The construction of buildings is changing, many now have exposed soffit ceilings to improve thermal management and therefore save energy and reduce costs.

With no suspended ceiling this presents the problem of where to conceal services and the need for acoustic absorption.

This is where ACoustic SYStem comes into its own. ACoustic SYStem is a low profile suspended luminaire system with integrated acoustic panels and provision for additional ancillary equipment and services. With scope for customisation, the modular construction, clean lines and wide choice of T5 lamps and control gear provides a versatile system suited to a wide range of interiors.

- Acoustic panels in a choice of depths and widths provide different levels of acoustic absorption
- 2 independent cable ways for additional services with snap in covers available separately
- T5 'High Efficiency' and 'High Output' lamp options. Exceeding Part L luminaire lumen per circuit watt requirements
- 65° 1000cd/m^2 louvre or microprism panel options for the downward optic
- Upward light element via a clear reeded panel aiding compliance with LG7 and BS EN12464-1
- Plug and play luminaire wiring reducing installation time
- Simple keyhole and locking screw arrangement to align and secure sections together

Lamp and Control Gear Options

- 21W, 28W, 35W (HE) 39W, 54W, 49W (HO) T5 fluorescent 4000K - G5 cap
- High frequency control gear as standard
- Dimming options including DSI and DALI

Materials

- Housing - steel construction, powder coated in RAL9016 white finish (RAL9006 Silver/Grey to special order)
- Microprism diffuser - UV Stable TPa rated
- Louvre - xenoptic Satin finish aluminium
- Acoustic material - class O rated fire retardant acoustic foam
- Uplight panel - extruded, clear, TPa rated linear reeded panel UV stable polycarbonate

Installation Notes

- Incoming mains supply termination in every luminaire module with 2 x 2.5mm² cable capacity per termination
- Fused as standard
- Fully covered rear panel to avoid unwanted debris entering the luminaire
- Simple lamp change via the tool-less removal of the louvre or panel optic
- 4 x 1.5m long suspension wires are supplied with 1800mm luminaire sections. Order additional suspension wires as required for infill sections. Standard infills mounted between luminaire modules may not require extra suspensions as the adjacent luminaires will support them
- Option of threaded rod suspension via accessory kit
- Aids lighting scheme design to comply with LG7 and BS EN 12464-1 - Refer to Interior Lighting Design Guide on page 517

Options

- Lighting control and energy management options (refer to Controls Guide on page 457)
- Integral emergency options:

  Self contained operation of one of the standard lamps

  Or alternatively

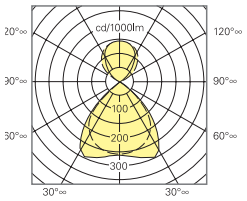
  An independent fully integrated LED emergency luminaire (Micropoint 2)
- Apertures can be provided within infills to accommodate specific accessories
- Choice of infill section module size, providing a flexible and easily configured system

Specification

To specify state: High performance, low profile suspended T5 luminaire system with integrated acoustics and services. Shootbolt retained 65° 1000cd/m² Xenoptic Satin louvre or microprism panel optic. Uplight via linear reeded panel. Plug and socket luminaire through wiring plus 2 additional separate cable ways. Drop wire suspension with height adjustment via simple clutch mechanism for rapid installation as Eaton's ACoustic SYStem range part no. _____

Photometric Data

Lamp option: 2 x 35W T5
Cat. No. ACWV508235Z



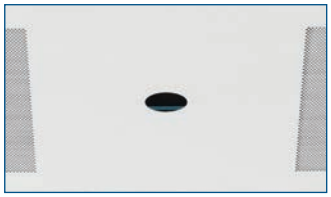
LOR: 0.79
ULOR: 0.29
DLOR: 0.50

SHR nom: 1.25
SHR max: 1.35

Utilisation factors / TM5

Reflectances			Room Index								
C	W	F	0.75	1.0	1.25	1.5	2.0	2.5	3.0	4.0	5.0
70	50	20	47	54	59	62	66	69	71	73	75
70	30	20	43	50	54	58	63	66	68	71	73
70	10	20	39	46	51	55	60	63	66	69	71
50	50	20	44	49	53	56	59	61	63	65	66
50	30	20	40	46	50	53	57	59	61	63	65
50	10	20	37	43	48	51	55	57	59	62	64
30	50	20	40	45	48	50	53	55	56	57	58
30	30	20	37	42	46	48	51	53	55	56	57
30	10	20	35	40	44	46	50	52	53	55	57
0	0	0	31	35	38	40	42	44	45	46	47
BZ-Class			1	1	1	1	1	1	1	1	1

See page 514 for Design Guide


Cut out


Beacon

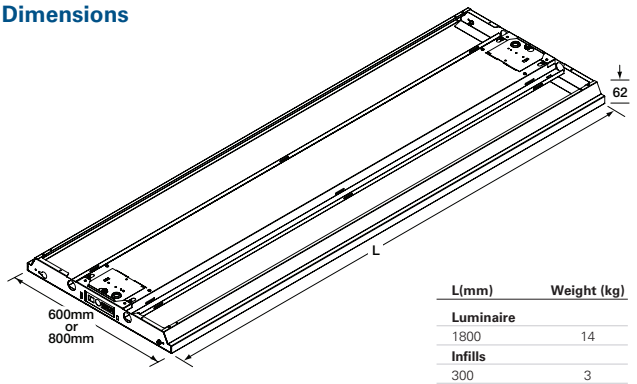

Micropoint 2 LED


Sprinkler head


PIR sensor (other sensors available)


Audio speaker

Dimensions



L(mm)	Weight (kg)
Luminaire	
1800	14
Infills	
300	3
600	5
900	7
1200	9

Acoustic Data

ACoustic SYStem is compliant with the requirements of Building Bulletin 93 (BB93) which defines the acoustic performance requirements of different spaces. (refer to Table 1 and BB93 for further details)

Full independently tested 1st and 3rd octave acoustic performance data for ACoustic SYStem is available on request.

Eaton's computer modelling system enables quick acoustic performance estimates for most major construction types. The calculations are based on computer modelling using library data for standard constructions and laboratory test data for the luminaires in accordance with BS EN ISO 354:2003. The software provides the reverberation time average across all octave bands (RT) and reverberation time average based on 500, 1000 and 2000Hz (Tmf) for compliance with BB93.

Projects should always be considered on an individual basis, as room dimensions, floor, wall and ceiling construction, windows, doors etc will have an effect on the overall performance of a room. Please contact our sales team or your local area sales engineer for further assistance or advice.

Building Bulletin 93 (BB93) Performance Standards

Type of room	Tmf (seconds)
Nursery school: playrooms and quiet rooms	<0.6
Primary school: classrooms	<0.6
Secondary school: classrooms	<0.8
Open-plan teaching areas	<0.8
Open-plan resource areas	<1.0
Music classroom	<1.0
Small lecture room (<50 people)	<0.8
Large lecture room (>50 people)	<1.0
Study room	<0.8
Science laboratories	<0.8
Design and technology	<0.8
Art rooms	<0.8
Audio-visual, video conference rooms	<0.8
Interviewing/counselling rooms, medical rooms	<0.8
Dining rooms	<1.0
Libraries	<1.0
Drama studios	<1.0
Dance studio	<1.2
Indoor sports halls/Gymnasium	<1.5
Atria, circulation spaces used by students	<1.5

Table 1: data from BB93: Performance standards for reverberation in teaching and study spaces - mid-frequency reverberation time, Tmf, in finished but unoccupied and unfurnished rooms. (Refer to BB93 for further detail)

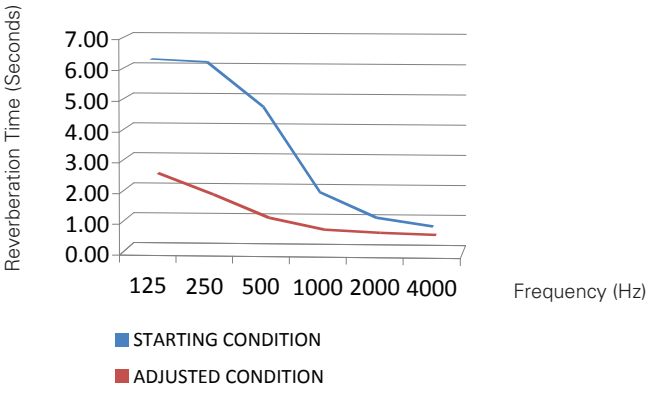
Typical room examples are given below. Both are based on a room height of 3m, a ceiling with plaster, lime or gypsum on solid backing, walls with smooth painted concrete, 1 solid timber door, and 9m² of double glazing, 3mm glass with 10mm gap, and 5mm needle felt carpet directly applied to concrete (no underlay). In the examples the ACoustic SYSstem modules are all 800mm wide, all luminaires are 1800mm long and all infills are 600mm long.
The Adjusted Condition Tmf figure in the examples below demonstrates the luminaire compliance in accordance with BB93.

Example 1

Application: 8m x 6m open plan teaching area
BB93 Tmf: <0.8s
Luminaires: 3 rows; 9 luminaires and 6 infills in total
Acoustic Layer: 50mm

Results

Frequency	125	250	500	1000	2000	4000	RT (sec)	Tmf (sec)
Rev Time Starting Condition	6.32	6.23	4.78	2.01	1.19	0.93	3.6	2.7
Rev Time Adjusted Condition	2.42	1.73	0.96	0.58	0.50	0.45	1.1	**0.7**

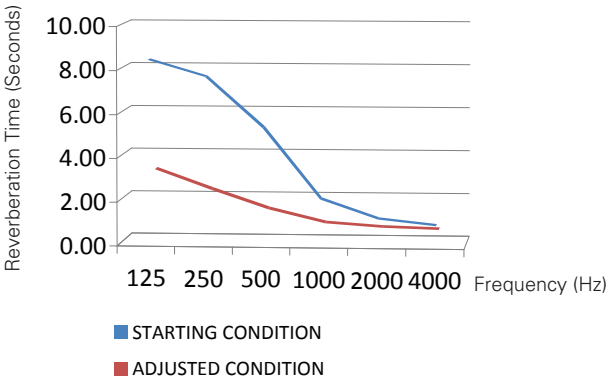


Example 2

Application: 8m x 12m open plan resource area
BB93 Tmf: <1.0s
Luminaires: 6 rows; 18 luminaires and 12 infills in total
Acoustic Layer: 25mm

Results

Frequency	125	250	500	1000	2000	4000	RT (sec)	Tmf (sec)
Rev Time Starting Condition	8.44	7.68	5.36	2.12	1.23	0.95	4.3	2.9
Rev Time Adjusted Condition	3.19	2.26	1.38	0.76	0.57	0.49	1.4	**0.9**



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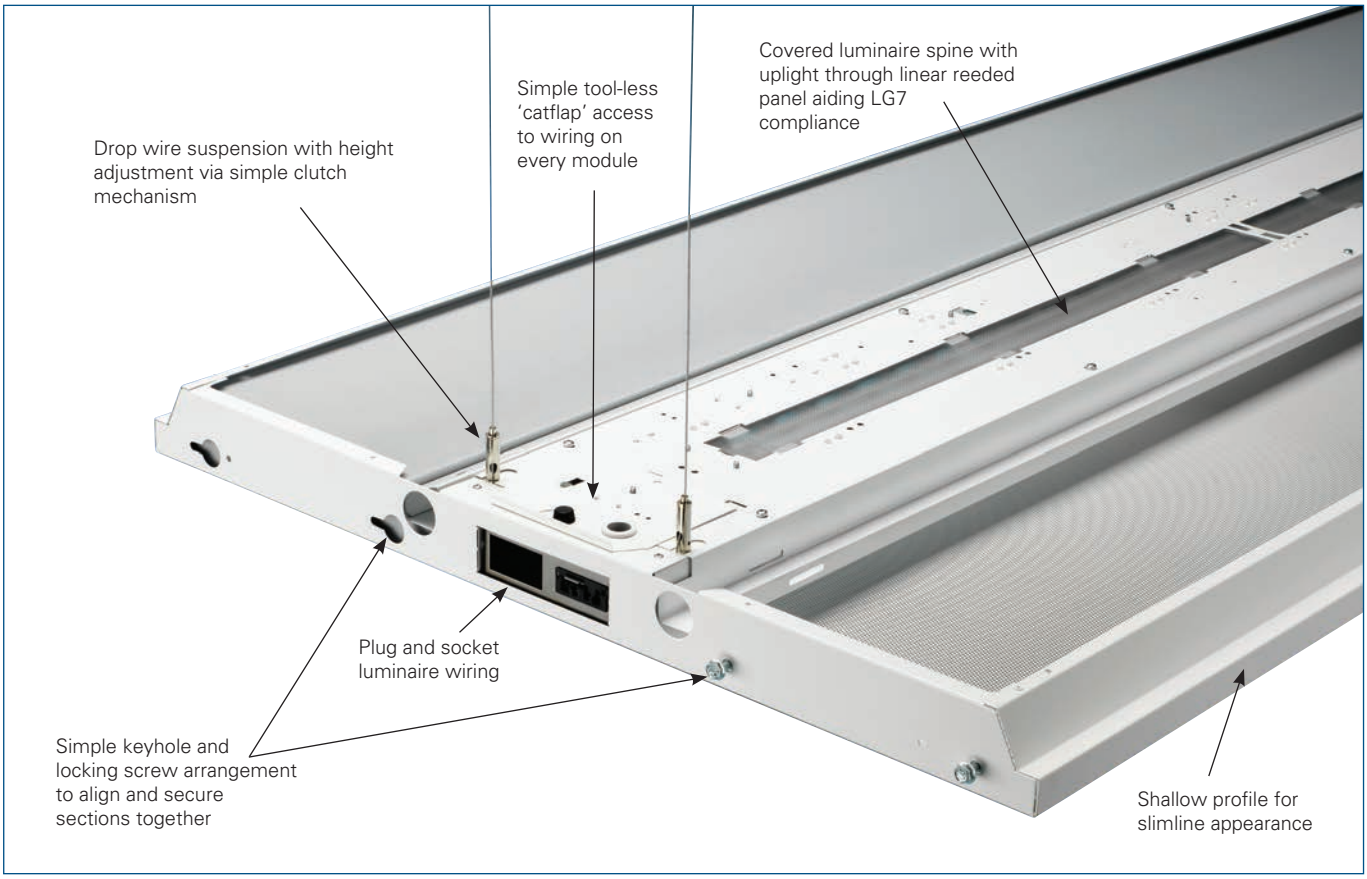
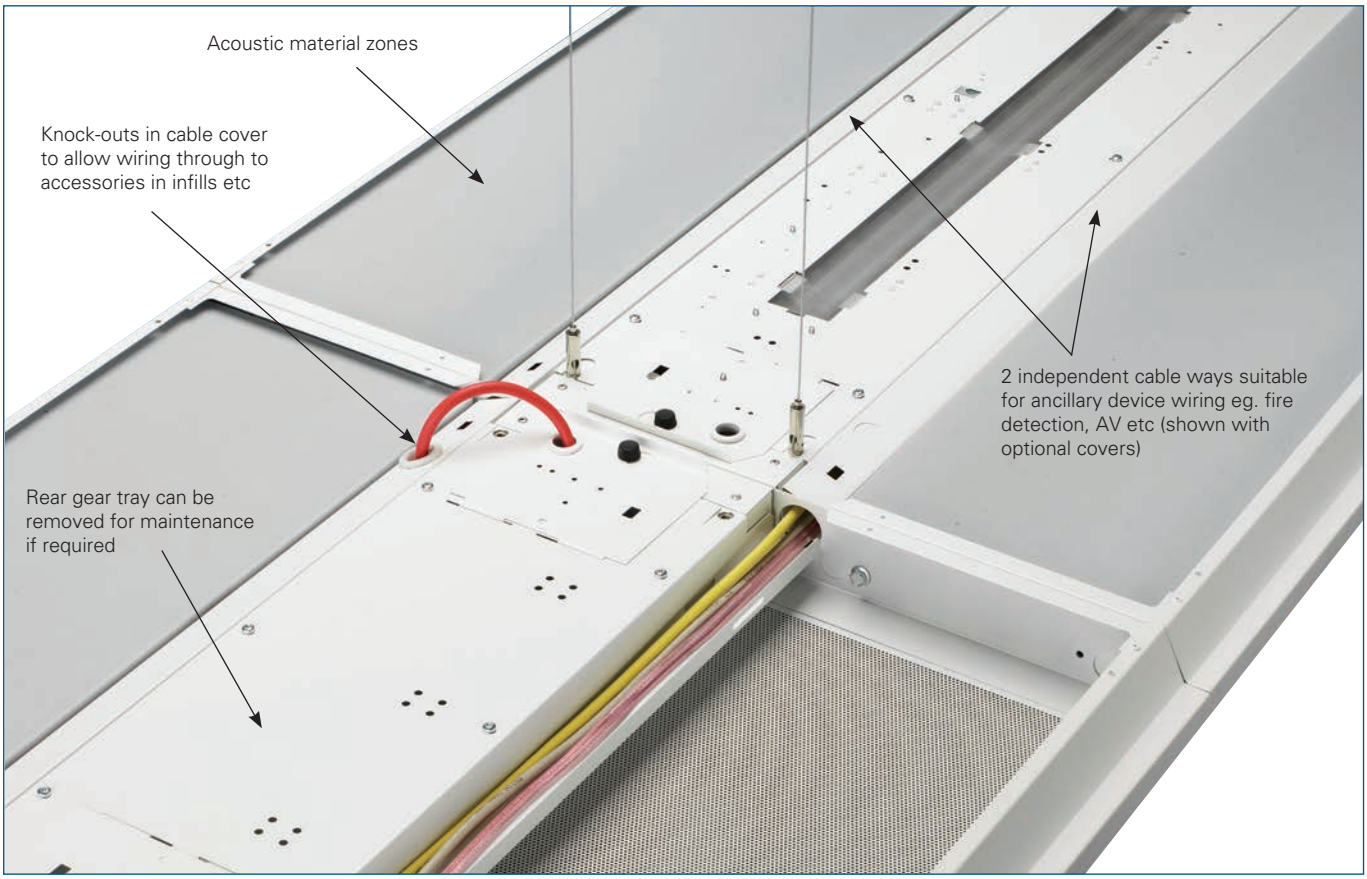
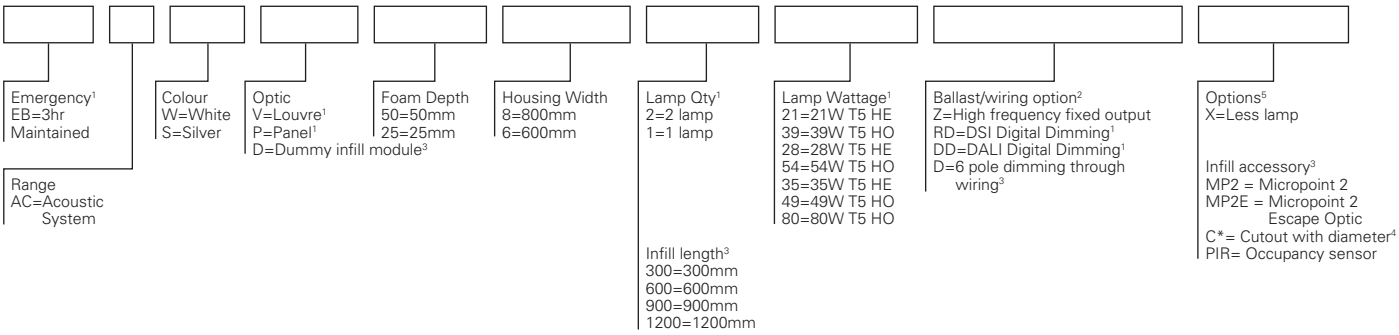

Drop wire suspension with height adjustment via simple clutch mechanism
Simple tool-less 'catflap' access to wiring on every module
Covered luminaire spine with uplight through linear reeded panel aiding LG7 compliance
Plug and socket luminaire wiring
Simple keyhole and locking screw arrangement to align and secure sections together
Shallow profile for slimline appearance


Acoustic material zones
Knock-outs in cable cover to allow wiring through to accessories in infills etc
2 independent cable ways suitable for ancillary device wiring eg. fire detection, AV etc (shown with optional covers)
Rear gear tray can be removed for maintenance if required

Catalogue Numbers



Notes:
1 Luminaire module option only, not compatible with dummy infill modules
2 All HF infills have 4-pole through wiring with the Z character. Where digital dimming is used replace the 'Z' with 'D' for 6-pole through wiring compatible with 'RD' and 'DD' luminaires
3 Dummy infill option only, not compatible with luminaire modules
4 Cut outs can be provided to suit accessories supplied by others - please check feasibility before ordering. The default position of such cut-outs will be central in the infill.
* Standard holes sizes available in 5mm increments up to 125mm diameter, add the required dimension after the C suffix. eg ACWD508600ZC115
5 Lighting control options and emergency versions with automatic test functionality are available - please discuss requirements with your Eaton representative. Please refer to Controls Guide, page 457 and emergency test systems, page 235.

Luminaire module example:

Lamp Option	Colour Finish	Optic	Cat No	Weight (kg)	Emergency Cat No	Weight (kg)
2 x 21W	White	65°-1000cd/m² louvre	ACWV508221Z	14.00	EBACWV508221Z	15.00

Infill module examples:

Length	Colour Finish	Description	Emergency Cat No	Weight (kg)
600mm	White	Standard infill with Micropoint 2 luminaire	ACWD508600ZMP2	5.50

Accessories:

Colour Finish	Description	Emergency Cat No	Weight (kg)
White	White 300mm cable channel cover	ACW300CC	0.10
White	White 600mm cable channel cover	ACW600CC	0.20
White	White 900mm cable channel cover	ACW900CC	0.30
White	White 1200mm cable channel cover	ACW1200CC	0.40
White	White 1800mm cable channel cover	ACW1800CC	0.60
White	White ceiling brackets (pair)	ACWCB	0.20
n/a	Suspension kit 2 x 1.5m	AC1500WS	0.10
White	White end plate trim 600mm	ACW6EPT	0.40
White	White end plate trim 800mm	ACW8EPT	0.50
White	White drop rod suspension kit (drop rods supplied by others)	ACWDRS	0.20

Colour finish: RAL9006 silver/grey substitute the 3rd character in the cat no. 'W' for 'S' eg AC**S**CB

End plate trim

Cable channel cover

Ceiling bracket

Suspension kit

For further information contact our technical support and application department on 01302 303240 or email lighting@cooper-ls.com

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