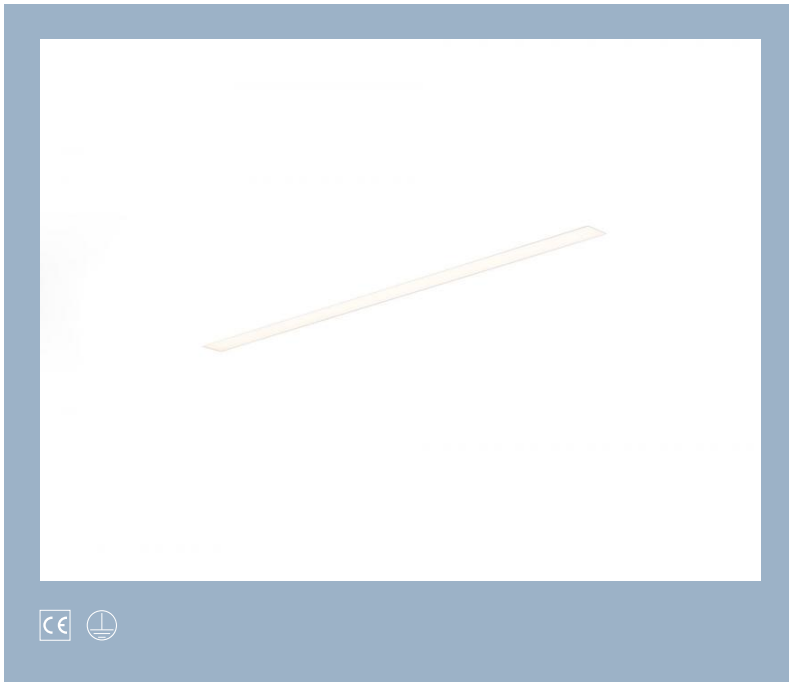


# V2M1B1/LEDN23S



**module • linear**

**application** : Office, Retail, Horeca, Education, Leisure

**light source** : LED LP • 4000 K

**optics** : Diffuser • acrylic (PMMA) HaloOptics® • very wide-angle

**UGR classification** : <=25

**luminous flux**: 2350 lm

**luminous efficacy** : 147 lm/W

**LLMF**: 98% @ 50khrs (Tq=25°C)

## Product information

### Mechanical properties

**type** : in-line mounting: end luminaire

### Electrical properties

**driver**: not dimmable

**power** : 16 W

**voltage** : 220-240V

**frequency** : 50-60Hz AC

**photobiological safety** : EN 62471: RISK GROUP 0 UNLIMITED

## Luminance

luminous flux : 2350 lm

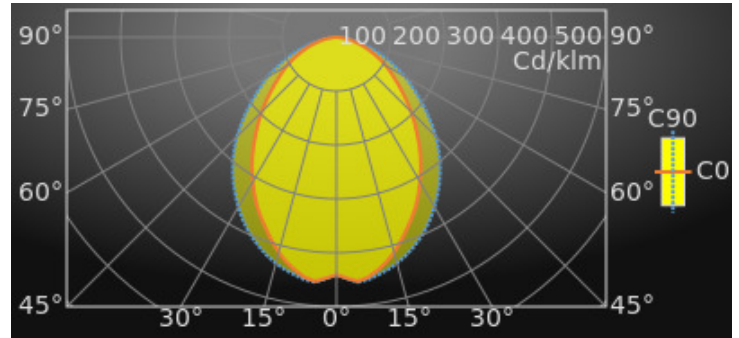
luminous efficacy : 147 lm/W

UGR classification  $\leq 25$

luminous area : 0.06 m<sup>2</sup>

Average Luminances (Cd/m<sup>2</sup>) for 2350lm

Gamma	C0	C30	C45	C60	C90
45°	11849	12537	13872	14353	15752
50°	10683	11471	12773	13309	14584
55°	9745	10503	11722	12325	13426
60°	9070	9417	10628	11189	12548
65°	8147	8527	9881	10024	11268
70°	7325	7714	8906	8821	10002
75°	6328	6600	7806	7642	8778
80°	5621	5323	6722	6107	7403
85°	2729	3292	5303	3818	4801



## Classifications

CIE: 550 / 842 / 970 / 1000 / 1000

CIE FLUXCODE : 0.55 / 0.84 / 0.97 / 1.00 / 1.00

BZ: BZ3/1.5/BZ4

CAE: Symmetrical

DIN: A50 (Nach Arbeitsblatt 7)

DIN\_U: Phi u = 1.00

DIN\_SU: Phi su = 0.60

UTE: 1.00 D + 0.00 T



## Luminous intensities in cd

Lifetime Data (Tq=25.0°C)

Time(khrs)	LLMF(%)	Cx(%)
10	100	2
20	99	4
30	99	6
40	99	8
50	98	10
60	98	12

Intensity for 2350lm

Gamma	C0	C45	C90
0°	1035.9	1035.9	1035.9
5°	1068.7	1073.3	1071.5
10°	1032.4	1049.3	1051.3
15°	971.3	1009.1	1019.9
20°	892.4	952.2	976.3
25°	816.8	880.3	921.7
30°	727.7	801.9	854.5
35°	638.5	713.6	780.6
40°	545.7	623.0	701.0
45°	460.8	539.5	612.6
50°	377.7	451.6	515.6
55°	307.4	369.8	423.6
60°	249.4	292.3	345.1
65°	189.4	229.7	261.9
70°	137.8	167.5	188.2
75°	90.1	111.1	125.0
80°	53.7	64.2	70.7
85°	13.1	25.4	23.0
90°	1.3	1.2	0.8

## UGR classification

Corrected Glare Ratings for a Total Lamp Flux of 2350lm (S = 0.25H)

Ceiling Walls Floor	Room Reflection Factors (%)									
	70	70	50	50	30	70	70	50	50	30
	50	30	50	30	30	50	30	50	30	30
	20	20	20	20	20	20	20	20	20	20
Room Dimensions	Viewed Crosswise					Viewed Endwise				
X = 2H Y = 2H	19.9	21.6	20.2	21.9	22.1	21.5	23.2	21.8	23.4	23.7
Y = 3H	21.0	22.6	21.3	22.9	23.1	22.7	24.3	23.0	24.5	24.8
Y = 4H	21.4	22.9	21.8	23.2	23.5	23.1	24.6	23.5	24.9	25.2
Y = 6H	21.7	23.0	22.1	23.4	23.7	23.4	24.8	23.8	25.1	25.5
Y = 8H	21.7	23.1	22.1	23.4	23.7	23.5	24.8	23.9	25.2	25.5
Y = 12H	21.7	23.0	22.1	23.3	23.7	23.5	24.8	23.9	25.1	25.5
X = 4H Y = 2H	20.5	22.0	20.9	22.3	22.6	21.8	23.3	22.1	23.6	23.9
Y = 3H	21.8	23.1	22.2	23.4	23.8	23.2	24.5	23.6	24.8	25.2
Y = 4H	22.3	23.4	22.7	23.8	24.2	23.8	24.9	24.2	25.3	25.7
Y = 6H	22.7	23.7	23.1	24.1	24.5	24.2	25.2	24.7	25.6	26.0
Y = 8H	22.8	23.7	23.3	24.1	24.6	24.4	25.3	24.8	25.7	26.1
Y = 12H	22.8	23.7	23.3	24.1	24.6	24.4	25.3	24.9	25.7	26.1
X = 8H Y = 4H	22.6	23.5	23.0	23.9	24.3	23.9	24.9	24.4	25.3	25.7
Y = 6H	23.1	23.9	23.5	24.3	24.8	24.5	25.2	24.9	25.7	26.1
Y = 8H	23.2	23.9	23.7	24.4	24.9	24.6	25.3	25.1	25.8	26.3
Y = 12H	23.3	23.9	23.8	24.4	24.9	24.8	25.4	25.3	25.8	26.4
X = 12H Y = 4H	22.6	23.4	23.0	23.9	24.3	23.9	24.8	24.4	25.2	25.6
Y = 6H	23.1	23.8	23.6	24.3	24.7	24.5	25.2	25.0	25.6	26.1
Y = 8H	23.3	23.9	23.8	24.4	24.9	24.7	25.3	25.2	25.8	26.3
<b>UGR Variations with Observer Position for Luminaire Spacings S</b>										
S = 1.0H	+0.2		-0.3		+0.2		-0.2			
S = 1.5H	+0.4		-0.6		+0.3		-0.5			
S = 2.0H	+0.6		-1.1		+0.7		-0.9			



## Colour properties

Correlated Colour Temperature : 4000

Ra: 80

## Efficiency

Utilisation Factors according to IES (%)

	Room Reflection Factors (%)									
	80	80	80	50	50	50	30	30	30	0
Ceiling	80	80	80	50	50	50	30	30	30	0
Walls	50	30	10	50	30	10	50	30	10	0
Floor	20	20	20	20	20	20	20	20	20	0
RCR = 1	105	102	100	98	96	94	94	93	91	86
2	92	87	83	86	83	80	83	80	78	73
3	81	75	70	77	72	68	74	70	67	63
4	73	66	60	69	63	59	67	62	58	55
5	66	58	53	62	56	51	60	55	51	48
6	60	52	46	57	50	46	55	49	45	42
7	54	47	41	52	45	41	51	45	40	38
8	50	42	37	48	41	37	47	41	36	34
9	46	39	33	44	38	33	43	37	33	31
10	43	35	31	41	35	30	40	34	30	28

Utilisation Factors according to LiTG (%)

	Room Reflection Factors (%)									
	80	80	80	50	50	50	50	50	30	0
Ceiling	80	80	80	50	50	50	50	50	30	0
Walls	50	30	50	30	50	30	50	30	30	0
Floor	30	30	10	10	30	30	10	10	10	0
k = 0.60	52	44	50	42	50	43	48	42	41	35
0.80	63	54	59	52	60	53	57	51	51	44
1.00	72	63	67	60	68	61	64	58	58	51
1.25	82	73	75	68	77	70	72	67	66	60
1.50	88	80	80	74	82	76	77	72	71	65
2.00	96	89	86	81	89	84	83	79	78	72
2.50	103	96	91	86	95	90	88	84	83	78
3.00	107	101	94	90	99	95	91	88	87	82
4.00	112	107	97	94	103	99	94	91	90	85
5.00	116	111	99	97	106	102	96	94	92	88