

Last information update: June 2018

**Down LED plate - ON-OFF - Working UGR < 19 - Neutral Warm - L 1196****Product code**

QB90

Technical description

LED module set up for housing in initial or intermediate system profiles. High efficiency down emission for Working profiles (with a controlled luminance micro-prismatic screen). Electronic control gear integrated in the luminaire. Extruded aluminium heat sink; high emission yield flux enhancer. Neutral 4000K LED

Installation

Module insertion on profiles facilitated by a quick coupling system.

Colour

Indeterminate (00)

Weight (Kg)

1.28

Wiring

Quick coupling terminal block connection to simplify connections between the subsequent modules. Complete with integrated ON-OFF - non-dimmable control gear.

Complies with EN60598-1 and pertinent regulations

IP20

**Product configuration: QB90****Product characteristics**

Total lighting output [Lm]: 1243
 Total power [W]: 11.2
 Luminous efficacy [Lm/W]: 111.2
 Life Time: > 50,000h - L90 - 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.) [%]: 71
 Lamp code: LED
 ZVEI Code: LED
 Nominal power [W]: 8.9
 Nominal luminous [Lm]: 1750
 Lamp maximum intensity [cd]: /
 Beam angle [°]: /

Number of lamps for optical assembly: 1
 Socket: /
 Ballast losses [W]: 2.3
 Colour temperature [K]: 4000
 CRI: 80
 Wavelength [Nm]: /
 MacAdam Step: 3

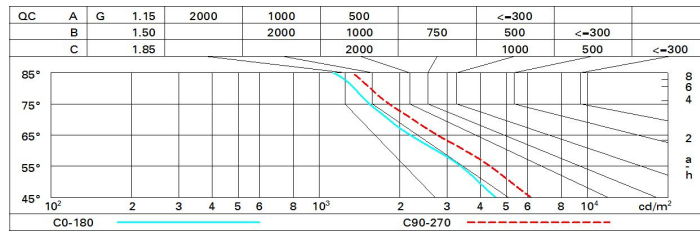
Polar

Polar		Lux				
	Imax=771 cd	h	d1	d2	Em	Emax
	90°	1	1.3	1.6	540	771
	750	2	2.7	3.2	135	193
	0°	3	4	4.9	60	86
	α=68° / 78°	4	5.4	6.5	34	48
C0-180 CIE nL 0.71 67-91-98-100-71 UGR 17.4-18.2 DIN A.51 UTE 0.71C+0.00T F*1=667 F*1+F*2=908 F*1+F*2+F*3=984 CIBSE LG3 L<3000 cd/m² at 65° UGR<19 L<3000 cd/mq @65°						

Utilisation factors

R	77	75	73	71	55	53	33	00	DRR
K0.8	53	47	43	40	46	42	42	38	54
1.0	57	52	48	45	51	47	47	43	61
1.5	64	59	56	53	58	55	54	51	72
2.0	67	64	61	59	62	60	59	56	79
2.5	69	66	64	62	65	63	62	59	83
3.0	71	68	66	65	67	65	64	61	86
4.0	72	70	69	67	69	68	66	64	90
5.0	73	72	70	69	70	69	68	65	92

Luminance curve limit



UGR diagram

Corrected UGR values (at 1750 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		viewed crosswise					viewed endwise				
x	y										
2H	2H	15.7	16.6	16.0	16.9	17.1	17.0	17.9	17.3	18.2	18.4
	3H	16.3	17.1	16.6	17.4	17.7	17.2	18.0	17.5	18.3	18.6
	4H	16.5	17.3	16.8	17.6	17.9	17.2	18.0	17.5	18.3	18.6
	6H	16.6	17.4	17.0	17.7	18.0	17.1	17.9	17.5	18.2	18.6
	8H	16.7	17.4	17.1	17.7	18.1	17.1	17.8	17.5	18.2	18.5
	12H	16.7	17.4	17.1	17.7	18.1	17.1	17.8	17.5	18.1	18.5
4H	2H	16.1	16.9	16.4	17.2	17.5	17.7	18.6	18.1	18.9	19.2
	3H	16.8	17.5	17.2	17.8	18.2	18.1	18.8	18.5	19.1	19.5
	4H	17.1	17.7	17.5	18.1	18.5	18.2	18.8	18.6	19.2	19.6
	6H	17.3	17.9	17.8	18.3	18.7	18.2	18.8	18.7	19.2	19.6
	8H	17.4	17.9	17.9	18.3	18.8	18.2	18.7	18.7	19.1	19.6
	12H	17.5	17.9	17.9	18.3	18.8	18.2	18.6	18.7	19.1	19.5
8H	4H	17.2	17.7	17.6	18.1	18.5	18.5	18.9	18.9	19.4	19.8
	6H	17.5	17.9	18.0	18.4	18.9	18.6	19.0	19.1	19.4	19.9
	8H	17.7	18.0	18.2	18.5	19.0	18.6	19.0	19.1	19.4	19.9
	12H	17.8	18.1	18.3	18.6	19.1	18.6	18.9	19.1	19.4	19.9
12H	4H	17.2	17.6	17.6	18.1	18.5	18.5	18.9	19.0	19.4	19.8
	6H	17.6	17.9	18.0	18.4	18.9	18.6	19.0	19.1	19.5	20.0
	8H	17.7	18.0	18.2	18.5	19.0	18.7	19.0	19.2	19.5	20.0
Variations with the observer position at spacing:											
S =		1.0H					0.5 / -0.5				
		1.5H					0.6 / -1.3				
		2.0H					1.2 / -1.9				
							0.3 / -0.5				
							0.8 / -1.2				
							1.8 / -1.8				