

# HB-2X2-M

~25° medium beam

#### **SPECIFICATION:**

Dimensions	50.0 x 50.0 mm
Height	8.5 mm
Fastening	glue, pin, screw
ROHS compliant	yes 🕕



PRODUCT DATASHEET C13233\_HB-2X2-M

#### MATERIALS:

Component HB-2X2-M

#### **Type** Multi-lens

Material	Colour	Finish
PMMA	clear	

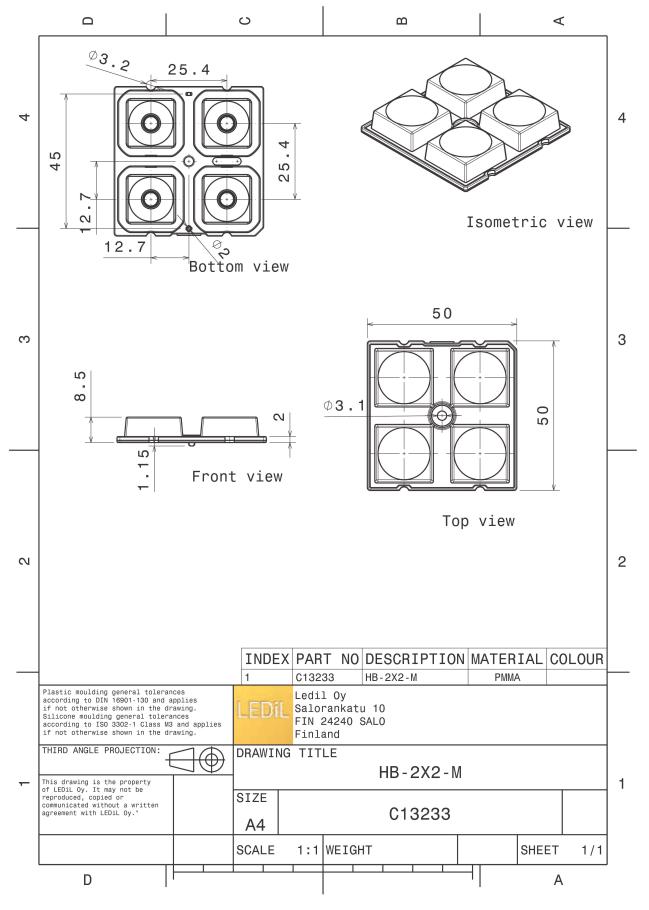
#### **ORDERING INFORMATION:**

Component C13233\_HB-2X2-M » Box size: 480 x 280 x 300 mm

Qty in box	MOQ	MPQ	Box weight (kg)
800	160	160	9.2

PRODUCT DATASHEET C13233\_HB-2X2-M





See also our general installation guide: <u>www.ledil.com/installation\_guide</u>



		90 <sup>+</sup>
LED	QUICK FLUX XTP 2x4 xxx LS G5	75
FWHM / FWTM	28.0° / 52.0°	
Efficiency	94 %	602
Peak intensity	3.1 cd/lm	
LEDs/each optic	1	
Light colour	White	ar dat
Required componer	nts:	
		30° 3220 30° 30°
		30°
LED	QUICK FLUX XTP 2x6 xxx LS G5	
FWHM / FWTM	29.0° / 52.0°	77
	94 %	
Efficiency		60*
Peak intensity	3 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required componer	nts:	
		200
		30. 30.
		15° 2230 15°
		90 <sup>4</sup>
CREE ÷	XB-D	90* 90*
	XB-D 26.0° / 47.0°	20°
LED		27
LED FWHM / FWTM	26.0° / 47.0°	75 27
LED FWHM / FWTM Efficiency	26.0° / 47.0° 94 %	84
LED FWHM / FWTM Efficiency Peak intensity	26.0° / 47.0° 94 % 3.9 cd/lm	84
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	26.0° / 47.0° 94 % 3.9 cd/lm 1 White	75 00 757 95* 100 100
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	26.0° / 47.0° 94 % 3.9 cd/lm 1 White	75 00 757 95* 100 100
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	26.0° / 47.0° 94 % 3.9 cd/lm 1 White	75 00 77 95 00 00 159 00 905 00 905 00 905 00
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	26.0° / 47.0° 94 % 3.9 cd/lm 1 White	75 00 77 95 00 00 159 00 905 00 905 00 905 00
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required componer	26.0° / 47.0° 94 % 3.9 cd/lm 1 White	75 00 77 95 00 00 159 00 905 00 905 00 905 00
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required componer	26.0° / 47.0° 94 % 3.9 cd/lm 1 White	75 00 77 95 00 00 159 00 905 00 905 00 905 00
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required componer	26.0° / 47.0° 94 % 3.9 cd/lm 1 White nts:	22° 0° 22° 64° 64° 1000 10
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required componer	26.0° / 47.0° 94 % 3.9 cd/lm 1 White nts: XP-G	22° 0° 22° 64° 64° 1000 10
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required componer	26.0° / 47.0° 94 % 3.9 cd/lm 1 White nts: XP-G 31.0° / 54.0°	30,         30,         30,           30,         30,         40,           30,         30,0         40,           30,         30,0         40,           30,0         40,         40,           30,0         40,         40,           30,0         40,         40,           30,0         40,         40,           30,0         40,         40,           30,0         40,         40,           30,0         40,         40,           30,0         40,         40,           30,0         40,         40,           30,0         40,         40,           30,0         40,         40,           40,0         40,         40,           40,0         40,         40,           40,0         40,         40,           40,0         40,         40,           40,0         40,         40,           40,0         40,         40,           40,0         40,         40,
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required componer Required componer	26.0° / 47.0° 94 % 3.9 cd/lm 1 White nts: XP-G 31.0° / 54.0° 91 %	Ba         Ba           Ba         <
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required component Required component ELED FWHM / FWTM Efficiency Peak intensity	26.0° / 47.0° 94 % 3.9 cd/lm 1 White nts: XP-G 31.0° / 54.0° 91 % 3.1 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required componer Required componer ELED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	26.0° / 47.0° 94 % 3.9 cd/lm 1 White nts: XP-G 31.0° / 54.0° 91 % 3.1 cd/lm 1	200 20 20 20 20 20 20 20 20 20
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required componer Required componer ELED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	26.0° / 47.0° 94 % 3.9 cd/lm 1 White nts: XP-G 31.0° / 54.0° 91 % 3.1 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required componer Required componer ELED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	26.0° / 47.0° 94 % 3.9 cd/lm 1 White nts: XP-G 31.0° / 54.0° 91 % 3.1 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required componer Required componer ELED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	26.0° / 47.0° 94 % 3.9 cd/lm 1 White nts: XP-G 31.0° / 54.0° 91 % 3.1 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required componer Required componer ELED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	26.0° / 47.0° 94 % 3.9 cd/lm 1 White nts: XP-G 31.0° / 54.0° 91 % 3.1 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required componer Required componer EED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	26.0° / 47.0° 94 % 3.9 cd/lm 1 White nts: XP-G 31.0° / 54.0° 91 % 3.1 cd/lm 1 White	



		90° 90°
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required componen	XP-G2 33.0° / 54.0° 93 % 3.4 cd/lm 1 White tts:	
CREE C LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required component	XT-E 25.0° / 46.0° 92 % 3.7 cd/lm 1 White hts:	99° 99° 99° 99° 99° 99° 99° 99° 99° 99°
W LUMIL LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required componen	LUXEON Q 26.0° / 49.0° 94 % 3.6 cd/m 1 White	94 94 90 94 90 94 90 94 90 94 90 94 90 90 90 90 90 90 90 90 90 90 90 90 90
ED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required component	LUXEON Z ES 21.0° / 42.0° 91 % 5.6 cd/m 1 White	



<b>ØNICHI</b> ∕		50° 50°
LED	NVSxE21A	
FWHM / FWTM	20.0° / 40.0°	
Efficiency	94 %	er 200.
Peak intensity	5 cd/lm	
LEDs/each optic	1	
Light colour	White	q <sup>2</sup> 300
Required compone	ents:	
		30*
		20 <sup>°</sup> 0 <sup>°</sup> 15 <sup>°</sup> 90 <sup>°</sup> 90 <sup>°</sup>
LED	NVSxx19B/NVSxx19C	
FWHM / FWTM	29.0° / 53.0°	75
Efficiency	90 %	
Peak intensity	3 cd/lm	
LEDs/each optic	1	
Light colour	White	er - 199
Required compone		
		200
		257 - 257
<b>ØNICHI</b>		12 <sup>5</sup> 0 <sup>4</sup> 12 <sup>5</sup>
	NVSxx19B/NVSxx19C	
LED	NVSxx19B/NVSxx19C	
LED FWHM / FWTM	NVSxx19B/NVSxx19C 29.0° / 52.0°	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	NVSxx19B/NVSxx19C 29.0° / 52.0° 91 %	
LED FWHM / FWTM Efficiency Peak intensity	NVSxx19B/NVSxx19C 29.0° / 52.0° 91 % 3.1 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	NVSxx19B/NVSxx19C 29.0° / 52.0° 91 % 3.1 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	NVSxx19B/NVSxx19C 29.0° / 52.0° 91 % 3.1 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	NVSxx19B/NVSxx19C 29.0° / 52.0° 91 % 3.1 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	NVSxx19B/NVSxx19C 29.0° / 52.0° 91 % 3.1 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	NVSxx19B/NVSxx19C 29.0° / 52.0° 91 % 3.1 cd/lm 1 White ents:	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	NVSxx19B/NVSxx19C 29.0° / 52.0° 91 % 3.1 cd/lm 1 White ents:	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	NVSxx19B/NVSxx19C 29.0° / 52.0° 91 % 3.1 cd/lm 1 White ents: PrevaLED Brick HP 2x8	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	NVSxx19B/NVSxx19C 29.0° / 52.0° 91 % 3.1 cd/lm 1 White ents:	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone <b>OSRAN</b> LED FWHM / FWTM	NVSxx19B/NVSxx19C 29.0° / 52.0° 91 % 3.1 cd/lm 1 White ents: PrevaLED Brick HP 2x8 30.0° / 51.0°	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone <b>OSRAN</b> LED FWHM / FWTM Efficiency	NVSxx19B/NVSxx19C 29.0° / 52.0° 91 % 3.1 cd/lm 1 White ents: PrevaLED Brick HP 2x8 30.0° / 51.0° 93 %	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone <b>OSRAN</b> LED FWHM / FWTM Efficiency Peak intensity	NVSxx19B/NVSxx19C 29.0° / 52.0° 91 % 3.1 cd/lm 1 White ents: PrevaLED Brick HP 2x8 30.0° / 51.0° 93 % 3.4 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone Required compone SOSRAN LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	NVSxx19B/NVSxx19C 29.0° / 52.0° 91 % 3.1 cd/lm 1 White ents: PrevaLED Brick HP 2x8 30.0° / 51.0° 93 % 3.4 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone <b>OSRAN</b> LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	NVSxx19B/NVSxx19C 29.0° / 52.0° 91 % 3.1 cd/lm 1 White ents: PrevaLED Brick HP 2x8 30.0° / 51.0° 93 % 3.4 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone <b>OSRAN</b> LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	NVSxx19B/NVSxx19C 29.0° / 52.0° 91 % 3.1 cd/lm 1 White ents: PrevaLED Brick HP 2x8 30.0° / 51.0° 93 % 3.4 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone <b>OSRAN</b> LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	NVSxx19B/NVSxx19C 29.0° / 52.0° 91 % 3.1 cd/lm 1 White ents: PrevaLED Brick HP 2x8 30.0° / 51.0° 93 % 3.4 cd/lm 1 White	



OSRAM Opto Semiconductors		90* 90*
LED	OSLON Square CSSRM2/CSSRM3	
FWHM / FWTM	30.0° / 51.0°	23*
Efficiency	93 %	50°
Peak intensity	3.4 cd/lm	$K \longrightarrow 1 \longrightarrow 7$
LEDs/each optic	1	
Light colour	White	gs
Required componer	nts:	2430
		3200
		300
		15° 0° 15°
OSRAM Opto Semiconductors		90° 90°
LED	OSLON Square PC	
FWHM / FWTM	30.0° / 54.0°	25.
Efficiency	91 %	
Peak intensity	3.4 cd/lm	
LEDs/each optic	1	1600
Light colour	White	47°
Required componer	nts:	2430
		15° 0° 15°
SAMSU	ING	90° 90°
		50'
LED	LH351B	20 <sup>-</sup> 25 <sup>-</sup>
LED FWHM / FWTM	LH351B 31.0° / 53.0°	30
LED FWHM / FWTM Efficiency	LH351B 31.0° / 53.0° 94 %	75
LED FWHM / FWTM Efficiency Peak intensity	LH351B 31.0° / 53.0°	30
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	LH351B 31.0° / 53.0° 94 % 2.8 cd/m	30
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LH351B 31.0° / 53.0° 94 % 2.8 cd/lm 1 White	60 90 90
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	LH351B 31.0° / 53.0° 94 % 2.8 cd/lm 1 White	60 90 90
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LH351B 31.0° / 53.0° 94 % 2.8 cd/lm 1 White	60 90 90
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LH351B 31.0° / 53.0° 94 % 2.8 cd/lm 1 White	60 90 90
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required componer	LH351B 31.0° / 53.0° 94 % 2.8 cd/lm 1 White nts:	20 0 0 0 0 0 0 0 0 0 0 0 0 0
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required componer	LH351B 31.0° / 53.0° 94 % 2.8 cd/lm 1 White nts:	20 0 0 0 0 0 0 0 0 0 0 0 0 0
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LH351B 31.0° / 53.0° 94 % 2.8 cd/lm 1 White tts:	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required componer	LH351B 31.0° / 53.0° 94 % 2.8 cd/lm 1 White hts:	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required componer <b>SAMSU</b> LED FWHM / FWTM	LH351B 31.0° / 53.0° 94 % 2.8 cd/lm 1 White tts:	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required componer	LH351B 31.0° / 53.0° 94 % 2.8 cd/lm 1 White hts: LH351Z 32.0° / 52.0° 93 %	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required componer <b>SANNSU</b> LED FWHM / FWTM Efficiency Peak intensity	LH351B 31.0° / 53.0° 94 % 2.8 cd/lm 1 White hts:	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required componer <b>SANNSU</b> LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	LH351B 31.0° / 53.0° 94 % 2.8 cd/lm 1 White hts:	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required componer <b>SANNSU</b> LED FWHM / FWTM Efficiency Peak intensity	LH351B 31.0° / 53.0° 94 % 2.8 cd/lm 1 White hts:	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required componer <b>SANNSU</b> LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LH351B 31.0° / 53.0° 94 % 2.8 cd/lm 1 White hts:	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required componer <b>SANNSU</b> LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LH351B 31.0° / 53.0° 94 % 2.8 cd/lm 1 White hts:	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required componer <b>SANNSU</b> LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LH351B 31.0° / 53.0° 94 % 2.8 cd/lm 1 White hts:	



SEOUL		50° 50°
	70//15	
LED	Z8Y15	75
FWHM / FWTM	20.0° / 41.0°	
Efficiency	89 %	62. 60. 60
Peak intensity	4.6 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required compone	nts:	
		30° 4000 30° 30°
SEOUL		90*
SEOUL SEMICONDUCTOR		
LED	Z8Y19	75
FWHM / FWTM	22.0° / 46.0°	
Efficiency	89 %	63° / / / / / / / / / / / / / / / / / / /
Peak intensity	3.8 cd/lm	
LEDs/each optic	1	
Light colour	White	45° - 2432
Required compone	nts:	
		320
		30 <sup>4</sup>
SEOUL		
SEOUL SEMICONDUCTOR	70/00	90° 99°
seoul semiconductor	Z8Y22	95
seoul semiconductor LED FWHM / FWTM	24.0° / 53.0°	9¢ 99
SEOUL SEMICONDUCTOR LED FWHM / FWTM Efficiency	24.0° / 53.0° 94 %	95
seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity	24.0° / 53.0° 94 % 3 cd/lm	95
scoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	24.0° / 53.0° 94 % 3 cd/lm 1	94 71 61 100 100
scoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	24.0° / 53.0° 94 % 3 cd/lm 1 White	90° 175 000 000
scoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	24.0° / 53.0° 94 % 3 cd/lm 1 White	94 72 60 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7
scoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	24.0° / 53.0° 94 % 3 cd/lm 1 White	94 71 61 100 100
seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	24.0° / 53.0° 94 % 3 cd/lm 1 White	
seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	24.0° / 53.0° 94 % 3 cd/lm 1 White	
seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	24.0° / 53.0° 94 % 3 cd/lm 1 White	
seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	24.0° / 53.0° 94 % 3 cd/lm 1 White nts:	
SEOUL SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	24.0° / 53.0° 94 % 3 cd/lm 1 White nts: Z8Y22P	
scoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	24.0° / 53.0° 94 % 3 cd/lm 1 White nts: Z8Y22P 28.0° / 56.0°	
SEOUL SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone SEOUL SEMICONDUCTOR LED FWHM / FWTM Efficiency	24.0° / 53.0° 94 % 3 cd/lm 1 White nts: Z8Y22P 28.0° / 56.0° 94 %	
SEOUL SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone SEOUL SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity	24.0° / 53.0° 94 % 3 cd/lm 1 White nts: Z8Y22P 28.0° / 56.0° 94 % 2.9 cd/lm	
seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	24.0° / 53.0° 94 % 3 cd/lm 1 White nts: Z8Y22P 28.0° / 56.0° 94 % 2.9 cd/lm 1	
stoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone stoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	24.0° / 53.0° 94 % 3 cd/lm 1 White nts:	
stour semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	24.0° / 53.0° 94 % 3 cd/lm 1 White nts:	
stoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone Stoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	24.0° / 53.0° 94 % 3 cd/lm 1 White nts:	
stoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone Stoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	24.0° / 53.0° 94 % 3 cd/lm 1 White nts:	
SEOUL SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone SEOUL SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	24.0° / 53.0° 94 % 3 cd/lm 1 White nts:	



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TOSHIBA Leading Innovation >>>		90* 90*
LED	TL1L4	
FWHM / FWTM	25.0° / 46.0°	75*
Efficiency	85 %	
Peak intensity	3.5 cd/lm	80°
	1	
LEDs/each optic	White	43* 43*
Light colour Required component		2000
Required component	lis	
		3300
		30° 15° 0° 35° 30°
TRIDON		90° 90°
LED	RLE 2x4 2000lm HP EXC2 OTD	
FWHM / FWTM	29.0° / 50.0°	
Efficiency	93 %	60°
Peak intensity	3.4 cd/lm	
LEDs/each optic	1	
Light colour	White	43° 43°
Required compone	its:	2430
		300 300
		15 <sup>9</sup> 0 <sup>6</sup> 15 <sup>9</sup>
TRIDON		90* 90*
LED	RLE G1 49x121mm 2000lm xxx EXC OTD	
FWHM / FWTM	29.0° / 53.0°	23.
Efficiency	94 %	60°
Peak intensity	3 cd/lm	$f \times / \square \setminus X \cap$
LEDs/each optic	1	
Light colour	White	gr
Required compone		
1		
	IS:	433
		23
		90 <sup>0</sup>
		$\times$ / $\bigcup$ / $\times$
		$\times$ / $\bigcup$ / $\times$
TRIDON	IIC	<u>30,0</u> <u>20,0</u> <u>2</u>
		30°
TRIDON LED FWHM / FWTM	RLE G1 49x133mm 2000lm xxx EXC OTD	30°
<b>TRIDON</b> LED FWHM / FWTM Efficiency	RLE G1 49x133mm 2000lm xxx EXC OTD 29.0° / 53.0° 94 %	30, 30, 30, 30, 30, 30, 30, 30, 30, 30,
<b>TRIDON</b> LED FWHM / FWTM Efficiency Peak intensity	RLE G1 49x133mm 2000lm xxx EXC OTD 29.0° / 53.0°	30°
<b>TRIDON</b> LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	RLE G1 49x133mm 2000lm xxx EXC OTD 29.0° / 53.0° 94 % 3 cd/lm	91 <sup>4</sup> 91
<b>TRIDON</b> LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	RLE G1 49x133mm 2000lm xxx EXC OTD 29.0° / 53.0° 94 % 3 cd/lm 1 White	91 <sup>4</sup> 91
<b>TRIDON</b> LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	RLE G1 49x133mm 2000lm xxx EXC OTD 29.0° / 53.0° 94 % 3 cd/lm 1 White	2000 200 200 200 200 200 200 200
<b>TRIDON</b> LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	RLE G1 49x133mm 2000lm xxx EXC OTD 29.0° / 53.0° 94 % 3 cd/lm 1 White	200 200 200 200 200 200 200 200 200 200
<b>TRIDON</b> LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	RLE G1 49x133mm 2000lm xxx EXC OTD 29.0° / 53.0° 94 % 3 cd/lm 1 White	2000 2000 2000 2000 2000 2000 2000 200



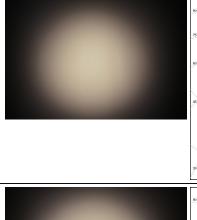
90

#### **OPTICAL RESULTS (MEASURED):**

# **TRIDONIC**

LEDRIFWHM / FWTM25Efficiency94Peak intensity3LEDs/each optic1Light colourWRequired components:

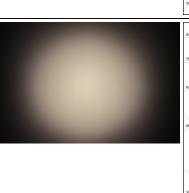
RLE G1 49x223mm 4000lm xxx EXC OTD 29.0° / 53.0° 94 % 3 cd/lm 1 White ts:



# TRIDONIC

LEDRIFWHM / FWTM25Efficiency94Peak intensity3LEDs/each optic1Light colourWRequired components:

RLE G1 49x245mm 4000lm xxx EXC OTD 29.0° / 53.0° 94 % 3 cd/lm 1 White ts:





## **OPTICAL RESULTS (SIMULATED):**

CREE ≑		90° 90°
LEDs	XD16	
FWHM / FWTM	28.0° / 48.0°	75'
	95 %	
Efficiency	95 % 3.6 cd/lm	60 <sup>4</sup> 64 <sup>4</sup>
Peak intensity		- 150
LEDs/each optic	1 White	57° (57°
Light colour Required components:	White	200
Required components.		
		3200
		$\times$ / $\vee$ / $\times$
		36° 35° 35°
		90°
LED	XP-G2	
FWHM / FWTM	32.0° / 52.0°	75'
Efficiency	93 %	800
Peak intensity	3 cd/lm	60° C
LEDs/each optic	1	
Light colour	White	er
Required components:		
		2150
Protective plate	e, glass	
1		30° 30°
CREE 🚖		30° 300 30° 30° 30° 30° 30° 30° 30° 30°
LED	XQ-E HI	
LED FWHM / FWTM	22.0° / 42.0°	34 94 55 55 55 55 55
LED FWHM / FWTM Efficiency	22.0° / 42.0° 93 %	
LED FWHM / FWTM Efficiency Peak intensity	22.0° / 42.0° 93 % 5.5 cd/lm	34 94 55 55 55 55 55
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	22.0° / 42.0° 93 % 5.5 cd/lm 1	34 94 55 55 55 55 55
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	22.0° / 42.0° 93 % 5.5 cd/lm	69°
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	22.0° / 42.0° 93 % 5.5 cd/lm 1	64. 64. 1000 10
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	22.0° / 42.0° 93 % 5.5 cd/lm 1	64. 64. 1000 10
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	22.0° / 42.0° 93 % 5.5 cd/lm 1	64 64 100 100 100 100 100 100 100 10
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	22.0° / 42.0° 93 % 5.5 cd/lm 1	64 64 100 100 100 100 100 100 100 10
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	22.0° / 42.0° 93 % 5.5 cd/lm 1 White	64. 64. 1000 10
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	22.0° / 42.0° 93 % 5.5 cd/lm 1 White	99° 90° 90° 90° 90° 90° 90° 90°
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	22.0° / 42.0° 93 % 5.5 cd/lm 1 White	64. 64. 1000 10
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	22.0° / 42.0° 93 % 5.5 cd/lm 1 White	22 23 24 25 25 25 25 25 25 25 25 25 25
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	22.0° / 42.0° 93 % 5.5 cd/lm 1 White UXEON 3030 2D (Round LES) 28.0° / 49.0°	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	22.0° / 42.0° 93 % 5.5 cd/lm 1 White UXEON 3030 2D (Round LES) 28.0° / 49.0° 94 %	32. 90. 90. 90. 90. 90. 90. 90. 90
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: <b>CONTINUES</b> LED FWHM / FWTM Efficiency Peak intensity	22.0° / 42.0° 93 % 5.5 cd/lm 1 White VNite LUXEON 3030 2D (Round LES) 28.0° / 49.0° 94 % 3.6 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: <b>CONTINUES</b> LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	22.0° / 42.0° 93 % 5.5 cd/lm 1 White UXEON 3030 2D (Round LES) 28.0° / 49.0° 94 % 3.6 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	22.0° / 42.0° 93 % 5.5 cd/lm 1 White UXEON 3030 2D (Round LES) 28.0° / 49.0° 94 % 3.6 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	22.0° / 42.0° 93 % 5.5 cd/lm 1 White UXEON 3030 2D (Round LES) 28.0° / 49.0° 94 % 3.6 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	22.0° / 42.0° 93 % 5.5 cd/lm 1 White UXEON 3030 2D (Round LES) 28.0° / 49.0° 94 % 3.6 cd/lm 1	



## **OPTICAL RESULTS (SIMULATED):**

	S	90* 90*
LED	LUXEON C	75 75
FWHM / FWTM	25.0° / 45.0°	
Efficiency	94 %	60° 50°
Peak intensity	4.6 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required components:		
		30° 4800 30°
OSRAM Opto Semiconductors		90* 90*
LED	OSCONIQ C 2424	
FWHM / FWTM	26.0° / 43.0°	28.
Efficiency	96 %	60° 500 60°
Peak intensity	4.6 cd/lm	
LEDs/each optic	1	
Light colour	White	gr
Required components:		3200
		30° 4600 34° 34°
OSRAM		90* 90*
Opto Semiconductors		
LED FWHM / FWTM	OSCONIQ C 3030 28.0° / 46.0°	75. 75'
Efficiency	88 %	
Peak intensity	3.6 cd/lm	age age
LEDs/each optic	1	
Light colour		
	White	47* 47
Required components:	White	er (300
Required components:	White	
Required components:	White	
Required components:	White	507.
	White	200
Required components: OSRAM Opto Semiconductors	White	260
OSRAM Opto Semiconductors	OSCONIQ C 3030	200
OSRAM Opto Semiconductors LED FWHM / FWTM		260
OSRAM Opto Semiconductors LED FWHM / FWTM Efficiency	OSCONIQ C 3030 28.0° / 46.0° 96 %	
OSRAM Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity	OSCONIQ C 3030 28.0° / 46.0°	
OSRAM Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	OSCONIQ C 3030 28.0° / 46.0° 96 % 3.9 cd/lm 1	
OSRAM Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	OSCONIQ C 3030 28.0° / 46.0° 96 % 3.9 cd/lm	
OSRAM Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	OSCONIQ C 3030 28.0° / 46.0° 96 % 3.9 cd/lm 1	200 200 200 200 200 200 200 200
OSRAM Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	OSCONIQ C 3030 28.0° / 46.0° 96 % 3.9 cd/lm 1	300 200 200 200 200 200 200 200
OSRAM Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	OSCONIQ C 3030 28.0° / 46.0° 96 % 3.9 cd/lm 1	200 200 200 200 200 200 200 200 200 200



## **OPTICAL RESULTS (SIMULATED):**

OSRAM		7
OSRAM Opto Semiconductors		90* 90*
LED	OSLON Square CSSRM2/CSSRM3	75*
FWHM / FWTM	36.0° / 56.0°	
Efficiency	87 %	60* 60
Peak intensity	2.3 cd/lm	
LEDs/each optic	1	
Light colour	White	g* @
Required components:		1630
Protective plate	e, glass	30* 207 202 30
OSRAM Opto Semiconductors		90*
LED	OSLON SSL 80	
FWHM / FWTM	29.6° / 48.1°	75
Efficiency	94 %	
Peak intensity	3.5 cd/lm	
LEDs/each optic	1	1500
Light colour	White	5 <sup>-</sup>
Required components:		2430
		3200
		$ \times / \vee \wedge \lambda $
		36° 36° 36°
SAMSIA	IG	90*
		90 <sup>4</sup> 90
LED	LH231B	
LED FWHM / FWTM	LH231B 28.0° / 50.0°	
LED FWHM / FWTM Efficiency	LH231B 28.0° / 50.0° 94 %	75
LED FWHM / FWTM Efficiency Peak intensity	LH231B 28.0° / 50.0° 94 % 3.4 cd/lm	75
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	LH231B 28.0° / 50.0° 94 % 3.4 cd/lm 1	77 60 160
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LH231B 28.0° / 50.0° 94 % 3.4 cd/lm	75
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	LH231B 28.0° / 50.0° 94 % 3.4 cd/lm 1	73°
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LH231B 28.0° / 50.0° 94 % 3.4 cd/lm 1	73 64 70 70 70 70 70 70 70 70 70 70 70 70 70
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LH231B 28.0° / 50.0° 94 % 3.4 cd/lm 1	73 64 70 70 70 70 70 70 70 70 70 70 70 70 70
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LH231B 28.0° / 50.0° 94 % 3.4 cd/lm 1	75
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LH231B 28.0° / 50.0° 94 % 3.4 cd/lm 1	75
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LH231B 28.0° / 50.0° 94 % 3.4 cd/lm 1 White	75
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LH231B 28.0° / 50.0° 94 % 3.4 cd/lm 1 White	94 220 220 220 200 200 200 200 20
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LH231B 28.0° / 50.0° 94 % 3.4 cd/lm 1 White Z8Y22T 28.0° / 51.0°	50 50 50 50 50 50 50 50 50 50
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LH231B 28.0° / 50.0° 94 % 3.4 cd/lm 1 White Z8Y22T 28.0° / 51.0° 94 %	25 00 00 00 00 00 00 00 00 00 0
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: seoul senconductor LED FWHM / FWTM Efficiency Peak intensity	LH231B 28.0° / 50.0° 94 % 3.4 cd/lm 1 White Z8Y22T 28.0° / 51.0°	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: stous semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	LH231B 28.0° / 50.0° 94 % 3.4 cd/lm 1 White Z8Y22T 28.0° / 51.0° 94 % 3.4 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LH231B 28.0° / 50.0° 94 % 3.4 cd/lm 1 White Z8Y22T 28.0° / 51.0° 94 % 3.4 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: stoul semconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	LH231B 28.0° / 50.0° 94 % 3.4 cd/lm 1 White Z8Y22T 28.0° / 51.0° 94 % 3.4 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: seour semiconoucror LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LH231B 28.0° / 50.0° 94 % 3.4 cd/lm 1 White Z8Y22T 28.0° / 51.0° 94 % 3.4 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: stous semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LH231B 28.0° / 50.0° 94 % 3.4 cd/lm 1 White Z8Y22T 28.0° / 51.0° 94 % 3.4 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: seous semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LH231B 28.0° / 50.0° 94 % 3.4 cd/lm 1 White Z8Y22T 28.0° / 51.0° 94 % 3.4 cd/lm 1	