



inspired by light

lichtwerk

lichtwerk

- inspired by light

lichtwerk GmbH is a subsidiary of Regiolux GmbH, and has established itself in the area of architectural lighting as an expert partner for sophisticated lighting tasks.

In addition to standard luminaires, the portfolio of lichtwerk GmbH includes individual project luminaires featuring future-fit technology for innovative lighting solutions.

Flexible

The all-round inclusive package is our standard when it comes to defining our range of services. Lichtwerk reacts flexibly to individual customer requirements. Everything begins with the consultations in the planning phase. Requirements are defined, framework conditions are determined and a selection is made.

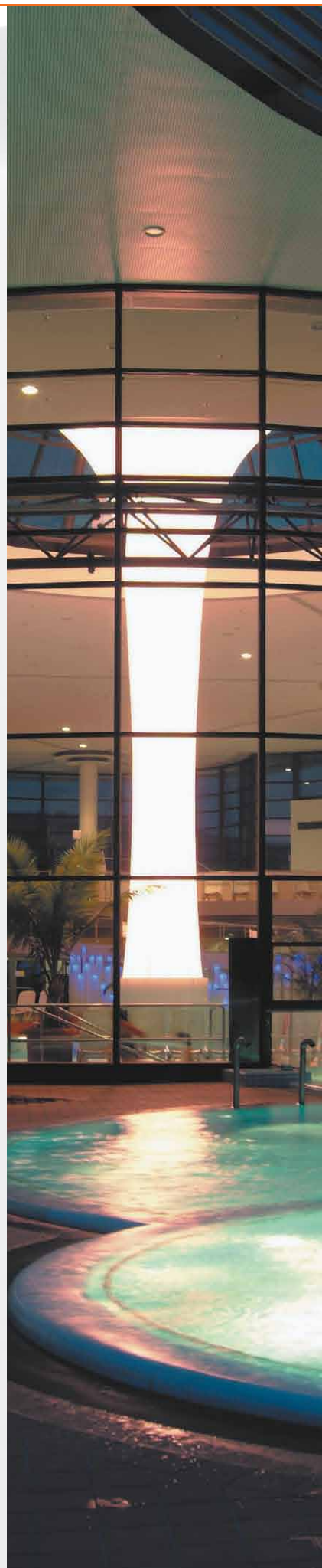
Emotional

The effect that was planned is only achieved if everything is perfectly coordinated. Light creates emotions and only when these satisfy the client's requirements does the lighting achieve the enthusiasm, which we set as our goal.

lichtwerk deals with the theme of light in a very emotional manner and treats customer relations the same way.


















Creativ

Together, we develop your individual project solution so that the lighting achieves a result that satisfies the architecture, lighting requirement and user alike. Due to the heterogeneous customer structure and changing challenges, lichtwerk is accustomed to always thinking new, innovatively and creatively.
















Symbol key

Colour code/Colour		Definition of measurement table variables	
	traffic white (RAL 9016)	L	Length
	white-aluminium also sg (RAL 9006)	□ L	Length/Width for square luminaires
	aluminium natural anodized	L2	Additional length
	stainless steel	B	Width
	chrome	H	Height
	silver	∅ D	Diameter
	silver-grey also wa (RAL 9006)	KE	Cable infeed
	aluminium	KL	Length of luminaire head or ballast box
	translucent	KB	Width of luminaire head or ballast box
	clear	KH	Height of luminaire head or ballast box
	grey	A1	Fixing distance in case of single mounting
	black	A2	Fixing distance for the middle luminaires or between the luminaires in case of light run mounting
	red	X	Distance from centre of the luminaire to the electrical feed in (X direction = length)
	green	Y	Distance from centre of the luminaire to the electrical feed in (Y direction = width)
	blue	□ / SL	Length of cut for recessed luminaires
Control gear		□ / SB	Width of cut for recessed luminaires
Eb	Electronic ballast	∅ / SD	Diameter of cut for recessed luminaires
dim	Dimmable	e	Minimum necessary depth for luminaire mounting
1-10V	Analoge Standard Signal	DS min/max	Min./Max. ceiling thickness in case of suspended ceiling
DALI	Digital Adressable Lighting Interface	ML	Modul (axis) Length
ET	Electronic Driver	MB	Modul (axis) Width
NL-B	Emergency light single battery		
multi	Multiwatt		
Ceiling systems			
	Ceilings with visible T-rails		
	For recessed ceilings		

INDEX



	LED-luminaires		
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170 bota 195 BES



180 bota 225 BESD 1lp



180 bota 225 BESD 2lp



182 bota 225 BESF 1lp



Recessed Downlights

166 cada 1lp



166 cada 2lp



166 cada 3lp



166 cada 4lp



170 bota 195 BEST



174 bota 195 BESD 1lp



174 bota 195 BESD 2lp



176 bota 195 BESF 1lp



176 bota 195 BESF 2lp



182 bota 225 BESF 2lp



186 bota 285 BESD 2lp



186 bota 285 BESD 3lp



188 bota 285 BESF 2lp



188 bota 285 BESF 3lp



192 bota BESED 1lp



192 bota BESED 2lp

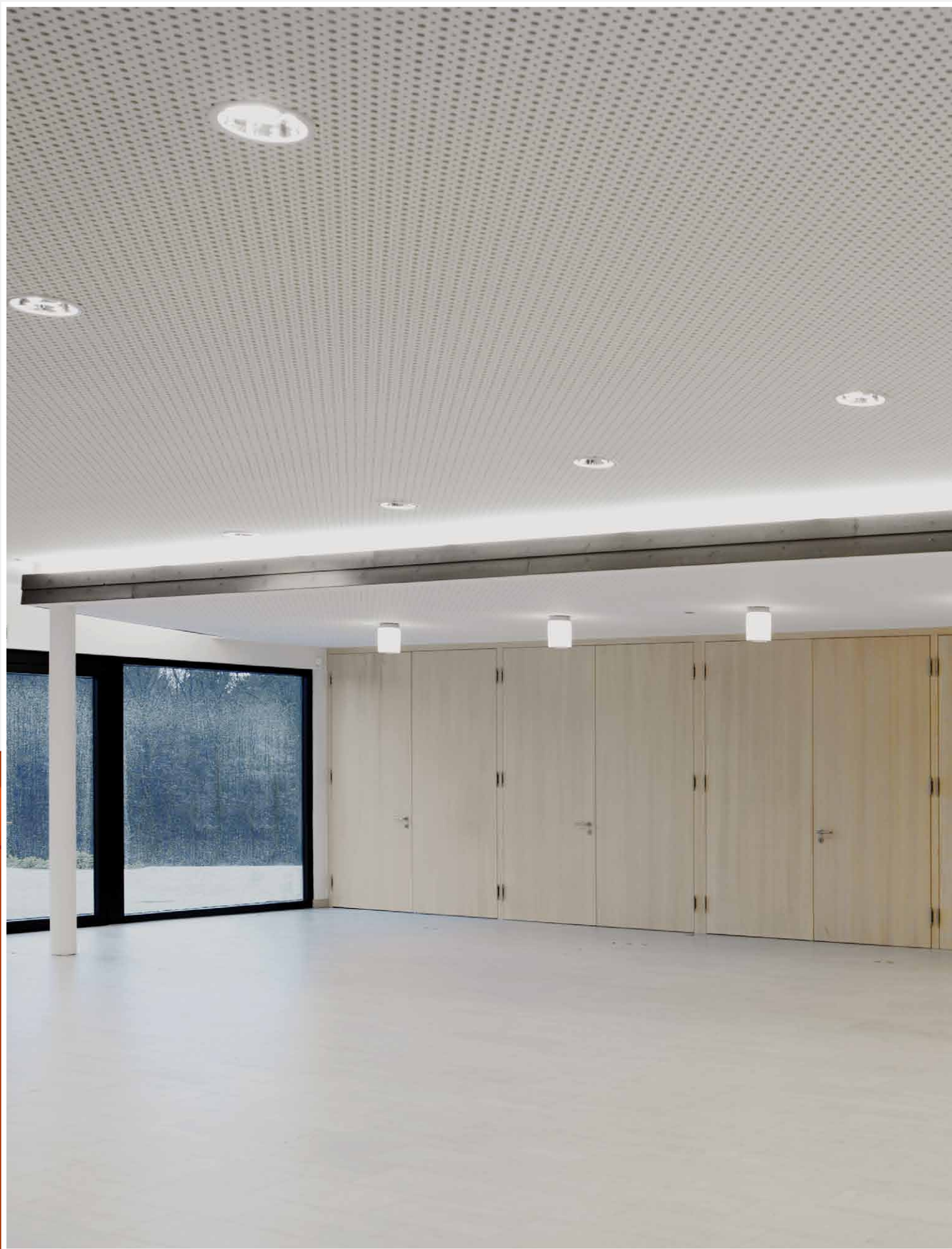


194 bota BESEX 1lp



194 bota BESEX 2lp





Recessed-Downlights

165







cada 1lp



cada 2lp



cada 3lp



cada 4lp

cada



cada

Housing






Gimballed luminaire insert out of aluminium, integrated in sheet steel housing, closed on the ceiling side, with powder-coated mounting frame in white aluminium.

Miscellaneous

Transformators ballasts ETE-105 VA please order separately.
Module structure with up to four luminaire inserts.




IP20    



Type	Colour	Wattage	Lamp	Socket	Item-number	
cada-ES		1/50	QR-CBC 51	GU5.3	381 1500 105	1,0
		2/50	QR-CBC 51	GU5.3	381 2500 105	1,5
		3/50	QR-CBC 51	GU5.3	381 3500 105	1,2
		4/50	QR-CBC 51	GU5.3	381 4500 105	1,5

ETE-105 VA



Accessories	Type	Details	Colour	Item-number	
	ETE-105 VA	Electronic transformer		370 1000 100	0,3



cada-ES



QR-CBC-51

4/50

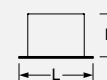


	Number	L	B	H	e	SL	SB
cada	1	114	114	102	120	95	95
	2	185	114	102	120	170	95
	3	260	114	102	120	245	95
	4	197	197	102	120	170	170

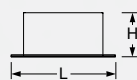
cada 1lp



cada 2lp



cada 3lp



cada 4lp







bota 195



bota 195/225/285 BESD



bota 195/225/285 BESF



bota BESED



bota BESEX

bota



bota 195 LED

Housing

Housing frame and supply unit of zinc-coated sheet steel, aluminium heat sink for effective passive cooling, mounting ring and cover ring of glass-fibre reinforced, non-distorting polyamide plastic blend, with mounting springs for tool-free mounting, suitable for ceiling thicknesses of 10mm-25mm.

Lighting technology BES

Direct narrow-wide light distribution via micro-structured, individually anodised reflector of ultra-pure aluminium for VDU workstations, $65^\circ < 1000 \text{ cd/m}^2$ with omnidirectional glare reduction according to current DIN-EN 12464-1 standard.

Lighting technology BEST

Direct narrow light distribution via micro-structured, individually anodised reflector of ultra-pure aluminium for VDU workstations, $65^\circ < 1000 \text{ cd/m}^2$ with omnidirectional glare reduction according to current DIN-EN 12464-1 standard.

Miscellaneous

External supply unit wired ready for operation with luminaire. Electrical connection via 3-pole terminal block with plug-in contact. Downlight prepared for covers, please order corresponding accessories separately.

IP20    



bota-BES 195

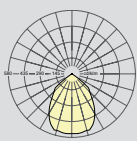
1000

31W

$\eta_{LB} = 94 \%$



Luminous distribution
Direct 100 %
Indirect 0 %
Glare rating
UGR lat. 22,6
UGR long. 22,6



bota-BEST 195

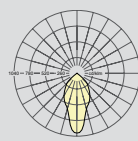
1000




29W




$\eta_{LB} = 95 \%$



Luminous distribution
Direct 100 %
Indirect 0 %
Glare rating
UGR lat. 21,4
UGR long. 21,4

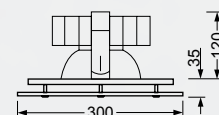
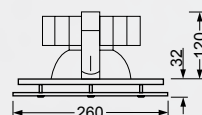
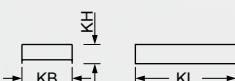
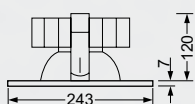


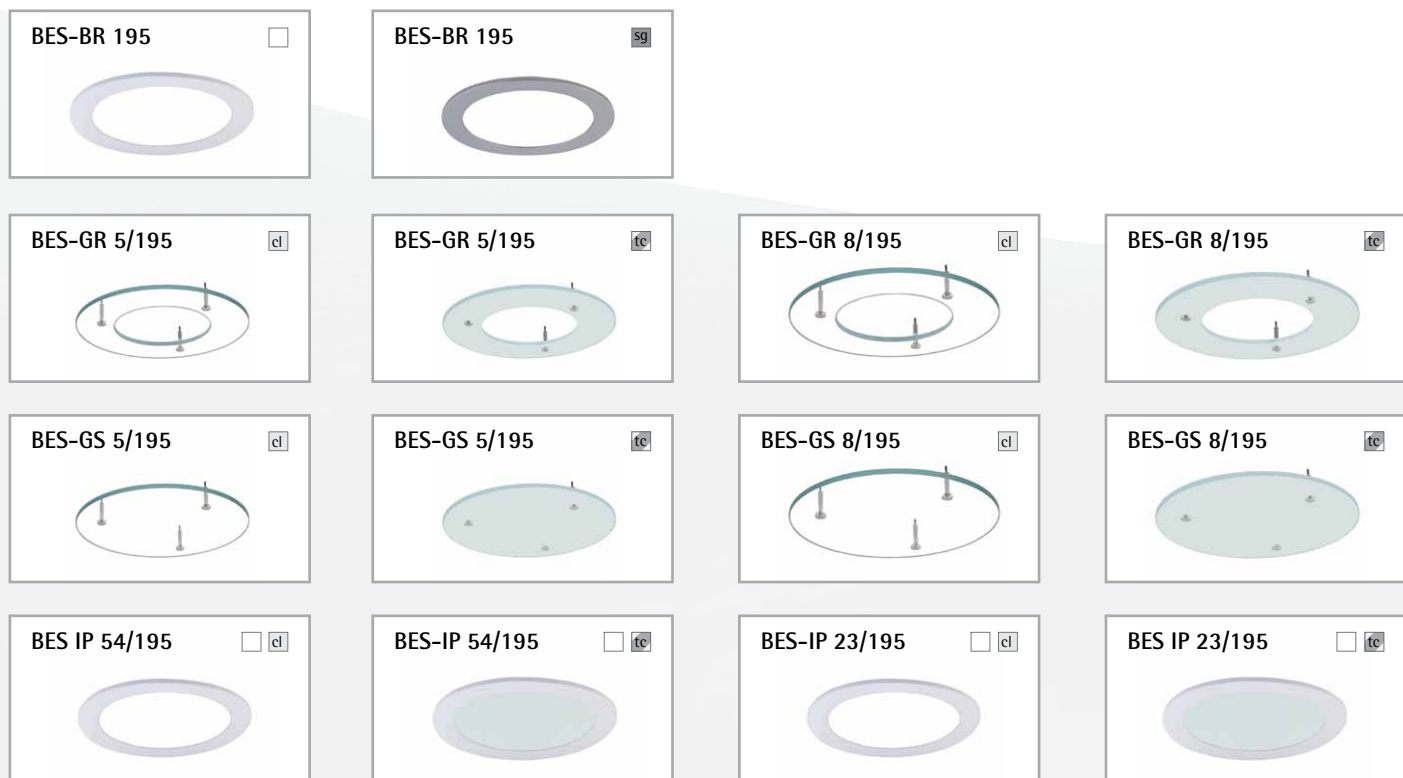
Type	Lamp	Wattage	Colour	ET	ET dim DALI	
bota BES	LED	1x9W 800lm 840		879 0014 120	879 0016 620	2,0
	LED	1x9W 800lm 930		879 0024 120	879 0026 620	2,0
	LED	1x31W 2100lm 840		879 0074 120	879 0076 620	2,0
	LED	1x34W 2100lm 830		879 0084 120	879 0086 620	2,0
bota BEST	LED	1x15W 1100lm 840		879 0034 120	879 0036 620	2,1
	LED	1x17W 1100lm 835		879 0044 120	879 0046 620	2,1
	LED	1x29W 2000lm 840		879 0054 120	879 0056 620	2,1
	LED	1x32W 2000lm 835		879 0064 120	879 0066 620	2,1
























	Ceiling	LED Specification	LxBxH/DxH	T	KL	KB	KH	 LxB/D	e	DS min/max
bota BES		LED 1x9W	243 x 127	120	167	146	48	229	165	10-25
		LED 1x31W	243 x 127	120	167	146	48	229	165	10-25
		LED 1x34W	243 x 127	120	167	146	48	229	165	10-25
bota BEST		LED 1x15W	243 x 127	120	167	146	48	229	165	10-25
		LED 1x17W	243 x 127	120	167	146	48	229	165	10-25
		LED 1x29W	243 x 127	120	167	146	48	229	165	10-25
		LED 1x32W	243 x 127	120	167	146	48	229	165	10-25

+ BES GR+GS 5/195

+ BES GR+GS 8/195





Accessories		Type	Colour	Material	Details	Item-number	
	Ring attachment	BES-BR 195		PA	for BESD, BESF 195	869 1000 100	0,1
				PA	for BESD, BESF 195	869 1000 105	0,1
	Glass frame 5 mm	BES-GR 5/195		Glass (ESG)	5 mm for BESD, BESF 195	869 3100 101	0,4
				Glass (ESG)	5 mm for BESD, BESF 195	869 3100 102	0,4
	Glass frame 8 mm	BES-GR 8/195		Glass (ESG)	8 mm for BESD, BESF 195	869 3200 101	1
				Glass (ESG)	8 mm for BESD, BESF 195	869 3200 102	1
	Glass panel 5 mm	BES-GS 5/195		Glass (ESG)	5 mm for BESD, BESF 195	869 2100 101	0,6
				Glass (ESG)	5 mm for BESD, BESF 195	869 2100 102	0,6
	Glass panel 8 mm	BES-GS 8/195		Glass (ESG)	8 mm for BESD, BESF 195	869 2200 101	1,2
				Glass (ESG)	8 mm for BESD, BESF 195	869 2200 102	1,2
	Cover IP54	BES-IP 54/195	 	PA + Glass (ESG)	IP 54 for BESD, BESF 195	869 1100 101	0,5
			 	PA + Glass (ESG)	IP 54 for BESD, BESF 195	869 1100 102	0,5
	Cover IP23	BES-IP 23/195	 	PA + Glass (ESG)	IP 23 for BESD, BESF 195	869 1200 101	0,5
			 	PA + Glass (ESG)	IP 23 for BESD, BESF 195	869 1200 102	0,5
	Mounting frame	BES-EP 195		St	for BESD, BESF 195	869 8300 000	2,3

bota 195

Housing

Housing frame, lampholder and supply unit of zinc-coated sheet steel, mounting ring of glass-fibre reinforced, nondistorting polyamid (PA) plastic blend, with mounting springs for tool-free mounting, suitable for ceiling thicknesses of 10mm-25mm.

Lighting technology BESD

Direct narrow light distribution via individually anodised reflector of highly specular ultra-pure aluminium.

Miscellaneous

External supply unit wired ready for operation with luminaire. Electrical connection via three-pole connecting terminal respectively for dimmable luminaires and luminaires with emergency light battery via 5-pole terminal with plug-in contacts. Downlight prepared for covers, please order corresponding accessories separately.

IP20    



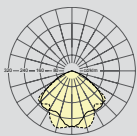
bota 195 BESD 1lp

1/26

$\eta_{LB} = 75 \%$



Luminous distribution
Direct 100 %
Indirect 0 %
Glare rating
UGR lat. 23,5
UGR long. 23,2



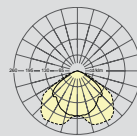
bota 195 BESD 2lp






2/26




$\eta_{LB} = 64 \%$



Luminous distribution
Direct 100 %
Indirect 0 %
Glare rating
UGR lat. 25,0
UGR long. 26,4

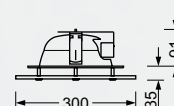
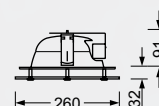
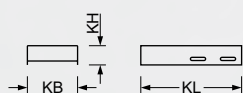
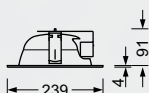


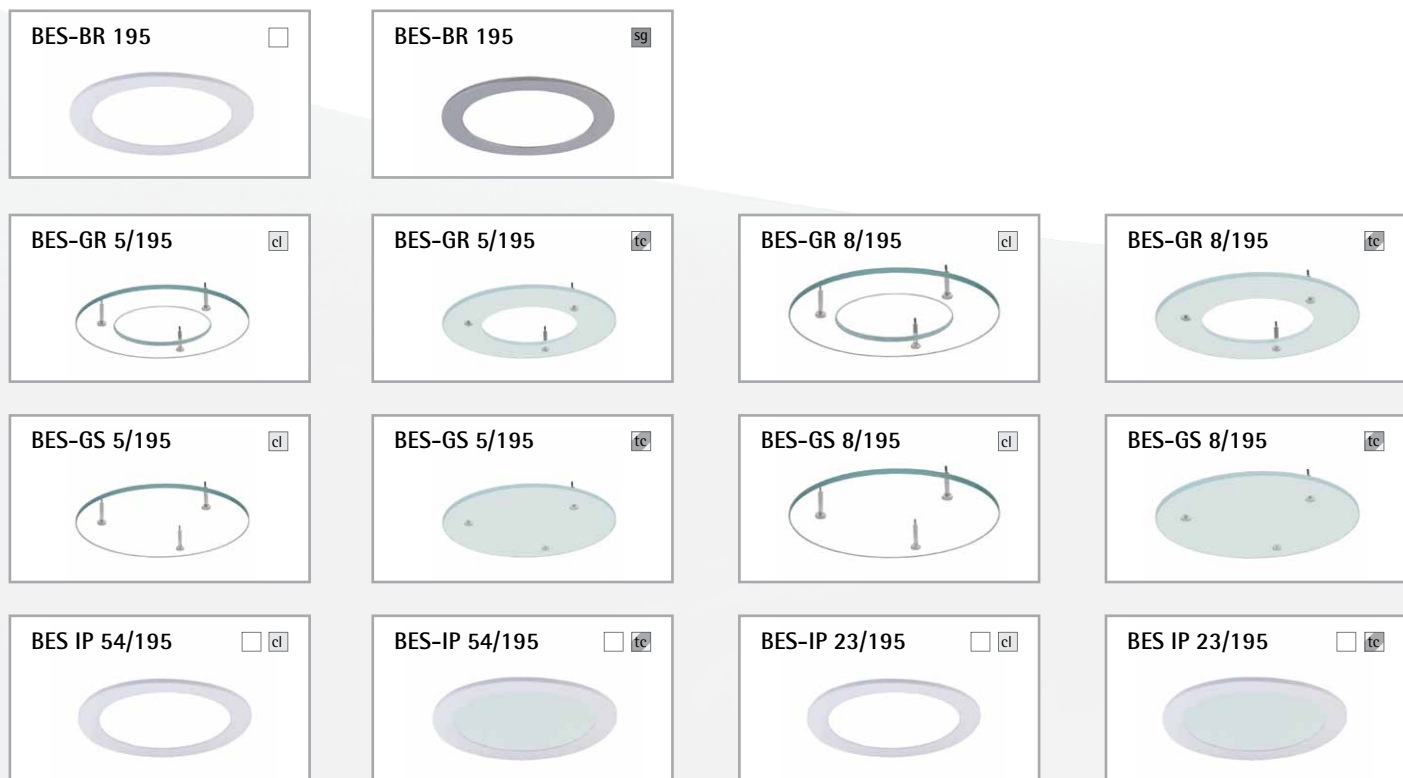
Type	Lamp	Socket	Wattage	Colour	Eb standard	Eb NL-B3h	Eb dim 1-10V	Eb dim DALI	
bota 195 BESD	TC-DEL	G24q-2	1/18		889 1184 170	889 1187 770	889 1185 170	889 1186 670	1,3
	TC-DEL	G24q-3	1/26		889 1264 170	889 1267 770	889 1265 170	889 1266 670	1,3
	TC-DEL	G24q-2	2/18		889 2184 170	889 2187 770	889 2185 170	889 2186 670	1,4
	TC-DEL	G24q-3	2/26		889 2264 170	889 2267 770	889 2265 170	889 2266 670	1,4





	Ceiling	Number	Wattage	LxBxH/DxH	T	KL	KB	KH	 LxB/D	e	DS min/max
bota 195		1/2	18	239 x 95	91	252	126	50	229	90	10-25
		1/2	26	239 x 95	91	252	126	50	229	90	10-25

+ BES GR+GS 5/195

+ BES GR+GS 8/195





Accessories		Type	Colour	Material	Details	Item-number	
	Ring attachment	BES-BR 195	<input type="checkbox"/>	PA	for BESD, BESF 195	869 1000 100	0,1
			<input checked="" type="checkbox"/>	PA	for BESD, BESF 195	869 1000 105	0,1
	Glass frame 5 mm	BES-GR 5/195	<input checked="" type="checkbox"/>	Glass (ESG)	5 mm for BESD, BESF 195	869 3100 101	0,4
			<input checked="" type="checkbox"/>	Glass (ESG)	5 mm for BESD, BESF 195	869 3100 102	0,4
	Glass frame 8 mm	BES-GR 8/195	<input checked="" type="checkbox"/>	Glass (ESG)	8 mm for BESD, BESF 195	869 3200 101	1
			<input checked="" type="checkbox"/>	Glass (ESG)	8 mm for BESD, BESF 195	869 3200 102	1
	Glass panel 5 mm	BES-GS 5/195	<input checked="" type="checkbox"/>	Glass (ESG)	5 mm for BESD, BESF 195	869 2100 101	0,6
			<input checked="" type="checkbox"/>	Glass (ESG)	5 mm for BESD, BESF 195	869 2100 102	0,6
	Glass panel 8 mm	BES-GS 8/195	<input checked="" type="checkbox"/>	Glass (ESG)	8 mm for BESD, BESF 195	869 2200 101	1,2
			<input checked="" type="checkbox"/>	Glass (ESG)	8 mm for BESD, BESF 195	869 2200 102	1,2
	Cover IP54	BES-IP 54/195	<input type="checkbox"/> <input checked="" type="checkbox"/>	PA + Glass (ESG)	IP 54 for BESD, BESF 195	869 1100 101	0,5
			<input type="checkbox"/> <input checked="" type="checkbox"/>	PA + Glass (ESG)	IP 54 for BESD, BESF 195	869 1100 102	0,5
	Cover IP23	BES-IP 23/195	<input type="checkbox"/> <input checked="" type="checkbox"/>	PA + Glass (ESG)	IP 23 for BESD, BESF 195	869 1200 101	0,5
			<input type="checkbox"/> <input checked="" type="checkbox"/>	PA + Glass (ESG)	IP 23 for BESD, BESF 195	869 1200 102	0,5
	Mounting frame	BES-EP 195	<input checked="" type="checkbox"/>	St	for BESD, BESF 195	869 8300 000	2,3

bota 195

Housing

Housing frame, lampholder and supply unit of zinc-coated sheet steel, mounting ring of glass-fibre reinforced, nondistorting polyamid (PA) plastic blend, with mounting springs for tool-free mounting, suitable for ceiling thicknesses of 10mm-25mm.

Lighting technology DESF

Direct narrow light distribution via individually anodised reflector of highly specular ultra-pure aluminium; with attractive diamond facetting.

Miscellaneous

External supply unit wired ready for operation with luminaire. Electrical connection via three-pole connecting terminal respectively for dimmable luminaires and luminaires with emergency light battery via 5-pole terminal with plug-in contacts. Downlight prepared for covers, please order corresponding accessories separately.

IP20     



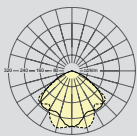
bota 195 BESF 1lp

1/26

$\eta_{LB} = 75 \%$



Luminous distribution
Direct 100 %
Indirect 0 %
Glare rating
UGR lat. 23,5
UGR long. 23,2



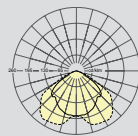
bota 195 BESF 2lp






2/26




$\eta_{LB} = 64 \%$



Luminous distribution
Direct 100 %
Indirect 0 %
Glare rating
UGR lat. 25,0
UGR long. 26,4

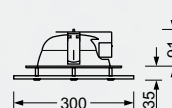
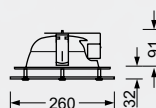
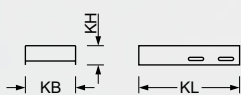
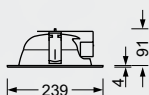


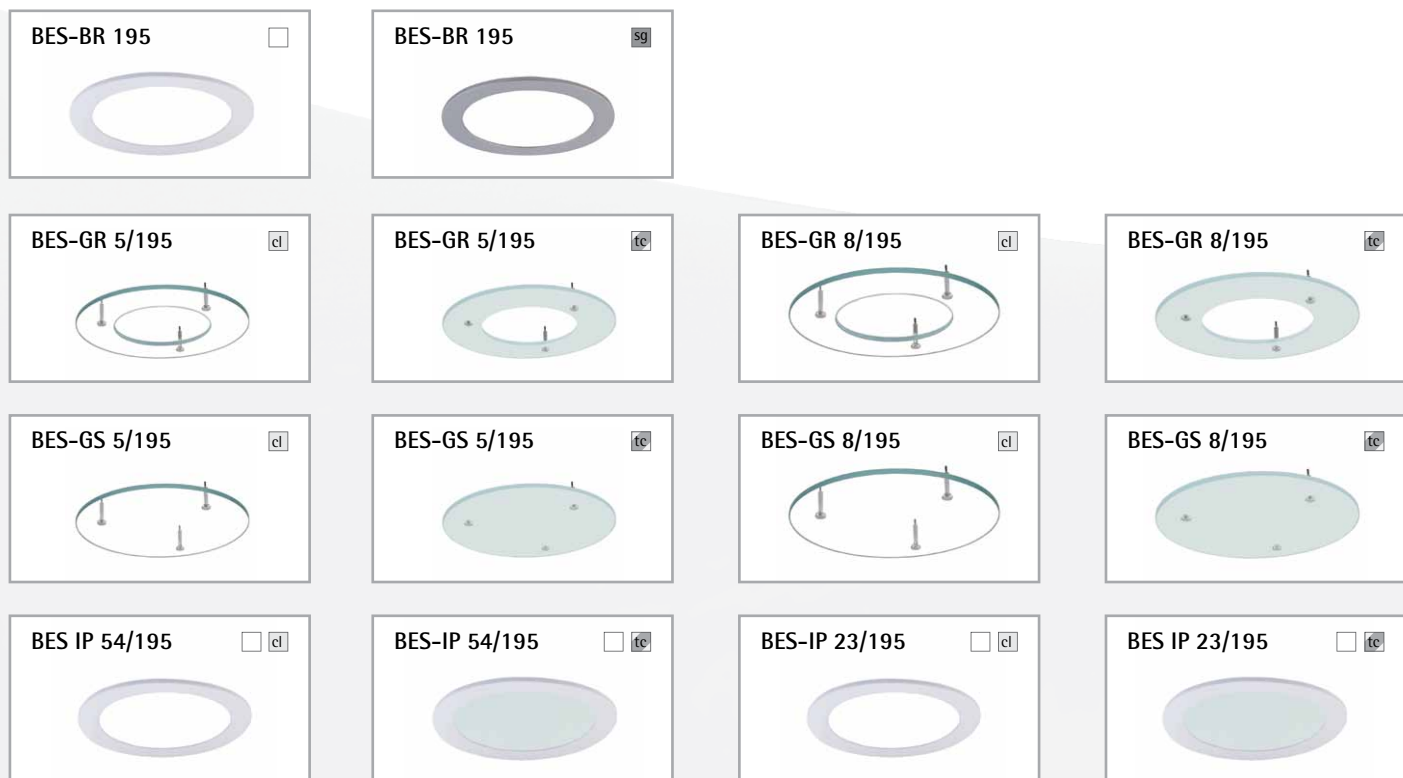
Type	Lamp	Socket	Wattage	Colour	Eb standard	Eb NL-B3h	Eb dim 1-10V	Eb dim DALI	
bota 195 BESF	TC-DEL	G24q-2	1/18		889 1184 120	889 1187 720	889 1185 120	889 1186 620	1,3
	TC-DEL	G24q-3	1/26		889 1264 120	889 1267 720	889 1265 120	889 1266 620	1,3
	TC-DEL	G24q-3	2/18		889 2184 120	889 2187 720	889 2185 120	889 2186 620	1,4
	TC-DEL	G24q-3	2/26		889 2264 120	889 2267 720	889 2265 120	889 2266 620	1,4





	Ceiling	Number	Wattage	LxBxH/DxH	T	KL	KB	KH	 LxB/D	e	DS min/max
bota 195		1/2	18	239 x 95	91	252	126	50	229	90	10-25
		1/2	26	239 x 95	91	252	126	50	229	90	10-25

+ BES GR+GS 5/195

+ BES GR+GS 8/195





Accessories		Type	Colour	Material	Details	Item-number	
	Ring attachment	BES-BR 195	<input type="checkbox"/>	PA	for BESD, BESF 195	869 1000 100	0,1
			<input checked="" type="checkbox"/>	PA	for BESD, BESF 195	869 1000 105	0,1
	Glass frame 5 mm	BES-GR 5/195	<input checked="" type="checkbox"/>	Glass (ESG)	5 mm for BESD, BESF 195	869 3100 101	0,4
			<input checked="" type="checkbox"/>	Glass (ESG)	5 mm for BESD, BESF 195	869 3100 102	0,4
	Glass frame 8 mm	BES-GR 8/195	<input checked="" type="checkbox"/>	Glass (ESG)	8 mm for BESD, BESF 195	869 3200 101	1
			<input checked="" type="checkbox"/>	Glass (ESG)	8 mm for BESD, BESF 195	869 3200 102	1
	Glass panel 5 mm	BES-GS 5/195	<input checked="" type="checkbox"/>	Glass (ESG)	5 mm for BESD, BESF 195	869 2100 101	0,6
			<input checked="" type="checkbox"/>	Glass (ESG)	5 mm for BESD, BESF 195	869 2100 102	0,6
	Glass panel 8 mm	BES-GS 8/195	<input checked="" type="checkbox"/>	Glass (ESG)	8 mm for BESD, BESF 195	869 2200 101	1,2
			<input checked="" type="checkbox"/>	Glass (ESG)	8 mm for BESD, BESF 195	869 2200 102	1,2
	Cover IP54	BES-IP 54/195	<input type="checkbox"/> <input checked="" type="checkbox"/>	PA + Glass (ESG)	IP 54 for BESD, BESF 195	869 1100 101	0,5
			<input type="checkbox"/> <input checked="" type="checkbox"/>	PA + Glass (ESG)	IP 54 for BESD, BESF 195	869 1100 102	0,5
	Cover IP23	BES-IP 23/195	<input type="checkbox"/> <input checked="" type="checkbox"/>	PA + Glass (ESG)	IP 23 for BESD, BESF 195	869 1200 101	0,5
			<input type="checkbox"/> <input checked="" type="checkbox"/>	PA + Glass (ESG)	IP 23 for BESD, BESF 195	869 1200 102	0,5
	Mounting frame	BES-EP 195	<input checked="" type="checkbox"/>	St	for BESD, BESF 195	869 8300 000	2,3





bota 225

Housing

Housing frame, lampholder and supply unit of zinc-coated sheet steel, mounting ring of glass-fibre reinforced, nondistorting polyamid (PA) plastic blend, with mounting springs for tool-free mounting, suitable for ceiling thicknesses of 10mm-30mm.

Lighting technology BESD

Direct wide light distribution via individually anodised reflector of highly specular ultra-pure aluminium, for VDU workstations, $65^\circ < 1000 \text{ cd/m}^2$ with omnidirectional glare reduction according to current DIN EN 12464-1 standard.

Miscellaneous

External supply unit wired ready for operation with luminaire. Electrical connection via three-pole connecting terminal respectively for dimmable luminaires and luminaires with emergency light battery via 5-pole terminal with plug-in contacts. Downlight prepared for covers, please order corresponding accessories separately.

IP20    



bota 225 BESD 1lp

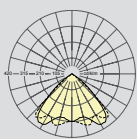
1000

1/26

$\eta_{LB} = 73 \%$



Luminous distribution
Direct 100 %
Indirect 0 %
Glare rating
UGR lat. 18,8
UGR long. 18,6



bota 225 BESD 2lp

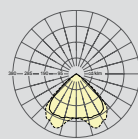
1000






2/26




$\eta_{LB} = 63 \%$



Luminous distribution
Direct 100 %
Indirect 0 %
Glare rating
UGR lat. 20,2
UGR long. 20,7

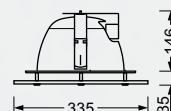
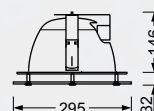
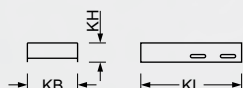
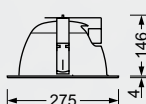


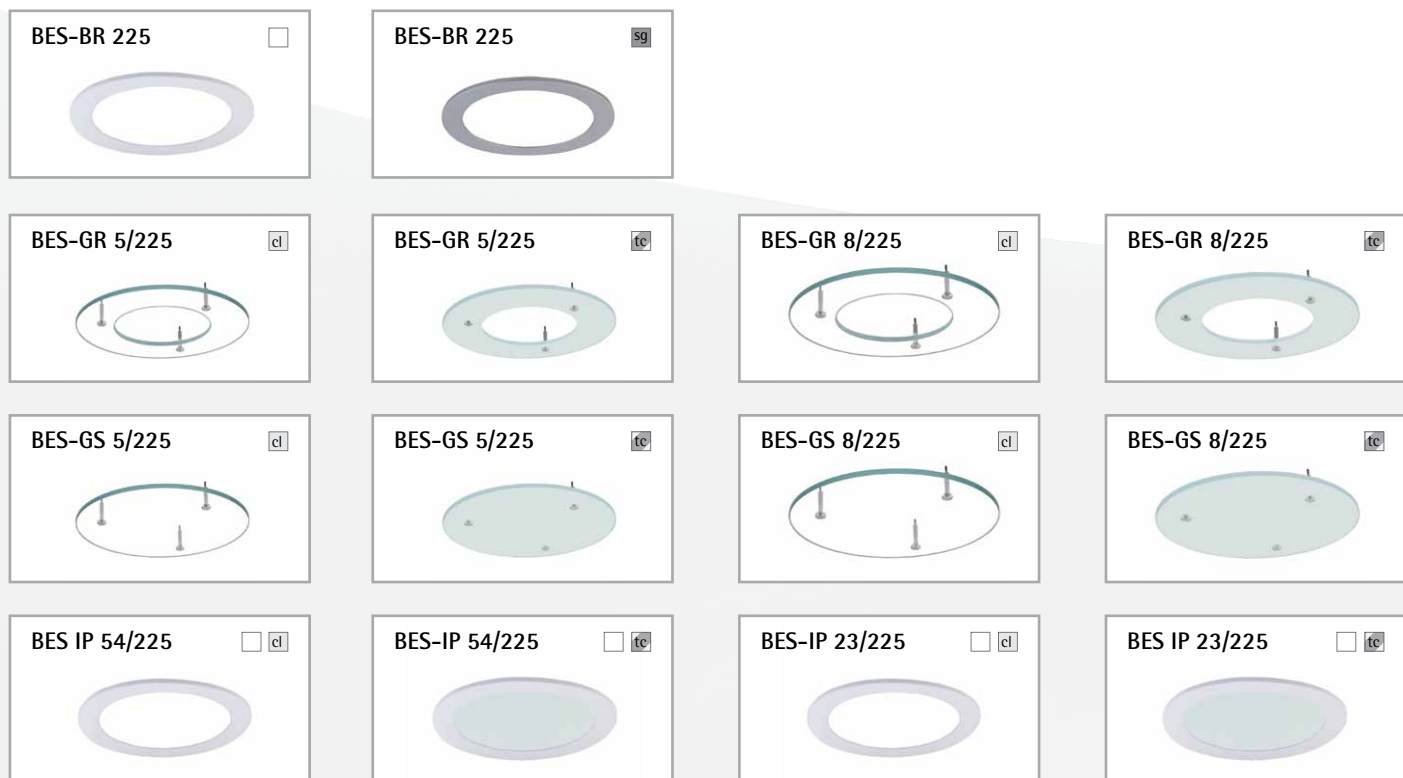
Type	Lamp	Socket	Wattage	Colour	Eb standard	Eb NL-B3h	Eb dim 1-10V	Eb dim DALI	
bota 225 BESD	TC-DEL	G24q-2	1/18		882 1184 170	882 1187 770	882 1185 170	882 1866 670	1,4
	TC-DEL	G24q-3	1/26		882 1264 170	882 1267 770	882 1265 170	882 1266 670	1,4
	TC-DEL	G24q-2	2/18		882 2184 170	882 2187 770	882 2185 170	882 2186 670	1,5
	TC-DEL	G24q-3	2/26		882 2264 170	882 2267 770	882 2265 170	882 2266 670	1,5





	Ceiling	Number	Wattage	LxBxH/DxH	T	KL	KB	KH	 LxB/D	e	DS min/max
bota 225		1/2	18	275 x 150	146	252	126	50	268	150	10-30
		1/2	26	275 x 150	146	252	126	50	268	150	10-30

+ BES GR+GS 5/225

+ BES GR+GS 8/225





Accessories		Type	Colour	Material	Details	Item-number		
	Ring attachment	BES-BR 225	<input type="checkbox"/>	PA	for BESD, BESF 225	862 1000 100	0,1	
			<input checked="" type="checkbox"/>	PA	for BESD, BESF 225	862 1000 105	0,1	
	Glass frame 5 mm	BES-GR 5/225	<input type="checkbox"/>	Glass (ESG)	5 mm for BESD, BESF 225	862 3100 101	0,5	
			<input checked="" type="checkbox"/>	Glass (ESG)	5 mm for BESD, BESF 225	862 3100 102	0,5	
	Glass frame 8 mm	BES-GR 8/225	<input type="checkbox"/>	Glass (ESG)	8 mm for BESD, BESF 225	862 3200 101	1,1	
			<input checked="" type="checkbox"/>	Glass (ESG)	8 mm for BESD, BESF 225	862 3200 102	1,1	
	Glass panel 5 mm	BES-GS 5/225	<input type="checkbox"/>	Glass (ESG)	5 mm for BESD, BESF 225	862 2100 101	0,7	
			<input checked="" type="checkbox"/>	Glass (ESG)	5 mm for BESD, BESF 225	862 2100 102	0,7	
	Cover IP54	BES-IP 54/225	<input type="checkbox"/>	<input type="checkbox"/>	PA + Glass (ESG)	IP 54 for BESD, BESF 225	862 1100 101	0,6
			<input type="checkbox"/>	<input checked="" type="checkbox"/>	PA + Glass (ESG)	IP 54 for BESD, BESF 225	862 1100 102	0,6
	Cover IP23	BES-IP 23/225	<input type="checkbox"/>	<input type="checkbox"/>	PA + Glass (ESG)	IP 23 for BESD, BESF 225	862 1200 101	0,6
			<input type="checkbox"/>	<input checked="" type="checkbox"/>	PA + Glass (ESG)	IP 23 for BESD, BESF 225	862 1200 102	0,6
	Mounting frame	BES-EP 225	<input checked="" type="checkbox"/>	St	for BESD, BESF 225	862 8300 000	2,3	

bota 225

Housing

Housing frame, lampholder and supply unit of zinc-coated sheet steel, mounting ring of glass-fibre reinforced, nondistorting polyamid (PA) plastic blend, with mounting springs for tool-free mounting, suitable for ceiling thicknesses of 10mm-30mm.

Lighting technology BESF

Direct wide light distribution via individually anodised reflector of highly specular ultra-pure aluminium, with attractive diamond facetting, for VDU workstations, $65^\circ < 1000 \text{ cd/m}^2$ with omnidirectional glare reduction according to current DIN EN 12464-1 standard.

Miscellaneous

External supply unit wired ready for operation with luminaire. Electrical connection via three-pole connecting terminal respectively for dimmable luminaires and luminaires with emergency light battery via 5-pole terminal with plug-in contacts. Downlight prepared for covers, please order corresponding accessories separately.

IP20    



bota 225 BESF 1lp

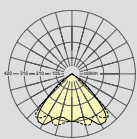
1000

1/26

$\eta_{LB} = 73 \%$



Luminous distribution
Direct 100 %
Indirect 0 %
Glare rating
UGR lat. 18,8
UGR long. 18,6



bota 225 BESF 2lp

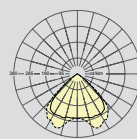
1000






2/26




$\eta_{LB} = 63 \%$



Luminous distribution
Direct 100 %
Indirect 0 %
Glare rating
UGR lat. 20,2
UGR long. 20,7

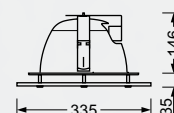
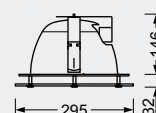
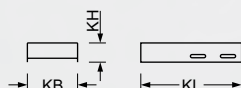
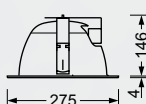


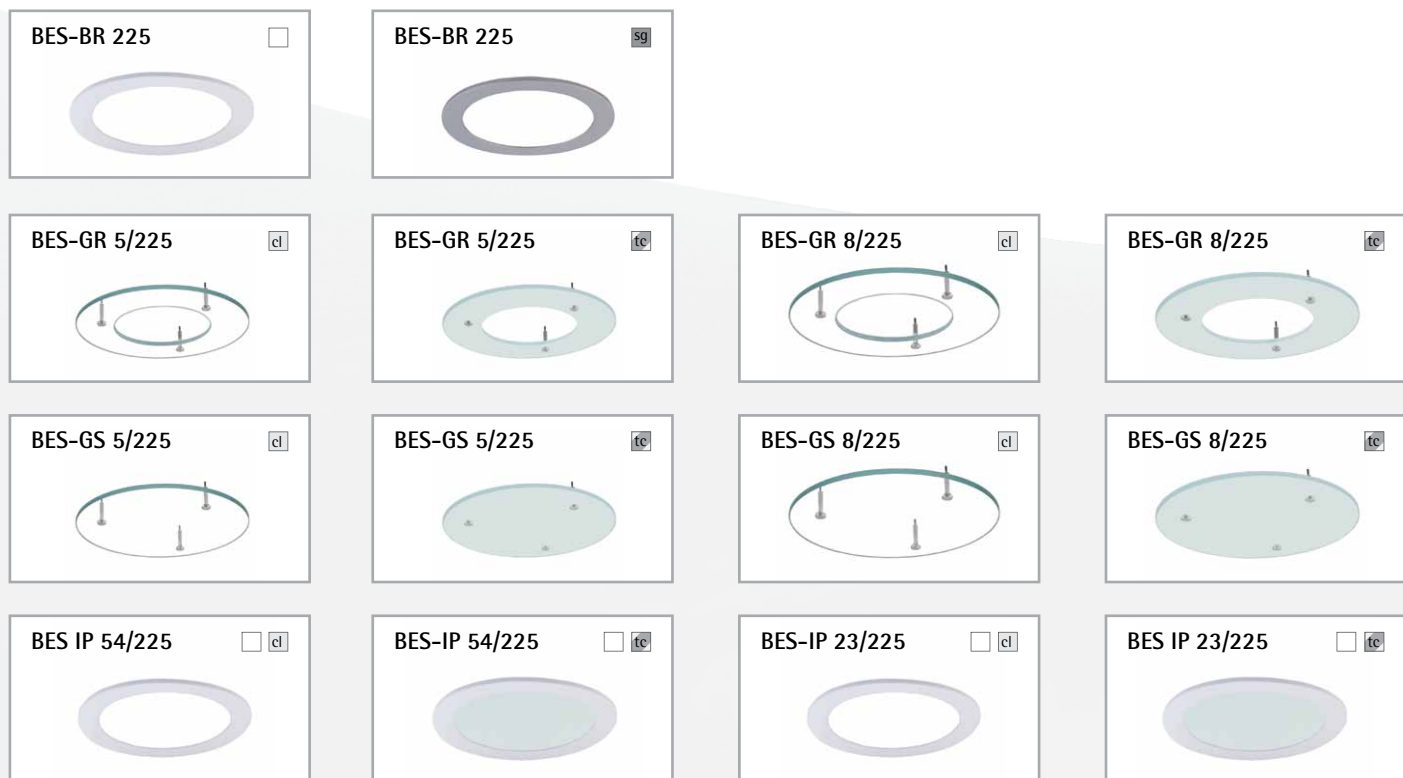
Type	Lamp	Socket	Wattage	Colour	Eb standard	Eb NL-B3h	Eb dim 1-10V	Eb dim DALI	
bota 225 BESF	TC-DEL	G24q-2	1/18		882 1184 120	882 1187 720	882 1185 120	882 1186 620	1,5
	TC-DEL	G24q-3	1/26		882 1264 120	882 1267 720	882 1265 120	882 1266 620	1,5
	TC-DEL	G24q-2	2/18		882 2184 120	882 2187 720	882 2185 120	882 2186 620	1,5
	TC-DEL	G24q-3	2/26		882 2264 120	882 2267 720	882 2265 120	882 2266 620	1,5

	Ceiling	Number	Wattage	LxBxH/DxH	T	KL	KB	KH	 LxB/D	e	DS min/max
bota 225		1/2	18	275 x 150	146	252	126	50	268	150	10-30
		1/2	26	275 x 150	146	252	126	50	268	150	10-30

+ BES GR+GS 5/225

+ BES GR+GS 8/225





Accessories	Type	Colour	Material	Details	Item-number	kg
	Ring attachment	BES-BR 225	<input type="checkbox"/> PA	for BESD, BESF 225	862 1000 100	0,1
			<input checked="" type="checkbox"/> sg	for BESD, BESF 225	862 1000 105	0,1
	Glass frame 5 mm	BES-GR 5/225	<input checked="" type="checkbox"/> tc	5 mm for BESD, BESF 225	862 3100 101	0,5
			<input checked="" type="checkbox"/> tc	5 mm for BESD, BESF 225	862 3100 102	0,5
	Glass frame 8 mm	BES-GR 8/225	<input checked="" type="checkbox"/> tc	8 mm for BESD, BESF 225	862 3200 101	1,1
			<input checked="" type="checkbox"/> tc	8 mm for BESD, BESF 225	862 3200 102	1,1
	Glass panel 5 mm	BES-GS 5/225	<input checked="" type="checkbox"/> tc	5 mm for BESD, BESF 225	862 2100 101	0,7
			<input checked="" type="checkbox"/> tc	5 mm for BESD, BESF 225	862 2100 102	0,7
	Glass panel 8 mm	BES-GS 8/225	<input checked="" type="checkbox"/> tc	8 mm for BESD, BESF 225	862 2200 101	1,3
			<input checked="" type="checkbox"/> tc	8 mm for BESD, BESF 225	862 2200 102	1,3
	Cover IP54	BES-IP 54/225	<input type="checkbox"/> cl	IP 54 for BESD, BESF 225	862 1100 101	0,6
			<input checked="" type="checkbox"/> tc	IP 54 for BESD, BESF 225	862 1100 102	0,6
	Cover IP23	BES-IP 23/225	<input type="checkbox"/> cl	IP 23 for BESD, BESF 225	862 1200 101	0,6
			<input checked="" type="checkbox"/> tc	IP 23 for BESD, BESF 225	862 1200 102	0,6
	Mounting frame	BES-EP 225	<input checked="" type="checkbox"/> St	for BESD, BESF 225	862 8300 000	2,3





bota 285

Housing

Housing frame, lampholder and supply unit of zinc-coated sheet steel, mounting ring of glass-fibre reinforced, nondistorting polyamid (PA) plastic blend, with mounting springs for tool-free mounting, suitable for ceiling thicknesses of 10mm-30mm.

Lighting technology BESD

Direct narrow light distribution via individually anodised reflector of highly specular ultra-pure aluminium, for VDU workstations, $65^\circ < 1000 \text{ cd/m}^2$ with omnidirectional glare reduction according to current DIN-EN 12464-1 standard.

Miscellaneous

External supply unit wired ready for operation with luminaire. Electrical connection via three-pole connecting terminal respectively for dimmable luminaires and luminaires with emergency light battery via 5-pole terminal with plug-in contacts. Downlight prepared for covers, please order corresponding accessories separately.

IP20   



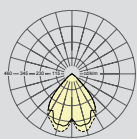
bota 285 BESD 2lp

1000

2/26

$\eta_{LB} = 61 \%$

Luminous distribution
Direct 100 %
Indirect 0 %
Glare rating
UGR lat. 16,9
UGR long. 16,9



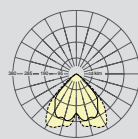
bota 285 BESD 3lp






1000




3/26

$\eta_{LB} = 59 \%$

Luminous distribution
Direct 100 %
Indirect 0 %
Glare rating
UGR lat. 18,7
UGR long. 19,9

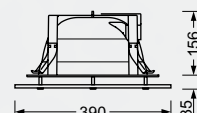
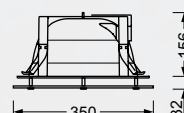
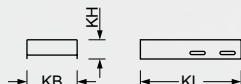
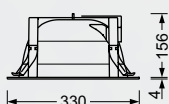


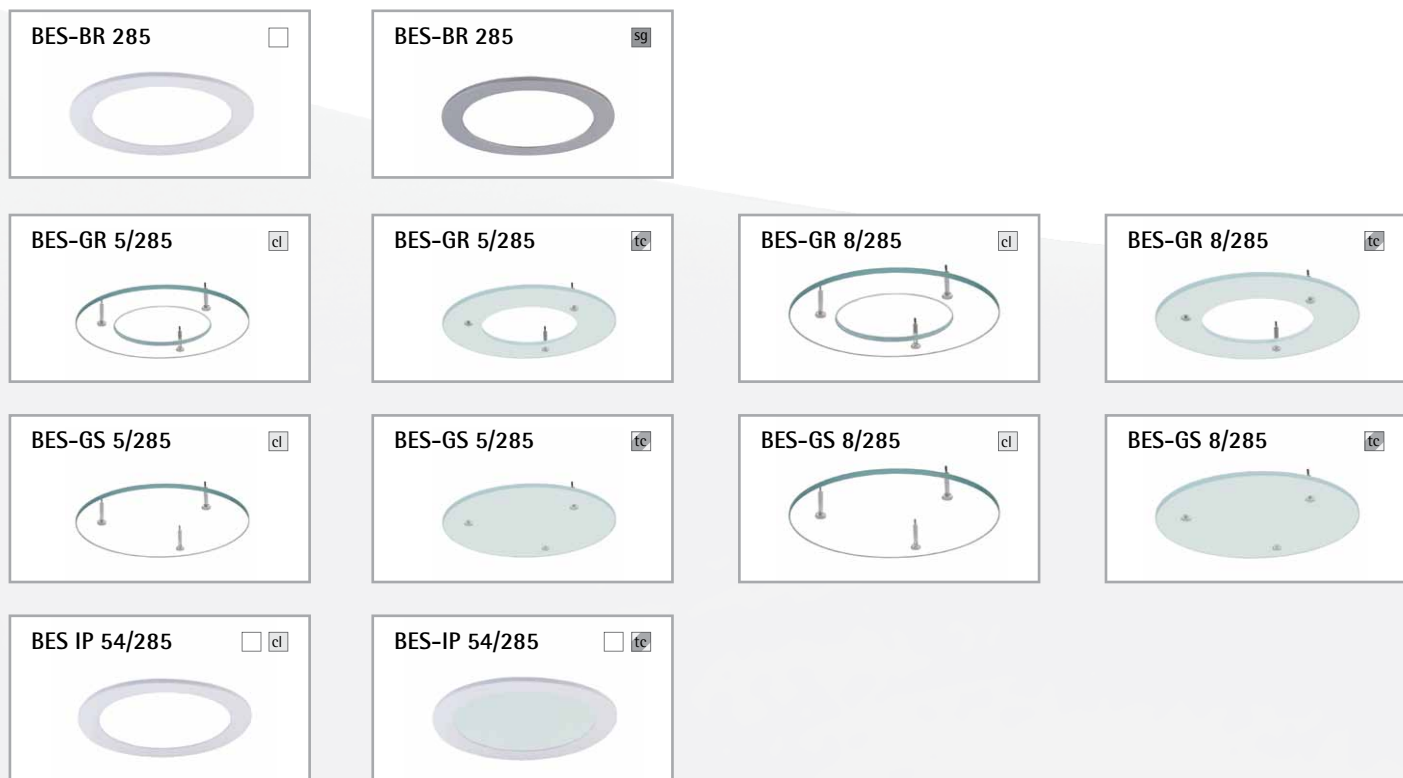
Type	Lamp	Socket	Wattage	Colour	Eb standard	Eb NL-B3h	Eb dim 1-10V	Eb dim DALI	
bota 285 BESD	TC-DEL	G24q-3	2/26		888 2264 170	888 2267 770	888 2265 170	888 2266 670	2,3
	TC-DEL	G24q-2	3/18		888 3184 170	888 3187 770	888 3185 170	888 3186 670	2,6
	TC-DEL	G24q-3	3/26		888 3264 170	888 3267 770	888 3265 170	888 3266 670	2,6
	TC-TEL	G24-q3-q4	2/26/32/42		898 2994 170		898 2995 170	898 2996 670	2,3




















	Ceiling	Number	Wattage	LxBxH/DxH	T	KL	KB	KH	 LxB/D	e	DS min/max
bota 285		2	26/32/42	330 x 160	156	252	126	50	324	160	10-30
		3	18/26	330 x 160	156	252	192	50	324	160	10-30

+ BES GR+GS 5/285

+ BES GR+GS 8/285





Accessories		Type	Colour	Material	Details	Item-number	
	Ring attachment	BES-BR 285		PA	for BESD, BESF 285	868 1000 100	0,1
				PA	for BESD, BESF 285	868 1000 105	0,1
	Glass frame 5 mm	BES-GR 5/285		Glass (ESG)	5 mm for BESD, BESF 285	868 3100 101	0,6
				Glass (ESG)	5 mm for BESD, BESF 285	868 3100 102	0,6
	Glass frame 8 mm	BES-GR 8/285		Glass (ESG)	8 mm for BESD, BESF 285	868 3200 101	1,3
				Glass (ESG)	8 mm for BESD, BESF 285	868 3200 102	1,3
	Glass panel 5 mm	BES-GS 5/285		Glass (ESG)	5 mm for BESD, BESF 285	868 2100 101	0,8
				Glass (ESG)	5 mm for BESD, BESF 285	868 2100 102	0,8
	Glass panel 8 mm	BES-GS 8/285		Glass (ESG)	8 mm for BESD, BESF 285	868 2200 101	1,6
				Glass (ESG)	8 mm for BESD, BESF 285	868 2200 102	1,6
			Cover IP54	BES-IP 54/285			PA + Glass (ESG)
		PA + Glass (ESG)			IP 54 for BESD, BESF 285	868 1100 102	0,7
	Mounting frame	BES-EP 285		St	for BESD, BESF 285	868 8300 000	2,3

bota 285

Housing

Housing frame, lampholder and supply unit of zinc-coated sheet steel, mounting ring of glass-fibre reinforced, nondistorting polyamid (PA) plastic blend, with mounting springs for tool-free mounting, suitable for ceiling thicknesses of 10mm-30mm.

Lighting technology BESF

Direct narrow light distribution via individually anodised reflector of highly specular ultra-pure aluminium; with attractive diamond facetting, for VDU workstations, $65^\circ < 1000 \text{ cd/m}^2$ with omnidirectional glare reduction according to current DIN-EN 12464-1 standard.

Miscellaneous

External supply unit wired ready for operation with luminaire. Electrical connection via three-pole connecting terminal respectively for dimmable luminaires and luminaires with emergency light battery via 5-pole terminal with plug-in contacts. Downlight prepared for covers, please order corresponding accessories separately.

IP20     



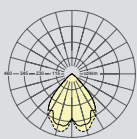
bota 285 BESF 2lp

1000

2/26

$\eta_{LB} = 61 \%$

Luminous distribution
Direct 100 %
Indirect 0 %
Glare rating
UGR lat. 16,9
UGR long. 16,9



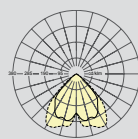
bota 285 BESF 3lp






1000




3/26

$\eta_{LB} = 59 \%$

Luminous distribution
Direct 100 %
Indirect 0 %
Glare rating
UGR lat. 18,7
UGR long. 19,9

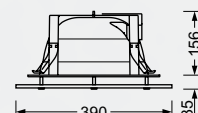
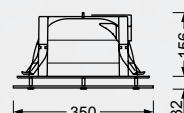
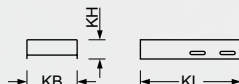
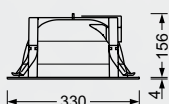


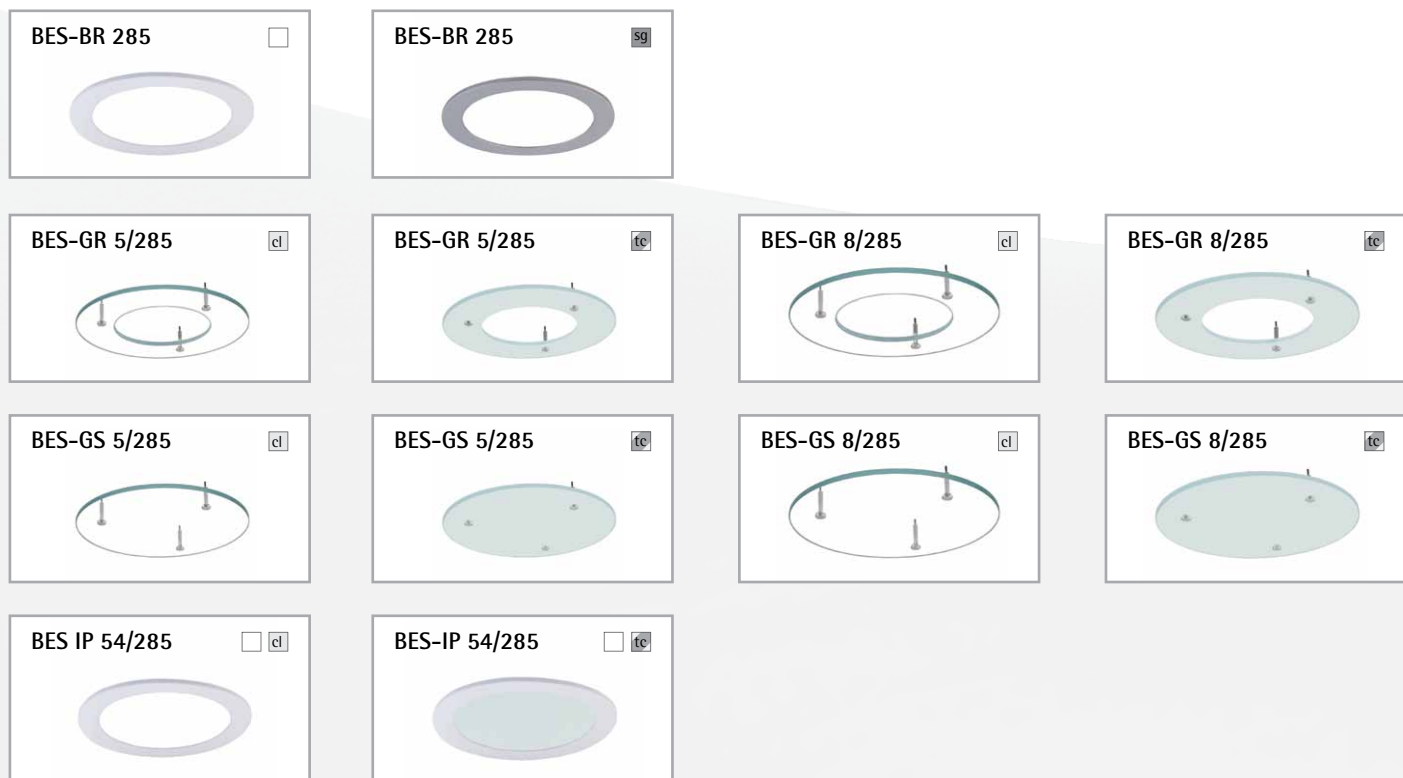
Type	Lamp	Socket	Wattage	Colour	Eb standard	Eb NL-B3h	Eb dim 1-10V	Eb dim DALI	
bota 285 BESF	TC-DEL	G24q-3	2/26		888 2264 120	888 2267 720	888 2265 120	888 2266 620	2,3
	TC-DEL	G24q-2	3/18		888 3184 120	888 3187 720	888 3185 120	888 3186 620	2,6
	TC-DEL	G24q-3	3/26		888 3264 120	888 3267 720	888 3265 120	888 3266 620	2,6
	TC-TEL	G24-q3-q4	2/26/32/42		898 2994 120		898 2995 120	898 2996 620	2,3




















	Ceiling	Number	Wattage	LxBxH/DxH	T	KL	KB	KH	 LxB/D	e	DS min/max
bota 285		2	26/32/42	330 x 160	156	252	126	50	324	160	10-30
		3	18/26	330 x 160	156	252	192	50	324	160	10-30

+ BES GR+GS 5/285

+ BES GR+GS 8/285





Accessories		Type	Colour	Material	Details	Item-number	
	Ring attachment	BES-BR 285		PA	for BESD, BESF 285	868 1000 100	0,1
				PA	for BESD, BESF 285	868 1000 105	0,1
	Glass frame 5 mm	BES-GR 5/285		Glass (ESG)	5 mm for BESD, BESF 285	868 3100 101	0,6
				Glass (ESG)	5 mm for BESD, BESF 285	868 3100 102	0,6
	Glass frame 8 mm	BES-GR 8/285		Glass (ESG)	8 mm for BESD, BESF 285	868 3200 101	1,3
				Glass (ESG)	8 mm for BESD, BESF 285	868 3200 102	1,3
	Glass panel 5 mm	BES-GS 5/285		Glass (ESG)	5 mm for BESD, BESF 285	868 2100 101	0,8
				Glass (ESG)	5 mm for BESD, BESF 285	868 2100 102	0,8
	Glass panel 8 mm	BES-GS 8/285		Glass (ESG)	8 mm for BESD, BESF 285	868 2200 101	1,6
				Glass (ESG)	8 mm for BESD, BESF 285	868 2200 102	1,6
	Cover IP54	BES-IP 54/285	 	PA + Glass (ESG)	IP 54 for BESD, BESF 285	868 1100 101	0,7
			 	PA + Glass (ESG)	IP 54 for BESD, BESF 285	868 1100 102	0,7
	Mounting frame	BES-EP 285		St	for BESD, BESF 285	868 8300 000	2,3





bota BESED

Housing

Housing frame, lampholder and supply unit of zinc-coated sheet steel, mounting frame of glass-fibre reinforced, non-distorting polyamide (PA) plastic blend, with mounting springs for tool-free mounting, suitable for ceiling thickness 10mm-30mm.

Lighting technology BESD

Direct wide light distribution via individually anodised reflector of highly specular ultra-pure aluminium, for VDU workstations, $65^\circ < 1000 \text{ cd/m}^2$ with omnidirectional glare reduction according to current DIN EN 12464-1 standard.

Miscellaneous

External supply unit wired ready for operation with luminaire. Electrical connection via three-pole connecting terminal respectively for dimmable luminaires and luminaires with emergency light battery via 5-pole terminal with plug-in contacts. Downlight prepared for covers, please order corresponding accessories separately.

Note: only lamps without amalgam technology may be used.

IP20    



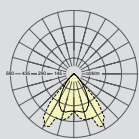
bota BESED 1lp

 1000

1/26

$\eta_{LB} = 80 \%$

Luminous distribution
Direct 100 %
Indirect 0 %
Glare rating
UGR lat. 16,7
UGR long. 18,0



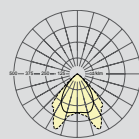
bota BESED 2lp








 1000




2/26

$\eta_{LB} = 72 \%$

Luminous distribution
Direct 100 %
Indirect 0 %
Glare rating
UGR lat. 19,2
UGR long. 20,5

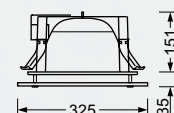
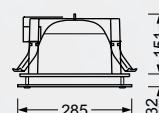
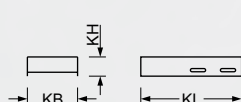
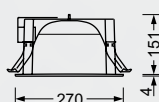


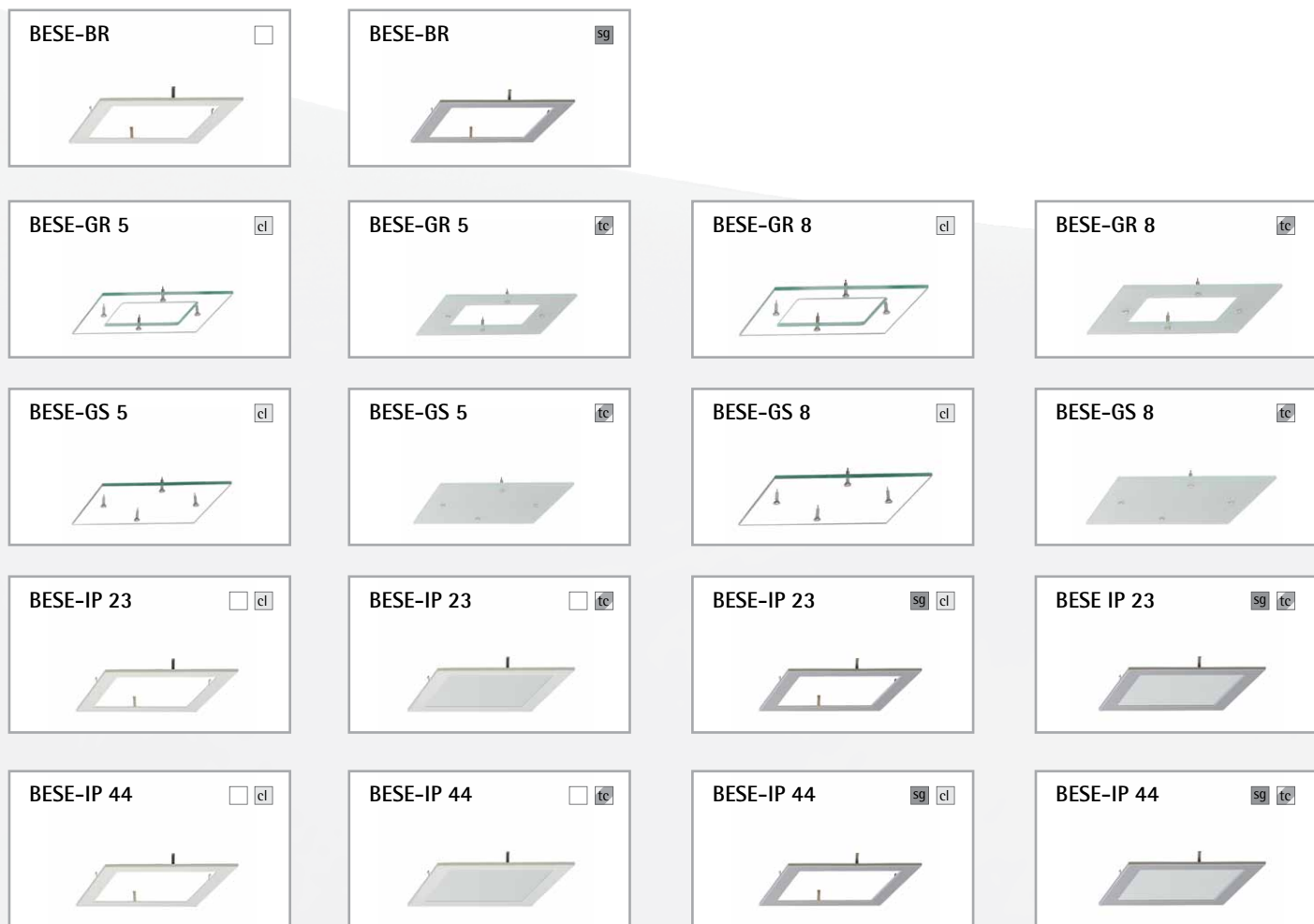
Type	Lamp	Socket	Wattage	Colour	Eb standard	Eb NL-B3h	Eb dim 1-10V	Eb dim DALI	
bota BESED	TC-DEL	G24q-2	1/18		885 1184 170	885 1187 770	885 1185 170	885 1186 670	1,9
	TC-DEL	G24q-3	1/26		885 1264 170	885 1267 770	885 1265 170	885 1266 670	1,9
	TC-DEL	G24q-2	2/18		885 2184 170	885 2187 770	885 2185 170	885 2186 670	2,0
	TC-DEL	G24q-3	2/26		885 2264 170	885 2267 770	885 2265 170	885 2266 670	2,1
	TC-TEL	G24-q3-q4	1/26/32/42		895 1994 170		895 1995 170	895 1996 670	1,9
	TC-TEL	G24-q3-q4	2/26/32/42		895 2994 170		895 2995 170	895 2996 670	2,0

	Ceiling	Number	Wattage	LxBxH/DxH	T	KL	KB	KH	 LxB/D	e	DS min/max
bota BESED		2	26/32/42	270 x 270 x 155	151	252	126	50	253 x 253	160	10-30
		3	18/26	270 x 270 x 155	151	252	126	50	253 x 253	160	10-30

+ BESE GR+GS 5

+ BESE GR+GS 8





Accessories	Type	Colour	Material	Details	Item-number	kg
	Ring attachment	BESE-BR	<input type="checkbox"/> PA	for BESED, BESEX	865 1000 100	0,14
		<input checked="" type="checkbox"/> sg	PA	for BESED, BESEX	865 1000 105	0,14
	Glass frame 5 mm	BESE-GR 5	<input checked="" type="checkbox"/> Glass (ESG)	5 mm for BESED, BESEX	865 3100 101	0,6
		<input checked="" type="checkbox"/> tc	Glass (ESG)	5 mm for BESED, BESEX	865 3100 102	0,6
	Glass frame 8 mm	BESE-GR 8	<input checked="" type="checkbox"/> Glass (ESG)	8 mm for BESED, BESEX	865 3200 101	1,4
		<input checked="" type="checkbox"/> tc	Glass (ESG)	8 mm for BESED, BESEX	865 3200 102	1,4
	Glass panel 5 mm	BESE-GS 5	<input checked="" type="checkbox"/> Glass (ESG)	5 mm for BESED, BESEX	865 2100 101	1,0
		<input checked="" type="checkbox"/> tc	Glass (ESG)	5 mm for BESED, BESEX	865 2100 102	1,0
	Glass panel 8 mm	BESE-GS 8	<input checked="" type="checkbox"/> Glass (ESG)	8 mm for BESED, BESEX	865 2200 101	2,1
		<input checked="" type="checkbox"/> tc	Glass (ESG)	8 mm for BESED, BESEX	865 2200 102	2,1
	Cover IP54	BESE-IP 44	<input type="checkbox"/> <input checked="" type="checkbox"/> PA + Glass (ESG)	IP 44 for BESED, BESEX	865 1100 101	0,5
		<input type="checkbox"/> <input checked="" type="checkbox"/> tc	PA + Glass (ESG)	IP 44 for BESED, BESEX	865 1100 102	0,5
		<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> sg	PA + Glass (ESG)	IP 44 for BESED, BESEX	865 1100 106	0,5
		<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> tc	PA + Glass (ESG)	IP 44 for BESED, BESEX	865 1100 107	0,5
	Cover IP23	BESE-IP 23	<input type="checkbox"/> <input checked="" type="checkbox"/> PA + Glass (ESG)	IP 23 for BESED, BESEX	865 1200 101	0,5
		<input type="checkbox"/> <input checked="" type="checkbox"/> tc	PA + Glass (ESG)	IP 23 for BESED, BESEX	865 1200 102	0,5
		<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> sg	PA + Glass (ESG)	IP 23 for BESED, BESEX	865 1200 106	0,5
		<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> tc	PA + Glass (ESG)	IP 23 for BESED, BESEX	865 1200 107	0,5
	Mounting frame	BESE-EP	<input checked="" type="checkbox"/> St	for BESED, BESEX	865 8300 000	2,3

bota BESEX

Housing

Housing frame, lampholder and supply unit of zinc-coated sheet steel, mounting frame of glass-fibre reinforced, non-distorting polyamide (PA) plastic blend, with mounting springs for tool-free mounting, suitable for ceiling thickness 10mm-30mm.

Lighting technology BESEX

Direct wide angle light distribution via reflectivity enhanced, anodised reflector of satin matt, ultra-pure aluminium, for VDU workstations, $65^\circ < 1000 \text{ cd/m}^2$ with omnidirectional glare reduction according to current DIN EN 12464-1.

Miscellaneous

External supply unit wired ready for operation with luminaire. Electrical connection via three-pole connecting terminal respectively for dimmable luminaires and luminaires with emergency light battery via 5-pole terminal with plug-in contacts. Downlight prepared for covers, please order corresponding accessories separately.

Note: only lamps without amalgam technology may be used.

IP20    



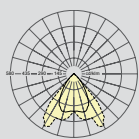
bota BESEX 1lp

 1000

1/26

$\eta_{LB} = 80 \%$

Luminous distribution
Direct 100 %
Indirect 0 %
Glare rating
UGR lat. 16,7
UGR long. 18,0



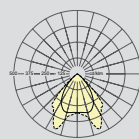
bota BESEX 2lp






 1000




2/26

$\eta_{LB} = 72 \%$

Luminous distribution
Direct 100 %
Indirect 0 %
Glare rating
UGR lat. 19,2
UGR long. 20,5

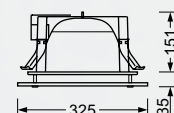
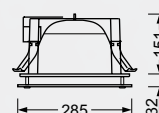
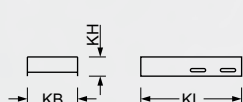
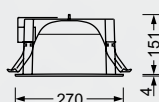


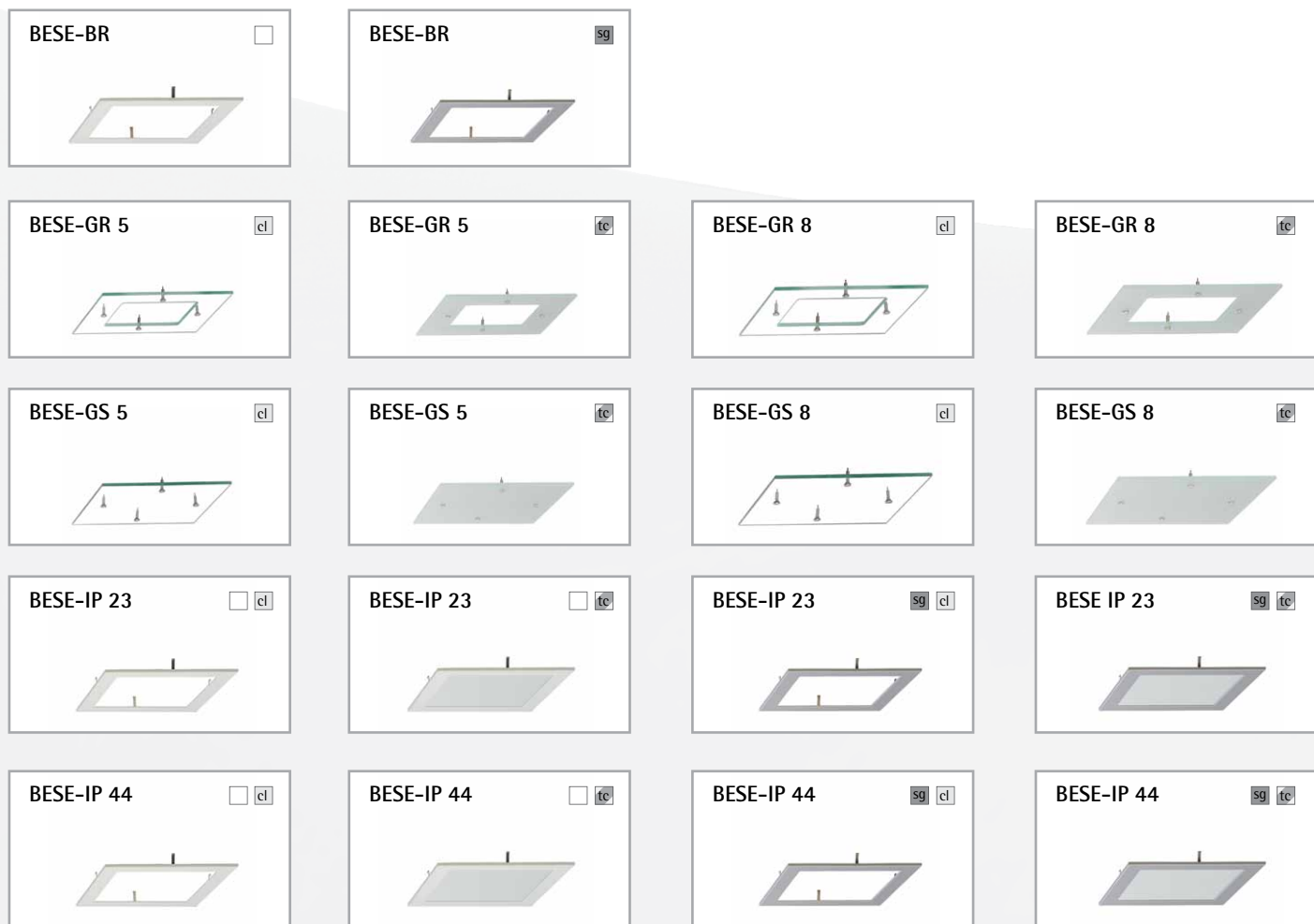
Type	Lamp	Socket	Wattage	Colour	Eb standard	Eb NL-B3h	Eb dim 1-10V	Eb dim DALI	
bota BESEX	TC-DEL	G24q-2	1/18		885 1184 160	885 1187 760	885 1185 160	885 1186 660	1,9
	TC-DEL	G24q-3	1/26		885 1264 160	885 1267 760	885 1265 160	885 1266 660	1,9
	TC-DEL	G24q-2	2/18		885 2184 160	885 2187 760	885 2185 160	885 2186 660	2,0
	TC-DEL	G24q-3	2/26		885 2264 160	885 2267 760	885 2265 160	885 2266 660	2,1
	TC-TEL	G24-q3-q4	1/26/32/42		895 1994 160		895 1995 160	895 1996 660	1,9
	TC-TEL	G24-q3-q4	2/26/32/42		895 2994 160		895 2995 160	895 2996 660	2,0
































	Ceiling	Number	Wattage	LxBxH/DxH	T	KL	KB	KH	 LxB/D	e	DS min/max
bota BESEX		2	26/32/42	270 x 270 x 155	151	252	126	50	253 x 253	160	10-30
		3	18/26	270 x 270 x 155	151	252	126	50	253 x 253	160	10-30

+ BESE GR+GS 5

+ BESE GR+GS 8





Accessories	Type	Colour	Material	Details	Item-number	
	Ring attachment	BESE-BR	 PA	for BESED, BESEX	865 1000 100	0,14
		 PA	for BESED, BESEX	865 1000 105	0,14	
	Glass frame 5 mm	BESE-GR 5	 Glass (ESG)	5 mm for BESED, BESEX	865 3100 101	0,6
		 Glass (ESG)	5 mm for BESED, BESEX	865 3100 102	0,6	
	Glass frame 8 mm	BESE-GR 8	 Glass (ESG)	8 mm for BESED, BESEX	865 3200 101	1,4
		 Glass (ESG)	8 mm for BESED, BESEX	865 3200 102	1,4	
	Glass panel 5 mm	BESE-GS 5	 Glass (ESG)	5 mm for BESED, BESEX	865 2100 101	1,0
		 Glass (ESG)	5 mm for BESED, BESEX	865 2100 102	1,0	
	Glass panel 8 mm	BESE-GS 8	 Glass (ESG)	8 mm for BESED, BESEX	865 2200 101	2,1
		 Glass (ESG)	8 mm for BESED, BESEX	865 2200 102	2,1	
	Cover IP54	BESE-IP 44	  PA + Glass (ESG)	IP 44 for BESED, BESEX	865 1100 101	0,5
		  PA + Glass (ESG)	IP 44 for BESED, BESEX	865 1100 102	0,5	
  PA + Glass (ESG)		IP 44 for BESED, BESEX	865 1100 106	0,5		
  PA + Glass (ESG)		IP 44 for BESED, BESEX	865 1100 107	0,5		
Cover IP23	BESE-IP 23	  PA + Glass (ESG)	IP 23 for BESED, BESEX	865 1200 101	0,5	
	  PA + Glass (ESG)	IP 23 for BESED, BESEX	865 1200 102	0,5		
	  PA + Glass (ESG)	IP 23 for BESED, BESEX	865 1200 106	0,5		
	  PA + Glass (ESG)	IP 23 for BESED, BESEX	865 1200 107	0,5		
	Mounting frame	BESE-EP	 St	for BESED, BESEX	865 8300 000	2,3

1. General

1.1 These conditions of sale apply exclusively to companies, legal persons under public law or public law special assets in the sense of § 310 paragraph 1 BGB (German Civil Code). The following conditions of sale apply exclusively for all offers and contracts regarding the delivery of goods by Lichtwerk GmbH. They also apply for all future transactions with the Orderer when dealing with legal transactions of the related kind. The Orderer recognises the conditions as binding for him for all of the business relations. Modifications and amendments must be in written form. Conflicting or deviating terms and conditions of the Orderer are not terms of the contract, even if we do not expressly object to them. This will only be content of the respective contract in cases where we expressly approve the conflicting or deviating terms and conditions in writing.

1.2 We reserve our own rights of ownership, copyright and other intellectual property rights for all cost estimates, drawings and documents that are handed over to the Orderer during the contract negotiations. They may only be disclosed to third parties with our prior written permission. If an order is not issued, all transferred documents shall be returned immediately at our request. The Orderer does not have the right to use, retain or disseminate these documents.

2. Conclusion of the contract and scope of services

2.1 Our offers are not-binding and without obligation. In terms of the nature and scope of delivery, they will first be binding upon our written order confirmation. If an order is to be regarded as an offer according to § 145 BGB, we can accept this within two weeks by sending an order confirmation.

2.2 Verbal agreements, in particular supplementary agreements and commitments made by our employees, require our written confirmation to be effective.

2.3 For the delivery, we reserve the right to deviations of goods compared to the documents belonging to the offers, such as catalogues, illustrations, descriptions, drawings as well as weight and dimension information, provided they are commercial and reasonable for the Orderer and in particular do not impair quality and function.

3. Prices, deliveries and terms of payment

3.1 Prices and delivery

3.1.1 The prices are calculated in Euro exclusive of the legal VAT, which is invoiced separately according to the rate valid rate. The prices are calculated according to the prices valid at date of contract conclusion; if the delivery is made more than 4 months after contract conclusion, the prices valid at date of delivery can be invoiced.

3.1.2 Principally, prices shall be ex works excluding VAT, packaging, freight costs and insurance.

3.1.3 For a net order value of €1,500.00 or more, we deliver to the delivery location free of charge within Germany, whereby we provide the goods at the delivery location ready for unloading. Starting at € 750.00, we charge half of the transportation charges for a delivery location within Germany. For a net order value below € 250.00, we charge an additional small-volume surcharge of €25.00.

3.2 Terms of payment

3.2.1 Our invoices are to be paid within 30 days from the date of the invoice. For payment within eight days from the invoice date, we grant a 2 % discount. A payment is considered effected if we are able to access the funds. In the case of payment by cheque, payment is only considered effected when the cheque is redeemed by us.

3.2.2 The acceptance of cheques shall only be accepted on account of performance.

3.2.3 The Orderer's right of retention, as far as it is not based on the same contractual relationship, and the offsetting with contested or not legally determined claims is excluded.

3.2.4 If the Orderer is in default of payment as a whole or a part, he is bound - notwithstanding all other rights of the supplier - to pay from that point of time on default interests to the amount of 8 % annually above the base lending rate.

3.2.5 If the Orderer ceases payments or if bankruptcy is filed or mature checks or bills of exchange are not redeemed, all claims made by the supplier are immediately due.

4. Delivery times and acceptance obligations

4.1 The delivery period begins with the date of written agreement about the order between Orderer and supplier.

4.2 Hindrances beyond our responsibility, in particular acts of God, war, insurrection, strikes, transport disruptions, business disruptions, lack of material, official orders and other inevitable events that delay the delivery in whole or in part automatically lengthen the delivery period by the duration of such conditions. In such cases the parties have the right to withdraw from the contract in whole or in part.

4.3 In the event of a delayed delivery for which we are responsible, the Orderer can only assert his rights arising from the delay if the grace period he granted us has passed without result. If the Orderer proves in this case that he has incurred damages caused by the delay, he can claim a delay compensation for each completed week of the delay in the amount of 0.5% for the entire duration of the delay, but not to exceed 5% of the value of the goods not delivered on time. The right of the Orderer for exercising the right of withdrawal shall remain unaffected. Further-reaching claims shall only apply in cases of intent or gross negligence where liability is mandatory.

4.4 We are entitled to make reasonable installment deliveries.

4.5 If the Orderer causes a delay of dispatch or delivery of the goods or if the Orderer is otherwise in default in accepting the delivery of goods or should the Orderer intentionally violate other obligations to co-operate, we then have the right to claim compensation for any incurred damages in this respect, including any possible additional expenditure. Rights remain reserved for more extensive claims. Insofar as such aforesaid conditions apply, the risk of accidental loss or accidental deterioration of the purchased goods passes over to the Orderer at the precise point of time in which he is in default of acceptance or payment.

5. Dispatch, transfer of risk, returns

5.1 The risk is passed on to the Orderer when the goods leave the factory or a warehouse. Shipping takes place uninsured at the Orderer's risk. This also applies even if free delivery is agreed and also for deliveries by our transport staff. If the shipment is delayed as a result of circumstances for which the Orderer is responsible, the risk is transferred with our notification of readiness for shipment. If the shipment is delayed at the Orderer's request or at the fault of the Orderer, then we will store the goods at the Orderer's expense. The Orderer is required to check without delay whether the goods have been damaged during transportation and to immediately inform the carrier and deliverer of any damage or loss. Shipping takes place on behalf of the Orderer.

5.2 If the supplier has no statutory obligation to accept returned goods, the Orderer may only return goods with our express written consent and provided that they are undamaged and returned in the original packaging. 30% of the invoiced amount will be deducted from the credit note to cover processing costs. All reprocessing, freight, insurance and packaging costs are charged to the Orderer. Principally, it is not possible to return custom-made products.

6. Retention of Title

6.1 The goods remain our property until the fulfilment of all our entitled claims against the Orderer (goods subject to retention of title), even if the individual goods have been paid for. A pledge or chattel mortgage of the reserved goods is not permissible.

6.2 In the case of the permissible resale of the reserved goods within the ordinary course of business, the Orderer assigns us already now, until payment of all our claims, as collateral for its future claims towards his customers resulting of such resale without requiring any specific further explanations. This assignment also covers balance claims resulting from existing current account relationships or at their termination of the Orderer with his customers. If the reserved goods are sold together with other

goods without agreeing upon an individual price for the reserved goods, the Orderer assigns us the priority over the other claims for such part of the total price claimed which corresponds to the value invoiced by us. Until revoked, the Orderer is authorized to collect the assigned demands from the resale, he is not entitled to dispose of them otherwise, e.g. by assignment. Upon our request, the Orderer must inform his customer about the assignment and to furnish us the necessary documents for the assertion of his rights towards the customer, e.g. to deliver invoices and to provide the required details.

6.3 If the purchaser does not meet all or a part of his payment obligations within 10 days after due date, if he does not cash due checks or if an application for insolvency is filed, we have the right to withdraw from the contract and to require the return of the goods. The purchaser is obliged to procure us with the possession of the goods. The Orderer grants us or any of our authorized representatives the access to all business premises during business hours. We are entitled to use the reserved goods with the diligence of a prudent businessman and to satisfy ourselves with the offsetting of open claims with their proceeds.

6.4 As long as the ownership has not been transferred, the Orderer is to inform us in writing immediately if the supplied item is seized or is exposed to other interventions by third parties. If the third party is unable to indemnify us for the costs of legal or out-of-court costs of a claim according to par. 771 ZPO (German Code of Civil Procedure), the Orderer is liable for our amount outstanding.

7. Warranty

7.1 We are liable for the defects of the goods (in the first instance under the exclusion of the Orderer's rights to back out of the contract or to reduce the purchase price) through rectification of the defect or replacement delivery at our choice. The Orderer shall grant us a reasonable time period to provide the rectification. If the supplementary performance does not work, the Orderer may basically according to his choice demand a cut of the compensation (decrease) or a cancellation of the contract. The improvement is considered failed after the second unsuccessful attempt, provided further improvement attempts are not appropriate due to the subject matter of the contract and are not reasonable to the Orderer. In case of a minor breach of contract, especially minor defects, the Orderer, however, does not have a right of cancellation.

7.2 Warranty rights of the Orderer require that the Orderer's obligations to make inspection and give notice of defects according to par. 377 HGB (German Commercial Code) have been properly fulfilled.

7.3 The Orderer must notify us concerning obvious defects within a period of 10 days after receipt of goods, otherwise the assertion of the warranty claim is excluded. Non-obvious defects must be claimed immediately when they are discovered or determined, otherwise they are deemed to be approved. For all presuppositions for claims he full burden of proof for lies with the Orderer, especially for the deficit itself, for the time period of the determination of the defect, and for the timeliness of the notice of defect.

7.4 If the Orderer, due to a deficiency in title or a material defect after failed subsequent performance, chooses to cancel the contract, he shall not be entitled to additional claims for damages due to the defect.

7.5 The warranty period amounts to one year from date of delivery of our goods to the Orderer.

7.6 The warranty obligation is void if the goods have suffered from improper handling or storage or if improper changes were made to them without the supplier's approval. We are not liable for subsequent changes to the lights, their internal circuitry, equipment or the lamps.

7.7 The condition of the goods only the product description of the manufacturer applies as agreed upon. Additional public statements or advertisements of the manufacturer do not represent a contractual statement on the nature of the goods.

7.8 In the event that the article of sale cannot be used by the Orderer as stipulated in the contract of sale as a result of negligent violation of collateral contractual duties, especially with regard to operating and maintenance instructions, we shall also be liable in accordance with paragraph 7.6. In case of consulting we can only be held responsible if special payment was agreed in writing.

7.9 Claims made by the Customer against the Supplier for installation and disassembly costs, unless they serve to detect errors, costs of disposal and costs for hoisting devices and scaffolding shall be excluded. The Customer shall bear the costs of the necessary recommissioning, software reinstallations or software updates. Where the Supplier meets its cost absorption obligation pursuant to Article 478 of the German Civil Code with respect to other expenses necessary for supplementary performance, the Supplier shall be entitled to pay such expenses by means of a credit note for goods. A right to compensation for damages to the goods themselves shall be excluded. This does not apply, as far as compelling liability is given in cases of intent, gross negligence, lack of guaranteed product properties or the Product Liability Act.

8. Limitation on Liability

8.1 As far as it is not expressly stipulated otherwise in these conditions, the claims against us, our legal representatives and any person employed by us in the performance of our obligation and any vicarious agent resulting from damages, including consequential damages, which occur to the Orderer or a third party, in particular such damages resulting from fault at contract conclusion, culpable breach of an obligation and negligent and impermissible actions are excluded.

8.2 The aforesaid limitations of liability shall not affect the Orderer's product liability claims. In addition, we are liable for loss of life, physical injury and damage to health (regardless of existing limitation of liability according to the statutory provisions) that are caused by a negligent or wilful breach of duty on our part, our legal representatives or our assistants. We are liable under statutory provisions for damages that are not covered by clause 1 and that are based on fraudulent intent by us, our legal representatives or our assistants.

8.3 The Orderer's claim for damages for defect becomes time-barred after one year from date of delivery of the goods to the Orderer. This shall not apply if we can be accused of malice. In these cases, the statutory provisions apply.

9. Data protection

According to § 33 of the German Data Protection Act, we point out that the Orderer's personal data is stored and processed by computer for the purpose of a proper business transaction.

10. Applicable law, place of jurisdiction

For these business relationships and all legal relationships between us and the Orderer, - including export contracts - the governing law of the Federal Republic of Germany applies exclusively. The application of the UN jurisdiction, concerning sales and purchase procedure, is excluded. If legally permissible, the place of jurisdiction for all disputes directly or indirectly resulting from a contractual relationship is, by our choosing, either Haßfurt or the court responsible for the Orderer's registered office. The place of fulfilment for deliveries and payments is also Haßfurt.

If individual conditions of the contract including these GTC are partially ineffective or will be, the validity of the other conditions are not affected by it. The whole or partial ineffective condition should be replaced by conditions, whose economic purpose comes as close as possible to the ineffective one.

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New Zealand, Romania, Slovenia,
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Exclusion of Liability

Illustrations, dimensions and weights in our catalogues, price lists and quotations are non-binding. Subject to technical changes, errors and color deviations. All luminaires have been designed for 230 V 50 Hz mains connection and ambient conditions according to DIN EN 60598 unless otherwise stated, and are supplied without lamps unless otherwise stated. Most of the indications with regard to certifications are presented in our catalogue in a general form. Verification with regard to products can be easily carried out on our website.

Because of the dynamics in the technical development especially in the field of LED modules and their drivers, the information in this paper can only be a snapshot of the current state and are therefore legally not binding. Please refer to our web site for current product specifications.

We point out that the orderer recognises our delivery and payment conditions unless he/she objects in writing when sending his/her order.



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