

Last information update: May 2018



**Fixed circular recessed luminaire - Ø125 mm - warm white - flood optic - UGR<19**

**Product code**  
N231

**Technical description**

Fixed round luminaire designed to use a LED lamp with C.O.B. technology. Version with rim for surface-mounting. Reflector vacuum-metallised with aluminium vapours with an anti-scratch protective layer. Die-cast aluminium body and passive dissipation system. Product complete with LED lamp in warm white colour tone (3000K). General light emission, with controlled luminance UGR<19 1500 cd/m<sup>2</sup> α>65° flood optic.

**Installation**

Recessed using torsion springs which allow easy installation in false ceilings with thickness ranging from 1 mm to 20 mm.

**Dimension (mm)**

Ø144x107

**Colour**

White/Aluminium (39)

**Weight (Kg)**

1.02

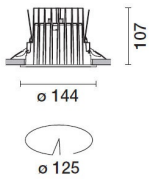
**Mounting**

ceiling recessed

**Wiring**

product complete with an electronic ballast

Complies with EN60598-1 and pertinent regulations



**Product configuration: N231**

**Product characteristics**

Total lighting output [Lm]: 2635  
Total power [W]: 23.7  
Luminous efficacy [Lm/W]: 111.2  
Life Time: 50,000h - L80 - B10 (Ta 25°C)

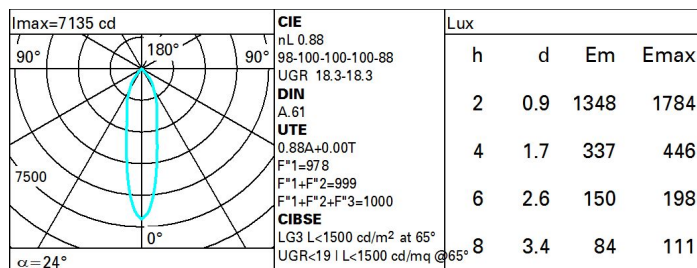
Total luminous flux at or above an angle of 90° [Lm]: 0  
Emergency luminous flux [Lm]: /  
Voltage [V]: -  
Number of optical assemblies: 1

**Optical assembly Characteristics Type 1**

Light Output Ratio (L.O.R.) [%]: 88  
Lamp code: LED  
ZVEI Code: LED  
Nominal power [W]: 21  
Nominal luminous [Lm]: 3000  
Lamp maximum intensity [cd]: /  
Beam angle [°]: 24°

Number of lamps for optical assembly: 1  
Socket: /  
Ballast losses [W]: 2.7  
Colour temperature [K]: 3000  
CRI: 80  
Wavelength [Nm]: /  
MacAdam Step: 2

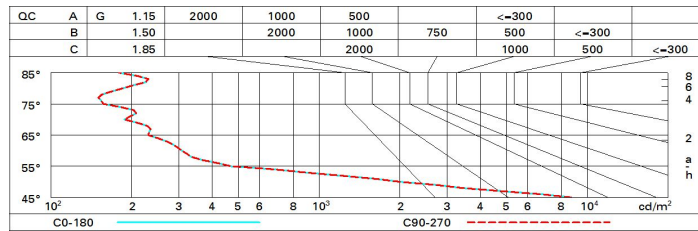
**Polar**



Utilisation factors

R	77	75	73	71	55	53	33	00	DRR
K0.8	79	74	71	69	74	71	70	68	77
1.0	82	78	76	73	77	75	75	72	82
1.5	86	84	81	79	83	81	80	77	88
2.0	89	87	85	84	86	84	83	81	92
2.5	91	89	88	87	88	87	86	84	95
3.0	92	91	90	89	89	89	88	85	97
4.0	93	92	92	91	91	90	89	87	99
5.0	94	93	93	92	92	91	90	88	100

Luminance curve limit



UGR diagram

Corrected UGR values (at 3000 lm bare lamp luminous flux)												
Reflect.:		viewed crosswise					viewed endwise					
ceiling	cav	0.70	0.70	0.50	0.50	0.30	0.70	0.70	0.50	0.50	0.30	
walls		0.50	0.30	0.50	0.30	0.30	0.50	0.30	0.50	0.30	0.30	
work pl.		0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	
Room dim												
x	y											
2H	2H	18.9	19.5	19.2	19.8	20.0	18.9	19.5	19.2	19.8	20.0	
	3H	18.7	19.3	19.1	19.6	19.9	18.7	19.3	19.1	19.6	19.9	
	4H	18.7	19.2	19.0	19.5	19.8	18.7	19.2	19.0	19.5	19.8	
	6H	18.6	19.1	18.9	19.4	19.7	18.6	19.1	18.9	19.4	19.7	
	8H	18.6	19.0	18.9	19.4	19.7	18.6	19.0	18.9	19.4	19.7	
	12H	18.5	19.0	18.9	19.3	19.7	18.5	19.0	18.9	19.3	19.7	
4H	2H	18.7	19.2	19.0	19.5	19.8	18.7	19.2	19.0	19.5	19.8	
	3H	18.5	19.0	18.9	19.3	19.7	18.5	19.0	18.9	19.3	19.7	
	4H	18.4	18.8	18.8	19.2	19.6	18.4	18.8	18.8	19.2	19.6	
	6H	18.3	18.7	18.8	19.1	19.5	18.3	18.7	18.8	19.1	19.5	
	8H	18.3	18.6	18.7	19.0	19.5	18.3	18.6	18.7	19.0	19.5	
	12H	18.2	18.5	18.7	19.0	19.4	18.2	18.5	18.7	19.0	19.4	
8H	4H	18.3	18.6	18.7	19.0	19.5	18.3	18.6	18.7	19.0	19.5	
	6H	18.2	18.5	18.7	18.9	19.4	18.2	18.5	18.7	18.9	19.4	
	8H	18.1	18.4	18.6	18.8	19.3	18.1	18.4	18.6	18.8	19.3	
	12H	18.1	18.3	18.6	18.8	19.3	18.1	18.3	18.6	18.8	19.3	
12H	4H	18.2	18.5	18.7	19.0	19.4	18.2	18.5	18.7	19.0	19.4	
	6H	18.1	18.4	18.6	18.8	19.3	18.1	18.4	18.6	18.8	19.3	
	8H	18.1	18.3	18.6	18.8	19.3	18.1	18.3	18.6	18.8	19.3	
Variations with the observer position at spacing:												
S =	1.0H		4.4	/ -24.6					4.4	/ -24.6		
	1.5H		7.2	/ -25.8					7.2	/ -25.8		
	2.0H		9.2	/ -26.2					9.2	/ -26.2		