

REGIOLUX
Made in Germany



Certified light for clean rooms

protection IPA

Application areas



Semiconductor technology



Biotechnology



Laboratories



Pharmaceutical industry



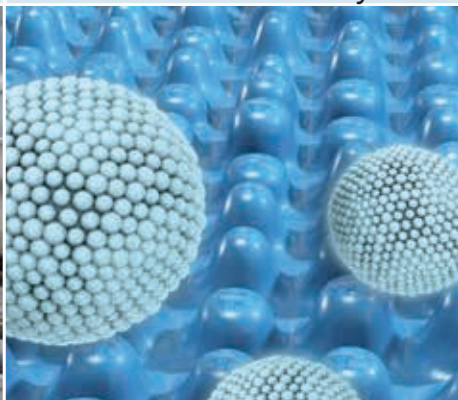
Cosmetics industry



Hospital & care



Food industry



Nanotechnology



Optical industry



Clean room classes

Clean rooms are defined using so-called cleanroom classes. The individual classes describe the maximum permissible concentration of airborne particles or germs and/or CFU (colony forming units), which must not be exceeded inside a clean room. It is possible to verify these

classes today using standardized measuring procedures. This means air quality is a factor which documents the effects of measures intended to achieve compliance with air quality requirements at manufacturing facilities.

TBH GmbH, Straubenhardt

DIN EN ISO 14644-1

Class	Maximum number of particles per m ³ permitted					
	>= 0,1 µm/ ³	>= 0,2 µm/ ³	>= 0,3 µm/ ³	>= 0,5 µm/ ³	>= 1,0 µm/ ³	>= 5,0 µm/ ³
ISO 1	10	2				
ISO 2	100	24	10	4		
ISO 3	1.000	237	102	35	8	
ISO 4	10.000	2.370	1.020	352	83	
ISO 5	100.000	23.700	10.200	3.520	832	29
ISO 6	1.000.000	237.000	102.000	35.200	8.320	293
ISO 7				352.000	83.200	2.930
ISO 8				3.520.000	832.000	29.300
ISO 9				35.2000.000	8.320.000	293.000

VDI 2083

Class	Maximum number of particles per m ³ permitted					
	>= 0,1 µm/ ³	>= 0,2 µm/ ³	>= 0,3 µm/ ³	>= 0,5 µm/ ³	>= 1,0 µm/ ³	>= 5,0 µm/ ³
0	150	33	14			
1	1.500	330	140	45		
2	15.000	3.300	1.400	450		
3		33.000	14.000	4.500		
4				45.000	10.000	300
5				450.000	100.000	3.000
6				4.500.000	1.000.000	30.000

EU GMP-Guidelines

Class	Maximum number of particles per m ³ permitted			
	at rest		in operation	
	>= 0,5 µm/ ³	>= 5,0 µm/ ³	>= 0,5 µm/ ³	>= 5,0 µm/ ³
A	3.520	20	3.520	20
B	3.520	29	352.000	2.900
C	352.000	2.900	3.520.000	29.000
D	3.520.000	29.000	not determined	not determined

protection IPA LED



LED A+ 3000 F clean tested CE IP 54



Mounting:

- Ceiling recessed

Housing:

- Sheet steel
- Suitable for ceiling system: ceilings with visible T-rails; concealed symmetrical rail construction; cut-out ceilings



Lighting technology PREMP:

- Diffuser, micro-prismatic; PMMA plastic
- Lighting characteristic direct distribution suited for VDU workstations, $65^\circ < 3000 \text{ cd/m}^2$

Lighting technology PREG:

- Diffuser, satined; PMMA plastic
- Lighting characteristic direct distribution

Lamp:

- LED 50000h L80/B10
- CRI ≥ 80 / 4000K

Switching:

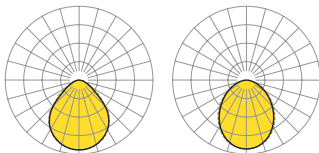
- 1 Control gear
- Electronic driver
- 230V 50Hz

Miscellaneous:

- An extractor is included for prismatic and frosted panes to remove the sealing frame.

Accessories:

- UBM universal fastening mechanism for concealed symmetrical rail constructions included in delivery.



PREMP/625 IP54 LED 4300 lm 840		PREG/300-1200 IP54 LED 4700 lm 840	
$\eta_{L/B}$	100%	$\eta_{L/B}$	100%
lm/W	121	lm/W	143
direct/indirect	100/0%	direct/indirect	100/0%
UGR lat./long.	18,5/18,9	UGR lat./long.	20,9/21,4
VDU	$65^\circ < 3000 \text{ cd/m}^2$		

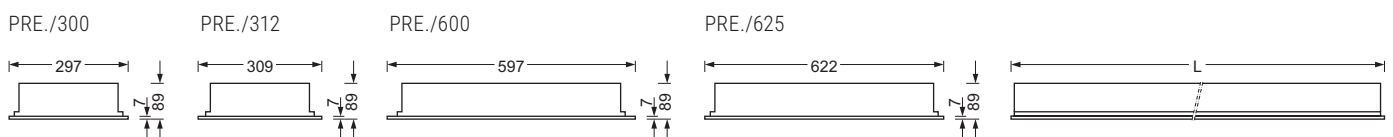


The diffuser frame is natural anodised. Different ceiling modules are compensated for in the width of the housing

Dimensions

Type	Versions	LxBxH/DxH	T	MLxMB	Et ¹⁾	MLxMB	Et	DA ₁ xDA ₂	Et	DS min/max
PRE./300-1200 IP..	LED	1197 x 297 x 89	82	1200 x 300	250	1200 x 300	150	1185 x 285	150	15 - 40
PRE./312-1250 IP..	LED	1247 x 309 x 89	82	1250 x 312,5	250	1250 x 312,5	150	1185 x 285	150	15 - 40
PRE./600 IP..	LED	597 x 597 x 89	82	600 x 600	250	600 x 600	150	585 x 585	150	15 - 40
PRE./625 IP..	LED	622 x 622 x 89	82	625 x 625	250	625 x 625	150	585 x 585	150	15 - 40

¹⁾e = minimum ceiling distance (however only when ceiling construction and luminaires are simultaneously installed): 150 mm







protection IPA-PREG/300-1200 LED
protection IPA-PREG/312-1250 LED



Products

Type	Lamps	P _{sys} [W]	Colour	Ballast	LxBxH/DxH	Item number	
<i>Diffuser, micro-prismatic direct distribution</i>							
protection IPA-PREMP/300-1200 IP54 LED 4700lm 840		33	vw	ED ¹⁾	1197 x 297 x 89	7253 2034 153	6,65
				DALI ¹⁾	1197 x 297 x 89	7253 2036 653	6,65
protection IPA-PREMP/312-1250 IP54 LED 4700lm 840		33	vw	ED ¹⁾	1247 x 309 x 89	7251 2034 153	6,71
				DALI ¹⁾	1247 x 309 x 89	7251 2036 653	6,71
protection IPA-PREMP/600 IP54	LED 4300lm 840	36	vw	ED ²⁾	597 x 597 x 89	7256 0014 153	5,30
				DALI ²⁾	597 x 597 x 89	7256 0016 653	5,30
protection IPA-PREMP/625 IP54	LED 4300lm 840	36	vw	ED ³⁾	622 x 622 x 89	7250 0014 153	5,30
				DALI ²⁾	622 x 622 x 89	7250 0016 653	5,30
<i>Diffuser, satined direct distribution</i>							
protection IPA-PREG/300-1200 IP54	LED 4700lm 840	33	vw	ED ¹⁾	1197 x 297 x 89	7253 2034 113	6,65
				DALI ¹⁾	1197 x 297 x 89	7253 2036 613	6,65
protection IPA-PREG/312-1250 IP54	LED 4700lm 840	33	vw	ED ¹⁾	1247 x 309 x 89	7251 2034 113	6,71
				DALI ¹⁾	1247 x 309 x 89	7251 2036 613	6,71
protection IPA-PREG/600 IP54	LED 4400lm 840	36	vw	ED ²⁾	597 x 597 x 89	7256 0014 113	5,30
				DALI ²⁾	597 x 597 x 89	7256 0016 613	5,30
protection IPA-PREG/625 IP54	LED 4400lm 840	36	vw	ED ²⁾	622 x 622 x 89	7250 0014 113	5,30
				DALI ²⁾	622 x 622 x 89	7250 0016 613	5,30

¹⁾ Suitable for use in cleanrooms.

²⁾Additional certification:  : Suitable for use in cleanrooms.

³⁾: This luminaire has been tested by the Fraunhofer Institute IPA.  Suitable for use in cleanrooms.

Other versions on request.

protection IPA LED

LED A++ 3000lm [E] [E] [E] CE IP 54

Mounting:

- Ceiling surface

Housing:

- Sheet steel housing
- Lighting characteristic direct distribution

Lighting technology PRAMP:

- Diffuser, micro-prismatic; Plastic PMMA
- Lighting characteristic direct distribution suited for VDU workstations, 65° < 3000 cd/m²

Lighting technology PRAG:

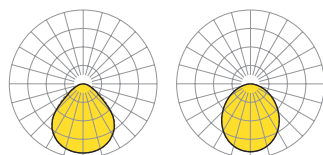
- Diffuser, satined; Plastic PMMA
- Lighting characteristic direct distribution

Lamps:

- LED 50000h L80/B10
- CRI ≥ 80 / 4000K

Switching:

- 1 Control gear
- Electronic driver
- 230 V 50 Hz

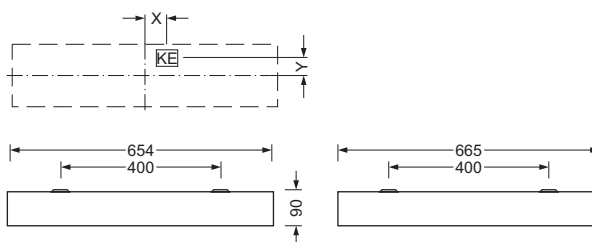


PRAMP/ 660 IP54 LED 5000 lm 840		PRAG/ 660 IP54 LED 5000 lm 840	
η_{LB}	100%	η_{LB}	100%
lm/W	147	lm/W	148
direct/indirect	100/0%	direct/indirect	100/0%
UGR lat./long.	18,3/18,7	UGR lat./long.	20,8/20,7
VDU	65° < 3000cd/m²		



Dimensions

Type	Versions	LxBxH/DxH	A1	A4	KE X/Y
PRA. 660	LED	665 x 654 x 90	400	400	0 / 15



Products

Type	Lamps	P _{sys} [W]	Colour	Ballast	LxBxH/DxH	Item number	kg
<i>Diffuser, micro-prismatic direct distribution</i>							
protection IPA-PRAMP/660 IP54	LED 5000lm 840	34	vw	ED ¹⁾	665 x 654 x 90	6200 0014 153	7,90
				DALI ¹⁾	665 x 654 x 90	6200 0016 653	7,90
<i>Diffuser, satined direct distribution</i>							
protection IPA-PRAG/660 IP54	LED 5000lm 840	34	vw	ED ¹⁾	665 x 654 x 90	6200 0014 113	7,90
				DALI ¹⁾	665 x 654 x 90	6200 0016 613	7,90

¹⁾[E] Suitable for use in cleanrooms.

Other versions on request.



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