

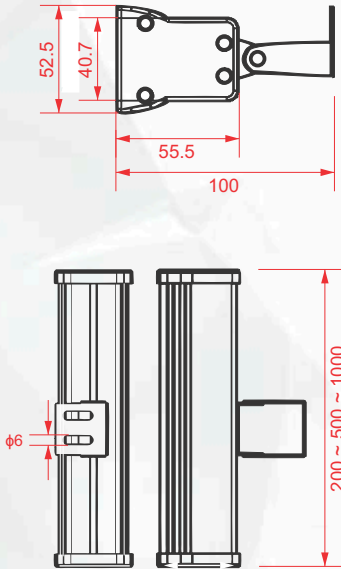


Lighting equipments & indoor LED lighting

Azarakhsh 1



All dimension in mm



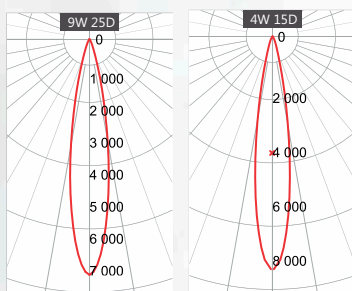
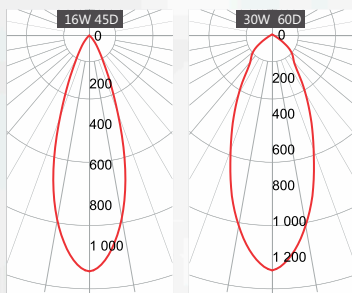
Parameter	20	50	100
Module length (cm)	20	50	100
Nominal input voltage (v-AC / Hz)	230 / 50		
Input voltage (v-AC / Hz)	180 ~ 265 / 50 ~ 60		
System input power (W)	4	9	12
Nominal input current (mA@V)	30 @ 230	70 @ 230	90 @ 230
Power consumption of single LED (W)	3	3	3
Nominal power of LED module (W)	9	18	27
Working voltage of LED module (v-DC)	10	19	29
Nominal power factor	0.55	0.55	0.55
Structure of LED module	Integrated		
Type of LED module	Separate ballast		

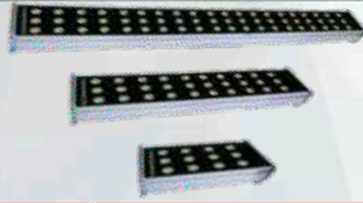
Optical characteristics	20	50	100
Light source	High power LED		
Nominal luminous flux (Lm)	330	730	980
System luminous efficiency (Lm/W)	80	82	82
Number of LED	3	6	9
Nominal color temperature (°K)	6500		
Color rendering index (Ini. & Main.)(CRI)	> 80		
Chromaticity coordinate	x= 0.3165 y=0.3427		
Lumen maintenance factor in 1000 hr	98%		
Group of lumen maintenance factor in 6000 hr	A		

Mechanical Characteristics	Performance
Ingress protection	IP65
Glass	Thermally hardened glass
Body material	Steel bracket
Dimension (mm)	200 x 45 x 51 500 x 45 x 51 1000 x 45 x 51
Weight (gr)	450 950 1730

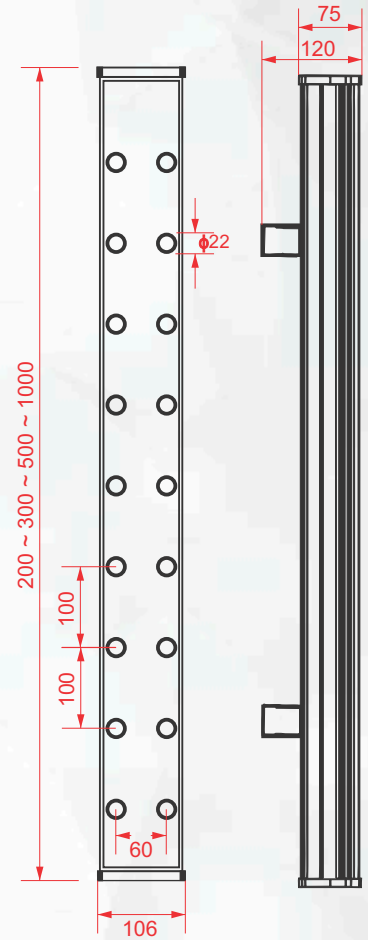
General Charactrestics	Performance
Rated in ambient temperature (25 °c)	50000 hr
Rated in ambient temperature (50 °c)	50000 hr
Ambient temperature range	-20 ~ +50
Operating humidity	up to 95%

Standards	
IEC 60598-1	Luminaries - particular requirements
IEC 62031	LED luminaries - safety requirements
IEC 61000-3-2	Harmonics
IEC 61347-1	Control gear - general requirements
IEC 61347-2-13	LED control gear - particular requirements
IES 62384	LED control gear - performance requirements
IES LM-80	LED light source - lumen maintenance





All dimension in mm



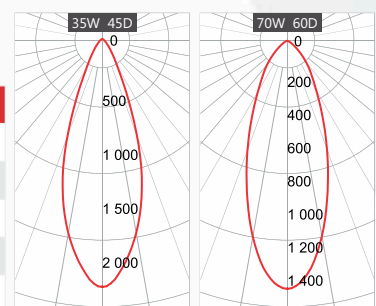
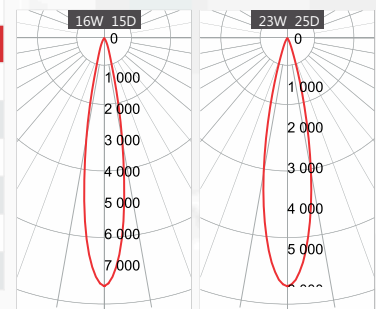
Parameter	20 , 25 , 30		50	100
Module length (cm)	20 , 25 , 30 cm		50 cm	100 cm
Nominal input (v -AC/Hz)	230 /50			
Input voltage range (v-AC /Hz)	180 ~ 265 / 50 ~ 60			
Power factor	0.55		0.95	
Nominal power of LED module (W)	36	54	90	180
System input power (W)	16	23	35	70
LED module nominal voltage (v-DC)	38	54	48	48
Nominal power of single LED	3			
Nominal input current (mA@V)	125 @230	180 @230	160 @230	320 @ 230
Total harmonic distortion (THD)	< 15%			

Optical characteristics				
Light source	High power LED			
Number of LED	12	18	30	60
Nominal luminous flux (Lm)	1280	1840	2800	5600
System luminous efficiency (Lm/W)	80			
Nominal color temperature (°K)	6500			
Color rendering index (Ini. & Main.)(CRI)	80			
Lumen maintenance factor in 1000 hr	98%	0.96		0.96
Group of lumen maintenance factor in 6000 hr	A			
Relative lifetime (hr) at (25 °C & 50 °C)	50000			
Chromaticity coordinate	x=0.3165 y=0.3427			
Tolerance of chromaticity coordinate	3SDCM			
Photometric code	865/339			

Mechanical Characteristics	
Parameter	Performance
Ingress protection	IP65
Lenz	poly carbonate
Body material	Aluminum
Body Coating	Anodized
Ambient temperature range	-20 ~ +50
Operating humidity	up to 95%



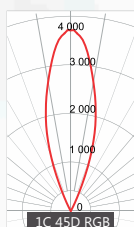
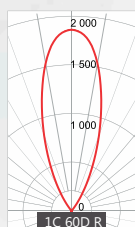
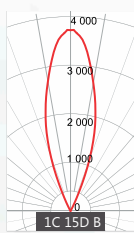
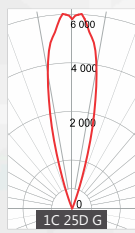
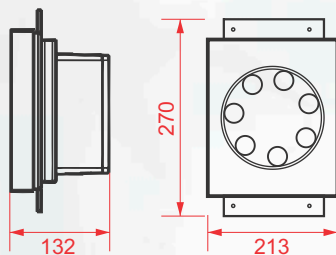
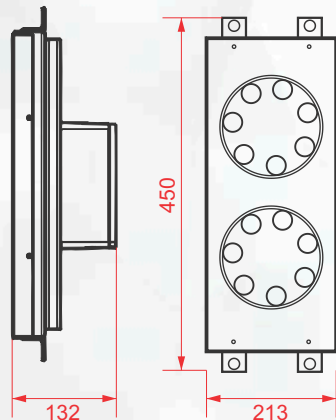
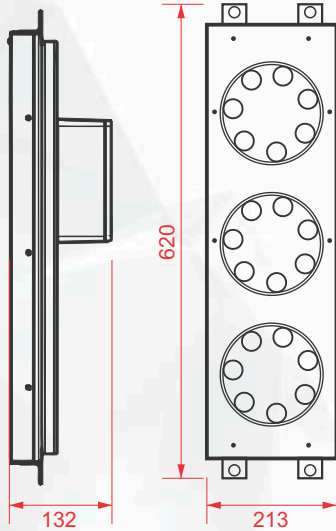
Standards	
IEC 60598-1	Luminaires - particular requirements
IEC 62031	LED luminaires - safety requirements
IEC 61347-2-13	LED control gear - particular requirements
IES 62384	LED control gear - performance requirements
IES LM-80	LED light source - lumen maintenance



Felorin 2



All dimension in mm



Parameter	21	42	63
Nominal power (W)	21	42	63
Input voltage range (v-DC)	22 ~ 26		
Nominal power of LED module (W)	21	42	63
System input current (A)	1	2	3
LED module nominal voltage (v-DC)	20		
Nominal power consumption of single LED	3	3	3
LED module type	Quasi ballast		
Structure of LED module	Integrated		

Optical characteristics

Light source	High power LED		
Number of LED	7	14	21
Central wave length (nm)	R = 625 , G = 525 , B = 455		
Central wave length dispersion	R = 5 , G = 5 , B = 5		
Lumen maintenance factor in 1000 hr	98%		
Group lumen maintenance factor in 6000 hr	A		

Mechanical Characteristics

Parameter	Performance		
Ingress protection	IP68		
Outer transparent layer material	Thermally hardened glass		
Body material	Aluminum die-cast		
Body Cover	Stainless steel		
Dimension(mm)	270 x 213 x 132	450 x 213 x 132	620 x 213 x 132
Weight (kg)	4.9	8.7	12.3
Ambient temperature range (°C)	-20 ~ +50		
Operating humidity	up to 95%		

General Characteristics

General Characteristics	Performance
Nominal lifetime in ambient temperature (25 °C)	50000 (hrs)
Nominal lifetime in ambient temperature (50 °C)	50000 (hrs)
Max. injection temperature for a single LED (°C)	125
Ambient temperature range	-20 ~ +50
Operating humidity	up to 95%

Standards

IEC 60598-1	Luminaires - particular requirements
IEC 62031	LED luminaires - safety requirements
IEC 61000-3-2	Harmonics
IEC 61347-1	Control gear - general requirements
IEC 61347-2-13	LED control gear - particular requirements
IES 62384	LED control gear - performance requirements
IES LM-80	LED light source - lumen maintenance

IP65
Optical



IP68
Electrical



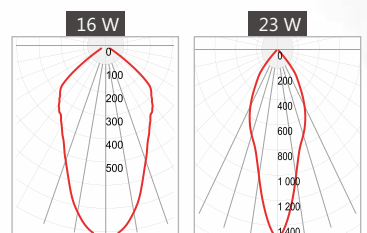
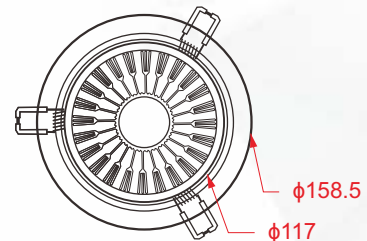
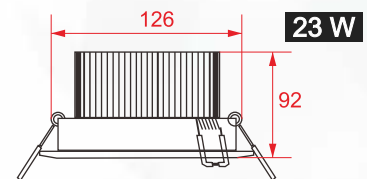
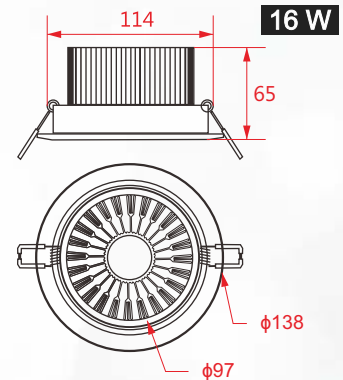
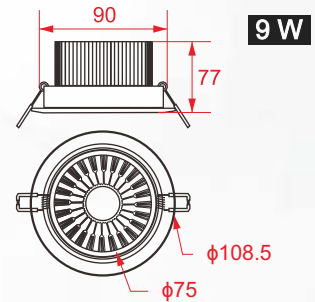
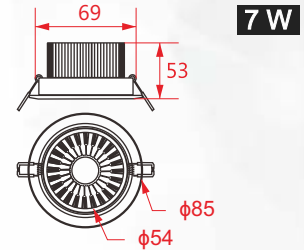


Parameter	7 W	9 W	16 W	23 W
Nominal input voltage (v-AC /Hz)	230 / 50			
Input voltage range (v-AC /Hz)	180 ~ 265/ 50 ~ 60			
Nominal input power (W)	7	9	16	23
Nominal input current (mA@v)	55 @230	70 @ 230	125 @ 230	180 @ 230
LED module nominal power (W)	5	7	15	20
LED module DC voltage (v-DC)	15	20	45	60
Nominal power factor	0.55			
Structure of LED module	Integrated			
Type of LED module	Separated ballast			

Parameter	7 W	9 W	16 W	23 W
Light source	COB LED			
Number of LEDs (pcs)	1	1	1	1
Nominal luminous flux (Lm)	660	800	1450	2050
System luminous efficiency (Lm/W)	95	90	90	90
Chromaticity coordinate	X = 0.4399 Y=0.4085			
Color temperature (°K)	3000			
Color rendering index (CRI)	77			
Tolerance of chromaticity coordinate	3 SDCM			
Photometric code	730/339			
Lumen maintenance after 1000 hours	98%			
Group of Lumen maintenance after 6000 hours	A			
Beam angle (ref.)	90°			

Parameter	7 W	9 W	16 W	23 W
Dimension of ceiling placeholder (ΦD) (mm)	75	100	120	140
Operating Temperature range (°c)	-20 ~ +45			
Weight (kg)	0.15	0.28	0.44	0.80
Rated in ambient temperature (25 °c)	35000 (hrs)			
Rated in ambient temperature (50 °c)	35000 (hrs)			
Maximum temperature for single LED (T _j) (°c)	125			
Diffuser	Flat glass			

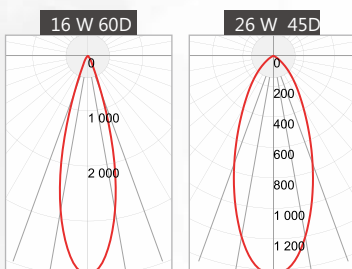
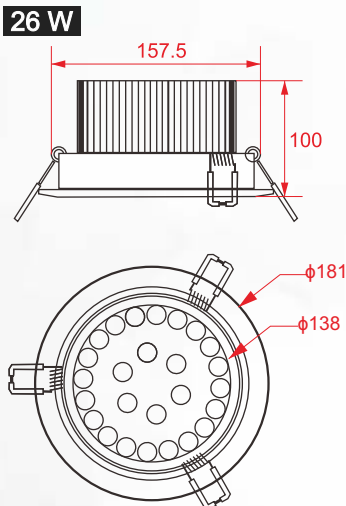
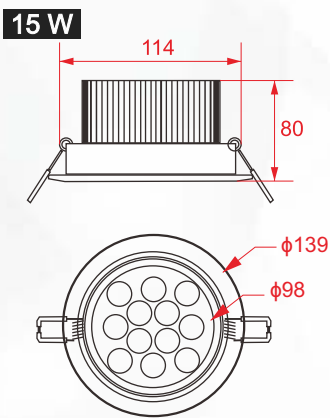
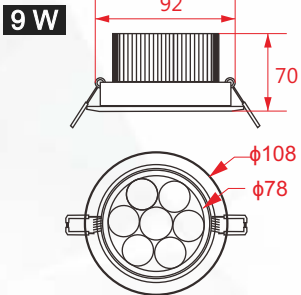
Standards	
IEC 62717	LED modules for general luminaires - general requirements and tests
IEC 61347-2-13	LED control - gear particular requirements
IEC 62384	LED control gear - performance requirements
IES LM-80	LED light source - lumen maintenance
ISIRI 11721	LED light source - LED modules for general utility /safety requirements
INSO 14878-1	Determination the quality rating of LED light source- general requirements and tests



Gama Hipower LED



All dimension in mm



Parameter	9 W	15 W	26 W
Nominal input voltage (v-AC /Hz)		230 / 50	
Input voltage range (v-AC /Hz)		180 ~ 265 / 50 ~ 60	
Nominal input power (W)	9	15	26
Nominal input current (mA@v)	70 @ 230	120 @ 230	200 @ 230
LED module nominal power (W)	21	36	63
LED module DC voltage (v-DC)	23	38	67
Nominal power factor	0.55		
Structure of LED module	Integrated		
Type of LED module	Separated ballast		

Parameter	9 W	15 W	26 W
Light source	Hi Power LED		
Number of LEDs (pcs)	7	12	21
Nominal luminous flux (Lm)	800	1270	2200
System luminous efficiency (Lm/W)	90	85	85
Chromaticity coordinate	X = 0.4399 Y=0.4085		
Color temperature (°K)	3000		
Color rendering index (CRI)	77		
Tolerance of chromaticity coordinate	3 SDCM		
Lumen maintenance after 1000 hours	98%		
Photometric code	730/339		
Group of Lumen maintenance after 6000 hours	A		
Beam angle	30°, 45°, 60° on request		

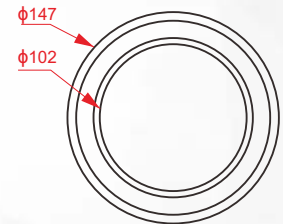
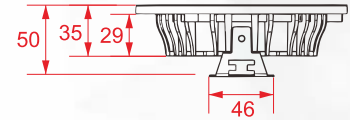
Parameter	9 W	15 W	26 W
Dimension of ceiling placeholder (ΦD) (mm)	95	115	165
Operating Temperature range (°C)	-20 ~ +45		
Weight (kg)	0.33	0.56	1.77
Rated in ambient temperature (25 °C)	35000 (hrs)		
Rated in ambient temperature (50 °C)	35000 (hrs)		
Maximum temperature for single LED (T _j) (°C)	125		
Diffuser	PMMA		

Standards	
IEC 62717	LED modules for general luminaires - general requirements and tests
IEC 61347-2-13	LED control gear - particular requirements
IEC 62384	LED control gear - performance requirements
IES LM-80	LED light source - lumen maintenance
ISIRI 11721	LED light source - LED modules for general utility /safety requirements
INSO 14878-1	Determination the quality rating of LED light source- general requirements and tests

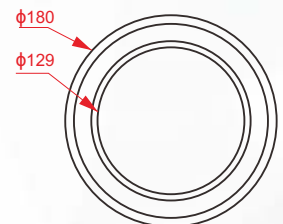
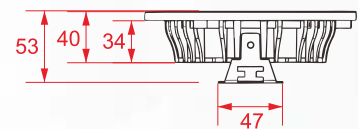




All dimension in mm



12 W



18 W

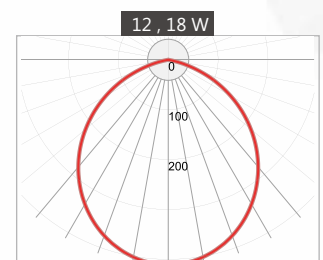
Parameter	12 W	18 W
Nominal input voltage (v-AC /Hz)	230 / 50	
Input voltage range (v-AC /Hz)	180 ~ 265 / 50 ~ 60	
Nominal input power (W)	12	18
Nominal input current (mA@v)	50 @ 230	80 @ 230
LED module nominal power (W)	12	18
Single LED power consumption (W)	0.2	
Nominal power factor	0.95	
Structure of LED module	Integrated	
Type of LED module	Separated ballast	

Parameter	12 W	18 W
Light source	2835 SMD LED	
Number of LEDs (pcs)	60	90
Nominal luminous flux (Lm)	1080	1620
System luminous efficiency (Lm/W)	90	
Chromaticity coordinate	X = 0.3165 Y=0.3623	
Color temperature (°K)	6500	
Color rendering index (CRI)	85	
Tolerance of chromaticity coordinate	3 SDCM	
Photometric code	865/339	
Lumen maintenance after 1000 hours	96%	
Group of Lumen maintenance after 6000 hours	A	

Parameter	12 W	18 W
Dimension of ceiling placeholder (ΦD) (mm)	130	160
Operating Temperature range (°c)	-20 ~ +45	
Weight (kg)	0.85	0.98
Rated in ambient temperature (25 °C)	35000 (hrs)	
Rated in ambient temperature (50 °C)	35000 (hrs)	
Maximum temperature for single LED (T _j) (°C)	125	
Diffuser	PMMA	
Body material	Die-cast aluminum	

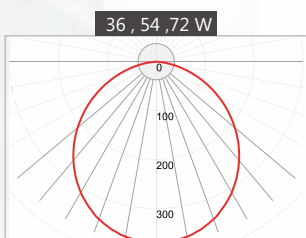
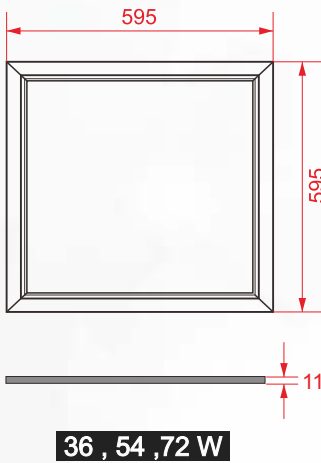
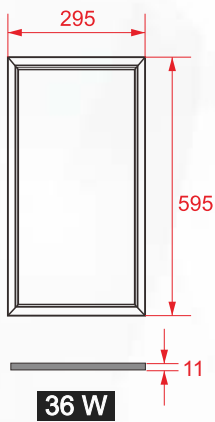
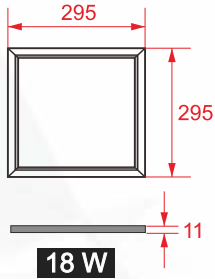
Standards

IEC 62717	LED modules for general luminaires - general requirements and tests
IEC 61347-2-13	LED control gear - particular requirements
IEC 62384	LED control gear - performance requirements
IES LM-80	LED light source - lumen maintenance
ISIRI 11721	LED light source - LED modules for general utility /safety requirements
INSO 14878-1	Determination the quality rating of LED light source- general requirements and tests





All dimension in mm



Parameter	18 W	36 W	54 W	72 W
Nominal input voltage (v-AC /Hz)	230 / 50			
Input voltage range (v-AC /Hz)	180 ~ 265 / 50 ~ 60			
Nominal input power (W)	18	36	54	72
Nominal input current (mA@v)	80 @ 230	165 @ 230	250 @ 230	330 @ 230
LED module nominal power (W)	17.6	35.2	52.8	70.4
Single LED power consumption (W)	0.1			
Nominal power factor	0.95			
Total harmonic distortion(THD)	< 15%			
Structure of LED module	Integrated			
Type of LED module	Separated ballast			

Parameter	18 W	36 W	54 W	72 W
Light source	SMD LED			
Number of LEDs (pcs)	176	352	528	704
Nominal luminous flux (Lm)	1800	3600	5400	7200
System luminous efficiency (Lm/W)	100			
Chromaticity coordinate	X = 0.3165 Y=0.3427			
Color temperature (°K)	6500			
Color rendering index (CRI)	85			
Tolerance of chromaticity coordinate	3 SDCM			
Photometric code	865/339			
Lumen maintenance after 1000 hours	98%			
Group of Lumen maintenance after 6000 hours	A			

Parameter	18 W	36 W	54 W	72 W
Dimension(L x W x H) (mm)	295x 295x 11	595x295x11	595x595x11	595x595x11
Operating Temperature range (°c)	-20 ~ +45			
Weight (kg)	1.6	2.5	4.6	4.6
Rated in ambient temperature (25 °c)	35000 (hrs)			
Rated in ambient temperature (50 °c)	35000 (hrs)			
Maximum temperature for single LED (T _j) (°c)	125			
Diffuser	PMMA			
Body material	Die-cast aluminum			

Standards	
IEC 60598-1	Luminaries - general requirements and tests
IEC 61000-3-2	Harmonics
IEC 62384	LED control - gear - performance requirements
IES LM-80	LED light source - lumen maintenance
INSO 14878-1	LED light source -Lumen maintenance





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