

## ANGELA-XW

White version with ~70° wide beam

### SPECIFICATION:

Dimensions	Ø 119.5
Height	74.3 mm
Fastening	socket
ROHS compliant	yes ⓘ

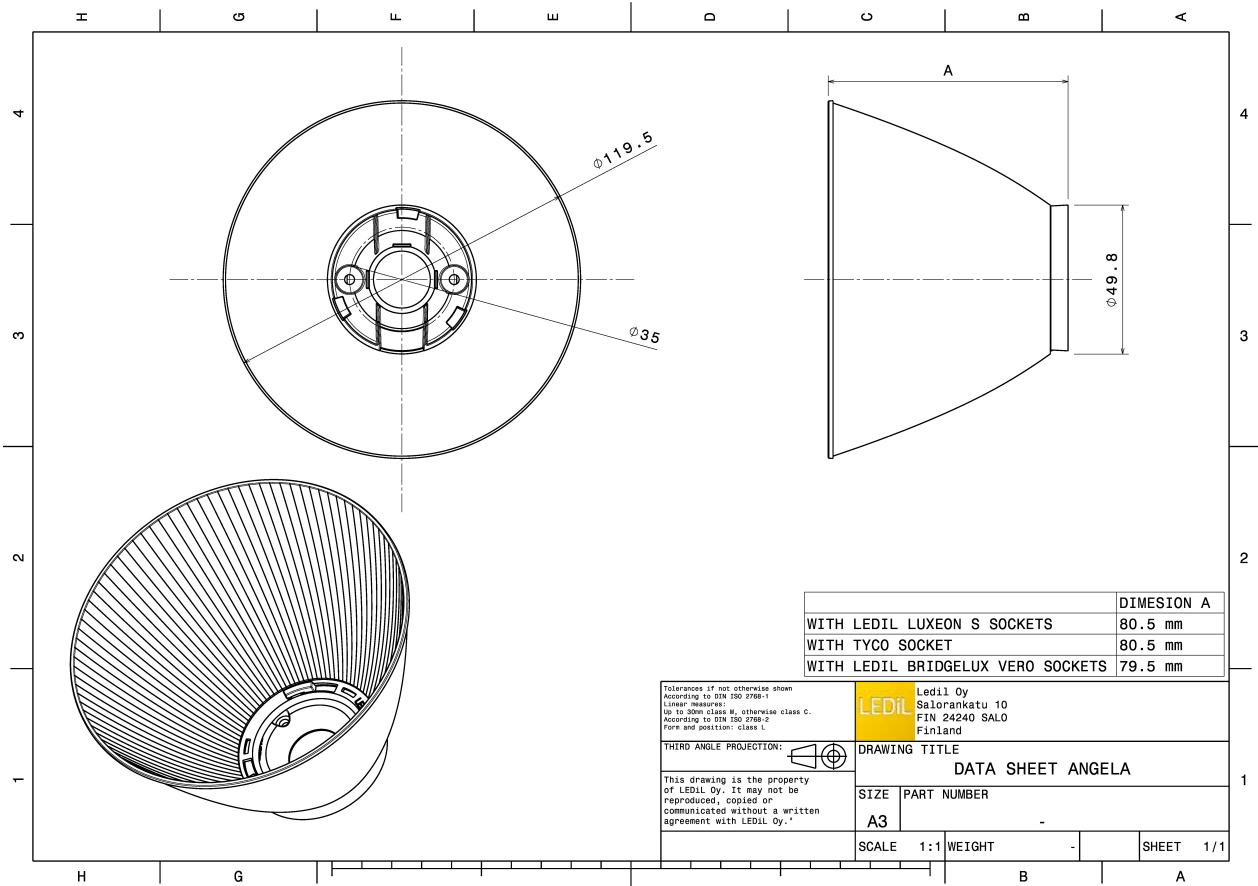
### MATERIALS:

Component	Type	Material	Colour	Finish	Coating
ANGELA-XW	Reflector	HRPC	white		



### ORDERING INFORMATION:

Component	Qty in box	MOQ	MPQ	Box weight (kg)
F13840_ANGELA-XW » Box size: 480 x 280 x 300 mm	160	80	40	8.1



See also our general installation guide: [www.ledil.com/installation\\_guide](http://www.ledil.com/installation_guide)

### OPTICAL RESULTS (MEASURED):

bridgelux

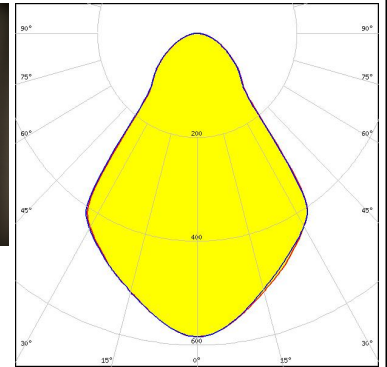
LED V10 Gen7  
FWHM / FWTM 72.0° / 126.0°  
Efficiency 87 %  
Peak intensity 0.6 cd/lm  
LEDs/each optic 1  
Light colour/type White

Required components:

C13658\_CLAMP-VERO13-18

F13671\_ANGE-RZ-LENS

Bender Wirth: 434 Typ L1



Light distribution files

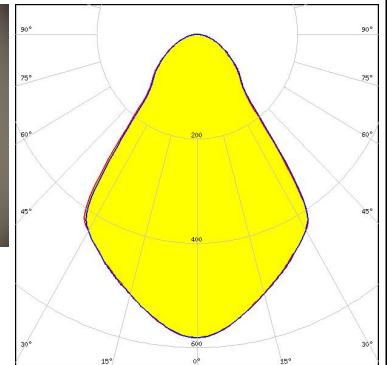
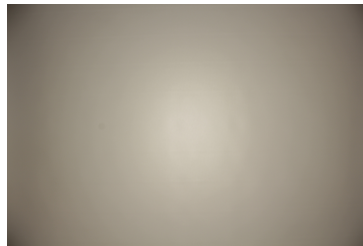
bridgelux

LED V13 Gen7  
FWHM / FWTM 72.0° / 126.0°  
Efficiency 87 %  
Peak intensity 0.6 cd/lm  
LEDs/each optic 1  
Light colour/type White

Required components:

F13671\_ANGE-RZ-LENS

TE Connectivity: 2213254-2 + OPTIC CLIP Z50 TYPE1 2213194-1



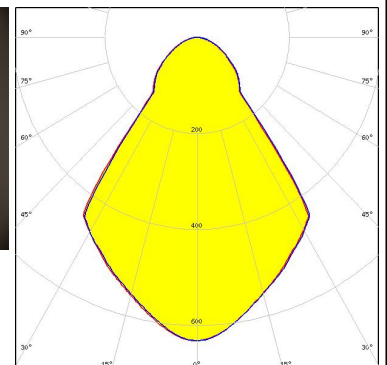
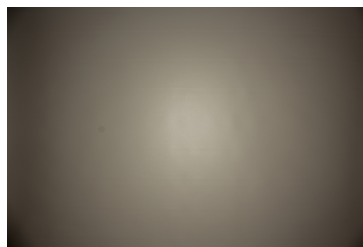
Light distribution files

bridgelux

LED V13 Gen7  
FWHM / FWTM 72.0° / 124.0°  
Efficiency 92 %  
Peak intensity 0.6 cd/lm  
LEDs/each optic 1  
Light colour/type White

Required components:

TE Connectivity: 2213254-2 + OPTIC CLIP Z50 TYPE1 2213194-1

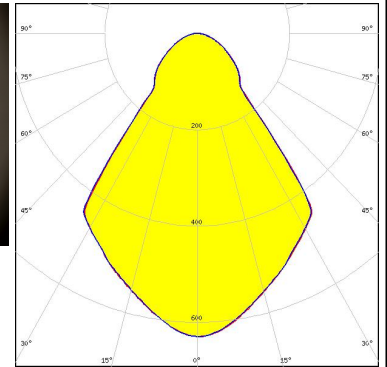
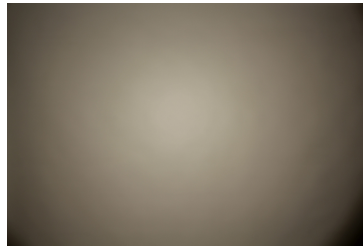


Light distribution files

#### OPTICAL RESULTS (MEASURED):



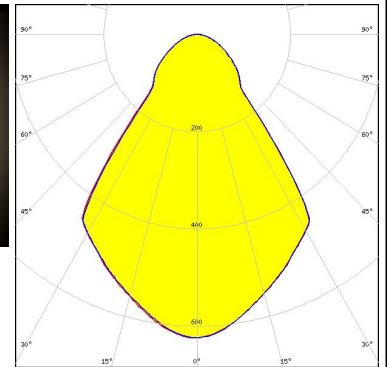
**LED** Vero SE 13  
**FWHM / FWTM** 73.0° / 125.0°  
**Efficiency** 93 %  
**Peak intensity** 0.6 cd/lm  
**LEDs/each optic** 1  
**Light colour/type** White  
**Required components:**  
 C16402\_CLAMP-VEROSE-13-18



Light distribution files



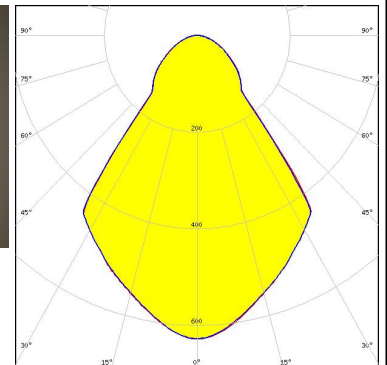
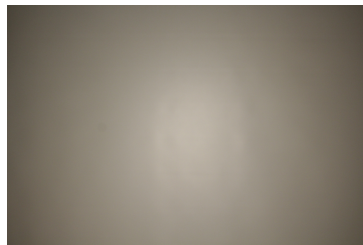
**LED** Vero SE 18  
**FWHM / FWTM** 73.0° / 125.0°  
**Efficiency** 93 %  
**Peak intensity** 0.6 cd/lm  
**LEDs/each optic** 1  
**Light colour/type** White  
**Required components:**  
 C16402\_CLAMP-VEROSE-13-18



Light distribution files



**LED** VERO13  
**FWHM / FWTM** 73.0° / 125.0°  
**Efficiency** 93 %  
**Peak intensity** 0.6 cd/lm  
**LEDs/each optic** 1  
**Light colour/type** White  
**Required components:**  
 C13658\_CLAMP-VERO13-18

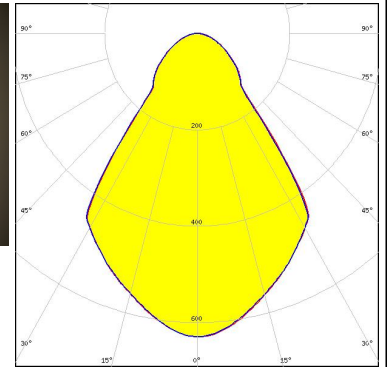
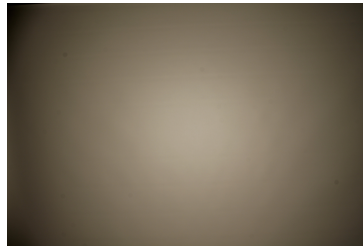


Light distribution files

### OPTICAL RESULTS (MEASURED):



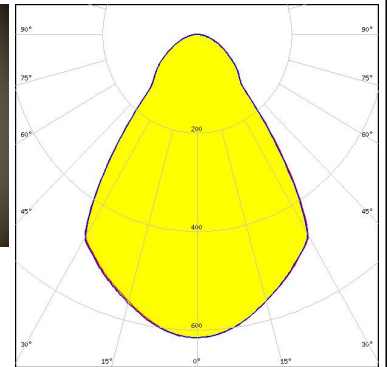
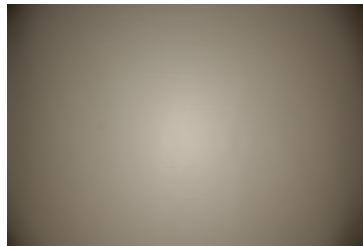
**LED** VERO18  
**FWHM / FWTM** 72.0° / 124.0°  
**Efficiency** 93 %  
**Peak intensity** 0.6 cd/lm  
**LEDs/each optic** 1  
**Light colour/type** White  
**Required components:**  
 C13658\_CLAMP-VERO13-18



Light distribution files



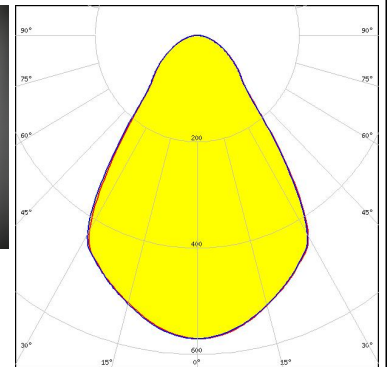
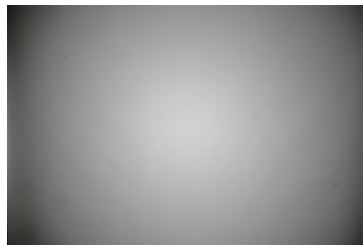
**LED** VERO29  
**FWHM / FWTM** 72.0° / 125.0°  
**Efficiency** 94 %  
**Peak intensity** 0.6 cd/lm  
**LEDs/each optic** 1  
**Light colour/type** White  
**Required components:**  
 C13584\_CLAMP-VERO29



Light distribution files



**LED** VERO29  
**FWHM / FWTM** 72.0° / 127.0°  
**Efficiency** 88 %  
**Peak intensity** 0.6 cd/lm  
**LEDs/each optic** 1  
**Light colour/type** White  
**Required components:**  
 C13584\_CLAMP-VERO29  
 F13671\_ANGE-RZ-LENS



Light distribution files

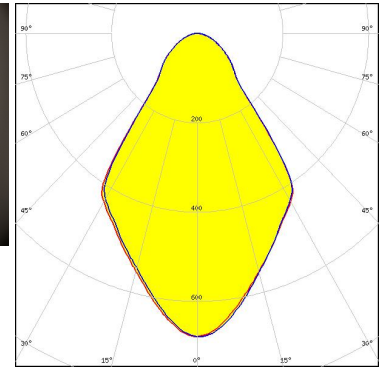
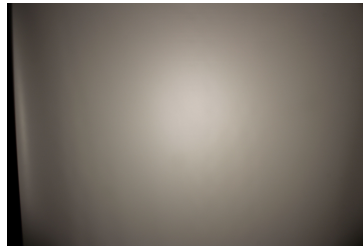
### OPTICAL RESULTS (MEASURED):



LED Vesta TW 15mm DP  
 FWHM / FWTM 70.0° / 119.0°  
 Efficiency 88 %  
 Peak intensity 0.7 cd/lm  
 LEDs/each optic 1  
 Light colour/type Tunable White

Required components:

C13658\_CLAMP-VERO13-18  
 F13671\_ANGE-RZ-LENS  
 Bender Wirth: 482 Typ L2



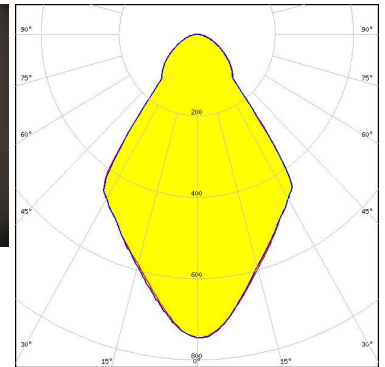
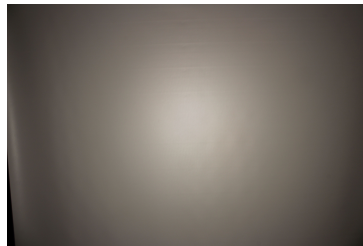
Light distribution files



LED Vesta TW 15mm DP  
 FWHM / FWTM 70.0° / 117.0°  
 Efficiency 94 %  
 Peak intensity 0.7 cd/lm  
 LEDs/each optic 1  
 Light colour/type Tunable White

Required components:

C13658\_CLAMP-VERO13-18  
 Bender Wirth: 482 Typ L2



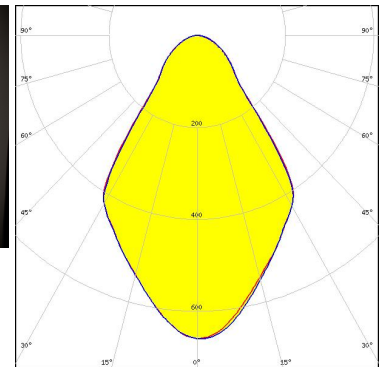
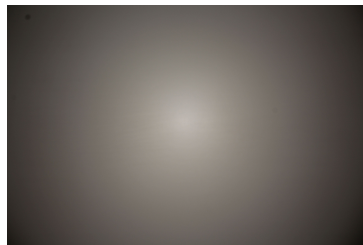
Light distribution files



LED Vesta TW 18mm (31W) DP  
 FWHM / FWTM 70.0° / 119.0°  
 Efficiency 87 %  
 Peak intensity 0.7 cd/lm  
 LEDs/each optic 1  
 Light colour/type Tunable White

Required components:

C13584\_CLAMP-VERO29  
 F13671\_ANGE-RZ-LENS  
 Bender Wirth: 483 Typ L3

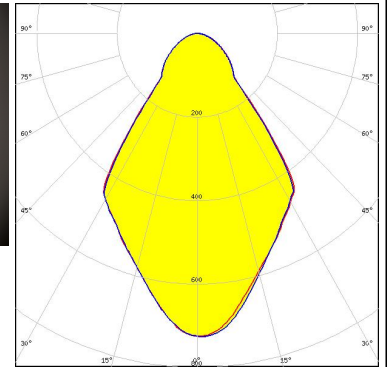
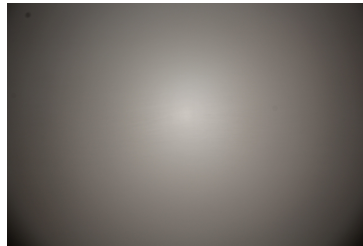


Light distribution files

### OPTICAL RESULTS (MEASURED):



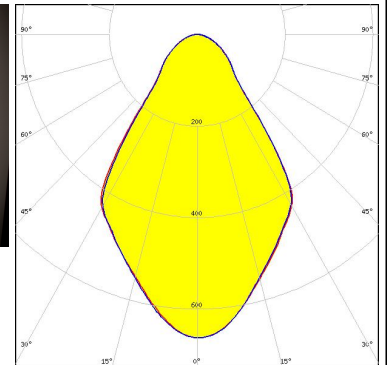
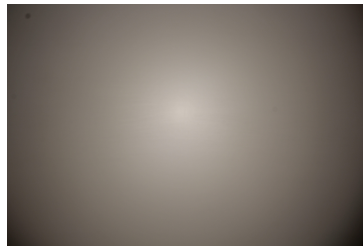
**LED** Vesta TW 18mm (31W) DP  
**FWHM / FWTM** 70.0° / 118.0°  
**Efficiency** 93 %  
**Peak intensity** 0.7 cd/lm  
**LEDs/each optic** 1  
**Light colour/type** Tunable White  
**Required components:**  
 C13584\_CLAMP-VERO29  
 Bender Wirth: 483 Typ L3



Light distribution files



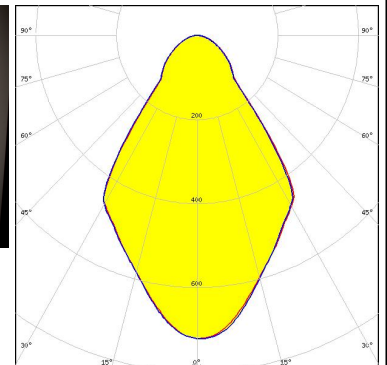
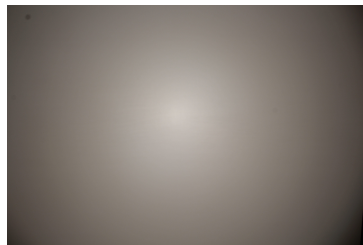
**LED** Vesta TW 22mm DP  
**FWHM / FWTM** 69.0° / 119.0°  
**Efficiency** 88 %  
**Peak intensity** 0.7 cd/lm  
**LEDs/each optic** 1  
**Light colour/type** Tunable White  
**Required components:**  
 C13584\_CLAMP-VERO29  
 F13671\_ANGE-RZ-LENS  
 Bender Wirth: 494 Typ L3



Light distribution files



**LED** Vesta TW 22mm DP  
**FWHM / FWTM** 69.0° / 117.0°  
**Efficiency** 93 %  
**Peak intensity** 0.7 cd/lm  
**LEDs/each optic** 1  
**Light colour/type** Tunable White  
**Required components:**  
 C13584\_CLAMP-VERO29  
 Bender Wirth: 494 Typ L3

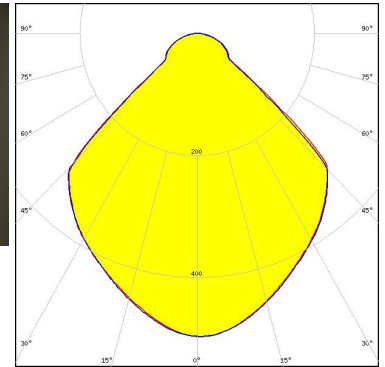
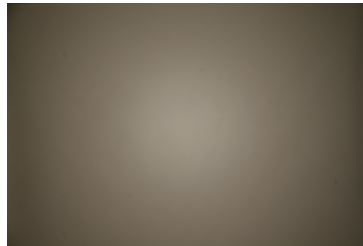


Light distribution files

### OPTICAL RESULTS (MEASURED):

#### CITIZEN

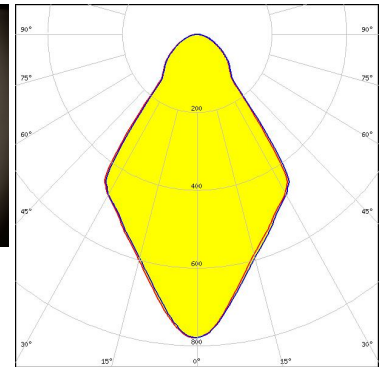
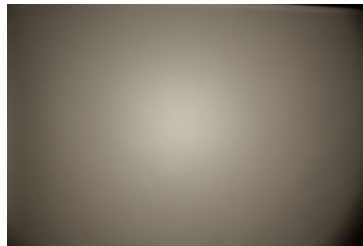
LED CLL02x/CLU02x (LES10)  
FWHM / FWTM 72.0° / 124.0°  
Efficiency 93 %  
Peak intensity 0.6 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:  
C13658\_CLAMP-VERO13-18  
Bender Wirth: 434 Typ L1



Light distribution files

#### CITIZEN

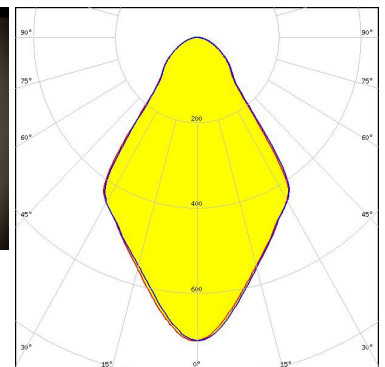
LED CLL03x/CLU03x  
FWHM / FWTM 69.0° / 115.0°  
Efficiency 94 %  
Peak intensity 0.8 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:  
C16791\_CLAMP-Z45-A  
TE Connectivity: 2325807-3



Light distribution files

#### CITIZEN

LED CLL03x/CLU03x  
FWHM / FWTM 69.0° / 117.0°  
Efficiency 90 %  
Peak intensity 0.7 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:  
C16791\_CLAMP-Z45-A  
F13671\_ANGE-RZ-LENS  
TE Connectivity: 2325807-3



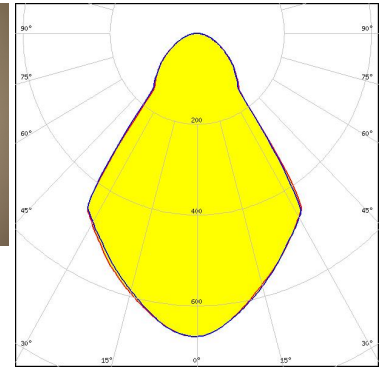
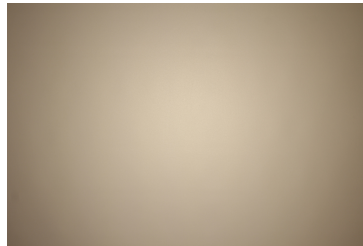
Light distribution files



### OPTICAL RESULTS (MEASURED):

#### CITIZEN

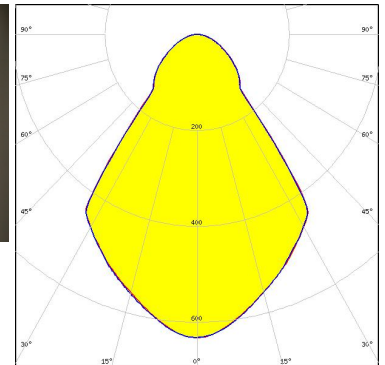
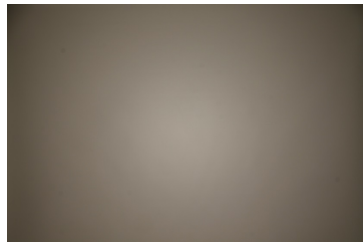
LED CLL03x/CLU03x  
FWHM / FWTM 70.0° / 121.0°  
Efficiency 93 %  
Peak intensity 0.7 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:  
IDEAL: 50-2103CT + 50-2100AN



Light distribution files

#### CITIZEN

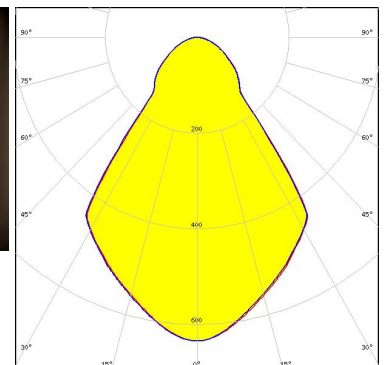
LED CLL03x/CLU03x  
FWHM / FWTM 72.0° / 124.0°  
Efficiency 93 %  
Peak intensity 0.6 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:  
C13658\_CLAMP-VERO13-18  
Bender Wirth: 433 Typ L1



Light distribution files

#### CITIZEN

LED CLL03x/CLU03x  
FWHM / FWTM 71.0° / 124.0°  
Efficiency 92 %  
Peak intensity 0.6 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:  
TE Connectivity: 2213254-2 + OPTIC CLIP Z50 TYPE1 2213194-1

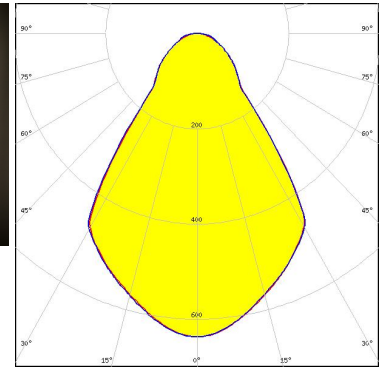


Light distribution files

### OPTICAL RESULTS (MEASURED):

#### CITIZEN

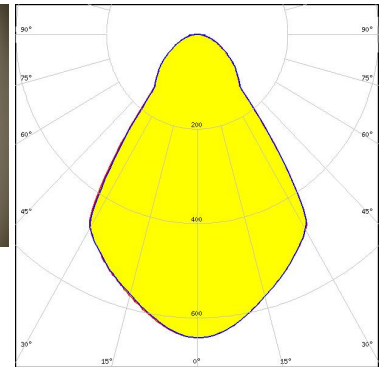
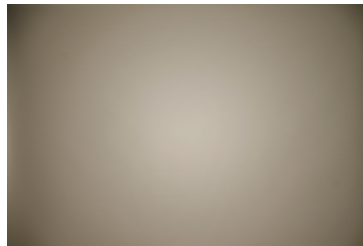
LED CLL04x/CLU04x  
FWHM / FWTM 70.0° / 123.0°  
Efficiency 93 %  
Peak intensity 0.6 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:  
IDEAL: 50-2204-CT + 50-2100AN



Light distribution files

#### CITIZEN

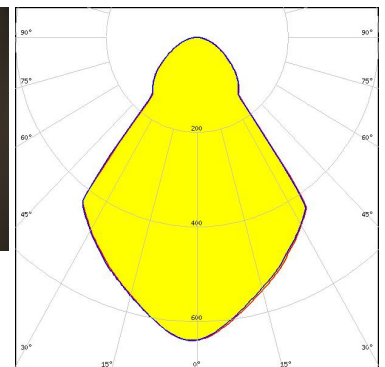
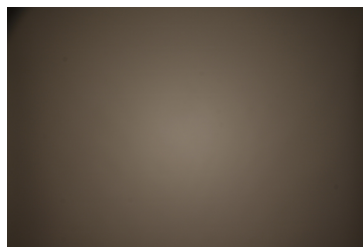
LED CLL04x/CLU04x  
FWHM / FWTM 70.0° / 123.0°  
Efficiency 93 %  
Peak intensity 0.6 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:  
C13584\_CLAMP-VERO29  
Bender Wirth: 431 Typ L3



Light distribution files

#### CITIZEN

LED CLU700/701/702/703  
FWHM / FWTM 73.0° / 124.0°  
Efficiency 93 %  
Peak intensity 0.6 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:  
C13658\_CLAMP-VERO13-18  
Bender Wirth: 434 Typ L1

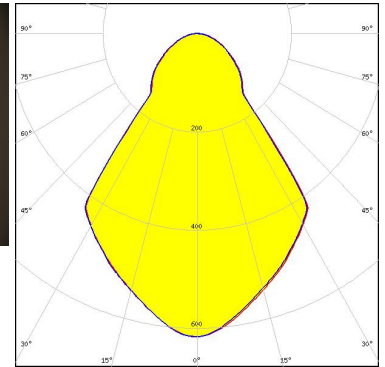
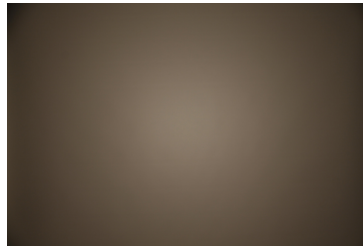


Light distribution files

### OPTICAL RESULTS (MEASURED):

#### CITIZEN

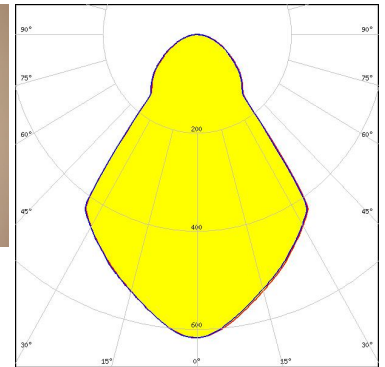
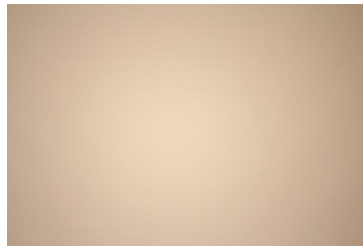
LED CLU720/721/723  
FWHM / FWTM 70.0° / 127.0°  
Efficiency 94 %  
Peak intensity 0.6 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:  
IDEAL: 50-2103CT + 50-2100AN



Light distribution files

#### CITIZEN

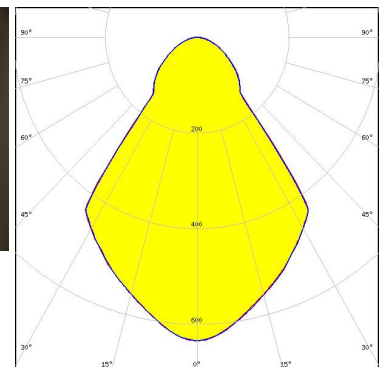
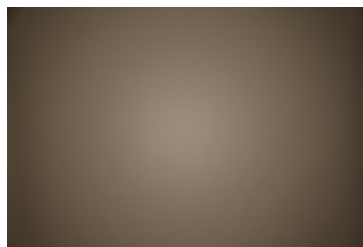
LED CLU720/721/723  
FWHM / FWTM 72.0° / 129.0°  
Efficiency 93 %  
Peak intensity 0.6 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:  
TE Connectivity: 2213254-2 + OPTIC CLIP Z50 TYPE1 2213194-1



Light distribution files

#### CITIZEN

LED CLU720/721/723  
FWHM / FWTM 72.0° / 124.0°  
Efficiency 93 %  
Peak intensity 0.6 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:  
C13658\_CLAMP-VERO13-18  
Bender Wirth: 433 Typ L1

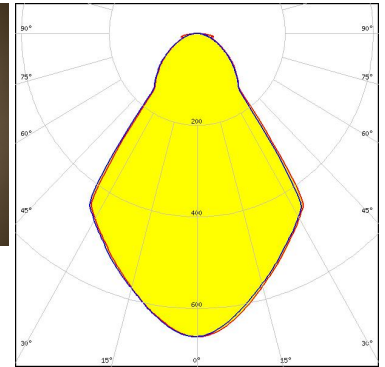
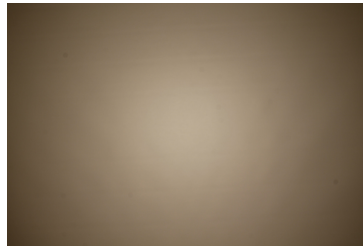


Light distribution files

### OPTICAL RESULTS (MEASURED):

#### CITIZEN

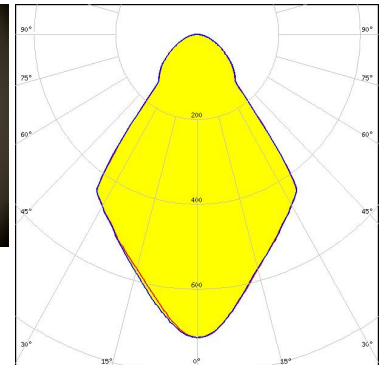
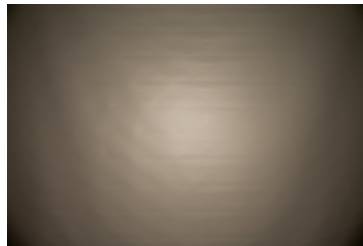
LED CLU730/731/733  
FWHM / FWTM 71.0° / 122.0°  
Efficiency 93 %  
Peak intensity 0.7 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:  
IDEAL: 50-2204-CT + 50-2100AN



Light distribution files



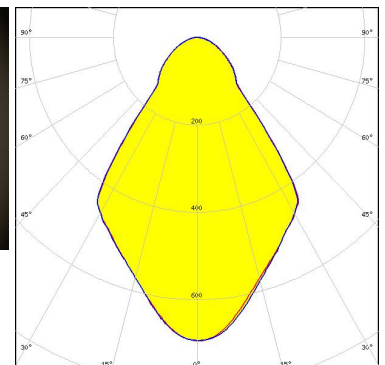
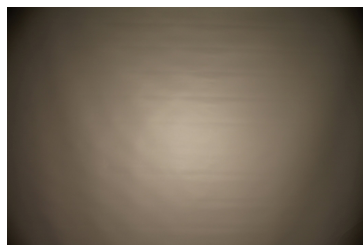
LED CMA1840  
FWHM / FWTM 72.0° / 120.0°  
Efficiency 95 %  
Peak intensity 0.7 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:  
C14123\_CLAMP-CXA15-18



Light distribution files



LED CMA2550  
FWHM / FWTM 71.0° / 121.0°  
Efficiency 94 %  
Peak intensity 0.7 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:  
C14036\_CLAMP\_CXA25-30

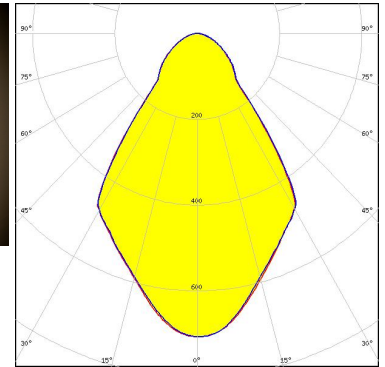
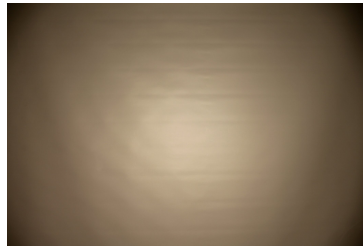


Light distribution files

### OPTICAL RESULTS (MEASURED):



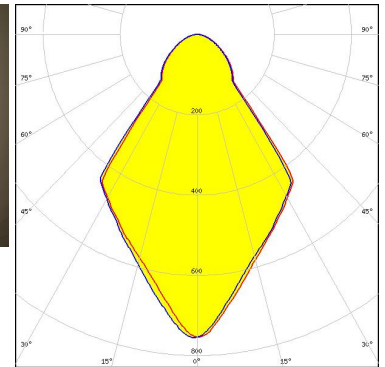
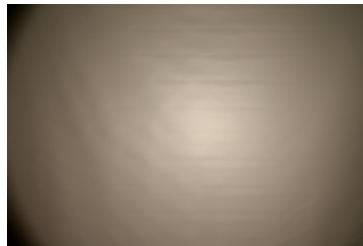
LED CMA3090  
FWHM / FWTM 70.0° / 119.0°  
Efficiency 94 %  
Peak intensity 0.7 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:  
C14036\_CLAMP\_CXA25-30



Light distribution files



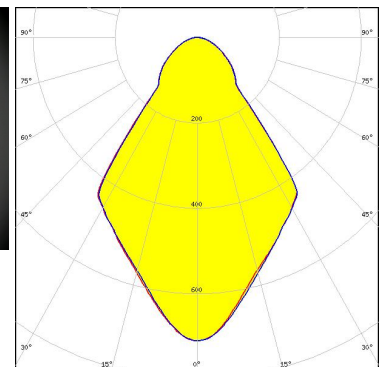
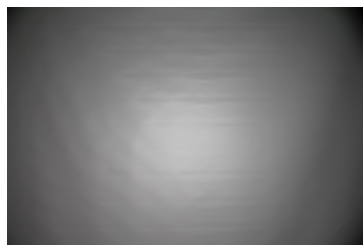
LED CMT14xx  
FWHM / FWTM 71.0° / 116.0°  
Efficiency 93 %  
Peak intensity 0.8 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:  
C13658\_CLAMP-VERO13-18  
Bender Wirth: 434 Typ L1



Light distribution files



LED CMT19xx  
FWHM / FWTM 72.0° / 120.0°  
Efficiency 94 %  
Peak intensity 0.7 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:  
C13658\_CLAMP-VERO13-18  
Bender Wirth: 477 Typ L1

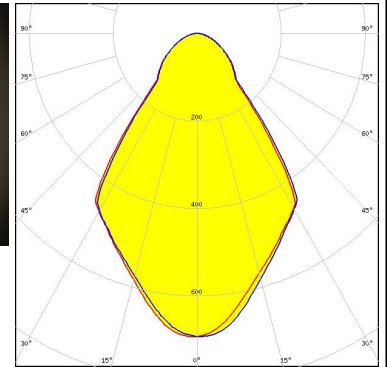
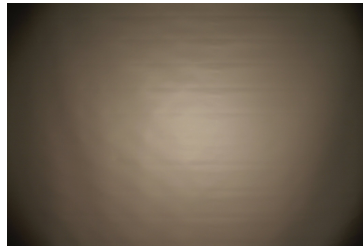


Light distribution files

#### OPTICAL RESULTS (MEASURED):



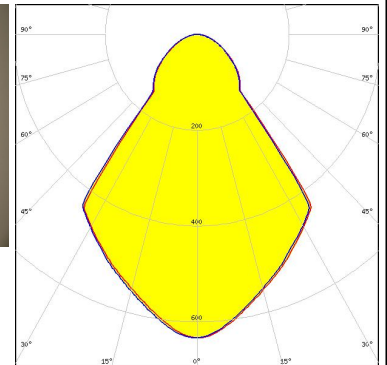
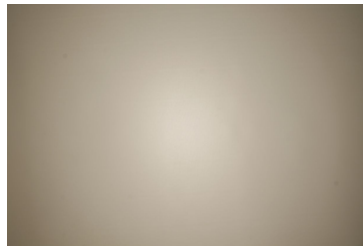
**LED** CMT28xx  
**FWHM / FWTM** 70.0° / 120.0°  
**Efficiency** 94 %  
**Peak intensity** 0.7 cd/lm  
**LEDs/each optic** 1  
**Light colour/type** White  
**Required components:**  
 C13584\_CLAMP-VERO29  
 Bender Wirth: 471 Typ L3



Light distribution files



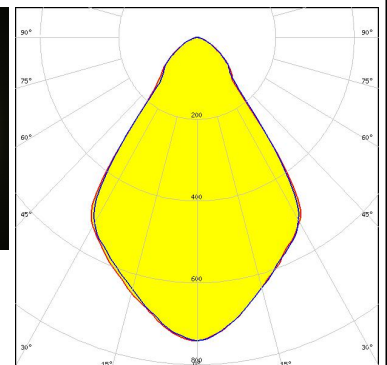
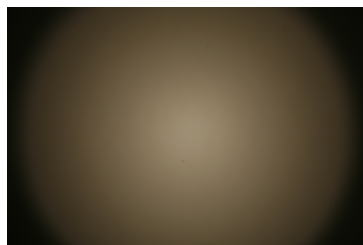
**LED** CXA/B 15xx  
**FWHM / FWTM** 73.0° / 124.0°  
**Efficiency** 93 %  
**Peak intensity** 0.6 cd/lm  
**LEDs/each optic** 1  
**Light colour/type** White  
**Required components:**  
 C13658\_CLAMP-VERO13-18  
 Bender Wirth: 441 Typ L1



Light distribution files



**LED** CXA/B 1816 & CXA/B 1820 & CXA 1850  
**FWHM / FWTM** 72.0° / 112.0°  
**Efficiency** 94 %  
**Peak intensity** 0.7 cd/lm  
**LEDs/each optic** 1  
**Light colour/type** White  
**Required components:**  
 C14123\_CLAMP-CXA15-18

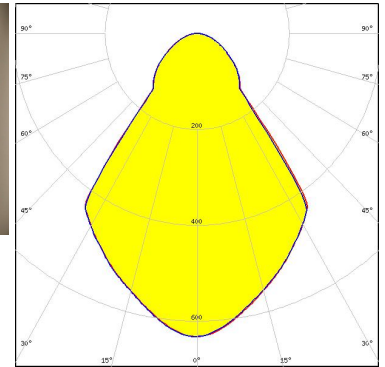
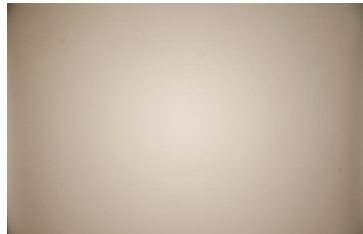


Light distribution files

### OPTICAL RESULTS (MEASURED):



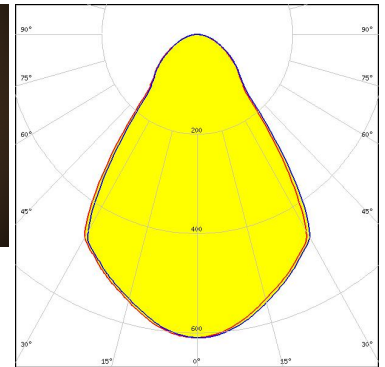
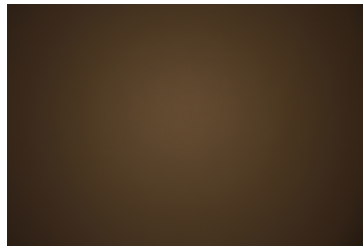
**LED** CXA/B 1816 & CXA/B 1820 & CXA 1850  
**FWHM / FWTM** 72.0° / 124.0°  
**Efficiency** 92 %  
**Peak intensity** 0.6 cd/lm  
**LEDs/each optic** 1  
**Light colour/type** White  
**Required components:**  
 C13658\_CLAMP-VERO13-18  
 Bender Wirth: 437 Typ L1



Light distribution files



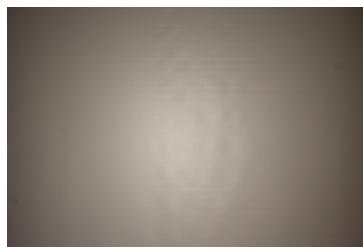
**LED** CXA/B 3590  
**FWHM / FWTM** 72.0° / 126.0°  
**Efficiency** 94 %  
**Peak intensity** 0.6 cd/lm  
**LEDs/each optic** 1  
**Light colour/type** White  
**Required components:**  
 IDEAL: 50-2303CR + 50-2300AN



Light distribution files



**LED** CHI3030 19W  
**FWHM / FWTM** 71.0° / 130.0°  
**Efficiency** 91 %  
**Peak intensity** 0.5 cd/lm  
**LEDs/each optic** 1  
**Light colour/type** White  
**Required components:**  
 C13584\_CLAMP-VERO29  
 F13671\_ANGE-RZ-LENS  
 Bender Wirth: 468 Typ L3



Light distribution files

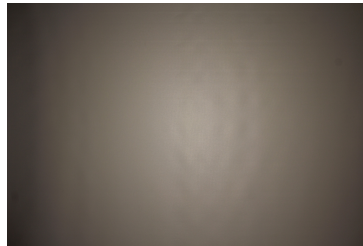
### OPTICAL RESULTS (MEASURED):

#### EVERLIGHT

LED CHI3030 29W  
FWHM / FWTM 71.0° / 128.0°  
Efficiency 90 %  
Peak intensity 0.6 cd/lm  
LEDs/each optic 1  
Light colour/type White

Required components:

C13584\_CLAMP-VERO29  
F13671\_ANGE-RZ-LENS  
Bender Wirth: 468 Typ L3



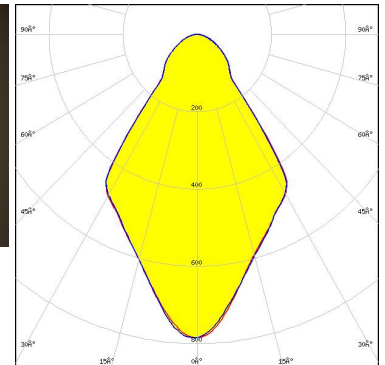
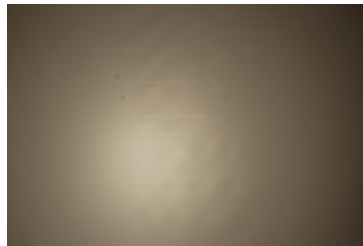
Light distribution files

#### inventronics

LED PrevaLED Core G7 L15 H1  
FWHM / FWTM 69.0° / 114.0°  
Efficiency 94 %  
Peak intensity 0.8 cd/lm  
LEDs/each optic 1  
Light colour/type White

Required components:

C16685\_CLAMP-PRV-A



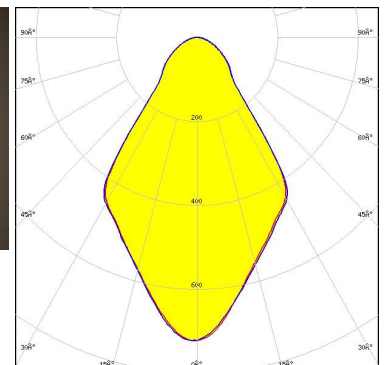
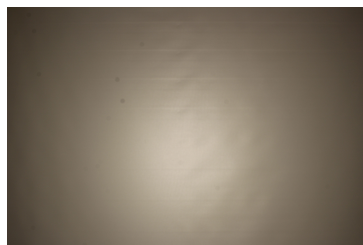
Light distribution files

#### inventronics

LED PrevaLED Core G7 L15 H1  
FWHM / FWTM 69.0° / 116.0°  
Efficiency 90 %  
Peak intensity 0.7 cd/lm  
LEDs/each optic 1  
Light colour/type White

Required components:

C16685\_CLAMP-PRV-A  
F13671\_ANGE-RZ-LENS



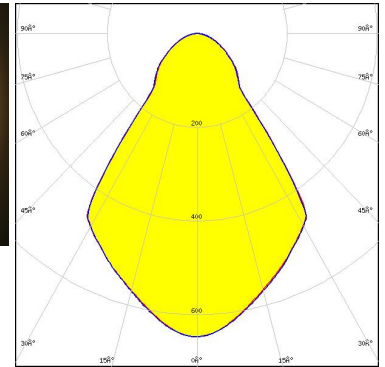
Light distribution files



#### OPTICAL RESULTS (MEASURED):

#### inventronics

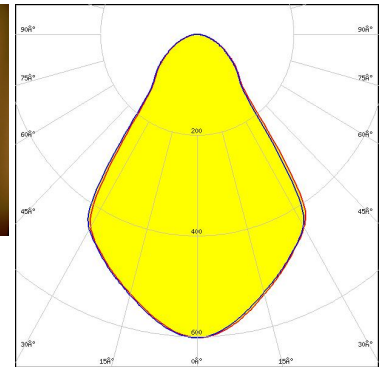
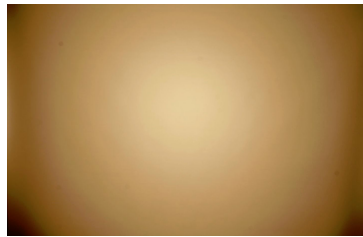
LED PrevaLED Core Z4 LES19  
 FWHM / FWTM 71.0° / 123.0°  
 Efficiency 93 %  
 Peak intensity 0.7 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:  
 TE Connectivity: OPTIC CLIP Z50 TYPE1 2213194-1



Light distribution files

#### inventronics

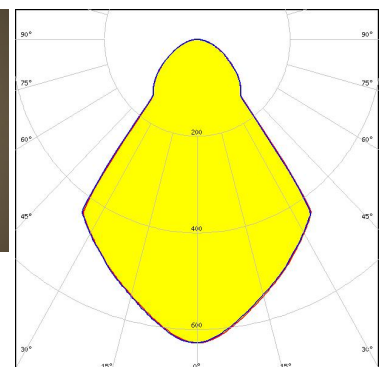
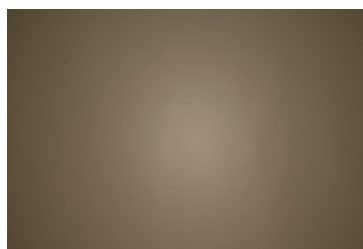
LED PrevaLED Core Z4 LES19  
 FWHM / FWTM 71.0° / 124.0°  
 Efficiency 88 %  
 Peak intensity 0.6 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:  
 F13671\_ANGE-RZ-LENS  
 TE Connectivity: OPTIC CLIP Z50 TYPE1 2213194-1



Light distribution files

#### LUMILEDS

LED LUXEON CoB 1202/1203  
 FWHM / FWTM 73.0° / 125.0°  
 Efficiency 93 %  
 Peak intensity 0.6 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:  
 C13658\_CLAMP-VERO13-18  
 Bender Wirth: 438 Typ L1

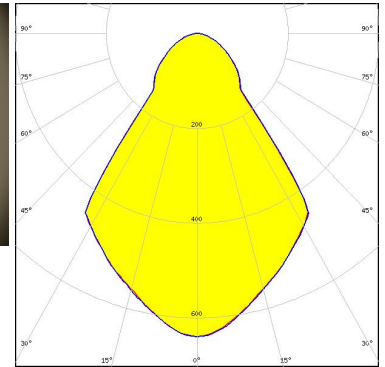


Light distribution files

### OPTICAL RESULTS (MEASURED):



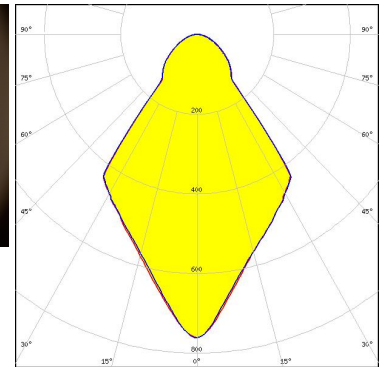
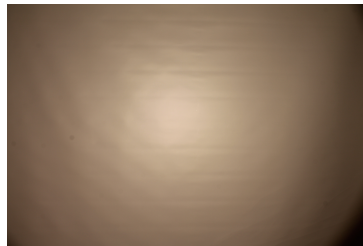
**LED** LUXEON CoB 1204/1205  
**FWHM / FWTM** 72.0° / 124.0°  
**Efficiency** 93 %  
**Peak intensity** 0.6 cd/lm  
**LEDs/each optic** 1  
**Light colour/type** White  
**Required components:**



Light distribution files



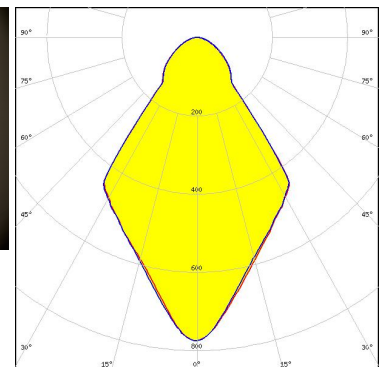
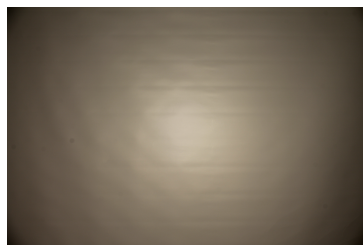
**LED** LUXEON CoB 1204HD  
**FWHM / FWTM** 71.0° / 116.0°  
**Efficiency** 93 %  
**Peak intensity** 0.8 cd/lm  
**LEDs/each optic** 1  
**Light colour/type** White  
**Required components:**  
 TE Connectivity: 2213382-2 + OPTIC CLIP Z50 TYPE1 2213194-1



Light distribution files



**LED** LUXEON CoB 1205HD  
**FWHM / FWTM** 70.0° / 114.0°  
**Efficiency** 93 %  
**Peak intensity** 0.8 cd/lm  
**LEDs/each optic** 1  
**Light colour/type** White  
**Required components:**  
 TE Connectivity: 2213382-2 + OPTIC CLIP Z50 TYPE1 2213194-1

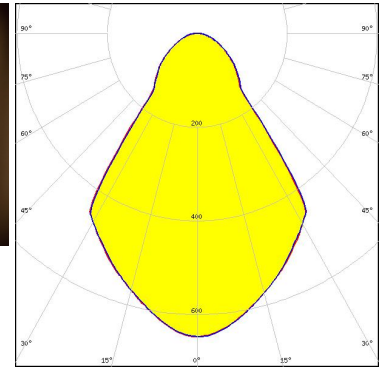
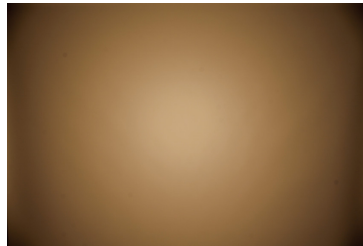


Light distribution files

#### OPTICAL RESULTS (MEASURED):



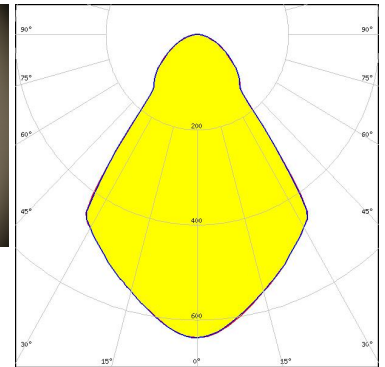
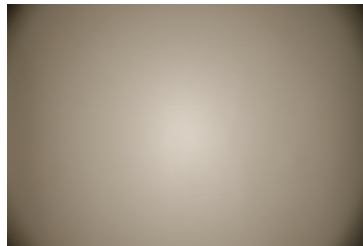
LED LUXEON CoB 1208  
 FWHM / FWTM 71.0° / 123.0°  
 Efficiency 93 %  
 Peak intensity 0.7 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:  
 IDEAL: 50-2100SH + 50-2100AN



Light distribution files



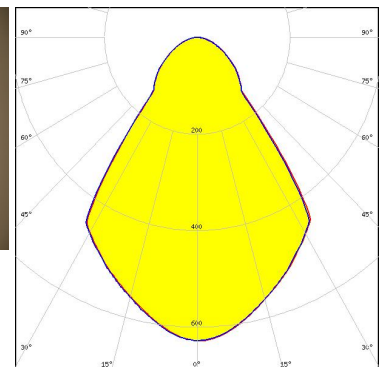
LED LUXEON CoB 1208  
 FWHM / FWTM 71.0° / 124.0°  
 Efficiency 93 %  
 Peak intensity 0.6 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:  
 TE Connectivity: 2213130-2 + OPTIC CLIP Z50 TYPE1 2213194-1



Light distribution files



LED LUXEON CoB 1211  
 FWHM / FWTM 72.0° / 124.0°  
 Efficiency 93 %  
 Peak intensity 0.6 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:  
 C13584\_CLAMP-VERO29  
 Bender Wirth: 431 Typ L3

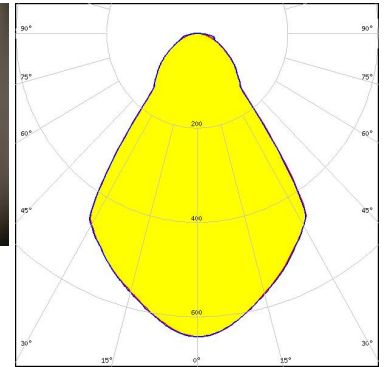
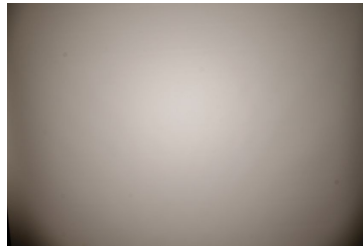


Light distribution files

### OPTICAL RESULTS (MEASURED):



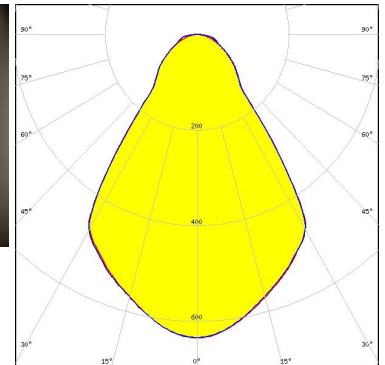
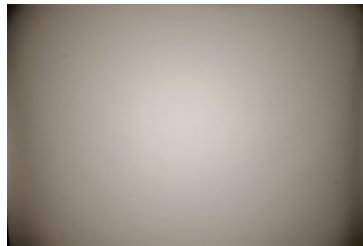
LED LUXEON CoB 1211  
FWHM / FWTM 71.0° / 123.0°  
Efficiency 93 %  
Peak intensity 0.6 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:  
IDEAL: 50-2204-CT + 50-2100AN



Light distribution files



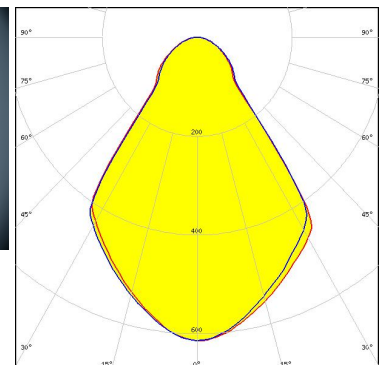
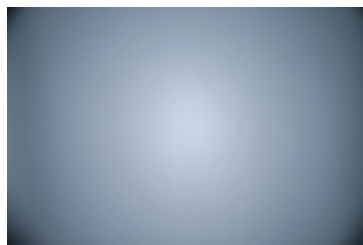
LED LUXEON CoB 1213/1216/1812  
FWHM / FWTM 70.0° / 124.0°  
Efficiency 93 %  
Peak intensity 0.6 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:  
IDEAL: 50-2204-CT + 50-2100AN



Light distribution files



LED LUXEON K12  
FWHM / FWTM 72.0° / 123.0°  
Efficiency 89 %  
Peak intensity 0.6 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:  
F13671\_ANGE-RZ-LENS  
TE Connectivity: 2213134-2 + OPTIC CLIP Z50 TYPE1 2213194-1



Light distribution files

#### OPTICAL RESULTS (MEASURED):

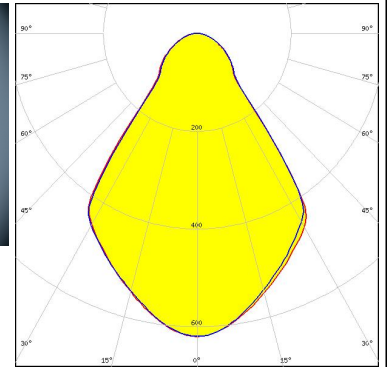
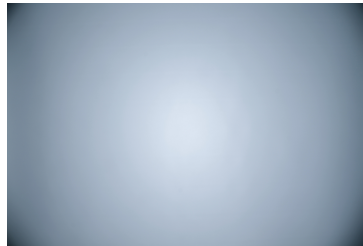


LED LUXEON K16  
 FWHM / FWTM 72.0° / 122.0°  
 Efficiency 88 %  
 Peak intensity 0.6 cd/lm  
 LEDs/each optic 1  
 Light colour/type White

Required components:

F13671\_ANGE-RZ-LENS

TE Connectivity: 2213134-2 + OPTIC CLIP Z50 TYPE1 2213194-1



Light distribution files



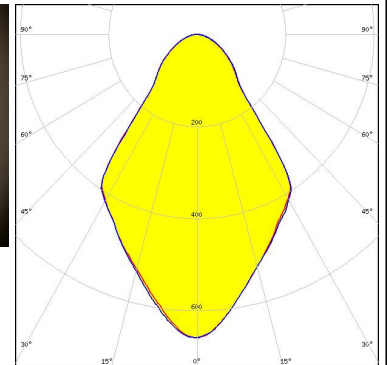
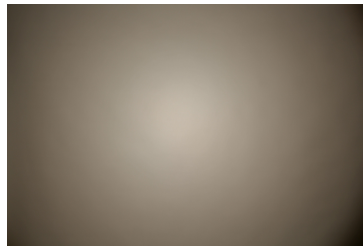
LED CDM-14 (Dim-To-Warm)  
 FWHM / FWTM 71.0° / 121.0°  
 Efficiency 87 %  
 Peak intensity 0.7 cd/lm  
 LEDs/each optic 1  
 Light colour/type White

Required components:

C13658\_CLAMP-VERO13-18

F13671\_ANGE-RZ-LENS

Bender Wirth: 491 Typ L2



Light distribution files

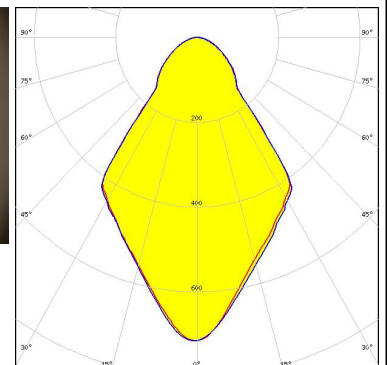
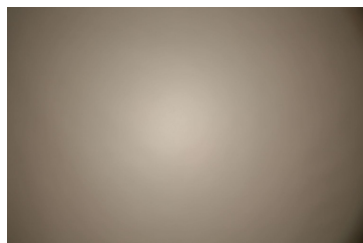


LED CDM-14 (Dim-To-Warm)  
 FWHM / FWTM 71.0° / 120.0°  
 Efficiency 92 %  
 Peak intensity 0.7 cd/lm  
 LEDs/each optic 1  
 Light colour/type White

Required components:

C13658\_CLAMP-VERO13-18

Bender Wirth: 491 Typ L2

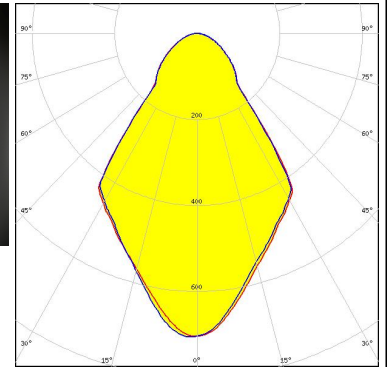
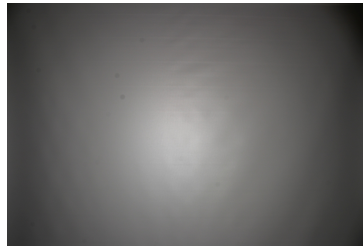


Light distribution files

#### OPTICAL RESULTS (MEASURED):



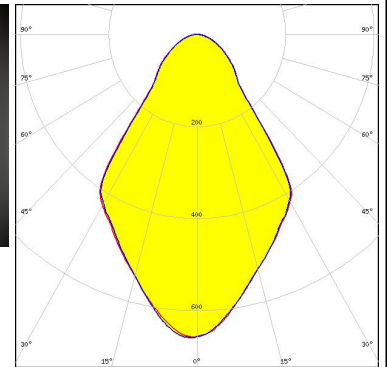
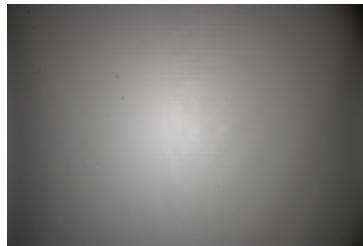
**LED** CDM-18 (Dim-To-Warm)  
**FWHM / FWTM** 70.0° / 120.0°  
**Efficiency** 93 %  
**Peak intensity** 0.7 cd/lm  
**LEDs/each optic** 1  
**Light colour/type** White  
**Required components:**  
 C13658\_CLAMP-VERO13-18  
 Bender Wirth: 491 Typ L2



Light distribution files



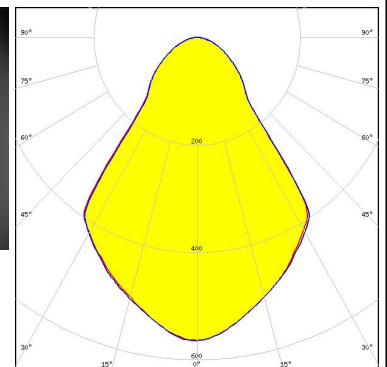
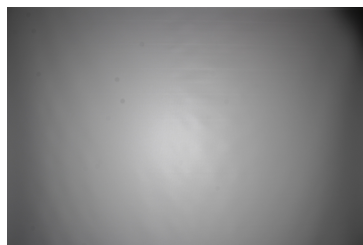
**LED** CDM-18 (Dim-To-Warm)  
**FWHM / FWTM** 70.0° / 121.0°  
**Efficiency** 88 %  
**Peak intensity** 0.7 cd/lm  
**LEDs/each optic** 1  
**Light colour/type** White  
**Required components:**  
 C13658\_CLAMP-VERO13-18  
 F13671\_ANGE-RZ-LENS  
 Bender Wirth: 491 Typ L2



Light distribution files



**LED** CDM-9 (Dim-To-Warm)  
**FWHM / FWTM** 73.0° / 127.0°  
**Efficiency** 86 %  
**Peak intensity** 0.6 cd/lm  
**LEDs/each optic** 1  
**Light colour/type** White  
**Required components:**  
 C13658\_CLAMP-VERO13-18  
 F13671\_ANGE-RZ-LENS  
 Bender Wirth: 490 Typ L1

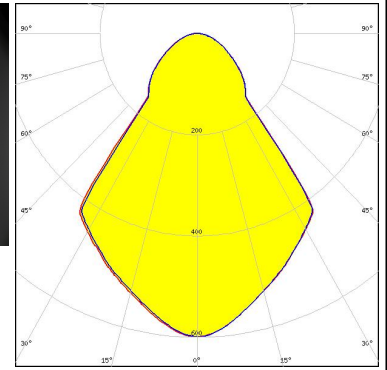
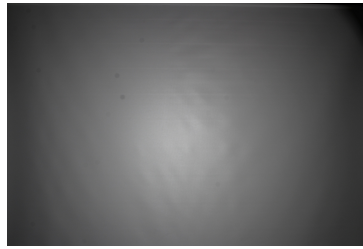


Light distribution files

#### OPTICAL RESULTS (MEASURED):



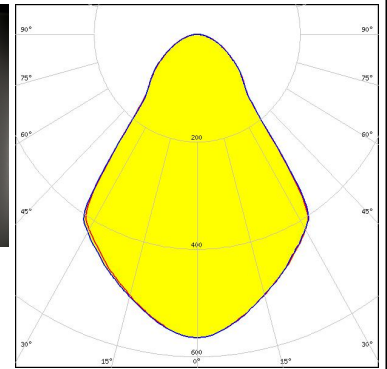
**LED** CDM-9 (Dim-To-Warm)  
**FWHM / FWTM** 73.0° / 127.0°  
**Efficiency** 92 %  
**Peak intensity** 0.6 cd/lm  
**LEDs/each optic** 1  
**Light colour/type** White  
**Required components:**  
 C13658\_CLAMP-VERO13-18  
 Bender Wirth: 490 Typ L1



Light distribution files



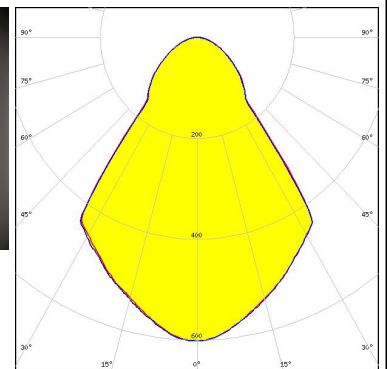
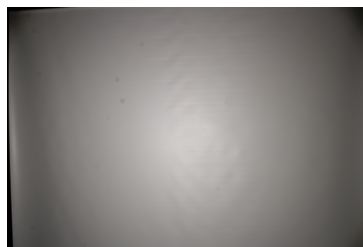
**LED** CTM-14 (Tunable White)  
**FWHM / FWTM** 72.0° / 127.0°  
**Efficiency** 86 %  
**Peak intensity** 0.6 cd/lm  
**LEDs/each optic** 1  
**Light colour/type** White  
**Required components:**  
 C13584\_CLAMP-VERO29  
 F13671\_ANGE-RZ-LENS  
 Bender Wirth: 442 Typ L3



Light distribution files



**LED** CTM-14 (Tunable White)  
**FWHM / FWTM** 73.0° / 127.0°  
**Efficiency** 92 %  
**Peak intensity** 0.6 cd/lm  
**LEDs/each optic** 1  
**Light colour/type** White  
**Required components:**  
 C13584\_CLAMP-VERO29  
 Bender Wirth: 442 Typ L3

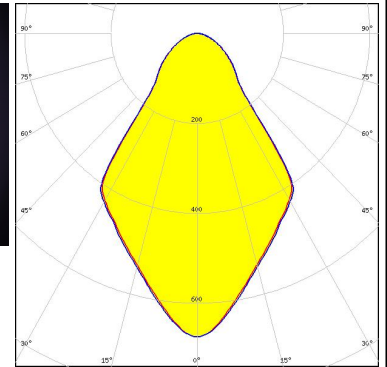
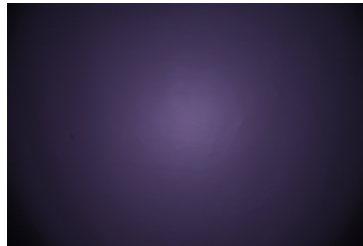


Light distribution files

#### OPTICAL RESULTS (MEASURED):



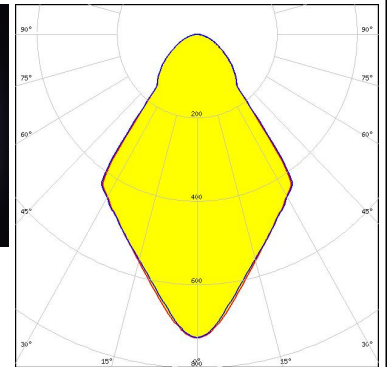
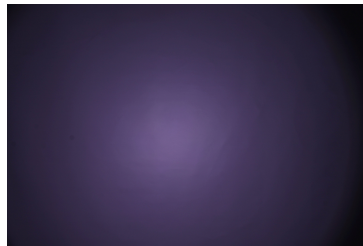
**LED** CTM-14 RGBW  
**FWHM / FWTM** 70.0° / 119.0°  
**Efficiency** 88 %  
**Peak intensity** 0.7 cd/lm  
**LEDs/each optic** 1  
**Light colour/type** RGBW  
**Required components:**  
 C13584\_CLAMP-VERO29  
 F13671\_ANGE-RZ-LENS  
 Bender Wirth: 500 Typ L3-1



Light distribution files



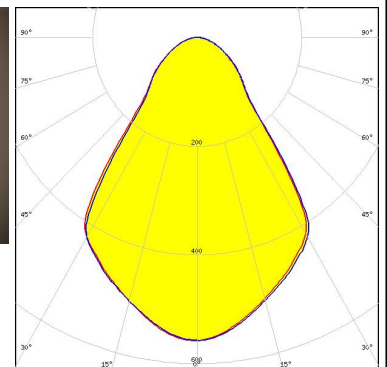
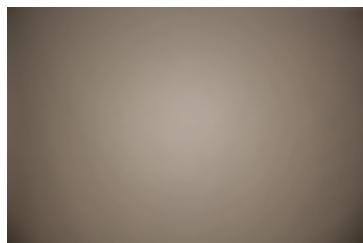
**LED** CTM-14 RGBW  
**FWHM / FWTM** 71.0° / 118.0°  
**Efficiency** 92 %  
**Peak intensity** 0.7 cd/lm  
**LEDs/each optic** 1  
**Light colour/type** RGBW  
**Required components:**  
 C13584\_CLAMP-VERO29  
 Bender Wirth: 500 Typ L3-1



Light distribution files



**LED** CTM-22 (Tunable White)  
**FWHM / FWTM** 72.0° / 127.0°  
**Efficiency** 86 %  
**Peak intensity** 0.6 cd/lm  
**LEDs/each optic** 1  
**Light colour/type** White  
**Required components:**  
 C13584\_CLAMP-VERO29  
 F13671\_ANGE-RZ-LENS  
 Bender Wirth: 494 Typ L3



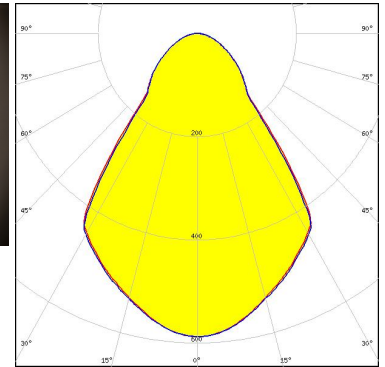
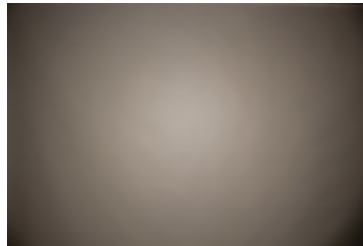
Light distribution files



### OPTICAL RESULTS (MEASURED):



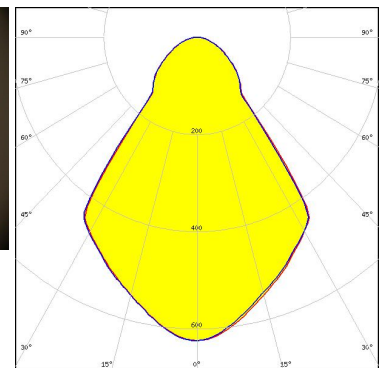
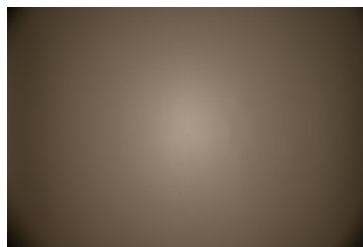
**LED** CTM-22 (Tunable White)  
**FWHM / FWTM** 73.0° / 127.0°  
**Efficiency** 91 %  
**Peak intensity** 0.6 cd/lm  
**LEDs/each optic** 1  
**Light colour/type** White  
**Required components:**  
 C13584\_CLAMP-VERO29  
 Bender Wirth: 494 Typ L3



Light distribution files



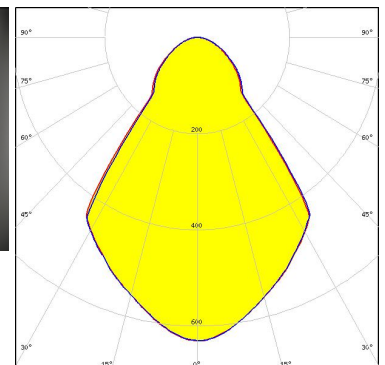
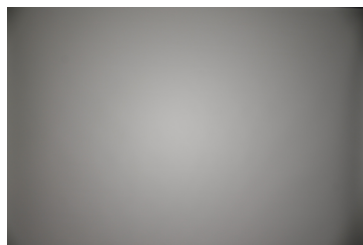
**LED** CxM-14 (19x19)  
**FWHM / FWTM** 72.0° / 125.0°  
**Efficiency** 93 %  
**Peak intensity** 0.6 cd/lm  
**LEDs/each optic** 1  
**Light colour/type** White  
**Required components:**  
 TE Connectivity: 2213254-2 + OPTIC CLIP Z50 TYPE1 2213194-1



Light distribution files



**LED** COB J-Type  
**FWHM / FWTM** 72.0° / 125.0°  
**Efficiency** 93 %  
**Peak intensity** 0.6 cd/lm  
**LEDs/each optic** 1  
**Light colour/type** White  
**Required components:**  
 C13658\_CLAMP-VERO13-18  
 Bender Wirth: 463 Typ L2

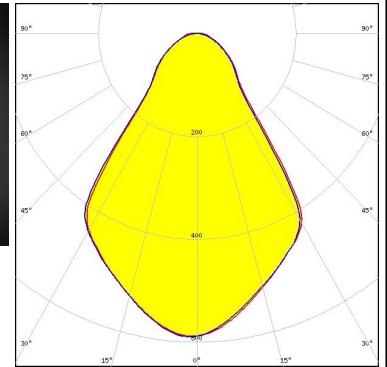


Light distribution files

### OPTICAL RESULTS (MEASURED):



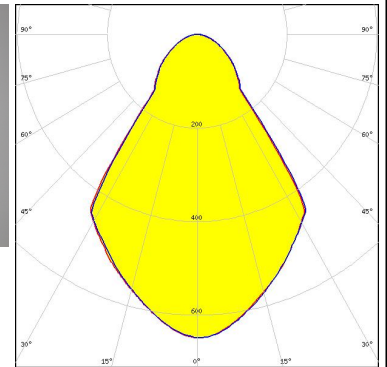
LED COB J-Type  
FWHM / FWTM 71.0° / 124.0°  
Efficiency 87 %  
Peak intensity 0.6 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:  
F13671\_ANGE-RZ-LENS  
IDEAL: 50-2103NC + 50-2100AN



Light distribution files



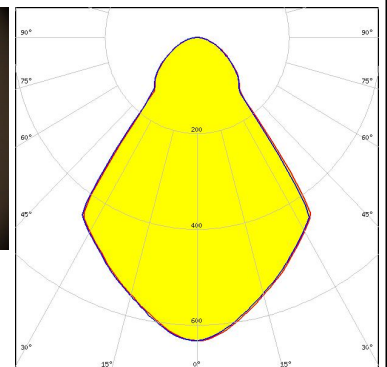
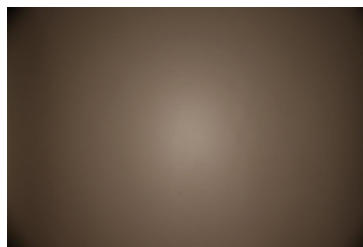
LED COB J-Type  
FWHM / FWTM 71.0° / 122.0°  
Efficiency 91 %  
Peak intensity 0.7 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:  
IDEAL: 50-2103NC + 50-2100AN



Light distribution files



LED COB L-Type (LES 11)  
FWHM / FWTM 73.0° / 125.0°  
Efficiency 94 %  
Peak intensity 0.6 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:  
Molex: 180580-0005

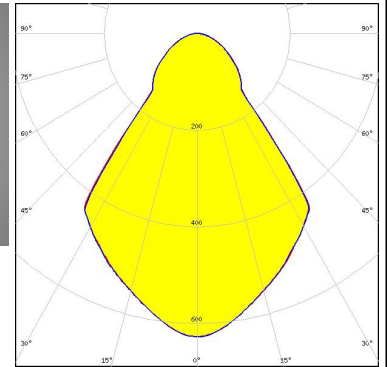


Light distribution files

#### OPTICAL RESULTS (MEASURED):



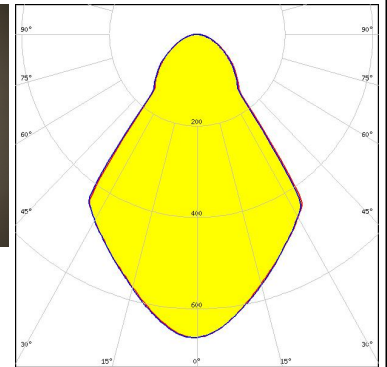
**LED** COB L-Type (LES 11)  
**FWHM / FWTM** 73.0° / 125.0°  
**Efficiency** 93 %  
**Peak intensity** 0.6 cd/lm  
**LEDs/each optic** 1  
**Light colour/type** White  
**Required components:**  
 C13658\_CLAMP-VERO13-18  
 Bender Wirth: 438 Typ L1



Light distribution files



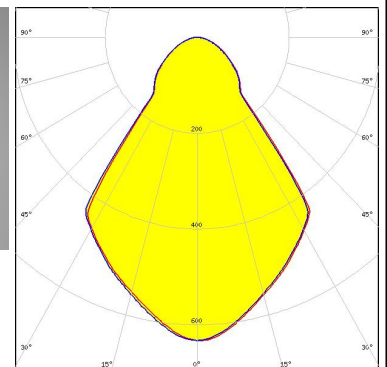
**LED** COB L-Type (LES 11)  
**FWHM / FWTM** 71.0° / 122.0°  
**Efficiency** 92 %  
**Peak intensity** 0.7 cd/lm  
**LEDs/each optic** 1  
**Light colour/type** White  
**Required components:**  
 IDEAL: 50-2100NC + 50-2100AN



Light distribution files



**LED** COB L-Type (LES 11)  
**FWHM / FWTM** 72.0° / 124.0°  
**Efficiency** 92 %  
**Peak intensity** 0.6 cd/lm  
**LEDs/each optic** 1  
**Light colour/type** White  
**Required components:**  
 TE Connectivity: 2213382-2 + OPTIC CLIP Z50 TYPE1 2213194-1

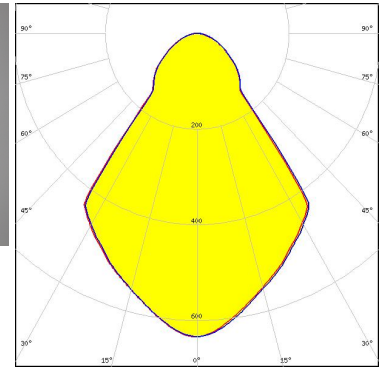


Light distribution files

### OPTICAL RESULTS (MEASURED):



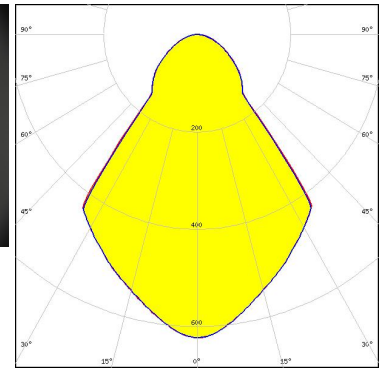
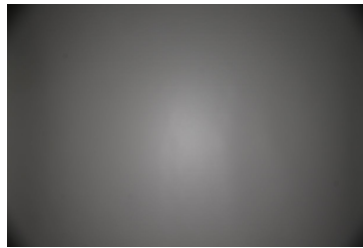
LED COB L-Type (LES 9)  
FWHM / FWTM 72.0° / 124.0°  
Efficiency 92 %  
Peak intensity 0.6 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:  
TE Connectivity: 2213382-2 + OPTIC CLIP Z50 TYPE1 2213194-1



Light distribution files



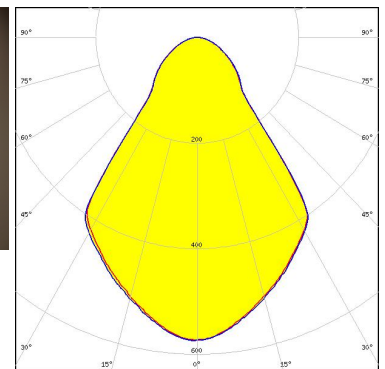
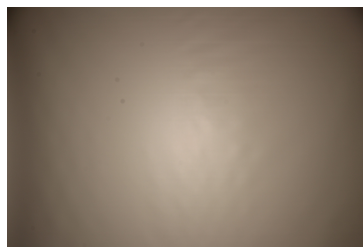
LED COB L-Type (LES 9)  
FWHM / FWTM 73.0° / 126.0°  
Efficiency 94 %  
Peak intensity 0.6 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:  
C13658\_CLAMP-VERO13-18  
Bender Wirth: 438 Typ L1



Light distribution files



LED NVCWJ024Z-V1MT: COB J-Type Tunable White  
FWHM / FWTM 72.0° / 125.0°  
Efficiency 85 %  
Peak intensity 0.6 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:  
C13658\_CLAMP-VERO13-18  
F13671\_ANGE-RZ-LENS  
Bender Wirth: 498 Typ L2

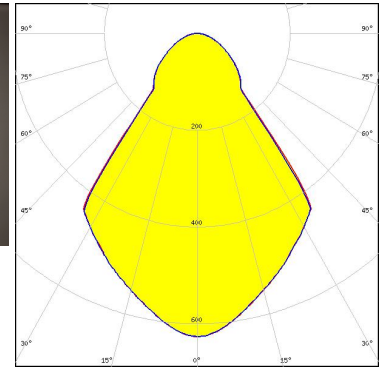
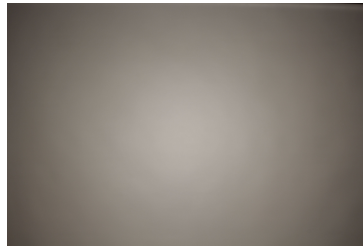


Light distribution files

### OPTICAL RESULTS (MEASURED):



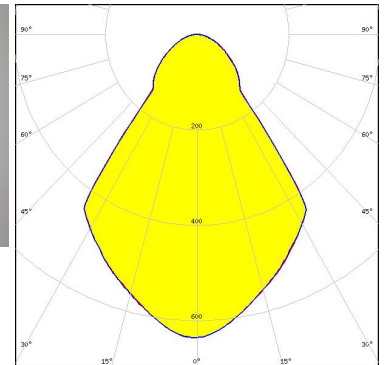
**LED** NVCWJ024Z-V1MT: COB J-Type Tunable White  
**FWHM / FWTM** 73.0° / 125.0°  
**Efficiency** 93 %  
**Peak intensity** 0.6 cd/lm  
**LEDs/each optic** 1  
**Light colour/type** White  
**Required components:**  
 C13658\_CLAMP-VERO13-18  
 Bender Wirth: 498 Typ L2



Light distribution files



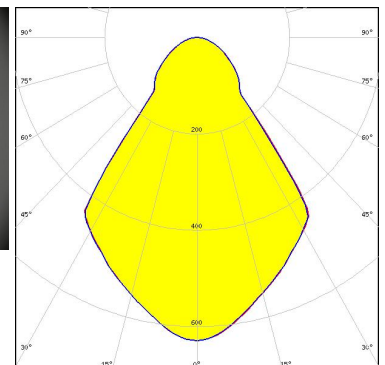
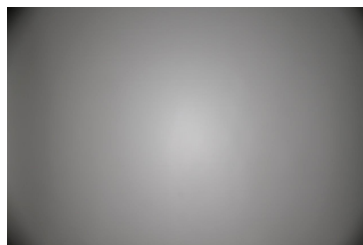
**LED** Soleriq S13  
**FWHM / FWTM** 72.0° / 124.0°  
**Efficiency** 93 %  
**Peak intensity** 0.6 cd/lm  
**LEDs/each optic** 1  
**Light colour/type** White  
**Required components:**  
 C13658\_CLAMP-VERO13-18  
 Bender Wirth: 437 Typ L1



Light distribution files



**LED** Soleriq S13  
**FWHM / FWTM** 72.0° / 125.0°  
**Efficiency** 93 %  
**Peak intensity** 0.6 cd/lm  
**LEDs/each optic** 1  
**Light colour/type** White  
**Required components:**  
 TE Connectivity: 2213401-2 + OPTIC CLIP Z50 TYPE1 2213194-1



Light distribution files

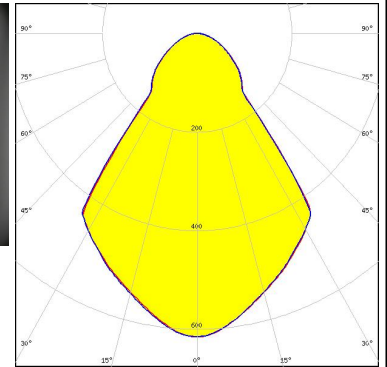
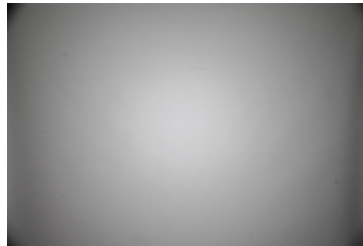
#### OPTICAL RESULTS (MEASURED):

**OSRAM**  
Opto Semiconductors

LED Soleriq S13 19x19  
 FWHM / FWTM 72.0° / 126.0°  
 Efficiency 92 %  
 Peak intensity 0.6 cd/lm  
 LEDs/each optic 1  
 Light colour/type White

Required components:

TE Connectivity: 2213254-2 + OPTIC CLIP Z50 TYPE1 2213194-1



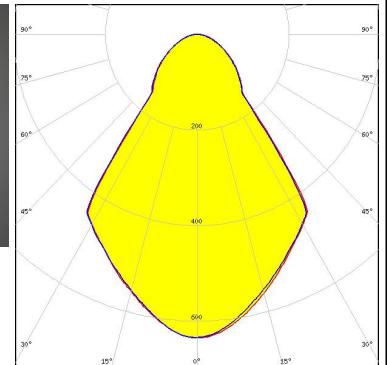
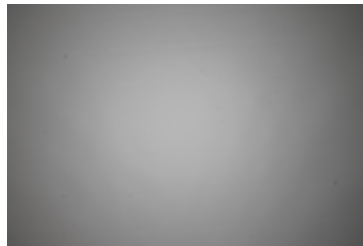
Light distribution files

**OSRAM**  
Opto Semiconductors

LED Soleriq S13 19x19  
 FWHM / FWTM 71.0° / 124.0°  
 Efficiency 92 %  
 Peak intensity 0.6 cd/lm  
 LEDs/each optic 1  
 Light colour/type White

Required components:

IDEAL: 50-2103CT + 50-2100AN



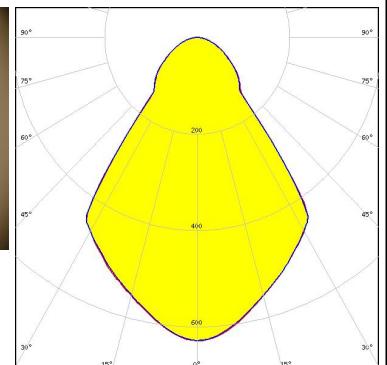
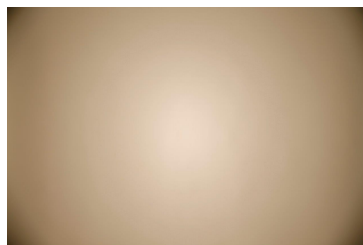
Light distribution files

**OSRAM**  
Opto Semiconductors

LED Soleriq S19  
 FWHM / FWTM 72.0° / 125.0°  
 Efficiency 92 %  
 Peak intensity 0.6 cd/lm  
 LEDs/each optic 1  
 Light colour/type White

Required components:

TE Connectivity: 2213407-2 + OPTIC CLIP Z50 TYPE1 2213194-1

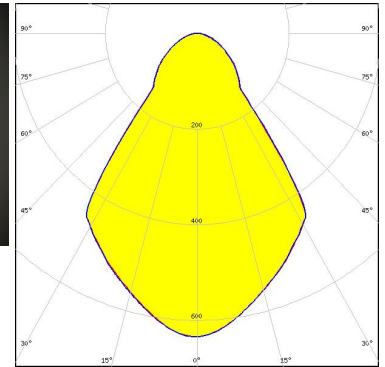
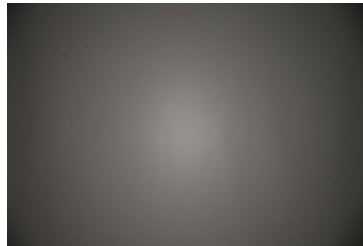


Light distribution files

### OPTICAL RESULTS (MEASURED):

**OSRAM**  
Opto Semiconductors

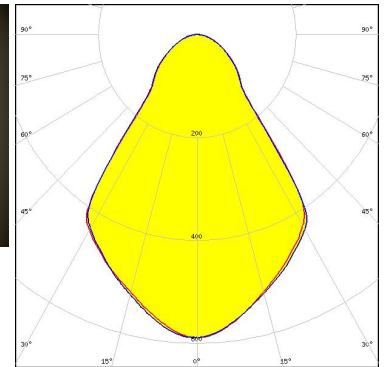
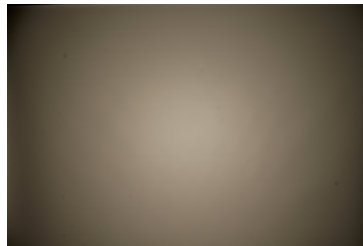
LED Soleriq S19  
FWHM / FWTM 71.0° / 123.0°  
Efficiency 92 %  
Peak intensity 0.6 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:  
C13584\_CLAMP-VERO29  
Bender Wirth: 462 Typ L3



Light distribution files

**PHILIPS**

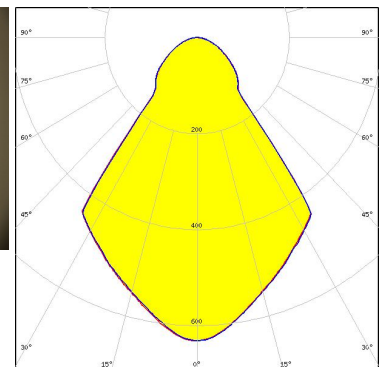
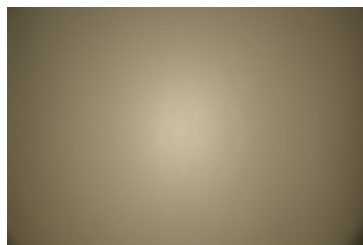
LED Fortimo SLM 1208 L15 G6 Standard  
FWHM / FWTM 72.0° / 125.0°  
Efficiency 87 %  
Peak intensity 0.6 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:  
F13671\_ANGE-RZ-LENS  
TE Connectivity: OPTIC CLIP Z50 TYPE1 2213194-1



Light distribution files

**PHILIPS**

LED Fortimo SLM L09 + SLM holder  
FWHM / FWTM 72.0° / 124.0°  
Efficiency 92 %  
Peak intensity 0.6 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:  
TE Connectivity: OPTIC CLIP Z50 TYPE1 2213194-1

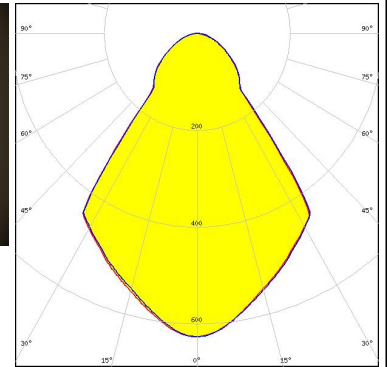
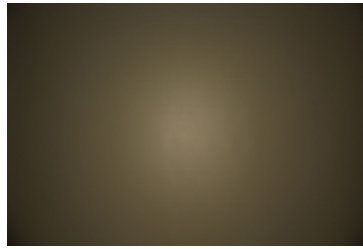


Light distribution files

#### OPTICAL RESULTS (MEASURED):

### PHILIPS

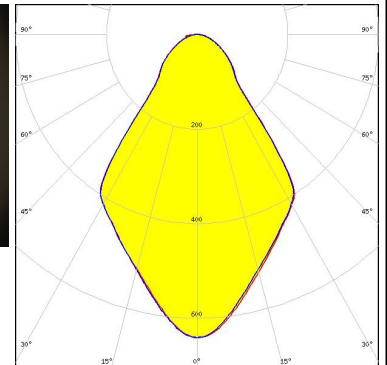
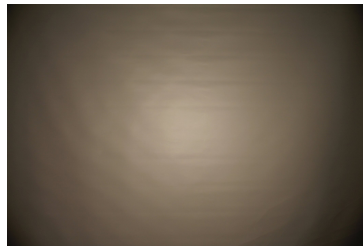
LED Fortimo SLM L13 + SLM holder  
 FWHM / FWTM 72.0° / 124.0°  
 Efficiency 92 %  
 Peak intensity 0.6 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:  
 TE Connectivity: OPTIC CLIP Z50 TYPE1 2213194-1



Light distribution files

### PHILIPS

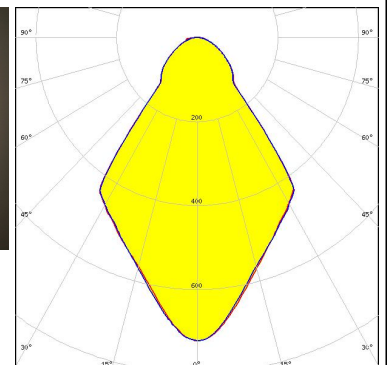
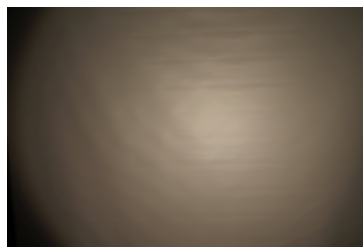
LED Fortimo SLM L13 CoB  
 FWHM / FWTM 71.0° / 120.0°  
 Efficiency 85 %  
 Peak intensity 0.6 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:  
 F13671\_ANGE-RZ-LENS  
 TE Connectivity: 2213130-2 + OPTIC CLIP Z50 TYPE1 2213194-1



Light distribution files

### PHILIPS

LED Fortimo SLM L13 CoB  
 FWHM / FWTM 71.0° / 118.0°  
 Efficiency 93 %  
 Peak intensity 0.7 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:  
 TE Connectivity: 2213130-2 + OPTIC CLIP Z50 TYPE1 2213194-1



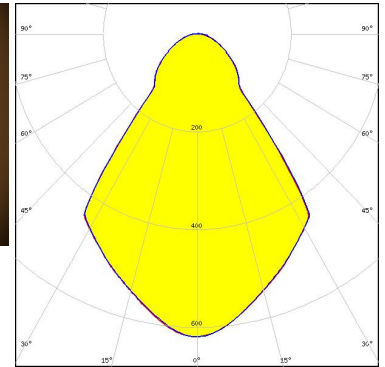
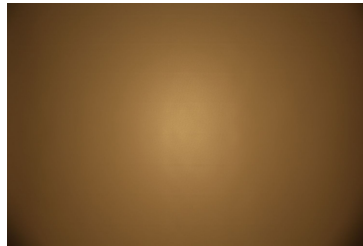
Light distribution files



### OPTICAL RESULTS (MEASURED):

#### PHILIPS

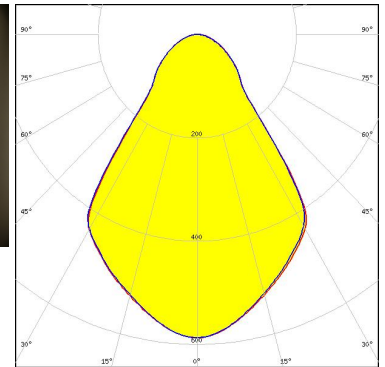
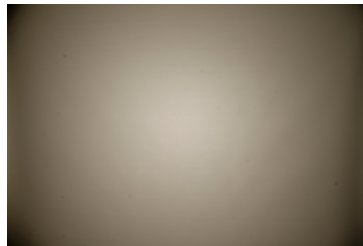
LED Fortimo SLM L15 + SLM holder  
FWHM / FWTM 72.0° / 124.0°  
Efficiency 90 %  
Peak intensity 0.6 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:  
TE Connectivity: OPTIC CLIP Z50 TYPE1 2213194-1



Light distribution files

#### PHILIPS

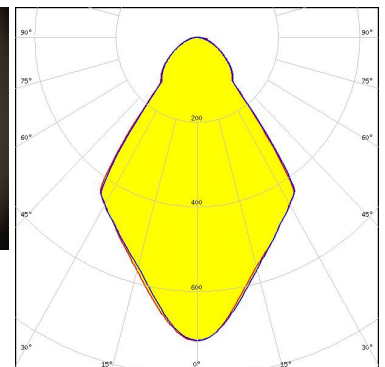
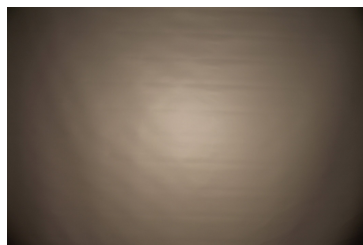
LED Fortimo SLM L15 + SLM holder  
FWHM / FWTM 72.0° / 125.0°  
Efficiency 87 %  
Peak intensity 0.6 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:  
F13671\_ANGE-RZ-LENS  
TE Connectivity: OPTIC CLIP Z50 TYPE1 2213194-1



Light distribution files

#### PHILIPS

LED Fortimo SLM L15 CoB  
FWHM / FWTM 71.0° / 118.0°  
Efficiency 92 %  
Peak intensity 0.7 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:  
TE Connectivity: 2213130-2 + OPTIC CLIP Z50 TYPE1 2213194-1

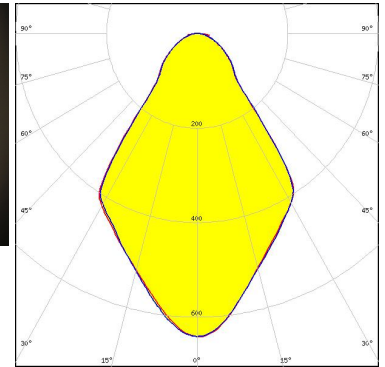
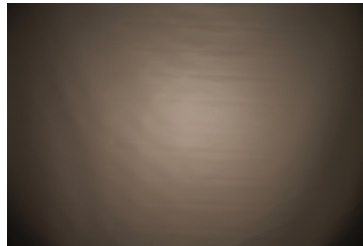


Light distribution files

#### OPTICAL RESULTS (MEASURED):

### PHILIPS

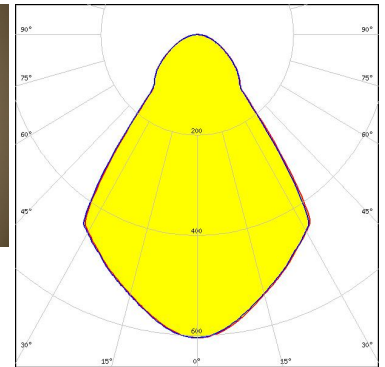
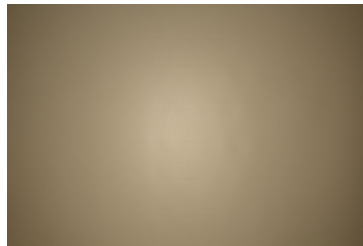
LED Fortimo SLM L15 CoB  
 FWHM / FWTM 70.0° / 119.0°  
 Efficiency 85 %  
 Peak intensity 0.6 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:  
 F13671\_ANGE-RZ-LENS  
 TE Connectivity: 2213130-2 + OPTIC CLIP Z50 TYPE1 2213194-1



Light distribution files

### PHILIPS

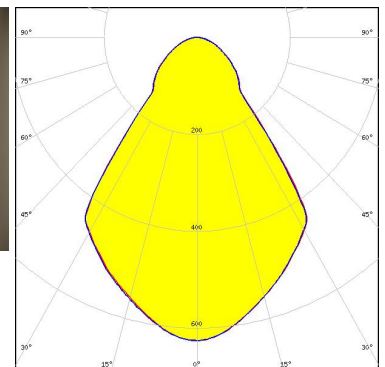
LED Fortimo SLM L19 + SLM holder  
 FWHM / FWTM 72.0° / 124.0°  
 Efficiency 89 %  
 Peak intensity 0.6 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:  
 TE Connectivity: OPTIC CLIP Z50 TYPE1 2213194-1



Light distribution files

### SAMSUNG

LED LC026B / 033B / 040B  
 FWHM / FWTM 72.0° / 125.0°  
 Efficiency 92 %  
 Peak intensity 0.6 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:  
 C13658\_CLAMP-VERO13-18  
 Bender Wirth: 450 Typ L2

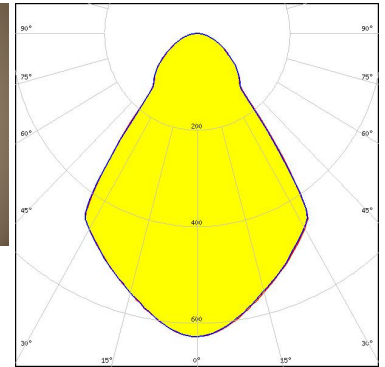
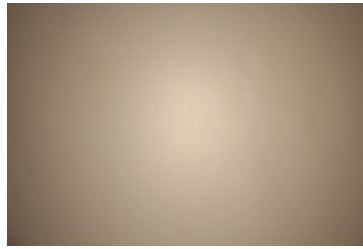


Light distribution files

### OPTICAL RESULTS (MEASURED):

#### SAMSUNG

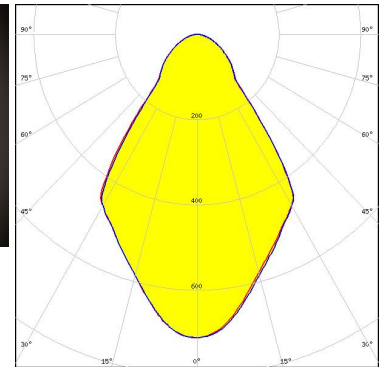
LED LC026B / 033B / 040B  
FWHM / FWTM 72.0° / 125.0°  
Efficiency 93 %  
Peak intensity 0.6 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:



Light distribution files

#### SAMSUNG

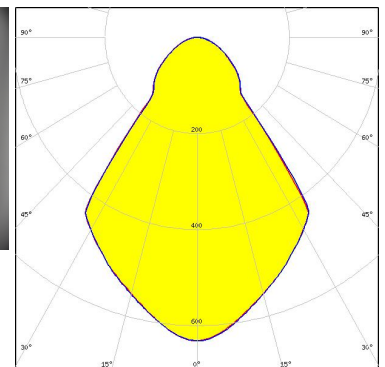
LED LC035T (Tunable white)  
FWHM / FWTM 70.0° / 119.0°  
Efficiency 93 %  
Peak intensity 0.7 cd/lm  
LEDs/each optic 1  
Light colour/type Tunable White  
Required components:  
C13584\_CLAMP-VERO29  
Bender Wirth: 502 Typ L3



Light distribution files

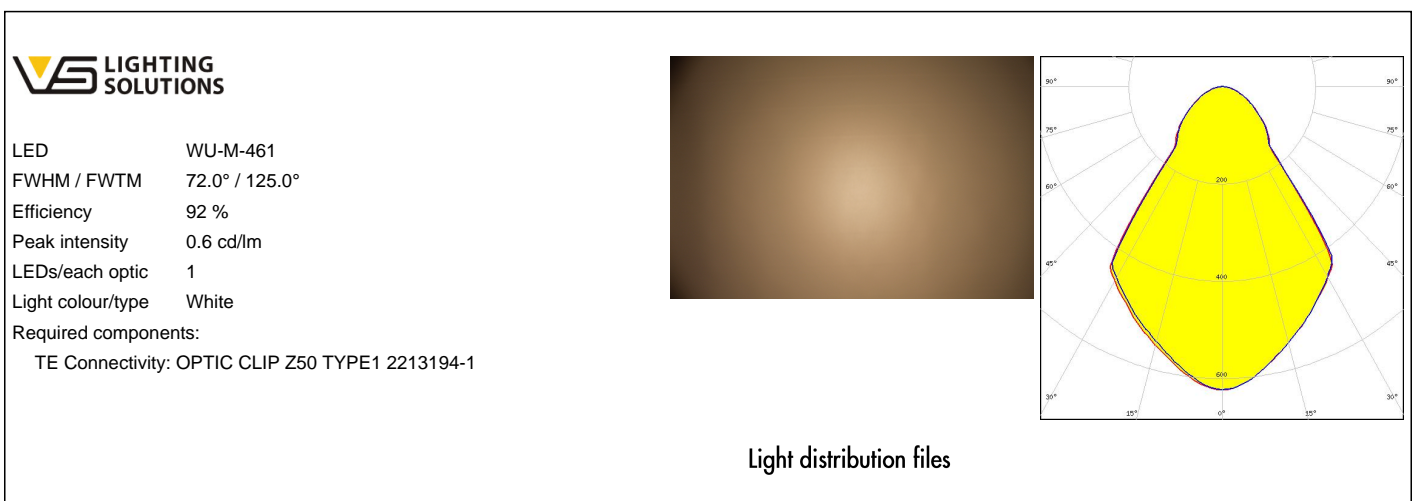
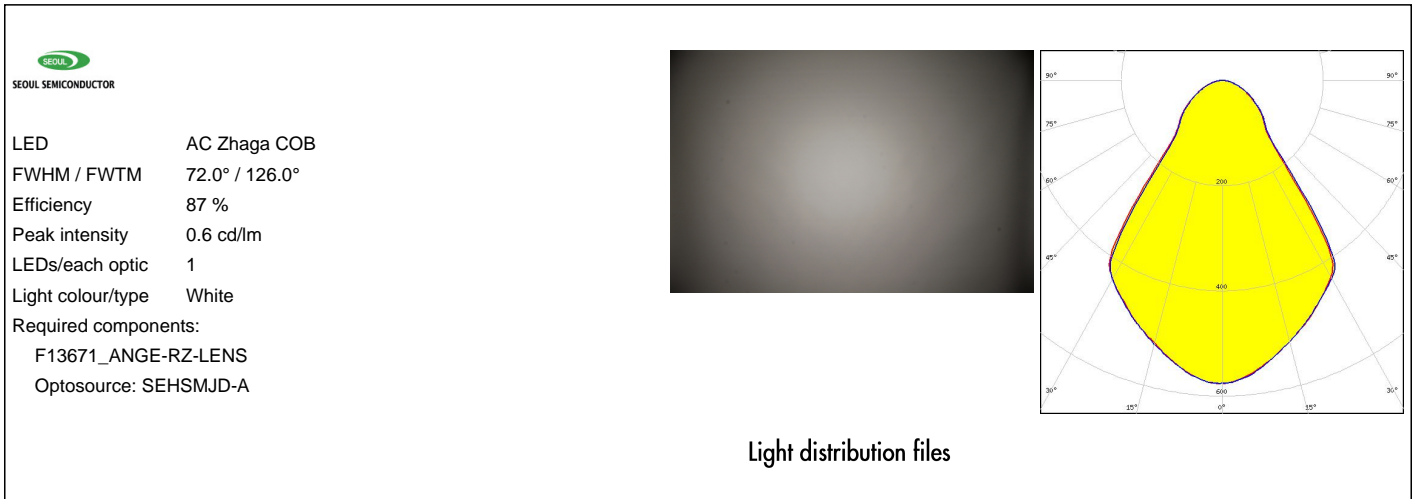
#### SAMSUNG

LED LC040C  
FWHM / FWTM 72.0° / 124.0°  
Efficiency 92 %  
Peak intensity 0.6 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:  
TE Connectivity: 2213382-2 + OPTIC CLIP Z50 TYPE1 2213194-1



Light distribution files

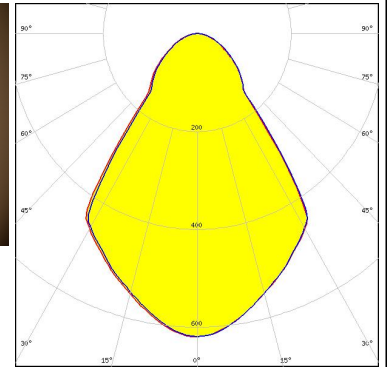
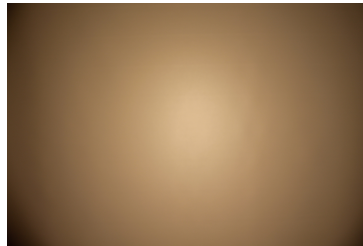
#### OPTICAL RESULTS (MEASURED):



### OPTICAL RESULTS (MEASURED):



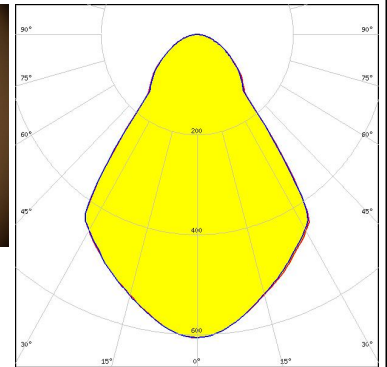
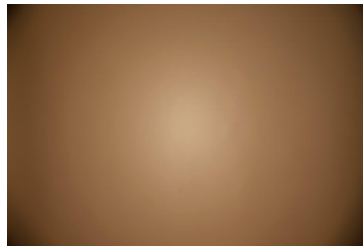
**LED** WU-M-462  
**FWHM / FWTM** 72.0° / 125.0°  
**Efficiency** 92 %  
**Peak intensity** 0.6 cd/lm  
**LEDs/each optic** 1  
**Light colour/type** White  
**Required components:**  
 TE Connectivity: OPTIC CLIP Z50 TYPE1 2213194-1



Light distribution files



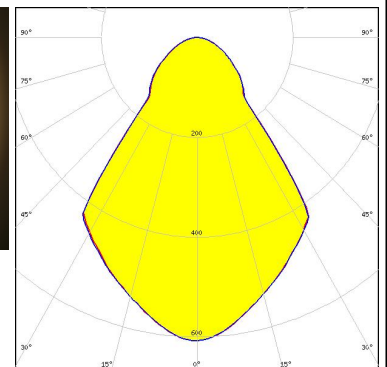
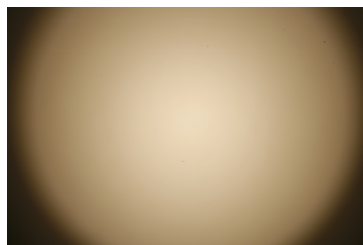
**LED** WU-M-464  
**FWHM / FWTM** 73.0° / 127.0°  
**Efficiency** 92 %  
**Peak intensity** 0.6 cd/lm  
**LEDs/each optic** 1  
**Light colour/type** White  
**Required components:**  
 TE Connectivity: OPTIC CLIP Z50 TYPE1 2213194-1



Light distribution files



**LED** WU-M-484  
**FWHM / FWTM** 73.0° / 127.0°  
**Efficiency** 92 %  
**Peak intensity** 0.6 cd/lm  
**LEDs/each optic** 1  
**Light colour/type** White  
**Required components:**  
 TE Connectivity: OPTIC CLIP Z50 TYPE1 2213194-1

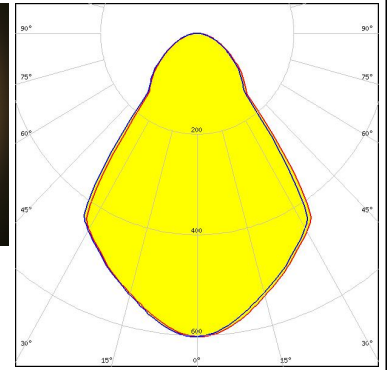


Light distribution files

#### OPTICAL RESULTS (MEASURED):



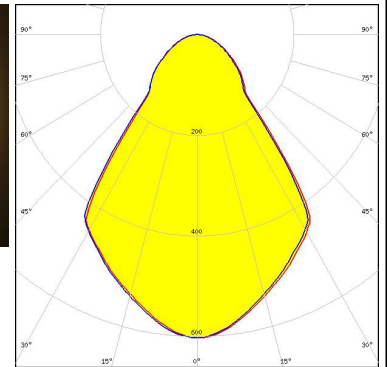
LED WU-M-485  
FWHM / FWTM 73.0° / 127.0°  
Efficiency 92 %  
Peak intensity 0.6 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:  
TE Connectivity: OPTIC CLIP Z50 TYPE1 2213194-1



Light distribution files



LED WU-M-486  
FWHM / FWTM 73.0° / 127.0°  
Efficiency 92 %  
Peak intensity 0.6 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:  
TE Connectivity: OPTIC CLIP Z50 TYPE1 2213194-1

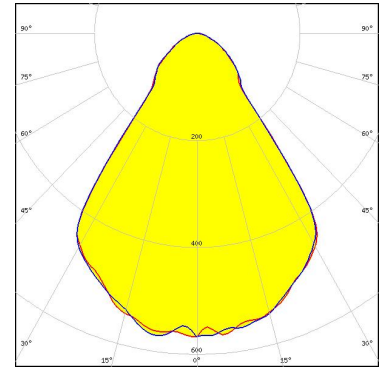


Light distribution files

### OPTICAL RESULTS (SIMULATED):



LED V10 Gen7  
FWHM / FWTM 72.0° / 120.0°  
Efficiency 86 %  
Peak intensity 0.6 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:  
C13658\_CLAMP-VERO13-18

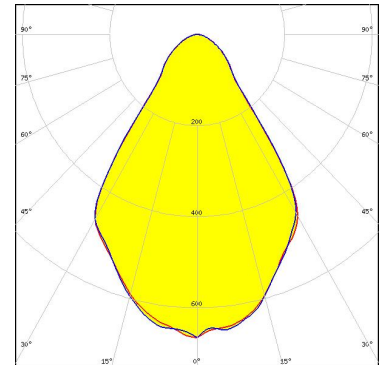


Bender Wirth: 486 Typ L1

Light distribution files



LED V13 Gen7  
FWHM / FWTM 69.0° / 114.0°  
Efficiency 86 %  
Peak intensity 0.7 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:

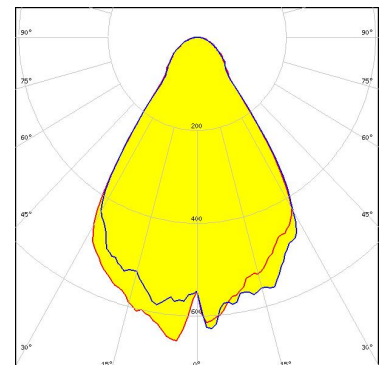


IDEAL: 50-2103CT + 50-2100AN

Light distribution files



LED V22 Gen7  
FWHM / FWTM 66.0° / 110.0°  
Efficiency 80 %  
Peak intensity 0.7 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:



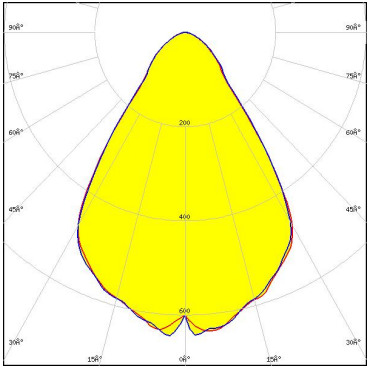
IDEAL: 50-2204-CT + 50-2100AN

Light distribution files

#### OPTICAL RESULTS (SIMULATED):

**bridgelux**

LED	Vesta TW 29mm DP
FWHM / FWTM	70.0° / 114.0°
Efficiency	88 %
Peak intensity	0.6 cd/lm
LEDs/each optic	1
Light colour/type	White
Required components:	

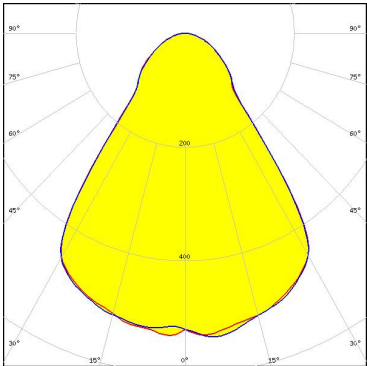


Light distribution files

**CREE LEDs**

LED	CXA/B 1830
FWHM / FWTM	73.0° / 129.0°
Efficiency	88 %
Peak intensity	0.5 cd/lm
LEDs/each optic	1
Light colour/type	White
Required components:	

TE Connectivity: 2213401-2 + OPTIC CLIP Z50 TYPE1 2213194-1



Light distribution files

**LUMINUS**

LED	CxM-14 (19x19)
FWHM / FWTM	72.0° / 124.0°
Efficiency	93 %
Peak intensity	0.6 cd/lm
LEDs/each optic	1
Light colour/type	White
Required components:	

C13658\_CLAMP-VERO13-18

Bender Wirth: 433 Typ L1



#### OPTICAL RESULTS (SIMULATED):



LED CxM-9 (13.5x13.5)  
FWHM / FWTM 72.0° / 124.0°  
Efficiency 93 %  
Peak intensity 0.6 cd/lm  
LEDs/each optic 1  
Light colour/type White

Required components:

C13658\_CLAMP-VERO13-18

Bender Wirth: 434 Typ L1



SEOUL SEMICONDUCTOR

LED ZC12/18  
FWHM / FWTM 72.0° / 124.0°  
Efficiency 93 %  
Peak intensity 0.6 cd/lm  
LEDs/each optic 1  
Light colour/type White

Required components:

C13658\_CLAMP-VERO13-18

Bender Wirth: 433 Typ L1



SEOUL SEMICONDUCTOR

LED ZC4/6  
FWHM / FWTM 72.0° / 124.0°  
Efficiency 93 %  
Peak intensity 0.6 cd/lm  
LEDs/each optic 1  
Light colour/type White

Required components:

C13658\_CLAMP-VERO13-18

Bender Wirth: 434 Typ L1

### 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.

Due to use of high power COB's with this product, special attention to proper thermal design is highly recommended. LEDiL has no liability for direct, indirect or consecutive damages arising from the LEDiL products being used outside of the recommended temperature range.

### 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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