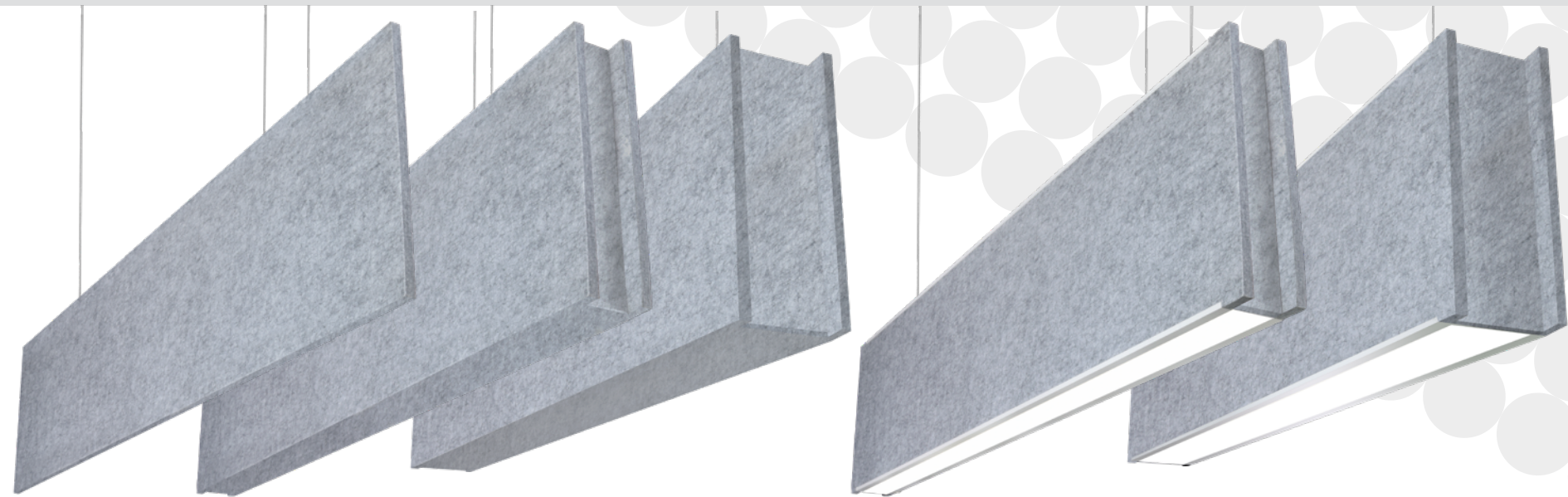




BEST-IN-CLASS ILLUMINATION AND SOUND ABSORPTION

The Define Series by Neo-Ray is an industry leading acoustic and optical luminaire with aesthetic appeal and the versatility to meet the needs of many different types of architectural environments.



Define Narrow Baffle

Define 2 Baffle

Define 4 Baffle

Define 2 Luminaire

Define 4 Luminaire



	Housing	Height	Light Distribution
Define 2-inch DP			
Define 2-inch DIP			
Define 4-inch DP			
Define 4-inch DIP			
Define Narrow Baffle			
Define 2-inch Baffle			
Define 4-inch Baffle			

High Performance Optical Control

Direct Lighting

2" and 4" narrow apertures with multiple lumen packages fitted with soft, uniform flush or drop lens. The asymmetric option provides controlled lateral distribution for when you need to redirect light toward a corridor or a wall.

Indirect Lighting

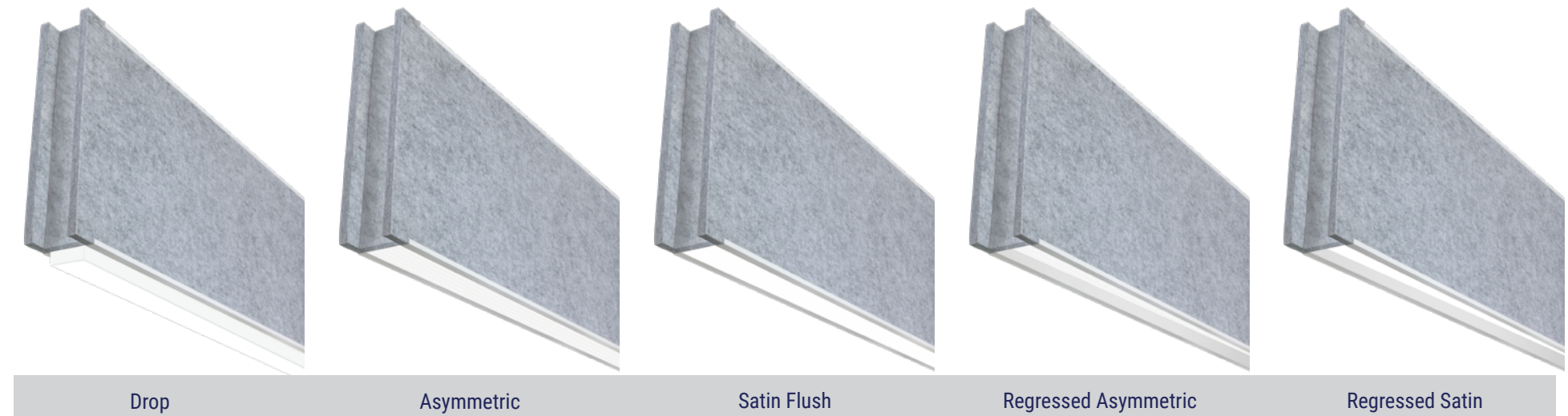
Optional wide, low-peak angle batwing distribution enables increased row spacing with without sacrificing ceiling uniformity, leading to less fixtures in the space.

Direct Performance Per Linear Foot at 3500K/80CRI

Nominal Output	Standard		High Performance	
	W/ft	lm/W	W/ft	lm/W
350	2.9	133	2.9	136
575	4.8	134	4.4	140
795	6.7	131	6.1	141
1020	8.8	129	8.1	137
1195	10.6	124	9.7	132

Indirect Performance Per Linear Foot at 3500K/80CRI

Nominal Output	Standard		High Performance	
	W/ft	lm/W	W/ft	lm/W
365	2.2	168	2.5	171
590	3.6	169	3.9	176
810	5.0	165	5.3	177
1035	6.6	161	7.1	168
1205	7.9	157	8.5	164



Light Leak Eliminated

Define Acoustic incorporates our patented under-lens solution to ensure there is no light leak at the ends of your fixture run.

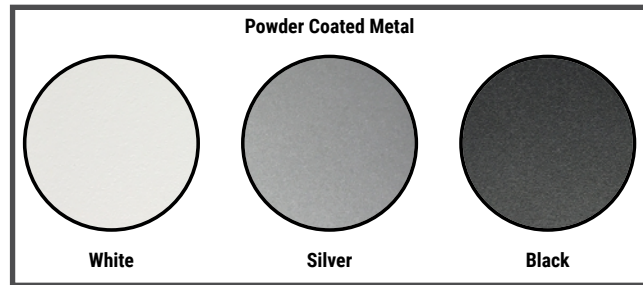
Enhanced Light Engine

We have redesigned our light engine from the ground up to deliver industry leading efficacy and uniformity while streamlining our manufacturing processes for rapid delivery to your job site.

Custom Lumen Packages

Define has been optimized for what you need most when specifying a luminaire – specific lumen outputs are customizable to match your specification as standard product.

FIXTURE BODY / FLANGE FINISHES



ACOUSTIC PANEL FINISHES

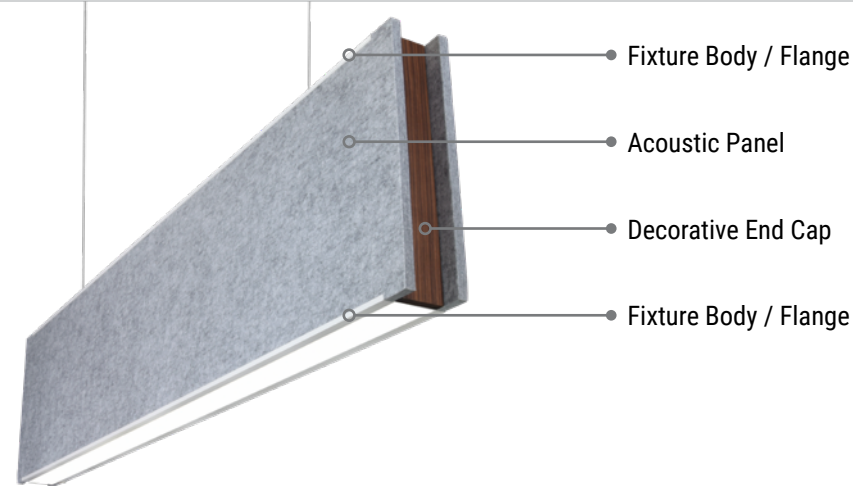


DECORATIVE END CAP FINISHES



ACOUSTIC MATERIAL:

- Composition: 100% Polyester, PET
- Thickness: 12mm
- Fire Testing: ASTM E84 Class A
- Environmental: EPD in accordance with ISO 14025; Red List Free; Green Tag Cert Certified; 100% Recyclable
- General: Moisture resistant; Installation Friendly
- Non-allergenic; Low Irritant



Connected lighting enabled solution

Define Acoustic luminaires are designed to support integrated sensors providing code compliance and energy savings. The Define Acoustic's sensor integration simplifies the control design without impacting the seamless illumination aesthetic. With sensors factory-installed in every fixture, the fixture layout enables optimal sensor coverage and controllability. With connected lighting, the Define Acoustic luminaire makes your facility smarter so you can make smarter decisions.



Noise Reduction Coefficient (NRC)





The amount of sound absorbed when a sound wave strikes a surface.

- NRC is the term most recognized and used by the architectural and building industry
- An NRC of zero indicates perfect reflection
- An NRC of one indicates 100% sound absorption
- Traditionally, NRC is calculated for flat materials
- Test labs are now testing lighting fixtures with different geometries yielding results higher than 1.0

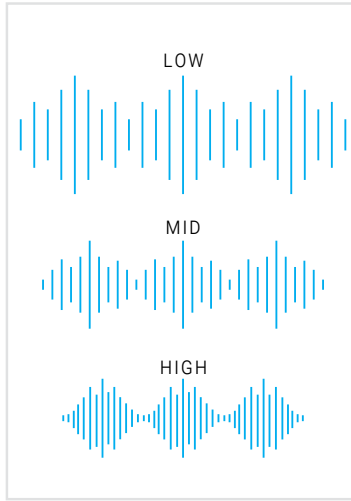
Sound Absorption Average (SAA)

- ASTM has moved to Sound Absorption Average, SAA
- SAA covers more frequency bands within the framework of sound

Table of common reverberation times based on application space. Ideal office space setting is between 0.6 and 0.8

Application	Ideal Reverberation Range
 Café 0.8 to 1.2	0.8 - 1.2
 Open Workspace 0.75 to 1.2	0.75 - 1.2
 Private Meeting Room 0.6 to 1.0	0.6 - 1.0
 Private Office 0.6 to 0.8	0.6 - 0.8

EX. TEST REPORT : SPECIMEN ABSORPTION		
FREQUENCY [HZ]	SABINS	SABIN/UNIT
315	45.89	15.30
400	52.77	17.59
500	70.77	23.59
630	78.65	26.22
800	86.33	28.78
1000	91.79	30.60
1250	95.97	31.99
1600	97.55	32.52
2000	95.34	31.78
2500	94.56	31.52
3150	91.80	30.60



EXAMPLES OF FREQUENCY BANDS OF HUMAN SPEECH. AS A COMMON SOUND SOURCE, IF THESE BANDS OF CAN BE ABSORBED, THE REFLECTED SOUND THAT MAKES A SPACE UNCOMFORTABLE CAN BE REDUCED.

Reverberation

The persistence of sound in an enclosed or partially enclosed space after the source of sound has stopped

- In other words, the sound that still persists after the source has stopped

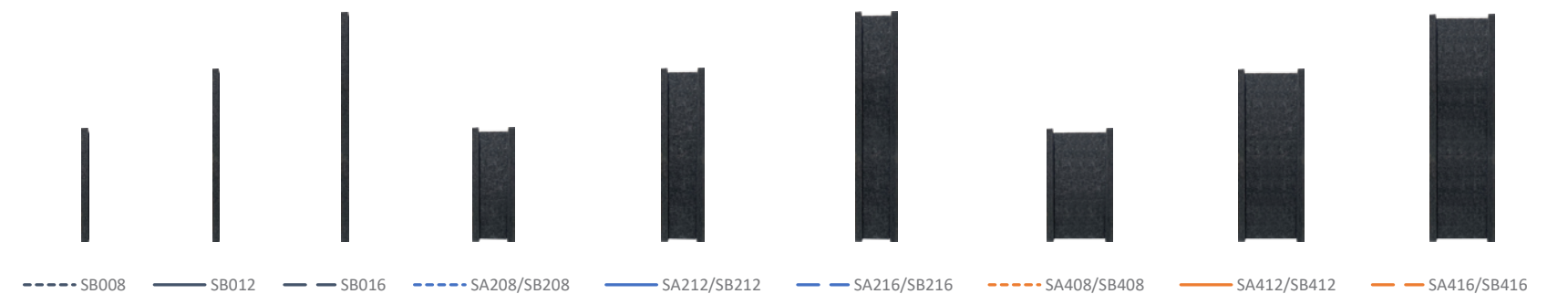
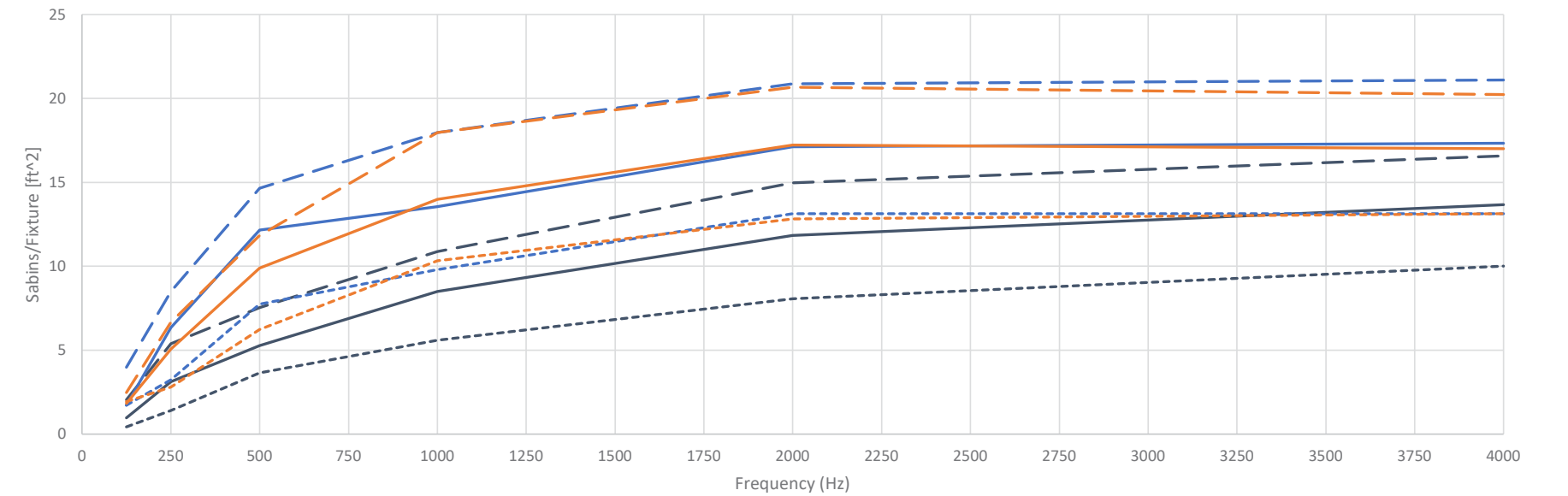
Reverberation Time (RT60)

The time it takes a reverberant sound field to decay 60 dB after the source is interrupted.

- The ideal reverberation time varies by application
- This is the key metric when determining how many acoustic fixtures will be required for a particular application

Where sound absorption is needed, the shape of the fixture directly impacts the effectiveness. All of the of the Define Acoustic products are well above industry standards and provide effective reverberation decrease as well as sound absorption and blocking.

Define Acoustic Absorption in Critical Human Voice Spectrum



1. Perform optimal lighting layout to understand the lit fixtures required; Photometrics identical to Define DP/DIP

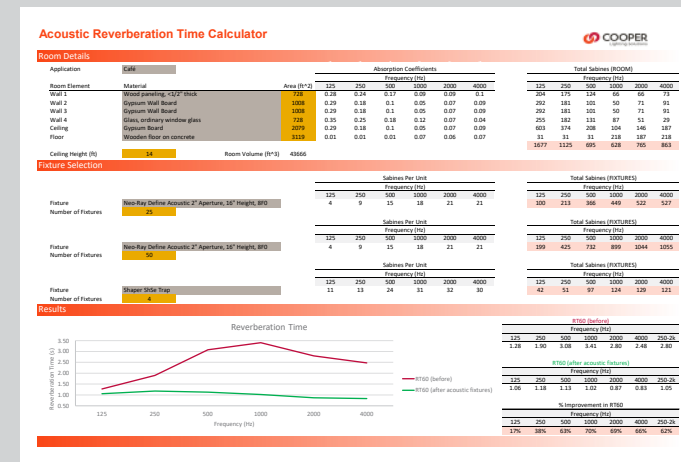
- Use the RT60 tool to determine non-lit acoustic fixture requirement

2. Select application / environment

- Enter dimensions and use the drop-down menu to configure materials
- Determine desired height of acoustic panels / fixtures - the taller the fixture, the less fixtures you will need
- Add the number of lit fixtures to the fixture selection (quantity = total linear feet / 8)
- Incrementally add non-lit baffles until you achieve the desired goal (quantity = # non-lit 8ft baffles required)
- Continue the selection of fixture and baffle options such as finishes, mounting details, etc.



USE THE REVERBERATION TOOL TO DETERMINE THE NUMBER OF UNLIT FIXTURES OR BAFFLES REQUIRED



- Select your environment to determine the suggested reverberation time
- Enter basic dimensional details of the space
- Select wall, ceiling, and flooring materials
- Add lit fixtures (e.g. Define Acoustic 2", 8ft) – Quantity = Total Linear Feet / 8
- Continue adding unlit fixtures (e.g. Define Acoustic Narrow Baffle) until the reverberation time is within the desired range
- The quantity of unlit baffles required is represented in 8ft lengths

Lighting Product Lines

Ametrix
AtLite
Corelite
Ephesus
Fail-Safe
Halo
Halo Commercial
Halo Outdoor
Invue
io
Iris
Lumark
Lumière
McGraw-Edison
Metalux
MWS
Neo-Ray
Portfolio
RSA
Shaper
Streetworks
Sure-Lites

Controls Product Lines

Fifth Light Technology
Greengate
iLight (International Only)
iLumin
Zero 88

Connected Lighting Systems

Distributed Low-Voltage Power
Halo Home
iLumin Plus
Enlighted
WaveLinx



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Printed in USA
Publication No. BR524006EN
August 2020

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