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## 20.0mm Elliptical Ripple Linear TIR (10197)



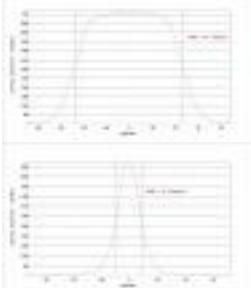



|             |               |
|-------------|---------------|
| Part no.    | 10197         |
| Drawing no. | 60432         |
| Family      | 20mm          |
| Type        | TIR           |
| Diameter    | 20.0          |
| Beam        | Elliptical    |
| Finish      | Ripple Linear |



## LEDs & Performances

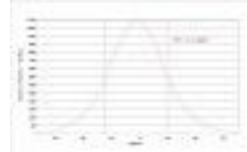
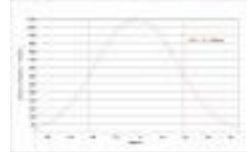
Select LED to view available holders

| Manu.   | Performance<br>Data                    | Images  | IES/STP              |
|---|--|---|----------------------|
| <br><a href="#">Cree XLamp CSP XD16 Cool White</a> | Eff: 85<br>FWHM: 47 x 9<br>Cd/lm: 4.7  | <br> | <a href="#">View</a> |
| <br><a href="#">Cree XLamp MC-E White</a>        | Eff: 81<br>FWHM: 44 x 23<br>Cd/lm: 2.3 |   | <a href="#">View</a> |



Cree XLamp MH-B White

Eff: 83.6  
FWHM: 41 x 22  
Cd/lm: 2.08

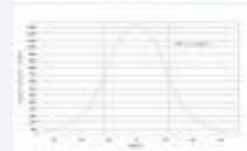


[View](#)



Cree XLamp XHP-50 Gen 2 White

Eff: 83  
FWHM: 41 x 23  
Cd/lm: 2



[View](#)

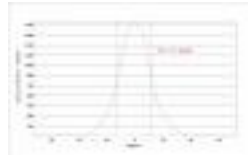


Cree XLamp XHP35 HI White

Eff: 85.6  
FWHM: 45x12  
Cd/lm: 3.9

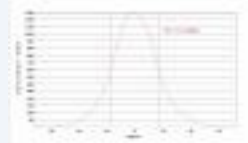
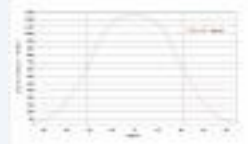
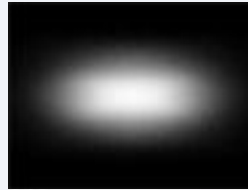


[View](#)



[Cree XLamp XHP35 White](#)

Eff: 84.6  
FWHM: 42x17  
Cd/lm: 2.8



[View](#)



[Cree XLamp XM-L White](#)

FWHM: 47 X 17  
Cd/lm: 3.8



[View](#)



[Cree XLamp XP-E White](#)

Eff: 86  
FWHM: 47 x 8  
Cd/lm: 6.5

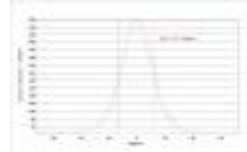
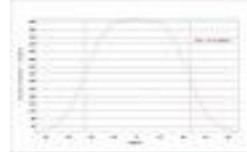


[View](#)



[Cree XLamp XP-G3 White](#)

Eff: 86  
FWHM: 45 x 12  
Cd/lm: 3.6

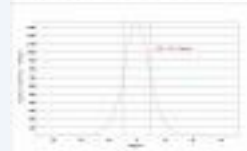
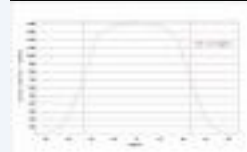


[View](#)



[Cree XLamp XP-L HI White](#)

Eff: 86  
FWHM: 46x10  
Cd/lm: 4.3

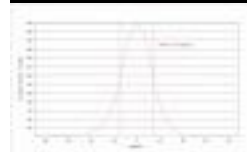


[View](#)



[Cree XLamp XP-L White](#)

Eff: 85.3  
FWHM: 43x15  
Cd/lm: 3.2

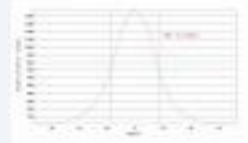
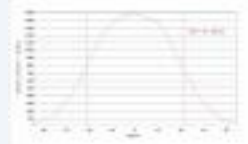
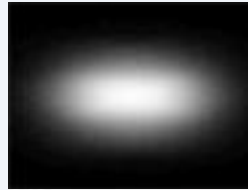


[View](#)



Cree XLamp XP-L2 White

Eff: 84.5  
FWHM: 43 x 17  
Cd/lm: 2.9



[View](#)



Cree XLamp XQ-A Blue

Eff: 86  
FWHM: 51 x 3  
Cd/lm: 13.6



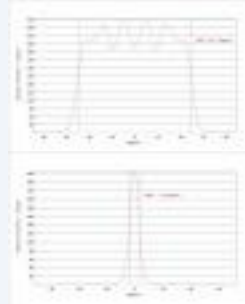
[View](#)





[Cree XLamp XQ-A Green](#)

Eff: 86  
FWHM: 49 X 3  
Cd/lm: 13.6

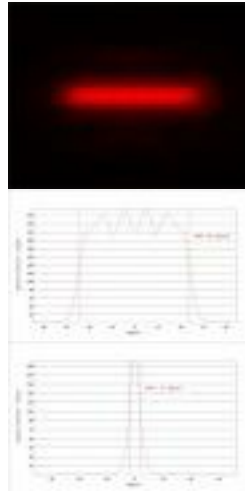


[View](#)



[Cree XLamp XQ-A Red](#)

Eff: 86.5  
FWHM: 48 x 4  
Cd/lm: 11.7

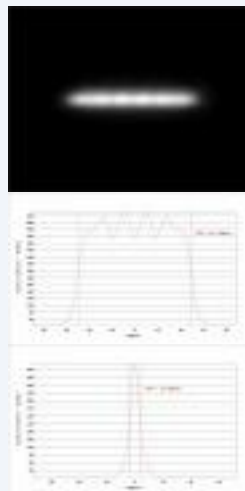


[View](#)



[Cree XLamp XQ-A White](#)

Eff: 86  
FWHM: 49 x 3  
Cd/lm: 12.34

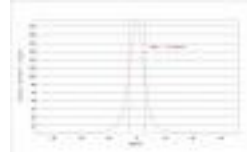
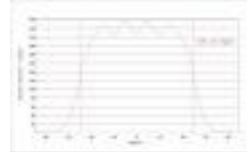


[View](#)



[Cree XLamp XQ-E HI Blue](#)

Eff: 84.5  
FWHM: 49 X 5  
Cd/lm: 7.1

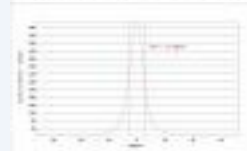


[View](#)



[Cree XLamp XQ-E HI Green](#)

Eff: 84.5  
FWHM: 49 x 5  
Cd/lm: 7.4



[View](#)



Eff: 85  
FWHM: 48 x 5

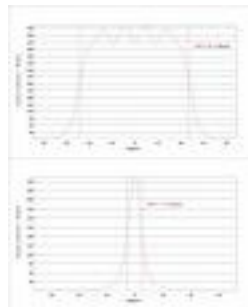


[View](#)



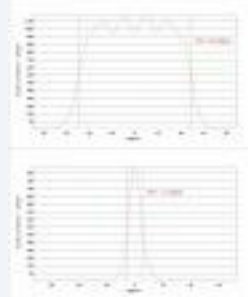
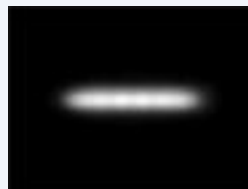
[Cree XLamp XQ-E HI Red](#)

Cd/lm: 8.1



[Cree XLamp XQ-E HI White](#)

Eff: 87  
FWHM: 48 x 5  
Cd/lm: 8.04

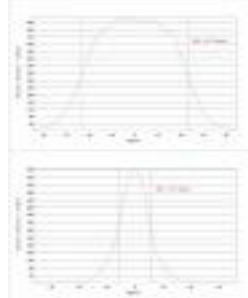


[View](#)



[Cree XLamp XT-E HE White](#)

Eff: 86  
FWHM: 46 x 11  
Cd/lm: 4.1

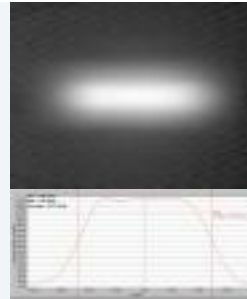


[View](#)



[LG 3535LG White](#)

FWHM: 48 x 11  
Cd/lm: 5.4



[View](#)



[Lite-On R38386AS - S R38 IR](#)

Eff: 89.5  
FWHM: 46 x 8  
Cd/lm: 5.9

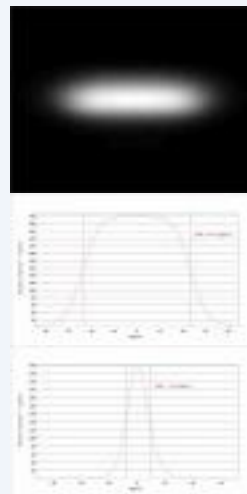


[View](#)



[LUMILEDS LUXEON 3030 White](#)

Eff: 84  
FWHM: 47 x 8  
Cd/lm: 5.14

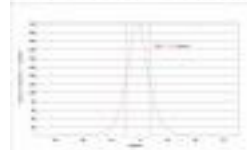
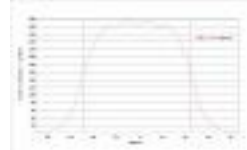


[View](#)



[LUMILEDS LUXEON 3535 HV White](#)

Eff: 85.8  
FWHM: 48 x 8  
Cd/lm: 5.43

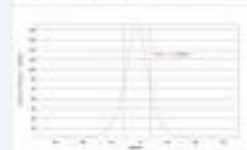
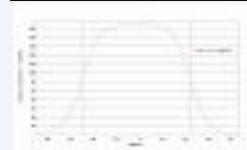


[View](#)



[LUMILEDS LUXEON 3535 L White](#)

Eff: 86  
FWHM: 47 x 9  
Cd/lm: 5.05



[View](#)



[LUMILEDS LUXEON 3535L Blue](#)

Eff: 86.5  
FWHM: 49 x 7  
Cd/lm: 5.8

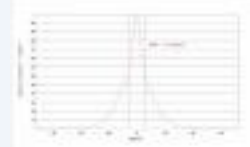
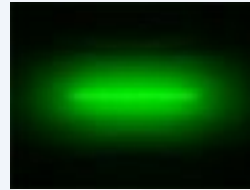
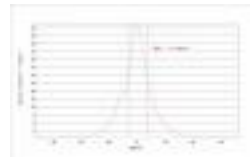


[View](#)



LUMILEDS LUXEON 3535L Green

Eff: 84.6  
FWHM: 49 x 5  
Cd/lm: 6.7

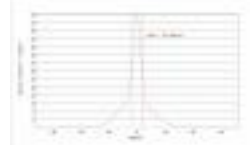
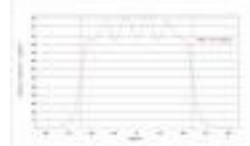


[View](#)



LUMILEDS LUXEON 3535L Red

Eff: 86.5  
FWHM: 48 x 4  
Cd/lm: 9.8

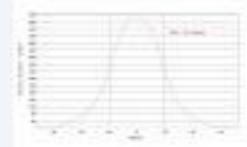
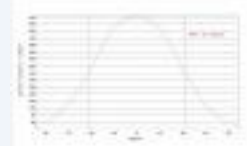
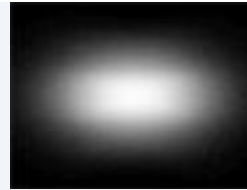


[View](#)



LUMILEDS LUXEON 5050 White

Eff: 85  
FWHM: 41 x 20  
Cd/lm: 2.6

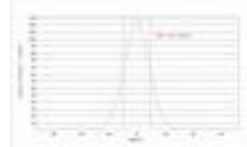


[View](#)



LUMILEDS LUXEON C Blue

Eff: 82  
FWHM: 49 x 10  
Cd/lm: 4.6

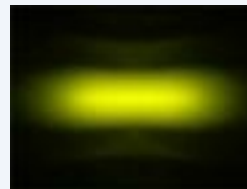


[View](#)

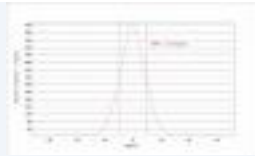


LUMILEDS LUXEON C Lime

Eff: 83.5  
FWHM: 47 X 9  
Cd/lm: 4.9

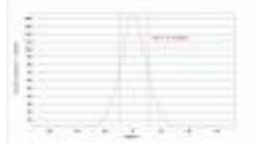
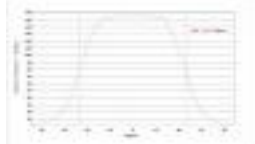
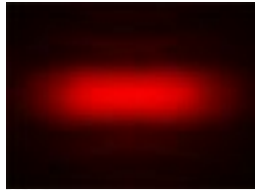


[View](#)



[LUMILEDS LUXEON C Red](#)

Eff: 81.5  
FWHM: 46 x 10  
Cd/lm: 4.5

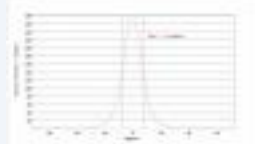
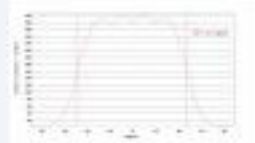


[View](#)



[LUMILEDS LUXEON CSP 05 White](#)

Eff: 83  
FWHM: 48 x 7  
Cd/lm: 5.08



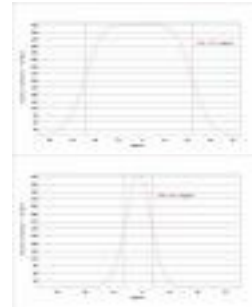
[View](#)





[LUMILEDS LUXEON CSP 10 White](#)

Eff: 83  
FWHM: 47 x 10  
Cd/lm: 3.68

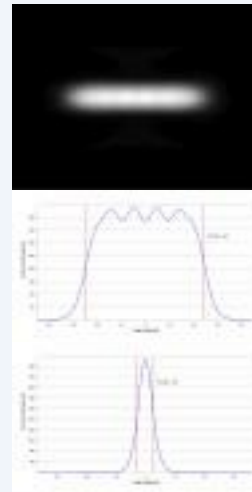


[View](#)



[LUMILEDS LUXEON CZ](#)

Eff: 86.5  
FWHM: 49 x 5  
Cd/lm: 9.1

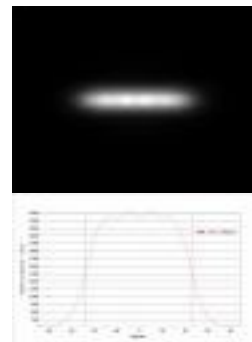


[View](#)

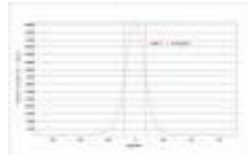


[LUMILEDS LUXEON IR Compact 850nm](#)

Eff: 90  
FWHM: 46 x 7  
Cd/lm: 6.7

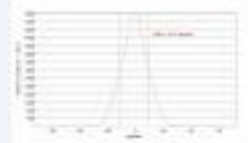
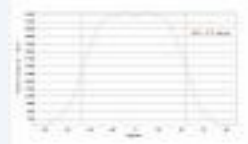
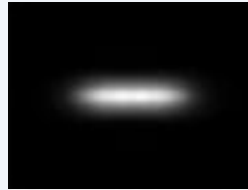


[View](#)



[LUMILEDS LUXEON IR Domed 150 Degree](#)

Eff: 90.5  
FWHM: 46 x 10  
Cd/lm: 5.5

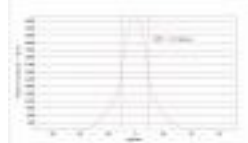


[View](#)



[LUMILEDS LUXEON IR Domed 60 Degree](#)

Eff: 88  
FWHM: 45 x 9  
Cd/lm: 5



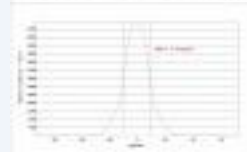
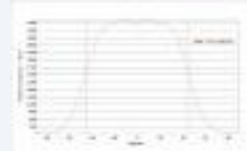
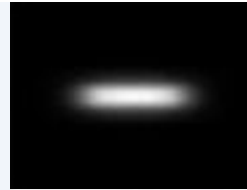
[View](#)





[LUMILEDS LUXEON IR Domed 90 Degree](#)

Eff: 89  
FWHM: 46 x 9  
Cd/lm: 5.4

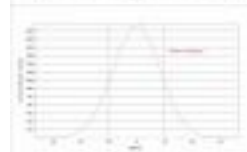
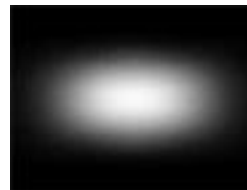


[View](#)



[LUMILEDS LUXEON MZ White](#)

Eff: 84.4  
FWHM: 42 x 19  
Cd/lm: 2.7



[View](#)

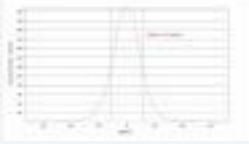







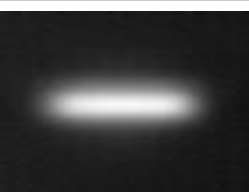





[LUMILEDS LUXEON Q White](#)

Eff: 83.8  
FWHM: 46x11  
Cd/lm: 3.9



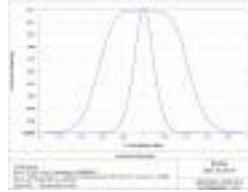
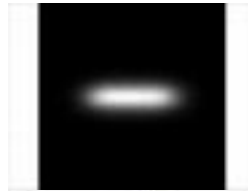
[View](#)

|   |  |   |                      |
|---|--|---|----------------------|
|   |  |   |                      |
| <br><a href="#">LUMILEDS LUXEON R White</a>        | Eff: 81.2<br>FWHM: 47 x 12<br>Cd/lm: 4.8 | <br>    | <a href="#">View</a> |
| <br><a href="#">LUMILEDS LUXEON Rebel ES White</a> | Eff: 81.2<br>FWHM: 47 x 12<br>Cd/lm: 4.8 | <br>    | <a href="#">View</a> |
| <br><a href="#">LUMILEDS LUXEON Rebel White</a>  | Eff: 82<br>FWHM: 48 x 9<br>Cd/lm: 6      | <br> | <a href="#">View</a> |
| <br><a href="#">LUMILEDS LUXEON T White</a>      | Eff: 81.2<br>FWHM: 47x12<br>Cd/lm: 4.8   |    | <a href="#">View</a> |



[LUMILEDS LUXEON TX White](#)

Eff: 87  
FWHM: 46 x 12  
Cd/lm: 4.5

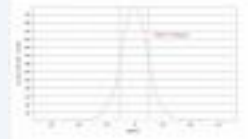
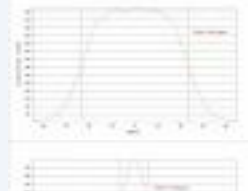
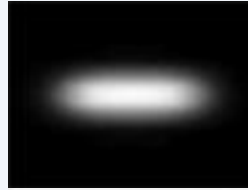


[View](#)



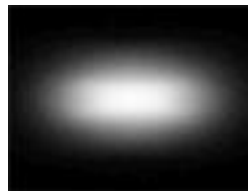
[LUMILEDS LUXEON TX White](#)

Eff: 85.8  
FWHM: 46 x 10  
Cd/lm: 4.3



[View](#)

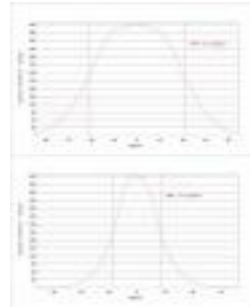
Eff: 83





LUMILEDS LUXEON V White

FWHM: 43 x 17  
Cd/lm: 2.8

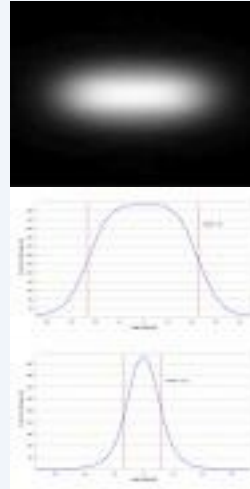


[View](#)



LUMILEDS LUXEON V2 White

Eff: 86.5  
FWHM: 46 x 12  
Cd/lm: 4

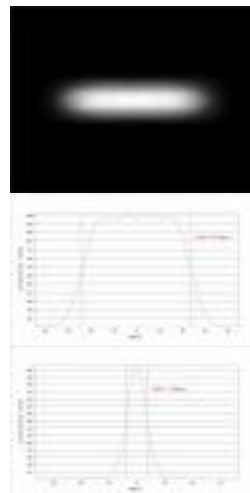


[View](#)



LUMILEDS LUXEON Z ES White

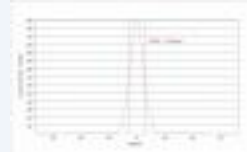
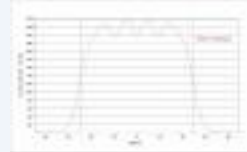
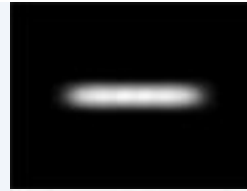
Eff: 86  
FWHM: 48 x 7  
Cd/lm: 6





[LUMILEDS LUXEON Z White](#)

Eff: 86  
FWHM: 48 x 5  
Cd/lm: 8.23

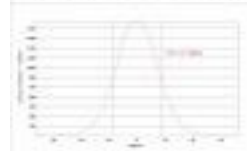
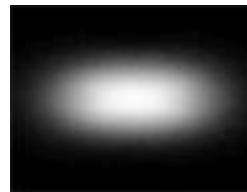


[View](#)



[Nichia 229A White](#)

Eff: 83.5  
FWHM: 42 x 17  
Cd/lm: 2.9



[View](#)



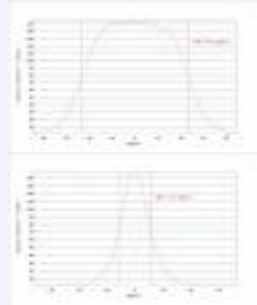
Eff: 86  
FWHM: 47 x 11



[View](#)

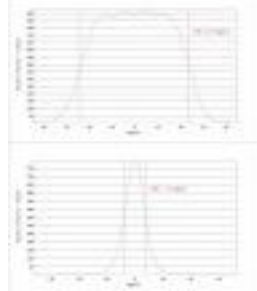
[Nichia 757G White](#)

Cd/lm: 4.3



[Nichia NCSW E17A White](#)

Eff: 86  
FWHM: 48 x 7  
Cd/lm: 6.1

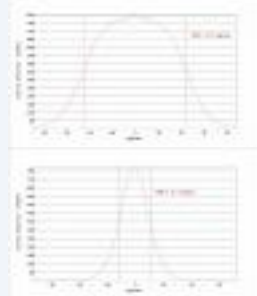
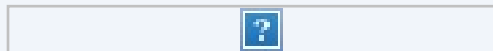


[View](#)



[Nichia NF2W 385AR-V2 White](#)

Eff: 86  
FWHM: 45 x 11  
Cd/lm: 4.3

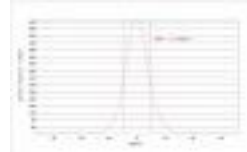
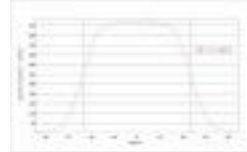
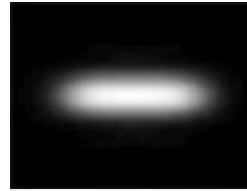


[View](#)



[Nichia NVSL 219B White](#)

Eff: 84  
FWHM: 47 x 9  
Cd/lm: 4.9

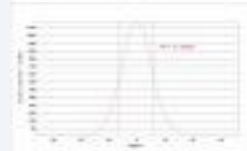


[View](#)



[Nichia NVSW 219C White](#)

Eff: 84.5  
FWHM: 45 x 12  
Cd/lm: 3.8



[View](#)



[Nichia NVSW 319A White](#)

Eff: 84.5  
FWHM: 44 x 14  
Cd/lm: 3.4

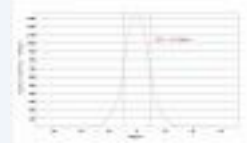
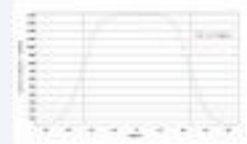
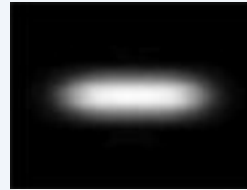
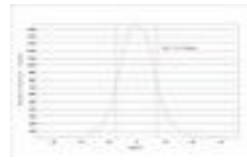


[View](#)



[Nichia NVSW E21A White](#)

Eff: 84  
FWHM: 47 x 9  
Cd/lm: 4.83

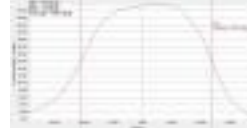


[View](#)



[Nichia Top Emitting 083 White](#)

Eff: 84.2  
FWHM: 44x12  
Cd/lm: 3.8

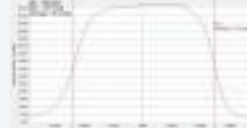


[View](#)



[Nichia Top Emitting NFSW 036 White](#)

Eff: 87  
FWHM: 47x7  
Cd/lm: 5.7



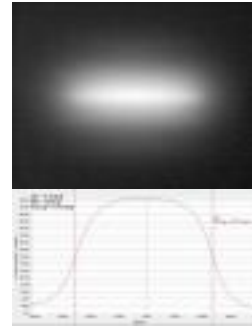
[View](#)





[Nichia Top Emitting NS3W 183T White](#)

Eff: 86.8  
FWHM: 48x14  
Cd/lm: 3.8

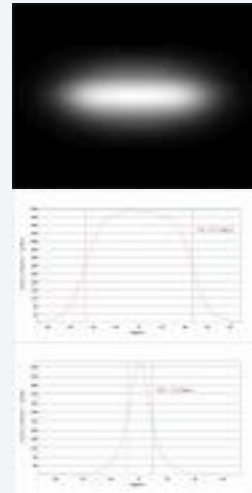


[View](#)



[Osram OS DURIS E 2835 White](#)

Eff: 86  
FWHM: 47 x 8  
Cd/lm: 5.1

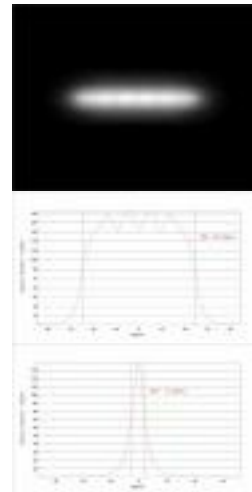


[View](#)



[Osram OS DURIS E2 White](#)

Eff: 86  
FWHM: 49 x 4  
Cd/lm: 7.63

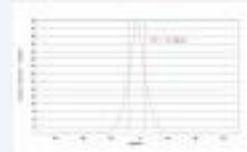
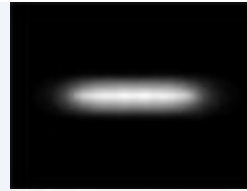


[View](#)

**OSRAM**  
Opto Semiconductors

[Osram OS DURIS E3 White](#)

Eff: 89.5  
FWHM: 48x6  
Cd/lm: 7.5

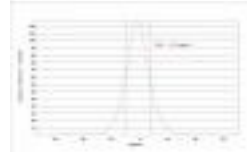
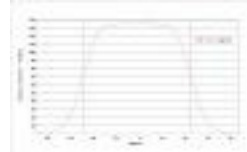
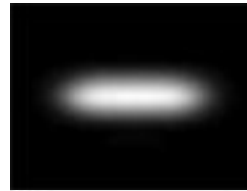


[View](#)

**OSRAM**  
Opto Semiconductors

[Osram OS DURIS S2 White](#)

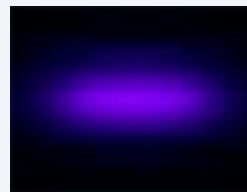
Eff: 90.8  
FWHM: 47x8  
Cd/lm: 4.9



[View](#)

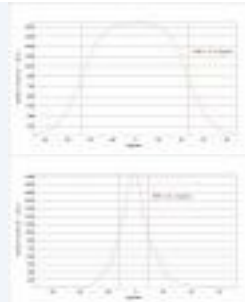
**OSRAM**  
Opto Semiconductors

Eff: 85.5  
FWHM: 47 x 10  
Cd/lm: 4.6



[View](#)

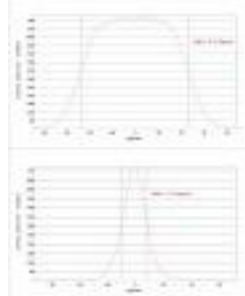
[Osram OS DURIS S5 Deep Blue](#)



Opto Semiconductors

[Osram OS DURIS S5 Green](#)

Eff: 86.5  
FWHM: 47 x 9  
Cd/lm: 5.4



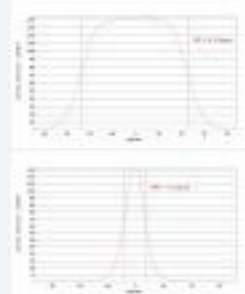
[View](#)



Opto Semiconductors

[Osram OS DURIS S5 Red](#)

Eff: 87  
FWHM: 47 x 8  
Cd/lm: 6.1

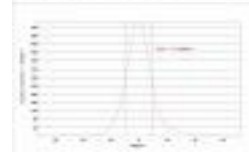
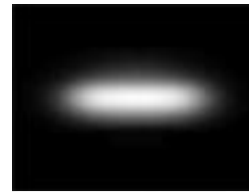


[View](#)

**OSRAM**  
Opto Semiconductors

[Osram OS DURIS S5 White](#)

Eff: 86  
FWHM: 47 X 9  
Cd/lm: 4.86



[View](#)

**OSRAM**  
Opto Semiconductors

[Osram OS GOLDEN DRAGON W5SM White](#)

Eff: 87  
FWHM: 39x7  
Cd/lm: 6

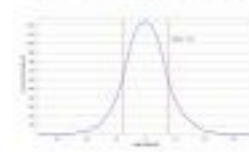


[View](#)

**OSRAM**  
Opto Semiconductors

[Osram OS Osconiq P3737 White](#)

Eff: 84  
FWHM: 44 x 15  
Cd/lm: 3.3

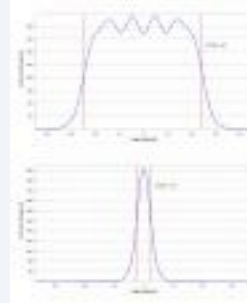
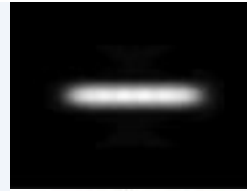


[View](#)

**OSRAM**  
Opto Semiconductors

[Osram OS OSLON Pure CSP GW VJLPE 1 White](#)

Eff: 86.5  
FWHM: 49 x 5  
Cd/lm: 10

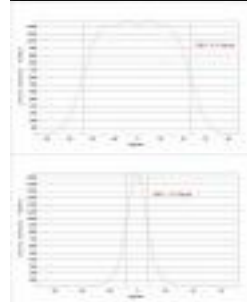
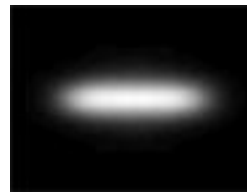


[View](#)

**OSRAM**  
Opto Semiconductors

[Osram OS OSLON Square Flat White](#)

Eff: 86.5  
FWHM: 48 x 8  
Cd/lm: 5.9



[View](#)

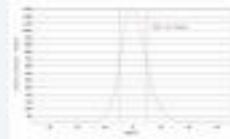
**OSRAM**  
Opto Semiconductors

[Osram OS OSLON Square Gen 3 White](#)

Eff: 85.8  
FWHM: 46 x 10  
Cd/lm: 4.5



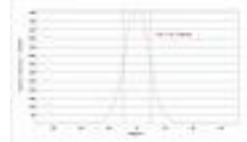
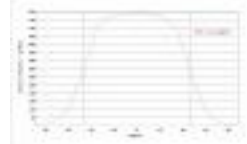
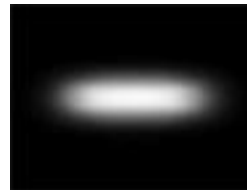
[View](#)



**OSRAM**  
Opto Semiconductors

[Osram OS OSLON Square White](#)

Eff: 85  
FWHM: 46 x 10  
Cd/lm: 4.52

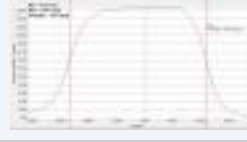


[View](#)

**OSRAM**  
Opto Semiconductors

[Osram OS PLATINUM DRAGON W5SN White](#)

Eff: 89  
FWHM: 47x8  
Cd/lm: 6.7



[View](#)

**SAMSUNG**

[Samsung 3535 LH351B White](#)

Eff: 85  
FWHM: 46 x 12  
Cd/lm: 3.95

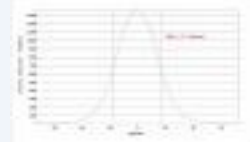
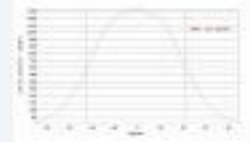
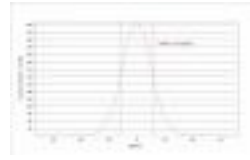


[View](#)



[Samsung 3535 LH351D White](#)

Eff: 86  
FWHM: 43 x 17  
Cd/lm: 3.3

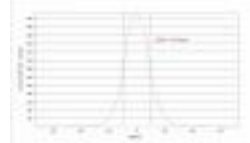
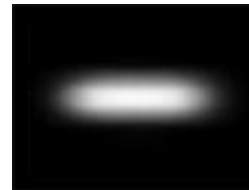


[View](#)



[Samsung 3535 LH351Z White](#)

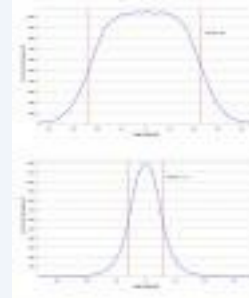
Eff: 85.7  
FWHM: 47 x 10  
Cd/lm: 4.81





[Samsung CSP LH181B White](#)

Eff: 87.5  
FWHM: 46 x 11  
Cd/lm: 2.1

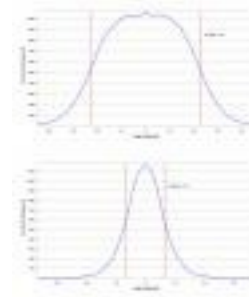


[View](#)



[Samsung CSP LH231B White](#)

Eff: 85.5  
FWHM: 45 x 13  
Cd/lm: 3.7

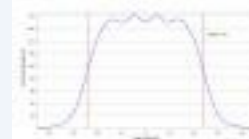


[View](#)



[Samsung CSP LM101B White](#)

Eff: 86  
FWHM: 48 x 7  
Cd/lm: 6.4



[View](#)





[Samsung WH5 White](#)

Eff: 86.5  
FWHM: 47 x 16  
Cd/lm: 3.2

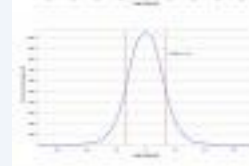


[View](#)



[Seoul CSP SZ8Y22 White](#)

Eff: 85.5  
FWHM: 45 x 13  
Cd/lm: 3.7

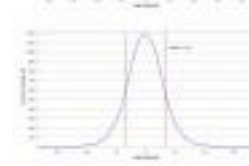


[View](#)



[Seoul CSP SZ8Y22P White](#)

Eff: 84.5  
FWHM: 45 x 13  
Cd/lm: 3.5

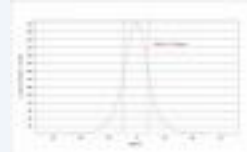


[View](#)



[Seoul MidPower MJT3030 White](#)

Eff: 85  
FWHM: 47 x 9  
Cd/lm: 4.7

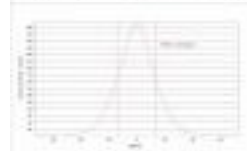


[View](#)



[Seoul MidPower MJT4040 White](#)

Eff: 86  
FWHM: 45 x 14  
Cd/lm: 3.15



[View](#)



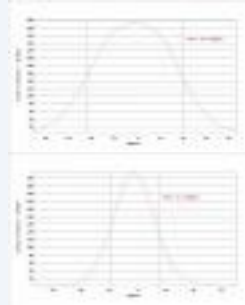
Eff: 84.05  
FWHM: 42x17



[View](#)

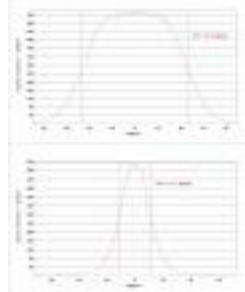
[Seoul P4 White](#)

Cd/lm: 3



[Seoul SZ8Y19 White](#)

Eff: 87  
FWHM: 45 x 11  
Cd/lm: 3.61

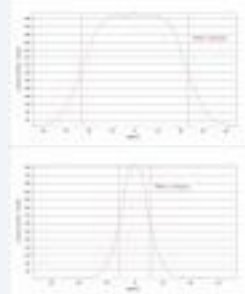


[View](#)



[Seoul Z - Power Z5 M1 White](#)

Eff: 85.9  
FWHM: 46 x 11  
Cd/lm: 4.2

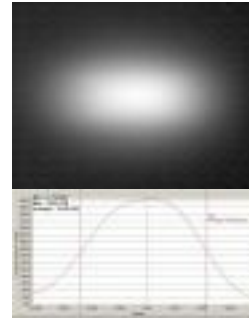


[View](#)



[SSC Acrich A2000 White](#)

Eff: 83.1  
FWHM: 45 x 20  
Cd/lm: 3.1

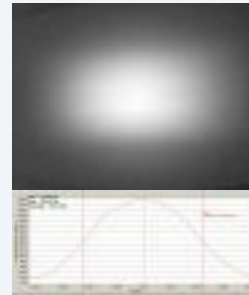


[View](#)



[Stanley 6J White](#)

FWHM: 44 X 28  
Cd/lm: 3.1

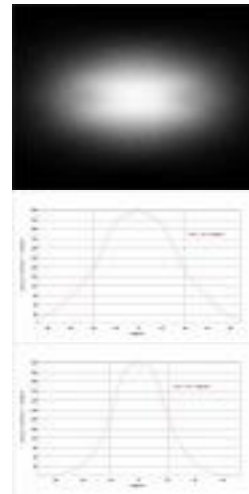


[View](#)



[Stanley 6J White](#)

Eff: 84  
FWHM: 39 x 21  
Cd/lm: 2.28



[View](#)

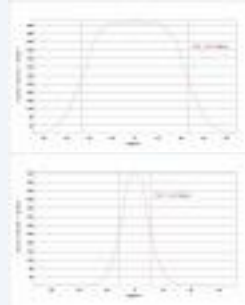
Eff: 86



**TOSHIBA**

[Toshiba TL 1L2 White](#)

FWHM: 46 x 11  
Cd/lm: 4.03

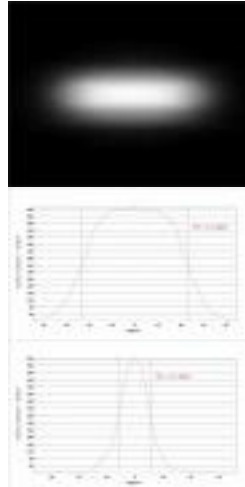


[View](#)

**TOSHIBA**

[Toshiba TL 1L4 White](#)

Eff: 85  
FWHM: 46 x 11  
Cd/lm: 4.1



[View](#)