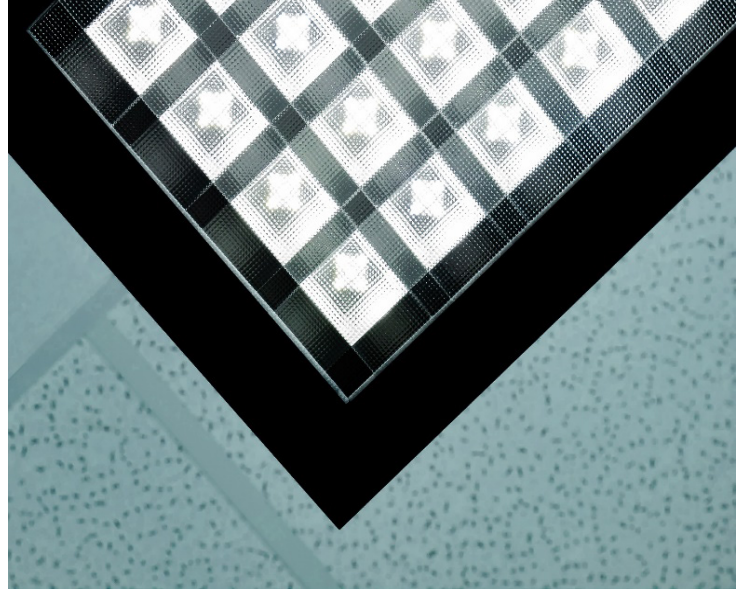


LIBUS SBL13WB LWP-MC IP40

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

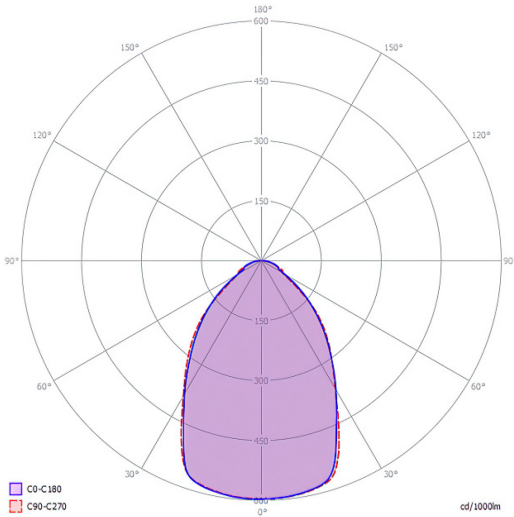
Light output ratio – L.O.R.	85,1%
Efficacy – lm/w (range depending on the luminaire driving power)	137 – 147
Utilization factor (TM5 UF table average)	84,9
Glare level – UGR (4Hx8H – refl. 70-50-20)	15,8
Beam angle	2x33.7° = 67.4°
Degree of protection	IP40



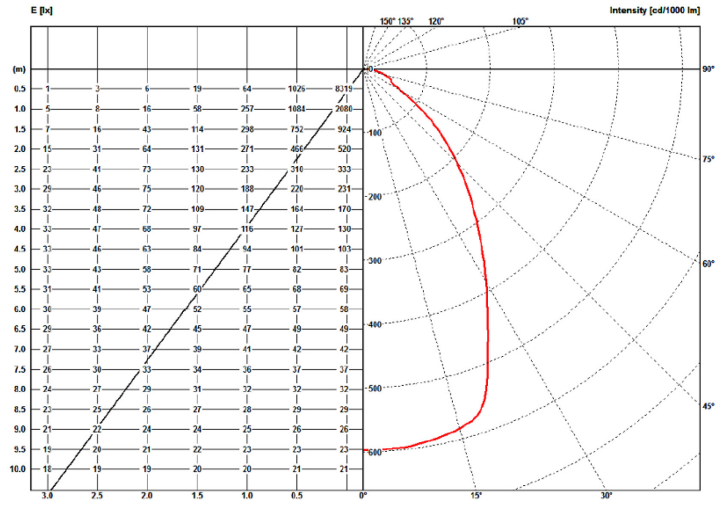
LWP_MC IP40		BEAM ANGLE		L.O.R.		DIMENSIONS / POWER OPTIONS										OPTIMAL	SAFE	NOT AVAILABLE	
		2 x 33.7°		%		EFFICACY / LUMEN OUTPUT										Lm/w	Lm/w	-	
		67.4°		85,1												lumens	lumens	-	
ROW LED STRIPS	WIDTH mm		LENGTH mm		3 - 8 w nominal DIPswitch				11 - 21 w nominal DIPswitch				21 - 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	-	-	-	-	-	146	144	142	142	141	140	138			
	620	588			-	-	-	-	-	2103	2619	2901	2841	3391	3618	4018			
1 x 6	310	278			-	-	-	142	141	140	138	137	-	-	-	-	-		
	334	302			-	-	-	1050	1476	2010	2518	2759	-	-	-	-	-		
1 x 5	269	237			-	-	-	142	141	140	138	137	-	-	-	-	-		
	293	261			-	-	-	870	1042	1459	1988	2496	-	-	-	-	-		
1 x 4	228	197			595	563	-	141	140	138	137	136	-	-	-	-	-		
	252	220			620	588	-	685	853	1007	1430	1953	-	-	-	-	-		
1 x 3	187	156			-	-	-	141	140	137	136	-	-	-	-	-	-		
	212	180			-	-	-	678	844	1002	1435	-	-	-	-	-	-		
1 x 2	147	115			-	-	141	140	138	137	-	-	-	-	-	-	-		
	171	139			-	-	510	670	835	998	-	-	-	-	-	-	-		
1 x 1	106	74			-	-	140	138	137	-	-	-	-	-	-	-	-		
	130	98			-	-	507	663	828	-	-	-	-	-	-	-	-		
2 x 6	310	278			1125	1093	-	-	-	-	147	146	144	142	142	140	139	138	
	334	302					-	-	-	-	1541	2103	2619	2901	2826	3350	3596	3997	
2 x 5	269	237					-	-	-	-	-	145	144	141	141	140	139	138	137
	293	261					-	-	-	-	-	1515	2067	2577	2863	2814	3330	3579	3941
2 x 4	228	197					-	-	-	-	-	144	142	142	141	140	138	137	-
	252	220					1125	1093	-	-	-	1058	1496	2051	2577	2843	2769	3284	-
2 x 3	187	156	1150	1118			-	-	-	142	141	140	138	137	-	-	-		
	212	180	-	-			-	-	-	1045	1484	2010	2518	2759	-	-	-		
2 x 2	147	115	-	-			-	141	140	138	137	136	-	-	-	-	-		
	171	139	-	-			-	678	844	944	1438	1953	-	-	-	-	-		
2 x 1	106	74	-	-			141	140	138	137	-	-	-	-	-	-	-		
	130	98	-	-			508	670	835	998	-	-	-	-	-	-	-		

• 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	9,5	10,9	9,7	11,2	11,5	9,6	11,2	10,1	11,5	11,7		
	3H	11,1	12,5	11,4	13,0	13,2	11,7	13,1	12,1	13,3	13,8		
	4H	12,0	13,4	12,4	13,8	13,9	12,8	14,1	13,1	14,5	14,8		
	6H	13,0	14,0	13,3	14,3	14,7	14,0	15,2	14,4	15,3	15,7		
	8H	13,3	14,3	13,5	14,5	14,8	14,3	15,6	14,8	15,9	16,3		
12H	13,3	14,3	13,7	14,6	15,0	14,8	15,7	15,2	16,1	16,5			
4H	2H	10,1	11,6	10,5	11,9	12,2	10,5	11,7	10,9	12,1	12,5		
	3H	12,5	13,7	13,1	14,0	14,4	13,2	14,3	13,5	14,6	15,1		
	4H	14,0	14,9	14,2	15,3	15,6	14,7	15,8	15,2	15,9	16,4		
	6H	15,1	16,0	15,4	16,3	16,7	16,6	17,2	16,7	17,6	18,0		
	8H	15,8	16,4	16,0	16,7	17,1	17,1	17,9	17,5	18,3	18,5		
12H	15,9	16,8	16,3	16,9	17,4	18,0	18,6	18,2	19,0	19,4			
8H	4H	14,5	15,3	15,0	15,6	16,1	17,1	16,2	15,6	16,5	16,8		
	6H	16,1	16,6	16,5	17,3	17,7	17,5	18,0	17,9	18,4	18,8		
	8H	16,9	17,5	17,4	18,0	18,4	18,9	19,3	19,2	19,6	20,0		
	12H	17,6	18,1	17,8	18,4	18,8	19,7	20,2	20,0	20,6	20,9		
12H	4H	14,7	15,4	15,0	15,7	16,1	15,6	16,2	15,8	16,5	17,0		
	6H	16,4	16,8	16,8	17,5	17,8	17,8	18,3	18,2	18,8	19,2		
	8H	17,4	18,0	17,6	18,1	18,6	18,9	19,5	19,5	19,9	20,2		

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	71	79	85	89	95	99	101	104	107
	0.3		65	74	80	84	90	94	97	101	104
	0.1		60	69	75	80	86	91	94	99	101
0.5	0.5	0.2	70	78	83	87	92	95	98	101	103
	0.3		64	72	78	82	88	92	94	98	100
	0.1		60	68	74	79	85	89	92	96	98
0.3	0.5	0.2	68	76	81	84	89	92	94	97	99
	0.3		63	71	77	81	86	89	92	95	97
	0.1		60	68	73	77	83	87	89	93	95
0.0	0.0	0.0	58	66	71	75	80	83	86	89	91
			SHR NOM. = 1,25			SHR MAX. = 1,25			SHR MAX TR = 1,32		

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 micro-prismatic PMMA 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 **33,7°** ensures low glare (**UGR<16**) 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 **137 to 147 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 **efficient luminaire 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 TR95% optical white matt aluminum** sight blocking light distribution and glare control angled cubic louver **with clear micro-prismatic PMMA underlay**. Suitable for recessing in T24 600x600 and 625x625 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 **33,7°** ensures low glare (**UGR<16**) 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 **137 to 147 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.