

# PHILIPS

## LED Modules

### Fortimo DLM Flex L2

#### 84 G2 NA



**Philips Fortimo LED downlight module (DLM) Flex L2 G2 Dip Switch (DS)** supersedes its predecessors by offering lumen packages up to 13,000lm\* or a high efficacy up to 180lm/W. The new generation also brings the focus on quality of light by introducing CRI 90 range to the portfolio. The all in one DLM Flex L2 G2 provides the ease of switching defined flux levels via a dip switch on board while still allows tuning the models through Advance Xitanium LED Drivers with SimpleSet technology. We bring you the best in class and versatile portfolio which caters to numerous applications.

Commercial Product Name	12NC
FORTIMO LED DLM FLEX DS L2 830 84 G2 NA	929001729713
FORTIMO LED DLM FLEX DS L2 835 84 G2 NA	929001729813
FORTIMO LED DLM FLEX DS L2 840 84 G2 NA	929001729913
FORTIMO LED DLM FLEX DS L2 850 84 G2 NA	929001730013
FORTIMO LED DLM FLEX DS L2 927 84 G2 NA	929001730413
FORTIMO LED DLM FLEX DS L2 930 84 G2 NA	929001730513
FORTIMO LED DLM FLEX DS L2 935 84 G2 NA	929001730613
FORTIMO LED DLM FLEX DS L2 940 84 G2 NA	929001730713
Fortimo LED DLM Thermal Accessory G1	929000765413
Fortimo LED DLM Flex Cover NA	929000765313

For drivers' compatibility, please visit our Easy Design-In Tool:  
<https://www.na.easydesignintool.philips.com/select-module/24;jsessionid=B48812A82EB79F03366908351B479626>

\* Achieved with the 84up CRI80

# Fortimo LED DLM L2 84 G2 NA

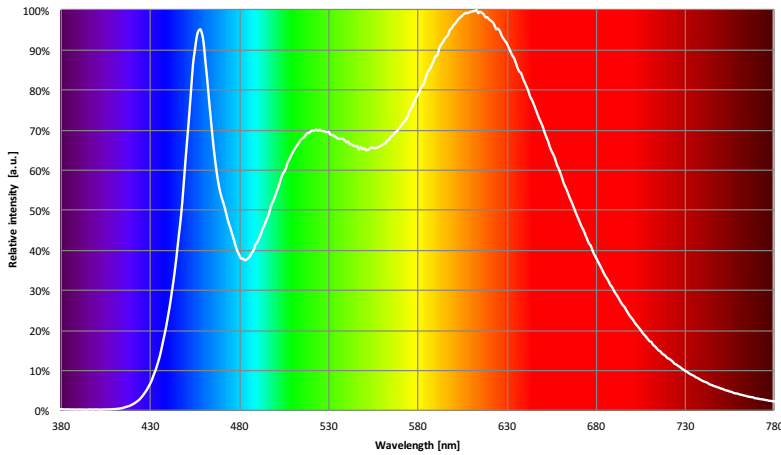
## Optical Characteristics – Table per CCT

Fortimo LED DLM Flex DS L2 940 84 G2 NA					
	DS4	DS3	DS2	DS1	Unit
Nominal Current	1864	1492	987	878	mA
Luminous Flux	7710	6437	4516	4070	lm
Luminous Flux with DLM Flex Cover	6399	5343	3748	3378	lm
Module Efficacy	117	124	136	139	lm/W
Module Efficacy with DLM Cover	97	103	113	115	lm/W
Correlated Color Temperature	4000				K
CRI	>90				-
Color Consistency	<2				SDCM
Radiation Angle	115				degrees
Radiation Angle with DLM Cover	110				degrees

Dip switch settings		
	1	2
DS1	ON	ON
DS2	OFF	ON
DS3	ON	OFF
DS4	OFF	OFF



Note: Specifications stated at Tc nom = 80°C.  
 Tolerance for flux data is -10% +20%. Tolerance for efficacy data is ±10%.  
 Measurement precision for flux +/- 5%, for CRI +/- 1.5, for efficacy +/- 6%.

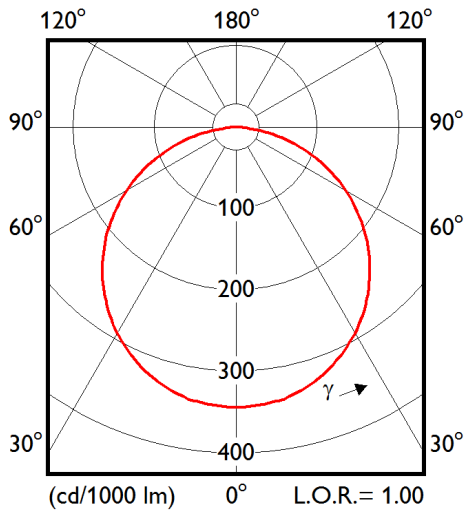


# Fortimo LED DLM L2 84 G2 NA

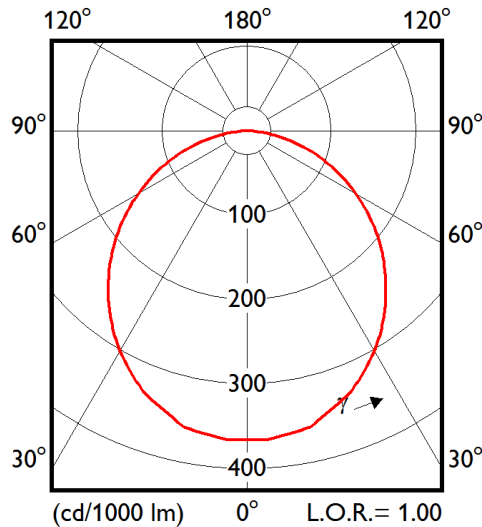
## Beam Shape

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**  
**DLM Flex L2 84 G2**



**Polar Intensity Diagram**  
**DLM Flex L2 84 G2 with DLM Flex Cover**



## Electrical Characteristics

### Fortimo LED DLM Flex DS L2 84 G2 CRI 80

Parameter	Min	Typ	Max	Unit
Current		1763		mA
Forward Voltage	33.9	35.1	36.3	V
Power Consumption	59.8	61.9	64.0	W

Note: Specifications stated at Tc nom = 85°C.  
Measurement precision for Vf +/-3%, for Power +/-3.3%

### Fortimo LED DLM Flex DS L2 84 G2 CRI 90

Parameter	Min	Typ	Max	Unit
Current		1864		mA
Forward Voltage	34.8	35.3	36.6	V
Power Consumption	64.9	65.8	68.2	W

Note: Specifications stated at Tc nom = 80°C.  
Measurement precision for Vf +/-3%, for Power +/-3.3%

## Lifetime

Parameter	Min	Unit
Lumen Maintenance B50L70	50,000	hrs

Note: Lifetime stated at Tc nom = 85°C, refer to lumen maintenance graphs

Parameter	Nominal <sup>5</sup>	Max <sup>6</sup>	Max. Current <sup>7</sup>
Tc [°C] CRI 80	85	95	85
Tc [°C] CRI 90	80	95	75

Refer to the warranty windows

5. Nominal value at which performance is specified.
6. Maximum value for safety.
7. Maximum TC allowed at maximum current within warranty window.

# Fortimo LED DLM L2 84 G2 NA

## Abs Max Ratings

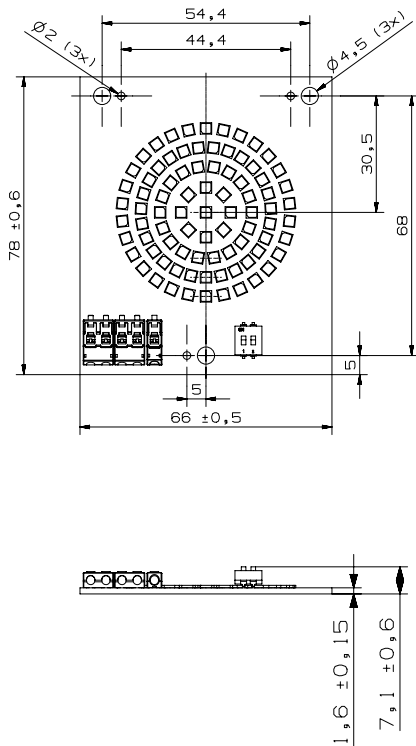
Parameter	Min	Typ	Max	Unit
Current Through the LED module (I-max)			2800	mA
Case Temperature (Tc-max)			95	°C
ESD IEC6100-4-2 (direct)			2 (CRI 80)*	kV
			8 (CRI 90)*	kV
Storage Temperature	-40		100	°C

Storage at humidity <95%, non-condensing

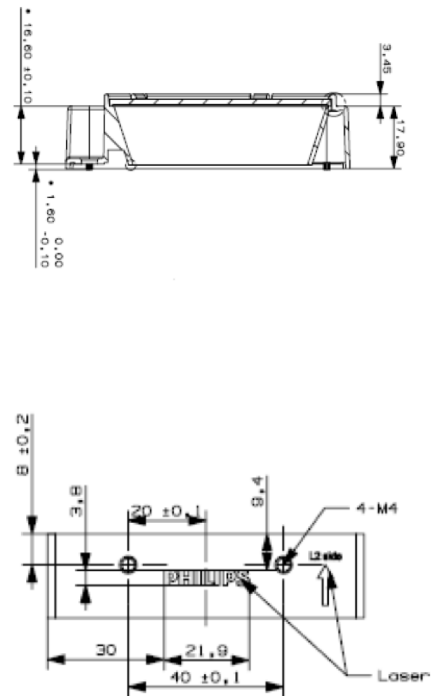
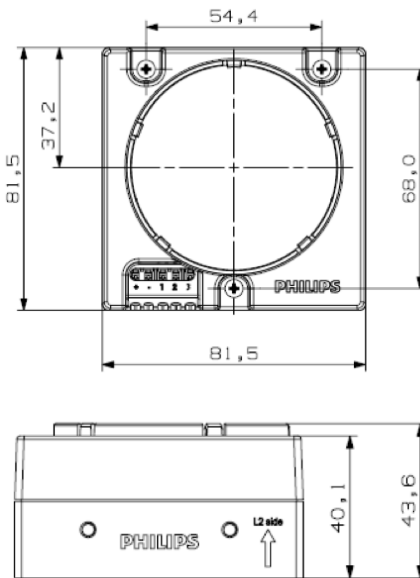
\* Please refer to Philips design-in guide for ESD guidelines.

## Mechanical Characteristics

### DLM Flex L2 84



### DLM Flex Cover and DLM Thermal Accessory G1



## Application Information

### Compliance and Approval

### Application Information

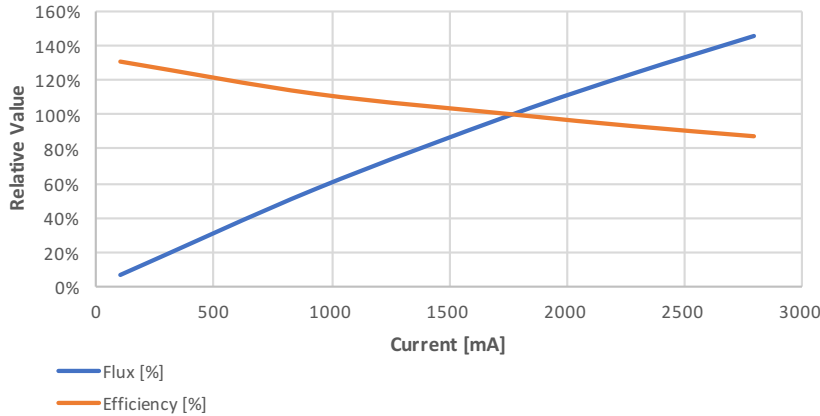
CSA/ (UL CoA#: E336402)/ UL SREC

Overheating Protection	UL SREC
Luminaire Class	UL Class 2

# Fortimo LED DLM L2 84 G2 NA

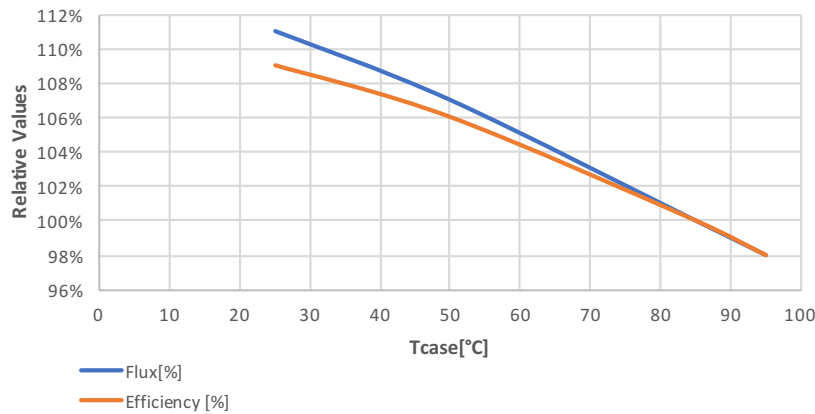
## Tuning Information

### Flux and Efficacy versus Current (at Nominal Temperature) DLM Flex L2 84 G2 - CRI 80



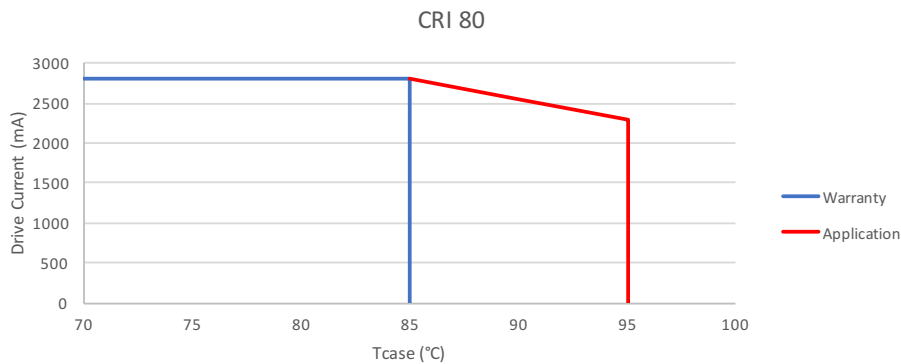
Current [mA]	Flux [%]	Efficiency [%]
100	7%	131%
932	57%	112%
1763	100%	100%
2282	124%	93%
2800	146%	87%

### Flux and Efficacy versus Temperature at Tc (at Nominal Current) DLM Flex L2 84 G2 - CRI 80



Tcase [°C]	Flux [%]	Efficiency [%]
95	98%	98%
85	100%	100%
50	107%	106%
25	111%	109%

## Warranty Window

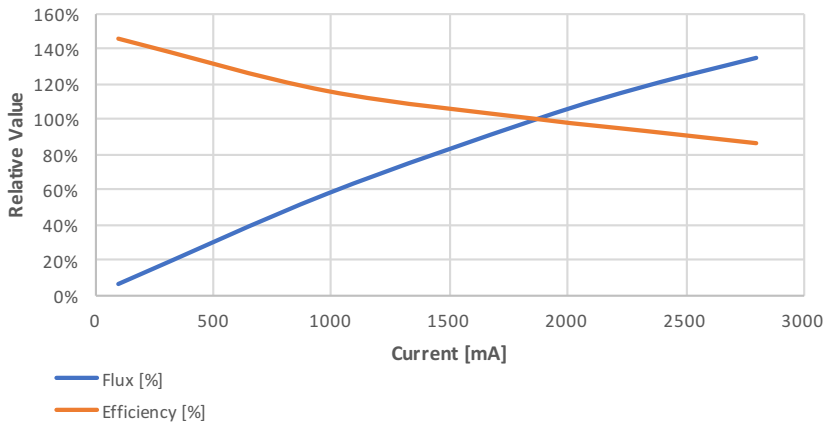


### Warranted Number of Full Thermal Product Cycles within Warranty Window @ 25°C Ambient Temperature CRI 80

Case Temperature Tcase [°C]	Number of Cycles
85	7,500
80	10,000
75	12,500
70	>12,500
65	>12,500
55	>12,500

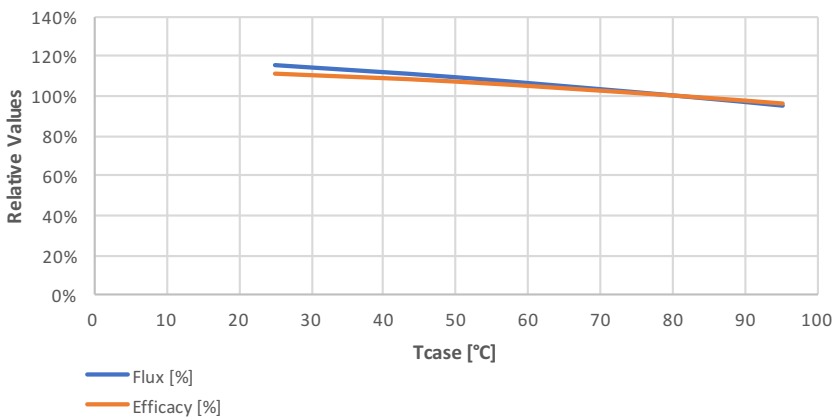
# Fortimo LED DLM L2 84 G2 NA

## Flux and Efficacy versus Current (at Nominal Temperature) DLM Flex L2 84 G2 - CRI 90



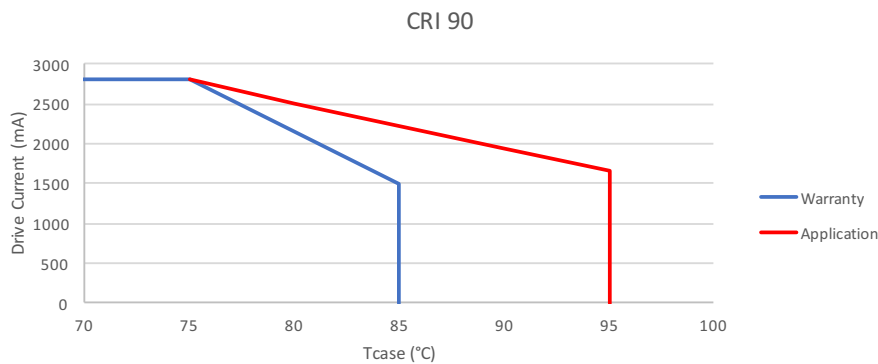
Current[mA]	Flux [%]	Efficiency [%]
100	7%	146%
982	58%	116%
1864	100%	100%
2332	119%	93%
2800	135%	86%

## Flux and Efficacy versus Temperature at Tc (at Nominal Current) DLM Flex L2 84 G2 - CRI 90



Tcase [°C]	Flux[%]	Efficiency [%]
95	95%	96%
80	100%	100%
50	109%	107%
25	115%	111%

## Warranty Window



## Warranted Number of Full Thermal Product Cycles within Warranty Window @ 25°C Ambient Temperature CRI 90

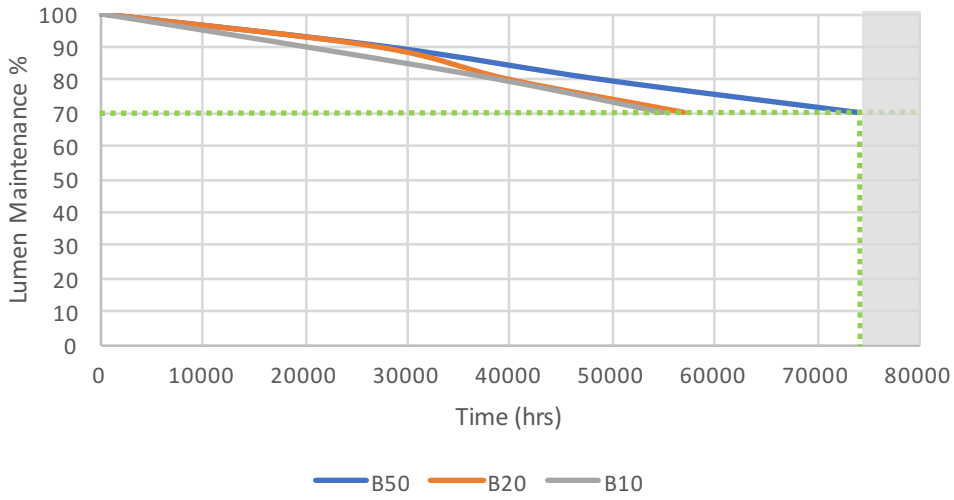
Case Temperature Tcase [°C]	Number of Cycles
85	8,000
80	10,000
75	10,000
70	12,500
65	>12,500
55	>12,500

# Fortimo LED DLM L2 84 G2 NA

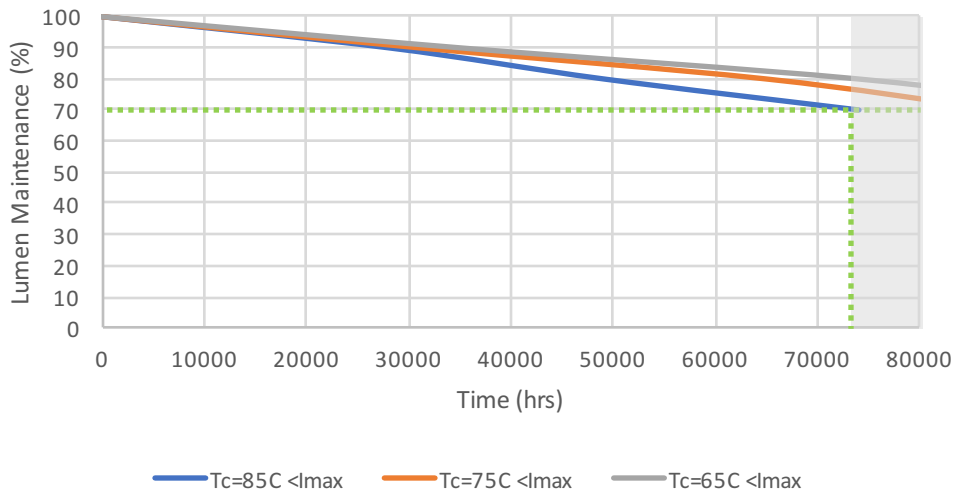
## Lumen Maintenance

Fortimo LED DLM Flex L2 84 G2 NA - CRI 80

Lumen Maintenance @ 85C Tcase and Current <Imax



Lumen Maintenance

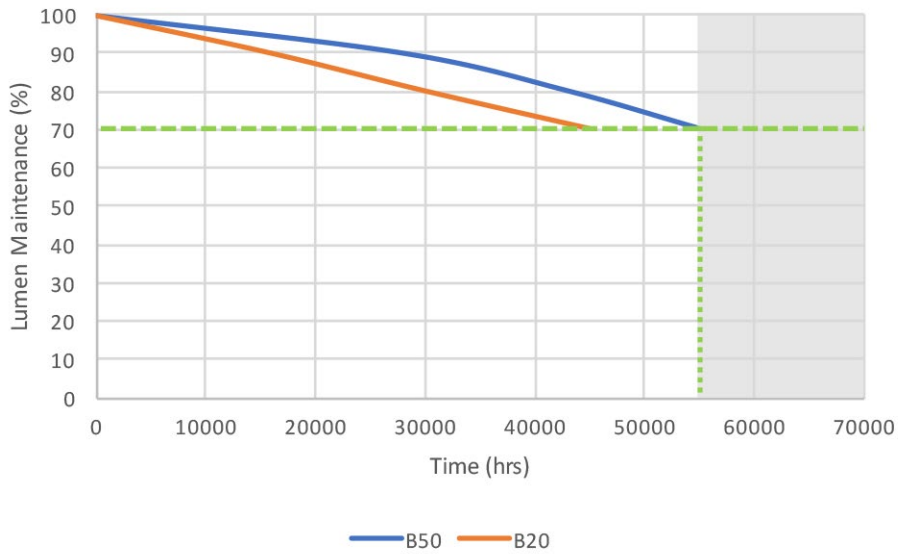


# Fortimo LED DLM L2 84 G2 NA

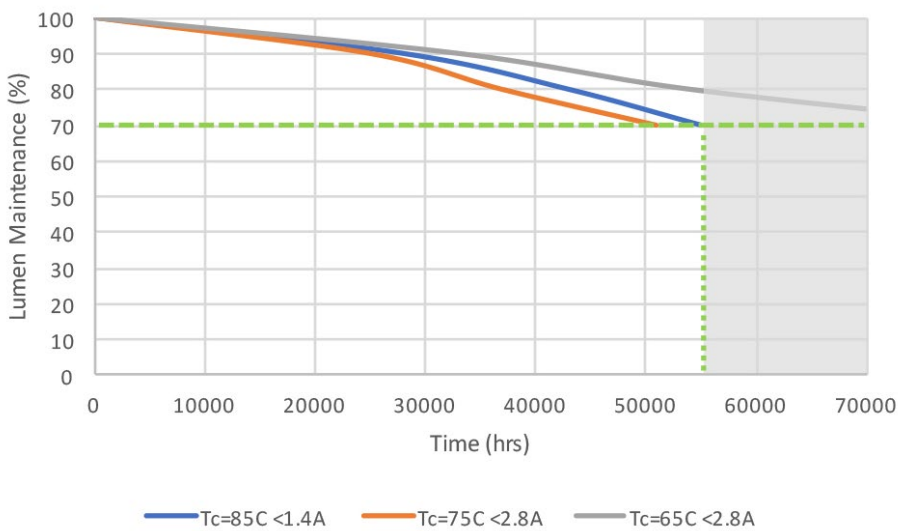
## Lumen Maintenance

### Fortimo LED DLM Flex L2 84 G2 NA - CRI 90

Lumen Maintenance @ 85C Tcase and Current <1.4A



Lumen Maintenance



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