

## ANGELETTE-M

~50° medium beam

### SPECIFICATION:

Dimensions	Ø 110.0 mm
Height	57.3 mm
Fastening	socket
ROHS compliant	yes ⓘ

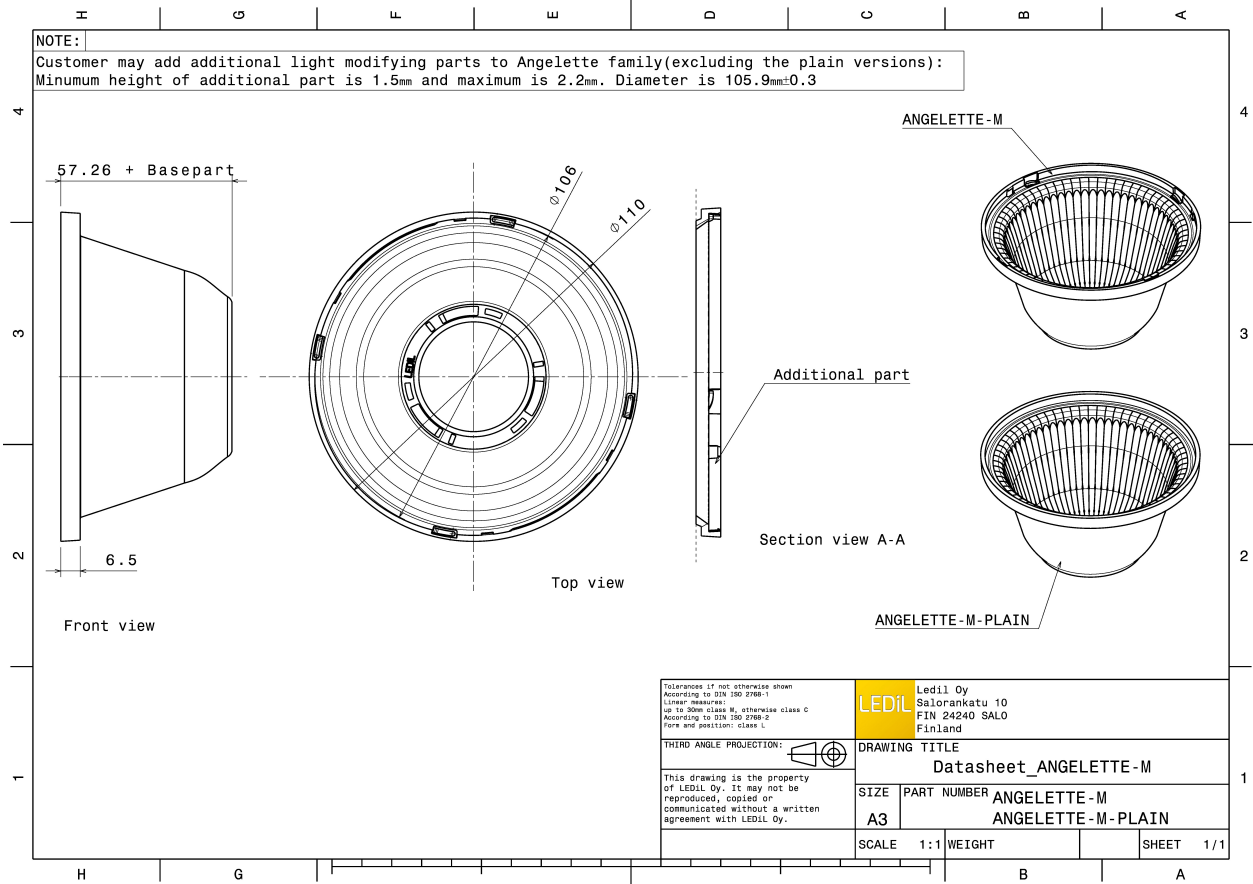
### MATERIALS:

Component	Type	Material	Colour	Finish	Coating
ANGELETTE-M	Reflector	PC	metal		HMDS




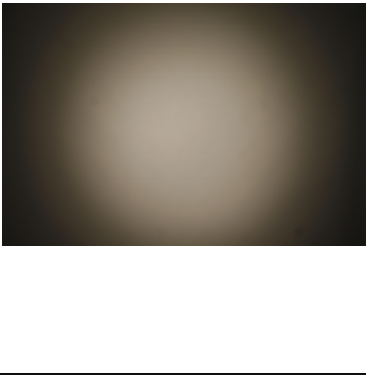
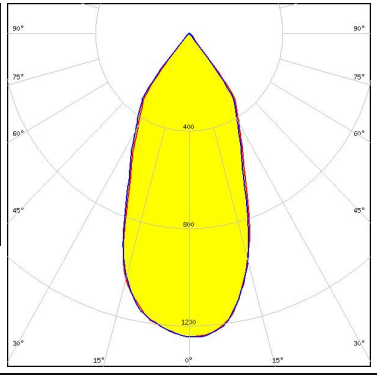


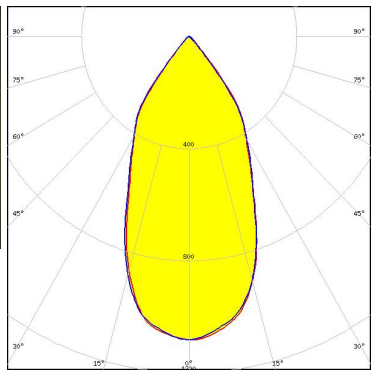


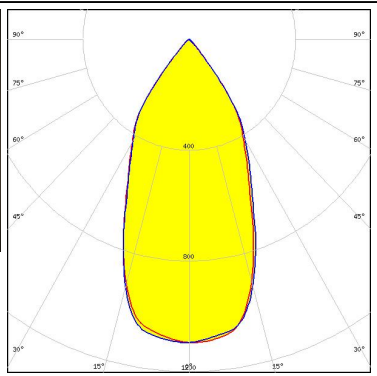


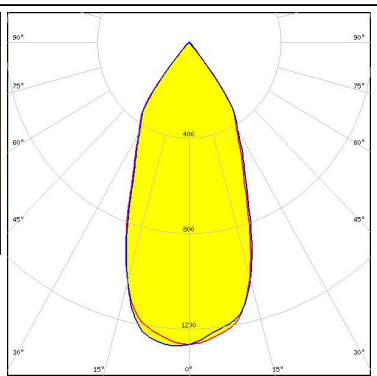
### ORDERING INFORMATION:

Component	Qty in box	MOQ	MPQ	Box weight (kg)
F14533_ANGELETTE-M » Box size: 398 x 298 x 265 mm	160	80	40	7.0


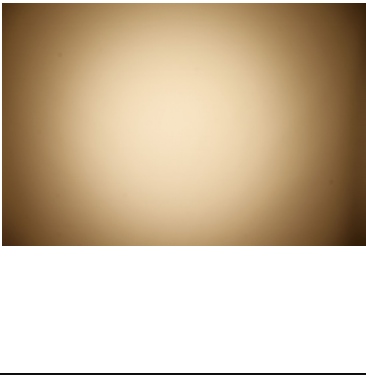
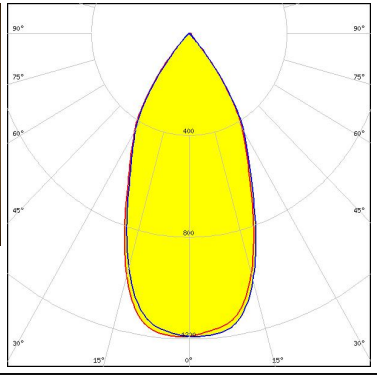


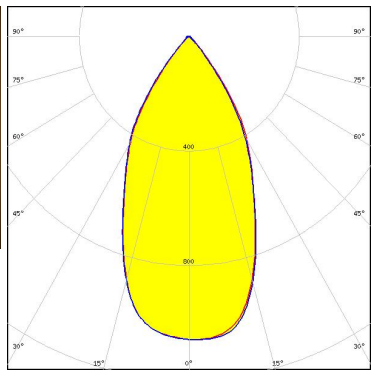


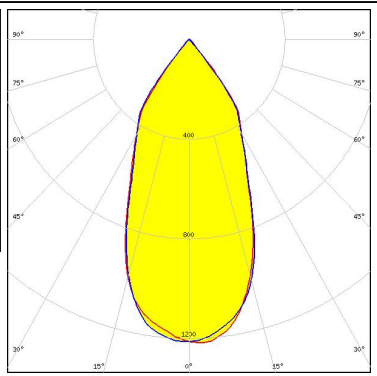

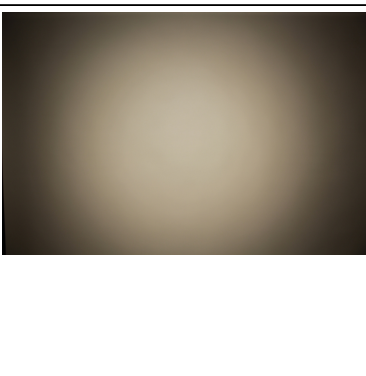
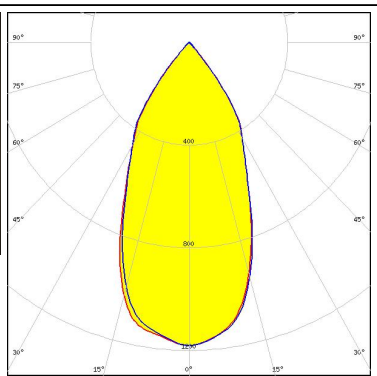


See also our general installation guide: [www.ledil.com/installation\\_guide](http://www.ledil.com/installation_guide)

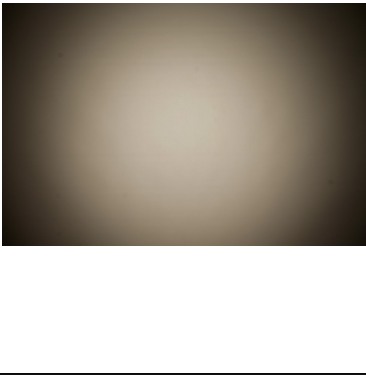
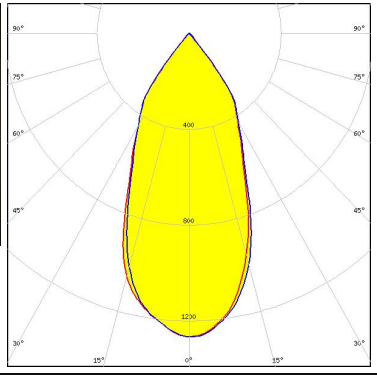

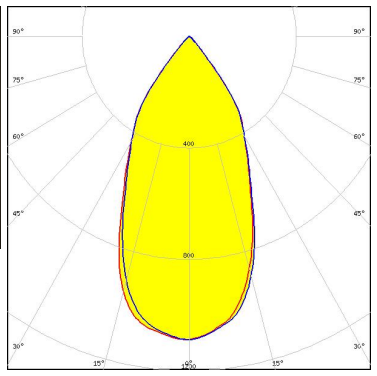

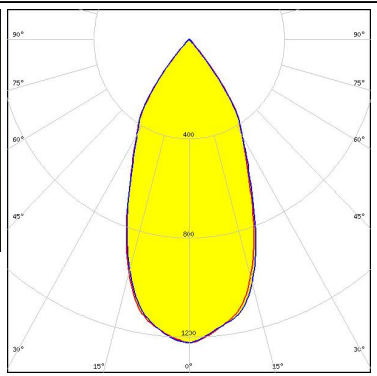
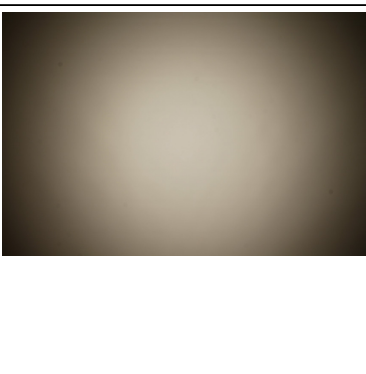
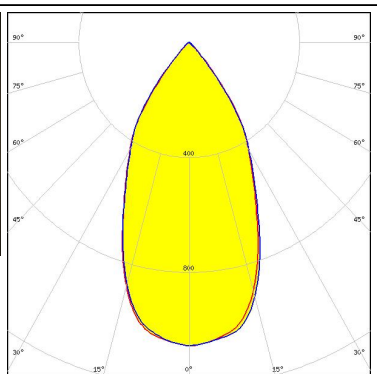
### OPTICAL RESULTS (MEASURED):

<p></p> <p>LED V10 Gen7            FWHM / FWTM 46.0° / 79.0°            Efficiency 88 %            Peak intensity 1.2 cd/m            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 V10 Gen7            FWHM / FWTM 49.0° / 82.0°            Efficiency 83 %            Peak intensity 1.1 cd/m            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 V13 Gen7            FWHM / FWTM 49.0° / 82.0°            Efficiency 84 %            Peak intensity 1.1 cd/m            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 46.0° / 79.0°            Efficiency 89 %            Peak intensity 1.3 cd/m            LEDs/each optic 1            Light colour White</p> <p>Required components:            TE Connectivity: 2213254-2 + OPTIC CLIP Z50 TYPE1 2213194-1</p>		



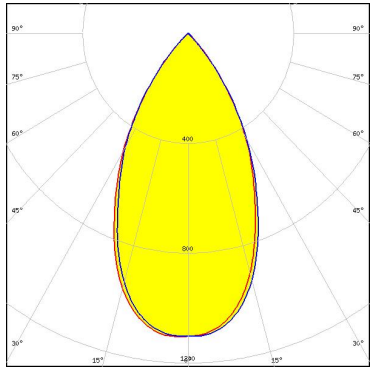


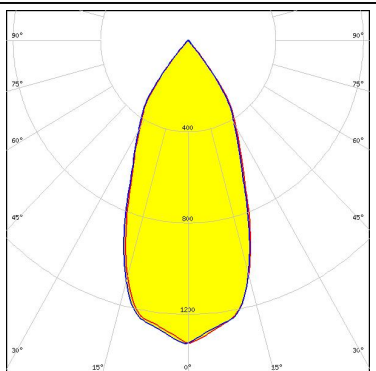

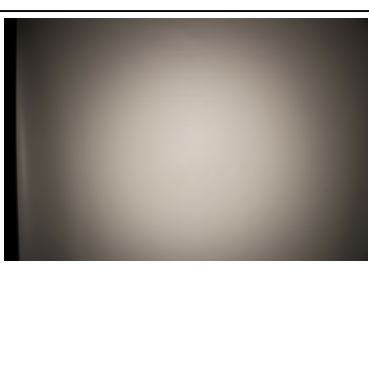
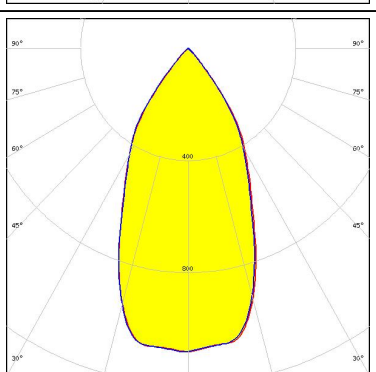


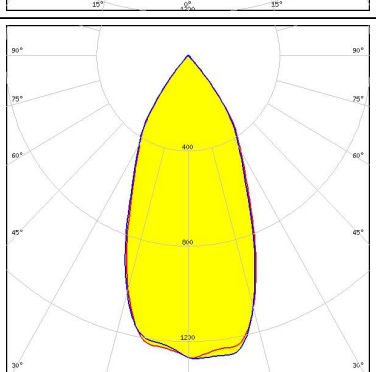
### OPTICAL RESULTS (MEASURED):

<p></p> <p>LED V22 Gen6            FWHM / FWTM 49.0° / 80.0°            Efficiency 88 %            Peak intensity 1.2 cd/m            LEDs/each optic 1            Light colour White            Required components:            IDEAL: 50-2204-CT + 50-2100AN</p>		
<p></p> <p>LED V22 Gen6            FWHM / FWTM 51.0° / 82.0°            Efficiency 84 %            Peak intensity 1.1 cd/m            LEDs/each optic 1            Light colour White            Required components:            F13671_ANGE-RZ-LENS            IDEAL: 50-2204-CT + 50-2100AN</p>		
<p></p> <p>LED Vero SE 13            FWHM / FWTM 47.0° / 80.0°            Efficiency 88 %            Peak intensity 1.2 cd/m            LEDs/each optic 1            Light colour White            Required components:            C16402_CLAMP-VEROSE-13-18</p>		
<p></p> <p>LED Vero SE 18            FWHM / FWTM 49.0° / 81.0°            Efficiency 88 %            Peak intensity 1.2 cd/m            LEDs/each optic 1            Light colour White            Required components:            C16402_CLAMP-VEROSE-13-18</p>		


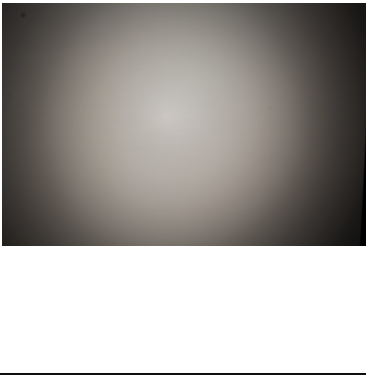
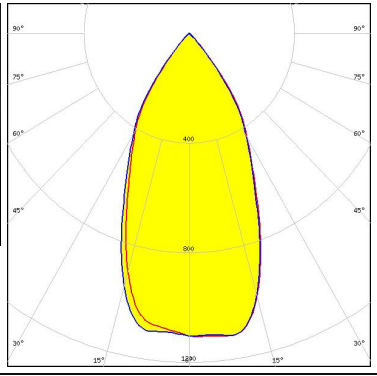


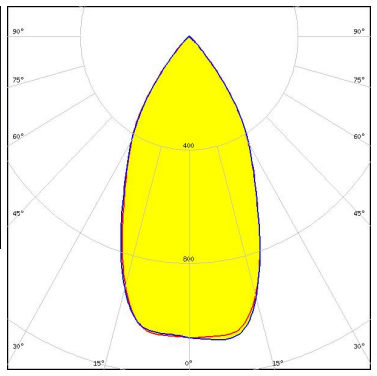


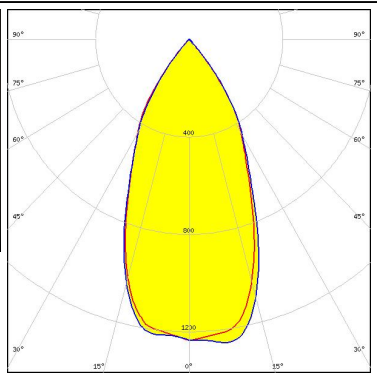
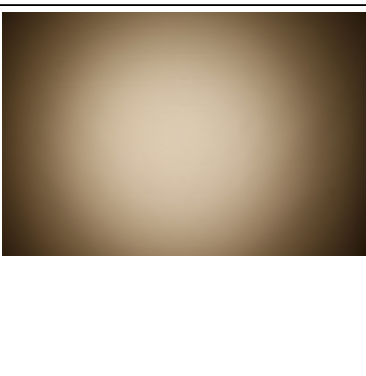
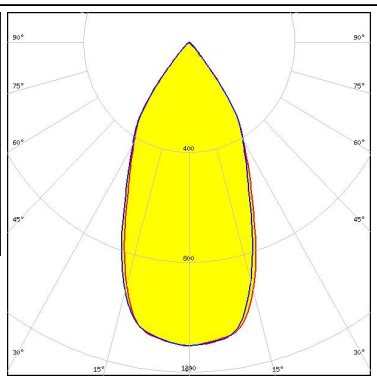
### OPTICAL RESULTS (MEASURED):

<p>bridgelux.</p> <p>LED VERO13 FWHM / FWTM 46.0° / 80.0° Efficiency 88 % Peak intensity 1.3 cd/m LEDs/each optic 1 Light colour White Required components: C13658_CLAMP-VERO13-18</p>		
<p>bridgelux.</p> <p>LED VERO13 FWHM / FWTM 50.0° / 82.0° Efficiency 84 % Peak intensity 1.1 cd/m LEDs/each optic 1 Light colour White Required components: C13658_CLAMP-VERO13-18 F13671_ANGE-RZ-LENS</p>		
<p>bridgelux.</p> <p>LED VERO18 FWHM / FWTM 48.0° / 81.0° Efficiency 88 % Peak intensity 1.2 cd/m LEDs/each optic 1 Light colour White Required components: C13658_CLAMP-VERO13-18</p>		
<p>bridgelux.</p> <p>LED VERO18 FWHM / FWTM 52.0° / 83.0° Efficiency 84 % Peak intensity 1.1 cd/m LEDs/each optic 1 Light colour White Required components: C13658_CLAMP-VERO13-18 F13671_ANGE-RZ-LENS</p>		

### OPTICAL RESULTS (MEASURED):

<p></p> <p>LED VERO29            FWHM / FWTM 54.0° / 84.0°            Efficiency 89 %            Peak intensity 1.1 cd/m            LEDs/each optic 1            Light colour White            Required components:            C13584_CLAMP-VERO29</p>		
<p></p> <p>LED Vesta TW 15mm DP            FWHM / FWTM 46.0° / 80.0°            Efficiency 90 %            Peak intensity 1.3 cd/m            LEDs/each optic 1            Light colour Tunable White            Required components:            C13658_CLAMP-VERO13-18            Bender Wirth: 482 Typ L2</p>		
<p></p> <p>LED Vesta TW 15mm DP            FWHM / FWTM 51.0° / 83.0°            Efficiency 85 %            Peak intensity 1.1 cd/m            LEDs/each optic 1            Light colour Tunable White            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 47.0° / 80.0°            Efficiency 90 %            Peak intensity 1.3 cd/m            LEDs/each optic 1            Light colour Tunable White            Required components:            C13584_CLAMP-VERO29            Bender Wirth: 483 Typ L3</p>		

#### OPTICAL RESULTS (MEASURED):

<p></p> <p>LED Vesta TW 18mm (31W) DP</p> <p>FWHM / FWTM 50.0° / 82.0°</p> <p>Efficiency 85 %</p> <p>Peak intensity 1.1 cd/m</p> <p>LEDs/each optic 1</p> <p>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 22mm DP</p> <p>FWHM / FWTM 52.0° / 83.0°</p> <p>Efficiency 85 %</p> <p>Peak intensity 1.1 cd/m</p> <p>LEDs/each optic 1</p> <p>Light colour Tunable White</p> <p>Required components: C13584_CLAMP-VERO29 F13671_ANGE-RZ-LENS Bender Wirth: 494 Typ L3</p>		
<p></p> <p>LED Vesta TW 22mm DP</p> <p>FWHM / FWTM 48.0° / 80.0°</p> <p>Efficiency 90 %</p> <p>Peak intensity 1.3 cd/m</p> <p>LEDs/each optic 1</p> <p>Light colour Tunable White</p> <p>Required components: C13584_CLAMP-VERO29 Bender Wirth: 494 Typ L3</p>		
<p><b>CITIZEN</b></p> <p>LED CLL03x/CLU03x</p> <p>FWHM / FWTM 49.0° / 81.0°</p> <p>Efficiency 83 %</p> <p>Peak intensity 1.1 cd/m</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components: F13671_ANGE-RZ-LENS TE Connectivity: 2213254-2 + OPTIC CLIP Z50 TYPE1 2213194-1</p>		

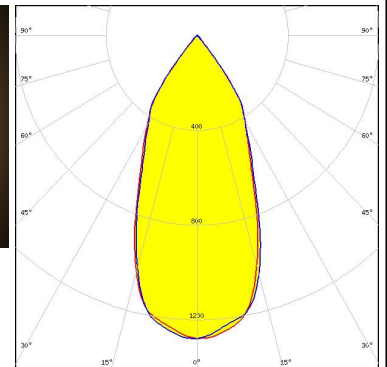
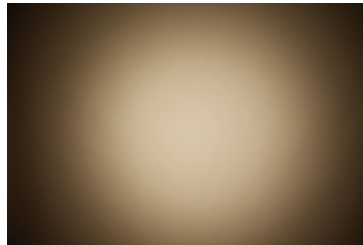
### OPTICAL RESULTS (MEASURED):

#### CITIZEN

LED CLL03x/CLU03x  
FWHM / FWTM 45.0° / 79.0°  
Efficiency 88 %  
Peak intensity 1.3 cd/lm  
LEDs/each optic 1  
Light colour White

Required components:

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



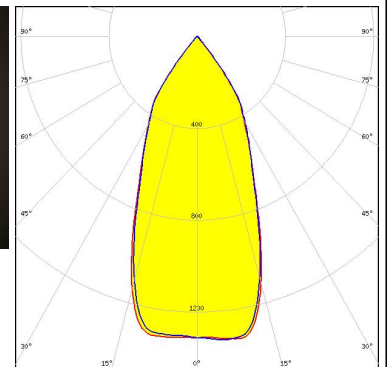
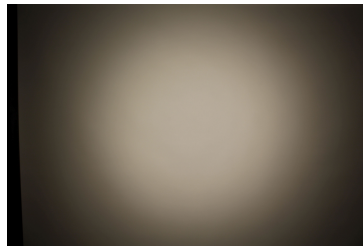
#### CITIZEN

LED CLL03x/CLU03x  
FWHM / FWTM 46.0° / 79.0°  
Efficiency 91 %  
Peak intensity 1.3 cd/lm  
LEDs/each optic 1  
Light colour White

Required components:

C16791\_CLAMP-Z45-A

TE Connectivity: 2325807-3

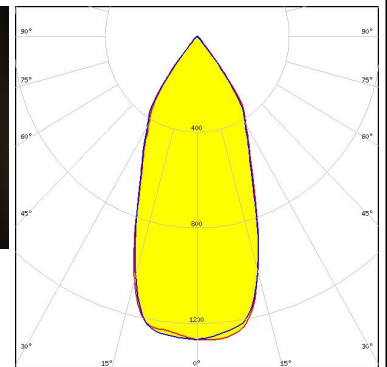
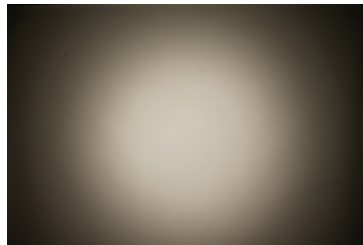


#### CITIZEN

LED CLL03x/CLU03x  
FWHM / FWTM 45.0° / 78.0°  
Efficiency 87 %  
Peak intensity 1.3 cd/lm  
LEDs/each optic 1  
Light colour White

Required components:

IDEAL: 50-2103CT + 50-2100AN



#### CITIZEN

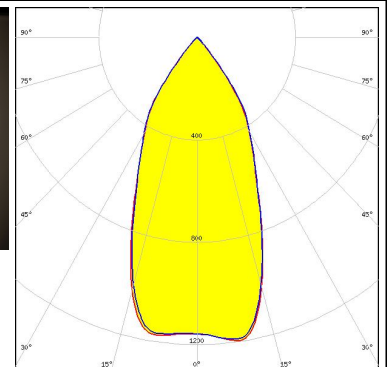
LED CLL03x/CLU03x  
FWHM / FWTM 48.0° / 80.0°  
Efficiency 87 %  
Peak intensity 1.2 cd/lm  
LEDs/each optic 1  
Light colour White

Required components:

C16791\_CLAMP-Z45-A

F13671\_ANGE-RZ-LENS

TE Connectivity: 2325807-3

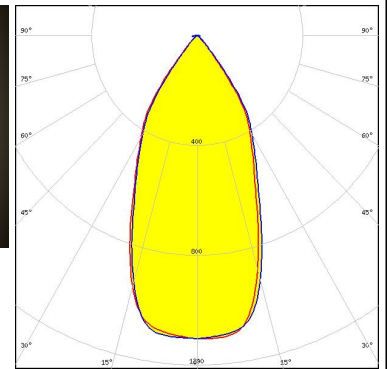
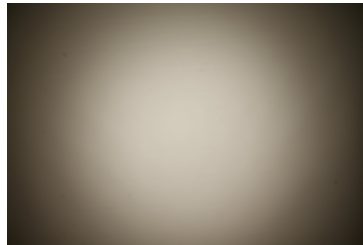




#### OPTICAL RESULTS (MEASURED):

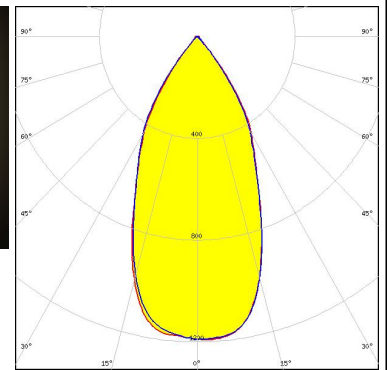
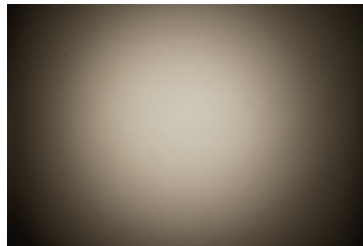
#### CITIZEN

LED CLL03x/CLU03x  
 FWHM / FWTM 49.0° / 80.0°  
 Efficiency 83 %  
 Peak intensity 1.1 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 F13671\_ANGE-RZ-LENS  
 IDEAL: 50-2103CT + 50-2100AN



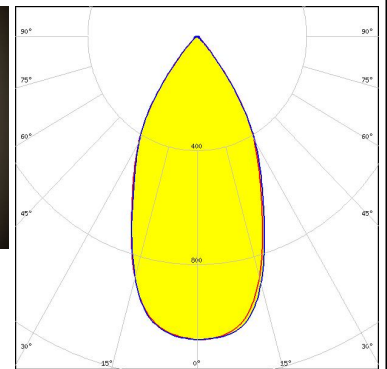
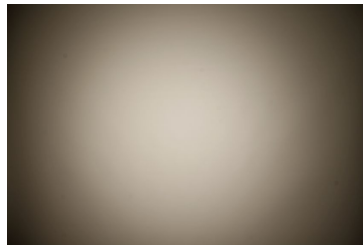
#### CITIZEN

LED CLL04x/CLU04x  
 FWHM / FWTM 49.0° / 80.0°  
 Efficiency 88 %  
 Peak intensity 1.2 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 IDEAL: 50-2204-CT + 50-2100AN



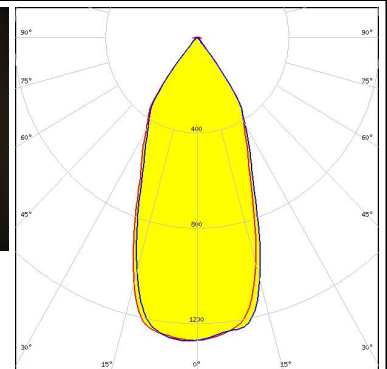
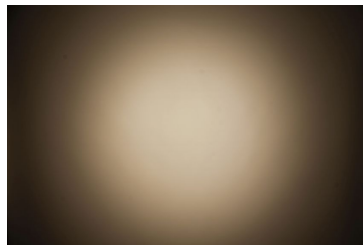
#### CITIZEN

LED CLL04x/CLU04x  
 FWHM / FWTM 51.0° / 82.0°  
 Efficiency 84 %  
 Peak intensity 1.1 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 F13671\_ANGE-RZ-LENS  
 IDEAL: 50-2204-CT + 50-2100AN



#### CITIZEN

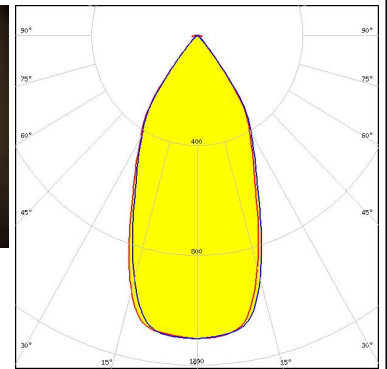
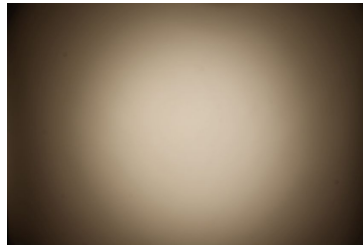
LED CLU730/731/733  
 FWHM / FWTM 45.0° / 78.0°  
 Efficiency 87 %  
 Peak intensity 1.3 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 IDEAL: 50-2204-CT + 50-2100AN



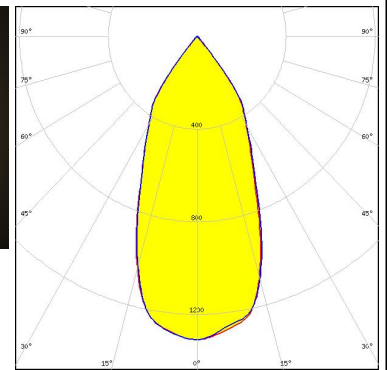
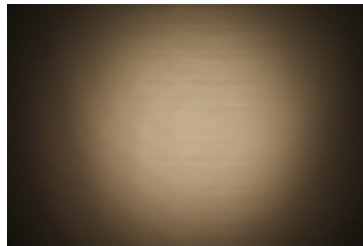
#### OPTICAL RESULTS (MEASURED):

#### CITIZEN

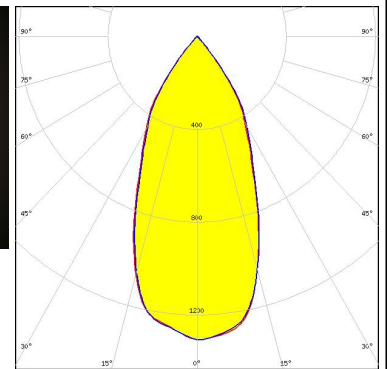
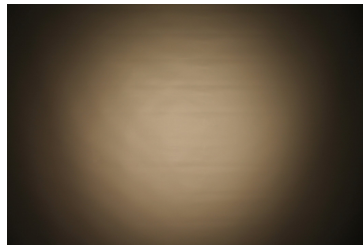
LED CLU730/731/733  
 FWHM / FWTM 48.0° / 80.0°  
 Efficiency 83 %  
 Peak intensity 1.1 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 F13671\_ANGE-RZ-LENS  
 IDEAL: 50-2204-CT + 50-2100AN



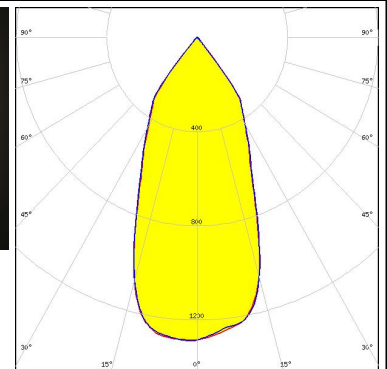
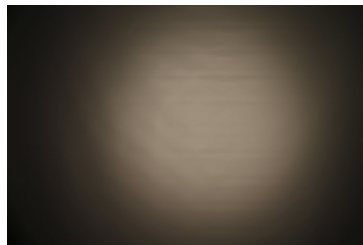
LED CMA1840  
 FWHM / FWTM 46.0° / 80.0°  
 Efficiency 90 %  
 Peak intensity 1.3 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 C14123\_CLAMP-CXA15-18




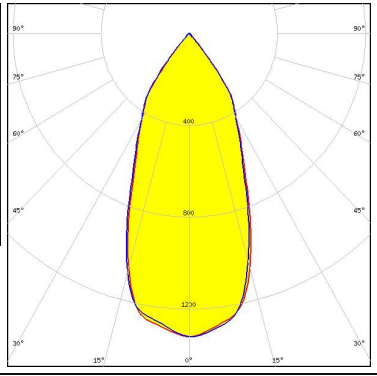

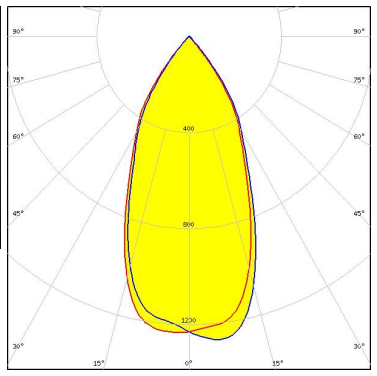

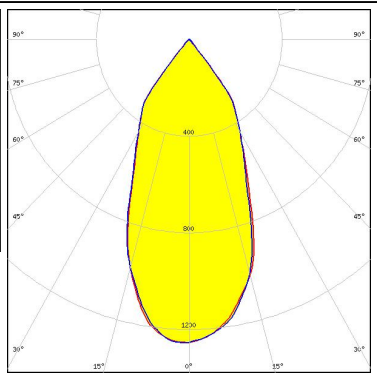
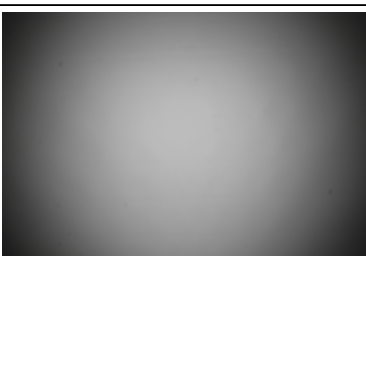
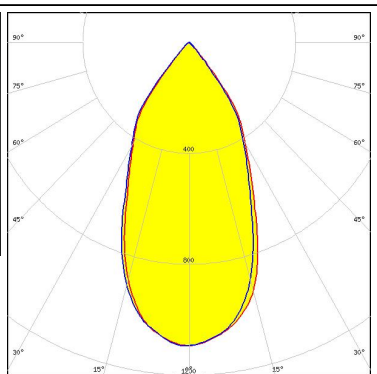
LED CMA2550  
 FWHM / FWTM 46.0° / 80.0°  
 Efficiency 90 %  
 Peak intensity 1.3 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 C14036\_CLAMP\_CXA25-30




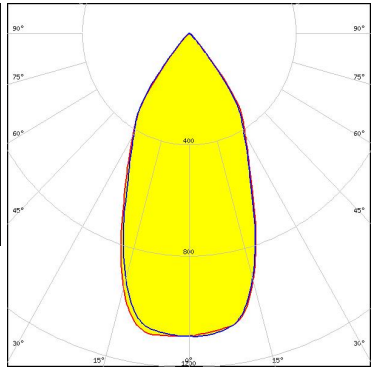

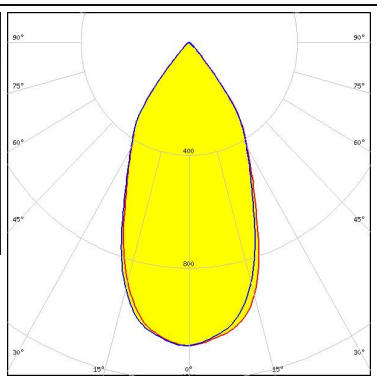

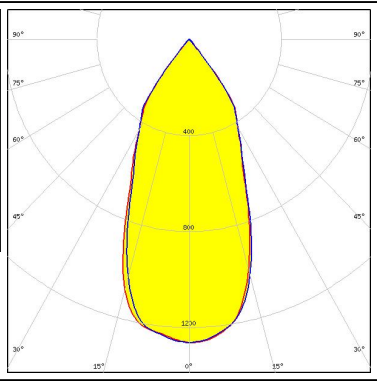

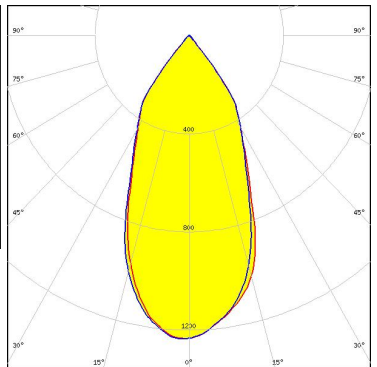
LED CMT14xx  
 FWHM / FWTM 45.0° / 80.0°  
 Efficiency 89 %  
 Peak intensity 1.3 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 C13658\_CLAMP-VERO13-18  
 Bender Wirth: 434 Typ L1



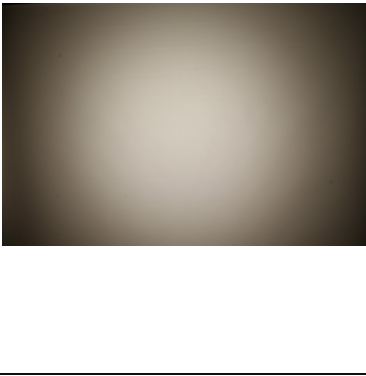
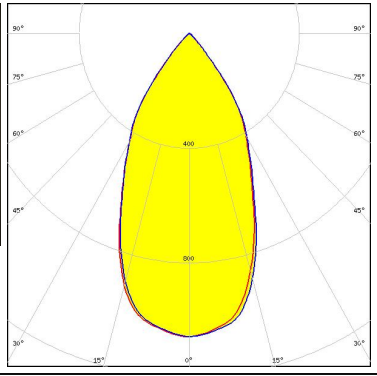
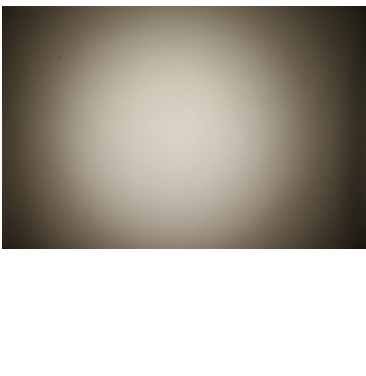
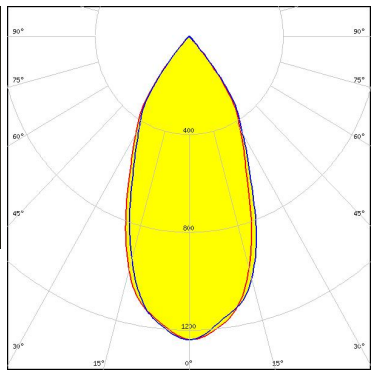
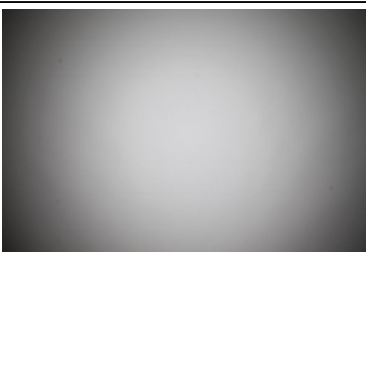
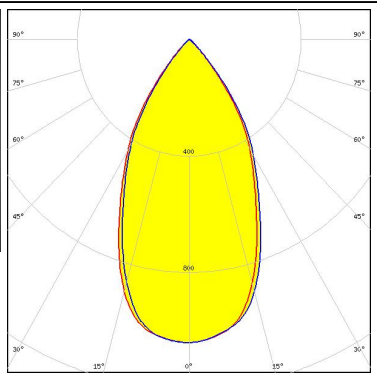
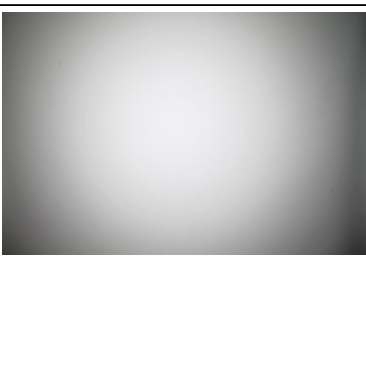
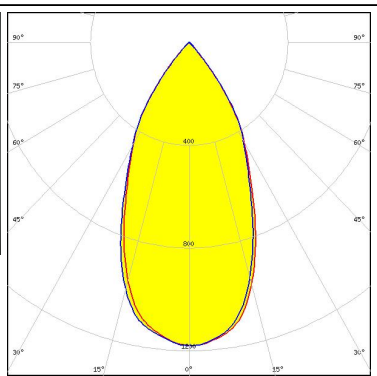
#### OPTICAL RESULTS (MEASURED):

<p><b>CREE</b> LEDs</p> <p>LED CMT19xx            FWHM / FWTM 44.0° / 79.0°            Efficiency 90 %            Peak intensity 1.3 cd/m            LEDs/each optic 1            Light colour White</p> <p>Required components:            C13658_CLAMP-VERO13-18            Bender Wirth: 477 Typ L1</p>		
<p><b>CREE</b> LEDs</p> <p>LED CMT28xx            FWHM / FWTM 48.0° / 81.0°            Efficiency 89 %            Peak intensity 1.3 cd/m            LEDs/each optic 1            Light colour White</p> <p>Required components:            C13584_CLAMP-VERO29            Bender Wirth: 471 Typ L3</p>		
<p><b>CREE</b> LEDs</p> <p>LED CXA/B 15xx            FWHM / FWTM 46.0° / 80.0°            Efficiency 89 %            Peak intensity 1.3 cd/m            LEDs/each optic 1            Light colour White</p> <p>Required components:            C14123_CLAMP-CXA15-18</p>		
<p><b>CREE</b> LEDs</p> <p>LED CXA/B 15xx            FWHM / FWTM 50.0° / 82.0°            Efficiency 85 %            Peak intensity 1.1 cd/m            LEDs/each optic 1            Light colour White</p> <p>Required components:            C14123_CLAMP-CXA15-18            F13671_ANGE-RZ-LENS</p>		


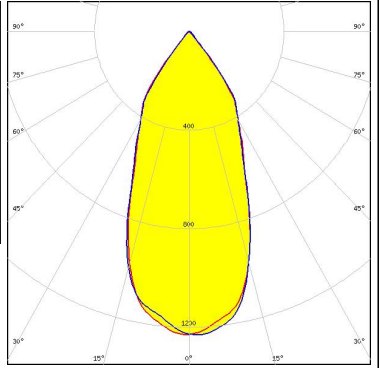
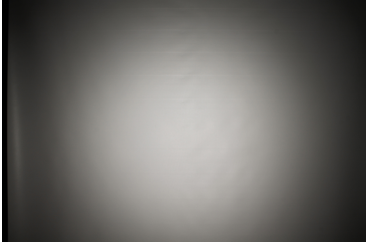
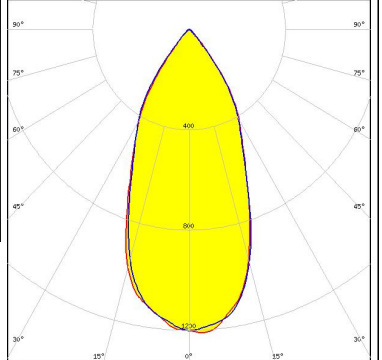
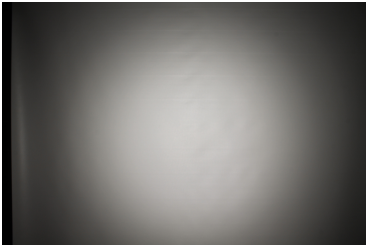
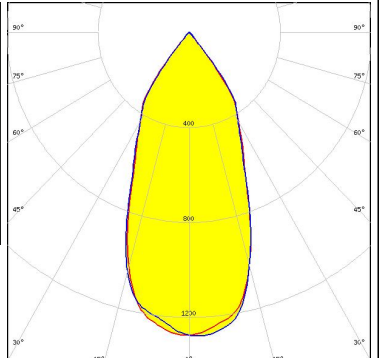
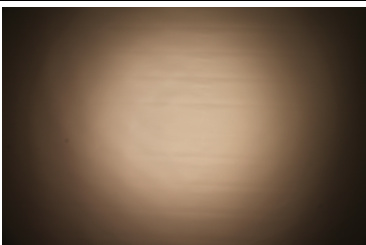
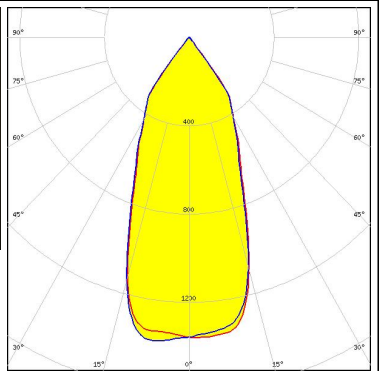
### OPTICAL RESULTS (MEASURED):

<p><b>CREE</b> LEDs</p> <p>LED CXA/B 1816 &amp; CXA/B 1820 &amp; CXA 1850            FWHM / FWTM 49.0° / 82.0°            Efficiency 84 %            Peak intensity 1.1 cd/lm            LEDs/each optic 1            Light colour White</p> <p>Required components:            F13671_ANGE-RZ-LENS            TE Connectivity: 2213401-2 + OPTIC CLIP Z50 TYPE1 2213194-1</p>		
<p><b>CREE</b> LEDs</p> <p>LED CXA/B 1816 &amp; CXA/B 1820 &amp; CXA 1850            FWHM / FWTM 51.0° / 83.0°            Efficiency 85 %            Peak intensity 1.1 cd/lm            LEDs/each optic 1            Light colour White</p> <p>Required components:            C14123_CLAMP-CXA15-18            F13671_ANGE-RZ-LENS</p>		
<p><b>CREE</b> LEDs</p> <p>LED CXA/B 1816 &amp; CXA/B 1820 &amp; CXA 1850            FWHM / FWTM 46.0° / 80.0°            Efficiency 88 %            Peak intensity 1.3 cd/lm            LEDs/each optic 1            Light colour White</p> <p>Required components:            TE Connectivity: 2213401-2 + OPTIC CLIP Z50 TYPE1 2213194-1</p>		
<p><b>CREE</b> LEDs</p> <p>LED CXA/B 1816 &amp; CXA/B 1820 &amp; CXA 1850            FWHM / FWTM 47.0° / 80.0°            Efficiency 89 %            Peak intensity 1.2 cd/lm            LEDs/each optic 1            Light colour White</p> <p>Required components:            C14123_CLAMP-CXA15-18</p>		


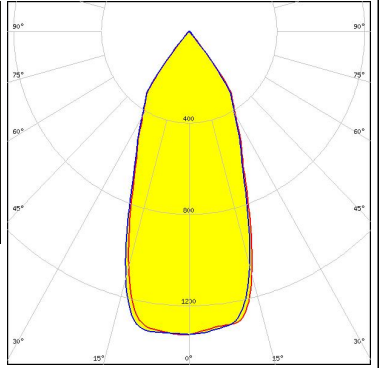
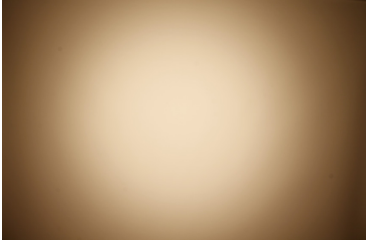
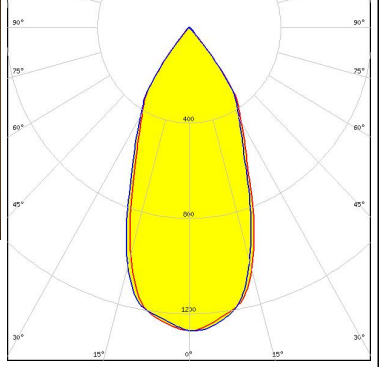
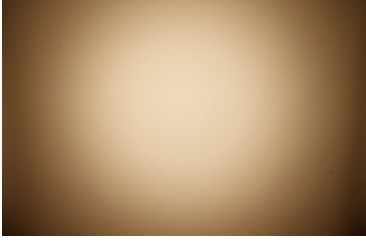
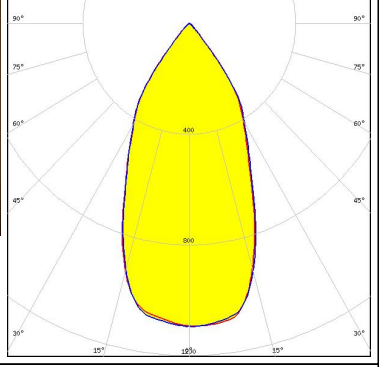
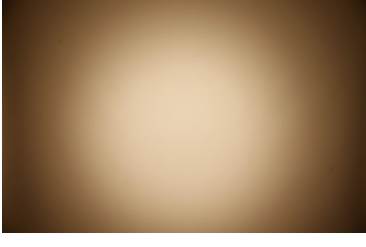
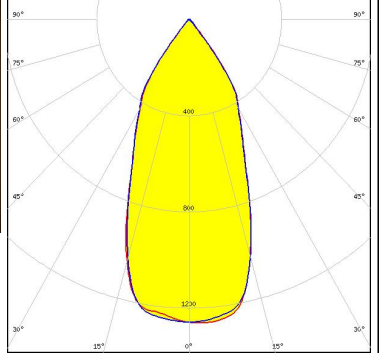
### OPTICAL RESULTS (MEASURED):

<p><b>CREE</b> LEDs</p> <p>LED CXA/B 25xx            FWHM / FWTM 52.0° / 83.0°            Efficiency 84 %            Peak intensity 1.1 cd/lm            LEDs/each optic 1            Light colour White</p> <p>Required components:            C14036_CLAMP_CXA25-30            F13671_ANGE-RZ-LENS</p>		
<p><b>CREE</b> LEDs</p> <p>LED CXA/B 25xx            FWHM / FWTM 47.0° / 81.0°            Efficiency 88 %            Peak intensity 1.2 cd/lm            LEDs/each optic 1            Light colour White</p> <p>Required components:            C14036_CLAMP_CXA25-30</p>		
<p><b>CREE</b> LEDs</p> <p>LED CXA/B 30xx            FWHM / FWTM 53.0° / 84.0°            Efficiency 85 %            Peak intensity 1 cd/lm            LEDs/each optic 1            Light colour White</p> <p>Required components:            C14036_CLAMP_CXA25-30            F13671_ANGE-RZ-LENS</p>		
<p><b>CREE</b> LEDs</p> <p>LED CXA/B 30xx            FWHM / FWTM 50.0° / 82.0°            Efficiency 89 %            Peak intensity 1.2 cd/lm            LEDs/each optic 1            Light colour White</p> <p>Required components:            C14036_CLAMP_CXA25-30</p>		

#### OPTICAL RESULTS (MEASURED):

<p><b>LUMILEDS</b></p> <p>LED LUXEON CoB 1204/1205</p> <p>FWHM / FWTM 45.0° / 79.0°</p> <p>Efficiency 85 %</p> <p>Peak intensity 1.2 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components: F15176_ANGELETTE-LENS TE Connectivity: 2213130-2 + OPTIC CLIP Z50 TYPE1 2213194-1</p>		
<p><b>LUMILEDS</b></p> <p>LED LUXEON CoB 1204/1205</p> <p>FWHM / FWTM 46.0° / 80.0°</p> <p>Efficiency 85 %</p> <p>Peak intensity 1.2 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components: F15412_ANGELETTE-DL TE Connectivity: 2213130-2 + OPTIC CLIP Z50 TYPE1 2213194-1</p>		
<p><b>LUMILEDS</b></p> <p>LED LUXEON CoB 1204/1205</p> <p>FWHM / FWTM 45.0° / 79.0°</p> <p>Efficiency 88 %</p> <p>Peak intensity 1.3 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 1204HD</p> <p>FWHM / FWTM 43.0° / 78.0°</p> <p>Efficiency 89 %</p> <p>Peak intensity 1.4 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>		

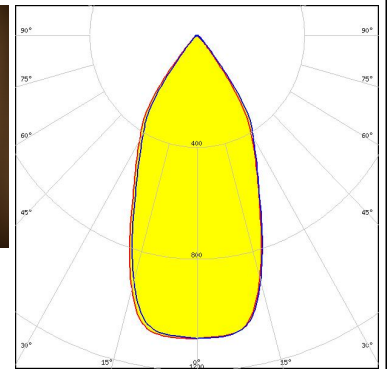
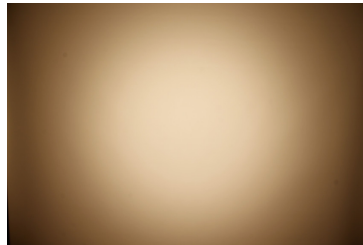
### OPTICAL RESULTS (MEASURED):

<p><b>LUMILEDS</b></p> <p>LED LUXEON CoB 1205HD</p> <p>FWHM / FWTM 44.0° / 79.0°</p> <p>Efficiency 89 %</p> <p>Peak intensity 1.3 cd/m</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 46.0° / 79.0°</p> <p>Efficiency 88 %</p> <p>Peak intensity 1.3 cd/m</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 49.0° / 81.0°</p> <p>Efficiency 83 %</p> <p>Peak intensity 1.1 cd/m</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components: F13671_ANGE-RZ-LENS 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 45.0° / 78.0°</p> <p>Efficiency 88 %</p> <p>Peak intensity 1.3 cd/m</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components: IDEAL: 50-2100SH + 50-2100AN</p>		

### OPTICAL RESULTS (MEASURED):

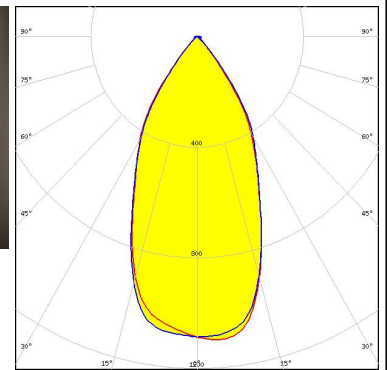
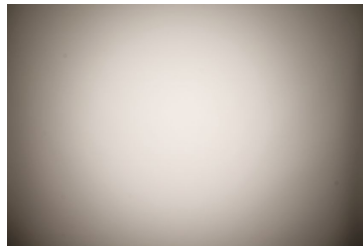
#### LUMILEDS

LED LUXEON CoB 1208  
 FWHM / FWTM 49.0° / 80.0°  
 Efficiency 83 %  
 Peak intensity 1.1 cd/m  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 F13671\_ANGE-RZ-LENS  
 IDEAL: 50-2100SH + 50-2100AN



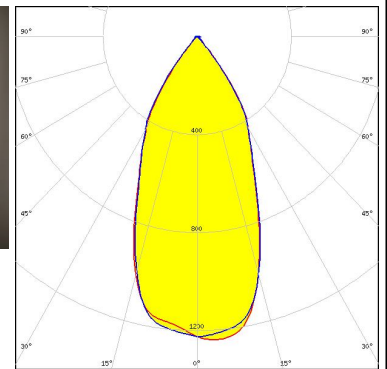
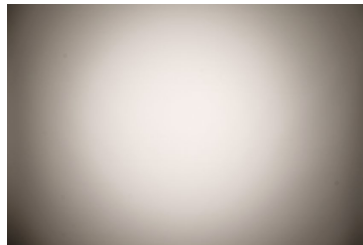
#### LUMILEDS

LED LUXEON CoB 1211  
 FWHM / FWTM 50.0° / 81.0°  
 Efficiency 84 %  
 Peak intensity 1.1 cd/m  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 F13671\_ANGE-RZ-LENS  
 IDEAL: 50-2204-CT + 50-2100AN



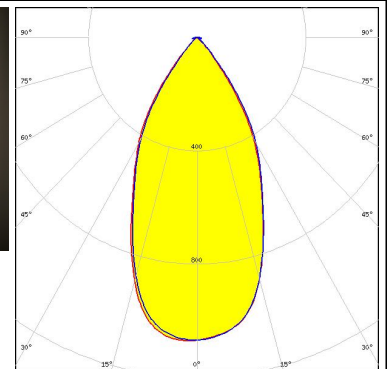
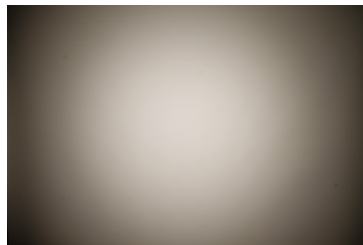
#### LUMILEDS

LED LUXEON CoB 1211  
 FWHM / FWTM 47.0° / 79.0°  
 Efficiency 88 %  
 Peak intensity 1.2 cd/m  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 IDEAL: 50-2204-CT + 50-2100AN



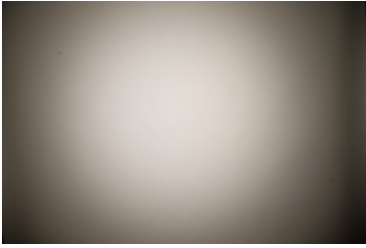
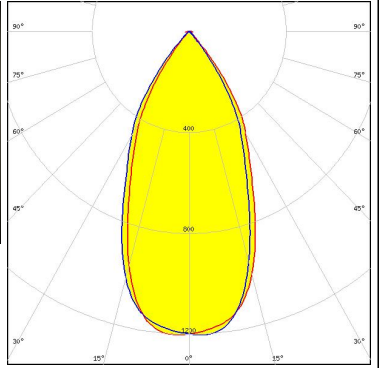
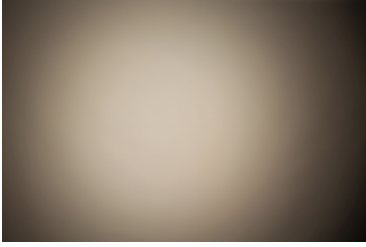
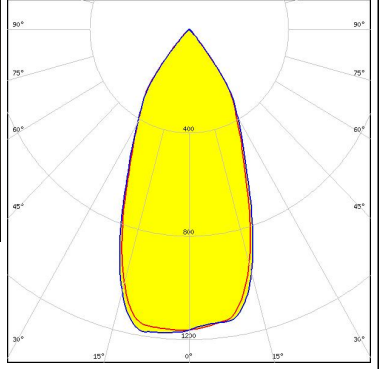
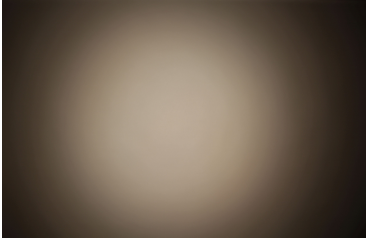
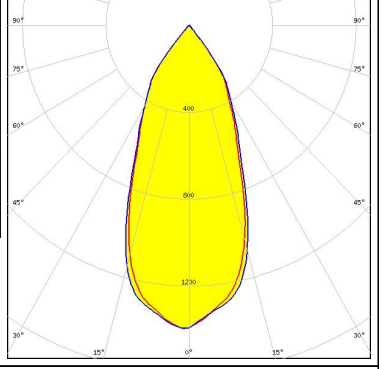
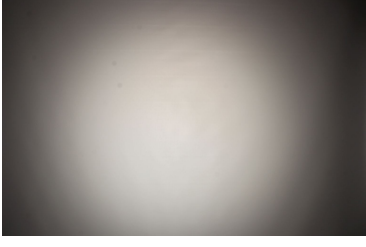
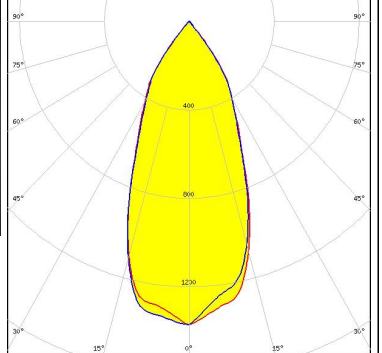
#### LUMILEDS

LED LUXEON CoB 1213/1216/1812  
 FWHM / FWTM 51.0° / 82.0°  
 Efficiency 84 %  
 Peak intensity 1.1 cd/m  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 F13671\_ANGE-RZ-LENS  
 IDEAL: 50-2204-CT + 50-2100AN


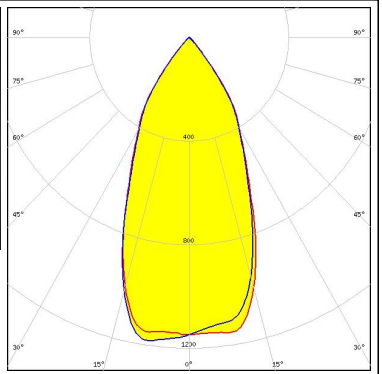

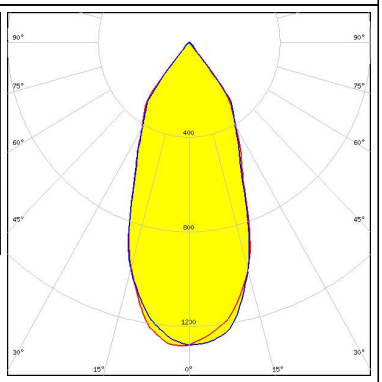

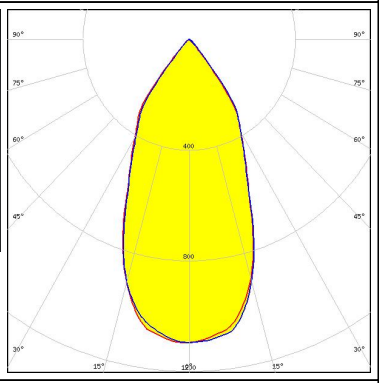

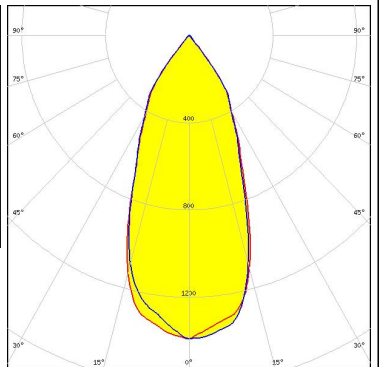




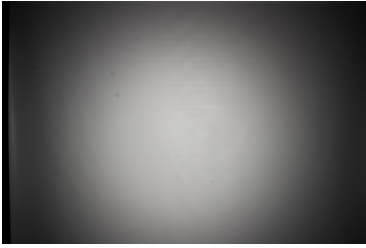
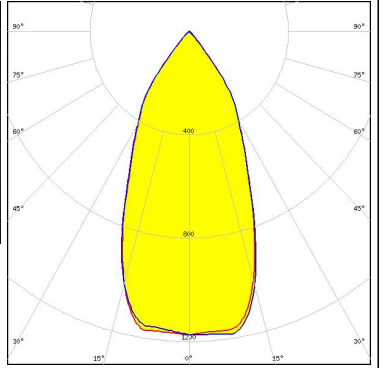

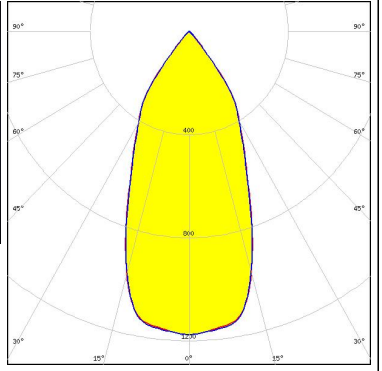
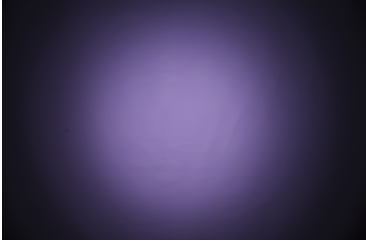
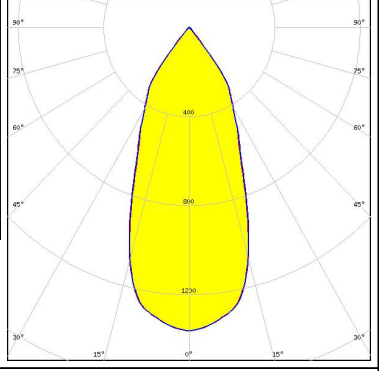
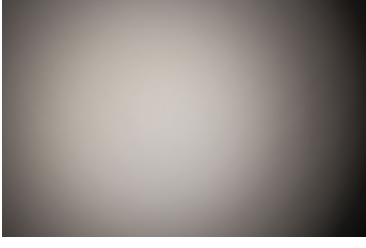
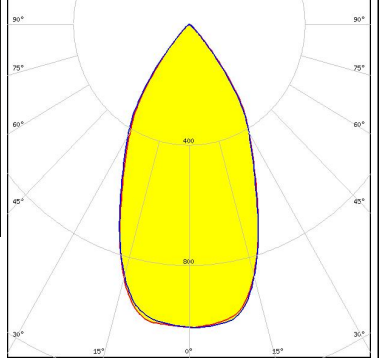
### OPTICAL RESULTS (MEASURED):

<p><b>LUMILEDS</b></p> <p>LED LUXEON CoB 1213/1216/1812</p> <p>FWHM / FWTM 48.0° / 80.0°</p> <p>Efficiency 88 %</p> <p>Peak intensity 1.2 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components: IDEAL: 50-2204-CT + 50-2100AN</p>		
<p><b>LUMINUS</b></p> <p>LED CDM-14 (Dim-To-Warm)</p> <p>FWHM / FWTM 47.0° / 80.0°</p> <p>Efficiency 85 %</p> <p>Peak intensity 1.2 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-14 (Dim-To-Warm)</p> <p>FWHM / FWTM 43.0° / 79.0°</p> <p>Efficiency 89 %</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 Bender Wirth: 491 Typ L2</p>		
<p><b>LUMINUS</b></p> <p>LED CDM-18 (Dim-To-Warm)</p> <p>FWHM / FWTM 44.0° / 78.0°</p> <p>Efficiency 88 %</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 Bender Wirth: 491 Typ L2</p>		

#### OPTICAL RESULTS (MEASURED):

<p><b>LUMINUS</b></p> <p>LED CDM-18 (Dim-To-Warm)</p> <p>FWHM / FWTM 48.0° / 80.0°</p> <p>Efficiency 85 %</p> <p>Peak intensity 1.2 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p> <p>C13658_CLAMP-VERO13-18</p> <p>F13671_ANGE-RZ-LENS</p> <p>Bender Wirth: 491 Typ L2</p>		
<p><b>LUMINUS</b></p> <p>LED CDM-9 (Dim-To-Warm)</p> <p>FWHM / FWTM 44.0° / 79.0°</p> <p>Efficiency 87 %</p> <p>Peak intensity 1.3 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p> <p>C13658_CLAMP-VERO13-18</p> <p>Bender Wirth: 490 Typ L1</p>		
<p><b>LUMINUS</b></p> <p>LED CDM-9 (Dim-To-Warm)</p> <p>FWHM / FWTM 48.0° / 81.0°</p> <p>Efficiency 82 %</p> <p>Peak intensity 1.1 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p> <p>C13658_CLAMP-VERO13-18</p> <p>F13671_ANGE-RZ-LENS</p> <p>Bender Wirth: 490 Typ L1</p>		
<p><b>LUMINUS</b></p> <p>LED CTM-14 (Tunable White)</p> <p>FWHM / FWTM 44.0° / 78.0°</p> <p>Efficiency 89 %</p> <p>Peak intensity 1.4 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p> <p>C13584_CLAMP-VERO29</p> <p>Bender Wirth: 442 Typ L3</p>		

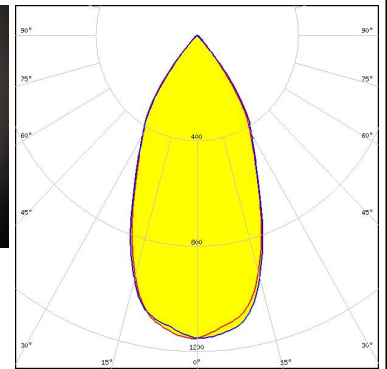
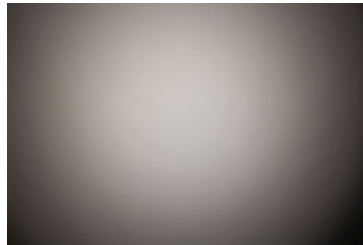
#### OPTICAL RESULTS (MEASURED):

<p><b>LUMINUS</b></p> <p>LED CTM-14 (Tunable White)</p> <p>FWHM / FWTM 48.0° / 80.0°</p> <p>Efficiency 85 %</p> <p>Peak intensity 1.2 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p> <p>C13584_CLAMP-VERO29</p> <p>F13671_ANGE-RZ-LENS</p> <p>Bender Wirth: 442 Typ L3</p>		
<p><b>LUMINUS</b></p> <p>LED CTM-14 RGBW</p> <p>FWHM / FWTM 46.0° / 80.0°</p> <p>Efficiency 85 %</p> <p>Peak intensity 1.2 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour RGBW</p> <p>Required components:</p> <p>C13584_CLAMP-VERO29</p> <p>F13671_ANGE-RZ-LENS</p> <p>Bender Wirth: 500 Typ L3-1</p>		
<p><b>LUMINUS</b></p> <p>LED CTM-14 RGBW</p> <p>FWHM / FWTM 43.0° / 78.0°</p> <p>Efficiency 88 %</p> <p>Peak intensity 1.4 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour RGBW</p> <p>Required components:</p> <p>C13584_CLAMP-VERO29</p> <p>Bender Wirth: 500 Typ L3-1</p>		
<p><b>LUMINUS</b></p> <p>LED CTM-22 (Tunable White)</p> <p>FWHM / FWTM 52.0° / 83.0°</p> <p>Efficiency 82 %</p> <p>Peak intensity 1 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p> <p>C13584_CLAMP-VERO29</p> <p>F13671_ANGE-RZ-LENS</p> <p>Bender Wirth: 494 Typ L3</p>		

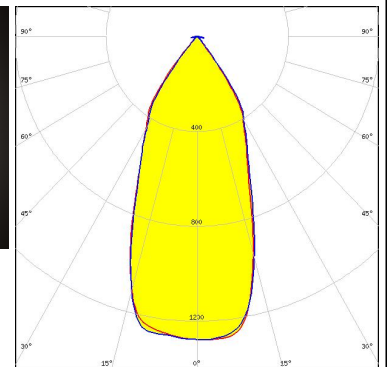
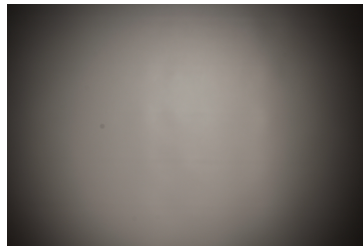
### OPTICAL RESULTS (MEASURED):



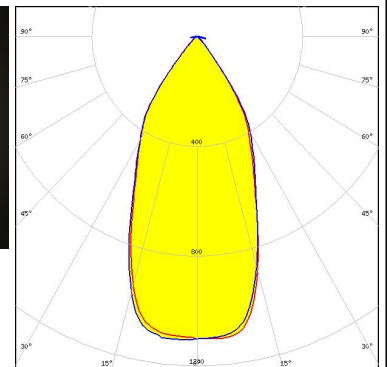
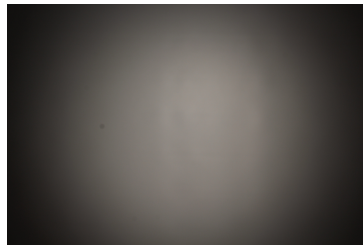
LED CTM-22 (Tunable White)  
 FWHM / FWTM 49.0° / 81.0°  
 Efficiency 86 %  
 Peak intensity 1.2 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 C13584\_CLAMP-VERO29  
 Bender Wirth: 494 Typ L3



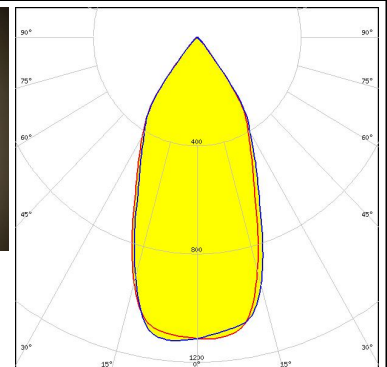
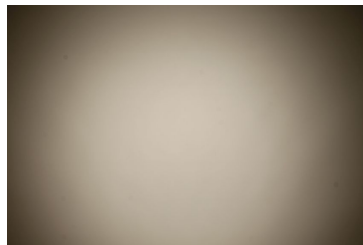
LED COB J-Type  
 FWHM / FWTM 44.0° / 78.0°  
 Efficiency 89 %  
 Peak intensity 1.3 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 IDEAL: 50-2103NC + 50-2100AN



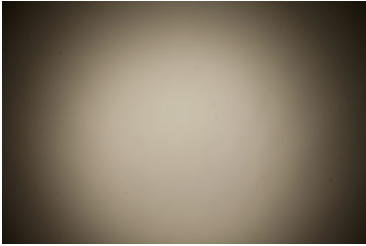
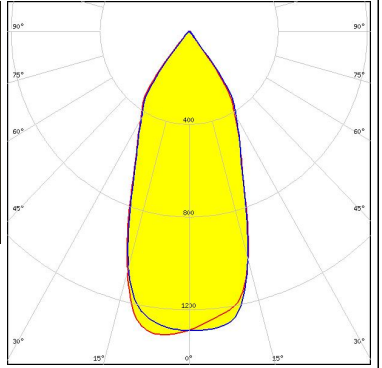
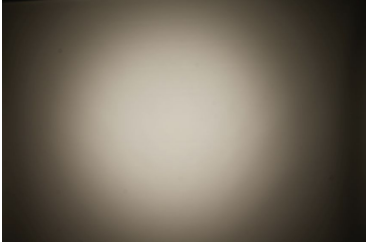
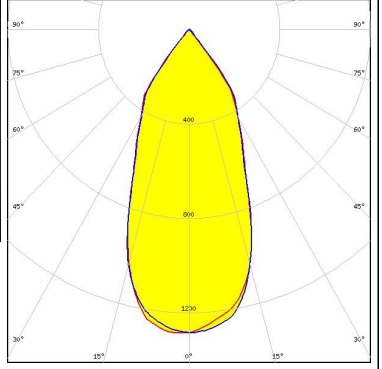
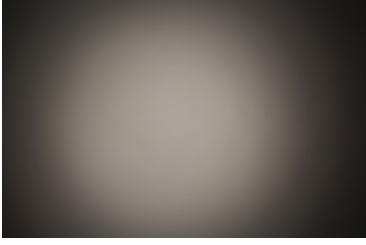
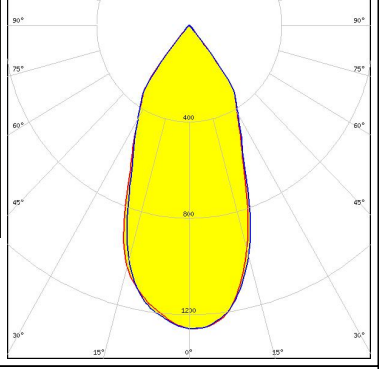
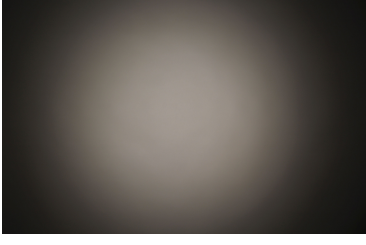
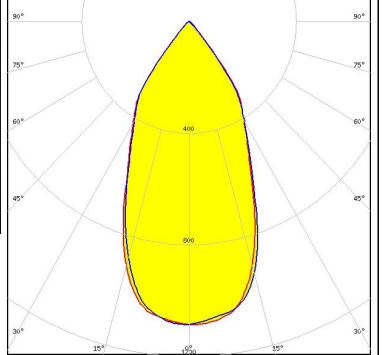
LED COB J-Type  
 FWHM / FWTM 48.0° / 81.0°  
 Efficiency 84 %  
 Peak intensity 1.1 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 F13671\_ANGE-RZ-LENS  
 IDEAL: 50-2103NC + 50-2100AN



LED COB L-Type (LES 11)  
 FWHM / FWTM 47.0° / 80.0°  
 Efficiency 83 %  
 Peak intensity 1.1 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 F13671\_ANGE-RZ-LENS  
 IDEAL: 50-2100NC + 50-2100AN



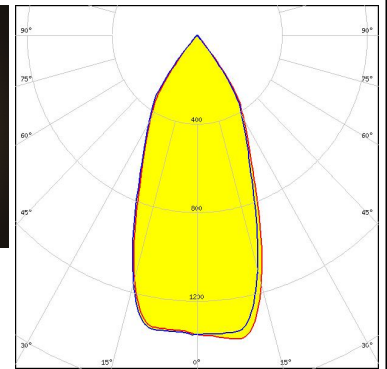
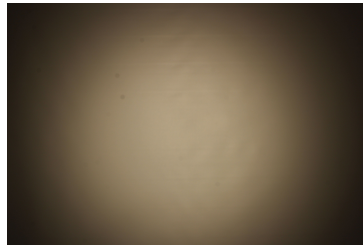
### OPTICAL RESULTS (MEASURED):

<p><b>NICHIA</b></p> <p>LED COB L-Type (LES 11)</p> <p>FWHM / FWTM 44.0° / 78.0°</p> <p>Efficiency 87 %</p> <p>Peak intensity 1.3 cd/m</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components: IDEAL: 50-2100NC + 50-2100AN</p>		
<p><b>NICHIA</b></p> <p>LED COB L-Type (LES 11)</p> <p>FWHM / FWTM 45.0° / 79.0°</p> <p>Efficiency 88 %</p> <p>Peak intensity 1.3 cd/m</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>NICHIA</b></p> <p>LED NVCWJ024Z-V1MT: COB J-Type Tunable White</p> <p>FWHM / FWTM 46.0° / 80.0°</p> <p>Efficiency 88 %</p> <p>Peak intensity 1.3 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 49.0° / 81.0°</p> <p>Efficiency 83 %</p> <p>Peak intensity 1.1 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>		

#### OPTICAL RESULTS (MEASURED):

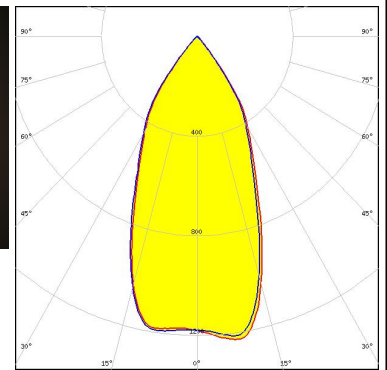
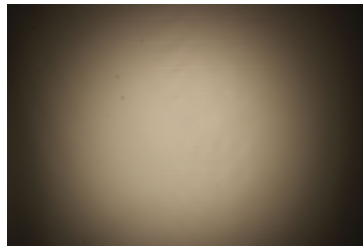
#### OSRAM

LED PrevaLED Core G7 L15 H1  
 FWHM / FWTM 45.0° / 78.0°  
 Efficiency 91 %  
 Peak intensity 1.4 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 C16685\_CLAMP-PRV-A



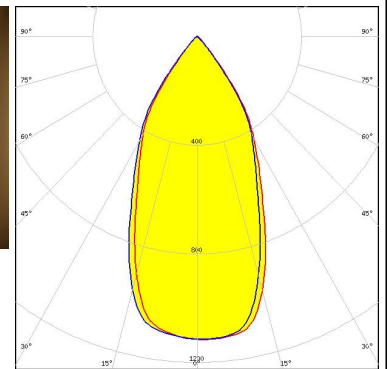
#### OSRAM

LED PrevaLED Core G7 L15 H1  
 FWHM / FWTM 47.0° / 80.0°  
 Efficiency 88 %  
 Peak intensity 1.2 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 C16685\_CLAMP-PRV-A  
 F13671\_ANGE-RZ-LENS



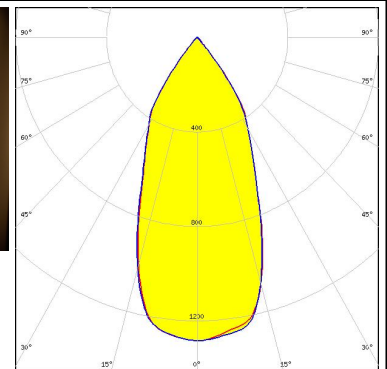
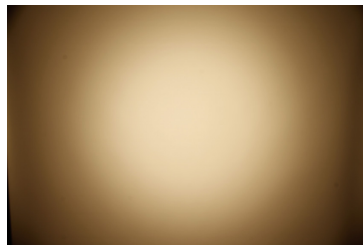
#### OSRAM

LED PrevaLED Core Z4 LES19  
 FWHM / FWTM 49.0° / 81.0°  
 Efficiency 84 %  
 Peak intensity 1.1 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 F13671\_ANGE-RZ-LENS  
 TE Connectivity: 2213130-2


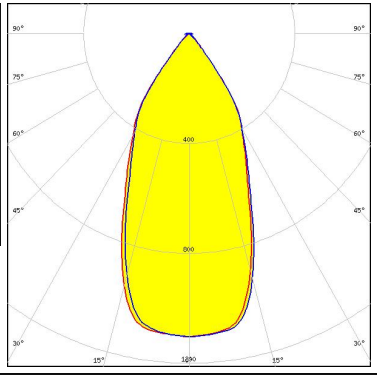
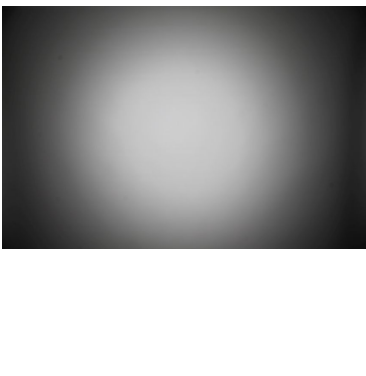
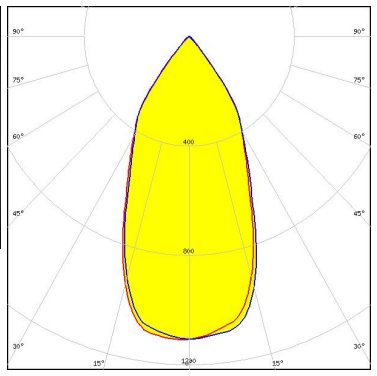

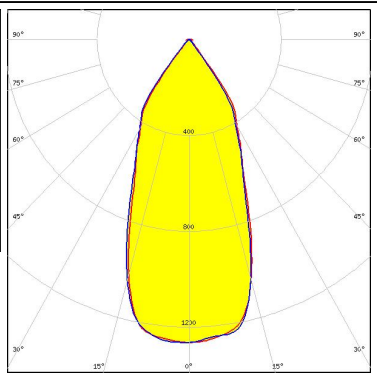
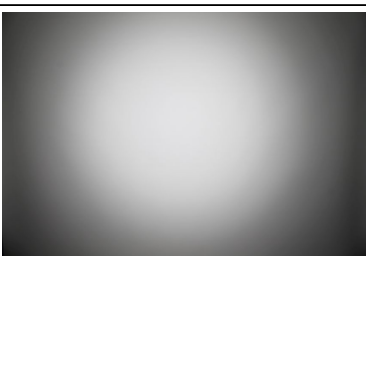
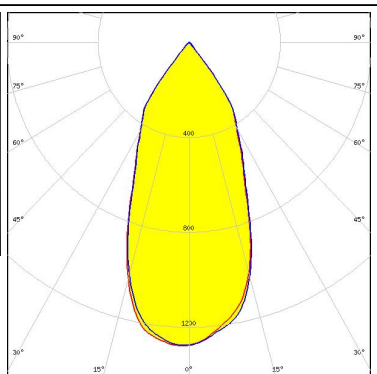


#### OSRAM

LED PrevaLED Core Z4 LES19  
 FWHM / FWTM 46.0° / 79.0°  
 Efficiency 88 %  
 Peak intensity 1.3 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 TE Connectivity: OPTIC CLIP Z50 TYPE1 2213194-1



#### OPTICAL RESULTS (MEASURED):

<p><b>OSRAM</b> Opto Semiconductors</p> <p>LED Soleriq S13 19x19</p> <p>FWHM / FWTM 48.0° / 80.0°</p> <p>Efficiency 83 %</p> <p>Peak intensity 1.1 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components: F13671_ANGE-RZ-LENS IDEAL: 50-2204-CT + 50-2100AN</p>		
<p><b>OSRAM</b> Opto Semiconductors</p> <p>LED Soleriq S13 19x19</p> <p>FWHM / FWTM 49.0° / 81.0°</p> <p>Efficiency 84 %</p> <p>Peak intensity 1.1 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components: F13671_ANGE-RZ-LENS TE Connectivity: 2213254-2 + OPTIC CLIP Z50 TYPE1 2213194-1</p>		
<p><b>OSRAM</b> Opto Semiconductors</p> <p>LED Soleriq S13 19x19</p> <p>FWHM / FWTM 45.0° / 78.0°</p> <p>Efficiency 87 %</p> <p>Peak intensity 1.3 cd/lm</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 45.0° / 79.0°</p> <p>Efficiency 87 %</p> <p>Peak intensity 1.3 cd/lm</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>		

#### OPTICAL RESULTS (MEASURED):

#### OSRAM

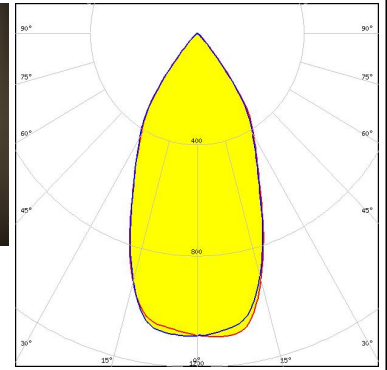
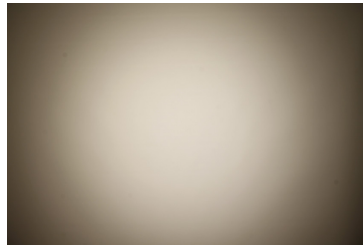
Opto Semiconductors

LED Soleriq S19  
 FWHM / FWTM 50.0° / 82.0°  
 Efficiency 84 %  
 Peak intensity 1.1 cd/m  
 LEDs/each optic 1  
 Light colour White

Required components:

F13671\_ANGE-RZ-LENS

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



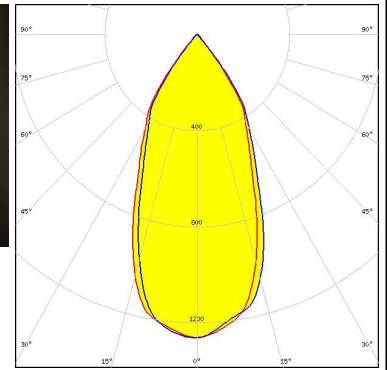
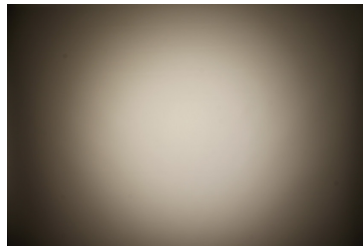
#### OSRAM

Opto Semiconductors

LED Soleriq S19  
 FWHM / FWTM 46.0° / 80.0°  
 Efficiency 88 %  
 Peak intensity 1.3 cd/m  
 LEDs/each optic 1  
 Light colour White

Required components:

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



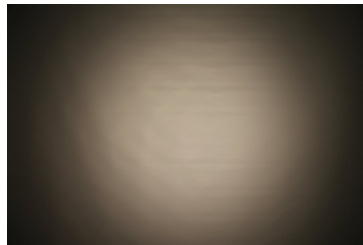
#### PHILIPS

LED Fortimo SLM L13 CoB  
 FWHM / FWTM 47.0° / 81.0°  
 Efficiency 84 %  
 Peak intensity 1.1 cd/m  
 LEDs/each optic 1  
 Light colour White

Required components:

F13671\_ANGE-RZ-LENS

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

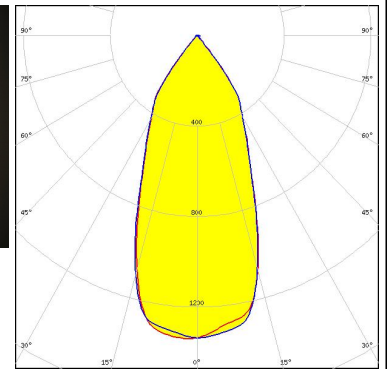
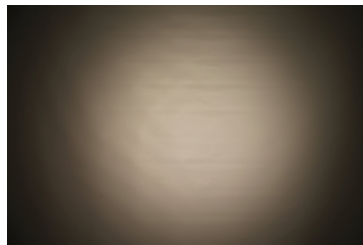


#### PHILIPS

LED Fortimo SLM L13 CoB  
 FWHM / FWTM 44.0° / 79.0°  
 Efficiency 90 %  
 Peak intensity 1.3 cd/m  
 LEDs/each optic 1  
 Light colour White

Required components:

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

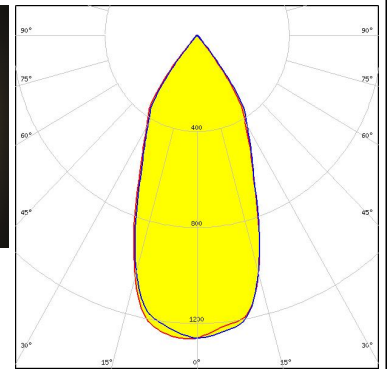
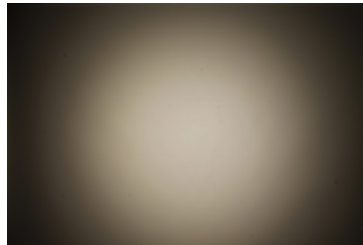




#### OPTICAL RESULTS (MEASURED):

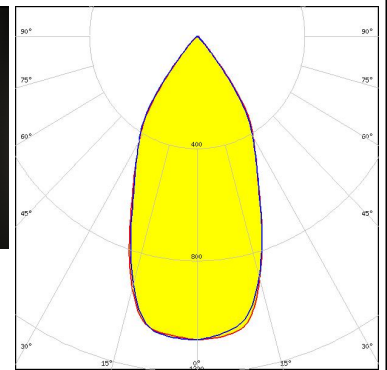
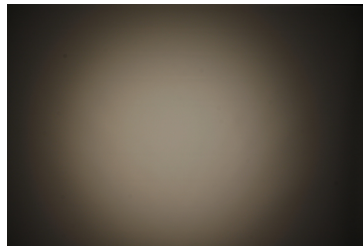
### PHILIPS

LED Fortimo SLM L15 + SLM holder  
 FWHM / FWTM 46.0° / 79.0°  
 Efficiency 88 %  
 Peak intensity 1.3 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 TE Connectivity: OPTIC CLIP Z50 TYPE1 2213194-1



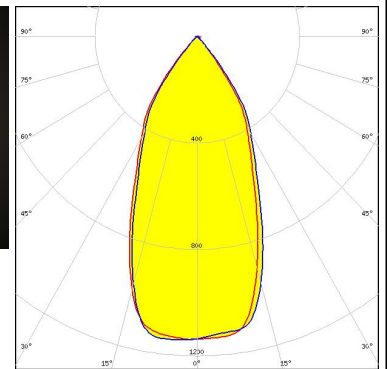
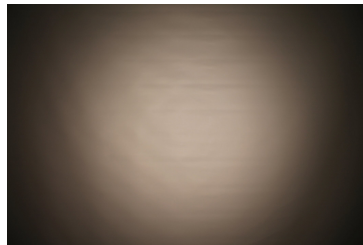
### PHILIPS

LED Fortimo SLM L15 + SLM holder  
 FWHM / FWTM 50.0° / 82.0°  
 Efficiency 83 %  
 Peak intensity 1.1 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 F13671\_ANGE-RZ-LENS  
 TE Connectivity: OPTIC CLIP Z50 TYPE1 2213194-1



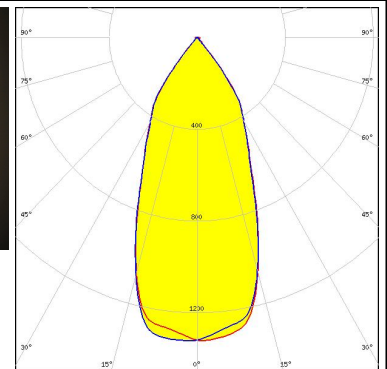
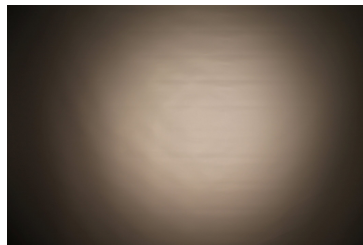
### PHILIPS

LED Fortimo SLM L15 CoB  
 FWHM / FWTM 48.0° / 81.0°  
 Efficiency 84 %  
 Peak intensity 1.1 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

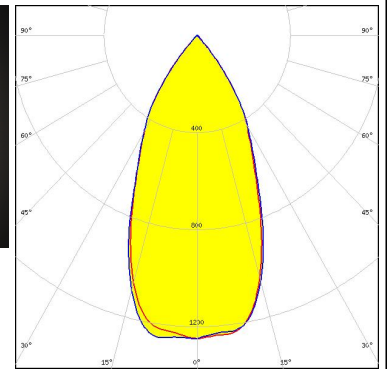
LED Fortimo SLM L15 CoB  
 FWHM / FWTM 45.0° / 79.0°  
 Efficiency 89 %  
 Peak intensity 1.3 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 TE Connectivity: 2213130-2 + OPTIC CLIP Z50 TYPE1 2213194-1



### OPTICAL RESULTS (MEASURED):

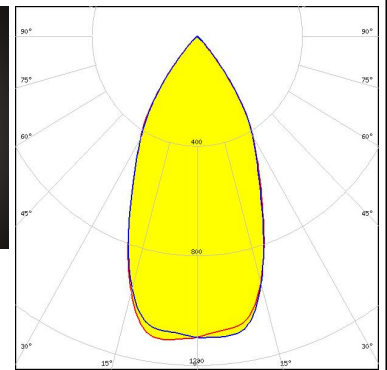
#### SAMSUNG

LED LC035T (Tunable white)  
 FWHM / FWTM 48.0° / 81.0°  
 Efficiency 90 %  
 Peak intensity 1.3 cd/lm  
 LEDs/each optic 1  
 Light colour Tunable White  
 Required components:  
 C13584\_CLAMP-VERO29  
 Bender Wirth: 502 Typ L3



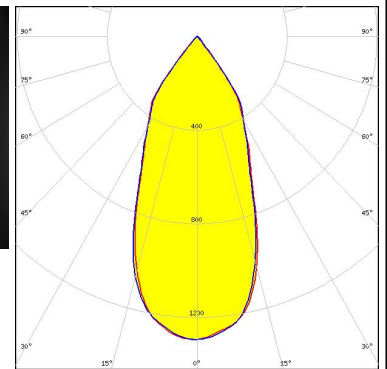
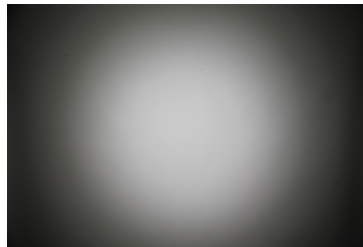
#### SAMSUNG

LED LC035T (Tunable white)  
 FWHM / FWTM 51.0° / 82.0°  
 Efficiency 85 %  
 Peak intensity 1.1 cd/lm  
 LEDs/each optic 1  
 Light colour Tunable White  
 Required components:  
 C13584\_CLAMP-VERO29  
 F13671\_ANGE-RZ-LENS  
 Bender Wirth: 502 Typ L3



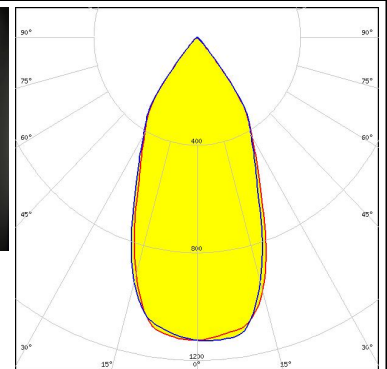
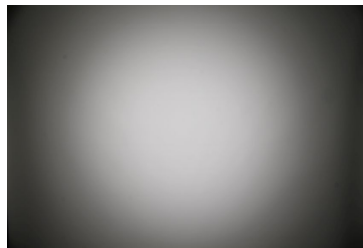
#### SAMSUNG

LED LC040C  
 FWHM / FWTM 45.0° / 79.0°  
 Efficiency 88 %  
 Peak intensity 1.3 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 TE Connectivity: 2213382-2 + OPTIC CLIP Z50 TYPE1 2213194-1

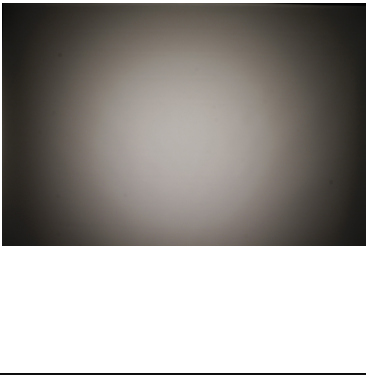
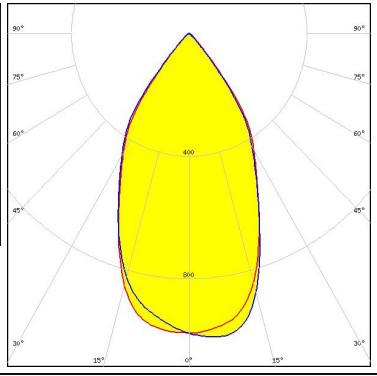

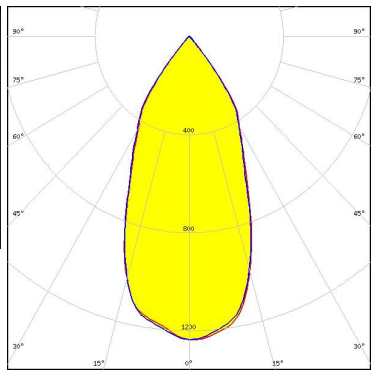

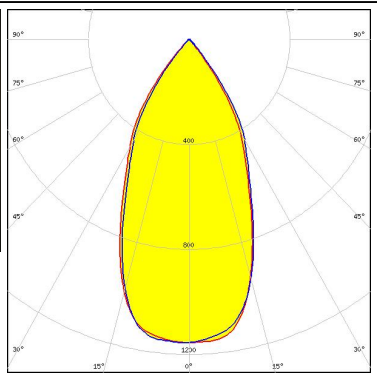
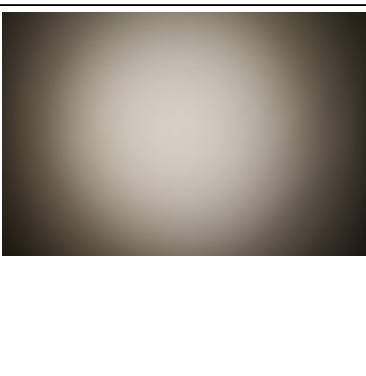
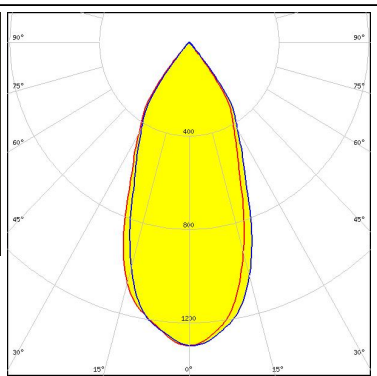


#### SAMSUNG

LED LC040C  
 FWHM / FWTM 48.0° / 81.0°  
 Efficiency 84 %  
 Peak intensity 1.1 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 F13671\_ANGE-RZ-LENS  
 TE Connectivity: 2213382-2 + OPTIC CLIP Z50 TYPE1 2213194-1



#### OPTICAL RESULTS (MEASURED):

<p><b>SEOUL SEMICONDUCTOR</b></p> <p>LED AC Zhaga COB</p> <p>FWHM / FWTM 55.0° / 84.0°</p> <p>Efficiency 84 %</p> <p>Peak intensity 1 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components: F13671_ANGE-RZ-LENS Optosource: SEHSMJD-A</p>		
<p><b>SEOUL SEMICONDUCTOR</b></p> <p>LED MJT COB LES 14.5</p> <p>FWHM / FWTM 47.0° / 80.0°</p> <p>Efficiency 87 %</p> <p>Peak intensity 1.2 cd/lm</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>SEOUL SEMICONDUCTOR</b></p> <p>LED MJT COB LES 22</p> <p>FWHM / FWTM 50.0° / 81.0°</p> <p>Efficiency 86 %</p> <p>Peak intensity 1.2 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components: C13584_CLAMP-VERO29 Bender Wirth: 431 Typ L3</p>		
<p><b>VS LIGHTING SOLUTIONS</b></p> <p>LED WU-M-484</p> <p>FWHM / FWTM 45.0° / 79.0°</p> <p>Efficiency 87 %</p> <p>Peak intensity 1.3 cd/lm</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):

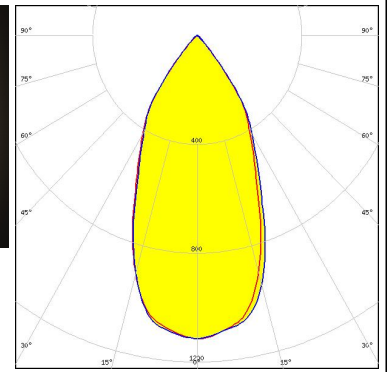


LED WU-M-484  
FWHM / FWTM 49.0° / 81.0°  
Efficiency 83 %  
Peak intensity 1.1 cd/lm  
LEDs/each optic 1  
Light colour White

Required components:

F13671\_ANGE-RZ-LENS

TE Connectivity: OPTIC CLIP Z50 TYPE1 2213194-1

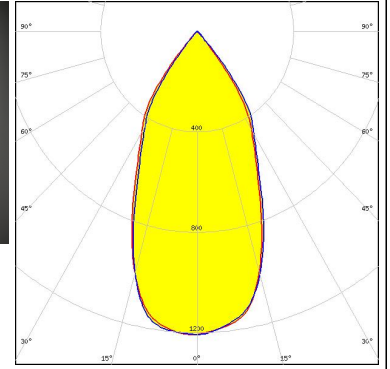


### XICATO

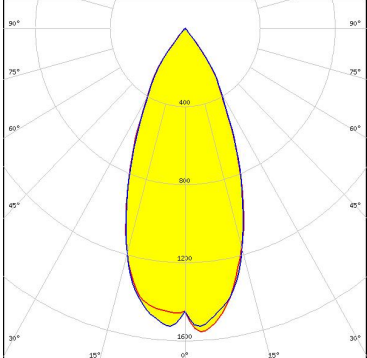
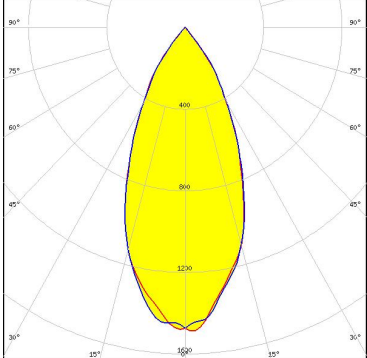
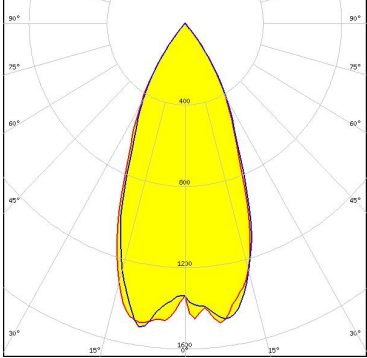
LED XTM - 19mm LES  
FWHM / FWTM 49.0° / 81.0°  
Efficiency 89 %  
Peak intensity 1.2 cd/lm  
LEDs/each optic 1  
Light colour White

Required components:

C16491\_XTM-ADAPTER-50-A



#### OPTICAL RESULTS (SIMULATED):

<p>bridgelux.</p> <p>LED V13 Gen7</p> <p>FWHM / FWTM 44.0° / 76.0°</p> <p>Efficiency 90 %</p> <p>Peak intensity 1.5 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components: IDEAL: 50-2103CT + 50-2100AN</p>	
<p>bridgelux.</p> <p>LED V13 Gen7</p> <p>FWHM / FWTM 45.0° / 77.0°</p> <p>Efficiency 90 %</p> <p>Peak intensity 1.5 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components: C13658_CLAMP-VERO13-18 Bender Wirth: 477 Typ L1</p>	
<p>bridgelux.</p> <p>LED V22 Gen7</p> <p>FWHM / FWTM 45.0° / 75.0°</p> <p>Efficiency 94 %</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>	

### 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:

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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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