

A close-up photograph of several green fern fronds against a dark, blurred background. The fronds are bright green and have a pinnate structure with many small, pointed leaflets. The lighting highlights the texture of the leaves.

LIBUS

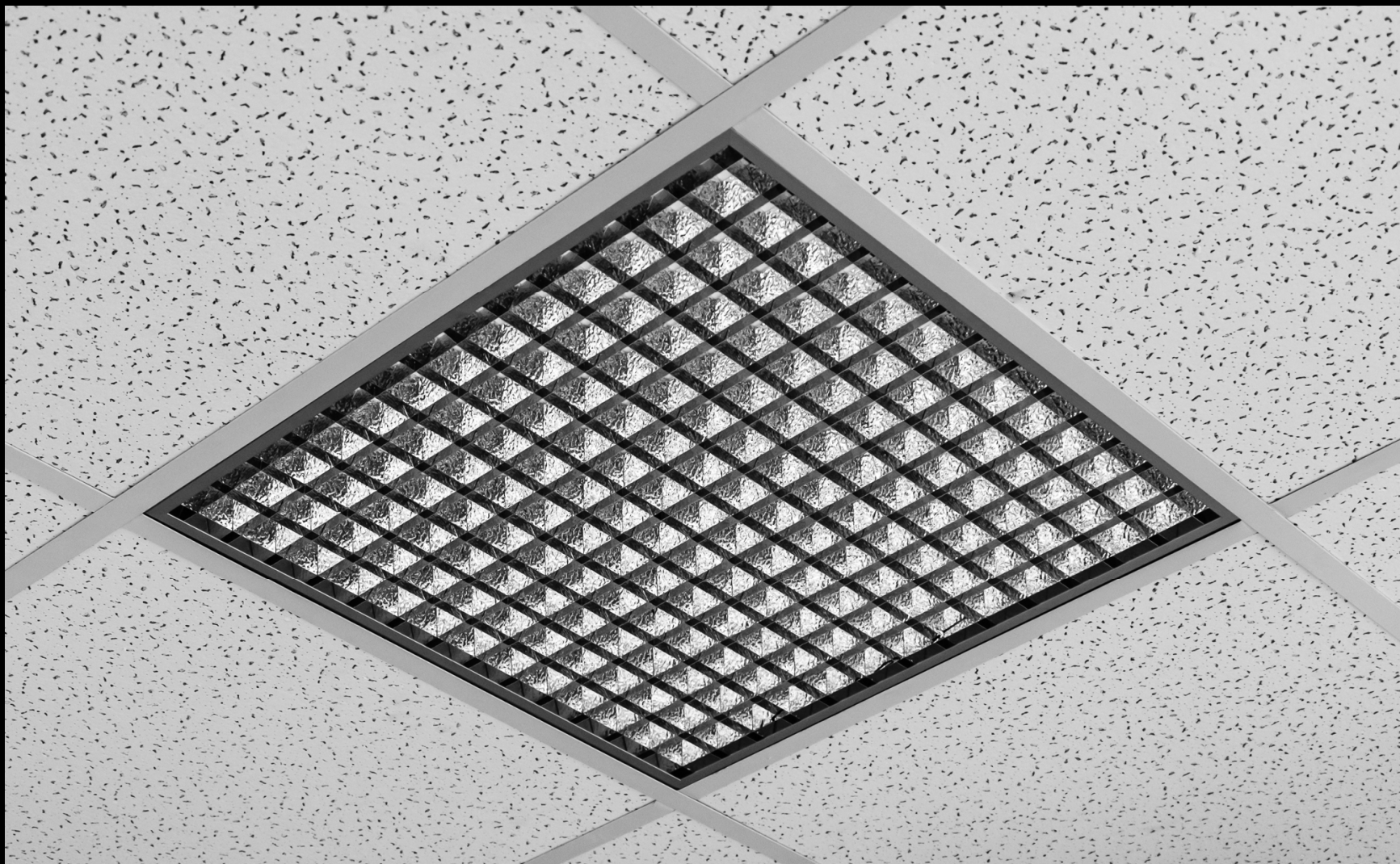
Light & Building Solutions



SBL13WB LPP CT



SBL13WB LES BL



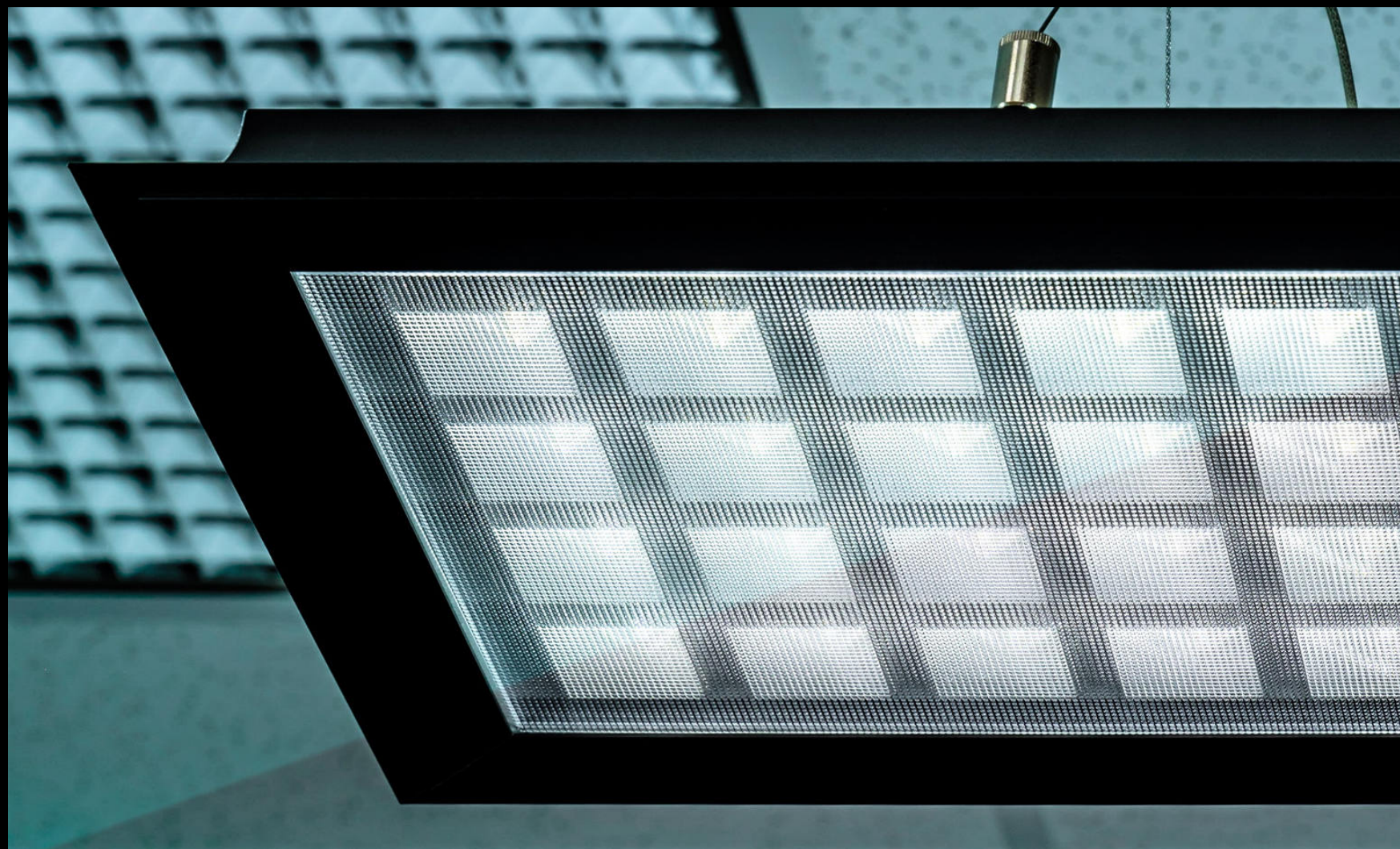
SBL13WB LSS CT_hammertone



SBL13WB LPP CT



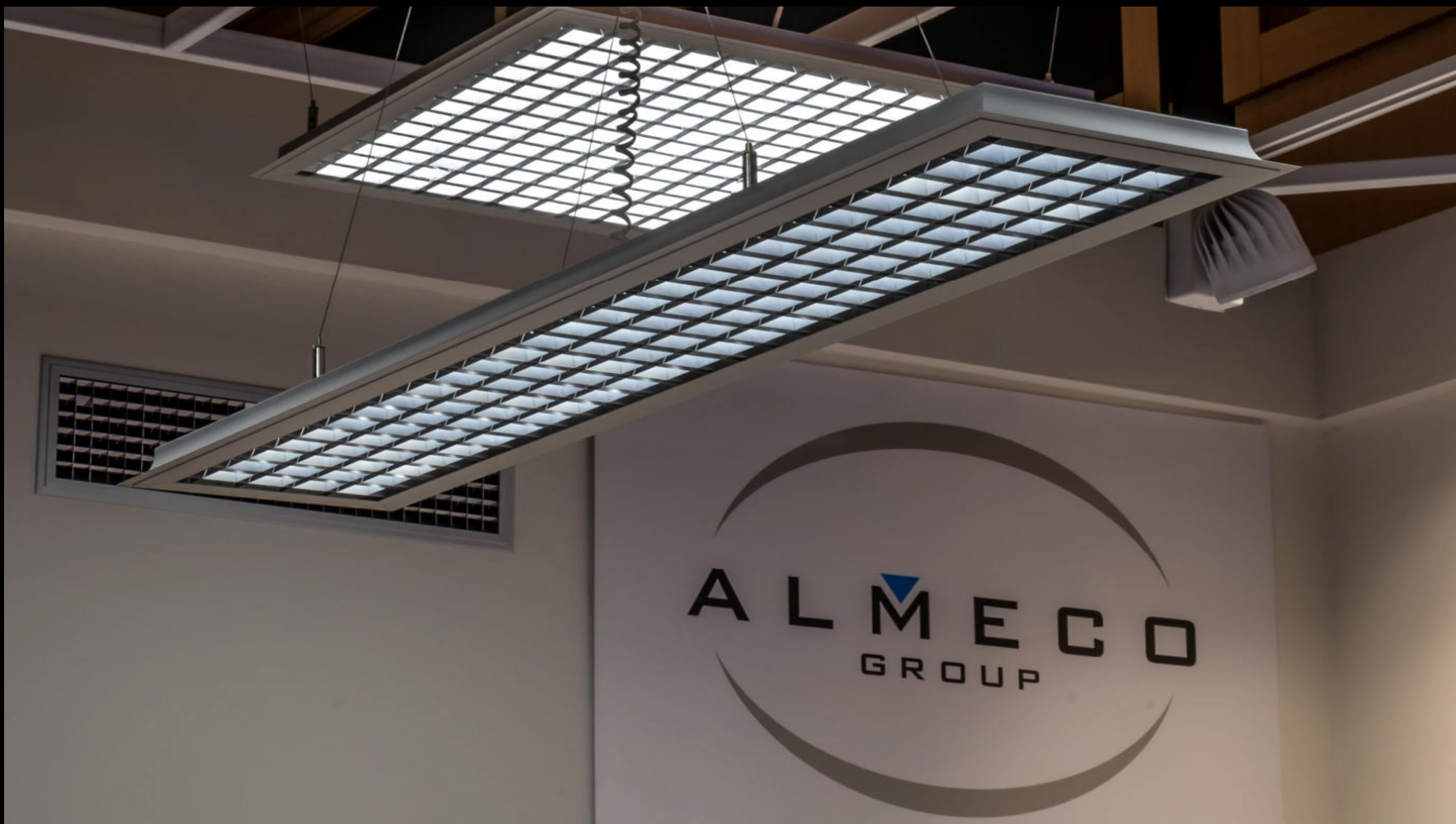
SBL13WB LWS BL



SBL13WB LEP MC



SBL13WB LWP CT



SBL13WB LWS BL

SBL13WB LSS BL



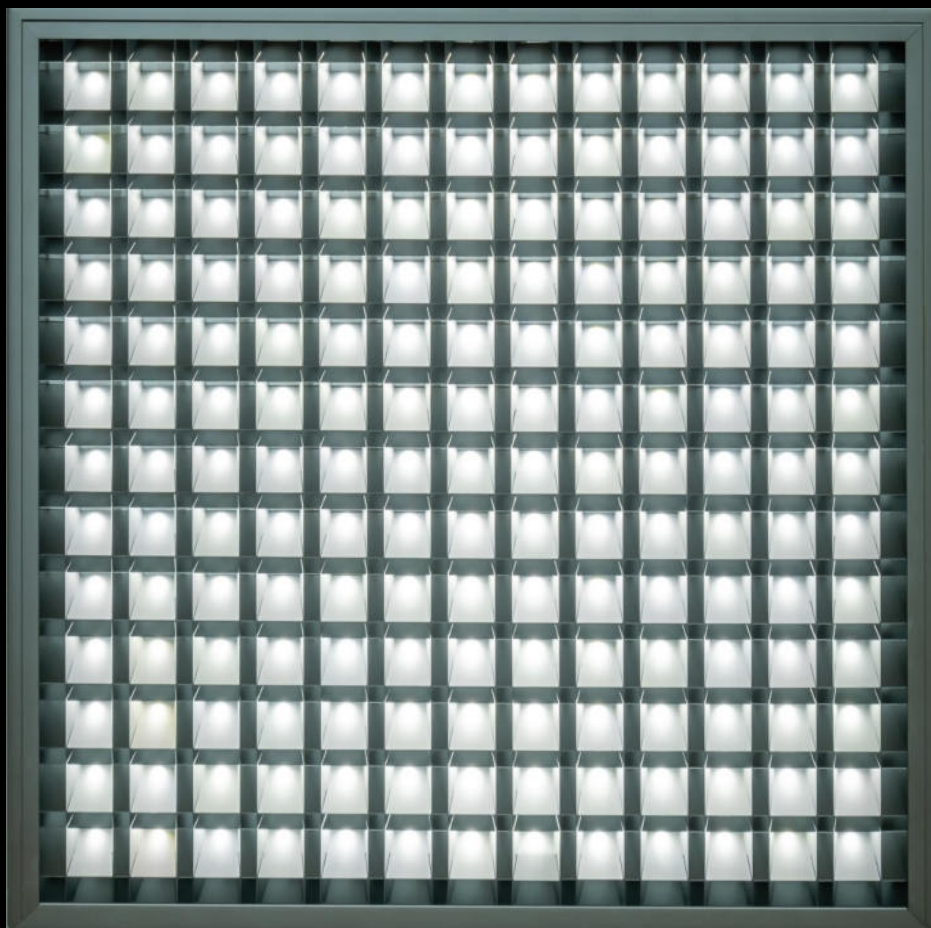
SBL13WB LES CT



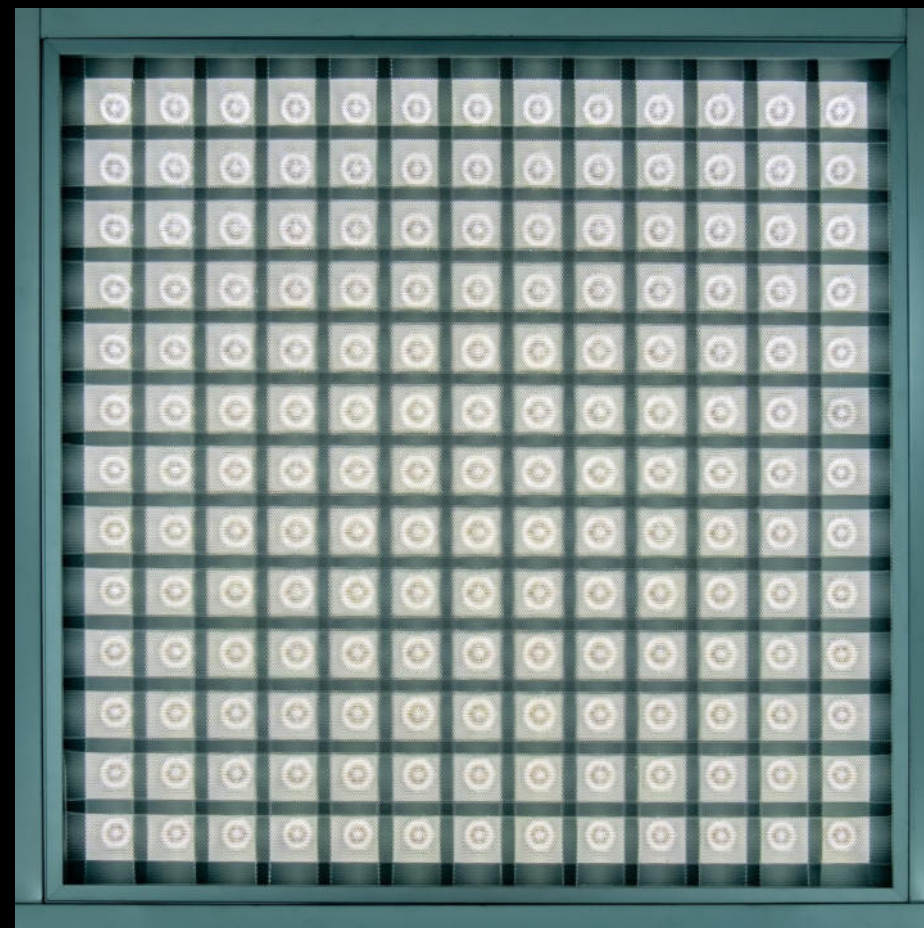
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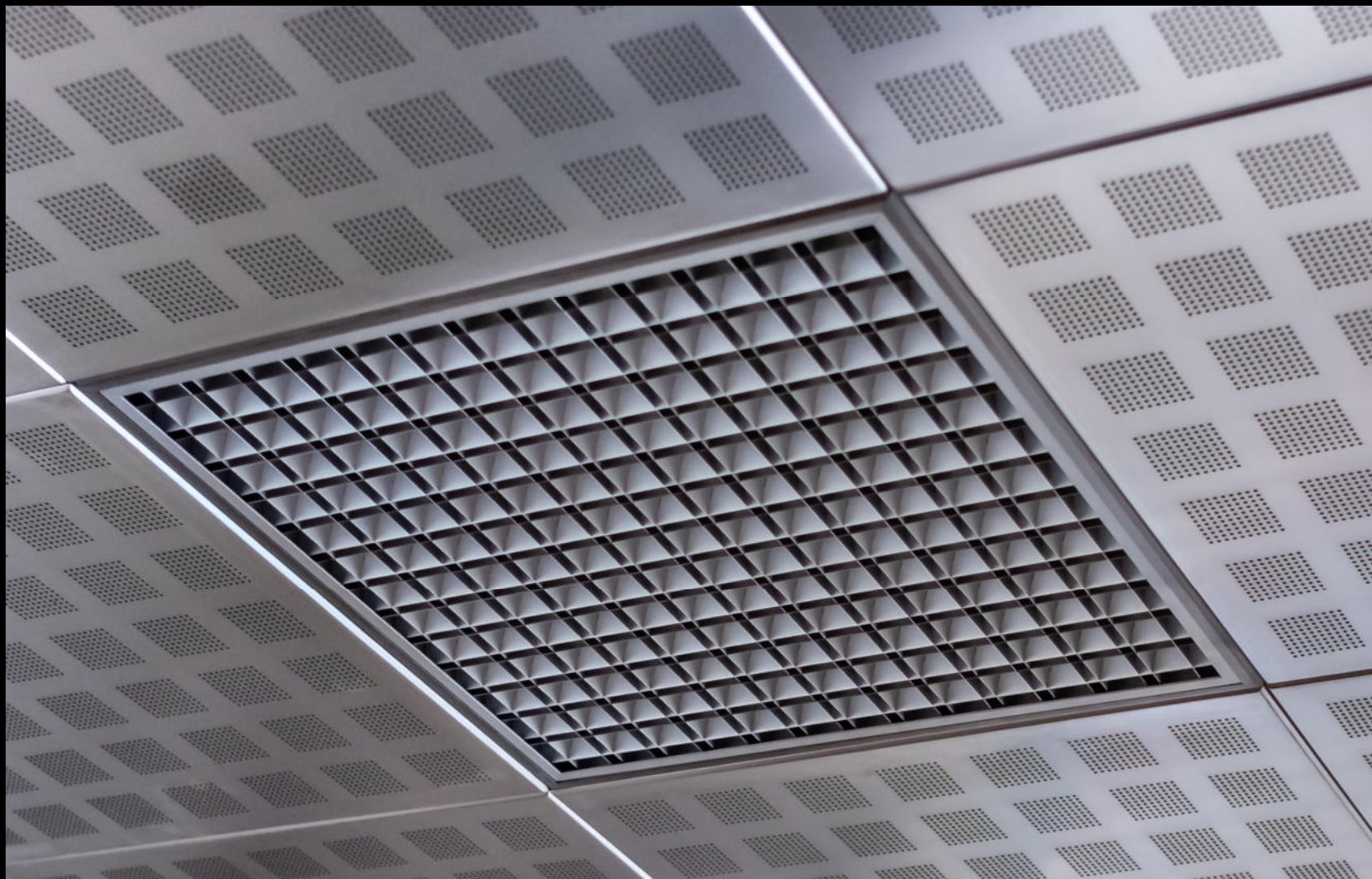
SBL13WB LPP CT



SBL13WB LSP CT



SBL13WB LEP MC



SBL13WB LSS BL



SBL13WB LEP CT



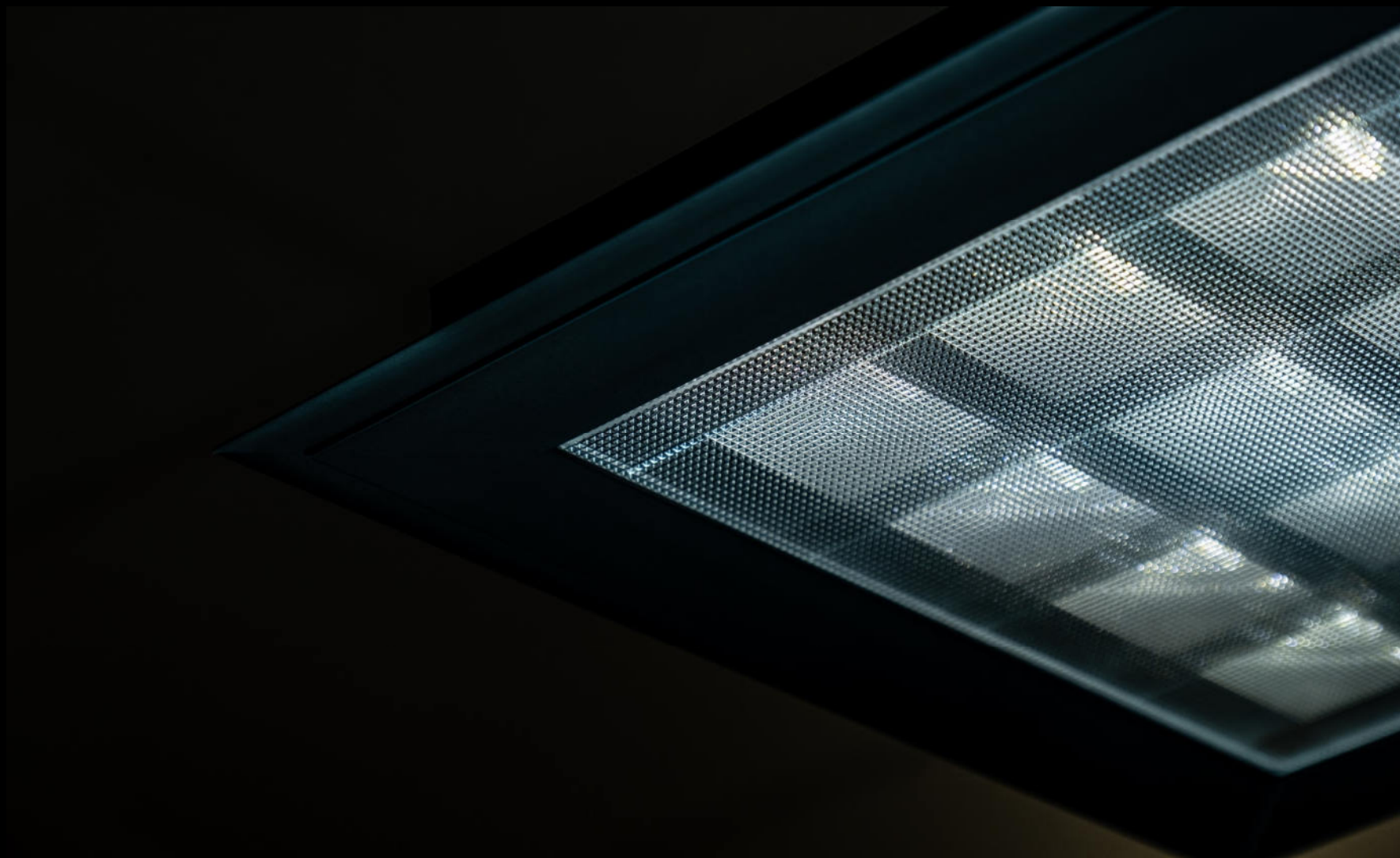
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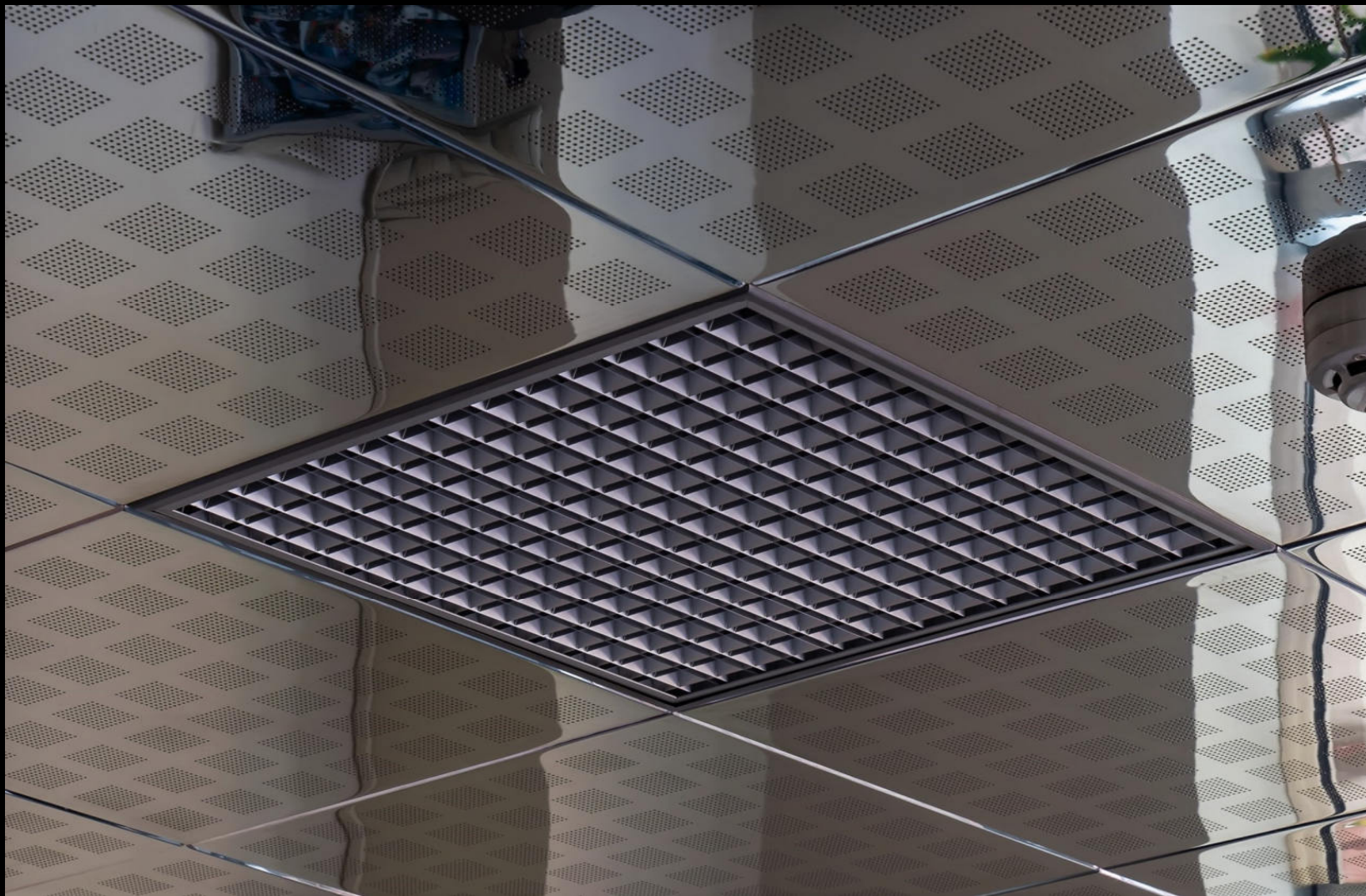
SBL13WB LSP CT



SBL13WB LEP BL



SBL13WB LPP MC

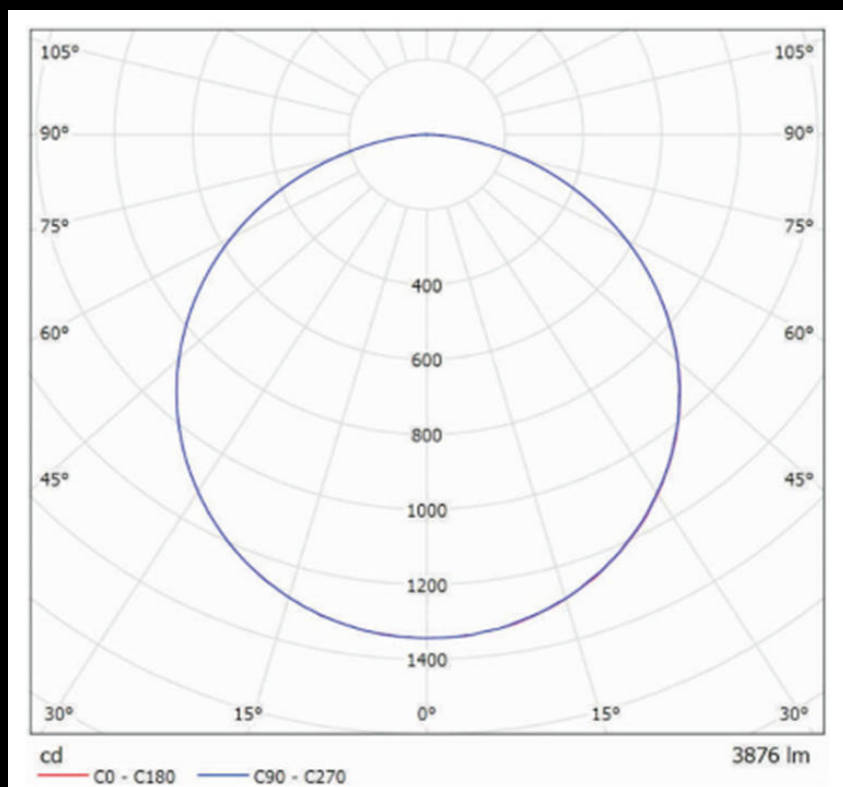


SBL13WB LEP BL

POLAR DISTRIBUTION

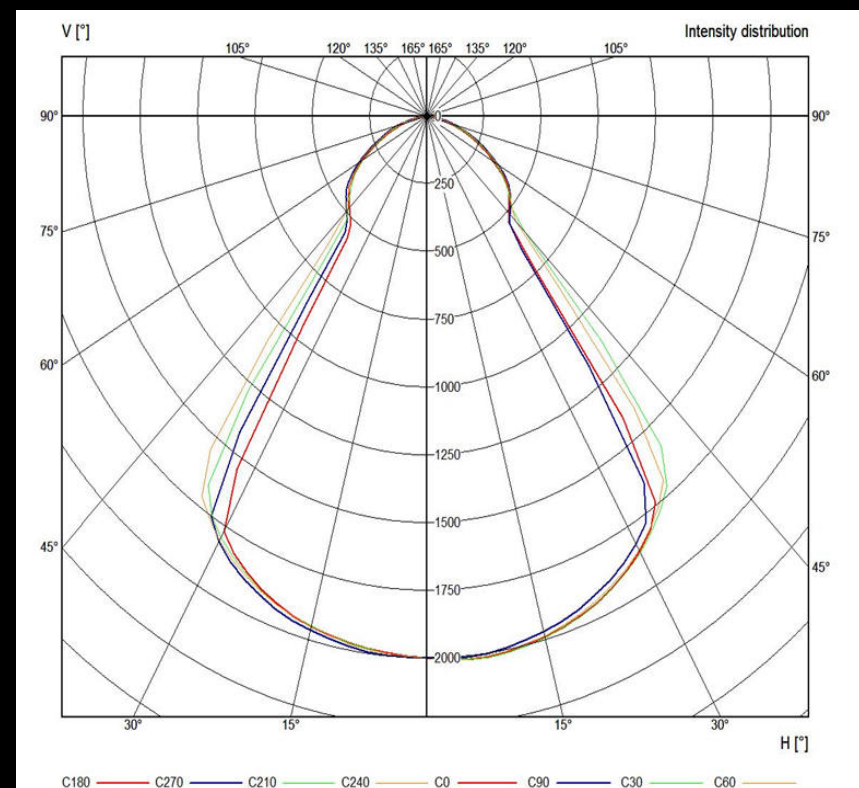
LED PANEL

37w rated back-lit with opal underlay



LIBUS SBL

27w rated SBL13WB E-white LWS



full report (pdf-ies-ldt) available upon request

UTILISATION FACTORS

effective lumens - % of total generated lumens reaching at working plane in different room indexes / reflections

LED PANEL

High quality back-lit LED panel

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	59	68	75	80	88	92	96	100	103
	0.3		52	60	68	74	81	87	91	96	100
	0.1		46	54	62	68	76	82	87	93	97
0.5	0.5	0.2	58	66	73	78	84	89	92	96	99
	0.3		51	59	67	72	79	84	88	93	96
	0.1		46	54	62	67	75	80	84	90	93
0.3	0.5	0.2	56	64	71	75	82	86	89	93	95
	0.3		50	58	65	70	77	82	85	90	93
	0.1		46	53	61	66	73	79	82	87	91
0.0	0.0	0.0	44	51	58	63	70	75	78	83	86
			SHR NOM = 1.50			SHR MAX = 1.61			SHR MAX TR = 1.81		

average of the standard UF table : **75,97**

LIBUS SBL

SBL13WB E-silver LES

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	90	95	98	101	104	106	108	110	111
	0.3		86	91	95	97	101	104	105	108	109
	0.1		83	88	92	95	99	101	103	106	108
0.5	0.5	0.2	89	93	96	99	101	103	104	106	107
	0.3		85	90	93	96	99	101	102	104	106
	0.1		83	88	91	94	97	99	101	103	104
0.3	0.5	0.2	88	92	95	96	99	100	101	102	103
	0.3		85	89	92	94	97	99	100	101	102
	0.1		83	87	90	92	95	97	98	100	101
0.0	0.0	0.0	81	85	88	90	92	94	95	96	97
			SHR NOM = 1.50			SHR MAX = 1.51			SHR MAX TR = 1.59		

average of the standard UF table : **96,93**

TM5 UGR GLARE DIAGRAM

LED PANEL

High quality back-lit LED panel

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	16	18	16	18	18	16	17	16	18	18
	3H	18	19	18	20	20	18	19	18	19	20
	4H	19	20	19	20	21	18	20	19	20	20
	6H	19	20	20	21	21	19	20	19	20	21
	8H	19	21	20	21	21	19	20	19	20	21
	12H	19	21	20	21	21	19	20	19	20	21
4H	2H	17	18	17	18	19	16	18	17	18	19
	3H	19	20	19	20	21	18	20	19	20	20
	4H	20	21	20	21	22	19	20	20	21	21
	6H	20	21	21	22	22	20	21	20	21	22
	8H	20	21	21	22	22	20	21	20	21	22
	12H	21	21	21	22	22	20	21	21	21	22
8H	4H	20	21	20	21	22	19	20	20	21	21
	6H	21	21	21	22	22	20	21	21	21	22
	8H	21	22	21	22	23	20	21	21	22	22
	12H	21	22	22	22	23	21	21	21	22	22
12H	4H	20	21	20	21	22	19	20	20	21	21
	6H	21	21	21	22	22	20	21	21	21	22
	8H	21	22	21	22	23	21	21	21	22	22

average of the standard UGR diagram : **20,2**

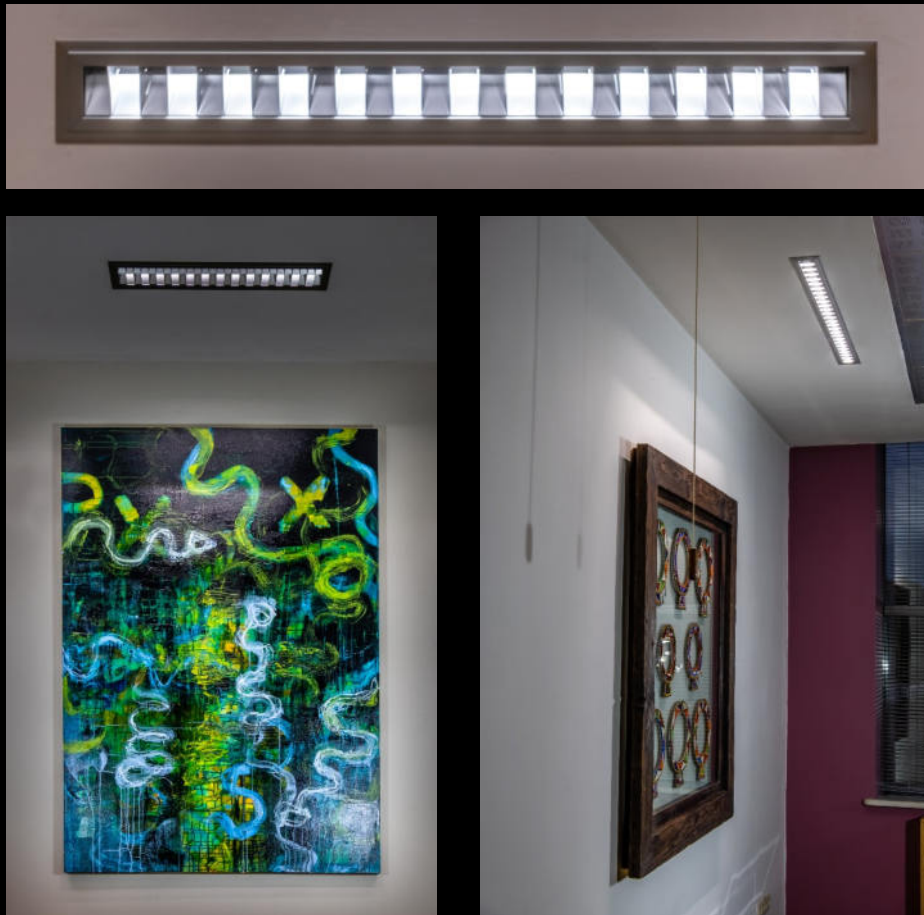
LIBUS SBL

SBL13WB E-silver LES

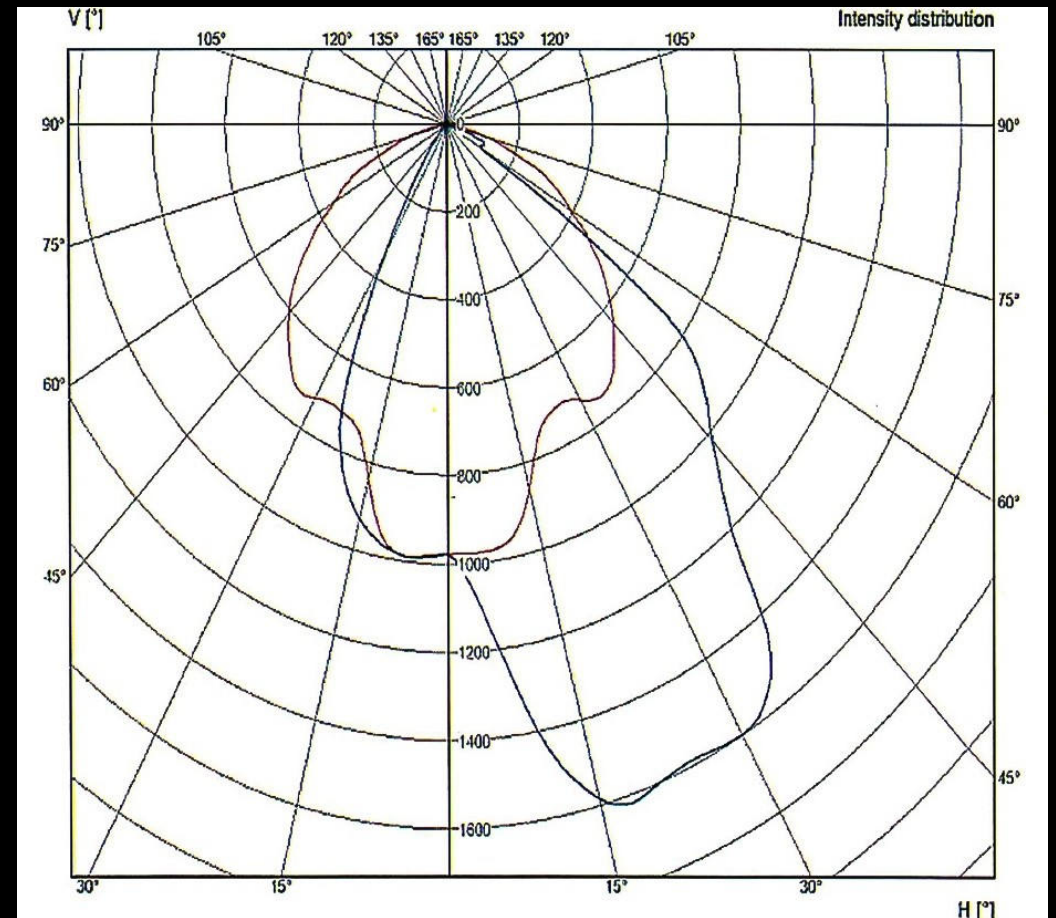
Ceiling reflectance		0.7		0.5		0.3	0.7		0.5		0.3
Wall reflectance		0.5	0.3	0.5	0.3		0.5	0.3	0.5	0.3	
Floor cavity reflectance		0.2									
Room dimensions		Viewed crosswise					Viewed endwise				
2H	2H	7,8	9,0	8,2	9,3	9,6	7,9	9,1	8,3	9,4	9,7
	3H	7,7	8,7	8,1	9,1	9,4	7,8	8,8	8,2	9,2	9,5
	4H	7,6	8,6	8,0	8,9	9,3	7,7	8,7	8,1	9,0	9,4
	6H	7,6	8,4	8,0	8,8	9,2	7,6	8,5	8,1	8,9	9,3
	8H	7,5	8,3	7,9	8,7	9,1	7,6	8,4	8,0	8,8	9,2
	12H	7,4	8,2	7,8	8,6	9,0	7,5	8,3	7,9	8,7	9,1
4H	2H	7,6	8,6	8,0	8,9	9,3	7,7	8,6	8,1	9,0	9,0
	3H	7,4	8,3	7,9	8,6	9,1	7,5	8,3	7,9	8,7	9,4
	4H	7,4	8,1	7,8	8,5	9,0	7,5	8,2	7,9	8,6	9,1
	6H	7,3	7,9	7,8	8,3	8,8	7,4	8,0	7,8	8,4	8,9
	8H	7,2	7,8	7,7	8,3	8,7	7,3	7,7	7,8	8,3	8,8
	12H	7,2	7,7	7,7	8,2	8,7	7,3	7,8	7,8	8,3	8,8
8H	4H	7,2	7,8	7,7	8,2	8,7	7,3	7,9	7,8	8,3	8,8
	6H	7,1	7,6	7,6	8,0	8,5	7,2	7,6	7,7	8,1	8,6
	8H	7,1	7,5	7,6	8,0	8,5	7,2	7,6	7,7	8,1	8,6
	12H	7,0	7,4	7,6	7,9	8,4	7,1	7,4	7,7	8,0	8,5
12H	4H	7,2	7,7	7,7	8,2	8,7	7,3	7,8	7,8	8,2	8,8
	6H	7,1	7,5	7,6	8,0	8,5	7,2	7,6	7,7	8,1	8,6
	8H	7,0	7,4	7,6	7,9	8,4	7,1	7,4	7,6	8,0	8,5

average of the standard UGR diagram : **8,14**

SBL45AB LES



ASSYMMETRIC



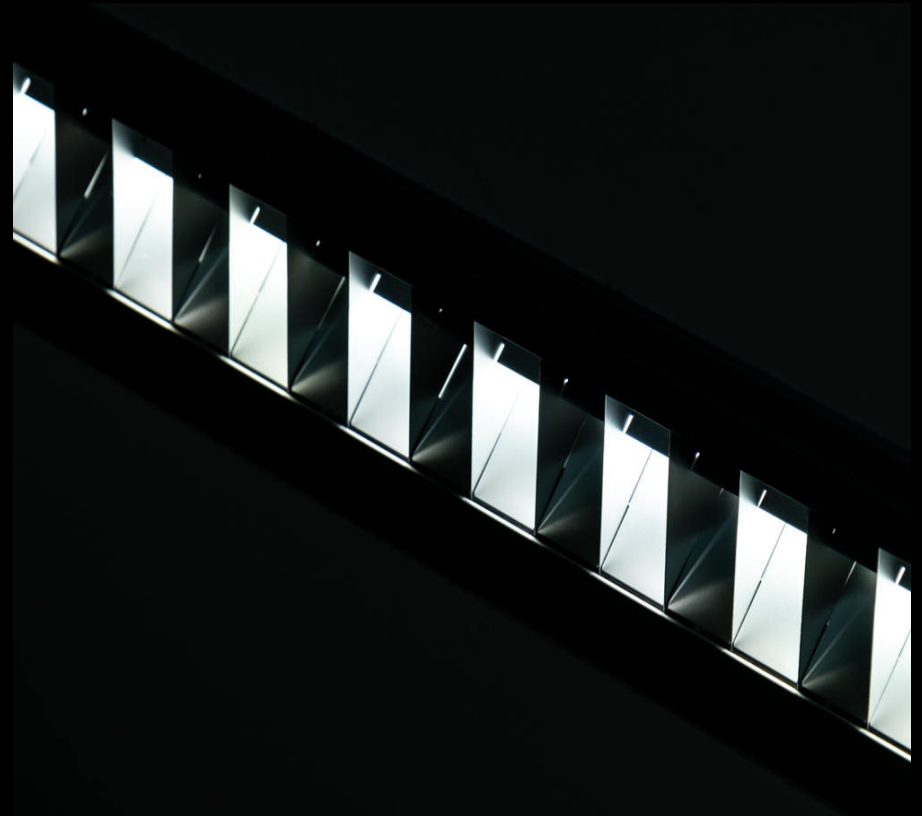
full report (pdf-ies-ldt) available upon request

SBL45WW LSS

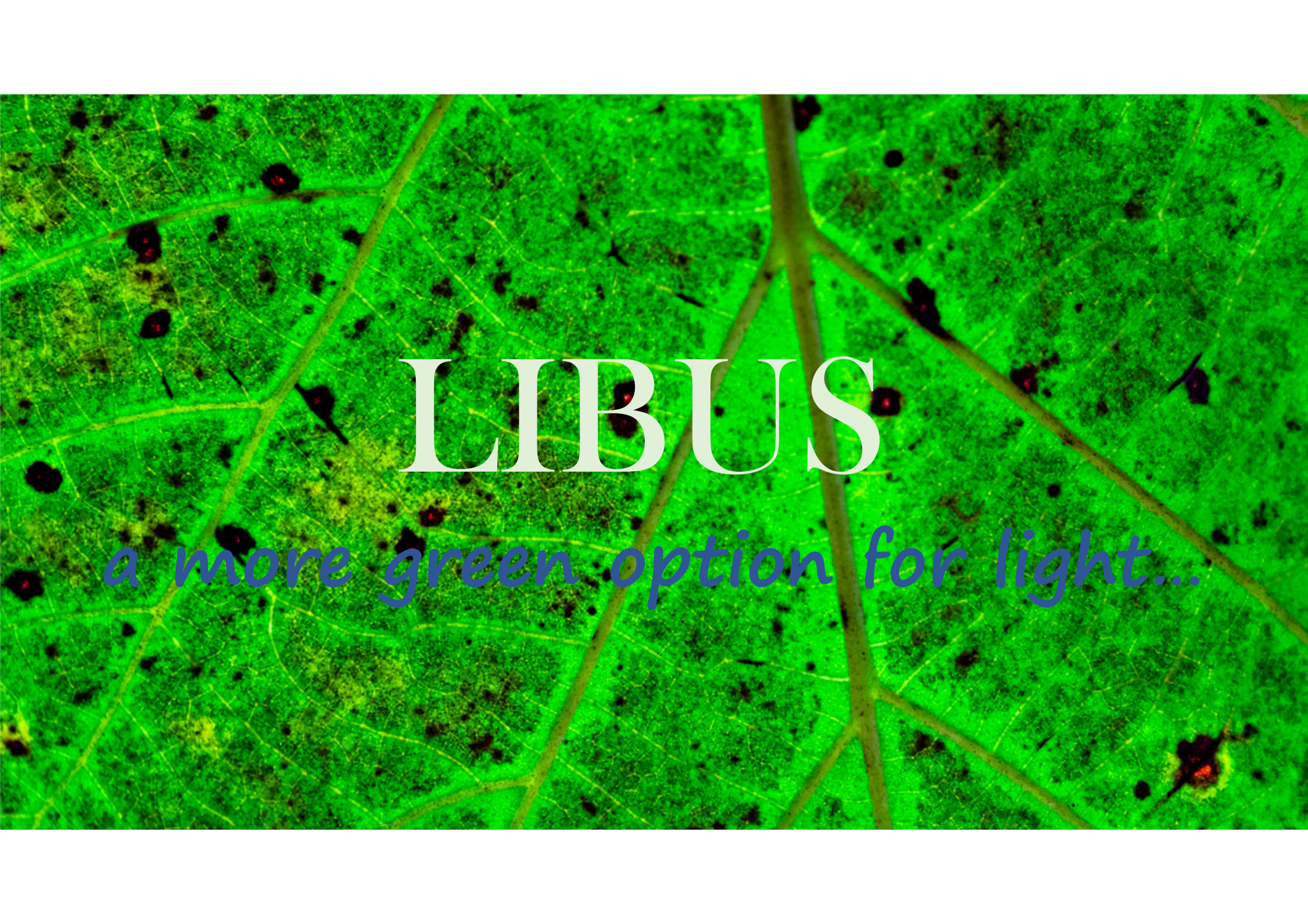


SBL45WW LES CT gold

WALL WASHER



SBL45WW LES CT silver



LIBUS

a more green option for light...