



KARIF LT

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 semisilencing 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.

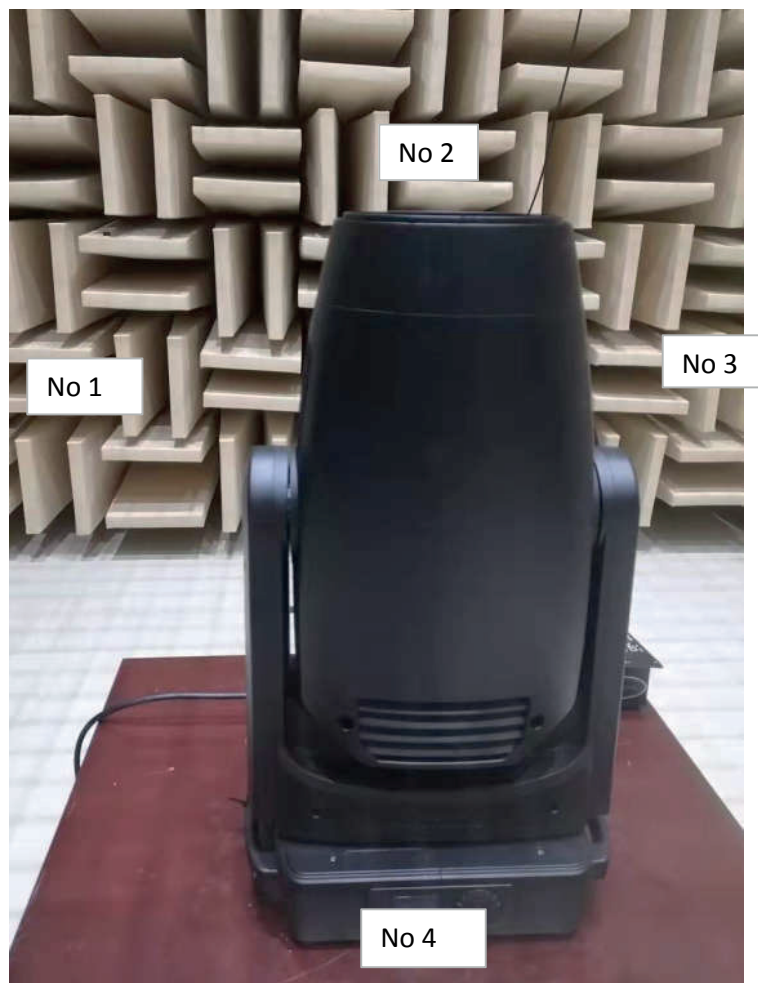


Figure 1 Test setup



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
20	34.1	31.5	36.4	33.6	33.8	30.7	31.3	34.1
25	31.8	30.0	34.2	32.4	32.5	30.7	30.8	32.8
31.5	30.0	27.6	30.2	26.9	30.2	32.8	32.5	28.2
40	20.5	22.4	25.4	23.2	24.8	29.2	30.2	24.4
50	26.4	26.8	26.6	25.9	29.7	28.7	29.1	30.3
63	15.8	15.2	16.1	16.8	22.9	20.5	21.3	24.7
80	15.9	14.0	15.2	15.9	21.1	25.6	25.3	21.6
100	26.6	22.6	23.4	26.6	34.4	31.9	32.5	34.2
125	22.6	19.1	20.8	24.0	31.0	30.1	29.4	29.7
160	21.1	19.3	21.9	18.7	31.0	32.3	32.1	30.2
200	31.4	29.2	29.7	26.8	39.1	40.4	39.6	36.4
250	32.3	30.6	30.4	29.5	45.8	44.5	43.9	44.9
315	28.7	27.2	28.5	26.6	44.8	45.1	44.6	44.8
400	30.3	31.7	30.9	31.2	49.9	44.5	47.7	47.4
500	35.5	33.9	34.0	32.6	39.7	41.3	40.6	38.7
630	33.1	34.2	34.5	33.4	35.6	36.8	36.3	35.7
800	35.4	37.5	35.5	35.2	38.2	39.2	37.2	37.4
1000	30.9	31.2	31.4	31.8	35.7	34.4	35.2	34.5
1250	27.8	28.9	26.1	30.1	35.1	33.5	32.7	33.4
1600	29.6	32.0	30.9	31.5	32.4	33.1	32.1	32.7
2000	28.3	31.4	29.1	29.3	29.6	32.3	30.1	30.8
2500	28.2	29.6	29.4	28.3	29.8	31.2	30.0	30.6
3150	26.3	26.5	27.2	27.1	26.9	28.1	27.4	27.4
4000	22.8	26.3	25.3	26.5	24.7	27.4	25.9	27.4
5000	20.3	23.1	22.8	24.2	23.2	25.1	23.5	25.7
6300	19.0	20.2	20.2	21.3	19.2	21.9	20.4	22.7
8000	17.2	16.0	18.3	18.7	18.1	19.3	19.6	20.4
10000	16.2	16.8	17.2	17.8	16.8	18.9	17.8	19.1
12500	14.4	13.7	15.9	17.0	15.6	17.1	16.9	18.8
16000	16.7	13.3	17.5	16.4	21.6	22.1	22.8	22.8
20000	35.0	30.0	34.1	30.7	40.7	41.1	42.7	42.4

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	44.7	44.4	47.1	44.1	53.6	52.1	52.6	52.5
A-weighted dB(A)	41.1	42.3	41.5	41.5	48.5	47.2	47.4	47.3
Average sound pressure level dB(A)	41.6				47.6			

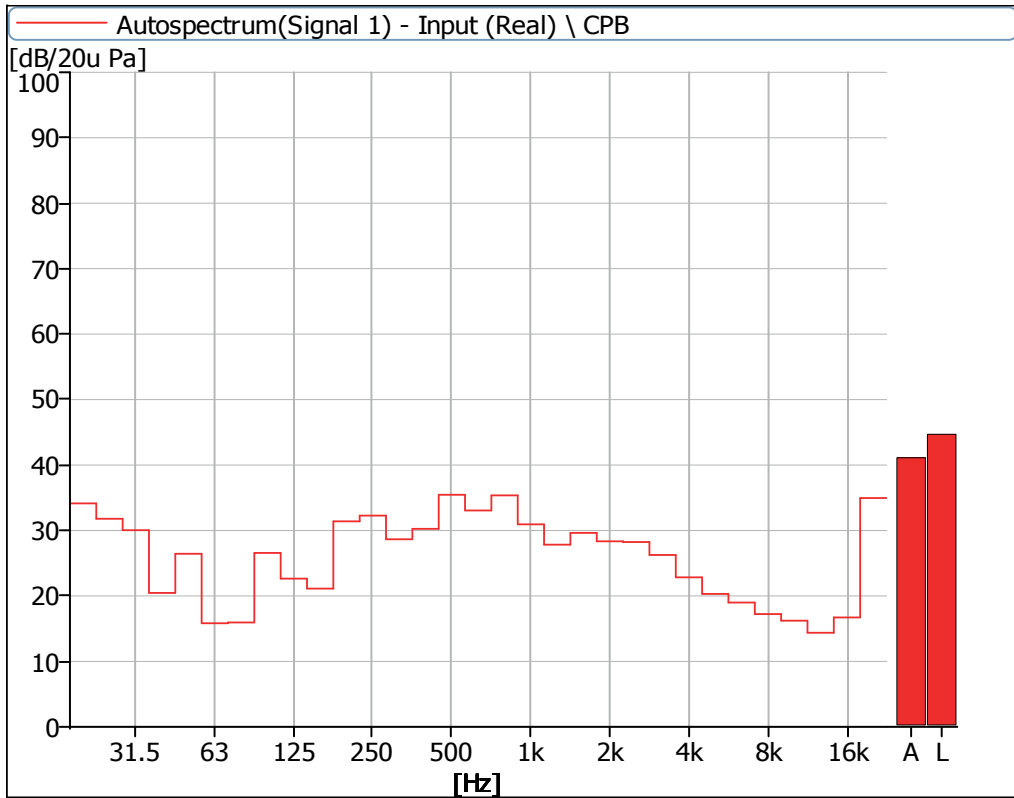


Figure 3 Noise Spectrum of Stage Luminaires (The Auto mode, Static, No 1)

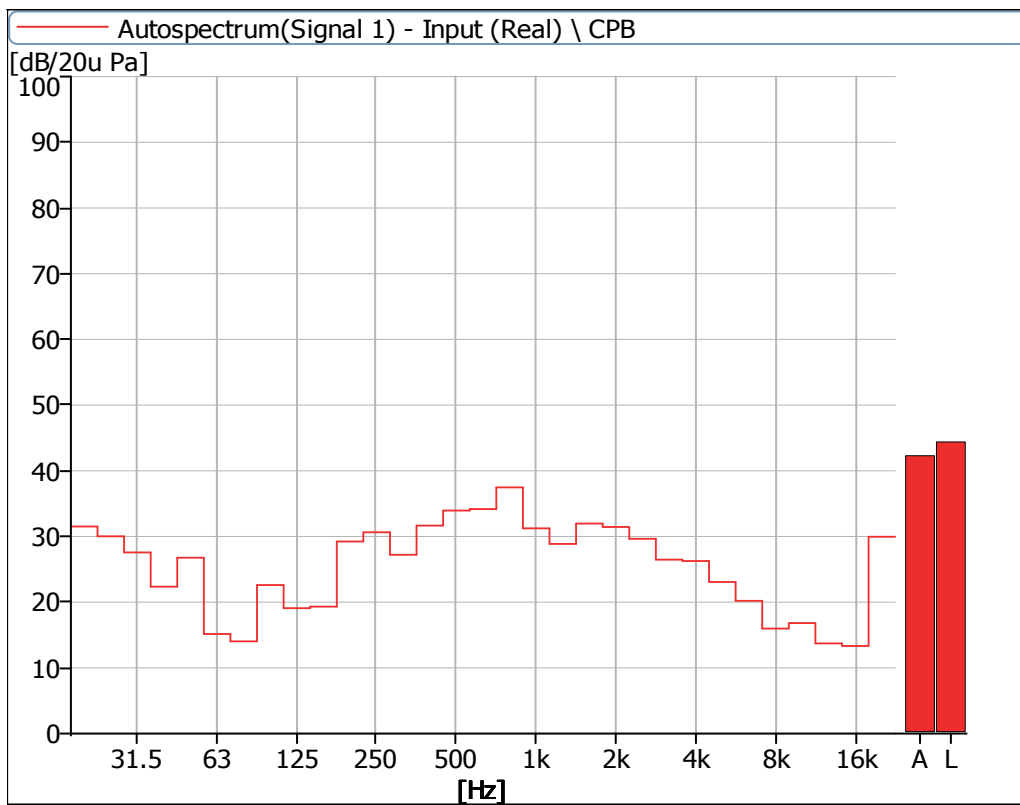


Figure 4 Noise Spectrum of Stage Luminaires (The Auto mode, Static, No 2)

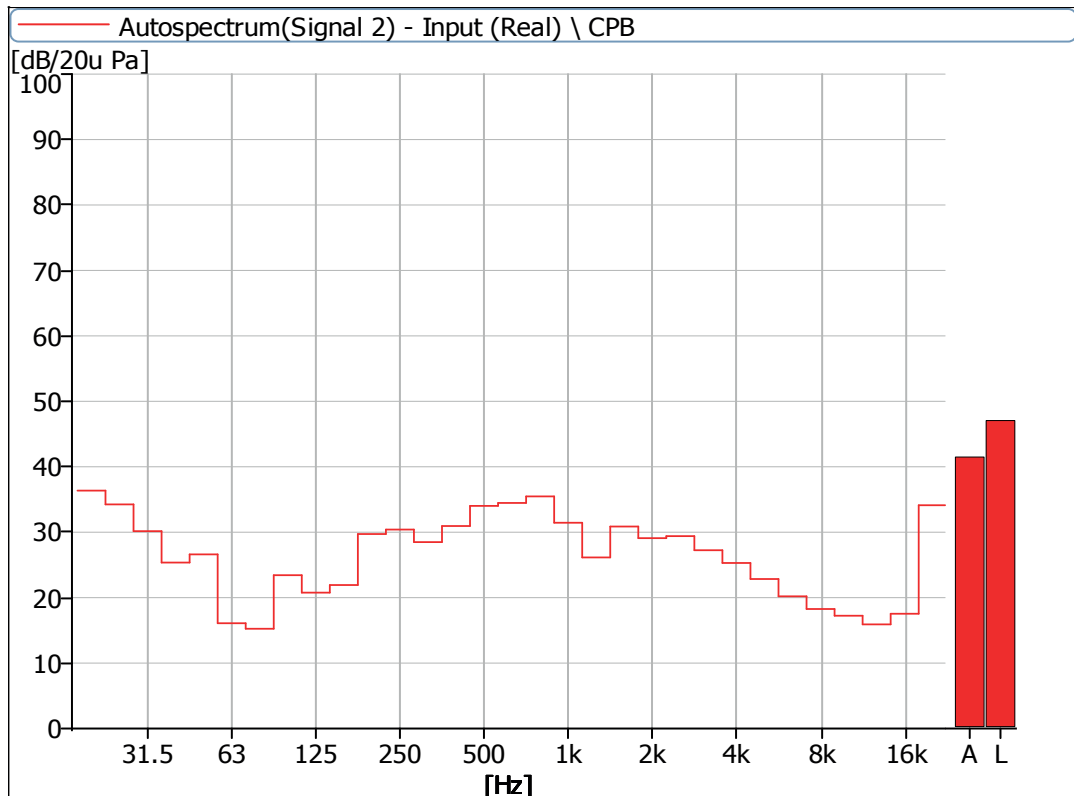


Figure 5 Noise Spectrum of Stage Luminaires (The Auto mode, Static, No 3)

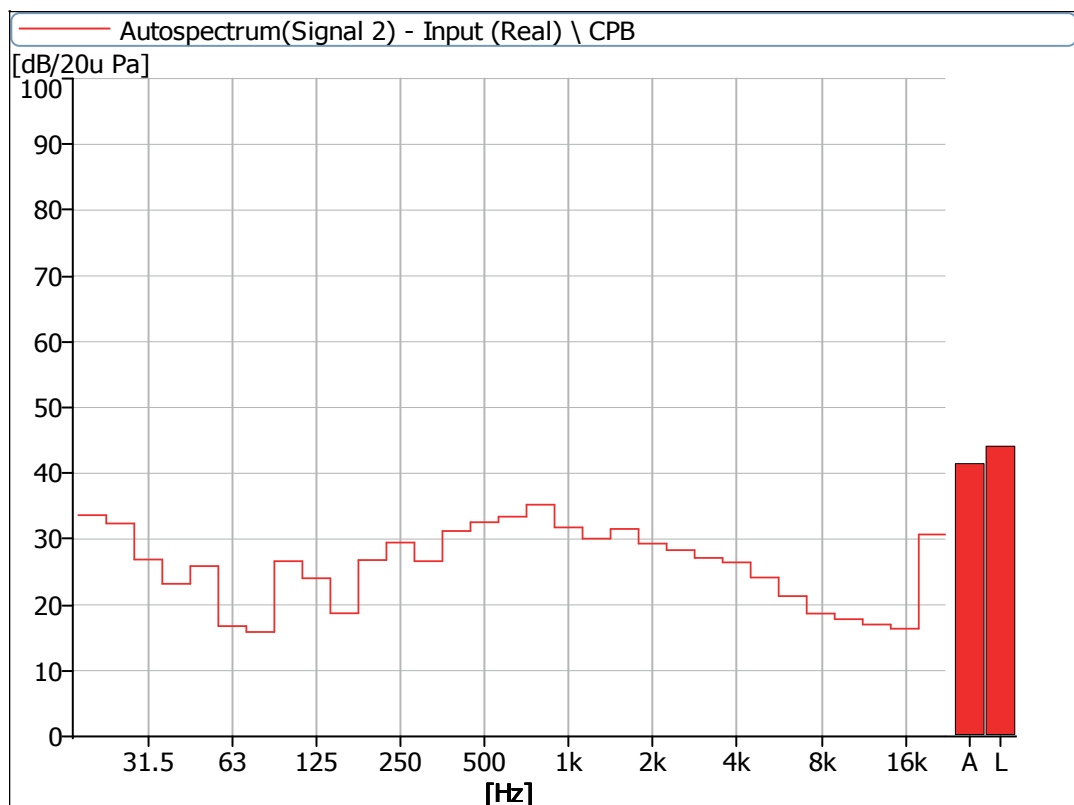


Figure 6 Noise Spectrum of Stage Luminaires (The Auto mode, Static, No 4)

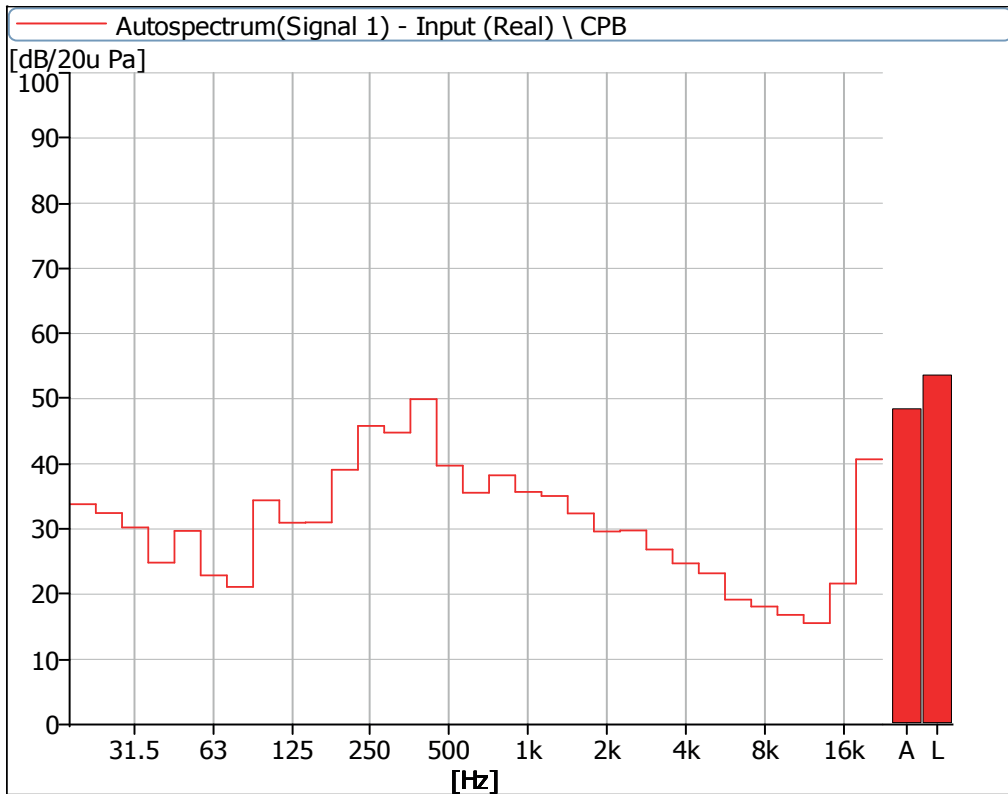


Figure 7 Noise Spectrum of Stage Luminaires (The Auto mode, Dynamic, No 1)

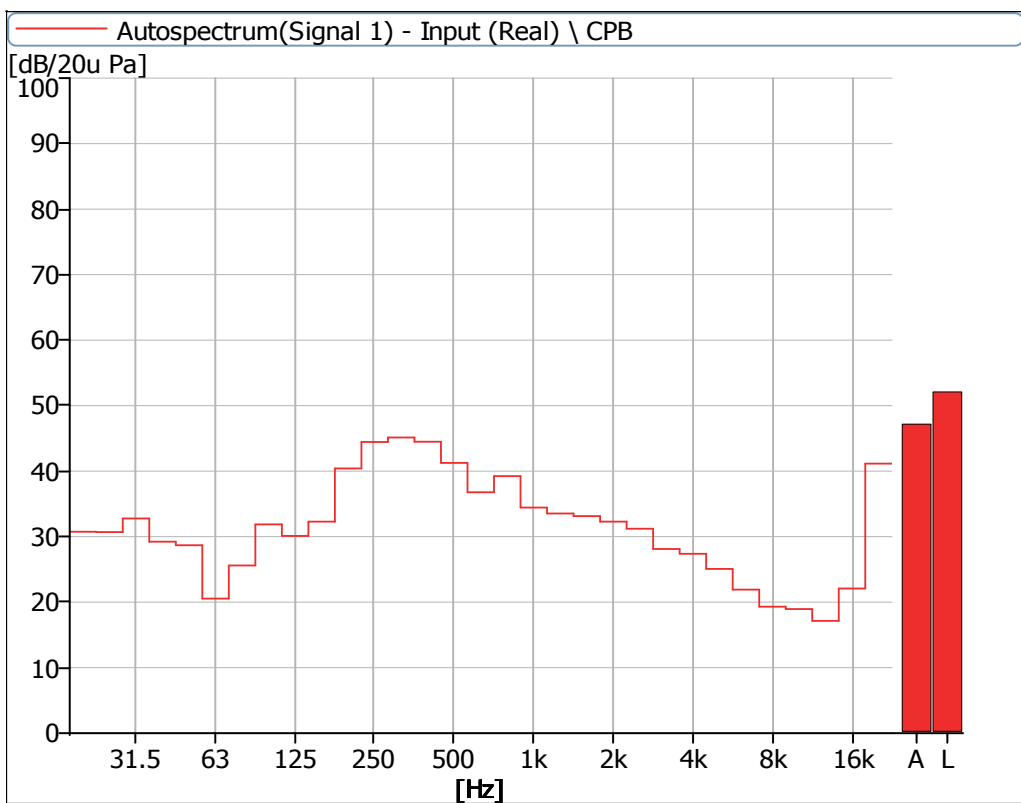


Figure 8 Noise Spectrum of Stage Luminaires (The Auto mode, Dynamic, No 2)

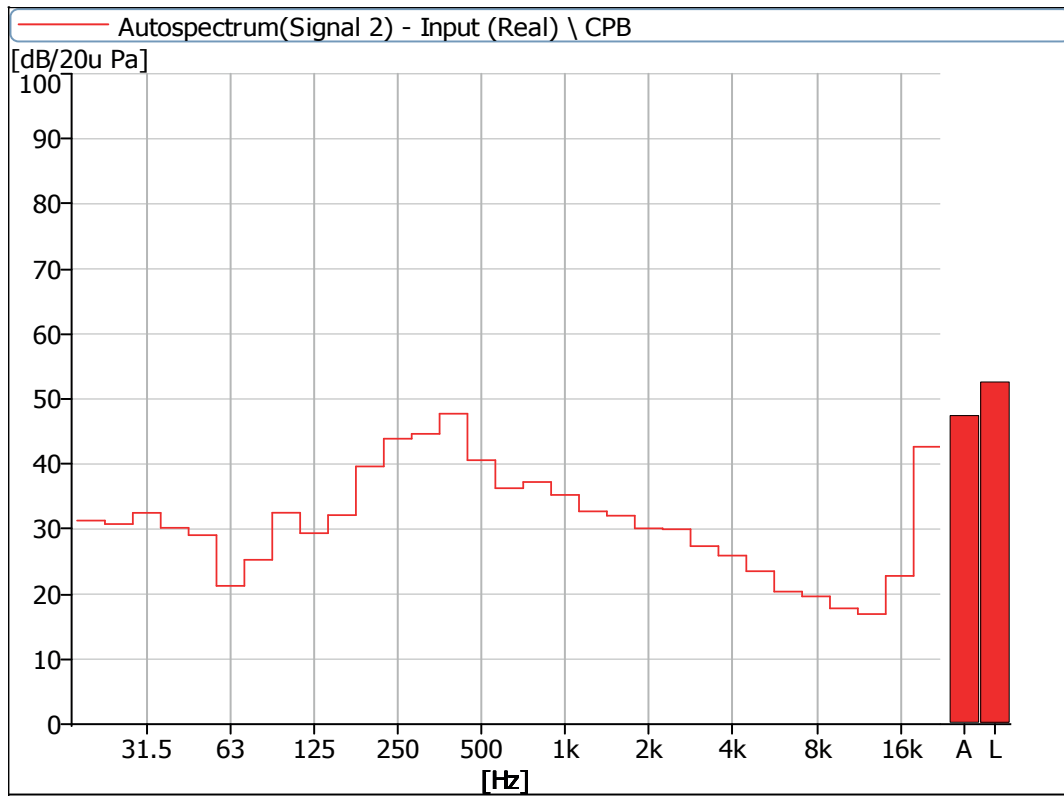


Figure 9 Noise Spectrum of Stage Luminaires (The Auto mode, Dynamic, No 3)

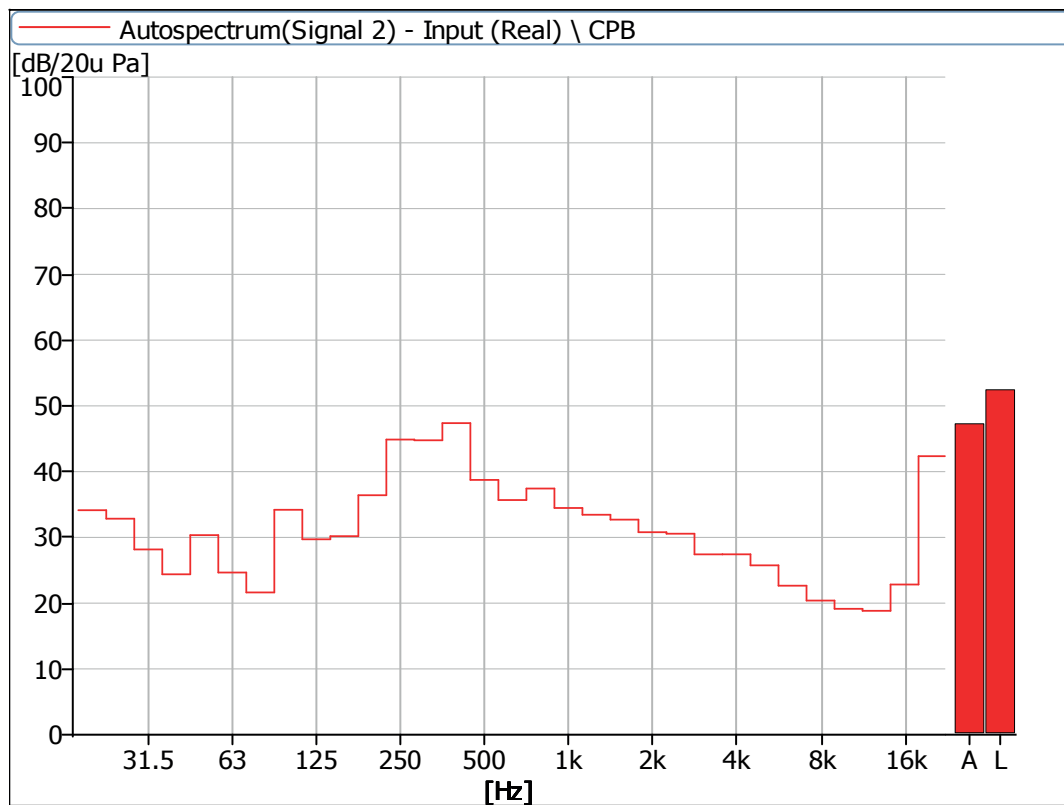


Figure 10 Noise Spectrum of Stage Luminaires (The Auto mode, Dynamic, No 4)

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
20	33.7	30.9	31.9	34.2	35.4	31.4	32.1	36.3
25	33.2	30.1	29.8	32.7	32.7	30.9	31.2	32.4
31.5	30.3	27.9	25.9	26.5	30.9	31.9	31.4	28.8
40	22.5	22.1	23.6	23.1	24.7	27.3	27.6	24.8
50	27.3	27.3	26.3	26.5	31.1	28.6	29.4	31.6
63	18.1	15.1	17.3	17.0	23.5	20.1	21.3	24.1
80	19.3	17.7	18.5	18.4	21.9	24.7	24.8	22.3
100	22.0	18.9	21.0	20.1	33.2	31.1	31.6	33.2
125	29.1	29.0	27.9	27.7	31.3	30.6	28.9	30.0
160	26.5	26.2	25.8	23.7	30.8	31.0	30.5	30.0
200	30.4	29.4	30.4	27.5	36.9	38.2	37.0	34.6
250	35.4	33.6	33.3	32.0	44.8	44.3	43.8	43.9
315	37.6	34.3	36.6	33.0	44.1	44.4	44.5	44.1
400	33.3	32.0	33.5	32.5	48.3	50.2	45.0	44.4
500	40.4	42.3	39.4	38.2	41.8	42.1	42.8	41.2
630	39.4	41.2	40.9	39.4	39.2	40.5	40.1	39.8
800	40.2	41.0	40.0	39.3	39.3	41.5	39.5	40.2
1000	41.6	39.9	40.8	39.5	38.9	40.1	40.0	39.2
1250	35.6	36.5	35.5	37.2	36.8	37.3	36.3	37.6
1600	34.8	37.2	36.9	36.2	36.2	38.0	36.7	36.9
2000	35.0	37.7	37.0	34.9	33.9	38.4	35.5	35.7
2500	35.6	35.0	36.5	33.8	33.6	35.9	34.6	35.0
3150	33.8	32.8	34.0	32.8	31.8	33.5	32.8	32.9
4000	31.1	32.5	32.2	32.4	30.4	33.2	31.4	33.4
5000	28.1	30.1	31.5	31.1	29.2	31.9	30.0	32.3
6300	27.3	27.9	28.2	28.2	26.1	29.2	26.9	29.4
8000	25.6	23.7	25.7	25.4	24.1	26.3	25.5	26.7
10000	23.1	23.9	23.9	24.3	21.4	25.2	23.5	25.0
12500	20.0	20.0	19.5	21.4	17.9	21.9	21.3	22.5
16000	20.0	17.6	19.8	18.8	22.0	23.1	24.1	23.6
20000	32.4	30.0	34.8	30.8	39.9	40.6	42.0	41.9

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	49.4	49.6	49.4	48.4	53.2	54.3	52.7	52.5
A-weighted dB(A)	47.8	48.4	48.2	47.2	49.1	50.8	49.1	49.0
Average sound pressure level dB(A)	47.9				49.6			

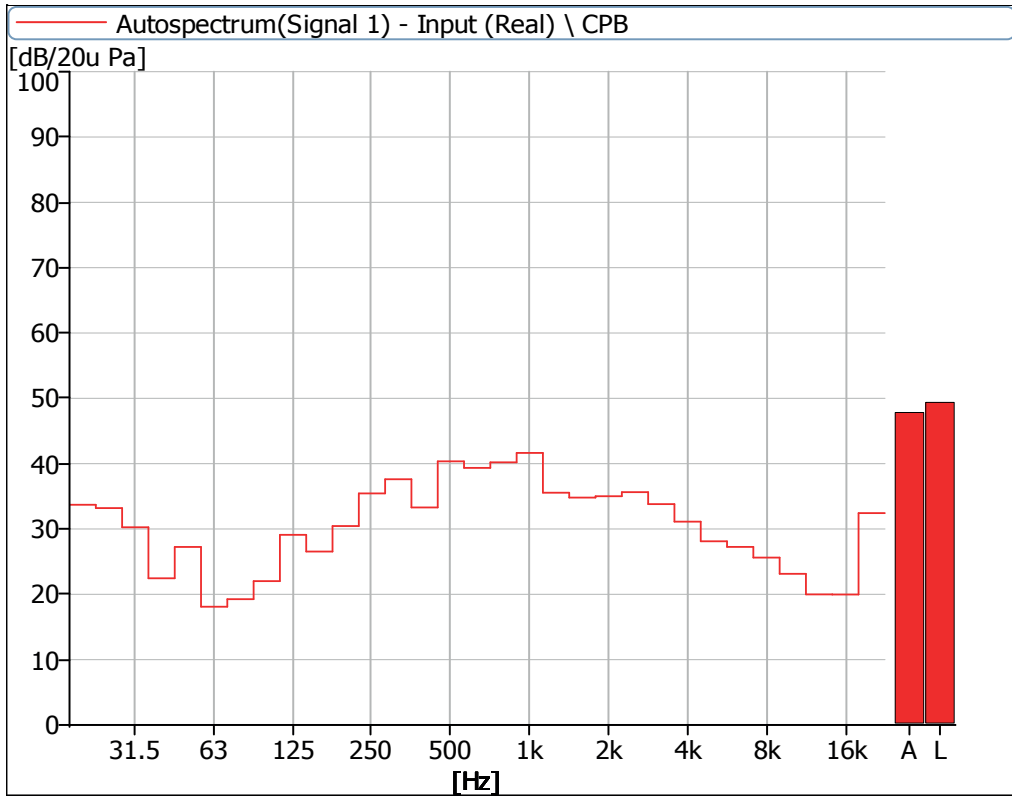


Figure 11 Noise Spectrum of Stage Luminaires (The Stage mode, Static, No 1)

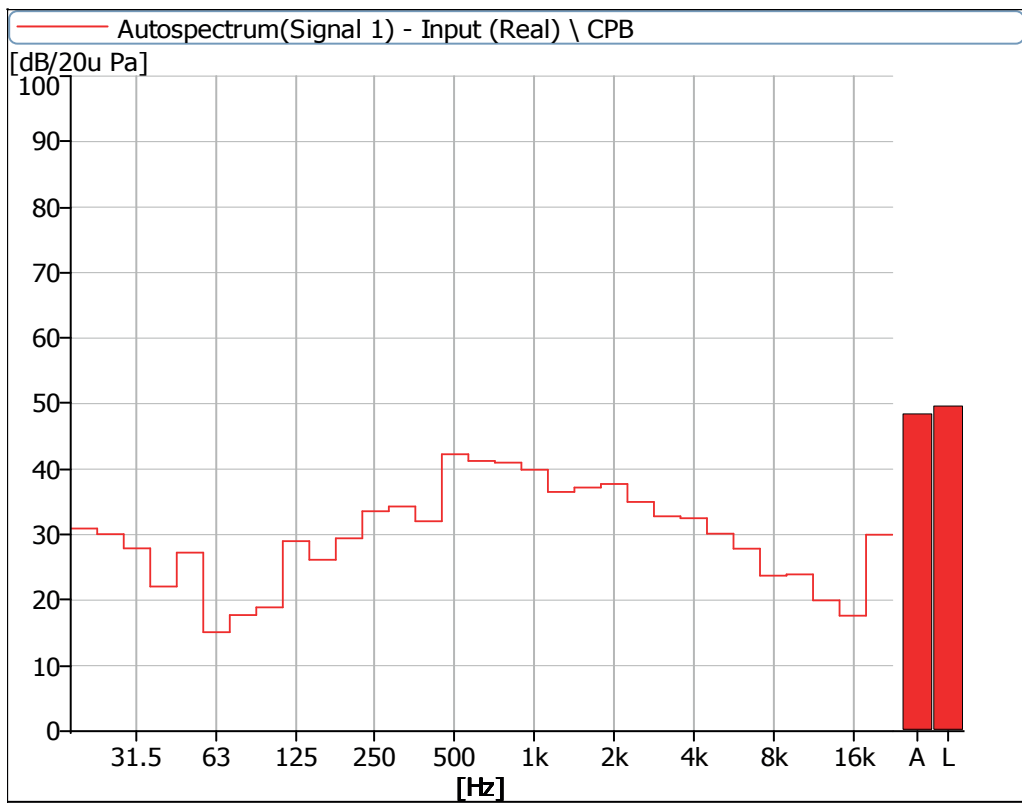


Figure 12 Noise Spectrum of Stage Luminaires (The Stage mode, Static, No 2)

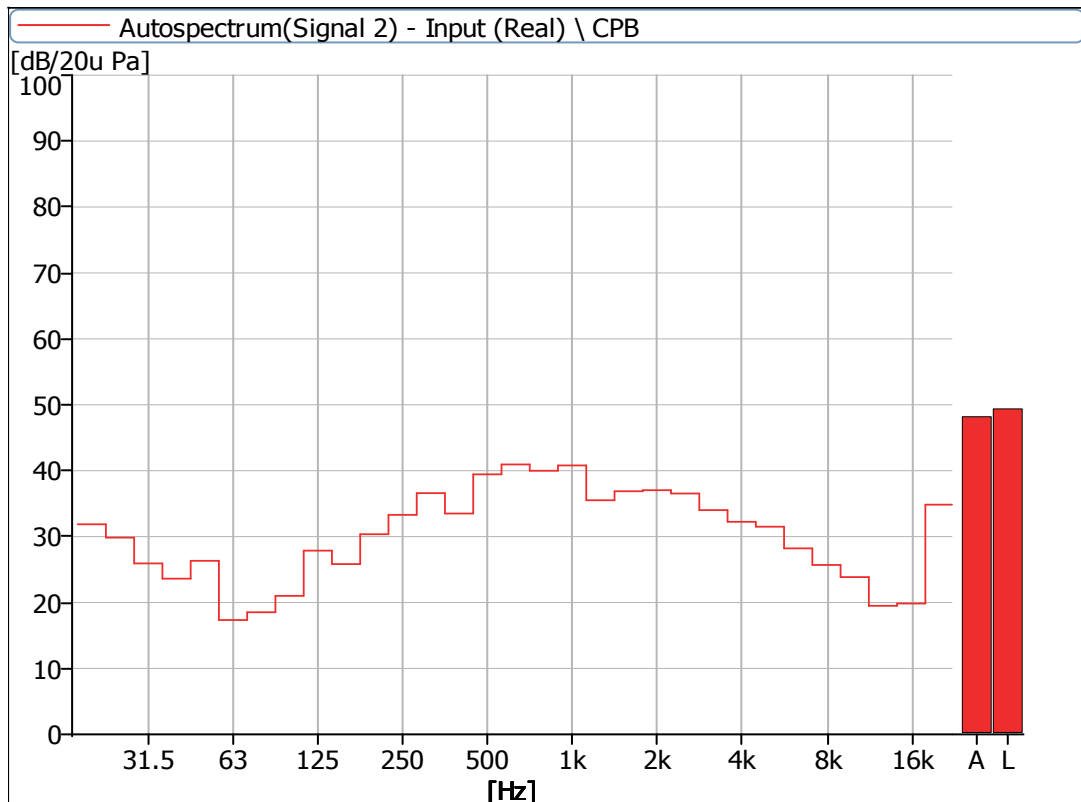


Figure 13 Noise Spectrum of Stage Luminaires (The Stage mode, Static, No 3)

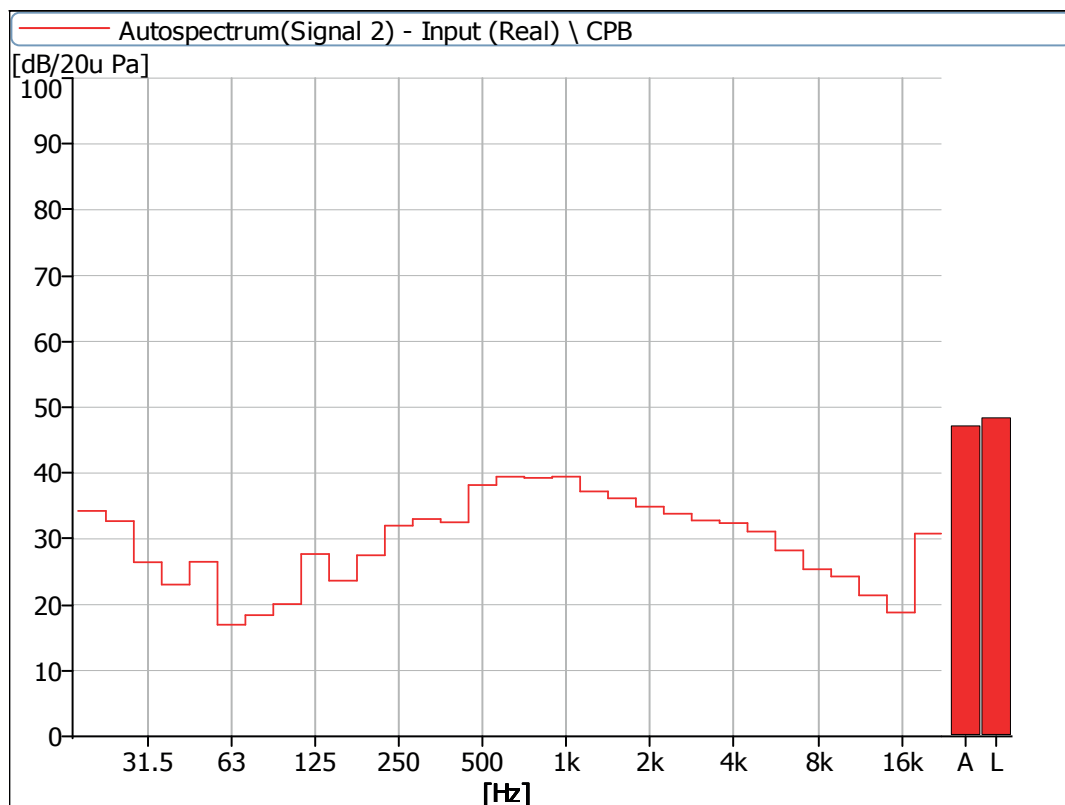


Figure 14 Noise Spectrum of Stage Luminaires (The Stage mode, Static, No 4)

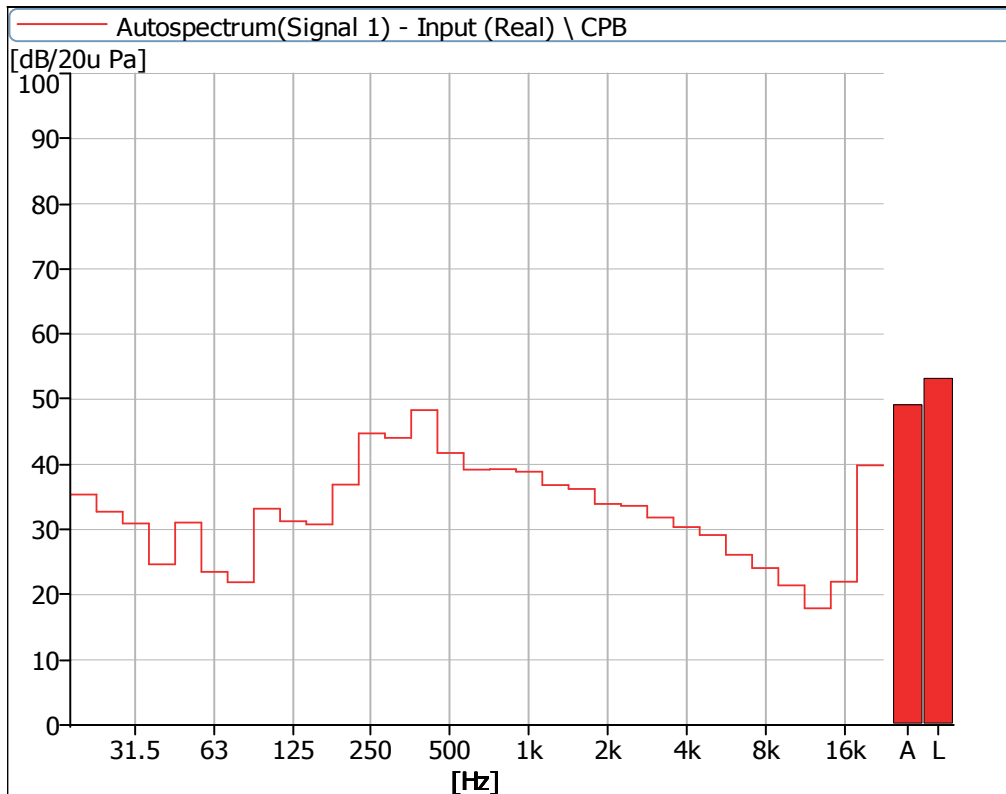


Figure 15 Noise Spectrum of Stage Luminaires (The Stage mode, Dynamic, No 1)

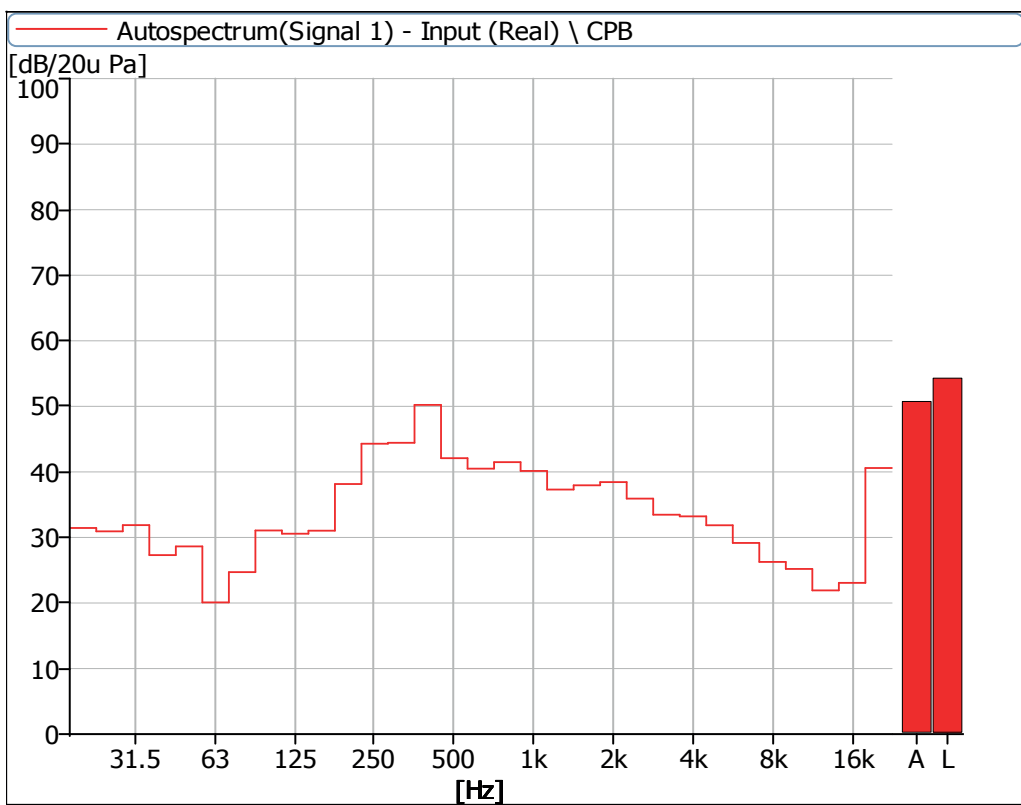


Figure 16 Noise Spectrum of Stage Luminaires (The Stage mode, Dynamic, No 2)

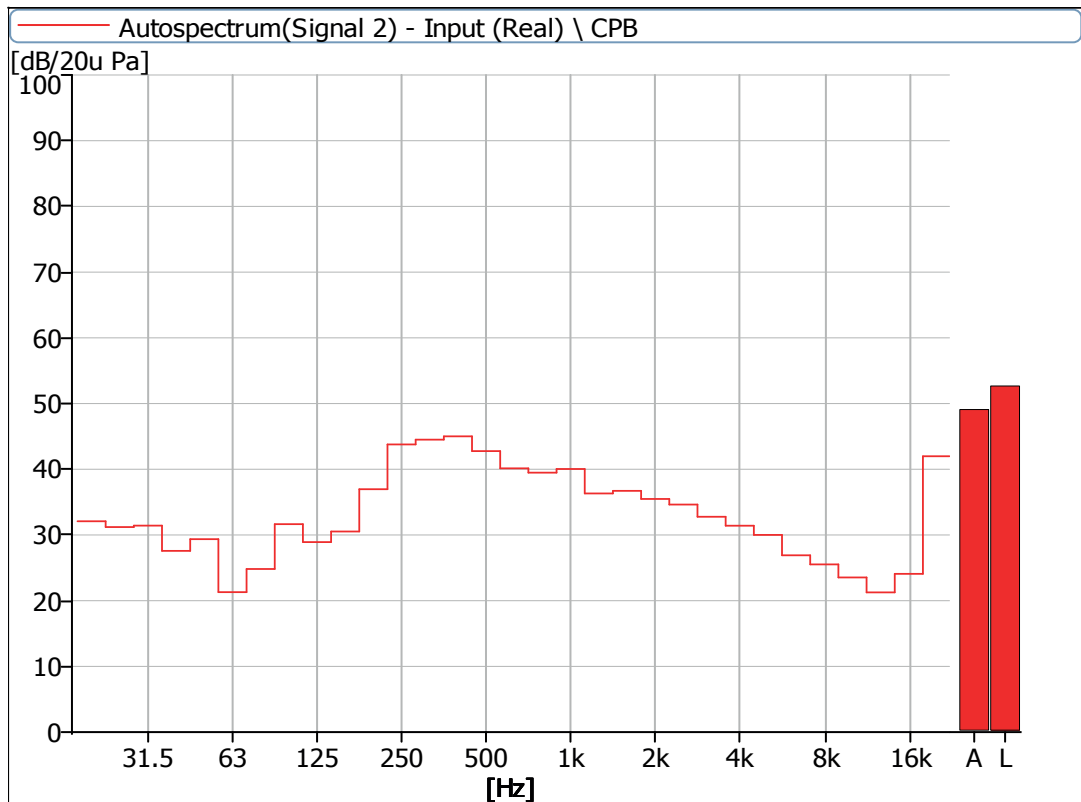


Figure 17 Noise Spectrum of Stage Luminaires (The Stage mode, Dynamic, No 3)

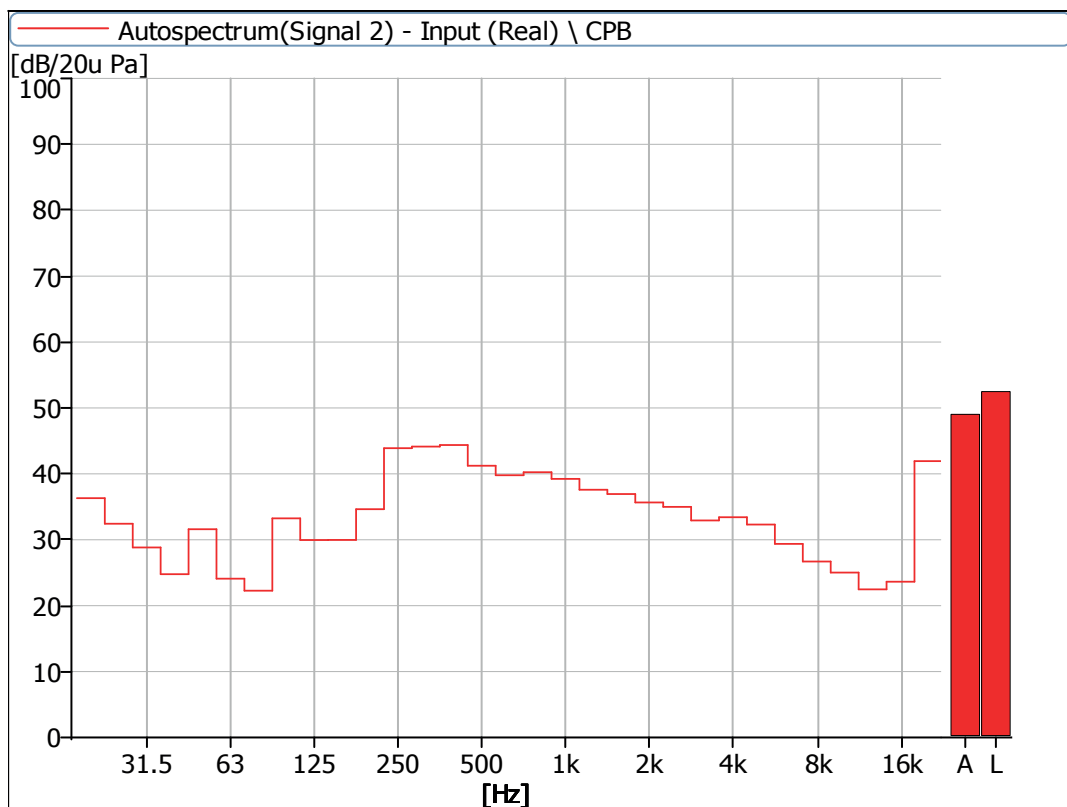


Figure 18 Noise Spectrum of Stage Luminaires (The Stage mode, Dynamic, No 4)

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
20	33.2	30.4	32.0	34.0	34.7	31.3	32.2	35.4
25	32.0	30.9	31.0	32.5	32.9	31.2	31.6	33.3
31.5	29.4	28.1	26.1	27.4	31.6	31.6	30.9	29.5
40	21.0	22.6	23.4	20.7	27.6	27.1	27.5	27.1
50	27.4	26.9	26.0	26.6	29.9	28.5	27.9	31.1
63	15.5	14.3	15.0	16.0	23.8	19.2	20.4	24.4
80	17.3	13.6	14.5	16.2	21.7	25.2	25.2	21.7
100	21.1	17.7	18.9	20.5	31.6	34.5	34.5	31.6
125	16.1	12.1	15.2	13.9	29.6	29.3	28.7	28.6
160	21.6	18.9	21.5	18.3	30.4	30.9	30.0	29.6
200	23.2	22.4	23.5	20.3	38.0	38.8	37.5	35.7
250	25.5	24.6	24.3	22.8	45.3	45.2	44.0	44.3
315	27.4	28.2	29.3	26.0	44.0	44.6	44.6	44.2
400	23.1	24.0	24.3	25.0	48.5	41.7	48.5	45.7
500	30.0	28.7	29.6	28.5	37.3	37.7	38.0	36.7
630	25.5	26.3	27.0	25.5	32.7	34.2	34.6	32.5
800	26.0	27.4	26.0	25.5	34.6	35.0	33.4	32.7
1000	23.4	22.7	23.8	22.7	33.1	31.8	32.3	31.1
1250	19.0	20.6	18.1	21.6	32.2	31.6	31.8	30.9
1600	19.7	22.2	20.5	21.5	25.6	26.7	25.9	25.5
2000	19.1	21.2	20.0	19.8	23.5	24.5	23.9	23.5
2500	17.3	18.1	18.7	17.8	24.1	24.8	24.2	24.3
3150	19.9	16.7	18.9	16.9	22.0	22.2	22.2	22.0
4000	17.1	16.7	20.3	17.0	19.5	20.3	21.1	21.3
5000	12.4	13.1	16.7	15.7	23.9	23.4	22.4	24.2
6300	13.0	12.1	15.9	15.1	15.8	16.2	17.0	17.8
8000	14.4	11.5	15.9	14.5	15.8	16.6	18.3	17.6
10000	11.8	11.7	15.4	14.7	14.9	15.7	17.2	16.9
12500	11.3	10.9	14.9	15.7	15.7	16.4	18.4	18.9
16000	14.4	11.9	18.0	15.7	20.4	21.2	22.4	21.6
20000	31.8	29.5	35.5	29.4	39.5	40.0	41.4	40.5

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	40.7	39.6	42.0	40.3	52.4	50.9	52.3	51.1
A-weighted dB(A)	33.7	33.8	34.6	33.4	46.6	44.7	46.6	45.1
Average sound pressure level dB(A)	33.9				45.8			

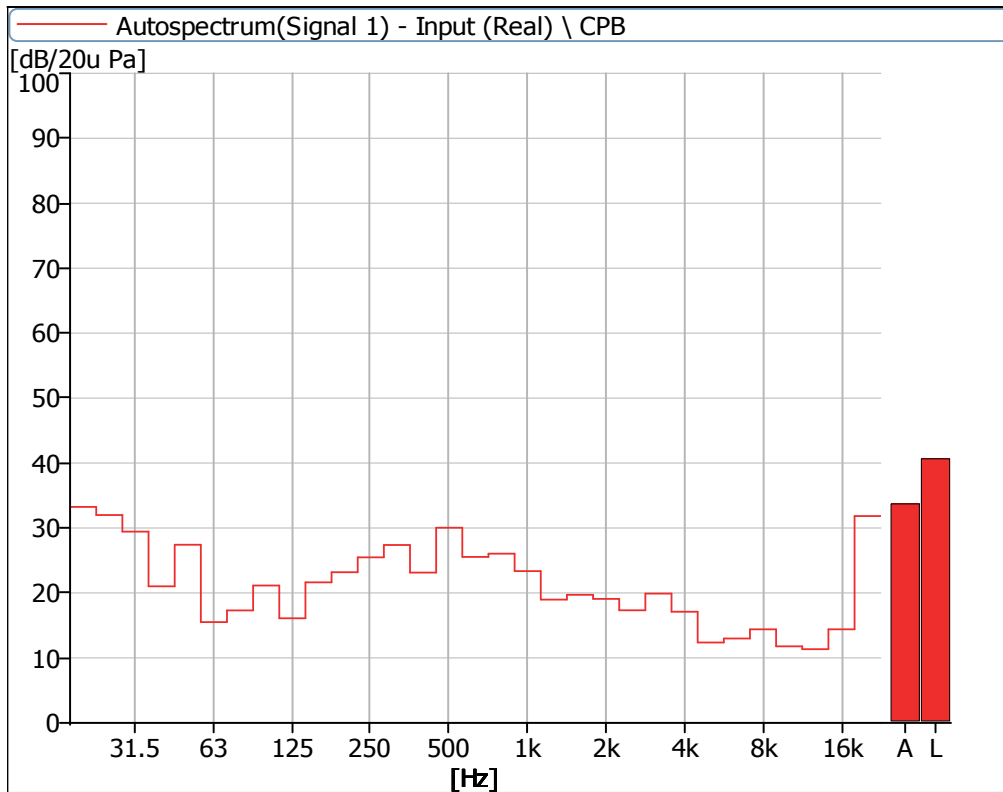


Figure 19 Noise Spectrum of Stage Luminaires (The Silence mode, Static, No 1)

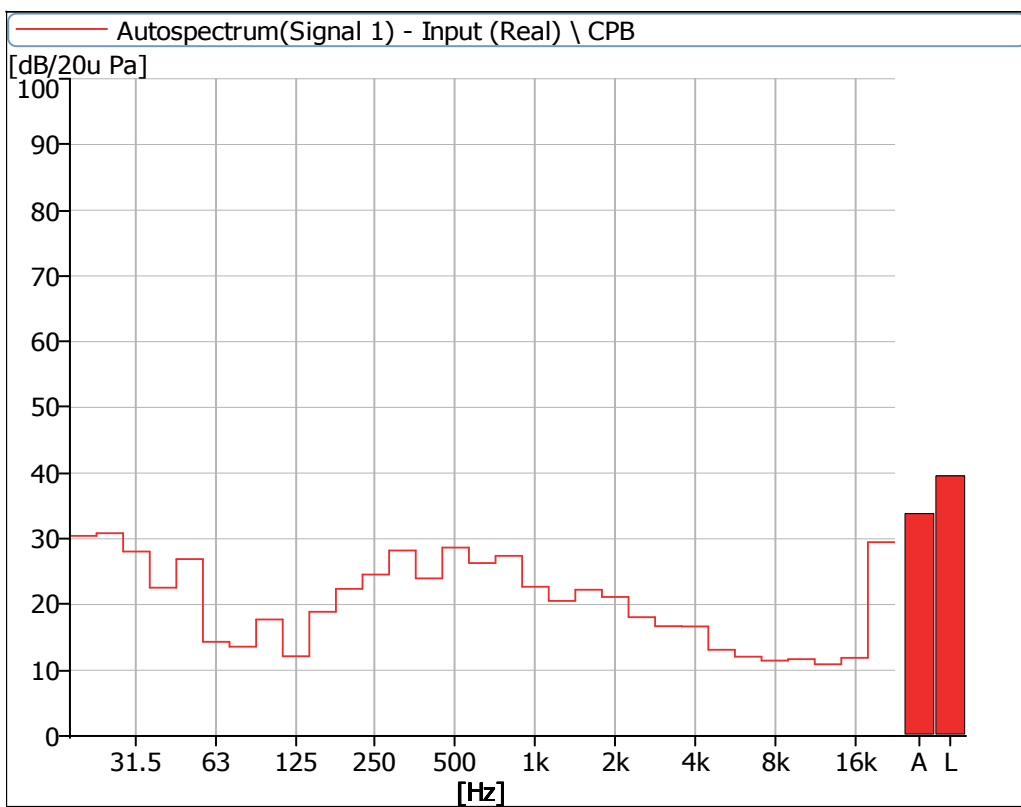


Figure 20 Noise Spectrum of Stage Luminaires (The Silence mode, Static, No 2)

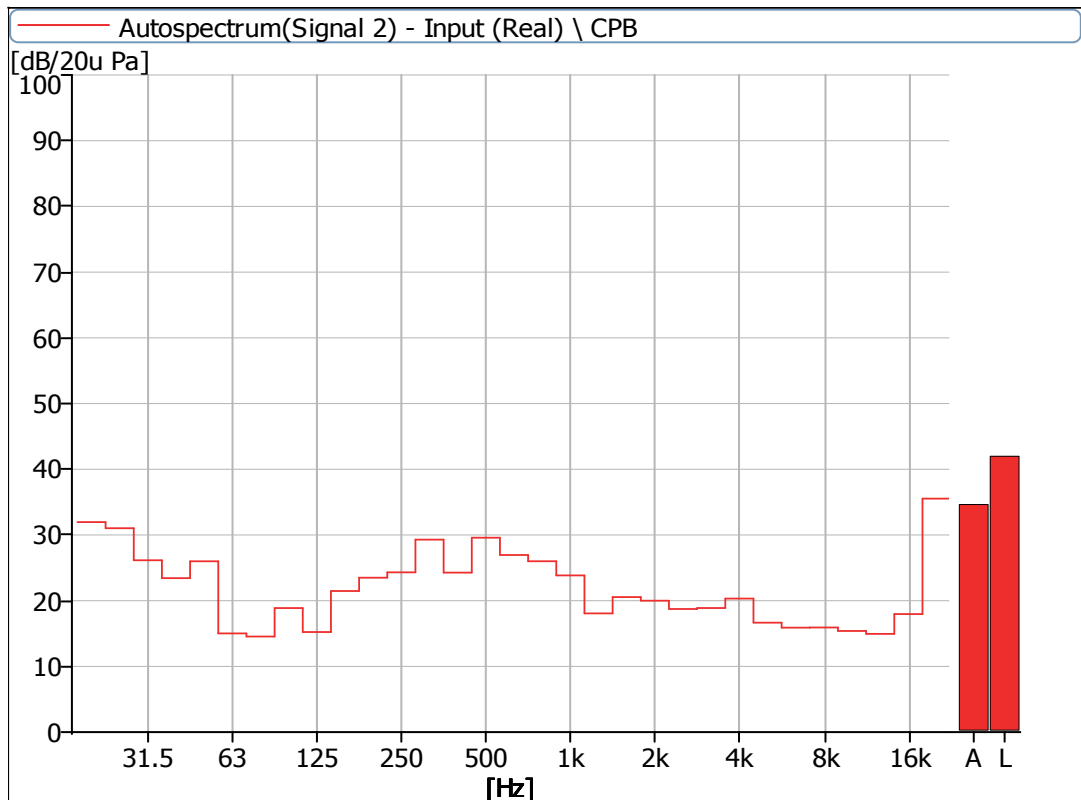


Figure 21 Noise Spectrum of Stage Luminaires (The Silence mode, Static, No 3)

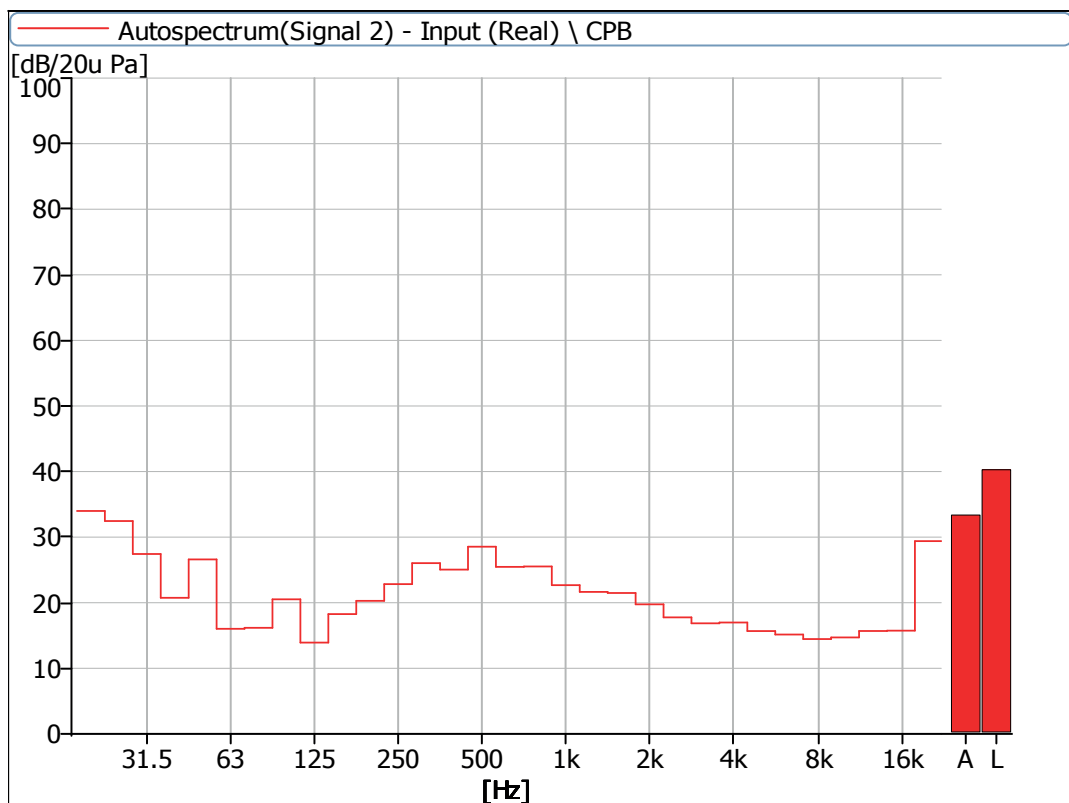


Figure 22 Noise Spectrum of Stage Luminaires (The Silence mode, Static, No 4)

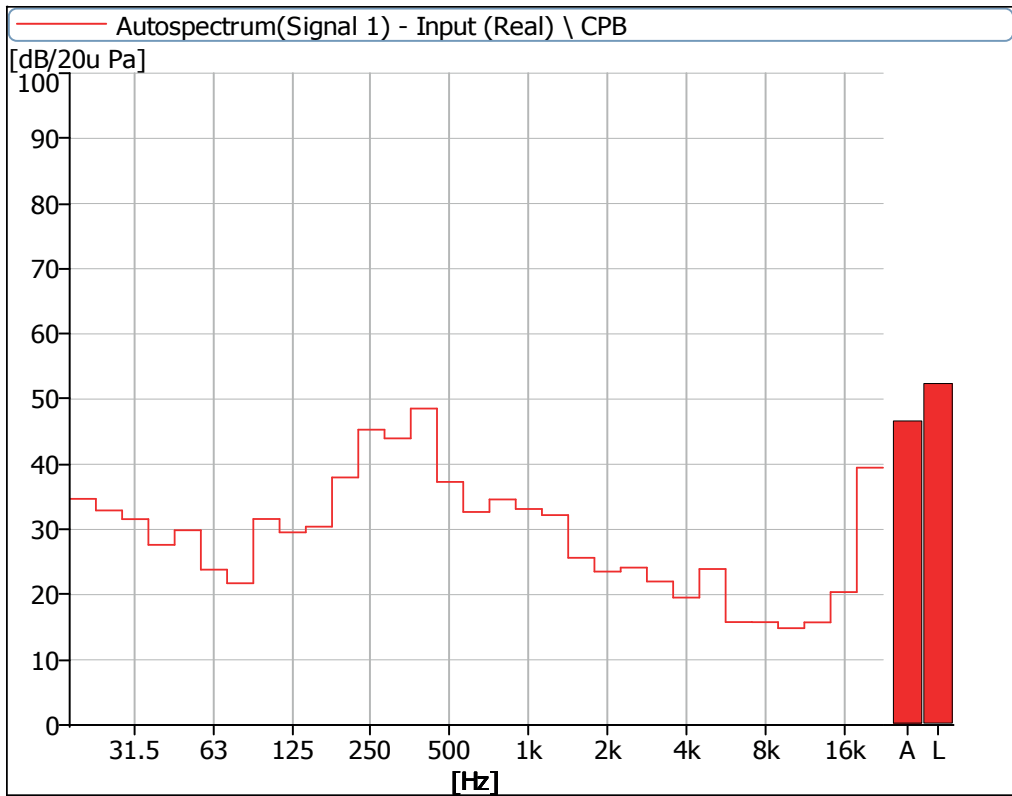


Figure 23 Noise Spectrum of Stage Luminaires (The Silence mode, Dynamic, No 1)

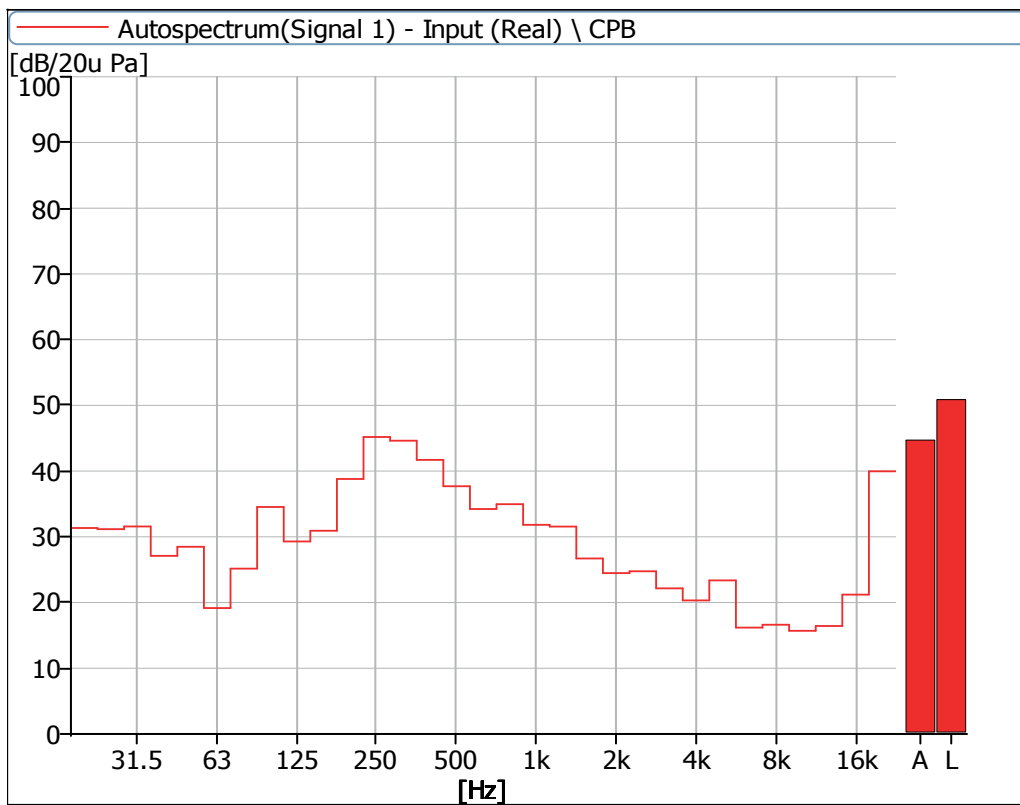


Figure 24 Noise Spectrum of Stage Luminaires (The Silence mode, Dynamic, No 2)

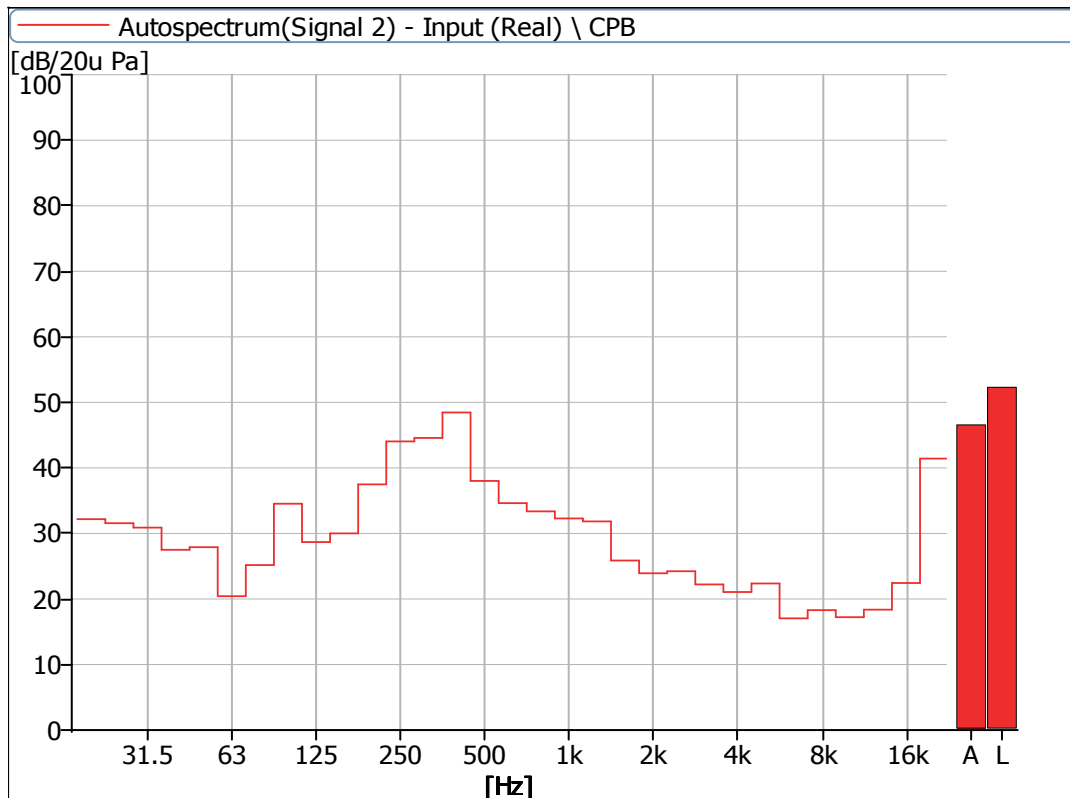


Figure 25 Noise Spectrum of Stage Luminaires (The Silence mode, Dynamic, No 3)

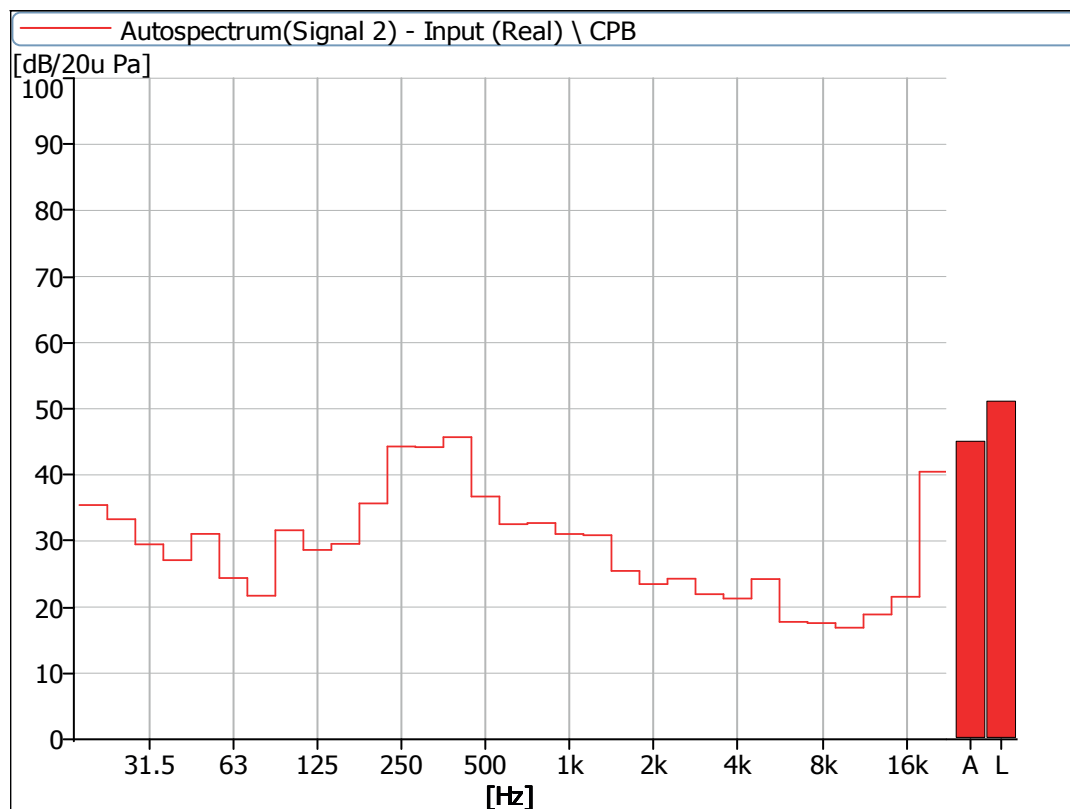


Figure 26 Noise Spectrum of Stage Luminaires (The Silence mode, Dynamic, No 4)

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
20	34.4	33.1	34.2	35.1	35.0	32.8	33.1	35.3
25	32.2	31.9	32.1	33.1	33.5	31.5	31.3	33.6
31.5	30.1	28.2	26.9	27.2	31.3	31.6	31.2	28.6
40	20.9	25.3	26.0	21.8	24.6	25.3	26.0	23.7
50	27.6	26.9	26.0	26.9	28.4	28.2	27.9	28.8
63	15.1	14.0	15.2	16.0	22.3	18.6	19.5	23.6
80	15.9	14.3	15.2	15.2	21.3	23.9	24.6	21.7
100	19.8	17.1	18.6	19.3	32.1	31.1	32.0	31.6
125	15.5	12.5	15.3	13.0	30.3	28.6	27.7	29.2
160	18.5	17.7	20.2	16.3	29.7	29.4	28.9	29.1
200	20.2	20.5	20.9	18.1	38.1	38.2	37.2	35.5
250	26.3	26.4	28.1	25.8	45.6	45.0	44.5	44.6
315	25.7	25.2	25.6	23.9	43.4	44.0	44.0	43.3
400	22.7	23.6	22.5	24.9	48.1	50.2	46.4	45.5
500	30.1	28.2	28.5	26.2	36.9	37.4	37.2	36.1
630	25.0	26.1	26.3	25.0	32.8	33.3	33.6	32.5
800	24.3	26.3	24.2	25.9	34.0	34.3	32.1	31.8
1000	20.6	21.6	21.4	21.7	33.0	32.0	31.9	31.0
1250	17.2	19.5	16.5	20.6	31.7	31.0	31.0	30.7
1600	18.8	21.7	19.3	20.6	25.0	26.7	25.6	25.5
2000	17.2	20.7	18.1	19.4	22.8	24.4	23.1	23.0
2500	15.6	17.9	17.3	17.6	24.2	25.2	24.1	24.1
3150	19.5	16.0	18.4	16.6	23.6	22.8	23.4	23.0
4000	16.6	16.3	20.0	16.8	19.7	20.3	21.1	21.1
5000	12.5	12.9	16.1	15.7	25.5	25.6	24.7	25.3
6300	12.6	11.8	15.2	15.2	16.6	16.1	17.2	18.4
8000	12.3	10.9	15.5	14.4	16.3	17.1	19.2	18.0
10000	11.0	11.4	15.0	14.7	16.1	16.0	17.6	17.4
12500	11.2	10.8	15.0	15.8	17.3	18.2	20.1	19.8
16000	16.7	13.0	17.8	16.2	20.4	20.5	21.8	21.7
20000	33.0	30.2	33.4	31.6	39.0	39.2	40.2	39.7

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	41.0	40.2	41.0	40.8	52.2	53.0	51.3	50.9
A-weighted dB(A)	33.0	33.2	33.3	32.9	46.3	47.4	45.5	44.8
Average sound pressure level dB(A)	33.1				46.1			

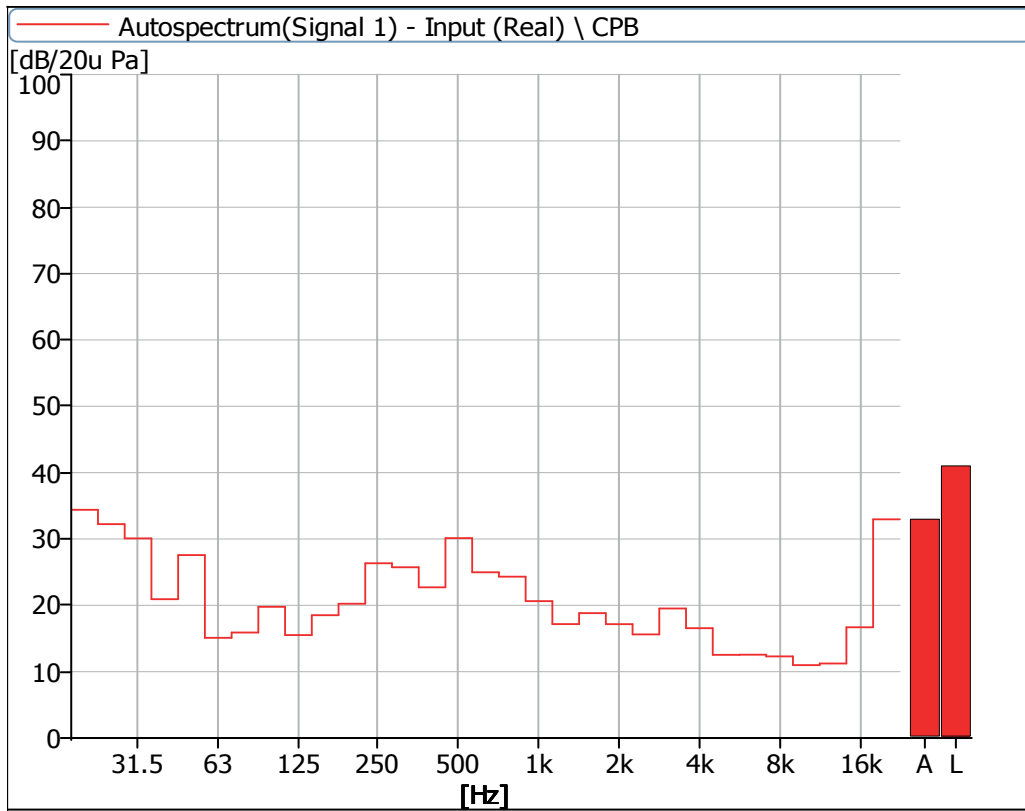


Figure 27 Noise Spectrum of Stage Luminaires (The Super Silence mode, Static, No 1)

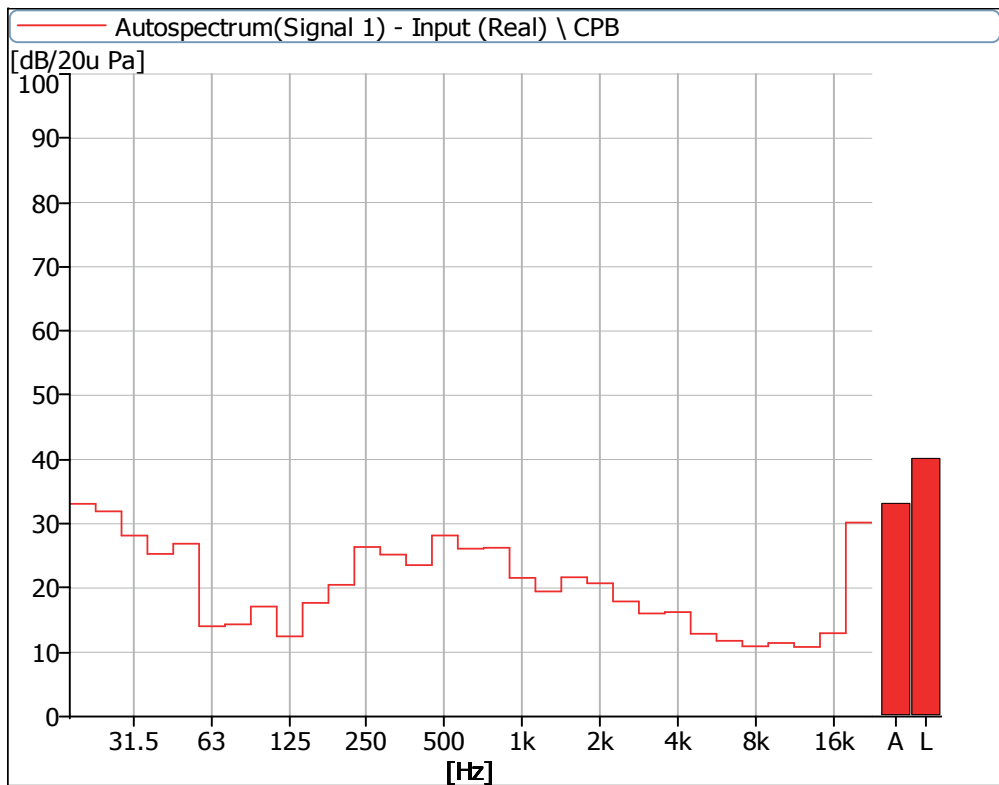


Figure 28 Noise Spectrum of Stage Luminaires (The Super Silence mode, Static, No 2)

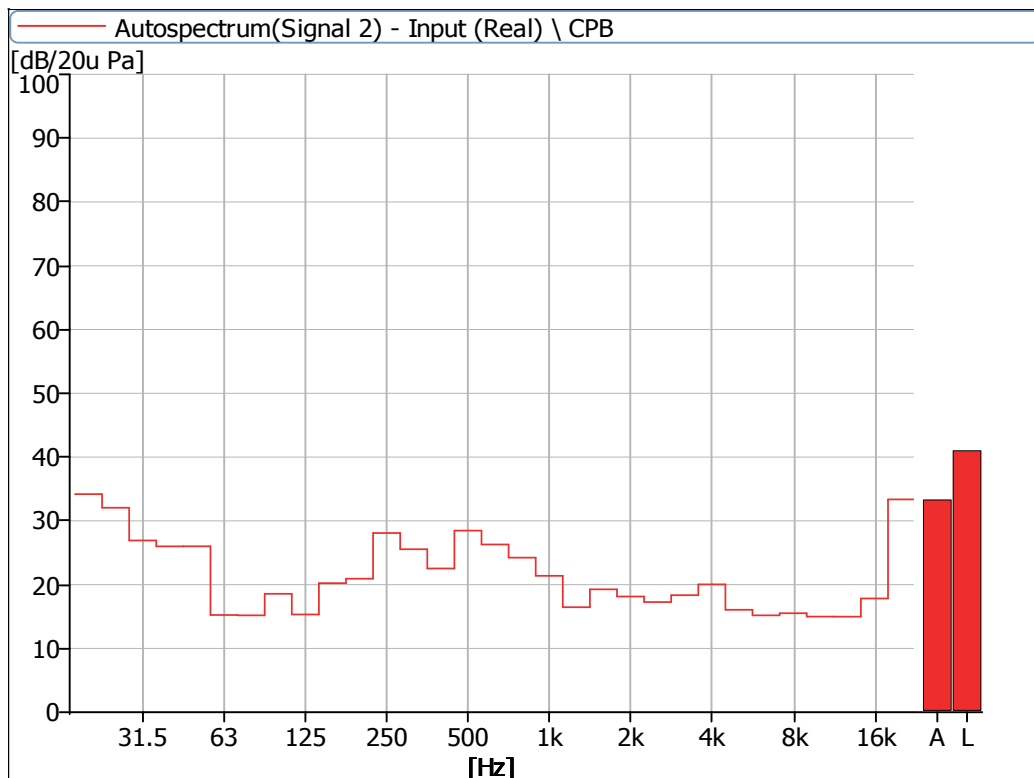


Figure 29 Noise Spectrum of Stage Luminaires (The Super Silence mode, Static, No 3)

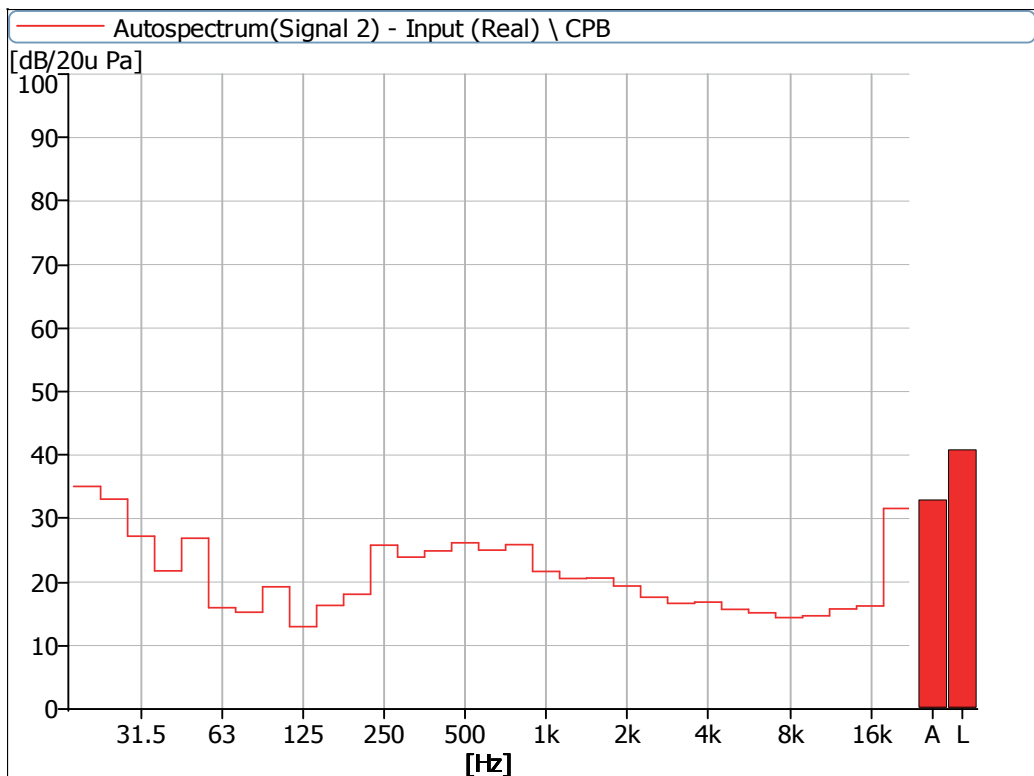


Figure 30 Noise Spectrum of Stage Luminaires (The Super Silence mode, Static, No 4)

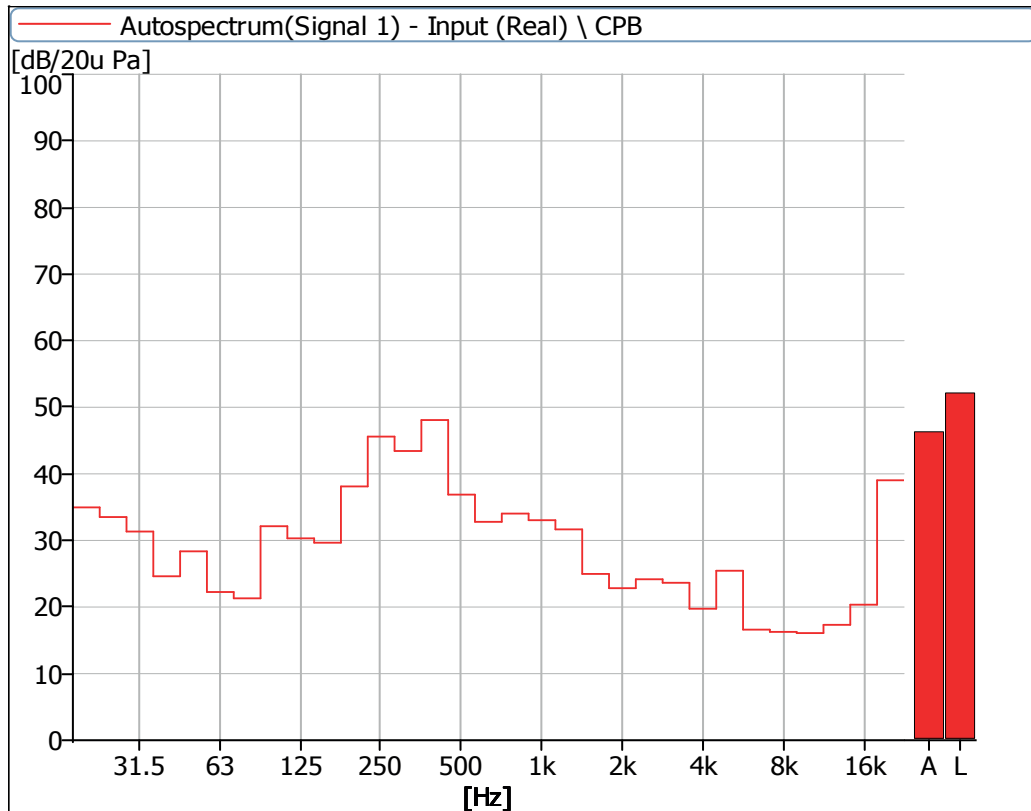


Figure 31 Noise Spectrum of Stage Luminaires (The Super Silence mode, Dynamic, No 1)

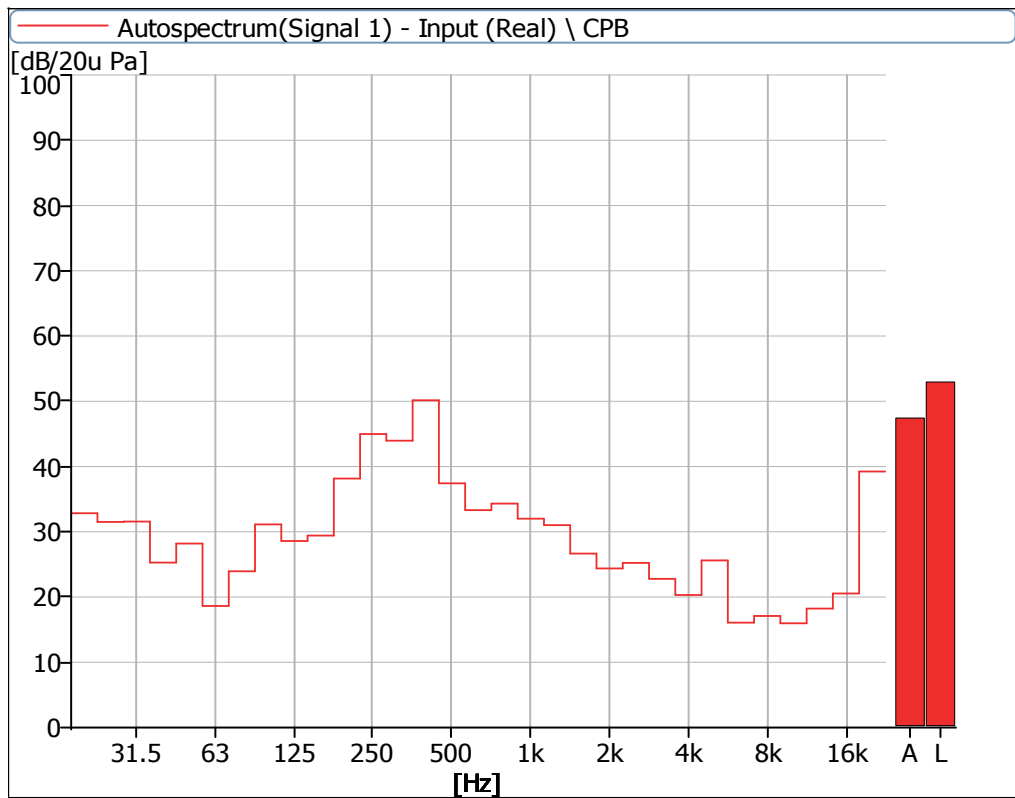


Figure 32 Noise Spectrum of Stage Luminaires (The Super Silence mode, Dynamic, No 2)

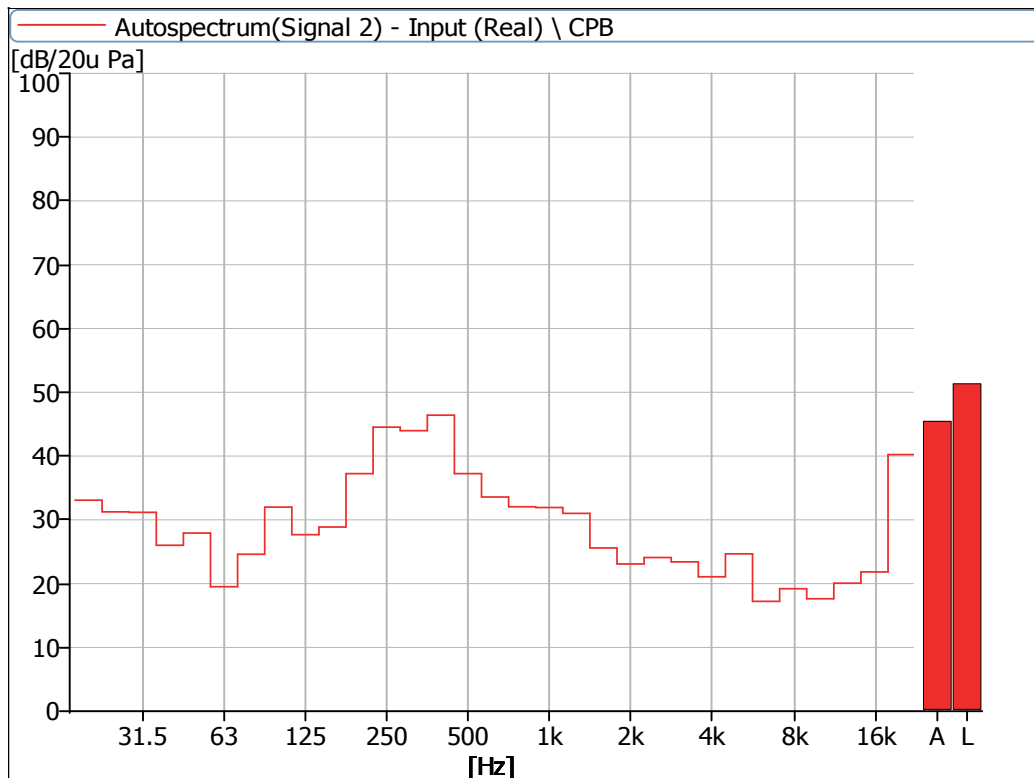


Figure 33 Noise Spectrum of Stage Luminaires (The Super Silence mode, Dynamic, No 3)

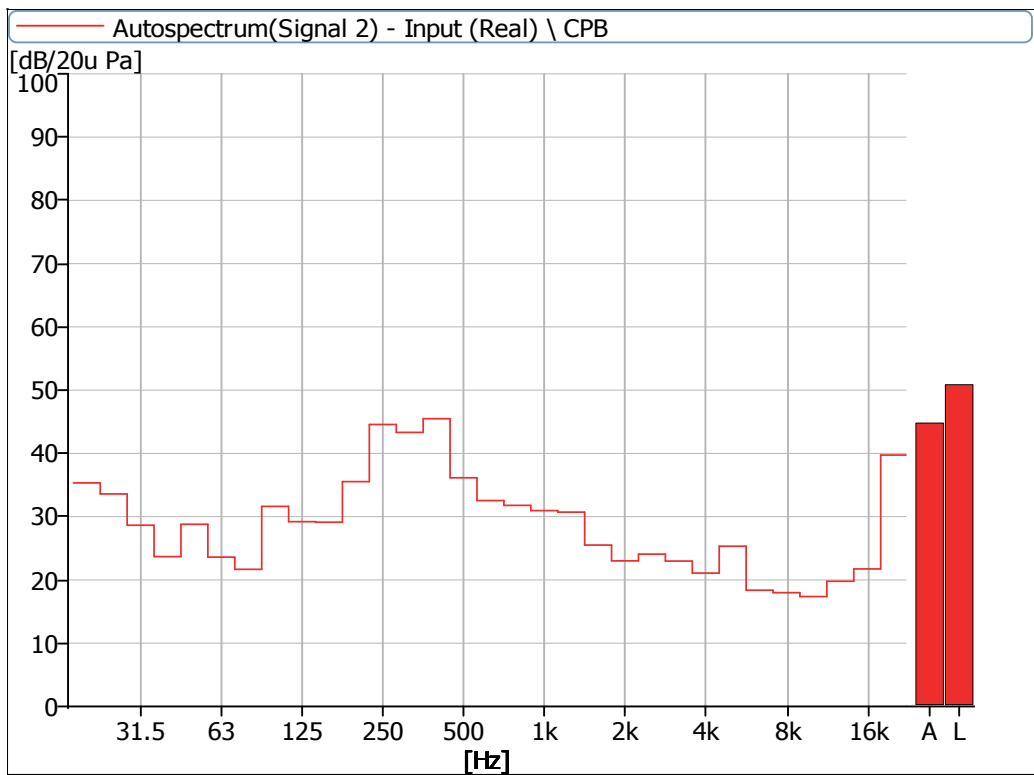


Figure 34 Noise Spectrum of Stage Luminaires (The Super Silence mode, Dynamic, No 4)

Instrumentation

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



AYRTON

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