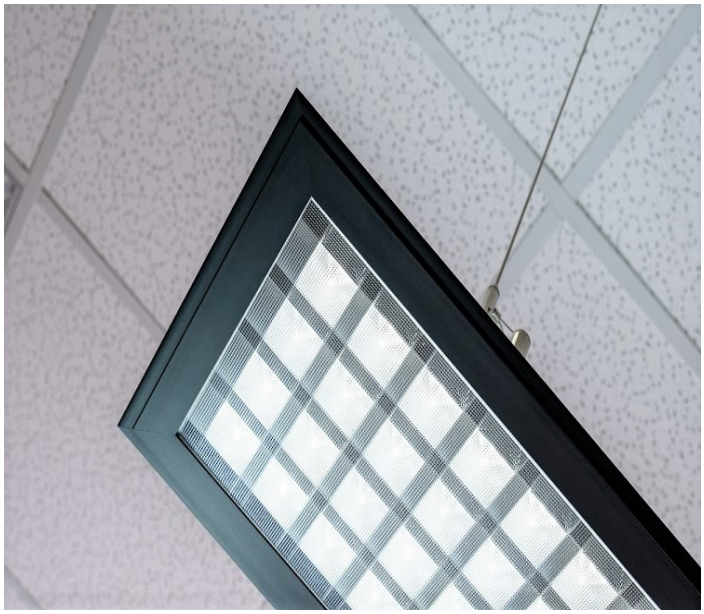
LIBUS SBL13WB **LEP-MC IP40**

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

Light output ratio – L.O.R.	84,3 %
Efficacy – lm/w (range depending on the luminaire driving power)	135 - 146
Utilization factor (TM5 UF table average)	87,1
Glare level – UGR (4Hx8H – refl. 70-50-20)	9,1
Beam angle	2x32.6° =65.2°
Degree of protection	IP40



LEP_MC IP40	BEAM ANGLE	L.O.R.
	2 x 32.6°	%
	65.2°	84,3

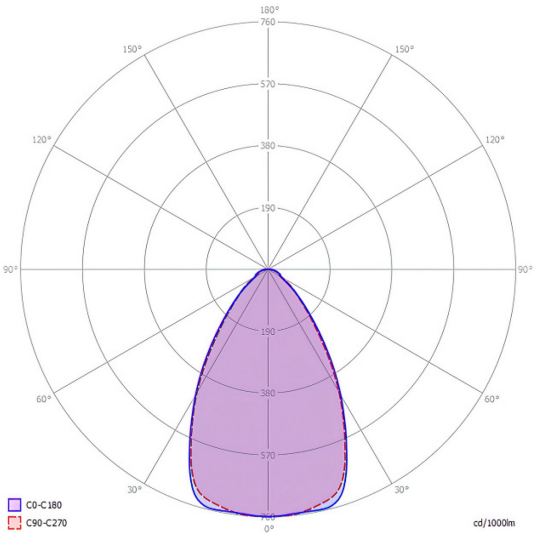
DIMENSIONS / POWER OPTIONS
EFFICACY / LUMEN OUTPUT

OPTIMAL: lm/w / lumens — SAFE: lm/w / lumens — NOT AVAILABLE: –

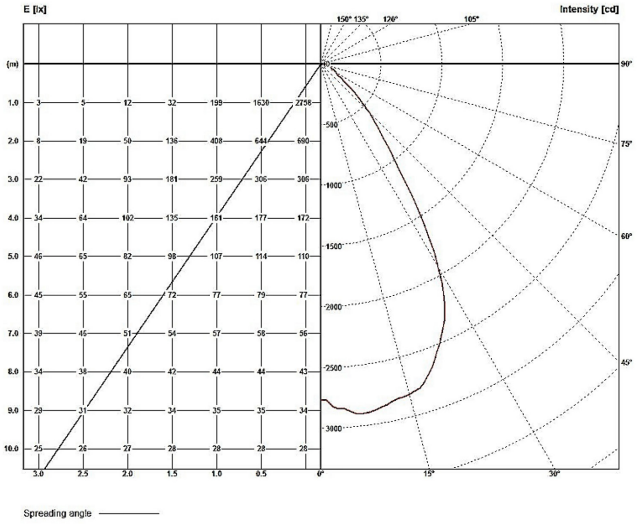
ROW LED STRIPS	WIDTH mm		LENGTH mm		3 - 8 w nominal DIPswitch				11 - 21 w nominal DIPswitch				21 - 30 w nominal DIPswitch			
	OPTIMAL	MINIMUM	OPTIMAL	MINIMUM	3,8 w	5 w	6,3 w	7,6 w	11 w	15 w	19 w	21 w	21 w	25 w	27 w	30 w
1 x 13	595	563	595 620	563 588	–	–	–	–	–	144	142	141	141	139	138	136
	620	588								2077	2585	2864	2805	3348	3572	3967
1 x 6	310	278			–	–	–	141	139	138	136	135	–	–	–	–
	334	302						1037	1458	1984	2486	2724				
1 x 5	269	237			–	–	141	139	138	136	135	–	–	–	–	–
	293	261					859	1028	1440	1963	2464					
1 x 4	228	197			–	139	138	136	135	134	–	–	–	–	–	–
	252	220				677	842	996	1412	1928						
1 x 3	187	156			–	139	138	136	135	–	–	–	–	–	–	–
	212	180				670	833	995	1427							
1 x 2	147	115			139	138	136	135	–	–	–	–	–	–	–	–
	171	139			504	661	824	986								
1 x 1	106	74			138	136	135	–	–	–	–	–	–	–	–	–
	130	98			501	654	817									
2 x 6	310	278	1125 1150	1093 1118	–	–	–	–	146	144	142	141	141	138	137	136
	334	302							1521	2077	2585	2864	2791	3307	3551	3946
2 x 5	269	237			–	–	–	–	143	142	139	139	138	137	136	135
	293	261							1496	2041	2544	2827	2778	3288	3533	3891
2 x 4	228	197			–	–	–	142	141	141	139	138	136	135	–	–
	252	220						1045	1477	2025	2544	2807	2734	3243		
2 x 3	187	156			–	–	–	141	139	138	136	135	–	–	–	–
	212	180						1031	1465	1984	2486	2724				
2 x 2	147	115			–	139	138	136	135	134	–	–	–	–	–	–
	171	139				670	833	932	1419	1928						
2 x 1	106	74			139	138	136	135	–	–	–	–	–	–	–	–
	130	98			501	661	824	986								

- 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	0.5	0.3	
Floor cavity reflectance		0.2									
Room dimensions		Viewed crosswise					Viewed endwise				
2H	2H	7,4	8,6	7,7	8,9	9,2	7,4	8,8	7,9	9,1	9,3
	3H	7,8	8,9	8,2	9,4	9,6	8,1	9,2	8,5	9,5	9,9
	4H	8,1	9,2	8,5	9,5	9,8	8,4	9,5	8,8	9,8	10,2
	6H	8,5	9,3	8,9	9,7	10,1	8,8	9,8	9,3	10,1	10,5
	8H	8,6	9,4	8,9	9,7	10,1	9,0	9,9	9,4	10,3	10,7
	12H	8,5	9,3	8,9	9,7	10,1	9,1	9,9	9,5	10,3	10,7
4H	2H	7,4	8,6	7,8	8,8	9,2	7,6	8,5	8,0	9,0	9,0
	3H	8,0	9,0	8,6	9,3	9,8	8,3	9,2	8,7	9,6	10,3
	4H	8,6	9,3	8,9	9,7	10,2	8,8	9,7	9,3	10,0	10,5
	6H	8,9	9,6	9,4	10,0	10,5	9,5	10,1	9,8	10,5	11,0
	8H	9,1	9,7	9,6	10,2	10,6	9,6	10,1	10,1	10,7	11,1
	12H	9,2	9,8	9,7	10,2	10,7	9,9	10,5	10,4	11,0	11,5
8H	4H	8,6	9,2	9,1	9,6	10,1	9,9	9,6	9,3	9,9	10,4
	6H	9,1	9,6	9,6	10,1	10,6	9,6	10,0	10,1	10,5	11,0
	8H	9,4	9,8	9,9	10,4	10,9	10,1	10,5	10,6	11,0	11,5
	12H	9,6	10,0	10,1	10,5	11,0	10,3	10,7	10,9	11,3	11,8
12H	4H	8,6	9,2	9,1	9,6	10,1	9,0	9,5	9,4	9,9	10,5
	6H	9,2	9,6	9,7	10,2	10,7	9,7	10,1	10,2	10,7	11,2
	8H	9,5	10,0	10,0	10,4	10,9	10,0	10,4	10,6	11,0	11,5

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	74	82	88	91	96	100	102	105	107
	0.3		68	77	82	86	92	96	99	102	105
	0.1		64	73	78	82	88	93	96	100	103
0.5	0.5	0.2	73	80	85	89	94	97	99	102	103
	0.3		68	76	81	85	90	93	96	99	101
	0.1		64	72	77	81	87	91	93	97	99
0.3	0.5	0.2	72	79	83	87	91	94	96	98	100
	0.3		67	75	79	83	88	91	93	96	98
	0.1		64	71	76	80	85	89	91	94	96
0.0	0.0	0.0	62	69	74	77	82	85	87	90	92
			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% PVD specular aluminum** sight blocking light distribution and glare control angled cubic louver **with clear PMMA micro-prismatic 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 **32.6°** ensures low glare **(UGR<10)** visual comfort and photometric performance guaranteeing average **87.1%** (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 **135 to 146 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_q25°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% PVD specular aluminum** sight blocking light distribution and glare control angled cubic louver **with clear PMMA micro-prismatic 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 **32.6°** ensures low glare **(UGR<10)** visual comfort and photometric performance guaranteeing average **87.1%** (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 **135 to 146 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°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.