

## SPORT-2X2-FT60

Narrow forward throw beam for high masts

### SPECIFICATION:

Dimensions	50.0 x 50.0 mm
Height	15.5 mm
Fastening	screw
ROHS compliant	yes ⓘ

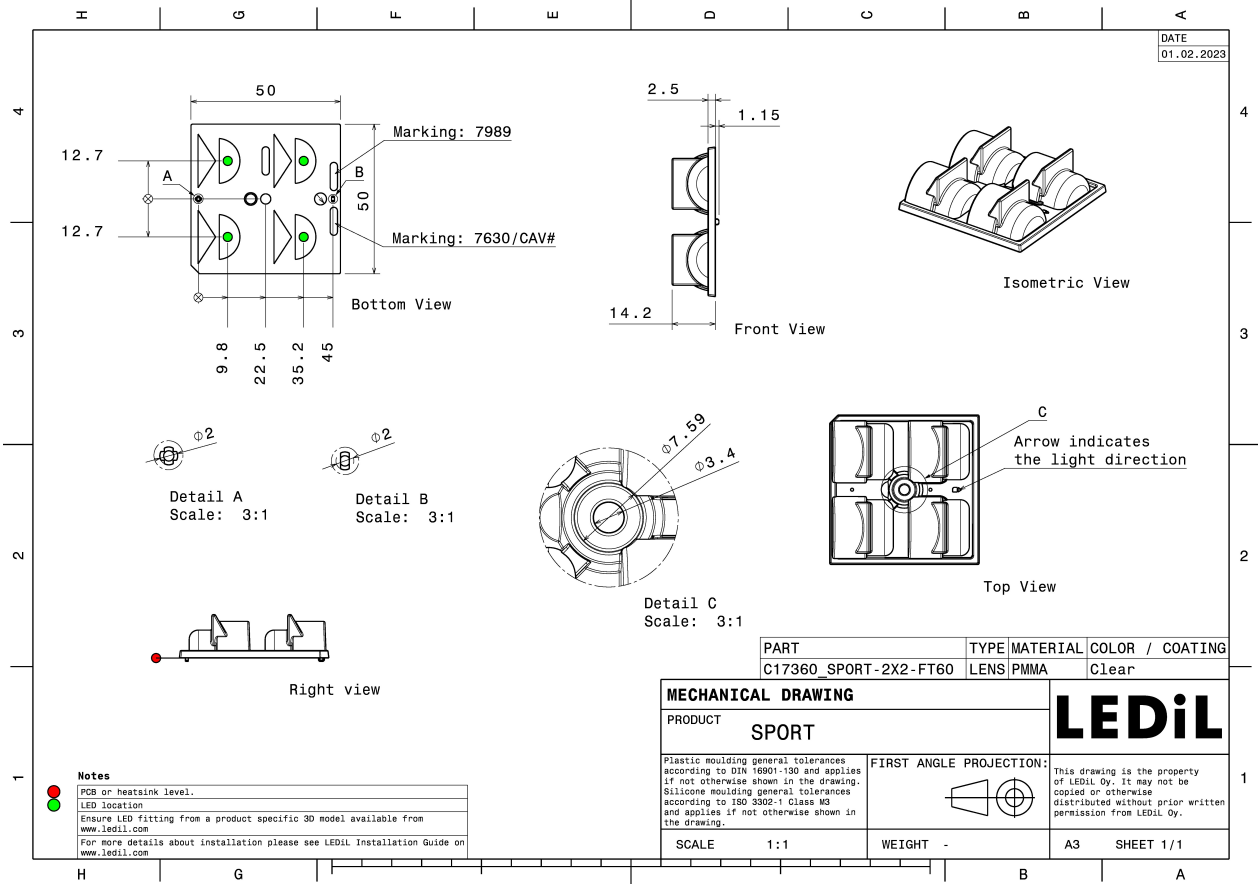
### MATERIALS:

Component	Type	Material	Colour	Finish
SPORT-2X2-FT60	Multi-lens	PMMA	clear	

### ORDERING INFORMATION:

Component	Qty in box	MOQ	MPQ	Box weight (kg)
C17360_SPORT-2X2-FT60 » Box size: 480 x 280 x 300 mm	640	128	128	9.5





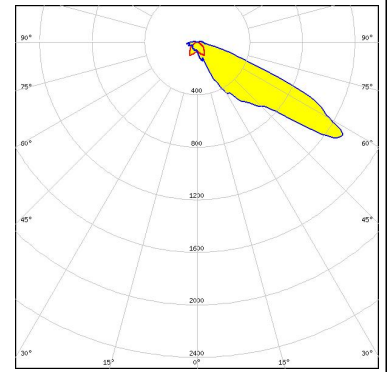
See also our general installation guide: [www.ledil.com/installation\\_guide](http://www.ledil.com/installation_guide)

#### OPTICAL RESULTS (MEASURED):

##### OSRAM

Opto Semiconductors

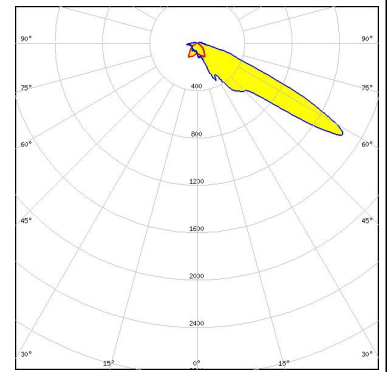
LED OSCONIQ C 3030  
FWHM / FWTM Asymmetric  
Efficiency 94 %  
Peak intensity 1.4 cd/lm  
LEDs/each optic 1  
Light colour White  
Required components:



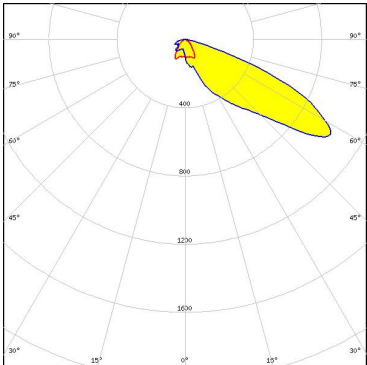
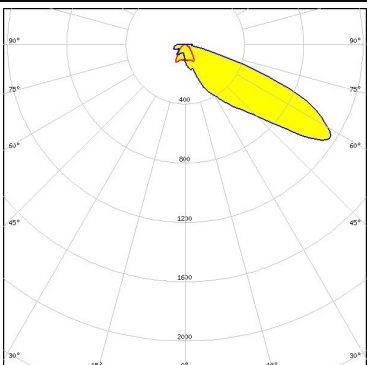
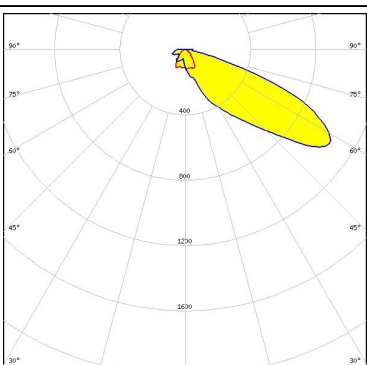
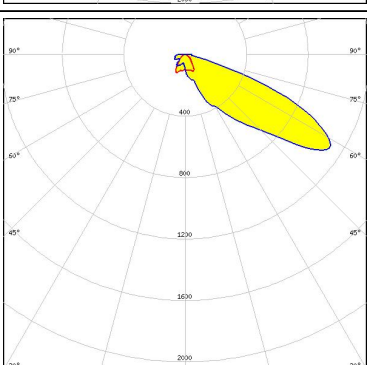
##### TEPCOMP

group

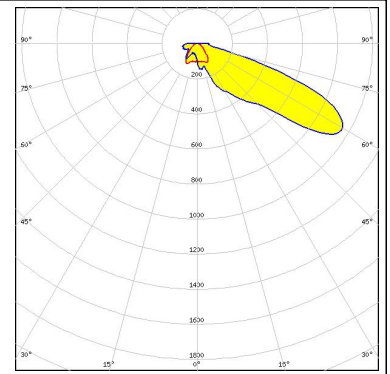
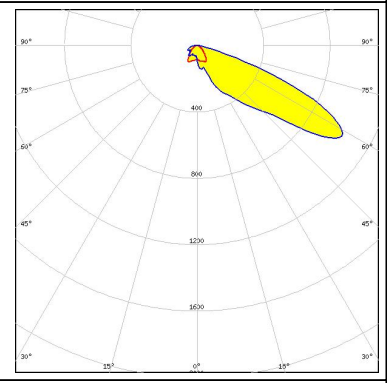
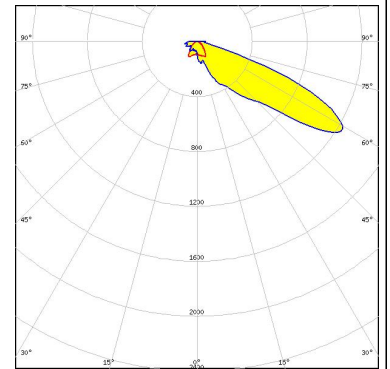
LED PassivePAQ-R-222x50.OS1.9.7K-750-5 V1.0  
FWHM / FWTM Asymmetric  
Efficiency 94 %  
Peak intensity 1.5 cd/lm  
LEDs/each optic 1  
Light colour White  
Required components:



#### OPTICAL RESULTS (SIMULATED):

<p><b>CREE</b> LEDs</p> <p>LED J Series 5050 Round LES</p> <p>FWHM / FWTM Asymmetric</p> <p>Efficiency 78 %</p> <p>Peak intensity 1 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>CREE</b> LEDs</p> <p>LED J Series 5050 Round LES</p> <p>FWHM / FWTM Asymmetric</p> <p>Efficiency 91 %</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><b>CREE</b> LEDs</p> <p>LED J Series 5050B 6V K Class</p> <p>FWHM / FWTM Asymmetric</p> <p>Efficiency 89 %</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><b>CREE</b> LEDs</p> <p>LED J Series 5050C 6V E Class</p> <p>FWHM / FWTM Asymmetric</p> <p>Efficiency 89 %</p> <p>Peak intensity 1.1 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>	

#### OPTICAL RESULTS (SIMULATED):

<p><b>CREE</b> LEDs</p> <p>LED XHP35.2 HD            FWHM / FWTM Asymmetric            Efficiency 89 %            Peak intensity 1 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>		
<p><b>CREE</b> LEDs</p> <p>LED XHP35.2 HD            FWHM / FWTM Asymmetric            Efficiency 73 %            Peak intensity 0.8 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p> <p style="background-color: #e0f0ff; padding: 2px;">Protective plate, glass</p>		
<p><b>CREE</b> LEDs</p> <p>LED XHP35.2 HI            FWHM / FWTM Asymmetric            Efficiency 77 %            Peak intensity 1 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p> <p style="background-color: #e0f0ff; padding: 2px;">Protective plate, glass</p>		
<p><b>CREE</b> LEDs</p> <p>LED XHP35.2 HI            FWHM / FWTM Asymmetric            Efficiency 92 %            Peak intensity 1.2 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>		

#### OPTICAL RESULTS (SIMULATED):

<p><b>CREE</b> LEDs</p> <p>LED: XHP50.3 HI            FWHM / FWTM: Asymmetric            Efficiency: 92 %            Peak intensity: 1.2 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p>	
<p><b>CREE</b> LEDs</p> <p>LED: XHP50.3 HI            FWHM / FWTM: Asymmetric            Efficiency: 77 %            Peak intensity: 1 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p> <p>Protective plate, glass</p>	
<p><b>CREE</b> LEDs</p> <p>LED: XM-L3            FWHM / FWTM: Asymmetric            Efficiency: 74 %            Peak intensity: 1.1 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p> <p>Protective plate, glass</p>	
<p><b>CREE</b> LEDs</p> <p>LED: XM-L3            FWHM / FWTM: Asymmetric            Efficiency: 90 %            Peak intensity: 1.3 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p>	

#### OPTICAL RESULTS (SIMULATED):

<p><b>CREE</b> LEDs</p> <p>LED: XP-E2            FWHM / FWTM: Asymmetric            Efficiency: 88 %            Peak intensity: 2 cd/lm            LEDs/each optic: 1            Light colour: Green            Required components:</p>	
<p><b>CREE</b> LEDs</p> <p>LED: XP-G2            FWHM / FWTM: Asymmetric            Efficiency: 77 %            Peak intensity: 1.5 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>CREE</b> LEDs</p> <p>LED: XP-G2            FWHM / FWTM: Asymmetric            Efficiency: 90 %            Peak intensity: 1.8 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p>	
<p><b>CREE</b> LEDs</p> <p>LED: XP-G2 HE            FWHM / FWTM: Asymmetric            Efficiency: 88 %            Peak intensity: 1.8 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p>	

#### OPTICAL RESULTS (SIMULATED):

<p><b>CREE</b> LEDs</p> <p>LED: XP-G2 HE            FWHM / FWTM: Asymmetric            Efficiency: 61 %            Peak intensity: 1.6 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:            C17929_SPORT-2X2-FT-SHD-BLK</p>	
<p><b>CREE</b> LEDs</p> <p>LED: XP-G2 HE            FWHM / FWTM: Asymmetric            Efficiency: 73 %            Peak intensity: 1.6 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:            C18069_SPORT-2X2-FT-SHD-WHT</p>	
<p><b>CREE</b> LEDs</p> <p>LED: XP-G3            FWHM / FWTM: Asymmetric            Efficiency: 73 %            Peak intensity: 1.2 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:            Protective plate, glass</p>	
<p><b>CREE</b> LEDs</p> <p>LED: XP-G4            FWHM / FWTM: Asymmetric            Efficiency: 90 %            Peak intensity: 1.9 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p>	



#### OPTICAL RESULTS (SIMULATED):

<p><b>CREE</b> LEDs</p> <p>LED: XP-L HD            FWHM / FWTM: Asymmetric            Efficiency: 75 %            Peak intensity: 1.1 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: XP-L HD            FWHM / FWTM: Asymmetric            Efficiency: 91 %            Peak intensity: 1.3 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p>	
<p><b>CREE</b> LEDs</p> <p>LED: XP-L HI            FWHM / FWTM: Asymmetric            Efficiency: 76 %            Peak intensity: 1.4 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: XP-L HI            FWHM / FWTM: Asymmetric            Efficiency: 92 %            Peak intensity: 1.7 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p>	

#### OPTICAL RESULTS (SIMULATED):

<p><b>CREE</b> LEDs</p> <p>LED: XP-L2            FWHM / FWTM: Asymmetric            Efficiency: 72 %            Peak intensity: 1 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p> <p>Protective plate, glass</p>	
<p><b>CREE</b> LEDs</p> <p>LED: XP-L2            FWHM / FWTM: Asymmetric            Efficiency: 87 %            Peak intensity: 1.2 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p>	
<p><b>CREE</b> LEDs</p> <p>LED: XP-P            FWHM / FWTM: Asymmetric            Efficiency: 93 %            Peak intensity: 2.2 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p>	
<p><b>CREE</b> LEDs</p> <p>LED: XP-P            FWHM / FWTM: Asymmetric            Efficiency: 77 %            Peak intensity: 1.7 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p> <p>Protective plate, glass</p>	

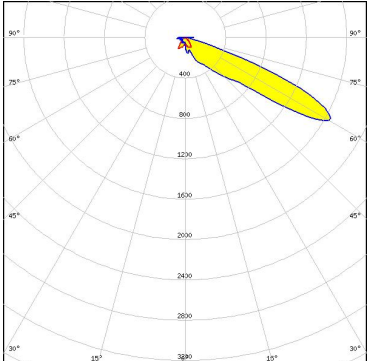
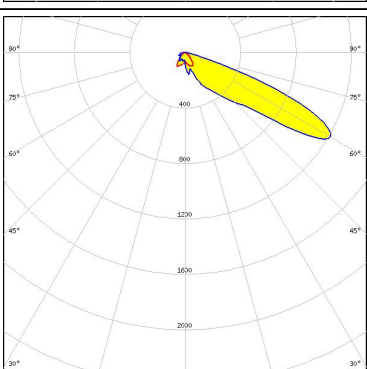
#### OPTICAL RESULTS (SIMULATED):

<p><b>LUMILEDS</b></p> <p>LED LUXEON 3030 2D (Round LES)</p> <p>FWHM / FWTM Asymmetric</p> <p>Efficiency 76 %</p> <p>Peak intensity 1.4 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p> <p>Protective plate, glass</p>	
<p><b>LUMILEDS</b></p> <p>LED LUXEON 5050 HE</p> <p>FWHM / FWTM Asymmetric</p> <p>Efficiency 89 %</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><b>LUMILEDS</b></p> <p>LED LUXEON 5050 HE</p> <p>FWHM / FWTM Asymmetric</p> <p>Efficiency 74 %</p> <p>Peak intensity 0.9 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 5050 Round LES</p> <p>FWHM / FWTM Asymmetric</p> <p>Efficiency 78 %</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>Protective plate, glass</p>	

#### OPTICAL RESULTS (SIMULATED):

<p><b>LUMILEDS</b></p> <p>LED LUXEON 5050 Square LES</p> <p>FWHM / FWTM Asymmetric</p> <p>Efficiency 76 %</p> <p>Peak intensity 0.9 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 5050 Square LES</p> <p>FWHM / FWTM Asymmetric</p> <p>Efficiency 70 %</p> <p>Peak intensity 1 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p> <p>C18069_SPORT-2X2-FT-SHD-WHT</p>	
<p><b>LUMILEDS</b></p> <p>LED LUXEON 5050 Square LES</p> <p>FWHM / FWTM Asymmetric</p> <p>Efficiency 89 %</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><b>LUMILEDS</b></p> <p>LED LUXEON 5050 Square LES</p> <p>FWHM / FWTM Asymmetric</p> <p>Efficiency 58 %</p> <p>Peak intensity 0.9 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p> <p>C17929_SPORT-2X2-FT-SHD-BLK</p>	

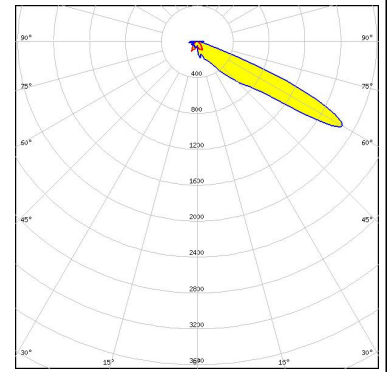
#### OPTICAL RESULTS (SIMULATED):

<p><b>LUMILEDS</b></p> <p>LED: LUXEON HL2X            FWHM / FWTM: Asymmetric            Efficiency: 88 %            Peak intensity: 1.7 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p>	
<p><b>LUMILEDS</b></p> <p>LED: LUXEON TX            FWHM / FWTM: Asymmetric            Efficiency: 88 %            Peak intensity: 1.6 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p>	
<p><b>LUMILEDS</b></p> <p>LED: LUXEON XR-HL2X (L2H2-xxxxxxxMLU010)            FWHM / FWTM: Asymmetric            Efficiency: 92 %            Peak intensity: 1.5 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p>	
<p><b>LUMILEDS</b></p> <p>LED: LUXEON XR-HL2X (L2H2-xxxxxxxMLU010)            FWHM / FWTM: Asymmetric            Efficiency: 76 %            Peak intensity: 1.2 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p> <p style="background-color: #ADD8E6; padding: 5px; display: inline-block;">Protective plate, glass</p>	

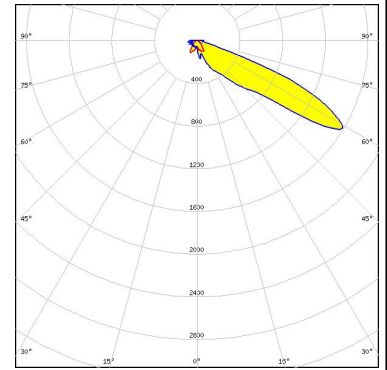
#### OPTICAL RESULTS (SIMULATED):



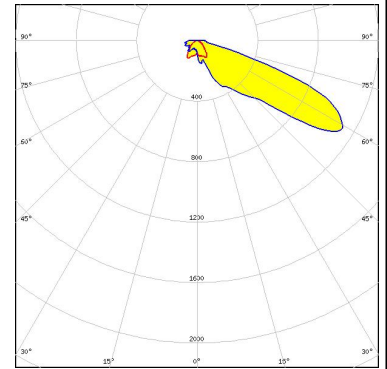
LED SFT-40-WCS  
 FWHM / FWTM 90.0 + 15.0° / 142.0 + 61.0°  
 Efficiency 92 %  
 Peak intensity 1.9 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



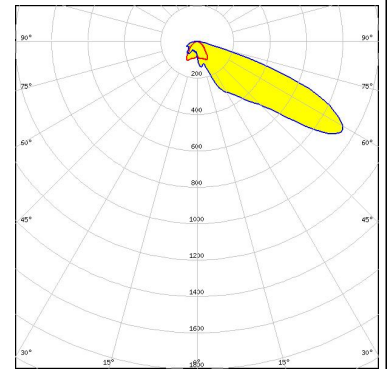
LED SFT-70X-WCS  
 FWHM / FWTM 87.0 + 18.0° / 141.0 + 65.0°  
 Efficiency 92 %  
 Peak intensity 1.6 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



LED SST-70X-WCS  
 FWHM / FWTM Asymmetric  
 Efficiency 92 %  
 Peak intensity 1.1 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



LED SST-70X-WCS  
 FWHM / FWTM Asymmetric  
 Efficiency 76 %  
 Peak intensity 0.9 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



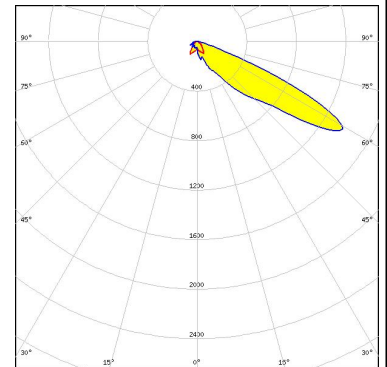
Protective plate, glass

#### OPTICAL RESULTS (SIMULATED):



LED NFSx757G  
 FWHM / FWTM Asymmetric  
 Efficiency 76 %  
 Peak intensity 1.4 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:

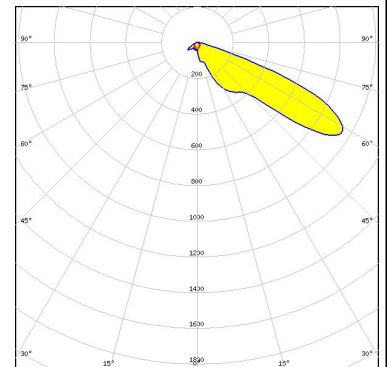
Protective plate, glass



LED NV4WB35AM  
 FWHM / FWTM Asymmetric  
 Efficiency 61 %  
 Peak intensity 1 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:

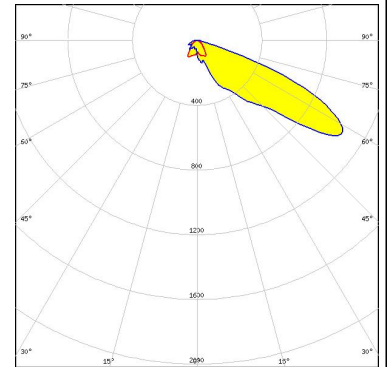
C18069\_SPORT-2X2-FT-SHD-WHT

Protective plate, glass



LED NV4WB35AM  
 FWHM / FWTM Asymmetric  
 Efficiency 75 %  
 Peak intensity 1.1 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:

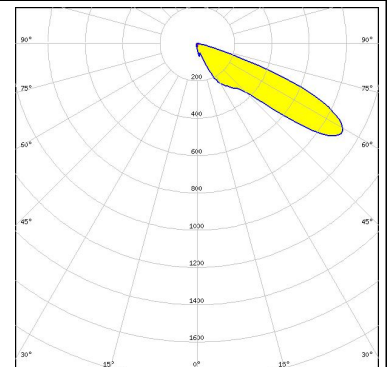
Protective plate, glass



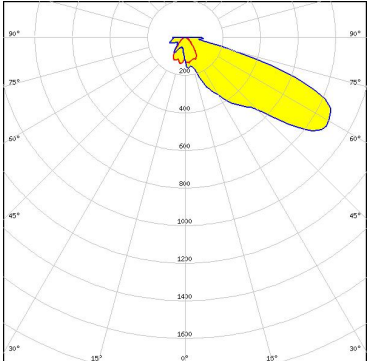
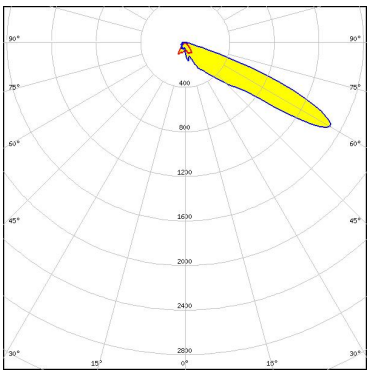
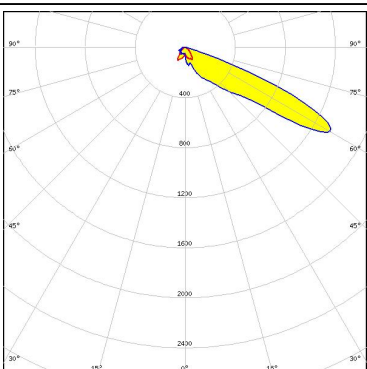
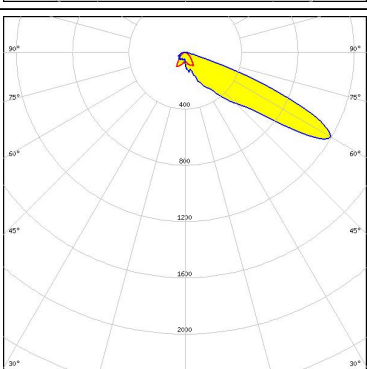
LED NV4WB35AM  
 FWHM / FWTM Asymmetric  
 Efficiency 49 %  
 Peak intensity 0.9 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:

C17929\_SPORT-2X2-FT-SHD-BLK

Protective plate, glass

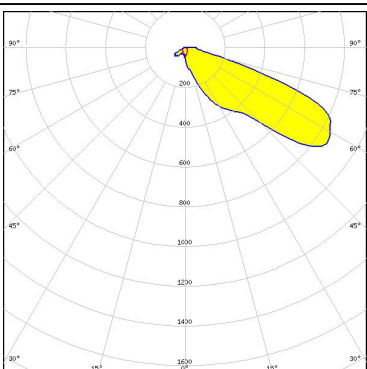
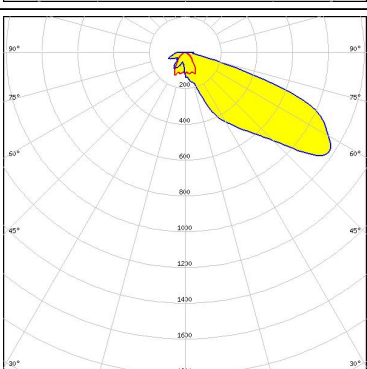


#### OPTICAL RESULTS (SIMULATED):

<p><b>NICHIA</b></p> <p>LED: NV4x144A            FWHM / FWTM: Asymmetric            Efficiency: 86 %            Peak intensity: 0.9 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p>	
<p><b>NICHIA</b></p> <p>LED: NVSW219D            FWHM / FWTM: Asymmetric            Efficiency: 75 %            Peak intensity: 1.5 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p> <p>Protective plate, glass</p>	
<p><b>NICHIA</b></p> <p>LED: NVSW219F            FWHM / FWTM: Asymmetric            Efficiency: 76 %            Peak intensity: 1.3 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p> <p>Protective plate, glass</p>	
<p><b>NICHIA</b></p> <p>LED: NVSW3x9A            FWHM / FWTM: Asymmetric            Efficiency: 76 %            Peak intensity: 1.2 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p> <p>Protective plate, glass</p>	



#### OPTICAL RESULTS (SIMULATED):

<p><b>NICHIA</b></p> <p>LED: NVSxE21A            FWHM / FWTM: Asymmetric            Efficiency: 77 %            Peak intensity: 1.3 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:            Protective plate, glass</p>	
<p><b>OSRAM</b> Opto Semiconductors</p> <p>LED: Duris S8            FWHM / FWTM: Asymmetric            Efficiency: 57 %            Peak intensity: 0.8 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:            C17929_SPORT-2X2-FT-SHD-BLK</p>	
<p><b>OSRAM</b> Opto Semiconductors</p> <p>LED: Duris S8            FWHM / FWTM: Asymmetric            Efficiency: 70 %            Peak intensity: 0.9 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:            C18069_SPORT-2X2-FT-SHD-WHT</p>	
<p><b>OSRAM</b> Opto Semiconductors</p> <p>LED: Duris S8            FWHM / FWTM: Asymmetric            Efficiency: 91 %            Peak intensity: 1 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p>	

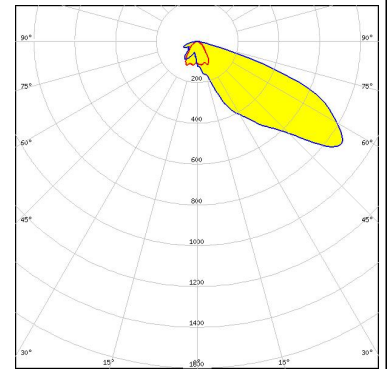
#### OPTICAL RESULTS (SIMULATED):

##### OSRAM

Opto Semiconductors

LED Duris S8  
 FWHM / FWTM Asymmetric  
 Efficiency 78 %  
 Peak intensity 0.9 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:

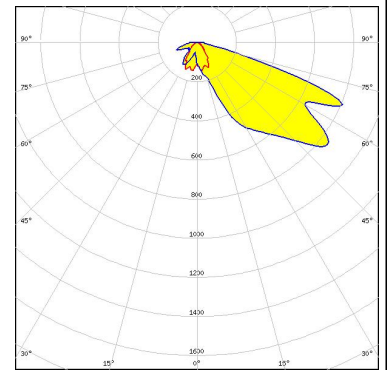
Protective plate, glass



##### OSRAM

Opto Semiconductors

LED OSCONIQ C 2424  
 FWHM / FWTM Asymmetric  
 Efficiency 89 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 4  
 Light colour White  
 Required components:

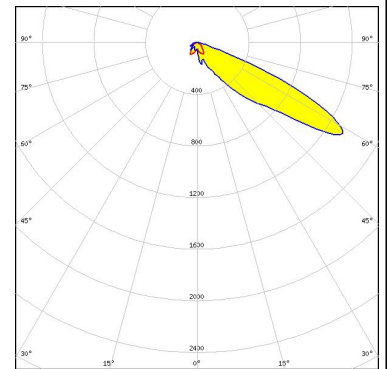


##### OSRAM

Opto Semiconductors

LED OSCONIQ C 3030  
 FWHM / FWTM Asymmetric  
 Efficiency 78 %  
 Peak intensity 1.3 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:

Protective plate, glass



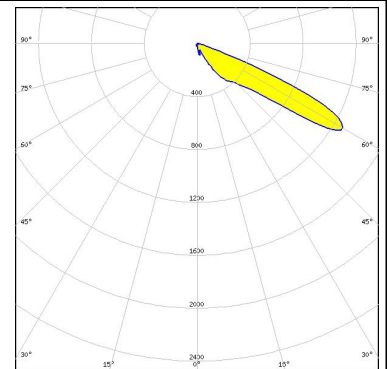
##### OSRAM

Opto Semiconductors

LED OSCONIQ P 3737 (2W version)  
 FWHM / FWTM Asymmetric  
 Efficiency 51 %  
 Peak intensity 1.3 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:

C17929\_SPORT-2X2-FT-SHD-BLK

Protective plate, glass



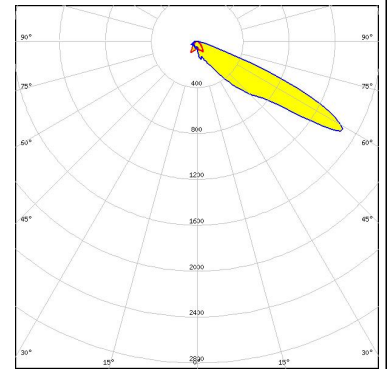
#### OPTICAL RESULTS (SIMULATED):

##### OSRAM

Opto Semiconductors

LED OSCONIQ P 3737 (2W version)  
 FWHM / FWTM Asymmetric  
 Efficiency 76 %  
 Peak intensity 1.5 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:

Protective plate, glass

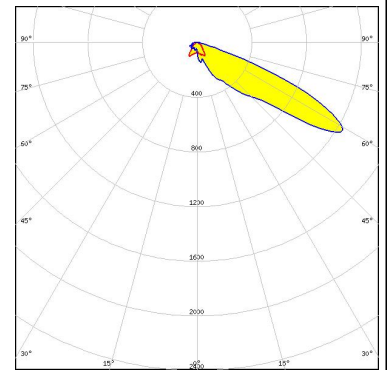


##### OSRAM

Opto Semiconductors

LED OSCONIQ P 3737 (3W version)  
 FWHM / FWTM Asymmetric  
 Efficiency 75 %  
 Peak intensity 1.2 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:

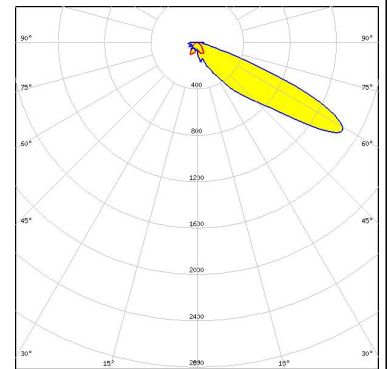
Protective plate, glass



##### OSRAM

Opto Semiconductors

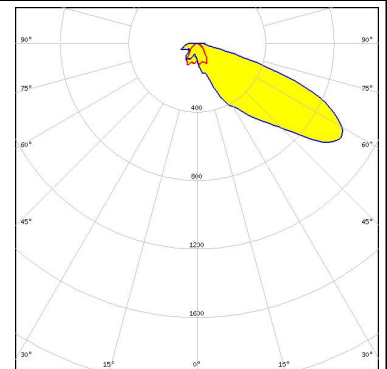
LED OSCONIQ P 3737 Flat  
 FWHM / FWTM Asymmetric  
 Efficiency 93 %  
 Peak intensity 1.5 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



##### OSRAM

Opto Semiconductors

LED OSCONIQ S 5050  
 FWHM / FWTM Asymmetric  
 Efficiency 93 %  
 Peak intensity 1 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### OPTICAL RESULTS (SIMULATED):

<p><b>OSRAM</b> Opto Semiconductors</p> <p>LED: OSCONIQ S 5050</p> <p>FWHM / FWTM: Asymmetric</p> <p>Efficiency: 78 %</p> <p>Peak intensity: 0.9 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: OSLOM Square CSSRM2/CSSRM3</p> <p>FWHM / FWTM: Asymmetric</p> <p>Efficiency: 51 %</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>C17929_SPORT-2X2-FT-SHD-BLK</p> <p>Protective plate, glass</p>	
<p><b>OSRAM</b> Opto Semiconductors</p> <p>LED: OSLOM Square CSSRM2/CSSRM3</p> <p>FWHM / FWTM: Asymmetric</p> <p>Efficiency: 76 %</p> <p>Peak intensity: 1.5 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: OSLOM Square CSSRM2/CSSRM3</p> <p>FWHM / FWTM: Asymmetric</p> <p>Efficiency: 73 %</p> <p>Peak intensity: 1.5 cd/lm</p> <p>LEDs/each optic: 1</p> <p>Light colour: White</p> <p>Required components:</p> <p>C18069_SPORT-2X2-FT-SHD-WHT</p>	

#### OPTICAL RESULTS (SIMULATED):

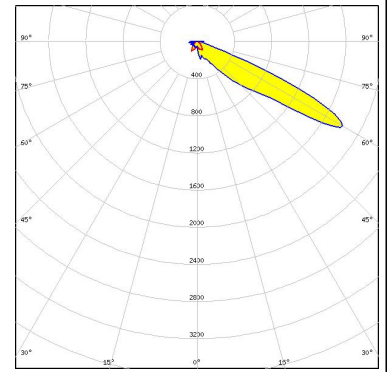
<p><b>OSRAM</b> Opto Semiconductors</p> <p>LED OSLON Square CSSRM2/CSSRM3</p> <p>FWHM / FWTM Asymmetric</p> <p>Efficiency 63 %</p> <p>Peak intensity 1.3 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components: C18069_SPORT-2X2-FT-SHD-WHT</p> <p>Protective plate, glass</p>	
<p><b>OSRAM</b> Opto Semiconductors</p> <p>LED OSLON Square CSSRM2/CSSRM3</p> <p>FWHM / FWTM Asymmetric</p> <p>Efficiency 62 %</p> <p>Peak intensity 1.5 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components: C17929_SPORT-2X2-FT-SHD-BLK</p>	
<p><b>OSRAM</b> Opto Semiconductors</p> <p>LED OSLON Square CSSRM2/CSSRM3</p> <p>FWHM / FWTM Asymmetric</p> <p>Efficiency 90 %</p> <p>Peak intensity 1.7 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 OSLON Square Flat</p> <p>FWHM / FWTM Asymmetric</p> <p>Efficiency 92 %</p> <p>Peak intensity 1.8 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>	

#### OPTICAL RESULTS (SIMULATED):

#### OSRAM

Opto Semiconductors

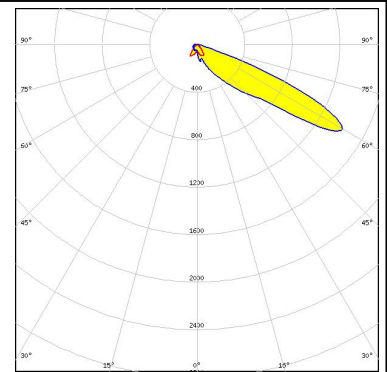
LED OSTAR Projection Compact (KW.CSLNM1.TG)  
 FWHM / FWTM Asymmetric  
 Efficiency 92 %  
 Peak intensity 1.8 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### SAMSUNG

LED LH351B  
 FWHM / FWTM Asymmetric  
 Efficiency 75 %  
 Peak intensity 1.4 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:

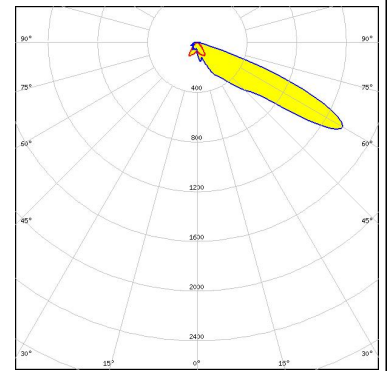
Protective plate, glass



#### SAMSUNG

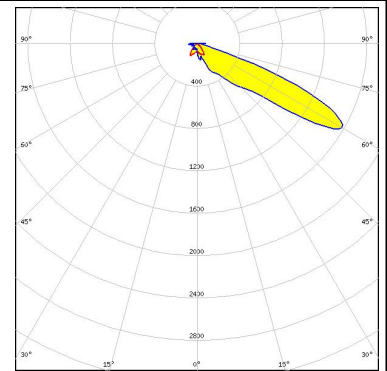
LED LH351C  
 FWHM / FWTM Asymmetric  
 Efficiency 77 %  
 Peak intensity 1.4 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:

Protective plate, glass



#### SAMSUNG

LED LH351C  
 FWHM / FWTM Asymmetric  
 Efficiency 88 %  
 Peak intensity 1.6 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:

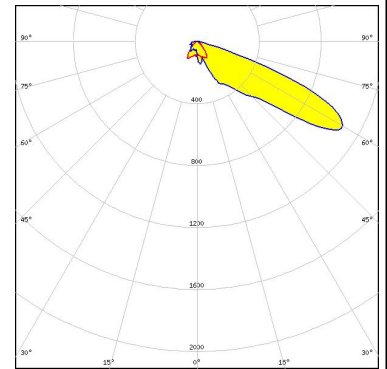


#### OPTICAL RESULTS (SIMULATED):

### SAMSUNG

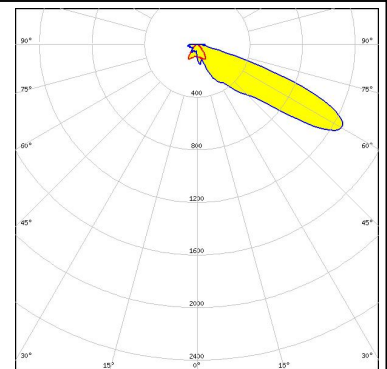
LED LH351D  
 FWHM / FWTM Asymmetric  
 Efficiency 74 %  
 Peak intensity 1.1 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:

Protective plate, glass



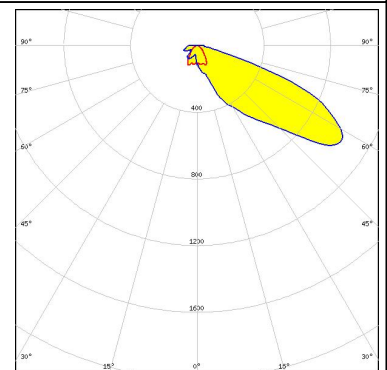
### SAMSUNG

LED LH351D  
 FWHM / FWTM Asymmetric  
 Efficiency 88 %  
 Peak intensity 1.3 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



### SAMSUNG

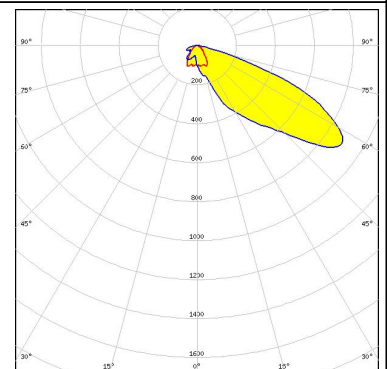
LED LH502C  
 FWHM / FWTM Asymmetric  
 Efficiency 89 %  
 Peak intensity 1 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



### SAMSUNG

LED LH502C  
 FWHM / FWTM Asymmetric  
 Efficiency 75 %  
 Peak intensity 0.9 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: MJT 5050            FWHM / FWTM: Asymmetric            Efficiency: 76 %            Peak intensity: 0.9 cd/lm            LEDs/each optic: 1            Light colour: White</p> <p>Required components:</p> <p>Protective plate, glass</p>	
<p><b>SEOUL SEMICONDUCTOR</b></p> <p>LED: SEOUL DC 5050 6V            FWHM / FWTM: Asymmetric            Efficiency: 89 %            Peak intensity: 1 cd/lm            LEDs/each optic: 1            Light colour: White</p> <p>Required components:</p>	
<p><b>SEOUL SEMICONDUCTOR</b></p> <p>LED: SEOUL DC 5050 6V            FWHM / FWTM: Asymmetric            Efficiency: 76 %            Peak intensity: 0.9 cd/lm            LEDs/each optic: 1            Light colour: White</p> <p>Required components:</p> <p>Protective plate, glass</p>	
<p><b>SEOUL SEMICONDUCTOR</b></p> <p>LED: Z5M3            FWHM / FWTM: Asymmetric            Efficiency: 76 %            Peak intensity: 1.2 cd/lm            LEDs/each optic: 1            Light colour: White</p> <p>Required components:</p> <p>Protective plate, glass</p>	



#### OPTICAL RESULTS (SIMULATED):

<p><b>SEOUL SEMICONDUCTOR</b></p> <p>LED: Z5M4            FWHM / FWTM: Asymmetric            Efficiency: 77 %            Peak intensity: 1.4 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p> <p>Protective plate, glass</p>	
<p><b>SEOUL SEMICONDUCTOR</b></p> <p>LED: Z5M5            FWHM / FWTM: Asymmetric            Efficiency: 88 %            Peak intensity: 1.3 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p>	
<p><b>SEOUL SEMICONDUCTOR</b></p> <p>LED: Z5M5            FWHM / FWTM: Asymmetric            Efficiency: 76 %            Peak intensity: 1.1 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p> <p>Protective plate, glass</p>	
<p><b>SEOUL SEMICONDUCTOR</b></p> <p>LED: Z8Y22            FWHM / FWTM: Asymmetric            Efficiency: 90 %            Peak intensity: 1.2 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p>	

#### OPTICAL RESULTS (SIMULATED):



#### 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:

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