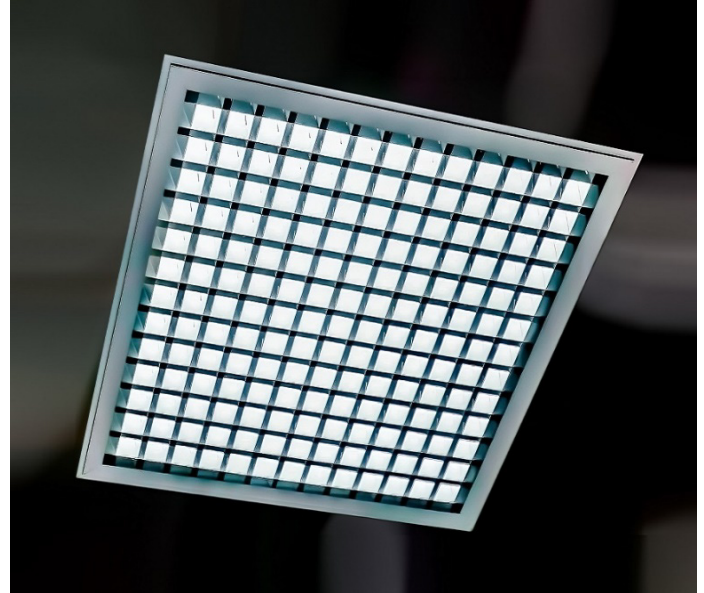


LIBUS SBL13WB LPS-CT IP40

DESCRIPTION : Libus® *optimum performance - standard version* luminaire configuration with TR98% PVD silver luminal matt reflector & clear transparent PMMA or PC underlay cover, characterized by *unique energy efficiency, no glare and effective beam control.*

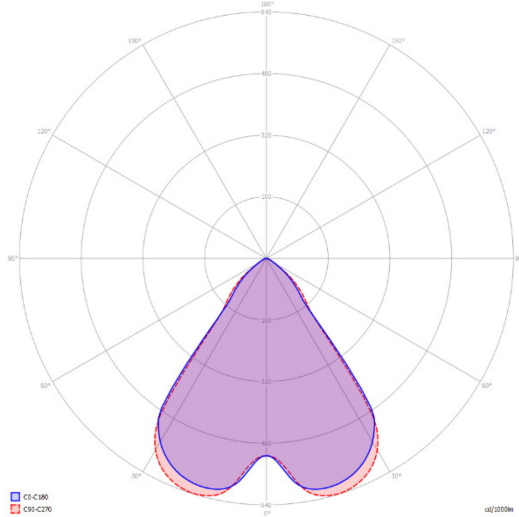
Light output ratio - L.O.R.	93,9%
Efficacy - lm/w (range depending on the luminaire driving power)	149 - 159
Utilization factor (TM5 UF table average)	89,8
Glare level - UGR (4Hx8H - refl. 70-50-20)	8,0
Beam angle	2x40.5° = 81.0°
Degree of protection	IP40



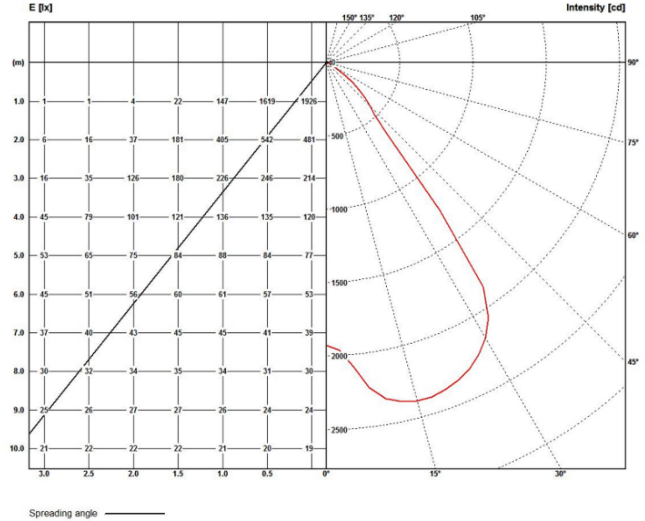
LPS_CT IP40		BEAM ANGLE		L.O.R.	DIMENSIONS / POWER OPTIONS												OPTIMAL	SAFE	NOT AVAILABLE	
		2 x 40.5°		%	EFFICACY / LUMEN OUTPUT												Lm/w	Lm/w	-	
		81.0°		93,9													lumens	lumens	-	
ROW LED STRIPS	WIDTH mm		LENGTH mm		3 - 8 w nominal DIPswitch				11 - 21 w nominal DIPswitch				21 - 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	-	-	-	-	-	158	156	154	154	153	151	149				
	620	588			-	-	2274	2846	3137	3073	3667	3912	4344							
1 x 6	310	278			-	-	-	-	154	153	151	149	148	-	-	-	-	-	-	-
	334	302			-	-	1135	1597	2173	2723	2989	-	-	-	-	-	-	-	-	-
1 x 5	269	237			-	-	-	-	154	153	151	149	148	-	-	-	-	-	-	-
	293	261			-	-	941	1126	1577	2150	2704	-	-	-	-	-	-	-	-	-
1 x 4	228	197			595	563	-	153	151	150	149	147	-	-	-	-	-	-	-	-
	252	220			620	588	-	741	922	1095	1560	2112	-	-	-	-	-	-	-	-
1 x 3	187	156			-	-	-	152	151	149	148	-	-	-	-	-	-	-	-	-
	212	180			-	-	-	731	913	1089	1565	-	-	-	-	-	-	-	-	-
1 x 2	147	115			153	151	149	148	-	-	-	-	-	-	-	-	-	-	-	-
	171	139			552	724	903	1082	-	-	-	-	-	-	-	-	-	-	-	-
1 x 1	106	74			151	149	148	-	-	-	-	-	-	-	-	-	-	-	-	-
	130	98			548	717	897	-	-	-	-	-	-	-	-	-	-	-	-	-
2 x 6	310	278	-	-	-	-	-	-	159	158	155	154	154	152	150	149				
	334	302	-	-	-	-	-	-	1666	2274	2832	3137	3056	3640	3889	4322				
2 x 5	269	237	-	-	-	-	-	-	157	155	154	153	152	150	149	148				
	293	261	-	-	-	-	-	-	1639	2236	2801	3096	3058	3601	3870	4269				
2 x 4	228	197	-	-	-	-	155	154	154	153	151	149	148	-	-	-	-	-		
	252	220	1125	1093	-	-	-	1144	1618	2218	2787	3074	2994	3558	-	-	-	-		
2 x 3	187	156	1150	1118	-	-	-	154	153	151	149	148	-	-	-	-	-	-		
	212	180	-	-	-	-	-	1130	1605	2173	2723	2989	-	-	-	-	-	-		
2 x 2	147	115	-	-	-	153	151	149	148	147	-	-	-	-	-	-	-	-		
	171	139	-	-	-	733	913	1021	1557	2112	-	-	-	-	-	-	-	-		
2 x 1	106	74	152	151	149	148	-	-	-	-	-	-	-	-	-	-	-	-		
	130	98	549	724	903	1082	-	-	-	-	-	-	-	-	-	-	-	-		

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

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	76	84	91	94	99	103	104	107	109
	0.3		71	79	85	90	96	99	102	104	107
	0.1		66	76	82	86	92	96	98	103	105
0.5	0.5	0.2	74	83	89	91	96	100	101	103	105
	0.3		70	79	84	87	92	96	99	102	103
	0.1		66	75	81	84	90	94	96	100	102
0.3	0.5	0.2	73	81	86	89	94	97	98	100	101
	0.3		68	77	83	86	90	94	95	98	100
	0.1		66	74	80	84	88	92	95	97	99
0.0	0.0	0.0	64	72	77	81	85	87	90	93	94
			SHR NOM. = 1,25			SHR MAX. = 1,40			SHR MAX TR = 1,44		

TECHNICAL SPECIFICATIONS

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

1. **TR98% PVD silver luminal matt** sight blocking light distribution and glare control cubic louver **with clear transparent PMMA or PC 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 **40.5°** ensures glare-free (**UGR<9**) visual comfort and photometric performance guaranteeing average **89.8%** (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 **149 to 159 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 IP40 LED ceiling luminaire **with TR98% PVD silver luminal matt** sight blocking light distribution and glare control angled cubic louver **with clear transparent PMMA or PC 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 **40.5°** ensures glare-free (**UGR<9**) visual comfort and photometric performance guaranteeing average **89.8%** (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 **149 to 159 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.