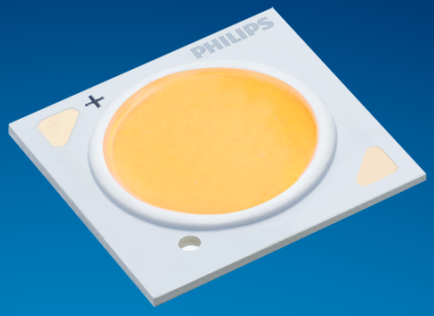
PHILIPS

CertaFlux

LED

CertaFlux SLM C 1204 L12 1818 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

February 2021

indirect

100%

instant

Ordering data

Commercial product name	EOC	12NC	Box quantity
CertaFlux SLM C 827 1204 L12 1818 G2	8719514 282636 00	9290 028 38406	20
CertaFlux SLM C 830 1204 L12 1818 G2	8719514 282650 00	9290 028 38506	20
CertaFlux SLM C 835 1204 L12 1818 G2	8719514 282674 00	9290 028 38606	20
CertaFlux SLM C 840 1204 L12 1818 G2	8719514 282698 00	9290 028 38706	20
CertaFlux SLM C 850 1204 L12 1818 G2	8719514 282711 00	9290 028 38806	20
CertaFlux SLM C 860 1204 L12 1818 G2	8719514 282735 00	9290 028 38906	20
CertaFlux SLM C 927 1204 L12 1818 G2	8719514 282759 00	9290 028 39006	20
CertaFlux SLM C 930 1204 L12 1818 G2	8719514 282773 00	9290 028 39106	20
CertaFlux SLM C 935 1204 L12 1818 G2	8719514 282797 00	9290 028 39206	20
CertaFlux SLM C 940 1204 L12 1818 G2	8719514 282810 00	9290 028 39306	20
CertaFlux SLM C 930 VW 1204 L12 1818 G2	8719514 283275 00	9290 028 41606	20
CertaFlux SLM C 935 VW 1204 L12 1818 G2	8719514 283299 00	9290 028 41706	20
CertaFlux SLM C 940 VW 1204 L12 1818 G2	8719514 283312 00	9290 028 41806	20

Drive currents

Parameter	Nominal*	Life**	Max***	Unit
CertaFlux SLM C 1204 L12 1818 G2	450	see performance window	900	mA

Module temperatures

Parameter	Nominal*	Life**	Max***	Unit
T_c (case temperature at T_c point)	85	see performance window	105	°C

* Nominal value at which typical performance is specified

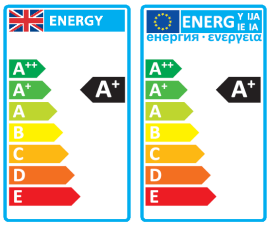
** Value at which life time is specified

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

Optical characteristics - table per color (CCT)

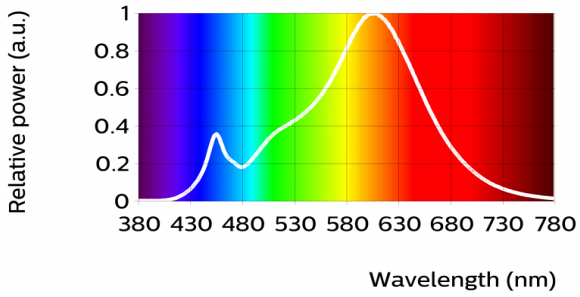
CertaFlux SLM C 827 1204 L12 1818 G2

Parameter	Min	Typ	Max	Unit
Luminous flux	1926	2070	2278	lm
Module efficacy		134		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

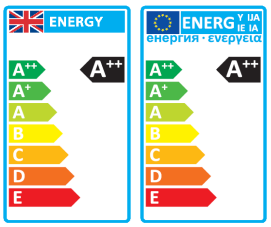
Operation point	827	lm	lm/W
80% I-nom 360mA	Tc 25 °C	1856	150
	Tc 85 °C	1698	140
	Tc 95 °C	1636	136
I-nom 450mA	Tc 25 °C	2273	144
	Tc 85 °C	2070	134
	Tc 95 °C	1990	129
I-max 900mA	Tc 25 °C	4123	119
	Tc 85 °C	3699	109
	Tc 95 °C	3530	104



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

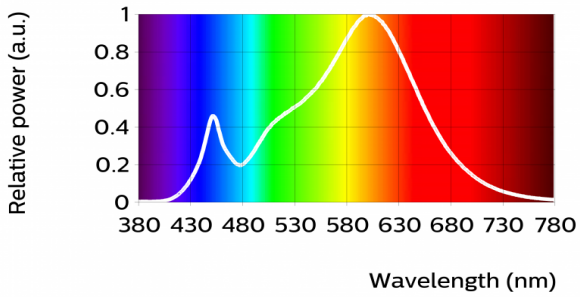
CertaFlux SLM C 830 1204 L12 1818 G2

Parameter	Min	Typ	Max	Unit
Luminous flux	2027	2179	2397	lm
Module efficacy		141		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

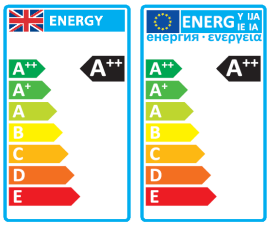
Operation point	830	lm	lm/W
80% I-nom 360mA	Tc 25 °C	1953	158
	Tc 85 °C	1787	147
	Tc 95 °C	1722	143
I-nom 450mA	Tc 25 °C	2392	152
	Tc 85 °C	2179	141
	Tc 95 °C	2095	136
I-max 900mA	Tc 25 °C	4341	126
	Tc 85 °C	3895	115
	Tc 95 °C	3718	110



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

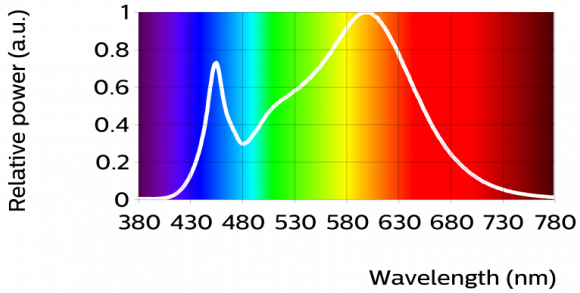
CertaFlux SLM C 835 1204 L12 1818 G2

Parameter	Min	Typ	Max	Unit
Luminous flux	2069	2224	2447	lm
Module efficacy		144		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

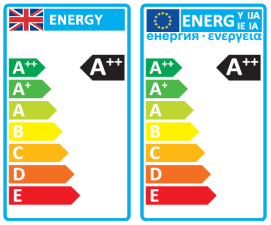
Operation point	835	lm	lm/W
80% I-nom 360mA	Tc 25 °C	1993	161
	Tc 85 °C	1824	150
	Tc 95 °C	1757	146
I-nom 450mA	Tc 25 °C	2441	155
	Tc 85 °C	2224	144
	Tc 95 °C	2138	139
I-max 900mA	Tc 25 °C	4432	128
	Tc 85 °C	3977	117
	Tc 95 °C	3796	112



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

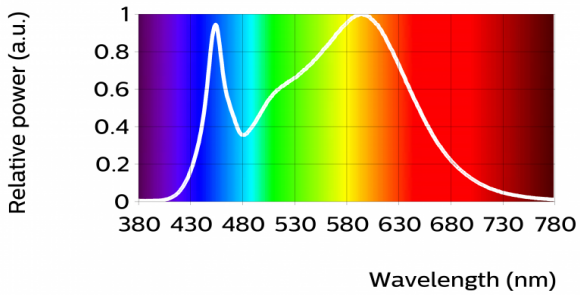
CertaFlux SLM C 840 1204 L12 1818 G2

Parameter	Min	Typ	Max	Unit
Luminous flux	2110	2269	2496	lm
Module efficacy		147		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

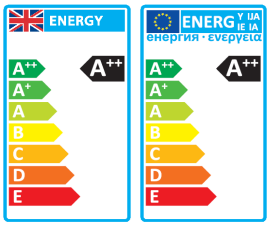
Operation point	840	lm	lm/W
80% I-nom 360mA	Tc 25 °C	2033	165
	Tc 85 °C	1861	153
	Tc 95 °C	1792	149
I-nom 450mA	Tc 25 °C	2490	158
	Tc 85 °C	2269	147
	Tc 95 °C	2182	142
I-max 900mA	Tc 25 °C	4521	131
	Tc 85 °C	4058	119
	Tc 95 °C	3874	115



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

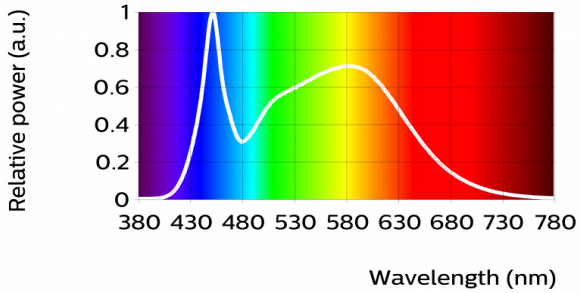
CertaFlux SLM C 850 1204 L12 1818 G2

Parameter	Min	Typ	Max	Unit
Luminous flux	2111	2270	2497	lm
Module efficacy		147		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

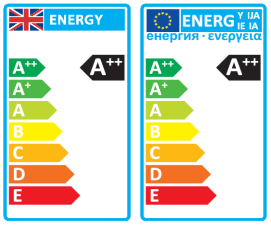
Operation point	850	lm	lm/W
80% I-nom 360mA	Tc 25 °C	2034	165
	Tc 85 °C	1861	154
	Tc 95 °C	1793	149
I-nom 450mA	Tc 25 °C	2491	158
	Tc 85 °C	2270	147
	Tc 95 °C	2183	142
I-max 900mA	Tc 25 °C	4525	131
	Tc 85 °C	4062	119
	Tc 95 °C	3877	115



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

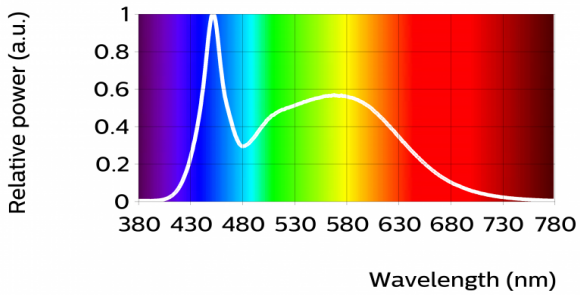
CertaFlux SLM C 860 1204 L12 1818 G2

Parameter	Min	Typ	Max	Unit
Luminous flux	2112	2271	2498	lm
Module efficacy		147		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

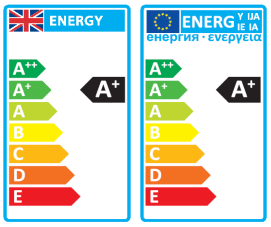
Operation point	860	lm	lm/W
80% I-nom 360mA	Tc 25 °C	2034	165
	Tc 85 °C	1862	154
	Tc 95 °C	1794	149
I-nom 450mA	Tc 25 °C	2492	158
	Tc 85 °C	2271	147
	Tc 95 °C	2184	142
I-max 900mA	Tc 25 °C	4527	131
	Tc 85 °C	4065	120
	Tc 95 °C	3881	115



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

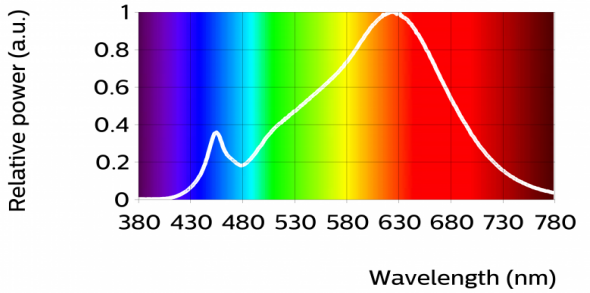
CertaFlux SLM C 927 1204 L12 1818 G2

Parameter	Min	Typ	Max	Unit
Luminous flux	1637	1760	1936	lm
Module efficacy		114		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

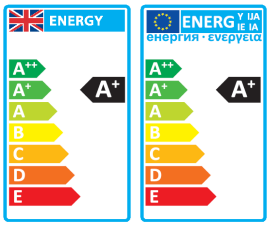
Operation point	927	lm	lm/W
80% I-nom 360mA	Tc 25 °C	1578	128
	Tc 85 °C	1444	119
	Tc 95 °C	1391	115
I-nom 450mA	Tc 25 °C	1932	122
	Tc 85 °C	1760	114
	Tc 95 °C	1692	110
I-max 900mA	Tc 25 °C	3505	101
	Tc 85 °C	3144	92
	Tc 95 °C	3000	89



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

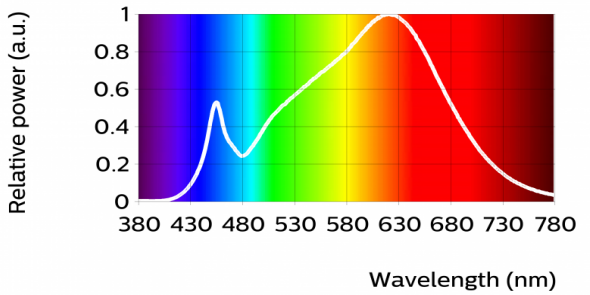
CertaFlux SLM C 930 1204 L12 1818 G2

Parameter	Min	Typ	Max	Unit
Luminous flux	1724	1854	2040	lm
Module efficacy		120		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

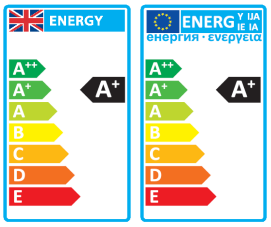
Operation point	930	lm	lm/W
80% I-nom 360mA	Tc 25 °C	1662	134
	Tc 85 °C	1521	125
	Tc 95 °C	1465	122
I-nom 450mA	Tc 25 °C	2035	129
	Tc 85 °C	1854	120
	Tc 95 °C	1782	116
I-max 900mA	Tc 25 °C	3693	107
	Tc 85 °C	3313	97
	Tc 95 °C	3162	94



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

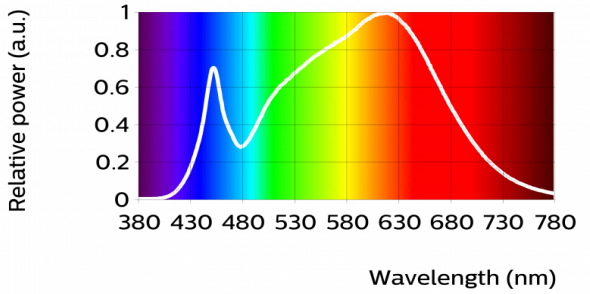
CertaFlux SLM C 935 1204 L12 1818 G2

Parameter	Min	Typ	Max	Unit
Luminous flux	1826	1963	2160	lm
Module efficacy		127		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

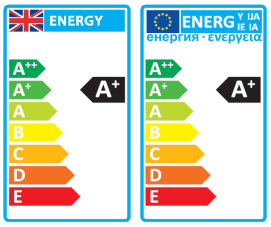
Operation point	935	lm	lm/W
80% I-nom 360mA	Tc 25 °C	1759	142
	Tc 85 °C	1610	133
	Tc 95 °C	1551	129
I-nom 450mA	Tc 25 °C	2155	137
	Tc 85 °C	1963	127
	Tc 95 °C	1887	123
I-max 900mA	Tc 25 °C	3911	113
	Tc 85 °C	3509	103
	Tc 95 °C	3350	99



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

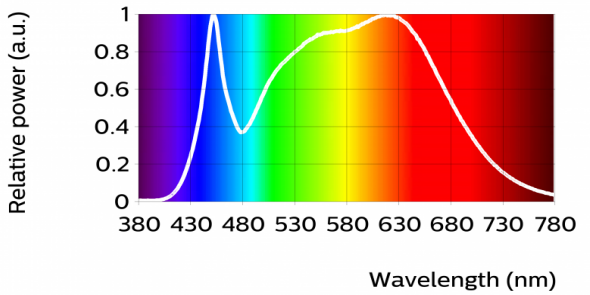
CertaFlux SLM C 940 1204 L12 1818 G2

Parameter	Min	Typ	Max	Unit
Luminous flux	1826	1964	2160	lm
Module efficacy		127		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 360mA	Tc 25 °C	1760	142
	Tc 85 °C	1610	133
	Tc 95 °C	1551	129
I-nom 450mA	Tc 25 °C	2155	137
	Tc 85 °C	1964	127
	Tc 95 °C	1888	123
I-max 900mA	Tc 25 °C	3913	113
	Tc 85 °C	3511	103
	Tc 95 °C	3352	99



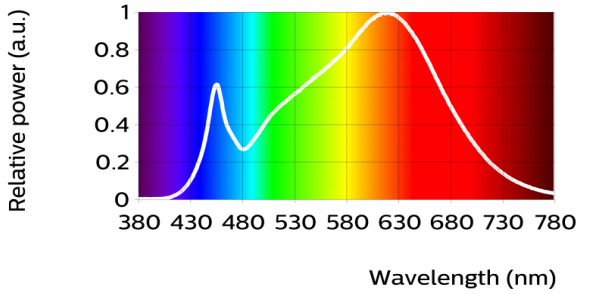
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
93	94	94	94	92	93	96	89	71	85	93	74	94	96

CertaFlux SLM C 930 VW 1204 L12 1818 G2

Parameter	Min	Typ	Max	Unit
Luminous flux	1725	1855	2040	lm
Module efficacy		120		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 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 360mA	Tc 25 °C	1662	134
	Tc 85 °C	1521	125
	Tc 95 °C	1465	122
I-nom 450mA	Tc 25 °C	2035	129
	Tc 85 °C	1855	120
	Tc 95 °C	1782	116
I-max 900mA	Tc 25 °C	3693	107
	Tc 85 °C	3313	97
	Tc 95 °C	3162	94



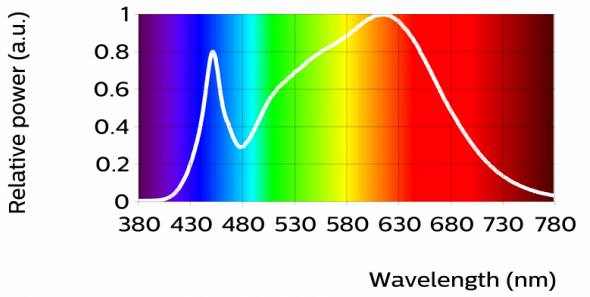
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
94	98	98	93	94	96	94	82	61	93	93	83	95	99

CertaFlux SLM C 935 VW 1204 L12 1818 G2

Parameter	Min	Typ	Max	Unit
Luminous flux	1826	1964	2160	lm
Module efficacy		127		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 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 360mA	Tc 25 °C	1760	142
	Tc 85 °C	1610	133
	Tc 95 °C	1551	129
I-nom 450mA	Tc 25 °C	2155	137
	Tc 85 °C	1964	127
	Tc 95 °C	1888	123
I-max 900mA	Tc 25 °C	3913	113
	Tc 85 °C	3511	103
	Tc 95 °C	3352	99



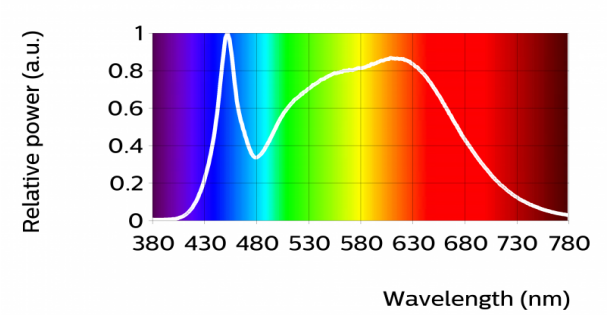
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
92	94	95	92	92	92	93	83	59	86	92	78	93	97

CertaFlux SLM C 940 VW 1204 L12 1818 G2

Parameter	Min	Typ	Max	Unit
Luminous flux	1827	1964	2160	lm
Module efficacy		127		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	

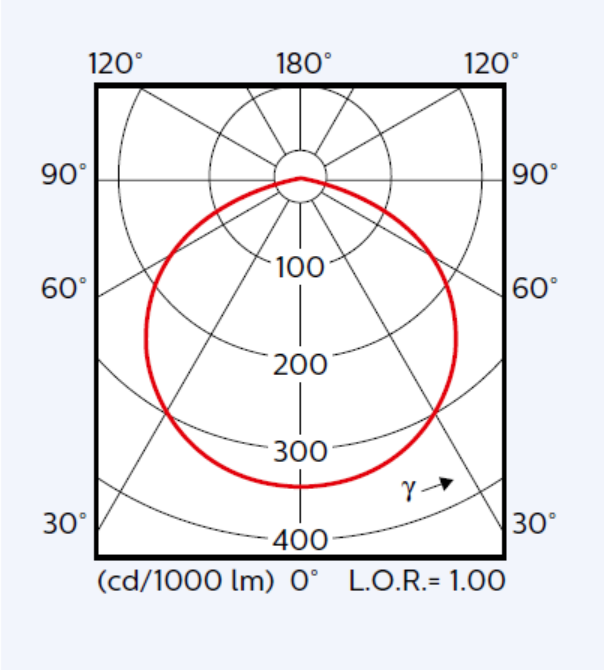
Measurement precision for flux +/- 5%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI 1.5

Operation point	940	lm	lm/W
80% I-nom 360mA	Tc 25 °C	1760	142
	Tc 85 °C	1610	133
	Tc 95 °C	1551	129
I-nom 450mA	Tc 25 °C	2155	137
	Tc 85 °C	1964	127
	Tc 95 °C	1888	123
I-max 900mA	Tc 25 °C	3913	113
	Tc 85 °C	3511	103
	Tc 95 °C	3352	99



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

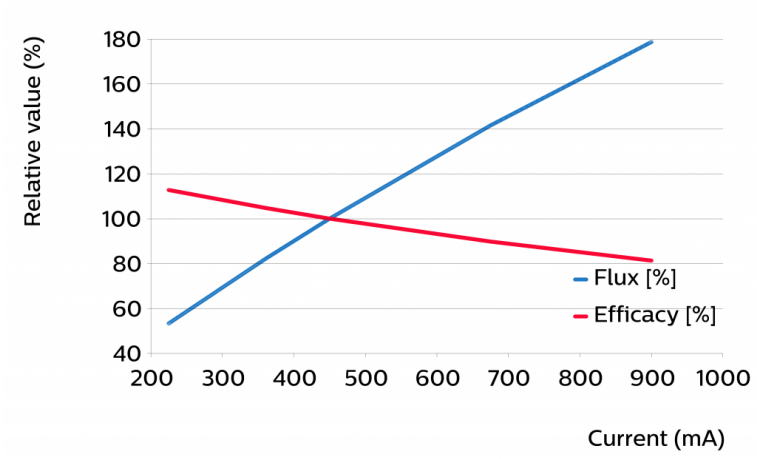
Parameter	Min	Typ	Max	Unit
Forward voltage	32.4	34.4	36.4	V
Power consumption	14.6	15.5	16.4	W = kWh/1000h
Number of modules in series per chain			1	
Number of modules in parallel			1	

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

Tuning information

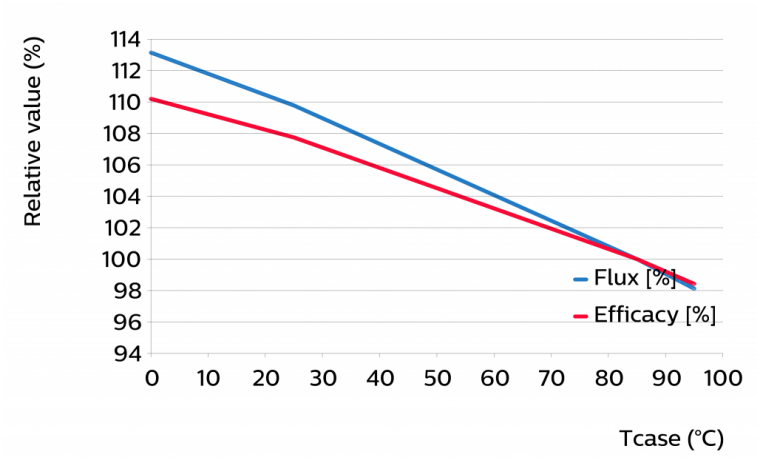
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
900	179	81
675	141	90
450	100	100
360	82	105
225	53	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	113	110



Lumen maintenance

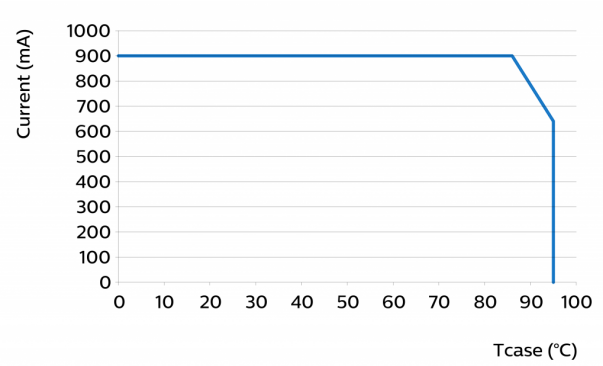
Operation point	Lumen maintenance x 1000 hours	L70			L80			L90		
		B50	B20	B10	B50	B20	B10	B50	B20	B10
80% I-nom 360 mA	Tc 75°C	>50	>50	>50	49	41	38	23	19	18
	Tc 85°C	>50	>50	>50	44	37	34	21	17	16
	Tc 95°C	>50	>50	>50	41	34	31	19	16	15
I-nom 450 mA	Tc 75°C	>50	>50	>50	47	39	36	22	18	17
	Tc 85°C	>50	>50	>50	42	36	33	20	17	15
	Tc 95°C	>50	>50	48	39	33	30	18	15	14
I-max 900 mA	Tc 75°C	47	40	37	29	25	23	14	11	10
	Tc 85°C	43	36	33	26	22	20	12	10	9
	Tc 95°C	38	32	30	24	20	18	11	9	8

Lifetime

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

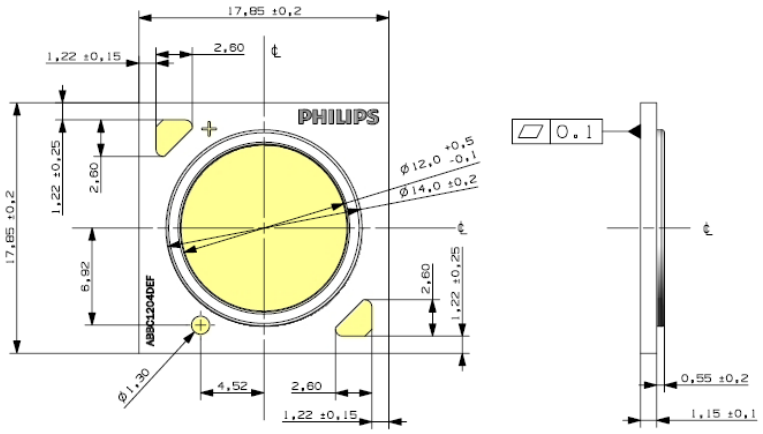
Switching cycles in accordance to EU 1194/2012: >15000.

Performance Window



Mechanical characteristics

Parameter	Min	Typ	Max	Unit
Length	17.65	17.85	18.05	mm
Width	17.65	17.85	18.05	mm
Height PCB	1.05	1.15	1.25	mm
Height including dam	1.4	1.7	2	mm
Product mass		0.96		gram



Absolute ratings

Parameter	Min	Max	Unit
Current through the LED module (I-max)		900	mA
Case temperature (Tc-max)		105	°C
ESD (direct contact)	8		kV
Working voltage		60	V_{dc}
Ambient temperature	-20	40	°C
Storage temperature	-40	80	°C

Application information

Certificates and Standards
IEC/EN 62031
IEC TR 62778
UL 8750
CE
UL

Application	
Dimming	Yes

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