

LIBUS SBL13WB LSS-CT IP40

DESCRIPTION : Libus® basic-standard version luminaire configuration with pre-anodized satin matt reflector angled louver and PMMA - PC underlay cover, characterized by *ecodesign* efficacy, low glare levels and precise beam control.

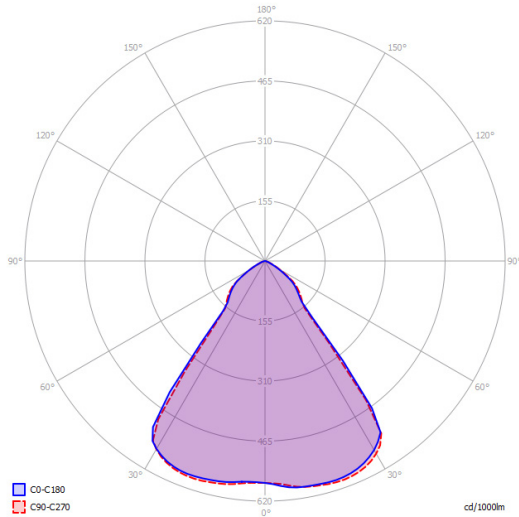
Light output ratio – L.O.R.	72,7%
Efficacy – lm/w (range depending on the luminaire driving power)	112 – 120
Utilization factor (TM5 UF table average)	87,3
Glare level – UGR (4Hx8H – refl. 70-50-20)	8,9
Beam angle	2x41.5° = 83.0°
Degree of protection	IP40



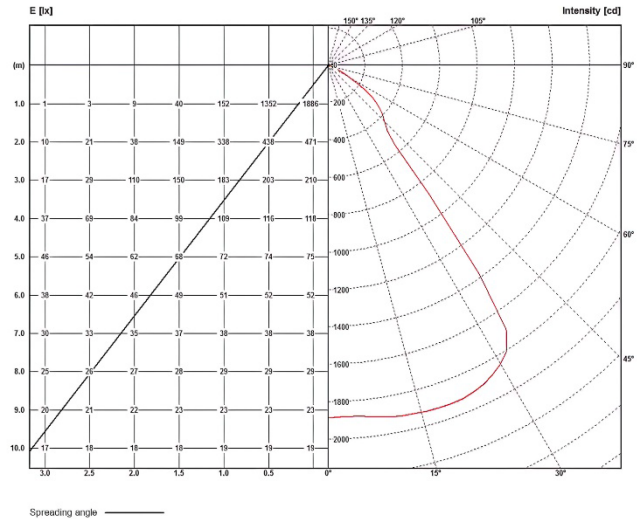
LSS_CT IP40		BEAM ANGLE		L.O.R.	DIMENSIONS / POWER OPTIONS												OPTIMAL	SAFE	NOT AVAILABLE	
		2 x 41.5°		%	EFFICACY / LUMEN OUTPUT												lm/w	lm/w	-	
		83.0°		72,7	lm/w	lumens	lumens	-												
ROW LED STRIPS	WIDTH mm		LENGTH mm		3 - 8 w nominal DIPswitch				11 - 21 w nominal DIPswitch				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	-	-	-	-	-	119	117	116	116	115	114	112				
	620	588			-	-	1711	2130	2360	2311	2758	2943	3268							
1 x 6	310	278			-	-	-	116	115	114	112	111	-	-	-	-	-	-	-	-
	334	302			-	-	854	1201	1635	2048	2244	-	-	-	-	-	-	-	-	-
1 x 5	269	237			-	-	116	115	114	112	111	-	-	-	-	-	-	-	-	-
	293	261			708	847	1186	1617	2030	-	-	-	-	-	-	-	-	-	-	-
1 x 4	228	197			-	115	114	112	111	110	-	-	-	-	-	-	-	-	-	-
	252	220			620	588	557	694	819	1163	1589	-	-	-	-	-	-	-	-	-
1 x 3	187	156			-	115	114	112	111	-	-	-	-	-	-	-	-	-	-	-
	212	180			552	687	815	1175	-	-	-	-	-	-	-	-	-	-	-	-
1 x 2	147	115			115	114	112	111	-	-	-	-	-	-	-	-	-	-	-	-
	171	139			415	545	679	812	-	-	-	-	-	-	-	-	-	-	-	-
1 x 1	106	74			114	112	111	-	-	-	-	-	-	-	-	-	-	-	-	-
	130	98			412	539	673	-	-	-	-	-	-	-	-	-	-	-	-	-
2 x 6	310	278	-	-	-	-	-	-	120	119	117	116	116	114	113	112				
	334	302	1253	1711	2130	2360	2299	2725	2925	3251										
2 x 5	269	237	-	-	-	-	-	118	117	116	115	114	113	112	111					
	293	261	1232	1681	2117	2329	2289	2708	2911	3206										
2 x 4	228	197	-	-	-	117	116	115	114	112	111	-	-	-	-	-	-	-		
	252	220	861	1217	1668	2096	2313	2252	2671	-	-	-	-	-	-	-	-	-		
2 x 3	187	156	-	-	-	116	115	114	112	111	-	-	-	-	-	-	-	-		
	212	180	850	1207	1635	2048	2244	-	-	-	-	-	-	-	-	-	-	-		
2 x 2	147	115	-	115	114	112	111	110	-	-	-	-	-	-	-	-	-	-		
	171	139	552	687	768	1169	1589	-	-	-	-	-	-	-	-	-	-	-		
2 x 1	106	74	114	114	112	111	-	-	-	-	-	-	-	-	-	-	-	-		
	130	98	413	545	679	812	-	-	-	-	-	-	-	-	-	-	-	-		

• 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	8,9	10,2	9,3	10,6	10,9	8,9	10,1	9,2	10,4	10,7	8,9	10,1	9,2	10,4	10,7
	3H	8,9	10,2	9,3	10,4	10,9	8,9	10,1	9,3	10,3	10,8	8,9	10,1	9,3	10,3	10,8
	4H	9,1	10,1	9,5	10,4	10,8	8,9	9,9	9,2	10,3	10,7	8,9	9,9	9,2	10,3	10,7
	6H	8,8	10,0	9,2	10,3	10,7	9,0	9,8	9,2	10,2	10,6	9,0	9,8	9,2	10,2	10,6
	8H	8,9	9,8	9,4	10,2	10,6	8,7	9,8	9,1	10,1	10,5	8,7	9,8	9,1	10,1	10,5
	12H	8,9	9,7	9,4	10,1	10,6	8,9	9,7	9,3	10,0	10,4	8,9	9,7	9,3	10,0	10,4
4H	2H	8,8	9,9	9,1	10,4	10,8	8,8	9,9	9,2	10,2	11,0	8,8	9,9	9,2	10,2	11,0
	3H	9,0	9,8	9,3	10,3	10,7	9,0	9,8	9,4	10,2	10,2	9,0	9,8	9,4	10,2	10,2
	4H	9,0	9,7	9,4	10,2	10,6	9,0	9,7	9,4	10,1	10,4	9,0	9,7	9,4	10,1	10,4
	6H	8,9	9,6	9,5	10,1	10,5	8,9	9,5	9,4	10,0	10,4	8,9	9,5	9,4	10,0	10,4
	8H	8,9	9,5	9,4	9,9	10,4	8,8	9,7	9,3	9,9	10,4	8,8	9,7	9,3	9,9	10,4
	12H	8,8	9,4	9,4	9,8	10,4	8,8	9,4	9,3	9,8	10,3	8,8	9,4	9,3	9,8	10,3
8H	4H	8,9	9,5	9,3	10,0	10,4	8,8	9,4	9,3	9,9	10,4	8,8	9,4	9,3	9,9	10,4
	6H	8,8	9,3	9,3	9,8	10,3	8,7	9,3	9,2	9,7	10,2	8,7	9,3	9,2	9,7	10,2
	8H	8,8	9,2	9,3	9,7	10,2	8,8	9,2	9,3	9,7	10,2	8,8	9,2	9,3	9,7	10,2
	12H	8,7	9,1	9,3	9,6	10,1	8,7	9,2	9,3	9,6	10,1	8,7	9,2	9,3	9,6	10,1
12H	4H	8,8	9,4	9,3	9,8	10,3	8,8	9,4	9,3	9,8	10,3	8,8	9,4	9,3	9,8	10,3
	6H	8,8	9,2	9,3	9,7	10,2	8,7	9,2	9,3	9,7	10,2	8,7	9,2	9,3	9,7	10,2
	8H	8,7	9,1	9,3	9,6	10,1	8,7	9,2	9,3	9,6	10,1	8,7	9,2	9,3	9,6	10,1

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	72	82	88	91	97	101	103	106	108
	0.3		66	76	82	87	93	97	100	103	106
	0.1		62	72	79	83	89	94	96	101	103
0.5	0.5	0.2	70	80	86	88	94	98	100	102	104
	0.3		65	76	81	84	90	94	97	101	101
	0.1		62	71	78	81	87	92	94	98	101
0.3	0.5	0.2	69	79	83	87	92	95	96	99	101
	0.3		64	74	80	83	88	92	93	97	99
	0.1		62	70	77	80	86	90	93	95	98
0.0	0.0	0.0	60	69	75	78	83	85	88	91	92
			SHR NOM. = 1,25			SHR MAX. = 1,51			SHR MAX TR = 1,57		

Technical Specifications

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

1. **pre-anodized satin matt aluminum** sight blocking light distribution and glare control angled cubic louver **with clear transparent PMMA - 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 **41,5°** ensures excellent glare-free (**UGR<10**) visual comfort and photometric performance guaranteeing average **+87.3%** (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 **112 to 120 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** ($t_{a,25^{\circ}\text{C}}$) **>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.

IP40 LED ceiling luminaire of rectangular – square anodized aluminum body **with pre-anodized satin matt aluminum** sight blocking light distribution and glare control angled cubic louver and **clear transparent PMMA - 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 **41,5°** ensures excellent glare-free (**UGR<10**) visual comfort and photometric performance guaranteeing average **+87.3%** (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 **112 to 120 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** ($t_{a,25^{\circ}\text{C}}$) **>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.