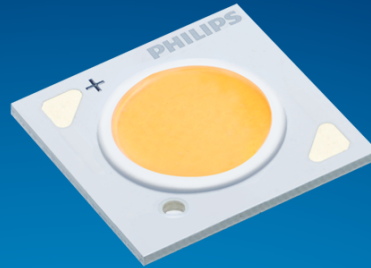


# PHILIPS

## CertaFlux

### LED

CertaFlux SLM C 1203 L09  
1515 G2



## Datasheet

# Experience good performance with affordable cost

## CertaFlux LED SLM G2

CertaFlux LED SLM is a most cost effective and affordable CoB family from Philips. With upgrade from Gen 1 to Gen 2, 8% efficacy improvement is achieved. On top of this, we extend to 2 new product lines within the family - High Density range and Vivid White range, which can help our OEM customers with more flexibility to develop their luminaires with more extensive portfolio. Flux range from 500lm to 6000m, available in 2700K, 3000K, 3500K, 4000K, 5000K with CRI 80 and CRI90, and fully compatible with our Philips Drivers.

### Key features and benefits

- Cost effective SLM CoB
- Complete portfolio
- Flexibility to select a different lumen output between 500lm to 6000m
- System approach (CoB + Driver + Holder)
- Flexibility to design Luminaire performance (high efficacy or high output)
- 50,000 hours lifetime

November 2021



## Ordering data

Commercial product name	EOC	12NC	Box quantity
CertaFlux SLM C 827 1203 L09 1515 G2	8719514 282438 00	9290 028 37406	20
CertaFlux SLM C 830 1203 L09 1515 G2	8719514 282452 00	9290 028 37506	20
CertaFlux SLM C 835 1203 L09 1515 G2	8719514 282476 00	9290 028 37606	20
CertaFlux SLM C 840 1203 L09 1515 G2	8719514 282490 00	9290 028 37706	20
CertaFlux SLM C 850 1203 L09 1515 G2	8719514 282513 00	9290 028 37806	20
CertaFlux SLM C 860 1203 L09 1515 G2	8719514 282537 00	9290 028 37906	20
CertaFlux SLM C 927 1203 L09 1515 G2	8719514 282551 00	9290 028 38006	20
CertaFlux SLM C 930 1203 L09 1515 G2	8719514 282575 00	9290 028 38106	20
CertaFlux SLM C 935 1203 L09 1515 G2	8719514 282599 00	9290 028 38206	20
CertaFlux SLM C 940 1203 L09 1515 G2	8719514 282612 00	9290 028 38306	20
CertaFlux SLM C 930 VW 1203 L09 1515 G2	8719514 441774 00	9290 034 09480	20
CertaFlux SLM C 935 VW 1203 L09 1515 G2	8719514 441804 00	9290 034 09580	20
CertaFlux SLM C 940 VW 1203 L09 1515 G2	8719514 441835 00	9290 034 09680	20

## Drive currents

Parameter	Nominal*	Life**	Max***	Unit
CertaFlux SLM C 1203 L09 1515 G2	350	See performance window	700	mA

## Module temperatures

Parameter	Nominal*	Life**	Max***	Unit
T <sub>c</sub> (case temperature at T <sub>c</sub> point)	85	See performance window	105	°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

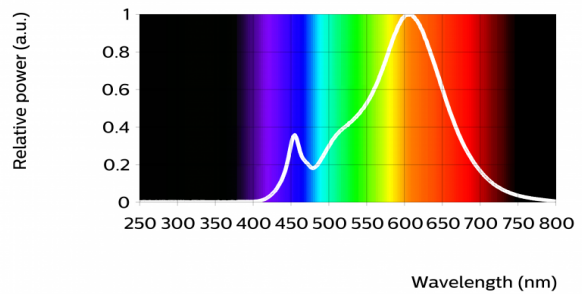
## Optical characteristics - table per color (CCT)

### CertaFlux SLM C 827 1203 L09 1515 G2

Parameter	Min	Typ	Max	Unit
Luminous flux	1436	1544	1698	lm
Module efficacy		128		lm/W
Correlated color temperature (CCT)		2700		K
Color coordinates (CIEx, CIEy)		(0.458, 0.410)		-
Color consistency			3	SDCM
CRI	80	82		
Photometric code		827/359		
Photobiological safety			RG1 unlimited	


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

Operation point	827	lm	lm/W
80% I-nom 280mA	Tc 25 °C	1392	144
	Tc 85 °C	1269	134
	Tc 95 °C	1222	130
I-nom 350mA	Tc 25 °C	1702	138
	Tc 85 °C	1544	128
	Tc 95 °C	1483	124
I-max 700mA	Tc 25 °C	3059	114
	Tc 85 °C	2721	104
	Tc 95 °C	2590	99



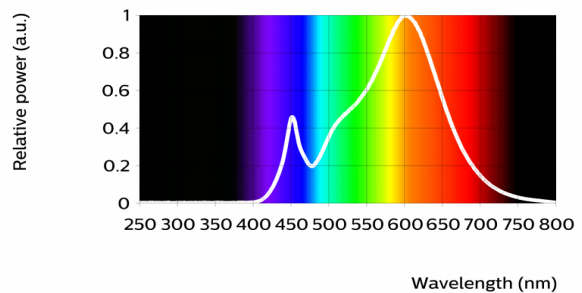
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
82	93	94	81	83	93	81	57	8	85	82	80	85	97

### CertaFlux SLM C 830 1203 L09 1515 G2

Parameter	Min	Typ	Max	Unit
Luminous flux	1514	1628	1790	lm
Module efficacy		135		lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.434, 0.403)		-
Color consistency			3	SDCM
CRI	80	82		
Photometric code		830/359		
Photobiological safety			RG1 unlimited	


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

Operation point	830	lm	lm/W
80% I-nom 280mA	Tc 25 °C	1468	152
	Tc 85 °C	1338	142
	Tc 95 °C	1288	137
I-nom 350mA	Tc 25 °C	1795	146
	Tc 85 °C	1628	135
	Tc 95 °C	1563	131
I-max 700mA	Tc 25 °C	3226	120
	Tc 85 °C	2870	109
	Tc 95 °C	2732	105



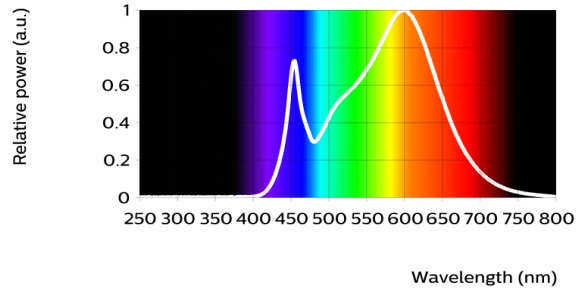
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
81	91	96	81	82	90	83	58	4	80	81	75	83	98

CertaFlux SLM C 835 1203 L09 1515 G2

Parameter	Min	Typ	Max	Unit
Luminous flux	1546	1663	1829	lm
Module efficacy		138		lm/W
Correlated color temperature (CCT)		3500		K
Color coordinates (CIEx, CIEy)		(0.407, 0.392)		-
Color consistency			3	SDCM
CRI	80	82		
Photometric code		835/359		
Photobiological safety			RG1 unlimited	


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

Operation point	835	lm	lm/W
80% I-nom 280mA	Tc 25 °C	1499	155
	Tc 85 °C	1367	145
	Tc 95 °C	1316	140
I-nom 350mA	Tc 25 °C	1833	149
	Tc 85 °C	1663	138
	Tc 95 °C	1597	133
I-max 700mA	Tc 25 °C	3296	123
	Tc 85 °C	2933	112
	Tc 95 °C	2792	107



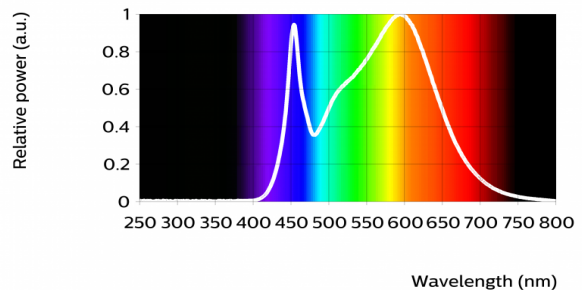
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
82	93	95	81	83	90	83	61	8	83	81	72	85	98

CertaFlux SLM C 840 1203 L09 1515 G2

Parameter	Min	Typ	Max	Unit
Luminous flux	1579	1697	1867	lm
Module efficacy		141		lm/W
Correlated color temperature (CCT)		4000		K
Color coordinates (CIEx, CIEy)		(0.382, 0.380)		-
Color consistency			3	SDCM
CRI	80	82		
Photometric code		840/359		
Photobiological safety			RG1 unlimited	


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

Operation point	840	lm	lm/W
80% I-nom 280mA	Tc 25 °C	1530	158
	Tc 85 °C	1395	148
	Tc 95 °C	1343	143
I-nom 350mA	Tc 25 °C	1871	152
	Tc 85 °C	1697	141
	Tc 95 °C	1630	136
I-max 700mA	Tc 25 °C	3366	126
	Tc 85 °C	2996	114
	Tc 95 °C	2851	109



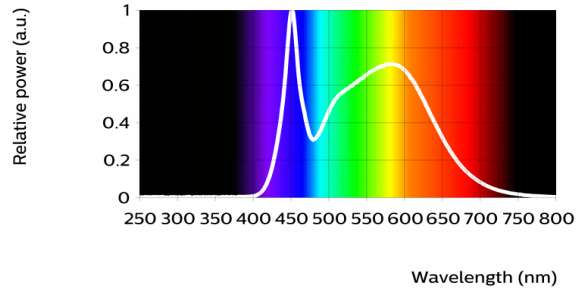
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
82	91	96	81	82	88	84	62	5	81	81	67	84	98

CertaFlux SLM C 850 1203 L09 1515 G2

Parameter	Min	Typ	Max	Unit
Luminous flux	1579	1698	1868	lm
Module efficacy		141		lm/W
Correlated color temperature (CCT)		5000		K
Color coordinates (CIEx, CIEy)		(0.345, 0.355)		-
Color consistency			3	SDCM
CRI	80	82		
Photometric code		850/359		
Photobiological safety			RG1 unlimited	


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

Operation point	850	lm	lm/W
80% I-nom 280mA	Tc 25 °C	1531	158
	Tc 85 °C	1396	148
	Tc 95 °C	1344	143
I-nom 350mA	Tc 25 °C	1872	152
	Tc 85 °C	1698	141
	Tc 95 °C	1631	136
I-max 700mA	Tc 25 °C	3369	126
	Tc 85 °C	2999	114
	Tc 95 °C	2855	109



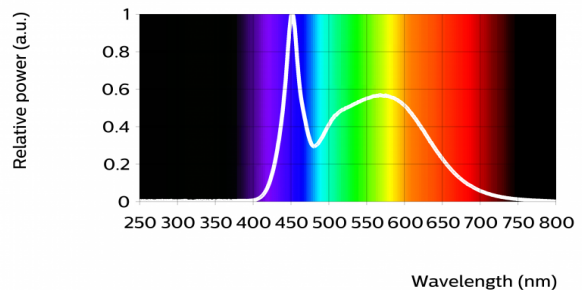
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
81	88	94	82	82	84	86	66	3	72	82	67	82	97

CertaFlux SLM C 860 1203 L09 1515 G2

Parameter	Min	Typ	Max	Unit
Luminous flux	1580	1699	1869	lm
Module efficacy		141		lm/W
Correlated color temperature (CCT)		6000		K
Color coordinates (CIEx, CIEy)		(0.322, 0.337)		-
Color consistency			3	SDCM
CRI	80	82		
Photometric code		860/359		
Photobiological safety			RG1 unlimited	


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

Operation point	860	lm	lm/W
80% I-nom 280mA	Tc 25 °C	1531	158
	Tc 85 °C	1396	148
	Tc 95 °C	1344	143
I-nom 350mA	Tc 25 °C	1873	152
	Tc 85 °C	1699	141
	Tc 95 °C	1632	136
I-max 700mA	Tc 25 °C	3372	126
	Tc 85 °C	3002	114
	Tc 95 °C	2859	110



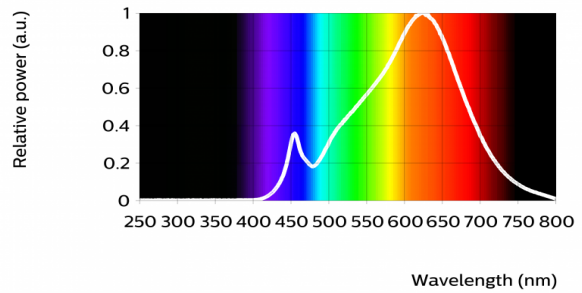
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
81	88	93	82	82	82	88	68	5	72	82	64	83	96

CertaFlux SLM C 927 1203 L09 1515 G2

Parameter	Min	Typ	Max	Unit
Luminous flux	1222	1314	1445	lm
Module efficacy		109		lm/W
Correlated color temperature (CCT)		2700		K
Color coordinates (CIEx, CIEy)		(0.458, 0.410)		-
Color consistency			3	SDCM
CRI	90	92		
R9	50			
Photometric code		927/359		
Photobiological safety			RG1 unlimited	


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

Operation point	927	lm	lm/W
80% I-nom 280mA	Tc 25 °C	1185	123
	Tc 85 °C	1080	114
	Tc 95 °C	1040	111
I-nom 350mA	Tc 25 °C	1449	118
	Tc 85 °C	1314	109
	Tc 95 °C	1261	105
I-max 700mA	Tc 25 °C	2602	97
	Tc 85 °C	2315	88
	Tc 95 °C	2203	84



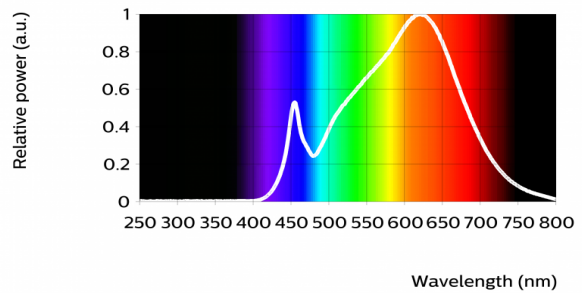
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
93	97	99	93	93	97	92	82	60	92	95	86	94	99

CertaFlux SLM C 930 1203 L09 1515 G2

Parameter	Min	Typ	Max	Unit
Luminous flux	1286	1383	1521	lm
Module efficacy		115		lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.434, 0.403)		-
Color consistency			3	SDCM
CRI	90	92		
R9	50			
Photometric code		930/359		
Photobiological safety			RG1 unlimited	


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

Operation point	930	lm	lm/W
80% I-nom 280mA	Tc 25 °C	1247	129
	Tc 85 °C	1137	120
	Tc 95 °C	1094	117
I-nom 350mA	Tc 25 °C	1525	124
	Tc 85 °C	1383	115
	Tc 95 °C	1328	111
I-max 700mA	Tc 25 °C	2740	102
	Tc 85 °C	2437	93
	Tc 95 °C	2319	89



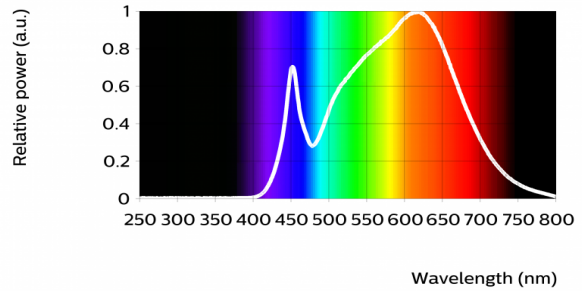
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
93	96	98	93	93	95	93	83	61	90	93	81	94	98

CertaFlux SLM C 935 1203 L09 1515 G2

Parameter	Min	Typ	Max	Unit
Luminous flux	1364	1467	1613	lm
Module efficacy		122		lm/W
Correlated color temperature (CCT)		3500		K
Color coordinates (CIEx, CIEy)		(0.407, 0.392)		-
Color consistency			3	SDCM
CRI	90	92		
R9	50			
Photometric code		935/359		
Photobiological safety			RG1 unlimited	


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

Operation point	935	lm	lm/W
80% I-nom 280mA	Tc 25 °C	1322	137
	Tc 85 °C	1206	128
	Tc 95 °C	1161	124
I-nom 350mA	Tc 25 °C	1617	131
	Tc 85 °C	1467	122
	Tc 95 °C	1408	118
I-max 700mA	Tc 25 °C	2907	108
	Tc 85 °C	2587	98
	Tc 95 °C	2462	94



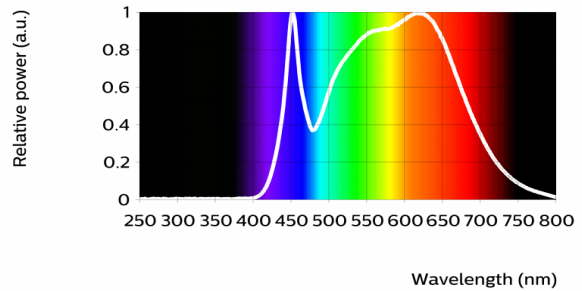
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
92	94	96	92	91	92	93	83	59	86	92	77	92	97

CertaFlux SLM C 940 1203 L09 1515 G2

Parameter	Min	Typ	Max	Unit
Luminous flux	1364	1467	1614	lm
Module efficacy		122		lm/W
Correlated color temperature (CCT)		4000		K
Color coordinates (CIEx, CIEy)		(0.382, 0.380)		-
Color consistency			3	SDCM
CRI	90	92		
R9	50			
Photometric code		940/359		
Photobiological safety			RG1 unlimited	


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

Operation point	940	lm	lm/W
80% I-nom 280mA	Tc 25 °C	1322	137
	Tc 85 °C	1206	128
	Tc 95 °C	1161	124
I-nom 350mA	Tc 25 °C	1617	131
	Tc 85 °C	1467	122
	Tc 95 °C	1408	118
I-max 700mA	Tc 25 °C	2907	108
	Tc 85 °C	2587	98
	Tc 95 °C	2462	94



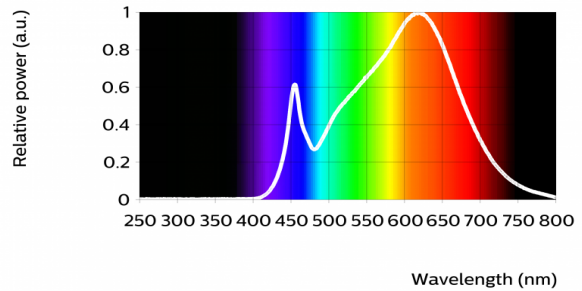
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
93	94	94	94	92	93	96	89	71	85	93	74	94	96

CertaFlux SLM C 930 VW 1203 L09 1515 G2

Parameter	Min	Typ	Max	Unit
Luminous flux	1283	1380	1518	lm
Module efficacy		113		lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.426, 0.394)		-
Color consistency			3	SDCM
CRI	90	92		
R9	50			
Photometric code		930/359		
Photobiological safety			RG1 unlimited	


Measurement precision ± 5% for the flux data and ± 6% for the efficacy data. Measurement precision for color coordinates ± 0.005. Measurement precision for CRI ± 1.5.

Operation point	931	lm	lm/W
80% I-nom 280mA	Tc 25 °C	1247	127
	Tc 85 °C	1136	119
	Tc 95 °C	1116	117
I-nom 350mA	Tc 25 °C	1524	122
	Tc 85 °C	1380	113
	Tc 95 °C	1355	112
I-max 700mA	Tc 25 °C	2738	101
	Tc 85 °C	2434	92
	Tc 95 °C	2377	90



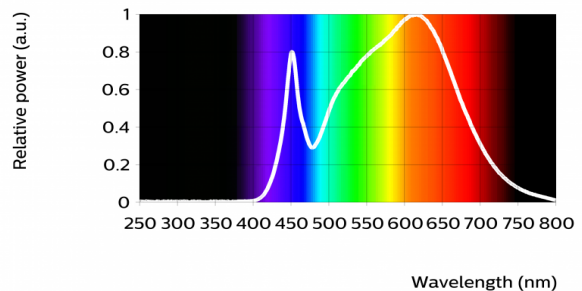
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
94	98	98	93	94	96	91	82	61	93	93	83	95	99

CertaFlux SLM C 935 VW 1203 L09 1515 G2

Parameter	Min	Typ	Max	Unit
Luminous flux	1362	1465	1611	lm
Module efficacy		120		lm/W
Correlated color temperature (CCT)		3500		K
Color coordinates (CIEx, CIEy)		(0.401, 0.384)		-
Color consistency			3	SDCM
CRI	90	92		
R9	50			
Photometric code		935/359		
Photobiological safety			RG1 unlimited	


Measurement precision ± 5% for the flux data and ± 6% for the efficacy data. Measurement precision for color coordinates ± 0.005. Measurement precision for CRI ± 1.5.

Operation point	935	lm	lm/W
80% I-nom 280mA	Tc 25 °C	1322	135
	Tc 85 °C	1205	126
	Tc 95 °C	1183	124
I-nom 350mA	Tc 25 °C	1616	130
	Tc 85 °C	1465	120
	Tc 95 °C	1437	118
I-max 700mA	Tc 25 °C	2905	107
	Tc 85 °C	2584	97
	Tc 95 °C	2523	95



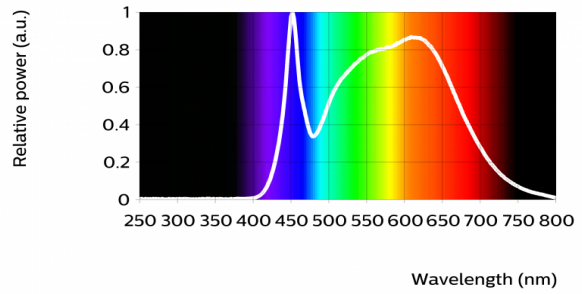
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
92	94	95	92	92	92	93	83	59	86	92	78	93	97



Parameter	Min	Typ	Max	Unit
Luminous flux	1362	1465	1612	lm
Module efficacy		120		lm/W
Correlated color temperature (CCT)		4000		K
Color coordinates (CIEx, CIEy)		(0.376, 0.371)		-
Color consistency			3	SDCM
CRI	90	92		
R9	50			
Photometric code		940/359		
Photobiological safety			RG1 unlimited	

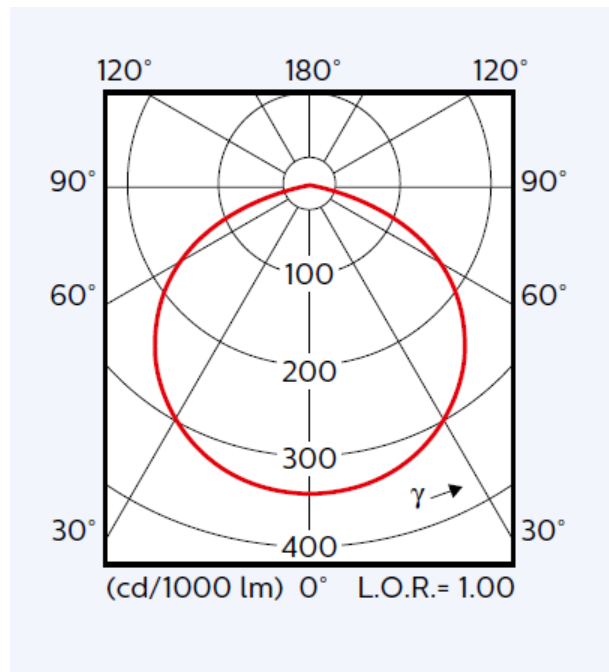
Measurement precision ± 5% for the flux data and ± 6% for the efficacy data. Measurement precision for color coordinates ± 0.005. Measurement precision for CRI ± 1.5.

Operation point	941	lm	lm/W
80% I-nom 280mA	Tc 25 °C	1322	135
	Tc 85 °C	1205	126
	Tc 95 °C	1183	124
I-nom 350mA	Tc 25 °C	1616	130
	Tc 85 °C	1465	120
	Tc 95 °C	1437	118
I-max 700mA	Tc 25 °C	2905	107
	Tc 85 °C	2584	97
	Tc 95 °C	2523	95



R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
93	95	94	93	92	91	95	87	67	86	92	74	93	96

## Beam shape



## Electrical characteristics

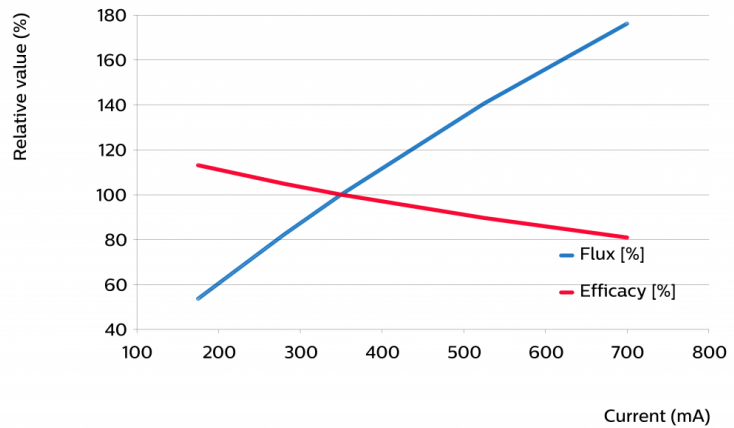
Parameter	Min	Typ	Max	Unit
Forward voltage	32.4	34.4	36.4	V
Power consumption	11.3	12.1	12.7	W = kWh/1000h
Number of modules in series per chain			1	
Number of modules in parallel			1	

Measurement precision for Vf +/- 3%. Measurement precision for power +/- 3.3%

## Tuning information

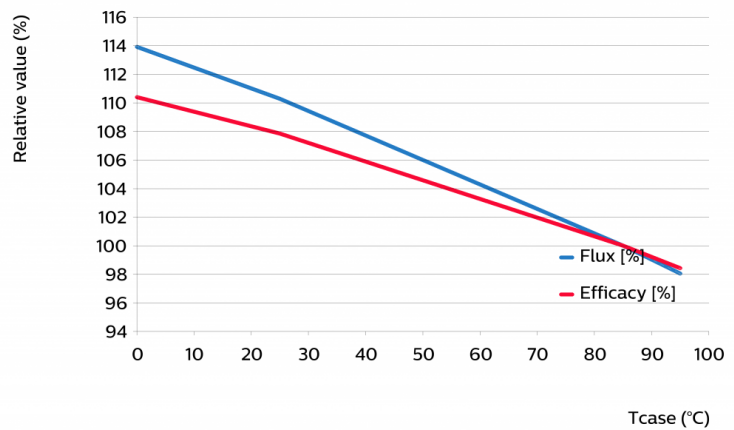
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
700	176	81
525	141	90
350	100	100
280	82	105
175	54	113



Flux and efficacy versus temperature at Tc (at I nominal)

Tc [°C]	Flux [%]	Efficacy [%]
95	98	98
85	100	100
25	110	108
0	114	110



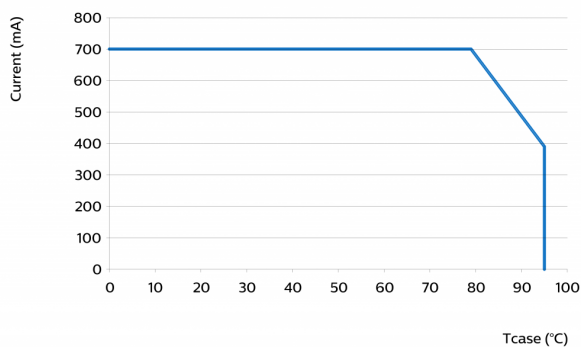
## Lumen maintenance

Operation point	Lumen maintenance x 1000 hours	L70			L80			L90		
		B50	B20	B10	B50	B20	B10	B50	B20	B10
80% I-nom 280 mA	Tc 75°C	>50	>50	>50	49	41	38	23	19	18
	Tc 85°C	>50	>50	>50	44	37	34	21	17	16
	Tc 95°C	>50	>50	>50	41	34	31	19	16	15
I-nom 350 mA	Tc 75°C	>50	>50	>50	47	39	36	22	18	17
	Tc 85°C	>50	>50	>50	42	36	33	20	17	15
	Tc 95°C	>50	>50	48	39	33	30	18	15	14
I-max 700 mA	Tc 75°C	47	39	36	29	24	22	13	11	10
	Tc 85°C	42	35	32	26	22	20	12	10	9
	Tc 95°C	38	32	29	23	20	18	11	9	8

## Lifetime

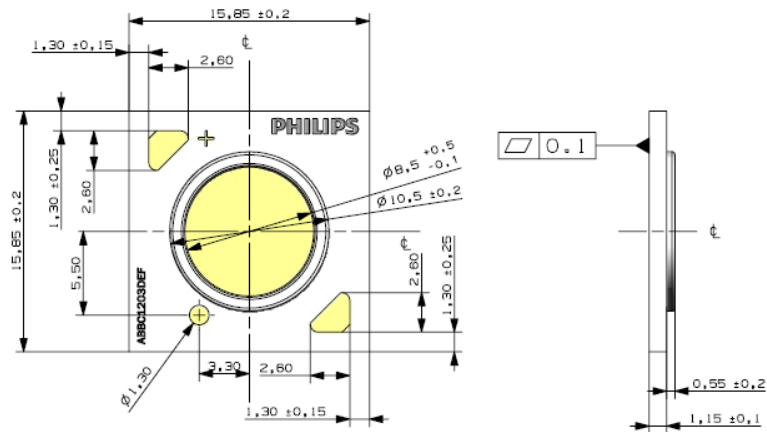
Parameter	Value	Unit
M70F50 nominal	>50000	hours
M70F50 life	>50000	hours

## Performance Window



## Mechanical characteristics

Parameter	Min	Typ	Max	Unit
Length	15.65	15.85	16.05	mm
Width	15.65	15.85	16.05	mm
Height PCB	1.05	1.15	1.25	mm
Height including dam	1.4	1.7	2	mm
Product mass		0.76		gram



## Absolute ratings

Parameter	Min	Max	Unit
Current through the LED module (I-max)		700	mA
Case temperature (Tc-max)		105	°C
ESD (direct contact)	8		kV
Working voltage		60	V <sub>dc</sub>
Ambient temperature	-20	40	°C
Storage temperature	-40	80	°C

## Application information

### Certificates and Standards

IEC/EN 62031  
 UL 8750  
 CE  
 UL  
 CB

### Application

Dimming	Yes
---------	-----



© 2021 Signify Holding, IBRS 10461, 5600VB, NL. All rights reserved. The information provided herein is subject to change, without notice. Signify does not give any representation or warranty as to the accuracy or completeness of the information included herein and shall not be liable for any action in reliance thereon. The information presented in this document is not intended as any commercial offer and does not form part of any quotation or contract, unless otherwise agreed by Signify.

[www.philips.com/oem](http://www.philips.com/oem)

Philips and the Philips Shield Emblem are registered trademarks of Koninklijke Philips N.V. All other trademarks are owned by Signify Holding or their respective owners.  
UK importer address: 3 Guildford Business Park, GU2 8XG

22/11/2021