

R3111/LEDN220DX1



suspended luminaire • linear

Application : Workspaces, Classrooms

housing: lacquered sheet steel

light source : LED • 4000 K

optics : Shielded lens • polycarbonate (PC) with aluminium thin film • medium wide-angle

UGR classification : <=16

luminous flux: 2200 lm

luminous efficacy : 138 lm/W

LLMF: 98% @ 50khrs (Tq=25°C)

Product information

Mechanical properties

dimensions : 1380 mm x 180 mm x 35 mm

colour: RAL9003 - white (textured)

type : individual luminaire

IP: IP20

Electrical properties

driver: DALI dimmable

power : 15.9 W

voltage : 220-240V

frequency : 50-60Hz AC

photobiological safety : EN 62471: RISK GROUP 1
UNLIMITED

Luminance

luminous flux : 2200 lm

luminous efficacy : 138 lm/W

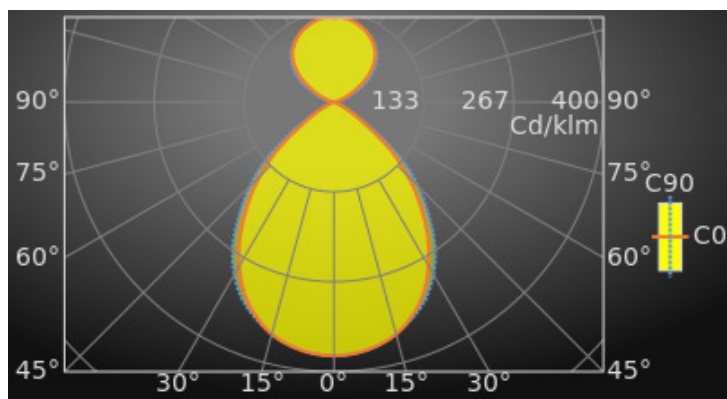
luminance @ 65° = : 3000 cd/m²

UGR classification =: <=16

luminous area : 0.06 m²

Average Luminances (Cd/m²) for 2200lm

Gamma	C0	C30	C45	C60	C90
45°	8181	9326	9833	9500	9190
50°	6302	7862	8474	8205	7476
55°	3542	5641	7007	6609	4598
60°	2199	3427	4810	3622	2172
65°	648	1324	2129	1700	1499
70°	380	470	684	1051	964
75°	269	310	377	583	787
80°	60	144	205	296	603
85°	0	0	0	31	378



Classifications

CIE: 459 / 648 / 671 / 672 / 1000

CIE FLUXCODE : 0.68 / 0.96 / 1.00 / 0.67 / 1.00

BZ: BZ2

CAE: Symmetrical

DIN: B52 (Nach Arbeitsblatt 7 und 8)

DIN_U: Phi u = 0.67

DIN_SU: Phi su = 0.70

UTE: 0.67 C + 0.33 T

Lifetime Data (Tq=25.0°C)

Time(khrs)	LLMF(%)	Cx(%)
10	99	1
20	99	2
30	99	3
40	98	4
50	98	5
60	98	6

Luminous intensities in cd

Intensity for 2200lm

Gamma	C0	C45	C90	Gamma	C0	C45	C90
0°	827.7	827.7	827.7	90°	0.1	0.2	0.7
5°	823.4	821.2	820.6	95°	1.8	2.5	4.3
10°	808.6	807.7	807.8	100°	6.7	9.4	13.3
15°	784.7	783.5	782.3	105°	15.8	20.8	28.0
20°	744.3	748.9	749.5	110°	30.9	39.3	50.1
25°	691.9	705.8	708.9	115°	54.7	66.5	78.5
30°	618.1	645.3	649.5	120°	87.7	100.5	112.9
35°	534.8	578.4	574.5	125°	124.4	135.8	147.2
40°	439.6	495.1	478.8	130°	159.3	165.3	174.6
45°	343.6	413.0	386.0	135°	187.6	189.0	197.2
50°	240.6	323.5	285.5	140°	210.8	209.0	215.0
55°	120.7	238.7	156.7	145°	227.3	227.1	230.1
60°	65.3	142.9	64.5	150°	240.6	239.6	242.6
65°	16.3	53.4	37.6	155°	252.4	251.7	252.9
70°	7.7	13.9	19.6	160°	261.1	260.9	261.0
75°	4.1	5.8	12.1	165°	268.8	270.9	270.4
80°	0.6	2.1	6.2	170°	275.2	273.4	274.8
85°	0.0	0.0	2.0	175°	278.0	278.4	278.2
90°	0.1	0.2	0.7	180°	274.9	274.9	274.9

UGR classification =

Corrected Glare Ratings for a Total Lamp Flux of 2200lm (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	15.2	16.3	15.9	17.0	17.7	15.6	16.7	16.3	17.5	18.1
Y = 3H	15.0	15.9	15.7	16.7	17.4	15.5	16.5	16.2	17.2	17.9
Y = 4H	14.8	15.7	15.6	16.5	17.2	15.4	16.3	16.2	17.1	17.8
Y = 6H	14.7	15.5	15.5	16.3	17.0	15.3	16.1	16.1	16.9	17.6
Y = 8H	14.7	15.4	15.4	16.2	17.0	15.2	16.0	16.0	16.8	17.5
Y = 12H	14.6	15.3	15.4	16.1	16.9	15.2	15.9	16.0	16.7	17.5
X = 4H Y = 2H	15.2	16.1	16.0	16.9	17.6	15.6	16.5	16.4	17.3	18.0
Y = 3H	15.0	15.7	15.8	16.5	17.3	15.5	16.2	16.3	17.0	17.8
Y = 4H	14.9	15.5	15.7	16.3	17.1	15.4	16.0	16.2	16.8	17.6
Y = 6H	14.7	15.3	15.6	16.1	16.9	15.3	15.9	16.1	16.7	17.5
Y = 8H	14.7	15.2	15.5	16.0	16.8	15.2	15.8	16.1	16.6	17.4
Y = 12H	14.6	15.1	15.5	15.9	16.7	15.2	15.6	16.0	16.5	17.3
X = 8H Y = 4H	14.7	15.2	15.5	16.0	16.8	15.2	15.7	16.0	16.6	17.4
Y = 6H	14.6	15.0	15.4	15.9	16.7	15.1	15.5	16.0	16.4	17.2
Y = 8H	14.5	14.9	15.4	15.7	16.6	15.1	15.4	15.9	16.3	17.2
Y = 12H	14.4	14.7	15.3	15.6	16.5	15.0	15.3	15.9	16.2	17.1
X = 12H Y = 4H	14.6	15.1	15.5	15.9	16.8	15.1	15.6	16.0	16.5	17.3
Y = 6H	14.5	14.9	15.4	15.7	16.6	15.0	15.4	15.9	16.3	17.1
Y = 8H	14.4	14.7	15.3	15.6	16.5	15.0	15.3	15.9	16.2	17.1
	UGR Variations with Observer Position for Luminaire Spacings S									
S = 1.0H	+1.1		-2.3			+0.7		-1.5		
S = 1.5H	+2.3		-7.5			+2.1		-6.6		
S = 2.0H	+3.6		-14.7			+3.3		-8.3		

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	101	99	97	85	83	82	75	74	73	61
2	91	87	84	76	74	72	68	66	65	54
3	81	76	73	69	66	63	62	59	57	48
4	73	67	63	63	58	55	56	53	50	42
5	66	60	55	57	52	49	51	48	45	38
6	60	53	49	52	47	43	47	43	40	34
7	55	48	43	48	42	39	43	39	36	31
8	50	43	39	44	39	35	40	36	32	28
9	46	39	35	40	35	32	37	33	30	25
10	43	36	31	37	32	29	34	30	27	23

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	51	43	49	42	45	39	43	38	36	29
0.80	62	54	58	52	54	48	52	47	44	36
1.00	70	62	65	59	61	55	58	53	49	41
1.25	79	72	73	67	68	63	64	60	56	47
1.50	85	78	77	72	73	68	68	64	60	50
2.00	92	86	83	78	78	74	72	69	64	54
2.50	98	92	86	83	82	78	76	73	67	57
3.00	102	97	89	86	85	82	78	76	70	59
4.00	106	102	92	89	88	85	80	78	72	61
5.00	109	105	94	92	90	88	82	80	73	62

Available accessories

ACC-HI00-X00 Ceiling cap for suspended luminaires (R7/R3/Ley) - 5 poles terminal block - RAL9005 Jet black

ACC-HI00-X01 Ceiling cap for suspended luminaires (R7/R3/Ley) - 5 poles terminal block - RAL9003 Signal white

ACC-HI00-X02 Ceiling cap for suspended luminaires (R7/R3/Ley) - 5 poles terminal block - RAL9006 Aluminium white

ACC-HI01-3P-1500 Suspension cables set for R7/R3 - to combine with ceiling cap - 3 poles power cable - 2 steel cords - 1 cable holder - max. 1,5m

ACC-HI01-5P-1500 Suspension cables set for R7/R3 - to combine with ceiling cap - 5 poles power cable - 2 steel cords - 1 cable holder - max. 1,5m

ACC-HI02-3P-1500 Suspension cables set for R7/R3 - minimalist : no ceiling cap - 3 poles power cable - 2 steel cords - 2 cable holders - max. 1,5m

ACC-HI02-5P-1500 Suspension cables set for R7/R3 - minimalist : no ceiling cap - 5 poles power cable - 2 steel cords - 2 cable holders - max. 1,5m

Dimensional drawing

