

## ANGELA-W

~45° wide beam

### SPECIFICATION:

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

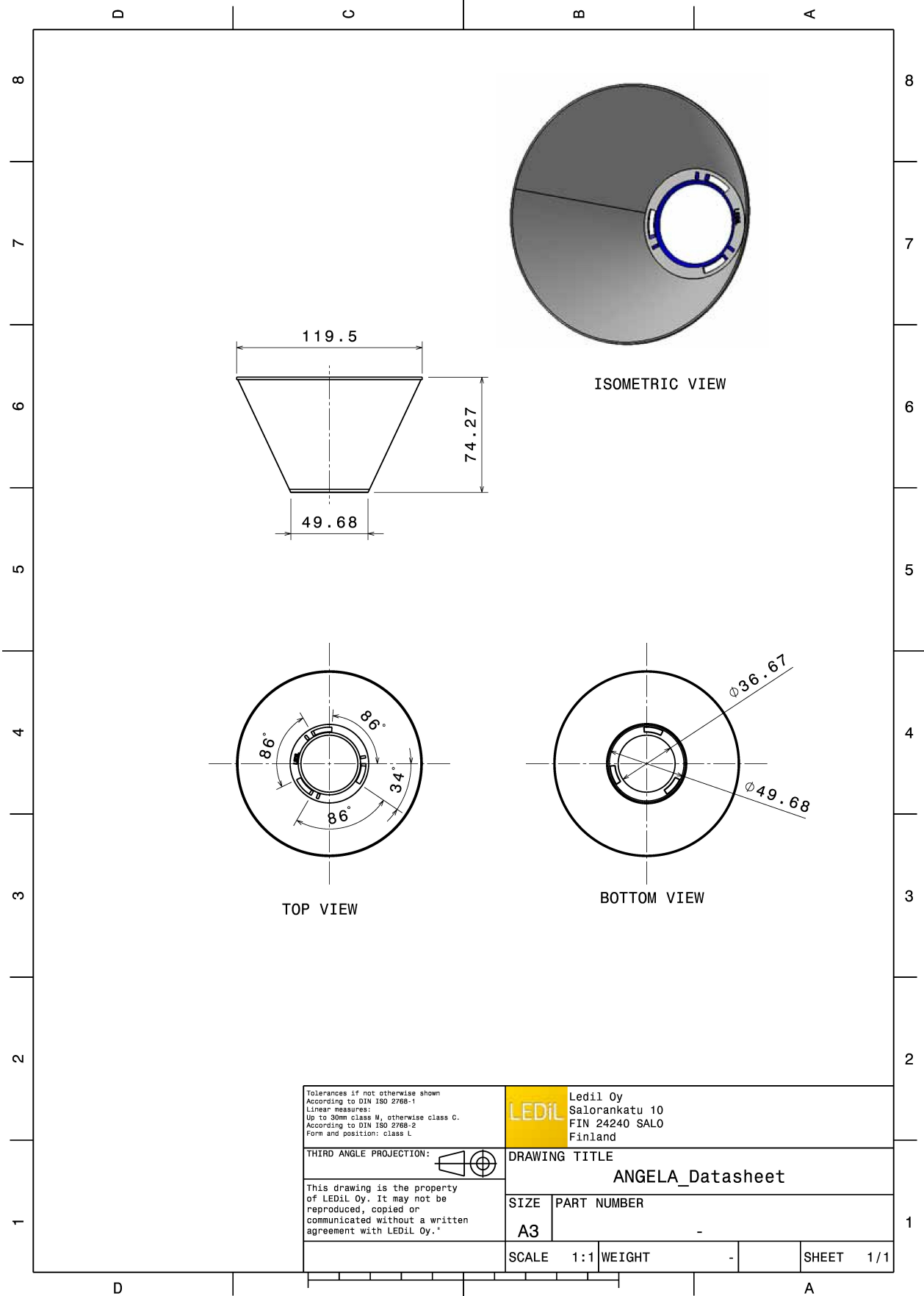
### MATERIALS:

Component	Type	Material	Colour	Finish	Coating
ANGELA-W	Reflector	PC	metal		HMDS




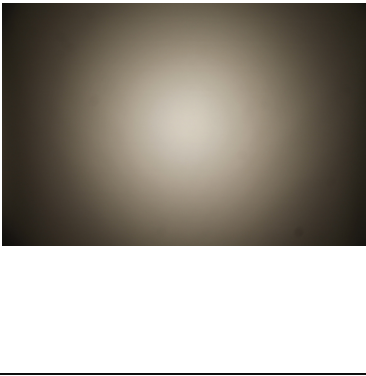
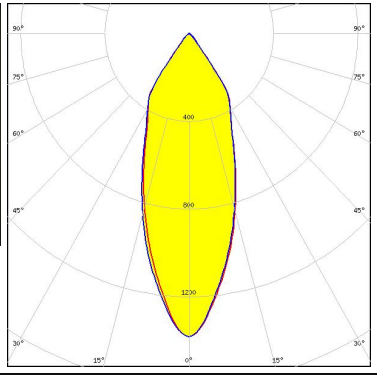


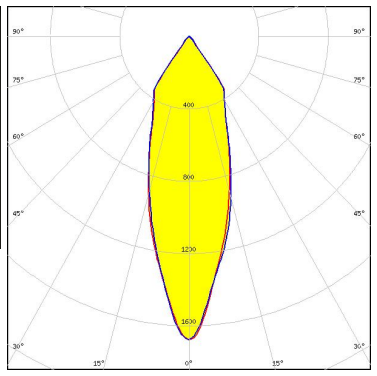


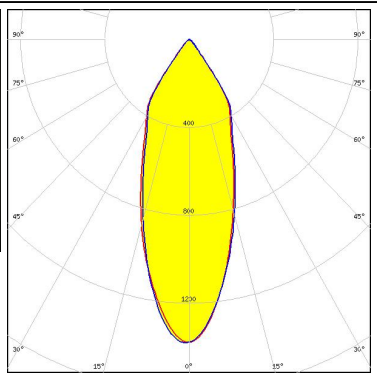


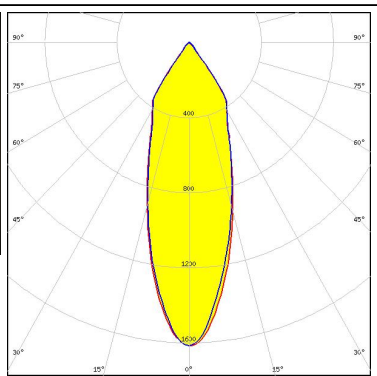
### ORDERING INFORMATION:

Component	Qty in box	MOQ	MPQ	Box weight (kg)
F13381_ANGELA-W » Box size: 398 x 298 x 265 mm	180	90	45	9.1





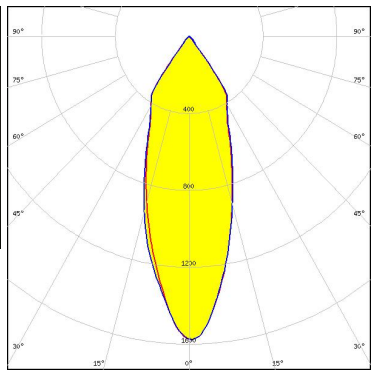


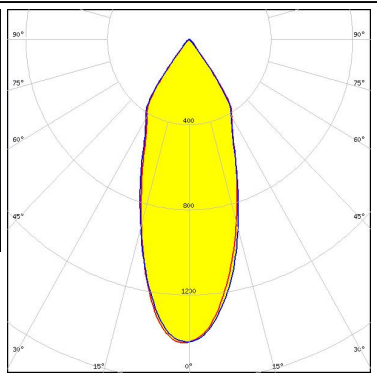


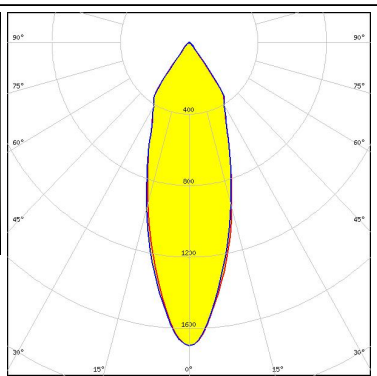


See also our general installation guide: [www.ledil.com/installation\\_guide](http://www.ledil.com/installation_guide)

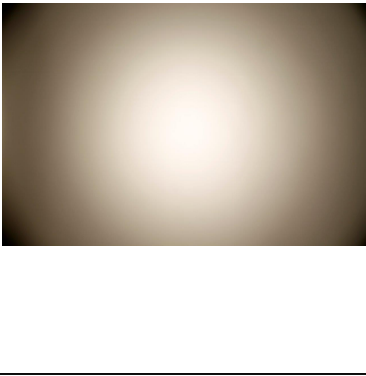
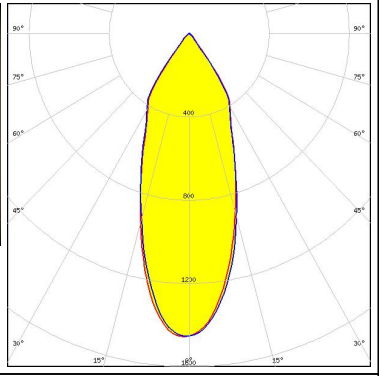
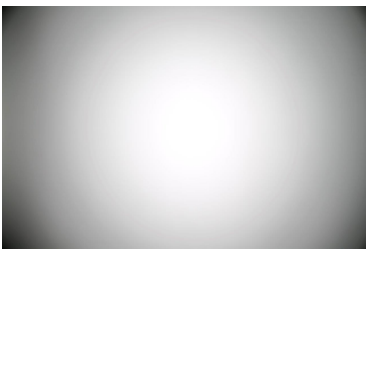
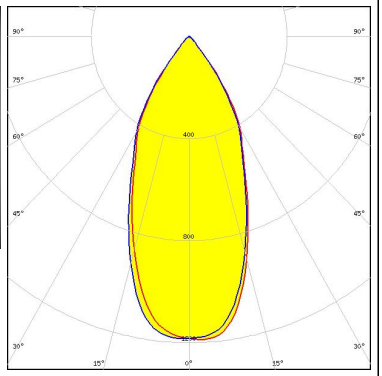

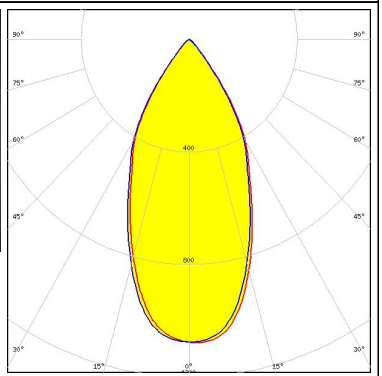
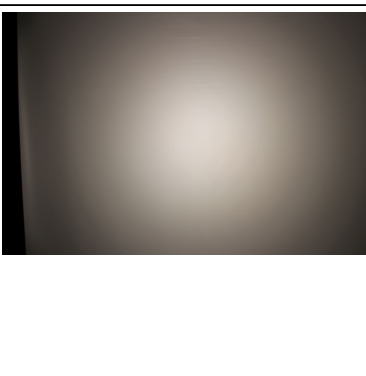
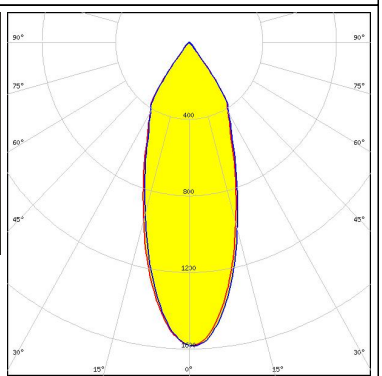
### OPTICAL RESULTS (MEASURED):

<p></p> <p>LED V10 Gen7            FWHM / FWTM 37.0° / 76.0°            Efficiency 78 %            Peak intensity 1.4 cd/lm            LEDs/each optic 1            Light colour White</p> <p>Required components:            C13658_CLAMP-VERO13-18            F13671_ANGE-RZ-LENS            Bender Wirth: 434 Typ L1</p>		
<p></p> <p>LED V10 Gen7            FWHM / FWTM 33.0° / 74.0°            Efficiency 82 %            Peak intensity 1.7 cd/lm            LEDs/each optic 1            Light colour White</p> <p>Required components:            C13658_CLAMP-VERO13-18            Bender Wirth: 434 Typ L1</p>		
<p></p> <p>LED V13 Gen7            FWHM / FWTM 37.0° / 76.0°            Efficiency 78 %            Peak intensity 1.4 cd/lm            LEDs/each optic 1            Light colour White</p> <p>Required components:            F13671_ANGE-RZ-LENS            TE Connectivity: 2213254-2 + OPTIC CLIP Z50 TYPE1 2213194-1</p>		
<p></p> <p>LED V13 Gen7            FWHM / FWTM 34.0° / 75.0°            Efficiency 83 %            Peak intensity 1.6 cd/lm            LEDs/each optic 1            Light colour White</p> <p>Required components:            TE Connectivity: 2213254-2 + OPTIC CLIP Z50 TYPE1 2213194-1</p>		


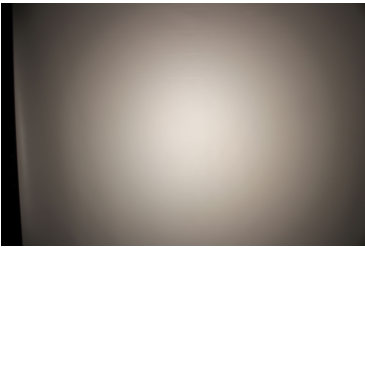
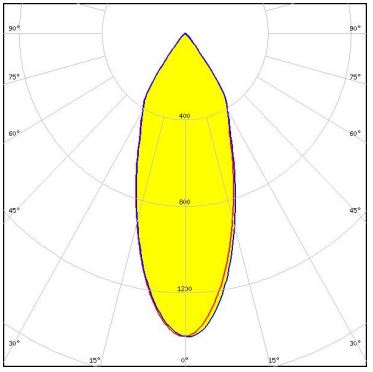

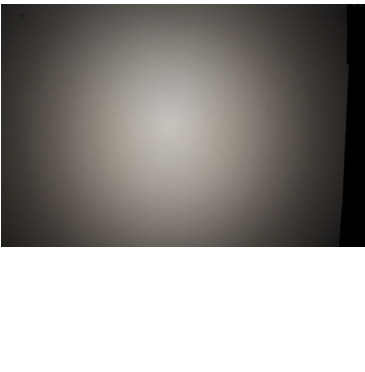
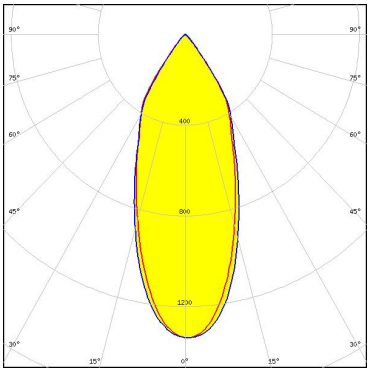


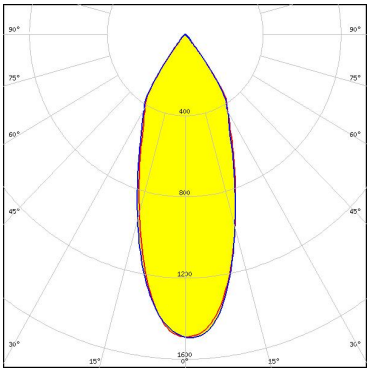


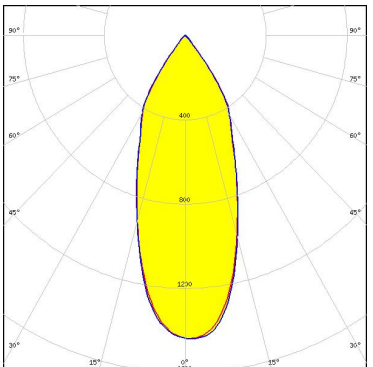
#### OPTICAL RESULTS (MEASURED):

<p></p> <p>LED V15 Gen6            FWHM / FWTM 35.0° / 78.0°            Efficiency 84 %            Peak intensity 1.7 cd/lm            LEDs/each optic 1            Light colour White</p> <p>Required components:            C13658_CLAMP-VERO13-18            Bender Wirth: 456 Typ L2</p>		
<p></p> <p>LED Vero SE 13            FWHM / FWTM 34.0° / 75.0°            Efficiency 83 %            Peak intensity 1.6 cd/lm            LEDs/each optic 1            Light colour White</p> <p>Required components:            C16402_CLAMP-VEROSE-13-18</p>		
<p></p> <p>LED Vero SE 18            FWHM / FWTM 39.0° / 76.0°            Efficiency 82 %            Peak intensity 1.4 cd/lm            LEDs/each optic 1            Light colour White</p> <p>Required components:            C16402_CLAMP-VEROSE-13-18</p>		
<p></p> <p>LED VERO13            FWHM / FWTM 33.0° / 75.0°            Efficiency 86 %            Peak intensity 1.7 cd/lm            LEDs/each optic 1            Light colour White</p> <p>Required components:            C13658_CLAMP-VERO13-18</p>		



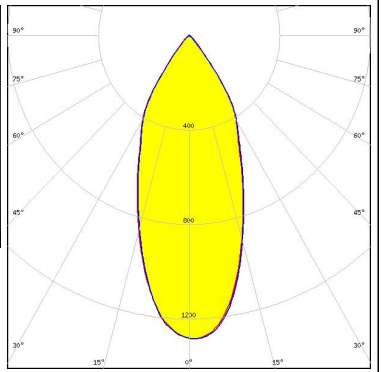

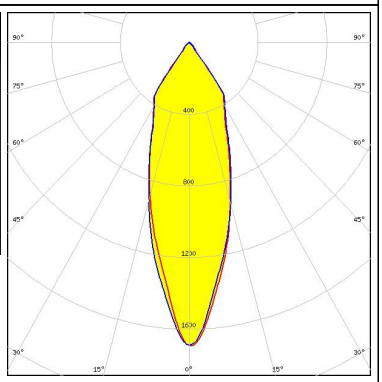

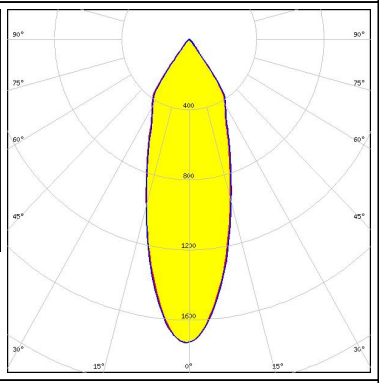
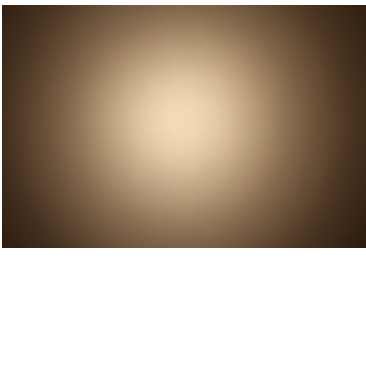
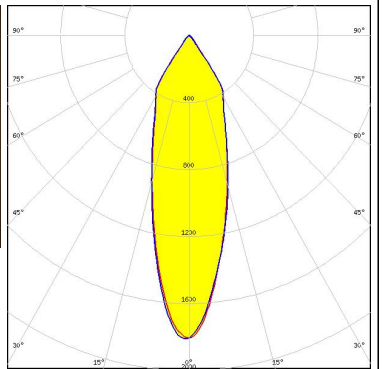
### OPTICAL RESULTS (MEASURED):

<p>bridgelux.</p> <p>LED VERO18 FWHM / FWTM 38.0° / 76.0° Efficiency 84 % Peak intensity 1.5 cd/m LEDs/each optic 1 Light colour White Required components: C13658_CLAMP-VERO13-18</p>		
<p>bridgelux.</p> <p>LED VERO29 FWHM / FWTM 46.0° / 80.0° Efficiency 82 % Peak intensity 1.2 cd/m LEDs/each optic 1 Light colour White Required components: C13584_CLAMP-VERO29</p>		
<p>bridgelux.</p> <p>LED VERO29 FWHM / FWTM 48.0° / 81.0° Efficiency 78 % Peak intensity 1.1 cd/m LEDs/each optic 1 Light colour White Required components: C13584_CLAMP-VERO29 F13671_ANGE-RZ-LENS</p>		
<p>bridgelux.</p> <p>LED Vesta TW 15mm DP FWHM / FWTM 37.0° / 75.0° Efficiency 86 % Peak intensity 1.6 cd/m LEDs/each optic 1 Light colour Tunable White Required components: C13658_CLAMP-VERO13-18 Bender Wirth: 482 Typ L2</p>		

### OPTICAL RESULTS (MEASURED):

<p></p> <p>LED Vesta TW 15mm DP            FWHM / FWTM 40.0° / 76.0°            Efficiency 82 %            Peak intensity 1.4 cd/m            LEDs/each optic 1            Light colour Tunable White</p> <p>Required components:            C13658_CLAMP-VERO13-18            F13671_ANGE-RZ-LENS            Bender Wirth: 482 Typ L2</p>		
<p></p> <p>LED Vesta TW 18mm (31W) DP            FWHM / FWTM 40.0° / 77.0°            Efficiency 81 %            Peak intensity 1.3 cd/m            LEDs/each optic 1            Light colour Tunable White</p> <p>Required components:            C13584_CLAMP-VERO29            F13671_ANGE-RZ-LENS            Bender Wirth: 483 Typ L3</p>		
<p></p> <p>LED Vesta TW 18mm (31W) DP            FWHM / FWTM 39.0° / 76.0°            Efficiency 85 %            Peak intensity 1.5 cd/m            LEDs/each optic 1            Light colour Tunable White</p> <p>Required components:            C13584_CLAMP-VERO29            Bender Wirth: 483 Typ L3</p>		
<p></p> <p>LED Vesta TW 22mm DP            FWHM / FWTM 40.0° / 77.0°            Efficiency 85 %            Peak intensity 1.4 cd/m            LEDs/each optic 1            Light colour Tunable White</p> <p>Required components:            C13584_CLAMP-VERO29            Bender Wirth: 494 Typ L3</p>		

#### OPTICAL RESULTS (MEASURED):

<p></p> <p>LED Vesta TW 22mm DP            FWHM / FWTM 42.0° / 78.0°            Efficiency 81 %            Peak intensity 1.3 cd/lm            LEDs/each optic 1            Light colour Tunable White</p> <p>Required components:            C13584_CLAMP-VERO29            F13671_ANGE-RZ-LENS            Bender Wirth: 494 Typ L3</p>		
<p><b>CITIZEN</b></p> <p>LED CLL02x/CLU02x (LES10)            FWHM / FWTM 33.0° / 74.0°            Efficiency 83 %            Peak intensity 1.7 cd/lm            LEDs/each optic 1            Light colour White</p> <p>Required components:            C13658_CLAMP-VERO13-18            Bender Wirth: 434 Typ L1</p>		
<p><b>CITIZEN</b></p> <p>LED CLL03x/CLU03x            FWHM / FWTM 34.0° / 74.0°            Efficiency 87 %            Peak intensity 1.7 cd/lm            LEDs/each optic 1            Light colour White</p> <p>Required components:            C16791_CLAMP-Z45-A            TE Connectivity: 2325807-3</p>		
<p><b>CITIZEN</b></p> <p>LED CLL03x/CLU03x            FWHM / FWTM 30.0° / 73.0°            Efficiency 83 %            Peak intensity 1.8 cd/lm            LEDs/each optic 1            Light colour White</p> <p>Required components:            IDEAL: 50-2103CT + 50-2100AN</p>		

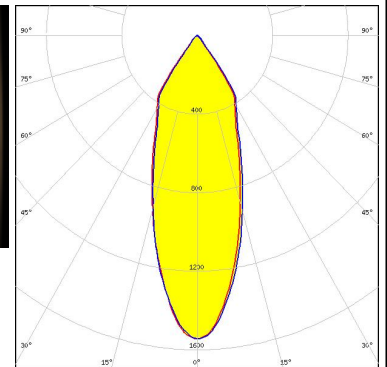
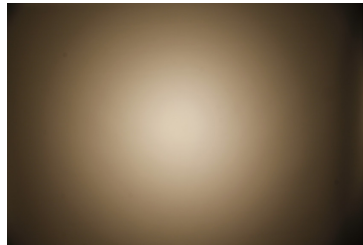
### OPTICAL RESULTS (MEASURED):

#### CITIZEN

LED CLL03x/CLU03x  
FWHM / FWTM 35.0° / 75.0°  
Efficiency 82 %  
Peak intensity 1.5 cd/m  
LEDs/each optic 1  
Light colour White

Required components:

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



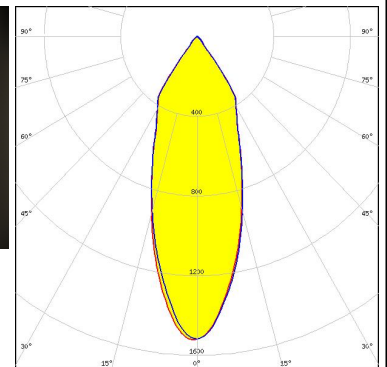
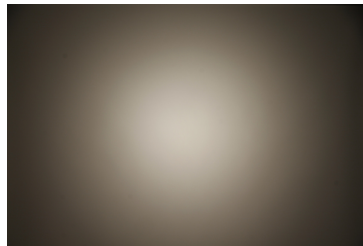
#### CITIZEN

LED CLL03x/CLU03x  
FWHM / FWTM 36.0° / 75.0°  
Efficiency 82 %  
Peak intensity 1.5 cd/m  
LEDs/each optic 1  
Light colour White

Required components:

C13658\_CLAMP-VERO13-18

Bender Wirth: 433 Typ L1



#### CITIZEN

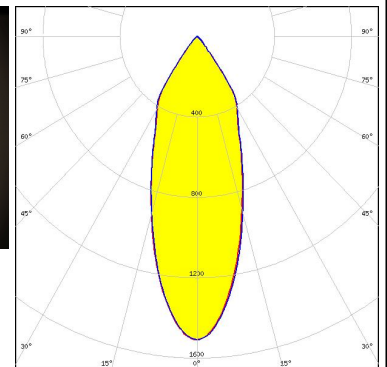
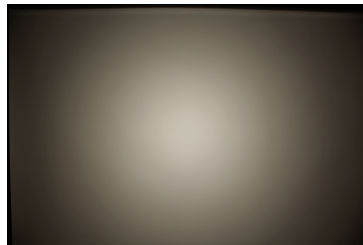
LED CLL03x/CLU03x  
FWHM / FWTM 36.0° / 75.0°  
Efficiency 83 %  
Peak intensity 1.5 cd/m  
LEDs/each optic 1  
Light colour White

Required components:

C16791\_CLAMP-Z45-A

F13671\_ANGE-RZ-LENS

TE Connectivity: 2325807-3



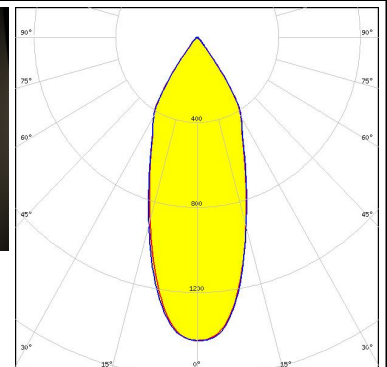
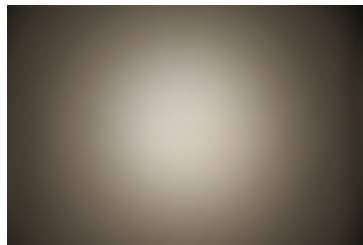
#### CITIZEN

LED CLL04x/CLU04x  
FWHM / FWTM 39.0° / 75.0°  
Efficiency 83 %  
Peak intensity 1.4 cd/m  
LEDs/each optic 1  
Light colour White

Required components:

C13584\_CLAMP-VERO29

Bender Wirth: 431 Typ L3

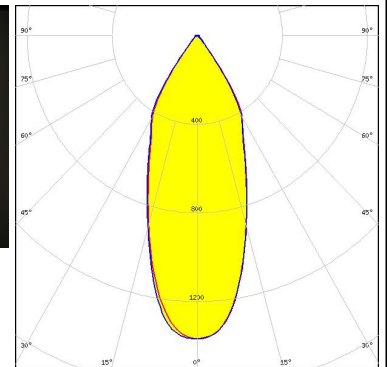
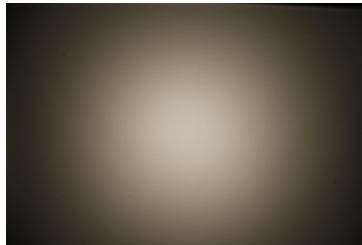




### OPTICAL RESULTS (MEASURED):

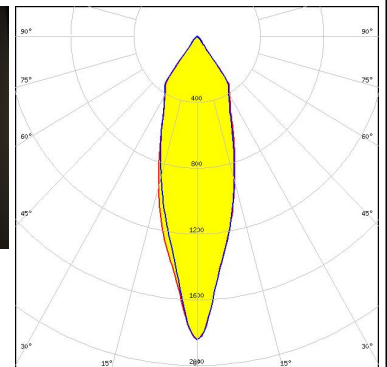
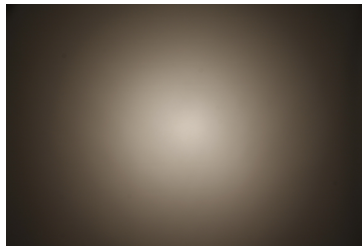
#### CITIZEN

LED CLL04x/CLU04x  
 FWHM / FWTM 39.0° / 76.0°  
 Efficiency 82 %  
 Peak intensity 1.4 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 IDEAL: 50-2204-CT + 50-2100AN



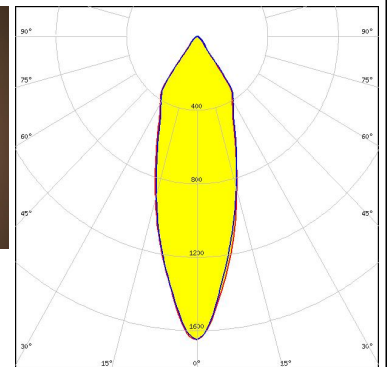
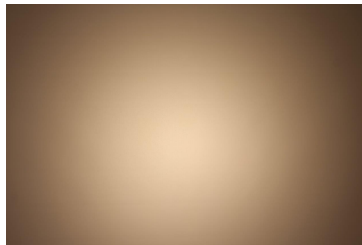
#### CITIZEN

LED CLU700/701/702/703  
 FWHM / FWTM 30.0° / 74.0°  
 Efficiency 82 %  
 Peak intensity 1.8 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 C13658\_CLAMP-VERO13-18  
 Bender Wirth: 434 Typ L1



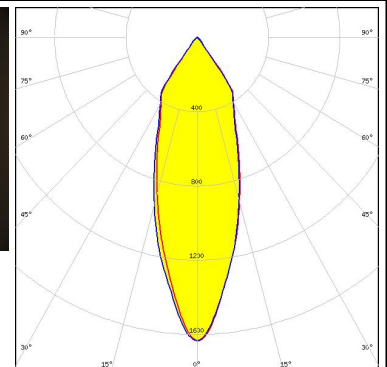
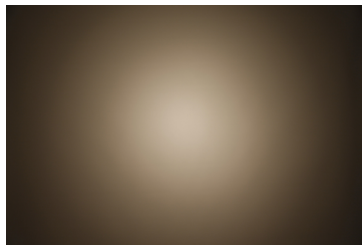
#### CITIZEN

LED CLU720/721/723  
 FWHM / FWTM 32.0° / 74.0°  
 Efficiency 85 %  
 Peak intensity 1.7 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 TE Connectivity: 2213254-2 + OPTIC CLIP Z50 TYPE1 2213194-1



#### CITIZEN

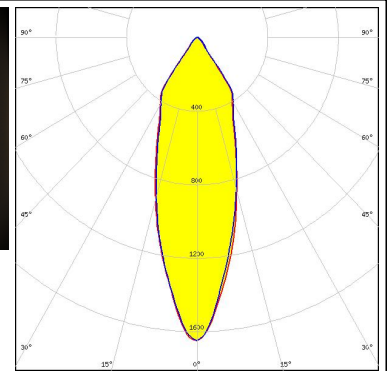
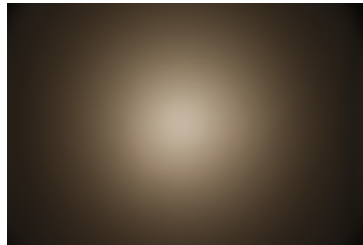
LED CLU720/721/723  
 FWHM / FWTM 34.0° / 74.0°  
 Efficiency 82 %  
 Peak intensity 1.6 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 C13658\_CLAMP-VERO13-18  
 Bender Wirth: 433 Typ L1



### OPTICAL RESULTS (MEASURED):

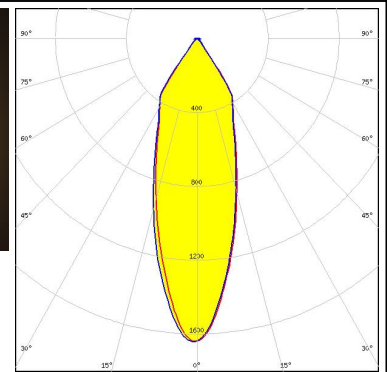
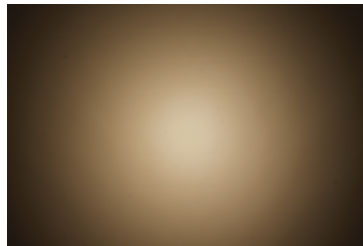
#### CITIZEN

LED CLU720/721/723  
 FWHM / FWTM 29.0° / 73.0°  
 Efficiency 85 %  
 Peak intensity 1.8 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 IDEAL: 50-2103CT + 50-2100AN



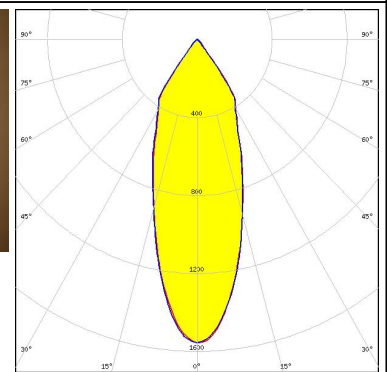
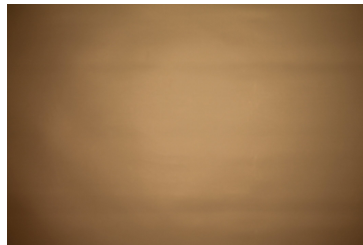
#### CITIZEN

LED CLU730/731/733  
 FWHM / FWTM 33.0° / 73.0°  
 Efficiency 82 %  
 Peak intensity 1.6 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 IDEAL: 50-2103CT + 50-2100AN



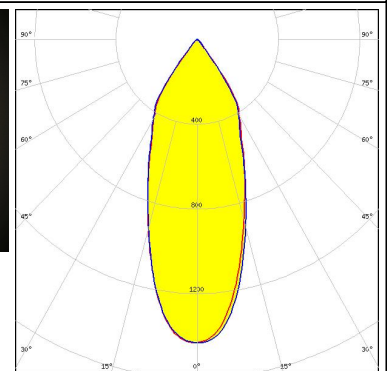
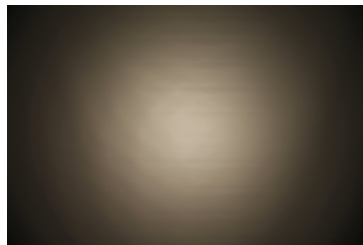
#### CREE LEDs

LED CMA1840  
 FWHM / FWTM 36.0° / 76.0°  
 Efficiency 84 %  
 Peak intensity 1.6 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 C14123\_CLAMP-CXA15-18

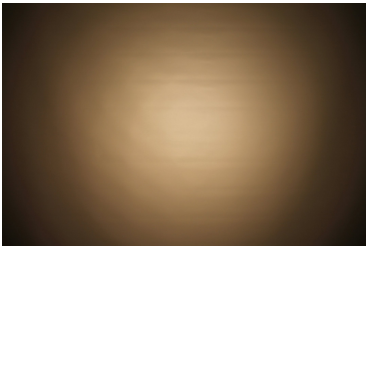
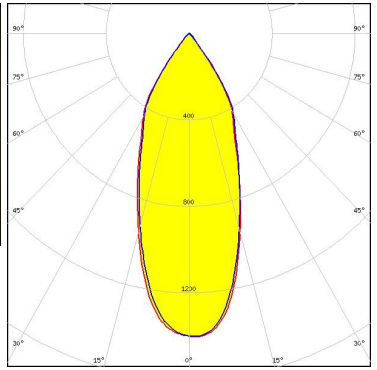

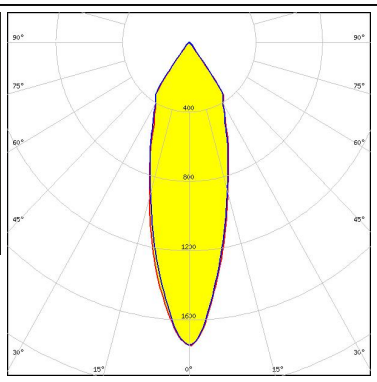

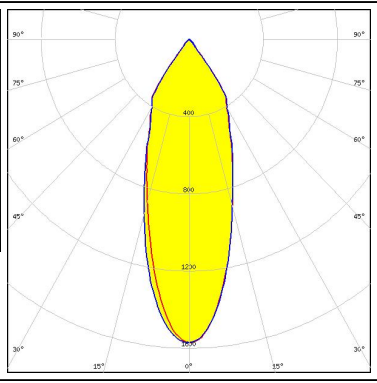
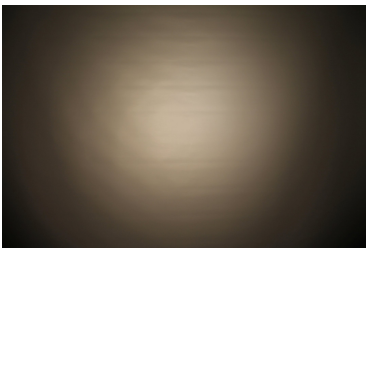
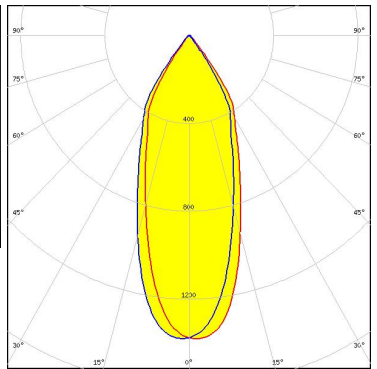


#### CREE LEDs

LED CMA2550  
 FWHM / FWTM 39.0° / 77.0°  
 Efficiency 84 %  
 Peak intensity 1.4 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 C14036\_CLAMP\_CXA25-30



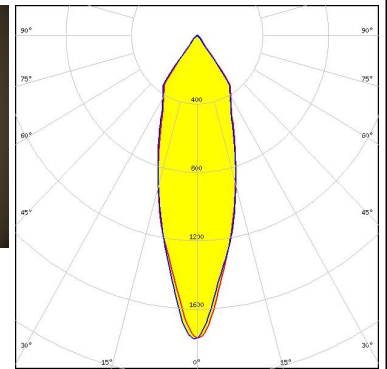
#### OPTICAL RESULTS (MEASURED):

<p><b>CREE</b> LEDs</p> <p>LED CMA3090            FWHM / FWTM 40.0° / 76.0°            Efficiency 84 %            Peak intensity 1.4 cd/lm            LEDs/each optic 1            Light colour White            Required components:            C14036_CLAMP_CXA25-30</p>		
<p><b>CREE</b> LEDs</p> <p>LED CMT14xx            FWHM / FWTM 31.0° / 74.0°            Efficiency 82 %            Peak intensity 1.8 cd/lm            LEDs/each optic 1            Light colour White            Required components:            C13658_CLAMP-VERO13-18            Bender Wirth: 434 Typ L1</p>		
<p><b>CREE</b> LEDs</p> <p>LED CMT19xx            FWHM / FWTM 35.0° / 75.0°            Efficiency 83 %            Peak intensity 1.6 cd/lm            LEDs/each optic 1            Light colour White            Required components:            C13658_CLAMP-VERO13-18            Bender Wirth: 477 Typ L1</p>		
<p><b>CREE</b> LEDs</p> <p>LED CMT28xx            FWHM / FWTM 38.0° / 76.0°            Efficiency 80 %            Peak intensity 1.4 cd/lm            LEDs/each optic 1            Light colour White            Required components:            C13584_CLAMP-VERO29            Bender Wirth: 471 Typ L3</p>		

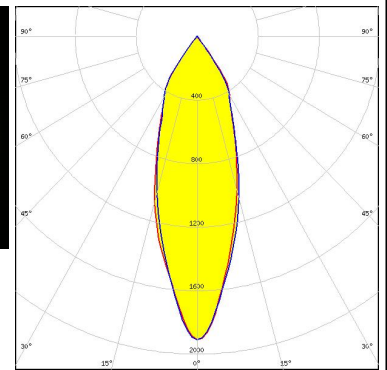
### OPTICAL RESULTS (MEASURED):



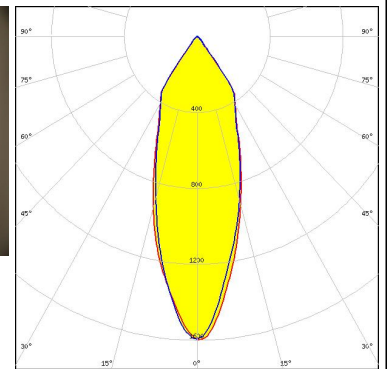
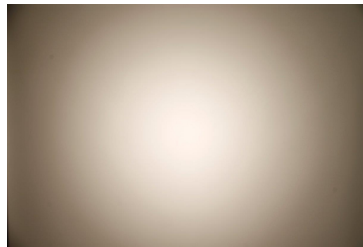
LED CXA/B 15xx  
 FWHM / FWTM 31.0° / 74.0°  
 Efficiency 83 %  
 Peak intensity 1.8 cd/m  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 C13658\_CLAMP-VERO13-18  
 Bender Wirth: 441 Typ L1



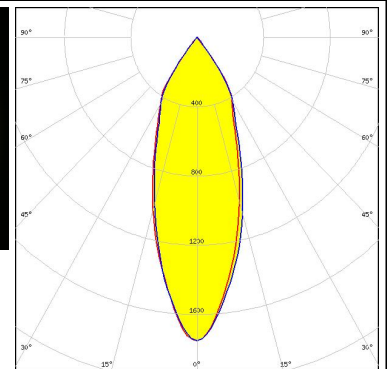
LED CXA/B 15xx  
 FWHM / FWTM 33.0° / 74.0°  
 Efficiency 84 %  
 Peak intensity 1.9 cd/m  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 C14123\_CLAMP-CXA15-18



LED CXA/B 1816 & CXA/B 1820 & CXA 1850  
 FWHM / FWTM 34.0° / 75.0°  
 Efficiency 82 %  
 Peak intensity 1.6 cd/m  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 C13658\_CLAMP-VERO13-18  
 Bender Wirth: 437 Typ L1



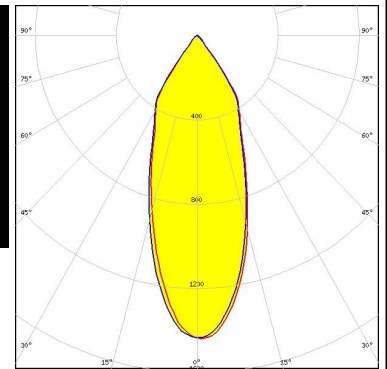
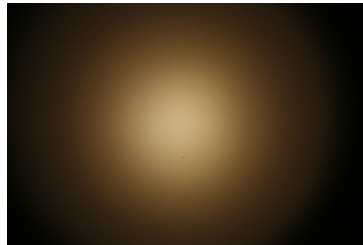
LED CXA/B 1816 & CXA/B 1820 & CXA 1850  
 FWHM / FWTM 36.0° / 75.0°  
 Efficiency 84 %  
 Peak intensity 1.8 cd/m  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 C14123\_CLAMP-CXA15-18



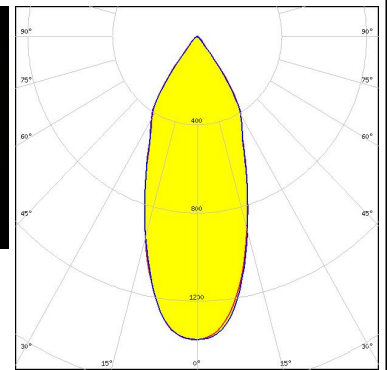
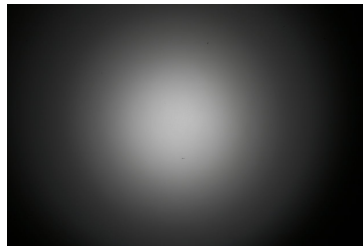
#### OPTICAL RESULTS (MEASURED):



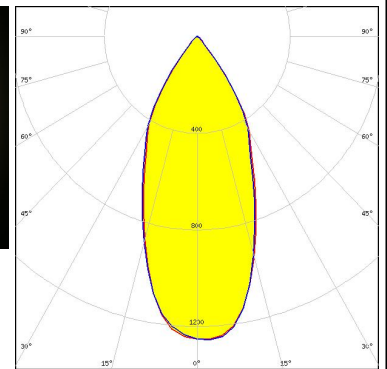
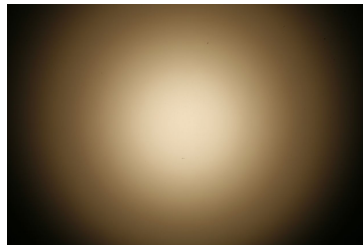
LED CXA/B 25xx  
 FWHM / FWTM 38.0° / 77.0°  
 Efficiency 84 %  
 Peak intensity 1.4 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 C14036\_CLAMP\_CXA25-30



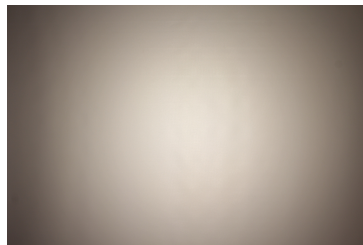
LED CXA/B 30xx  
 FWHM / FWTM 41.0° / 77.0°  
 Efficiency 84 %  
 Peak intensity 1.4 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 C14036\_CLAMP\_CXA25-30



LED CXA/B 3590  
 FWHM / FWTM 44.0° / 79.0°  
 Efficiency 84 %  
 Peak intensity 1.3 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 IDEAL: 50-2303CR + 50-2300AN



LED CHI3030 19W  
 FWHM / FWTM 40.0° / 78.0°  
 Efficiency 80 %  
 Peak intensity 1.4 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 C13584\_CLAMP-VERO29  
 F13671\_ANGE-RZ-LENS  
 Bender Wirth: 468 Typ L3



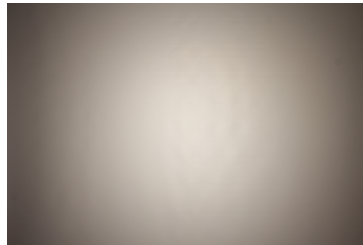
#### OPTICAL RESULTS (MEASURED):

#### EVERLIGHT

LED CHI3030 29W  
 FWHM / FWTM 43.0° / 80.0°  
 Efficiency 80 %  
 Peak intensity 1.3 cd/lm  
 LEDs/each optic 1  
 Light colour White

Required components:

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

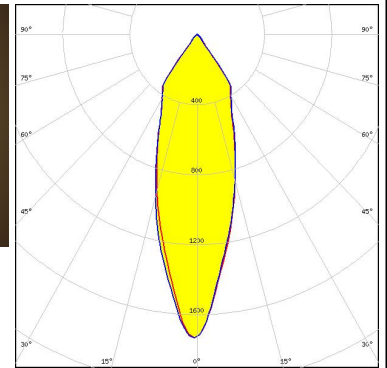
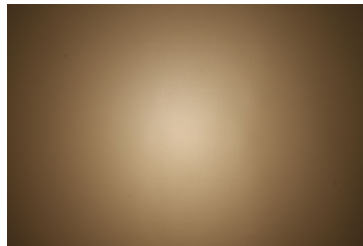


#### LUMILEDS

LED LUXEON CoB 1202/1203  
 FWHM / FWTM 31.0° / 74.0°  
 Efficiency 83 %  
 Peak intensity 1.7 cd/lm  
 LEDs/each optic 1  
 Light colour White

Required components:

C13658\_CLAMP-VERO13-18  
 Bender Wirth: 438 Typ L1

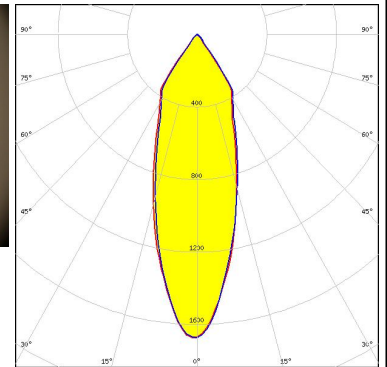
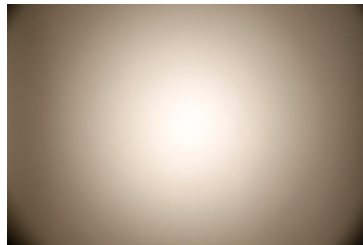


#### LUMILEDS

LED LUXEON CoB 1204/1205  
 FWHM / FWTM 33.0° / 75.0°  
 Efficiency 84 %  
 Peak intensity 1.7 cd/lm  
 LEDs/each optic 1  
 Light colour White

Required components:

TE Connectivity: 2213130-2 + OPTIC CLIP Z50 TYPE1 2213194-1

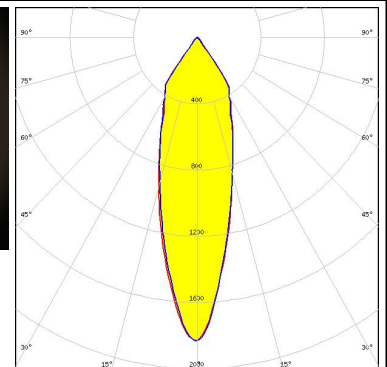
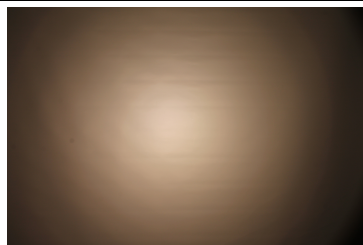


#### LUMILEDS

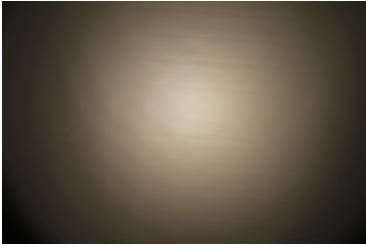
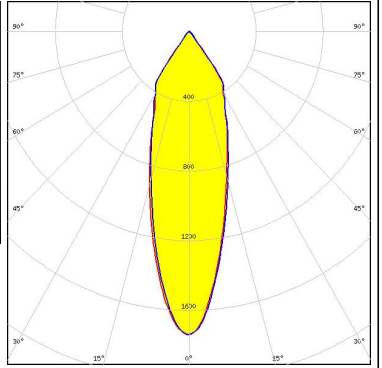
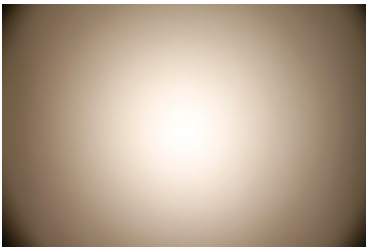
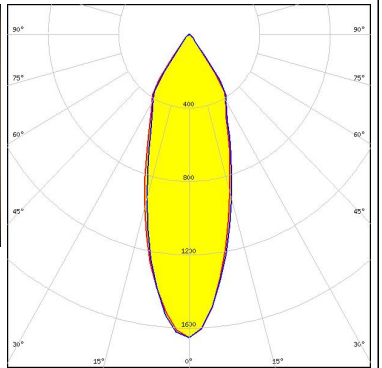

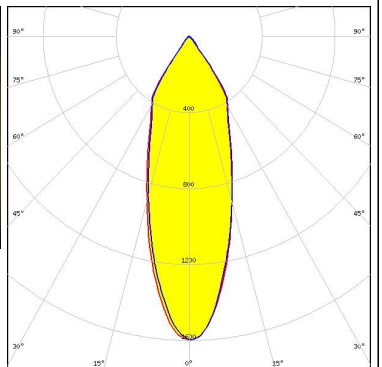
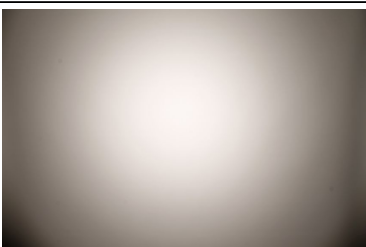
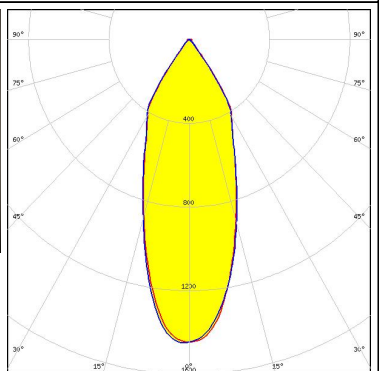
LED LUXEON CoB 1204HD  
 FWHM / FWTM 29.0° / 74.0°  
 Efficiency 82 %  
 Peak intensity 1.8 cd/lm  
 LEDs/each optic 1  
 Light colour White

Required components:

TE Connectivity: 2213382-2 + OPTIC CLIP Z50 TYPE1 2213194-1



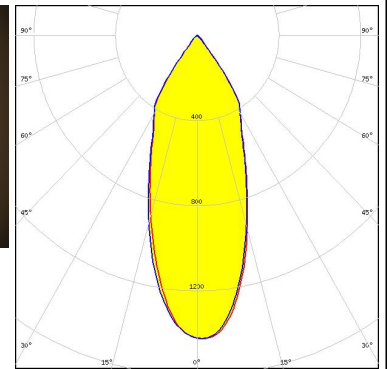
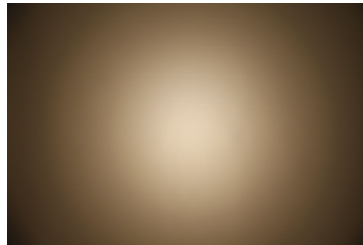
### OPTICAL RESULTS (MEASURED):

<p><b>LUMILEDS</b></p> <p>LED LUXEON CoB 1205HD</p> <p>FWHM / FWTM 31.0° / 74.0°</p> <p>Efficiency 82 %</p> <p>Peak intensity 1.7 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components: TE Connectivity: 2213382-2 + OPTIC CLIP Z50 TYPE1 2213194-1</p>		
<p><b>LUMILEDS</b></p> <p>LED LUXEON CoB 1208</p> <p>FWHM / FWTM 34.0° / 74.0°</p> <p>Efficiency 84 %</p> <p>Peak intensity 1.7 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components: TE Connectivity: 2213130-2 + OPTIC CLIP Z50 TYPE1 2213194-1</p>		
<p><b>LUMILEDS</b></p> <p>LED LUXEON CoB 1208</p> <p>FWHM / FWTM 34.0° / 74.0°</p> <p>Efficiency 82 %</p> <p>Peak intensity 1.6 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components: IDEAL: 50-2100SH + 50-2100AN</p>		
<p><b>LUMILEDS</b></p> <p>LED LUXEON CoB 1211</p> <p>FWHM / FWTM 37.0° / 75.0°</p> <p>Efficiency 82 %</p> <p>Peak intensity 1.5 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components: IDEAL: 50-2204-CT + 50-2100AN</p>		

### OPTICAL RESULTS (MEASURED):

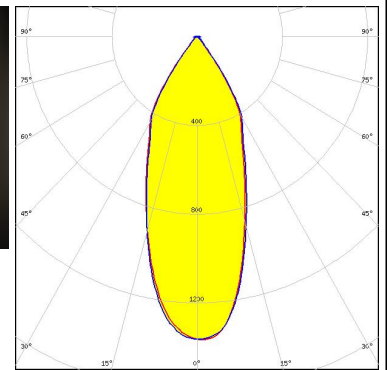
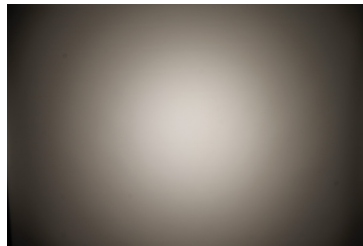
#### LUMILEDS

LED LUXEON CoB 1211  
 FWHM / FWTM 39.0° / 76.0°  
 Efficiency 83 %  
 Peak intensity 1.4 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 C13584\_CLAMP-VERO29  
 Bender Wirth: 431 Typ L3



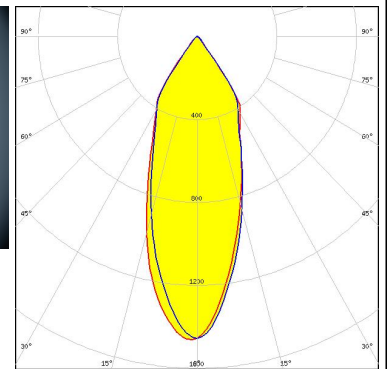
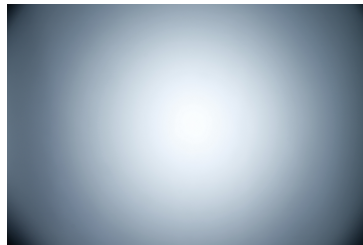
#### LUMILEDS

LED LUXEON CoB 1213/1216/1812  
 FWHM / FWTM 40.0° / 76.0°  
 Efficiency 82 %  
 Peak intensity 1.4 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 IDEAL: 50-2204-CT + 50-2100AN



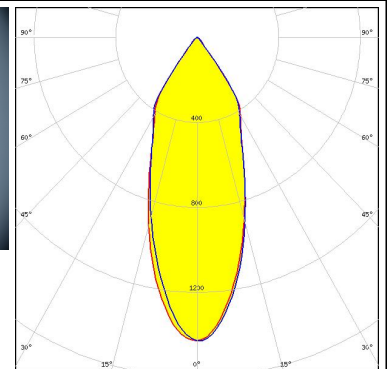
#### LUMILEDS

LED LUXEON K12  
 FWHM / FWTM 37.0° / 76.0°  
 Efficiency 82 %  
 Peak intensity 1.5 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 F13671\_ANGE-RZ-LENS  
 TE Connectivity: 2213134-2 + OPTIC CLIP Z50 TYPE1 2213194-1




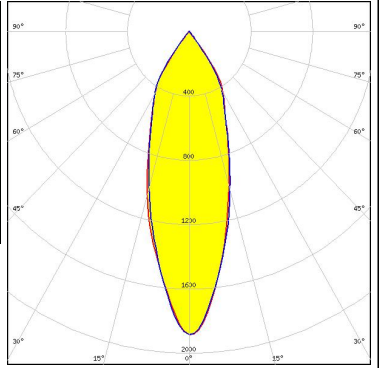

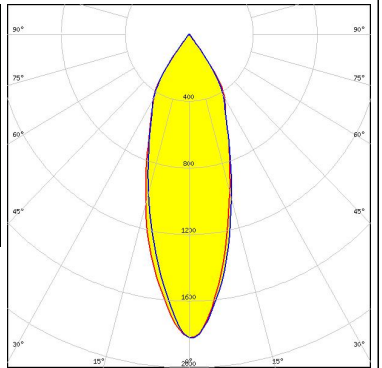
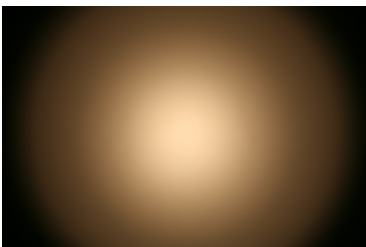
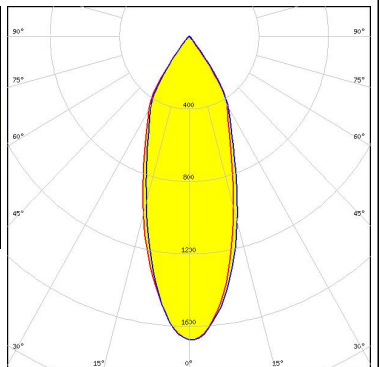
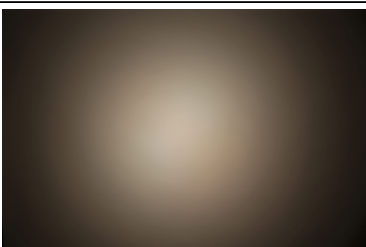
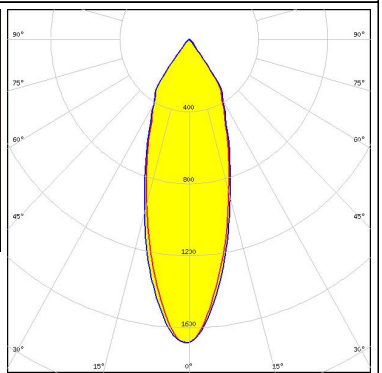
#### LUMILEDS

LED LUXEON K16  
 FWHM / FWTM 38.0° / 76.0°  
 Efficiency 83 %  
 Peak intensity 1.4 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 F13671\_ANGE-RZ-LENS  
 TE Connectivity: 2213134-2 + OPTIC CLIP Z50 TYPE1 2213194-1

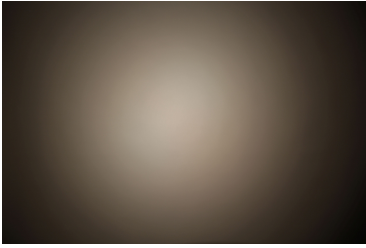
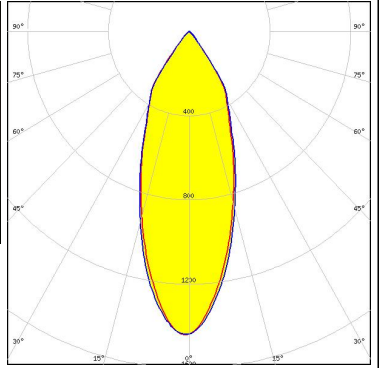
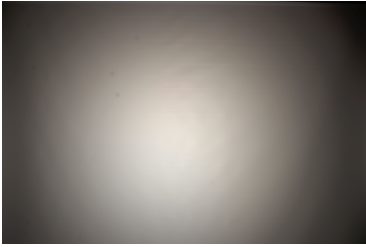
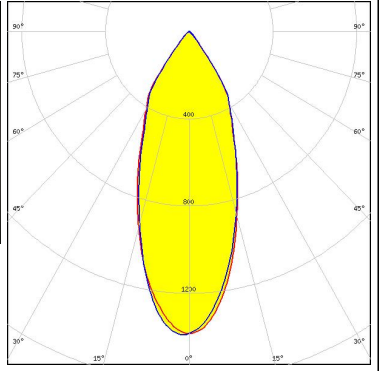
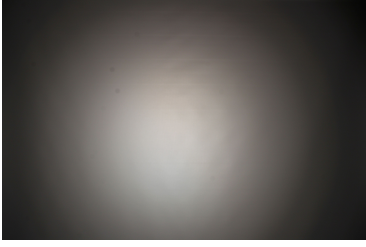
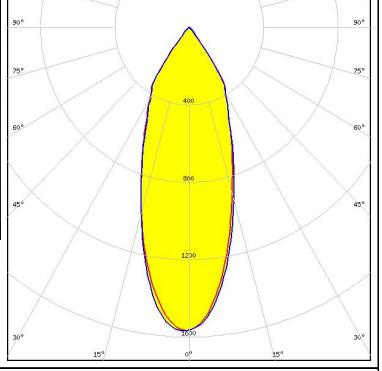
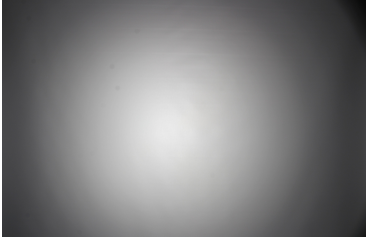
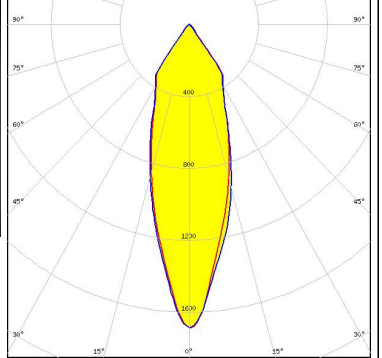





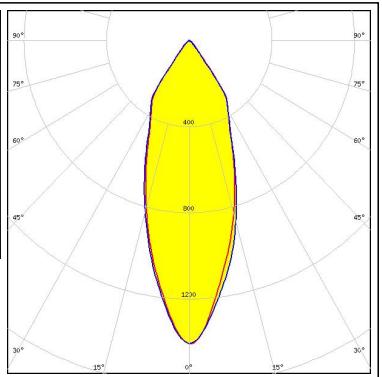

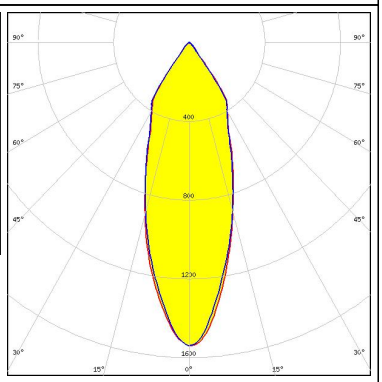

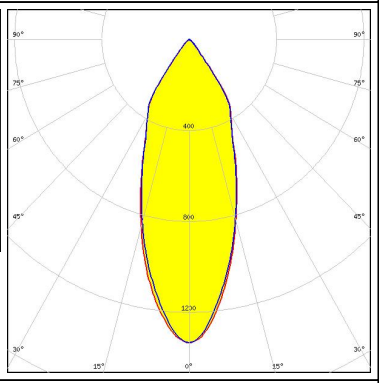

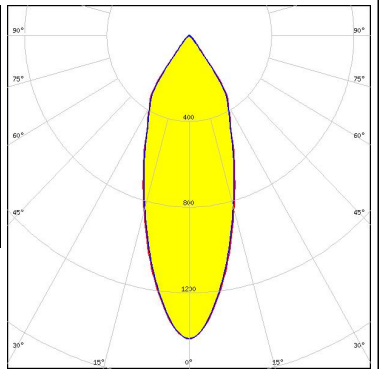
### OPTICAL RESULTS (MEASURED):

<p><b>LUMILEDS</b></p> <p>LED LUXEON S2000            FWHM / FWTM 34.0° / 74.0°            Efficiency 84 %            Peak intensity 1.9 cd/lm            LEDs/each optic 1            Light colour White            Required components:            C13395_CLAMP-S2000</p>		
<p><b>LUMILEDS</b></p> <p>LED LUXEON S3000            FWHM / FWTM 34.0° / 74.0°            Efficiency 84 %            Peak intensity 1.8 cd/lm            LEDs/each optic 1            Light colour White            Required components:            C13397_CLAMP-S3000</p>		
<p><b>LUMILEDS</b></p> <p>LED LUXEON S5000            FWHM / FWTM 37.0° / 75.0°            Efficiency 85 %            Peak intensity 1.7 cd/lm            LEDs/each optic 1            Light colour White            Required components:            C13399_CLAMP-S5000</p>		
<p><b>LUMINUS</b></p> <p>LED CDM-14 (Dim-To-Warm)            FWHM / FWTM 34.0° / 75.0°            Efficiency 84 %            Peak intensity 1.7 cd/lm            LEDs/each optic 1            Light colour White            Required components:            C13658_CLAMP-VERO13-18            Bender Wirth: 491 Typ L2</p>		


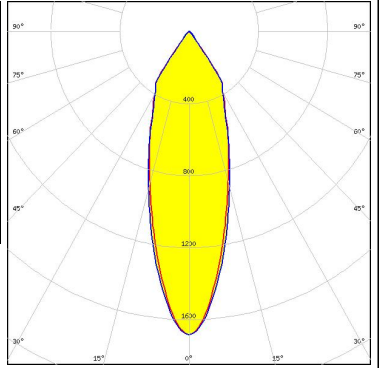
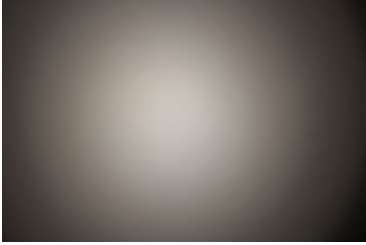
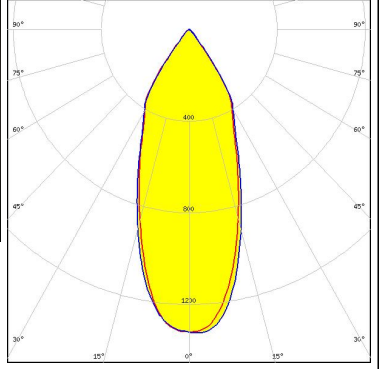
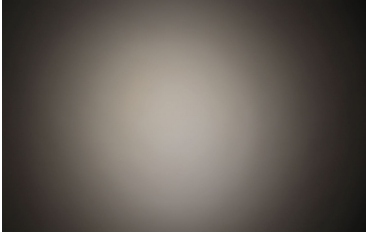
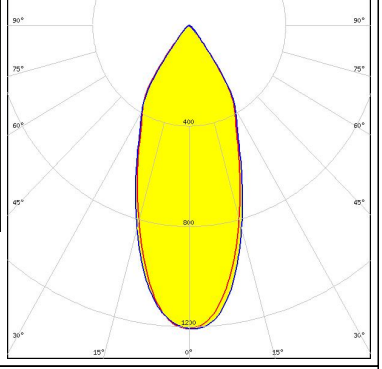
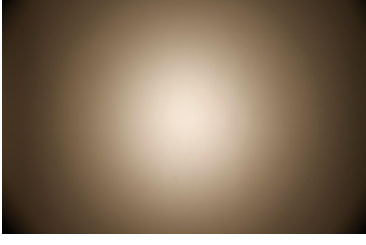
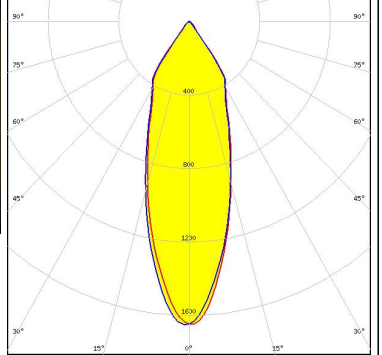
### OPTICAL RESULTS (MEASURED):

<p><b>LUMINUS</b></p> <p>LED CDM-14 (Dim-To-Warm)</p> <p>FWHM / FWTM 38.0° / 76.0°</p> <p>Efficiency 80 %</p> <p>Peak intensity 1.4 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components: C13658_CLAMP-VERO13-18 F13671_ANGE-RZ-LENS Bender Wirth: 491 Typ L2</p>		
<p><b>LUMINUS</b></p> <p>LED CDM-18 (Dim-To-Warm)</p> <p>FWHM / FWTM 40.0° / 76.0°</p> <p>Efficiency 81 %</p> <p>Peak intensity 1.4 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components: C13658_CLAMP-VERO13-18 F13671_ANGE-RZ-LENS Bender Wirth: 491 Typ L2</p>		
<p><b>LUMINUS</b></p> <p>LED CDM-18 (Dim-To-Warm)</p> <p>FWHM / FWTM 37.0° / 75.0°</p> <p>Efficiency 85 %</p> <p>Peak intensity 1.6 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components: C13658_CLAMP-VERO13-18 Bender Wirth: 491 Typ L2</p>		
<p><b>LUMINUS</b></p> <p>LED CDM-9 (Dim-To-Warm)</p> <p>FWHM / FWTM 32.0° / 74.0°</p> <p>Efficiency 80 %</p> <p>Peak intensity 1.7 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components: C13658_CLAMP-VERO13-18 Bender Wirth: 490 Typ L1</p>		


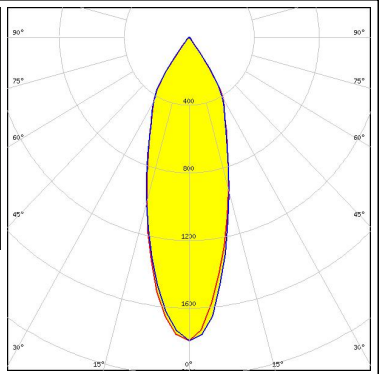

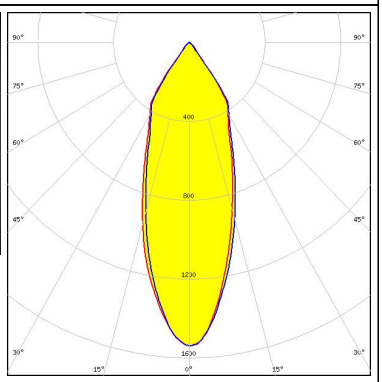

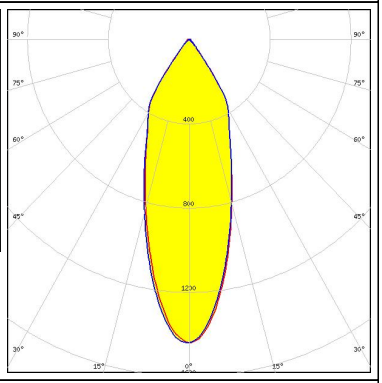

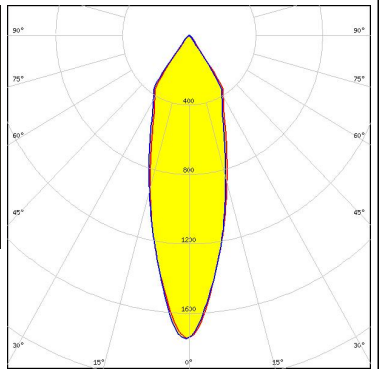
### OPTICAL RESULTS (MEASURED):

<p><b>LUMINUS</b></p> <p>LED CDM-9 (Dim-To-Warm)</p> <p>FWHM / FWTM 36.0° / 75.0°</p> <p>Efficiency 76 %</p> <p>Peak intensity 1.4 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components: C13658_CLAMP-VERO13-18 F13671_ANGE-RZ-LENS Bender Wirth: 490 Typ L1</p>		
<p><b>LUMINUS</b></p> <p>LED CTM-14 (Tunable White)</p> <p>FWHM / FWTM 35.0° / 75.0°</p> <p>Efficiency 80 %</p> <p>Peak intensity 1.5 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components: C13584_CLAMP-VERO29 Bender Wirth: 442 Typ L3</p>		
<p><b>LUMINUS</b></p> <p>LED CTM-14 (Tunable White)</p> <p>FWHM / FWTM 38.0° / 76.0°</p> <p>Efficiency 76 %</p> <p>Peak intensity 1.3 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components: C13584_CLAMP-VERO29 F13671_ANGE-RZ-LENS Bender Wirth: 442 Typ L3</p>		
<p><b>LUMINUS</b></p> <p>LED CTM-14 RGBW</p> <p>FWHM / FWTM 36.0° / 75.0°</p> <p>Efficiency 77 %</p> <p>Peak intensity 1.4 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour RGBW</p> <p>Required components: C13584_CLAMP-VERO29 F13671_ANGE-RZ-LENS Bender Wirth: 500 Typ L3-1</p>		


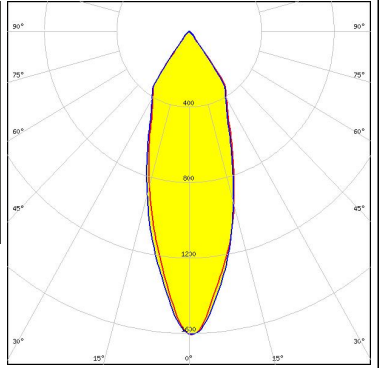
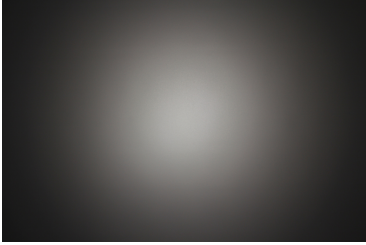
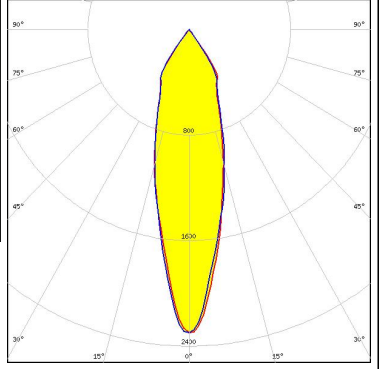
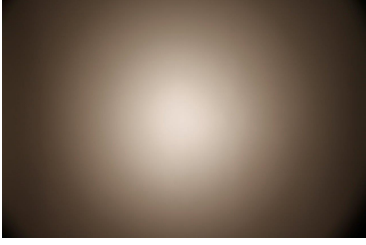
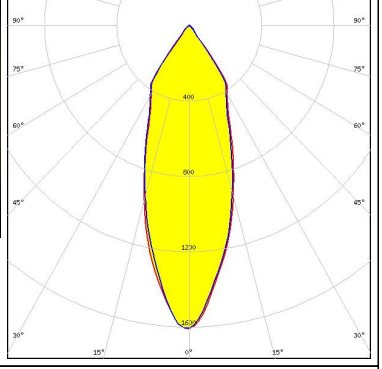

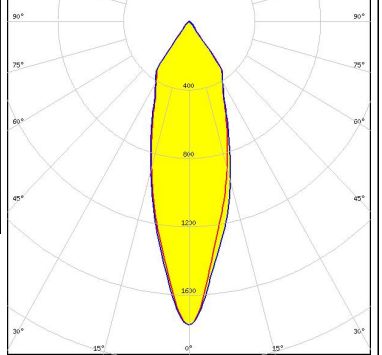
### OPTICAL RESULTS (MEASURED):

<p><b>LUMINUS</b></p> <p>LED CTM-14 RGBW            FWHM / FWTM 32.0° / 74.0°            Efficiency 81 %            Peak intensity 1.7 cd/lm            LEDs/each optic 1            Light colour RGBW            Required components:            C13584_CLAMP-VERO29            Bender Wirth: 500 Typ L3-1</p>		
<p><b>LUMINUS</b></p> <p>LED CTM-22 (Tunable White)            FWHM / FWTM 40.0° / 77.0°            Efficiency 80 %            Peak intensity 1.3 cd/lm            LEDs/each optic 1            Light colour White            Required components:            C13584_CLAMP-VERO29            Bender Wirth: 494 Typ L3</p>		
<p><b>LUMINUS</b></p> <p>LED CTM-22 (Tunable White)            FWHM / FWTM 42.0° / 78.0°            Efficiency 76 %            Peak intensity 1.2 cd/lm            LEDs/each optic 1            Light colour White            Required components:            C13584_CLAMP-VERO29            F13671_ANGE-RZ-LENS            Bender Wirth: 494 Typ L3</p>		
<p><b>LUMINUS</b></p> <p>LED CxM-14 (19x19)            FWHM / FWTM 34.0° / 75.0°            Efficiency 84 %            Peak intensity 1.7 cd/lm            LEDs/each optic 1            Light colour White            Required components:            TE Connectivity: 2213254-2 + OPTIC CLIP Z50 TYPE1 2213194-1</p>		

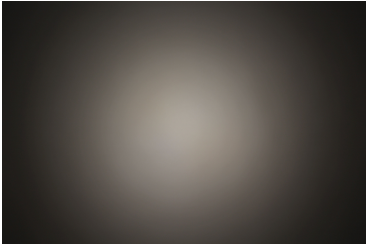
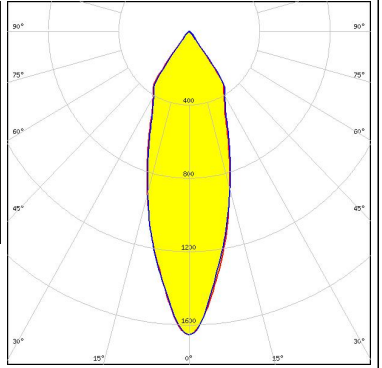
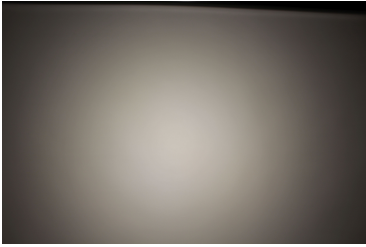
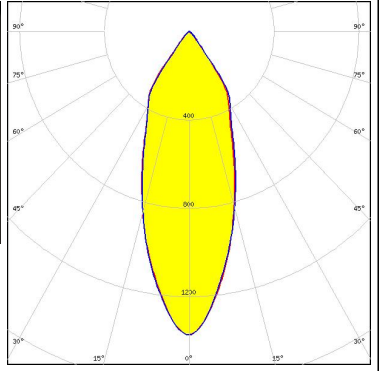
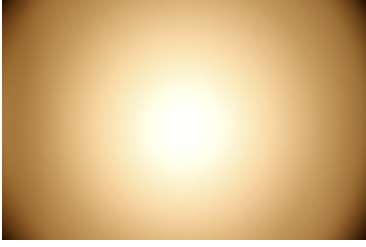
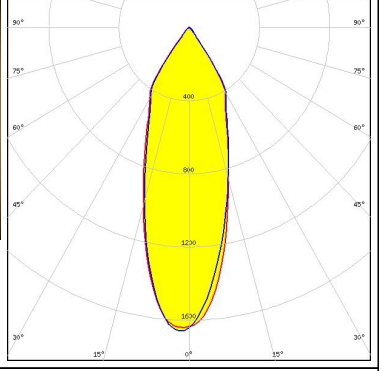

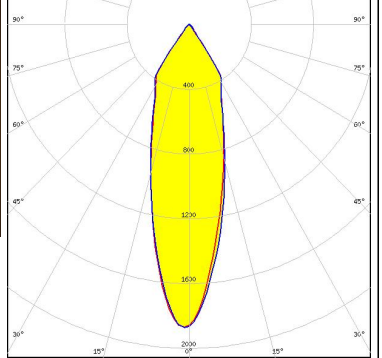
### OPTICAL RESULTS (MEASURED):

<p><b>NICHIA</b></p> <p>LED COB J-Type            FWHM / FWTM 33.0° / 73.0°            Efficiency 82 %            Peak intensity 1.8 cd/m            LEDs/each optic 1            Light colour White            Required components:            IDEAL: 50-2103NC + 50-2100AN</p>		
<p><b>NICHIA</b></p> <p>LED COB J-Type            FWHM / FWTM 36.0° / 75.0°            Efficiency 82 %            Peak intensity 1.5 cd/m            LEDs/each optic 1            Light colour White            Required components:            C13658_CLAMP-VERO13-18            Bender Wirth: 463 Typ L2</p>		
<p><b>NICHIA</b></p> <p>LED COB J-Type            FWHM / FWTM 35.0° / 75.0°            Efficiency 79 %            Peak intensity 1.4 cd/m            LEDs/each optic 1            Light colour White            Required components:            F13671_ANGE-RZ-LENS            IDEAL: 50-2103NC + 50-2100AN</p>		
<p><b>NICHIA</b></p> <p>LED COB L-Type (LES 11)            FWHM / FWTM 31.0° / 73.0°            Efficiency 81 %            Peak intensity 1.8 cd/m            LEDs/each optic 1            Light colour White            Required components:            IDEAL: 50-2100NC + 50-2100AN</p>		

### OPTICAL RESULTS (MEASURED):

<p><b>NICHIA</b></p> <p>LED COB L-Type (LES 11)            FWHM / FWTM 34.0° / 75.0°            Efficiency 82 %            Peak intensity 1.6 cd/lm            LEDs/each optic 1            Light colour White            Required components:            C13658_CLAMP-VERO13-18            Bender Wirth: 438 Typ L1</p>		
<p><b>NICHIA</b></p> <p>LED COB L-Type (LES 11)            FWHM / FWTM 28.0° / 72.0°            Efficiency 87 %            Peak intensity 2.3 cd/lm            LEDs/each optic 1            Light colour White            Required components:            TE Connectivity: 2213382-2 + OPTIC CLIP Z50 TYPE1 2213194-1</p>		
<p><b>NICHIA</b></p> <p>LED COB L-Type (LES 11)            FWHM / FWTM 35.0° / 75.0°            Efficiency 85 %            Peak intensity 1.6 cd/lm            LEDs/each optic 1            Light colour White            Required components:            Molex: 180580-0005</p>		
<p><b>NICHIA</b></p> <p>LED COB L-Type (LES 9)            FWHM / FWTM 31.0° / 74.0°            Efficiency 84 %            Peak intensity 1.8 cd/lm            LEDs/each optic 1            Light colour White            Required components:            C13658_CLAMP-VERO13-18            Bender Wirth: 438 Typ L1</p>		

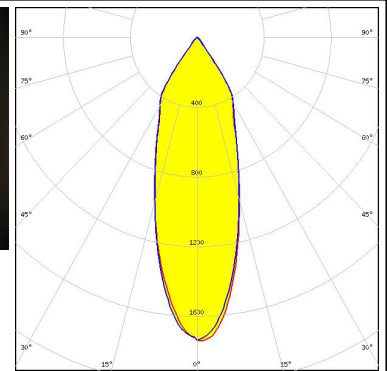
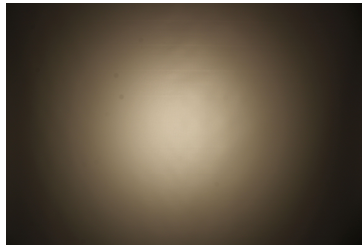
### OPTICAL RESULTS (MEASURED):

<p><b>NICHIA</b></p> <p>LED NVCWJ024Z-V1MT: COB J-Type Tunable White</p> <p>FWHM / FWTM 33.0° / 75.0°</p> <p>Efficiency 82 %</p> <p>Peak intensity 1.7 cd/m</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components: C13658_CLAMP-VERO13-18 Bender Wirth: 498 Typ L2</p>		
<p><b>NICHIA</b></p> <p>LED NVCWJ024Z-V1MT: COB J-Type Tunable White</p> <p>FWHM / FWTM 37.0° / 76.0°</p> <p>Efficiency 77 %</p> <p>Peak intensity 1.4 cd/m</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components: C13658_CLAMP-VERO13-18 F13671_ANGE-RZ-LENS Bender Wirth: 498 Typ L2</p>		
<p><b>OSRAM</b></p> <p>LED PrevaLED Core AC (LEP-2000)</p> <p>FWHM / FWTM 34.0° / 74.0°</p> <p>Efficiency 84 %</p> <p>Peak intensity 1.7 cd/m</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components: TE Connectivity: OPTIC CLIP Z50 TYPE1 2213194-1</p>		
<p><b>OSRAM</b></p> <p>LED PrevaLED Core AC (LEP-800)</p> <p>FWHM / FWTM 29.0° / 73.0°</p> <p>Efficiency 84 %</p> <p>Peak intensity 1.9 cd/m</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components: TE Connectivity: OPTIC CLIP Z50 TYPE1 2213194-1</p>		

### OPTICAL RESULTS (MEASURED):

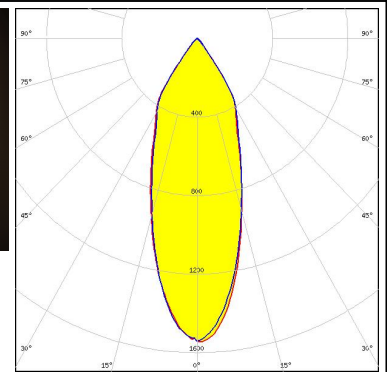
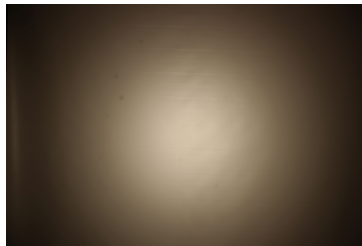
#### OSRAM

LED PrevaLED Core G7 L15 H1  
 FWHM / FWTM 34.0° / 74.0°  
 Efficiency 86 %  
 Peak intensity 1.7 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 C16685\_CLAMP-PRV-A



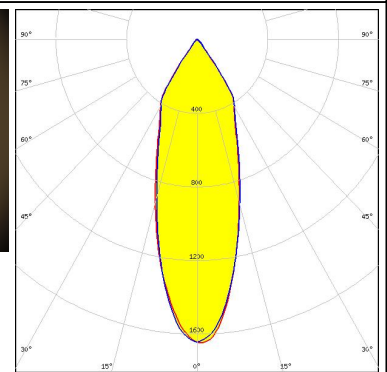
#### OSRAM

LED PrevaLED Core G7 L15 H1  
 FWHM / FWTM 36.0° / 75.0°  
 Efficiency 83 %  
 Peak intensity 1.5 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 C16685\_CLAMP-PRV-A  
 F13671\_ANGE-RZ-LENS



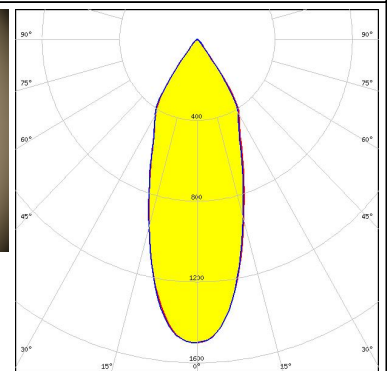
#### OSRAM

LED PrevaLED Core Z3 LES19  
 FWHM / FWTM 33.0° / 74.0°  
 Efficiency 83 %  
 Peak intensity 1.7 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 TE Connectivity: OPTIC CLIP Z50 TYPE1 2213194-1



#### OSRAM

LED PrevaLED Core Z3 LES23  
 FWHM / FWTM 38.0° / 75.0°  
 Efficiency 85 %  
 Peak intensity 1.5 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 TE Connectivity: OPTIC CLIP Z50 TYPE1 2213194-1

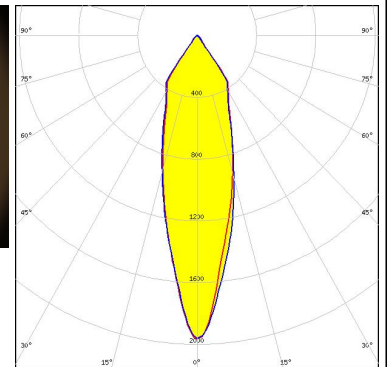




### OPTICAL RESULTS (MEASURED):

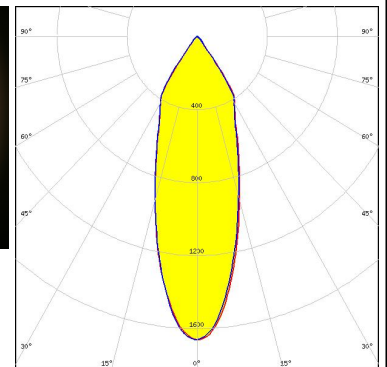
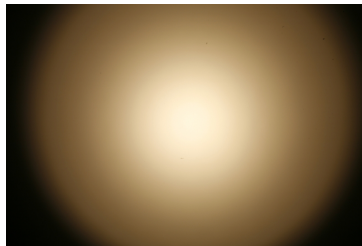
#### OSRAM

LED PrevaLED Core Z3 LES9  
 FWHM / FWTM 28.0° / 73.0°  
 Efficiency 84 %  
 Peak intensity 2 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 TE Connectivity: OPTIC CLIP Z50 TYPE1 2213194-1



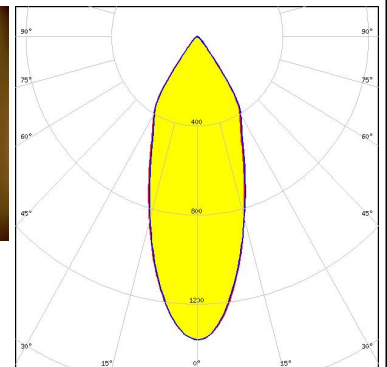
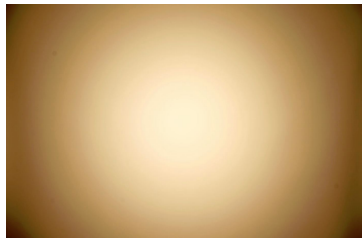
#### OSRAM

LED PrevaLED Core Z4 LES19  
 FWHM / FWTM 34.0° / 74.0°  
 Efficiency 84 %  
 Peak intensity 1.7 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 TE Connectivity: OPTIC CLIP Z50 TYPE1 2213194-1



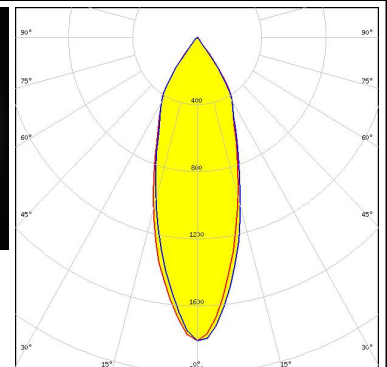
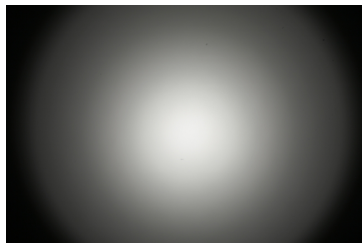
#### OSRAM

LED PrevaLED Core Z4 LES19  
 FWHM / FWTM 38.0° / 76.0°  
 Efficiency 78 %  
 Peak intensity 1.4 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 F13671\_ANGE-RZ-LENS  
 TE Connectivity: OPTIC CLIP Z50 TYPE1 2213194-1

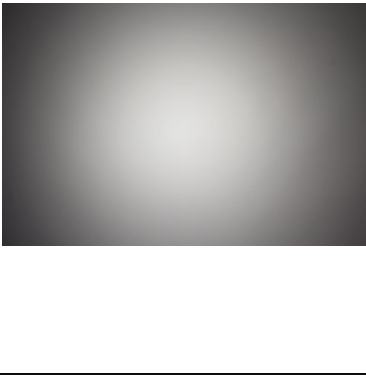
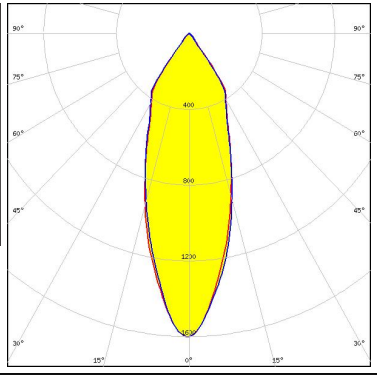
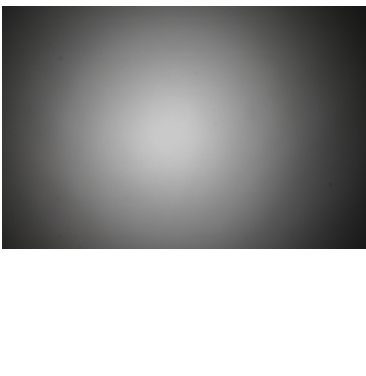
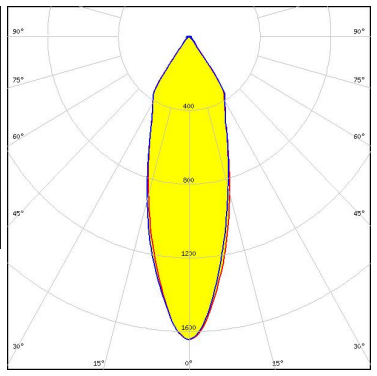
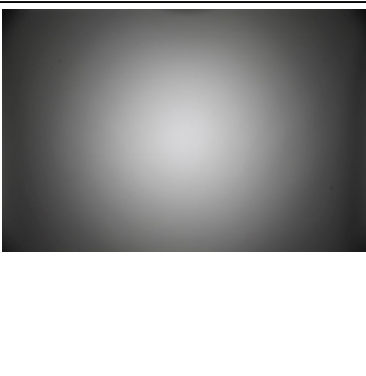
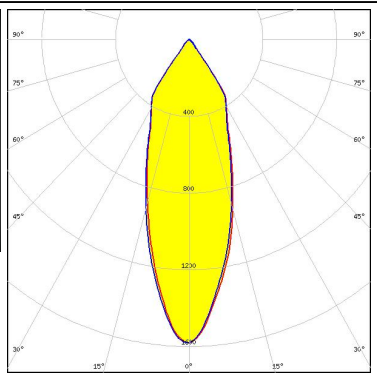

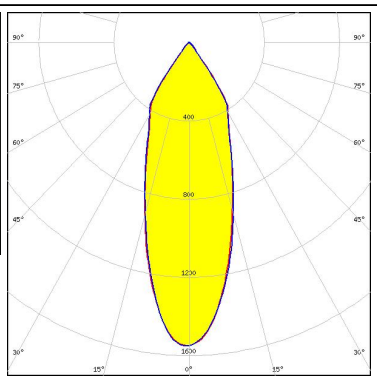


#### OSRAM

Opto Semiconductors  
 LED Soleriq S13  
 FWHM / FWTM 33.0° / 74.0°  
 Efficiency 85 %  
 Peak intensity 1.8 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 TE Connectivity: 2213401-2 + OPTIC CLIP Z50 TYPE1 2213194-1



### OPTICAL RESULTS (MEASURED):

<p><b>OSRAM</b> Opto Semiconductors</p> <p>LED Soleriq S13</p> <p>FWHM / FWTM 35.0° / 75.0°</p> <p>Efficiency 82 %</p> <p>Peak intensity 1.6 cd/m</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components: C13658_CLAMP-VERO13-18 Bender Wirth: 437 Typ L1</p>		
<p><b>OSRAM</b> Opto Semiconductors</p> <p>LED Soleriq S13 19x19</p> <p>FWHM / FWTM 32.0° / 74.0°</p> <p>Efficiency 81 %</p> <p>Peak intensity 1.6 cd/m</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components: IDEAL: 50-2103CT + 50-2100AN</p>		
<p><b>OSRAM</b> Opto Semiconductors</p> <p>LED Soleriq S13 19x19</p> <p>FWHM / FWTM 34.0° / 74.0°</p> <p>Efficiency 81 %</p> <p>Peak intensity 1.6 cd/m</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components: TE Connectivity: 2213254-2 + OPTIC CLIP Z50 TYPE1 2213194-1</p>		
<p><b>OSRAM</b> Opto Semiconductors</p> <p>LED Soleriq S19</p> <p>FWHM / FWTM 35.0° / 75.0°</p> <p>Efficiency 82 %</p> <p>Peak intensity 1.6 cd/m</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components: C13584_CLAMP-VERO29 Bender Wirth: 462 Typ L3</p>		

#### OPTICAL RESULTS (MEASURED):

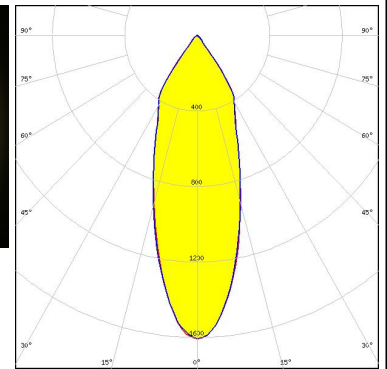
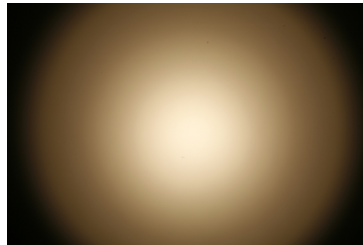
#### OSRAM

Opto Semiconductors

LED Soleriq S19  
 FWHM / FWTM 35.0° / 75.0°  
 Efficiency 84 %  
 Peak intensity 1.6 cd/lm  
 LEDs/each optic 1  
 Light colour White

Required components:

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

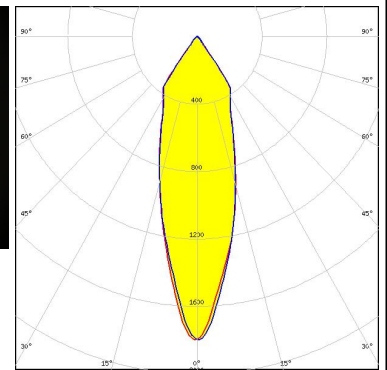
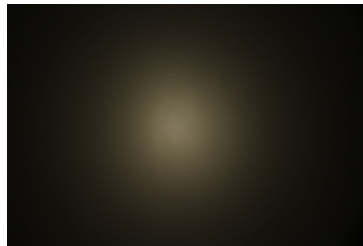


#### PHILIPS

LED Fortimo SLM L09 + SLM holder  
 FWHM / FWTM 30.0° / 74.0°  
 Efficiency 83 %  
 Peak intensity 1.8 cd/lm  
 LEDs/each optic 1  
 Light colour White

Required components:

TE Connectivity: OPTIC CLIP Z50 TYPE1 2213194-1

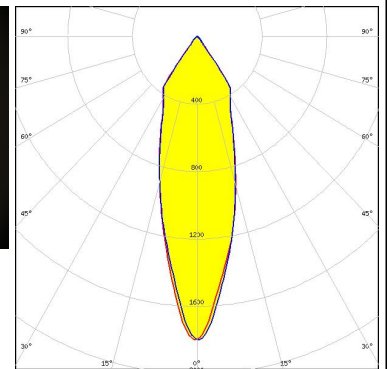
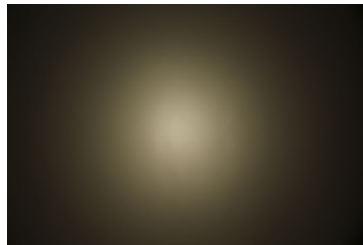


#### PHILIPS

LED Fortimo SLM L09 + SLM holder  
 FWHM / FWTM 30.0° / 74.0°  
 Efficiency 83 %  
 Peak intensity 1.8 cd/lm  
 LEDs/each optic 1  
 Light colour White

Required components:

TE Connectivity: OPTIC CLIP Z50 TYPE1 2213194-1

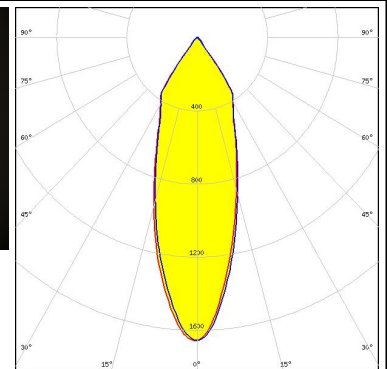
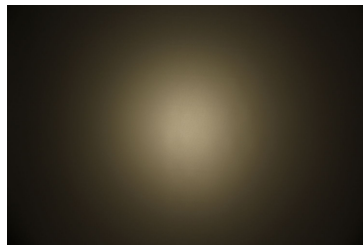


#### PHILIPS

LED Fortimo SLM L13 + SLM holder  
 FWHM / FWTM 33.0° / 74.0°  
 Efficiency 82 %  
 Peak intensity 1.7 cd/lm  
 LEDs/each optic 1  
 Light colour White

Required components:

TE Connectivity: OPTIC CLIP Z50 TYPE1 2213194-1



### OPTICAL RESULTS (MEASURED):

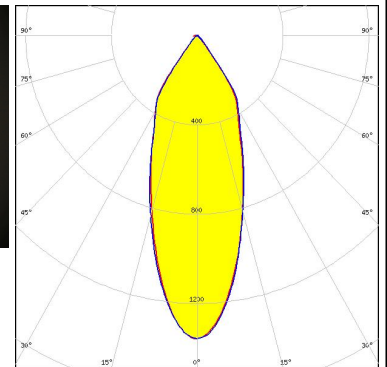
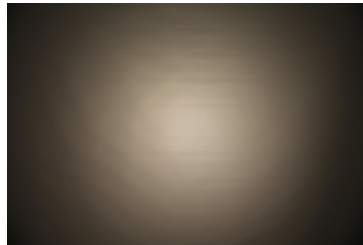
#### PHILIPS

LED Fortimo SLM L13 CoB  
 FWHM / FWTM 37.0° / 76.0°  
 Efficiency 77 %  
 Peak intensity 1.4 cd/lm  
 LEDs/each optic 1  
 Light colour White

Required components:

F13671\_ANGE-RZ-LENS

TE Connectivity: 2213130-2 + OPTIC CLIP Z50 TYPE1 2213194-1

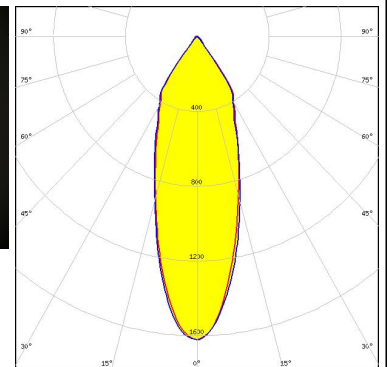
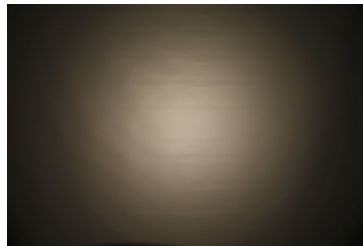


#### PHILIPS

LED Fortimo SLM L13 CoB  
 FWHM / FWTM 33.0° / 75.0°  
 Efficiency 83 %  
 Peak intensity 1.6 cd/lm  
 LEDs/each optic 1  
 Light colour White

Required components:

TE Connectivity: 2213130-2 + OPTIC CLIP Z50 TYPE1 2213194-1

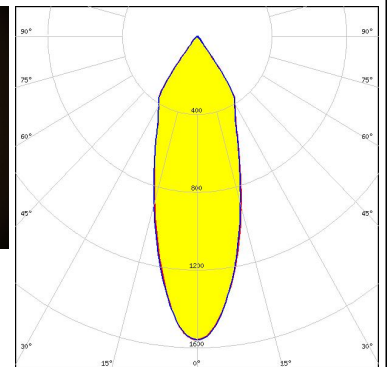
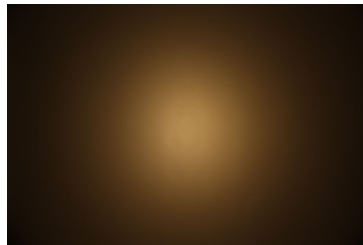


#### PHILIPS

LED Fortimo SLM L15 + SLM holder  
 FWHM / FWTM 34.0° / 75.0°  
 Efficiency 81 %  
 Peak intensity 1.6 cd/lm  
 LEDs/each optic 1  
 Light colour White

Required components:

TE Connectivity: OPTIC CLIP Z50 TYPE1 2213194-1



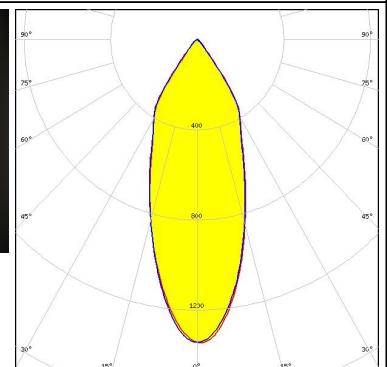
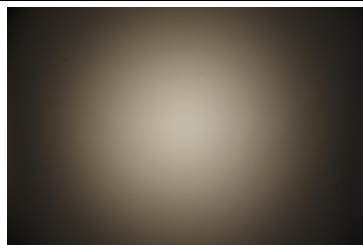
#### PHILIPS

LED Fortimo SLM L15 + SLM holder  
 FWHM / FWTM 38.0° / 76.0°  
 Efficiency 76 %  
 Peak intensity 1.3 cd/lm  
 LEDs/each optic 1  
 Light colour White

Required components:

F13671\_ANGE-RZ-LENS

TE Connectivity: OPTIC CLIP Z50 TYPE1 2213194-1



### OPTICAL RESULTS (MEASURED):

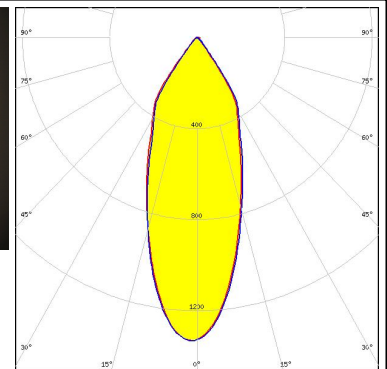
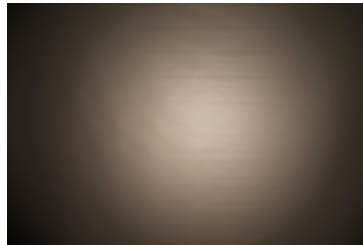
#### PHILIPS

LED Fortimo SLM L15 CoB  
 FWHM / FWTM 40.0° / 76.0°  
 Efficiency 77 %  
 Peak intensity 1.3 cd/lm  
 LEDs/each optic 1  
 Light colour White

Required components:

F13671\_ANGE-RZ-LENS

TE Connectivity: 2213130-2 + OPTIC CLIP Z50 TYPE1 2213194-1

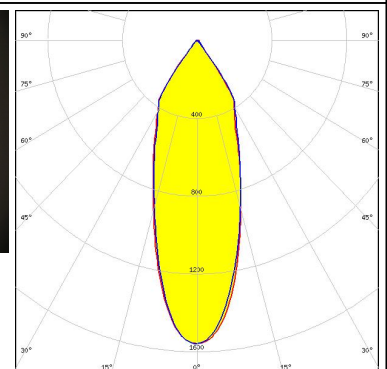
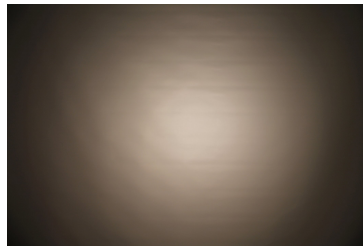


#### PHILIPS

LED Fortimo SLM L15 CoB  
 FWHM / FWTM 35.0° / 75.0°  
 Efficiency 82 %  
 Peak intensity 1.6 cd/lm  
 LEDs/each optic 1  
 Light colour White

Required components:

TE Connectivity: 2213130-2 + OPTIC CLIP Z50 TYPE1 2213194-1

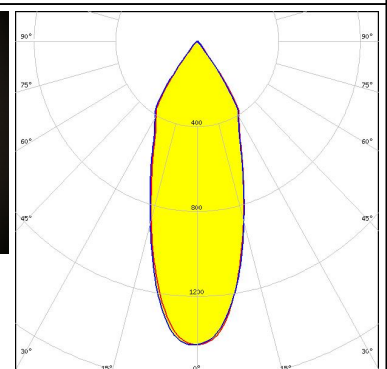
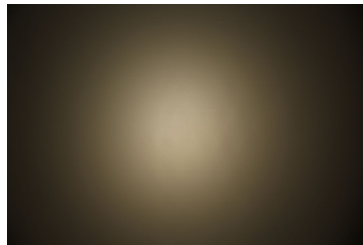


#### PHILIPS

LED Fortimo SLM L19 + SLM holder  
 FWHM / FWTM 37.0° / 76.0°  
 Efficiency 80 %  
 Peak intensity 1.4 cd/lm  
 LEDs/each optic 1  
 Light colour White

Required components:

TE Connectivity: OPTIC CLIP Z50 TYPE1 2213194-1



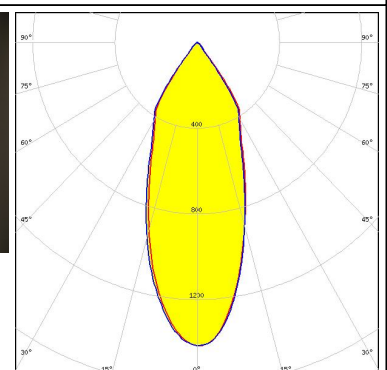
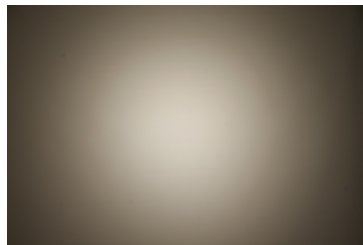
#### SAMSUNG

LED LC026B / 033B / 040B  
 FWHM / FWTM 39.0° / 76.0°  
 Efficiency 82 %  
 Peak intensity 1.4 cd/lm  
 LEDs/each optic 1  
 Light colour White

Required components:

C13658\_CLAMP-VERO13-18

Bender Wirth: 450 Typ L2



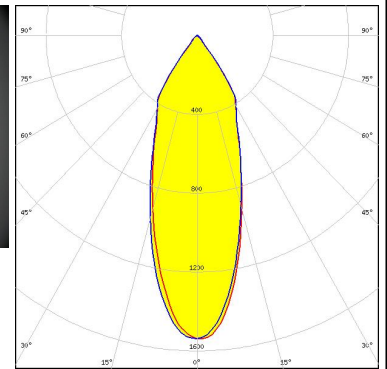
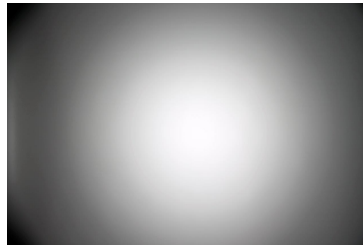
#### OPTICAL RESULTS (MEASURED):

### SAMSUNG

LED LC026B / 033B / 040B  
 FWHM / FWTM 36.0° / 75.0°  
 Efficiency 84 %  
 Peak intensity 1.5 cd/m  
 LEDs/each optic 1  
 Light colour White

Required components:

TE Connectivity: 2213258-2 + OPTIC CLIP Z50 TYPE1 2213194-1



### SAMSUNG

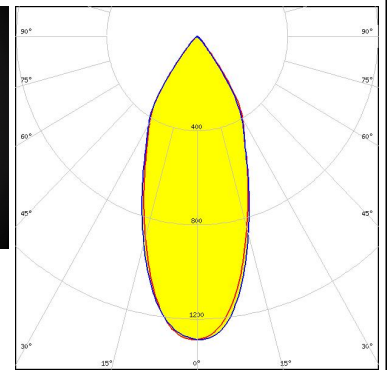
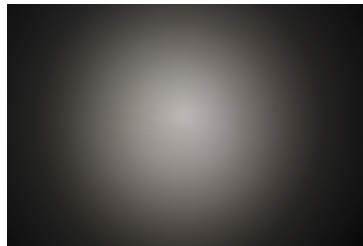
LED LC035T (Tunable white)  
 FWHM / FWTM 42.0° / 78.0°  
 Efficiency 81 %  
 Peak intensity 1.3 cd/m  
 LEDs/each optic 1  
 Light colour Tunable White

Required components:

C13584\_CLAMP-VERO29

F13671\_ANGE-RZ-LENS

Bender Wirth: 502 Typ L3



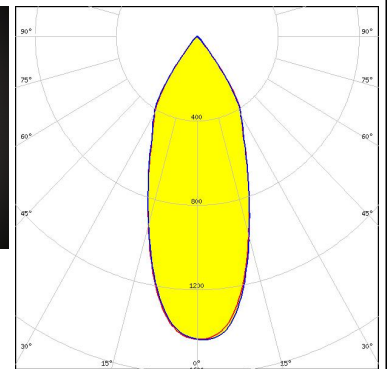
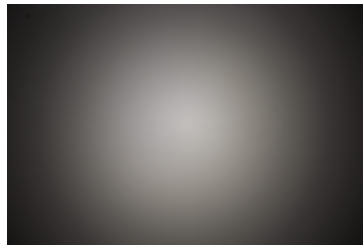
### SAMSUNG

LED LC035T (Tunable white)  
 FWHM / FWTM 40.0° / 77.0°  
 Efficiency 85 %  
 Peak intensity 1.4 cd/m  
 LEDs/each optic 1  
 Light colour Tunable White

Required components:

C13584\_CLAMP-VERO29

Bender Wirth: 502 Typ L3

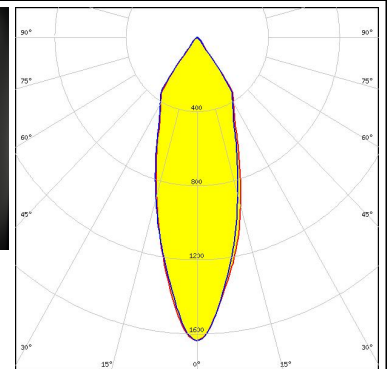
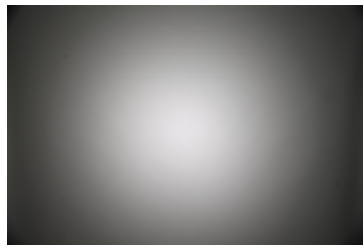


### SAMSUNG

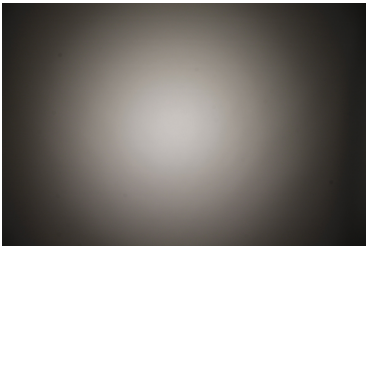
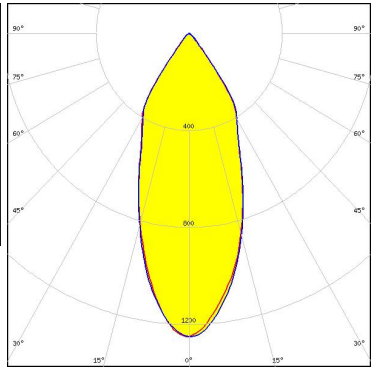

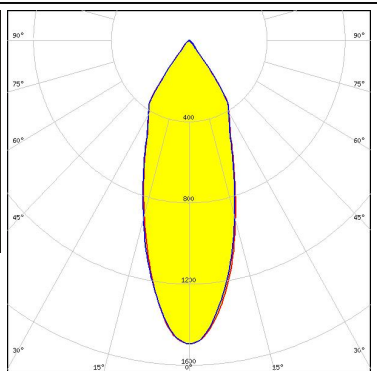

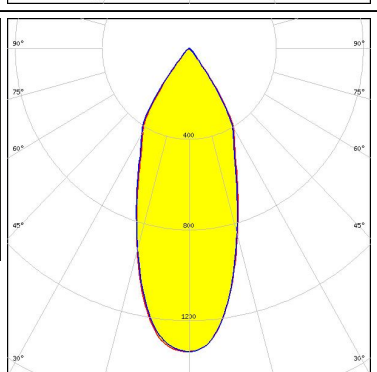
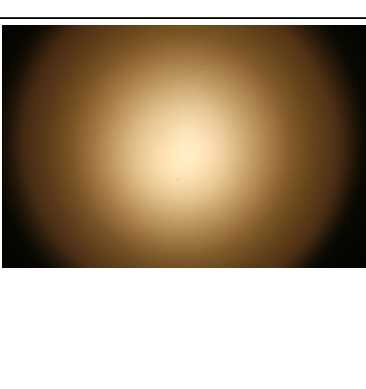
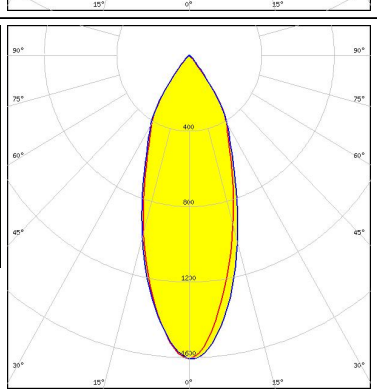
LED LC040C  
 FWHM / FWTM 33.0° / 74.0°  
 Efficiency 82 %  
 Peak intensity 1.6 cd/m  
 LEDs/each optic 1  
 Light colour White

Required components:

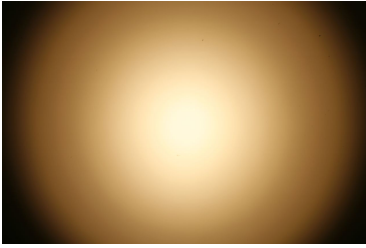
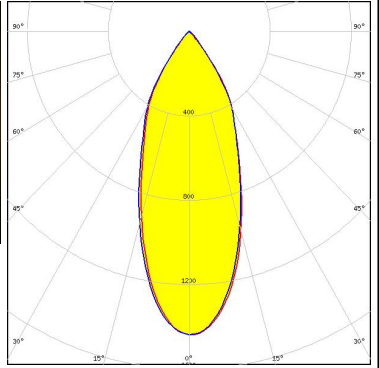
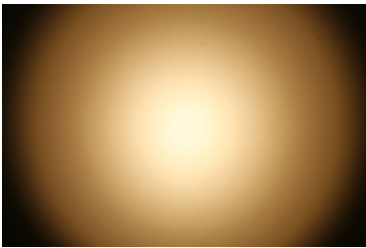
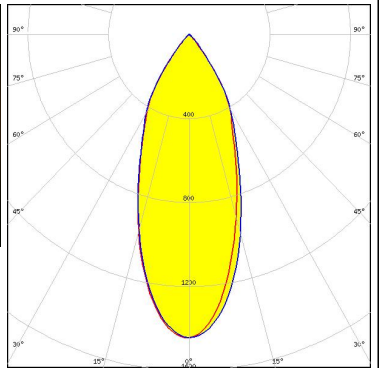
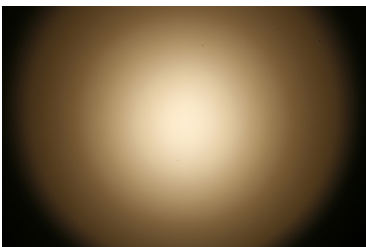
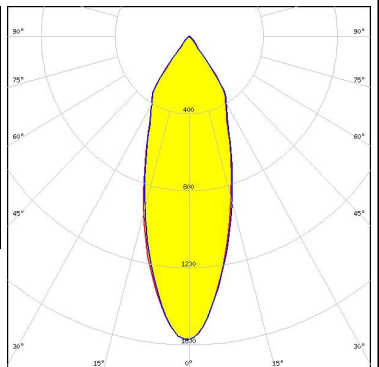
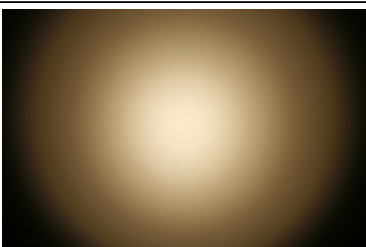
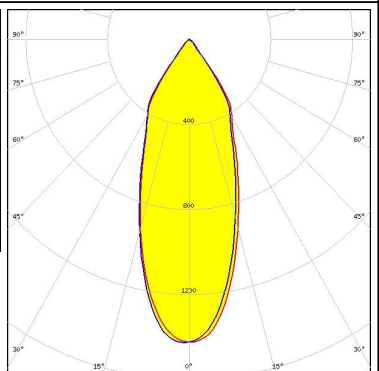
TE Connectivity: 2213382-2 + OPTIC CLIP Z50 TYPE1 2213194-1



### OPTICAL RESULTS (MEASURED):

<p><b>SEOUL SEMICONDUCTOR</b></p> <p>LED AC Zhaga COB            FWHM / FWTM 41.0° / 77.0°            Efficiency 79 %            Peak intensity 1.3 cd/lm            LEDs/each optic 1            Light colour White            Required components:            F13671_ANGE-RZ-LENS            Optosource: SEHSMJD-A</p>		
<p><b>SEOUL SEMICONDUCTOR</b></p> <p>LED MJT COB LES 14.5            FWHM / FWTM 37.0° / 75.0°            Efficiency 82 %            Peak intensity 1.5 cd/lm            LEDs/each optic 1            Light colour White            Required components:            TE Connectivity: 2213254-2 + OPTIC CLIP Z50 TYPE1 2213194-1</p>		
<p><b>SEOUL SEMICONDUCTOR</b></p> <p>LED MJT COB LES 22            FWHM / FWTM 40.0° / 76.0°            Efficiency 81 %            Peak intensity 1.3 cd/lm            LEDs/each optic 1            Light colour White            Required components:            C13584_CLAMP-VERO29            Bender Wirth: 431 Typ L3</p>		
<p><b>VS LIGHTING SOLUTIONS</b></p> <p>LED WU-M-461            FWHM / FWTM 37.0° / 76.0°            Efficiency 84 %            Peak intensity 1.6 cd/lm            LEDs/each optic 1            Light colour White            Required components:            TE Connectivity: OPTIC CLIP Z50 TYPE1 2213194-1</p>		

### OPTICAL RESULTS (MEASURED):

<p><b>VS LIGHTING SOLUTIONS</b></p> <p>LED WU-M-462            FWHM / FWTM 41.0° / 78.0°            Efficiency 83 %            Peak intensity 1.4 cd/m            LEDs/each optic 1            Light colour White            Required components:            TE Connectivity: OPTIC CLIP Z50 TYPE1 2213194-1</p>		
<p><b>VS LIGHTING SOLUTIONS</b></p> <p>LED WU-M-464            FWHM / FWTM 41.0° / 78.0°            Efficiency 83 %            Peak intensity 1.4 cd/m            LEDs/each optic 1            Light colour White            Required components:            TE Connectivity: OPTIC CLIP Z50 TYPE1 2213194-1</p>		
<p><b>VS LIGHTING SOLUTIONS</b></p> <p>LED WU-M-484            FWHM / FWTM 35.0° / 75.0°            Efficiency 83 %            Peak intensity 1.6 cd/m            LEDs/each optic 1            Light colour White            Required components:            TE Connectivity: OPTIC CLIP Z50 TYPE1 2213194-1</p>		
<p><b>VS LIGHTING SOLUTIONS</b></p> <p>LED WU-M-485            FWHM / FWTM 39.0° / 77.0°            Efficiency 83 %            Peak intensity 1.4 cd/m            LEDs/each optic 1            Light colour White            Required components:            TE Connectivity: OPTIC CLIP Z50 TYPE1 2213194-1</p>		



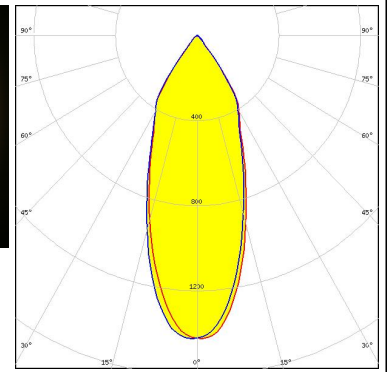
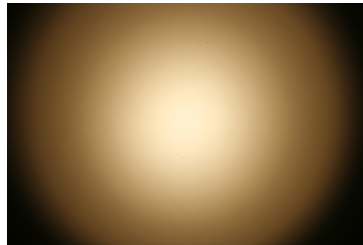
### OPTICAL RESULTS (MEASURED):




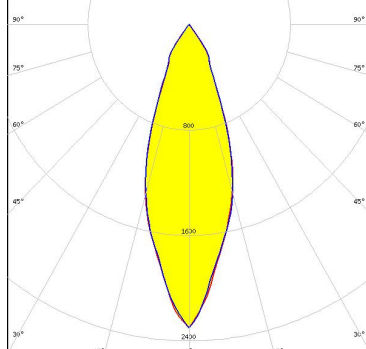

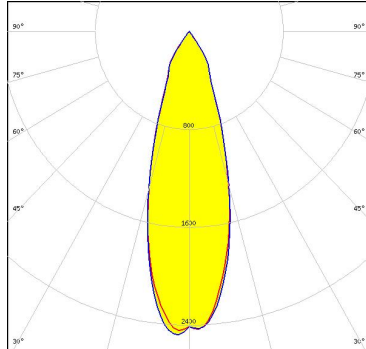

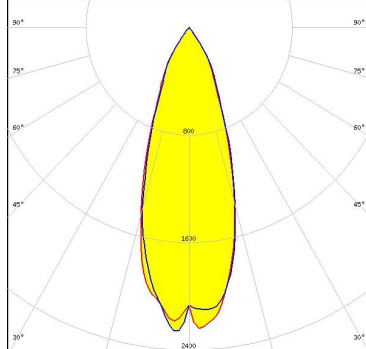

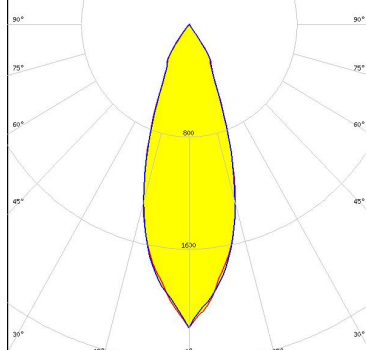
LED WU-M-486  
FWHM / FWTM 39.0° / 76.0°  
Efficiency 83 %  
Peak intensity 1.4 cd/lm  
LEDs/each optic 1  
Light colour White

Required components:

TE Connectivity: OPTIC CLIP Z50 TYPE1 2213194-1



### OPTICAL RESULTS (SIMULATED):

<p> <b>bridgelux.</b></p> <p>LED V10 Gen7            FWHM / FWTM 34.0° / 69.0°            Efficiency 89 %            Peak intensity 2.3 cd/lm            LEDs/each optic 1            Light colour White            Required components:            C13658_CLAMP-VERO13-18            Bender Wirth: 486 Typ L1</p>	
<p> <b>bridgelux.</b></p> <p>LED V13 Gen7            FWHM / FWTM 32.0° / 66.0°            Efficiency 89 %            Peak intensity 2.5 cd/lm            LEDs/each optic 1            Light colour White            Required components:            IDEAL: 50-2103CT + 50-2100AN</p>	
<p> <b>bridgelux.</b></p> <p>LED V22 Gen7            FWHM / FWTM 34.0° / 68.0°            Efficiency 93 %            Peak intensity 2.3 cd/lm            LEDs/each optic 1            Light colour White            Required components:            IDEAL: 50-2204-CT + 50-2100AN</p>	
<p> <b>CREE LEDs</b></p> <p>LED CXA/B 1830            FWHM / FWTM 35.0° / 69.0°            Efficiency 87 %            Peak intensity 2.2 cd/lm            LEDs/each optic 1            Light colour White            Required components:            TE Connectivity: 2213401-2 + OPTIC CLIP Z50 TYPE1 2213194-1</p>	

### OPTICAL RESULTS (SIMULATED):



**LED** CxM-14 (19x19)  
**FWHM / FWTM** 36.0° / 75.0°  
**Efficiency** 82 %  
**Peak intensity** 1.5 cd/lm  
**LEDs/each optic** 1  
**Light colour** White  
**Required components:**  
 C13658\_CLAMP-VERO13-18  
 Bender Wirth: 433 Typ L1

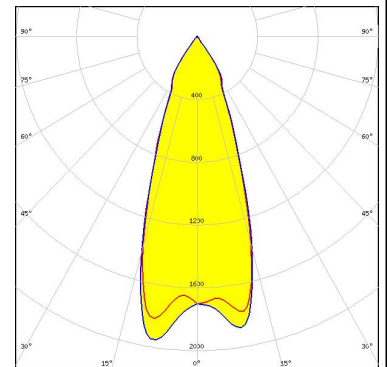


**LED** CxM-9 (13.5x13.5)  
**FWHM / FWTM** 33.0° / 74.0°  
**Efficiency** 83 %  
**Peak intensity** 1.7 cd/lm  
**LEDs/each optic** 1  
**Light colour** White  
**Required components:**  
 C13658\_CLAMP-VERO13-18  
 Bender Wirth: 434 Typ L1



Opto Semiconductors


**LED** Soleriq S15  
**FWHM / FWTM** 36.0° / 69.5°  
**Efficiency** 89 %  
**Peak intensity** 2 cd/lm  
**LEDs/each optic** 1  
**Light colour** White  
**Required components:**  
 TE Connectivity: 2213254-2 + OPTIC CLIP Z50 TYPE1 2213194-1



SEOUL SEMICONDUCTOR

**LED** ZC12/18  
**FWHM / FWTM** 36.0° / 75.0°  
**Efficiency** 82 %  
**Peak intensity** 1.5 cd/lm  
**LEDs/each optic** 1  
**Light colour** White  
**Required components:**  
 C13658\_CLAMP-VERO13-18  
 Bender Wirth: 433 Typ L1

## OPTICAL RESULTS (SIMULATED):

 SEOUL SEMICONDUCTOR	
LED	ZC4/6
FWHM / FWTM	33.0° / 74.0°
Efficiency	83 %
Peak intensity	1.7 cd/lm
LEDs/each optic	1
Light colour	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.

### 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.

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