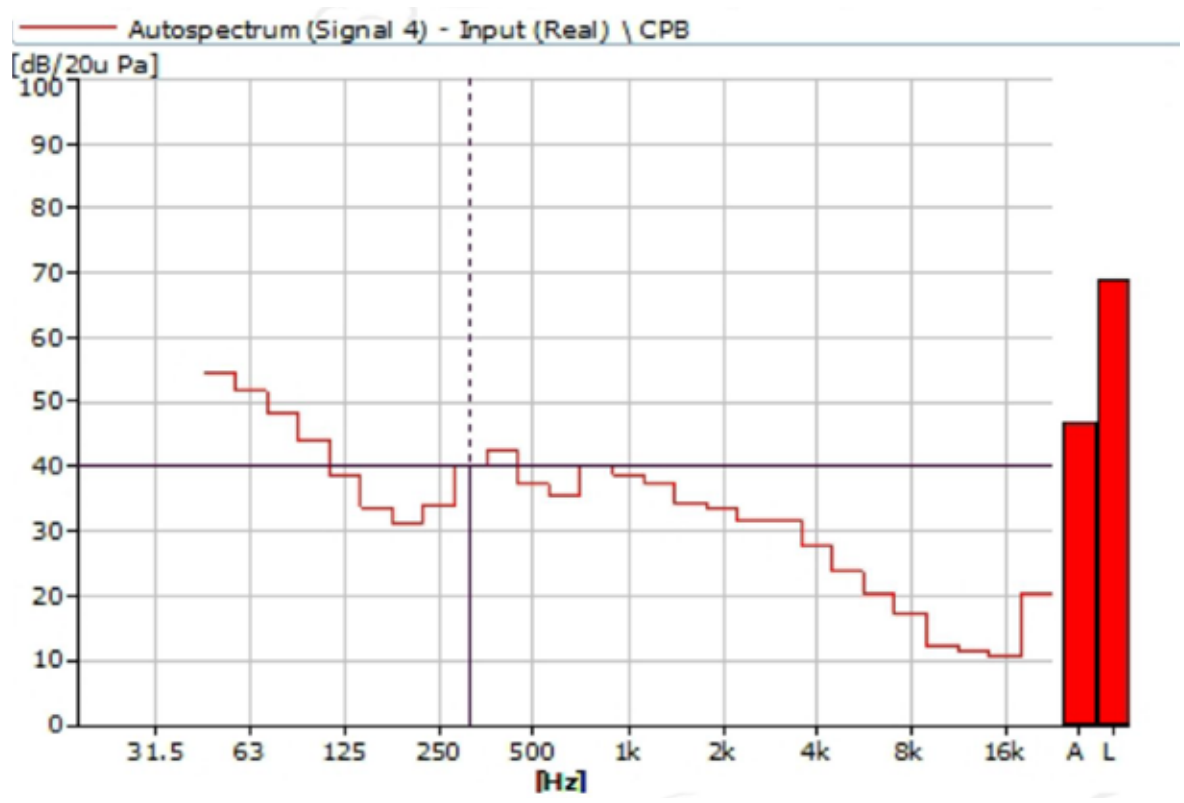


Figure 14 Noise Spectrum of Stage Luminaires (The Stage mode, Static, No 4)

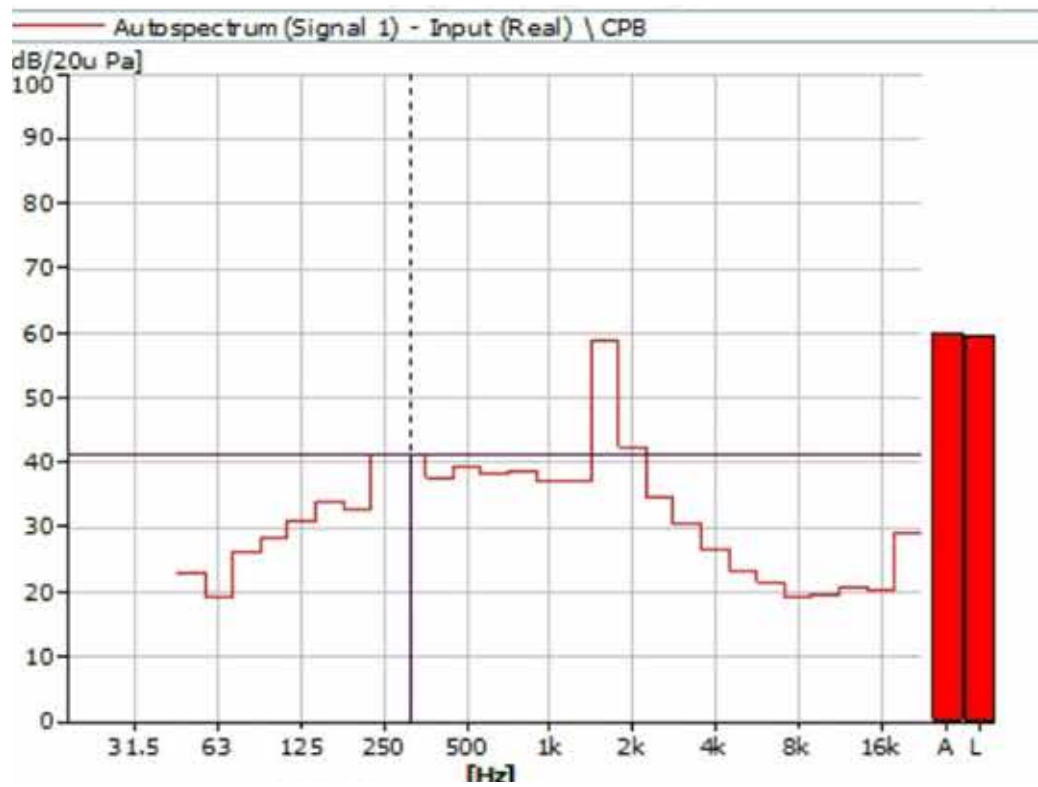


Figure 15 Noise Spectrum of Stage Luminaires (The Stage mode, Dynamic, No 1)

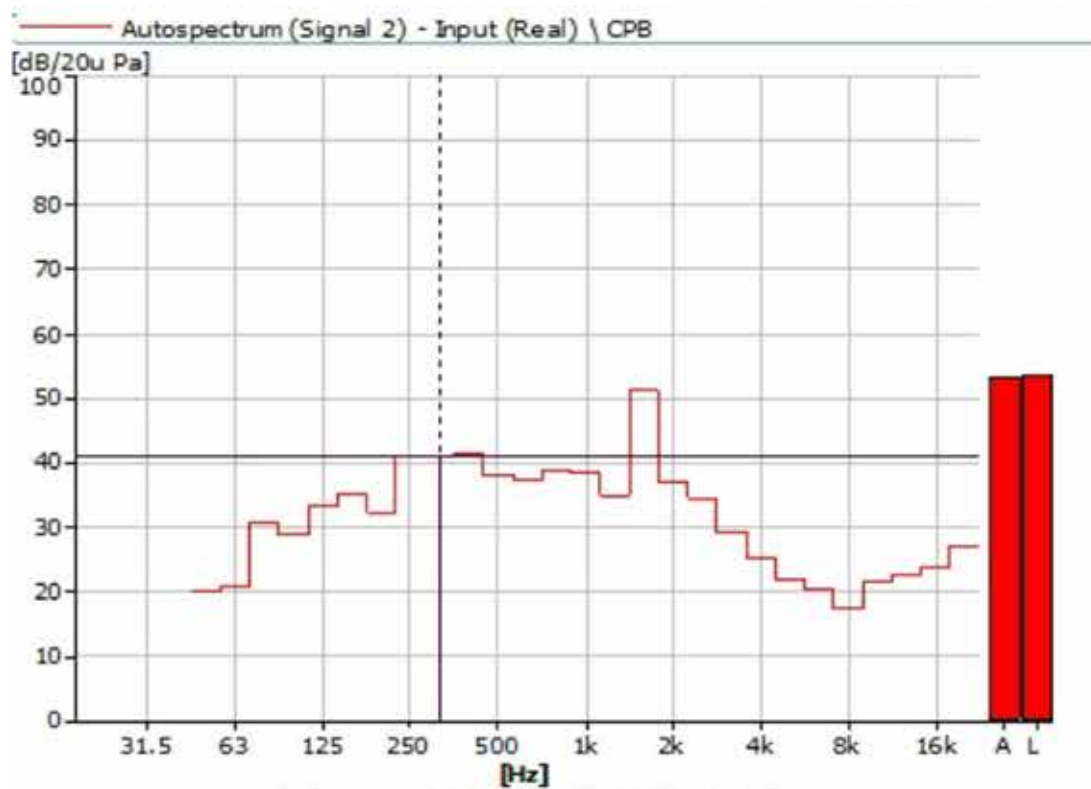


Figure 16 Noise Spectrum of Stage Luminaires (The Stage mode, Dynamic, No 2)

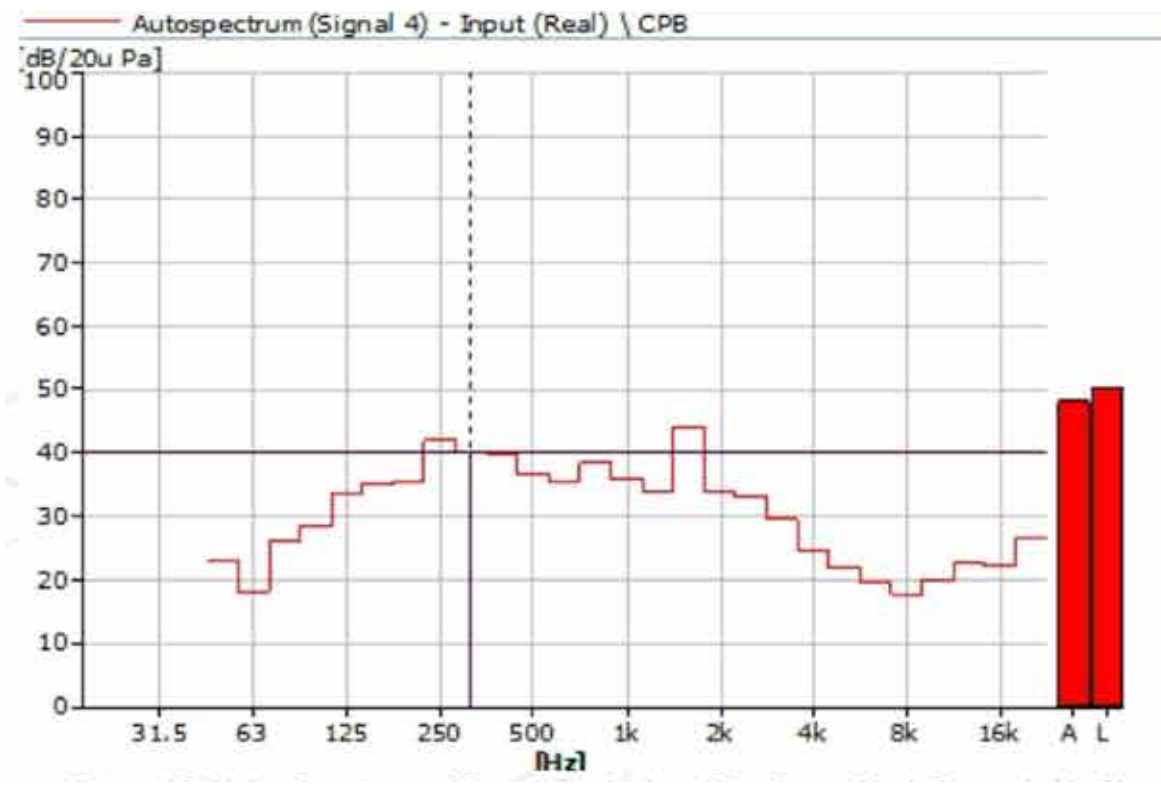


Figure 17 Noise Spectrum of Stage Luminaires (The Stage mode, Dynamic, No 3)

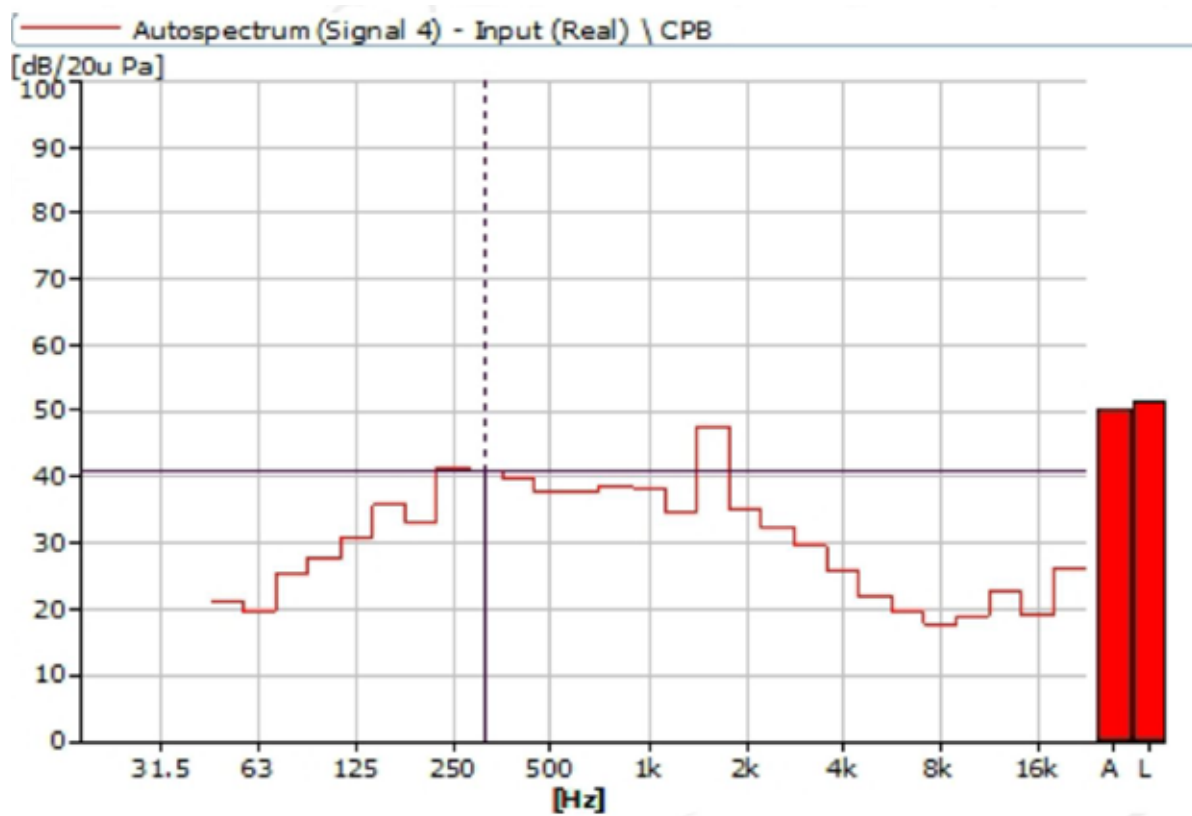


Figure 18 Noise Spectrum of Stage Luminaires (The Stage mode, Dynamic, No 4)

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
50	22.3	19.5	21.8	21.0	23.6	20.1	23.4	20.4
63	16.7	18.0	16.7	17.5	17.3	19.1	17.3	18.6
80	16.0	19.4	16.0	17.9	22.2	26.2	22.6	22.3
100	22.0	20.3	18.5	21.7	27.3	27.7	27.1	26.9
125	17.5	19.1	16.7	18.6	29.8	31.7	31.6	29.8
160	21.6	23.3	20.6	23.7	33.3	34.5	34.5	35.5
200	20.7	21.2	19.9	22.1	31.2	30.9	35.0	31.9
250	26.4	27.1	26.3	26.6	39.8	39.4	41.6	39.5
315	39.3	31.7	38.2	30.5	39.0	37.2	37.4	36.5
400	27.1	31.8	27.2	30.2	39.8	43.1	38.7	41.8
500	34.2	30.2	32.3	29.1	30.9	31.8	30.7	31.5
630	33.1	27.1	31.9	26.3	28.2	28.9	29.5	29.8
800	30.3	28.3	30.4	27.2	32.7	30.1	36.0	30.6
1000	28.1	28.6	28.7	28.3	25.8	25.4	27.4	25.3
1250	28.1	28.5	27.5	28.0	33.0	28.2	29.1	26.7
1600	29.2	25.5	27.9	28.7	58.6	50.3	46.2	47.1
2000	23.7	24.8	24.9	26.7	41.8	34.8	32.3	32.9
2500	20.2	23.9	21.6	24.2	30.3	32.5	32.3	30.0
3150	21.9	24.0	24.7	25.8	24.6	24.8	26.9	25.3
4000	18.8	19.8	17.9	21.7	18.7	18.3	19.6	19.9
5000	15.9	17.1	16.1	17.0	15.1	14.6	15.8	14.8
6300	15.2	14.2	13.7	14.7	13.4	14.7	14.1	13.4
8000	11.0	12.2	10.3	12.0	14.6	13.9	14.4	14.1
10000	9.5	9.4	9.3	9.3	17.1	19.5	18.5	16.9
12500	10.7	12.6	12.3	11.1	18.8	20.6	20.7	19.5
16000	10.3	11.6	11.0	10.3	18.1	20.7	19.5	17.2
20000	27.6	32.2	24.5	30.5	28.4	37.0	29.0	37.9

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
Leq	43.0	40.2	42.1	40.1	58.9	52.0	49.5	49.9
A-weighted dB (A)	39.5	37.4	38.9	37.7	59.7	51.8	48.4	49.0
Average sound pressure level dB (A)	38.4				52.2			

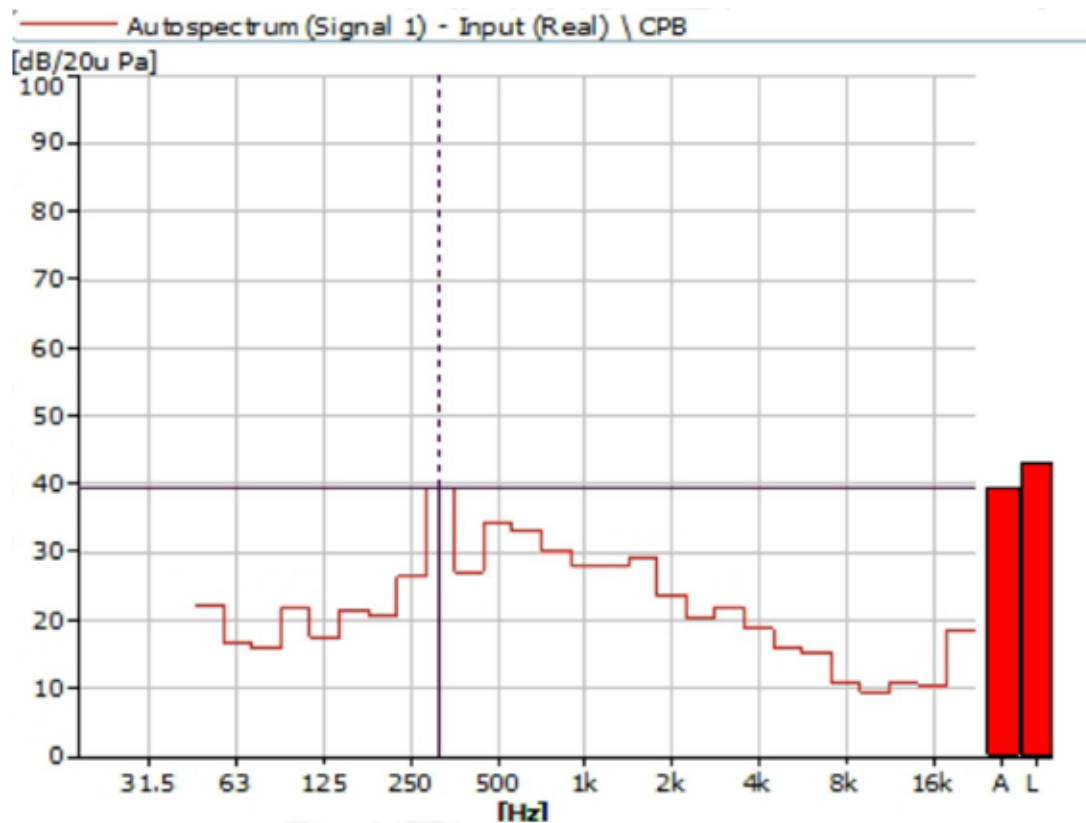


Figure 19 Noise Spectrum of Stage Luminaires (The Silence mode, Static, No 1)

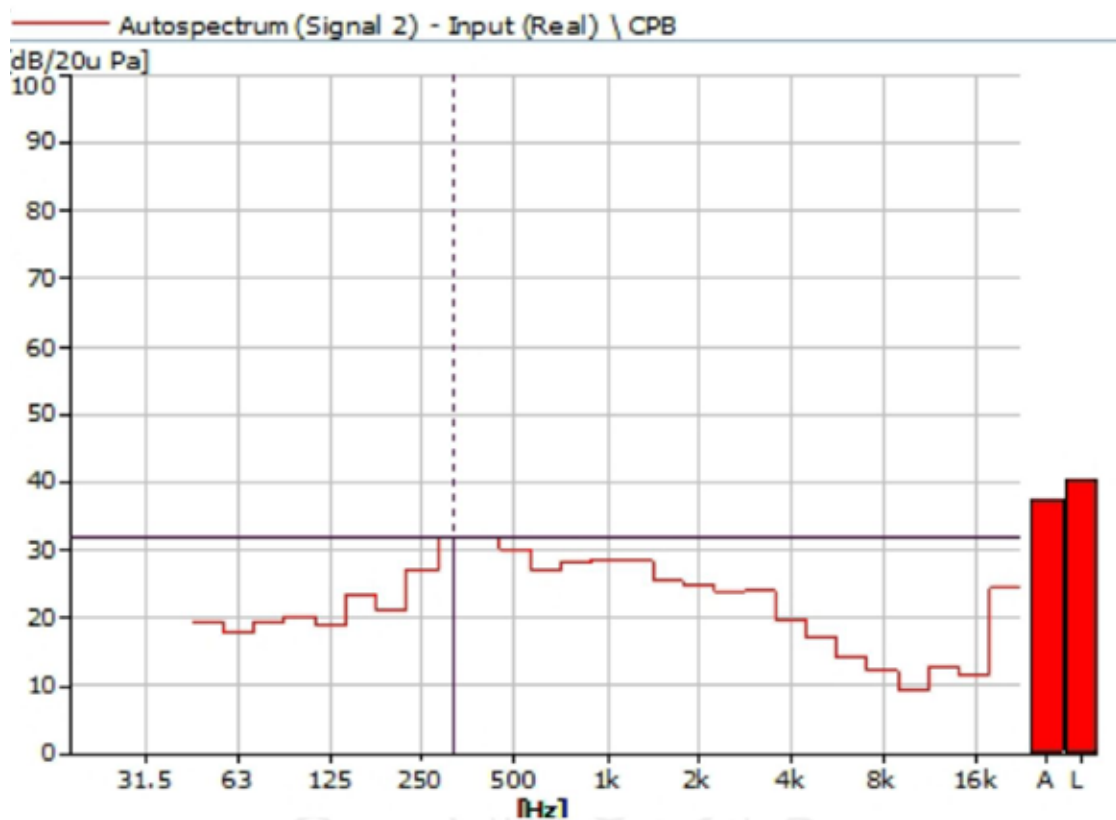


Figure 20 Noise Spectrum of Stage Luminaires (The Silence mode, Static, No 2)

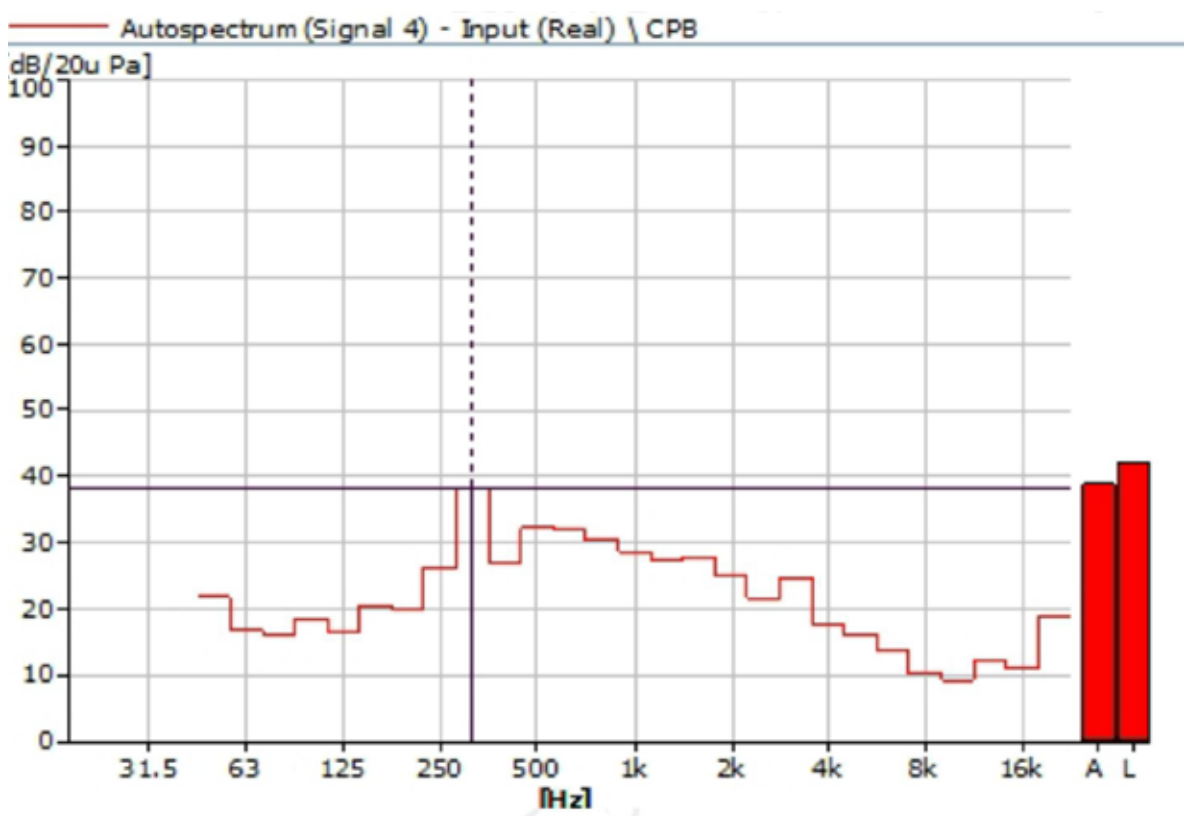


Figure 21 Noise Spectrum of Stage Luminaires (The Silence mode, Static, No 3)

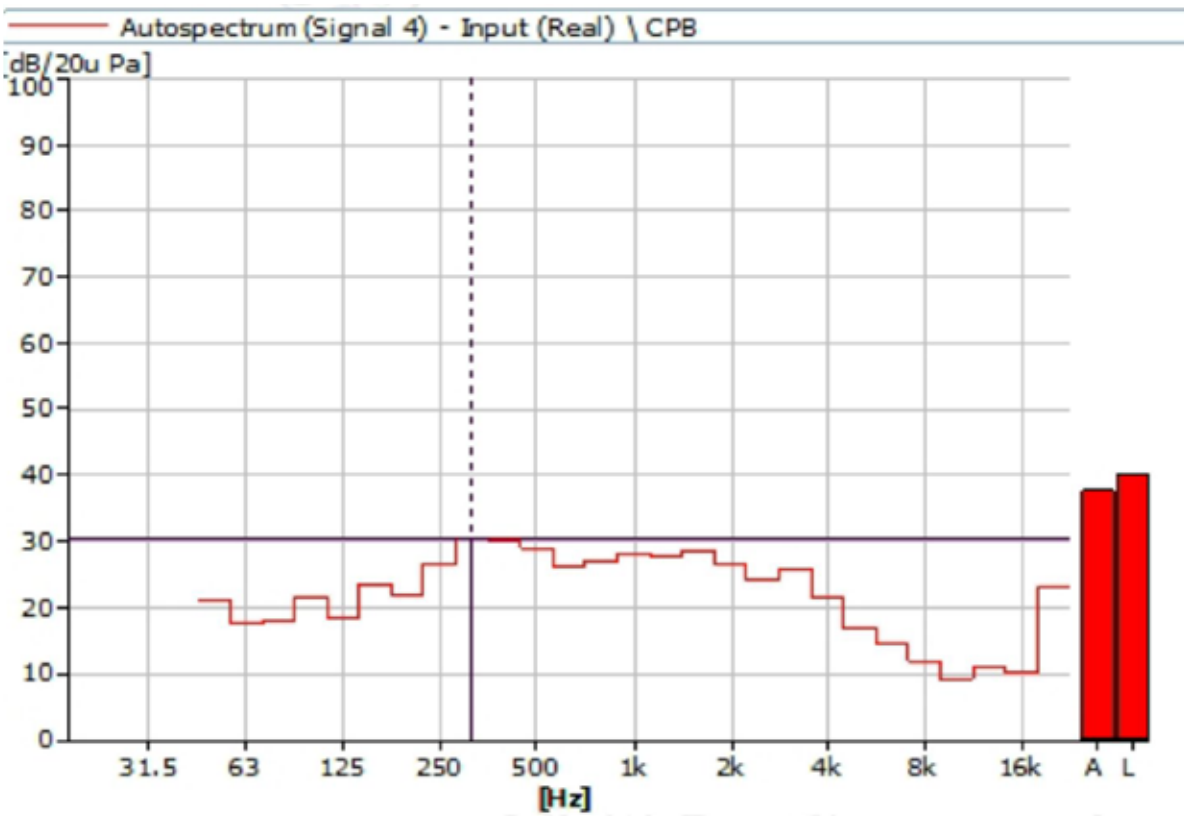


Figure 22 Noise Spectrum of Stage Luminaires (The Silence mode, Static, No 4)

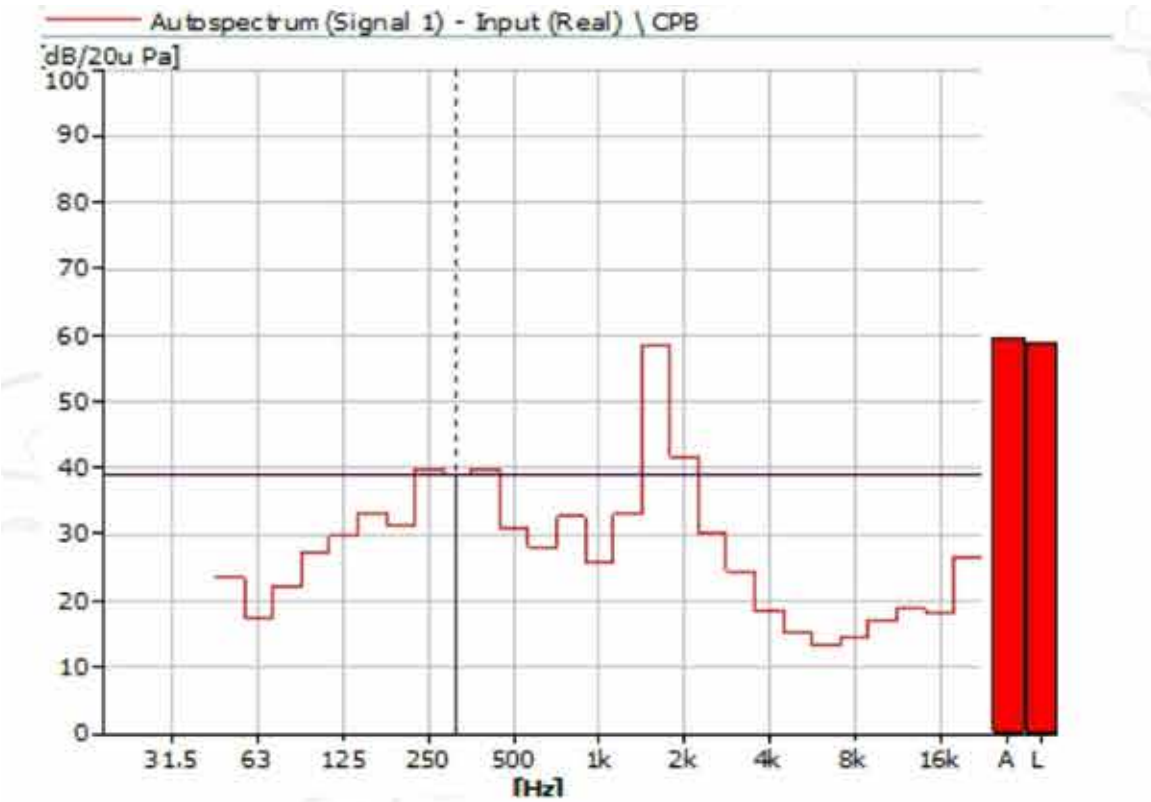


Figure 23 Noise Spectrum of Stage Luminaires (The Silence mode, Dynamic, No 1)

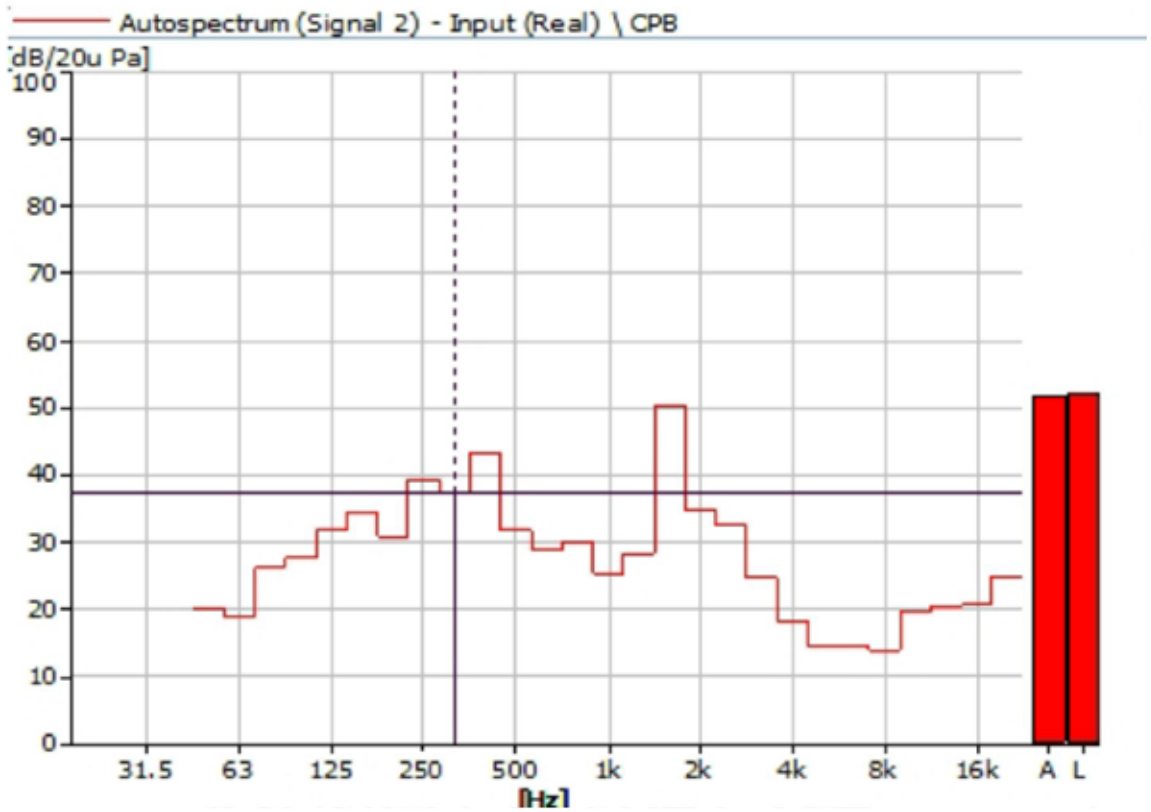


Figure 24 Noise Spectrum of Stage Luminaires (The Silence mode, Dynamic, No 2)

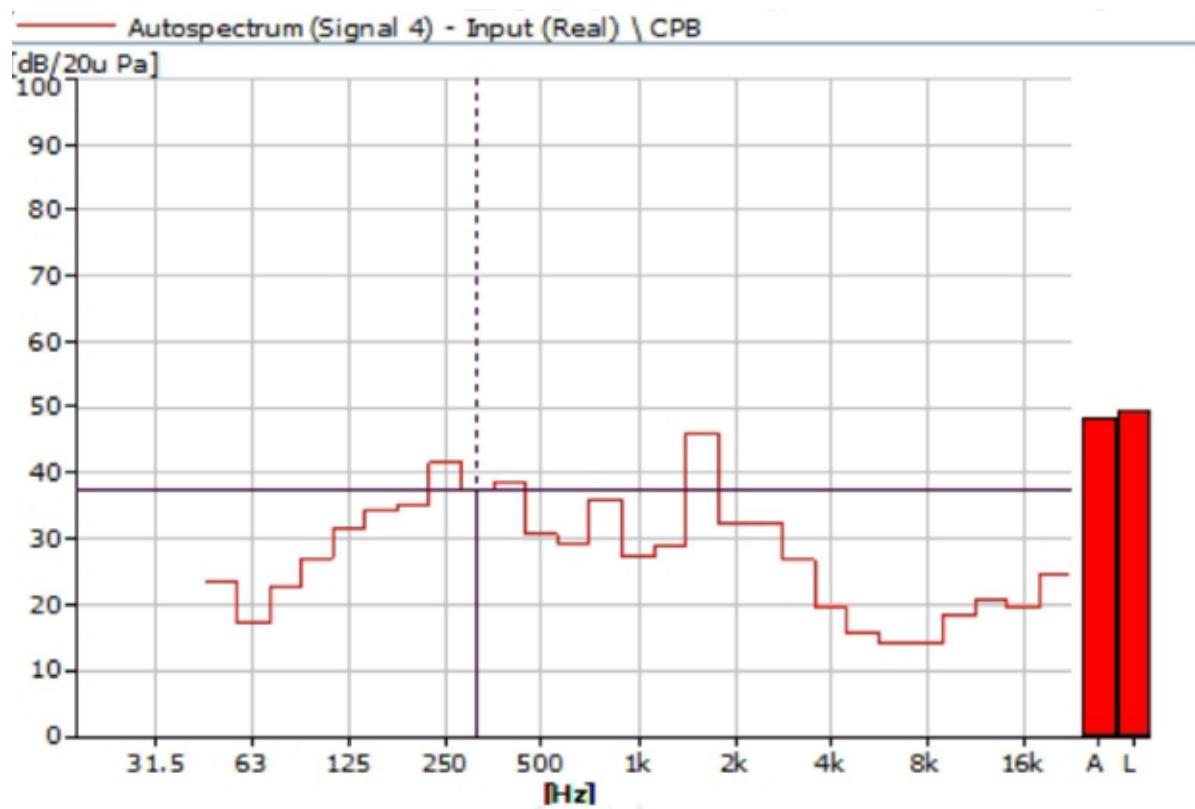


Figure 25 Noise Spectrum of Stage Luminaires (The Silence mode, Dynamic, No 3)

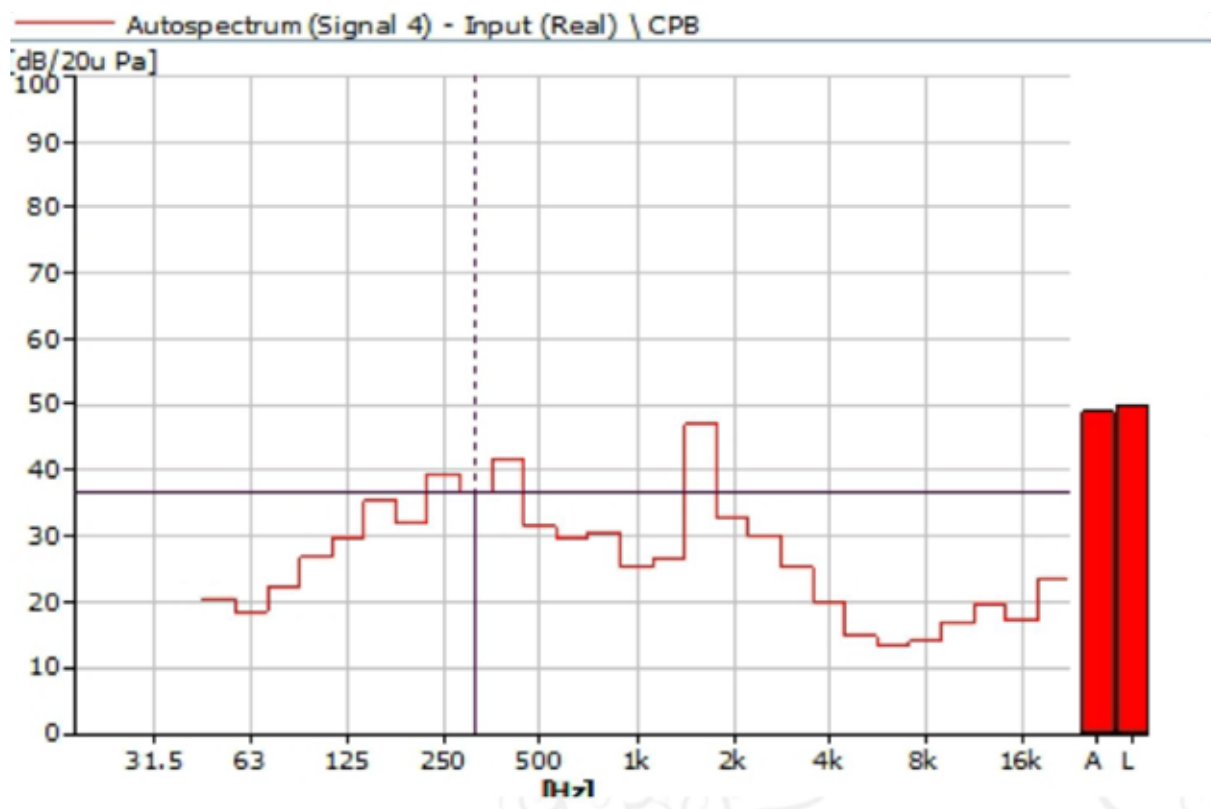


Figure 26 Noise Spectrum of Stage Luminaires (The Silence mode, Dynamic, No 4)

4 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
50	25.5	22.0	23.0	19.8	21.6	19.4	23.3	19.9
63	18.5	17.0	16.2	16.7	15.0	16.7	15.7	14.8
80	18.6	17.8	15.8	14.3	22.0	25.7	22.2	22.0
100	19.3	18.1	16.1	17.8	25.9	26.3	26.3	25.9
125	15.1	13.9	13.3	15.2	28.8	30.6	30.8	28.9
160	17.6	18.1	17.0	17.9	31.0	33.2	33.7	33.0
200	11.7	12.3	11.1	13.4	31.2	30.8	34.5	31.7
250	14.5	15.7	15.0	15.5	39.8	39.2	41.1	39.5
315	16.1	18.5	13.5	14.8	39.0	37.5	37.1	36.7
400	13.8	15.4	13.3	18.6	40.4	43.0	38.6	41.7
500	14.7	13.3	13.5	15.3	31.3	31.3	29.9	31.5
630	13.9	13.7	14.2	10.6	28.0	27.8	28.4	28.5
800	20.3	18.7	20.5	17.0	31.4	29.6	35.3	29.6
1000	17.8	17.2	17.3	13.7	25.1	24.8	25.4	24.4
1250	18.5	17.9	21.8	11.6	30.4	27.0	29.0	26.1
1600	30.8	23.0	26.3	27.7	55.4	44.7	44.7	42.8
2000	16.2	12.7	12.7	24.4	39.1	31.5	31.9	31.7
2500	16.4	16.1	13.9	13.2	28.7	30.7	33.0	28.5
3150	12.2	13.4	12.7	14.7	22.9	23.7	25.0	24.5
4000	11.0	11.1	9.8	14.1	17.8	17.6	18.0	19.2
5000	8.6	8.8	8.2	8.7	14.7	14.5	13.7	14.9
6300	8.1	8.9	7.5	8.1	13.3	14.6	12.0	13.3
8000	8.2	9.3	7.9	8.8	13.9	13.5	12.8	13.8
10000	8.2	8.6	8.3	8.6	16.3	18.7	17.4	17.0
12500	7.8	8.2	7.4	7.5	19.3	20.0	19.1	20.2
16000	7.8	9.0	7.8	7.6	18.7	20.8	17.3	17.7
20000	19.7	24.8	22.0	20.7	26.3	25.3	23.6	24.8

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
Leq	36.0	33.9	34.0	34.6	55.9	48.8	48.6	47.9
A-weighted dB (A)	32.9	28.3	30.1	31.5	56.6	47.2	47.2	45.7
Average sound pressure level dB (A)	30.7				49.2			

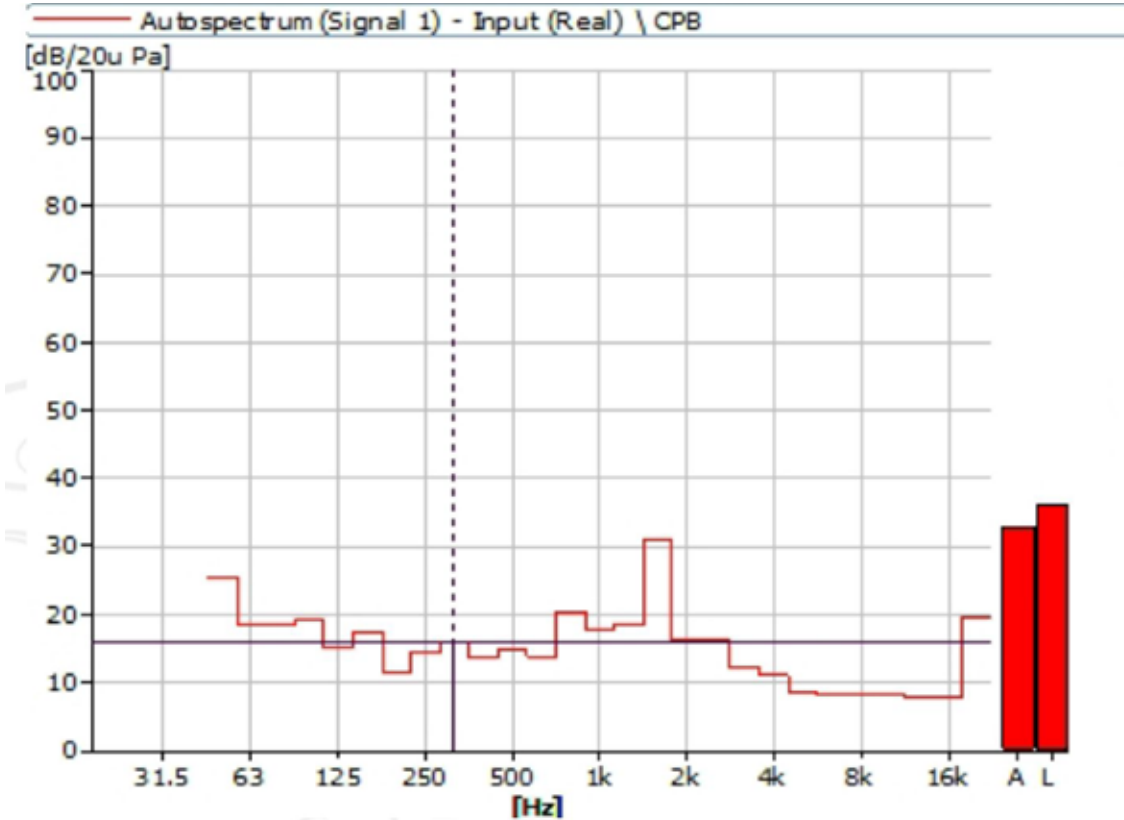


Figure 27 Noise Spectrum of Stage Luminaires (The Super Silence mode, Static, No 1)

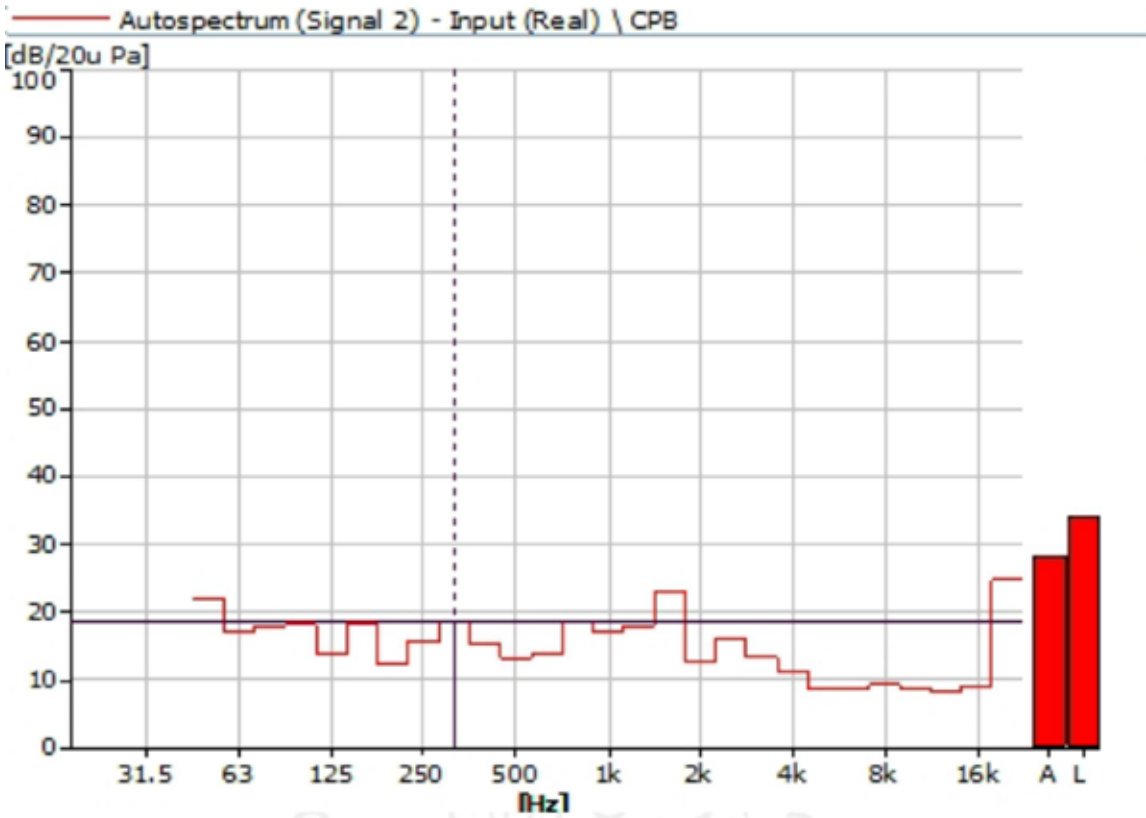


Figure 28 Noise Spectrum of Stage Luminaires (The Super Silence mode, Static, No 2)

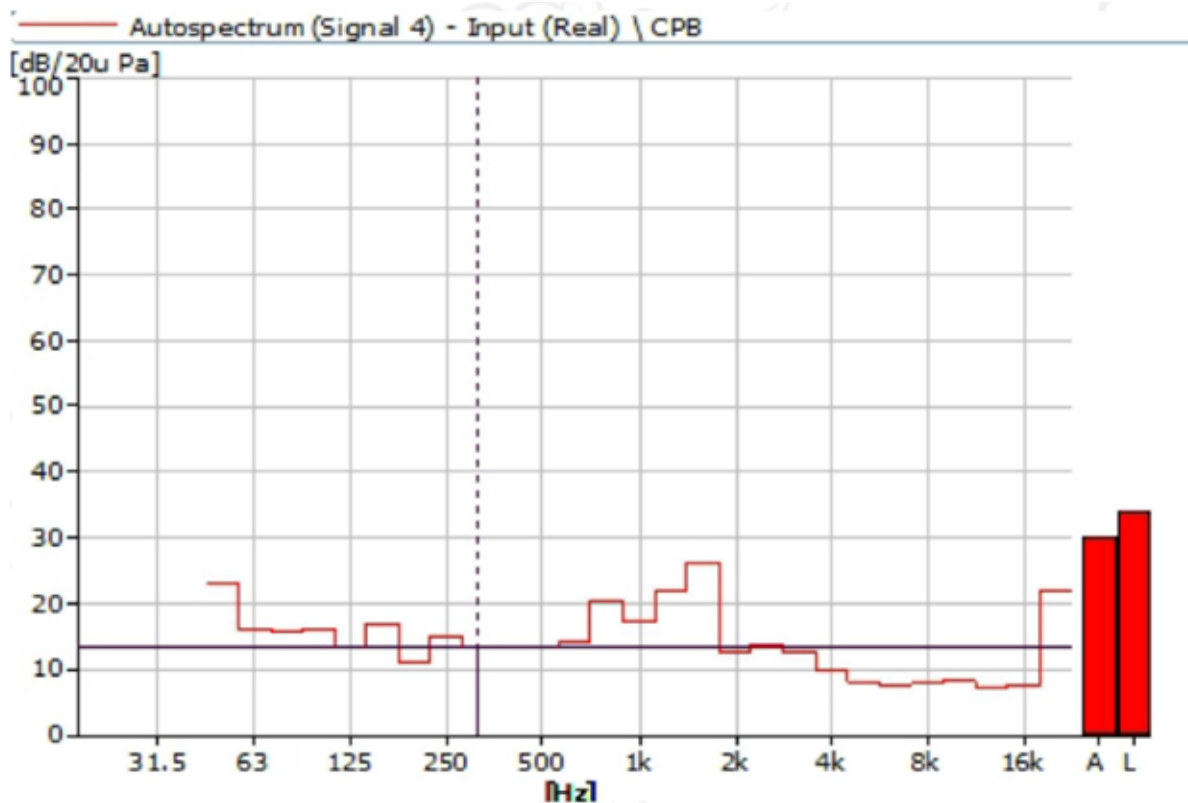


Figure 29 Noise Spectrum of Stage Luminaires (The Super Silence mode, Static, No 3)

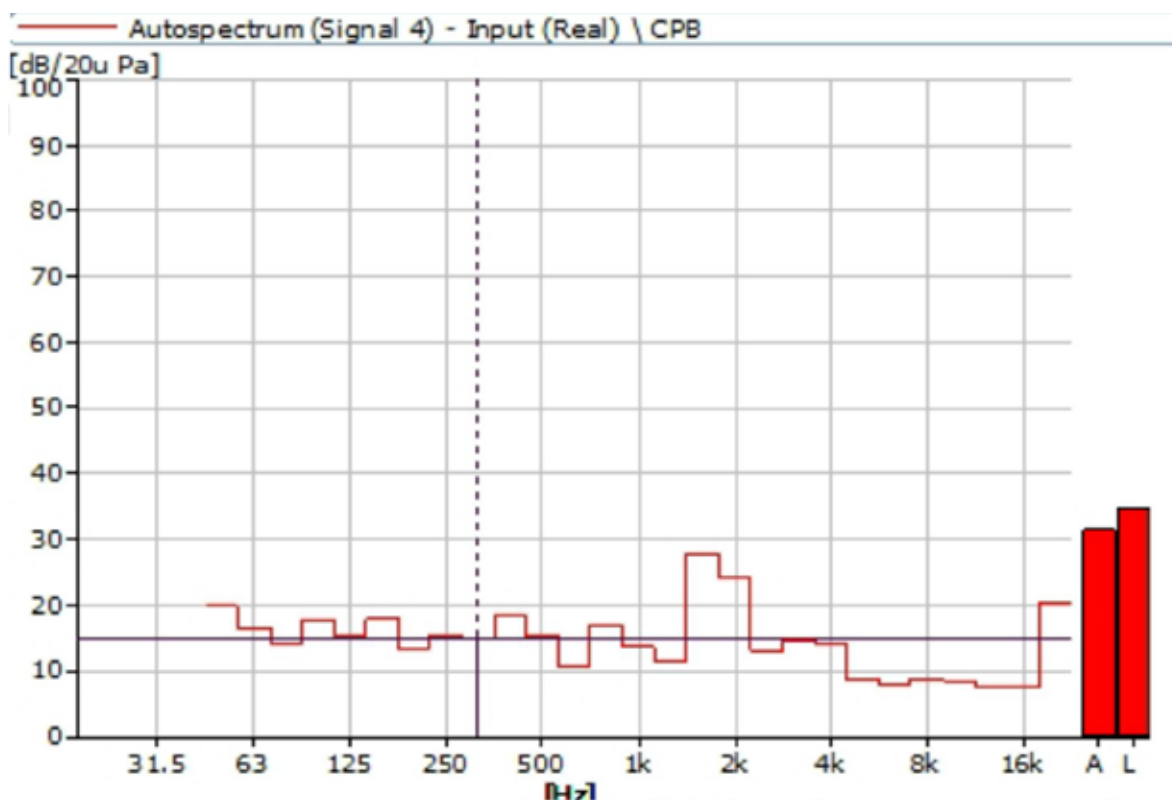


Figure 30 Noise Spectrum of Stage Luminaires (The Super Silence mode, Static, No 4)

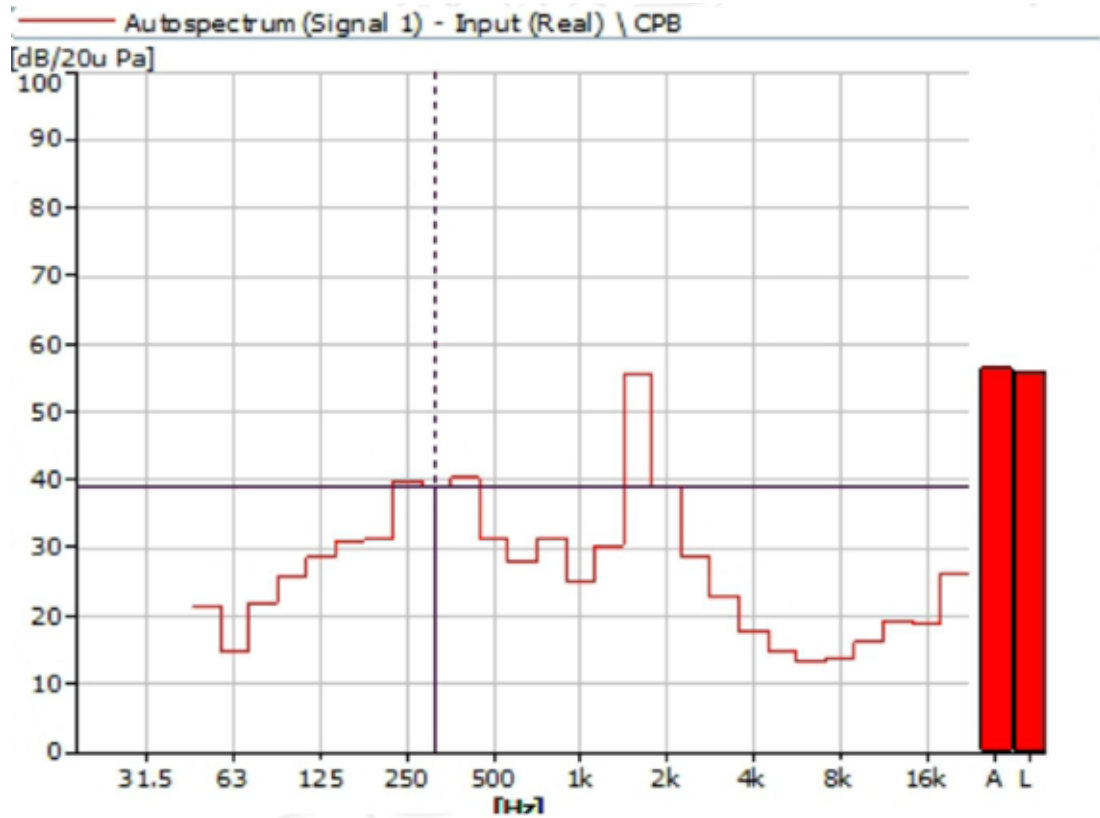


Figure 31 Noise Spectrum of Stage Luminaires (The Super Silence mode, Static, No 1)

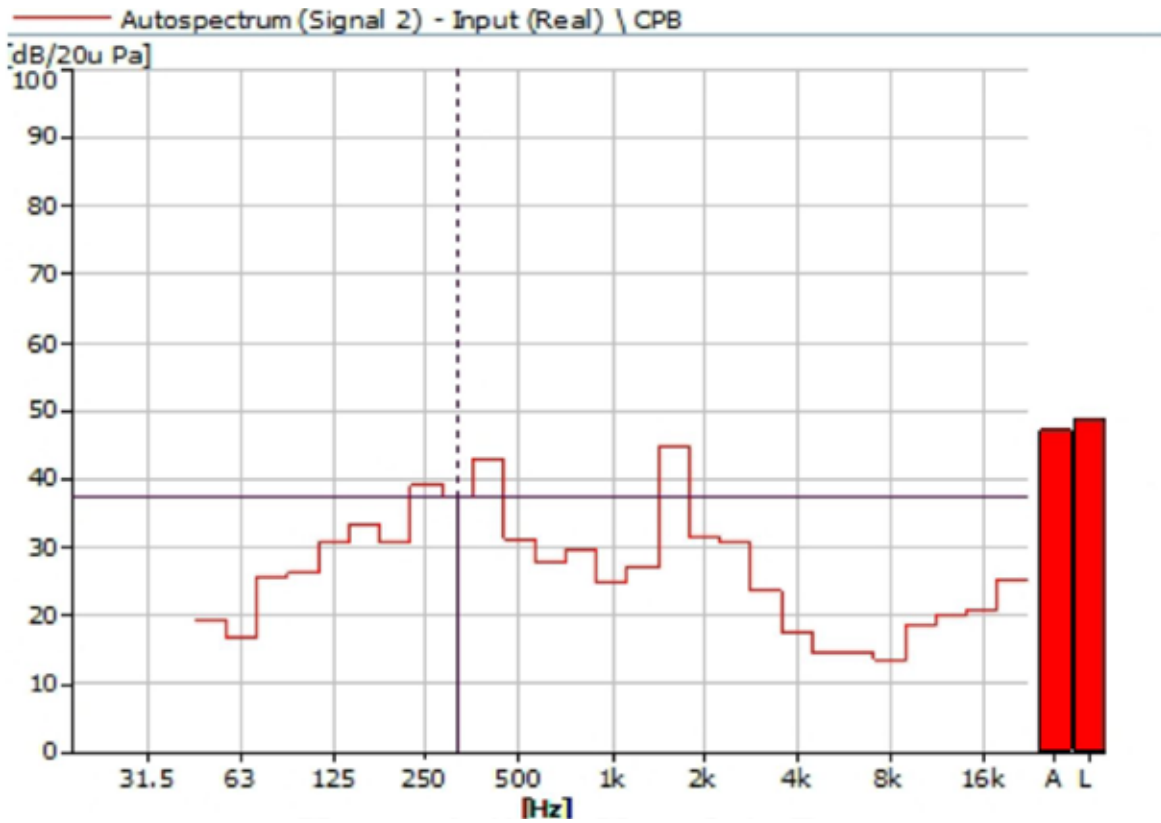


Figure 32 Noise Spectrum of Stage Luminaires (The Super Silence mode, Static, No 2)

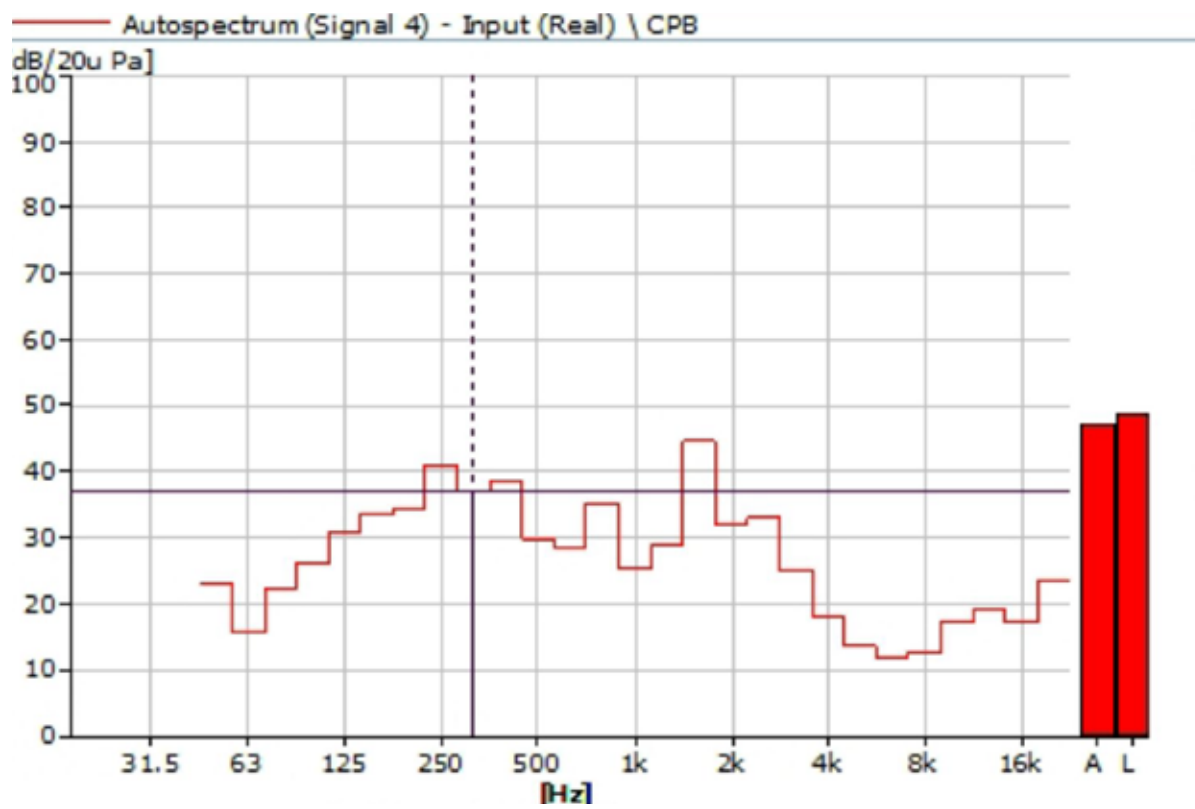


Figure 33 Noise Spectrum of Stage Luminaires (The Super Silence mode, Static, No 3)

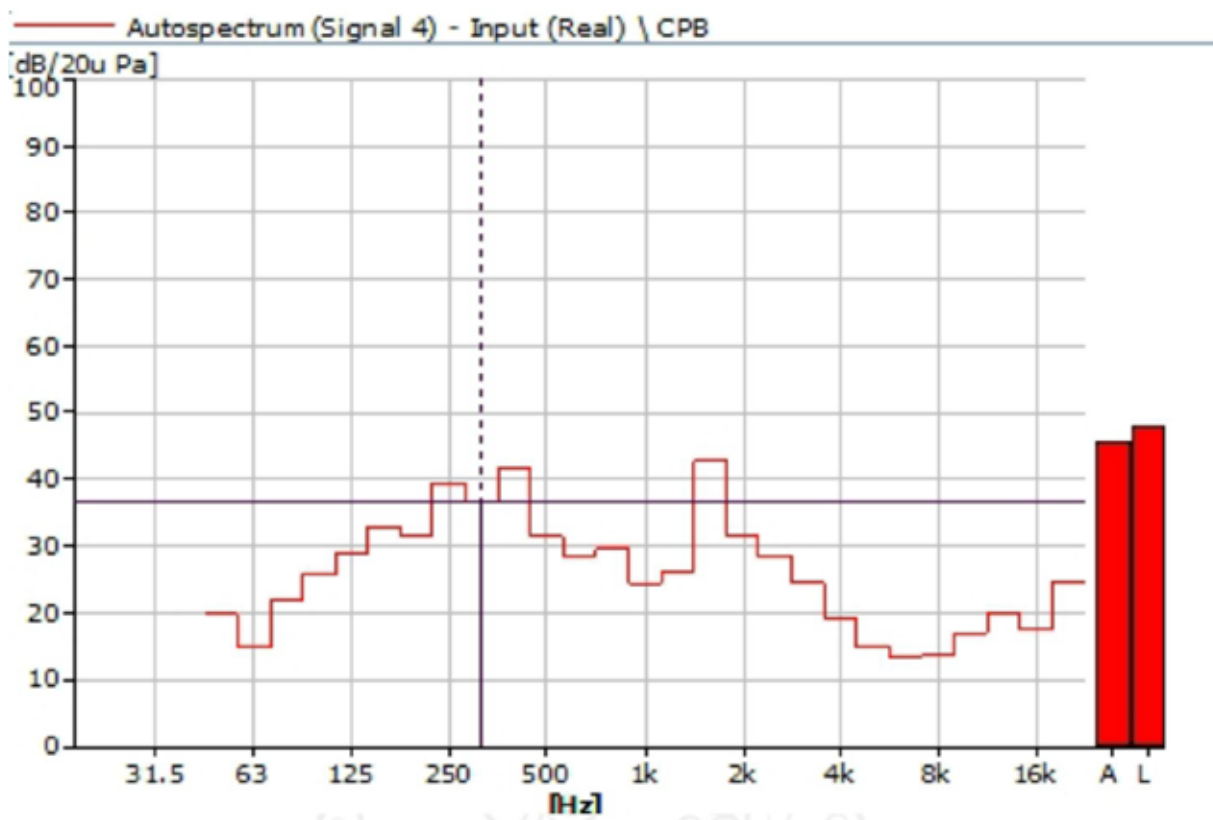


Figure 34 Noise Spectrum of Stage Luminaires (The Super Silence mode, Static, No 4)



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