



EURUS

NOISE MEASUREMENTS



AYRTON
Digital Lighting

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.

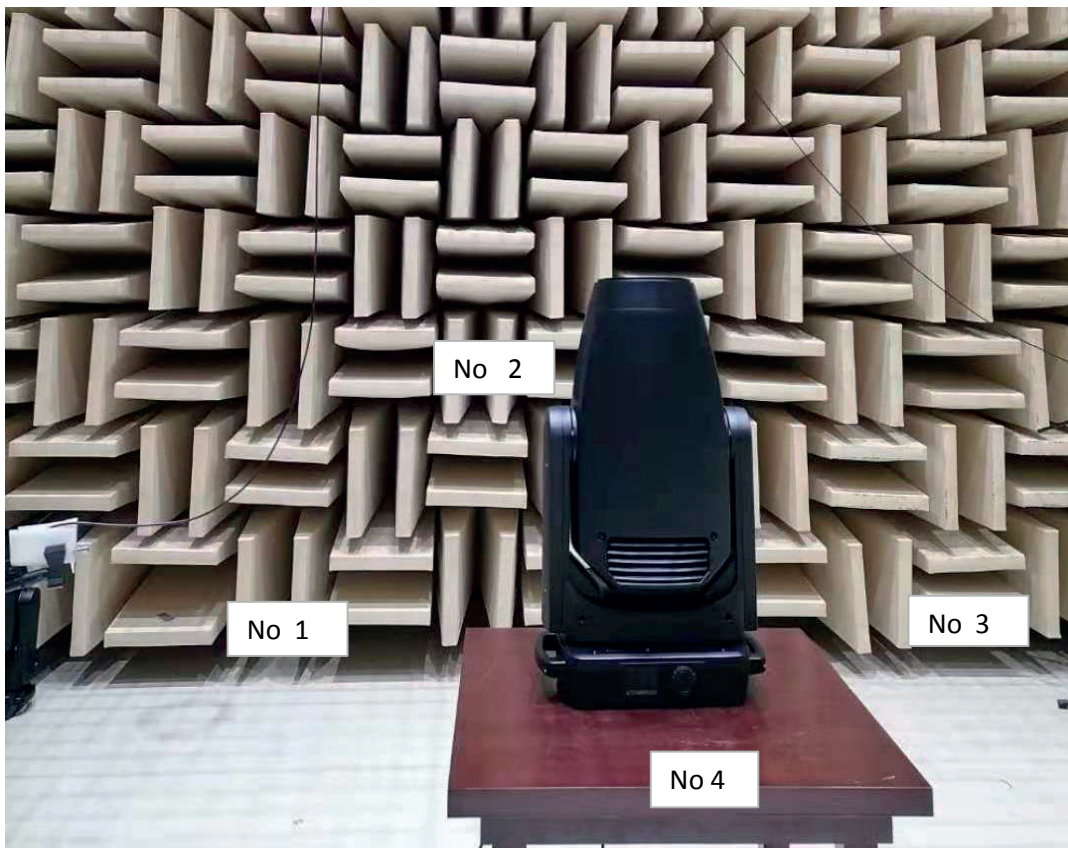


Figure 1: Test setup



Figure 2 Sample serial number information

Instrumentation

No	Equipment	Type	Number	Calibration period
1	Anechoicrooms	—	R40010	2023. 05
2	Noise Analyzer	3160-A-042	R40011-2	2022. 05

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	23.1	16.5	22.8	16.1	19.1	19.5	19.6	17.9
80	20.6	16.4	21.6	16.5	20.1	19.6	20.6	21.5
100	24.2	19.6	24.0	24.0	30.0	25.8	28.3	29.4
125	35.7	35.3	41.8	45.2	38.9	36.7	41.0	40.6
160	26.2	32.1	39.2	42.8	35.8	35.1	41.9	39.0
200	31.1	26.1	31.0	26.5	42.5	42.1	41.2	41.9
250	32.3	31.0	36.4	32.5	42.1	42.5	43.0	43.0
315	33.0	30.8	33.6	30.7	40.5	41.7	41.7	41.3
400	29.0	31.2	34.0	32.0	45.0	46.2	49.0	45.5
500	31.4	33.5	35.6	34.7	44.8	43.2	46.3	42.1
630	39.3	41.3	41.1	39.0	40.9	40.6	43.0	39.9
800	34.8	34.5	36.6	36.1	35.6	35.4	38.3	36.6
1000	31.1	29.9	30.6	33.4	33.1	32.7	34.6	34.5
1250	32.6	29.4	33.2	30.0	30.2	30.1	33.1	31.5
1600	31.5	26.9	33.5	27.4	28.9	28.9	32.0	31.5
2000	30.5	28.4	33.2	26.9	29.2	28.8	31.1	30.6
2500	26.6	24.0	32.0	24.4	27.7	26.6	29.0	28.7
3150	22.7	21.2	28.0	22.3	25.0	24.0	26.2	26.5
4000	21.1	19.2	25.7	19.5	23.3	22.2	24.9	25.8
5000	20.5	18.0	26.8	19.1	23.5	21.9	24.9	25.7
6300	17.6	15.1	21.6	16.4	19.8	18.8	22.0	24.0
8000	14.4	13.0	20.1	13.5	17.3	17.1	19.8	21.2
10000	12.4	9.6	15.4	9.8	13.9	14.2	16.0	17.1
12500	11.0	10.4	14.9	9.6	16.9	17.7	16.8	17.9
16000	19.5	24.0	23.8	19.0	23.3	21.7	22.5	21.5
20000	40.5	45.5	45.1	40.2	44.0	41.7	42.8	41.2
Leq	51.0	48.9	50.3	49.7	52.4	52.2	54.2	52.1
A-weighted dB (A)	42.8	43.3	45.3	42.9	47.2	46.9	49.4	46.9
Average sound pressure level dB(A)	43.7				47.7			

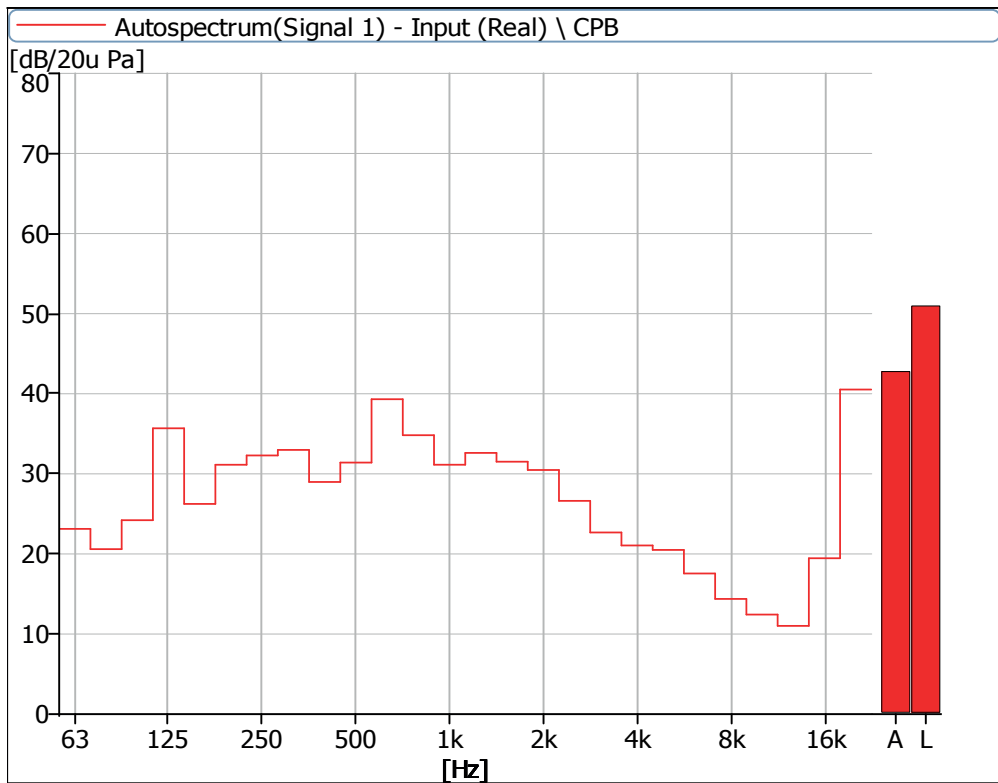


Figure 3 Noise Spectrum of Stage Luminaires
(The Auto mode, static, No 1)

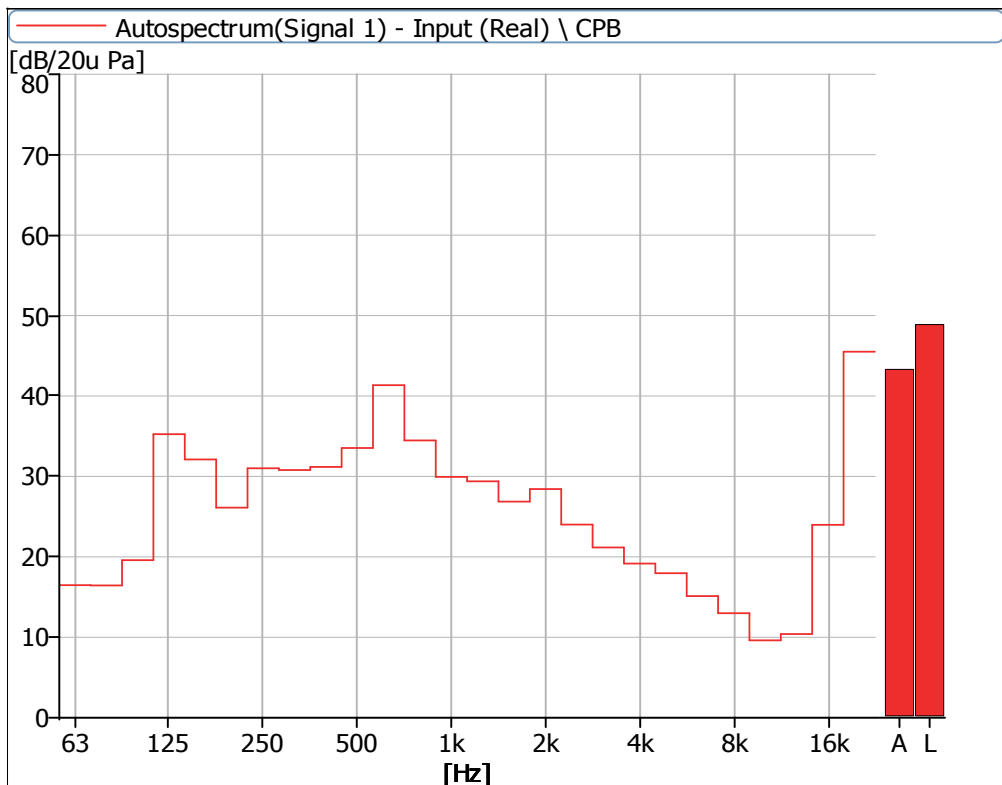


Figure 4 Noise Spectrum of Stage Luminaires
(The Auto mode, static, No 2)

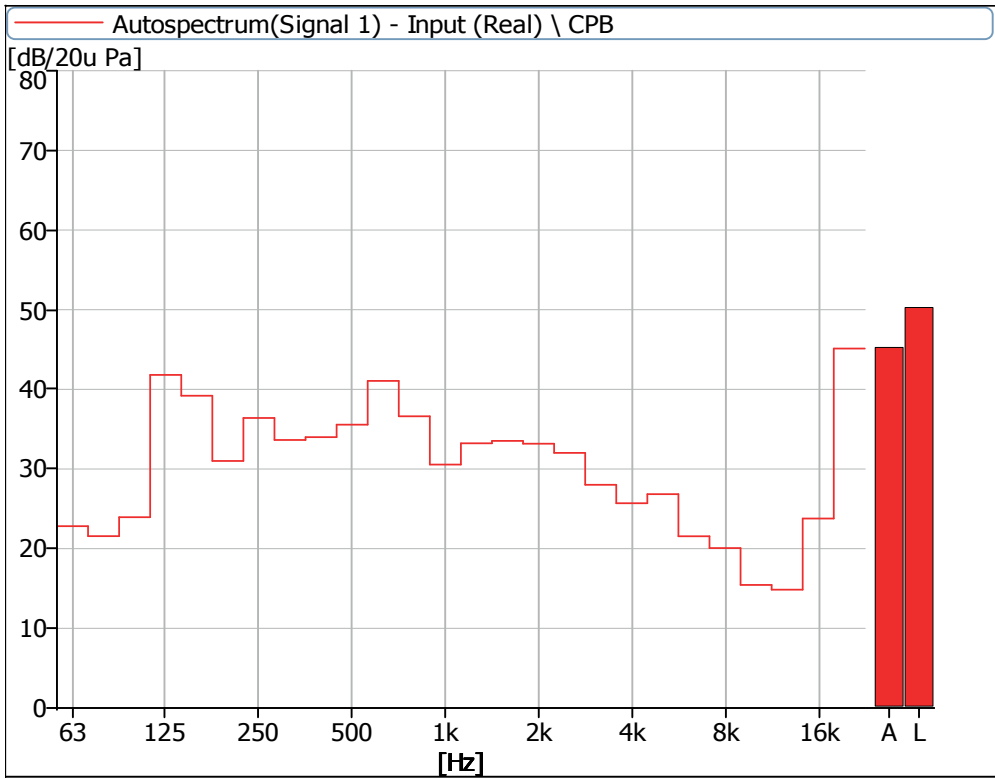


Figure 5 Noise Spectrum of Stage Luminaires
(The Auto mode, static, No 3)

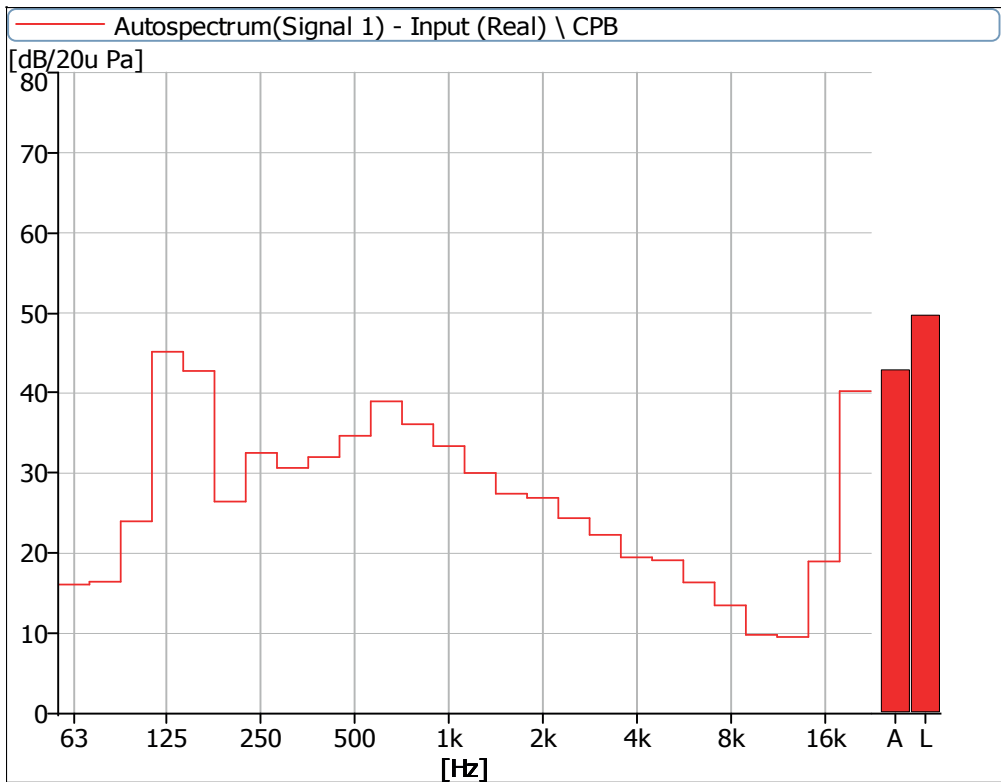


Figure 6 Noise Spectrum of Stage Luminaires
(The Auto mode, static, No 4)

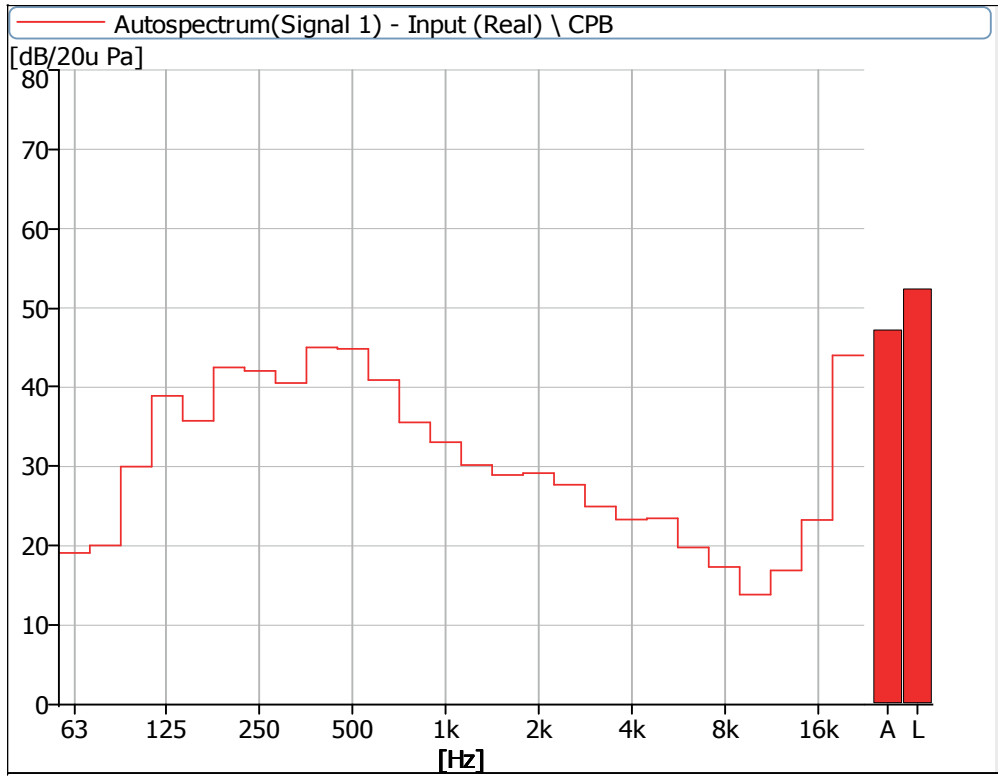


Figure 7 Noise Spectrum of Stage Luminaires
(The Auto mode, Dynamic, No 1)

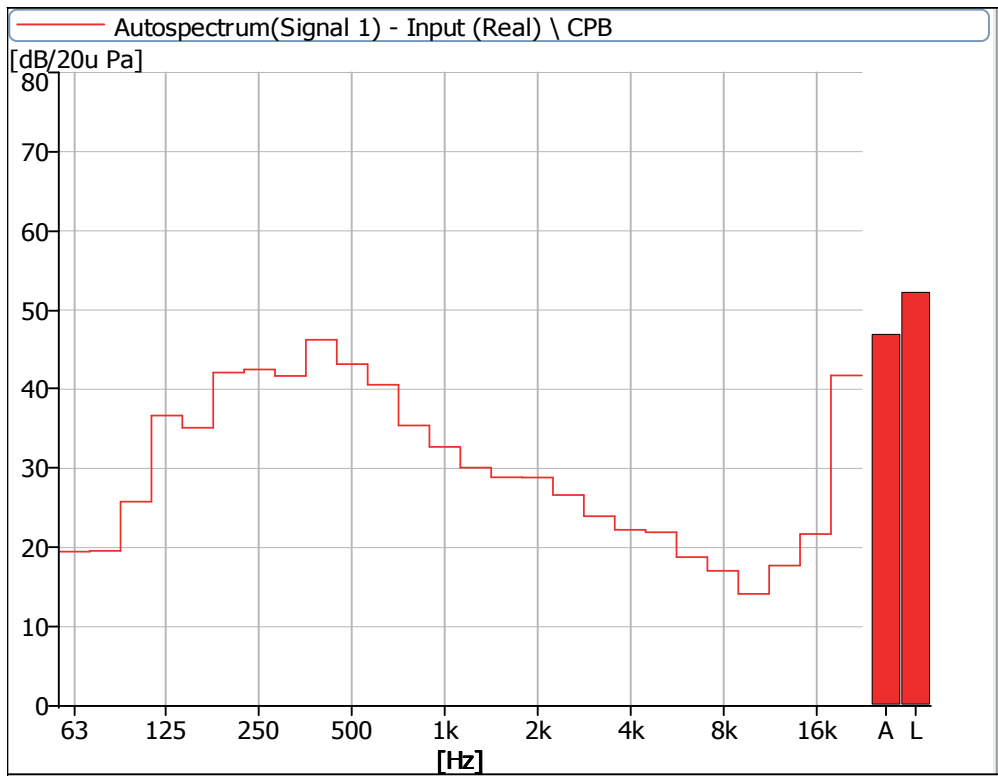


Figure 8 Noise Spectrum of Stage Luminaires
(The Auto mode, Dynamic, No 2)

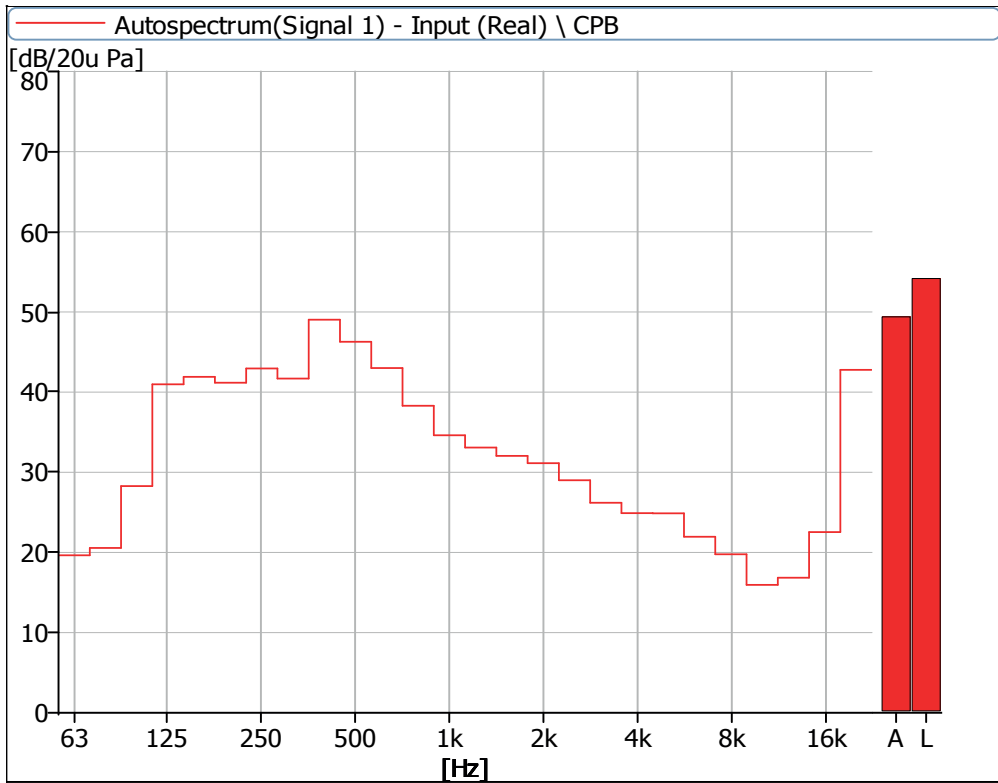


Figure 9 Noise Spectrum of Stage Luminaires
(The Auto mode, Dynamic, No 3)

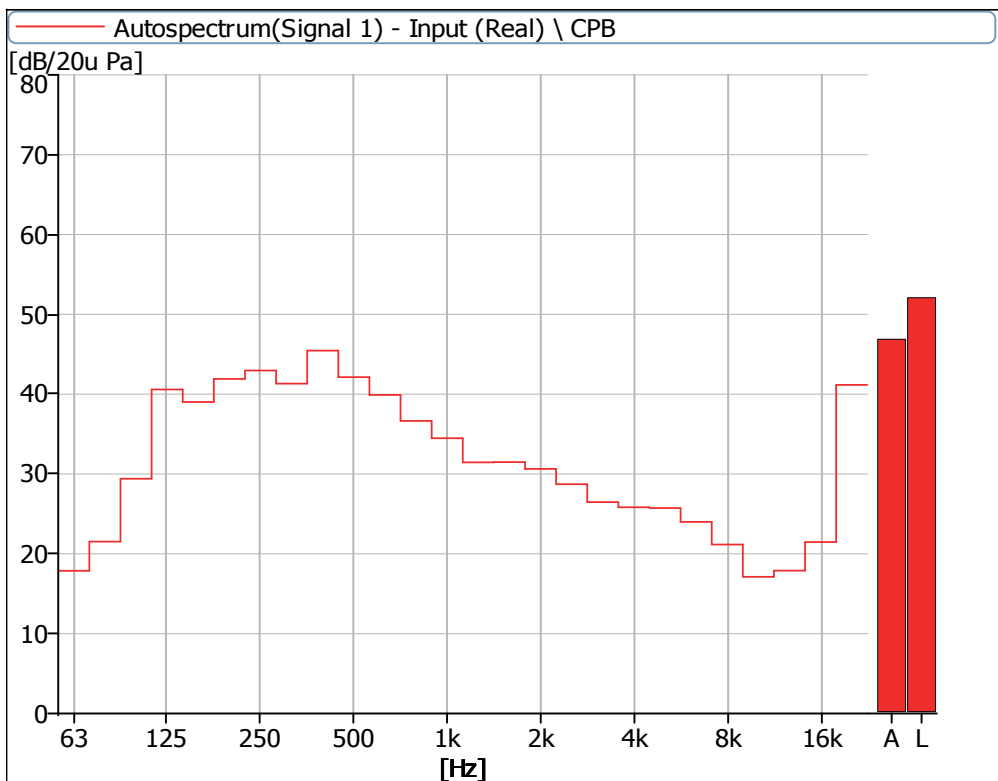


Figure 10 Noise Spectrum of Stage Luminaires
(The Auto mode, Dynamic, No 4)

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	27.9	17.7	19.5	15.8	20.8	20.7	21.2	20.3
80	23.7	16.5	19.5	16.4	21.2	20.4	21.3	22.8
100	24.5	20.2	22.6	22.0	31.1	28.9	30.9	31.3
125	41.2	41.8	41.2	40.2	37.6	36.4	38.4	36.4
160	46.8	46.6	47.8	47.7	44.2	44.4	45.2	43.8
200	30.6	28.0	31.9	31.3	45.0	44.0	44.1	43.5
250	34.2	31.5	35.4	32.0	42.7	43.4	45.2	44.9
315	35.2	33.4	35.1	34.2	41.5	42.0	43.1	43.0
400	35.5	36.2	36.1	36.0	45.9	46.3	49.1	47.3
500	35.4	34.6	35.2	34.4	46.7	45.0	45.1	45.6
630	41.5	38.3	39.1	37.4	40.9	40.2	41.2	40.1
800	45.5	36.9	37.9	38.2	40.8	40.1	41.0	41.2
1000	34.4	32.0	33.7	31.3	35.3	33.9	36.8	34.5
1250	36.0	33.1	35.7	31.1	34.0	34.9	35.7	33.8
1600	36.6	29.8	35.3	30.3	34.5	32.5	35.7	34.4
2000	33.8	29.7	34.1	28.7	32.2	31.6	33.1	31.9
2500	30.9	26.6	33.8	26.3	30.7	29.2	32.0	29.7
3150	28.6	25.5	31.0	25.0	29.1	27.4	29.2	27.6
4000	25.7	22.7	29.6	22.2	27.0	26.1	27.2	25.6
5000	25.3	21.7	29.9	22.1	26.9	25.8	26.9	24.8
6300	22.2	18.9	24.0	18.6	23.6	23.1	23.3	22.1
8000	18.7	15.8	22.6	15.5	20.4	20.5	21.1	19.8
10000	15.1	11.6	18.1	11.2	17.4	17.3	17.3	16.1
12500	13.3	11.4	17.2	10.6	19.7	17.6	20.0	16.8
16000	18.8	24.6	21.5	20.8	22.7	22.2	23.0	22.5
20000	39.5	46.2	42.4	42.1	42.6	41.8	42.0	42.6
Leq	56.7	51.6	51.6	50.8	53.9	53.5	54.7	54.3
A-weighted dB (A)	48.1	44.2	46.1	43.7	49.0	48.3	49.8	49.0
Average sound pressure level dB(A)	45.9				49.1			

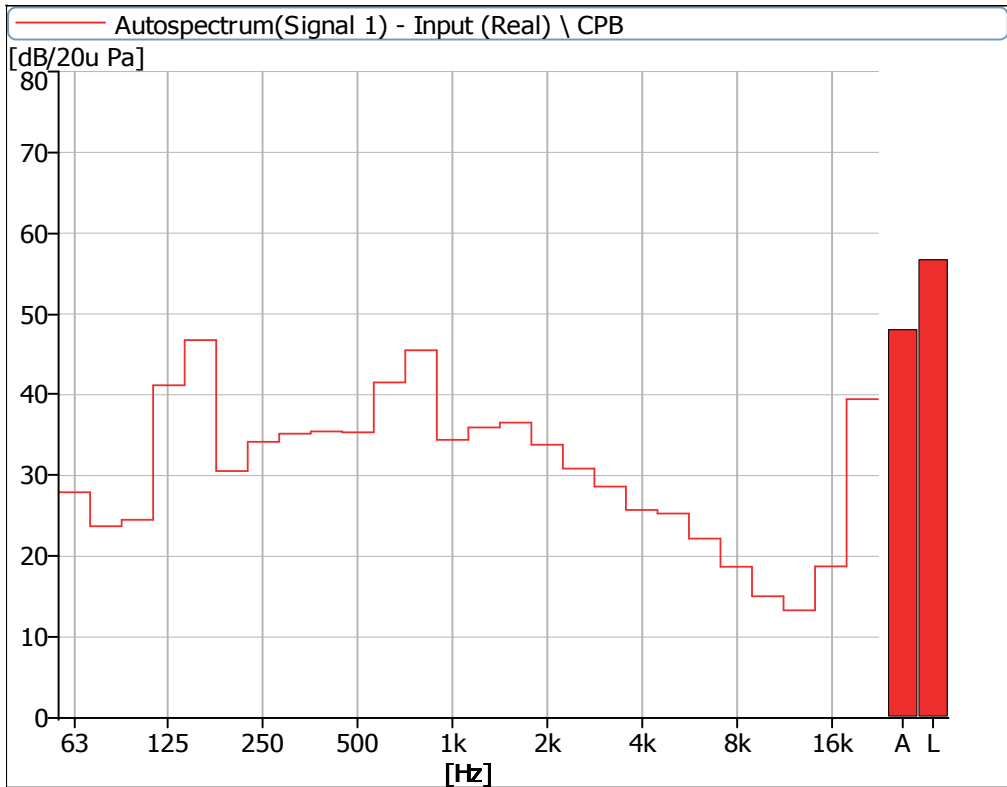


Figure 11 Noise Spectrum of Stage Luminaires
(The Stage mode, static, No 1)

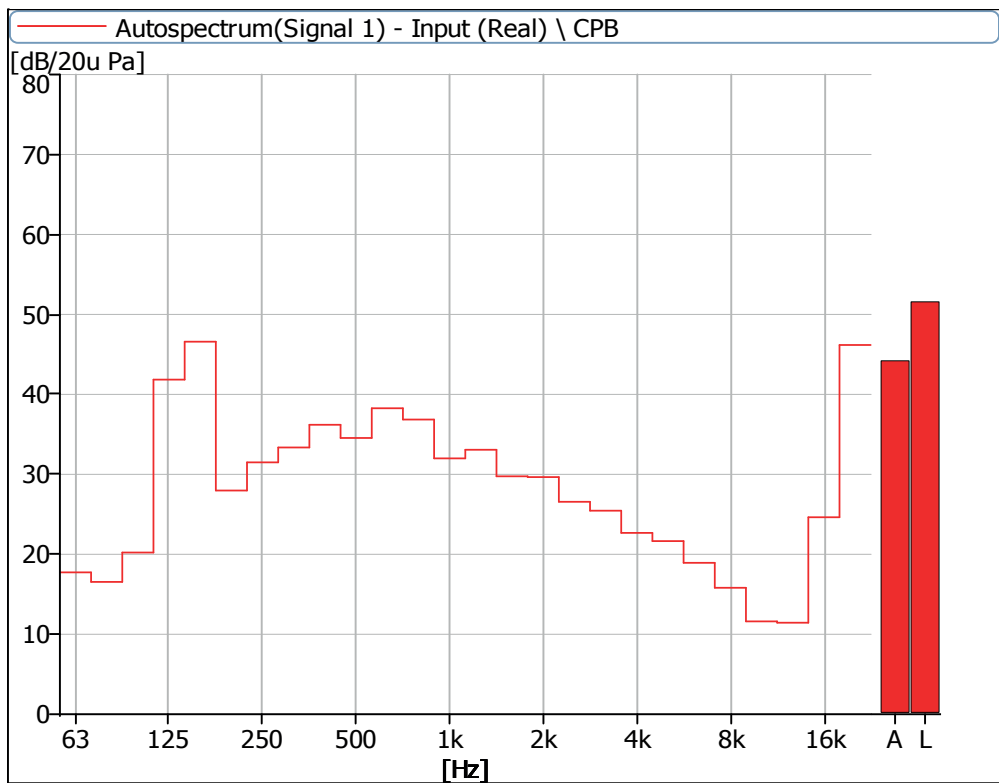


Figure 12 Noise Spectrum of Stage Luminaires
(The Stage mode, static, No 2)

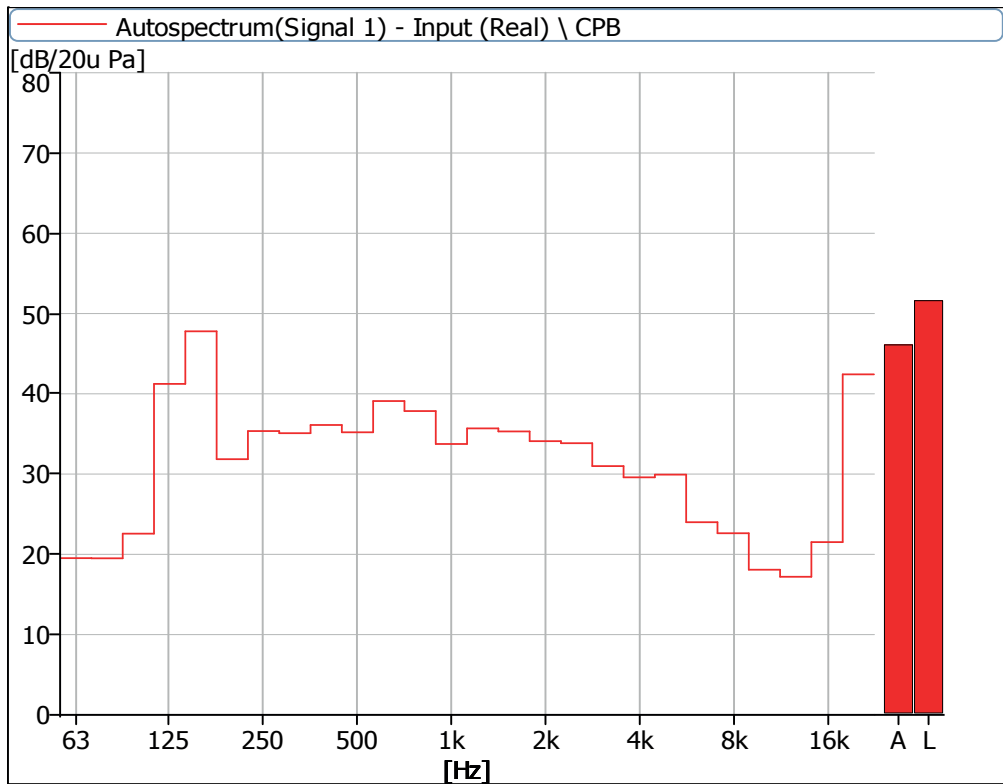


Figure 13 Noise Spectrum of Stage Luminaires
(The Stage mode, static, No 3)

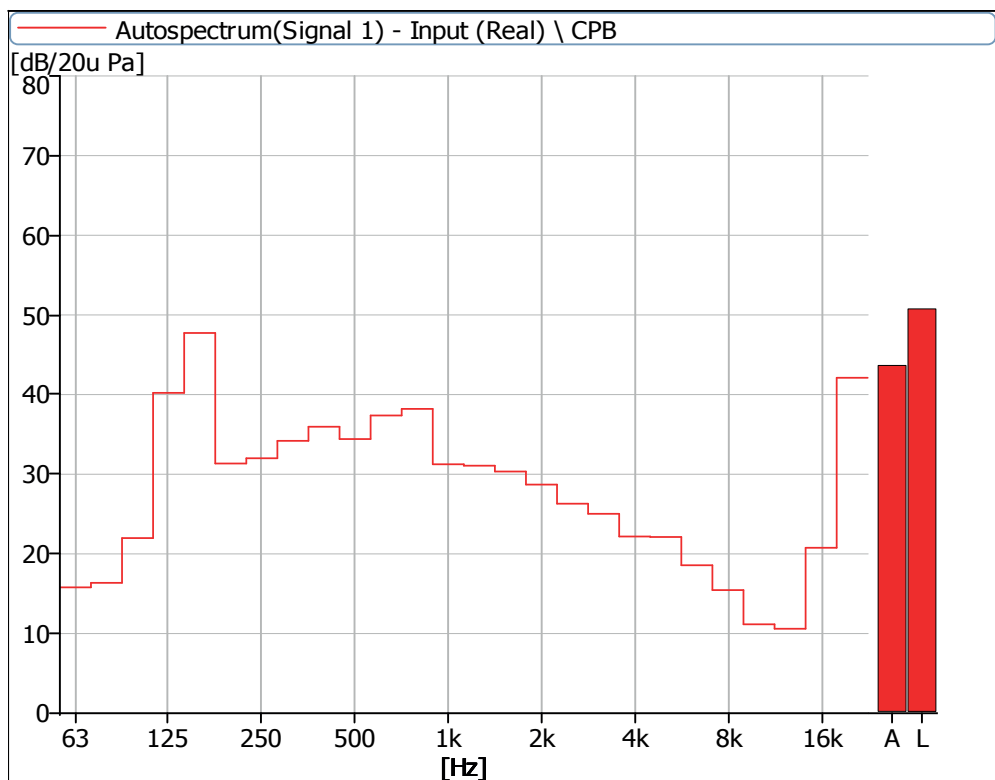


Figure 14 Noise Spectrum of Stage Luminaires
(The Stage mode, static, No 4)

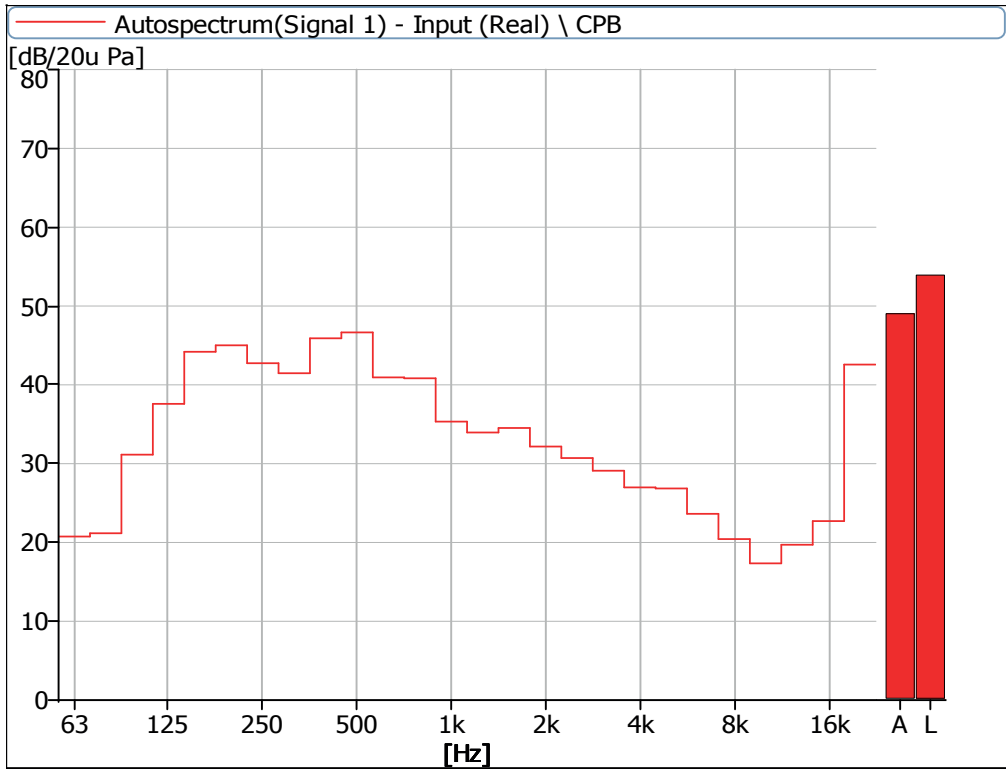


Figure 15 Noise Spectrum of Stage Luminaires
(The Stage mode, Dynamic, No 1)

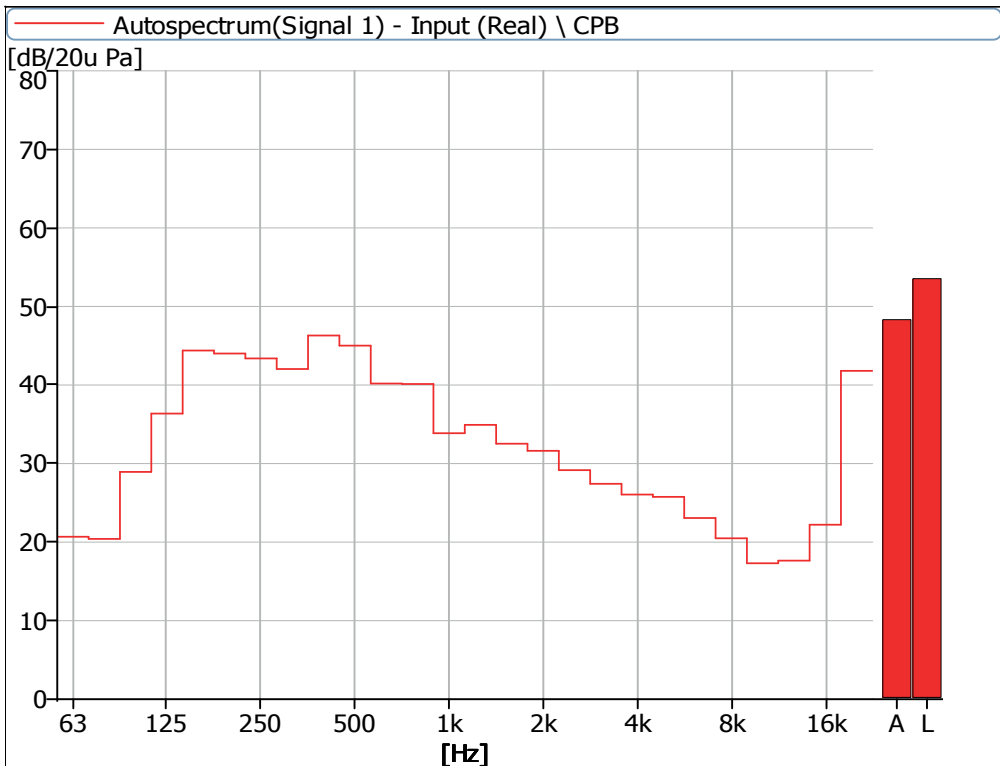


Figure 16 Noise Spectrum of Stage Luminaires
(The Stage mode, Dynamic, No 2)

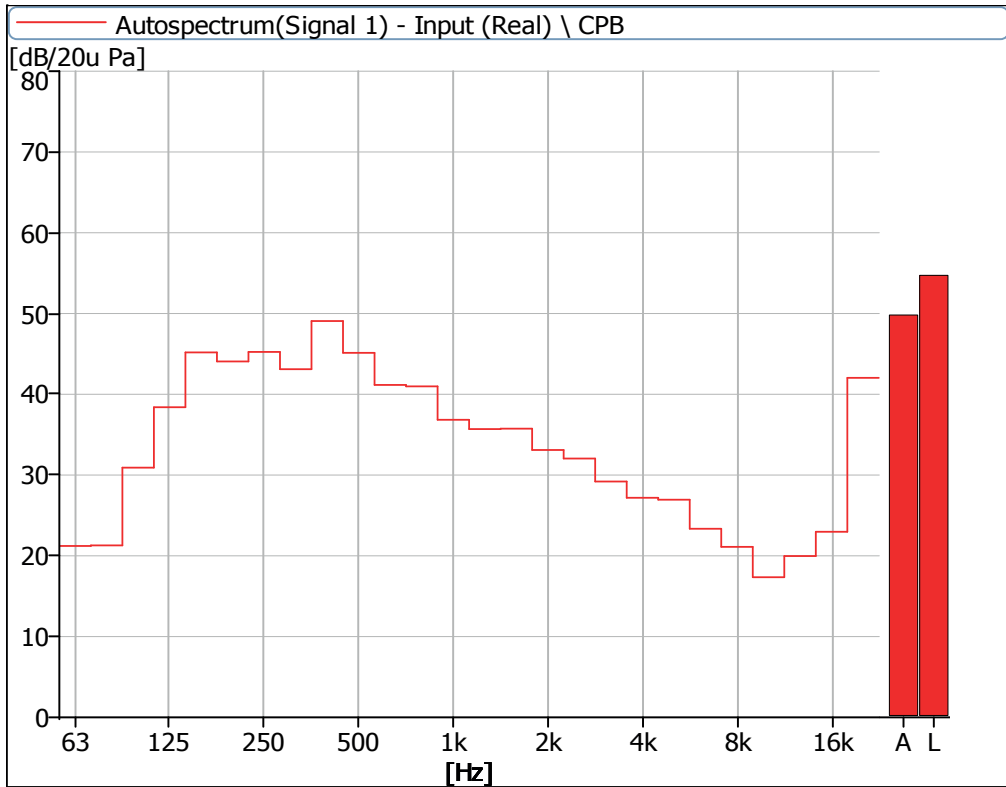


Figure 17 Noise Spectrum of Stage Luminaires
(The Stage mode, Dynamic, No 3)

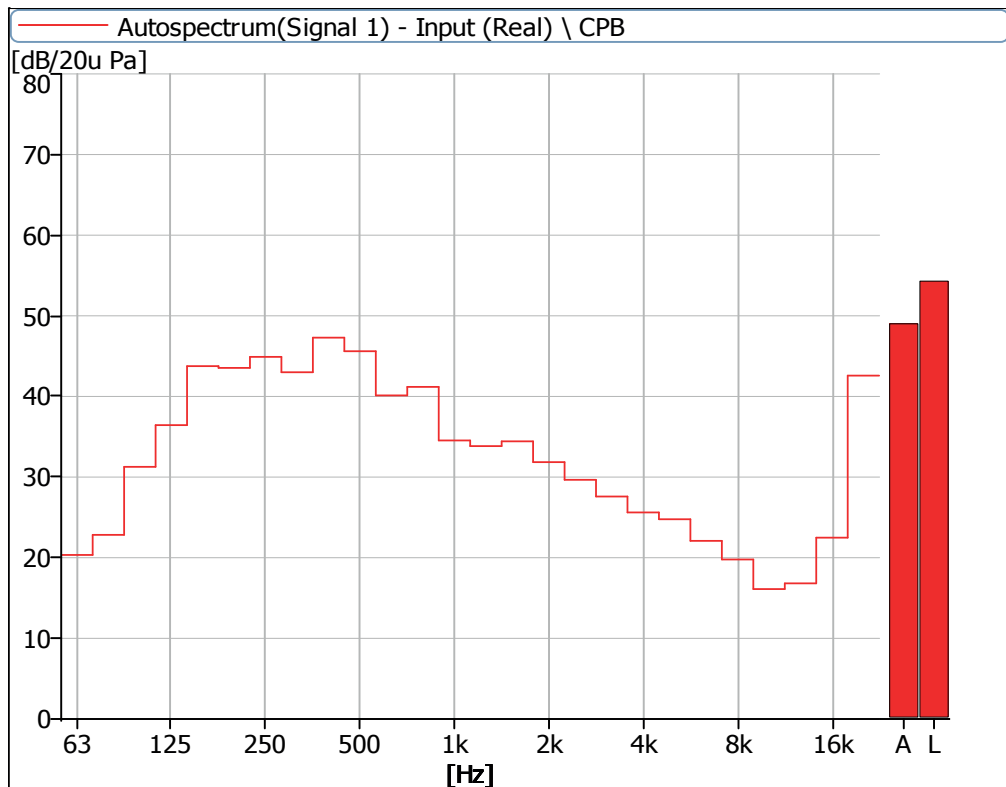


Figure 18 Noise Spectrum of Stage Luminaires
(The Stage mode, Dynamic, No 4)

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	17.2	16.3	15.9	15.5	19.6	20.0	20.3	17.8
80	18.7	16.8	17.7	17.8	20.1	19.6	20.5	20.2
100	21.8	17.3	21.9	20.2	31.7	27.6	30.0	29.1
125	23.5	14.2	19.0	14.8	28.9	27.9	29.7	28.7
160	21.6	21.3	23.1	22.0	33.5	34.4	34.8	33.5
200	22.6	19.2	23.8	19.7	42.6	41.8	43.1	41.1
250	28.5	25.6	30.0	27.2	42.3	42.5	43.3	43.3
315	29.0	24.5	29.1	26.2	41.8	43.5	42.6	41.8
400	25.6	24.9	28.0	26.5	46.2	48.4	51.4	47.6
500	28.0	26.6	27.5	26.3	46.9	44.2	45.0	43.2
630	30.2	30.2	31.5	28.8	38.8	39.9	39.6	38.1
800	29.0	23.9	26.1	25.7	35.6	34.6	35.4	33.7
1000	22.6	21.1	20.2	21.5	32.9	32.1	31.5	31.8
1250	23.1	19.9	21.6	18.7	26.1	26.4	27.8	26.7
1600	23.0	18.5	22.9	16.5	24.7	25.3	26.2	25.8
2000	20.7	15.8	20.8	13.8	24.0	24.8	24.9	25.6
2500	19.0	15.1	18.7	12.7	23.6	23.6	23.9	24.2
3150	16.2	14.5	15.4	13.7	20.8	20.4	20.8	20.3
4000	13.9	13.7	13.1	12.0	19.1	18.4	18.7	18.5
5000	14.6	12.7	14.2	14.1	20.3	20.3	20.8	20.3
6300	11.2	9.6	11.4	9.4	18.5	18.0	18.8	18.3
8000	10.6	9.1	10.7	8.3	17.0	16.9	16.8	17.2
10000	10.6	8.2	9.2	8.1	15.3	14.7	14.5	15.7
12500	9.6	10.3	10.3	8.6	19.5	18.3	15.8	18.9
16000	16.0	25.3	21.0	18.6	23.1	22.6	22.2	23.8
20000	36.4	46.8	42.3	39.8	43.2	42.0	42.4	42.8
Leq	42.1	47.9	44.4	42.1	52.7	52.9	54.3	52.1
A-weighted dB (A)	35.6	38.7	36.9	34.6	47.7	47.6	49.3	46.8
Average sound pressure level dB(A)	36.7				47.9			

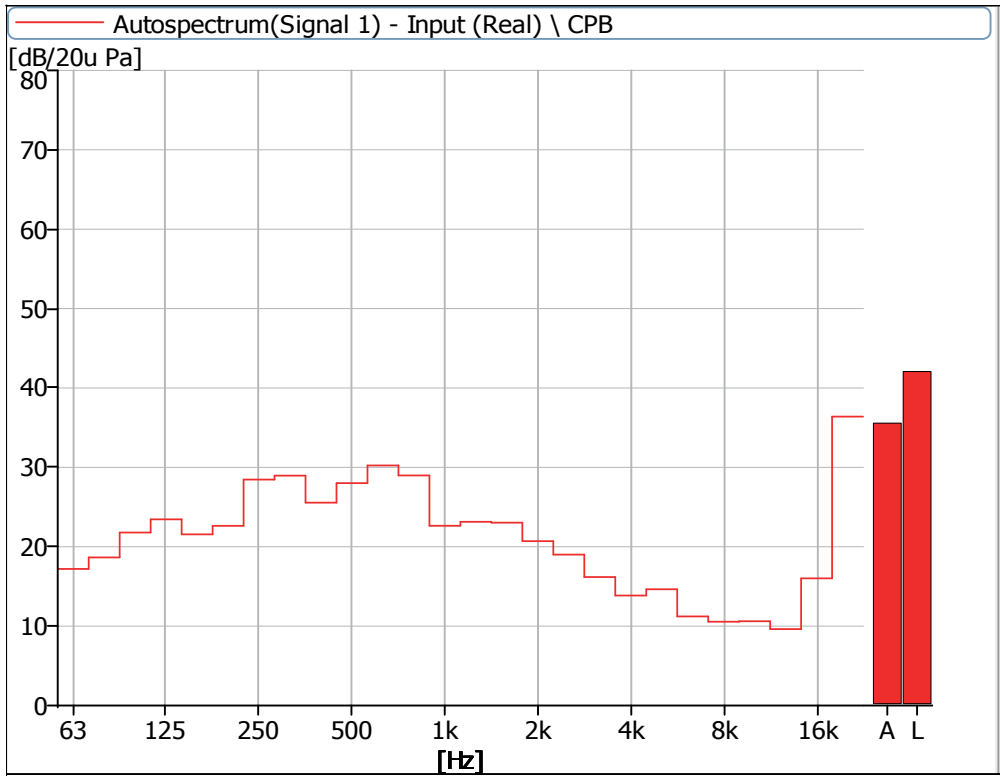


Figure 19 Noise Spectrum of Stage Luminaires
(The Silence mode, static, No 1)

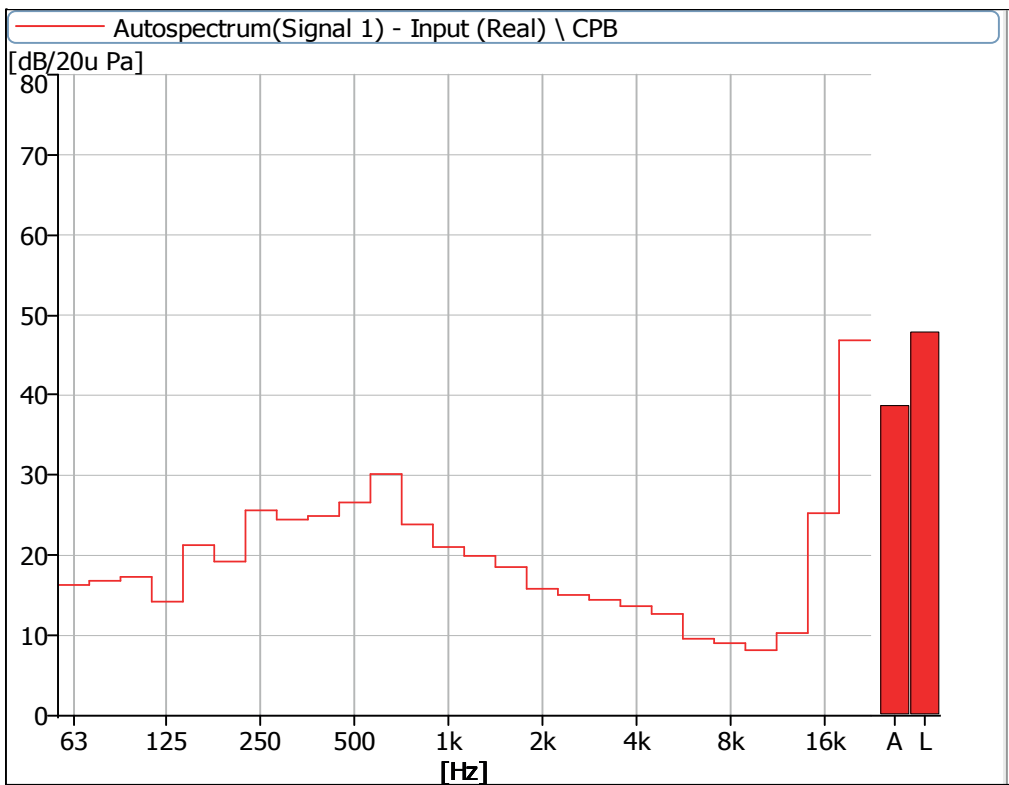


Figure 20 Noise Spectrum of Stage Luminaires
(The Silence mode, static, No 2)

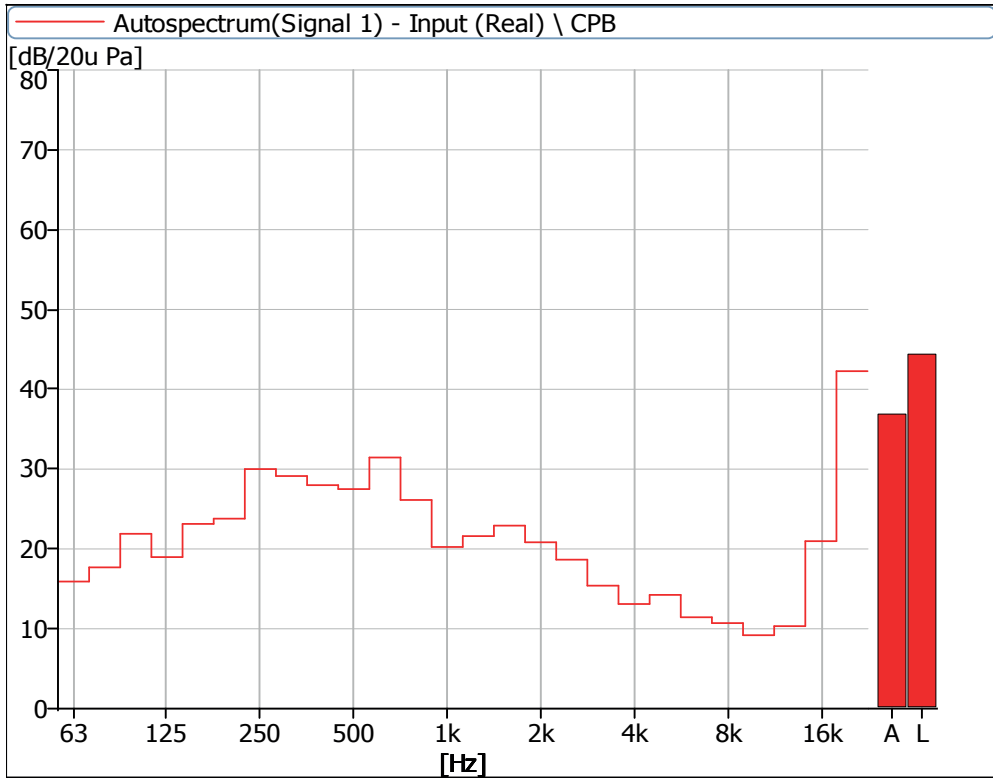


Figure 21 Noise Spectrum of Stage Luminaires
(The Silence mode, static, No 3)

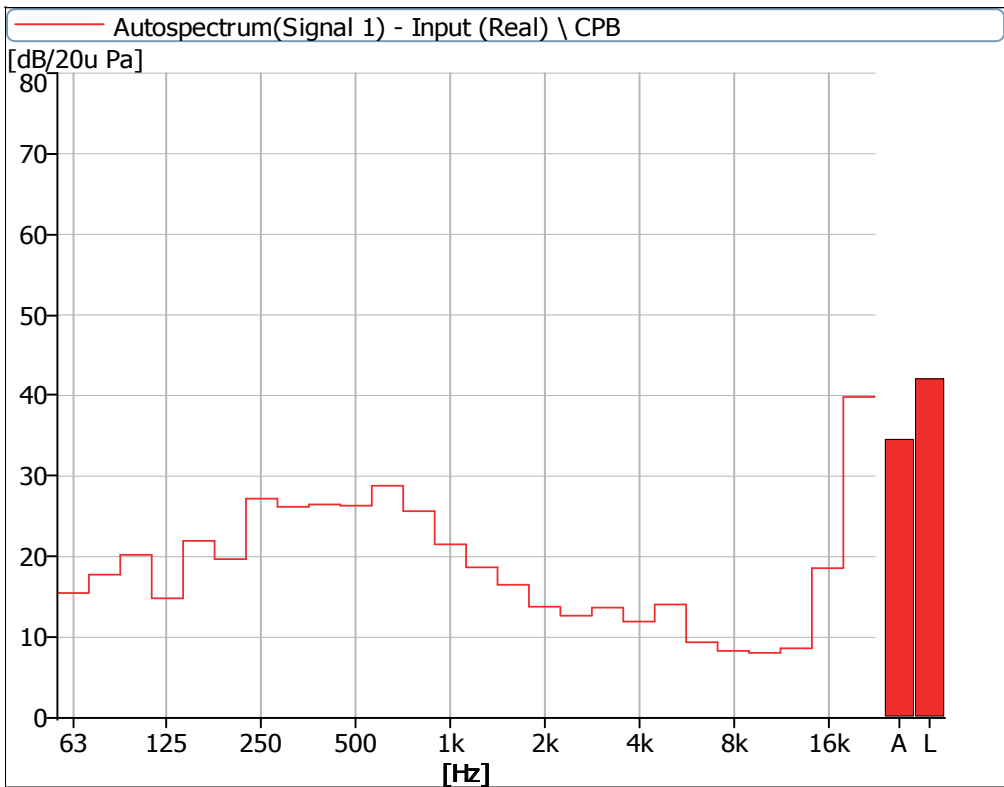


Figure 22 Noise Spectrum of Stage Luminaires
(The Silence mode, static, No 4)

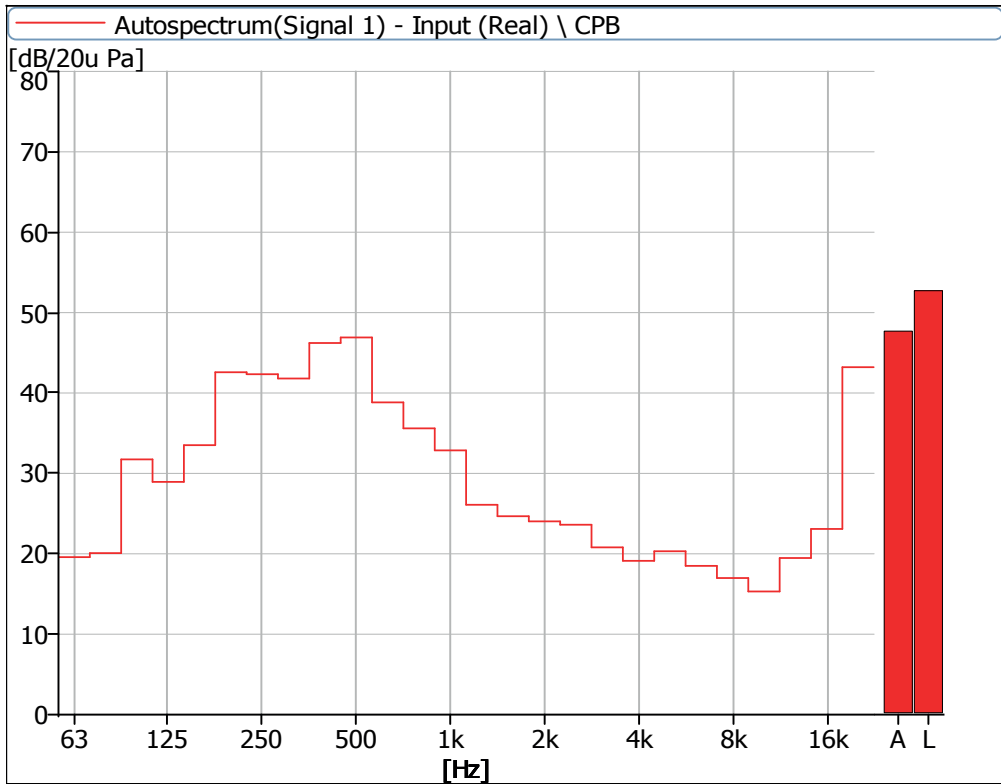


Figure 23 Noise Spectrum of Stage Luminaires
(The Silence mode, Dynamic, No 1)

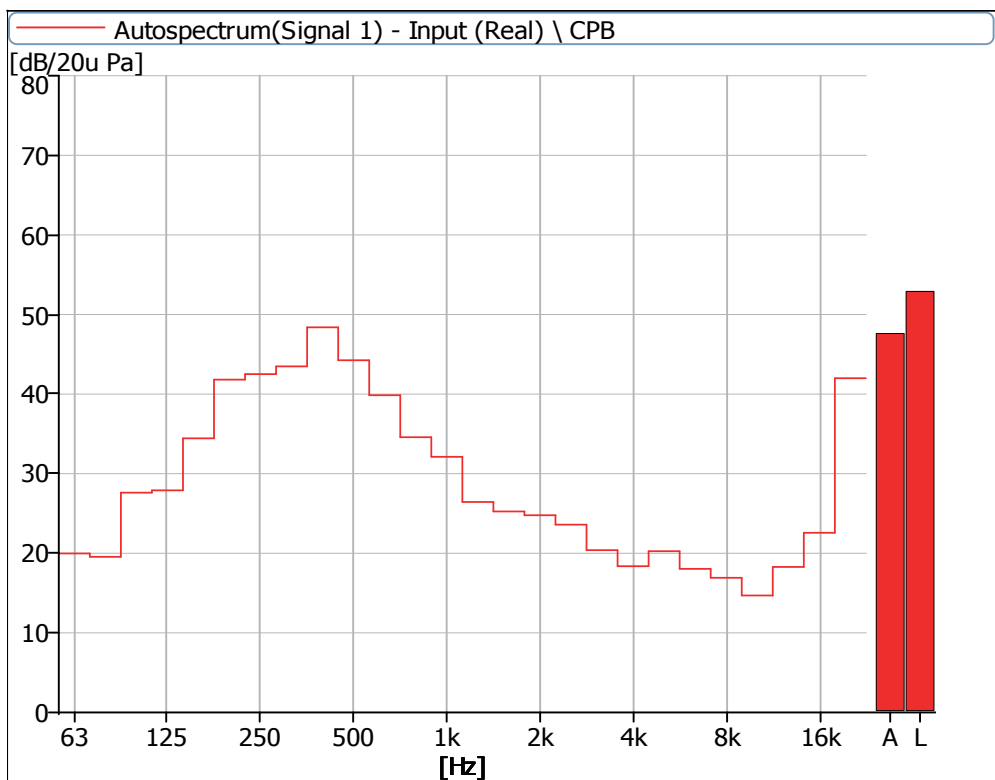


Figure 24 Noise Spectrum of Stage Luminaires
(The Silence mode, Dynamic, No 2)

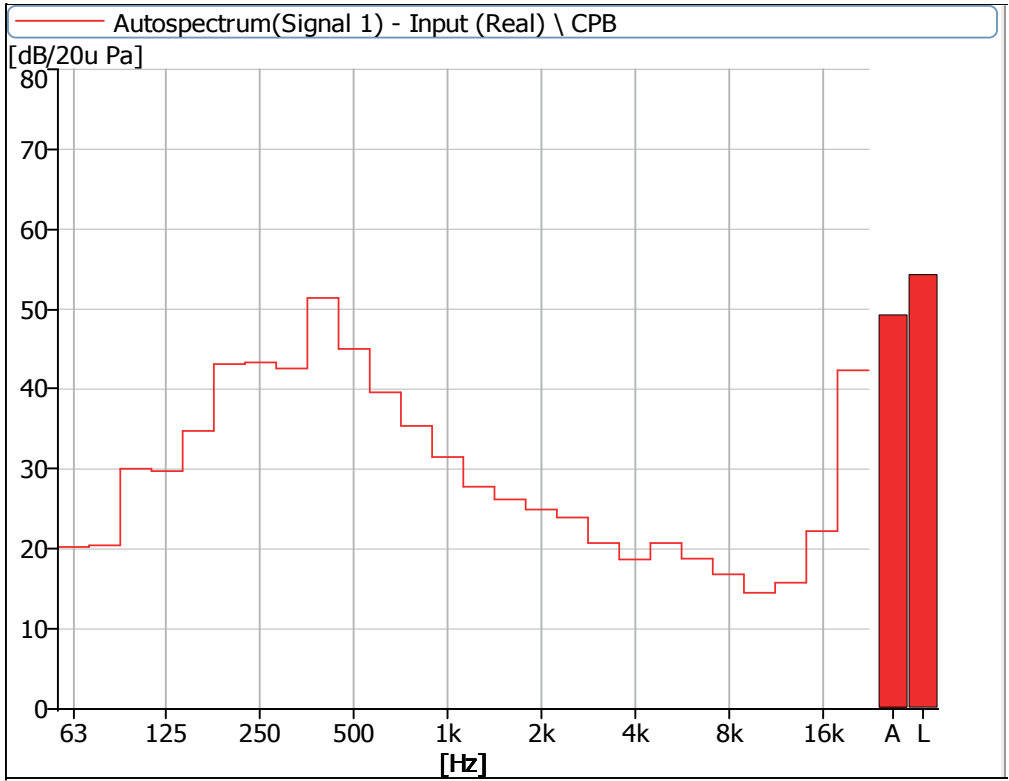


Figure 25 Noise Spectrum of Stage Luminaires
(The Silence mode, Dynamic, No 3)

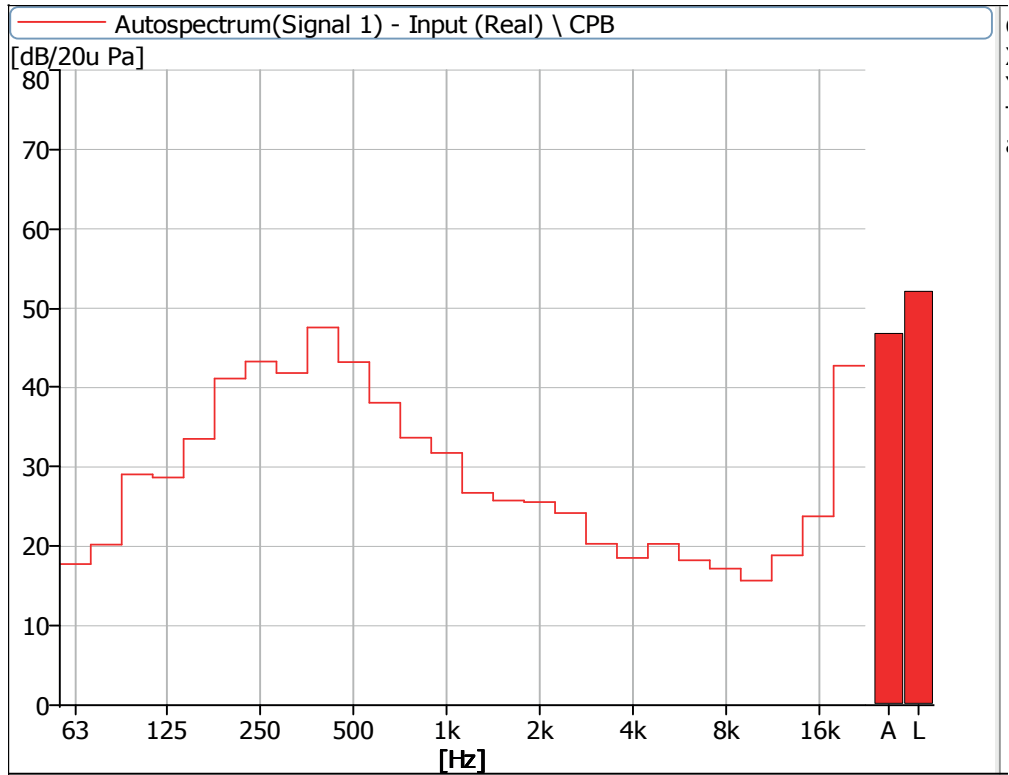


Figure 26 Noise Spectrum of Stage Luminaires
(The Silence mode, Dynamic, No 4)

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	21.6	14.9	22.3	21.2	19.3	22.9	23.6	22.0
80	19.4	15.2	20.9	20.4	19.8	22.6	22.2	22.9
100	21.0	16.6	25.3	22.1	31.9	30.7	30.5	29.5
125	13.7	11.8	21.3	17.9	29.5	27.9	29.2	28.1
160	16.8	18.1	23.7	22.0	33.0	35.6	34.1	32.6
200	16.7	16.8	23.8	23.7	42.4	43.5	40.8	40.3
250	18.2	18.1	22.9	22.4	43.3	42.7	43.8	41.4
315	25.7	18.5	26.5	20.3	44.5	43.3	43.9	41.2
400	19.9	21.0	22.1	22.8	48.3	46.9	49.6	47.2
500	21.7	22.3	24.1	22.3	46.4	43.8	45.5	42.9
630	24.5	24.1	24.9	22.7	38.6	39.6	37.8	37.1
800	23.1	18.2	19.3	21.7	35.8	34.7	34.1	33.1
1000	17.4	15.8	16.0	16.0	31.0	29.8	31.5	31.1
1250	20.8	17.4	19.0	16.5	26.4	26.1	26.7	25.0
1600	17.6	12.8	17.5	11.8	24.0	23.7	24.5	23.8
2000	15.0	11.5	14.9	10.2	26.2	22.4	25.0	24.9
2500	12.7	11.4	14.8	10.0	23.2	23.4	24.0	23.1
3150	11.8	10.8	13.6	12.1	20.4	18.4	19.8	19.3
4000	10.7	11.2	11.8	12.3	18.6	16.8	19.1	17.5
5000	10.8	10.3	12.4	11.6	20.2	18.9	20.6	19.3
6300	8.9	7.9	9.4	8.5	18.2	16.1	18.8	16.8
8000	9.1	8.0	9.5	8.1	17.3	14.8	18.8	16.1
10000	8.2	7.9	8.6	7.9	15.4	13.2	17.2	14.8
12500	9.2	8.1	9.4	9.3	17.6	14.7	22.5	18.7
16000	22.0	14.2	19.7	23.0	22.9	22.3	25.7	24.5
20000	43.5	34.7	40.9	44.5	42.5	43.0	43.5	42.3
Leq	44.6	41.0	43.5	45.3	54.7	52.7	53.6	51.6
A-weighted dB (A)	35.5	29.7	33.8	35.9	48.3	47.0	48.4	46.2
Average sound pressure level dB(A)	34.3				47.6			

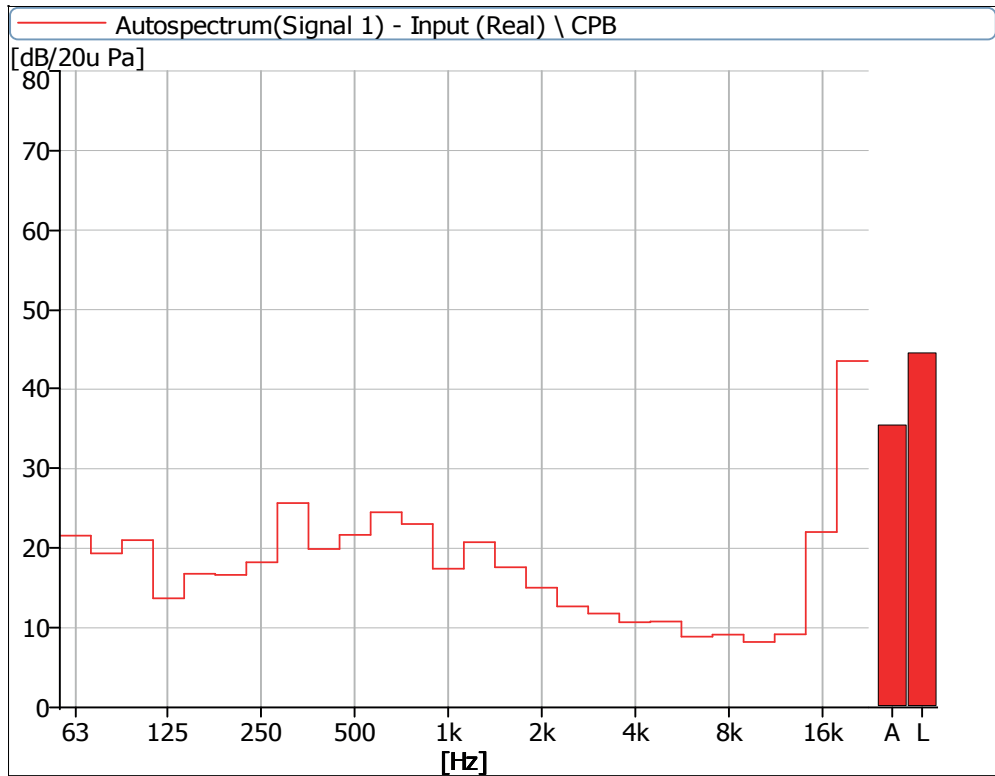


Figure 27 Noise Spectrum of Stage Luminaires
(The Super Silence mode, static, No 1)

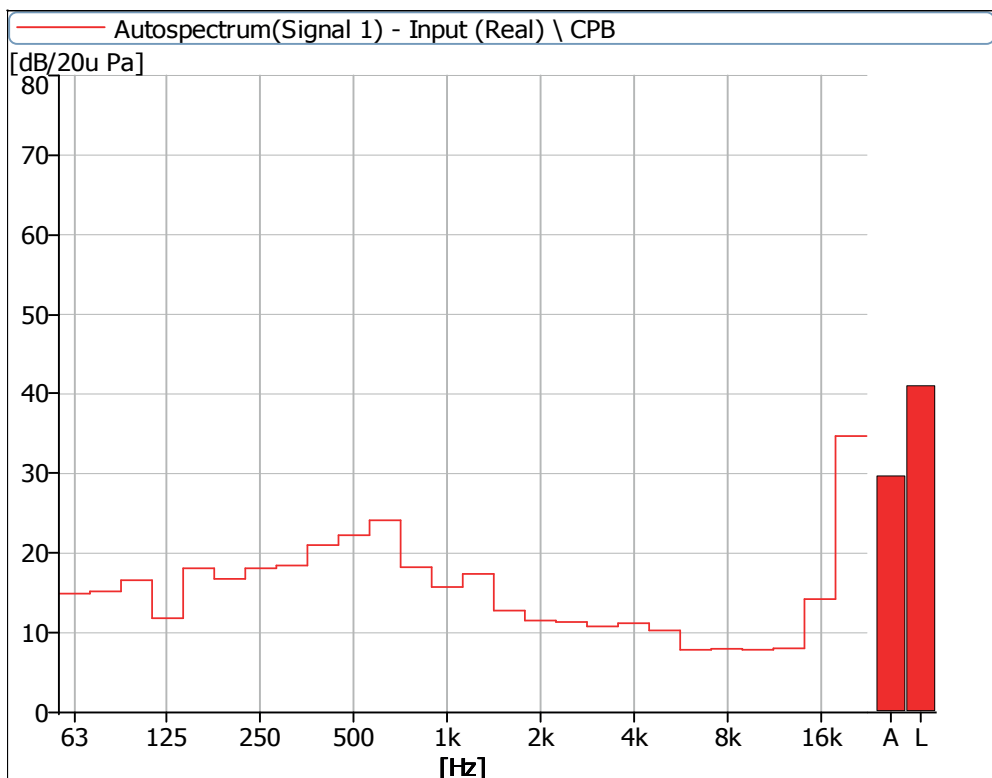


Figure 28 Noise Spectrum of Stage Luminaires
(The Super Silence mode, static, No 2)

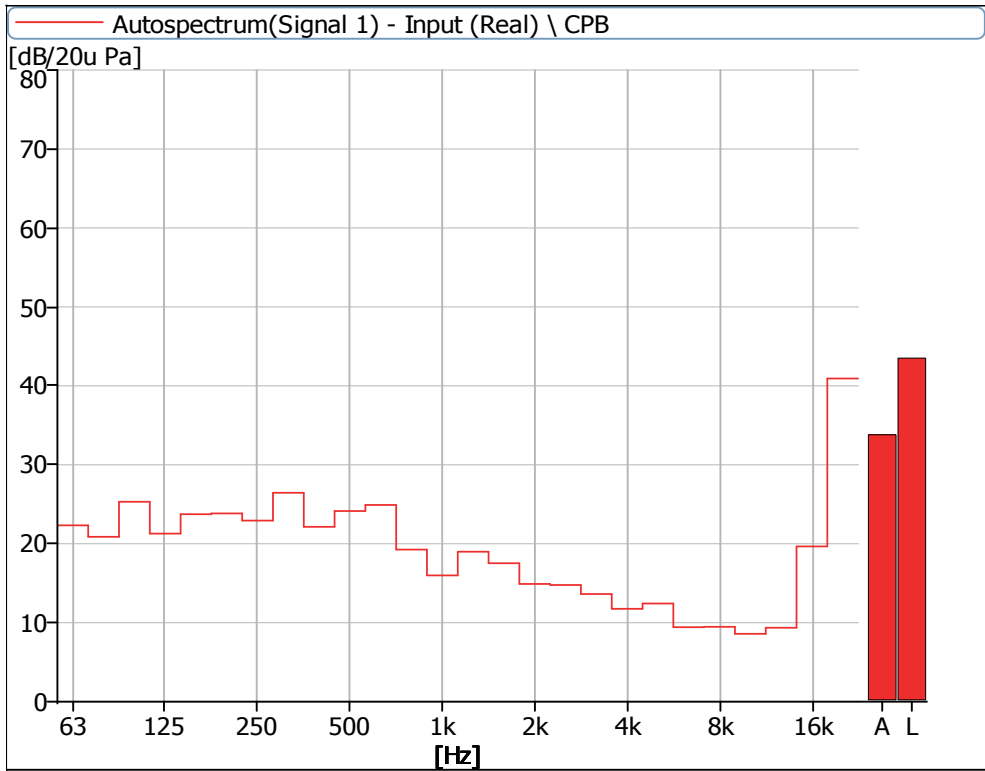


Figure 29 Noise Spectrum of Stage Luminaires
(The Super Silence mode, static, No 3)

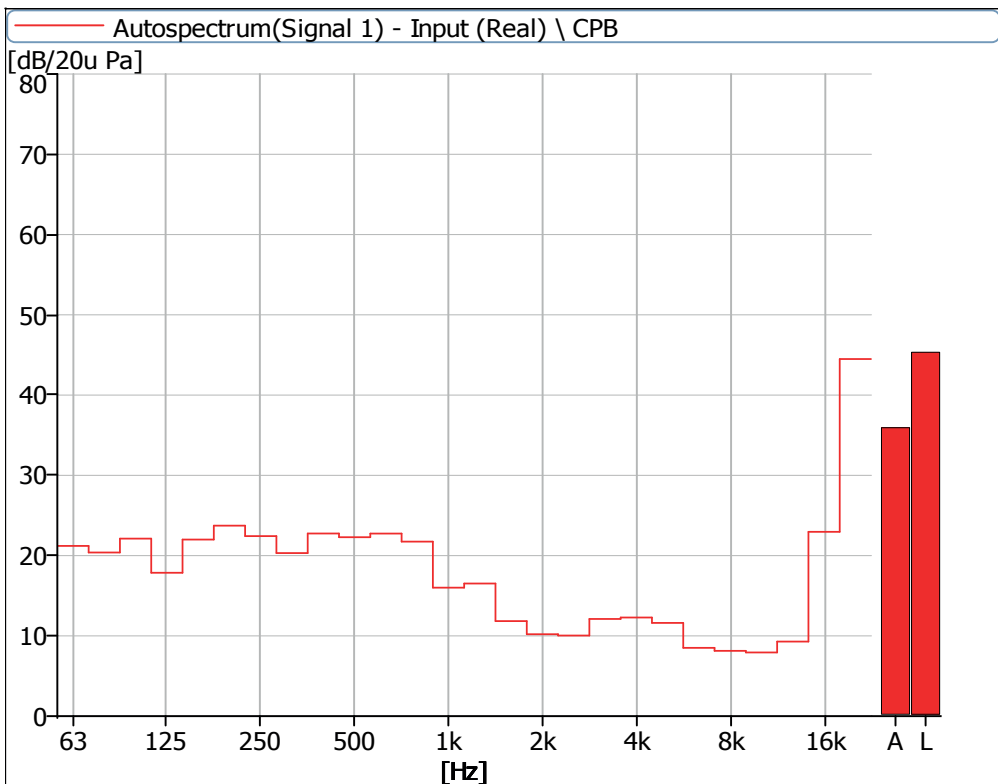


Figure 30 Noise Spectrum of Stage Luminaires
(The Super Silence mode, static, No 4)

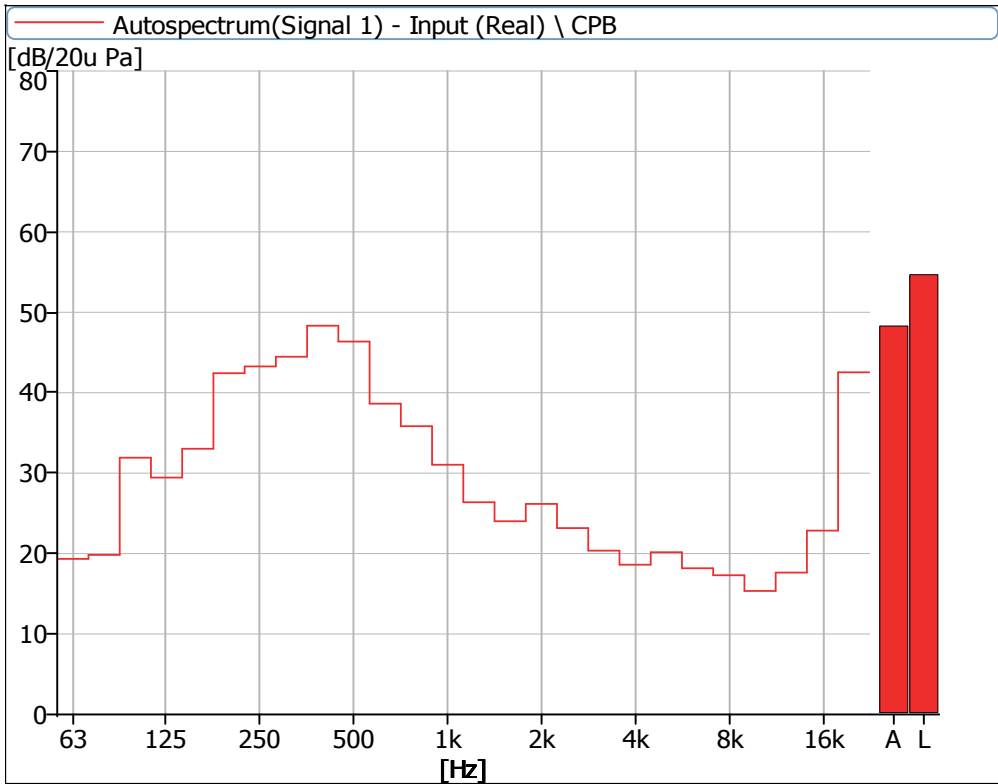


Figure 31 Noise Spectrum of Stage Luminaires
(The Super Silence mode, Dynamic, No 1)

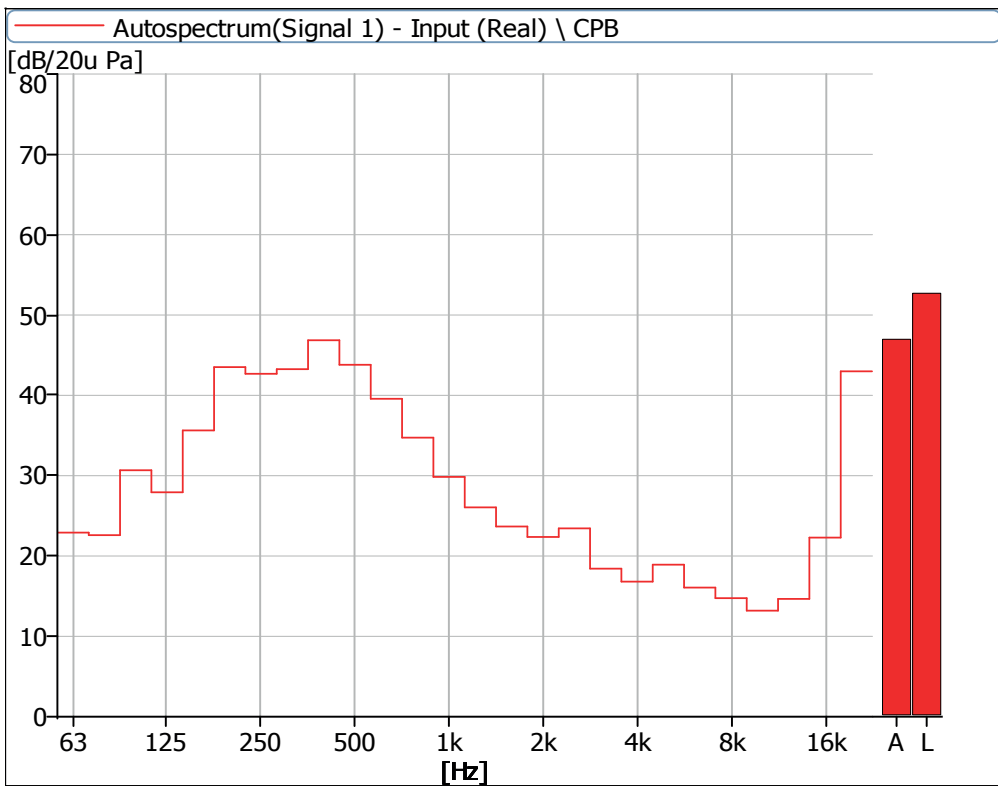


Figure 32 Noise Spectrum of Stage Luminaires
(The Super Silence mode, Dynamic, No 2)

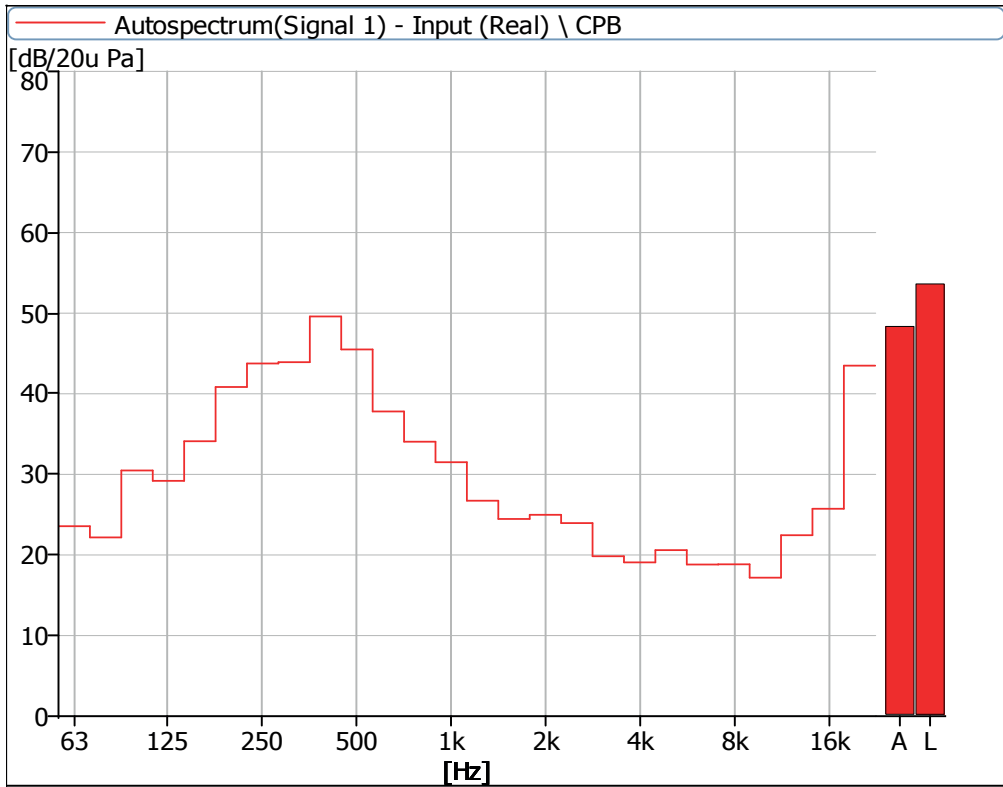


Figure 33 Noise Spectrum of Stage Luminaires
(The Super Silence mode, Dynamic, No 3)

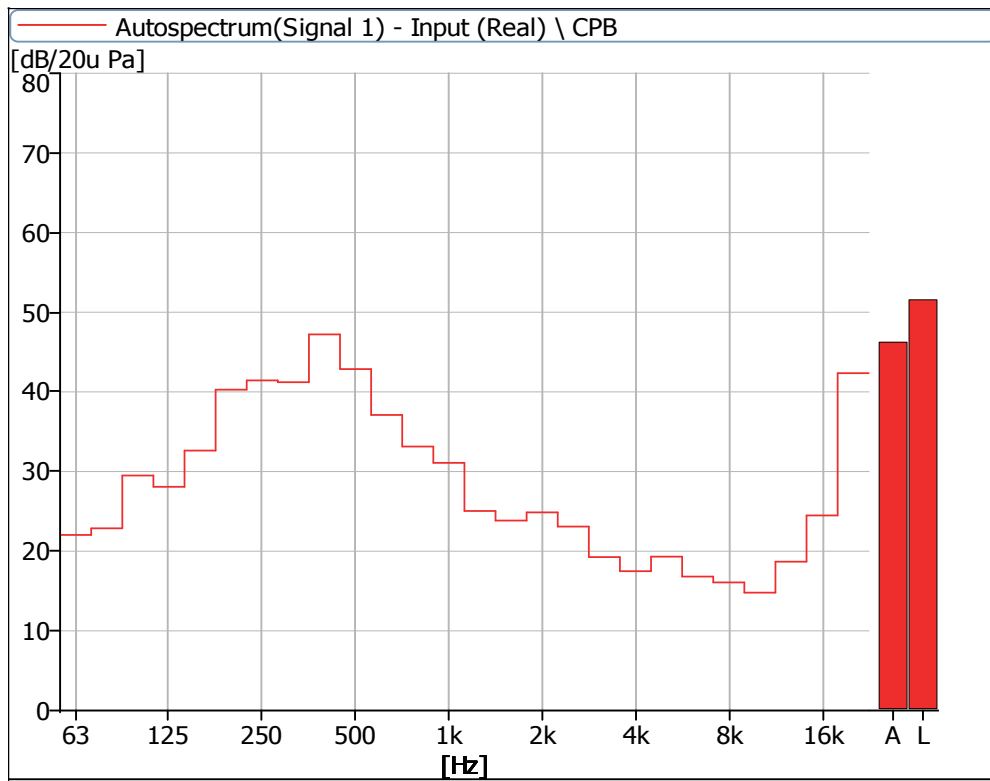


Figure 34 Noise Spectrum of Stage Luminaires
(The Super Silence mode, Dynamic, No 4)



AYRTON

Digital Lighting