

## STRADA-2X2-CAT

Catenary street light beam optimized for EN13201 M-classes

### SPECIFICATION:

Dimensions	50.0 x 50.0 mm
Height	6.2 mm
Fastening	glue, pin, screw
ROHS compliant	yes ⓘ

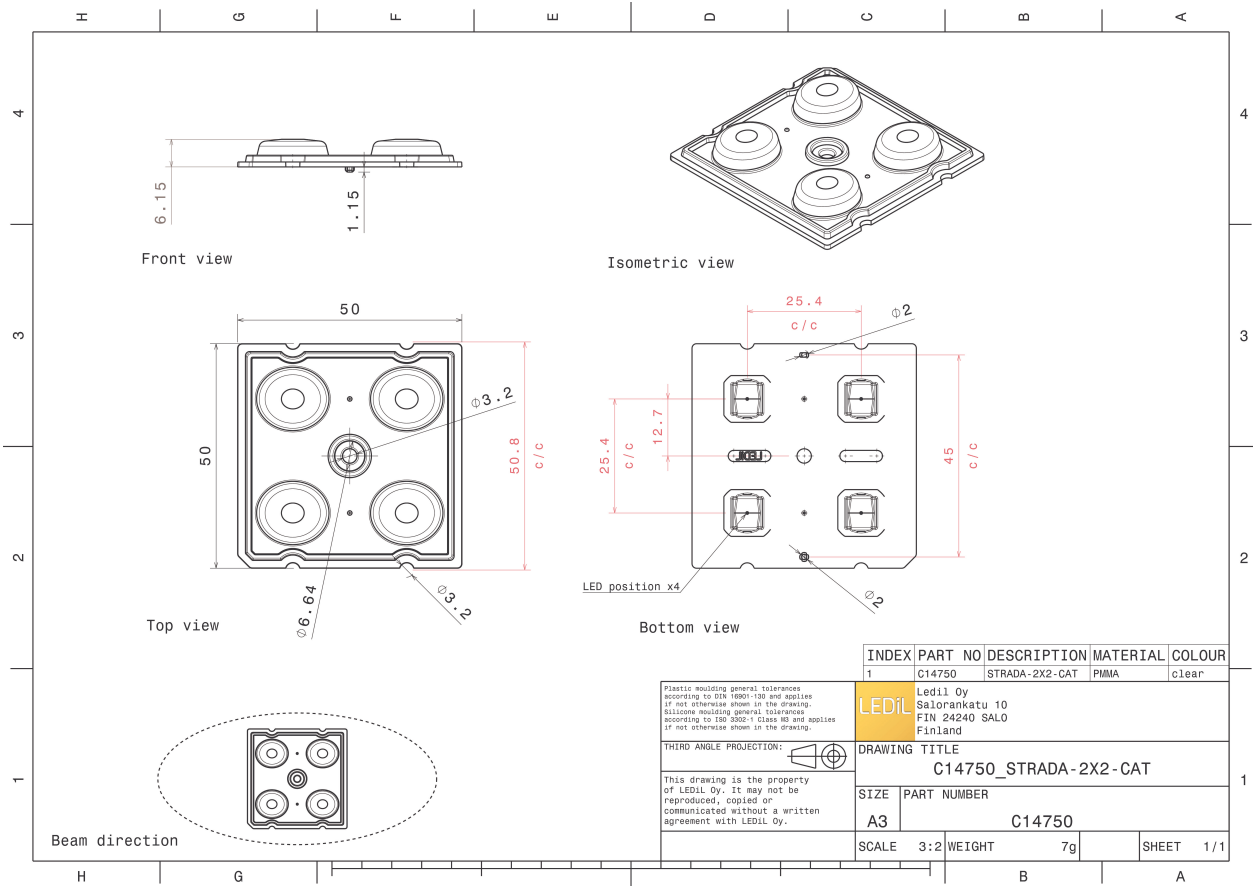
### MATERIALS:

Component	Type	Material	Colour	Finish
STRADA-2X2-CAT	Multi-lens	PMMA	clear	

### ORDERING INFORMATION:


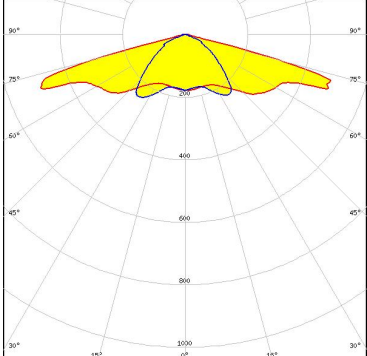

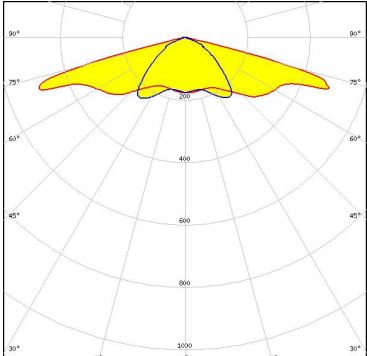

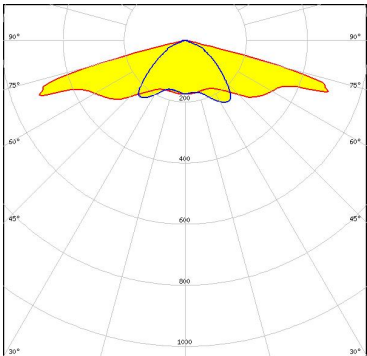

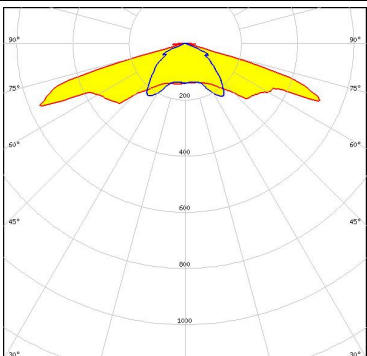
Component	Qty in box	MOQ	MPQ	Box weight (kg)
C14750_STRADA-2X2-CAT » Box size: 480 x 280 x 300 mm	800	160	160	6.3





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

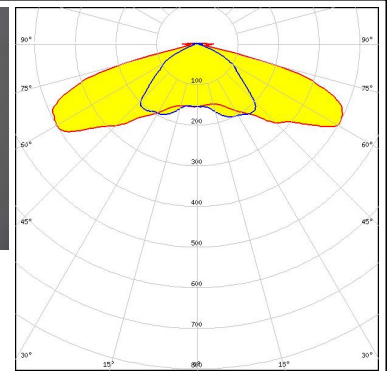
#### OPTICAL RESULTS (MEASURED):

<p></p> <p>LED QUICK FLUX XTP 2x4 xxx LS G5</p> <p>FWHM / FWTM 152.0 + 117.0° / 158.0 + 144.0°</p> <p>Efficiency 94 %</p> <p>Peak intensity 0.5 cd/m</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>	
<p></p> <p>LED QUICK FLUX XTP 2x6 xxx LS G5</p> <p>FWHM / FWTM 153.0 + 118.0° / 158.0 + 145.0°</p> <p>Efficiency 94 %</p> <p>Peak intensity 0.5 cd/m</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>	
<p></p> <p>LED QUICK FLUX XTP 2x8 xxx LS G5</p> <p>FWHM / FWTM 152.0 + 118.0° / 157.0 + 145.0°</p> <p>Efficiency 94 %</p> <p>Peak intensity 0.5 cd/m</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>	
<p></p> <p>LED XD16</p> <p>FWHM / FWTM 148.0 + 133.0° / 176.0 + 145.0°</p> <p>Efficiency 94 %</p> <p>Peak intensity 0.6 cd/m</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>	

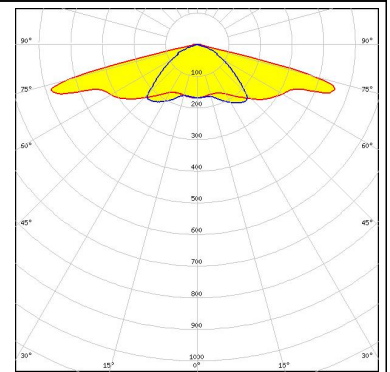
#### OPTICAL RESULTS (MEASURED):



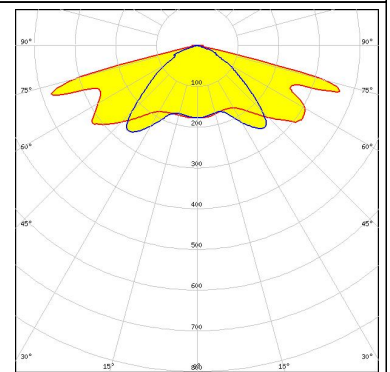
LED XD16  
 FWHM / FWTM 150.0 + 126.0° / 178.0 + 142.0°  
 Efficiency 94 %  
 Peak intensity 0.4 cd/lm  
 LEDs/each optic 4  
 Light colour White  
 Required components:



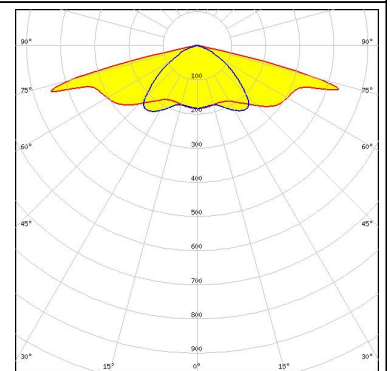
LED XM-L3  
 FWHM / FWTM Asymmetric  
 Efficiency 97 %  
 Peak intensity 0.5 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



LED XP-G2  
 FWHM / FWTM 153.0 + 118.0° / 156.0 + 142.0°  
 Efficiency 94 %  
 Peak intensity 0.4 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



LED XP-G2 HE  
 FWHM / FWTM Asymmetric  
 Efficiency 94 %  
 Peak intensity 0.4 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:

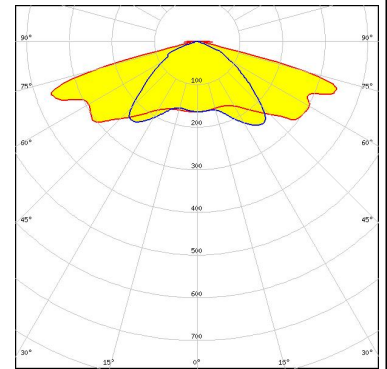




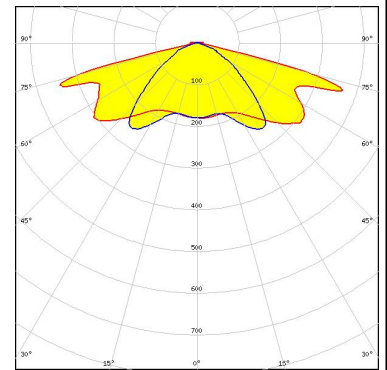
#### OPTICAL RESULTS (MEASURED):



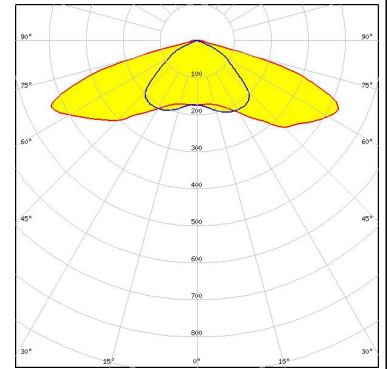
LED XP-G3  
 FWHM / FWTM Asymmetric  
 Efficiency 94 %  
 Peak intensity 0.4 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



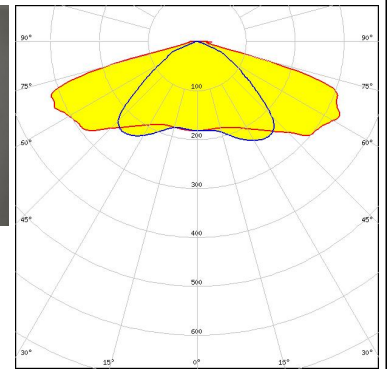
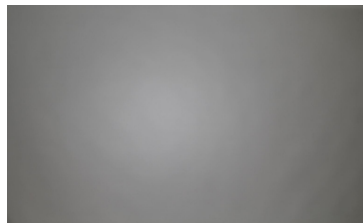
LED XP-L HI  
 FWHM / FWTM 153.0 + 118.0° / 156.0 + 143.0°  
 Efficiency 94 %  
 Peak intensity 0.4 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



LED LUXEON 5050 Round LES  
 FWHM / FWTM 149.0 + 119.0° / 154.0 + 138.0°  
 Efficiency 94 %  
 Peak intensity 0.4 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



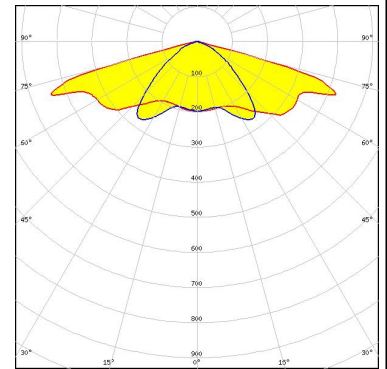
LED LUXEON V  
 FWHM / FWTM 152.0 + 117.0° / 174.0 + 141.0°  
 Efficiency 94 %  
 Peak intensity 0.3 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### OPTICAL RESULTS (MEASURED):

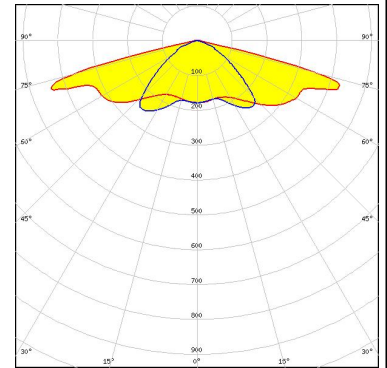
**MST** | Your solutions

LED RecLED 122x50mm 1900lm 730 2x4 Opt G1  
 FWHM / FWTM Asymmetric  
 Efficiency 98 %  
 Peak intensity 0.4 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



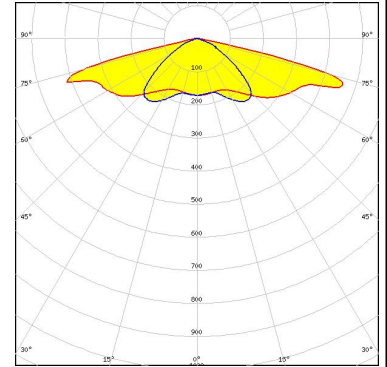
**NICHIA**

LED NVSW219F  
 FWHM / FWTM 154.0 + 118.0° / 156.0 + 142.0°  
 Efficiency 94 %  
 Peak intensity 0.4 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



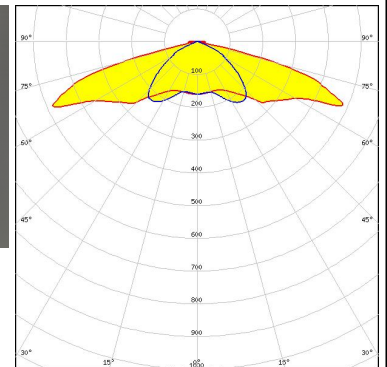
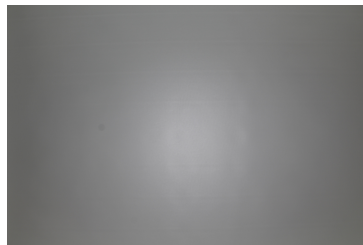
**NICHIA**

LED NVSW319B  
 FWHM / FWTM 155.0 + 120.0° / 158.0 + 142.0°  
 Efficiency 94 %  
 Peak intensity 0.5 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:

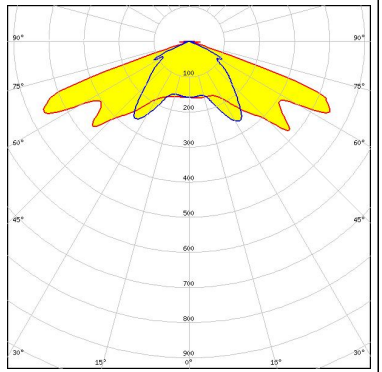

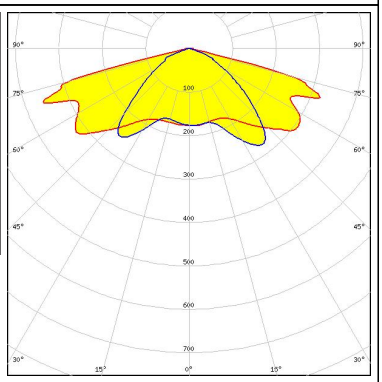

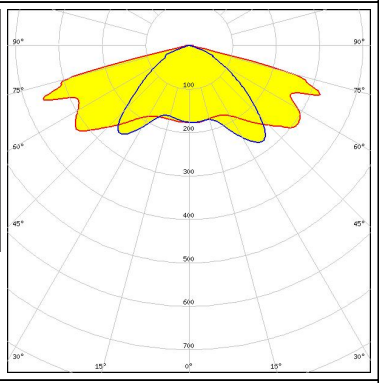
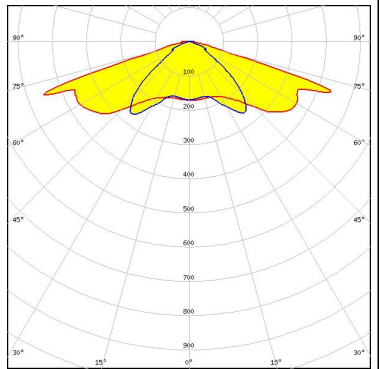


**NICHIA**

LED NVSW3x9A  
 FWHM / FWTM 152.0 + 125.0° / 157.0 + 140.0°  
 Efficiency 94 %  
 Peak intensity 0.5 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



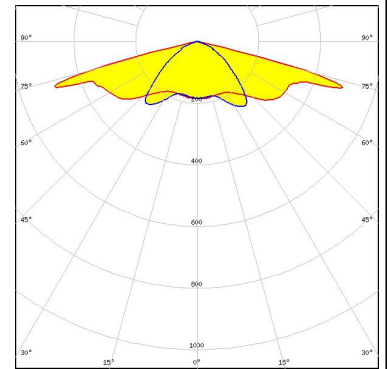
#### OPTICAL RESULTS (MEASURED):

<p><b>NICHIA</b></p> <p>LED NVSxE21A            FWHM / FWTM 142.0 + 130.0° / 147.0 + 140.0°            Efficiency 94 %            Peak intensity 0.5 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>		
<p><b>OSRAM</b></p> <p>LED PrevaLED Brick HP 2x8            FWHM / FWTM 152.0 + 119.0° / 155.0 + 144.0°            Efficiency 94 %            Peak intensity 0.4 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>		
<p><b>OSRAM</b>  <small>Opto Semiconductors</small></p> <p>LED OSLOM Square CSSRM2/CSSRM3            FWHM / FWTM 152.0 + 119.0° / 155.0 + 144.0°            Efficiency 94 %            Peak intensity 0.4 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>		
<p><b>OSRAM</b>  <small>Opto Semiconductors</small></p> <p>LED OSLOM Square PC            FWHM / FWTM Asymmetric            Efficiency 94 %            Peak intensity 0.5 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>		

#### OPTICAL RESULTS (MEASURED):

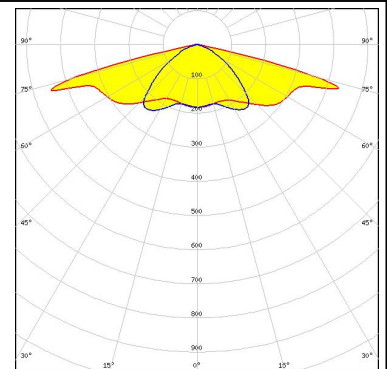
### PHILIPS

LED Fortimo FastFlex LED 2x8 DA G4  
 FWHM / FWTM 117.0 + 153.0° / 143.0 + 155.0°  
 Efficiency 94 %  
 Peak intensity 0.5 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



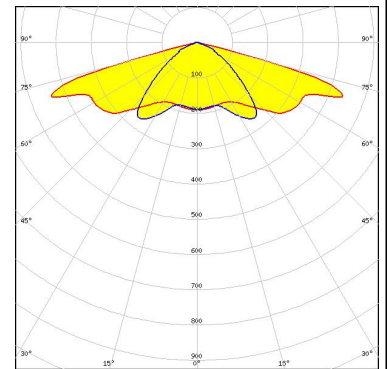
### PHILIPS

LED Fortimo FastFlex LED 2x8 DA G4+  
 FWHM / FWTM Asymmetric  
 Efficiency 94 %  
 Peak intensity 0.4 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



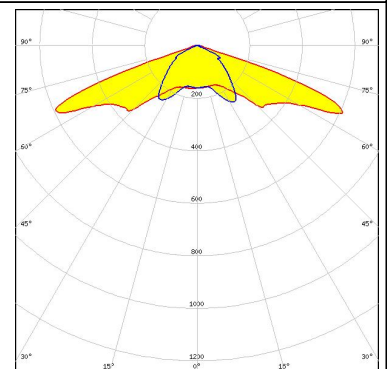
### PHILIPS

LED Fortimo FastFlex LED 2x8 DA G5  
 FWHM / FWTM Asymmetric  
 Efficiency 98 %  
 Peak intensity 0.5 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



### SAMSUNG

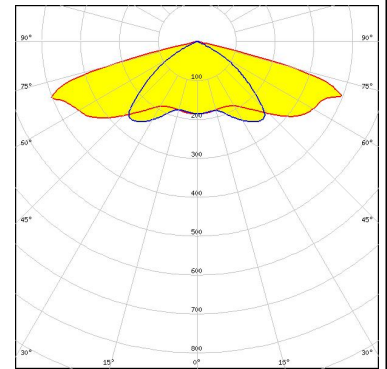
LED HiLOM RC12 Z (LH181B)  
 FWHM / FWTM Asymmetric  
 Efficiency 98 %  
 Peak intensity 0.6 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### OPTICAL RESULTS (MEASURED):

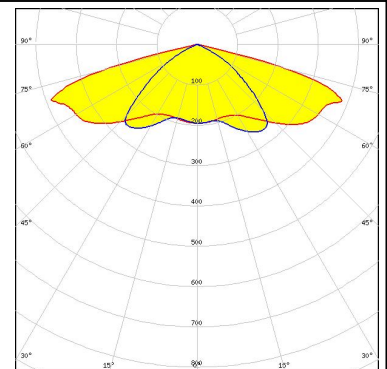
#### SAMSUNG

LED HiLOM RH12 Z (LH351C)  
 FWHM / FWTM Asymmetric  
 Efficiency 97 %  
 Peak intensity 0.4 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



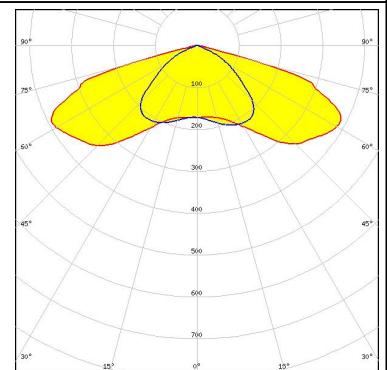
#### SAMSUNG

LED HiLOM RH16 (LH351C)  
 FWHM / FWTM Asymmetric  
 Efficiency 94 %  
 Peak intensity 0.4 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



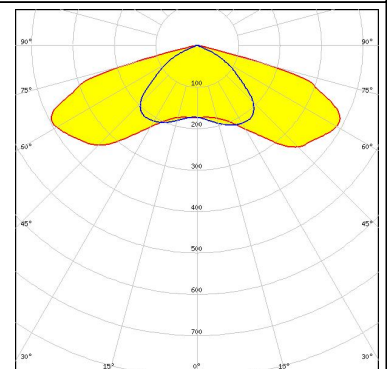
#### SAMSUNG

LED HiLOM RM12 Z (LH502C)  
 FWHM / FWTM Asymmetric  
 Efficiency 97 %  
 Peak intensity 0.4 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### SAMSUNG

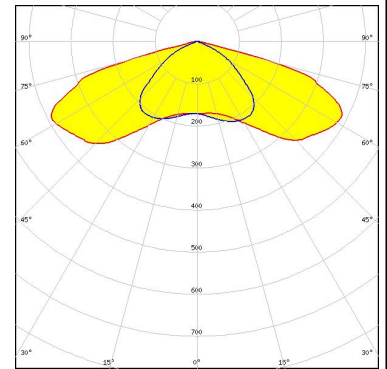
LED HiLOM RM16 Z (LH502C)  
 FWHM / FWTM Asymmetric  
 Efficiency 99 %  
 Peak intensity 0.4 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### OPTICAL RESULTS (MEASURED):

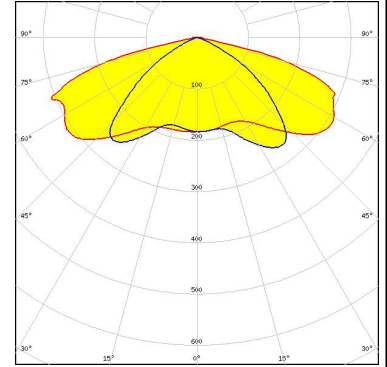
### SAMSUNG

LED HiLOM RM8 Z (LH502C)  
 FWHM / FWTM Asymmetric  
 Efficiency 98 %  
 Peak intensity 0.4 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:

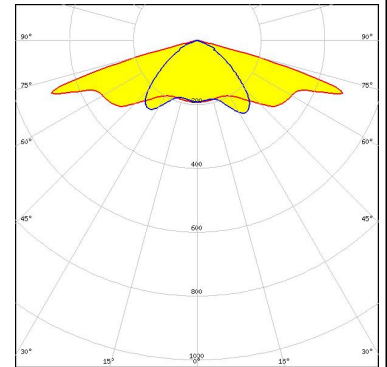


### SAMSUNG

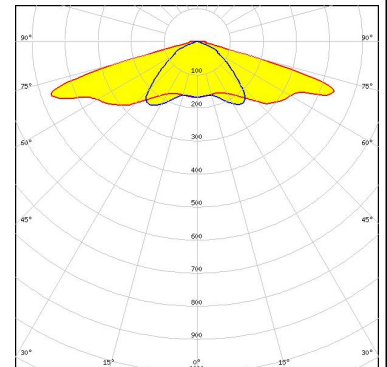
LED LH351B  
 FWHM / FWTM 154.0 + 119.0° / 158.0 + 136.0°  
 Efficiency 94 %  
 Peak intensity 0.3 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



LED LED-Pa-L15c2W11c2-xxx-C050-01  
 FWHM / FWTM Asymmetric  
 Efficiency 99 %  
 Peak intensity 0.5 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:

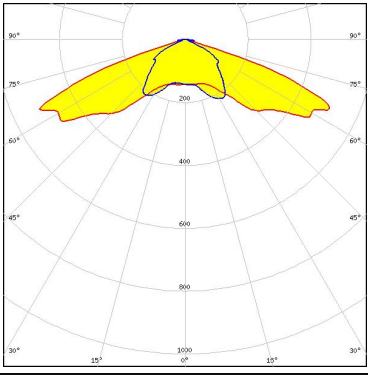
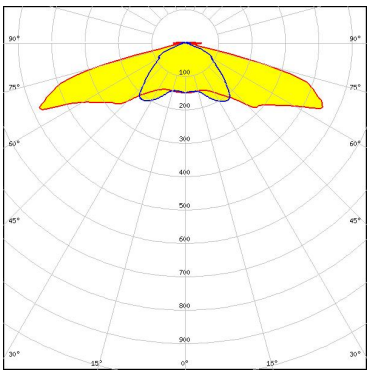
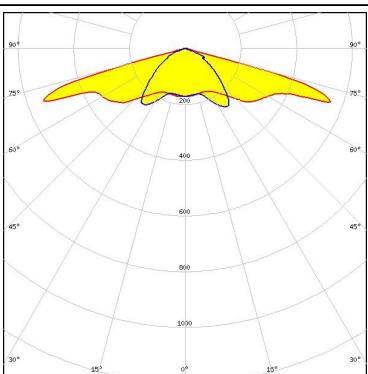


LED Z5M3  
 FWHM / FWTM Asymmetric  
 Efficiency 94 %  
 Peak intensity 0.5 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:





#### OPTICAL RESULTS (MEASURED):

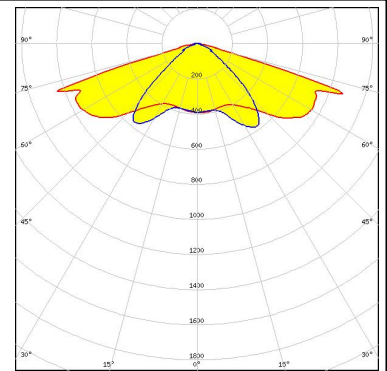
<p><b>SEOL</b> SEOUL SEMICONDUCTOR</p> <p>LED Z8Y22</p> <p>FWHM / FWTM 143.0 + 128.0° / 149.0 + 172.0°</p> <p>Efficiency 94 %</p> <p>Peak intensity 0.5 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>	
<p><b>SEOL</b> SEOUL SEMICONDUCTOR</p> <p>LED Z8Y22P</p> <p>FWHM / FWTM 151.0 + 130.0° / 169.0 + 146.0°</p> <p>Efficiency 94 %</p> <p>Peak intensity 0.5 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>	
<p><b>TRIDONIC</b></p> <p>LED RLE 2x4 2000lm HP EXC2 OTD</p> <p>FWHM / FWTM 151.0 + 119.0° / 155.0 + 142.0°</p> <p>Efficiency 94 %</p> <p>Peak intensity 0.6 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>	
<p><b>TRIDONIC</b></p> <p>LED RLE 2x8 4000lm HP EXC2 OTD</p> <p>FWHM / FWTM 151.0 + 119.0° / 155.0 + 142.0°</p> <p>Efficiency 94 %</p> <p>Peak intensity 0.6 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>	



#### OPTICAL RESULTS (MEASURED):

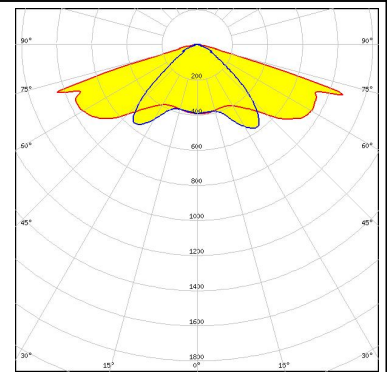
#### TRIDONIC

LED RLE G1 49x121mm 2000lm xxx EXC OTD  
 FWHM / FWTM 147.0 + 107.0° / 159.0 + 142.0°  
 Efficiency 94 %  
 Peak intensity 0.4 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



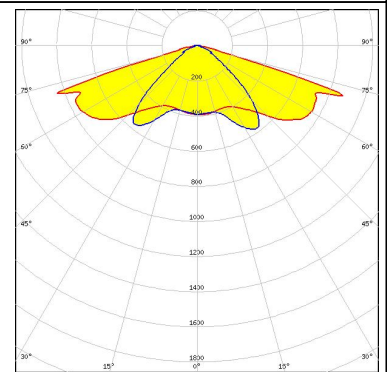
#### TRIDONIC

LED RLE G1 49x133mm 2000lm xxx EXC OTD  
 FWHM / FWTM 147.0 + 107.0° / 159.0 + 142.0°  
 Efficiency 94 %  
 Peak intensity 0.4 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



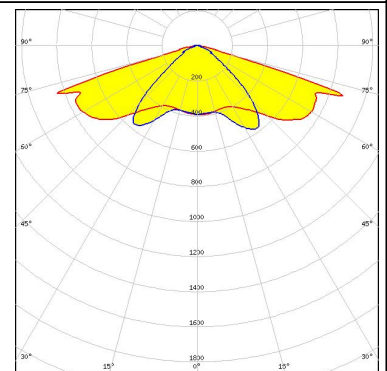
#### TRIDONIC

LED RLE G1 49x223mm 4000lm xxx EXC OTD  
 FWHM / FWTM 147.0 + 107.0° / 159.0 + 142.0°  
 Efficiency 94 %  
 Peak intensity 0.4 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### TRIDONIC

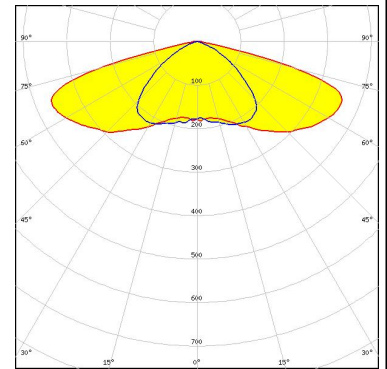
LED RLE G1 49x245mm 4000lm xxx EXC OTD  
 FWHM / FWTM 147.0 + 107.0° / 159.0 + 142.0°  
 Efficiency 94 %  
 Peak intensity 0.4 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



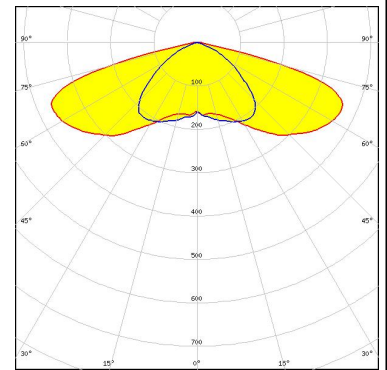
#### OPTICAL RESULTS (SIMULATED):



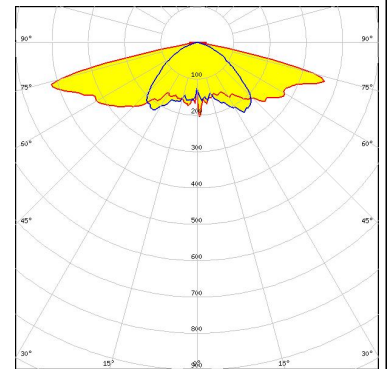
LED J Series 5050 Round LES  
 FWHM / FWTM Asymmetric  
 Efficiency 96 %  
 Peak intensity 0.4 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



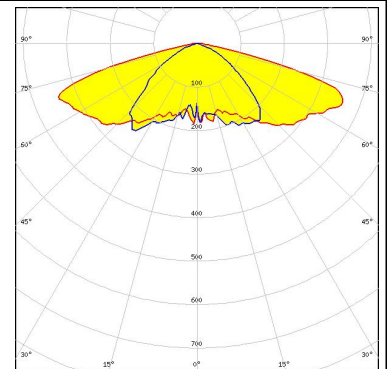
LED J Series 5050C 6V E Class  
 FWHM / FWTM 152.0 + 112.0° / 158.0 + 140.0°  
 Efficiency 96 %  
 Peak intensity 0.4 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



LED XB-D  
 FWHM / FWTM 154.0 + 107.0° / 180.0°  
 Efficiency 91 %  
 Peak intensity 0.5 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



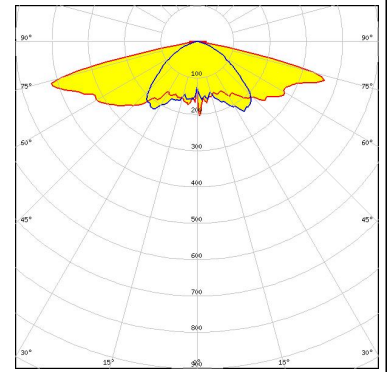
LED XM-L  
 FWHM / FWTM 109.0 + 152.0° / 142.0 + 162.0°  
 Efficiency 93 %  
 Peak intensity 0.4 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



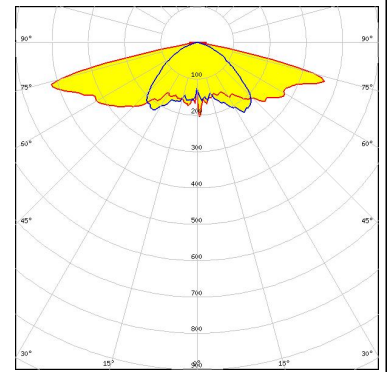
#### OPTICAL RESULTS (SIMULATED):



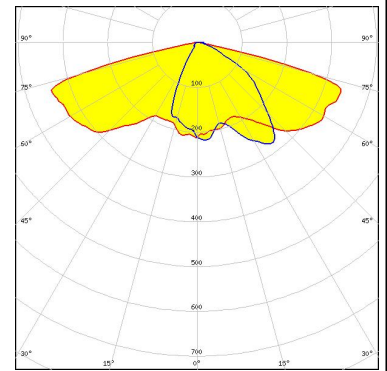
LED XM-L2  
 FWHM / FWTM 153.0 + 112.0° / 159.0 + 139.0°  
 Efficiency 93 %  
 Peak intensity 0.4 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



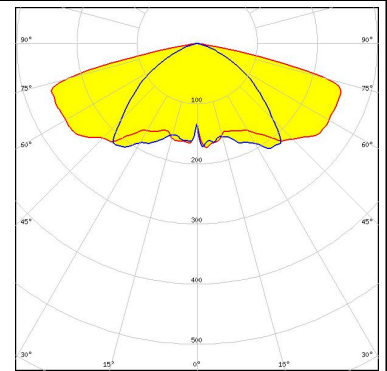
LED XP-G  
 FWHM / FWTM 156.0 + 112.0° / 161.0 + 144.0°  
 Efficiency 92 %  
 Peak intensity 0.4 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



LED XP-G2  
 FWHM / FWTM Asymmetric  
 Efficiency 75 %  
 Peak intensity 0.4 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 C17580\_STRADA-2X2-SHD-WHT

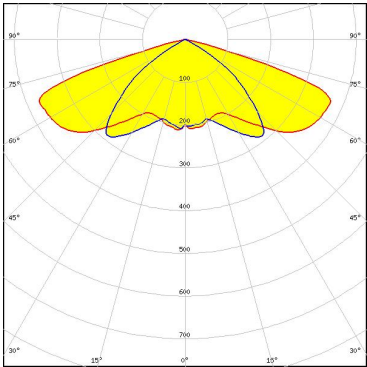
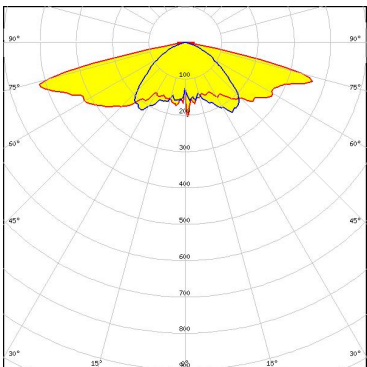
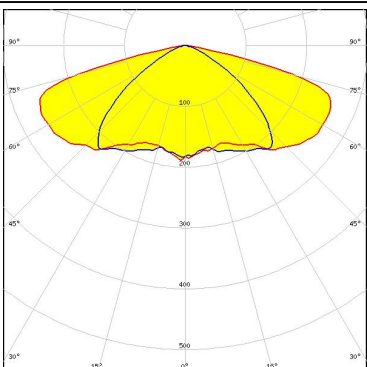
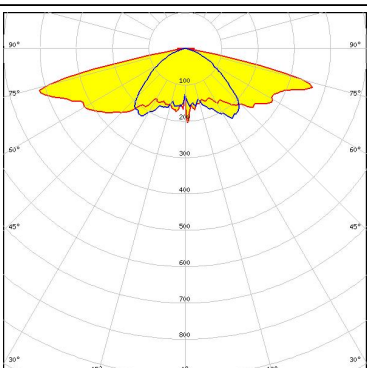


LED XP-G3  
 FWHM / FWTM 154.0 + 112.0° / 162.0 + 142.0°  
 Efficiency 82 %  
 Peak intensity 0.3 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



Protective plate, glass

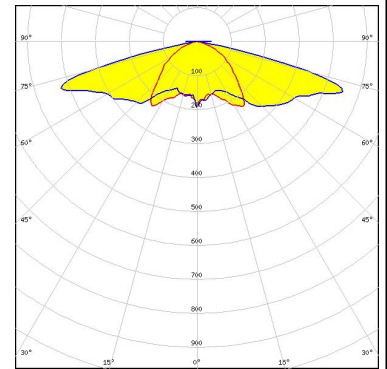
#### OPTICAL RESULTS (SIMULATED):

<p><b>CREE</b> LEDs</p> <p>LED: XP-G4            FWHM / FWTM: 146.0 + 106.0° / 154.0 + 122.0°            Efficiency: 96 %            Peak intensity: 0.4 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p>	
<p><b>CREE</b> LEDs</p> <p>LED: XP-L HD            FWHM / FWTM: 155.0 + 109.0° / 161.0 + 132.0°            Efficiency: 91 %            Peak intensity: 0.3 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p>	
<p><b>CREE</b> LEDs</p> <p>LED: XP-L2            FWHM / FWTM: Asymmetric            Efficiency: 84 %            Peak intensity: 0.3 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p> <p style="background-color: #ADD8E6; padding: 2px;">Protective plate, glass</p>	
<p><b>CREE</b> LEDs</p> <p>LED: XT-E            FWHM / FWTM: 155.0 + 110.0° / 170.0 + 146.0°            Efficiency: 91 %            Peak intensity: 0.4 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p>	

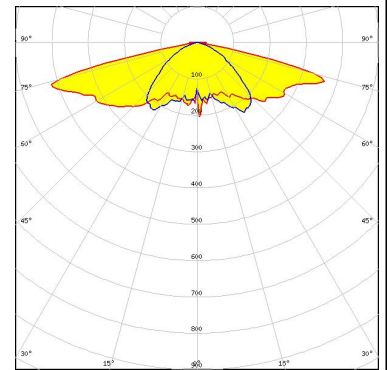
#### OPTICAL RESULTS (SIMULATED):



LED XT-E  
 FWHM / FWTM 153.0 + 110.0° / 180.0 + 145.0°  
 Efficiency 95 %  
 Peak intensity 0.5 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:

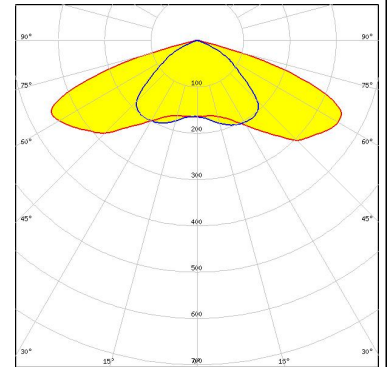


LED XT-E HVW  
 FWHM / FWTM 155.0 + 110.0° / 160.0 + 144.0°  
 Efficiency 92 %  
 Peak intensity 0.4 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:

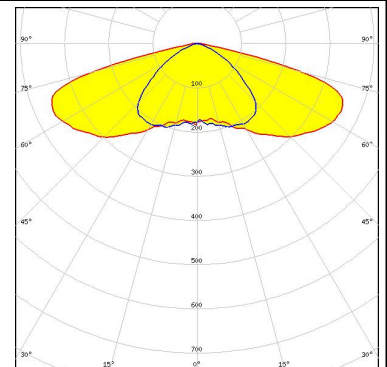


LED LUXEON 5050 Round LES  
 FWHM / FWTM Asymmetric  
 Efficiency 87 %  
 Peak intensity 0.4 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:

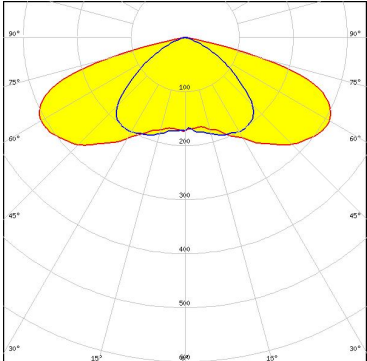
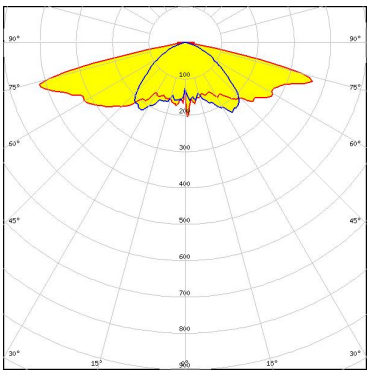
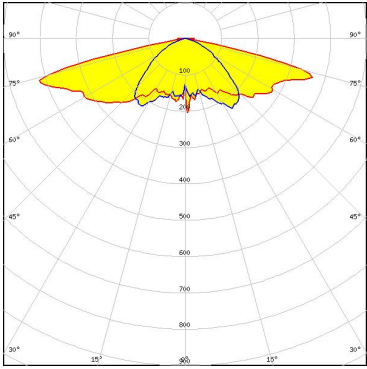
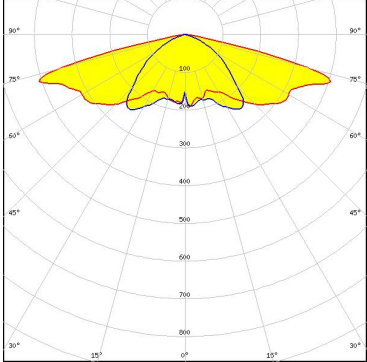
Protective plate, glass



LED LUXEON 5050 Square LES  
 FWHM / FWTM 152.0 + 112.0° / 160.0 + 140.0°  
 Efficiency 96 %  
 Peak intensity 0.4 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:

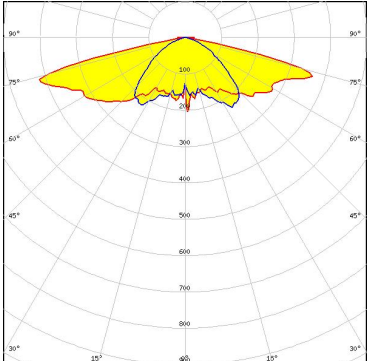
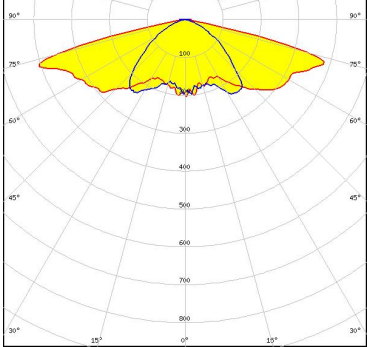
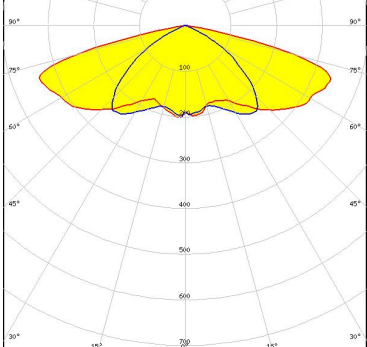
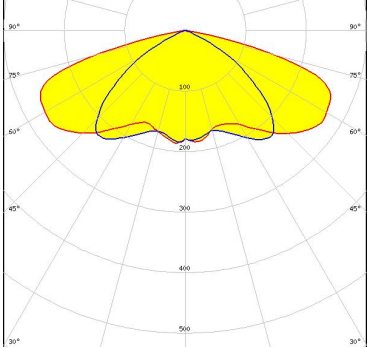


#### OPTICAL RESULTS (SIMULATED):

<p><b>LUMILEDS</b></p> <p>LED: LUXEON 5050 Square LES</p> <p>FWHM / FWTM: Asymmetric</p> <p>Efficiency: 86 %</p> <p>Peak intensity: 0.3 cd/lm</p> <p>LEDs/each optic: 1</p> <p>Light colour: White</p> <p>Required components:</p> <p>Protective plate, glass</p>	
<p><b>LUMILEDS</b></p> <p>LED: LUXEON R</p> <p>FWHM / FWTM: 150.0 + 107.0° / 156.0 + 138.0°</p> <p>Efficiency: 92 %</p> <p>Peak intensity: 0.4 cd/lm</p> <p>LEDs/each optic: 1</p> <p>Light colour: White</p> <p>Required components:</p>	
<p><b>LUMILEDS</b></p> <p>LED: LUXEON Rebel ES</p> <p>FWHM / FWTM: 151.0 + 106.0° / 157.0 + 139.0°</p> <p>Efficiency: 92 %</p> <p>Peak intensity: 0.4 cd/lm</p> <p>LEDs/each optic: 1</p> <p>Light colour: White</p> <p>Required components:</p>	
<p><b>LUMILEDS</b></p> <p>LED: LUXEON T</p> <p>FWHM / FWTM: 154.0 + 110.0° / 160.0 + 140.0°</p> <p>Efficiency: 96 %</p> <p>Peak intensity: 0.4 cd/lm</p> <p>LEDs/each optic: 1</p> <p>Light colour: White</p> <p>Required components:</p>	

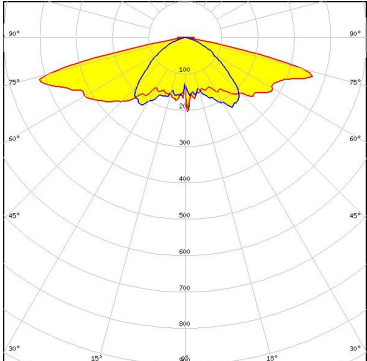
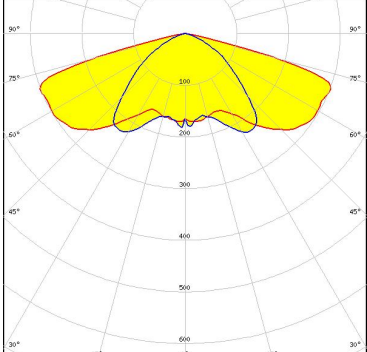
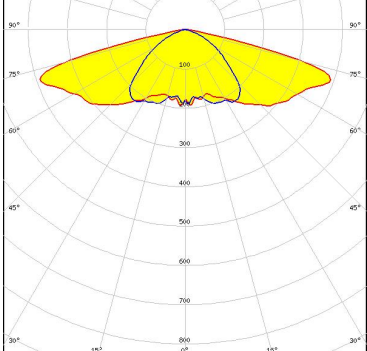
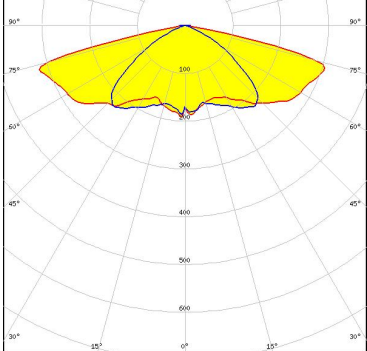


#### OPTICAL RESULTS (SIMULATED):

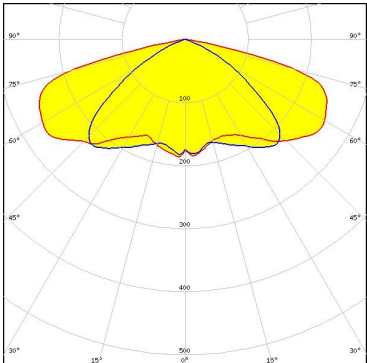
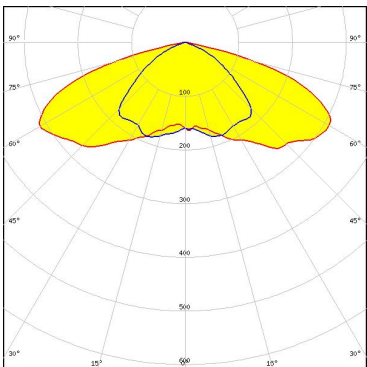
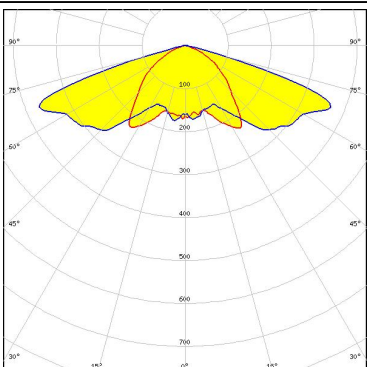
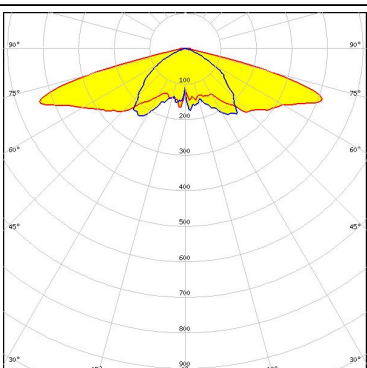
<p><b>LUMILEDS</b></p> <p>LED: LUXEON TX</p> <p>FWHM / FWTM: 153.0 + 108.0° / 158.0 + 143.0°</p> <p>Efficiency: 92 %</p> <p>Peak intensity: 0.5 cd/lm</p> <p>LEDs/each optic: 1</p> <p>Light colour: White</p> <p>Required components:</p>	
<p><b>LUMILEDS</b></p> <p>LED: LUXEON V2</p> <p>FWHM / FWTM: 154.0 + 110.0° / 160.0 + 141.0°</p> <p>Efficiency: 94 %</p> <p>Peak intensity: 0.4 cd/lm</p> <p>LEDs/each optic: 1</p> <p>Light colour: White</p> <p>Required components:</p>	
<p><b>LUMILEDS</b></p> <p>LED: LUXEON XR-HL2X (L2H2-xxxxxxxMLU010)</p> <p>FWHM / FWTM: 154.0 + 114.0° / 160.0 + 132.0°</p> <p>Efficiency: 96 %</p> <p>Peak intensity: 0.3 cd/lm</p> <p>LEDs/each optic: 1</p> <p>Light colour: White</p> <p>Required components:</p>	
<p><b>LUMILEDS</b></p> <p>LED: LUXEON XR-HL2X (L2H2-xxxxxxxMLU010)</p> <p>FWHM / FWTM: 150.0 + 112.0° / 160.0 + 132.0°</p> <p>Efficiency: 84 %</p> <p>Peak intensity: 0.3 cd/lm</p> <p>LEDs/each optic: 1</p> <p>Light colour: White</p> <p>Required components:</p> <p>Protective plate, glass</p>	



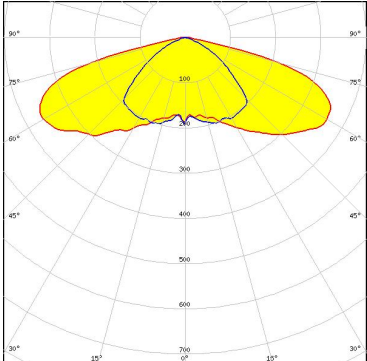
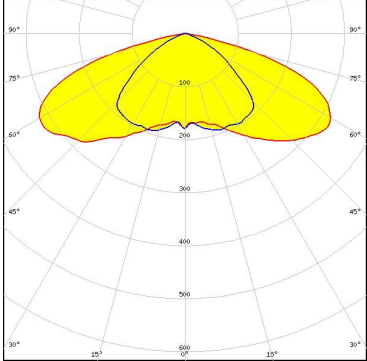
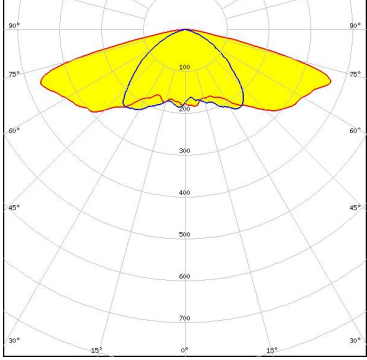
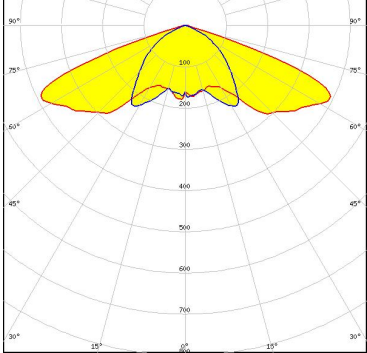
#### OPTICAL RESULTS (SIMULATED):

<p><b>NICHIA</b></p> <p>LED: NCSxx19B            FWHM / FWTM: 152.0 + 111.0° / 156.0 + 162.0°            Efficiency: 91 %            Peak intensity: 0.5 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p>	
<p><b>NICHIA</b></p> <p>LED: NF2x757G            FWHM / FWTM: 150.0 + 106.0° / 156.0 + 138.0°            Efficiency: 85 %            Peak intensity: 0.3 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p> <p style="background-color: #ADD8E6; padding: 2px; display: inline-block;">Protective plate, glass</p>	
<p><b>NICHIA</b></p> <p>LED: NV4WB35AM            FWHM / FWTM: Asymmetric            Efficiency: 96 %            Peak intensity: 0.4 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p>	
<p><b>NICHIA</b></p> <p>LED: NVSW519A            FWHM / FWTM: 156.0 + 114.0° / 162.0 + 138.0°            Efficiency: 92 %            Peak intensity: 0.3 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p>	

#### OPTICAL RESULTS (SIMULATED):

<p><b>NICHIA</b></p> <p>LED: NVSW519A            FWHM / FWTM: Asymmetric            Efficiency: 85 %            Peak intensity: 0.3 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p> <p>Protective plate, glass</p>	
<p><b>NICHIA</b></p> <p>LED: NVSxE21A            FWHM / FWTM: 148.0 + 112.0° / 158.0 + 140.0°            Efficiency: 84 %            Peak intensity: 0.3 cd/lm            LEDs/each optic: 4            Light colour: White            Required components:</p> <p>Protective plate, glass</p>	
<p><b>NICHIA</b></p> <p>LED: NVSxE21A            FWHM / FWTM: 105.0 + 146.0° / 138.0 + 152.0°            Efficiency: 84 %            Peak intensity: 0.4 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p> <p>Protective plate, glass</p>	
<p><b>NICHIA</b></p> <p>LED: NVSxx19B/NVSxx19C            FWHM / FWTM: Asymmetric            Efficiency: 92 %            Peak intensity: 0.4 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p>	

#### OPTICAL RESULTS (SIMULATED):

<p><b>OSRAM</b> Opto Semiconductors</p> <p>LED Duris S8</p> <p>FWHM / FWTM Asymmetric</p> <p>Efficiency 96 %</p> <p>Peak intensity 0.4 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>	
<p><b>OSRAM</b> Opto Semiconductors</p> <p>LED Duris S8</p> <p>FWHM / FWTM Asymmetric</p> <p>Efficiency 87 %</p> <p>Peak intensity 0.3 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p> <p>Protective plate, glass</p>	
<p><b>OSRAM</b> Opto Semiconductors</p> <p>LED OSCONIQ P 3737 (3W version)</p> <p>FWHM / FWTM 153.0 + 92.0° / 163.0 + 137.0°</p> <p>Efficiency 94 %</p> <p>Peak intensity 0.4 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>	
<p><b>OSRAM</b> Opto Semiconductors</p> <p>LED OSLOM Square CSSRM2/CSSRM3</p> <p>FWHM / FWTM Asymmetric</p> <p>Efficiency 85 %</p> <p>Peak intensity 0.4 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p> <p>Protective plate, glass</p>	

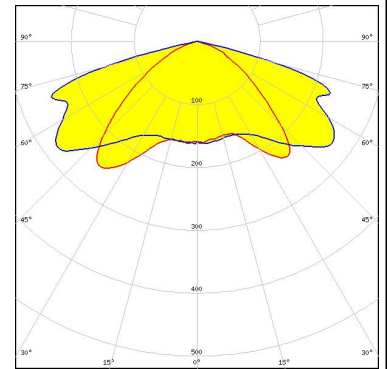
#### OPTICAL RESULTS (SIMULATED):

#### OSRAM

Opto Semiconductors

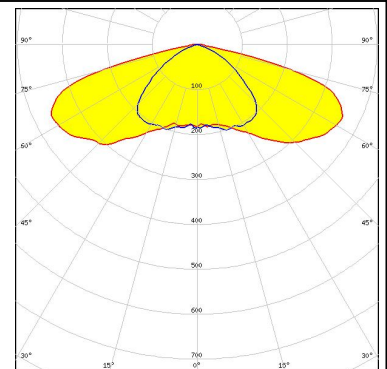
LED OSLON Square CSSRM2/CSSRM3  
 FWHM / FWTM 148.0 + 116.0°  
 Efficiency 82 %  
 LEDs/each optic 1  
 Light colour White  
 Required components:

Protective plate, glass



#### PHILIPS

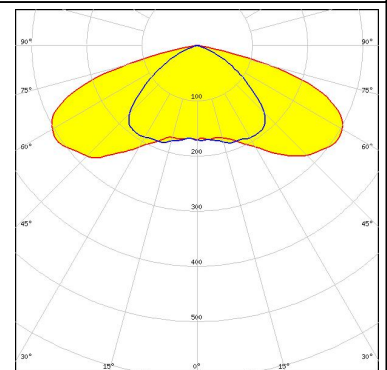
LED Fortimo FastFlex LED 2x8 DA HE  
 FWHM / FWTM 152.0 + 112.0° / 160.0 + 140.0°  
 Efficiency 97 %  
 Peak intensity 0.4 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### PHILIPS

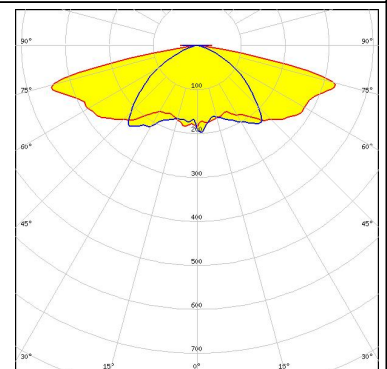
LED Fortimo FastFlex LED 2x8 DA HE  
 FWHM / FWTM 148.0 + 112.0° / 158.0 + 138.0°  
 Efficiency 85 %  
 Peak intensity 0.3 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:

Protective plate, glass



#### PHILIPS

LED Fortimo FastFlex LED 2x8 DAX G4  
 FWHM / FWTM 157.0 + 94.0° / 164.0 + 120.0°  
 Efficiency 94 %  
 Peak intensity 0.4 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:

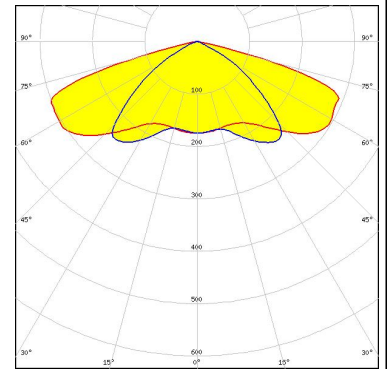


#### OPTICAL RESULTS (SIMULATED):

### SAMSUNG

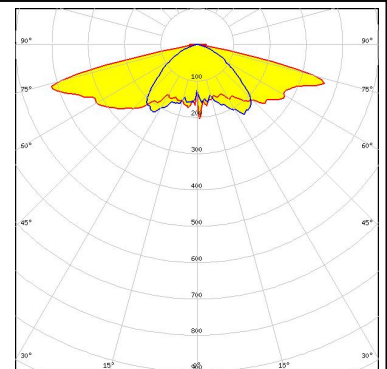
LED HiLOM RH12 Z (LH351C)  
 FWHM / FWTM Asymmetric  
 Efficiency 86 %  
 Peak intensity 0.3 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:

Protective plate, glass



### SAMSUNG

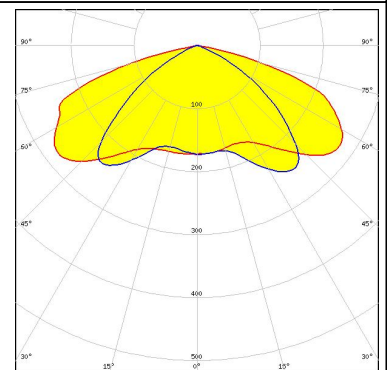
LED LH351A  
 FWHM / FWTM 158.0 + 116.0° / 172.0 + 163.0°  
 Efficiency 92 %  
 Peak intensity 0.4 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



### SAMSUNG

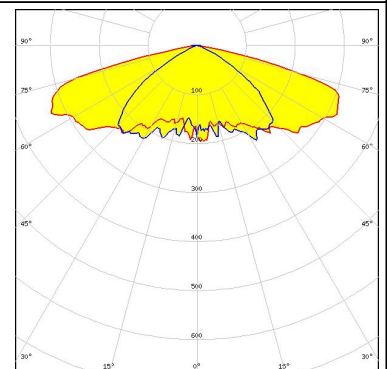
LED LH351B  
 FWHM / FWTM Asymmetric  
 Efficiency 85 %  
 Peak intensity 0.3 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:

Protective plate, glass



### SAMSUNG

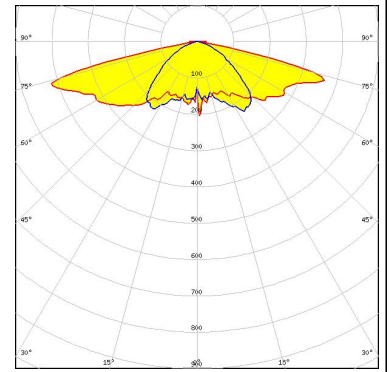
LED LH351D  
 FWHM / FWTM 153.0 + 113.0° / 160.0 + 132.0°  
 Efficiency 92 %  
 Peak intensity 0.3 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### OPTICAL RESULTS (SIMULATED):

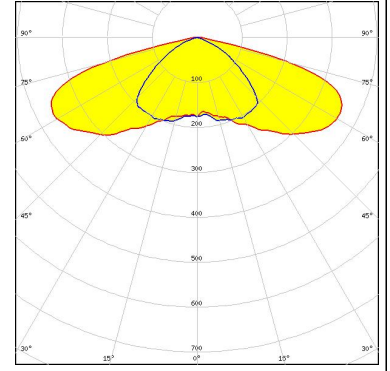
### SAMSUNG

LED LH351Z  
 FWHM / FWTM 150.0 + 105.0° / 156.0 + 126.0°  
 Efficiency 93 %  
 Peak intensity 0.4 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



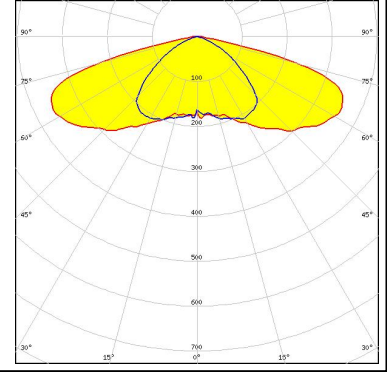
SEOUL SEMICONDUCTOR

LED MJT 5050  
 FWHM / FWTM Asymmetric  
 Efficiency 96 %  
 Peak intensity 0.4 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



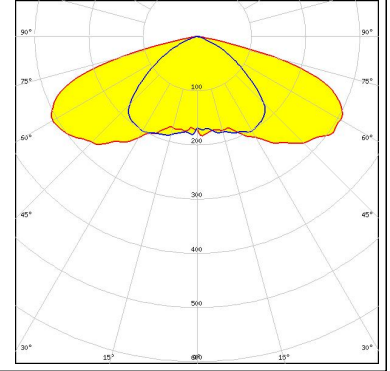
SEOUL SEMICONDUCTOR

LED SEOUL DC 5050 6V  
 FWHM / FWTM Asymmetric  
 Efficiency 96 %  
 Peak intensity 0.4 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



SEOUL SEMICONDUCTOR

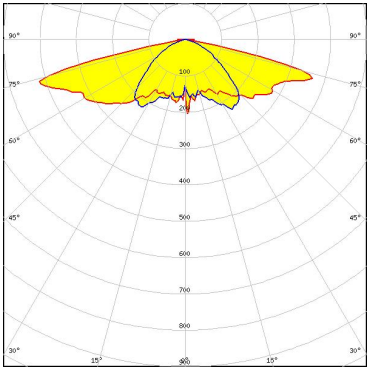
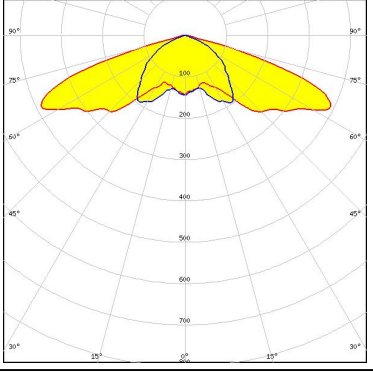
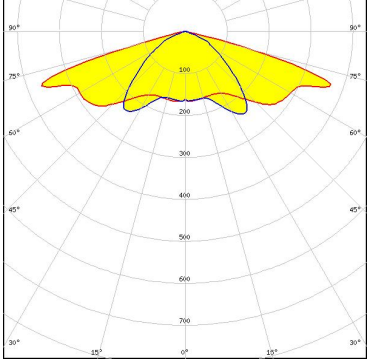
LED SEOUL DC 5050 6V  
 FWHM / FWTM Asymmetric  
 Efficiency 86 %  
 Peak intensity 0.3 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



Protective plate, glass



#### OPTICAL RESULTS (SIMULATED):

<p><b>SEOUL SEMICONDUCTOR</b></p> <p>LED: Z5M            FWHM / FWTM: 153.0 + 110.0° / 159.0 + 143.0°            Efficiency: 92 %            Peak intensity: 0.4 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p>	
<p><b>SEOUL SEMICONDUCTOR</b></p> <p>LED: Z8Y22            FWHM / FWTM: Asymmetric            Efficiency: 82 %            Peak intensity: 0.4 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p> <p style="background-color: #ADD8E6; padding: 2px; display: inline-block;">Protective plate, glass</p>	
<p><b>TRIDONIC</b></p> <p>LED: RLE 2x8 4000lm HP EXC2 OTD            FWHM / FWTM: Asymmetric            Efficiency: 86 %            Peak intensity: 0.4 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p> <p style="background-color: #ADD8E6; padding: 2px; display: inline-block;">Protective plate, glass</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.

### MATERIALS:

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

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#### LEDiL Oy

Joensuunkatu 13  
FI-24240 SALO  
Finland

#### LEDiL Inc.

228 West Page Street  
Suite D  
Sycamore IL 60178  
USA

#### Ledil Optics Technology (Shenzhen) Co., Ltd.

# 405 , Block B  
Casic Motor Building  
Shenzhen 518057  
P.R.CHINA

#### Local sales and technical support

[www.ledil.com/  
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