

PHILIPS

LED Modules

Fortimo DLM Flex L2

24 G1 NA



Fortimo LED DLM flex L2 expands solution beyond downlight applications.

The Philips Fortimo LED downlight module (DLM) flex L2 brings even more application possibilities than the previous DLM flex generation. DLM flex L2 expands applications to include high-bay and other sectors. It is a product covered by the Fortimo brand promise of light quality and a smart system. We provide you with a system proposition ranging from 1,100 lm to 10,000 lm, from high performance to low cost, all in one flexible portfolio. Models can be easily tuned to meet your needs through Philips Advance Xitanium LED drivers with SimpleSet technology.

Commercial Product Name	12NC
Fortimo LED DLM Flex L2 827 24 G1 NA	929000749613
Fortimo LED DLM Flex L2 830 24 G1 NA	929000749713
Fortimo LED DLM Flex L2 835 24 G1 NA	929000749813
Fortimo LED DLM Flex L2 840 24 G1 NA	929000749913

Possible System Matches

Part Number	Driver Wattage (W)	Features	Current (mA)	Voltage Range (V)	Recommended Driver Selection Module Types:				
					24up	30up	36up	54up	80up
XR009C022V042RNO2	9	Leading Edge, Trailing Edge	0.22	25-42	X	X			
XR013C033V042RNO2	13	Leading Edge, Trailing Edge	0.33	25-42	X	X	X		
XI020C050V042RNP1	20	Leading Edge, Trailing Edge, AOC	0.35 - 0.5	20 - 42	X	X	X		
XI013C030V048DNM1	13	0-10V, AOC, MTP	0.1-0.3	24-48	X	X			
XI025C070V054DSM1M / XI025C070V054DSM5M	25	SimpleSet 0-10V, AOC, MTP, UL SREC	0.1-0.7	27 - 54	X	X	X	X	X
XI036C100V054DSM1M / XI036C100V054DSM5M	36	SimpleSet 0-10V, AOC, MTP, UL SREC	0.1-1.0	27 - 54		X	X	X	X
XI050C140V054DSM1M / XI050C140V054DSM5M	50	SimpleSet 0-10V, AOC, MTP, UL SREC	0.1-1.4	27 - 54				X	X
XI075C150V050CNY1	75	0-10V	1.5	25 - 50				X	X
XI095C275V054DNF5	95	0-10V, AOC, MTP	1.0 - 2.75	27 - 54				X	X

Fortimo LED DLM L2 24 G1 NA

Features

- Wide lumen package range: from 1,100 to 10,000lm
- From 2700K to 4000K
- Lifetime > 50,000hrs¹ (B50L70 at Tc 85°C)
- High color consistency: 3SDCM
- Available soon: various mechanical interface options
 - Enabling standard or slim designs
 - Self-cooled option for up to 2,000lm

Benefits

- High energy efficiency (up to 159lm/W at Tc 85°C), also enabling excellent thermal management
- Flexible output/performance when set through our Philips Advance Xitanium LED drivers with SimpleSet technology
- Limited glare
- Integrated thermal protection, enabling universal voltage fixtures and low power consumption (compliant with UL SREC/991)

Application

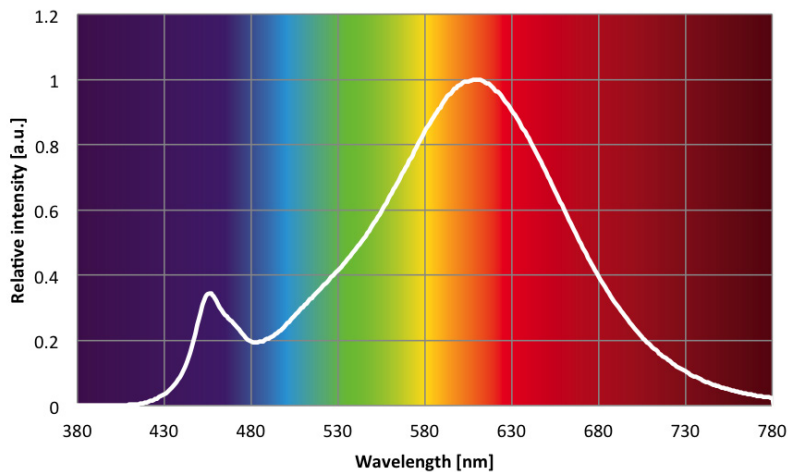
- Recessed downlights
 - Offices
 - Hospitality
 - Education
 - Retail
- High-bay
 - Warehouses
 - Industries
- Surface mount luminaries
 - Residential
 - Hospitality
 - Offices

Optical Characteristics – Table per CCT

Fortimo LED DLM Flex L2 827 24 G1 NA			
Parameter	Typ	Max	Unit
Luminous Flux	1,260	3,130	lm
Module Efficiency	138	104	lm/W
Nominal Current	274	800	mA
Correlated Color Temperature		2700	K
Color Consistency		3	SDCM
CRI		>80	-
Radiation Angle		120	deg

Note: *Specifications stated at Tc nom = 85°C

**Maximum values within lifetime/warranty



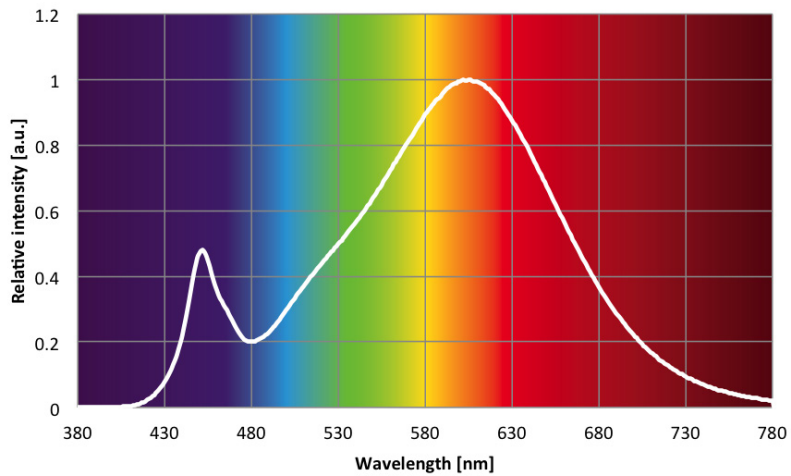
1. Average rated life is based on engineering data testing and probability analysis. The hours are at the B50, L70 point – 50,000 hours life with 70% lumen maintenance at Tc point.

Fortimo LED DLM L2 24 G1 NA

Optical Characteristics – Table per CCT

Fortimo LED DLM Flex L2 830 24 G1 NA			
Parameter	Typ	Max	Unit
Luminous Flux	1,330	3,290	lm
Module Efficiency	145	109	lm/W
Nominal Current	274	800	mA
Correlated Color Temperature	3000		K
Color Consistency	3		SDCM
CRI	>80		-
Radiation Angle	120		deg

Note: *Specifications stated at Tc nom = 85°C
**Maximum values within lifetime/warranty

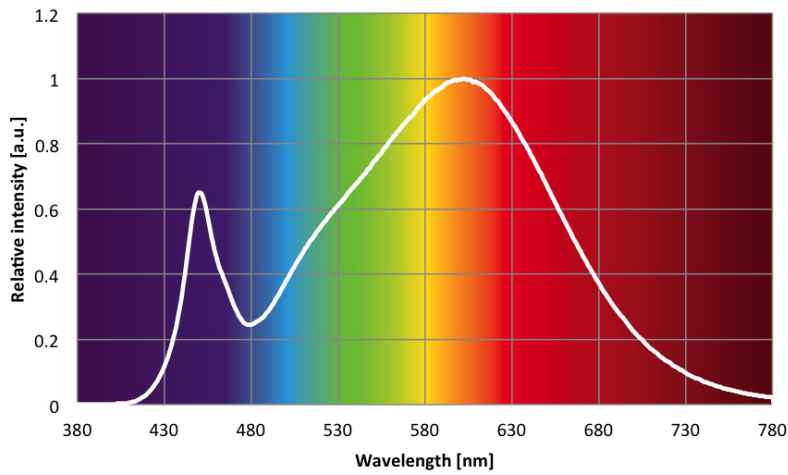


Fortimo LED DLM L2 24 G1 NA

Optical Characteristics – Table per CCT

Fortimo LED DLM Flex L2 835 24 G1 NA			
Parameter	Typ	Max	Unit
Luminous Flux	1,330	3,290	lm
Module Efficiency	145	109	lm/W
Nominal Current	274	800	mA
Correlated Color Temperature	3500		K
Color Consistency	3		SDCM
CRI	>80		-
Radiation Angle	120		deg

Note: *Specifications stated at Tc nom = 85°C
**Maximum values within lifetime/warranty

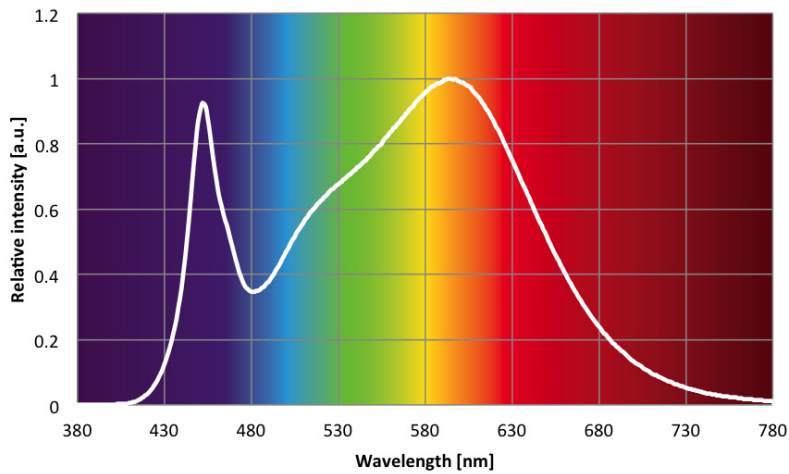


Fortimo LED DLM L2 24 G1 NA

Optical Characteristics – Table per CCT

Fortimo LED DLM Flex L2 840 24 G1 NA			
Parameter	Typ	Max	Unit
Luminous Flux	1430	3,538	lm
Module Efficiency	155	117	lm/W
Nominal Current	274	800	mA
Correlated Color Temperature	4000		K
Color Consistency	3		SDCM
CRI	>80		-
Radiation Angle	120		deg

Note: *Specifications stated at Tc nom = 85°C
**Maximum values within lifetime/warranty

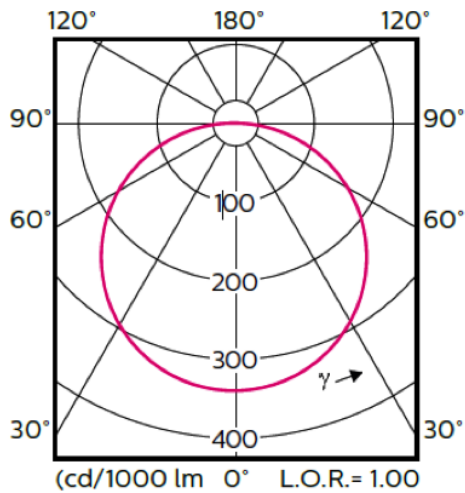


Fortimo LED DLM L2 24 G1 NA

Beam Shape

The Philips Fortimo LED DLM generates a Lambertian beam shape, which is a pragmatic starting point for OEMs wishing to design secondary optics.

Polar Intensity Diagram



Electrical Characteristics

Parameter	Nominal Current (mA)	Typ Forward Voltage (V)	Typ Module Power (W)
Fortimo LED DLM Flex L2 827 24 G1 NA	274	33.5	9.2
Fortimo LED DLM Flex L2 830 24 G1 NA	274	33.5	9.2
Fortimo LED DLM Flex L2 835 24 G1 NA	274	33.5	9.2
Fortimo LED DLM Flex L2 840 24 G1 NA	274	33.5	9.2

Note: Specifications stated at Tc nom = 85°C

Lifetime

Parameter	Min	Unit
Lumen Maintenance B50L70	50,000	hrs

Note: Lifetime stated at Tc nom = 85°C and nominal current of module

Parameter	Nominal ²	Max ³
Tc [°C]	85	95

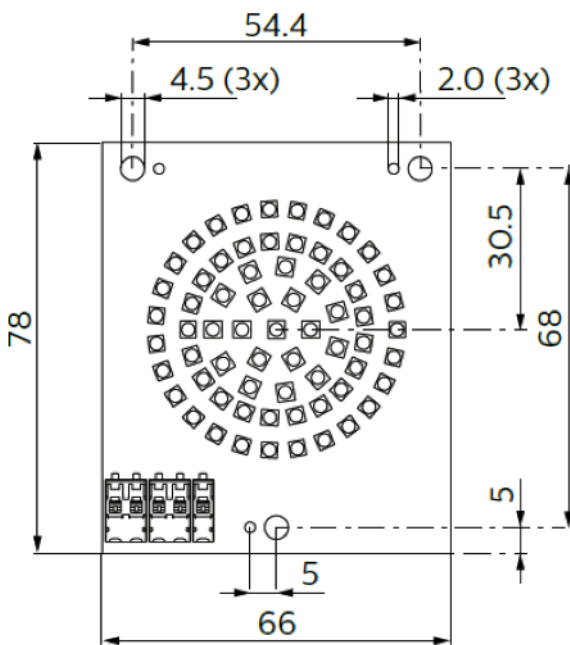
- Nominal value at which performance is specified.
- Maximum value for safety.

Fortimo LED DLM L2 24 G1 NA

Abs Max Ratings

Parameter	Min	Typ	Max	Unit
Current I _{max}			800	mA
Case Temperature T _c Max			95	°C
ESD Human Body Model (HBM) Class 3A JESD22-A114-E			1	kV
Storage Temperature	-40		100	°C

Mechanical Characteristics



Application Information

Compliance and Approval

CSA/ UL/ UL SREC

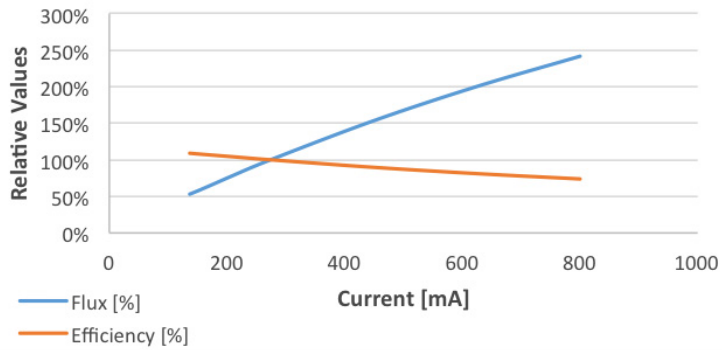
Application Information

IP Rating	No IP rating
Overheating Protection	UL SREC

Fortimo LED DLM L2 24 G1 NA

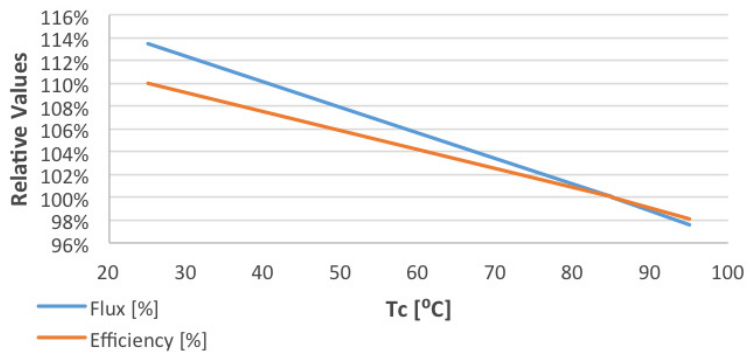
Tuning Information

Flux and Efficacy vs. Current (at Nominal Temperature) DLM Flex L2 24



I [mA]	Flux [%]	Efficiency [%]
137	52%	109%
206	77%	104%
274	100%	100%
449	153%	90%
625	200%	81%
800	242%	74%

Flux and Efficacy vs. Temperature at Tc (at Nominal Current) DLM Flex L2 24



I [mA]	Flux [%]	Efficiency [%]
95	98%	98%
85	100%	100%
85	100%	100%
25	113%	110%

Switching Cycles

Tc	Cycles
85	5625
80	7500
75	10000
70	12500
65	12500
60	12500

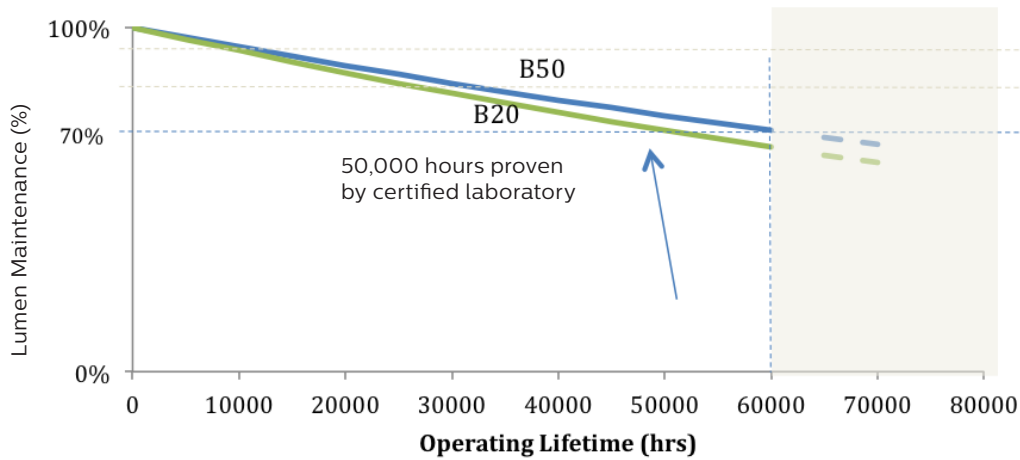
Maximum number of cycles allowed over lifetime (varying according to different Tc values).

Fortimo LED DLM L2 24 G1 NA

Lumen Maintenance

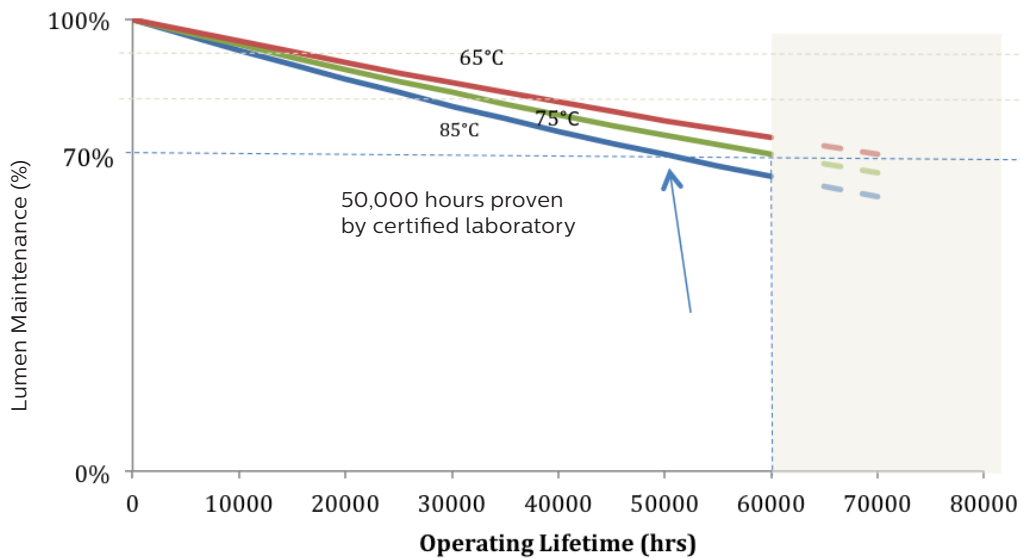
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Lumen Maintenance: Nominal Conditions



Fortimo LED DLM Flex L2 24 G1 NA

Lumen Maintenance B50: Nominal Conditions



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