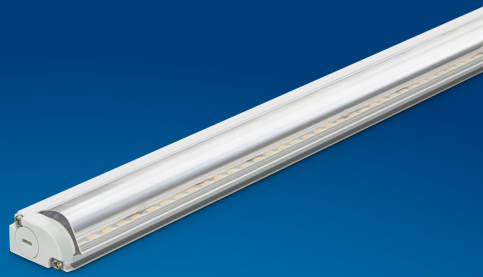


PHILIPS

InteGrade

LED

InteGrade engine HF G4



Datasheet

Compact linear LED lighting for ultimate shopping experience

InteGrade engine high flux is not a standalone engine. It might need to be integrated with a heatsink for thermal management to achieve 50,000 hrs lifetime. The cabinet framework can be used for that. Our Design-in service is available to support you.

Key features and benefits

- Miniaturized slim design for aesthetic integration
- Premium color consistency up to 5SDCM over lifetime
- Natural merchandise color with specially formulated LEDs up to CRI95
- State of the Art LED diode delivering up to 180 lm/W
- Modules performing up to 93 lm/w meeting SLR (Single Lighting Regulation)
- Superb lumen and lux levels grabbing the customer's attention even when behind a glass door
- Maximum design flexibility with extensive range of engine lengths
- Color temperatures (WWR)
- True System proposition with five-year system warranty with Philips LED Power Drivers
- Reduced power consumption for energy saving
- Long lifetime: >50,000 hours
- Dimmable

September 2021



direct



instant

Ordering data

Commercial product name	EOC	12NC	Box quantity
InteGrade engine HF 140mm WWR G4	8718699 744892 00	9290 021 62906	24
InteGrade engine HF 575mm WWR G4	8718699 744915 00	9290 021 63006	24
InteGrade engine HF 760mm WWR G4	8718699 757052 00	9290 021 86406	24
InteGrade engine HF 1150mm WWR G4	8718699 744939 00	9290 021 63106	24
InteGrade engine HF 1570mm WWR G4	8718699 745271 00	9290 021 63706	12
InteGrade engine HF 1660mm WWR G4	8718699 757175 00	9290 021 86706	12

Key Specifications at Nominal conditions

Name	12NC	Power (W)	Luminous Flux (lm)	Useful Flux (lm)	CRI
InteGrade engine HF 140mm WWR G4	9290 021 62906	4.14	379	349	
InteGrade engine HF 575mm WWR G4	9290 021 63006	16.2	1514	1393	
InteGrade engine HF 760mm WWR G4	9290 021 86406	21.4	1990	1831	
InteGrade engine HF 1150mm WWR G4	9290 021 63106	32.5	3028	2786	
InteGrade engine HF 1570mm WWR G4	9290 021 63706	44.9	4166	3833	
InteGrade engine HF 1660mm WWR G4	9290 021 86706	46.9	4360	4011	

Module temperatures

Parameter	Nominal*	Life**	Max***	Unit
T _c (case temperature at T _c point)	45	45	70	°C

* Nominal value at which typical performance is specified

** Value at which life time is specified

*** Maximum value for safe operation, do not operate above this value

Optical characteristics - table per color (CCT)

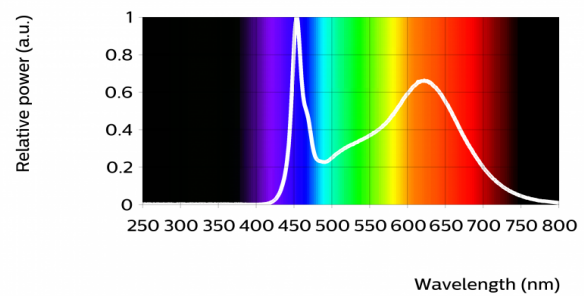
InteGrade engine HF 140mm WWR G4

Parameter	Min	Typ	Max	Unit
Luminous flux	351	379	455	lm
Flux within 120° cone		349		lm
Module efficacy		92		lm/W
Color coordinates (CIEx, CIEy)		(0.384, 0.326)		-
Color consistency			3	SDCM
R9	85			
Radiation angle		26		deg
Peak intensity		408		cd
Photobiological safety			RG1 unlimited	

Measurement precision for flux +/- 5%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI 1.5.

Color rendering according to IES TM-30 is 90.

WWR products are special purpose products. They are not intended for in-house use.



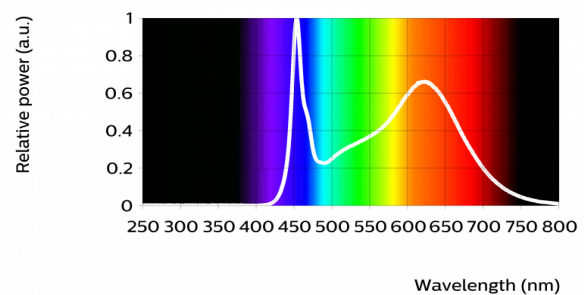
InteGrade engine HF 575mm WWR G4

Parameter	Min	Typ	Max	Unit
Luminous flux	1400	1514	1817	lm
Flux within 120° cone		1393		lm
Module efficacy		93		lm/W
Color coordinates (CIEx, CIEy)		(0.384, 0.326)		-
Color consistency			3	SDCM
R9	85			
Radiation angle		26		deg
Peak intensity		1631		cd
Photobiological safety			RG1 unlimited	

Measurement precision for flux +/- 5%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI 1.5.

Color rendering according to IES TM-30 is 90.

WWR products are special purpose products. They are not intended for in-house use.



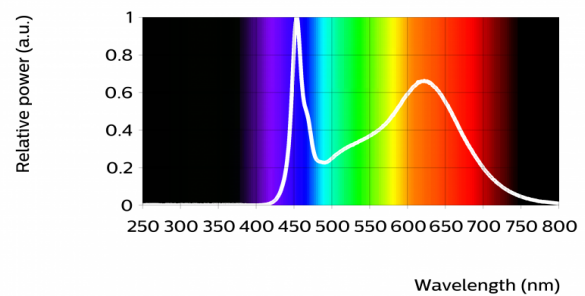
InteGrade engine HF 760mm WWR G4

Parameter	Min	Typ	Max	Unit
Luminous flux	1841	1990	2388	lm
Flux within 120° cone		1831		lm
Module efficacy		93		lm/W
Color coordinates (CIEx, CIEy)		(0.384, 0.326)		-
Color consistency			3	SDCM
R9	85			
Radiation angle		26		deg
Peak intensity		2143		cd
Photobiological safety			RG1 unlimited	

Measurement precision for flux +/- 5%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI 1.5.

Color rendering according to IES TM-30 is 90.

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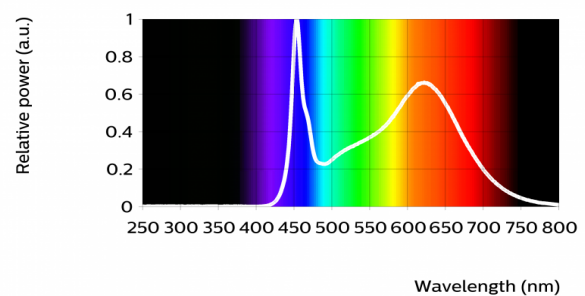
InteGrade engine HF 1150mm WWR G4

Parameter	Min	Typ	Max	Unit
Luminous flux	2801	3028	3634	lm
Flux within 120° cone		2786		lm
Module efficacy		93		lm/W
Color coordinates (CIEx, CIEy)		(0.384, 0.326)		-
Color consistency			3	SDCM
R9	85			
Radiation angle		26		deg
Peak intensity		3261		cd
Photobiological safety			RG1 unlimited	

Measurement precision for flux +/- 5%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI 1.5.

Color rendering according to IES TM-30 is 90.

WWR products are special purpose products. They are not intended for in-house use.



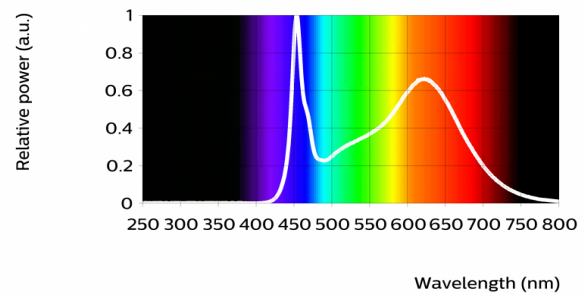
InteGrade engine HF 1570mm WWR G4

Parameter	Min	Typ	Max	Unit
Luminous flux	3853	4166	4999	lm
Flux within 120° cone		3833		lm
Module efficacy		93		lm/W
Color coordinates (CIEx, CIEy)		(0.384, 0.326)		-
Color consistency			3	SDCM
R9	85			
Radiation angle		26		deg
Peak intensity		4487		cd
Photobiological safety			RG1 unlimited	

Measurement precision for flux +/- 5%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI 1.5.

Color rendering according to IES TM-30 is 90.

WWR products are special purpose products. They are not intended for in-house use.



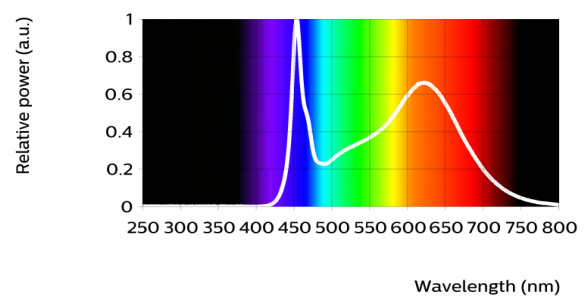
InteGrade engine HF 1660mm WWR G4

Parameter	Min	Typ	Max	Unit
Luminous flux	4033	4360	5232	lm
Flux within 120° cone		4011		lm
Module efficacy		93		lm/W
Color coordinates (CIEx, CIEy)		(0.384, 0.326)		-
Color consistency			3	SDCM
R9	85			
Radiation angle		26		deg
Peak intensity		4696		cd
Photobiological safety			RG1 unlimited	

Measurement precision for flux +/- 5%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI 1.5.

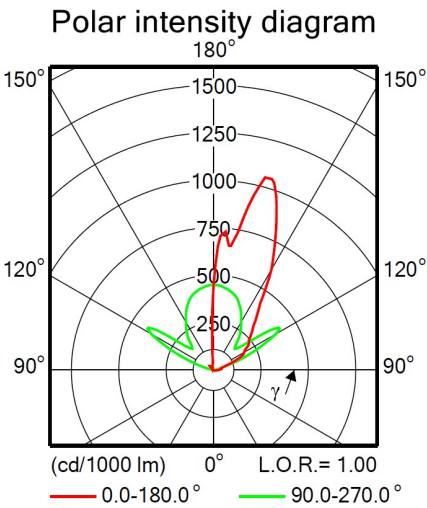
Color rendering according to IES TM-30 is 90.

WWR products are special purpose products. They are not intended for in-house use.



Beam shape

Light distribution, scaled to cd per 1000lm



Electrical characteristics

InteGrade engine HF 140mm WWR G4

Parameter	Min	Typ	Max	Unit
Forward voltage		24.0		V
Power consumption		4.14		W = kWh/1000h
Number of modules per chain			8	

InteGrade engine HF 575mm WWR G4

Parameter	Min	Typ	Max	Unit
Forward voltage		24.0		V
Power consumption		16.2		W = kWh/1000h
Number of modules per chain			2	

InteGrade engine HF 760mm WWR G4

Parameter	Min	Typ	Max	Unit
Forward voltage		24.0		V
Power consumption		21.4		W = kWh/1000h
Number of modules per chain			2	

InteGrade engine HF 1150mm WWR G4

Parameter	Min	Typ	Max	Unit
Forward voltage		24.0		V
Power consumption		32.5		W = kWh/1000h
Number of modules per chain			1	

InteGrade engine HF 1570mm WWR G4

Parameter	Min	Typ	Max	Unit
Forward voltage		24.0		V
Power consumption		44.9		W = kWh/1000h
Number of modules per chain			1	

InteGrade engine HF 1660mm WWR G4

Parameter	Min	Typ	Max	Unit
Forward voltage		24.0		V
Power consumption		46.9		W = kWh/1000h
Number of modules per chain			1	

Lumen maintenance

Operation point	Lumen maintenance x 1000 hours	L70			L80		
		B50	B20	B10	B50	B20	B10
	Ta -20°C	>100	>100	>100	>100	>100	>100
	Ta 5°C	>100	>100	>100	>100	>100	>100
	Ta 30°C	>100	>100	>100	>100	>100	>100

Lifetime

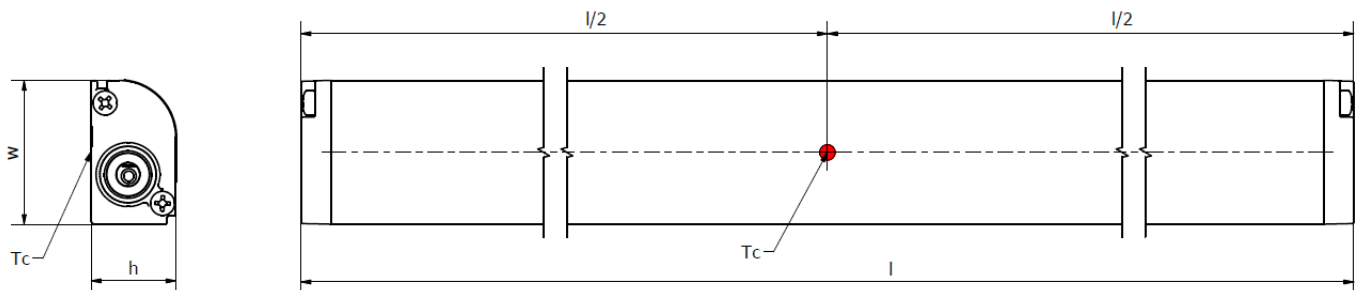
Parameter	Value	Unit
M70F50 nominal	100000	hours
M70F50 life	100000	hours

Mechanical characteristics

InteGrade engine HF 140mm WWR G4

Parameter	Min	Typ	Max	Unit
Length	136	140	144	mm
Width	19.3	19.7	20.1	mm
Height total	12.4	12.9	13.4	mm
Product mass		30		gram

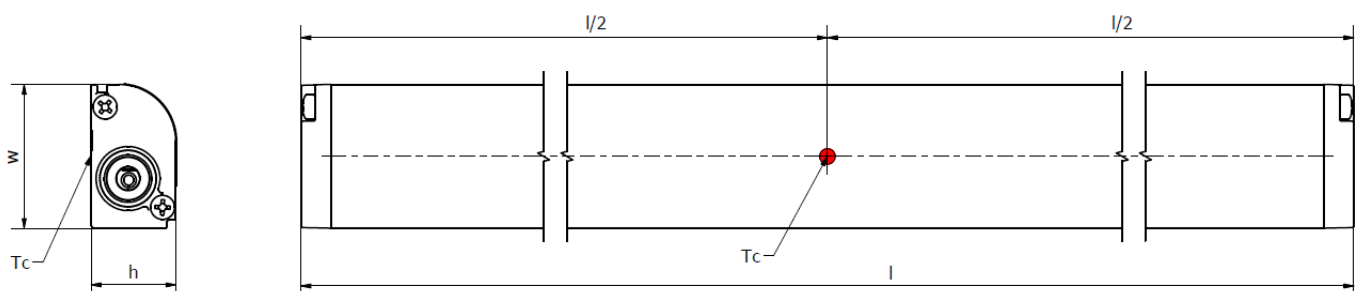
Thermal expansion from -30°C to +30°C is included in the tolerances



InteGrade engine HF 575mm WWR G4

Parameter	Min	Typ	Max	Unit
Length	571	575	579	mm
Width	19.3	19.7	20.1	mm
Height total	12.4	12.9	13.4	mm
Product mass		120		gram

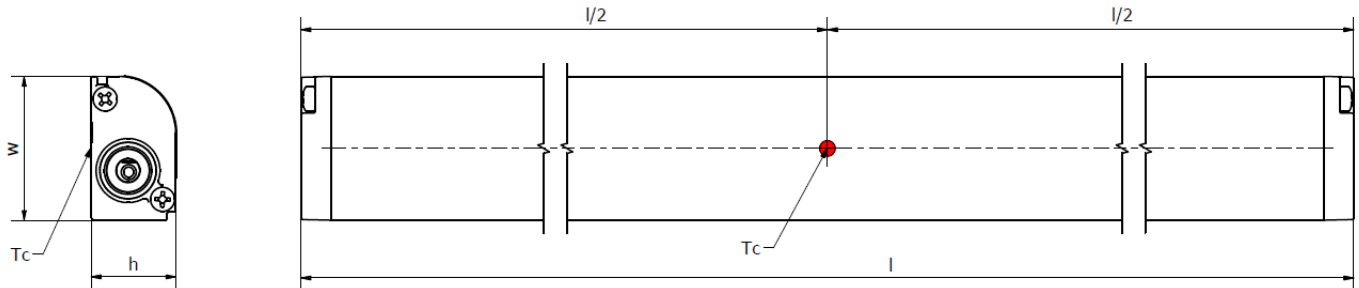
Thermal expansion from -30°C to +30°C is included in the tolerances



InteGrade engine HF 760mm WWR G4

Parameter	Min	Typ	Max	Unit
Length	756	760	764	mm
Width	19.3	19.7	20.1	mm
Height total	12.4	12.9	13.4	mm
Product mass		172		gram

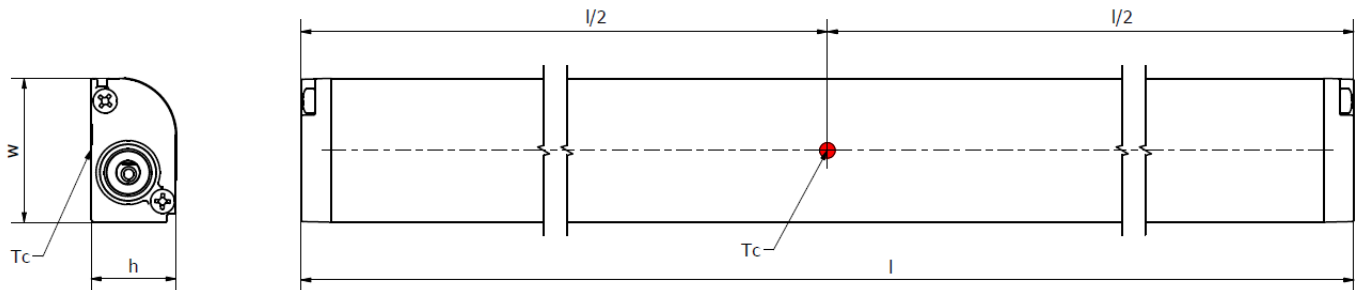
Thermal expansion from -30°C to +30°C is included in the tolerances



InteGrade engine HF 1150mm WWR G4

Parameter	Min	Typ	Max	Unit
Length	1146	1150	1154	mm
Width	19.3	19.7	20.1	mm
Height total	12.4	12.9	13.4	mm
Product mass		230		gram

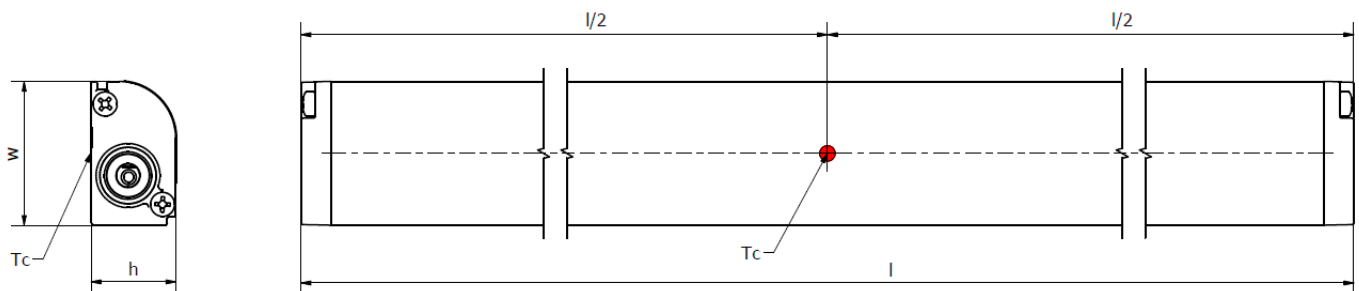
Thermal expansion from -30°C to +30°C is included in the tolerances



InteGrade engine HF 1570mm WWR G4

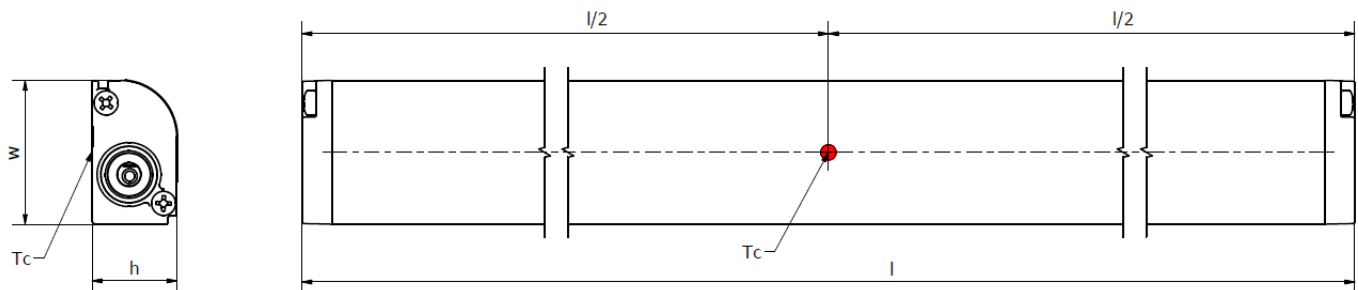
Parameter	Min	Typ	Max	Unit
Length	1566	1570	1574	mm
Width	19.3	19.7	20.1	mm
Height total	12.4	12.9	13.4	mm
Product mass		340		gram

Thermal expansion from -30°C to +30°C is included in the tolerances



Parameter	Min	Typ	Max	Unit
Length	1656	1660	1664	mm
Width	19.3	19.7	20.1	mm
Height total	12.4	12.9	13.4	mm
Product mass		360		gram

Thermal expansion from -30°C to +30°C is included in the tolerances



Absolute ratings

Parameter	Min	Max	Unit
Case temperature (Tc-max)		70	°C
Ambient temperature	-30	50	°C

Application information

Certificates and Standards

IEC/EN 62031
Relevant clauses of IEC/EN 60335-1
Annex BB of IEC/EN 60335-2-89
Annex CC of IEC/EN 60335-2-24
CSA C22.2 No.250.0-08
UL 2108
NSF

Application	
IP rating	No IP-rating, fit for use in coolers and freezers - suitable for damp locations
Overheating protection	No protection
Luminaire class	IEC Class III if connected to a SELV driver
Dimming	Yes

Do not use in highly polluted areas. Surface mounting only.



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