

# V2M1B1/LEDN21D



**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**: 2550 lm

**luminous efficacy** : 128 lm/W

**LLMF**: 98% @ 50khrs (Tq=25°C)

## Product information

### Mechanical properties

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

### Electrical properties

**driver**: DALI dimmable

**power** : 20 W

**voltage** : 220-240V

**frequency** : 50-60Hz AC

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

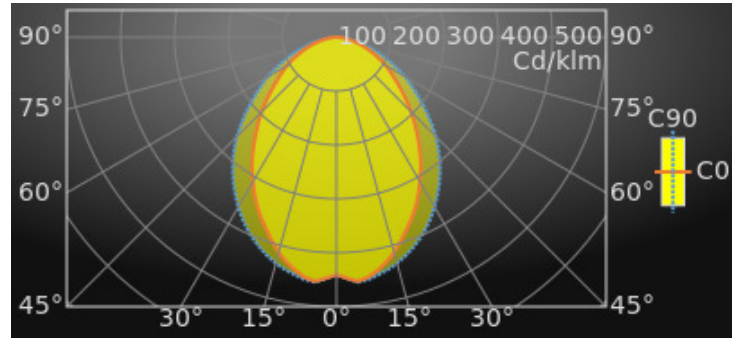
## Luminance

luminous flux : 2550 lm

luminous efficacy : 128 lm/W

UGR classification  $\leq 25$

luminous area : 0.05 m<sup>2</sup>



Average Luminances (Cd/m<sup>2</sup>) for 2550lm

Gamma	C0	C30	C45	C60	C90
45°	14286	15115	16725	17306	18992
50°	12880	13831	15400	16046	17583
55°	11749	12663	14133	14860	16188
60°	10936	11354	12814	13491	15129
65°	9823	10281	11913	12086	13586
70°	8832	9300	10737	10636	12059
75°	7629	7958	9411	9214	10583
80°	6777	6417	8104	7363	8926
85°	3290	3969	6393	4603	5789

## 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	98	8
50	98	10
60	98	12

Intensity for 2550lm

Gamma	C0	C45	C90
0°	1124.1	1124.1	1124.1
5°	1159.6	1164.7	1162.7
10°	1120.3	1138.6	1140.8
15°	1054.0	1094.9	1106.7
20°	968.4	1033.2	1059.4
25°	886.3	955.2	1000.1
30°	789.7	870.2	927.2
35°	692.9	774.3	847.1
40°	592.2	676.0	760.6
45°	500.0	585.4	664.8
50°	409.8	490.0	559.5
55°	333.6	401.3	459.6
60°	270.7	317.1	374.4
65°	205.5	249.2	284.2
70°	149.5	181.8	204.2
75°	97.7	120.6	135.6
80°	58.3	69.7	76.7
85°	14.2	27.6	25.0
90°	1.4	1.4	0.9

## UGR classification

Corrected Glare Ratings for a Total Lamp Flux of 2550lm (S = 0.25H)

Ceiling Walls Floor	Room Reflection Factors (%)									
	70	70	50	50	30	70	70	50	50	30
Room Dimensions	Viewed Crosswise					Viewed Endwise				
X = 2H Y = 2H	20.5	22.3	20.9	22.5	22.8	22.1	23.8	22.4	24.1	24.3
Y = 3H	21.6	23.2	22.0	23.5	23.8	23.3	24.9	23.7	25.2	25.5
Y = 4H	22.1	23.5	22.4	23.8	24.2	23.8	25.3	24.2	25.6	25.9
Y = 6H	22.3	23.7	22.7	24.0	24.4	24.1	25.5	24.5	25.8	26.1
Y = 8H	22.4	23.7	22.8	24.0	24.4	24.2	25.5	24.5	25.8	26.2
Y = 12H	22.4	23.7	22.8	24.0	24.4	24.2	25.4	24.6	25.8	26.1
X = 4H Y = 2H	21.2	22.7	21.5	23.0	23.3	22.4	23.9	22.8	24.2	24.5
Y = 3H	22.4	23.7	22.8	24.1	24.4	23.8	25.1	24.2	25.5	25.8
Y = 4H	23.0	24.1	23.4	24.5	24.8	24.4	25.6	24.8	25.9	26.3
Y = 6H	23.4	24.4	23.8	24.7	25.2	24.9	25.9	25.3	26.3	26.7
Y = 8H	23.5	24.4	23.9	24.8	25.2	25.0	25.9	25.4	26.3	26.8
Y = 12H	23.5	24.3	23.9	24.8	25.2	25.1	25.9	25.5	26.3	26.8
X = 8H Y = 4H	23.2	24.2	23.7	24.6	25.0	24.6	25.5	25.0	25.9	26.3
Y = 6H	23.7	24.5	24.2	24.9	25.4	25.1	25.9	25.6	26.3	26.8
Y = 8H	23.9	24.6	24.4	25.0	25.5	25.3	26.0	25.8	26.4	26.9
Y = 12H	24.0	24.6	24.5	25.0	25.6	25.4	26.0	25.9	26.5	27.0
X = 12H Y = 4H	23.2	24.1	23.7	24.5	25.0	24.6	25.4	25.0	25.8	26.3
Y = 6H	23.8	24.5	24.3	24.9	25.4	25.1	25.8	25.6	26.3	26.8
Y = 8H	24.0	24.5	24.5	25.0	25.5	25.3	25.9	25.8	26.4	26.9
UGR Variations with Observer Position for Luminaire Spacings S										
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

