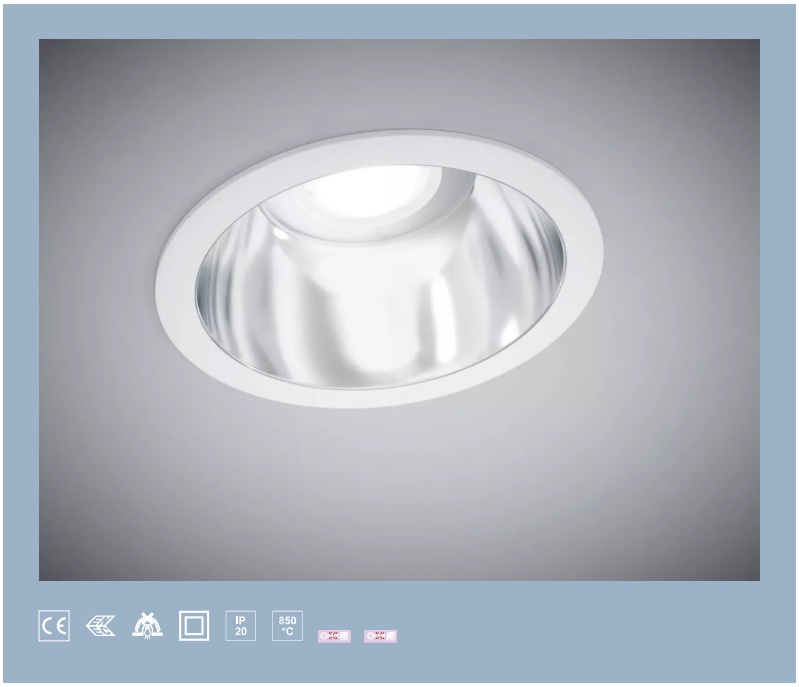
D91/LEDN10DX1



recessed luminaire • round

Application : General office area’s, Auditoria, General education area’s, Patient rooms, General healthcare area’s

housing: polycarbonate

light source : LED • 4000 K

optics : reflector and lens • polycarbonate (PC) with aluminium thin film, satin look • wide-angle

UGR classification : <=22

luminous flux: 1300 lm

luminous efficacy : 126 lm/W

LLMF: 99% @ 50khrs (Tq=25°C)

Product information

Mechanical properties

dimensions : 190 mm x 100 mm

cut-out size : 175 mm x 100 mm

colour: RAL9003 - signal white

trim: flat trim

type : individual luminaire

IP: IP20

Electrical properties

driver: DALI dimmable

power : 10.3 W

voltage : 220-240V

frequency : 50-60Hz AC/DC

photobiological safety : EN 62471: RISK GROUP 1 UNLIMITED

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Luminance

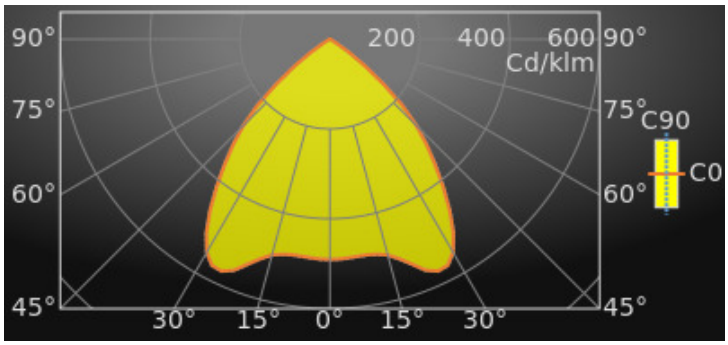
luminous flux : 1300 lm

luminous efficacy : 126 lm/W

luminance @ 65° = : 1000 cd/m²

UGR classification =: <=22

luminous area : 0.02 m²



Average Luminances (Cd/m²) for 1300lm

Gamma	C0	C30	C45	C60	C90
45°	26213	26213	26213	26213	26213
50°	16647	16647	16647	16647	16647
55°	6234	6234	6234	6234	6234
60°	873	873	873	873	873
65°	367	367	367	367	367
70°	248	248	248	248	248
75°	158	158	158	158	158
80°	100	100	100	100	100
85°	110	110	110	110	110

Classifications

CIE: 771 / 997 / 1000 / 1000 / 1000

CIE FLUXCODE : 0.77 / 1.00 / 1.00 / 1.00 / 1.00

BZ: BZ2/0.8/BZ1

CAE: Symmetrical

DIN: A60 (Nach Arbeitsblatt 7)

DIN_U: Phi u = 1.00

DIN_SU: Phi su = 0.74

UTE: 1.00 B + 0.00 T

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Lifetime Data (Tq=25.0°C)

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

Luminous intensities in cd

Intensity for 1300lm

Gamma	C0	C45	C90
0°	637.3	637.3	637.3
5°	635.2	635.2	635.2
10°	633.8	633.8	633.8
15°	646.7	646.7	646.7
20°	692.8	692.8	692.8
25°	740.5	740.5	740.5
30°	711.9	711.9	711.9
35°	604.1	604.1	604.1
40°	473.4	473.4	473.4
45°	354.3	354.3	354.3
50°	204.5	204.5	204.5
55°	68.3	68.3	68.3
60°	8.3	8.3	8.3
65°	3.0	3.0	3.0
70°	1.6	1.6	1.6
75°	0.8	0.8	0.8
80°	0.3	0.3	0.3
85°	0.2	0.2	0.2
90°	0.0	0.0	0.0

UGR classification =

Corrected Glare Ratings for a Total Lamp Flux of 1300lm (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	20.2	21.7	20.5	22.0	22.3	20.2	21.7	20.5	22.0	22.3
Y = 3H	20.0	21.4	20.3	21.7	21.9	20.0	21.4	20.3	21.7	21.9
Y = 4H	19.9	21.2	20.3	21.5	21.8	19.9	21.2	20.3	21.5	21.8
Y = 6H	19.8	21.0	20.2	21.3	21.6	19.8	21.0	20.2	21.3	21.6
Y = 8H	19.8	20.9	20.2	21.2	21.6	19.8	20.9	20.2	21.2	21.6
Y = 12H	19.8	20.8	20.1	21.2	21.5	19.8	20.8	20.1	21.2	21.5
X = 4H Y = 2H	19.9	21.2	20.3	21.5	21.8	19.9	21.2	20.3	21.5	21.8
Y = 3H	19.8	20.9	20.2	21.2	21.5	19.8	20.9	20.2	21.2	21.5
Y = 4H	19.7	20.7	20.1	21.0	21.4	19.7	20.7	20.1	21.0	21.4
Y = 6H	19.7	20.5	20.1	20.9	21.3	19.7	20.5	20.1	20.9	21.3
Y = 8H	19.6	20.4	20.0	20.8	21.2	19.6	20.4	20.0	20.8	21.2
Y = 12H	19.6	20.3	20.0	20.7	21.1	19.6	20.3	20.0	20.7	21.1
X = 8H Y = 4H	19.6	20.4	20.0	20.8	21.2	19.6	20.4	20.0	20.8	21.2
Y = 6H	19.5	20.2	20.0	20.6	21.1	19.5	20.2	20.0	20.6	21.1
Y = 8H	19.5	20.1	20.0	20.5	21.0	19.5	20.1	20.0	20.5	21.0
Y = 12H	19.5	20.0	20.0	20.4	21.0	19.5	20.0	20.0	20.4	21.0
X = 12H Y = 4H	19.6	20.3	20.0	20.7	21.1	19.6	20.3	20.0	20.7	21.1
Y = 6H	19.5	20.1	20.0	20.5	21.0	19.5	20.1	20.0	20.5	21.0
Y = 8H	19.5	20.0	20.0	20.4	21.0	19.5	20.0	20.0	20.4	21.0

	UGR Variations with Observer Position for Luminaire Spacings S			
S = 1.0H	+1.8	-7.0	+1.8	-7.0
S = 1.5H	+3.6	-21.5	+3.6	-21.5
S = 2.0H	+5.6	-23.3	+5.6	-23.3

Colour properties

Correlated Colour Temperature : 4000

Ra: CRI (Ra) 80

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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	99	96	93	94	91	89	91	89	87	82
3	90	85	82	86	82	79	83	80	78	74
4	82	77	73	79	74	71	77	73	70	66
5	75	69	65	72	67	63	70	66	63	60
6	69	62	58	66	61	57	65	60	56	54
7	63	57	52	61	56	51	60	55	51	49
8	59	52	47	57	51	47	55	50	46	44
9	54	47	43	52	47	42	51	46	42	40
10	50	44	39	49	43	39	48	42	39	37

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	61	54	58	52	59	53	57	52	51	46
0.80	74	67	70	64	71	65	68	63	63	57
1.00	83	75	77	71	79	73	75	70	69	65
1.25	93	85	85	80	88	82	83	79	78	74
1.50	98	91	89	85	93	88	87	83	82	78
2.00	105	99	94	90	98	94	91	88	87	83
2.50	110	105	97	94	102	99	95	92	91	87
3.00	114	110	100	98	106	103	97	95	94	91
4.00	117	113	101	99	108	105	99	97	96	92
5.00	120	117	103	101	110	108	100	99	97	94

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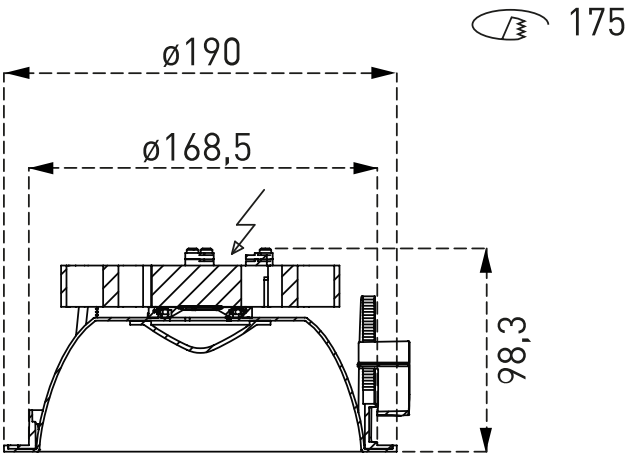
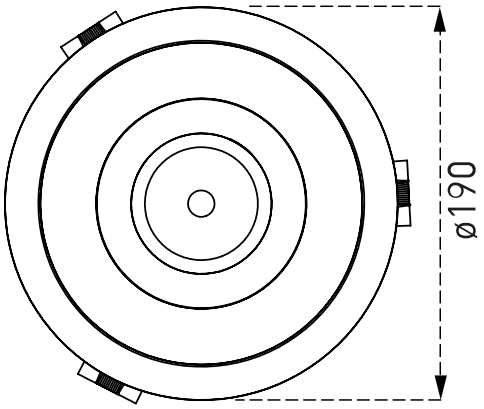
Dimensional drawing





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