

Acoustic Lighting Guide.



WHY USE ACOUSTICS.

Unfortunately, noise is a factor of life from the moment we wake up by morning alarm to the general noise/hum of a modern office environment. Therefore, there is a core human need for a quieter working environment. Recent Studies have shown that a quiet working environment, especially in professional roles, has an increase in productivity and well-being.

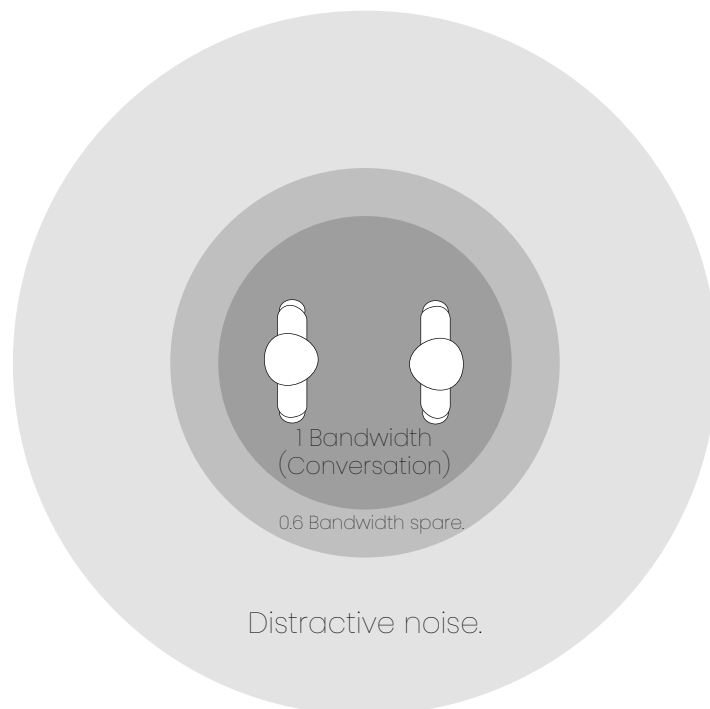
Therefore P&A designed an acoustic lighting range to provide a harmonious working environment, that not only looks good but also lights up the space whilst reducing background noise with its Class A sound absorbing properties.

DISTRACTING.

Background noise is distracting and can impede with personal social interaction within an office environment.

As humans we only have ability to listening bandwidth of 1.6 conversations, therefore if you are hearing a conversation, this is taking up 1 of 1.6 bandwidth, all other above the 0.6 remaining bandwidth is therefore distractive and can impede us to listen our inner voice.

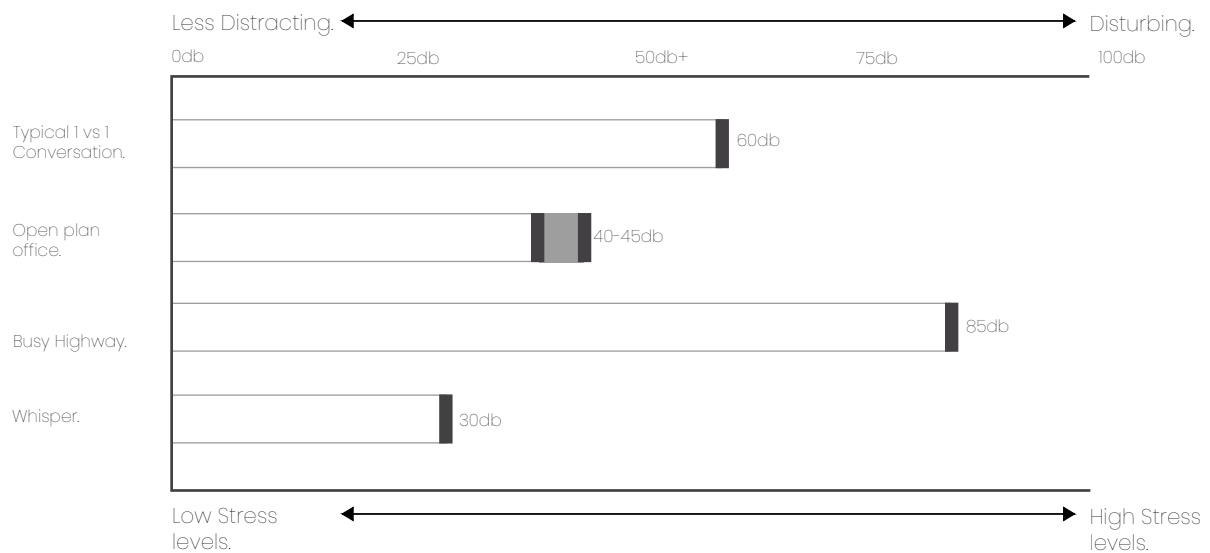
By reducing reverberated sound using acoustic lighting, this can help improve connotative performance.



HEALTH.

Noise is a stress factor. Elevated levels of noise can increase the release of adrenaline and noradrenaline, this can increase heart rate and blood pressure. Our natural bodies defence to this is release cortisol, which increases blood sugar levels, these can help us in short term but over time these can make us sick.

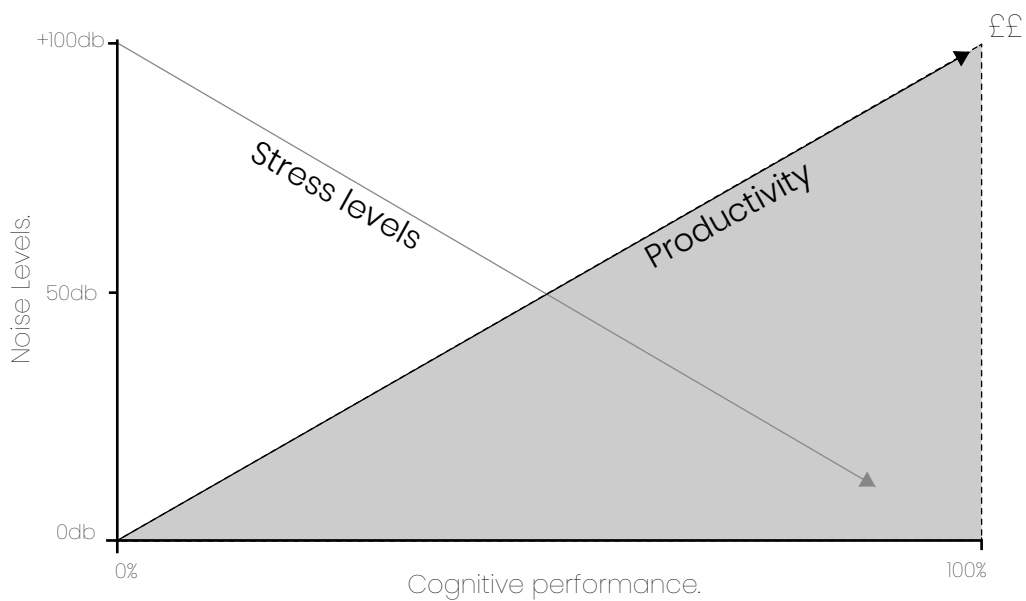
By improving the acoustic performance of a room, this can significantly reduce physical stress and have long term positive effect on the health of office occupants.



COST.

High Levels of noise is one of the biggest complaints in the workplace. The solution is not to create a silent environment like a library but to reduce background noise, therefore creating comfortable sound-scape where productivity can thrive.

Focused employee with good cognitive performance can create value to a business. Improving the room acoustic performance, improves concentration levels, reduces stress and distractions.



KNOW-HOW.

The current trend in modern office environments is for open plan ceilings and exposed services. This is where our acoustic solutions are flexible and can adapt to a modern working environment.

Although our acoustic lighting both absorbs and blocks the sound-waves, this is based on the placement and style of the acoustics within the space.

Vertical placement.

By installing vertical screens this creates a blocking affect to the sound which diffuses and breaks up the sound waves within a room. Therefore, reducing any distracting conversations throughout space.

Horizontal placement.

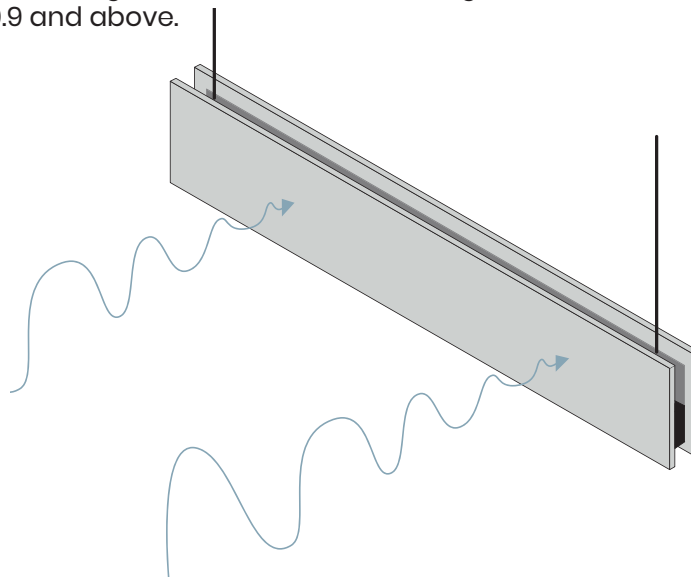
By using horizontal suspended screens, the surface area is larger, therefore creating an absorbing effect with more of sound being absorbed by the material and converted into heat by friction.

Sound pressure.

Soundwaves are defined as an oscillation that transmits direction through a medium. Within air, sound causes pressure and density fluctuations. These fluctuations move in waves from the sound source.

Sound pressure is measured in decibels (dB). The human hearing range in decibels is typically between 0 dB to 130 db but this depends on the frequency.

All the acoustic panels can be measured by "Noise Reduction Coefficient" which ranges from 0.0 to 1.0. The higher the rating/ coefficient the better the materials are at absorbing. Our current acoustic range has an NRC rating of 0.9 and above.



MATERIALS.

At P&A we are committed to sustainability in the design of our lighting products, we have applied the same ethos to our acoustic lighting products. That is why we have chosen high performing acoustic materials that are made from 100% recyclable PET or recycled polyester fabric panels, to complement our lighting products.

Specification.

65% Recycled PET Fibre/ 35% Virgin Fibre (100% Recyclable)
100% Recycled polyester fabrics

Fire Test.

EN13501-2007+A1:2009 s1, d0 / ASTM E84-2019 B Class A

VOC Emissions.

<0.02mg/M²

Light Fastness.

Grade 6 ISO 105-B02



Acoustic.

PRODUCTS OVERVIEW.

Linear.



SubSpace 70-WS



SubSpace 50-WS

Downlights.



TL90



POLO7



POLO9



POLO12



POLO15



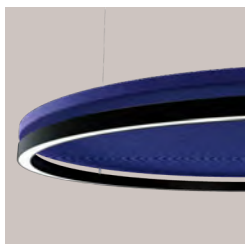
DRM5



GL4



HALO9



HALO12

Pendant & Features.

Acoustic Colours.



GENERAL INFORMATION.

P&A luminaires are designed and manufactured in compliance with EN 60598-1. Luminaires are supplied with light sources with a <50,000/ 5 Year, return to base warranty. Products with anodized finishes may differ in shades due to the industrial anodizing process.

P&A reserves the right to make any technical or formal alterations to its products without giving prior notice. Information concerning luminous flux/power consumption is expressed in nominal values and is subject to changes due to current supply.



Please check regularly on our website for current data, which is shown on our technical sheets. For any other technical queries please contact the office.

Check out www.pandaprojects.co.uk for more details.

NOTES.



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ISO 9001 Certification

