#### Patent Marking Lists for Cree LED® LED Components

#### High-Brightness LED Components (blue, green and white)

These products are covered by the respective patents listed below:

Pat. 7,446,345	Pat. 8,049,230	Pat. 8,350,370	Pat. 8,487,326	Pat. 8,669,565
Pat. 8,901,583	Pat. 9,240,395	Pat. 9,461,217	Pat. 9,634,209	Pat. 9,685,592
Pat. 9,722,158	Pat. 9,831,393	Pat. D684,545	Pat. D691,100	

#### XLamp® CXA and CXB LED Components

These products are covered by the respective patents listed below:

Pat. 7,446,345	Pat. 8,669,573	Pat. 8,895,998	Pat. 9,000,470	Pat. 9,640,737
Pat. 9,660,153	Pat. 9,673,363	Pat. 9,754,926	Pat. D712,850	Pat. D721,339

#### XLamp® MC-E LED Components (blue, green and white)

These products are covered by the respective patents listed below:

Pat. 7,335,920	Pat. 7,446,345	Pat. 7,655,957	Pat. 7,704,763	Pat. 7,960,819
Pat. 8,044,418	Pat. 8,193,547	Pat.8,378,374	Pat. 8,896,008	Pat. 9,159,888

#### XLamp<sup>®</sup> MHB and MHD LED Components (blue, green and white)

These products are covered by the respective patents listed below:

Pat. 7,446,345 Pat. 9,691,949

#### XLamp® MK-R LED Components

Pat. 7,335,920	Pat. 7,446,345	Pat. 7,704,763	Pat. 7,808,013	Pat. 8,039,859
Pat. 8,217,412	Pat. 8,896,008	Pat. 9,070,850	Pat. 9,159,888	Pat. 9,627,361
Pat. D658.139	Pat. D615.504			

#### XLamp® MK-R2 LED Components

These products are covered by the respective patents listed below:

Pat. 7,335,920	Pat. 7,446,345	Pat. 7,808,013	Pat. 7,943,952	Pat. 8,039,859
Pat. 8,217,412	Pat. 8,217,412	Pat. 8,957,430	Pat. 9,041,042	Pat. 9,070,850
Pat. 9,640,737	Pat. 9,660,153	Pat. 9,673,363	Pat. 9,754,926	Pat. 9,831,220
Pat. D615,504	Pat. D656,906	Pat. D658,139	Pat. D671,661	

#### XLamp® ML-B LED Components (blue, green and white)

These products are covered by the respective patents listed below:

Pat. 7,335,920	Pat. 7,446,345	Pat. 7,704,763	Pat. 8,269,244	Pat. D615,504
Pat. D615,504	Pat. D648,686	Pat. D659,657		

#### XLamp<sup>®</sup> ML-C and ML-E LED Components (blue, green and white)

These products are covered by the respective patents listed below:

Pat. 7,446,345	Pat. 8,269,244	Pat. D648,686	Pat. D659,657
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# XLamp® MP-L EasyWhite® LED Components

These products are covered by the respective patents listed below:

Pat. 7,335,920	Pat. 7,446,345	Pat. 7,704,763	Pat. 7,821,023	Pat. 8,039,859
Pat. 8,217,412	Pat. 8,896,008	Pat. 9,070,850	Pat. 9,159,888	Pat. D656,906
Pat. D671,661				

# XLamp® MT-G LED Components

Pat. 7,335,920	Pat. 7,446,345	Pat. 7,704,763	Pat. 7,808,013	Pat. 8,039,859
Pat. 8,217,412	Pat. 8,896,008	Pat. 9,070,850	Pat. 9,159,888	Pat. D615,504
Pat. D658,139				

## XLamp® MT-G2 EasyWhite® LED Components

These products are covered by the respective patents listed below:

Pat. 7,335,920	Pat. 7,446,345	Pat. 7,808,013	Pat. 7,943,952	Pat. 8,039,859
Pat. 8,217,412	Pat. 8,957,430	Pat. 9,041,042	Pat. 9,640,737	Pat. 9,640,737
Pat. 9,660,153	Pat. 9,673,363	Pat. 9,754,926	Pat. 9,831,220	Pat. D615,504
Pat. D656,906	Pat. D658,139	Pat. D671,661		

# XLamp® MX-3 LED Components

These products are covered by the respective patents listed below:

Pat. 7,446,345	Pat. 7,923,739	Pat. 8,269,244	Pat. 8,497,522	Pat. D621,799
Pat. D635,527	Pat. D641,719			

## XLamp® MX-6 LED Components

These products are covered by the respective patents listed below:

Pat. 7,446,345	Pat. 7,923,739	Pat. 8,269,244	Pat. 8,497,522	Pat. D621,799
Pat. D635,527	Pat. D641,719			

## XLamp® XB-D LED Components

These products are covered by the respective patents listed below:

Pat. 7,446,345	Pat. 7,808,013	Pat. 7,858,998	Pat. 7,943,952	Pat. 8,039,859
Pat. 8,957,430	Pat. 9,070,850	Pat. 9,640,737	Pat. 9,660,153	Pat. 9,673,363
Pat. 10,008,637	Pat. D615,504	Pat. D656,906	Pat. D671,661	

## XLamp® XB-H LED Components

Pat. 7,335,920	Pat. 7,446,345	Pat. 7,704,763	Pat. 7,808,013	Pat. 7,858,998
Pat. 8,039,859	Pat. 8,803,201	Pat. 8,866,169	Pat. 8,896,008	Pat. 9,012,938
Pat. 9,070,850	Pat. 9,105,824	Pat. 9,159,888	Pat. 9,887,327	Pat. D718,725
Pat. D746,240	Pat. D790,486			

# XLamp® XB-E and XB-G High Voltage LED Components

These products are covered by the respective patents listed below:

Pat. 7,446,345 Pat. 7,808,013 Pat. 7,858,998 Pat. 7,943,952 Pat. 8,039,859 Pat. 8,957,430 Pat. 9,070,850 Pat. D615,504 Pat. D711,840

## XLamp® XD-16 Components

These products are covered by the respective patents listed below:

Pat. 9,640,737 Pat. 9,660,153 Pat. 9,673,363

## XLamp® XH-B and XH-G LED Components

These products are covered by the respective patents listed below:

Pat. 7,446,345 Pat. 9,780,268 Pat. D738,832

## XLamp® XHP35 LED Components

These products are covered by the respective patents listed below:

Pat. 7,335,920	Pat. 7,446,345	Pat. 7,704,763	Pat. 7,808,013	Pat. 7,858,998
Pat. 8,039,859	Pat. 8,803,201	Pat. 8,866,169	Pat. 8,896,008	Pat. 9,012,938
Pat. 9,070,850	Pat. 9,105,824	Pat. 9,159,888	Pat. 9,728,676	Pat. 9,887,327
Pat. D718,725	Pat. D746,240	Pat. D790,486	Pat. D826,871	

# XLamp® XHP35.2 LED Components

Pat. 7,335,920	Pat. 7,446,345	Pat. 7,704,763	Pat. 7,808,013	Pat. 7,858,998
Pat. 8,039,859	Pat. 8,803,201	Pat. 8,866,169	Pat. 8,896,008	Pat. 9,012,938
Pat. 9,070,850	Pat. 9,105,824	Pat. 9,159,888	Pat. 9,728,676	Pat. 9,887,327
Pat. D718,725	Pat. D746,240	Pat. D790,486	Pat. D826,871	

## XLamp® XHP50 and XHP70 LED Components

These products are covered by the respective patents listed below:

Pat. 7,335,920	Pat. 7,446,345	Pat. 7,704,763	Pat. 7,808,013	Pat. 8,039,859
Pat. 8,803,201	Pat. 8,896,008	Pat. 9,012,938	Pat. 9,070,850	Pat. 9,105,824
Pat. 9,159,888	Pat. 9,887,327	Pat. D718,725	Pat. D746,240	Pat. D790,486
Pat. D826,871				

#### XLamp® XHP50.2 and XHP70.2 LED Components

These products are covered by the respective patents listed below:

Pat. 7,335,920	Pat. 7,446,345	Pat. 7,704,763	Pat. 7,808,013	Pat. 7,858,998
Pat. 8,039,859	Pat. 8,896,008	Pat. 9,070,850	Pat. 9,105,824	Pat. 9,159,888
Pat. 9,640,737	Pat. 9,660,153	Pat. 9,673,363	Pat. 9,754,926	Pat. 9,831,220
Pat. 9,887,327	Pat. D718,725	Pat. D746,240	Pat. D826,871	

## XLamp® XM-L LED Components

These products are covered by the respective patents listed below:

Pat. 7,335,920	Pat. 7,446,345	Pat. 7,704,763	Pat. 7,808,013	Pat. 7,858,998
Pat. 8,896,008	Pat. 8,896,008	Pat. 9,070,850	Pat. 9,159,888	Pat. D615,504
Pat. D656,906	Pat. D671,661	Pat. D691,569	Pat. D709,464	

# XLamp® XM-L EasyWhite LED Components

Pat. 7,335,920	Pat. 7,446,345	Pat. 7,704,763	Pat. 7,808,013	Pat. 7,858,998
Pat. 8,039,859	Pat. 8,896,008	Pat. 9,070,850	Pat. 9,159,888	Pat. 9,627,361
Pat. D615,504	Pat. D656,906	Pat. D671,661	Pat. D691,569	Pat. D709,464

#### XLamp® XM-L2 LED Components

These products are covered by the respective patents listed below:

Pat. 7,335,920	Pat. 7,446,345	Pat. 7,704,763	Pat. 7,808,013	Pat. 7,858,998
Pat. 8,039,859	Pat. 8,696,159	Pat. 8,896,008	Pat. 9,070,850	Pat. 9,159,888
Pat. 9,627,361	Pat. D615,504	Pat. D656,906	Pat. D671,661	Pat. D691,569
Pat. D709,464				

## XLamp® XM-L2 EasyWhite LED Components

These products are covered by the respective patents listed below:

Pat. 7,335,920	Pat. 7,446,345	Pat. 7,704,763	Pat. 7,808,013	Pat. 7,858,998
Pat. 8,039,859	Pat. 8,696,159	Pat. 8,896,008	Pat. 9,070,850	Pat. 9,159,888
Pat. D615,504	Pat. D656,906	Pat. D671,661	Pat. D691,569	Pat. D709,464

## XLamp® XM-L High-Voltage LED Components

These products are covered by the respective patents listed below:

Pat. 7,446,345	Pat. 7,808,013	Pat. 7,858,998	Pat. 7,943,952	Pat. 8,039,859
Pat. 8,957,430	Pat. 9,070,850	Pat. D691,569	Pat. D615,504	Pat. D656,906
Pat. D671,661				

# XLamp® XM-L Color LED Components

These products are covered by the respective patents listed below:

Pat. 7,335,920	Pat. 7,446,345	Pat. 7,704,763	Pat. 7,808,013	Pat. 7,858,998
Pat. 7,967,652	Pat. 8,896,008	Pat. 9,070,850	Pat. 9,159,888	Pat. D615,504
Pat. D656,906	Pat. D671,661	Pat. D691,569	Pat. D711,841	

# XLamp® XP LED Components (blue, green and white)

Pat. 7,335,920	Pat. 7,446,345	Pat. 7,704,763	Pat. 7,808,013	Pat. 7,858,998
Pat. 8,039,859	Pat. 8,455,909	Pat. 8,896,008	Pat. 9,070,850	Pat. 9,159,888
Pat. D615,504	Pat. D656,906	Pat. D671,661		

#### XLamp® XP-C LED Components (blue, green and white)

These products are covered by the respective patents listed below:

Pat. 7,335,920	Pat. 7,446,345	Pat. 7,704,763	Pat. 7,808,013	Pat. 7,858,998
Pat. 8,039,859	Pat. 8,167,463	Pat. 8,455,909	Pat. 8,896,008	Pat. 9,070,850
Pat. 9,159,888	Pat. D615,504	Pat. D656,906	Pat. D671,661	

## XLamp® XP-E LED Components (blue, green and white)

These products are covered by the respective patents listed below:

Pat. 7,335,920	Pat. 7,446,345	Pat. 7,704,763	Pat. 7,808,013	Pat. 7,858,998
Pat. 8,039,859	Pat. 8,455,909	Pat. 8,896,008	Pat. 9,070,850	Pat. 9,159,888
Pat. 9,640,737*	Pat. 9,660,153*	Pat. 9,673,363*	Pat. D602,450	Pat. D615,504
Pat. D656,906	Pat. D671,661			

<sup>\*</sup>White Only

#### XLamp® XP-E2 LED Components (blue, green and white)

These products are covered by the respective patents listed below:

Pat. 7,335,920	Pat. 7,446,345	Pat.7,704,763	Pat. 7,808,013	Pat. 7,858,998
Pat. 8,039,859	Pat. 8,455,909	Pat. 8,896,008	Pat. 9,070,850	Pat. 9,159,888
Pat. D615.504	Pat. D656,906	Pat. D671.661		

## XLamp® XP LED Components (red)

These products are covered by the respective patents listed below:

Pat. 7,808,013	Pat. 8,039,859	Pat. 8,455,909	Pat. 9,070,850	Pat. D615,504
Pat. D656,906	Pat. D671,661			

#### XLamp® XP-G LED Components (blue, green and white)

Pat. 7,335,920	Pat. 7,446,345	Pat.7,704,763	Pat. 7,808,013	Pat. 7,858,998
Pat. 8,039,859	Pat. 8,455,909	Pat. 8,896,008	Pat. 9,070,850	Pat. 9,159,888
Pat. D615,504	Pat. D656,906	Pat. D671,661		

## XLamp® XP-G2 LED Components (blue, green and white)

These products are covered by the respective patents listed below:

Pat. 7,335,920	Pat. 7,446,345	Pat. 7,704,763	Pat. 7,808,013	Pat. 7,858,998
Pat. 8,039,859	Pat. 8,455,909	Pat. 8,896,008	Pat. 9,054,253	Pat. 9,070,850
Pat. 9,159,888	Pat. D615,504	Pat. D656,906	Pat. D671,661	

## XLamp® XP-G3 LED Components (blue, green and white)

These products are covered by the respective patents listed below:

Pat. 7,335,920	Pat. 7,446,345	Pat. 7,704,763	Pat. 7,808,013	Pat. 7,858,998
Pat. 8,039,859	Pat. 8,455,909	Pat. 8,896,008	Pat. 9,070,850	Pat. 9,159,888
Pat. 9,640,737	Pat. 9,640,737	Pat. 9,640,737	Pat. 9,660,153	Pat. 9,673,363
Pat. D615,504	Pat. D656,906	Pat. D671,661		

#### XLamp® XP-L LED Components

These products are covered by the respective patents listed below:

Pat. 7,335,920	Pat. 7,446,345	Pat. 7,704,763	Pat. 7,808,013	Pat. 7,858,998
Pat. 8,039,859	Pat. 8,455,909	Pat. 8,803,201	Pat. 8,866,169	Pat. 8,896,008
Pat. 9,012,938	Pat. 9,070,850	Pat. 9,105,824	Pat. 9,159,888	Pat. 9,887,327
Pat. D718,725	Pat. D746,240	Pat. D790,486		

# XLamp® XP-L2 LED Components

These products are covered by the respective patents listed below:

Pat. 7,335,920	Pat. 7,446,345	Pat. 7,704,763	Pat. 7,808,013	Pat. 7,858,998
Pat. 8,039,859	Pat. 8,455,909	Pat. 8,866,169	Pat. 8,896,008	Pat. 9,070,850
Pat. 9,105,824	Pat. 9,159,888	Pat. 9,640,737	Pat. 9,660,153	Pat. 9,673,363
Pat. 9,887,327	Pat. D718,725	Pat. D746,240	Pat. D790,486	

<u>XLamp® XQ-A Components</u>
These products are covered by the respective patents listed below:

Pat. 7,446,345	Pat. 7,808,013	Pat. 8,803,201	Pat. 8,866,169	Pat. 9,012,938
Pat. 9,105,824	Pat. 9,887,327	Pat. D718,725	Pat. D746,240	

# XLamp® XQ-B and XQ-D LED Components

These products are covered by the respective patents listed below:

Pat. 7,446,345	Pat. 7,943,952	Pat. 8,039,859	Pat. 9,048,396	Pat. 9,048,396
Pat. 9,640,737	Pat. 9,660,153	Pat. 9,673,363	Pat. 9,754,926*	Pat. D718,258
D / D711 040				

Pat. D711,840

<u>XLamp® XQ-E Components</u>
These products are covered by the respective patents listed below:

Pat. 7,446,345	Pat. 7,808,013	Pat. 8,039,859	Pat. 8,803,201*	Pat. 8,866,169
Pat. 9,012,938*	Pat. 9,105,824*	Pat. 9,887,327	Pat. D718,725	Pat. D746,240
Pat. D783,547*	Pat. D790,486			

<sup>\*</sup>high intensity only

## XLamp<sup>®</sup> XR LED Components (blue, green and white)

These products are covered by the respective patents listed below:

Pat. 7,335,920	Pat. 7,446,345	Pat. 7,612,383	Pat. 7,774,763	Pat. 7,775,685
Pat. 7,808,013	Pat. 8,188,488	Pat. 8,896,008	Pat. 9,159,888	Pat. D640,645
Pat. D681,573	Pat. D623,607			

# XLamp® XR-C LED Components (blue, green and white)

These products are covered by the respective patents listed below:

Pat. 7,335,920	Pat. 7,446,345	Pat. 7,612,383	Pat.7,704,763	Pat. 7,775,685
Pat. 7,808,013	Pat. 8,188,488	Pat. 8,896,008	Pat. 9,159,888	Pat. D640,645
Pat. D681,573	Pat. D623,607			

## XLamp® XR-E LED Components (blue, green and white)

Pat. 7,335,920	Pat. 7,446,345	Pat. 7,612,383	Pat. 7,704,763	Pat. 7,775,685
Pat. 7,808,013	Pat. 7,976,186	Pat. 8,188,488	Pat. 8,896,008	Pat. 9,159,888
Pat. D640,645	Pat. D681,573	Pat. D623,607		

<sup>\*</sup>XQ-B Royal Blue Only

#### XLamp<sup>®</sup> XR LED Components (red)

These products are covered by the respective patents listed below:

Pat. 7,612,383 Pat. 7,775,685 Pat. 8,188,488 Pat. D640,645 Pat. D681,573

#### XLamp® XT-E LED Components (white)

These products are covered by the respective patents listed below:

Pat. 7,446,345	Pat. 7,808,013	Pat. 7,858,998	Pat. 7,943,952	Pat. 8,039,859
Pat. 9,070,850	Pat. 9,640,737	Pat. 9,660,153	Pat. 9,673,363	Pat. D615,504
Pat.D656,906	Pat. D671,661	Pat. D691,973		

#### XLamp® XT-E LED Components (royal blue)

These products are covered by the respective patents listed below:

Pat. 7,446,345	Pat. 7,808,013	Pat. 7,858,998	Pat. 9,070,850	Pat. 9,640,737
Pat. 9,660,153	Pat. 9,673,363	Pat. D615,504	Pat. D656,906	Pat. D671,661
Pat. D691,973				

## **XLamp® XT-E High-Voltage LED Components**

These products are covered by the respective patents listed below:

Pat. 7,446,345	Pat. 7,808,013	Pat. 7,858,998	Pat. 7,943,952	Pat. 8,039,859
Pat. 9,070,850	Pat. D615,504	Pat. D656,906	Pat. D671,661	

# XLamp® XT-E High-Voltage LED Components

Pat. 7,446,345	Pat. 7,808,013	Pat. 7,858,998	Pat. 7,943,952	Pat. 8,039,859
Pat. 9,070,850	Pat. D615,504	Pat. D656,906	Pat. D671,661	