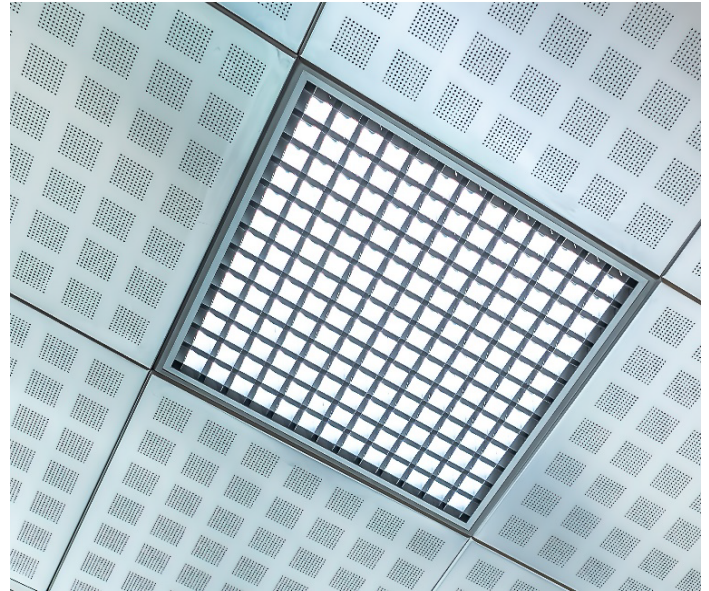


## LIBUS SBL13WB LWP-CT IP40

**DESCRIPTION** : Libus® *high efficacy - performance* version luminaire configuration with **optical white matt reflector** & *clear transparent PMMA or PC underlay cover* characterized by *high energy efficiency, low glare levels and effective beam control*.

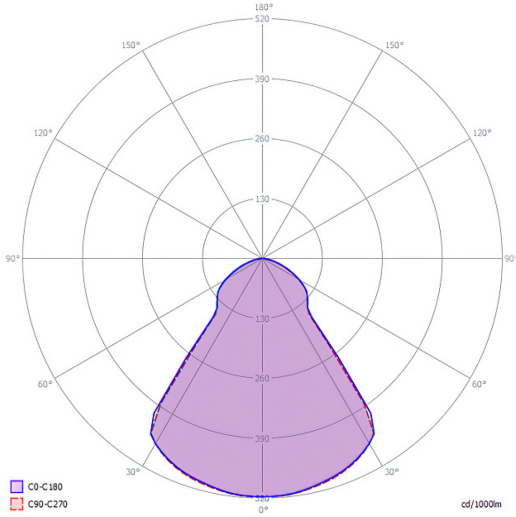
Light output ratio - L.O.R.	86,3 %
Efficacy - lm/w (range depending on the luminaire driving power)	143 - 154
Utilization factor (TM5 UF table average)	81,3
Glare level - UGR (4Hx8H - refl. 70-50-20)	14,7
Beam angle	2x42.5° = 85.0°
Degree of protection	IP40



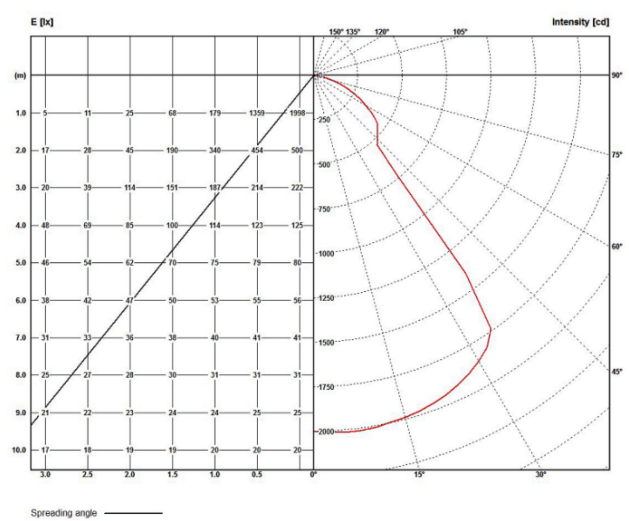
LWP_CT IP40		BEAM ANGLE		L.O.R.		DIMENSIONS / POWER OPTIONS										OPTIMAL	SAFE	NOT AVAILABLE		
		2 x 42.5°		%		EFFICACY / LUMEN OUTPUT										Lm/w	Lm/w	-		
		85.0°		86,3												lumens	lumens	-		
ROW LED STRIPS	WIDTH mm		LENGTH mm		3 - 8 w nominal DIPswitch				11 - 21 w nominal DIPswitch				21 - 30 w nominal DIPswitch							
	OPTIMAL	MINIMUM	OPTIMAL	MINIMUM	3,8 w	5 w	6,3 w	7,6 w	11 w	15 w	19 w	21 w	21 w	25 w	27 w	30 w				
1 x 13	595	563	595	563	-	-	-	-	-	152	150	148	148	147	145	144				
	620	588			-	-	-	-	-	2191	2728	3022	2960	3532	3769	4185				
1 x 6	310	278			-	-	-	148	147	145	144	143	-	-	-	-	-	-		
	334	302			-	-	-	1094	1538	2094	2623	2874	-	-	-	-	-	-		
1 x 5	269	237			-	-	-	148	147	145	144	143	-	-	-	-	-	-		
	293	261			-	-	-	907	1085	1519	2071	2600	-	-	-	-	-	-		
1 x 4	228	197			620	588	-	147	145	144	143	141	-	-	-	-	-	-		
	252	220			-	-	-	714	889	1049	1490	2035	-	-	-	-	-	-		
1 x 3	187	156			-	-	-	147	145	143	142	-	-	-	-	-	-	-		
	212	180			-	-	-	706	879	1044	1495	-	-	-	-	-	-	-		
1 x 2	147	115			-	-	147	145	144	143	-	-	-	-	-	-	-	-		
	171	139			-	-	531	698	870	1040	-	-	-	-	-	-	-	-		
1 x 1	106	74			-	-	145	144	143	-	-	-	-	-	-	-	-	-		
	130	98			-	-	528	690	862	-	-	-	-	-	-	-	-	-		
2 x 6	310	278	1125	1093	-	-	-	-	154	152	150	148	148	145	145	144				
	334	302			-	-	-	-	-	1605	2191	2728	3022	2944	3489	3746	4163			
2 x 5	269	237			-	-	-	-	-	151	150	147	147	145	145	144	143			
	293	261			-	-	-	-	-	1578	2154	2684	2983	2931	3469	3728	4105			
2 x 4	228	197			-	-	-	150	148	148	147	145	144	143	-	-	-	-		
	252	220			-	-	-	1102	1559	2136	2684	2962	2884	3421	-	-	-	-		
2 x 3	187	156			1150	1118	-	-	-	148	147	145	144	143	-	-	-	-		
	212	180			-	-	-	1088	1546	2094	2623	2874	-	-	-	-	-	-		
2 x 2	147	115			-	-	-	147	145	144	143	141	-	-	-	-	-	-		
	171	139			-	-	-	706	879	984	1498	2035	-	-	-	-	-	-		
2 x 1	106	74			-	-	146	145	144	143	-	-	-	-	-	-	-	-		
	130	98			-	-	529	698	870	1040	-	-	-	-	-	-	-	-		

• Due to material properties and processing condition tolerances, photometric data may vary in different production batches within EU directive.

POLAR DIAGRAMME (cd / 1000 lm)



ILLUMINANCE – CANDELA DIAGRAMME (lux/cd)



**UGR GLARE RATIOS**

Ceiling reflectance		0.7		0.5		0.3		0.7		0.5		0.3	
Wall reflectance		0.5	0.3	0.5	0.3	0.5	0.3	0.5	0.3	0.5	0.3	0.5	0.3
Floor cavity reflectance		0.2											
Room dimensions		Viewed crosswise						Viewed endwise					
2H	2H	11,4	12,7	11,6	13,2	13,5	11,3	12,8	11,8	13,1	13,2		
	3H	12,5	13,8	12,7	14,2	14,4	12,5	13,8	12,9	14,0	14,5		
	4H	13,0	14,3	13,3	14,5	14,8	13,1	14,1	13,3	14,7	14,9		
	6H	13,3	14,4	13,7	14,7	15,0	13,7	14,6	13,8	14,9	15,3		
	8H	13,4	14,4	13,7	14,7	15,1	13,4	14,6	13,9	15,0	15,4		
	12H	13,4	14,3	13,7	14,7	15,1	13,7	14,7	14,1	15,0	15,4		
4H	2H	11,8	13,1	12,2	13,5	13,8	11,7	13,1	12,1	13,5	14,2		
	3H	13,4	14,2	13,7	14,7	15,1	13,4	14,3	13,9	14,6	14,6		
	4H	14,1	15,0	14,3	15,3	15,5	14,0	15,0	14,4	15,2	15,5		
	6H	14,3	15,1	14,7	15,6	15,8	14,7	15,4	14,9	15,6	16,2		
	8H	14,7	15,1	15,0	15,4	16,1	14,6	15,9	15,1	15,8	16,2		
	12H	14,5	15,3	14,9	15,5	16,0	15,1	15,6	15,2	15,9	16,4		
8H	4H	14,3	14,9	14,7	15,4	15,9	14,2	15,0	14,7	15,3	15,7		
	6H	14,6	15,2	15,0	16,0	16,4	14,8	15,6	15,2	15,8	16,3		
	8H	14,8	15,4	15,6	15,9	16,3	15,1	15,6	15,8	16,2	16,5		
	12H	15,2	15,7	15,4	15,9	16,3	15,4	15,9	15,8	16,2	16,6		
12H	4H	14,2	15,0	14,6	15,2	15,7	14,4	15,1	14,7	15,2	15,7		
	6H	14,7	15,2	15,4	15,7	16,1	14,9	15,4	15,5	15,8	16,3		
	8H	15,2	15,5	15,4	15,8	16,3	15,1	15,8	15,9	16,1	16,5		

**TM5 UTILISATION FACTORS**

Utilization factors			LOR = 100.0%			DLOR = 100.0%			ULOR = 0.0%		
Room reflection			Room index								
C	W	F	0,75	1,00	1,25	1,50	2,00	2,50	3,00	4,00	5,00
0.7	0.5	0.2	65	74	82	85	92	97	99	103	106
	0.3		58	67	74	81	87	91	95	99	103
	0.1		53	64	70	76	83	88	91	97	100
0.5	0.5	0.2	62	72	80	83	89	93	96	99	102
	0.3		57	67	74	78	84	89	92	97	98
	0.1		53	62	69	73	81	86	89	94	97
0.3	0.5	0.2	61	71	77	81	86	90	92	96	98
	0.3		56	65	73	76	82	86	89	93	96
	0.1		52	61	68	73	80	84	87	91	94
0.0	0.0	0.0	51	60	66	70	77	79	83	87	89
			SHR NOM. = 1,25			SHR MAX. = 1,43			SHR MAX TR = 1,50		

**TECHNICAL SPECIFICATIONS**

Rectangular or square shaped, anodized aluminum body, IP40 LED ceiling luminaire, characterized by:

1. **TR95% optical white matt aluminum** sight blocking light distribution and glare control cubic louver **with clear transparent PMMA or PC underlay cover**.
2. suitability for recessing in T24 600 x 600 and 625 x 625 mm grid ceilings as well as plaster & clip-in system ceilings and pendant, surface and rail track mounting with accessories to be ordered separately
3. providing precise light distribution control over **42,5°** ensures low glare (**UGR<16**) visual comfort and photometric performance guaranteeing average **81.3%** (TM5 utilization factors table average) of generated light to be conveyed directly to working plane
4. eco-friendly construction enabling easy disassembly & re-cycling of components and easy replacement of lamp unit as required by *ecodesign*.
5. energy efficacy level ranging between **143 to 154 lm/w** combined with high UF values enabling the driving of the luminaires at low current levels which in turn provides low LED junction temperature promising **luminaire efficient service life / L80B10** ( $t_{q,25^{\circ}\text{C}}$ ) **>50.000h.** and chromatic stability / color consistency over the entire luminaire life
6. 10µm natural anodized aluminum body. Further color anodized and RAL colors painted finishes on request
7. open-circuit proof control gear unit, protected against faulty connection, short circuit, overload and over-temperature
8. replaceable control gear and PCB lamp unit
9. control gear unit **output ripple <5% - PSTLM ≤1 - SVM ≤0.4** for effective control of the LED system and for flicker-free light
10. complying with fundamental requirements of applicable EU regulations and product safety legislation and bears the CE symbol. The luminaire is part of a range of recessed, surface-mounted and suspended luminaires with a harmonized appearance. Project-specific versions with varying luminaire characteristics are possible on request.

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Rectangular and square anodized aluminum body IP40 LED ceiling luminaire **with TR95% optical white matt aluminum** sight blocking light distribution and glare control angled cubic louver **with clear transparent PMMA or PC underlay**. Suitable for recessing in T24 600 x 600 and 625 x 625 mm grid ceilings as well as plaster & clip-in system ceilings and pendant, surface and rail track mounting with accessories to be ordered separately. Precise light distribution control over **42,5°** ensures low glare (**UGR<16**) visual comfort and photometric performance guaranteeing average **81.3%** (TM5 utilization factors table average) of generated light to be conveyed directly to working plane. Eco-friendly construction enables easy disassembly & re-cycling of components and easy replacement of lamp unit as required by *ecodesign*. Energy efficacy level ranging between **143 to 154 lm/w** coupled with high UF values enable driving luminaires at low current which in turn provides low LED junction temperature promising **luminaire efficient service life / L80B10** ( $t_{q,25^{\circ}\text{C}}$ ) **>50.000h.** and chromatic stability / color consistency over the entire luminaire life. Luminaire body of 10µm anodized aluminum. Further color anodized and RAL colors painted finishes on request. Control gear unit is open-circuit proof and protected against faulty connection, short circuit, overload and over-temperature. The control gear and PCB lamp unit are replaceable. **Output ripple** of the control gear unit **<5% - PSTLM ≤1 - SVM ≤0.4** for effective control of the LED system and for flicker-free light. The luminaire complies with fundamental requirements of applicable EU regulations and product safety legislation and bears the CE symbol. The luminaire is part of a range of recessed, surface-mounted and suspended luminaires with a harmonized appearance. Project-specific versions with varying luminaire characteristics are possible on request.