

## HB-2X2-WW

~65° wide beam optimized for CREE XP-L and XM-L

### TECHNICAL SPECIFICATIONS:

Dimensions	50.0 mm
Height	8.5 mm
Fastening	pin, screw
ROHS compliant	yes ⓘ

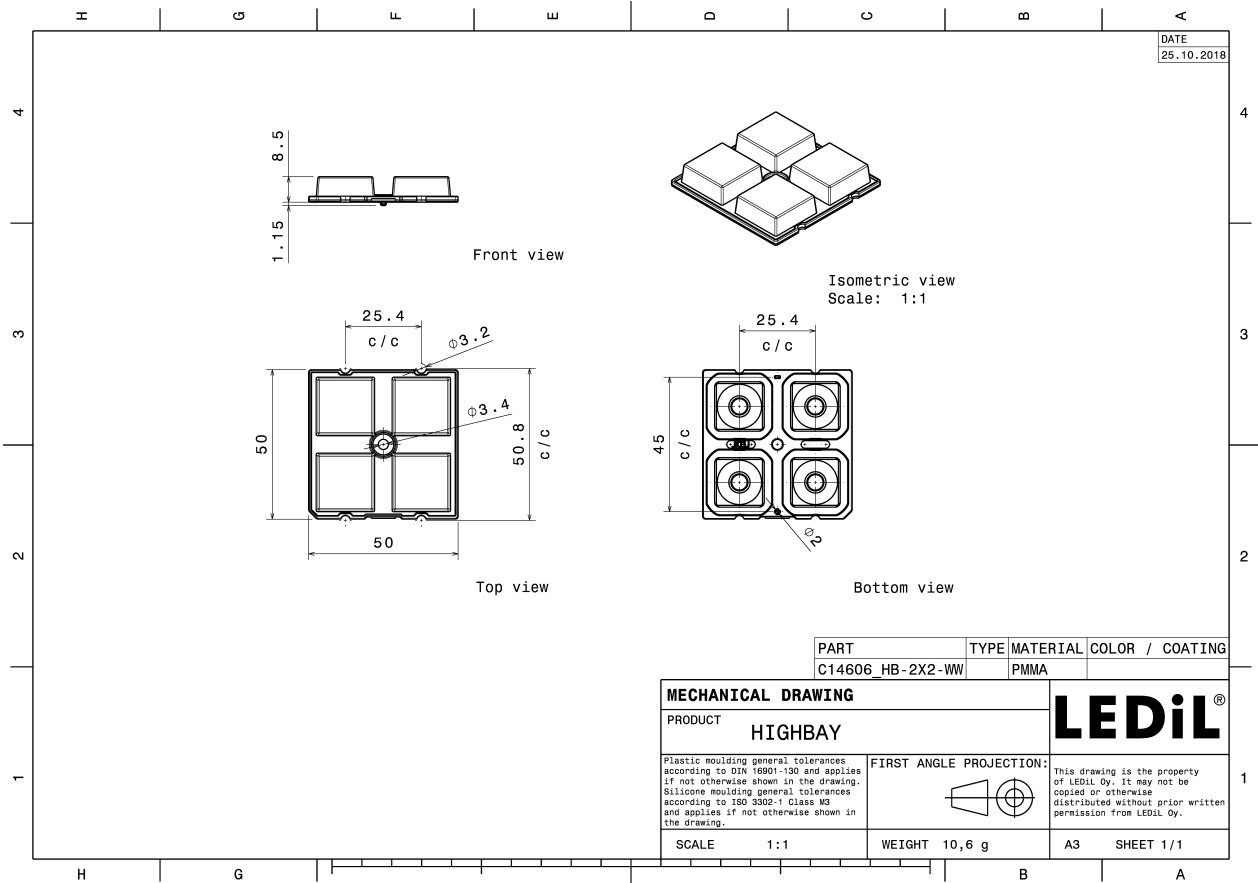
### MATERIAL SPECIFICATIONS:

Component	Type	Material	Colour	Finish
HB-2X2-WW	Multi-lens	PMMA	clear	


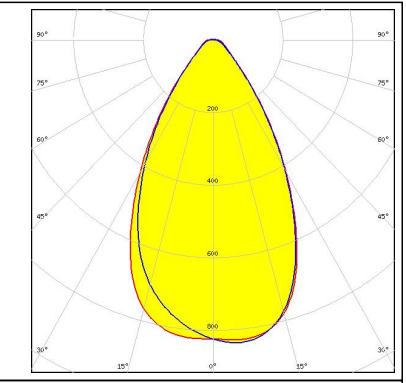
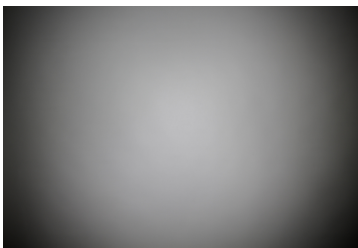
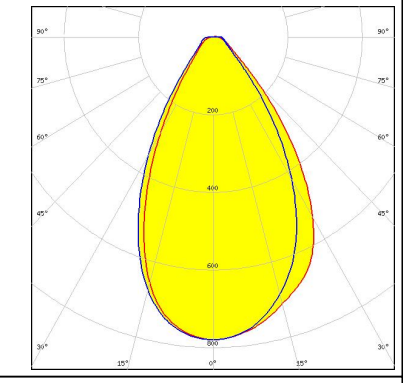

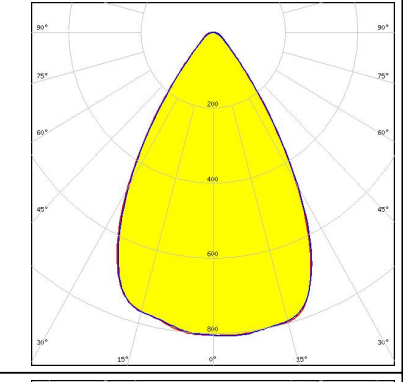
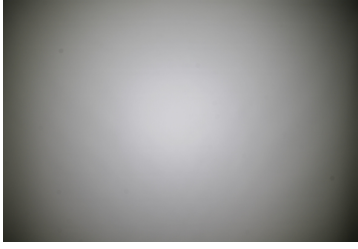
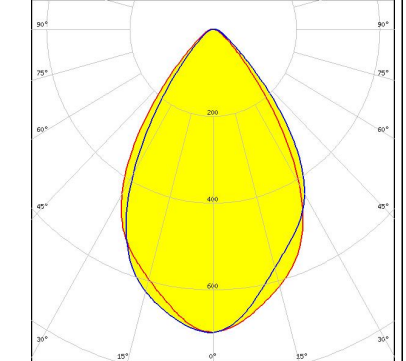


### ORDERING INFORMATION:

Component	Qty in box	MOQ	MPQ	Box weight (kg)
C14606_HB-2X2-WW » Box size: 480 x 280 x 300 mm	800	160	160	9.2



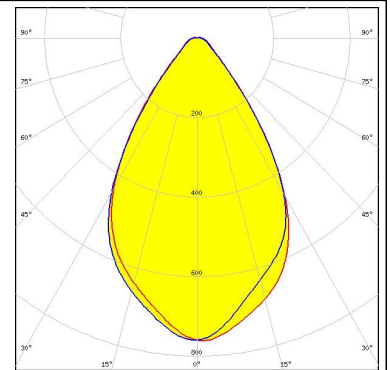
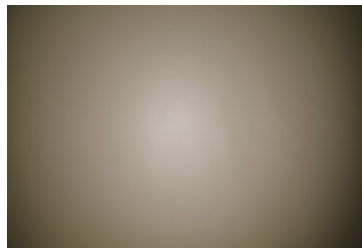
#### PHOTOMETRIC DATA (MEASURED):

<p><b>bridgelux</b></p> <p>LED                    Bridgelux SMD 5050            FWHM                59.0°            Efficiency            94 %            Peak intensity       0.8 cd/lm            LEDs/each optic    1            Light colour        White            Required components:</p>		
<p><b>CREE</b> ⇄</p> <p>LED                    XD16            FWHM                61.0°            Efficiency            92 %            Peak intensity       0.8 cd/lm            LEDs/each optic    4            Light colour        White            Required components:</p>		
<p><b>CREE</b> ⇄</p> <p>LED                    XD16            FWHM                63.0°            Efficiency            93 %            Peak intensity       0.8 cd/lm            LEDs/each optic    1            Light colour        White            Required components:</p>		
<p><b>CREE</b> ⇄</p> <p>LED                    XHP35 HD            FWHM                67.0°            Efficiency            84 %            Peak intensity       0.7 cd/lm            LEDs/each optic    1            Light colour        White            Required components:</p>		

#### PHOTOMETRIC DATA (MEASURED):

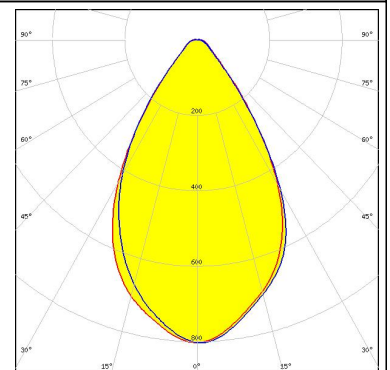
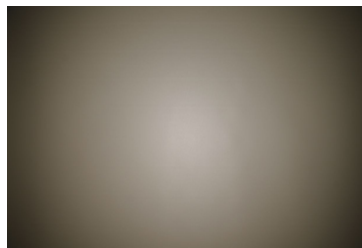
#### CREE

LED XM-L  
 FWHM 66.0°  
 Efficiency 93 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



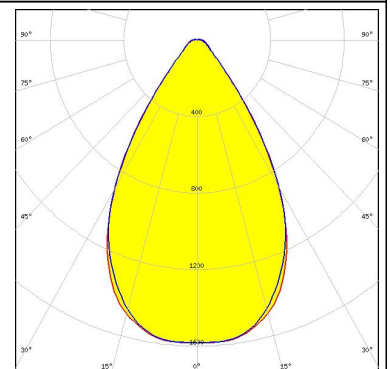
#### CREE

LED XM-L2  
 FWHM 62.0°  
 Efficiency 92 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



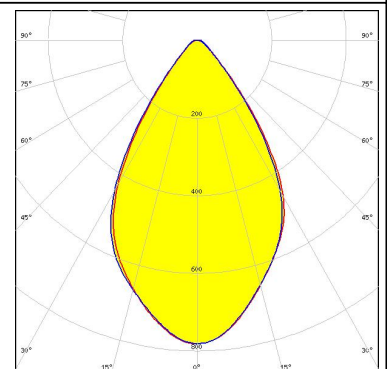
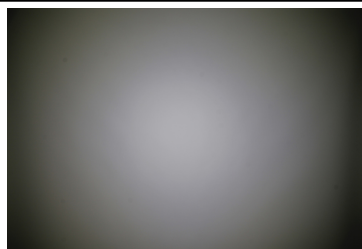
#### CREE

LED XP-G2  
 FWHM 63.0°  
 Efficiency 91 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### CREE

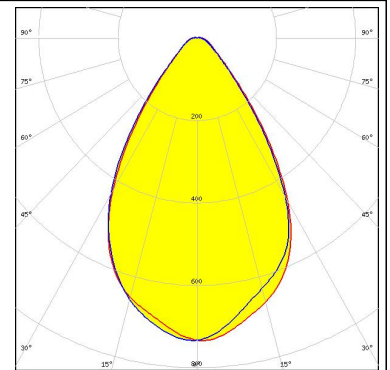
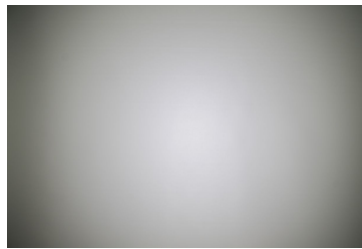
LED XP-G3  
 FWHM 64.0°  
 Efficiency 86 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



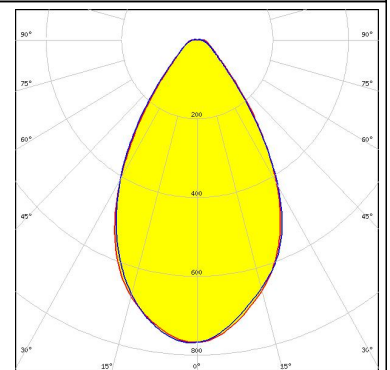
#### PHOTOMETRIC DATA (MEASURED):



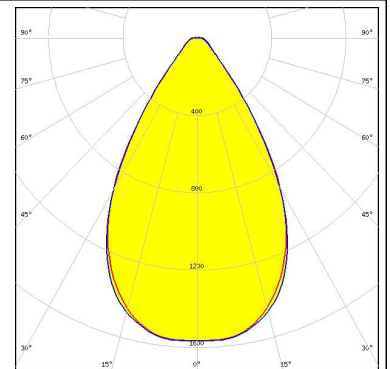
LED XP-L HD  
 FWHM 66.0°  
 Efficiency 93 %  
 Peak intensity 0.7 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



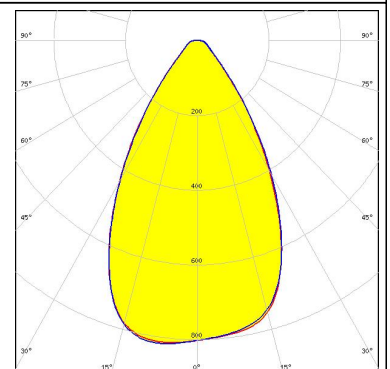
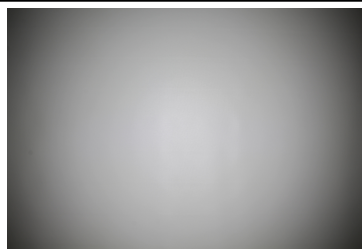
LED XP-L2  
 FWHM 62.0°  
 Efficiency 93 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



LED H35C1 (LEMWA33)  
 FWHM 63.0°  
 Efficiency 92 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



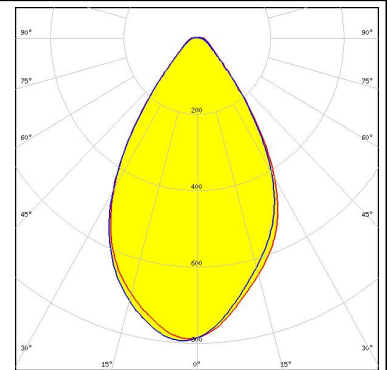
LED LUXEON 5050 Round LES  
 FWHM 61.0°  
 Efficiency 94 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### PHOTOMETRIC DATA (MEASURED):

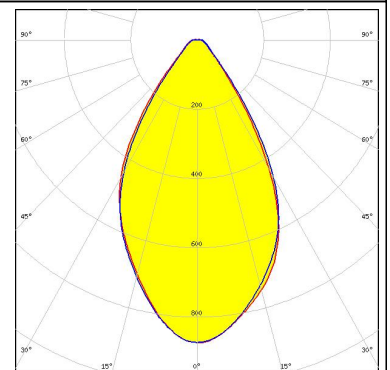
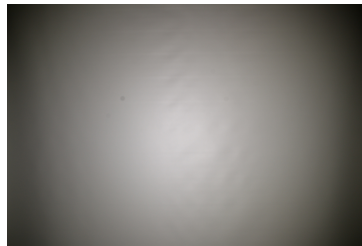
##### LUMILEDS

LED LUXEON V  
 FWHM 63.0°  
 Efficiency 93 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



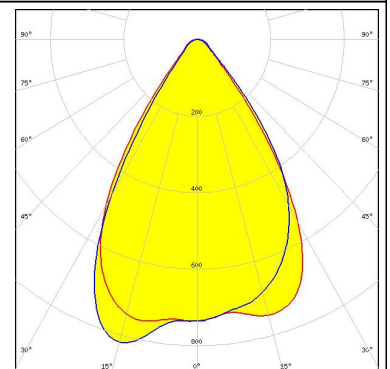
##### LUMILEDS

LED LUXEON V2  
 FWHM 61.0°  
 Efficiency 94 %  
 Peak intensity 0.9 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



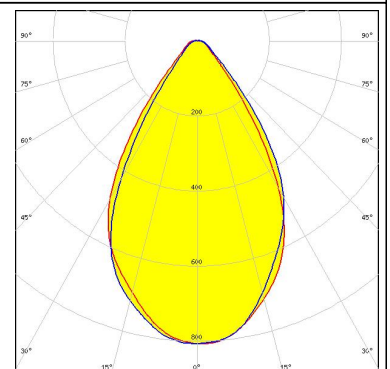
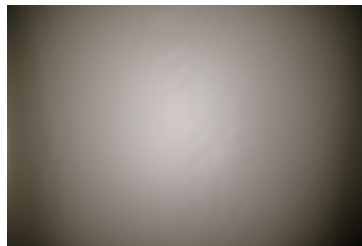
##### LUMINUS

LED SST-10-B130  
 FWHM 69.0°  
 Efficiency 95 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour Deep Red  
 Required components:



##### NICHIA

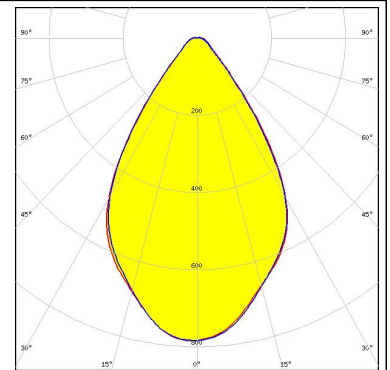
LED NVSW219D  
 FWHM 64.0°  
 Efficiency 94 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



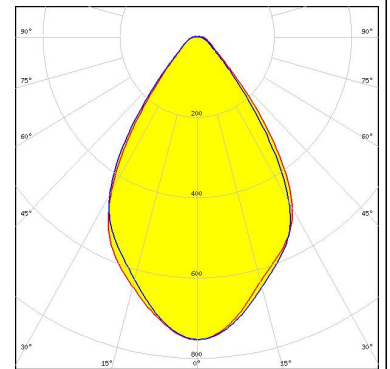
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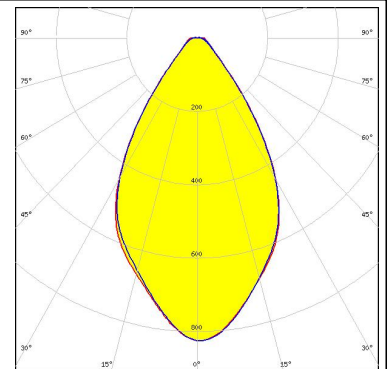
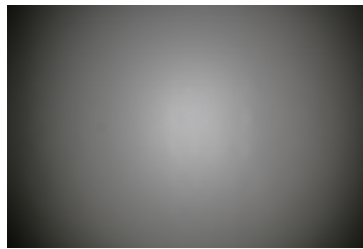
LED NVSW219F  
 FWHM 66.0°  
 Efficiency 94 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



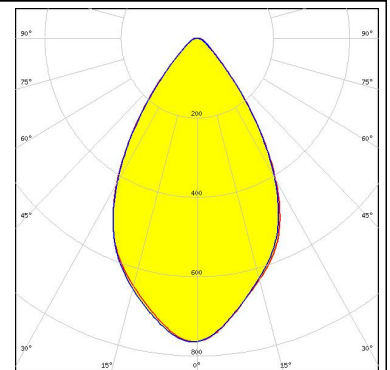
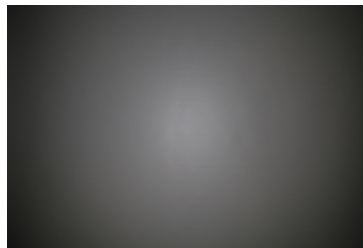
LED NVSW319B  
 FWHM 68.0°  
 Efficiency 93 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



LED NVSW3x9A  
 FWHM 62.0°  
 Efficiency 93 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



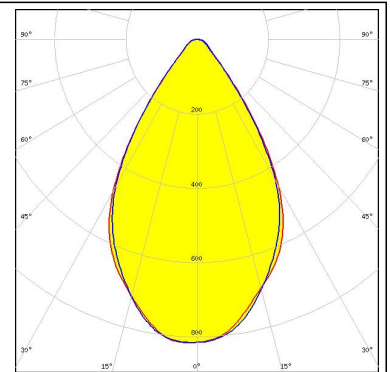
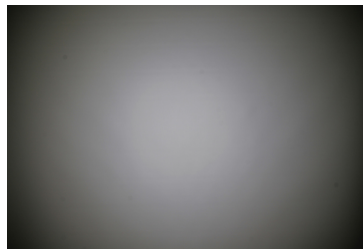
LED NWSx229A  
 FWHM 63.0°  
 Efficiency 85 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### PHOTOMETRIC DATA (MEASURED):

#### OSRAM

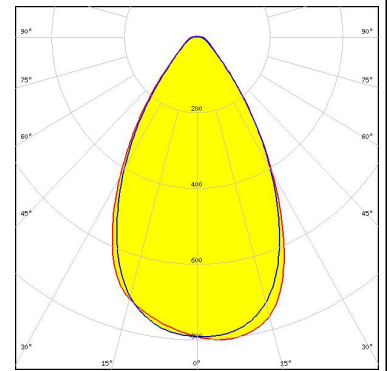
LED PrevalLED Brick HP 2x8  
 FWHM 64.0°  
 Efficiency 92 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### OSRAM

Opto Semiconductors

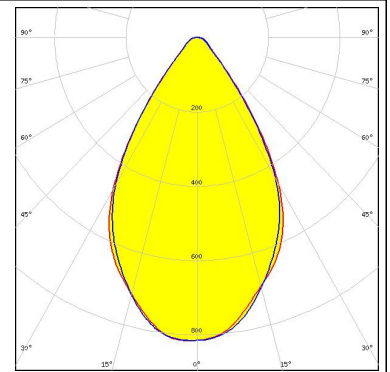
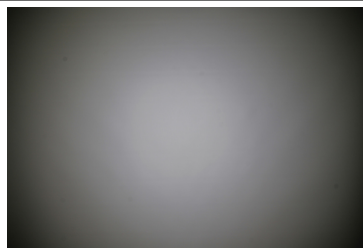
LED Duris S8  
 FWHM 61.0°  
 Efficiency 93 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### OSRAM

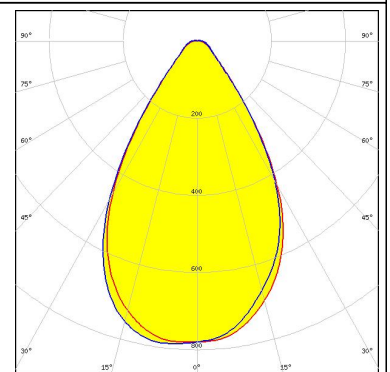
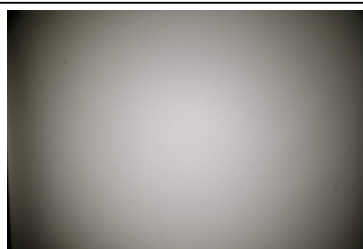
Opto Semiconductors

LED OSLOM Square CSSRM2/CSSRM3  
 FWHM 64.0°  
 Efficiency 92 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### PHILIPS

LED Fortimo FastFlex LED 2x8 DA G4  
 FWHM 64.0°  
 Efficiency 93 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:

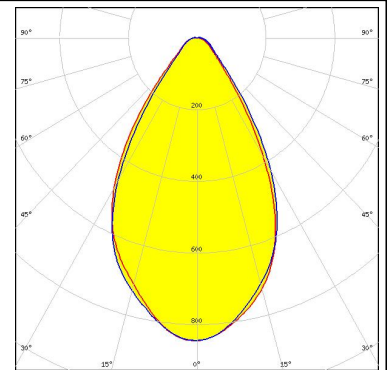




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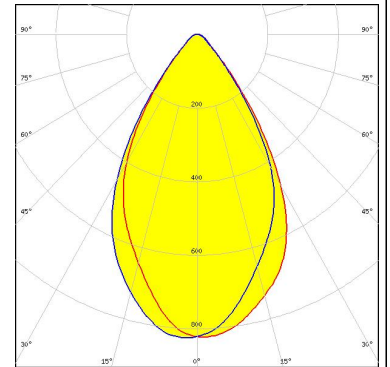
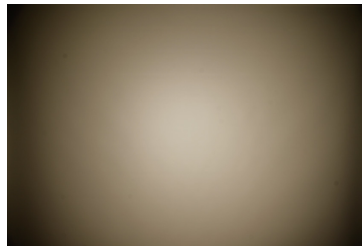
#### SAMSUNG

LED HiLOM RH16 (LH351C)  
 FWHM 61.0°  
 Efficiency 94 %  
 Peak intensity 0.9 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



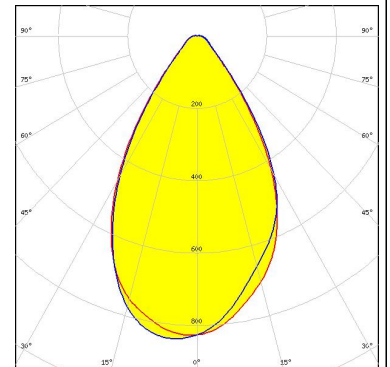
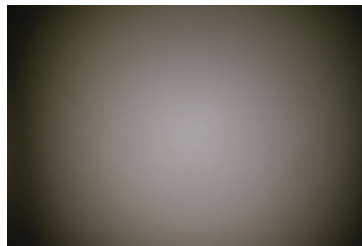
#### SAMSUNG

LED LH351B  
 FWHM 62.0°  
 Efficiency 86 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



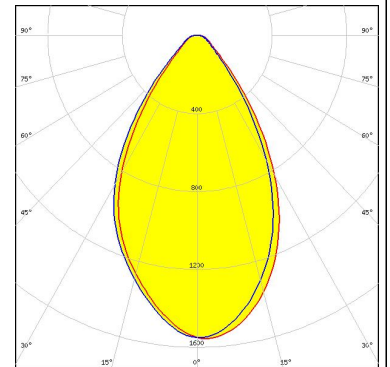
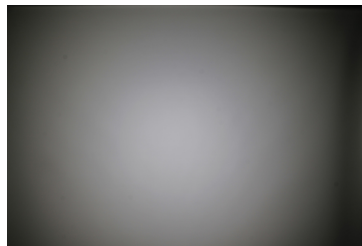
#### SAMSUNG

LED LH351C  
 FWHM 62.0°  
 Efficiency 93 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### SAMSUNG

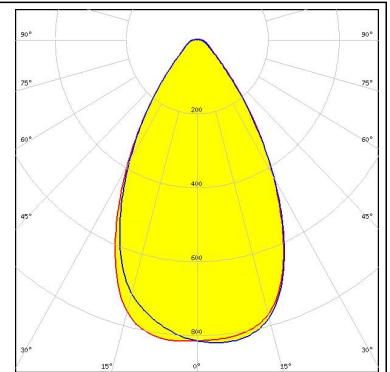
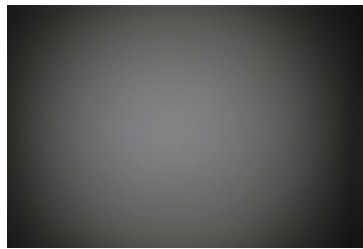
LED LH351D  
 FWHM 62.0°  
 Efficiency 91 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



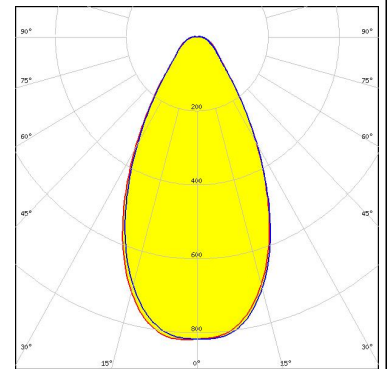
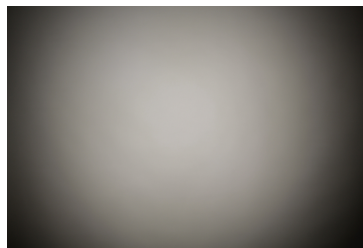
#### PHOTOMETRIC DATA (MEASURED):

### SAMSUNG

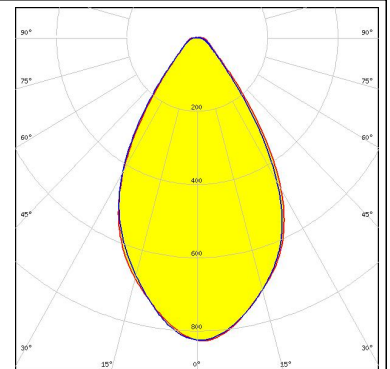
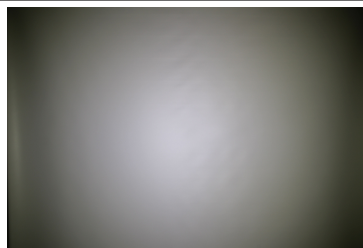
LED LH508A  
 FWHM 60.0°  
 Efficiency 93 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



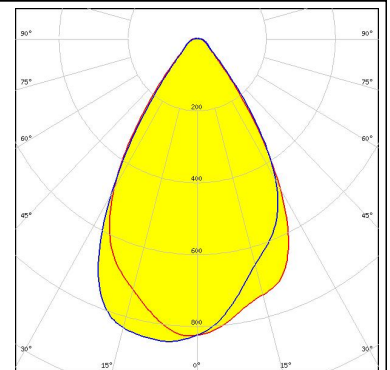
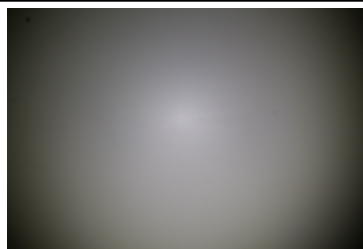
SEOUL SEMICONDUCTOR  
 LED 2x2 Y22 module - SMJQ-D48W16AA-XX  
 FWHM 55.0°  
 Efficiency 92 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:





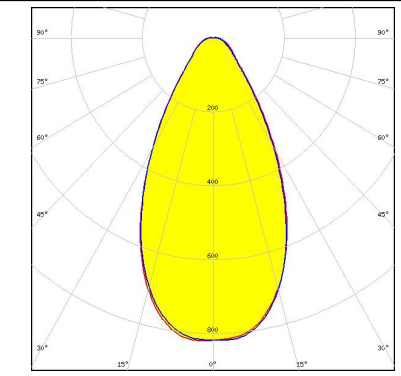

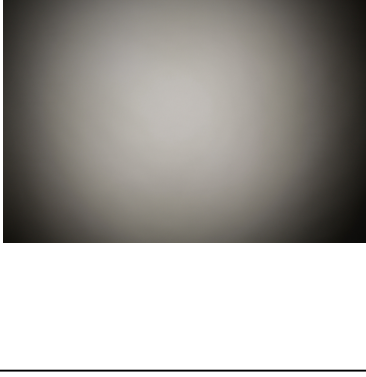
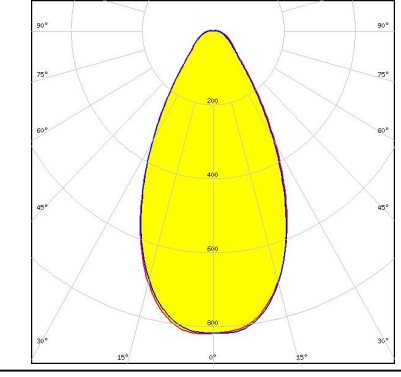

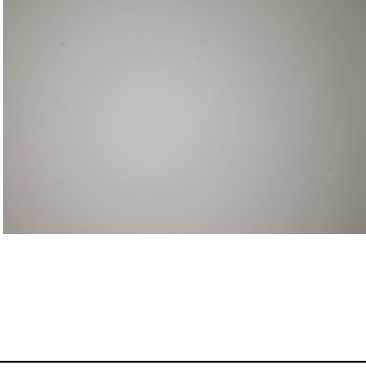
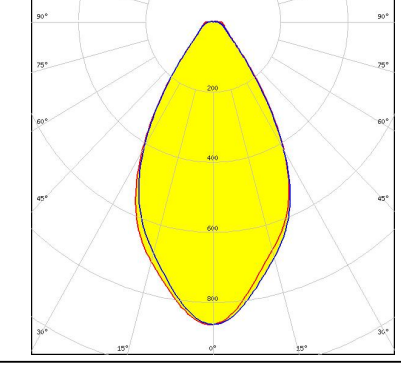
SEOUL SEMICONDUCTOR  
 LED Z5M3  
 FWHM 62.0°  
 Efficiency 94 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



SEOUL SEMICONDUCTOR  
 LED Z5M4  
 FWHM 64.0°  
 Efficiency 95 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



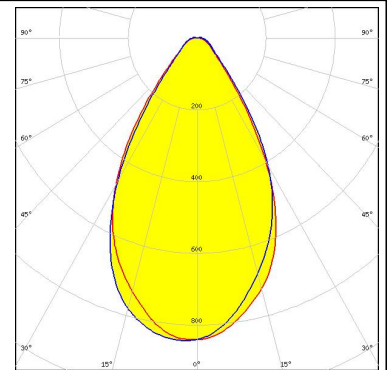
#### PHOTOMETRIC DATA (MEASURED):

<p> SEUL SEMICONDUCTOR</p> <p>LED Z8Y19            FWHM 55.0°            Efficiency 92 %            Peak intensity 0.8 cd/lm            LEDs/each optic 4            Light colour White            Required components:</p>		
<p> SEUL SEMICONDUCTOR</p> <p>LED Z8Y19            FWHM 55.0°            Efficiency 92 %            Peak intensity 0.8 cd/lm            LEDs/each optic 4            Light colour White            Required components:</p>		
<p> SEUL SEMICONDUCTOR</p> <p>LED Z8Y22P            FWHM 59.0°            Efficiency 92 %            Peak intensity 0.9 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>		
<p><b>TRIDONIC</b></p> <p>LED RLE 2x4 2000lm HP EXC2 OTD            FWHM 61.0°            Efficiency 94 %            Peak intensity 0.9 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>		

#### PHOTOMETRIC DATA (MEASURED):

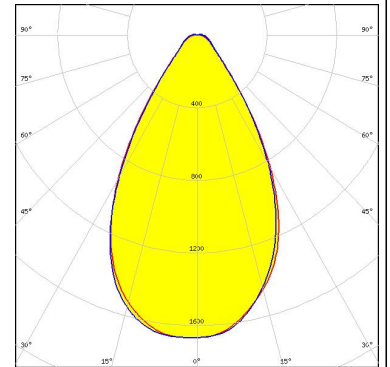
#### TRIDONIC

LED RLE 2x8 4000lm HP EXC2 OTD  
 FWHM 61.0°  
 Efficiency 94 %  
 Peak intensity 0.9 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



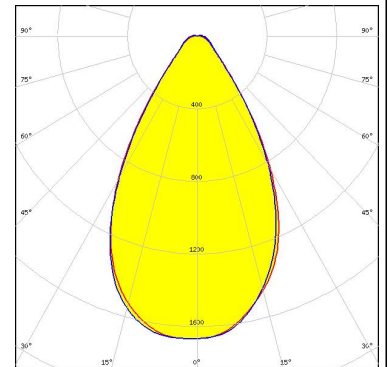
#### TRIDONIC

LED RLE G1 49x121mm 2000lm xxx EXC OTD  
 FWHM 61.0°  
 Efficiency 94 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



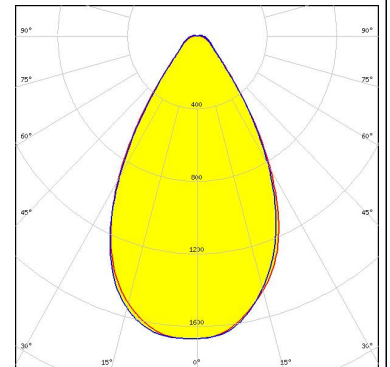
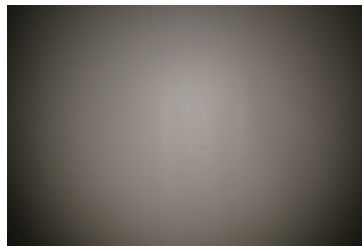
#### TRIDONIC

LED RLE G1 49x133mm 2000lm xxx EXC OTD  
 FWHM 61.0°  
 Efficiency 94 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### TRIDONIC

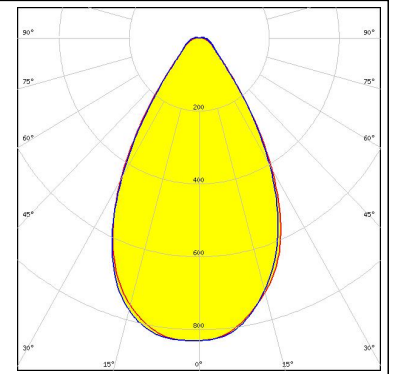
LED RLE G1 49x223mm 4000lm xxx EXC OTD  
 FWHM 61.0°  
 Efficiency 94 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



## PHOTOMETRIC DATA (MEASURED):

### TRIDONIC

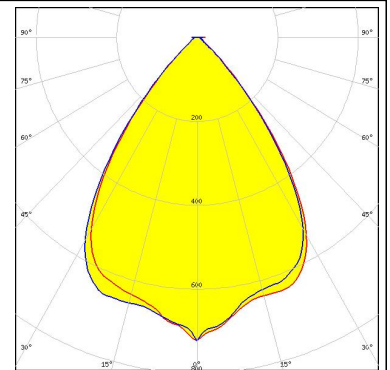
LED RLE G1 49x245mm 4000lm xxx EXC OTD  
FWHM 61.0°  
Efficiency 94 %  
Peak intensity 0.8 cd/lm  
LEDs/each optic 1  
Light colour White  
Required components:



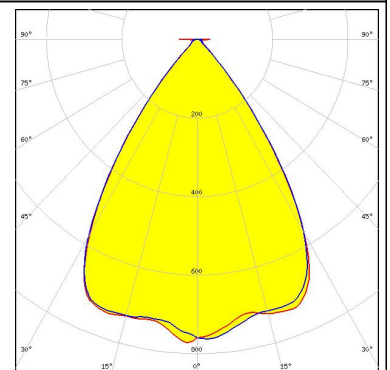
#### PHOTOMETRIC DATA (SIMULATED):



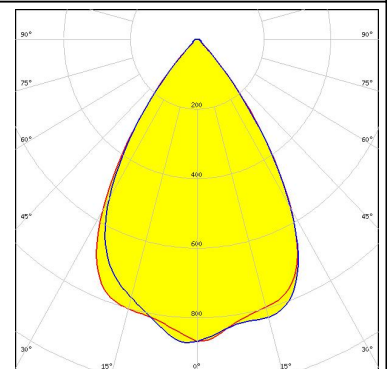
LED XP-G2 HE  
 FWHM 73.0°  
 Efficiency 95 %  
 Peak intensity 0.7 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



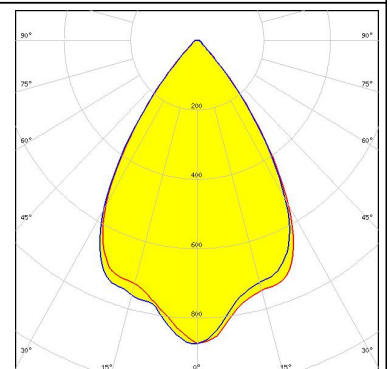
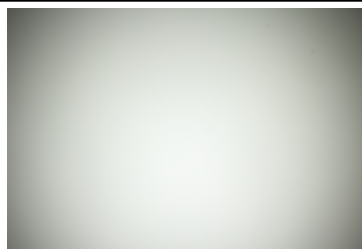
LED XT-E  
 FWHM 69.0°  
 Efficiency 94 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



LED LUXEON 3535L  
 FWHM 66.0°  
 Efficiency 94 %  
 Peak intensity 0.9 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



LED LUXEON MZ  
 FWHM 66.0°  
 Efficiency 94 %  
 Peak intensity 0.9 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### PHOTOMETRIC DATA (SIMULATED):

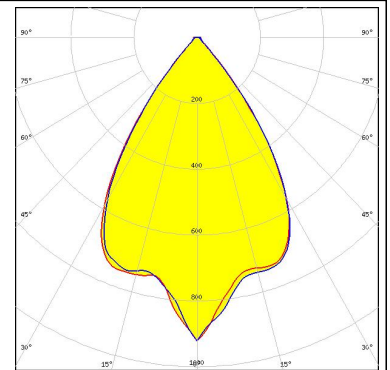
<p><b>NICHIA</b></p> <p>LED: NV4WB35AM            FWHM: 69.0°            Efficiency: 95 %            Peak intensity: 0.8 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p>	
<p><b>NICHIA</b></p> <p>LED: NVSxx19B/NVSxx19C            FWHM: 70.0°            Efficiency: 95 %            Peak intensity: 0.8 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p>	
<p><b>OSRAM</b>  <small>Opto Semiconductors</small></p> <p>LED: OSCONIQ P 3030            FWHM: 66.0°            Efficiency: 96 %            Peak intensity: 0.8 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p>	
<p><b>OSRAM</b>  <small>Opto Semiconductors</small></p> <p>LED: OSCONIQ P 3737 (2W version)            FWHM: 66.0°            Efficiency: 96 %            Peak intensity: 0.9 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p>	

#### PHOTOMETRIC DATA (SIMULATED):

#### OSRAM

Opto Semiconductors

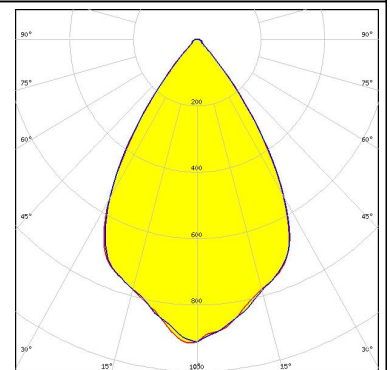
LED OSCONIQ P 3737 (3W version)  
 FWHM 66.0°  
 Efficiency 94 %  
 Peak intensity 0.9 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### OSRAM

Opto Semiconductors

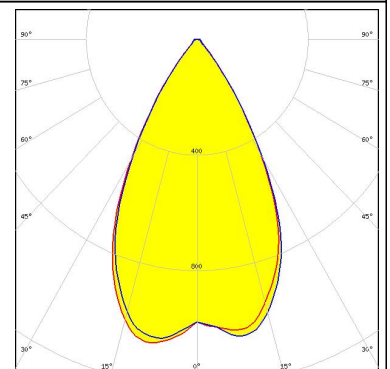
LED OSCONIQ P 3737 Flat  
 FWHM 64.0°  
 Efficiency 95 %  
 Peak intensity 0.9 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### OSRAM

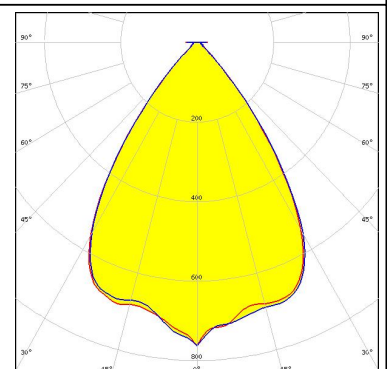
Opto Semiconductors

LED OSOLON SSL 80  
 FWHM 55.6°  
 Efficiency 94 %  
 Peak intensity 1.1 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### PHILIPS

LED Fortimo FastFlex LED 2x8 DAX G4  
 FWHM 71.0°  
 Efficiency 94 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:





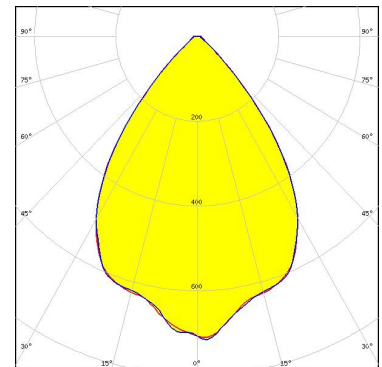
**PHOTOMETRIC DATA (SIMULATED):**

**SAMSUNG**

LED LH231B  
FWHM 60.0°  
Efficiency 94 %  
Peak intensity 1 cd/lm  
LEDs/each optic 4  
Light colour White  
Required components:

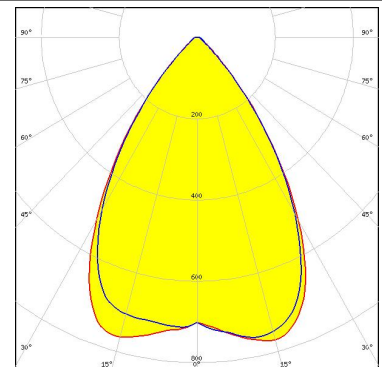
**SAMSUNG**

LED LH351D  
FWHM 74.0°  
Efficiency 95 %  
Peak intensity 0.7 cd/lm  
LEDs/each optic 1  
Light colour White  
Required components:



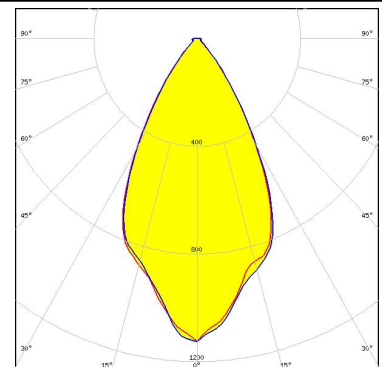
SEOUL SEMICONDUCTOR

LED SEOUL DC 5050 6V  
FWHM 64.0°  
Efficiency 94 %  
Peak intensity 0.8 cd/lm  
LEDs/each optic 1  
Light colour White  
Required components:



SEOUL SEMICONDUCTOR

LED Z8Y22T  
FWHM 55.0°  
Efficiency 94 %  
Peak intensity 1.1 cd/lm  
LEDs/each optic 1  
Light colour White  
Required components:



### GENERAL INFORMATION:

NOTE: The typical beam angle will be changed by different color, chip size and chip position tolerance. The typical total beam angle is the full angle measured where the luminous intensity is half of the peak value.

### MATERIALS:

As part of our continuous research and improvement processes, and to ensure the best possible quality and availability of our products, LEDiL reserves the right to change material grades without notice.

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The measured data in the provided downloadable LEDiL Product Datasheets and Mechanical 2D-Drawings is rounded and provided as reference for planning. LEDiL Oy's optical specifications have been verified by conducting performance testing of the products in accordance with the company's quality system. The reported data are averaged results of multiple measurements with typical variation. LEDiL Oy reserves the right to without prior notification make changes and improvements to its products.

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#### LEDiL Oy

Joensuunkatu 13  
FI-24240 SALO  
Finland

#### LEDiL Inc.

228 West Page Street  
Suite D  
Sycamore IL 60178  
USA

#### Local sales and technical support

[www.ledil.com/  
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#### Shipping locations

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Компания «Океан Электроники» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Поставка оригинальных импортных электронных компонентов напрямую с производств Америки, Европы и Азии, а так же с крупнейших складов мира;
- Широкая линейка поставок активных и пассивных импортных электронных компонентов (более 30 млн. наименований);
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Помощь Конструкторского Отдела и консультации квалифицированных инженеров;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Поставка электронных компонентов под контролем ВП;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- При необходимости вся продукция военного и аэрокосмического назначения проходит испытания и сертификацию в лаборатории (по согласованию с заказчиком);
- Поставка специализированных компонентов военного и аэрокосмического уровня качества (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Actel, Aeroflex, Peregrine, VPT, Syfer, Eurofarad, Texas Instruments, MS Kennedy, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Компания «Океан Электроники» является официальным дистрибьютором и эксклюзивным представителем в России одного из крупнейших производителей разъемов военного и аэрокосмического назначения «JONHON», а так же официальным дистрибьютором и эксклюзивным представителем в России производителя высокотехнологичных и надежных решений для передачи СВЧ сигналов «FORSTAR».



## JONHON

«JONHON» (основан в 1970 г.)

Разъемы специального, военного и аэрокосмического назначения:

(Применяются в военной, авиационной, аэрокосмической, морской, железнодорожной, горно- и нефтедобывающей отраслях промышленности)

«FORSTAR» (основан в 1998 г.)

ВЧ соединители, коаксиальные кабели,  
кабельные сборки и микроволновые компоненты:

(Применяются в телекоммуникациях гражданского и специального назначения, в средствах связи, РЛС, а так же военной, авиационной и аэрокосмической отраслях промышленности).



Телефон: 8 (812) 309-75-97 (многоканальный)

Факс: 8 (812) 320-03-32

Электронная почта: [ocean@oceanchips.ru](mailto:ocean@oceanchips.ru)

Web: <http://oceanchips.ru/>

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, д. 2, корп. 4, лит. А