

HB-2X2-O

~20° + 115° oval beam for aisle lighting

TECHNICAL SPECIFICATIONS:

Dimensions	50.0 mm
Height	10.6 mm
Fastening	glue, pin, screw
ROHS compliant	yes ⓘ

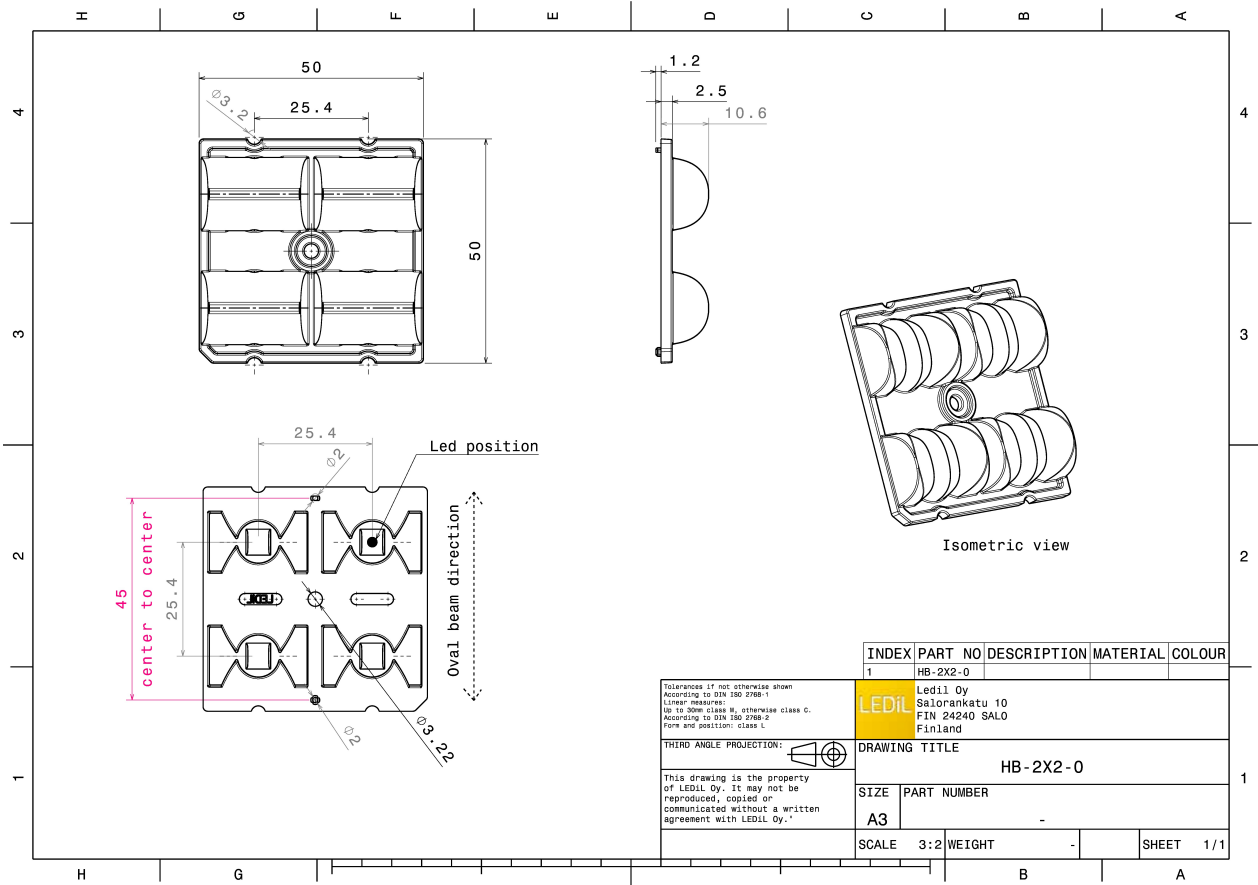
MATERIAL SPECIFICATIONS:

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



ORDERING INFORMATION:

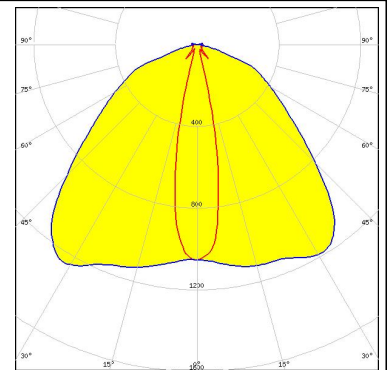
Component	Qty in box	MOQ	MPQ	Box weight (kg)
C13749_HB-2X2-O » Box size: 480 x 280 x 300 mm	800	160	160	10.4



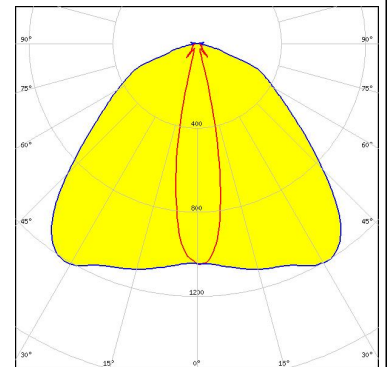
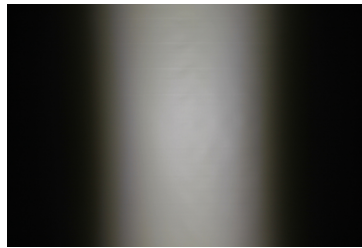
PHOTOMETRIC DATA (MEASURED):



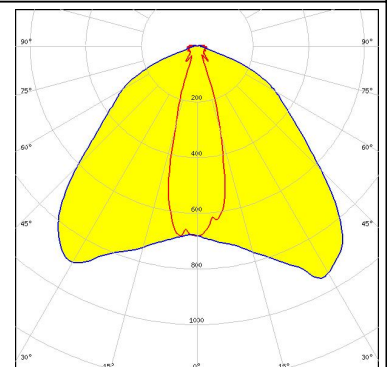
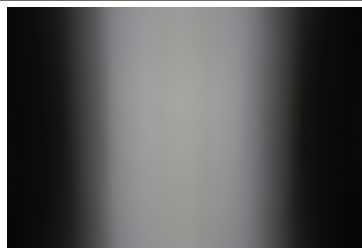
LED QUICK FLUX XTP 2x4 xxx LS G5
FWHM 21.0 + 111.0°
Efficiency 94 %
Peak intensity 1.3 cd/lm
LEDs/each optic 1
Light colour White
Required components:



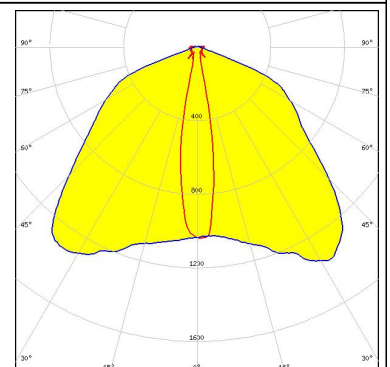
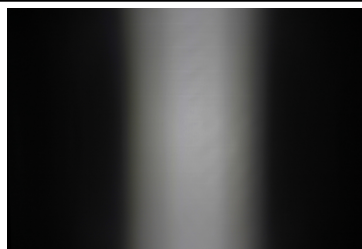
LED QUICK FLUX XTP 2x6 xxx LS G5
FWHM 22.0 + 111.0°
Efficiency 94 %
Peak intensity 1.2 cd/lm
LEDs/each optic 1
Light colour White
Required components:



LED XD16
FWHM 29.0 + 116.0°
Efficiency 94 %
Peak intensity 1 cd/lm
LEDs/each optic 4
Light colour White
Required components:



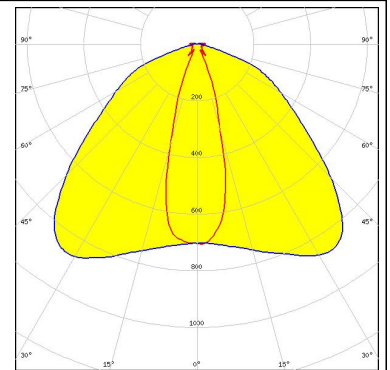
LED XD16
FWHM 19.0 + 127.0°
Efficiency 93 %
Peak intensity 1.4 cd/lm
LEDs/each optic 1
Light colour White
Required components:



PHOTOMETRIC DATA (MEASURED):

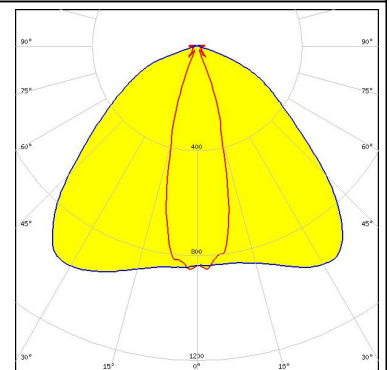
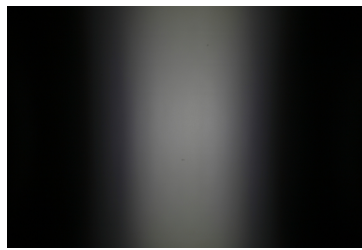
CREE

LED XHP35 HD
 FWHM 29.0 + 117.0°
 Efficiency 94 %
 Peak intensity 0.9 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



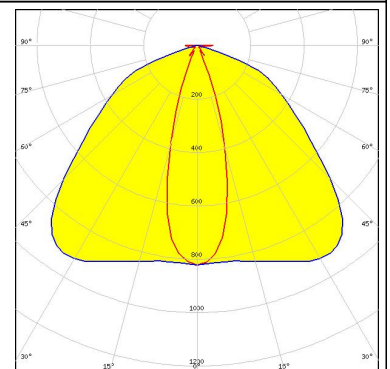
CREE

LED XM-L
 FWHM 28.0 + 108.0°
 Efficiency 94 %
 Peak intensity 1 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



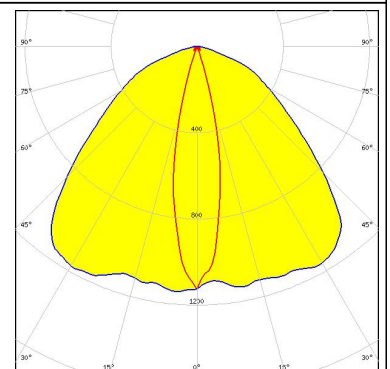
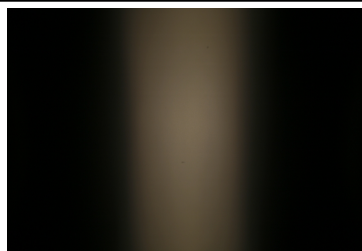
CREE

LED XM-L2
 FWHM 30.0 + 106.0°
 Efficiency 94 %
 Peak intensity 1 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



CREE

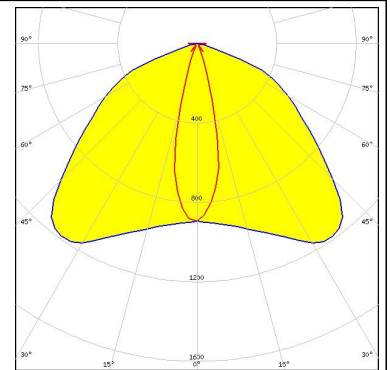
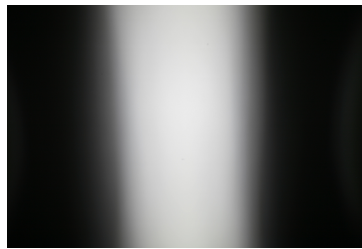
LED XP-G
 FWHM 26.0 + 115.0°
 Efficiency 94 %
 Peak intensity 1.1 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



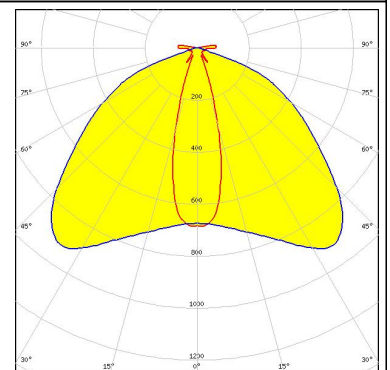
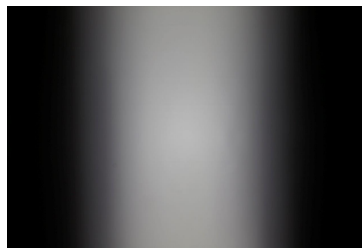
PHOTOMETRIC DATA (MEASURED):



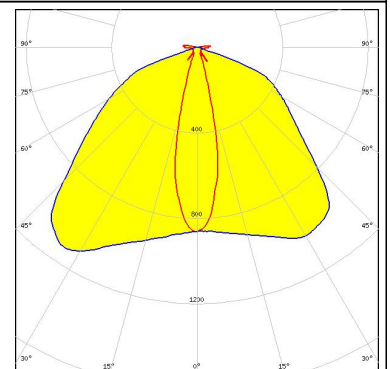
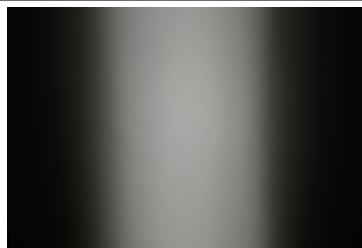
LED XP-G2
 FWHM 27.0 + 112.0°
 Efficiency 94 %
 Peak intensity 1.2 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



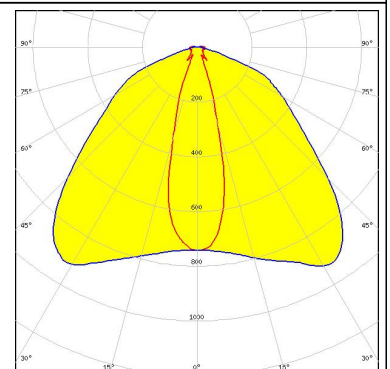
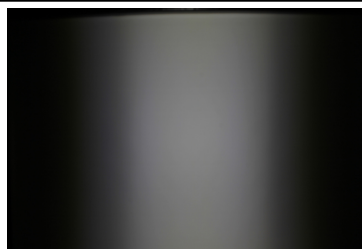
LED XP-L HD
 FWHM 29.0 + 117.0°
 Efficiency 94 %
 Peak intensity 0.9 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



LED XP-L HI
 FWHM 25.0 + 123.0°
 Efficiency 94 %
 Peak intensity 1.1 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



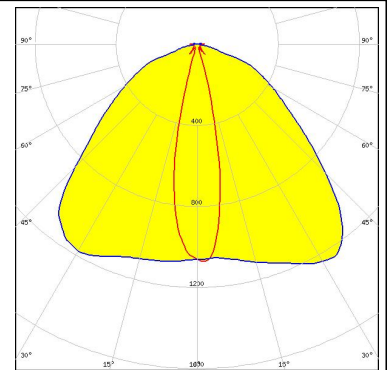
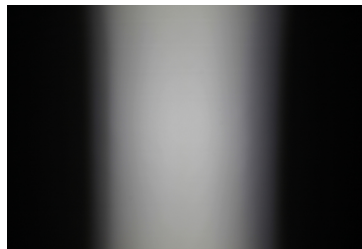
LED XP-L2
 FWHM 28.0 + 117.0°
 Efficiency 94 %
 Peak intensity 0.9 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



PHOTOMETRIC DATA (MEASURED):

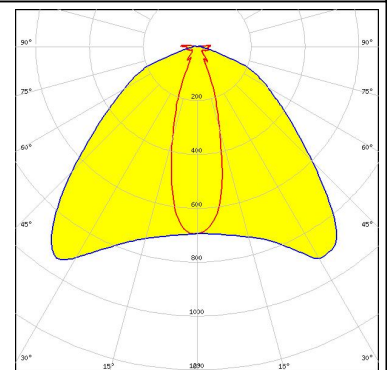
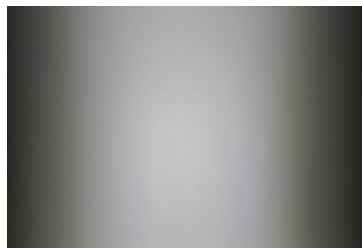
LG Innotek

LED H35C1 (LEMWA33)
 FWHM 23.0 + 110.0°
 Efficiency 94 %
 Peak intensity 1.2 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



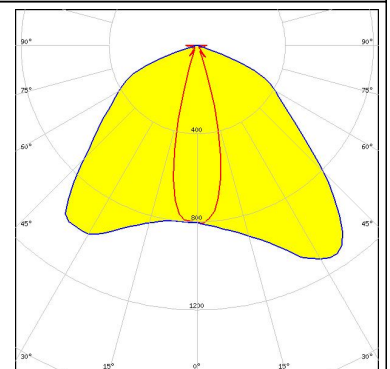
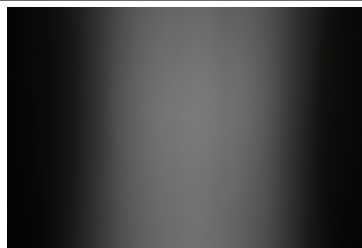
LUMILEDS

LED LUXEON 5050 Round LES
 FWHM 29.0 + 114.0°
 Efficiency 94 %
 Peak intensity 0.9 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



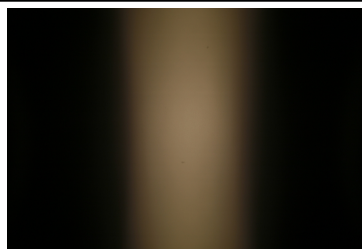
LUMILEDS

LED LUXEON MZ
 FWHM 28.0 + 103.0°
 Efficiency 94 %
 Peak intensity 1.1 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



LUMILEDS

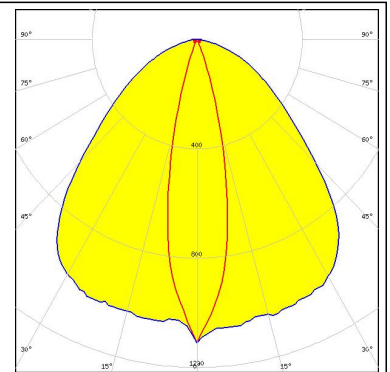
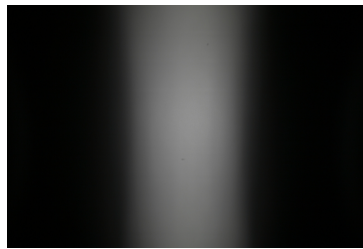
LED LUXEON R
 FWHM 25.0 + 105.0°
 Efficiency 94 %
 Peak intensity 1.2 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



PHOTOMETRIC DATA (MEASURED):

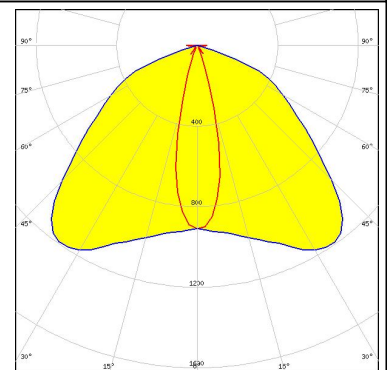
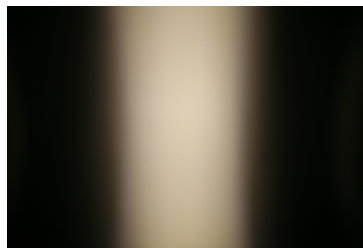
LUMILEDS

LED LUXEON Rebel ES
 FWHM 25.0 + 106.0°
 Efficiency 94 %
 Peak intensity 1.2 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



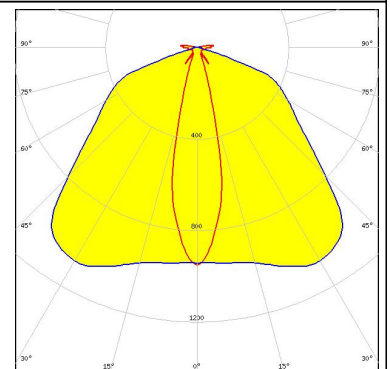
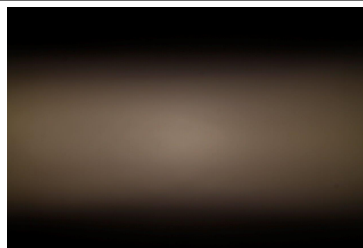
LUMILEDS

LED LUXEON T
 FWHM 26.0 + 110.0°
 Efficiency 94 %
 Peak intensity 1.2 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



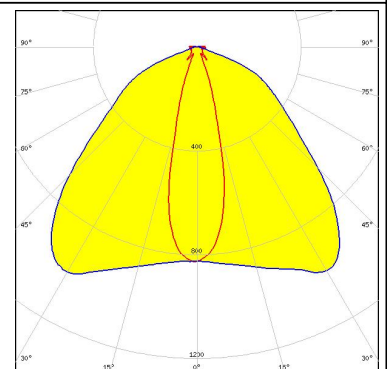
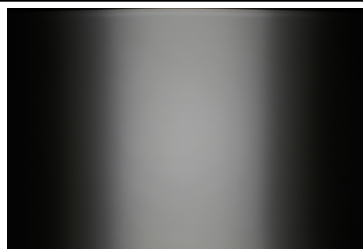
LUMILEDS

LED LUXEON TX
 FWHM 24.0 + 118.0°
 Efficiency 94 %
 Peak intensity 1.1 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



LUMILEDS

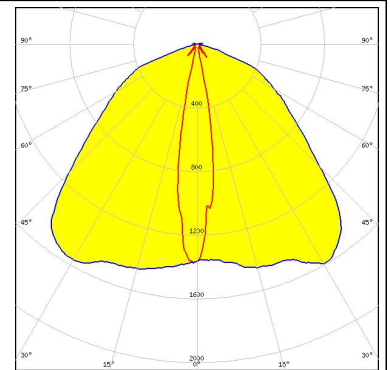
LED LUXEON V
 FWHM 26.0 + 108.0°
 Efficiency 94 %
 Peak intensity 1 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



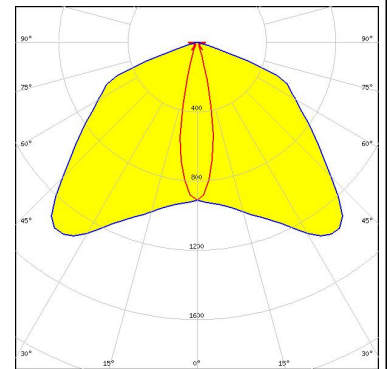
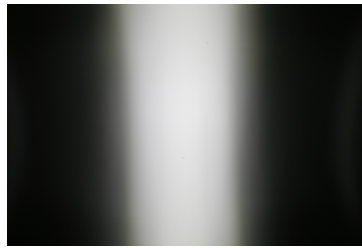
PHOTOMETRIC DATA (MEASURED):



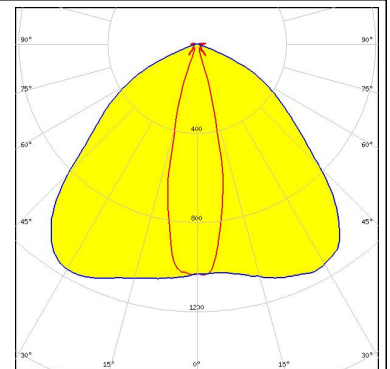
LED SST-10-B130
 FWHM 18.0 + 104.0°
 Efficiency 97 %
 Peak intensity 1.6 cd/lm
 LEDs/each optic 1
 Light colour Deep Red
 Required components:



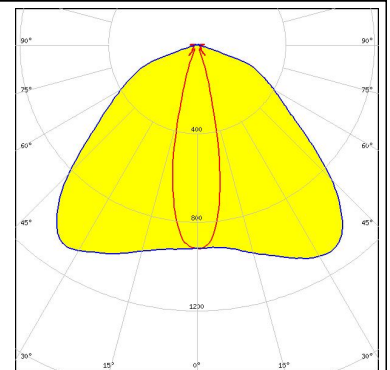
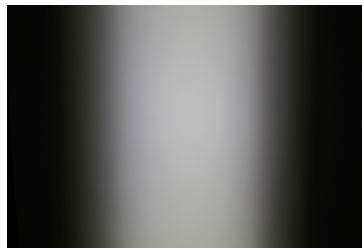
LED NCSxx19B
 FWHM 23.0 + 113.0°
 Efficiency 94 %
 Peak intensity 1.4 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



LED NVSW219D
 FWHM 25.0 + 107.0°
 Efficiency 94 %
 Peak intensity 1.2 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



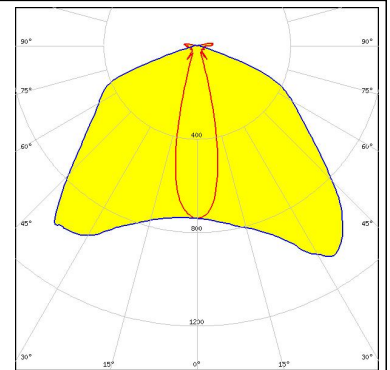
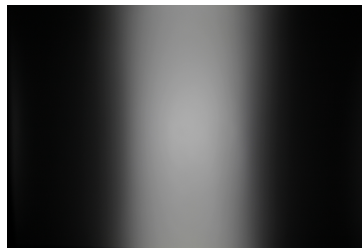
LED NVSW319B
 FWHM 25.0 + 113.0°
 Efficiency 94 %
 Peak intensity 1.1 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



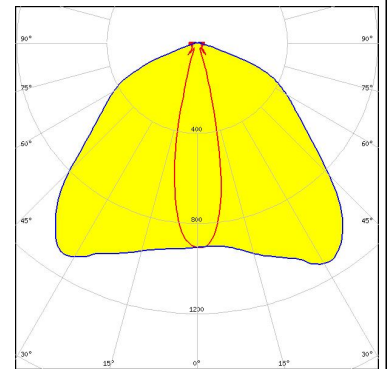
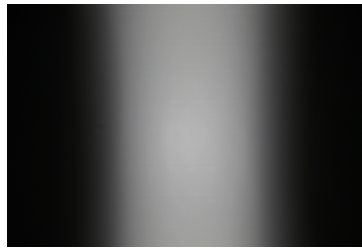
PHOTOMETRIC DATA (MEASURED):



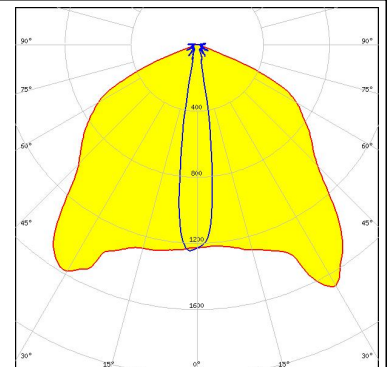
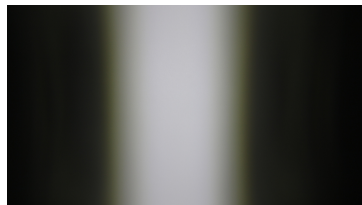
LED NVSW3x9A
 FWHM 25.0 + 134.0°
 Efficiency 93 %
 Peak intensity 0.4 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



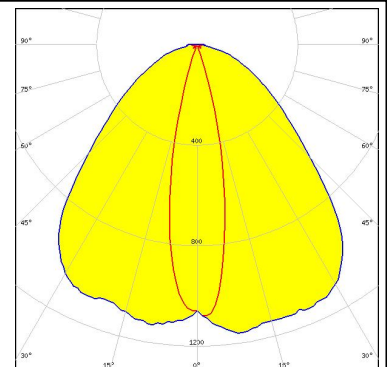
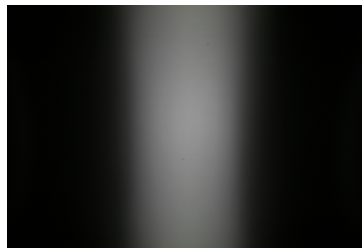
LED NVSW3x9A
 FWHM 24.0 + 119.0°
 Efficiency 94 %
 Peak intensity 1.1 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



LED NVSxE21A
 FWHM 17.0 + 125.0°
 Efficiency 94 %
 Peak intensity 1.7 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



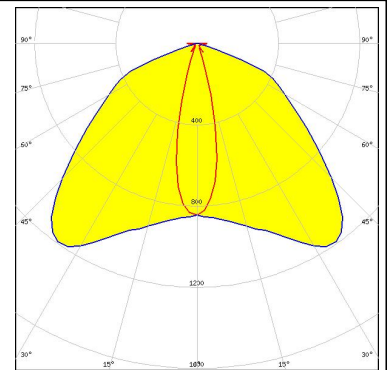
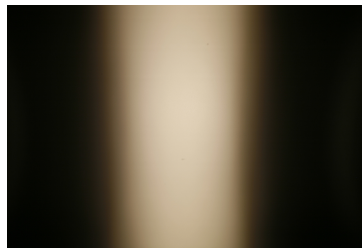
LED NVSxx19A
 FWHM 24.0 + 105.0°
 Efficiency 94 %
 Peak intensity 1.2 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



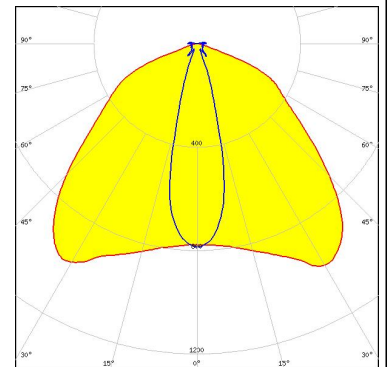
PHOTOMETRIC DATA (MEASURED):



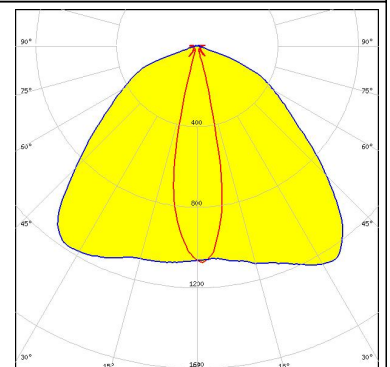
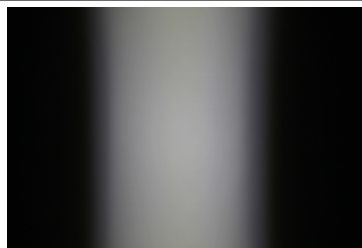
LED NVSxx19B/NVSxx19C
 FWHM 26.0 + 108.0°
 Efficiency 94 %
 Peak intensity 1.2 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



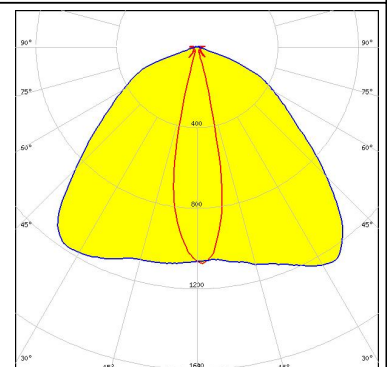
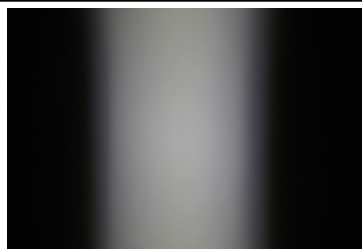
LED NWSx229A
 FWHM 27.0 + 118.0°
 Efficiency 94 %
 Peak intensity 1 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



LED PrevaLED Brick HP 2x8
 FWHM 23.0 + 111.0°
 Efficiency 94 %
 Peak intensity 1.3 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



LED OSLON Square CSSRM2/CSSRM3
 FWHM 23.0 + 111.0°
 Efficiency 94 %
 Peak intensity 1.3 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:

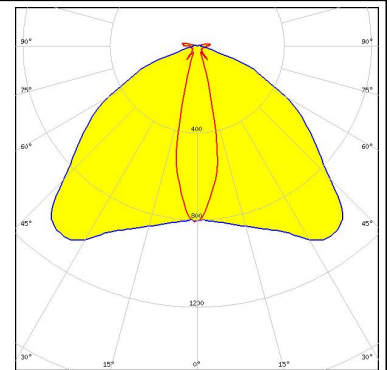
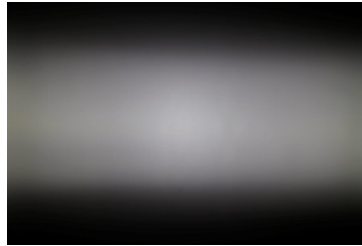


PHOTOMETRIC DATA (MEASURED):

OSRAM

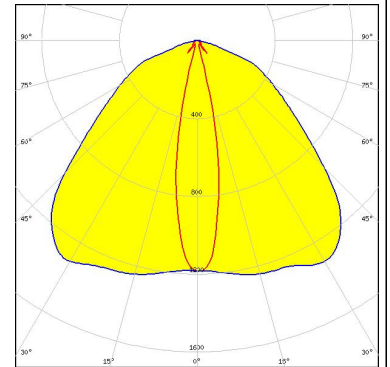
Opto Semiconductors

LED OSLON Square PC
 FWHM 25.0 + 124.0°
 Efficiency 91 %
 Peak intensity 1.1 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



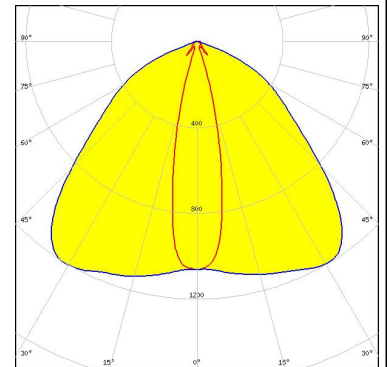
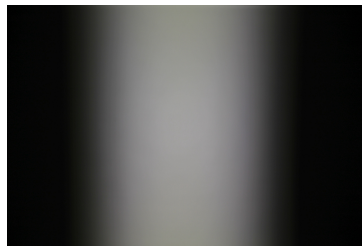
PHILIPS

LED Fortimo FastFlex LED 2x8 DA G4
 FWHM 21.0 + 108.0°
 Efficiency 94 %
 Peak intensity 1.3 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



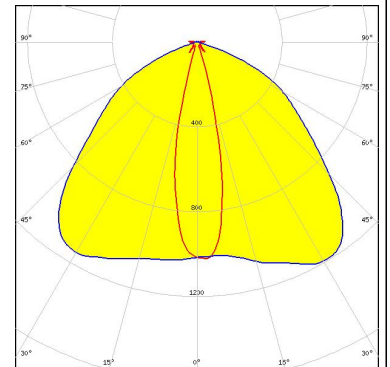
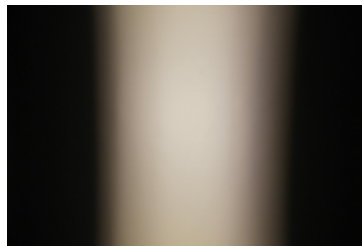
SAMSUNG

LED HiLOM RH16 (LH351C)
 FWHM 23.0 + 106.0°
 Efficiency 94 %
 Peak intensity 1.2 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



SAMSUNG

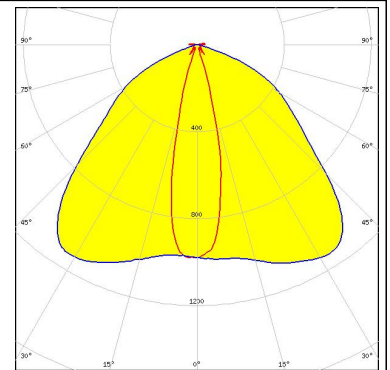
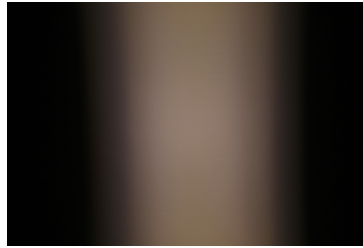
LED LH351B
 FWHM 23.0 + 113.0°
 Efficiency 94 %
 Peak intensity 1.2 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



PHOTOMETRIC DATA (MEASURED):

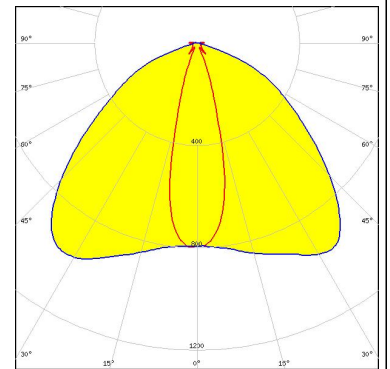
SAMSUNG

LED LH351C
FWHM 24.0 + 111.0°
Efficiency 94 %
Peak intensity 1.1 cd/lm
LEDs/each optic 1
Light colour White
Required components:



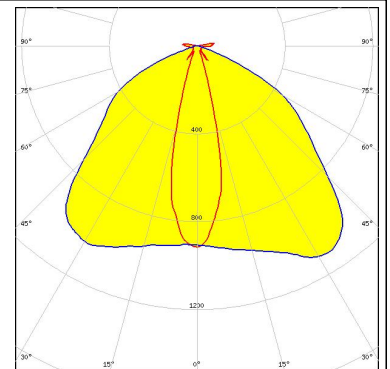
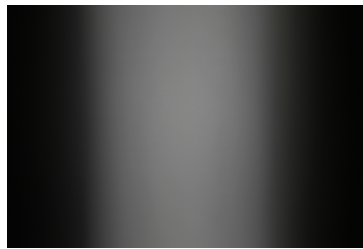
SAMSUNG

LED LH351D
FWHM 27.0 + 116.0°
Efficiency 94 %
Peak intensity 1 cd/lm
LEDs/each optic 1
Light colour White
Required components:



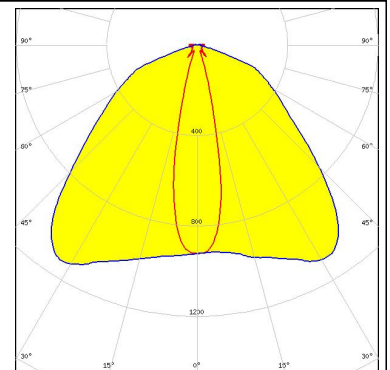
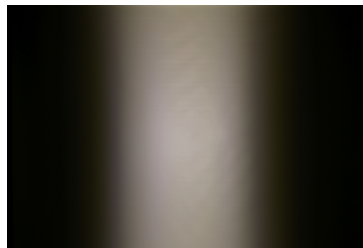
SAMSUNG

LED LH351Z
FWHM 26.0 + 117.0°
Efficiency 94 %
Peak intensity 1.1 cd/lm
LEDs/each optic 1
Light colour White
Required components:

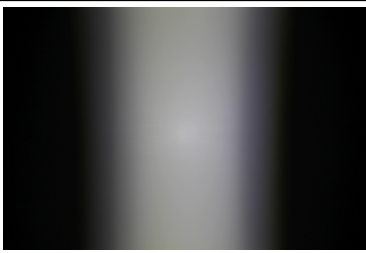
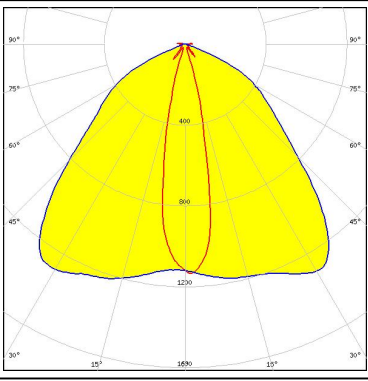

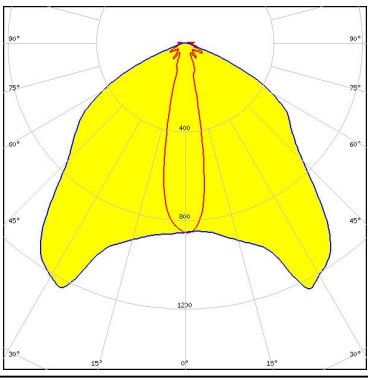

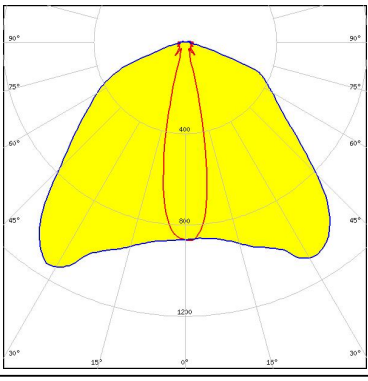
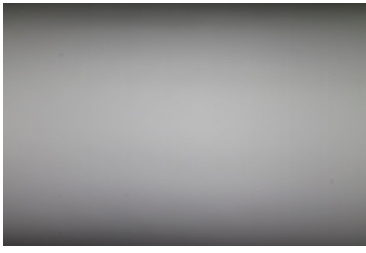



SEOUL SEMICONDUCTOR

LED Z5M3
FWHM 23.0 + 113.0°
Efficiency 94 %
Peak intensity 1.1 cd/lm
LEDs/each optic 1
Light colour White
Required components:



PHOTOMETRIC DATA (MEASURED):

<p>SEOL SEOUL SEMICONDUCTOR</p> <p>LED Z5M4 FWHM 22.0 + 97.0° Efficiency 98 % Peak intensity 1.3 cd/lm LEDs/each optic 1 Light colour White Required components:</p>		
<p>SEOL SEOUL SEMICONDUCTOR</p> <p>LED Z8Y22 FWHM 21.0 + 121.0° Efficiency 94 % Peak intensity 1.2 cd/lm LEDs/each optic 1 Light colour White Required components:</p>		
<p>SEOL SEOUL SEMICONDUCTOR</p> <p>LED Z8Y22P FWHM 23.0 + 121.0° Efficiency 94 % Peak intensity 1.1 cd/lm LEDs/each optic 1 Light colour White Required components:</p>		
<p>TOSHIBA Leading Innovation >>></p> <p>LED TL1L4 FWHM 24.0 + 119.0° Efficiency 89 % Peak intensity 1.1 cd/lm LEDs/each optic 1 Light colour White Required components:</p>		

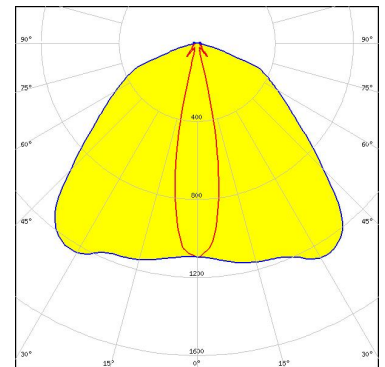
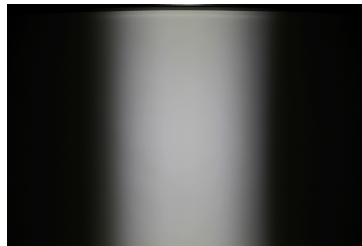
PHOTOMETRIC DATA (MEASURED):

TRIDONIC

LED RLE 2x4 2000lm HP EXC2 OTD
FWHM 22.0 + 113.0°
Efficiency 94 %
Peak intensity 1.3 cd/lm
LEDs/each optic 1
Light colour White
Required components:

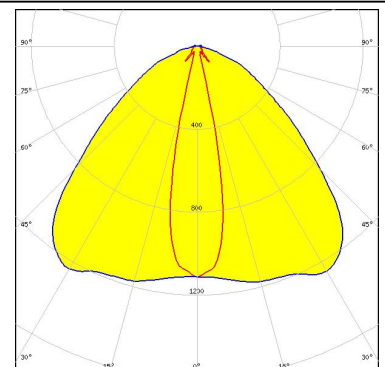
TRIDONIC

LED RLE 2x8 4000lm HP EXC2 OTD
FWHM 22.0 + 113.0°
Efficiency 94 %
Peak intensity 1.3 cd/lm
LEDs/each optic 1
Light colour White
Required components:



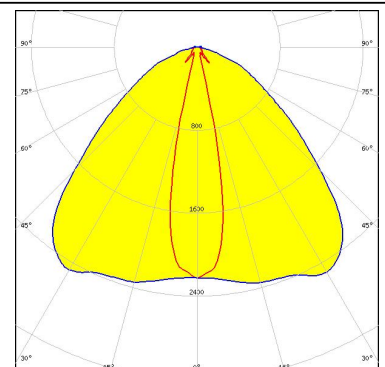
TRIDONIC

LED RLE G1 49x121mm 2000lm xxx EXC OTD
FWHM 23.0 + 104.0°
Efficiency 94 %
Peak intensity 1.3 cd/lm
LEDs/each optic 1
Light colour White
Required components:



TRIDONIC

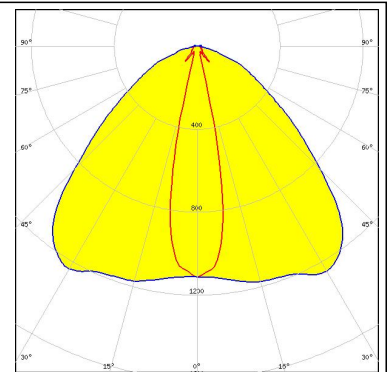
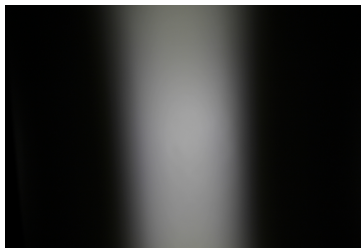
LED RLE G1 49x133mm 2000lm xxx EXC OTD
FWHM 23.0 + 104.0°
Efficiency 94 %
Peak intensity 1.3 cd/lm
LEDs/each optic 1
Light colour White
Required components:



PHOTOMETRIC DATA (MEASURED):

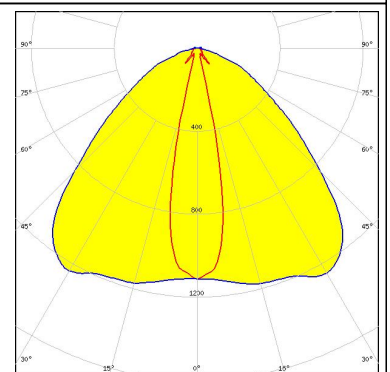
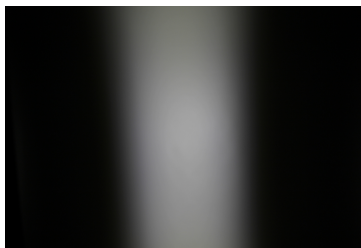
TRIDONIC

LED RLE G1 49x223mm 4000lm xxx EXC OTD
FWHM 23.0 + 104.0°
Efficiency 94 %
Peak intensity 1.3 cd/lm
LEDs/each optic 1
Light colour White
Required components:



TRIDONIC

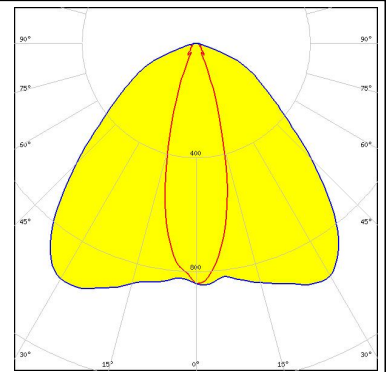
LED RLE G1 49x245mm 4000lm xxx EXC OTD
FWHM 23.0 + 104.0°
Efficiency 94 %
Peak intensity 1.3 cd/lm
LEDs/each optic 1
Light colour White
Required components:



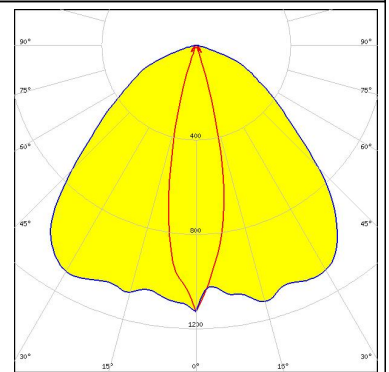
PHOTOMETRIC DATA (SIMULATED):



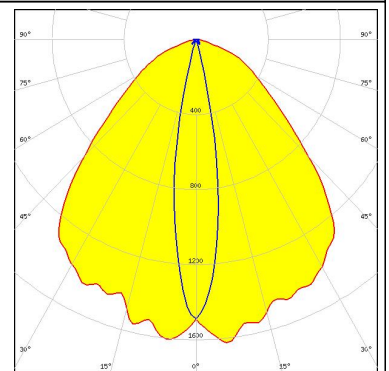
LED J Series 5050
 FWHM 30.0 + 97.0°
 Efficiency 94 %
 Peak intensity 1 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



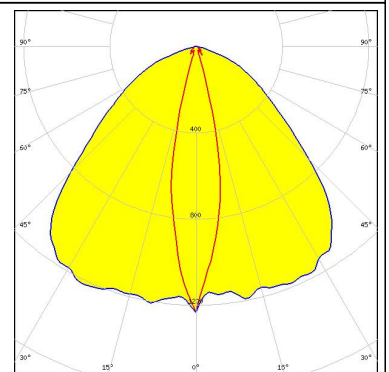
LED XHP35 HI
 FWHM 101.0 + 27.0°
 Efficiency 94 %
 Peak intensity 1.2 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



LED XP-E2
 FWHM 93.0 + 18.0°
 Efficiency 94 %
 Peak intensity 1.6 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



LED XP-G2
 FWHM 21.0 + 98.0°
 Efficiency 91 %
 Peak intensity 1.2 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:

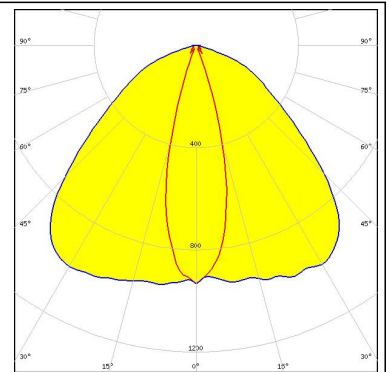


Transparent protective cover

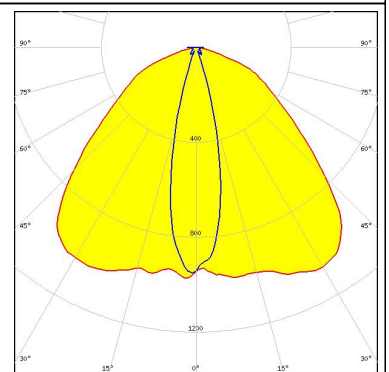
PHOTOMETRIC DATA (SIMULATED):



LED XP-G2 HE
 FWHM 28.0 + 103.0°
 Efficiency 94 %
 Peak intensity 1 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



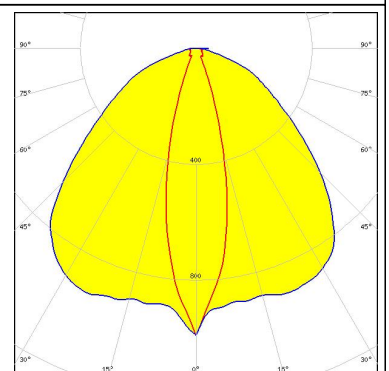
LED XP-G3
 FWHM 103.0 + 29.0°
 Efficiency 94 %
 Peak intensity 1.1 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



LED XQ-E HI
 FWHM 96.0 + 14.0°
 Efficiency %
 LEDs/each optic 1
 Light colour White
 Required components:



LED XT-E HE
 FWHM 100.0 + 24.0°
 Efficiency 94 %
 LEDs/each optic 1
 Light colour White
 Required components:

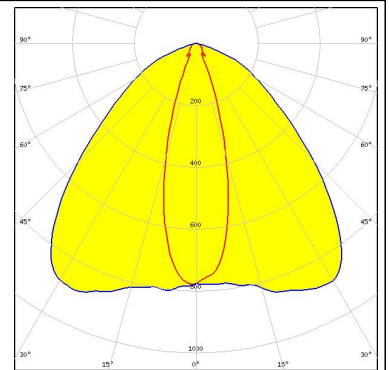


PHOTOMETRIC DATA (SIMULATED):

LUMILEDS

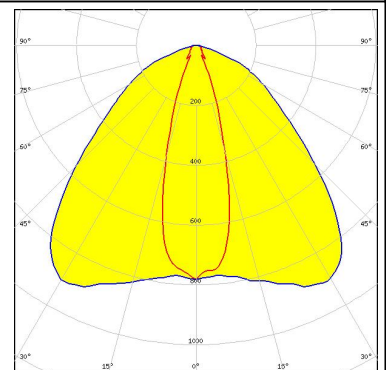
LED LUXEON 5050 Round LES
 FWHM 30.0 + 96.0°
 Efficiency 88 %
 Peak intensity 0.9 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:

Transparent protective cover



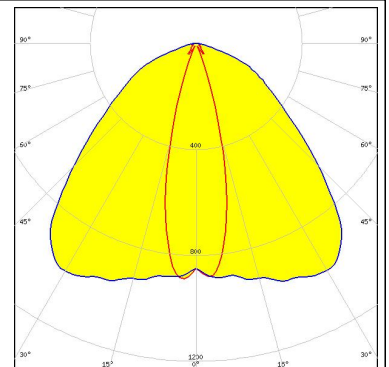
LUMILEDS

LED LUXEON 5050 Square LES
 FWHM 30.0 + 98.0°
 Efficiency 95 %
 Peak intensity 0.9 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



NICHIA

LED NV4WB35AM
 FWHM 28.0 + 100.0°
 Efficiency 95 %
 Peak intensity 1 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:

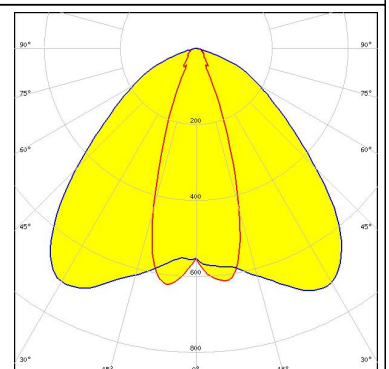


OSRAM

Opto Semiconductors

LED Duris S8
 FWHM 36.0 + 98.0°
 Efficiency 87 %
 Peak intensity 0.7 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:

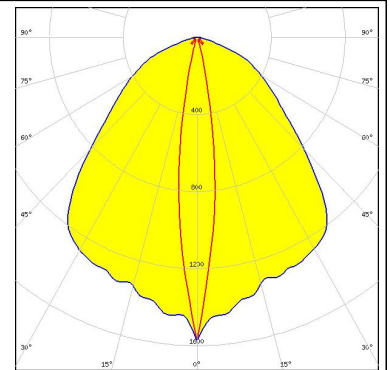
Transparent protective cover



PHOTOMETRIC DATA (SIMULATED):

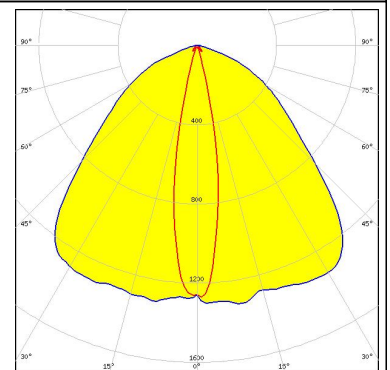
OSRAM
Opto Semiconductors

LED OSCONIQ P 3030
 FWHM 14.0 + 92.0°
 Efficiency 95 %
 Peak intensity 1.6 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



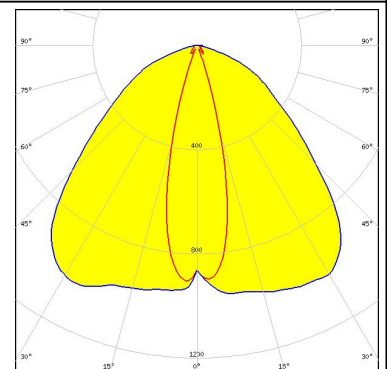
OSRAM
Opto Semiconductors

LED OSCONIQ P 3737 (2W version)
 FWHM 99.0 + 19.0°
 Efficiency 94 %
 Peak intensity 1.3 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



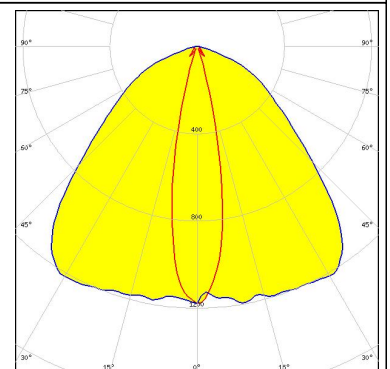
OSRAM
Opto Semiconductors

LED OSCONIQ P 3737 (3W version)
 FWHM 100.0 + 30.0°
 Efficiency 94 %
 Peak intensity 1 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



OSRAM
Opto Semiconductors

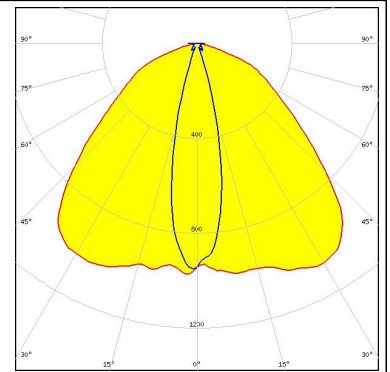
LED OSCONIQ P 3737 Flat
 FWHM 22.0 + 98.0°
 Efficiency 96 %
 Peak intensity 1.2 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



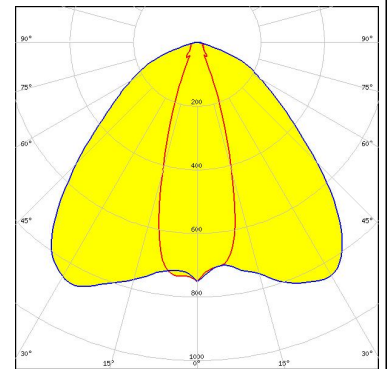
PHOTOMETRIC DATA (SIMULATED):

PHILIPS

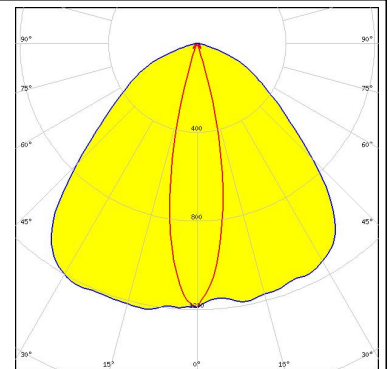
LED Fortimo FastFlex LED 2x8 DAX G4
 FWHM 103.0 + 29.0°
 Efficiency 94 %
 Peak intensity 1.1 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



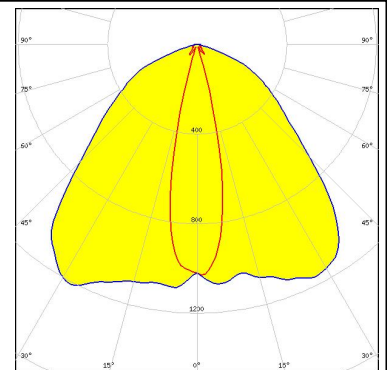
SEOUL SEMICONDUCTOR
 LED SEOUL DC 5050 6V
 FWHM 33.0 + 98.0°
 Efficiency 94 %
 Peak intensity 0.9 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



SEOUL SEMICONDUCTOR
 LED Z5M1/Z5M2
 FWHM 22.0 + 97.0°
 Efficiency 94 %
 Peak intensity 1.2 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



SEOUL SEMICONDUCTOR
 LED Z8Y22T
 FWHM 21.0 + 96.0°
 Efficiency 94 %
 Peak intensity 1.2 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.

PRODUCT DATA USER AGREEMENT AND DISCLAIMER:

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.

LEDiL Oy assumes neither warranty, nor guarantee nor any other liability of any kind for the contents and correctness of the provided data. The provided data has been generated with highest diligence but the provided data may in reality not represent the complete possible variation range of all intrinsic parameters. Therefore, in certain cases a deviation from the provided data could occur.

LEDiL Oy reserves the right to undertake technical changes of its products without further notification which could lead to changes in the provided data. LEDiL Oy assumes no liability of any kind for the possible deviation from any provided data or any other damage resulting from the usage of the provided data.

The user agrees to this disclaimer and user agreement with the download or usage of the provided files.

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/
where_to_buy](http://www.ledil.com/where_to_buy)

Shipping locations

Salo, Finland
Hong Kong, China

Distribution Partners

[www.ledil.com/
where_to_buy](http://www.ledil.com/where_to_buy)

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

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

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