



PERSEO PROFILE

NOISE MEASUREMENTS



AYRTON
Digital Lighting

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.

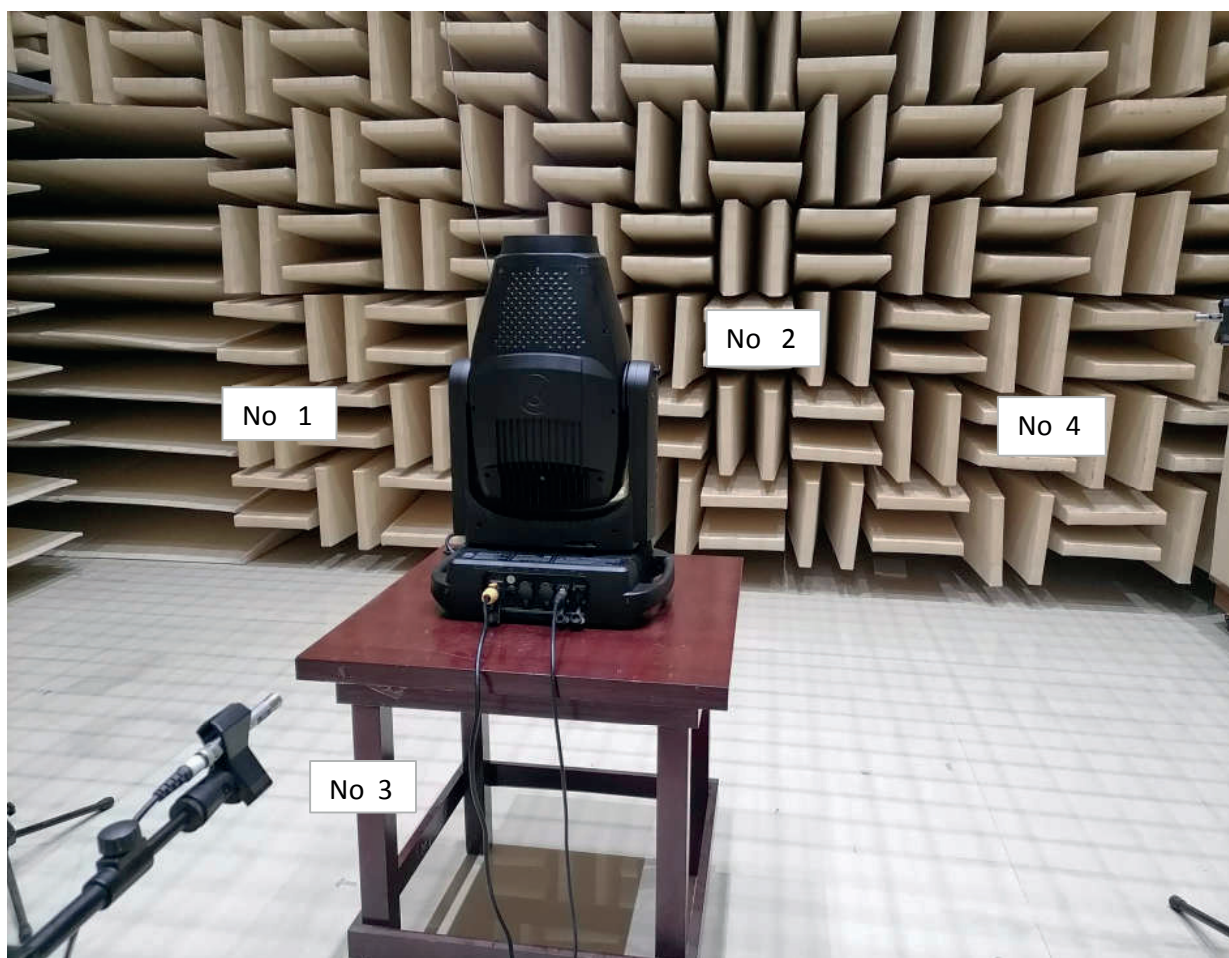


Figure 1 Test setup



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
16	29.2	31.5	27.6	24.6	33.1	33.3	30.7	30.5
31.5	30.2	32.0	31.9	30.1	36.2	37.9	36.7	34.9
63	24.5	27.2	27.4	25.0	27.4	25.8	28.9	26.6
125	25.8	26.5	24.7	20.6	34.4	32.8	33.9	30.8
250	27.1	33.3	34.4	26.4	44.3	44.1	44.3	42.2
500	36.2	36.2	37.3	34.0	50.5	53.0	52.5	50.6
1000	32.8	30.6	31.6	31.5	37.1	37.4	38.0	35.2
2000	29.6	30.2	30.8	27.7	30.5	31.0	30.5	29.2
4000	25.3	24.0	23.7	22.9	25.8	24.9	26.3	24.8
8000	13.1	19.5	15.0	13.0	18.1	20.3	19.0	17.6
16000	28.4	31.5	30.8	23.1	32.9	37.2	36.3	31.3
31500	16.1	29.8	16.7	17.2	16.5	29.8	20.2	17.3

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	40.6	42.7	41.9	38.7	52.0	54.1	53.5	51.6
A-weighted dB(A)	37.6	37.5	38.3	35.8	47.3	50.0	49.2	47.1
Average sound pressure level dB(A)	37.4				48.6			

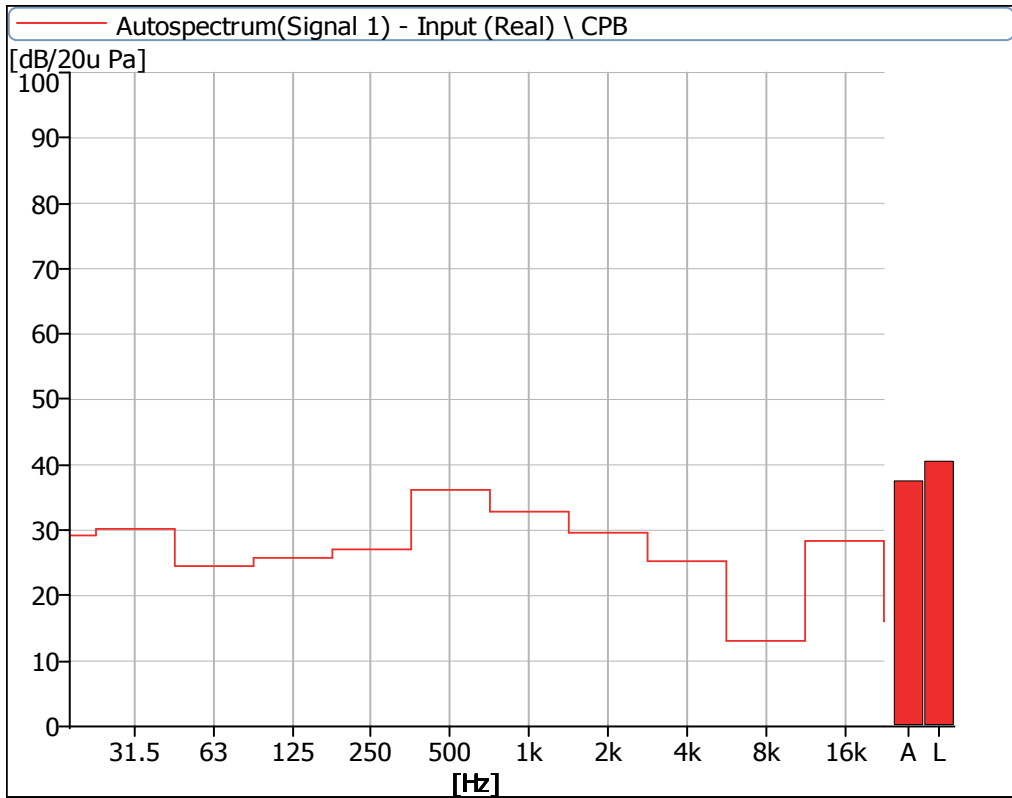


Figure 3 Noise Spectrum of Stage Luminaires (The Auto mode, Static, No 1)

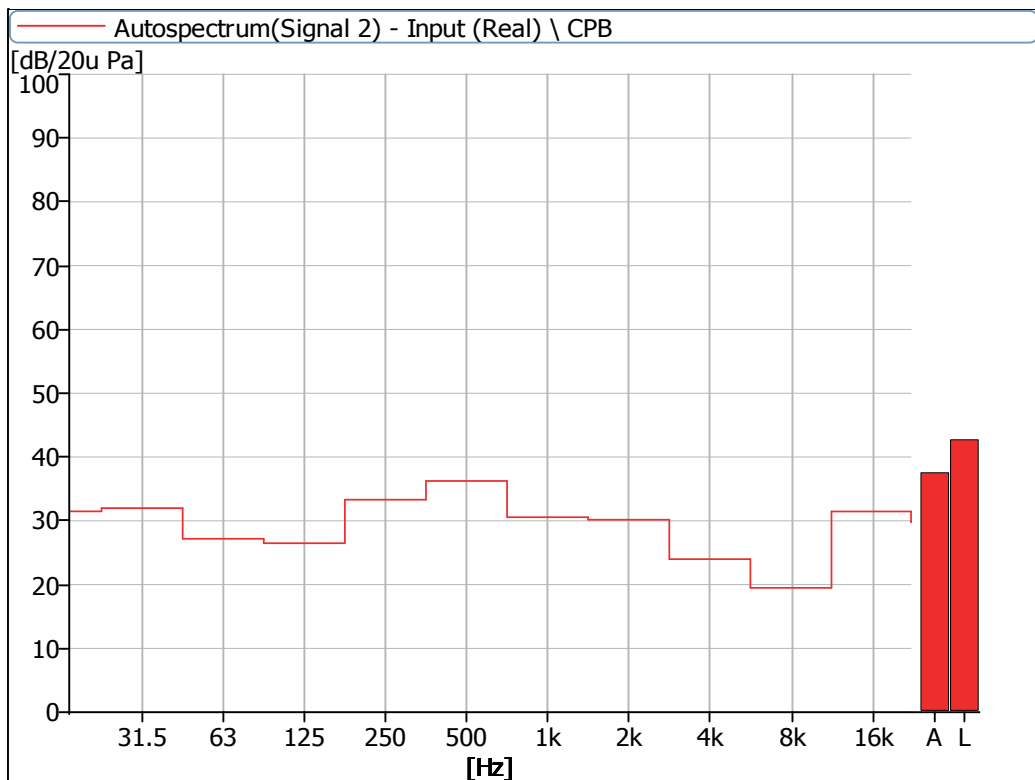


Figure 4 Noise Spectrum of Stage Luminaires (The Auto mode, Static, No 2)

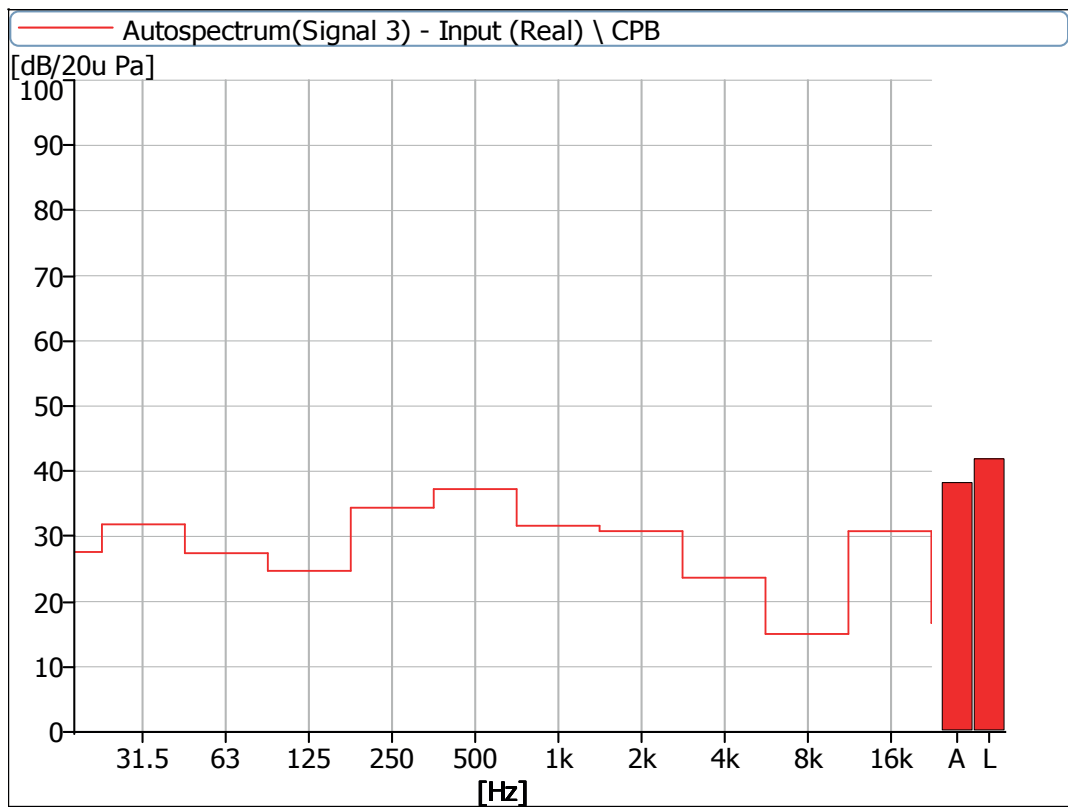


Figure 5 Noise Spectrum of Stage Luminaires (The Auto mode, Static, No 3)

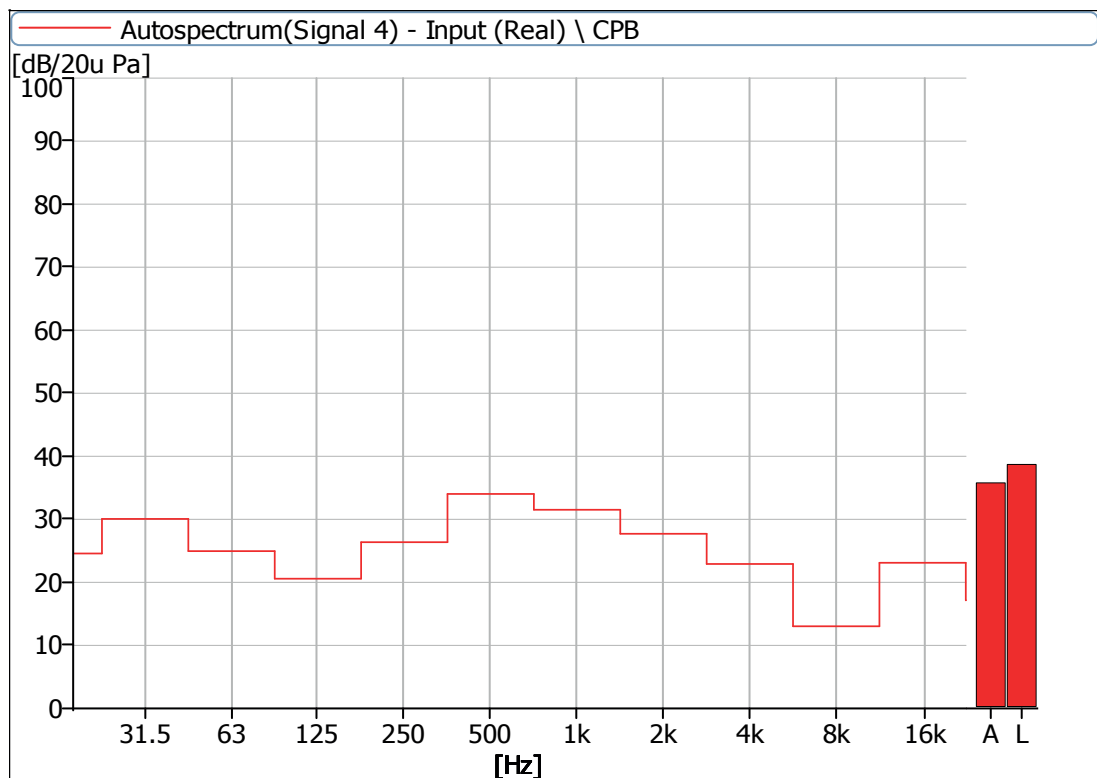


Figure 6 Noise Spectrum of Stage Luminaires (The Auto mode, Static, No 4)

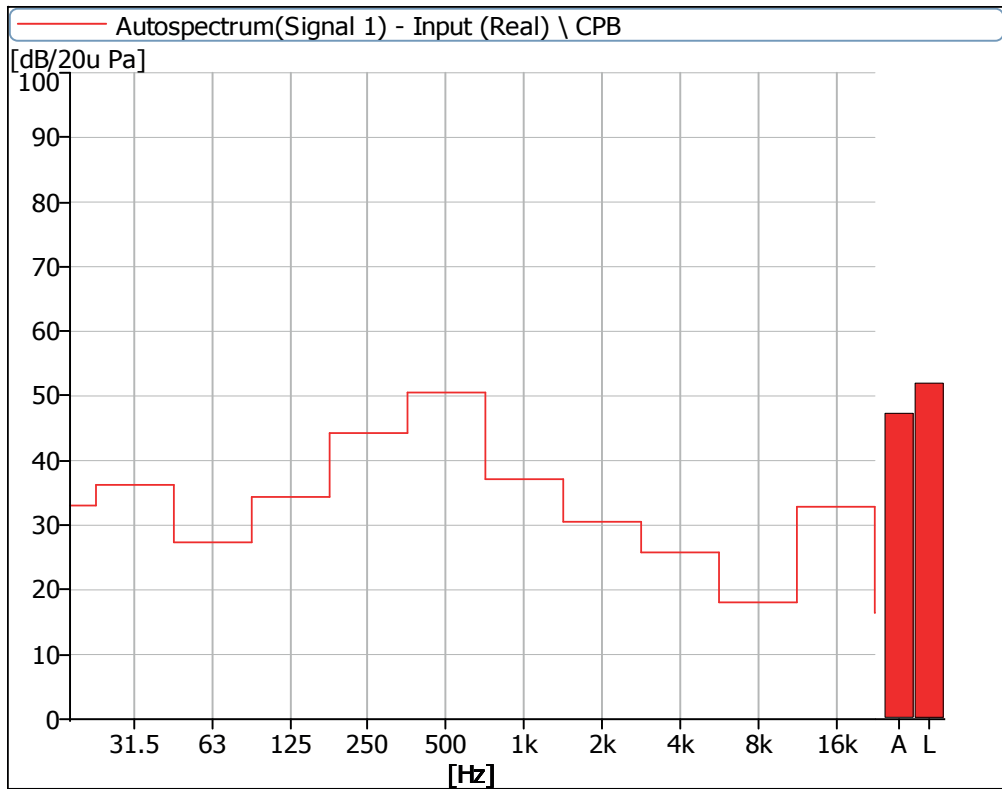


Figure 7 Noise Spectrum of Stage Luminaires (The Auto mode, Dynamic, No 1)

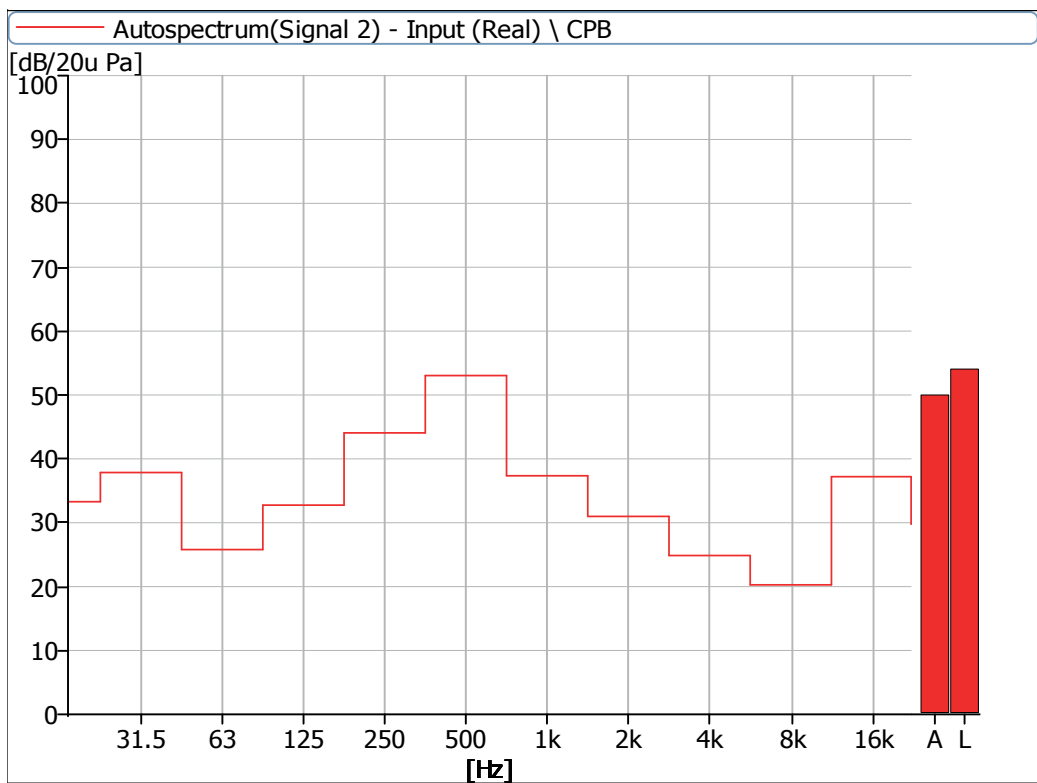


Figure 8 Noise Spectrum of Stage Luminaires (The Auto mode, Dynamic, No 2)

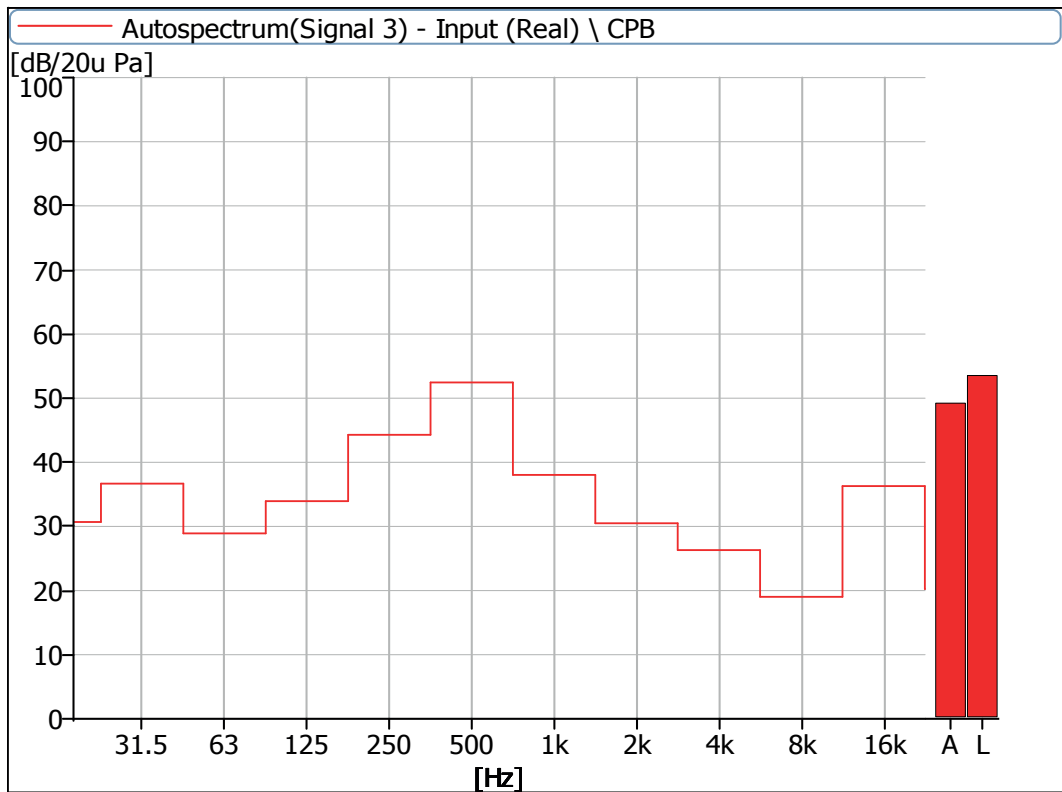


Figure 9 Noise Spectrum of Stage Luminaires (The Auto mode, Dynamic, No 3)

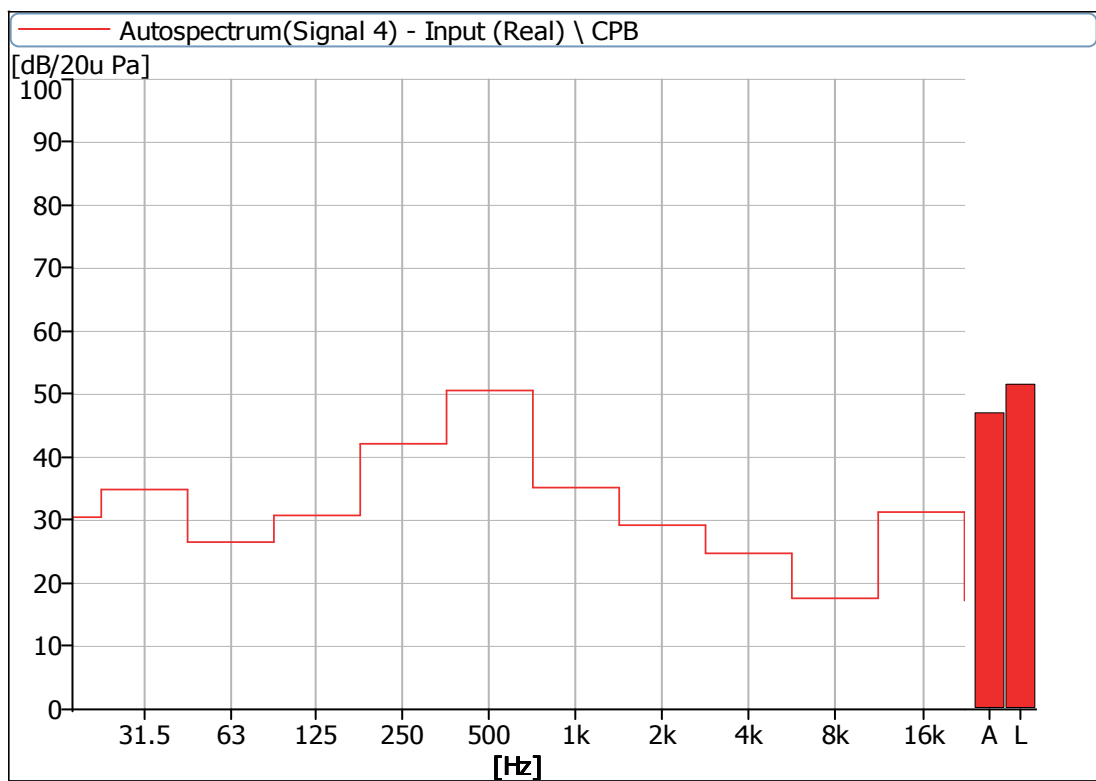


Figure 10 Noise Spectrum of Stage Luminaires (The Auto mode, Dynamic, No 4)

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
16	33.4	47.7	30.7	28.5	33.0	32.7	31.3	30.0
31.5	34.8	42.2	34.6	33.2	35.1	36.7	35.6	34.0
63	34.8	32.8	36.7	34.1	35.6	33.9	37.4	34.9
125	31.0	30.7	32.7	30.1	35.9	34.1	35.5	32.9
250	35.6	37.2	39.2	34.2	44.3	43.8	44.6	42.3
500	53.4	55.7	57.7	48.7	56.2	54.5	54.5	53.1
1000	47.0	44.5	45.5	45.2	46.1	45.6	46.2	45.0
2000	42.7	47.3	48.1	40.4	45.5	45.1	43.7	44.2
4000	42.7	43.0	41.7	41.2	40.9	41.2	41.6	41.5
8000	33.9	38.6	37.7	32.5	35.3	35.9	34.7	35.3
16000	31.7	30.5	29.9	22.7	34.5	35.9	37.2	32.7
31500	15.9	30.2	18.9	16.9	17.5	29.9	19.6	18.4

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	55.1	57.7	58.7	51.5	57.4	56.1	56.1	54.9
A-weighted dB(A)	53.6	55.5	57.0	50.3	55.3	54.0	53.8	52.9
Average sound pressure level dB(A)	54.8				54.1			

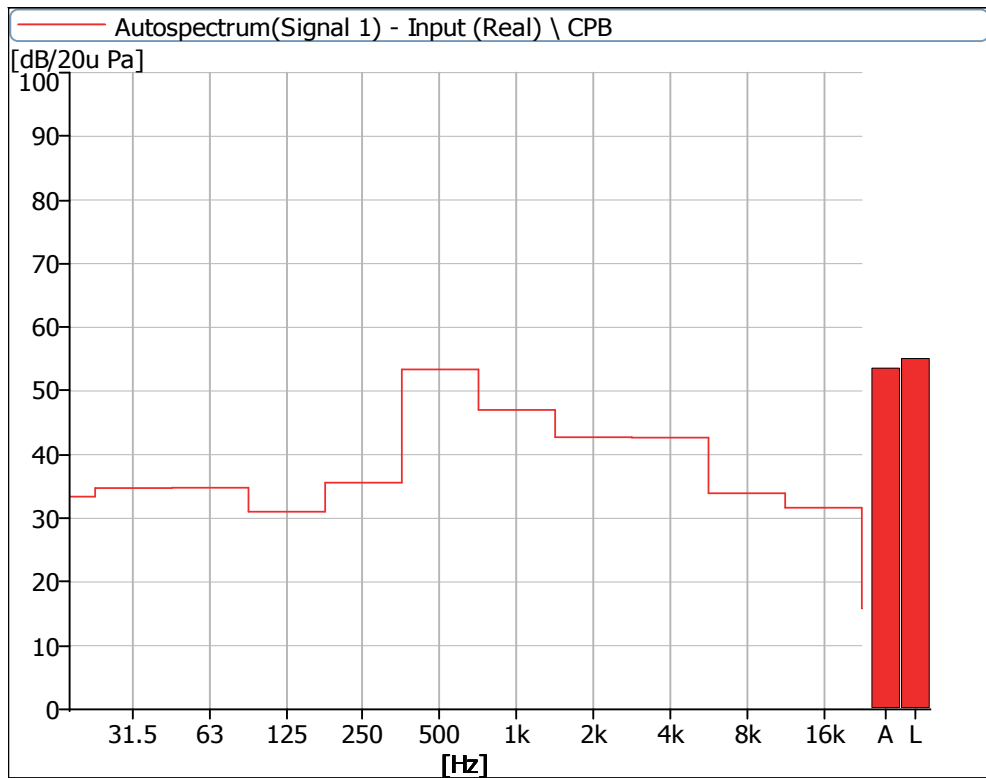


Figure 11 Noise Spectrum of Stage Luminaires (The Stage mode, Static, No 1)

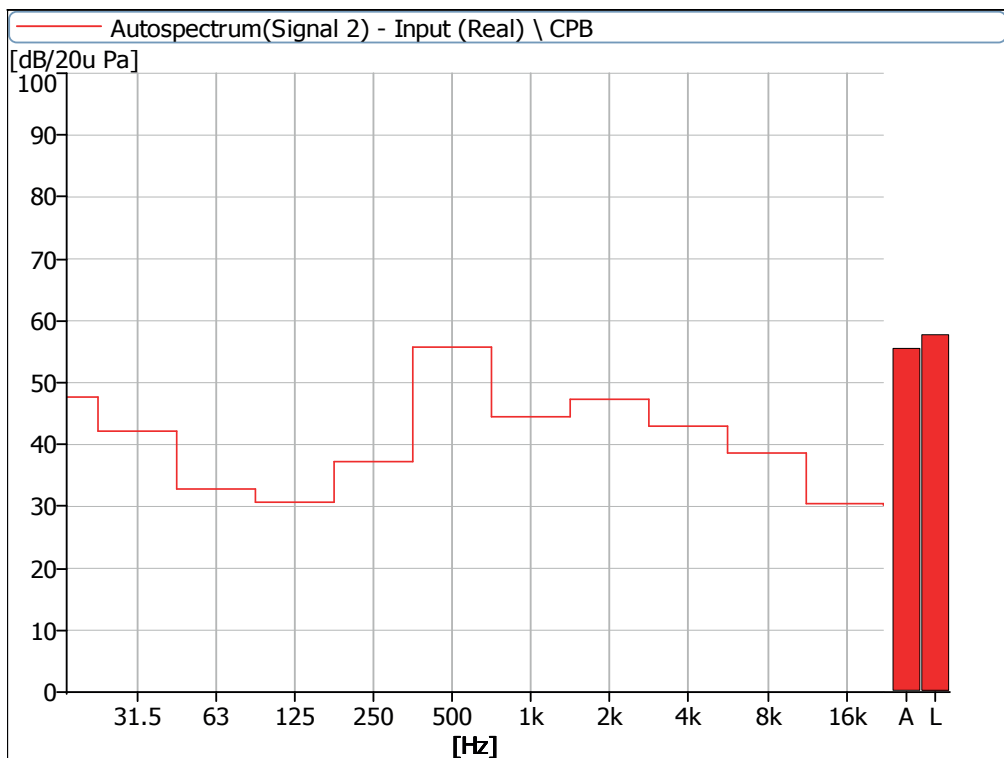


Figure 12 Noise Spectrum of Stage Luminaires (The Stage mode, Static, No 2)

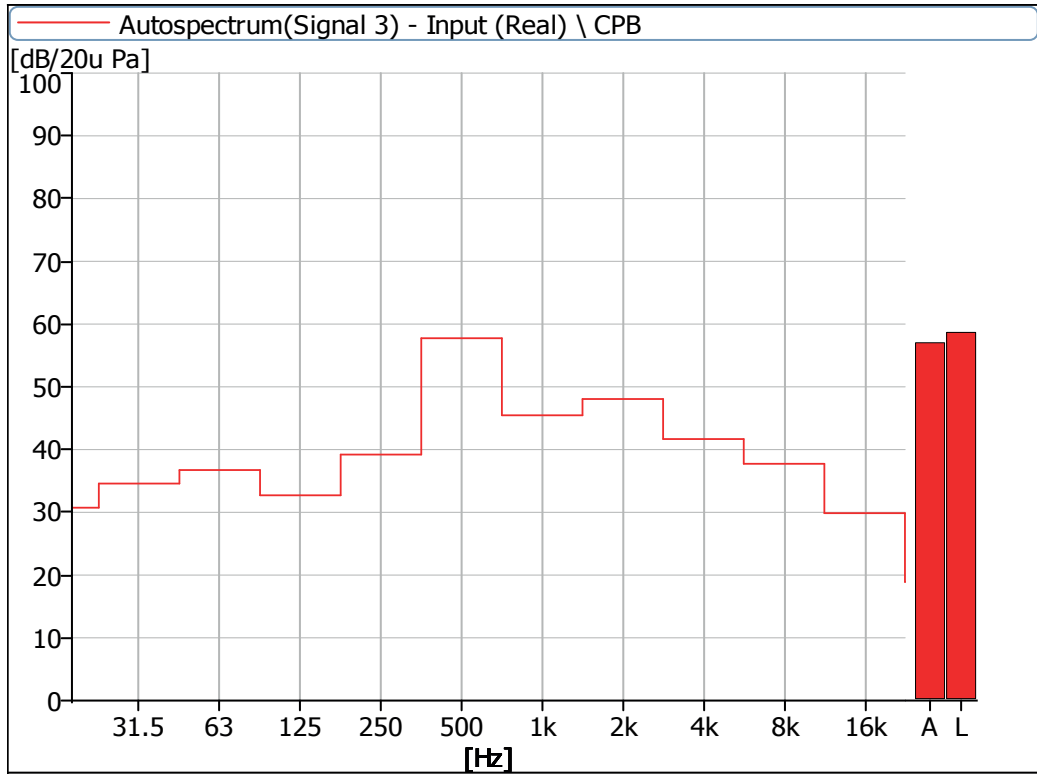


Figure 13 Noise Spectrum of Stage Luminaires (The Stage mode, Static, No 3)

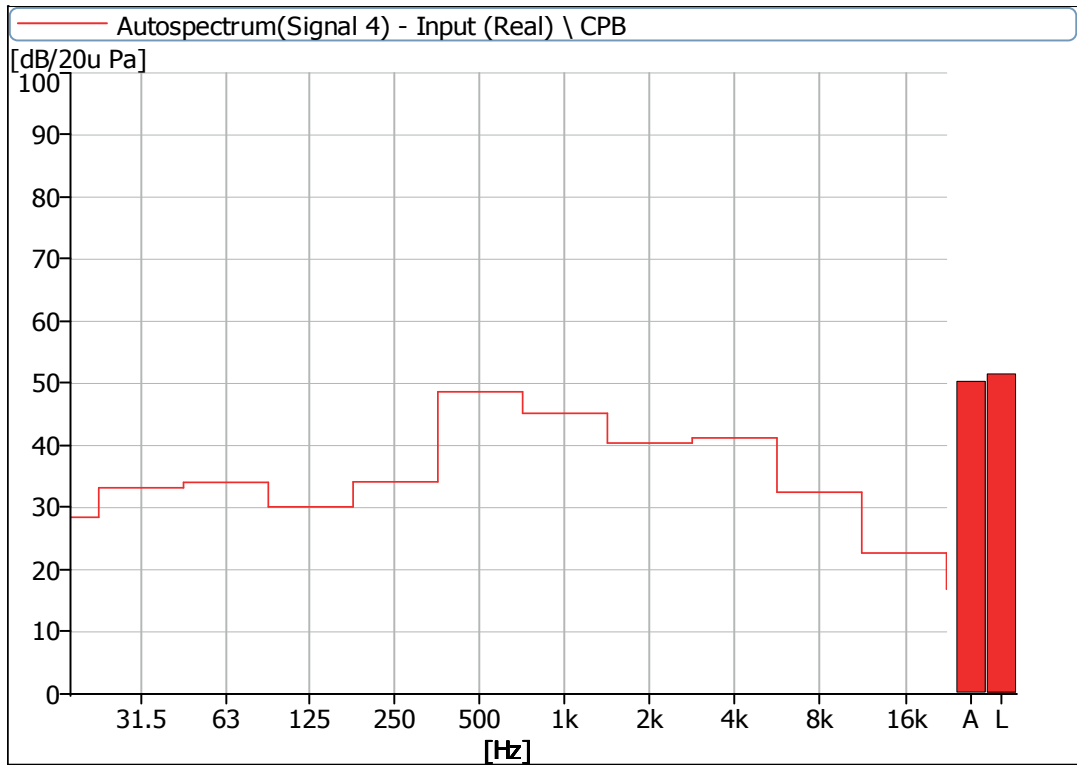


Figure 14 Noise Spectrum of Stage Luminaires (The Stage mode, Static, No 4)

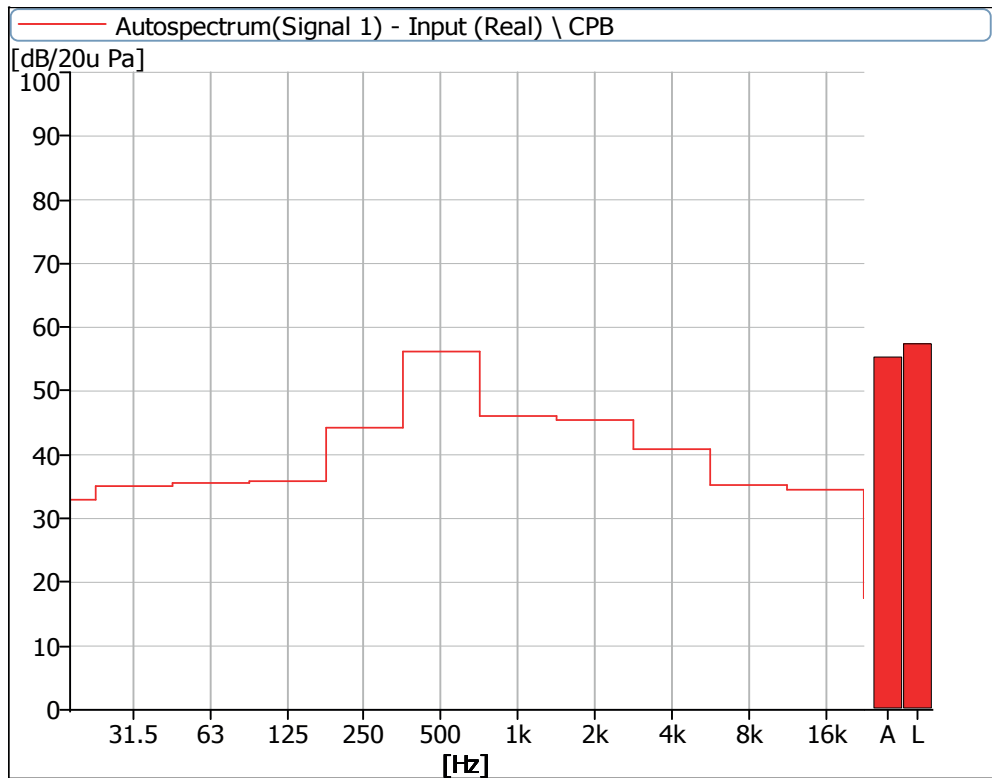


Figure 15 Noise Spectrum of Stage Luminaires (The Stage mode, Dynamic, No 1)

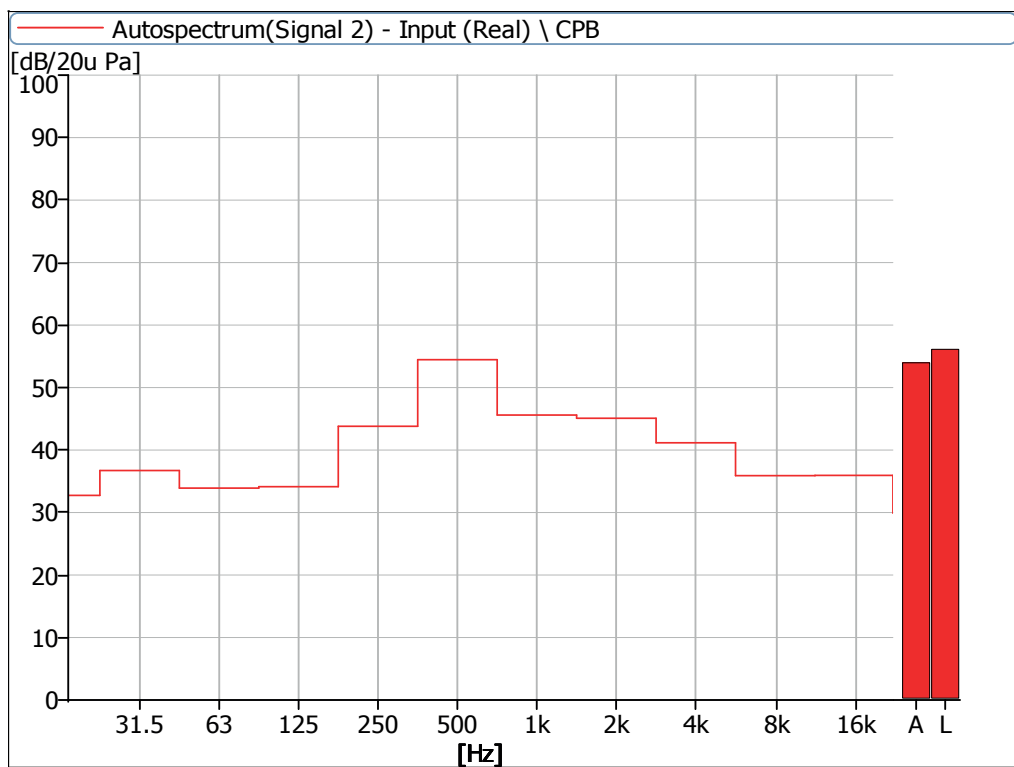


Figure 16 Noise Spectrum of Stage Luminaires (The Stage mode, Dynamic, No 2)

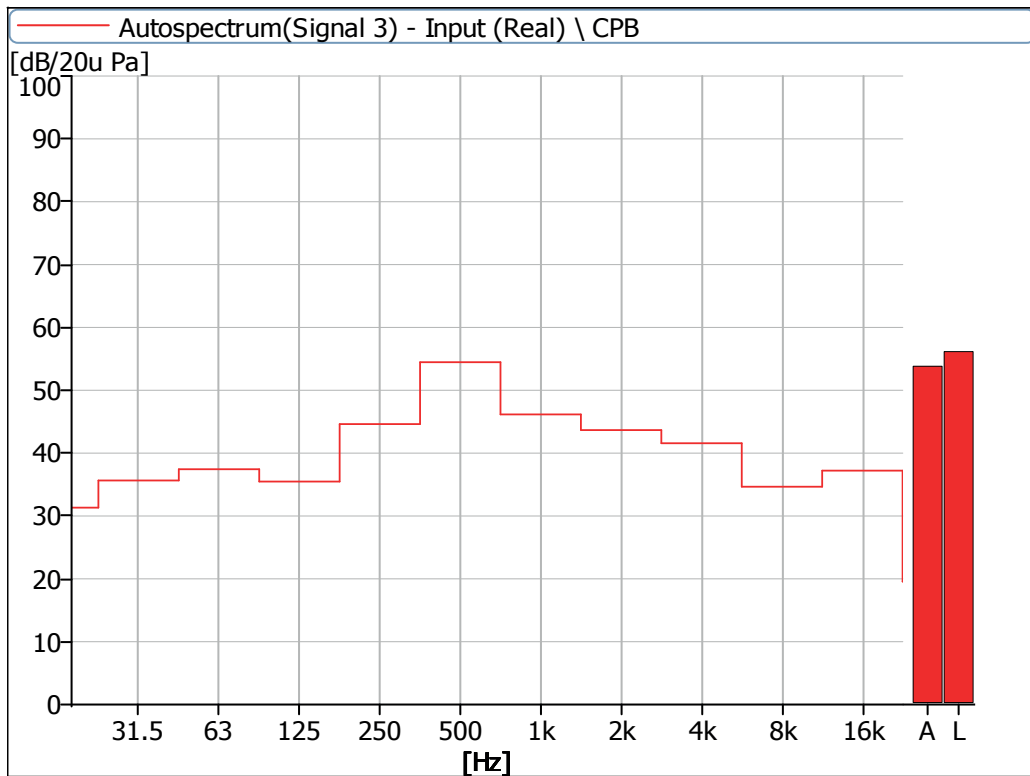


Figure 17 Noise Spectrum of Stage Luminaires (The Stage mode, Dynamic, No 3)

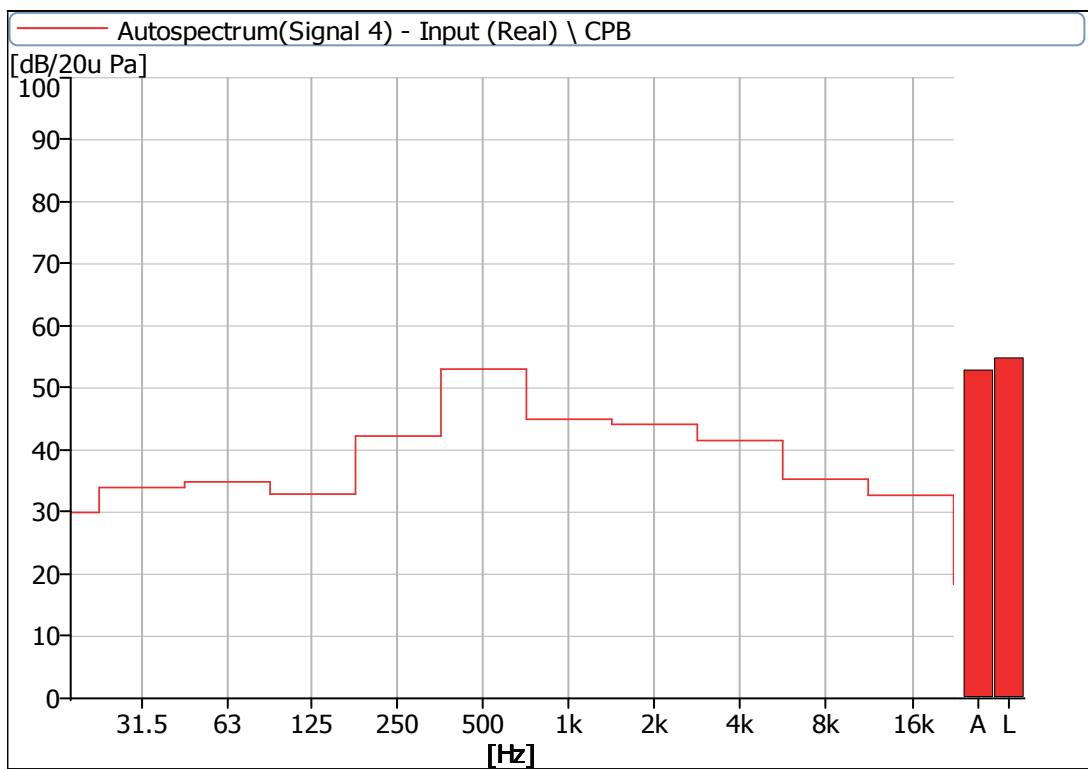


Figure 18 Noise Spectrum of Stage Luminaires (The Stage mode, Dynamic, No 4)

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
16	32.8	32.4	30.1	27.6	31.6	31.7	29.7	29.1
31.5	34.4	36.2	34.1	32.5	35.1	36.3	35.0	32.7
63	26.5	25.1	27.9	26.9	27.5	26.3	29.3	28.3
125	28.0	25.9	26.1	23.2	34.4	32.7	33.8	30.6
250	24.7	29.6	30.3	23.3	44.0	43.8	44.6	42.4
500	32.1	31.5	32.3	29.8	49.9	51.0	51.3	49.3
1000	28.3	26.7	28.4	27.8	37.2	37.1	37.9	35.7
2000	25.6	25.7	27.5	24.2	29.1	29.2	29.1	28.2
4000	23.5	22.5	24.2	20.6	25.2	24.4	25.4	24.8
8000	13.1	19.1	14.4	13.1	18.5	20.6	19.4	18.4
16000	30.4	24.7	28.1	22.2	34.1	36.8	37.7	32.0
31500	15.8	30.3	16.8	17.0	16.9	30.0	20.2	17.9

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	40.1	41.7	40.0	37.6	51.5	52.4	52.6	50.6
A-weighted dB(A)	33.8	33.4	34.5	32.1	46.8	48.1	48.2	46.0
Average sound pressure level dB(A)	33.5				47.4			

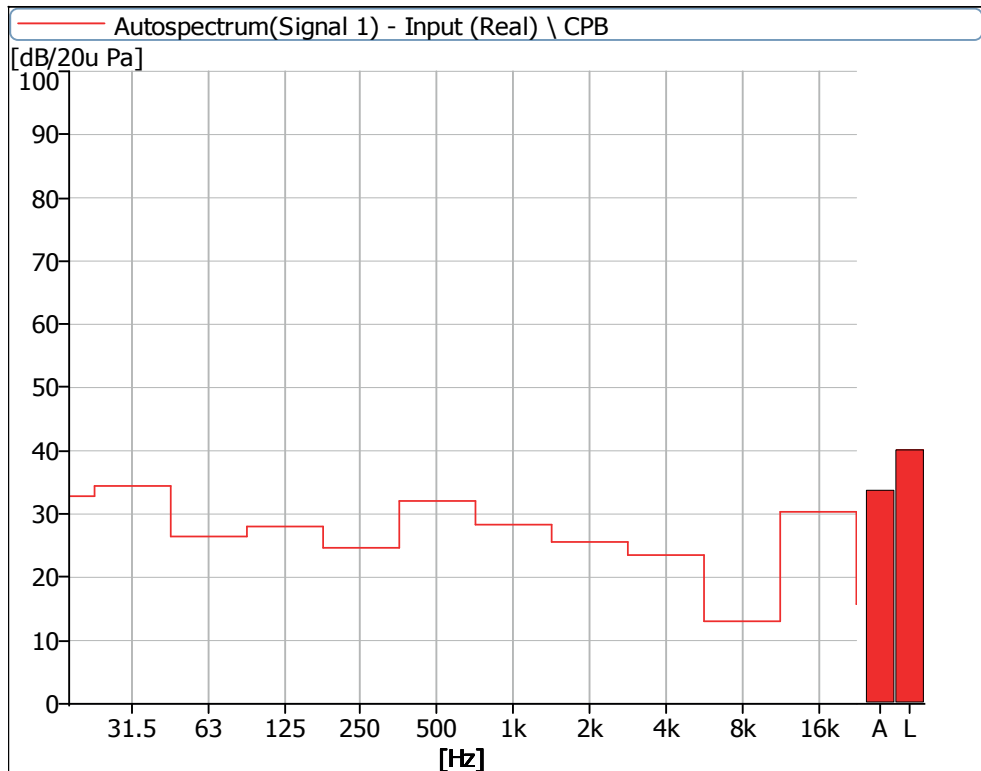


Figure 19 Noise Spectrum of Stage Luminaires (The Silence mode, Static, No 1)

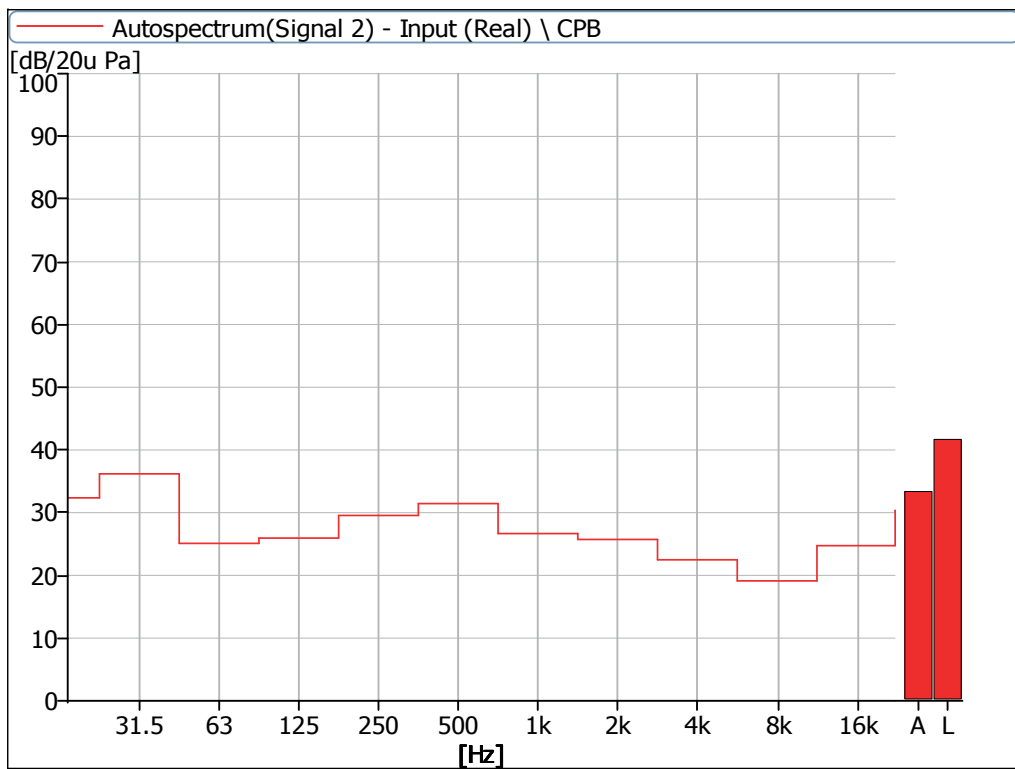


Figure 20 Noise Spectrum of Stage Luminaires (The Silence mode, Static, No 2)

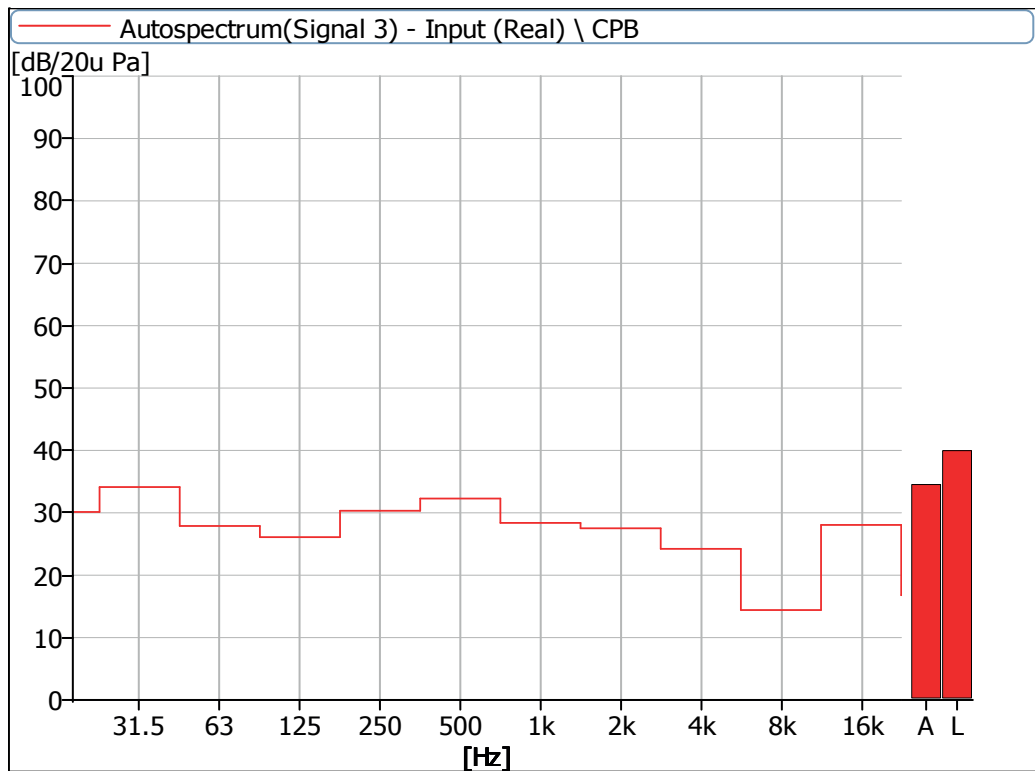


Figure 21 Noise Spectrum of Stage Luminaires (The Silence mode, Static, No 3)

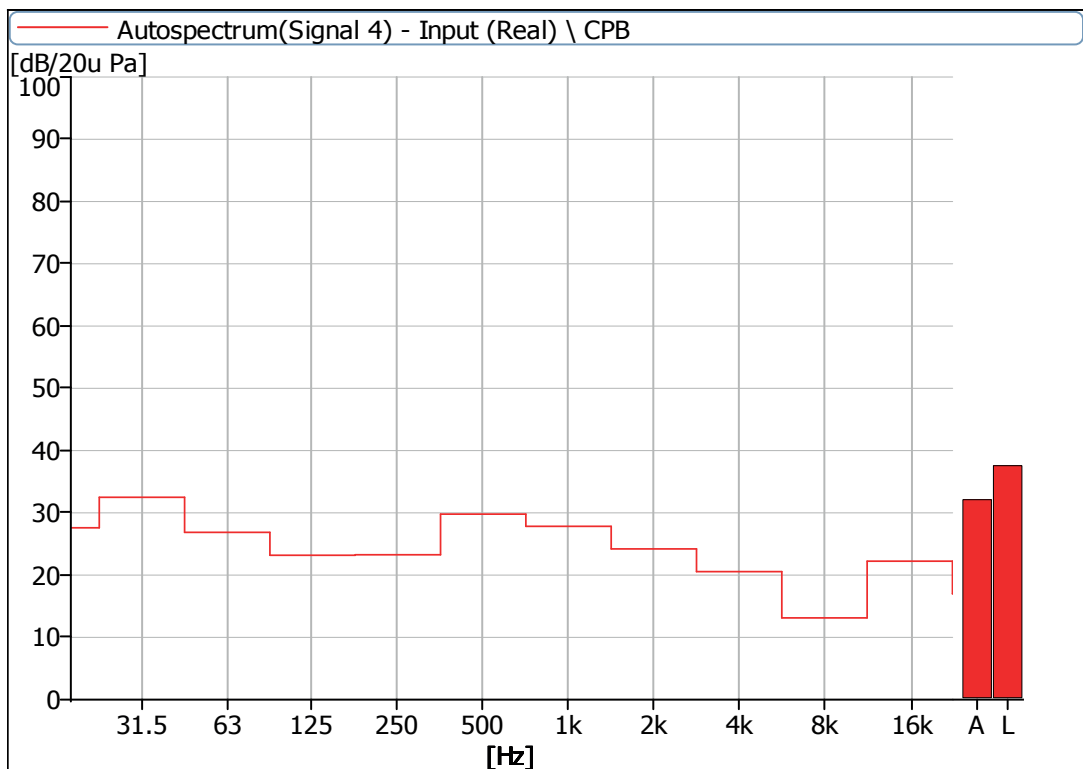


Figure 22 Noise Spectrum of Stage Luminaires (The Silence mode, Static, No 4)

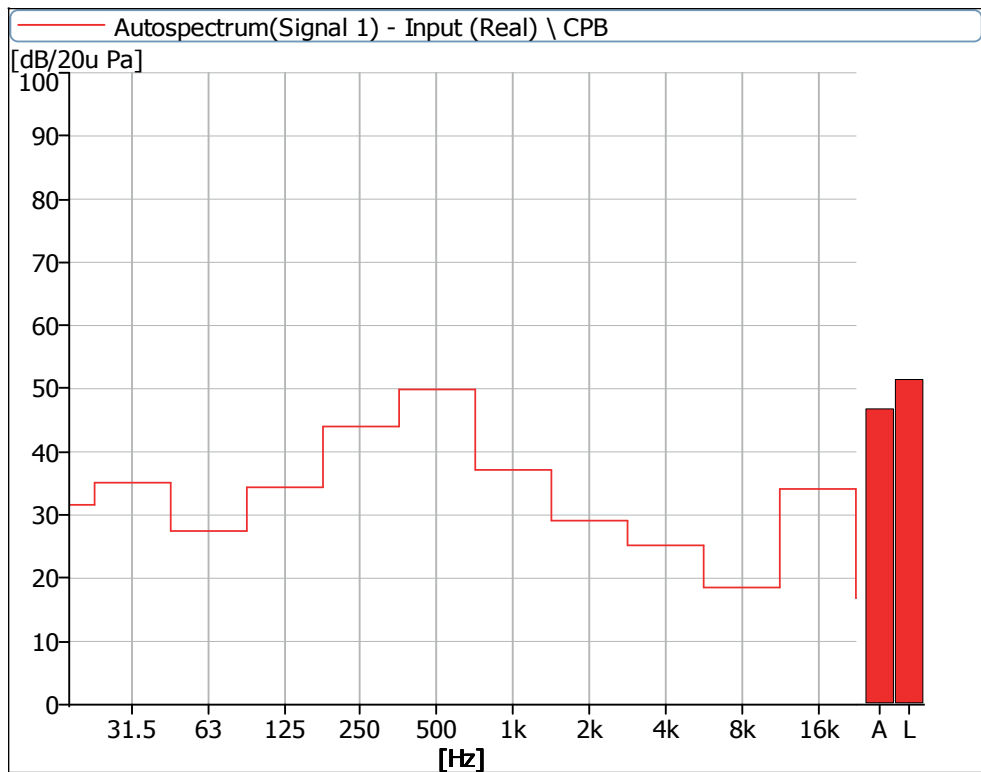


Figure 23 Noise Spectrum of Stage Luminaires (The Silence mode, Dynamic, No 1)

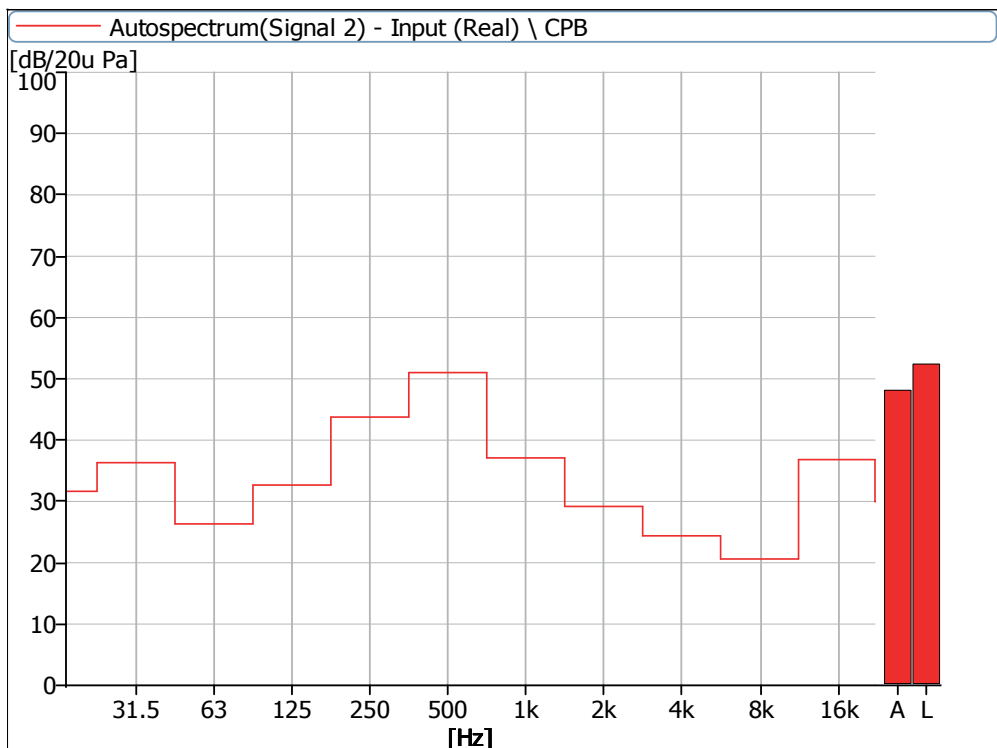


Figure 24 Noise Spectrum of Stage Luminaires (The Silence mode, Dynamic, No 2)

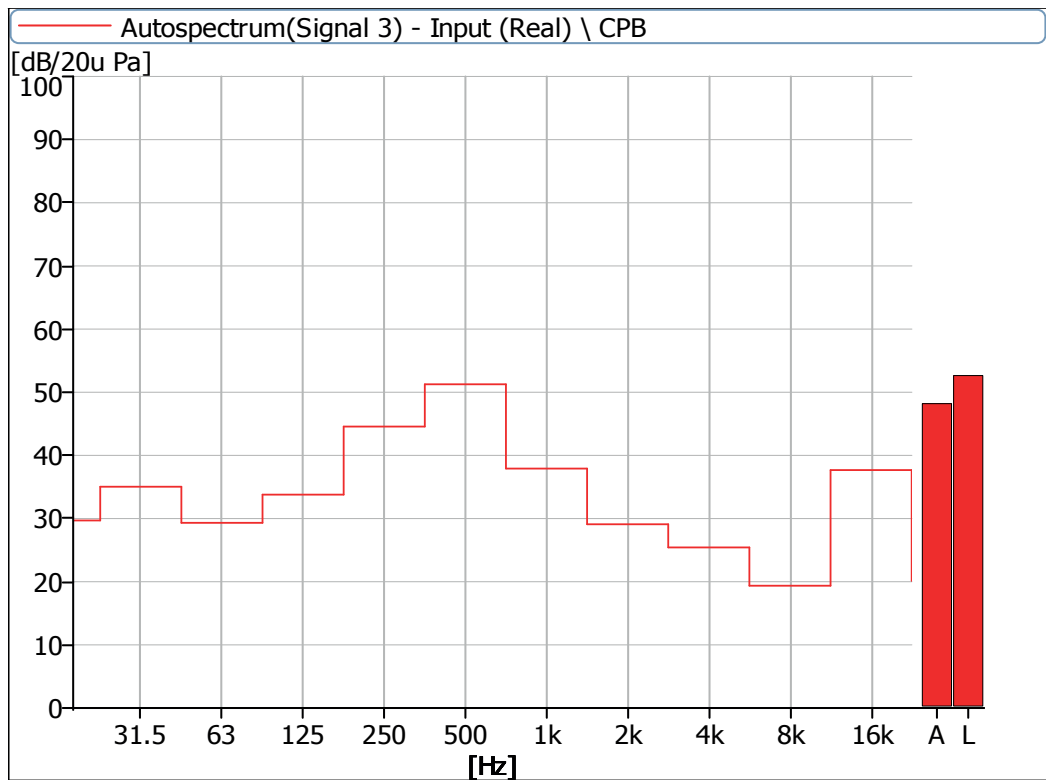


Figure 25 Noise Spectrum of Stage Luminaires (The Silence mode, Dynamic, No 3)

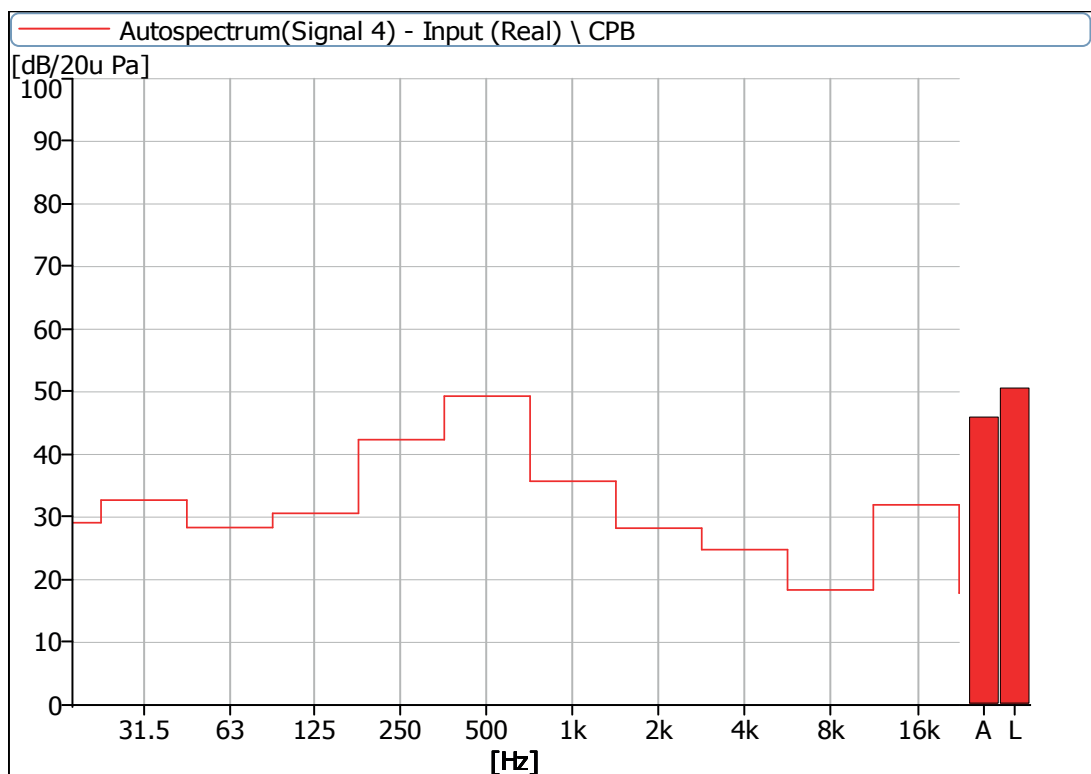


Figure 26 Noise Spectrum of Stage Luminaires (The Silence mode, Dynamic, No 4)

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
16	35.4	35.3	34.0	31.1	35.7	35.8	34.6	32.0
31.5	34.5	36.8	34.3	32.7	34.7	36.7	34.9	33.1
63	27.6	25.8	27.3	26.8	28.5	26.5	29.4	27.4
125	27.1	25.1	26.2	22.6	34.7	32.7	33.9	30.7
250	21.9	26.0	26.9	21.0	44.4	43.7	45.2	42.5
500	28.9	28.2	29.7	27.9	49.9	51.5	51.6	49.9
1000	25.3	26.1	25.4	23.5	37.7	37.3	38.5	35.9
2000	23.1	24.2	25.2	23.4	28.4	28.7	28.7	27.4
4000	21.8	21.3	20.7	19.0	24.8	23.9	24.7	24.3
8000	12.6	19.0	13.9	12.5	18.8	20.7	19.5	18.4
16000	29.3	31.0	33.9	21.5	34.1	36.7	37.3	32.3
31500	15.9	29.6	16.6	17.0	17.8	30.0	20.3	18.4

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	40.1	42.1	40.5	37.5	51.7	52.8	53.0	51.1
A-weighted dB(A)	31.3	32.2	32.6	29.8	46.9	48.5	48.5	46.4
Average sound pressure level dB(A)	31.6				47.7			

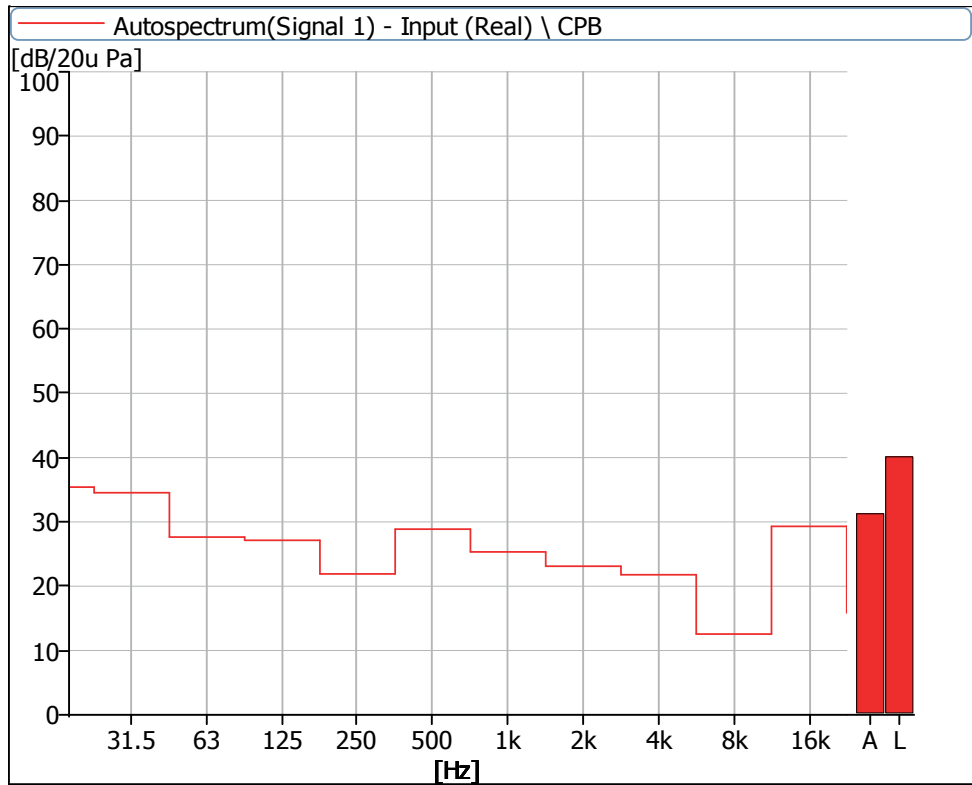


Figure 27 Noise Spectrum of Stage Luminaires (The Super Silence mode, Static, No 1)

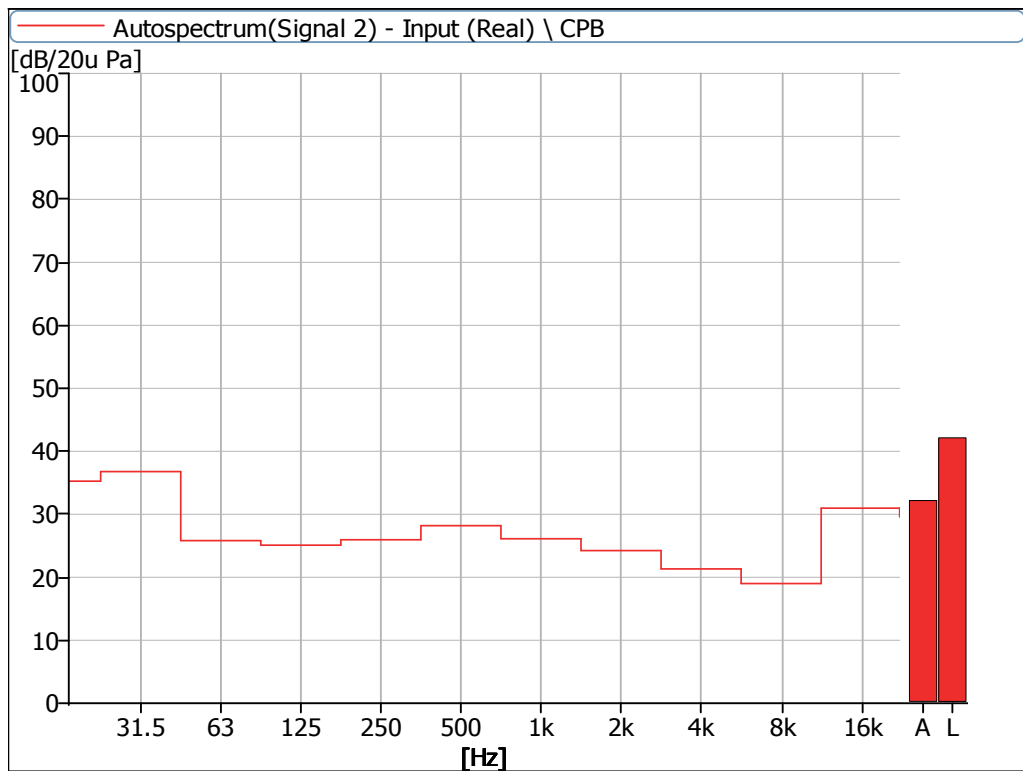


Figure 28 Noise Spectrum of Stage Luminaires (The Super Silence mode, Static, No 2)

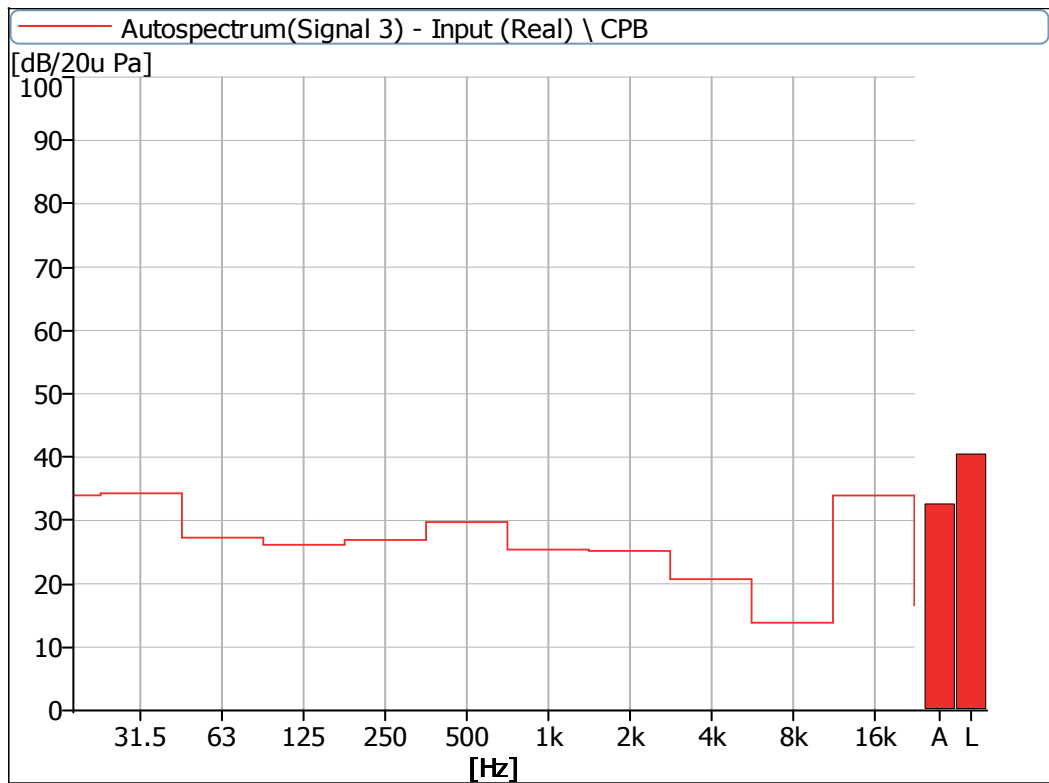


Figure 29 Noise Spectrum of Stage Luminaires (The Super Silence mode, Static, No 3)

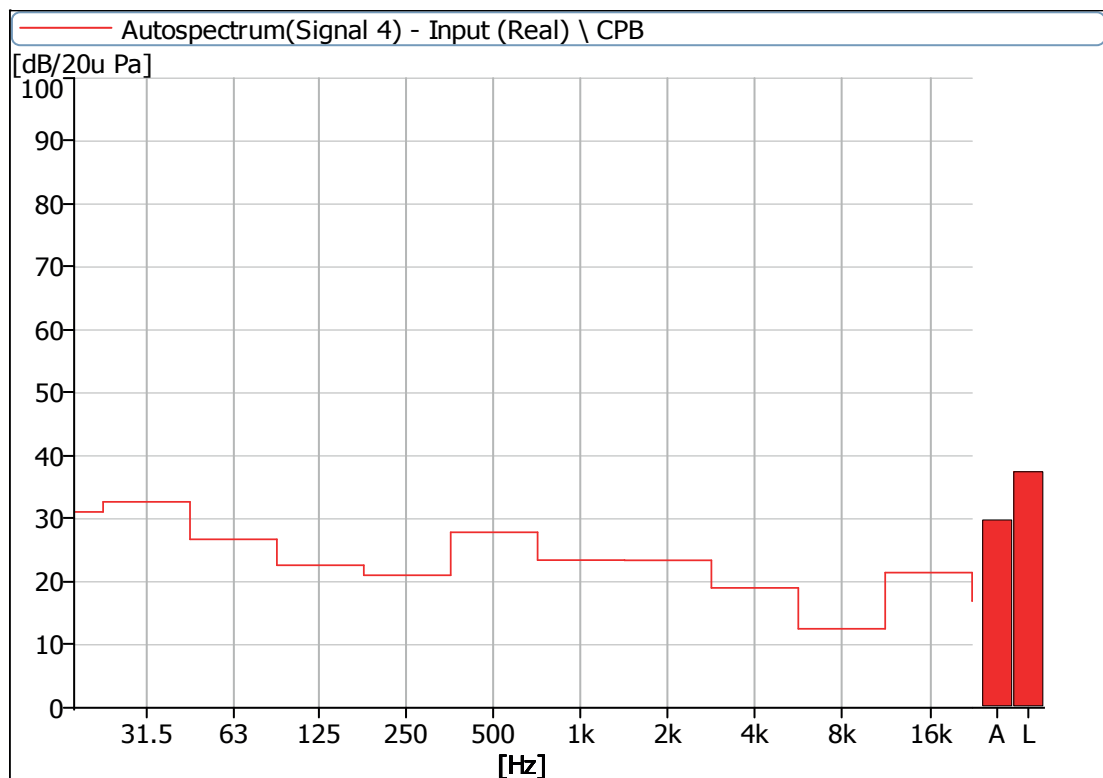


Figure 30 Noise Spectrum of Stage Luminaires (The Super Silence mode, Static, No 4)

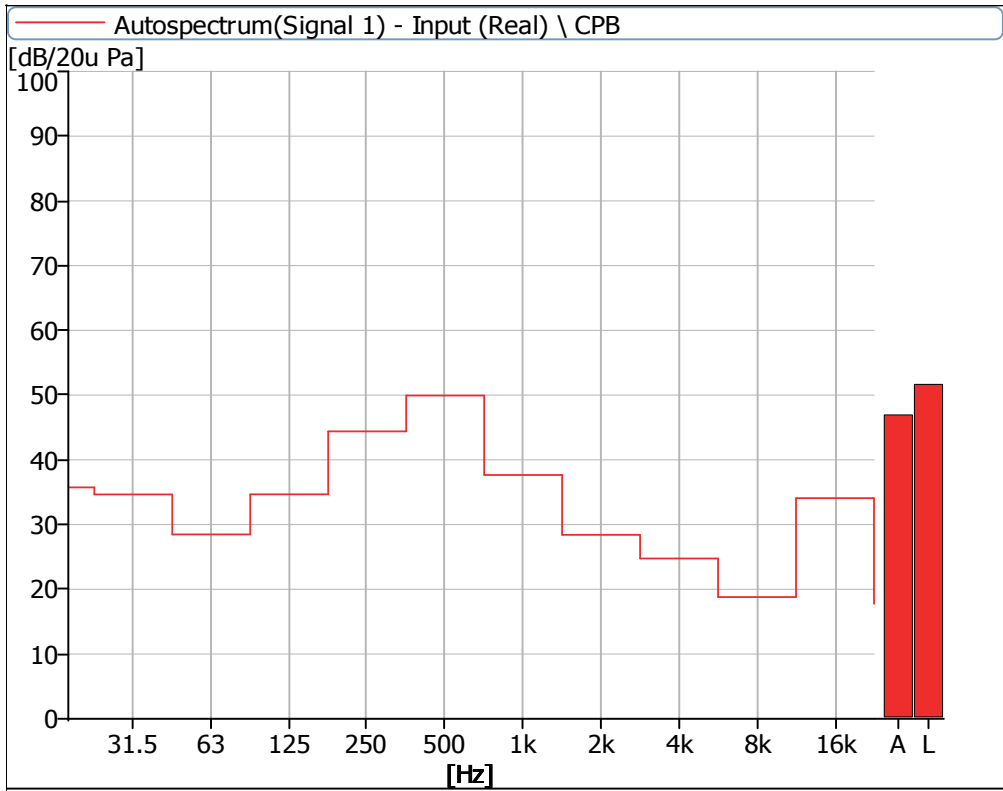


Figure 31 Noise Spectrum of Stage Luminaires (The Super Silence mode, Dynamic, No 1)

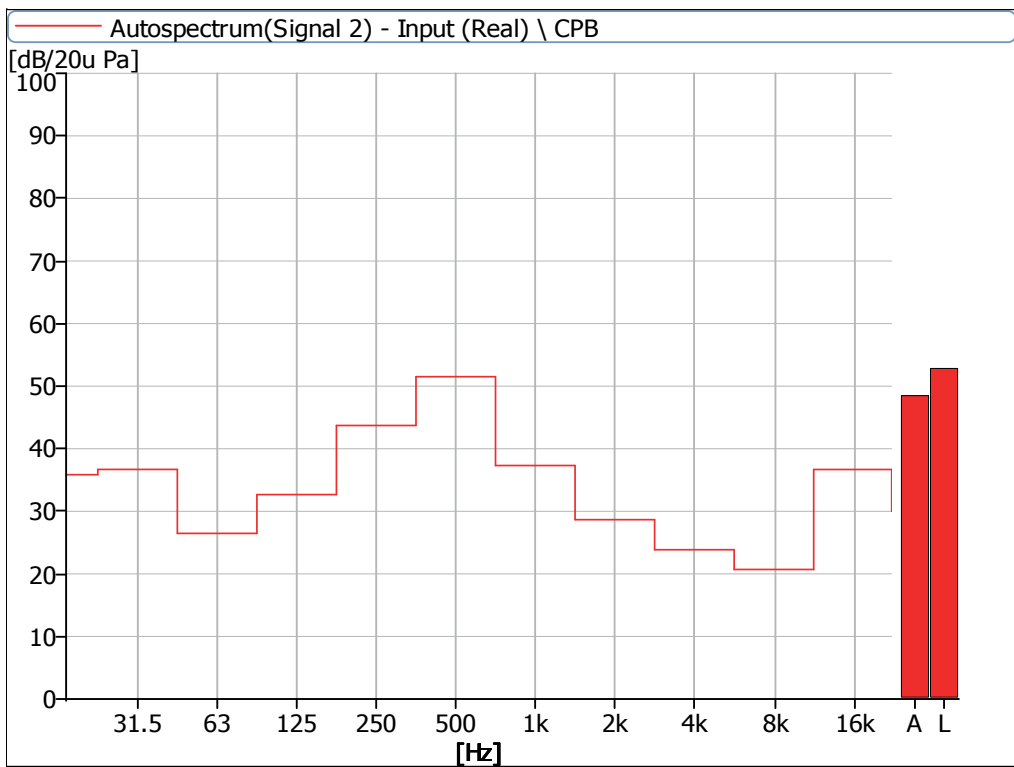


Figure 32 Noise Spectrum of Stage Luminaires (The Super Silence mode, Dynamic, No 2)

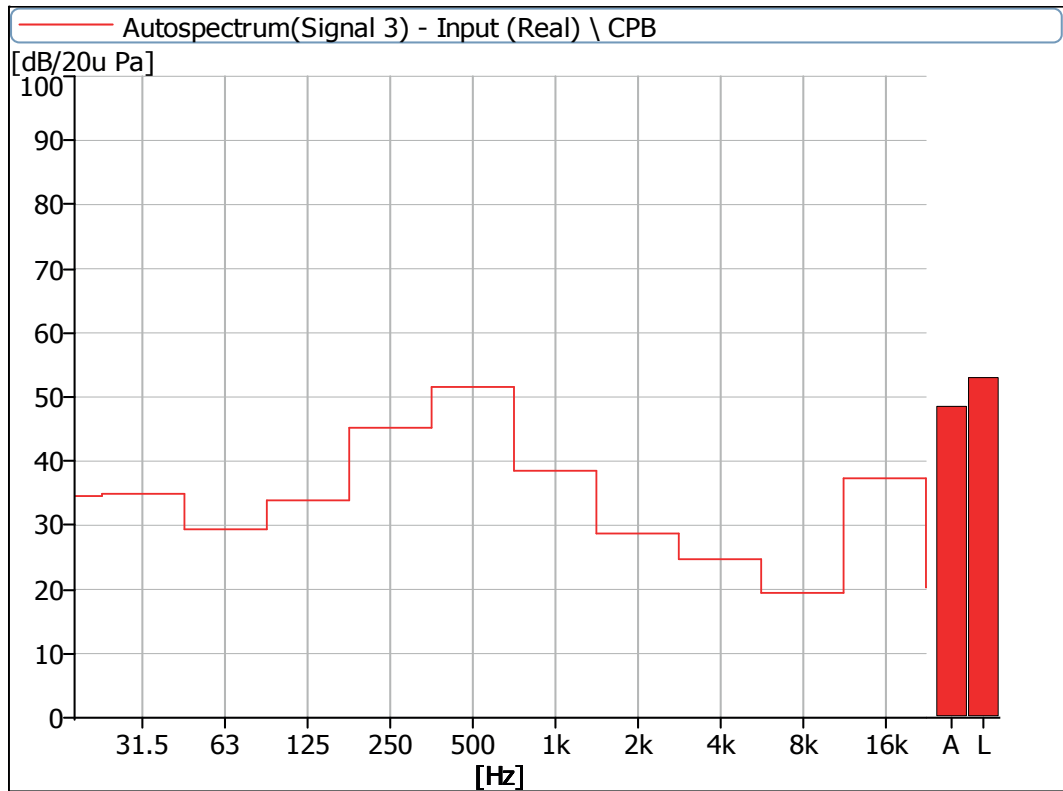


Figure 33 Noise Spectrum of Stage Luminaires (The Super Silence mode, Dynamic, No 3)

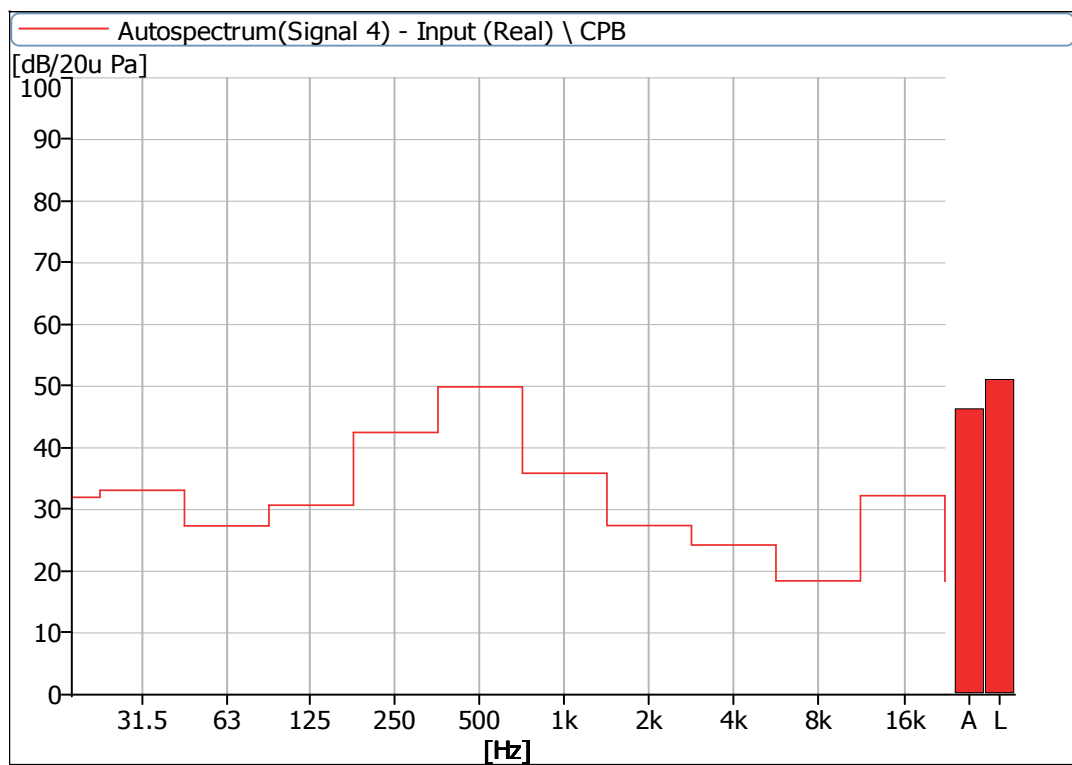


Figure 34 Noise Spectrum of Stage Luminaires (The Super Silence mode, Dynamic, No 4)

Instrumentation

No	Equipment	Type	Number	Calibration Period
1	Anechoicrooms	-	R40010	2023.05
2	Noise Analyzer	3160-A-042	R40011-2	2022.05



AYRTON

Digital Lighting