



HURACÁN 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 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	35.7	34.0	34.1	36.0	35.9	34.1	34.4	36.3
25	35.6	34.9	33.8	34.8	35.2	31.8	33.4	33.5
31.5	27.3	24.7	28.5	24.9	26.6	26.7	26.7	27.1
40	27.1	26.0	25.3	23.1	27.0	26.7	24.7	24.3
50	25.7	23.9	25.5	24.0	24.5	25.0	24.0	25.1
63	23.6	16.8	22.5	18.2	21.0	19.2	19.4	21.5
80	26.2	18.3	25.0	20.1	23.9	22.7	23.4	22.9
100	28.7	19.1	27.8	22.4	27.1	24.5	26.1	27.1
125	30.8	20.6	29.3	21.6	30.3	29.4	30.6	30.2
160	30.1	26.8	32.1	25.6	43.5	43.6	44.3	43.6
200	43.2	39.2	44.9	37.5	44.5	43.9	44.7	44.5
250	38.9	34.3	39.2	33.6	43.9	44.3	43.4	45.0
315	38.0	33.8	37.9	34.3	43.2	42.6	44.1	42.1
400	37.4	35.3	38.5	33.4	42.7	41.1	42.9	41.4
500	38.2	37.4	39.0	37.1	40.0	40.6	40.9	40.4
630	38.8	37.0	38.0	36.7	37.8	38.2	38.6	38.3
800	39.8	35.3	39.4	34.8	37.4	38.7	38.9	36.8
1000	32.5	31.5	33.2	31.4	34.4	34.6	35.0	35.1
1250	32.8	31.1	33.3	29.5	32.6	32.8	32.6	32.5
1600	31.9	30.7	33.1	27.7	32.2	31.7	31.7	32.4
2000	29.6	26.2	29.8	25.5	31.6	31.0	31.0	30.7
2500	26.4	24.8	28.1	24.0	29.3	29.5	28.9	29.5
3150	22.4	20.9	24.9	20.8	25.3	26.0	26.2	25.7
4000	19.4	18.2	23.9	18.5	23.1	23.9	24.1	23.5
5000	19.4	18.4	23.4	19.0	23.8	24.1	23.9	23.7
6300	19.3	14.3	19.4	15.8	18.6	19.5	20.0	19.2
8000	13.1	12.3	16.6	15.1	17.9	19.0	19.8	18.2
10000	13.5	11.9	15.2	14.4	15.0	16.4	17.5	16.5
12500	12.0	10.5	15.3	14.6	15.5	16.2	17.5	16.5
16000	17.9	23.3	21.8	21.2	23.1	27.0	25.7	23.7
20000	38.7	44.8	42.4	41.6	43.6	47.8	46.1	44.1

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	49.5	48.7	50.5	47.3	52.6	53.2	53.3	52.7
A-weighted dB(A)	44.9	43.1	45.4	42.1	46.5	46.9	47.2	46.4
Average sound pressure level dB(A)	44.1				46.8			

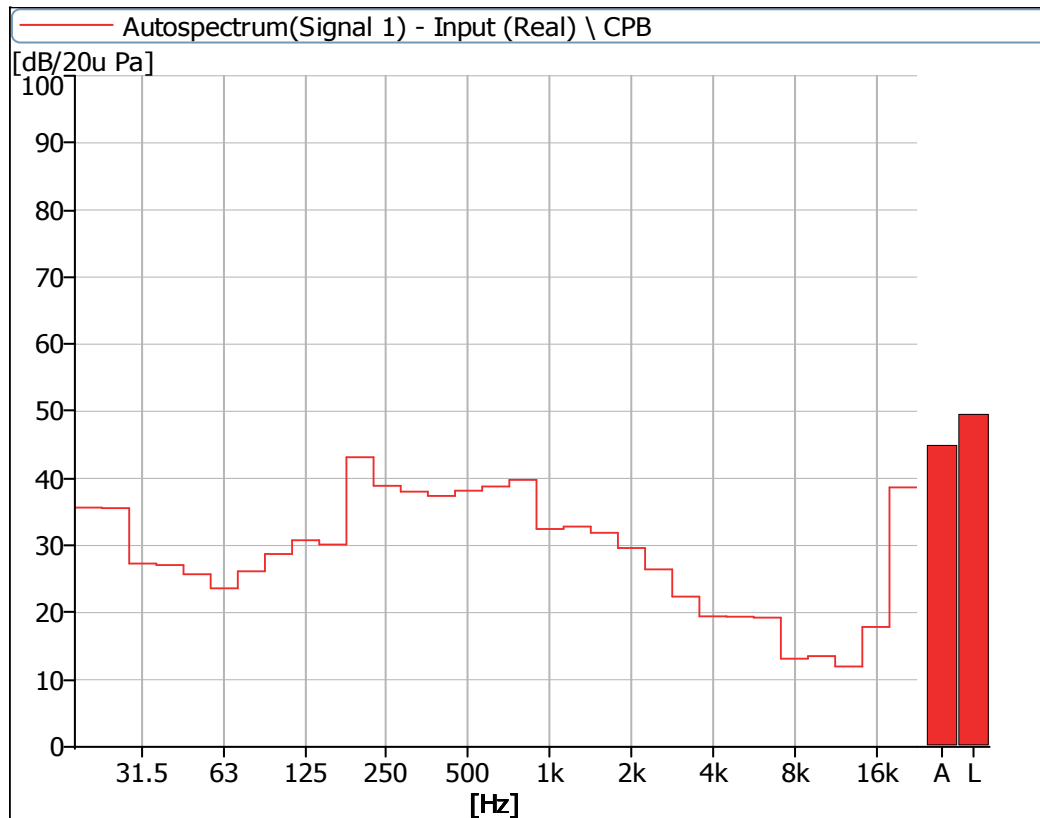


Figure 3 Noise Spectrum of Stage Luminaires (The Auto mode, Static, No 1)

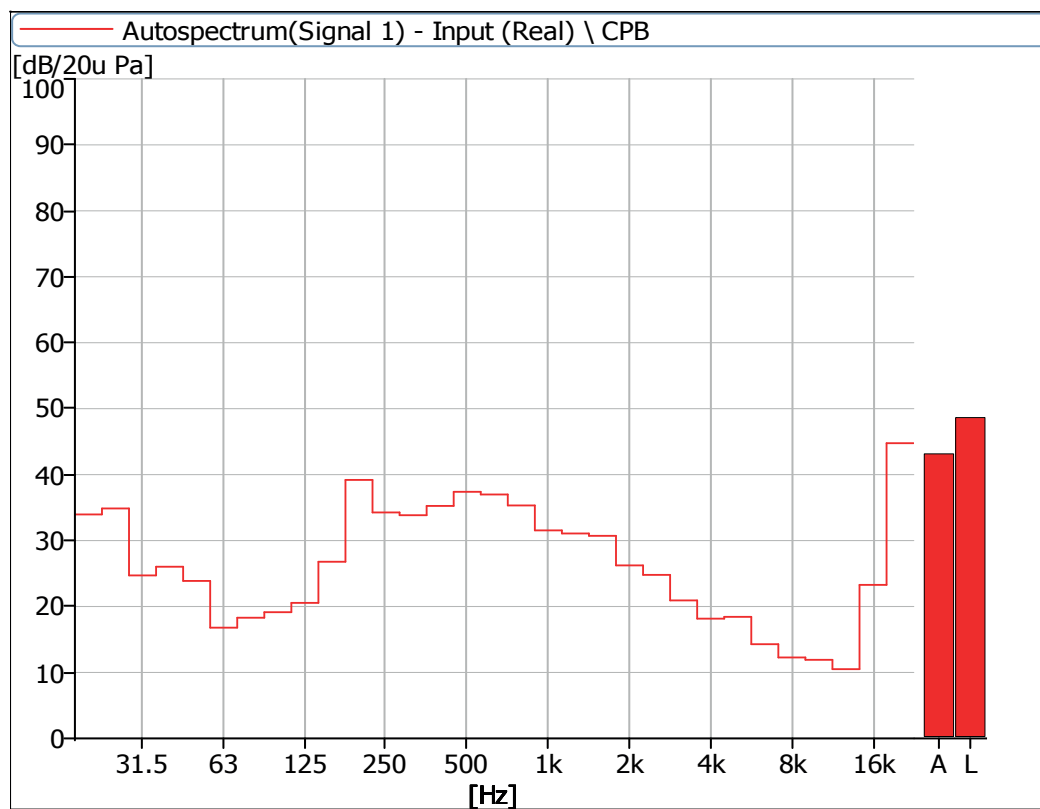


Figure 4 Noise Spectrum of Stage Luminaires (The Auto mode, Static, No 2)

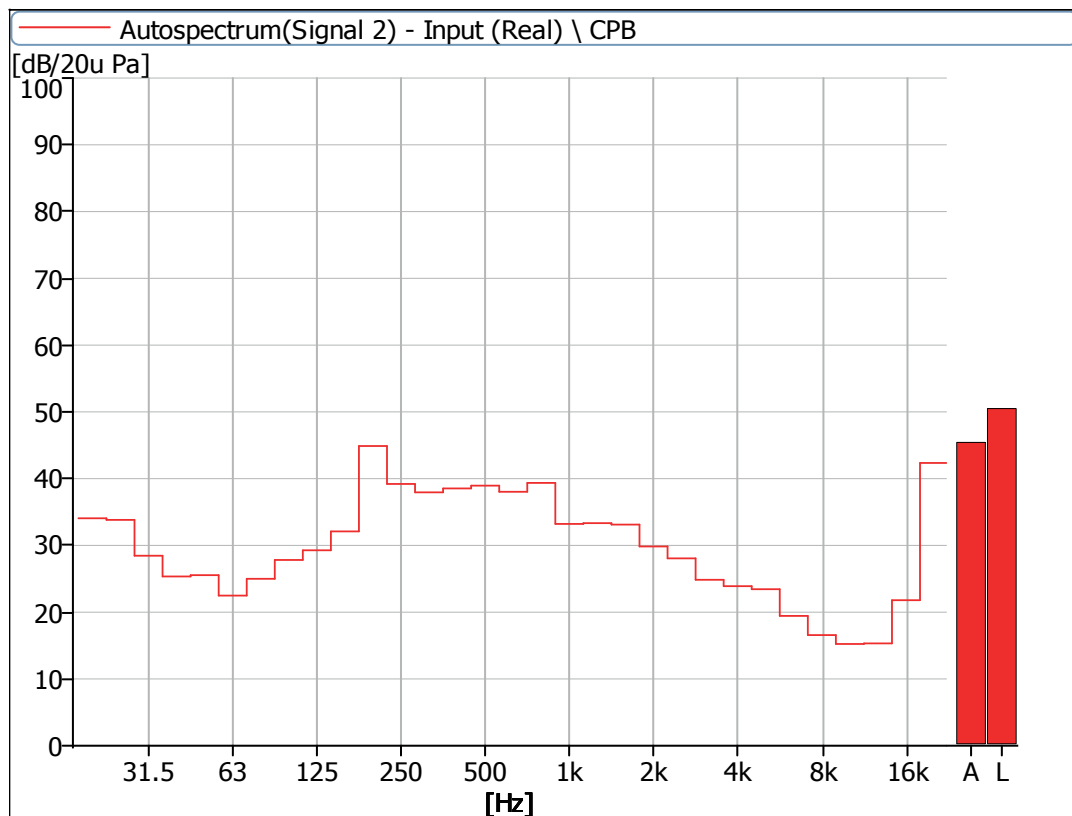


Figure 5 Noise Spectrum of Stage Luminaires (The Auto mode, Static, No 3)

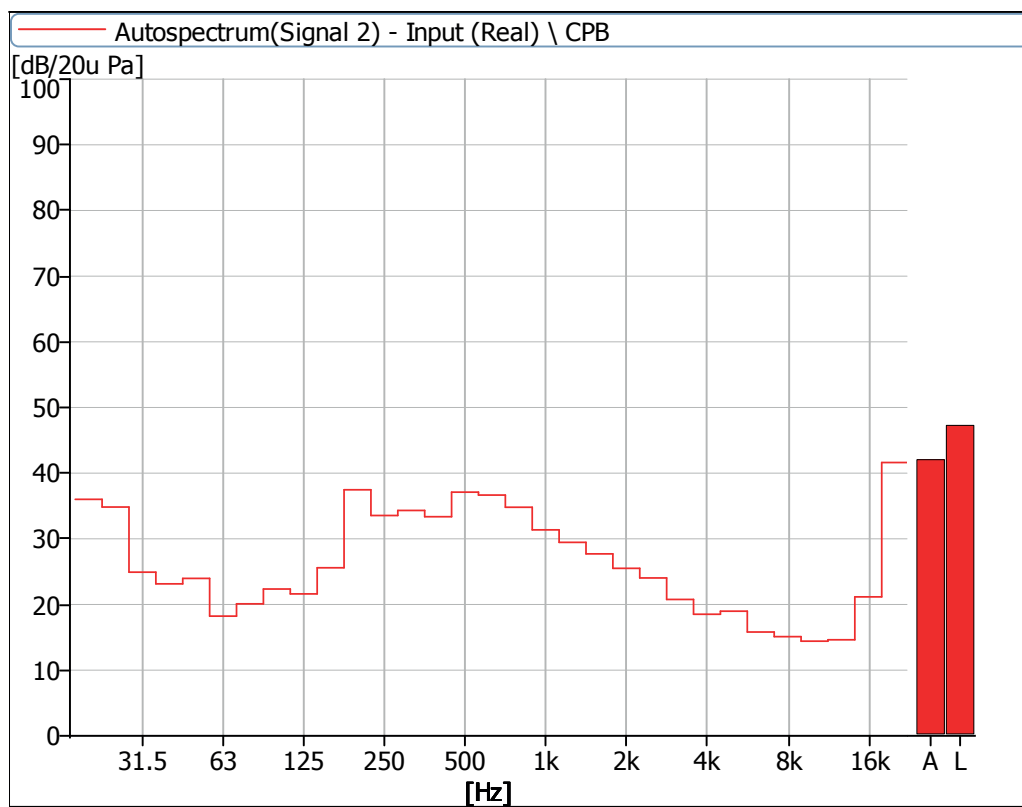


Figure 6 Noise Spectrum of Stage Luminaires (The Auto mode, Static, No 4)

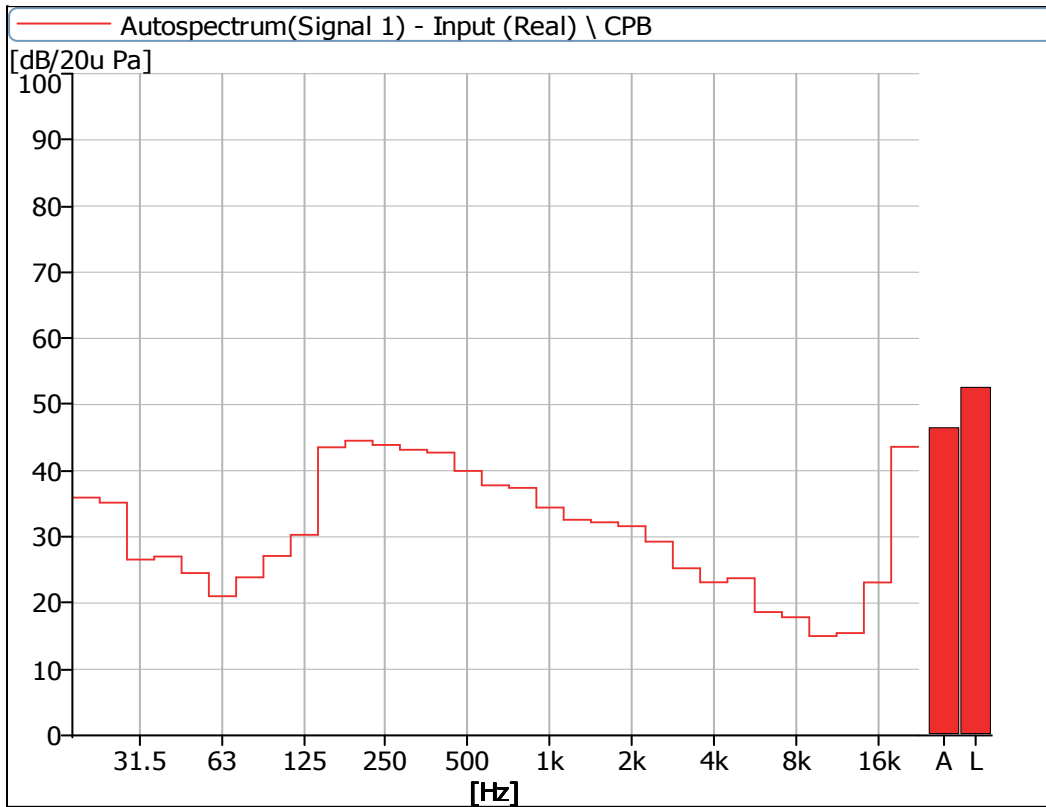


Figure 7 Noise Spectrum of Stage Luminaires (The Auto mode, Dynamic, No 1)

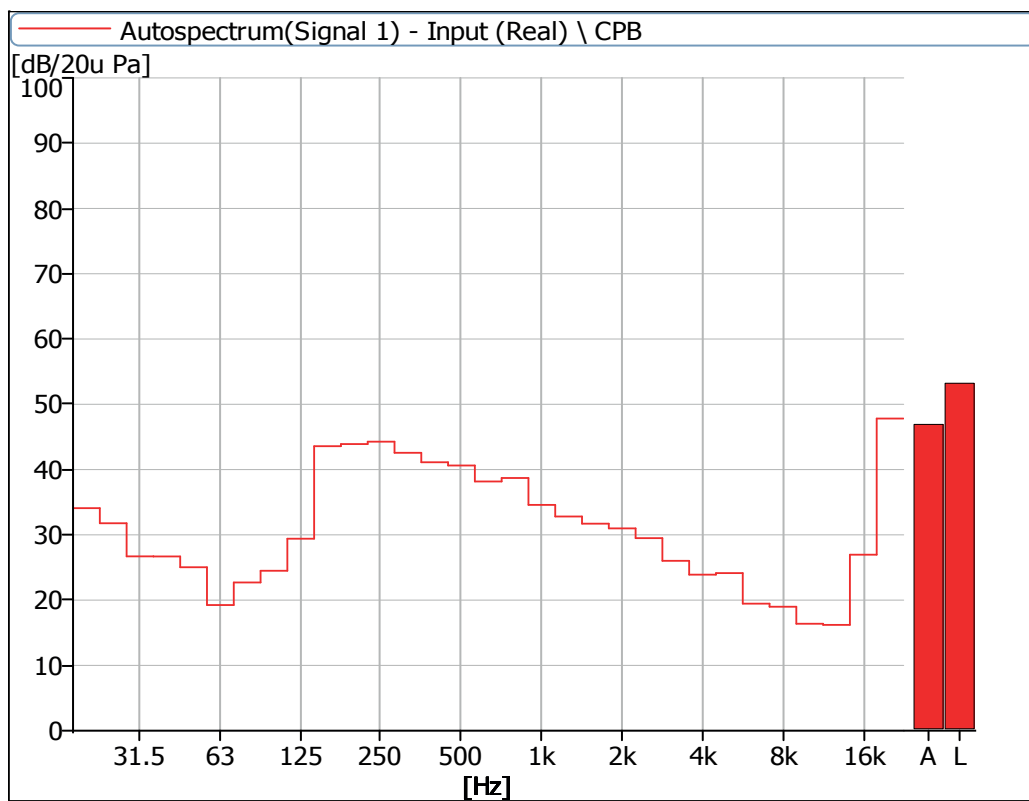


Figure 8 Noise Spectrum of Stage Luminaires (The Auto mode, Dynamic, No 2)

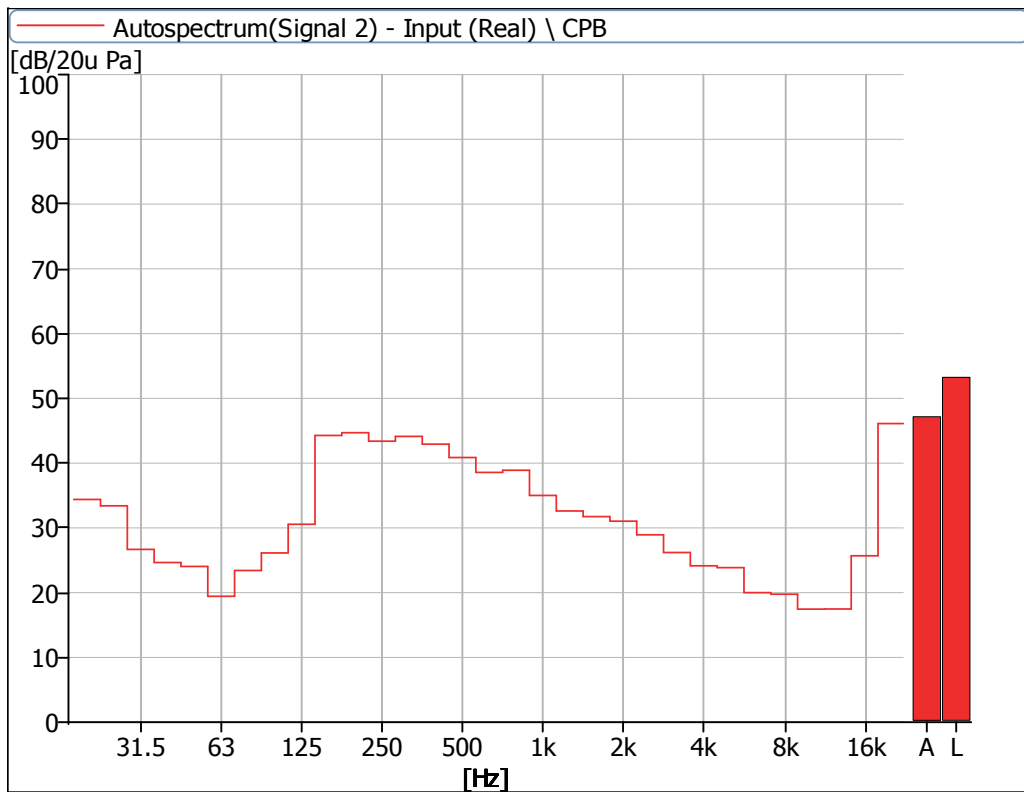


Figure 9 Noise Spectrum of Stage Luminaires (The Auto mode, Dynamic, No 3)

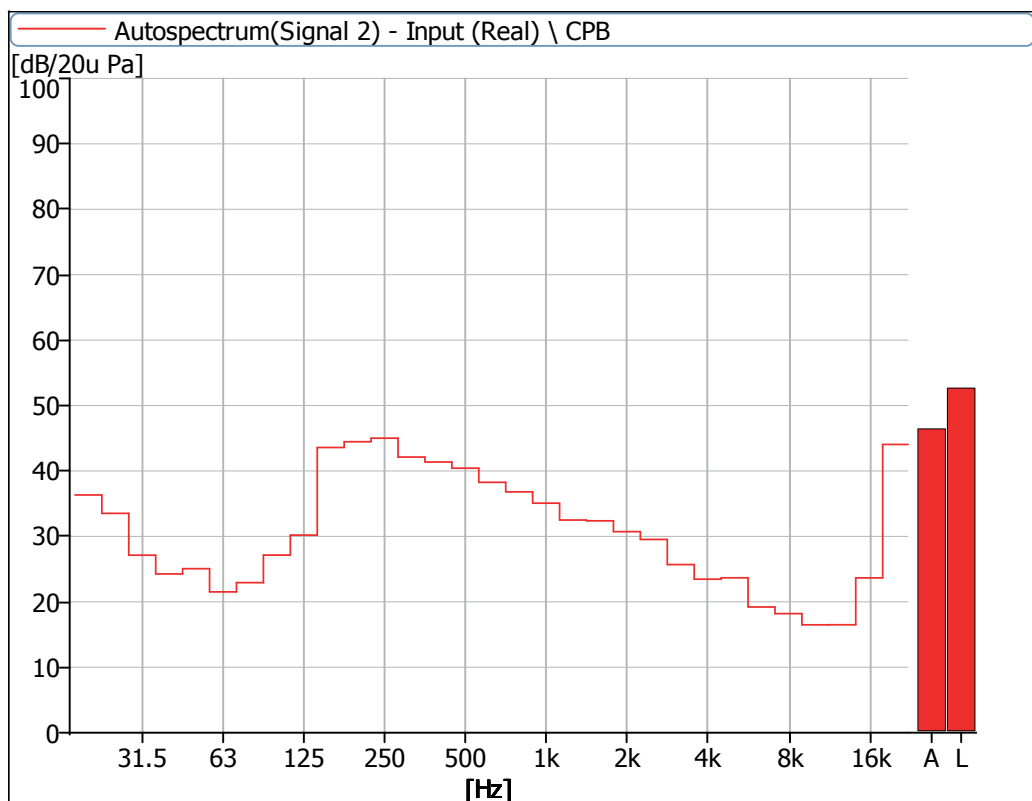


Figure 10 Noise Spectrum of Stage Luminaires (The Auto mode, Dynamic, No 4)

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
20	35.1	34.2	34.1	36.2	36.3	34.7	35.0	36.8
25	34.9	33.2	32.6	33.7	36.5	34.3	34.8	34.8
31.5	27.2	26.4	27.4	25.5	26.5	26.0	27.2	26.4
40	27.7	27.1	26.7	23.6	27.4	27.1	26.1	24.6
50	27.1	26.3	27.5	25.2	26.1	26.3	26.8	26.8
63	26.8	21.3	26.4	21.3	23.8	22.5	22.7	24.6
80	28.1	21.8	28.2	22.8	25.8	25.0	25.4	25.5
100	31.3	22.7	31.0	24.5	28.4	25.5	27.0	28.3
125	35.2	27.3	35.2	25.9	32.5	30.5	32.6	32.1
160	38.4	36.5	40.2	35.3	43.9	43.2	44.9	43.7
200	40.0	38.9	40.7	37.3	43.5	43.2	44.1	43.4
250	46.1	41.0	48.5	40.8	45.4	45.6	45.2	45.6
315	44.9	44.9	48.2	46.4	48.8	48.1	49.8	48.0
400	40.4	41.1	42.7	39.2	44.1	43.1	44.7	43.4
500	45.0	45.1	46.9	45.4	44.8	44.1	45.0	44.6
630	44.1	45.9	44.6	45.4	43.5	43.0	44.5	42.5
800	42.4	43.9	43.0	43.1	42.7	42.8	43.5	42.3
1000	37.3	39.1	38.3	39.1	39.2	38.8	39.5	39.2
1250	38.5	37.4	39.7	36.2	38.3	37.4	37.8	37.6
1600	39.0	35.7	40.8	34.6	38.6	37.3	37.9	38.6
2000	37.9	36.4	38.2	34.0	37.1	36.8	37.0	36.4
2500	34.8	33.8	37.1	32.6	36.1	35.6	36.7	36.6
3150	32.4	31.6	34.7	29.7	33.2	33.5	34.7	33.0
4000	28.6	27.9	30.7	27.3	30.9	30.7	31.2	30.2
5000	29.2	29.2	31.3	28.5	31.1	31.0	30.9	29.8
6300	26.7	25.4	27.7	24.4	26.0	26.7	27.0	25.4
8000	22.3	22.7	24.4	22.3	24.2	24.5	24.8	23.1
10000	20.4	19.0	20.0	18.1	20.4	20.9	21.5	19.7
12500	17.0	16.1	18.6	16.9	18.6	19.1	19.9	18.3
16000	20.1	24.0	21.0	23.1	23.7	26.4	27.3	24.9
20000	40.5	45.3	40.6	43.9	43.9	46.8	48.0	45.5

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	53.8	53.6	55.6	53.3	55.1	55.1	56.1	55.0
A-weighted dB(A)	50.2	50.3	51.7	49.9	50.8	50.5	51.4	50.5
Average sound pressure level dB(A)	50.6				50.9			

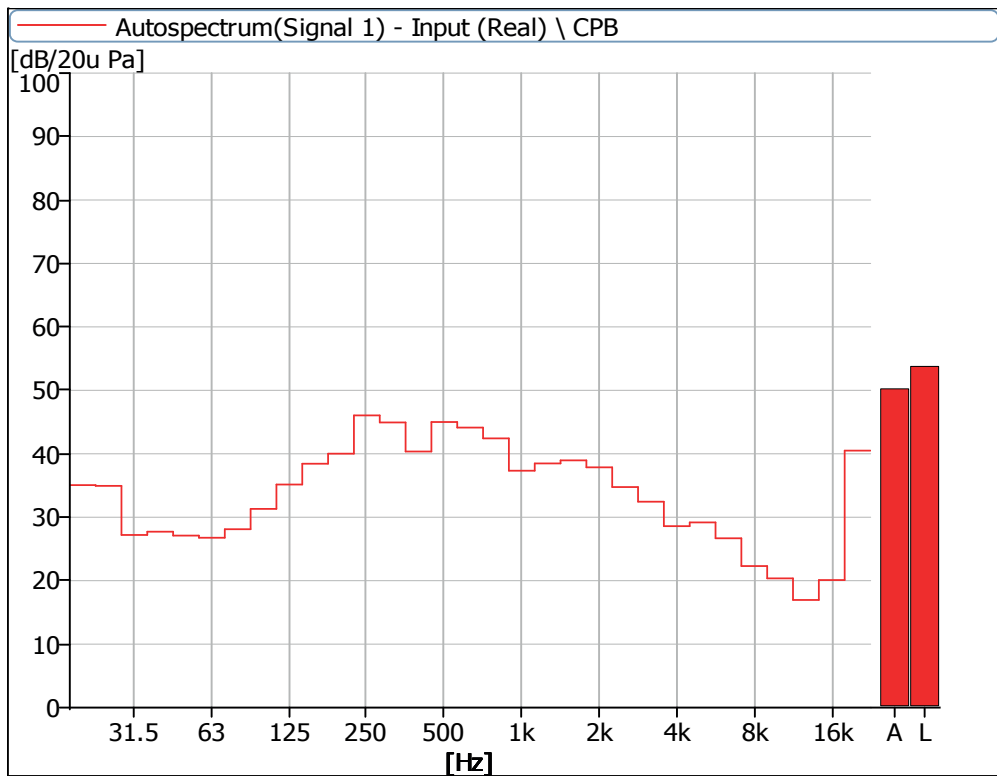


Figure 11 Noise Spectrum of Stage Luminaires (The Stage mode, Static, No 1)

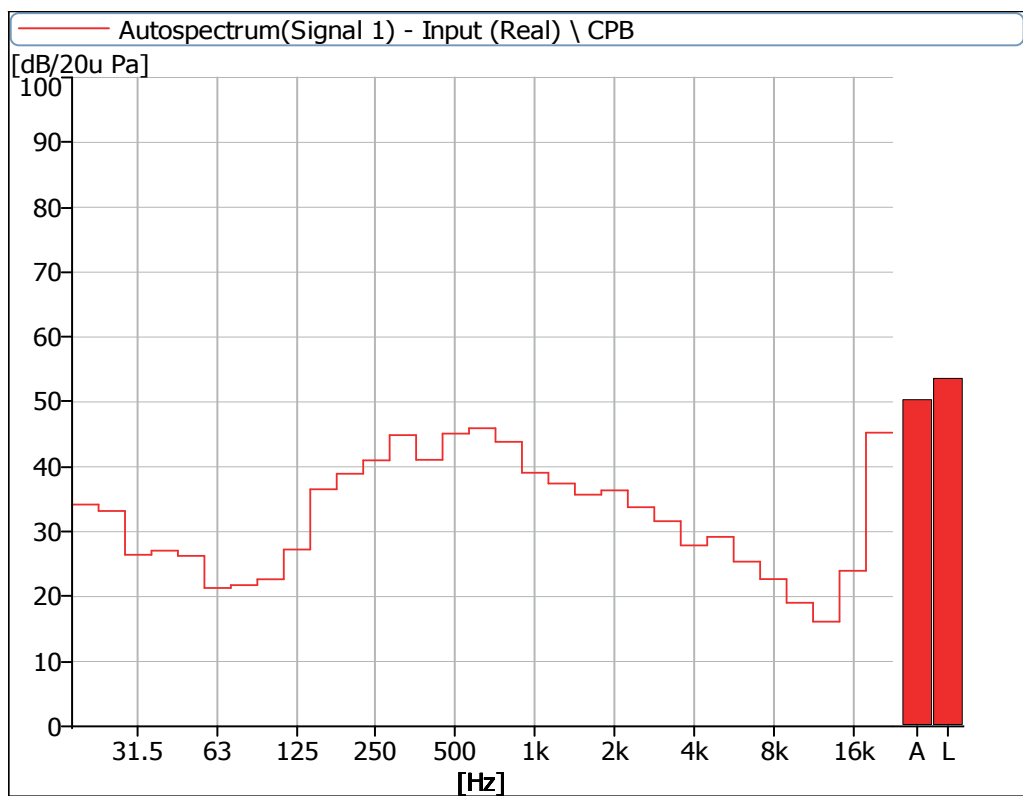


Figure 12 Noise Spectrum of Stage Luminaires (The Stage mode, Static, No 2)

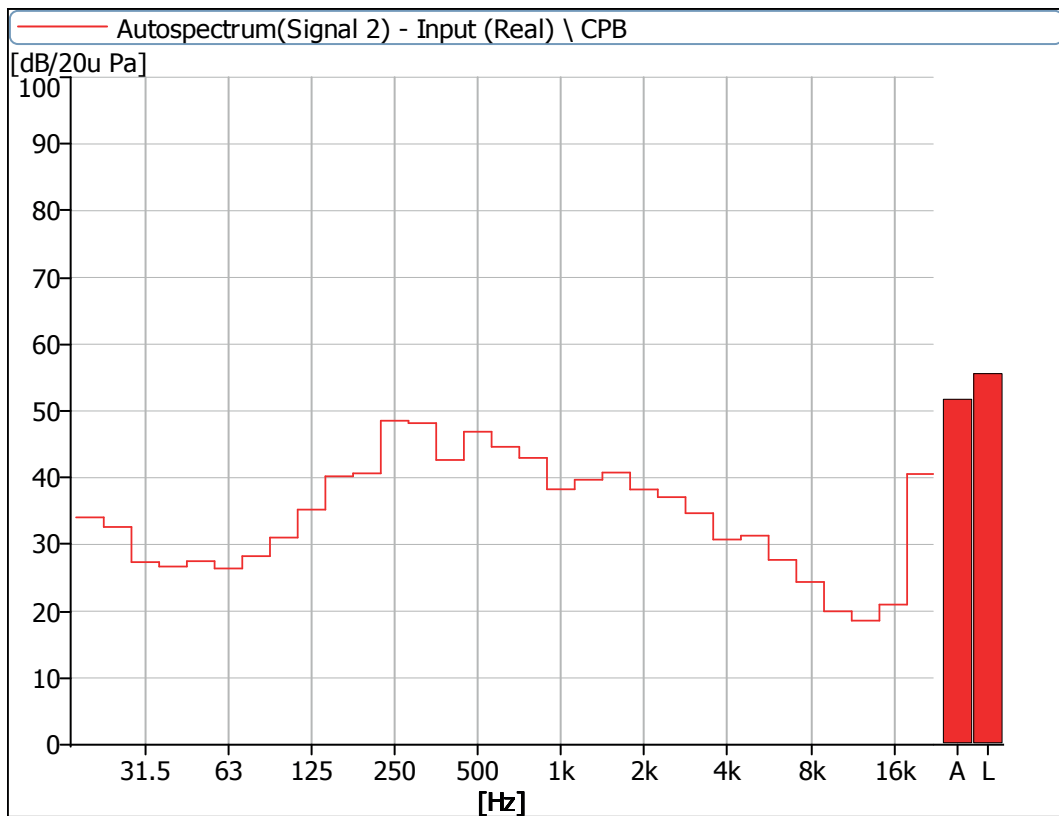


Figure 13 Noise Spectrum of Stage Luminaires (The Stage mode, Static, No 3)

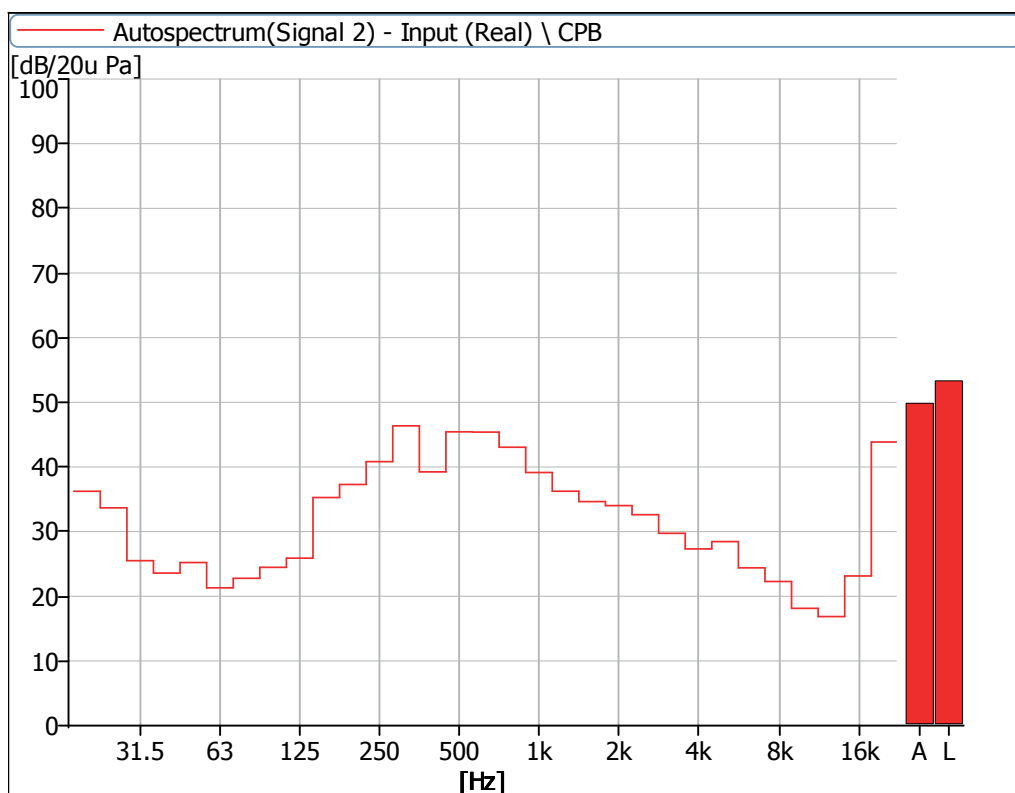


Figure 14 Noise Spectrum of Stage Luminaires (The Stage mode, Static, No 4)

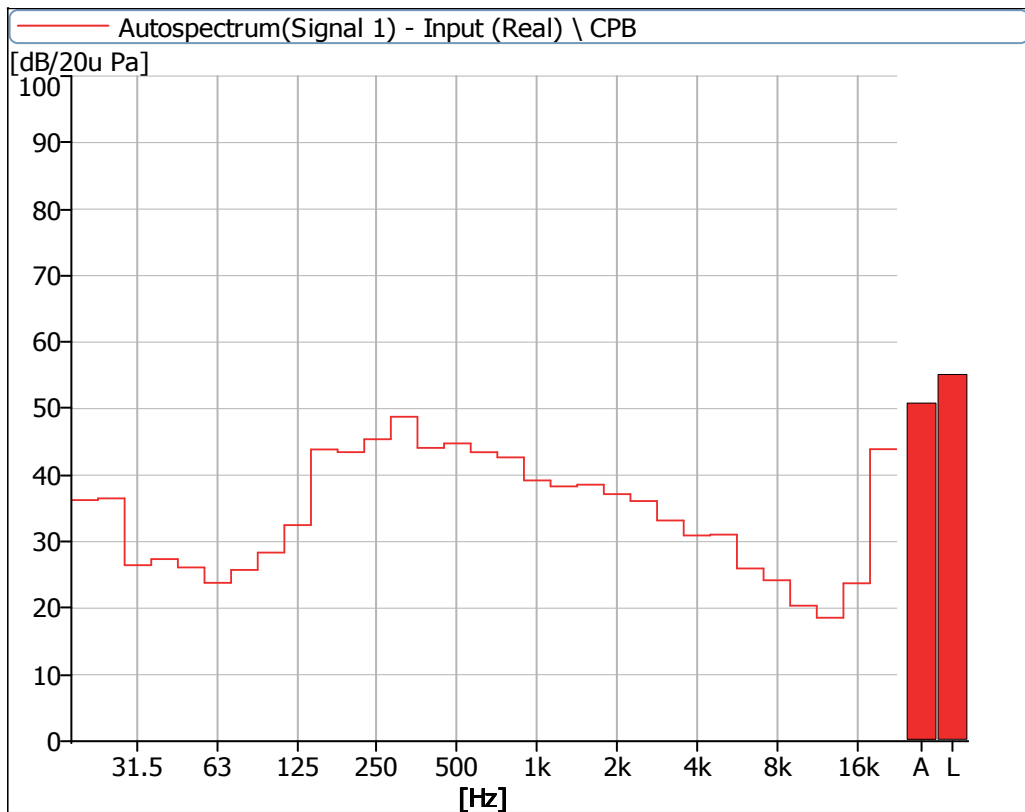


Figure 15 Noise Spectrum of Stage Luminaires (The Stage mode, Dynamic, No 1)

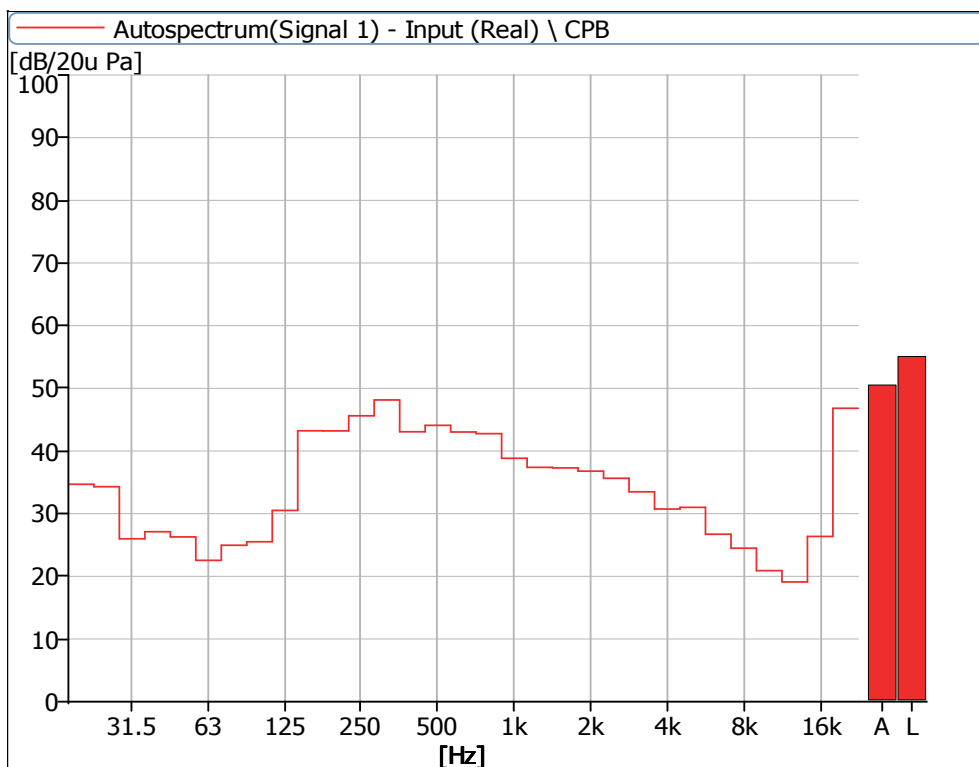


Figure 16 Noise Spectrum of Stage Luminaires (The Stage mode, Dynamic, No 2)

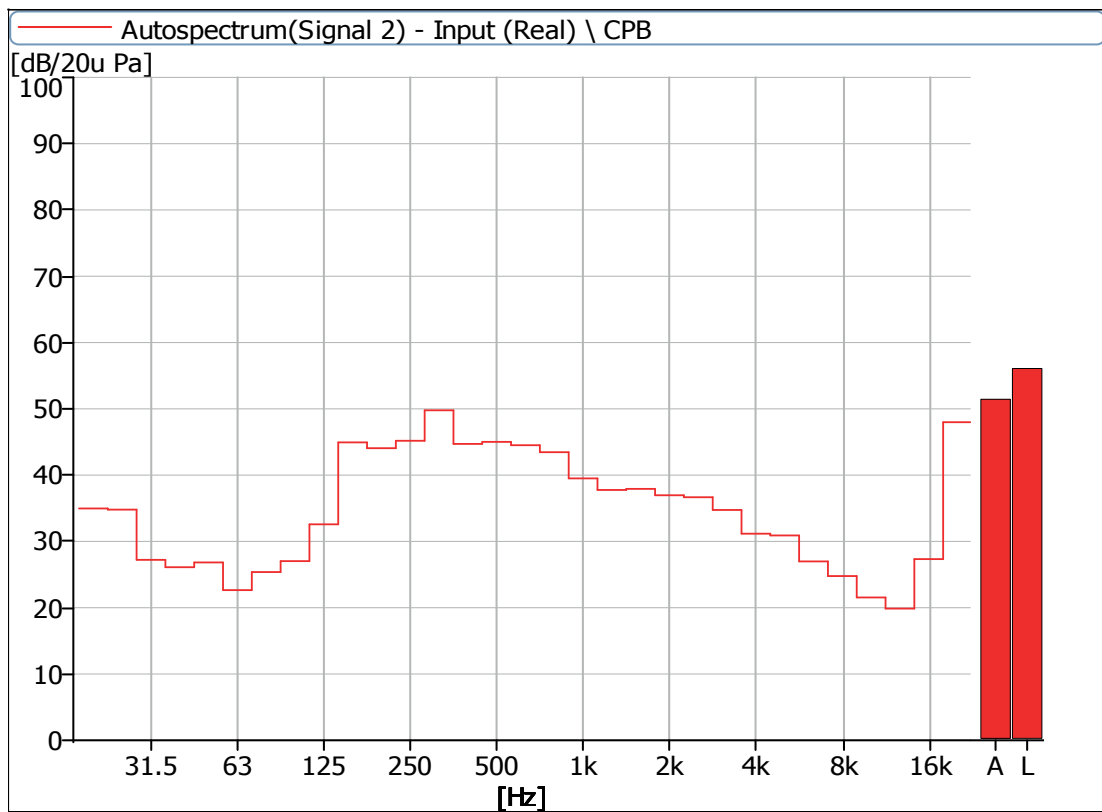


Figure 17 Noise Spectrum of Stage Luminaires (The Stage mode, Dynamic, No 3)

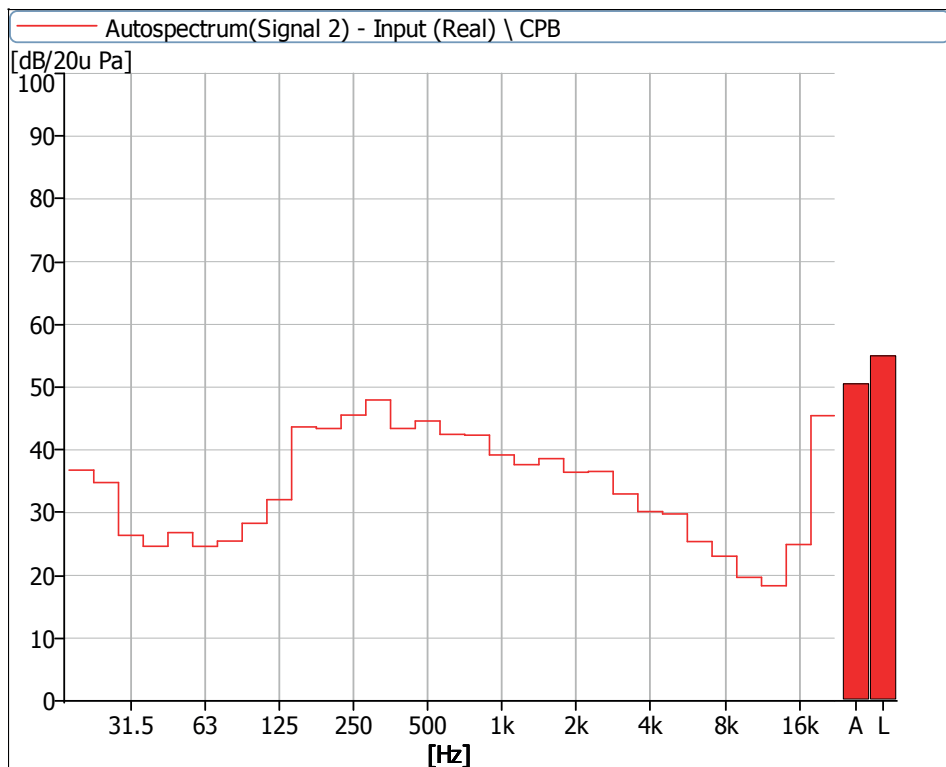


Figure 18 Noise Spectrum of Stage Luminaires (The Stage mode, Dynamic, No 4)

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	35.0	33.1	47.8	35.1	35.6	34.3	34.2	36.2
25	35.3	33.5	44.8	33.7	36.5	36.4	34.3	36.6
31.5	25.9	25.4	39.9	24.8	25.3	25.8	26.0	25.4
40	25.8	26.7	35.7	23.1	26.8	27.6	24.1	25.7
50	24.0	24.3	29.6	24.2	23.8	24.4	24.0	25.1
63	21.4	15.9	22.7	17.2	19.6	17.7	16.9	20.9
80	23.6	19.0	22.5	19.6	21.8	21.6	21.5	21.7
100	25.0	16.2	24.4	20.6	24.8	22.0	23.1	25.6
125	24.5	17.6	22.9	18.4	28.6	28.0	28.7	29.3
160	33.8	31.0	34.8	27.6	41.4	42.9	43.5	41.4
200	29.3	27.6	29.8	26.0	40.7	42.9	41.9	42.8
250	31.0	29.9	31.6	29.6	40.4	39.8	39.3	40.1
315	30.8	28.0	31.4	28.3	41.5	42.6	43.0	40.7
400	30.3	28.6	31.0	27.3	41.2	39.8	41.4	39.9
500	31.9	31.9	32.9	32.5	38.0	39.1	39.4	38.6
630	30.7	30.6	30.4	30.8	34.7	34.8	35.2	34.4
800	31.3	31.1	32.4	32.6	35.5	36.8	36.7	34.3
1000	25.0	26.6	27.0	25.7	31.3	31.2	31.8	32.0
1250	26.7	25.4	26.6	24.0	28.1	28.5	29.2	28.7
1600	24.4	22.3	27.2	21.3	26.9	26.7	27.0	27.2
2000	21.4	19.5	22.0	18.5	27.7	28.2	27.7	27.3
2500	21.0	20.1	23.8	17.1	26.0	26.5	26.3	26.4
3150	15.0	14.7	17.9	15.1	22.1	23.4	23.0	23.3
4000	13.2	12.5	18.8	14.8	19.5	20.8	21.0	20.1
5000	13.2	13.0	18.4	15.1	21.6	22.5	21.9	22.0
6300	15.5	10.3	16.1	14.2	16.9	17.7	18.7	17.6
8000	11.4	10.2	15.2	14.4	19.2	18.0	19.4	17.6
10000	11.7	11.6	15.0	14.2	14.7	15.8	17.2	16.1
12500	10.1	8.9	15.0	14.5	15.0	15.7	17.5	16.3
16000	15.1	15.7	22.2	20.6	23.2	26.3	26.9	23.4
20000	35.5	36.4	43.0	40.9	43.6	47.2	47.7	43.7

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	44.0	43.0	55.5	44.6	50.6	52.0	52.2	50.6
A-weighted dB(A)	37.5	37.0	39.5	37.9	44.1	45.0	45.4	45.2
Average sound pressure level dB(A)	38.1				44.6			

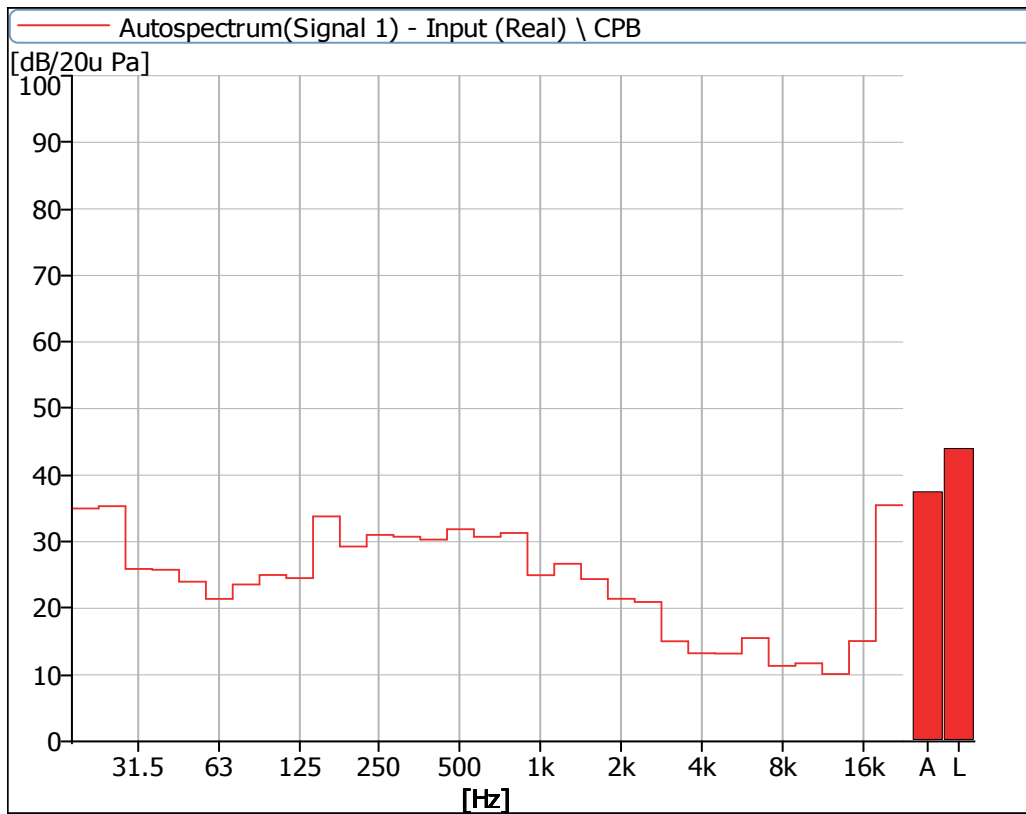


Figure 19 Noise Spectrum of Stage Luminaires (The Silence mode, Static, No 1)

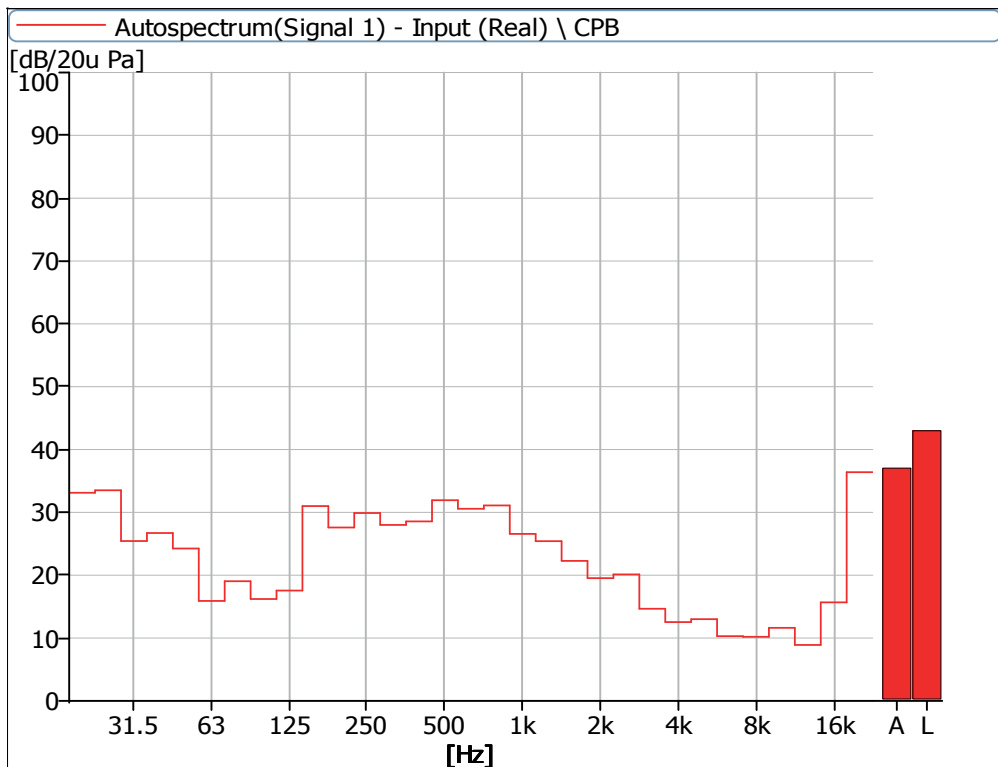


Figure 20 Noise Spectrum of Stage Luminaires (The Silence mode, Static, No 2)

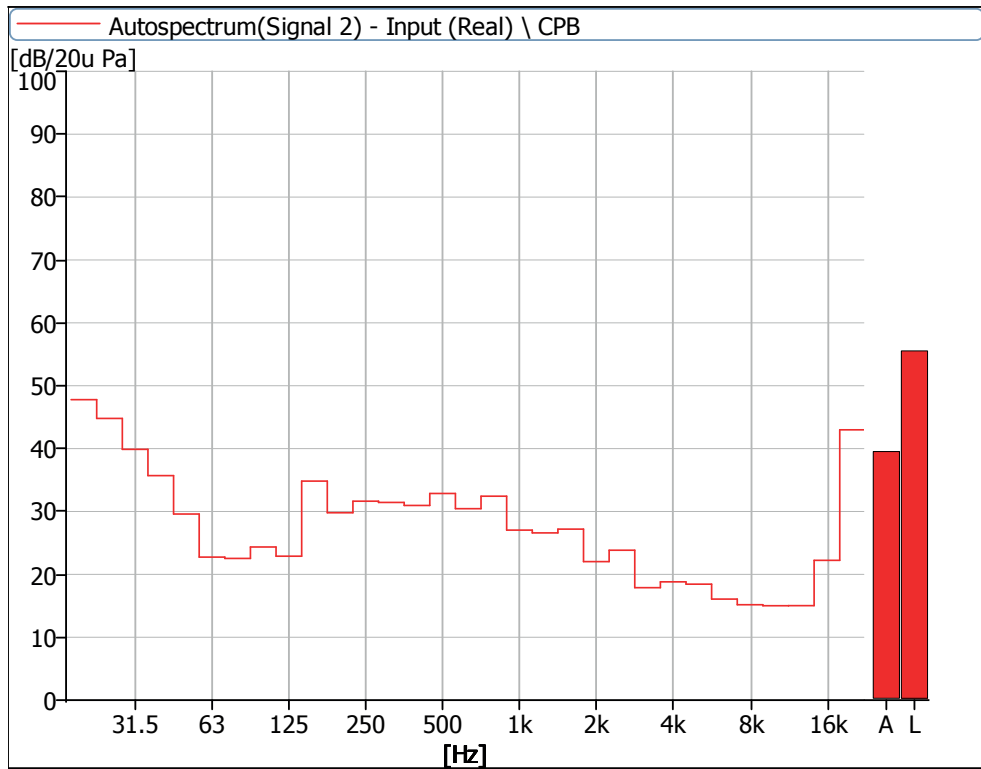


Figure 21 Noise Spectrum of Stage Luminaires (The Silence mode, Static, No 3)

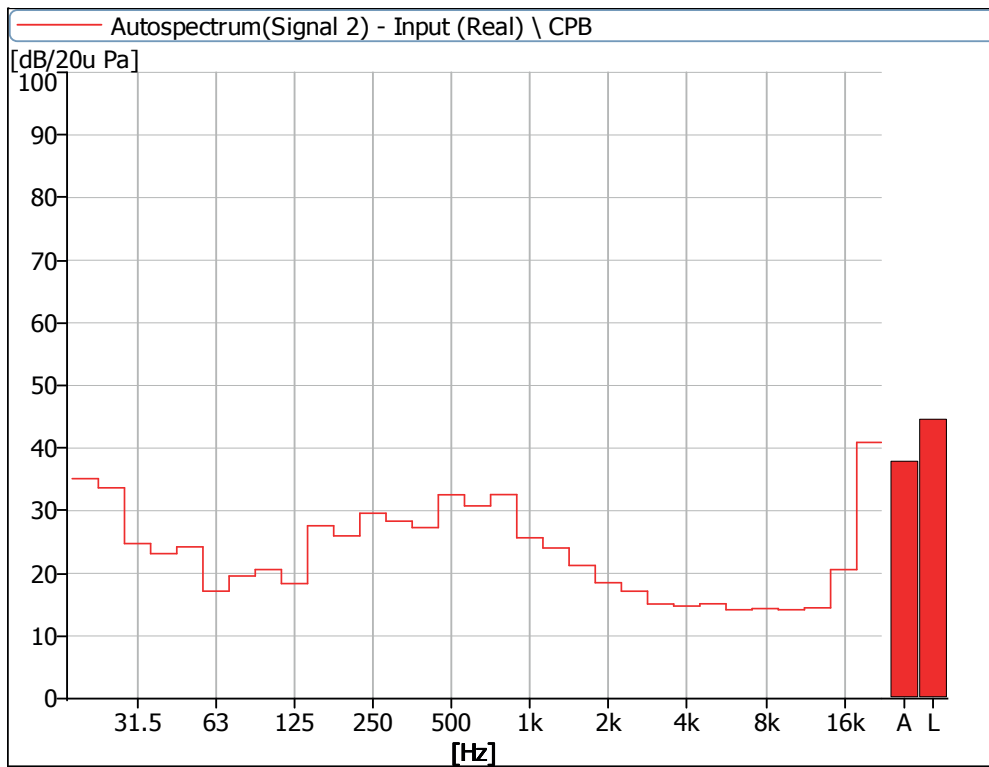


Figure 22 Noise Spectrum of Stage Luminaires (The Silence mode, Static, No 4)

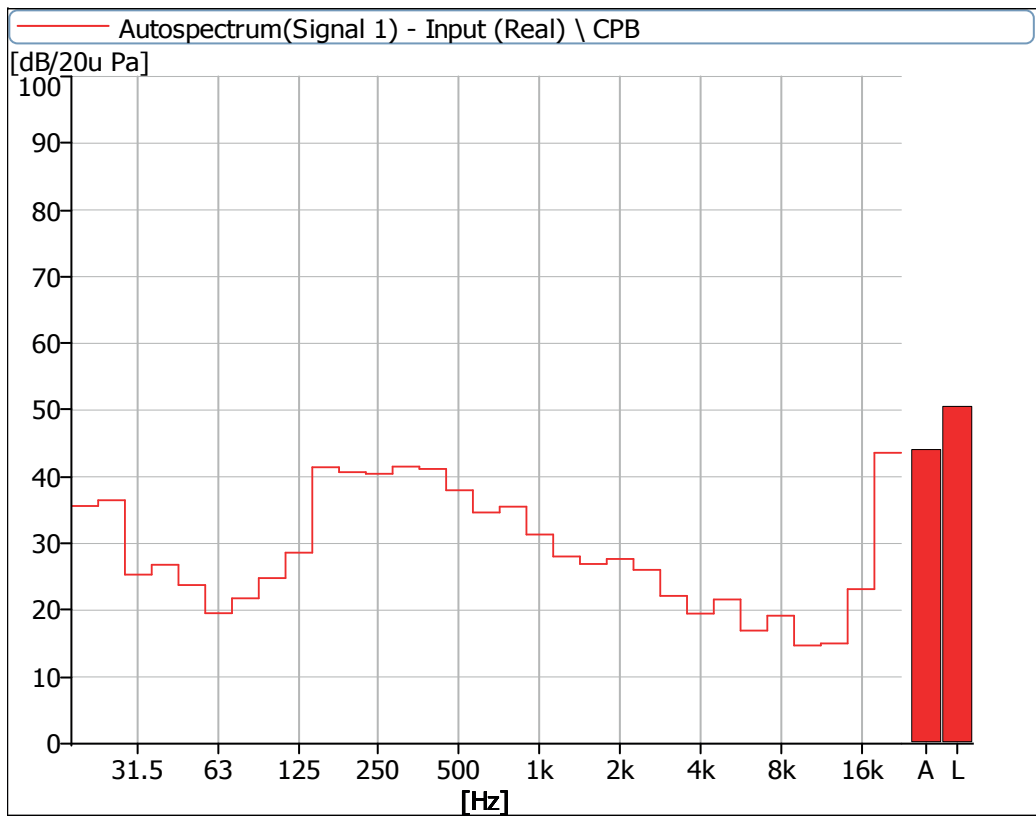


Figure 23 Noise Spectrum of Stage Luminaires (The Silence mode, Dynamic, No 1)

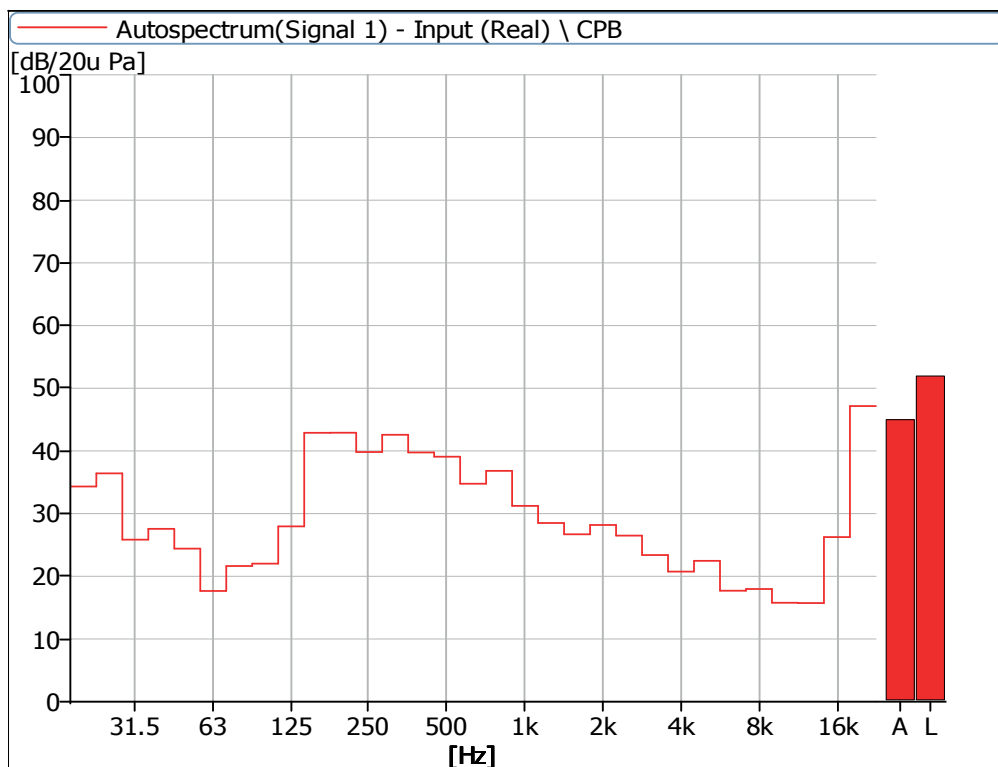


Figure 24 Noise Spectrum of Stage Luminaires (The Silence mode, Dynamic, No 2)

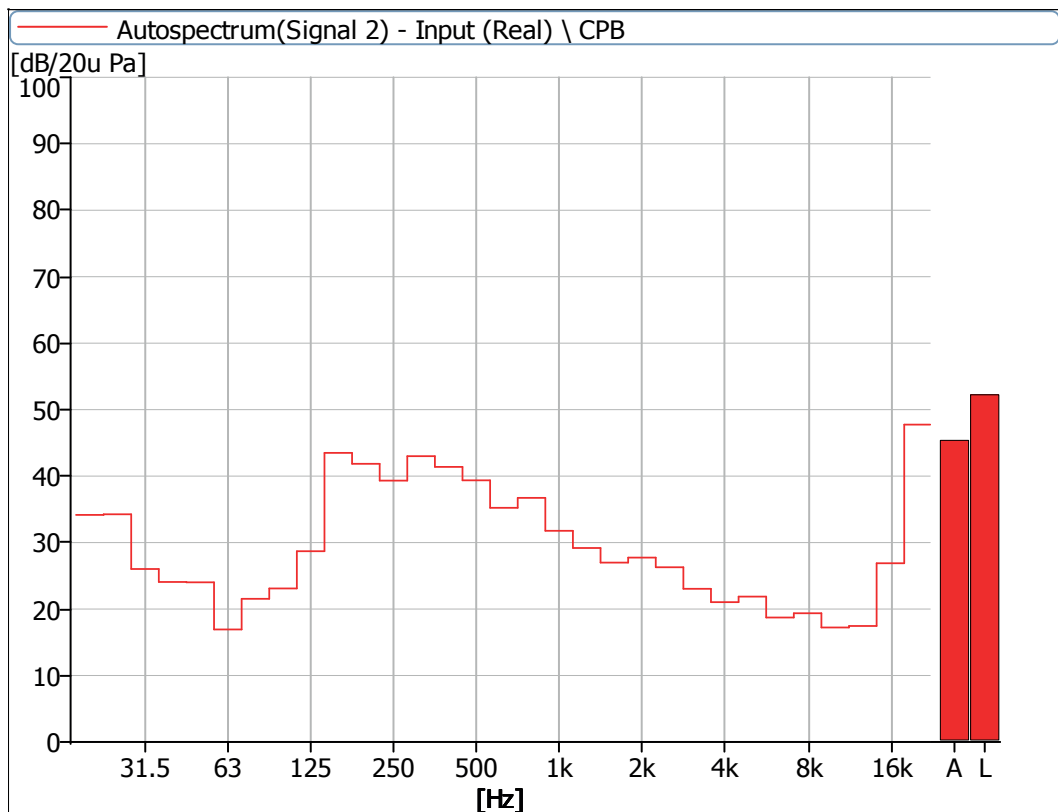


Figure 25 Noise Spectrum of Stage Luminaires (The Silence mode, Dynamic, No 3)

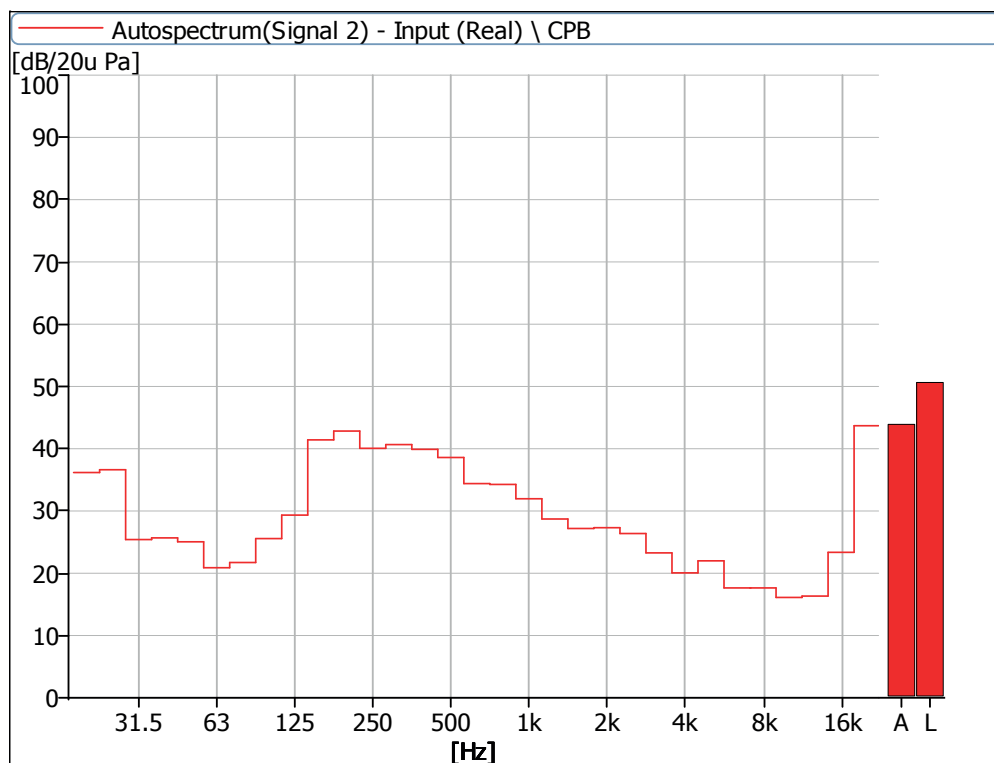


Figure 26 Noise Spectrum of Stage Luminaires (The Silence mode, Dynamic, No 4)

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
20	35.2	33.9	40.5	36.3	35.0	34.0	33.6	36.1
25	34.4	34.0	38.8	35.3	35.0	33.8	33.7	34.8
31.5	26.7	24.5	31.6	24.8	26.7	25.2	25.8	25.0
40	27.2	26.6	27.1	23.4	27.9	25.8	25.8	23.0
50	24.3	24.2	24.6	23.8	23.8	23.6	24.3	24.4
63	20.8	15.3	19.9	17.4	19.1	17.3	17.4	20.4
80	23.0	17.1	20.4	19.1	21.5	22.4	21.0	21.4
100	23.2	15.0	22.6	19.3	24.8	21.6	23.5	25.1
125	23.0	18.8	21.1	17.5	29.4	28.9	28.7	29.7
160	29.7	27.2	28.3	24.3	41.6	42.4	43.0	40.2
200	26.8	25.0	27.3	24.0	43.9	43.3	45.4	43.3
250	30.0	27.9	29.9	28.0	42.2	40.6	40.8	40.6
315	29.6	26.8	30.8	27.6	42.5	41.5	43.3	40.6
400	30.2	26.9	29.1	25.0	44.0	41.2	42.5	41.3
500	29.5	29.6	30.1	29.8	39.4	39.5	40.1	38.7
630	30.1	30.8	30.7	28.9	35.9	35.2	36.5	34.9
800	31.9	30.3	30.4	26.8	36.6	36.2	37.7	33.9
1000	24.2	24.0	24.3	24.4	32.5	31.2	32.4	31.1
1250	26.0	22.5	25.0	23.0	28.6	28.0	28.8	29.8
1600	23.7	20.3	25.1	19.8	27.4	25.8	27.0	25.9
2000	19.5	17.3	19.8	16.3	28.9	27.5	27.7	26.7
2500	19.0	21.0	21.8	15.9	26.6	26.5	26.6	26.8
3150	14.4	14.4	16.4	14.6	22.8	23.5	23.2	23.0
4000	11.6	11.4	17.0	13.8	21.2	21.5	21.4	20.4
5000	12.5	11.7	16.5	14.5	23.8	23.0	22.9	21.8
6300	15.7	10.0	14.5	13.7	17.9	18.3	19.1	17.9
8000	9.7	9.2	14.1	14.1	20.5	18.5	19.5	18.1
10000	11.6	9.9	14.4	14.1	15.7	16.5	17.6	16.6
12500	9.9	9.2	14.7	14.5	16.1	16.8	17.9	16.7
16000	19.4	21.5	20.3	22.1	24.1	26.8	26.9	25.2
20000	40.7	43.0	40.6	42.9	44.4	47.6	47.6	46.0

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	44.7	45.2	49.1	45.3	51.9	52.1	52.9	51.3
A-weighted dB(A)	37.6	37.5	37.6	36.8	45.6	45.1	46.1	44.4
Average sound pressure level dB(A)	37.4				45.4			

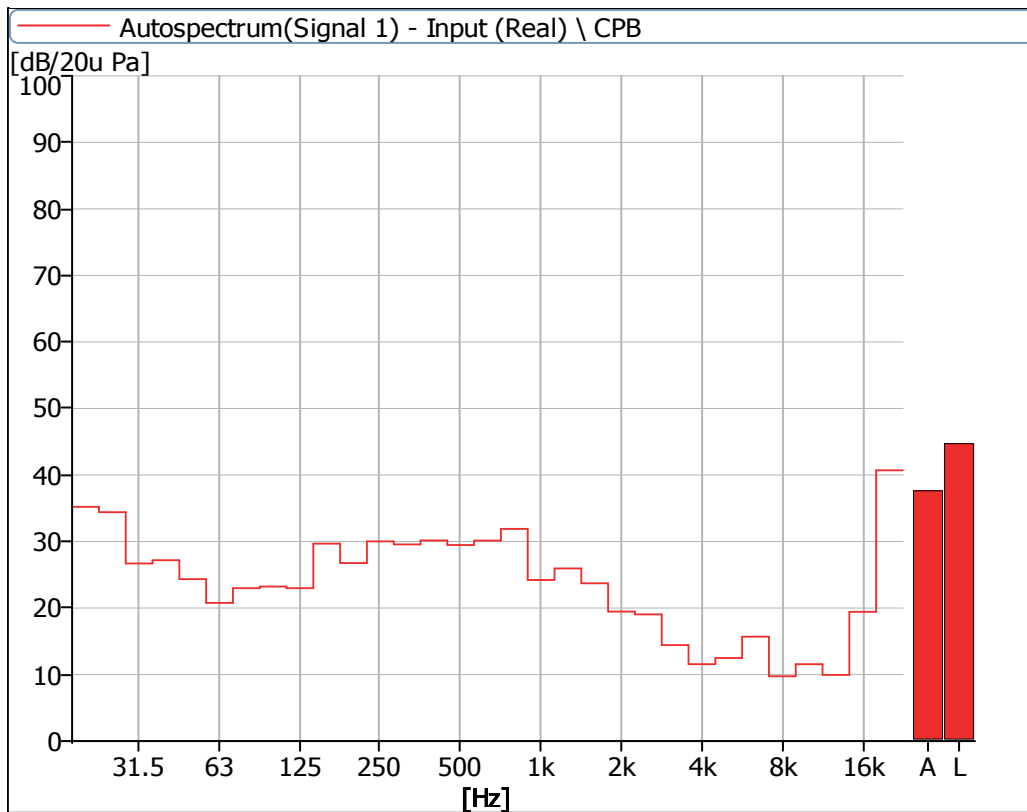


Figure 27 Noise Spectrum of Stage Luminaires (The Super Silence mode, Static, No 1)

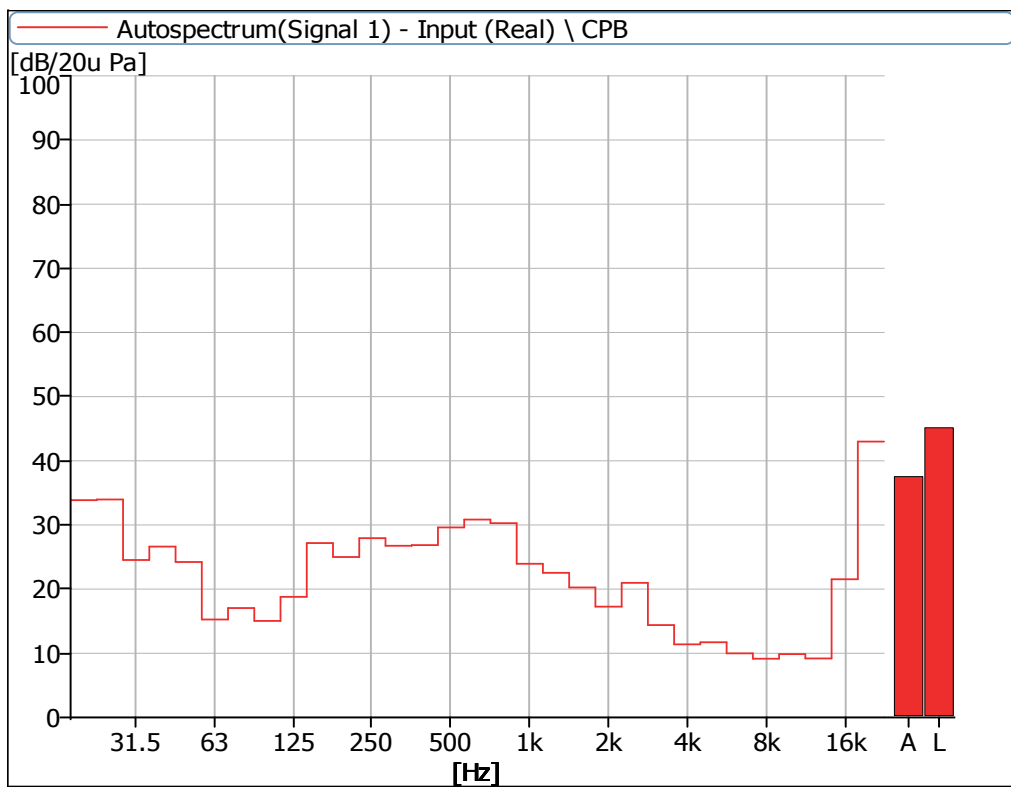


Figure 28 Noise Spectrum of Stage Luminaires (The Super Silence mode, Static, No 2)

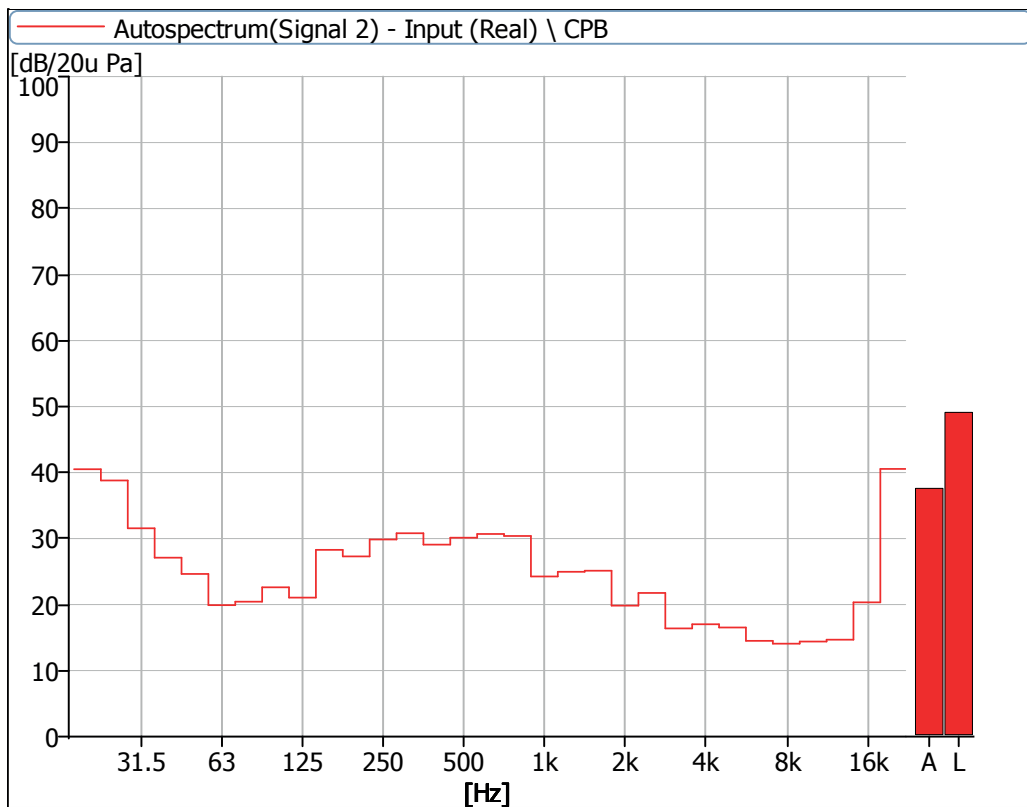


Figure 29 Noise Spectrum of Stage Luminaires (The Super Silence mode, Static, No 3)

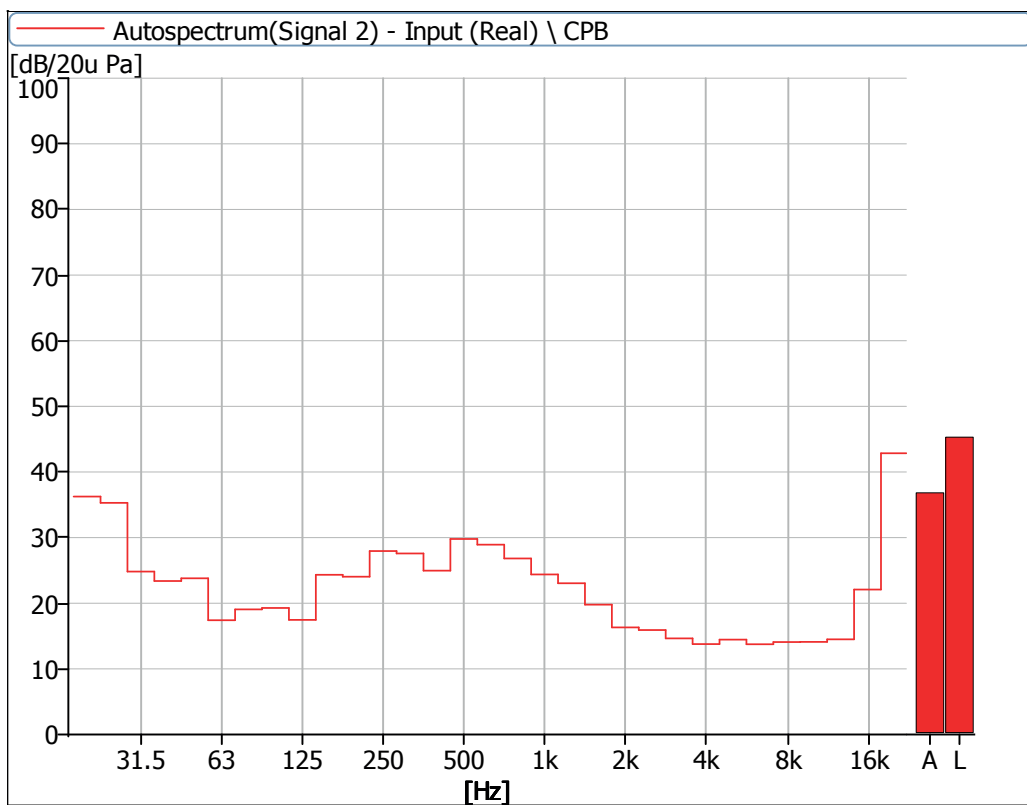


Figure 30 Noise Spectrum of Stage Luminaires (The Super Silence mode, Static, No 4)

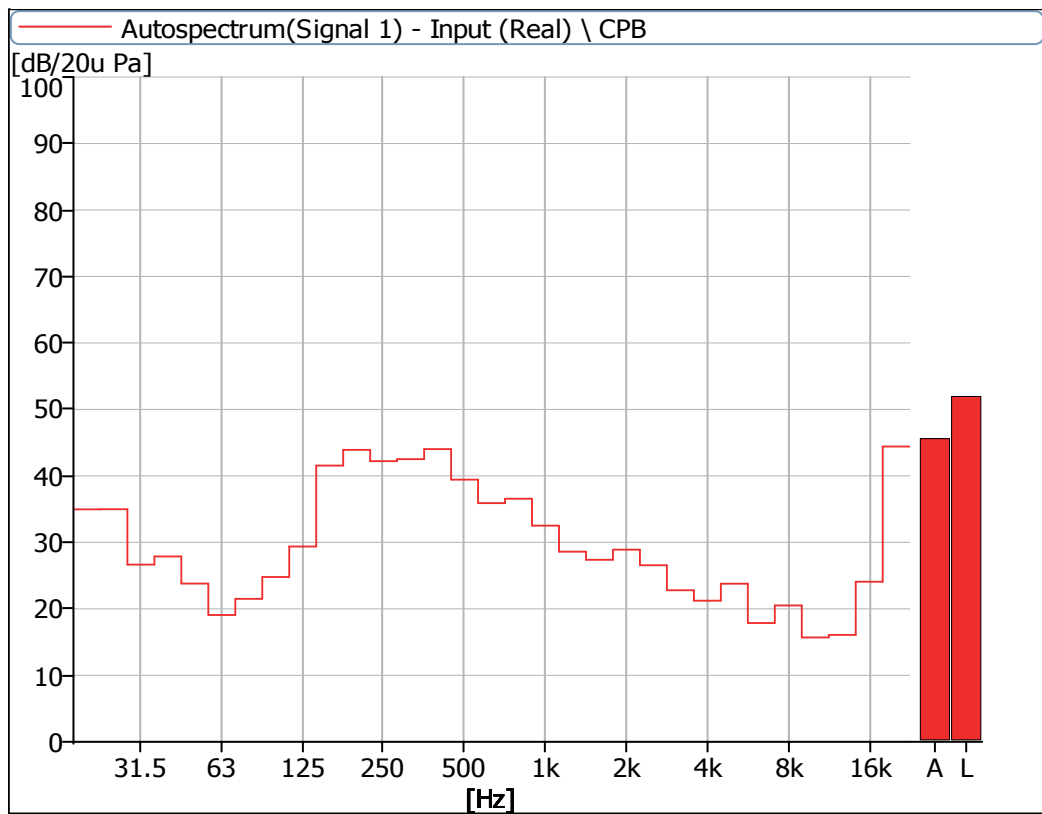


Figure 31 Noise Spectrum of Stage Luminaires (The Super Silence mode, Dynamic, No 1)

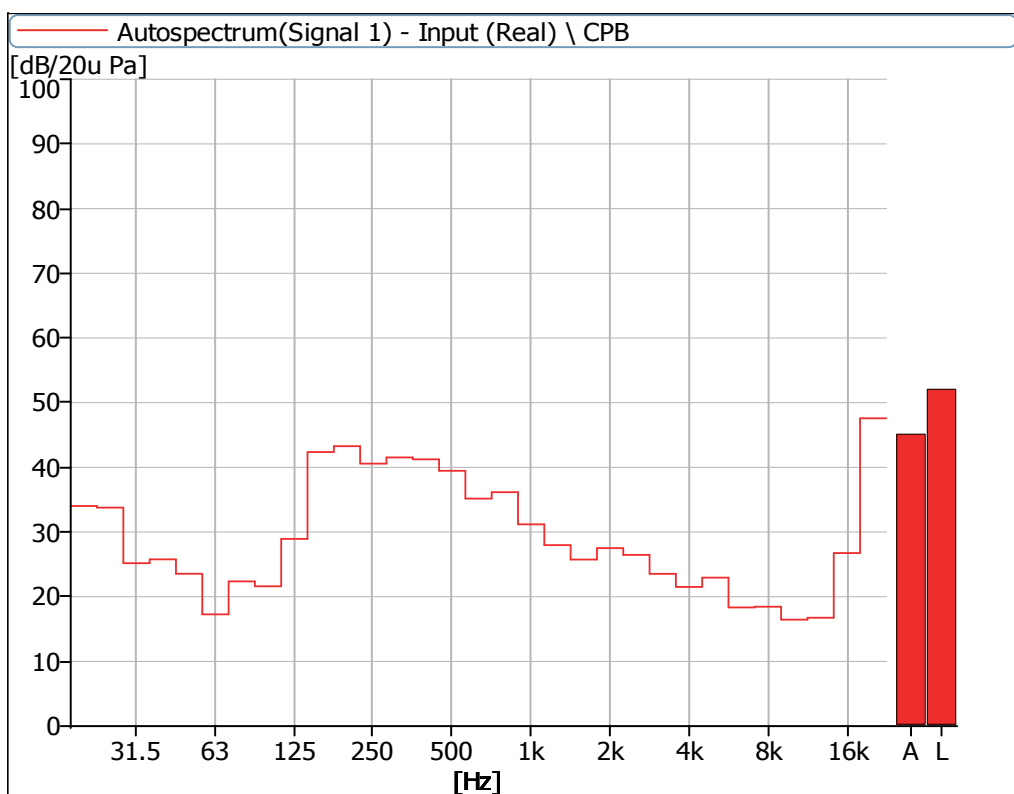


Figure 32 Noise Spectrum of Stage Luminaires (The Super Silence mode, Dynamic, No 2)

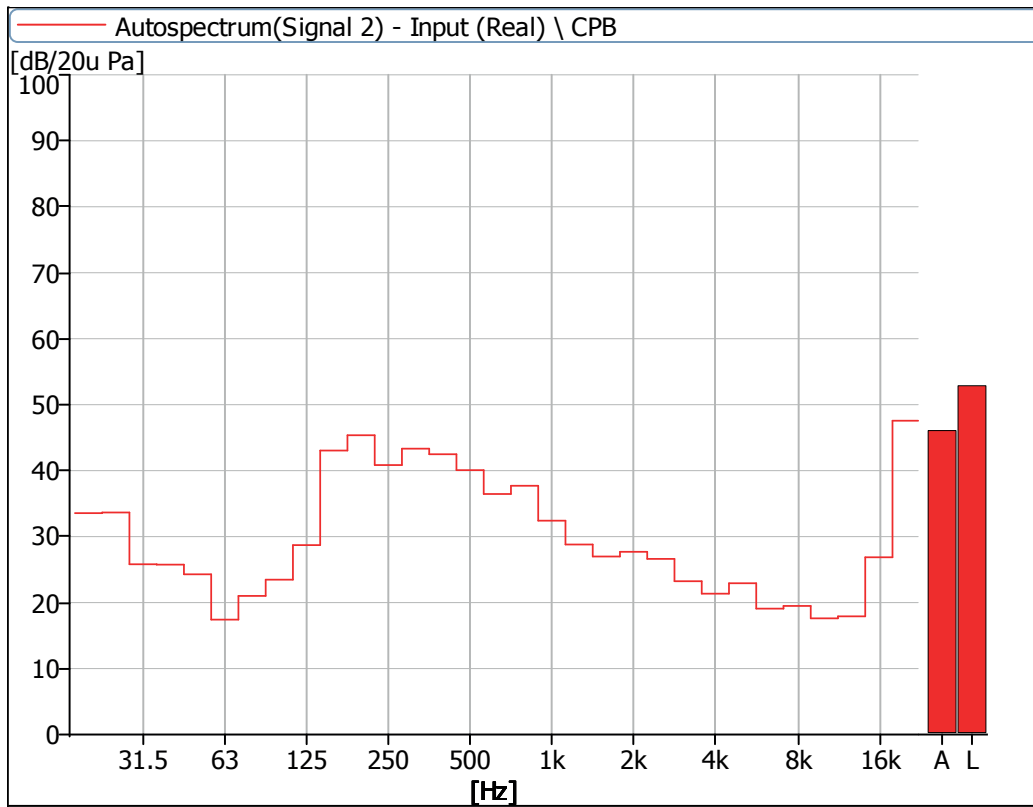


Figure 33 Noise Spectrum of Stage Luminaires (The Super Silence mode, Dynamic, No 3)

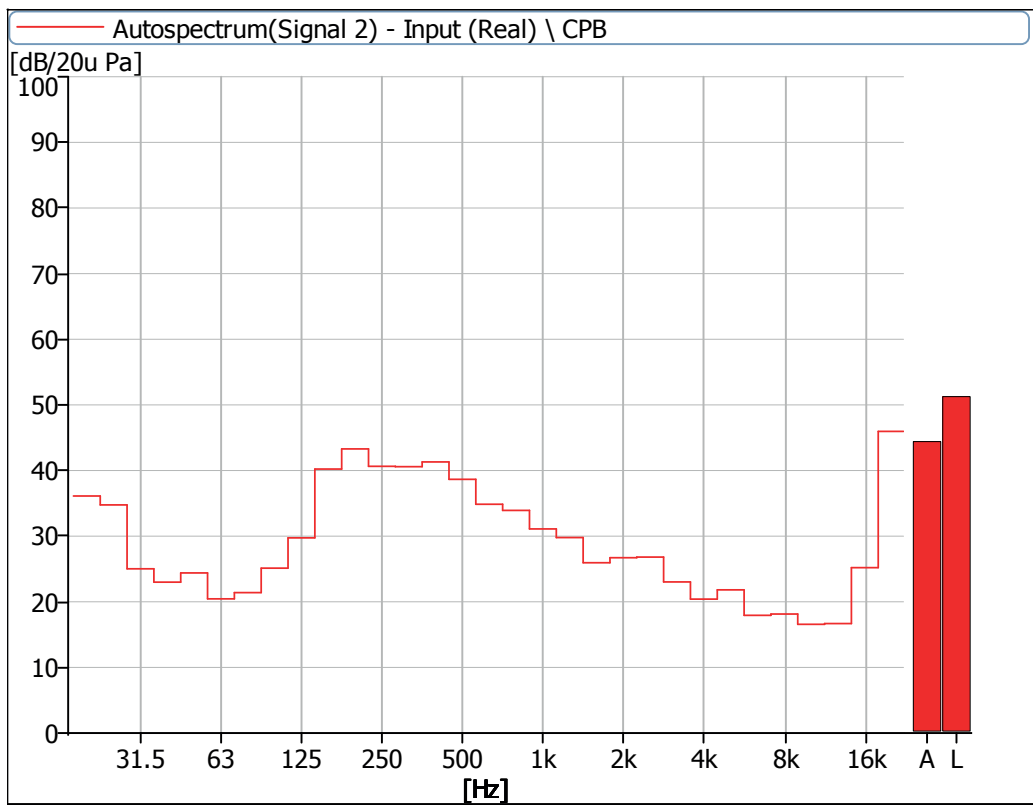


Figure 34 Noise Spectrum of Stage Luminaires (The Super Silence mode, Dynamic, No 4)

Instrumentation

No	Equipment	Type	Number	Calibration Period
1	Anechoicrooms	-	R40010	2023.05
2	Noise Analyzer	3160-A-042	R40011-2	2023.06



AYRTON

Digital Lighting