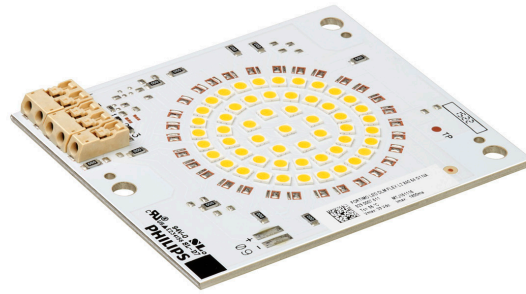


# PHILIPS

## LED Modules

### Fortimo DLM Flex L2

#### 54 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 54 G1 NA	929000750813
Fortimo LED DLM Flex L2 830 54 G1 NA	929000750913
Fortimo LED DLM Flex L2 835 54 G1 NA	929000751013
Fortimo LED DLM Flex L2 840 54 G1 NA	929000751113

#### 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 54 G1 NA

## Features

- Wide lumen package range: from 1,100 to 10,000lm
- From 2700K to 4000K
- Lifetime > 50,000hrs<sup>1</sup> (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

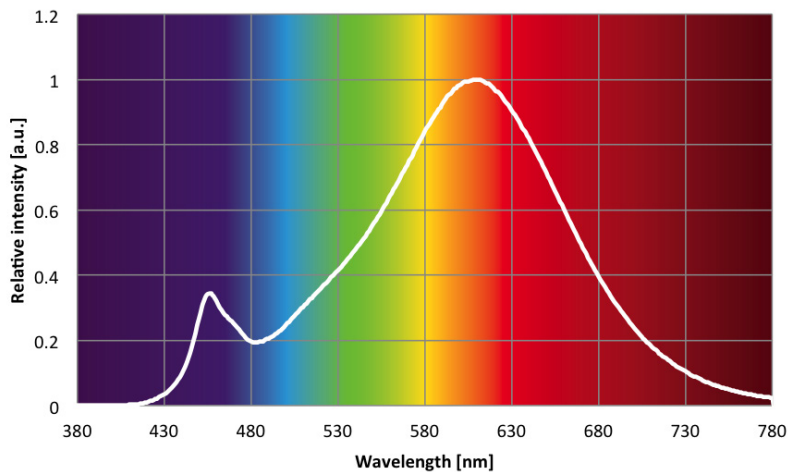
- Recessed downlights
  - Offices
  - Hospitality
  - Education
  - Retail
- High-bay
  - Warehouses
  - Industries
- Surface mount luminaries
  - Residential
  - Hospitality
  - Offices

## Optical Characteristics – Table per CCT

Fortimo LED DLM Flex L2 827 54 G1 NA			
Parameter	Typ	Max	Unit
Luminous Flux	3,640	7,053	lm
Module Efficiency	130	104	lm/W
Nominal Current	815	1800	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



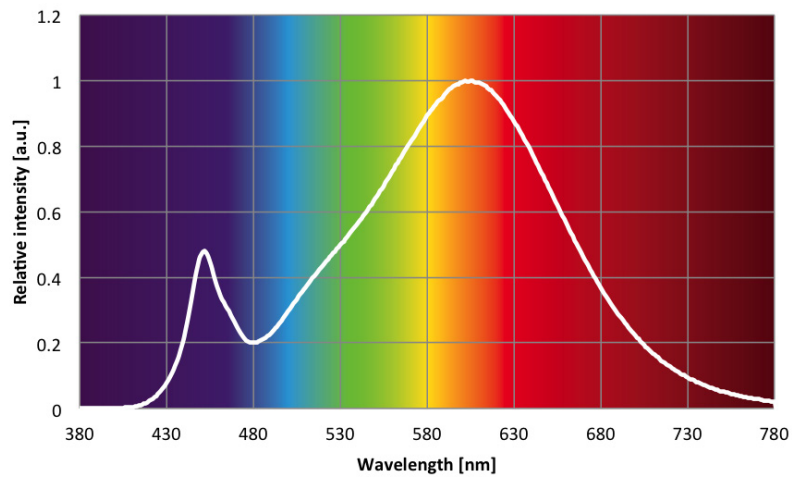
1. Average rated life is based on engineering data testing and probability analysis. The hours are at the B50, L70 point – 50,000 hours life with 70% lumen maintenance at Tc point.

# Fortimo LED DLM L2 54 G1 NA

## Optical Characteristics – Table per CCT

Fortimo LED DLM Flex L2 830 54 G1 NA			
Parameter	Typ	Max	Unit
Luminous Flux	3,820	7,406	lm
Module Efficiency	137	109	lm/W
Nominal Current	815	1800	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

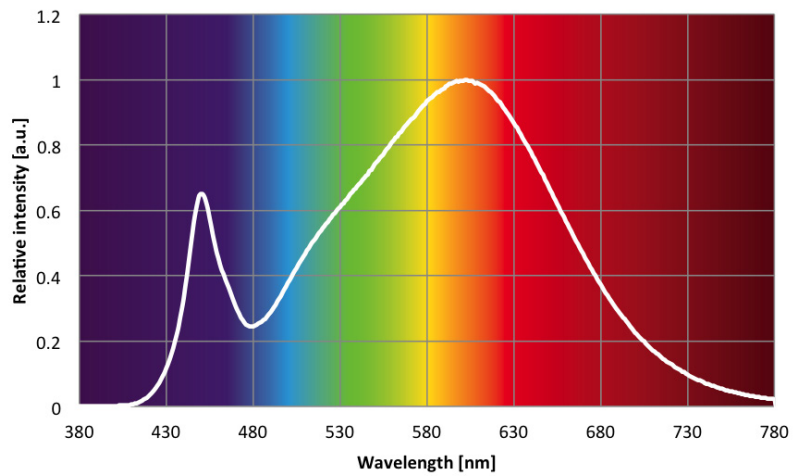


# Fortimo LED DLM L2 54 G1 NA

## Optical Characteristics – Table per CCT

Fortimo LED DLM Flex L2 835 54 G1 NA			
Parameter	Typ	Max	Unit
Luminous Flux	3,820	7,406	lm
Module Efficiency	137	109	lm/W
Nominal Current	815	1800	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

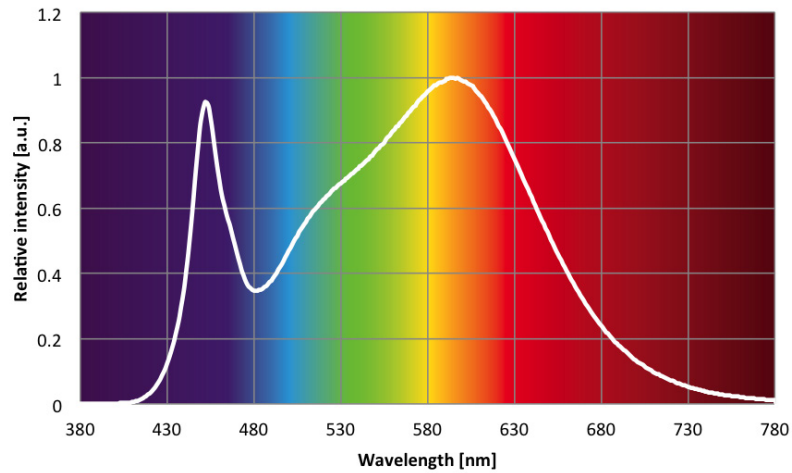


# Fortimo LED DLM L2 54 G1 NA

## Optical Characteristics – Table per CCT

Fortimo LED DLM Flex L2 840 54 G1 NA			
Parameter	Typ	Max	Unit
Luminous Flux	4,110	117	lm
Module Efficiency	147	7,961	lm/W
Nominal Current	815	1800	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

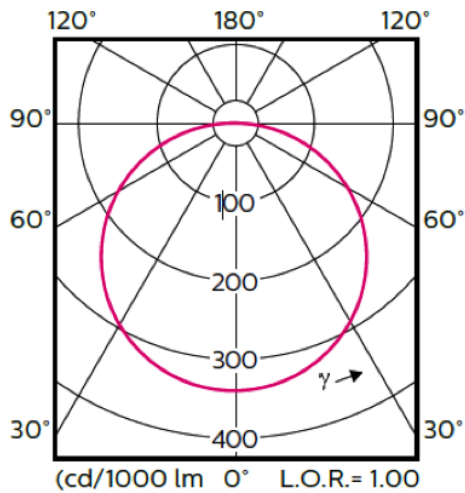


# Fortimo LED DLM L2 54 G1 NA

## 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 54 G1 NA	815	34.3	27.9
Fortimo LED DLM Flex L2 830 54 G1 NA	815	34.3	27.9
Fortimo LED DLM Flex L2 835 54 G1 NA	815	34.3	27.9
Fortimo LED DLM Flex L2 840 54 G1 NA	815	34.3	27.9

Note: Lifetime stated at Tc nom = 85°C

## Lifetime

Parameter	Min	Unit
Lumen Maintenance B50L70	50,000	hrs

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

Parameter	Nominal <sup>2</sup>	Max <sup>3</sup>
Tc [°C]	85	95

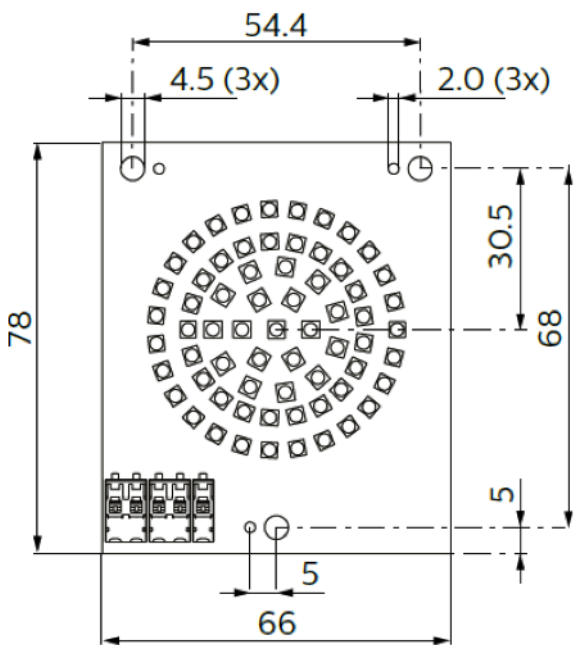
- Nominal value at which performance is specified.
- Maximum value for safety.

# Fortimo LED DLM L2 54 G1 NA

## Abs Max Ratings

Parameter	Min	Typ	Max	Unit
Current I <sub>max</sub>			1800	mA
Case Temperature T <sub>c</sub> 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

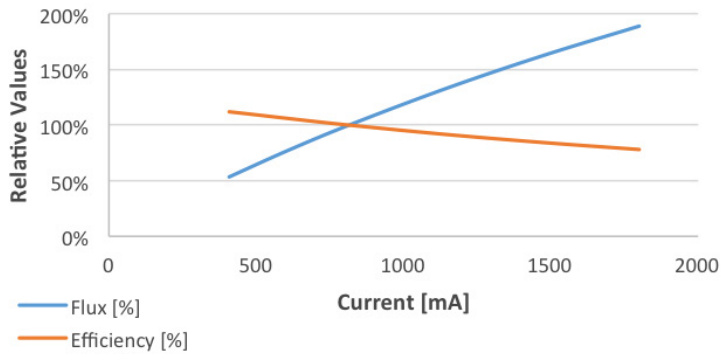
### Application Information

IP Rating	No IP rating
Overheating Protection	UL SREC

# Fortimo LED DLM L2 54 G1 NA

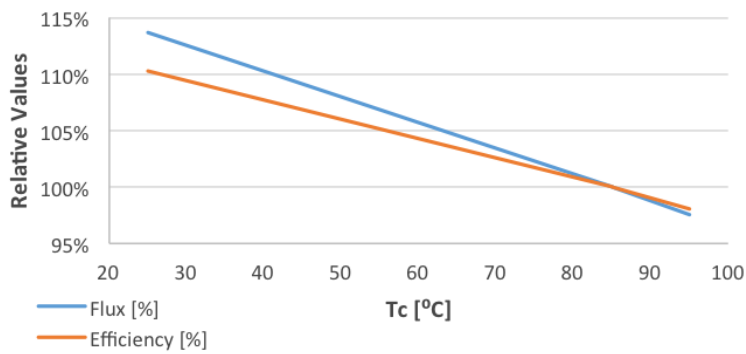
## Tuning Information

### Flux and Efficacy versus Current (at Nominal Temperature) DLM Flex L2 54



I [mA]	Flux [%]	Efficiency [%]
408	53%	112%
611	78%	106%
<b>815</b>	<b>100%</b>	<b>100%</b>
1143	133%	92%
1472	163%	84%
1800	189%	78%

### Flux and Efficacy versus Temperature at Tc (at Nominal Current) DLM Flex L2 54



I [mA]	Flux [%]	Efficiency [%]
95	98%	98%
85	100%	100%
<b>85</b>	<b>100%</b>	<b>100%</b>
25	114%	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).

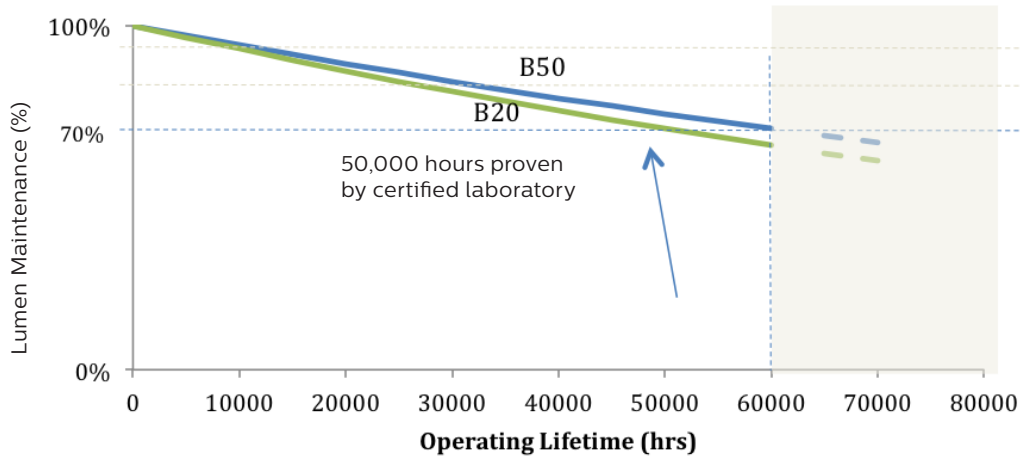


# Fortimo LED DLM L2 54 G1 NA

## Lumen Maintenance

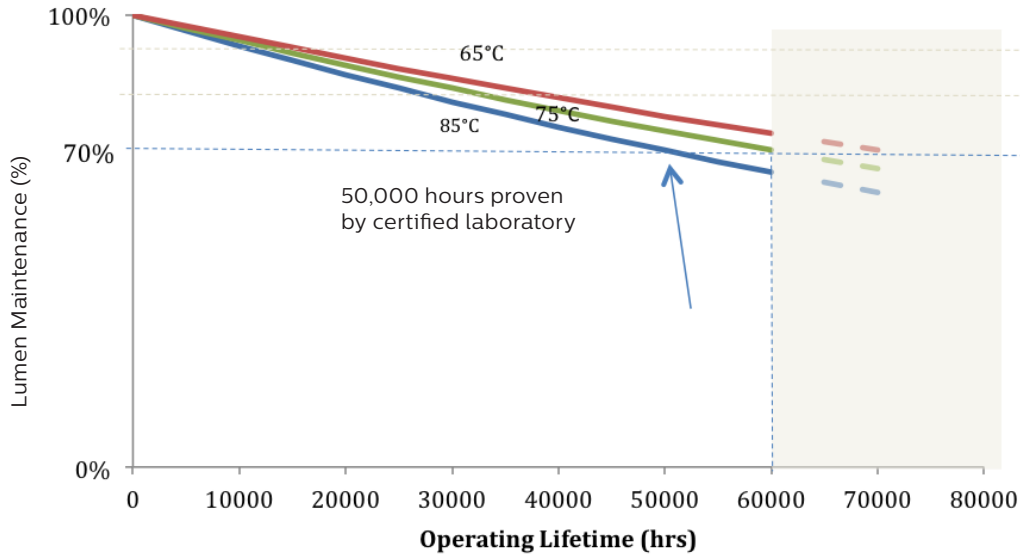
### Fortimo LED DLM Flex L2 54 G1 NA

Lumen Maintenance: Nominal Conditions



### Fortimo LED DLM Flex L2 54 G1 NA

Lumen Maintenance B50: Nominal Conditions



© 2016 Philips Lighting Holding B.V. All rights reserved.  
 Philips reserves the right to make changes in specifications and/or to discontinue any product at any time without notice or obligation and will not be liable for any consequences resulting from the use of this publication.  
[philips.com/ledmodulesna](http://philips.com/ledmodulesna)



Philips Lighting North America Corporation  
 10275 W. Higgins Road, Rosemont IL 60018  
 Tel: 800-322-2086 Fax: 888-423-1882  
 Customer/Technical Service: 800-372-3331  
 OEM Support: 866-915-5886

Philips Lighting Canada Ltd.  
 281 Hillmount Rd, Markham, ON, Canada L6C 2S3  
 Tel. 800-668-9008