

PHILIPS

InteGrade

LED

InteGrade engine NB
value PW G4



Datasheet

Key features and benefits

- Miniaturized slim design for aesthetic integration
- Premium color consistency up to 3SDCM over lifetime
- Natural merchandise color with specially formulated LEDs up to CRI95
- State of the Art LED diode delivering up to 190 lm/W
- Modules performing up to 122 lm/w meeting SLR (Single Lighting Regulation)
- Unique Premium White light for brightest whites and outstanding merchandise attractiveness
- Maximum design flexibility with extensive range of engine lengths
- Color temperatures (3000 PW, 4000 PW)
- Breakthrough optical design for excellent uniformity and best merchandise presentation
- 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



Ordering data

Commercial product name	EOC	12NC	Box quantity
InteGrade engine NB Va 140mm 930 PW G4	8718699 742829 00	9290 021 58706	24
InteGrade engine NB Va 140mm 940 PW G4	8718699 742843 00	9290 021 58806	24
InteGrade engine NB Va 575mm 930 PW G4	8718699 742867 00	9290 021 58906	24
InteGrade engine NB Va 575mm 940 PW G4	8718699 742881 00	9290 021 59006	24
InteGrade engine NB Va 760mm 940 PW G4	8719514 356276 00	9290 028 75706	24
InteGrade engine NB Va 855mm 940 PW G4	8719514 356290 00	9290 028 75806	24
InteGrade engine NB Va 1150mm 930 PW G4	8718699 742904 00	9290 021 59306	24
InteGrade engine NB Va 1150mm 940 PW G4	8718699 742928 00	9290 021 59406	24
InteGrade engine NB Va 1430mm 930 PW G4	8718699 743185 00	9290 021 59106	24
InteGrade engine NB Va 1430mm 940 PW G4	8718699 743208 00	9290 021 59206	24
InteGrade engine NB Va 1570mm 930 PW G4	8718699 743222 00	9290 021 59506	12
InteGrade engine NB Va 1570mm 940 PW G4	8718699 743246 00	9290 021 59606	12
InteGrade engine NB Va 1660mm 930 PW G4	8718699 756871 00	9290 021 85206	12
InteGrade engine NB Va 1660mm 940 PW G4	8718699 756895 00	9290 021 85306	12

Key Specifications at Nominal conditions

Name	12NC	Power (W)	Luminous Flux (lm)	Useful Flux (lm)	CRI
InteGrade engine NB Va 140mm 930 PW G4	9290 021 58706	1.03	111	102	95
InteGrade engine NB Va 140mm 940 PW G4	9290 021 58806	1.03	121	111	95
InteGrade engine NB Va 575mm 930 PW G4	9290 021 58906	4.47	503	463	95
InteGrade engine NB Va 575mm 940 PW G4	9290 021 59006	4.32	529	487	95
InteGrade engine NB Va 760mm 940 PW G4	9290 028 75706	5.76	704	648	95
InteGrade engine NB Va 855mm 940 PW G4	9290 028 75806	6.38	770	708	95
InteGrade engine NB Va 1150mm 930 PW G4	9290 021 59306	8.94	1006	926	95
InteGrade engine NB Va 1150mm 940 PW G4	9290 021 59406	8.64	1057	972	95
InteGrade engine NB Va 1430mm 930 PW G4	9290 021 59106	11.0	1228	1130	95
InteGrade engine NB Va 1430mm 940 PW G4	9290 021 59206	10.7	1299	1195	95
InteGrade engine NB Va 1570mm 930 PW G4	9290 021 59506	12.0	1339	1232	95
InteGrade engine NB Va 1570mm 940 PW G4	9290 021 59606	11.7	1420	1306	95
InteGrade engine NB Va 1660mm 930 PW G4	9290 021 85206	12.8	1439	1324	95
InteGrade engine NB Va 1660mm 940 PW G4	9290 021 85306	12.6	1529	1407	95

Module temperatures

Parameter	Nominal*	Life**	Max***	Unit
T _a (ambient temperature)	5	30	50	°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

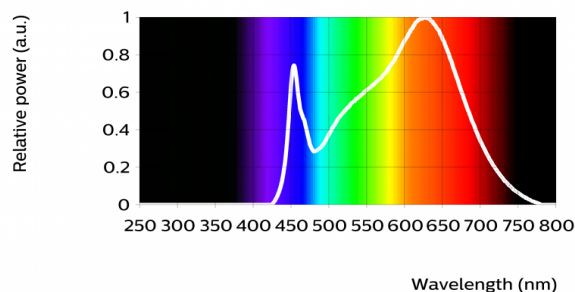
Optical characteristics - table per color (CCT)

InteGrade engine NB Va 140mm 930 PW G4

Parameter	Min	Typ	Max	Unit
Luminous flux	103	111	133	lm
Flux within 120° cone		102		lm
Module efficacy		108		lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.419, 0.381)		-
Color consistency			3	SDCM
CRI	93	95		
R9	75			
Photometric code		930/359		
Radiation angle		26		deg
Peak intensity		120		cd
Photobiological safety			RG1 unlimited	



Measurement precision for flux +/- 5%, for efficacy +/- 6%., for x, y +/- 0.005, for CRI +/- 1.5

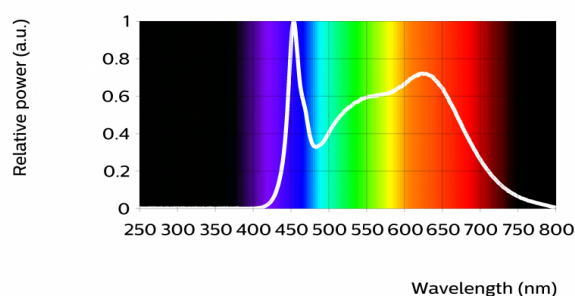


InteGrade engine NB Va 140mm 940 PW G4

Parameter	Min	Typ	Max	Unit
Luminous flux	112	121	145	lm
Flux within 120° cone		111		lm
Module efficacy		117		lm/W
Correlated color temperature (CCT)		4000		K
Color coordinates (CIEx, CIEy)		(0.372, 0.359)		-
Color consistency			3	SDCM
CRI	93	95		
R9	85			
Photometric code		940/359		
Radiation angle		26		deg
Peak intensity		130		cd
Photobiological safety			RG1 unlimited	



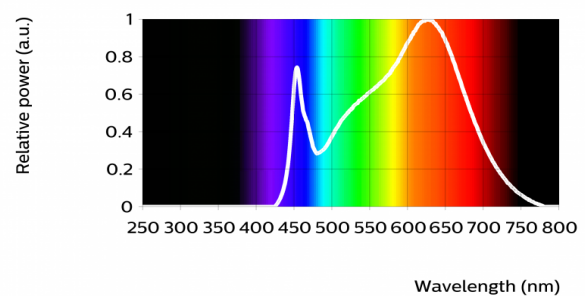
Measurement precision for flux +/- 5%, for efficacy +/- 6%., for x, y +/- 0.005, for CRI +/- 1.5



InteGrade engine NB Va 575mm 930 PW G4

Parameter	Min	Typ	Max	Unit
Luminous flux	465	503	604	lm
Flux within 120° cone		463		lm
Module efficacy		113		lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.419, 0.381)		-
Color consistency			3	SDCM
CRI	93	95		
R9	75			
Photometric code		930/359		
Radiation angle		26		deg
Peak intensity		542		cd
Photobiological safety			RG1 unlimited	

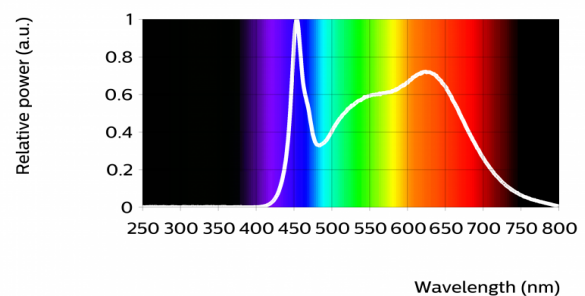
Measurement precision for flux +/- 5%, for efficacy +/- 6%., for x, y +/- 0.005, for CRI +/- 1.5



InteGrade engine NB Va 575mm 940 PW G4

Parameter	Min	Typ	Max	Unit
Luminous flux	489	529	634	lm
Flux within 120° cone		487		lm
Module efficacy		122		lm/W
Correlated color temperature (CCT)		4000		K
Color coordinates (CIEx, CIEy)		(0.372, 0.359)		-
Color consistency			3	SDCM
CRI	93	95		
R9	85			
Photometric code		940/359		
Radiation angle		26		deg
Peak intensity		570		cd
Photobiological safety			RG1 unlimited	

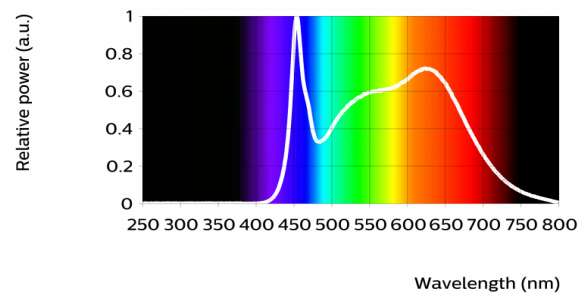
Measurement precision for flux +/- 5%, for efficacy +/- 6%., for x, y +/- 0.005, for CRI +/- 1.5



InteGrade engine NB Va 760mm 940 PW G4

Parameter	Min	Typ	Max	Unit
Luminous flux	651	704	845	lm
Flux within 120° cone		648		lm
Module efficacy		122		lm/W
Correlated color temperature (CCT)		4000		K
Color coordinates (CIEx, CIEy)		(0.372, 0.359)		-
Color consistency			3	SDCM
CRI	93	95		
R9	85			
Photometric code		940/359		
Radiation angle		26		deg
Peak intensity		758		cd
Photobiological safety			RG1 unlimited	

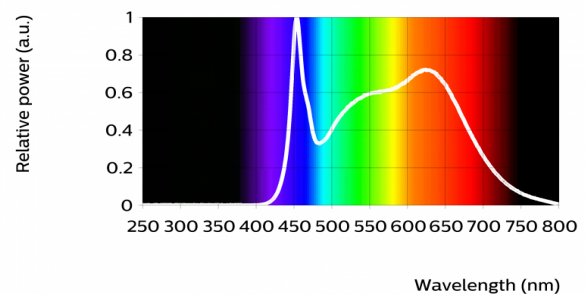
Measurement precision for flux +/- 5%, for efficacy +/- 6%., for x, y +/- 0.005, for CRI +/- 1.5



InteGrade engine NB Va 855mm 940 PW G4

Parameter	Min	Typ	Max	Unit
Luminous flux	712	770	924	lm
Flux within 120° cone		708		lm
Module efficacy		121		lm/W
Correlated color temperature (CCT)		4000		K
Color coordinates (CIEx, CIEy)		(0.372, 0.359)		-
Color consistency			3	SDCM
CRI	93	95		
R9	85			
Photometric code		940/359		
Radiation angle		26		deg
Peak intensity		829		cd
Photobiological safety			RG1 unlimited	

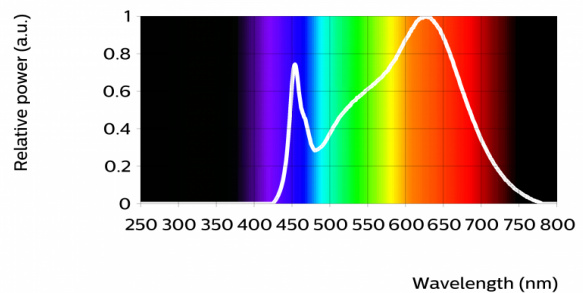
Measurement precision for flux +/- 5%, for efficacy +/- 6%., for x, y +/- 0.005, for CRI +/- 1.5



InteGrade engine NB Va 1150mm 930 PW G4

Parameter	Min	Typ	Max	Unit
Luminous flux	931	1006	1207	lm
Flux within 120° cone		926		lm
Module efficacy		113		lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.419, 0.381)		-
Color consistency			3	SDCM
CRI	93	95		
R9	75			
Photometric code		930/359		
Radiation angle		26		deg
Peak intensity		1084		cd
Photobiological safety			RG1 unlimited	

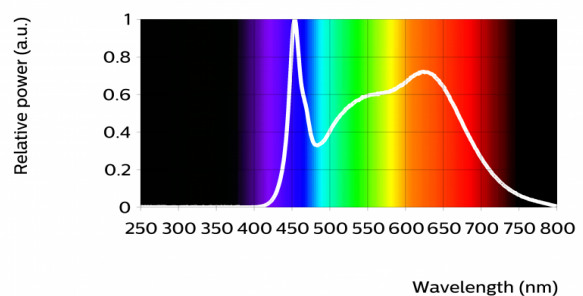
Measurement precision for flux +/- 5%, for efficacy +/- 6%., for x, y +/- 0.005, for CRI +/- 1.5



InteGrade engine NB Va 1150mm 940 PW G4

Parameter	Min	Typ	Max	Unit
Luminous flux	978	1057	1269	lm
Flux within 120° cone		972		lm
Module efficacy		122		lm/W
Correlated color temperature (CCT)		4000		K
Color coordinates (CIEx, CIEy)		(0.372, 0.359)		-
Color consistency			3	SDCM
CRI	93	95		
R9	85			
Photometric code		940/359		
Radiation angle		26		deg
Peak intensity		1138		cd
Photobiological safety			RG1 unlimited	

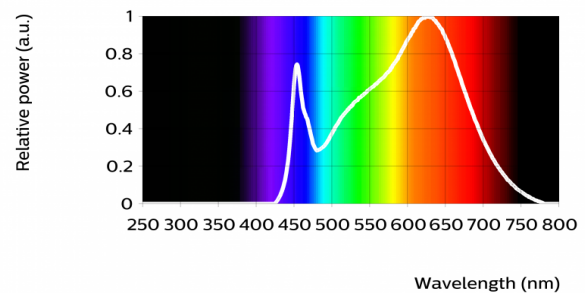
Measurement precision for flux +/- 5%, for efficacy +/- 6%., for x, y +/- 0.005, for CRI +/- 1.5



InteGrade engine NB Va 1430mm 930 PW G4

Parameter	Min	Typ	Max	Unit
Luminous flux	1136	1228	1474	lm
Flux within 120° cone		1130		lm
Module efficacy		112		lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.419, 0.381)		-
Color consistency			3	SDCM
CRI	93	95		
R9	75			
Photometric code		930/359		
Radiation angle		26		deg
Peak intensity		1323		cd
Photobiological safety			RG1 unlimited	

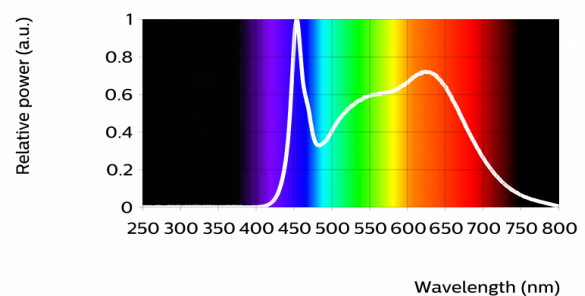
Measurement precision for flux +/- 5%, for efficacy +/- 6%., for x, y +/- 0.005, for CRI +/- 1.5



InteGrade engine NB Va 1430mm 940 PW G4

Parameter	Min	Typ	Max	Unit
Luminous flux	1201	1299	1559	lm
Flux within 120° cone		1195		lm
Module efficacy		121		lm/W
Correlated color temperature (CCT)		4000		K
Color coordinates (CIEx, CIEy)		(0.372, 0.359)		-
Color consistency			3	SDCM
CRI	93	95		
R9	85			
Photometric code		940/359		
Radiation angle		26		deg
Peak intensity		1399		cd
Photobiological safety			RG1 unlimited	

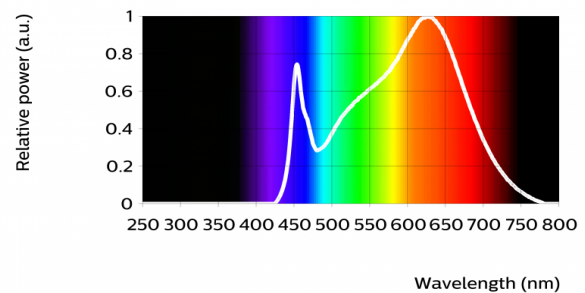
Measurement precision for flux +/- 5%, for efficacy +/- 6%., for x, y +/- 0.005, for CRI +/- 1.5



InteGrade engine NB Va 1570mm 930 PW G4

Parameter	Min	Typ	Max	Unit
Luminous flux	1239	1339	1607	lm
Flux within 120° cone		1232		lm
Module efficacy		111		lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.419, 0.381)		-
Color consistency			3	SDCM
CRI	93	95		
R9	75			
Photometric code		930/359		
Radiation angle		26		deg
Peak intensity		1442		cd
Photobiological safety			RG1 unlimited	

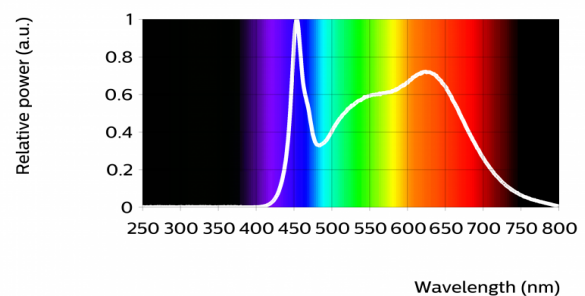
Measurement precision for flux +/- 5%, for efficacy +/- 6%., for x, y +/- 0.005, for CRI +/- 1.5



InteGrade engine NB Va 1570mm 940 PW G4

Parameter	Min	Typ	Max	Unit
Luminous flux	1313	1420	1703	lm
Flux within 120° cone		1306		lm
Module efficacy		121		lm/W
Correlated color temperature (CCT)		4000		K
Color coordinates (CIEx, CIEy)		(0.372, 0.359)		-
Color consistency			3	SDCM
CRI	93	95		
R9	85			
Photometric code		940/359		
Radiation angle		26		deg
Peak intensity		1529		cd
Photobiological safety			RG1 unlimited	

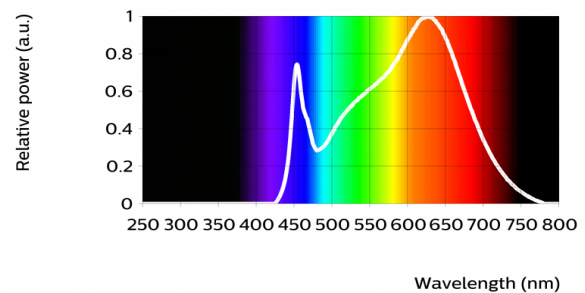
Measurement precision for flux +/- 5%, for efficacy +/- 6%., for x, y +/- 0.005, for CRI +/- 1.5



InteGrade engine NB Va 1660mm 930 PW G4

Parameter	Min	Typ	Max	Unit
Luminous flux	1331	1439	1726	lm
Flux within 120° cone		1324		lm
Module efficacy		112		lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.419, 0.381)		-
Color consistency			3	SDCM
CRI	93	95		
R9	75			
Photometric code		930/359		
Radiation angle		26		deg
Peak intensity		1550		cd
Photobiological safety			RG1 unlimited	

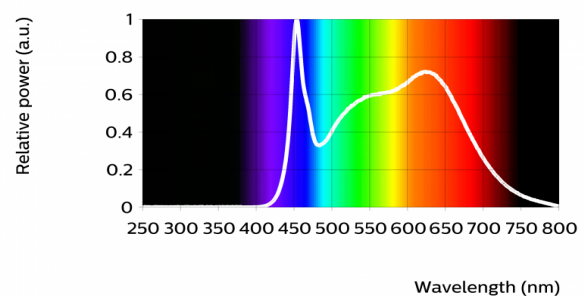
Measurement precision for flux +/- 5%, for efficacy +/- 6%., for x, y +/- 0.005, for CRI +/- 1.5



InteGrade engine NB Va 1660mm 940 PW G4

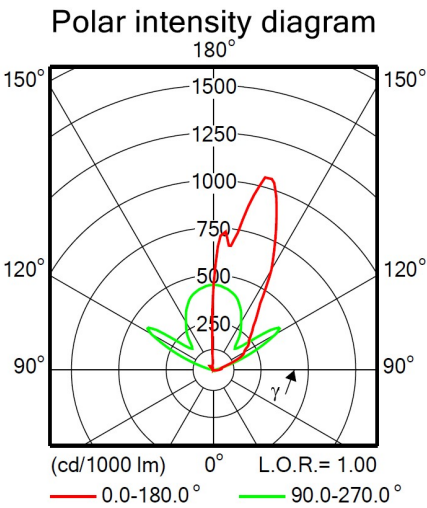
Parameter	Min	Typ	Max	Unit
Luminous flux	1414	1529	1834	lm
Flux within 120° cone		1407		lm
Module efficacy		122		lm/W
Correlated color temperature (CCT)		4000		K
Color coordinates (CIEx, CIEy)		(0.372, 0.359)		-
Color consistency			3	SDCM
CRI	93	95		
R9	85			
Photometric code		940/359		
Radiation angle		26		deg
Peak intensity		1647		cd
Photobiological safety			RG1 unlimited	

Measurement precision for flux +/- 5%, for efficacy +/- 6%., for x, y +/- 0.005, for CRI +/- 1.5



Beam shape

Light distribution, scaled to cd per 1000lm



Electrical characteristics

InteGrade engine NB Va 140mm 930 PW G4

InteGrade engine NB Va 140mm 940 PW G4

Parameter	Min	Typ	Max	Unit
Forward voltage		24.0		V
Power consumption		1.03		W = kWh/1000h
Number of modules per chain			40	

InteGrade engine NB Va 575mm 930 PW G4

Parameter	Min	Typ	Max	Unit
Forward voltage		24.0		V
Power consumption		4.47		W = kWh/1000h
Number of modules per chain			10	

InteGrade engine NB Va 575mm 940 PW G4

Parameter	Min	Typ	Max	Unit
Forward voltage		24.0		V
Power consumption		4.32		W = kWh/1000h
Number of modules per chain			10	

InteGrade engine NB Va 760mm 940 PW G4

Parameter	Min	Typ	Max	Unit
Forward voltage		24.0		V
Power consumption		5.76		W = kWh/1000h
Number of modules per chain			7	

InteGrade engine NB Va 855mm 940 PW G4

Parameter	Min	Typ	Max	Unit
Forward voltage		24.0		V
Power consumption		6.38		W = kWh/1000h
Number of modules per chain			6	

InteGrade engine NB Va 1150mm 930 PW G4

Parameter	Min	Typ	Max	Unit
Forward voltage		24.0		V
Power consumption		8.94		W = kWh/1000h
Number of modules per chain			5	

InteGrade engine NB Va 1150mm 940 PW G4

Parameter	Min	Typ	Max	Unit
Forward voltage		24.0		V
Power consumption		8.64		W = kWh/1000h
Number of modules per chain			5	

InteGrade engine NB Va 1430mm 930 PW G4

Parameter	Min	Typ	Max	Unit
Forward voltage		24.0		V
Power consumption		11.0		W = kWh/1000h
Number of modules per chain			4	

InteGrade engine NB Va 1430mm 940 PW G4

Parameter	Min	Typ	Max	Unit
Forward voltage		24.0		V
Power consumption		10.7		W = kWh/1000h
Number of modules per chain			4	

InteGrade engine NB Va 1570mm 930 PW G4

Parameter	Min	Typ	Max	Unit
Forward voltage		24.0		V
Power consumption		12.0		W = kWh/1000h
Number of modules per chain			3	

InteGrade engine NB Va 1570mm 940 PW G4

Parameter	Min	Typ	Max	Unit
Forward voltage		24.0		V
Power consumption		11.7		W = kWh/1000h
Number of modules per chain			3	

InteGrade engine NB Va 1660mm 930 PW G4

Parameter	Min	Typ	Max	Unit
Forward voltage		24.0		V
Power consumption		12.8		W = kWh/1000h
Number of modules per chain			3	

InteGrade engine NB Va 1660mm 940 PW G4

Parameter	Min	Typ	Max	Unit
Forward voltage		24.0		V
Power consumption		12.6		W = kWh/1000h
Number of modules per chain			3	

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

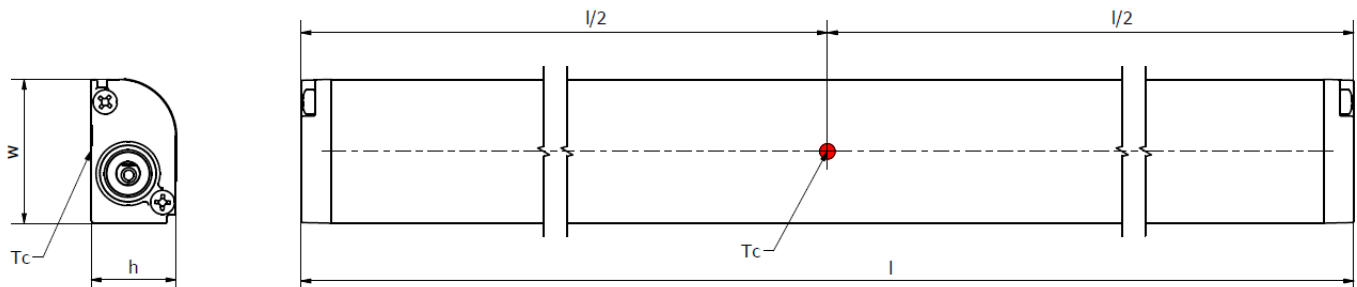
Parameter	Value	Unit
M70F50 nominal	100000	hours
M70F50 life	100000	hours

Mechanical characteristics

InteGrade engine NB Va 140mm 930 PW G4
InteGrade engine NB Va 140mm 940 PW 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

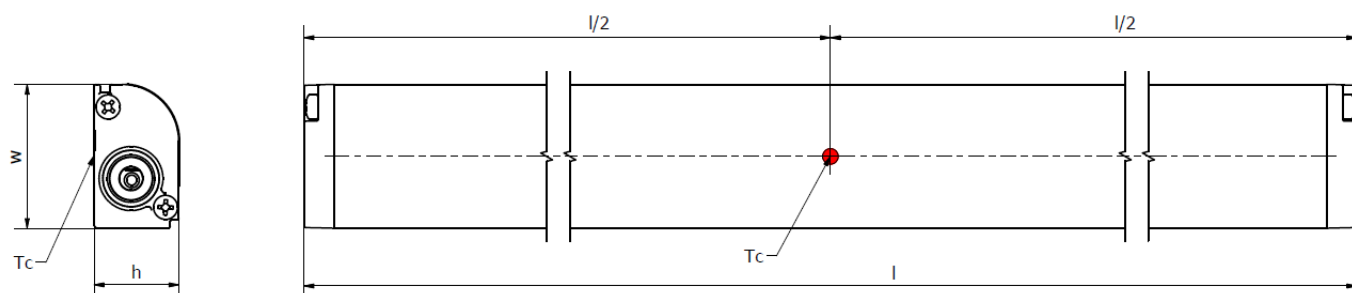
Thermal expansion from -30°C to +30°C is included in the tolerances



InteGrade engine NB Va 1430mm 930 PW G4
InteGrade engine NB Va 1430mm 940 PW G4

Parameter	Min	Typ	Max	Unit
Length	1426	1430	1434	mm
Width	19.3	19.7	20.1	mm
Height total	12.4	12.9	13.4	mm
Product mass		310		gram

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

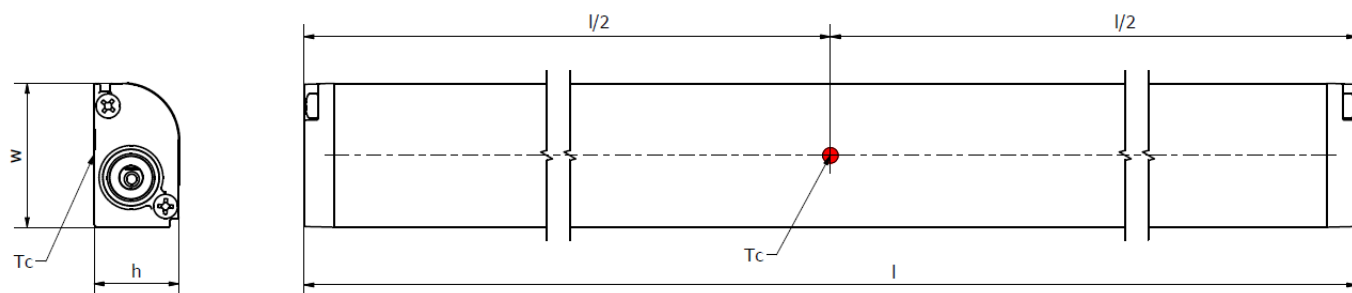


InteGrade engine NB Va 1570mm 930 PW G4

InteGrade engine NB Va 1570mm 940 PW 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

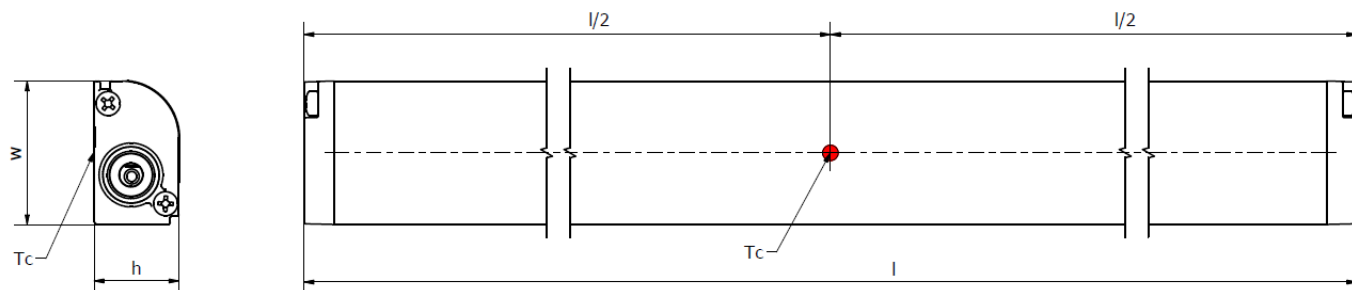


InteGrade engine NB Va 1660mm 930 PW G4

InteGrade engine NB Va 1660mm 940 PW G4

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

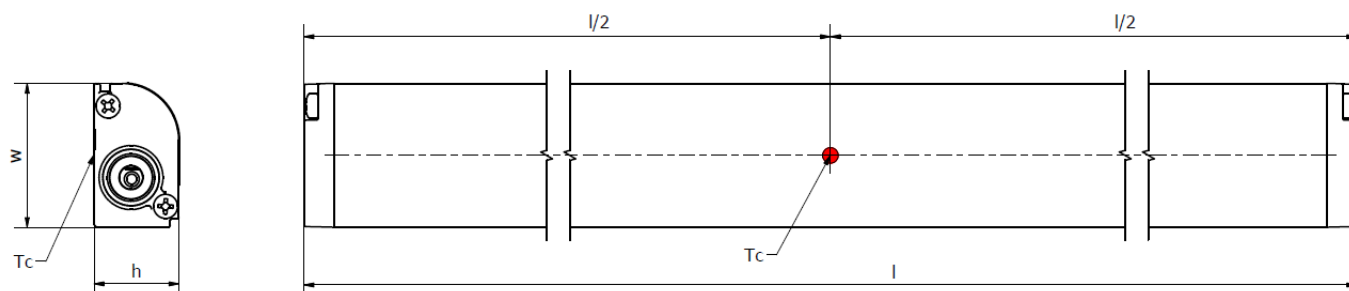
Thermal expansion from -30°C to +30°C is included in the tolerances



InteGrade engine NB Va 575mm 930 PW G4
InteGrade engine NB Va 575mm 940 PW 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

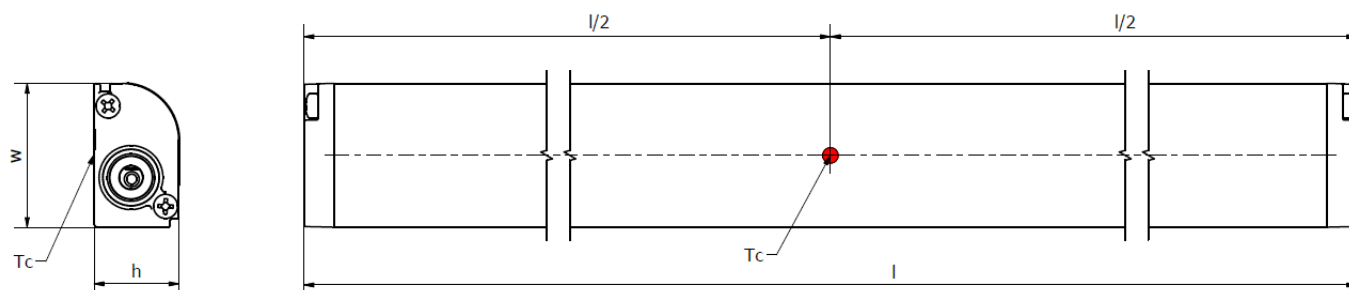
Thermal expansion from -30°C to +30°C is included in the tolerances



InteGrade engine NB Va 760mm 940 PW 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

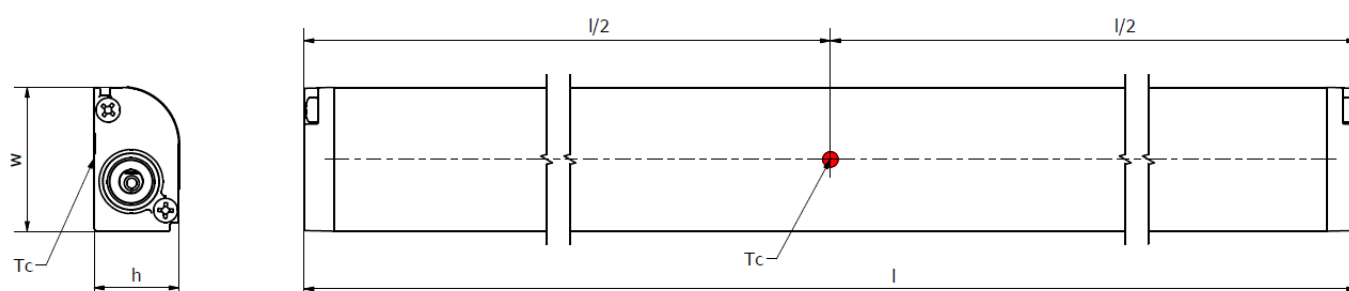
Thermal expansion from -30°C to +30°C is included in the tolerances



InteGrade engine NB Va 855mm 940 PW G4

Parameter	Min	Typ	Max	Unit
Length	851	855	859	mm
Width	19.3	19.7	20.1	mm
Height total	12.4	12.9	13.4	mm
Product mass		180		gram

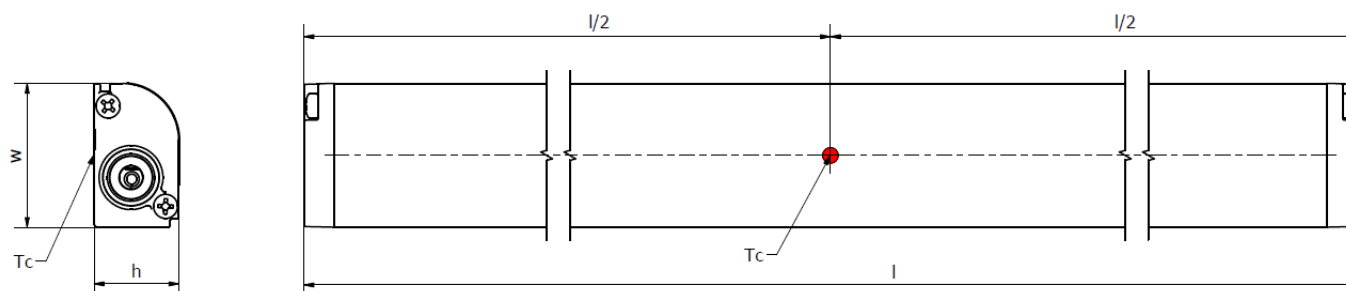
Thermal expansion from -30°C to +30°C is included in the tolerances



InteGrade engine NB Va 1150mm 930 PW G4
InteGrade engine NB Va 1150mm 940 PW 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



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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