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## 20.0mm Narrow Spot Plain TIR (10199)



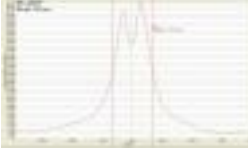





Part no.	10199
Drawing no.	60434
Family	20mm
Type	TIR
Diameter	20.0
Beam	Narrow Spot
Finish	Plain



## LEDs & Performances

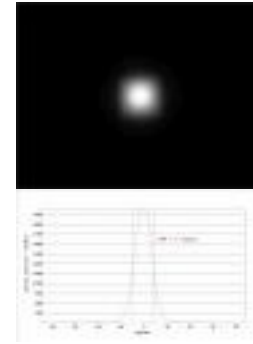
Select LED to view available holders

Manu.	Performance Data	Images	IES/STP
 <a href="#">Avago Moonstone RGB</a>	Eff: 86.2 FWHM: 13 Cd/lm: 12.2	 	<a href="#">View</a>
 <a href="#">Avago Moonstone White</a>	Eff: 88.5 FWHM: 11 Cd/lm: 8.2	 	<a href="#">View</a>



[Cree XLamp CSP XD16 Cool White](#)

Eff: 85  
FWHM: 9  
Cd/lm: 23.1

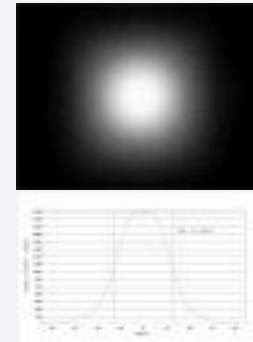


[View](#)



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

Eff: 86  
FWHM: 26  
Cd/lm: 3.4

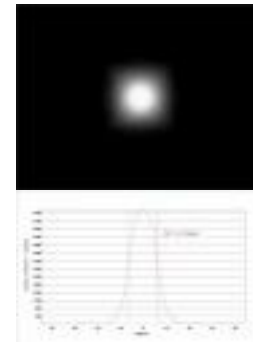


[View](#)



[Cree XLamp XHP35 HI White](#)

Eff: 86.6  
FWHM: 13  
Cd/lm: 12.7

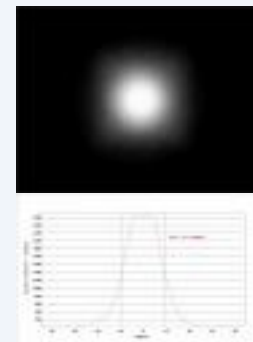


[View](#)



[Cree XLamp XHP35 White](#)

Eff: 86  
FWHM: 18  
Cd/lm: 6.3

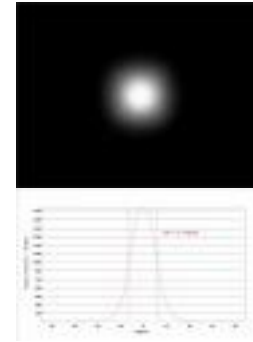


[View](#)



[Cree XLamp XP-G3 White](#)

Eff: 87  
FWHM: 13  
Cd/lm: 11.95

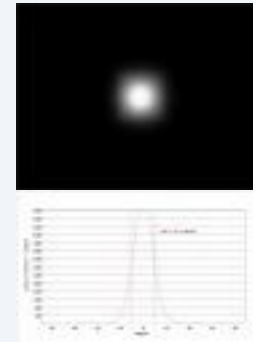


[View](#)



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

Eff: 86.6  
FWHM: 11  
Cd/lm: 17.1

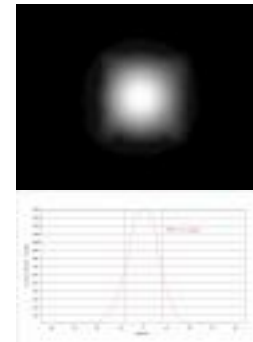


[View](#)



[Cree XLamp XP-L White](#)

Eff: 86.3  
FWHM: 16  
Cd/lm: 8.4



[View](#)

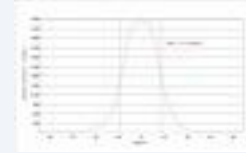
Eff: 85.5





[Cree XLamp XP-L2 White](#)

FWHM: 18  
Cd/lm: 6.8

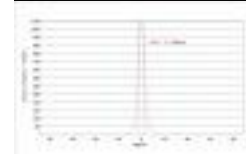
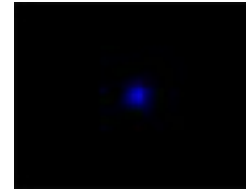


[View](#)



[Cree XLamp XQ-A Blue](#)

Eff: 86.5  
FWHM: 3  
Cd/lm: 163.1

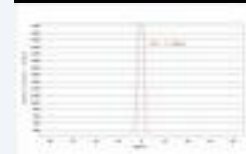


[View](#)



[Cree XLamp XQ-A Green](#)

Eff: 86.52  
FWHM: 3  
Cd/lm: 162.5



[View](#)



[Cree XLamp XQ-A Red](#)

Eff: 86.5  
FWHM: 4  
Cd/lm: 109.9

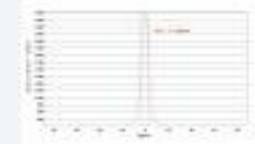
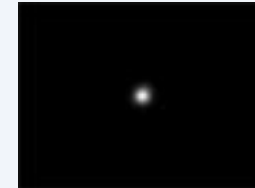
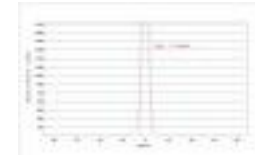


[View](#)



[Cree XLamp XQ-A White](#)

Eff: 86  
FWHM: 3  
Cd/lm: 136

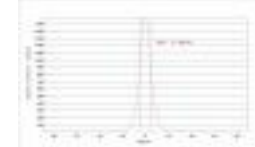


[View](#)



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

Eff: 84.5  
FWHM: 5  
Cd/lm: 52.8

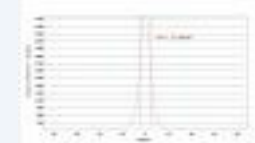
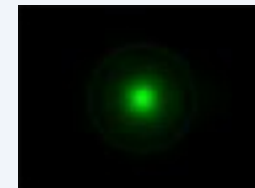


[View](#)



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

Eff: 84.5  
FWHM: 5  
Cd/lm: 54.4



[View](#)

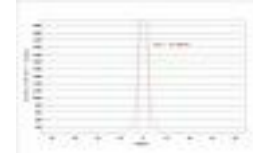


[Cree XLamp XQ-E HI Red](#)

Eff: 85  
FWHM: 5  
Cd/lm: 63.8

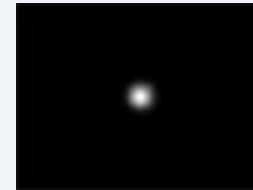


[View](#)

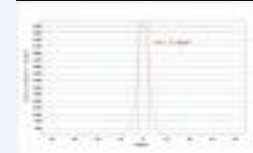


[Cree XLamp XQ-E HI White](#)

Eff: 87  
FWHM: 5  
Cd/lm: 63.2



[View](#)



[Cree XLamp XR White](#)

Eff: 87  
FWHM: 13  
Cd/lm: 6.7



[Cree XLamp XR-C White](#)

Eff: 89  
FWHM: 5  
Cd/lm: 49



[Cree XLamp XR-E White](#)

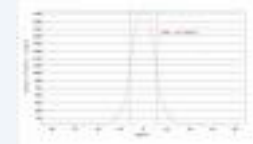
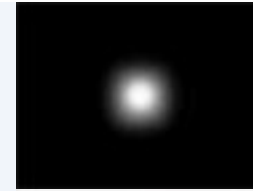
Eff: 91  
FWHM: 8  
Cd/lm: 31

[View](#)



[Cree XLamp XTE HE White](#)

Eff: 86  
FWHM: 12  
Cd/lm: 15.5

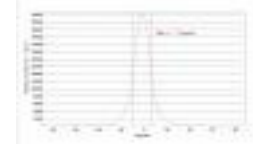
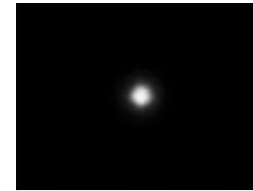


[View](#)



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

Eff: 90.5  
FWHM: 8  
Cd/lm: 30.3

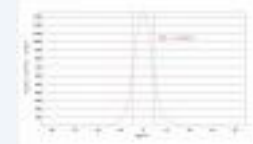
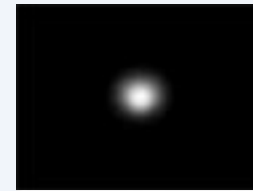


[View](#)



[LUMILEDS LUXEON 3030 White](#)

Eff: 85  
FWHM: 9  
Cd/lm: 22.47



[View](#)



[LUMILEDS LUXEON 3535L Blue](#)

Eff: 85.5  
FWHM: 4  
Cd/lm: 45.4



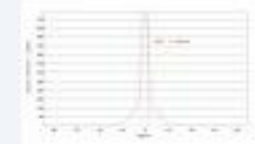
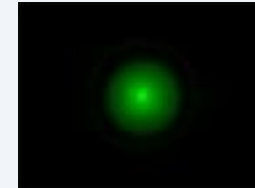
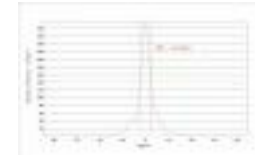
[View](#)





[LUMILEDS LUXEON 3535L Green](#)

Eff: 85.5  
FWHM: 4  
Cd/lm: 60

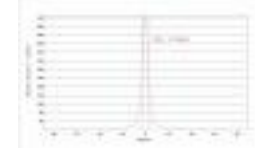


[View](#)



[LUMILEDS LUXEON 3535L Red](#)

Eff: 86.5  
FWHM: 3  
Cd/lm: 108.3

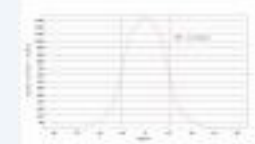


[View](#)



[LUMILEDS LUXEON 5050 White](#)

Eff: 87  
FWHM: 21  
Cd/lm: 5.3

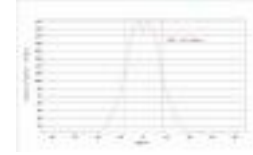
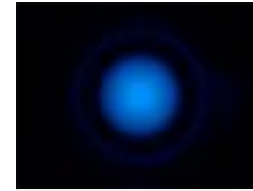


[View](#)



[LUMILEDS LUXEON C Blue](#)

Eff: 83  
FWHM: 17  
Cd/lm: 7.9

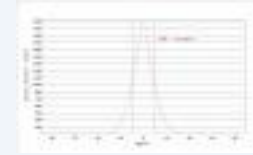
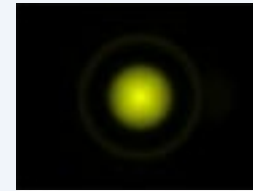


[View](#)



[LUMILEDS LUXEON C Lime](#)

Eff: 83.5  
FWHM: 9  
Cd/lm: 20.6

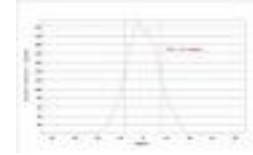
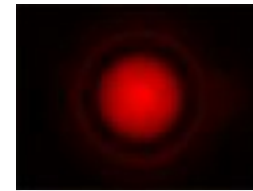


[View](#)



[LUMILEDS LUXEON C Red](#)

Eff: 82.5  
FWHM: 16  
Cd/lm: 8

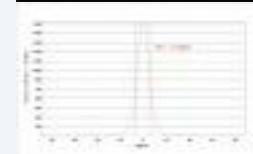
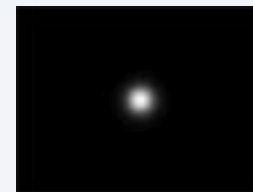


[View](#)



[LUMILEDS LUXEON CSP 05 White](#)

Eff: 86  
FWHM: 6  
Cd/lm: 28.4

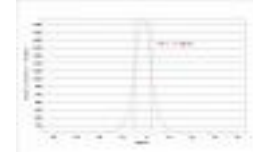
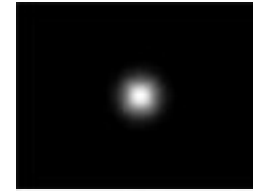


[View](#)



[LUMILEDS LUXEON CSP 10 White](#)

Eff: 86  
FWHM: 8  
Cd/lm: 16.41

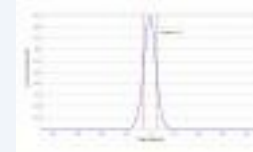
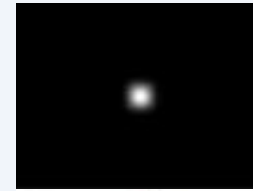


[View](#)



[LUMILEDS LUXEON CZ](#)

Eff: 86.5  
FWHM: 6  
Cd/lm: 66.9

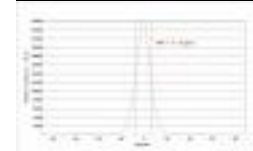
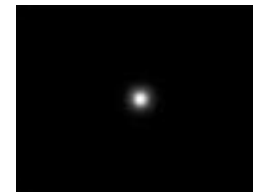


[View](#)



[LUMILEDS LUXEON IR Compact 850nm](#)

Eff: 89  
FWHM: 7  
Cd/lm: 40.4

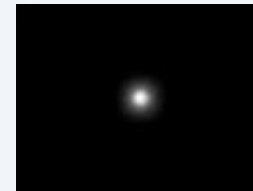


[View](#)

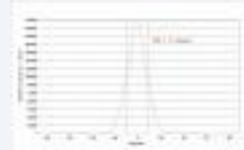


[LUMILEDS LUXEON IR Domed 150 Degree](#)

Eff: 89.5  
FWHM: 9  
Cd/lm: 27.6

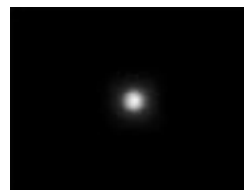


[View](#)

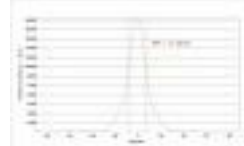


[LUMILEDS LUXEON IR Domed 60 Degree](#)

Eff: 89  
FWHM: 8  
Cd/lm: 25.1

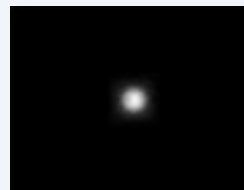


[View](#)

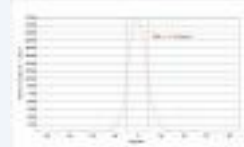


[LUMILEDS LUXEON IR Domed 90 Degree](#)

Eff: 89.5  
FWHM: 9  
Cd/lm: 25.5



[View](#)

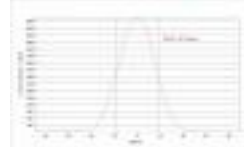


[LUMILEDS LUXEON MZ White](#)

Eff: 86  
FWHM: 19  
Cd/lm: 6.3



[View](#)

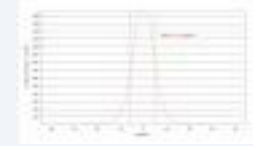
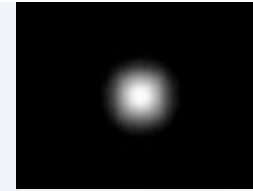


Eff: 84.5



[LUMILEDS LUXEON Q White](#)

FWHM: 11  
Cd/lm: 14.6

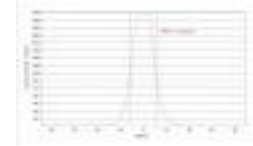
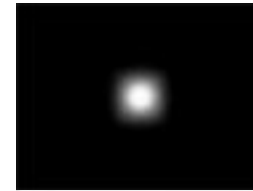


[View](#)



[LUMILEDS LUXEON TX White](#)

Eff: 86.7  
FWHM: 11  
Cd/lm: 16.6

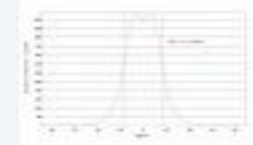
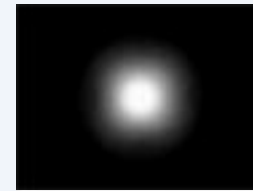


[View](#)



[LUMILEDS LUXEON V White](#)

Eff: 84  
FWHM: 18  
Cd/lm: 6.8

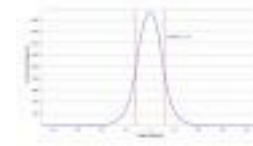


[View](#)



[LUMILEDS LUXEON V2 White](#)

Eff: 86  
FWHM: 12  
Cd/lm: 14.6



[View](#)



[LUMILEDS LUXEON Z White](#)

Eff: 86.3  
FWHM: 5  
Cd/lm: 54

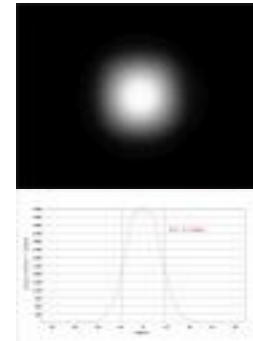


[View](#)



[Nichia 229A White](#)

Eff: 85  
FWHM: 18  
Cd/lm: 6.7

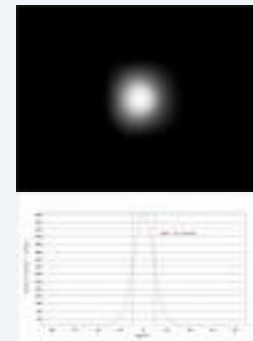


[View](#)



[Nichia 757G White](#)

Eff: 86.5  
FWHM: 11  
Cd/lm: 18.4

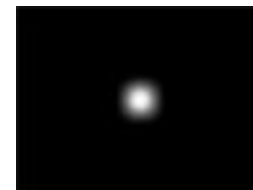


[View](#)



[Nichia NCSW E17A White](#)

Eff: 85  
FWHM: 7  
Cd/lm: 36

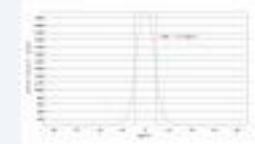
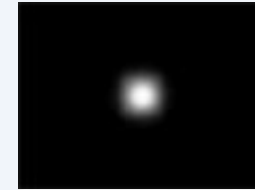
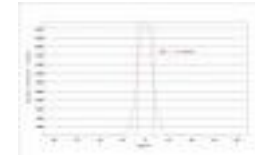


[View](#)



[Nichia NVSL 219B White](#)

Eff: 84  
FWHM: 9  
Cd/lm: 23.1

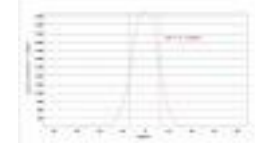
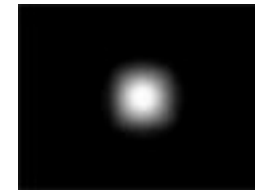


[View](#)



[Nichia NVSW 219C White](#)

Eff: 86  
FWHM: 13  
Cd/lm: 12.6

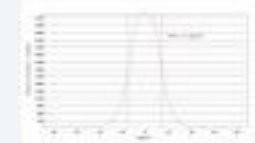


[View](#)



[Nichia NVSW 319A White](#)

Eff: 85  
FWHM: 15  
Cd/lm: 9.9

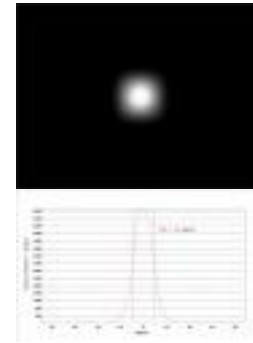


[View](#)



[Nichia NVSW E21A White](#)

Eff: 84  
FWHM: 10  
Cd/lm: 20.8

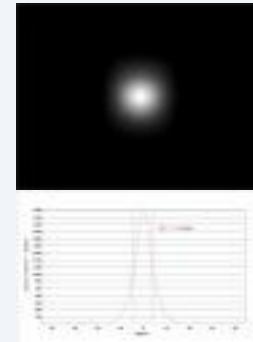


[View](#)



[Osram OS DURIS E 2835 White](#)

Eff: 87  
FWHM: 8  
Cd/lm: 24.7

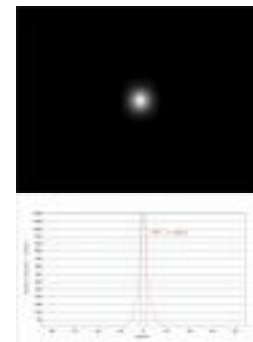


[View](#)



[Osram OS DURIS E2 White](#)

Eff: 87  
FWHM: 3  
Cd/lm: 51.16



[View](#)

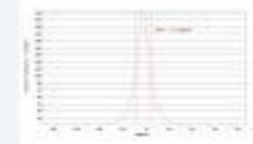
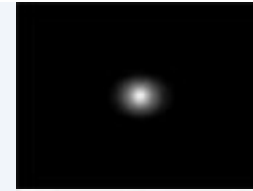
Eff: 90



**OSRAM**  
Opto Semiconductors

[Osram OS DURIS E3 White](#)

FWHM: 6  
Cd/lm: 32.1

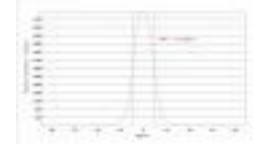
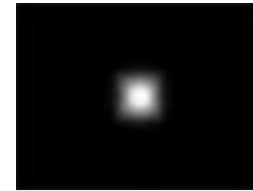


[View](#)

**OSRAM**  
Opto Semiconductors

[Osram OS DURIS P8 White](#)

Eff: 86.5  
FWHM: 10  
Cd/lm: 18.7

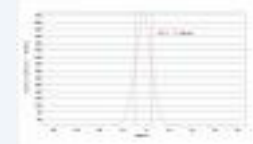
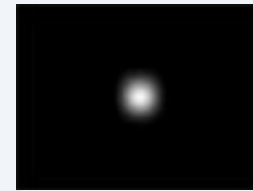


[View](#)

**OSRAM**  
Opto Semiconductors

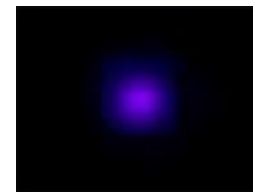
[Osram OS DURIS S2 White](#)

Eff: 91.8  
FWHM: 8  
Cd/lm: 23.2



[View](#)

Eff: 85.5  
FWHM: 9

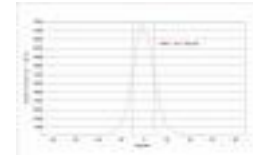


[View](#)

**OSRAM**  
Opto Semiconductors

[Osram OS DURIS S5 Deep Blue](#)

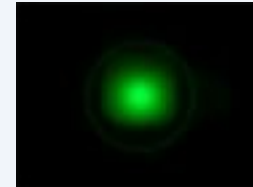
Cd/lm: 24



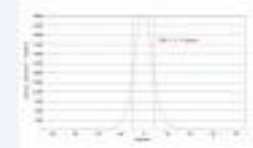
**OSRAM**  
Opto Semiconductors

[Osram OS DURIS S5 Green](#)

Eff: 87  
FWHM: 9  
Cd/lm: 24.4



[View](#)



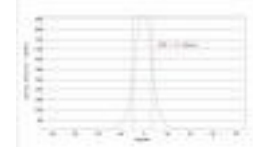
**OSRAM**  
Opto Semiconductors

[Osram OS DURIS S5 Red](#)

Eff: 88  
FWHM: 8  
Cd/lm: 29.7



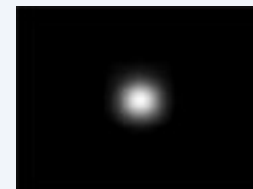
[View](#)



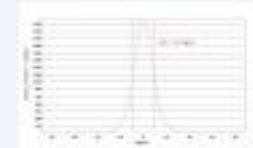
**OSRAM**  
Opto Semiconductors

[Osram OS DURIS S5 White](#)

Eff: 87  
FWHM: 9  
Cd/lm: 19.39



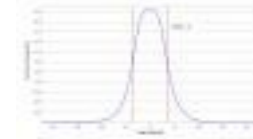
[View](#)





[Osram OS Osconiq P3737 White](#)

Eff: 84  
FWHM: 15  
Cd/lm: 8.9

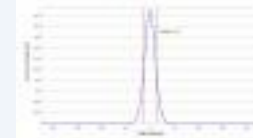
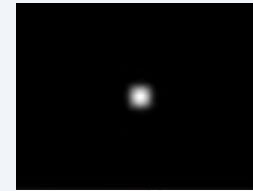


[View](#)



[Osram OS OSLON Pure CSP GW VJLPE1 White](#)

Eff: 85.5  
FWHM: 5  
Cd/lm: 81.6

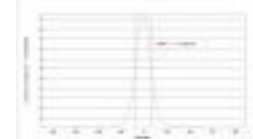
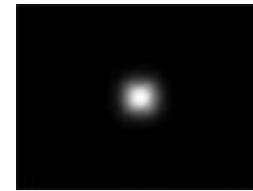


[View](#)



[Osram OS OSLON Square Flat White](#)

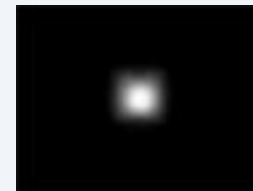
Eff: 85.5  
FWHM: 7  
Cd/lm: 33.1



[View](#)



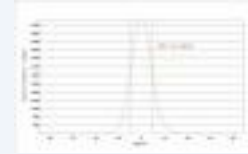
Eff: 86.3  
FWHM: 10



[View](#)

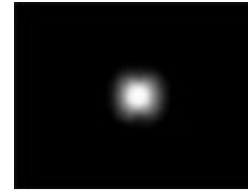
[Osram OS OSLON Square Gen 3 White](#)

Cd/lm: 18.1

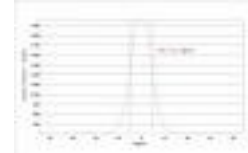


[Osram OS OSLON Square White](#)

Eff: 85  
FWHM: 10  
Cd/lm: 18.71



[View](#)

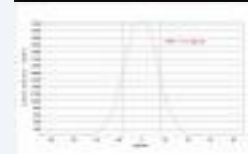


[Samsung 3535 LH351D White](#)

Eff: 87.5  
FWHM: 17  
Cd/lm: 7.7



[View](#)

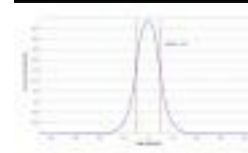


[Samsung CSP LH181B White](#)

Eff: 87  
FWHM: 11  
Cd/lm: 17.2



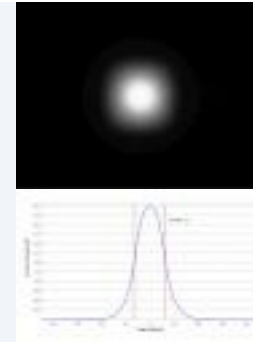
[View](#)





[Samsung CSP LH231B White](#)

Eff: 86.5  
FWHM: 13  
Cd/lm: 11.9

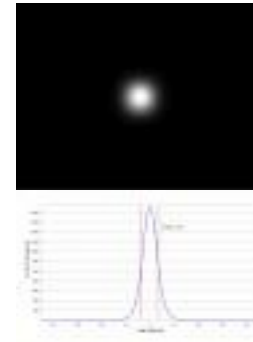


[View](#)



[Samsung CSP LM101B White](#)

Eff: 86.5  
FWHM: 7  
Cd/lm: 40.2

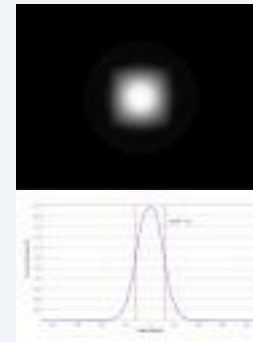


[View](#)



[Seoul CSP SZ8Y22 White](#)

Eff: 84.5  
FWHM: 13  
Cd/lm: 11.8

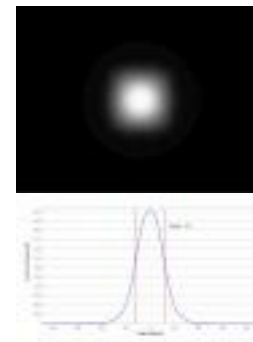


[View](#)



[Seoul CSP SZ8Y22P White](#)

Eff: 84  
FWHM: 13  
Cd/lm: 11.6

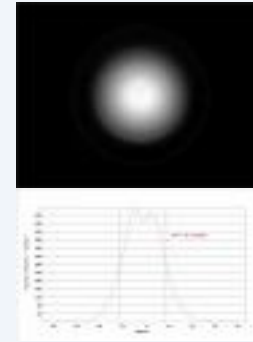


[View](#)



[Seoul P4 White](#)

Eff: 85.48  
FWHM: 20  
Cd/lm: 5.75

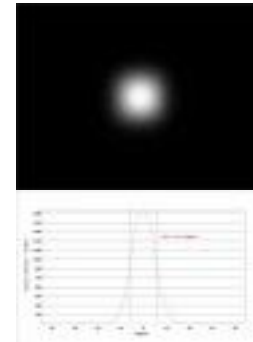


[View](#)



[Seoul SZ8Y19 White](#)

Eff: 88  
FWHM: 12  
Cd/lm: 12.33

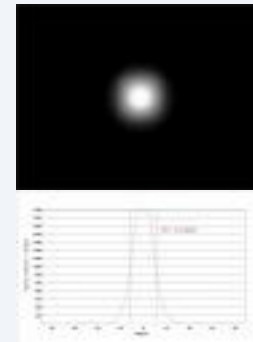


[View](#)

**TOSHIBA**

[Toshiba TL 1L2 White](#)

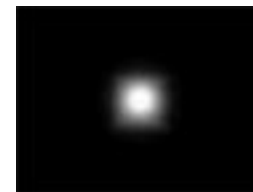
Eff: 86.9  
FWHM: 11  
Cd/lm: 15.4



[View](#)

**TOSHIBA**

Eff: 86  
FWHM: 12



[View](#)

[Toshiba TL 1L4 White](#)

Cd/lm: 14.6

