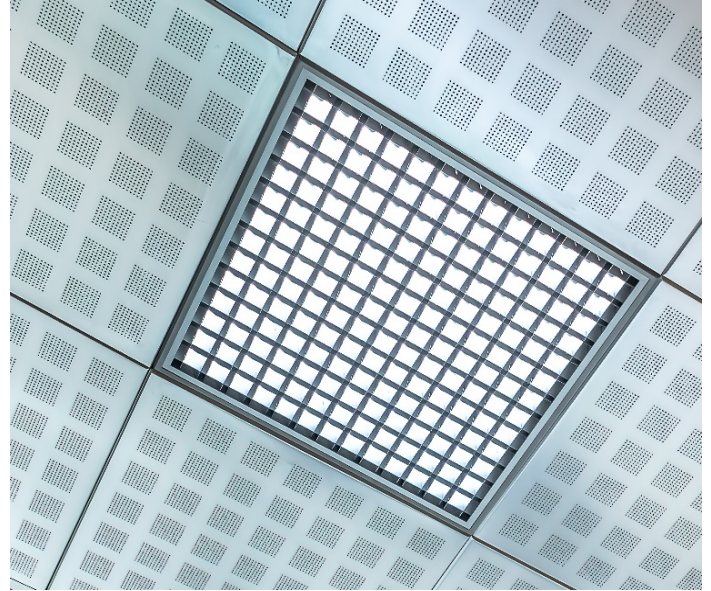


LIBUS SBL13WB LWS-CT IP40

DESCRIPTION : Libus® *high efficacy - standard* version luminaire configuration with TR95% white optical matt reflector & *clear transparent PMMA or PC underlay cover* characterized by *high energy efficiency, low glare levels and effective beam control.*

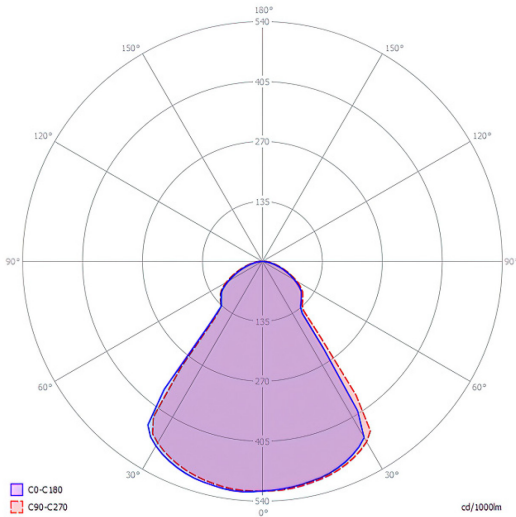
Light output ratio - L.O.R.	86,3%
Efficacy - lm/w <small>(range depending on the luminaire driving power)</small>	132 - 142
Utilization factor <small>(TM5 UF table average)</small>	81,3
Glare level - UGR <small>(4Hx8H - refl. 70-50-20)</small>	13,7
Beam angle	2x42.5° = 85.0°
Degree of protection	IP40



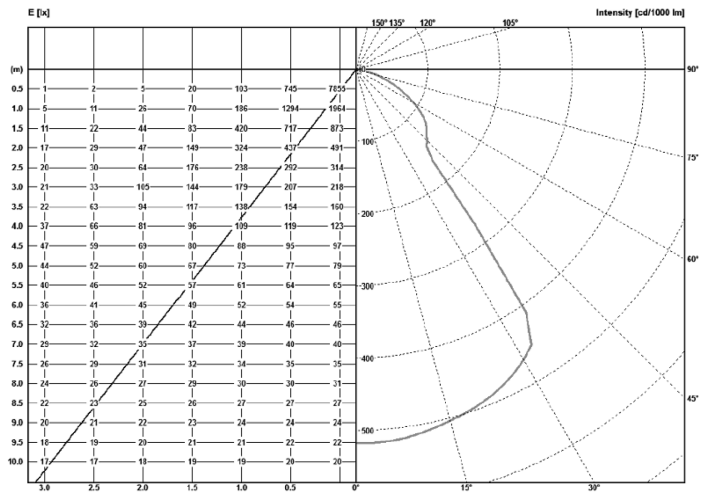
LWS_CT IP40		BEAM ANGLE		L.O.R.	DIMENSIONS / POWER OPTIONS											OPTIMAL	SAFE	NOT AVAILABLE		
		2 x 42.5°		%	EFFICACY / LUMEN OUTPUT											Lm/w	Lm/w	-		
		85.0°		86,3												lumens	lumens	-		
ROW LED STRIPS	WIDTH mm		LENGTH mm		3 - 8 w nominal DIPswitch				11 - 21 w nominal DIPswitch				21 - 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	-	-	-	-	-	140	138	137	137	136	134	133				
	620	588			-	-	2022	2518	2790	2732	3260	3479	3863							
1 x 6	310	278			-	-	-	-	137	136	134	133	132	-	-	-	-	-	-	-
	334	302			-	-	1010	1420	1933	2421	2653	-	-	-	-	-	-	-	-	-
1 x 5	269	237			-	-	-	-	137	136	134	133	132	-	-	-	-	-	-	-
	293	261			-	-	837	1002	1403	1912	2400	-	-	-	-	-	-	-	-	-
1 x 4	228	197			-	-	-	136	134	133	132	130	-	-	-	-	-	-	-	-
	252	220			-	-	659	820	969	1375	1878	-	-	-	-	-	-	-	-	-
1 x 3	187	156			-	-	-	136	134	132	131	-	-	-	-	-	-	-	-	-
	212	180			-	-	652	812	964	1380	-	-	-	-	-	-	-	-	-	-
1 x 2	147	115			136	134	133	132	-	-	-	-	-	-	-	-	-	-	-	-
	171	139			490	644	803	960	-	-	-	-	-	-	-	-	-	-	-	-
1 x 1	106	74			134	133	132	-	-	-	-	-	-	-	-	-	-	-	-	-
	130	98			488	637	796	-	-	-	-	-	-	-	-	-	-	-	-	-
2 x 6	310	278	-	-	-	-	-	-	142	140	138	137	137	134	133	133				
	334	302	-	-	-	-	-	-	1482	2022	2518	2790	2718	3221	3458	3843				
2 x 5	269	237	-	-	-	-	-	-	139	138	136	136	134	133	133	132				
	293	261	-	-	-	-	-	-	1457	1988	2478	2753	2706	3202	3441	3790				
2 x 4	228	197	-	-	-	-	138	137	137	136	134	133	132	-	-	-	-	-		
	252	220	-	-	-	-	1018	1439	1972	2478	2734	2662	3158	-	-	-	-	-		
2 x 3	187	156	-	-	-	-	137	136	134	133	132	-	-	-	-	-	-	-		
	212	180	-	-	-	-	1004	1427	1933	2421	2653	-	-	-	-	-	-	-		
2 x 2	147	115	-	-	-	-	136	134	133	132	130	-	-	-	-	-	-	-		
	171	139	-	-	-	-	652	812	908	1382	1878	-	-	-	-	-	-	-		
2 x 1	106	74	135	134	133	132	-	-	-	-	-	-	-	-	-	-	-	-		
	130	98	488	644	803	960	-	-	-	-	-	-	-	-	-	-	-	-		

• 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	
Floor cavity reflectance		0.2											
Room dimensions		Viewed crosswise						Viewed endwise					
2H	2H	10,8	12,2	11,1	12,6	12,9	10,8	12,2	11,2	12,5	12,8		
	3H	11,9	13,2	12,1	13,4	13,9	12,0	13,4	12,4	13,6	14,0		
	4H	12,3	13,5	12,7	13,9	14,2	12,6	13,6	12,8	14,2	14,5		
	6H	12,5	13,8	12,9	14,0	14,4	13,1	14,1	13,3	14,4	14,8		
	8H	12,5	13,8	13,1	14,0	14,4	12,9	14,1	13,4	14,5	14,9		
	12H	12,7	13,7	13,1	14,1	14,4	13,2	14,2	13,6	14,5	14,9		
4H	2H	11,2	12,4	11,6	12,9	13,2	11,3	12,6	11,7	12,9	13,8		
	3H	12,7	13,5	12,9	14,1	14,4	12,9	13,8	13,2	14,1	14,1		
	4H	13,2	14,1	13,6	14,5	14,9	13,5	14,3	13,9	14,7	15,0		
	6H	13,6	14,4	13,9	14,9	15,1	13,9	14,6	14,3	15,1	15,5		
	8H	13,7	14,4	14,1	14,7	15,2	14,1	15,1	14,5	15,2	15,7		
	12H	13,7	14,4	14,2	14,8	15,3	14,3	14,9	14,6	15,3	15,8		
8H	4H	13,4	14,2	13,9	14,7	15,0	13,6	14,3	14,1	14,8	15,2		
	6H	13,8	14,4	14,3	15,1	15,5	14,2	15,0	14,7	15,3	15,7		
	8H	14,1	14,7	14,6	15,1	15,6	14,5	15,0	15,0	15,5	15,9		
	12H	14,2	14,7	14,6	15,1	15,6	14,7	15,3	15,2	15,6	16,1		
12H	4H	13,5	14,1	13,9	14,5	15,0	13,6	14,3	14,1	14,7	15,2		
	6H	14,0	14,4	14,4	15,0	15,4	14,3	14,8	14,8	15,3	15,7		
	8H	14,2	14,6	14,6	15,0	15,6	14,5	15,2	15,3	15,5	16,0		

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	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. = 1,44			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<15**) 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 **132 to 142 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.

Rectangular and square anodized aluminum body IP40 LED ceiling luminaire with **white optical 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<15**) 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 **132 to 142 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.