

PHILIPS

InteGrade

LED

InteGrade Fixture NB
value G4



Datasheet

Key features and benefits

- 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 132 lm/w meeting SLR (Single Lighting Regulation)
- Integrated fixtures for ease of installation and reduced system level cost
- Maximum design flexibility with extensive range of engine lengths
- Color temperatures (3000, 4000, 5600K & 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



Ordering data

Commercial product name	EOC	12NC	Box quantity
InteGrade F NB Va 1180mm WWR CTR G4	8718699 757212 00	9290 021 87706	6
InteGrade F NB Va 1180mm WWR SD G4	8718699 757199 00	9290 021 87606	6
InteGrade F NB Va 1460mm 930 CTR G4	8718699 757335 00	9290 021 86906	6
InteGrade F NB Va 1460mm 930 SD G4	8718699 757311 00	9290 021 86806	6
InteGrade F NB Va 1460mm 940 CTR G4	8718699 757373 00	9290 021 87106	6
InteGrade F NB Va 1460mm 940 SD G4	8718699 757359 00	9290 021 87006	6
InteGrade F NB Va 1460mm 956 CTR G4	8718699 757458 00	9290 021 87506	6
InteGrade F NB Va 1460mm 956 SD G4	8718699 757434 00	9290 021 87406	6
InteGrade F NB Va 1460mm WWR CTR G4	8718699 757410 00	9290 021 87306	6
InteGrade F NB Va 1460mm WWR SD G4	8718699 757397 00	9290 021 87206	6
InteGrade F NB Va 1600mm 956 CTR G4	8719514 356450 00	9290 028 76606	6
InteGrade F NB Va 1600mm 956 SD G4	8719514 356474 00	9290 028 76706	6
InteGrade F NB Va 1600mm WWR CTR G4	8718699 757496 00	9290 021 87906	6
InteGrade F NB Va 1600mm WWR SD G4	8718699 757472 00	9290 021 87806	6

Key Specifications at Nominal conditions

Name	12NC	Power (W)	Luminous Flux (lm)	Useful Flux (lm)	CRI
InteGrade F NB Va 1180mm WWR CTR G4	9290 021 87706	18.7	2037	1874	
InteGrade F NB Va 1180mm WWR SD G4	9290 021 87606	9.34	1018	937	
InteGrade F NB Va 1460mm 930 CTR G4	9290 021 86906	21.6	2558	2353	92
InteGrade F NB Va 1460mm 930 SD G4	9290 021 86806	10.8	1279	1177	92
InteGrade F NB Va 1460mm 940 CTR G4	9290 021 87106	21.2	2712	2495	92
InteGrade F NB Va 1460mm 940 SD G4	9290 021 87006	10.6	1356	1248	92
InteGrade F NB Va 1460mm 956 CTR G4	9290 021 87506	18.8	2484	2285	92
InteGrade F NB Va 1460mm 956 SD G4	9290 021 87406	9.42	1242	1143	92
InteGrade F NB Va 1460mm WWR CTR G4	9290 021 87306	23.1	2518	2317	
InteGrade F NB Va 1460mm WWR SD G4	9290 021 87206	11.5	1259	1158	
InteGrade F NB Va 1600mm 956 CTR G4	9290 028 76606	20.8	2739	2520	92
InteGrade F NB Va 1600mm 956 SD G4	9290 028 76706	10.4	1370	1260	92
InteGrade F NB Va 1600mm WWR CTR G4	9290 021 87906	25.3	2758	2537	
InteGrade F NB Va 1600mm WWR SD G4	9290 021 87806	12.6	1379	1269	

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)

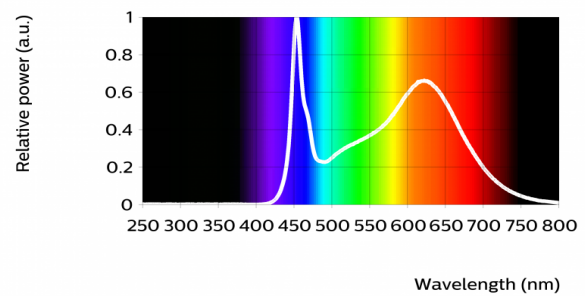
InteGrade F NB Va 1180mm WWR CTR G4

Parameter	Min	Typ	Max	Unit
Luminous flux	1884	2037	2444	lm
Flux within 120° cone		1874		lm
Module efficacy		109		lm/W
Color coordinates (CIEx, CIEy)		(0.384, 0.326)		-
Color consistency			3	SDCM
R9	85			
Radiation angle		26		deg
Peak intensity		1387		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.



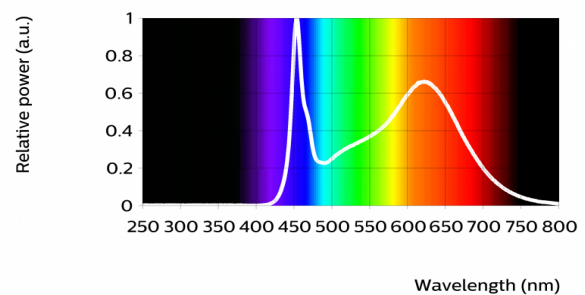
InteGrade F NB Va 1180mm WWR SD G4

Parameter	Min	Typ	Max	Unit
Luminous flux	942	1018	1222	lm
Flux within 120° cone		937		lm
Module efficacy		109		lm/W
Color coordinates (CIEx, CIEy)		(0.384, 0.326)		-
Color consistency			3	SDCM
R9	85			
Radiation angle		26		deg
Peak intensity		1424		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.

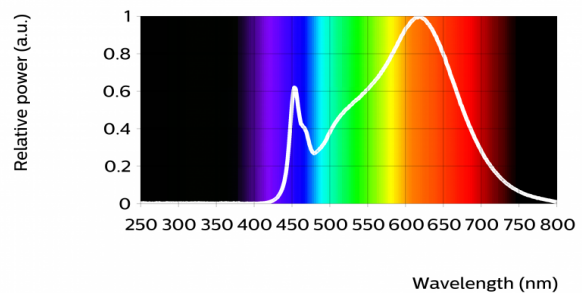
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InteGrade F NB Va 1460mm 930 CTR G4

Parameter	Min	Typ	Max	Unit
Luminous flux	2367	2558	3070	lm
Flux within 120° cone		2353		lm
Module efficacy		118		lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.434, 0.403)		-
Color consistency			5	SDCM
CRI	90	92		
R9	55			
Photometric code		930/579		
Radiation angle		26		deg
Peak intensity		1742		cd
Photobiological safety			RG1 unlimited	

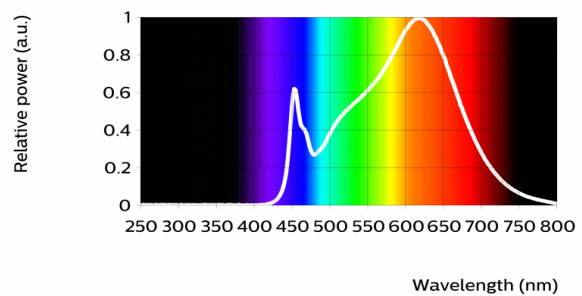
Measurement precision for flux +/- 5%, for efficacy +/- 6%., for x, y +/- 0.005, for CRI +/- 1.5



InteGrade F NB Va 1460mm 930 SD G4

Parameter	Min	Typ	Max	Unit
Luminous flux	1183	1279	1535	lm
Flux within 120° cone		1177		lm
Module efficacy		118		lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.434, 0.403)		-
Color consistency			5	SDCM
CRI	90	92		
R9	55			
Photometric code		930/579		
Radiation angle		26		deg
Peak intensity		1789		cd
Photobiological safety			RG1 unlimited	

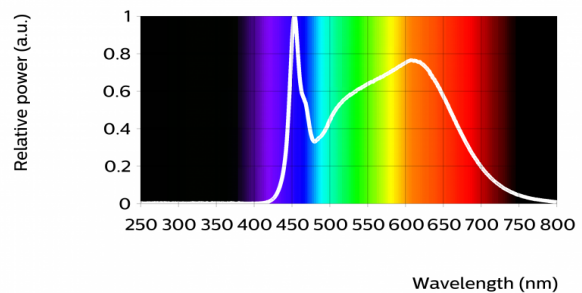
Measurement precision for flux +/- 5%, for efficacy +/- 6%., for x, y +/- 0.005, for CRI +/- 1.5



InteGrade F NB Va 1460mm 940 CTR G4

Parameter	Min	Typ	Max	Unit
Luminous flux	2508	2712	3254	lm
Flux within 120° cone		2495		lm
Module efficacy		128		lm/W
Correlated color temperature (CCT)		4000		K
Color coordinates (CIEx, CIEy)		(0.382, 0.380)		-
Color consistency			5	SDCM
CRI	90	92		
R9	55			
Photometric code		940/579		
Radiation angle		26		deg
Peak intensity		1847		cd
Photobiological safety			RG1 unlimited	

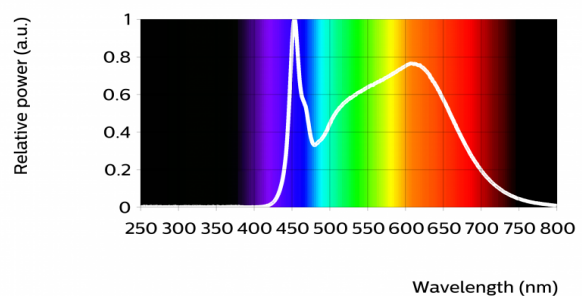
Measurement precision for flux +/- 5%, for efficacy +/- 6%., for x, y +/- 0.005, for CRI +/- 1.5



InteGrade F NB Va 1460mm 940 SD G4

Parameter	Min	Typ	Max	Unit
Luminous flux	1254	1356	1627	lm
Flux within 120° cone		1248		lm
Module efficacy		128		lm/W
Correlated color temperature (CCT)		4000		K
Color coordinates (CIEx, CIEy)		(0.382, 0.380)		-
Color consistency			5	SDCM
CRI	90	92		
R9	55			
Photometric code		940/579		
Radiation angle		26		deg
Peak intensity		1897		cd
Photobiological safety			RG1 unlimited	

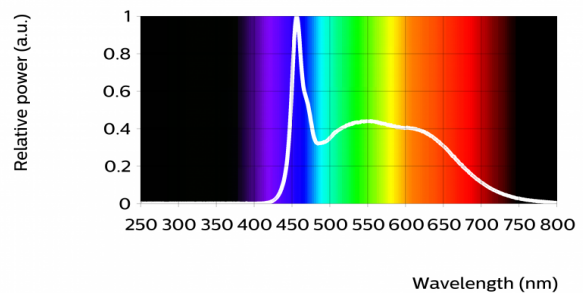
Measurement precision for flux +/- 5%, for efficacy +/- 6%., for x, y +/- 0.005, for CRI +/- 1.5



InteGrade F NB Va 1460mm 956 CTR G4

Parameter	Min	Typ	Max	Unit
Luminous flux	2297	2484	2980	lm
Flux within 120° cone		2285		lm
Module efficacy		132		lm/W
Correlated color temperature (CCT)		5600		K
Color coordinates (CIEx, CIEy)		(0.333, 0.350)		-
Color consistency			5	SDCM
CRI	90	92		
R9	55			
Photometric code		956/579		
Radiation angle		26		deg
Peak intensity		1692		cd
Photobiological safety			RG1 unlimited	

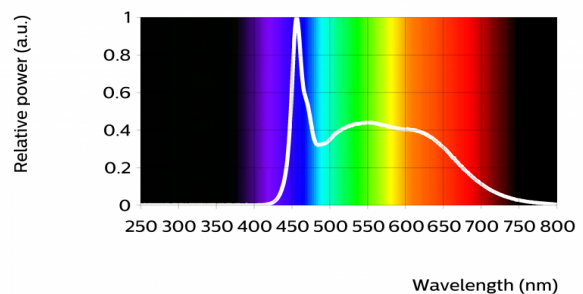
Measurement precision for flux +/- 5%, for efficacy +/- 6%., for x, y +/- 0.005, for CRI +/- 1.5



InteGrade F NB Va 1460mm 956 SD G4

Parameter	Min	Typ	Max	Unit
Luminous flux	1149	1242	1490	lm
Flux within 120° cone		1143		lm
Module efficacy		132		lm/W
Correlated color temperature (CCT)		5600		K
Color coordinates (CIEx, CIEy)		(0.333, 0.350)		-
Color consistency			5	SDCM
CRI	90	92		
R9	55			
Photometric code		956/579		
Radiation angle		26		deg
Peak intensity		1737		cd
Photobiological safety			RG1 unlimited	

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



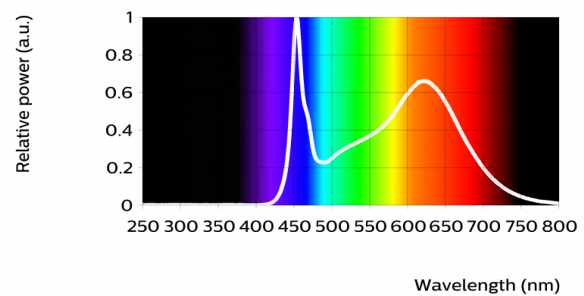
InteGrade F NB Va 1460mm WWR CTR G4

Parameter	Min	Typ	Max	Unit
Luminous flux	2329	2518	3021	lm
Flux within 120° cone		2317		lm
Module efficacy		109		lm/W
Color coordinates (CIEx, CIEy)		(0.384, 0.326)		-
Color consistency			3	SDCM
R9	85			
Radiation angle		26		deg
Peak intensity		1715		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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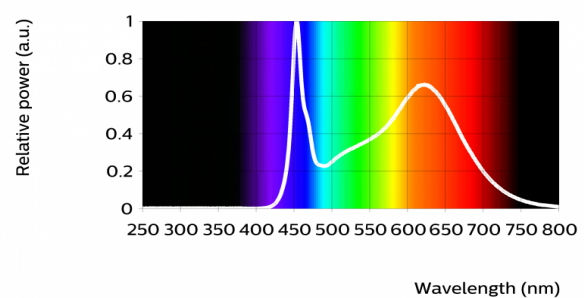
InteGrade F NB Va 1460mm WWR SD G4

Parameter	Min	Typ	Max	Unit
Luminous flux	1164	1259	1511	lm
Flux within 120° cone		1158		lm
Module efficacy		109		lm/W
Color coordinates (CIEx, CIEy)		(0.384, 0.326)		-
Color consistency			3	SDCM
R9	85			
Radiation angle		26		deg
Peak intensity		1761		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.

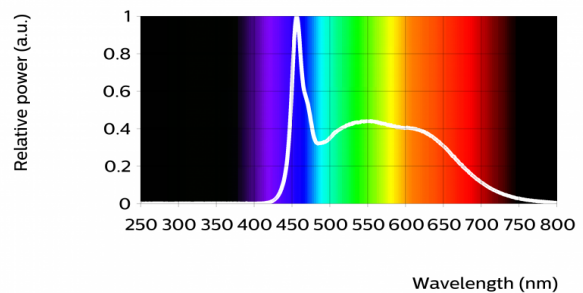
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InteGrade F NB Va 1600mm 956 CTR G4

Parameter	Min	Typ	Max	Unit
Luminous flux	2534	2739	3287	lm
Flux within 120° cone		2520		lm
Module efficacy		132		lm/W
Correlated color temperature (CCT)		5600		K
Color coordinates (CIEx, CIEy)		(0.333, 0.350)		-
Color consistency			5	SDCM
CRI	90	92		
R9	55			
Photometric code		956/579		
Radiation angle		26		deg
Peak intensity		1865		cd
Photobiological safety			RG1 unlimited	

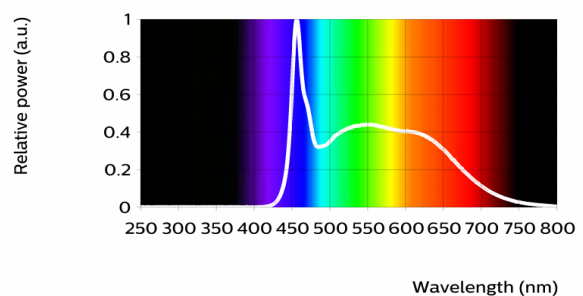
Measurement precision for flux +/- 5%, for efficacy +/- 6%., for x, y +/- 0.005, for CRI +/- 1.5



InteGrade F NB Va 1600mm 956 SD G4

Parameter	Min	Typ	Max	Unit
Luminous flux	1267	1370	1644	lm
Flux within 120° cone		1260		lm
Module efficacy		132		lm/W
Correlated color temperature (CCT)		5600		K
Color coordinates (CIEx, CIEy)		(0.333, 0.350)		-
Color consistency			5	SDCM
CRI	90	92		
R9	55			
Photometric code		956/579		
Radiation angle		26		deg
Peak intensity		1916		cd
Photobiological safety			RG1 unlimited	

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



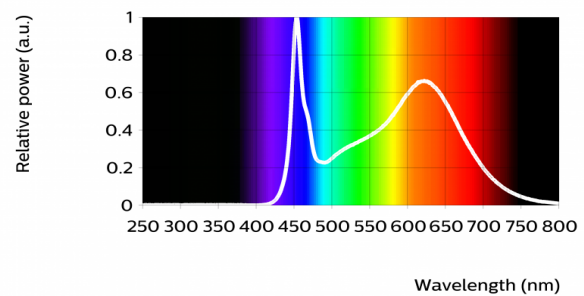
InteGrade F NB Va 1600mm WWR CTR G4

Parameter	Min	Typ	Max	Unit
Luminous flux	2551	2758	3310	lm
Flux within 120° cone		2537		lm
Module efficacy		109		lm/W
Color coordinates (CIEx, CIEy)		(0.384, 0.326)		-
Color consistency			3	SDCM
R9	85			
Radiation angle		26		deg
Peak intensity		1878		cd
Photobiological safety			RG1 unlimited	

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

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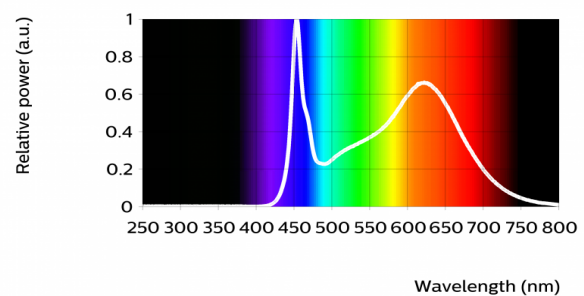
InteGrade F NB Va 1600mm WWR SD G4

Parameter	Min	Typ	Max	Unit
Luminous flux	1276	1379	1655	lm
Flux within 120° cone		1269		lm
Module efficacy		109		lm/W
Color coordinates (CIEx, CIEy)		(0.384, 0.326)		-
Color consistency			3	SDCM
R9	85			
Radiation angle		26		deg
Peak intensity		1929		cd
Photobiological safety			RG1 unlimited	

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

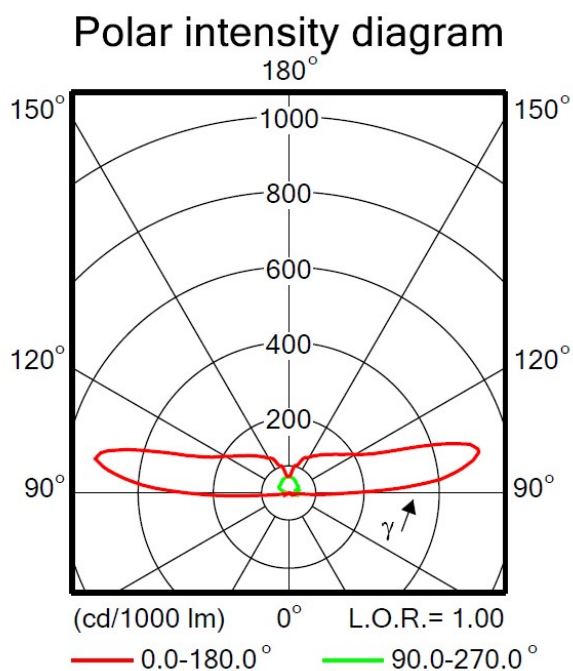
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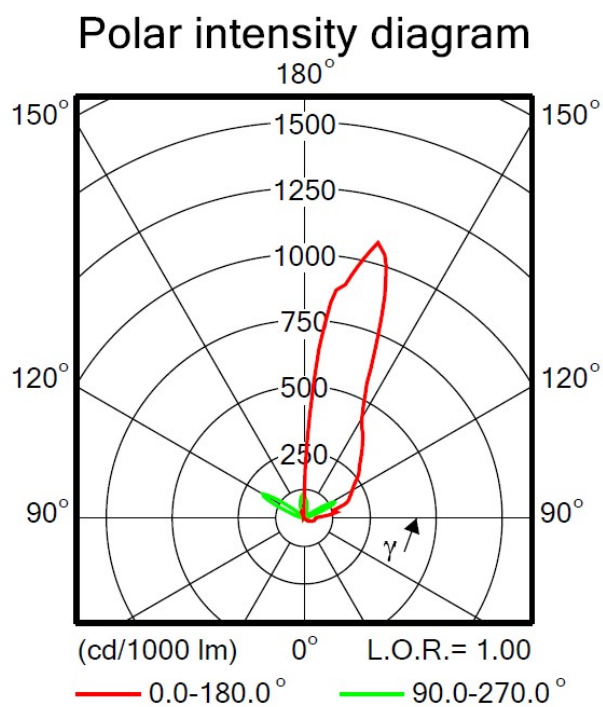


Beam shape

Light distribution of CTR fixture, scaled to cd per 1000lm



Light distribution of SD fixture, scaled to cd per 1000lm



Electrical characteristics

InteGrade F NB Va 1600mm 956 CTR G4

Parameter	Min	Typ	Max	Unit
Forward voltage		24.0		V
Power consumption		20.8		W = kWh/1000h
Number of modules per chain			1	

InteGrade F NB Va 1600mm 956 SD G4

Parameter	Min	Typ	Max	Unit
Forward voltage		24.0		V
Power consumption		10.4		W = kWh/1000h
Number of modules per chain			1	

InteGrade F NB Va 1180mm WWR CTR G4

Parameter	Min	Typ	Max	Unit
Forward voltage		24.0		V
Power consumption		18.7		W = kWh/1000h
Number of modules per chain			1	

InteGrade F NB Va 1180mm WWR SD G4

Parameter	Min	Typ	Max	Unit
Forward voltage		24.0		V
Power consumption		9.34		W = kWh/1000h
Number of modules per chain			1	

InteGrade F NB Va 1460mm 930 CTR G4

Parameter	Min	Typ	Max	Unit
Forward voltage		24.0		V
Power consumption		21.6		W = kWh/1000h
Number of modules per chain			1	

InteGrade F NB Va 1460mm 930 SD G4

Parameter	Min	Typ	Max	Unit
Forward voltage		24.0		V
Power consumption		10.8		W = kWh/1000h
Number of modules per chain			1	

InteGrade F NB Va 1460mm 940 CTR G4

Parameter	Min	Typ	Max	Unit
Forward voltage		24.0		V
Power consumption		21.2		W = kWh/1000h
Number of modules per chain			1	

InteGrade F NB Va 1460mm 940 SD G4

Parameter	Min	Typ	Max	Unit
Forward voltage		24.0		V
Power consumption		10.6		W = kWh/1000h
Number of modules per chain			1	

InteGrade F NB Va 1460mm 956 CTR G4

Parameter	Min	Typ	Max	Unit
Forward voltage		24.0		V
Power consumption		18.8		W = kWh/1000h
Number of modules per chain			1	

InteGrade F NB Va 1460mm 956 SD G4

Parameter	Min	Typ	Max	Unit
Forward voltage		24.0		V
Power consumption		9.42		W = kWh/1000h
Number of modules per chain			1	

InteGrade F NB Va 1460mm WWR CTR G4

Parameter	Min	Typ	Max	Unit
Forward voltage		24.0		V
Power consumption		23.1		W = kWh/1000h
Number of modules per chain			1	

InteGrade F NB Va 1460mm WWR SD G4

Parameter	Min	Typ	Max	Unit
Forward voltage		24.0		V
Power consumption		11.5		W = kWh/1000h
Number of modules per chain			1	

InteGrade F NB Va 1600mm WWR CTR G4

Parameter	Min	Typ	Max	Unit
Forward voltage		24.0		V
Power consumption		25.3		W = kWh/1000h
Number of modules per chain			1	

InteGrade F NB Va 1600mm WWR SD G4

Parameter	Min	Typ	Max	Unit
Forward voltage		24.0		V
Power consumption		12.6		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

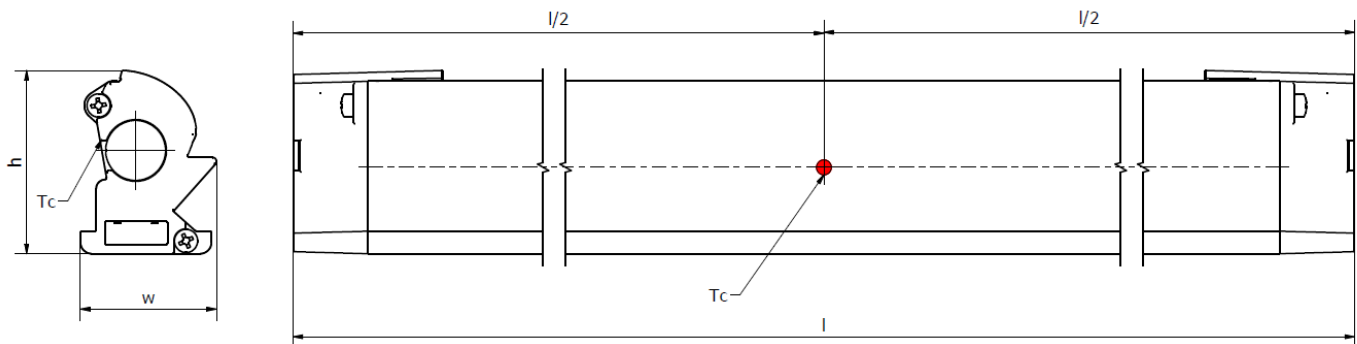
Parameter	Value	Unit
M70F50 nominal	100000	hours
M70F50 life	100000	hours

Mechanical characteristics

InteGrade F NB Va 1180mm WWR SD G4

Parameter	Min	Typ	Max	Unit
Length	1176	1180	1184	mm
Width	17.7	18.2	18.7	mm
Height total	23.9	24.5	25.1	mm
Product mass		374		gram

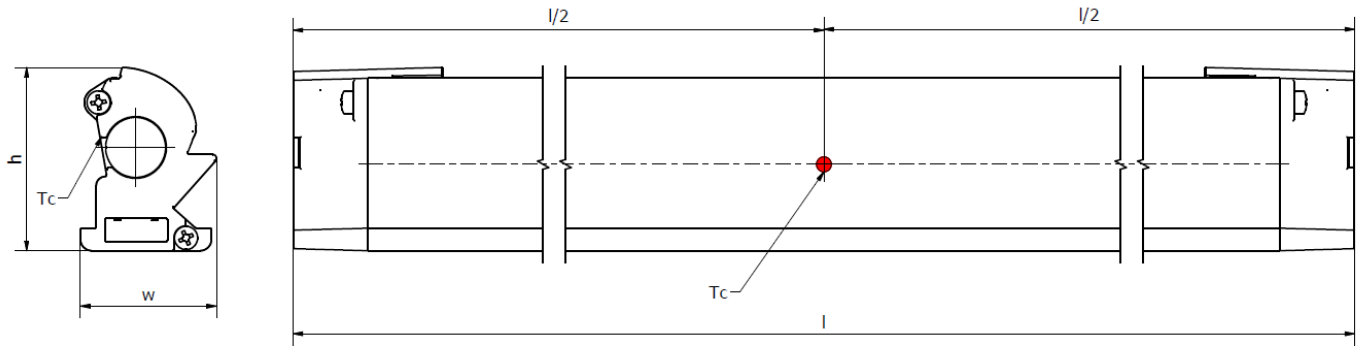
Thermal expansion from -30°C to +30°C is included in the tolerances



InteGrade F NB Va 1460mm 930 SD G4
 InteGrade F NB Va 1460mm 940 SD G4
 InteGrade F NB Va 1460mm 956 SD G4
 InteGrade F NB Va 1460mm WWR SD G4

Parameter	Min	Typ	Max	Unit
Length	1456	1460	1464	mm
Width	17.7	18.2	18.7	mm
Height total	23.9	24.5	25.1	mm
Product mass		454		gram

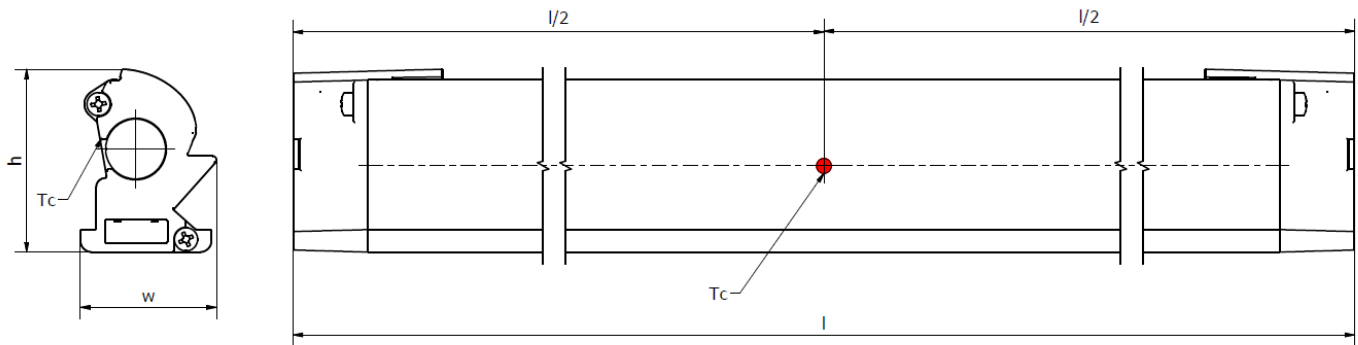
Thermal expansion from -30°C to +30°C is included in the tolerances



InteGrade F NB Va 1600mm 956 SD G4
InteGrade F NB Va 1600mm WWR SD G4

Parameter	Min	Typ	Max	Unit
Length	1596	1600	1604	mm
Width	17.7	18.2	18.7	mm
Height total	23.9	24.5	25.1	mm
Product mass		510		gram

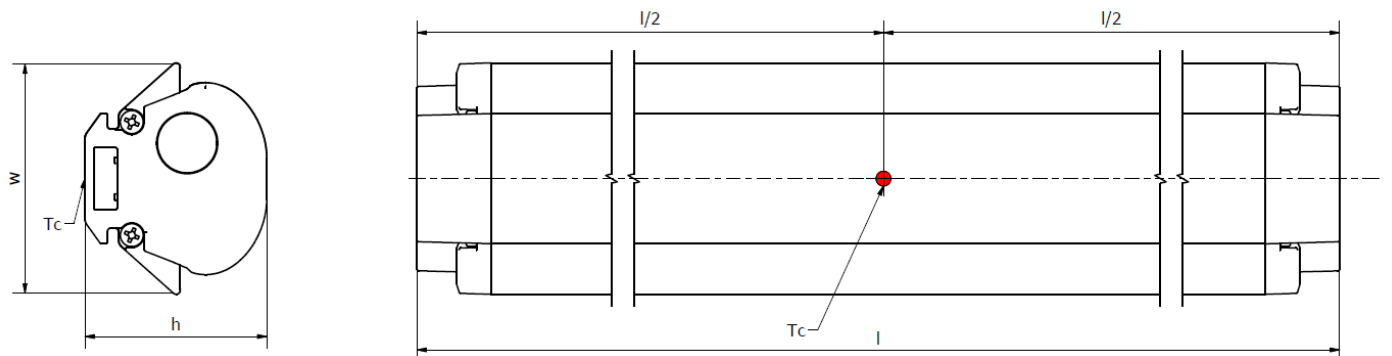
Thermal expansion from -30°C to +30°C is included in the tolerances



InteGrade F NB Va 1180mm WWR CTR G4

Parameter	Min	Typ	Max	Unit
Length	1176	1180	1184	mm
Width	30.6	31.1	31.6	mm
Height total	23.9	24.5	25.1	mm
Product mass		561		gram

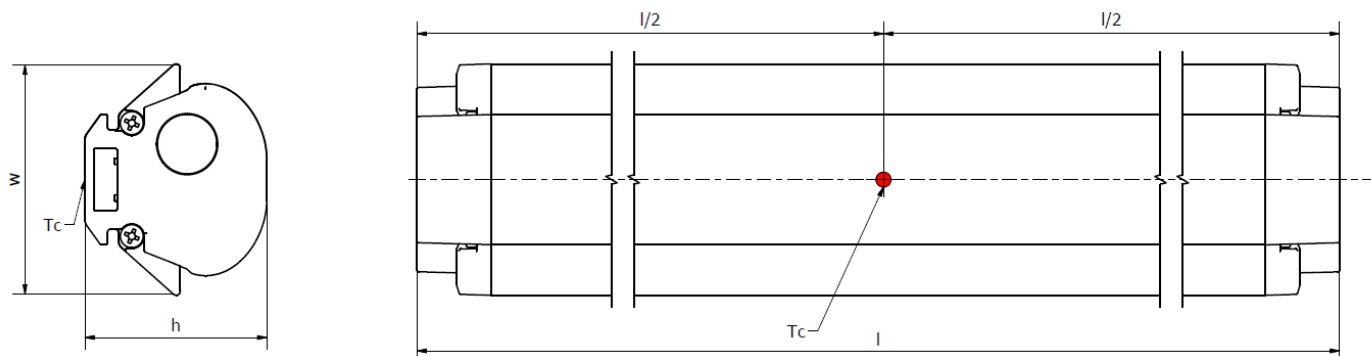
Thermal expansion from -30°C to +30°C is included in the tolerances



InteGrade F NB Va 1460mm 930 CTR G4
 InteGrade F NB Va 1460mm 940 CTR G4
 InteGrade F NB Va 1460mm 956 CTR G4
 InteGrade F NB Va 1460mm WWR CTR G4

Parameter	Min	Typ	Max	Unit
Length	1456	1460	1464	mm
Width	30.6	31.1	31.6	mm
Height total	23.9	24.5	25.1	mm
Product mass		701		gram

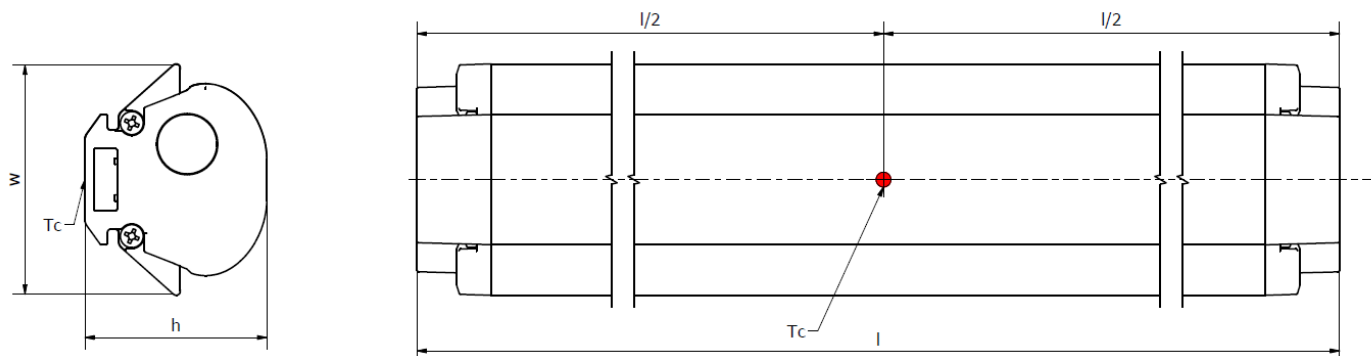
Thermal expansion from -30°C to +30°C is included in the tolerances



InteGrade F NB Va 1600mm 956 CTR G4
 InteGrade F NB Va 1600mm WWR CTR G4

Parameter	Min	Typ	Max	Unit
Length	1596	1600	1604	mm
Width	30.6	31.1	31.6	mm
Height total	23.9	24.5	25.1	mm
Product mass		786		gram

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



Absolute ratings

Parameter	Min	Max	Unit
Case temperature (T _c -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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