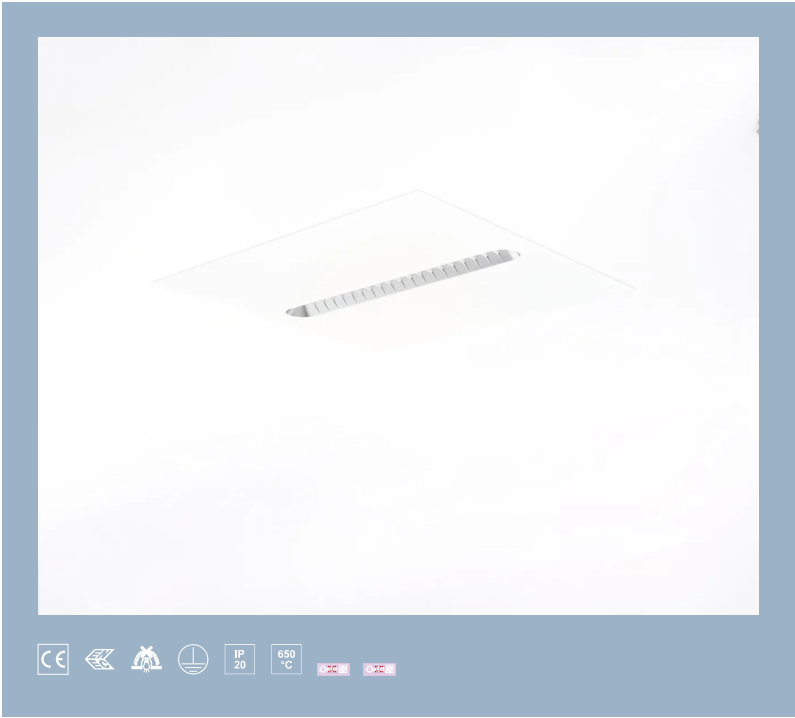


U3912/LEDN120DE



recessed luminaire • square
Application : Education ? Classrooms
housing: lacquered sheet steel
light source : LED • 4000 K
optics : Shielded lens • polycarbonate (PC) with aluminium thin film • medium wide-angle
UGR classification : <=19
luminous flux: 2000 lm
luminous efficacy : 125 lm/W
LLMF: 95% @ 50khrs (Tq=25°C)

Product information

Mechanical properties

dimensions : 596 mm x 596 mm x 58 mm
cut-out size : 596 mm x 596 mm x 70 mm
shape : module 600
colour: RAL9003 - white
type : individual luminaire
IP: IP20

Electrical properties

driver: DALI driver controlled by integrated sensor
power : 16 W
voltage : 220-240V
frequency : 50-60Hz AC
photobiological safety : EN 62471: RISK GROUP 1 UNLIMITED

Luminance

luminous flux : 2000 lm

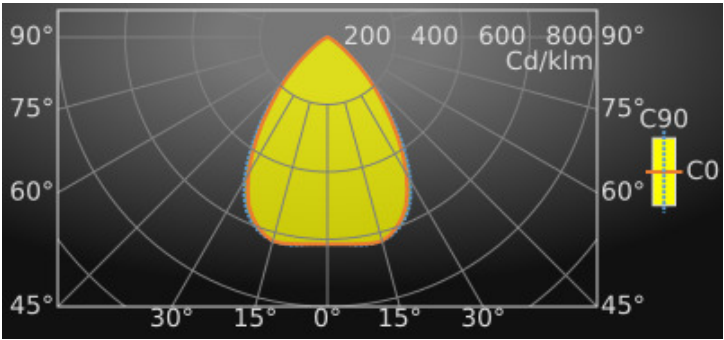
luminous efficacy : 125 lm/W

luminance @ 65° = : 3000 cd/m²

UGR classification =: <=19

luminous area : 0.03 m²

Gamma	Average Luminances (Cd/m²) for 2000lm				
	C0	C30	C45	C60	C90
45°	16161	22081	24330	22010	17094
50°	9868	15662	17489	15273	10442
55°	4935	8143	11864	8643	4482
60°	2723	4698	5900	3478	2658
65°	907	1562	2429	2018	1944
70°	284	596	1007	1384	1468
75°	25	105	359	793	1089
80°	1	2	19	195	869
85°	0	1	0	2	602



Classifications

CIE: 784 / 984 / 999 / 1000 / 1000

CIE FLUXCODE : 0.78 / 0.98 / 1.00 / 1.00 / 1.00

BZ: BZ1

CAE: Symmetrical

DIN: A60 (Nach Arbeitsblatt 7)

DIN_U: Phi u = 1.00

DIN_SU: Phi su = 0.75

UTE: 1.00 B + 0.00 T



Lifetime Data (Tq=25.0°C)

Time(khrs)	LLMF(%)	Cx(%)
10	99	2
20	98	4
30	97	6
40	97	8
50	96	10
60	95	12

Luminous intensities in cd

Intensity for 2000lm

Gamma	C0	C45	C90
0°	1228.3	1228.3	1228.3
5°	1233.8	1231.4	1233.0
10°	1245.1	1258.4	1252.3
15°	1252.3	1278.6	1250.2
20°	1199.3	1266.6	1216.3
25°	1101.8	1205.9	1135.3
30°	933.8	1090.1	986.3
35°	729.1	913.4	777.1
40°	516.8	715.6	555.5
45°	339.4	510.9	359.0
50°	188.4	333.9	199.3
55°	84.1	202.1	76.4
60°	40.4	87.6	39.5
65°	11.4	30.5	24.4
70°	2.9	10.2	14.9
75°	0.2	2.8	8.4
80°	0.0	0.1	4.5
85°	0.0	0.0	1.6
90°	0.0	0.0	0.0

UGR classification =

Corrected Glare Ratings for a Total Lamp Flux of 2000lm (S = 0.25H)

	Room Reflection Factors (%)									
Ceiling	70	70	50	50	30	70	70	50	50	30
Walls	50	30	50	30	30	50	30	50	30	30
Floor	20	20	20	20	20	20	20	20	20	20
Room Dimensions	Viewed Crosswise					Viewed Endwise				
X = 2H Y = 2H	19.1	20.6	19.4	20.9	21.1	19.1	20.6	19.4	20.8	21.1
Y = 3H	18.9	20.3	19.3	20.6	20.8	18.9	20.3	19.3	20.6	20.8
Y = 4H	18.9	20.1	19.2	20.4	20.7	18.9	20.1	19.2	20.4	20.7
Y = 6H	18.8	19.9	19.1	20.2	20.6	18.8	20.0	19.2	20.3	20.6
Y = 8H	18.8	19.8	19.1	20.2	20.5	18.8	19.9	19.2	20.2	20.5
Y = 12H	18.7	19.8	19.1	20.1	20.4	18.7	19.8	19.1	20.1	20.5
X = 4H Y = 2H	19.0	20.3	19.4	20.6	20.9	19.0	20.2	19.3	20.5	20.8
Y = 3H	18.9	19.9	19.3	20.3	20.6	18.9	19.9	19.3	20.3	20.6
Y = 4H	18.8	19.7	19.2	20.1	20.4	18.8	19.7	19.2	20.1	20.5
Y = 6H	18.7	19.5	19.2	19.9	20.3	18.8	19.6	19.2	20.0	20.4
Y = 8H	18.7	19.4	19.1	19.8	20.3	18.8	19.5	19.2	19.9	20.3
Y = 12H	18.7	19.3	19.1	19.8	20.2	18.7	19.4	19.2	19.8	20.3
X = 8H Y = 4H	18.7	19.4	19.1	19.8	20.3	18.7	19.5	19.2	19.9	20.3
Y = 6H	18.6	19.3	19.1	19.7	20.1	18.7	19.3	19.2	19.7	20.2
Y = 8H	18.6	19.1	19.1	19.6	20.1	18.7	19.2	19.1	19.6	20.1
Y = 12H	18.6	19.0	19.1	19.5	20.0	18.6	19.1	19.1	19.6	20.1
X = 12H Y = 4H	18.7	19.3	19.1	19.8	20.2	18.7	19.4	19.2	19.8	20.2
Y = 6H	18.6	19.1	19.1	19.6	20.1	18.7	19.2	19.1	19.6	20.1
Y = 8H	18.6	19.0	19.1	19.5	20.0	18.6	19.1	19.1	19.6	20.1
	UGR Variations with Observer Position for Luminaire Spacings S									
S = 1.0H	+2.1				-5.2		+2.0		-5.3	
S = 1.5H	+3.3				-11.3		+3.3		-9.3	
S = 2.0H	+5.1				-18.5		+5.1		-10.6	

Colour properties

Correlated Colour Temperature : 4000

Ra: CRI (Ra) 80

Efficiency

Utilisation Factors according to IES (%)										
	Room Reflection Factors (%)									
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	109	107	106	103	101	100	99	98	97	91
2	100	96	93	94	92	89	91	89	87	83
3	91	86	83	86	83	80	84	81	78	74
4	83	78	73	80	75	72	77	74	71	67
5	76	70	66	73	68	65	71	67	64	61
6	70	64	59	68	62	58	66	61	58	55
7	65	58	54	63	57	53	61	56	53	51
8	60	54	49	58	53	49	57	52	48	46
9	56	49	45	54	49	45	53	48	44	43
10	52	46	41	51	45	41	50	45	41	39

Utilisation Factors according to LiTG (%)										
	Room Reflection Factors (%)									
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	65	57	61	56	62	56	60	55	55	50
0.80	76	69	71	66	73	67	70	65	64	60
1.00	84	77	78	73	80	74	76	72	71	66
1.25	94	87	86	81	89	84	84	80	79	75
1.50	99	92	90	86	93	89	87	84	83	79
2.00	106	100	94	91	99	95	92	89	88	84
2.50	111	105	98	95	103	99	95	93	91	88
3.00	114	110	100	98	106	103	98	96	94	91
4.00	118	114	102	100	108	105	99	97	96	92
5.00	120	117	103	102	110	108	100	99	98	94

Available accessories

U7H2 *Recessed mounting frame for plaster-board and wooden ceilings M600*



Dimensional drawing

