



Products | Custom Design | Media | Optic Types | Where To Buy | Contact Us

 [sales@carclo-optics.com](mailto:sales@carclo-optics.com)

 +44 1753 575 011



## 20.0mm Narrow Spot Frosted TIR (10194)



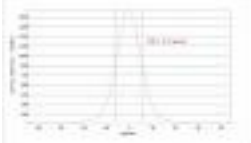






Part no.	10194
Drawing no.	60431
Family	20mm
Type	TIR
Diameter	20.0
Beam	Narrow Spot
Finish	Frosted



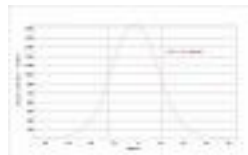
## LEDs & Performances

Select LED to view available holders

Manu.	Performance Data	Images	IES/STP
 <a href="#">Cree XLamp CSP XD16 Cool White</a>	Eff: 86.5 FWHM: 12 Cd/lm: 11.6	 	<a href="#">View</a>
 <a href="#">Cree XLamp MC-E White</a>	Eff: 83 FWHM: 24 Cd/lm: 4.5		<a href="#">View</a>
	Eff: 86.5 FWHM: 24		<a href="#">View</a>

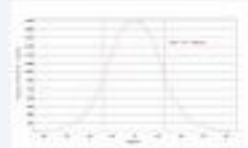
[Cree XLamp MH-B White](#)

Cd/lm: 3.44



[Cree XLamp XHP-50 Gen 2 White](#)

Eff: 86.5  
FWHM: 27  
Cd/lm: 3

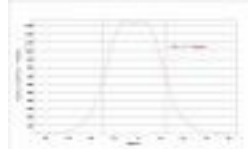


[View](#)



[Cree XLamp XHP-50 White](#)

Eff: 86  
FWHM: 27  
Cd/lm: 2.92

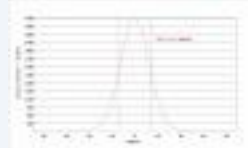


[View](#)



[Cree XLamp XHP35 HI White](#)

Eff: 85.8  
FWHM: 15  
Cd/lm: 9.3

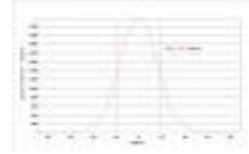


[View](#)



[Cree XLamp XHP35 White](#)

Eff: 85.8  
FWHM: 20  
Cd/lm: 5.5

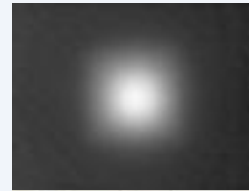


[View](#)



[Cree XLamp XM-L White](#)

Eff: 82.9  
FWHM: 18  
Cd/lm: 8.5

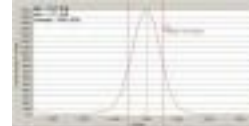


[View](#)



[Cree XLamp XP-E White](#)

Eff: 86.9  
FWHM: 10  
Cd/lm: 20.8

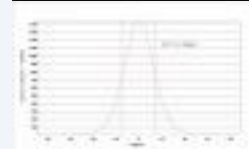


[View](#)



[Cree XLamp XP-G3 White](#)

Eff: 87  
FWHM: 15  
Cd/lm: 8.59

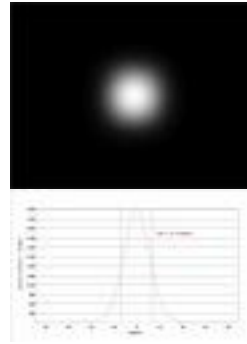


[View](#)



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

Eff: 86.2  
FWHM: 13  
Cd/lm: 11

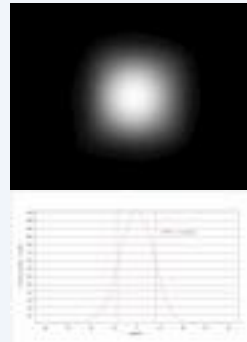


[View](#)



[Cree XLamp XP-L White](#)

Eff: 85.9  
FWHM: 18  
Cd/lm: 6.9

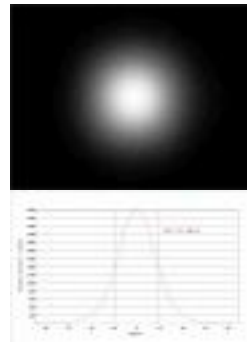


[View](#)



[Cree XLamp XP-L2 White](#)

Eff: 86.5  
FWHM: 20  
Cd/lm: 5.4



[View](#)

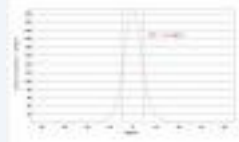


[Cree XLamp XQ-A Blue](#)

Eff: 87  
FWHM: 9  
Cd/lm: 23.6

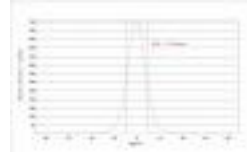
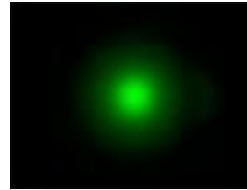


[View](#)



[Cree XLamp XQ-A Green](#)

Eff: 87  
FWHM: 9  
Cd/lm: 23.8

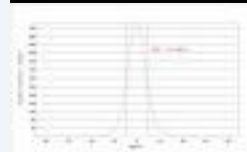


[View](#)



[Cree XLamp XQ-A Red](#)

Eff: 87.5  
FWHM: 9  
Cd/lm: 22.7

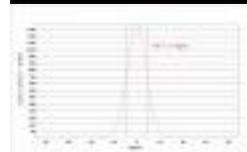
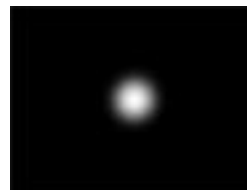


[View](#)



[Cree XLamp XQ-A White](#)

Eff: 86  
FWHM: 10  
Cd/lm: 23.12

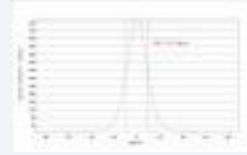


[View](#)



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

Eff: 86  
FWHM: 10  
Cd/lm: 16.1

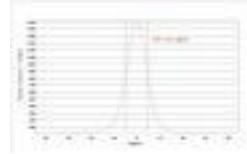
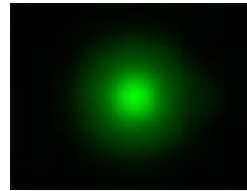


[View](#)



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

Eff: 86  
FWHM: 10  
Cd/lm: 16.2

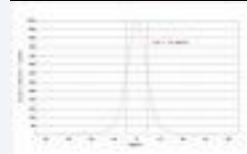


[View](#)



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

Eff: 86.5  
FWHM: 10  
Cd/lm: 17.1

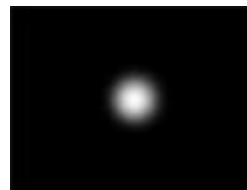


[View](#)



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

Eff: 86  
FWHM: 10  
Cd/lm: 18.13

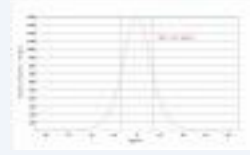
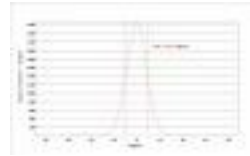


[View](#)



[Cree XLamp XTE HE White](#)

Eff: 87.5  
FWHM: 15  
Cd/lm: 9.2



[View](#)



[LG 3535LG White](#)

Eff: 85.4  
FWHM: 13  
Cd/lm: 14.9

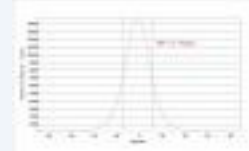


[View](#)



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

Eff: 91  
FWHM: 13  
Cd/lm: 13.3



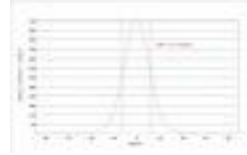
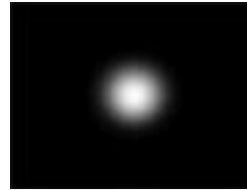
[View](#)





[LUMILEDS LUXEON 3030 White](#)

Eff: 84  
FWHM: 13  
Cd/lm: 12.12

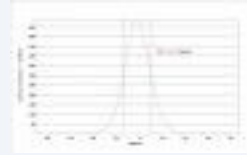
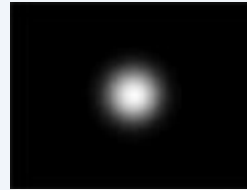


[View](#)



[LUMILEDS LUXEON 3535 HV White](#)

Eff: 85  
FWHM: 13  
Cd/lm: 12.73

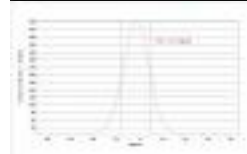


[View](#)



[LUMILEDS LUXEON 3535 L White](#)

Eff: 85  
FWHM: 13  
Cd/lm: 11.9



[View](#)



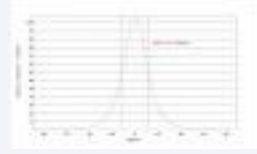
Eff: 88  
FWHM: 12



[View](#)

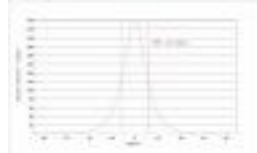
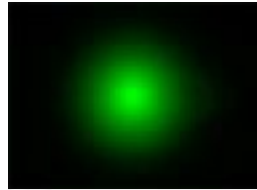
[LUMILEDS LUXEON 3535L Blue](#)

Cd/lm: 12



[LUMILEDS LUXEON 3535L Green](#)

Eff: 88  
FWHM: 12  
Cd/lm: 12.5

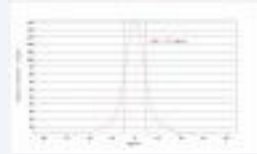
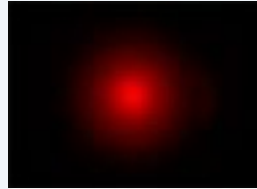


[View](#)



[LUMILEDS LUXEON 3535L Red](#)

Eff: 88  
FWHM: 10  
Cd/lm: 17.1

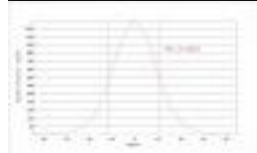


[View](#)



[LUMILEDS LUXEON 5050 White](#)

Eff: 87.5  
FWHM: 22  
Cd/lm: 4.4

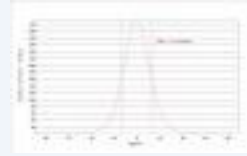


[View](#)



[LUMILEDS LUXEON C Blue](#)

Eff: 83  
FWHM: 13  
Cd/lm: 10.7

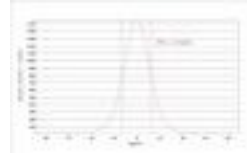
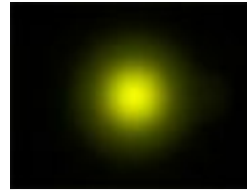


[View](#)



[LUMILEDS LUXEON C Lime](#)

Eff: 85  
FWHM: 13  
Cd/lm: 11.5

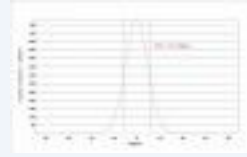
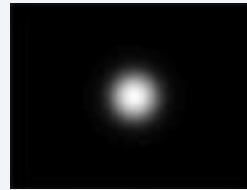


[View](#)



[LUMILEDS LUXEON CSP 05 White](#)

Eff: 85  
FWHM: 12  
Cd/lm: 12.6

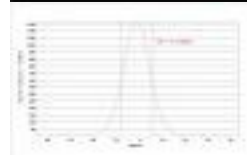


[View](#)



[LUMILEDS LUXEON CSP 10 White](#)

Eff: 84  
FWHM: 13  
Cd/lm: 9.72

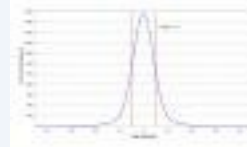


[View](#)



[LUMILEDS LUXEON CZ](#)

Eff: 87.5  
FWHM: 10 x 9  
Cd/lm: 20

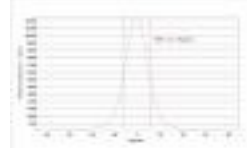
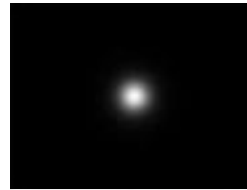


[View](#)



[LUMILEDS LUXEON IR Compact 850nm](#)

Eff: 91  
FWHM: 12  
Cd/lm: 15.4

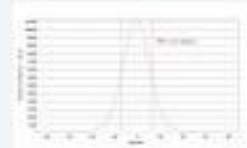


[View](#)



[LUMILEDS LUXEON IR Domed 150 Degree](#)

Eff: 91.5  
FWHM: 14  
Cd/lm: 12.2



[View](#)

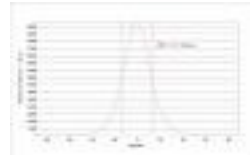


Eff: 89.5  
FWHM: 14



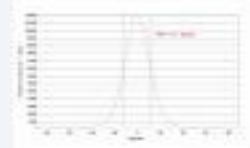
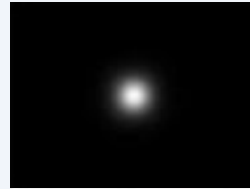
[View](#)

[LUMILEDS LUXEON IR Domed 60 Degree](#) Cd/lm: 11.2



[LUMILEDS LUXEON IR Domed 90 Degree](#)

Eff: 90.5  
FWHM: 13  
Cd/lm: 13.2



[View](#)



[LUMILEDS LUXEON MZ White](#)

Eff: 85.7  
FWHM: 21  
Cd/lm: 5.1

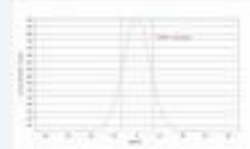


[View](#)



[LUMILEDS LUXEON Q White](#)

Eff: 84  
FWHM: 14  
Cd/lm: 9.7

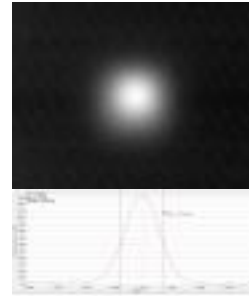


[View](#)



[LUMILEDS LUXEON R White](#)

Eff: 84.4  
FWHM: 14  
Cd/lm: 13.3

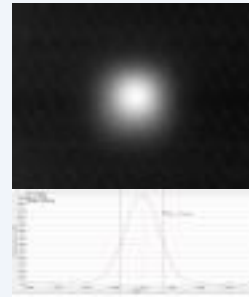


[View](#)



[LUMILEDS LUXEON Rebel ES White](#)

Eff: 84.4  
FWHM: 14  
Cd/lm: 13.3



[View](#)



[LUMILEDS LUXEON Rebel White](#)

Eff: 87  
FWHM: 12  
Cd/lm: 16



[LUMILEDS LUXEON T White](#)

Eff: 84.4  
FWHM: 14  
Cd/lm: 13.3

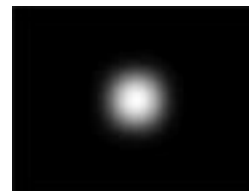


[View](#)



[LUMILEDS LUXEON TX White](#)

Eff: 85.8  
FWHM: 14  
Cd/lm: 10.8

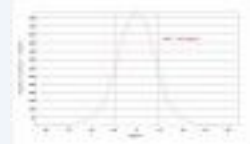
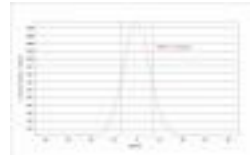


[View](#)



[LUMILEDS LUXEON V White](#)

Eff: 85  
FWHM: 19  
Cd/lm: 5.4

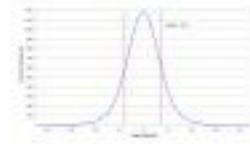


[View](#)



[LUMILEDS LUXEON V2 White](#)

Eff: 87.5  
FWHM: 15  
Cd/lm: 8.8

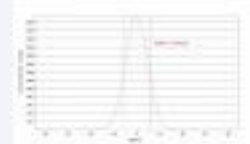
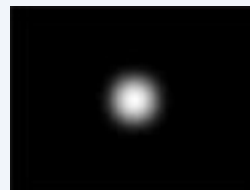


[View](#)



[LUMILEDS LUXEON Z ES White](#)

Eff: 85.8  
FWHM: 11  
Cd/lm: 15.7

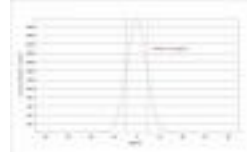
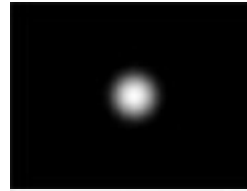


[View](#)



[LUMILEDS LUXEON Z White](#)

Eff: 85.7  
FWHM: 10  
Cd/lm: 19

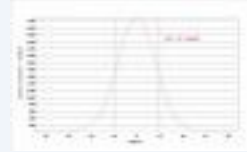
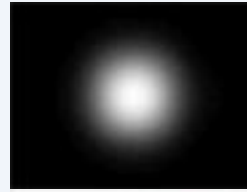


[View](#)



[Nichia 229A White](#)

Eff: 85.5  
FWHM: 20  
Cd/lm: 5.3

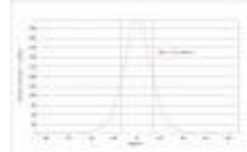


[View](#)



[Nichia 757G White](#)

Eff: 87.5  
FWHM: 14  
Cd/lm: 10.1



[View](#)



Eff: 87  
FWHM: 12

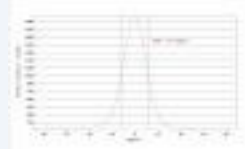


[View](#)



[Nichia NCSW E17A White](#)

Cd/lm: 14.8



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

Eff: 87.5  
FWHM: 15  
Cd/lm: 8.9

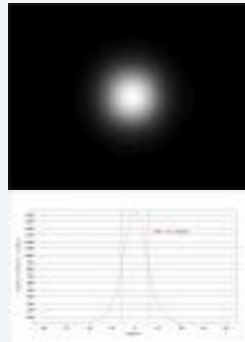


[View](#)



[Nichia NVSL 219B White](#)

Eff: 85.5  
FWHM: 12  
Cd/lm: 12.2

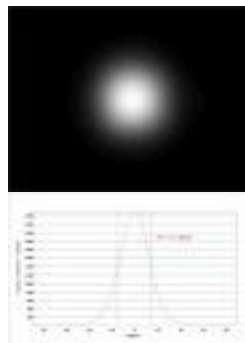


[View](#)



[Nichia NVSW 219C White](#)

Eff: 86  
FWHM: 15  
Cd/lm: 8.6



[View](#)



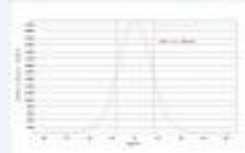
Eff: 86  
FWHM: 17



[View](#)

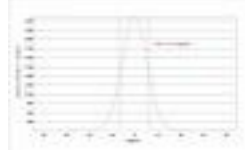
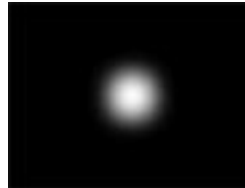
[Nichia NVSW 319A White](#)

Cd/lm: 7.2



[Nichia NVSW E21A White](#)

Eff: 84  
FWHM: 13  
Cd/lm: 12.9

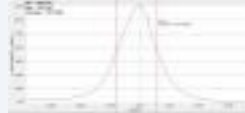


[View](#)



[Nichia Top Emitting 083 White](#)

Eff: 85.3  
FWHM: 14  
Cd/lm: 8.4

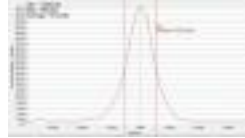


[View](#)



[Nichia Top Emitting NFSW 036 White](#)

Eff: 88.2  
FWHM: 9  
Cd/lm: 19.8



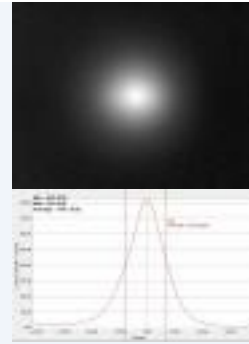
[View](#)

Eff: 88.4



FWHM: 13  
Cd/lm: 9.5

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



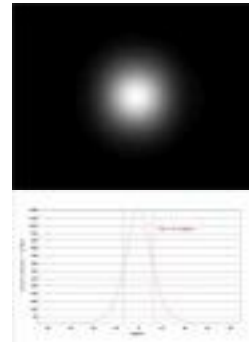
[View](#)



Opto Semiconductors

Eff: 87.5  
FWHM: 13  
Cd/lm: 11.2

[Osram OS DURIS E 2835 White](#)



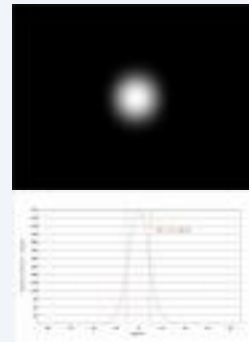
[View](#)



Opto Semiconductors

Eff: 86  
FWHM: 11  
Cd/lm: 17.37

[Osram OS DURIS E2 White](#)

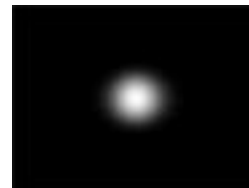


[View](#)



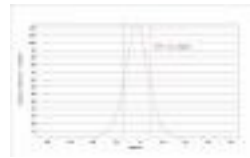
Opto Semiconductors

Eff: 89.3  
FWHM: 11  
Cd/lm: 16.4



[View](#)

[Osram OS DURIS E3 White](#)



**OSRAM**  
Opto Semiconductors

[Osram OS DURIS P8 White](#)

Eff: 85.8  
FWHM: 13  
Cd/lm: 11



[View](#)



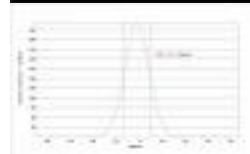
**OSRAM**  
Opto Semiconductors

[Osram OS DURIS S2 White](#)

Eff: 90.7  
FWHM: 13  
Cd/lm: 12.3



[View](#)



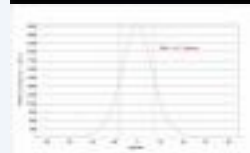
**OSRAM**  
Opto Semiconductors

[Osram OS DURIS S5 Deep Blue](#)

Eff: 87  
FWHM: 15  
Cd/lm: 9.3



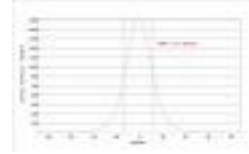
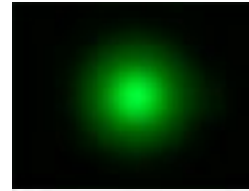
[View](#)



**OSRAM**  
Opto Semiconductors

[Osram OS DURIS S5 Green](#)

Eff: 88  
FWHM: 13  
Cd/lm: 12.2

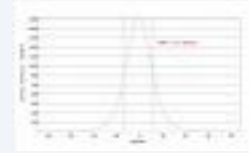
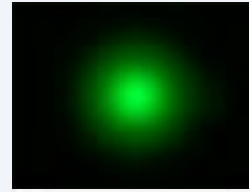


[View](#)

**OSRAM**  
Opto Semiconductors

[Osram OS DURIS S5 Green](#)

Eff: 88  
FWHM: 13  
Cd/lm: 12.2

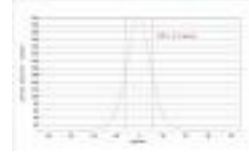
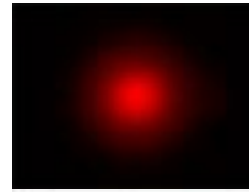


[View](#)

**OSRAM**  
Opto Semiconductors

[Osram OS DURIS S5 Red](#)

Eff: 88.5  
FWHM: 12  
Cd/lm: 13.7

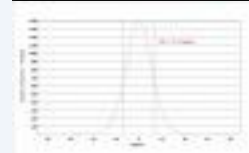


[View](#)

**OSRAM**  
Opto Semiconductors

[Osram OS DURIS S5 White](#)

Eff: 86  
FWHM: 13  
Cd/lm: 11.59

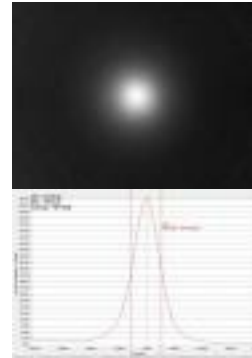


[View](#)

**OSRAM**  
Opto Semiconductors

[Osram OS GOLDEN DRAGON W5SM](#)  
[White](#)

Eff: 89  
FWHM: 10  
Cd/lm: 15

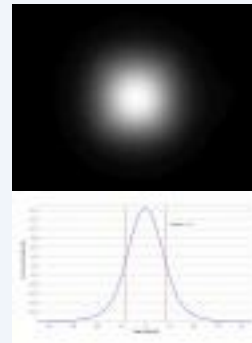


[View](#)

**OSRAM**  
Opto Semiconductors

[Osram OS Osconiq P3737 White](#)

Eff: 85.5  
FWHM: 18  
Cd/lm: 6.7

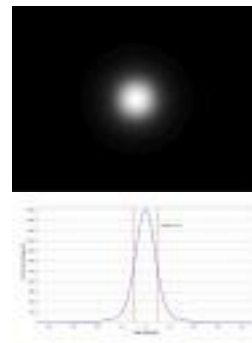


[View](#)

**OSRAM**  
Opto Semiconductors

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

Eff: 87.5  
FWHM: 10  
Cd/lm: 21.3



[View](#)

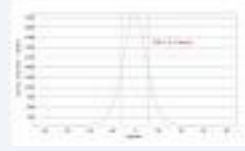
**OSRAM**  
Opto Semiconductors

Eff: 87.5  
FWHM: 12  
Cd/lm: 13.7



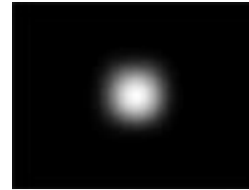
[View](#)

[Osram OS OSLO Square Flat White](#)



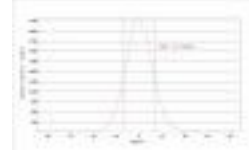
**OSRAM**  
Opto Semiconductors

Eff: 85.6  
FWHM: 13  
Cd/lm: 11.3



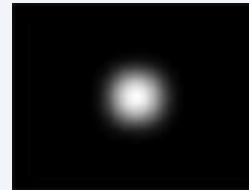
[View](#)

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



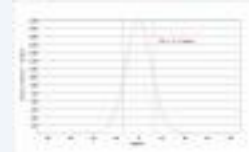
**OSRAM**  
Opto Semiconductors

Eff: 85  
FWHM: 13  
Cd/lm: 11.41



[View](#)

[Osram OS OSLO Square White](#)



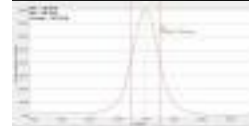
**OSRAM**  
Opto Semiconductors

Eff: 88  
FWHM: 10  
Cd/lm: 24



[View](#)

[Osram OS PLATINUM DRAGON W5SN White](#)



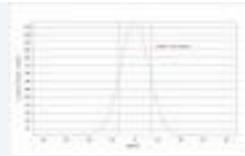
Eff: 85





[Samsung 3535 LH351B White](#)

FWHM: 15  
Cd/lm: 9.71

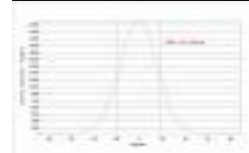


[View](#)



[Samsung 3535 LH351D White](#)

Eff: 88  
FWHM: 20  
Cd/lm: 5.9

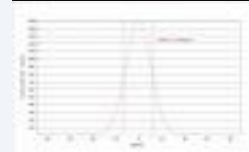
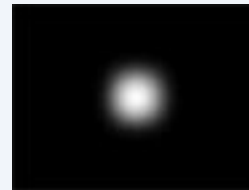


[View](#)



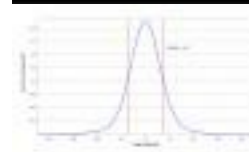
[Samsung 3535 LH351Z White](#)

Eff: 85.5  
FWHM: 13  
Cd/lm: 12.45



[Samsung CSP LH181B White](#)

Eff: 88.5  
FWHM: 14 x 14  
Cd/lm: 10.4



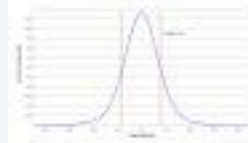
[View](#)





[Samsung CSP LH231B White](#)

Eff: 87.5  
FWHM: 16 x 15  
Cd/lm: 8

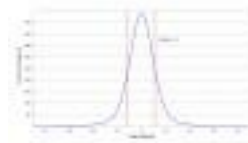


[View](#)



[Samsung CSP LM101B White](#)

Eff: 87  
FWHM: 11  
Cd/lm: 15.3



[View](#)



[Samsung WH5 White](#)

Eff: 88.3  
FWHM: 16  
Cd/lm: 7.1

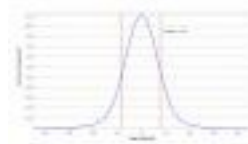


[View](#)



[Seoul CSP SZ8Y22 White](#)

Eff: 87  
FWHM: 16  
Cd/lm: 8.2

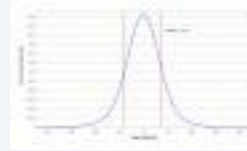


[View](#)



[Seoul CSP SZ8Y22P White](#)

Eff: 85.5  
FWHM: 16  
Cd/lm: 7.8

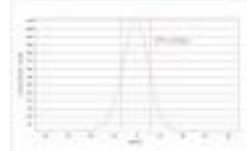
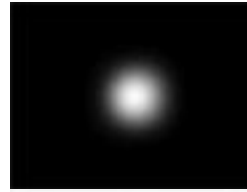


[View](#)



[Seoul MidPower MJT3030 White](#)

Eff: 86  
FWHM: 13  
Cd/lm: 11.4

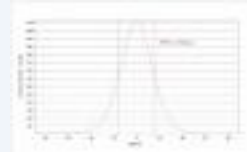


[View](#)



[Seoul MidPower MJT4040 White](#)

Eff: 87  
FWHM: 16  
Cd/lm: 6.9



[View](#)



[Seoul P4 White](#)

Eff: 85.06  
FWHM: 20  
Cd/lm: 5.7

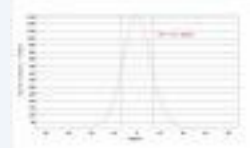
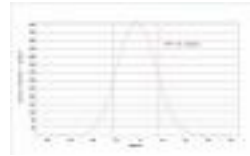


[View](#)



[Seoul SZ8Y19 White](#)

Eff: 87  
FWHM: 14  
Cd/lm: 8.66

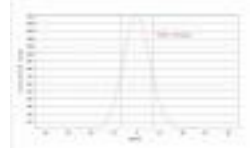


[View](#)



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

Eff: 86  
FWHM: 14  
Cd/lm: 10.8



[View](#)



[SSC Acrich A2000 White](#)

Eff: 85.3  
FWHM: 23  
Cd/lm: 5.3



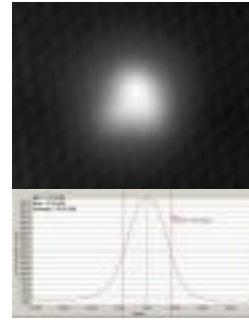
[View](#)

Eff: 90



[SSC P5-II RGB](#)

FWHM: 17  
Cd/lm: 6.6

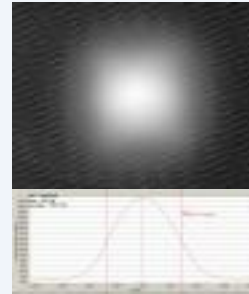


[View](#)



[Stanley 6J White](#)

Eff: 86.8  
FWHM: 27  
Cd/lm: 4.8



[Stanley 6J White](#)

Eff: 86  
FWHM: 24  
Cd/lm: 3.73

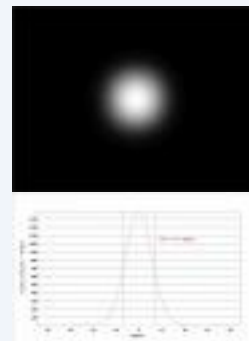


[View](#)



[Toshiba TL 1L2 White](#)

Eff: 86  
FWHM: 14  
Cd/lm: 10.2

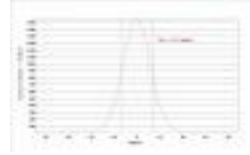
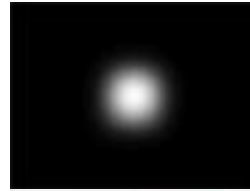


[View](#)

**TOSHIBA**

[Toshiba TL 1L4 White](#)

Eff: 85  
FWHM: 14  
Cd/lm: 10.3



[View](#)