

LIBUS SBL13WB LWP-BL IP20

DESCRIPTION : Libus® *high efficacy - performance* version luminaire configuration with TR95% white optical matt reflector & without underlay cover characterized by low glare levels, high energy efficiency and effective beam control.

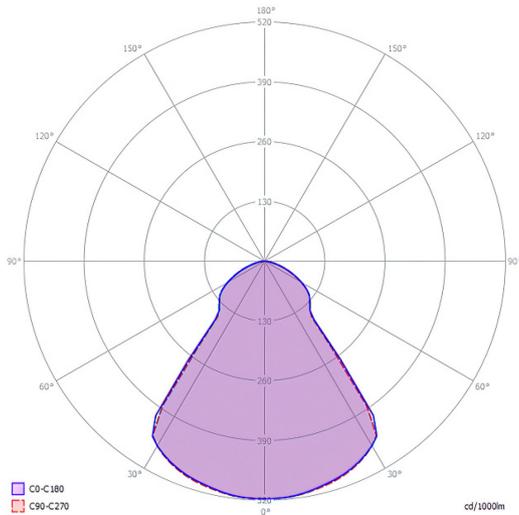
Light output ratio - L.O.R.	87,6 %
Efficacy - lm/w <small>(range depending on the luminaire driving power)</small>	145 - 156
Utilization factor <small>(TM5 UF table average)</small>	84,9
Glare level - UGR <small>(4Hx8H - refl. 70-50-20)</small>	13,4
Beam angle	2x42.0° = 84.0°
Degree of protection	IP20



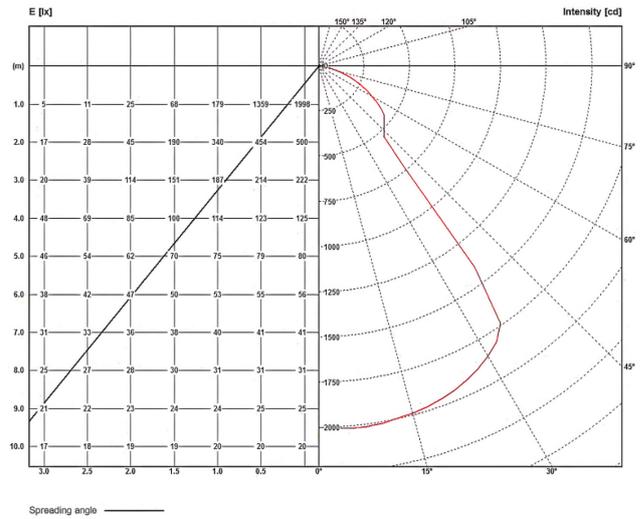
LWP_BL IP20		BEAM ANGLE		L.O.R.		DIMENSIONS / POWER OPTIONS										OPTIMAL	SAFE	NOT AVAILABLE		
		2 x 42.0°		%		EFFICACY / LUMEN OUTPUT										Lm/w	Lm/w	-		
		84.0°		87,6												lumens	lumens	-		
ROW LED STRIPS	WIDTH mm		LENGTH mm		3 - 8 w nominal DIPswitch				11 - 21 w nominal DIPswitch				21 - 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	-	-	-	-	-	154	152	151	151	149	148	146				
	620	588			-	-	-	-	-	2224	2769	3068	3005	3586	3826	4249				
1 x 6	310	278			-	-	-	151	149	148	146	145	-	-	-	-	-	-		
	334	302			-	-	-	1110	1561	2126	2663	2918	-	-	-	-	-	-		
1 x 5	269	237			-	-	-	151	149	148	146	145	-	-	-	-	-	-		
	293	261			-	-	-	920	1101	1543	2102	2640	-	-	-	-	-	-		
1 x 4	228	197			595	563	-	149	148	146	145	143	-	-	-	-	-	-		
	252	220			620	588	-	725	902	1065	1512	2066	-	-	-	-	-	-		
1 x 3	187	156			-	-	-	149	148	145	144	-	-	-	-	-	-	-		
	212	180			-	-	-	717	893	1060	1518	-	-	-	-	-	-	-		
1 x 2	147	115			149	148	146	145	-	-	-	-	-	-	-	-	-	-		
	171	139			539	709	883	1056	-	-	-	-	-	-	-	-	-	-		
1 x 1	106	74			148	146	145	-	-	-	-	-	-	-	-	-	-	-		
	130	98			536	701	875	-	-	-	-	-	-	-	-	-	-	-		
2 x 6	310	278	-	-	-	-	-	-	156	154	152	151	151	148	147	146				
	334	302	-	-	-	-	-	-	1629	2224	2769	3068	2989	3543	3803	4227				
2 x 5	269	237	-	-	-	-	-	-	153	152	149	149	148	147	146	145				
	293	261	-	-	-	-	-	-	1602	2186	2725	3028	2976	3522	3784	4168				
2 x 4	228	197	-	-	-	152	151	151	149	148	146	145	-	-	-	-				
	252	220	1125	1093	-	1119	1582	2169	2725	3007	2928	3473	-	-	-	-				
2 x 3	187	156	1150	1118	-	151	149	148	146	145	-	-	-	-	-	-				
	212	180	-	-	-	1105	1570	2126	2663	2918	-	-	-	-	-	-				
2 x 2	147	115	-	-	-	149	148	146	145	143	-	-	-	-	-	-				
	171	139	-	-	-	717	893	999	1520	2066	-	-	-	-	-	-				
2 x 1	106	74	149	148	146	145	-	-	-	-	-	-	-	-	-	-				
	130	98	537	709	883	1056	-	-	-	-	-	-	-	-	-	-				

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

POLAR DIAGRAMME (cd/1000lm)



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				
Floor cavity reflectance		0.2														
Room dimensions		Viewed crosswise						Viewed endwise								
2H	2H	10,6	11,9	10,8	12,3	12,6	10,6	12,1	11,1	12,4	12,6	10,6	12,1	11,1	12,4	12,6
	3H	11,6	12,7	11,8	13,3	13,4	11,7	12,9	12,1	13,3	13,6	11,7	12,9	12,1	13,3	13,6
	4H	11,9	13,2	12,3	13,5	13,8	12,2	13,3	12,5	13,7	14,0	12,2	13,3	12,5	13,7	14,0
	6H	12,4	13,3	12,7	13,6	14,0	12,7	13,7	13,0	14,0	14,3	12,7	13,7	13,0	14,0	14,3
	8H	12,4	13,3	12,6	13,6	14,0	12,6	13,7	13,1	14,1	14,5	12,6	13,7	13,1	14,1	14,5
	12H	12,2	13,2	12,6	13,6	14,0	12,7	13,7	13,1	14,1	14,5	12,7	13,7	13,1	14,1	14,5
4H	2H	10,9	12,3	11,3	12,5	12,8	11,0	12,2	11,4	12,6	12,9	11,0	12,2	11,4	12,6	12,9
	3H	12,2	13,2	12,8	13,6	14,0	12,4	13,4	12,9	13,7	14,2	12,4	13,4	12,9	13,7	14,2
	4H	12,9	13,8	13,1	14,2	14,4	13,0	14,0	13,4	14,2	14,7	13,0	14,0	13,4	14,2	14,7
	6H	13,1	13,9	13,4	14,2	14,6	13,6	14,3	13,8	14,6	15,2	13,6	14,3	13,8	14,6	15,2
	8H	13,4	13,9	13,7	14,2	14,9	13,5	14,4	14,0	14,7	15,2	13,5	14,4	14,0	14,7	15,2
8H	4H	13,0	13,7	13,5	14,0	14,7	13,1	14,0	13,6	14,3	14,7	13,1	14,0	13,6	14,3	14,7
	6H	13,3	13,9	13,8	14,5	15,0	13,7	14,2	14,1	14,7	15,2	13,7	14,2	14,1	14,7	15,2
	8H	13,5	14,1	14,3	14,6	15,1	14,0	14,5	14,6	15,1	15,4	14,0	14,5	14,6	15,1	15,4
	12H	13,8	14,3	14,1	14,6	15,1	14,2	14,6	14,7	15,1	15,5	14,2	14,6	14,7	15,1	15,5
12H	4H	13,0	13,7	13,4	14,0	14,5	13,3	14,0	13,6	14,2	14,7	13,3	14,0	13,6	14,2	14,7
	6H	13,4	13,9	14,1	14,5	14,9	13,8	14,2	14,4	14,7	15,2	13,8	14,2	14,4	14,7	15,2
	8H	13,8	14,2	14,1	14,5	15,1	14,0	14,5	14,6	14,9	15,4	14,0	14,5	14,6	14,9	15,4

TMS 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	71	79	85	89	95	99	101	105	107	
	0.3		65	73	79	84	90	94	97	101	104	
	0.1		60	69	75	80	86	91	94	99	102	
0.5	0.5	0.2	69	77	83	87	92	94	98	101	103	
	0.3		64	72	78	82	88	92	94	98	100	
	0.1		60	68	74	78	84	89	92	96	98	
0.3	0.5	0.2	68	76	81	84	89	91	94	97	99	
	0.3		63	71	77	80	86	89	92	95	97	
	0.1		58	67	73	77	83	87	89	93	95	
0.0	0.0	0.0	58	65	71	74	80	83	86	89	95	
			SHR NOM. = 1,25				SHR MAX. = 1,39			SHR MAX TR = 1,44		

TECHNICAL SPECIFICATIONS

Rectangular or square shaped, anodized aluminum body, IP20 LED ceiling luminaire, characterized by :

1. **TR95% optical white matt aluminum** sight blocking light distribution and glare control angled cubic louver **without underlay** diffusing elements.
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 **42.0°** ensures low glare (**UGR<15**) visual comfort and photometric performance guaranteeing average **+84,9%** (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 **145 to 156 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** ($t_{j,25^{\circ}\text{C}}$) **>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.

Rectangular and square anodized aluminum body IP20 LED ceiling luminaire **with TR95% optical white matt aluminum** sight blocking light distribution and glare control angled cubic louver **without underlay** diffusing elements. 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 **42.0°** ensures low glare (**UGR<15**) visual comfort and photometric performance guaranteeing average **+84,9%** (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 **145 to 156 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** ($t_{j,25^{\circ}\text{C}}$) **>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.