

# PRODUCT DATASHEET C13749\_HB-2X2-O

# HB-2X2-O

~20° + 115° oval beam for aisle lighting

### **TECHNICAL SPECIFICATIONS:**

Dimensions	50.0 x 50.0 mm
Height	10.6 mm
Fastening	glue, pin, screw
ROHS compliant	yes 🛈



### **MATERIAL SPECIFICATIONS:**

**Component** HB-2X2-O **Type** Multi-lens

Material	Colour	Finish
PMMA	clear	

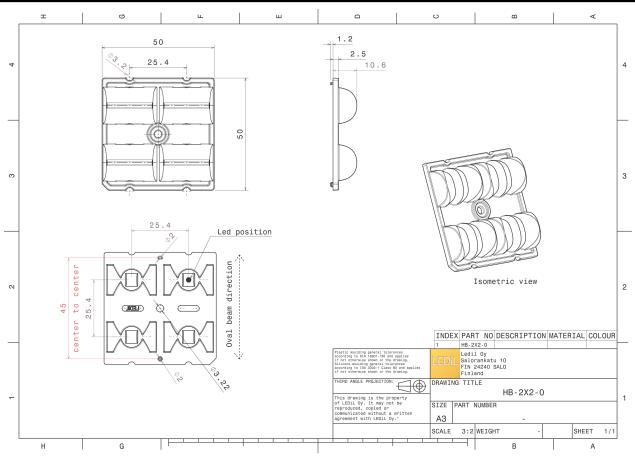
### **ORDERING INFORMATION:**

**Component** C13749\_HB-2X2-O » Box size: 480 x 280 x 300 mm

Qty in box	MOQ	MPQ	Box weight (kg)
800	160	160	10.4

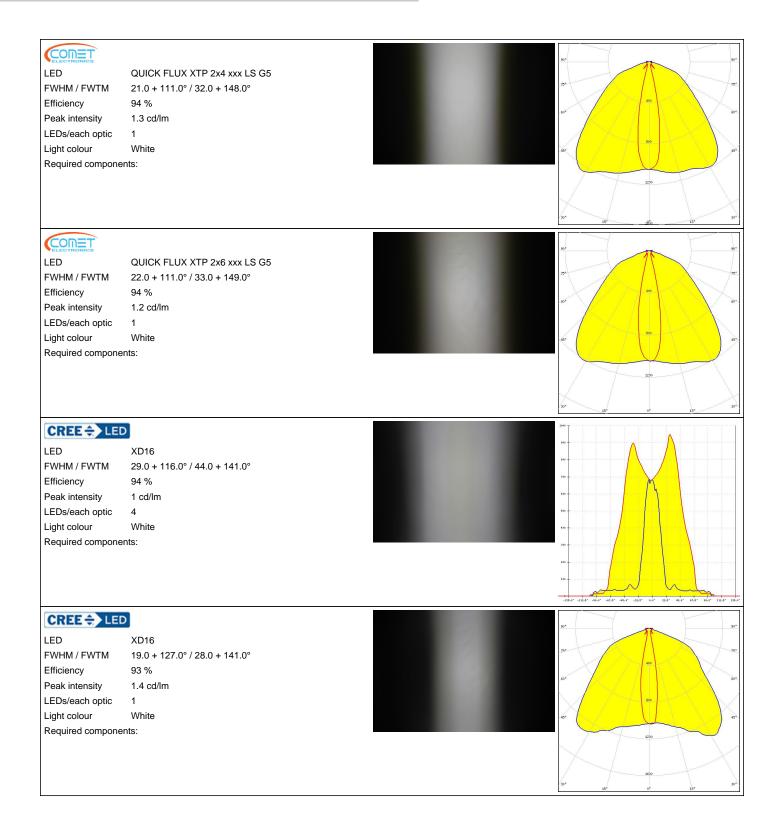


# PRODUCT DATASHEET C13749\_HB-2X2-O



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







LED	XHP35 HD	Ĩ Î
FWHM / FWTM	29.0 + 117.0° / 48.0 + 148.0°	75% 200 75*
Efficiency	94 %	
Peak intensity	0.9 cd/lm	60° 60°
LEDs/each optic	1	
Light colour	White	45* 660
Required componer		
		200
		1000
		30° 15° 30°
		90* 90*
LED	XM-L	
FWHM / FWTM	28.0 + 108.0° / 45.0 + 142.0°	75* 75*
Efficiency	94 %	
Peak intensity	1 cd/lm	400
LEDs/each optic	1	
Light colour	White	45° 63°
Required componer	ts:	900
		X   X
		30° 15 <sup>5</sup> 0° 15° 30°
		90° 90°
LED	XM-L2	
FWHM / FWTM	30.0 + 106.0° / 48.0 + 143.0°	200 75°
Efficiency	94 %	
Peak intensity	1 cd/lm	60* <u>400</u> 60*
LEDs/each optic	1	
Links and		
Light colour	White	45° 600 65°
Light colour Required componer		
Required componer	its:	
Required component	its:	
Required component	XP-G	
Required component	XP-G 26.0 + 115.0° / 44.0 + 158.0°	
Required component	XP-G 26.0 + 115.0° / 44.0 + 158.0° 94 %	
Required component CREE COMPONENT LED FWHM / FWTM Efficiency Peak intensity	XP-G 26.0 + 115.0° / 44.0 + 158.0° 94 % 1.1 cd/lm	
Required component CREE LED EWHM / FWTM Efficiency Peak intensity LEDs/each optic	XP-G 26.0 + 115.0° / 44.0 + 158.0° 94 % 1.1 cd/lm 1	6° (00) (10) (10) (10) (10) (10) (10) (10)
Required component CREE LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	XP-G 26.0 + 115.0° / 44.0 + 158.0° 94 % 1.1 cd/lm 1 White	
Required component CREE LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	XP-G 26.0 + 115.0° / 44.0 + 158.0° 94 % 1.1 cd/lm 1 White	
Required component CREE LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	XP-G 26.0 + 115.0° / 44.0 + 158.0° 94 % 1.1 cd/lm 1 White	
Required component CREE LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	XP-G 26.0 + 115.0° / 44.0 + 158.0° 94 % 1.1 cd/lm 1 White	



		80
LED	XP-G2	
FWHM / FWTM	27.0 + 112.0° / 42.0 + 146.0°	730 730
Efficiency	94 %	400
Peak intensity	1.2 cd/lm	604 604
LEDs/each optic	1	
Light colour	White	200
Required componen		
		1230
		30° 1600 30° 30° 30°
		90° 93°
LED	XP-L HD	
FWHM / FWTM	29.0 + 117.0° / 48.0 + 144.0°	200 77*
Efficiency	94 %	
Peak intensity	0.9 cd/lm	60* 60*
LEDs/each optic	1	
Light colour	White	45° (
Required componen	its:	00
		$\times$
		1000
		30* 15° 0° 15° 30°
		20° 15° 0° 15° 30° 10° 15° 0° 15° 30°
LED	XP-L HI	28. 28. 29. 29. 29.
LED FWHM / FWTM	XP-L HI 25.0 + 123.0° / 41.0 + 143.0°	
LED FWHM / FWTM Efficiency	XP-L HI	25 <sup>4</sup> 25 <sup>4</sup> 26 <sup>4</sup> 25 <sup>4</sup> 20 <sup>4</sup>
LED FWHM / FWTM Efficiency Peak intensity	XP-L HI 25.0 + 123.0° / 41.0 + 143.0°	20 <sup>1</sup>
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	XP-L HI 25.0 + 123.0° / 41.0 + 143.0° 94 % 1.1 cd/lm 1	25 <sup>4</sup> 25 <sup>4</sup> 26 <sup>6</sup> 25 <sup>4</sup> 20 <sup>4</sup>
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	XP-L HI 25.0 + 123.0° / 41.0 + 143.0° 94 % 1.1 cd/lm 1 White	5° <u>15° 00</u> 0° 5° 00 0° 5° 0° 0°
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	XP-L HI 25.0 + 123.0° / 41.0 + 143.0° 94 % 1.1 cd/lm 1 White	20 <sup>1</sup> 20 <sup>1</sup> 0 <sup>0</sup> 10 <sup>2</sup> 0 <sup>2</sup>
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	XP-L HI 25.0 + 123.0° / 41.0 + 143.0° 94 % 1.1 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	XP-L HI 25.0 + 123.0° / 41.0 + 143.0° 94 % 1.1 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	XP-L HI 25.0 + 123.0° / 41.0 + 143.0° 94 % 1.1 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required componen	XP-L HI 25.0 + 123.0° / 41.0 + 143.0° 94 % 1.1 cd/lm 1 White its:	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required componen	XP-L HI 25.0 + 123.0° / 41.0 + 143.0° 94 % 1.1 cd/lm 1 White tts:	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required componen	XP-L HI 25.0 + 123.0° / 41.0 + 143.0° 94 % 1.1 cd/lm 1 White tts: XP-L2	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required componen	XP-L HI 25.0 + 123.0° / 41.0 + 143.0° 94 % 1.1 cd/lm 1 White tts: XP-L2 28.0 + 117.0° / 47.0 + 150.0°	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required componen Required componen	XP-L HI 25.0 + 123.0° / 41.0 + 143.0° 94 % 1.1 cd/lm 1 White tts: XP-L2 28.0 + 117.0° / 47.0 + 150.0° 94 %	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required componen Required componen LED FWHM / FWTM Efficiency Peak intensity	XP-L HI 25.0 + 123.0° / 41.0 + 143.0° 94 % 1.1 cd/lm 1 White its: XP-L2 28.0 + 117.0° / 47.0 + 150.0° 94 % 0.9 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required componen Required componen LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	XP-L HI 25.0 + 123.0° / 41.0 + 143.0° 94 % 1.1 cd/lm 1 White its: XP-L2 28.0 + 117.0° / 47.0 + 150.0° 94 % 0.9 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required componen Required componen ELED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	XP-L HI 25.0 + 123.0° / 41.0 + 143.0° 94 % 1.1 cd/lm 1 White tts: XP-L2 28.0 + 117.0° / 47.0 + 150.0° 94 % 0.9 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required componen Required componen LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	XP-L HI 25.0 + 123.0° / 41.0 + 143.0° 94 % 1.1 cd/lm 1 White tts: XP-L2 28.0 + 117.0° / 47.0 + 150.0° 94 % 0.9 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required componen Required componen ELED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	XP-L HI 25.0 + 123.0° / 41.0 + 143.0° 94 % 1.1 cd/lm 1 White tts: XP-L2 28.0 + 117.0° / 47.0 + 150.0° 94 % 0.9 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required componen Required componen ELED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	XP-L HI 25.0 + 123.0° / 41.0 + 143.0° 94 % 1.1 cd/lm 1 White tts: XP-L2 28.0 + 117.0° / 47.0 + 150.0° 94 % 0.9 cd/lm 1 White	



ED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	LUXEON 5050 Round LES 29.0 + 114.0° / 51.0 + 147.0° 94 % 0.9 cd/lm 1 White	
ED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	LUXEON MZ 28.0 + 103.0° / 43.0 + 14.0° 94 % 1.1 cd/lm 1 White	
ED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	LUXEON R 25.0 + 105.0° / 44.0 + 148.0° 94 % 1.2 cd/lm 1 White	
ED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	LUXEON Rebel ES 25.0 + 106.0° / 42.0 + 150.0° 94 % 1.2 cd/lm 1 White	



COMIL	EDS		
LED	LUXEON T		80*
FWHM / FWTM	26.0 + 110.0° / 41.0 + 145.0°		75%
Efficiency	94 %		400
Peak intensity	1.2 cd/lm		604 604
LEDs/each optic	1		
Light colour	White		
Required compone			
i toqui ou compone			1200
			30* 35 <sup>5</sup> 1 <del>6</del> 80 15* 30*
🤭 LUMIL	EDS		90* 90°
LED	LUXEON TX		
FWHM / FWTM	24.0 + 118.0° / 42.0 + 146.0°	and the second se	75* 75*
Efficiency	94 %		400
Peak intensity	1.1 cd/lm		60 <sup>4</sup> 60 <sup>4</sup>
LEDs/each optic	1		
Light colour	White		45* 000 33*
Required compone	nts:		
			XTTX
			1220
			189 09 189
	FDS		
			20° 20°
LED	LUXEON V		
LED FWHM / FWTM	LUXEON V 26.0 + 108.0° / 44.0 + 141.0°		
LED FWHM / FWTM Efficiency	LUXEON V 26.0 + 108.0° / 44.0 + 141.0° 94 %		
LED FWHM / FWTM Efficiency Peak intensity	LUXEON V 26.0 + 108.0° / 44.0 + 141.0° 94 % 1 cd/lm		
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	LUXEON V 26.0 + 108.0° / 44.0 + 141.0° 94 % 1 cd/lm 1		
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LUXEON V 26.0 + 108.0° / 44.0 + 141.0° 94 % 1 cd/lm 1 White		
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	LUXEON V 26.0 + 108.0° / 44.0 + 141.0° 94 % 1 cd/lm 1 White		
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LUXEON V 26.0 + 108.0° / 44.0 + 141.0° 94 % 1 cd/lm 1 White		
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LUXEON V 26.0 + 108.0° / 44.0 + 141.0° 94 % 1 cd/lm 1 White		
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LUXEON V 26.0 + 108.0° / 44.0 + 141.0° 94 % 1 cd/lm 1 White		
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	LUXEON V 26.0 + 108.0° / 44.0 + 141.0° 94 % 1 cd/lm 1 White nts:		
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	LUXEON V 26.0 + 108.0° / 44.0 + 141.0° 94 % 1 cd/lm 1 White Ints:		
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	LUXEON V 26.0 + 108.0° / 44.0 + 141.0° 94 % 1 cd/lm 1 White nts: SST-10-B130		
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	LUXEON V 26.0 + 108.0° / 44.0 + 141.0° 94 % 1 cd/lm 1 White nts: <b>NUS</b> SST-10-B130 18.0 + 104.0° / 25.0 + 144.0°		
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	LUXEON V 26.0 + 108.0° / 44.0 + 141.0° 94 % 1 cd/lm 1 White nts: SST-10-B130 18.0 + 104.0° / 25.0 + 144.0° 97 %		
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	LUXEON V 26.0 + 108.0° / 44.0 + 141.0° 94 % 1 cd/lm 1 White nts: SST-10-B130 18.0 + 104.0° / 25.0 + 144.0° 97 % 1.6 cd/lm		
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	LUXEON V 26.0 + 108.0° / 44.0 + 141.0° 94 % 1 cd/lm 1 White nts: SST-10-B130 18.0 + 104.0° / 25.0 + 144.0° 97 % 1.6 cd/lm 1		
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	LUXEON V 26.0 + 108.0° / 44.0 + 141.0° 94 % 1 cd/lm 1 White nts: SST-10-B130 18.0 + 104.0° / 25.0 + 144.0° 97 % 1.6 cd/lm 1 Deep Red		
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	LUXEON V 26.0 + 108.0° / 44.0 + 141.0° 94 % 1 cd/lm 1 White nts: SST-10-B130 18.0 + 104.0° / 25.0 + 144.0° 97 % 1.6 cd/lm 1 Deep Red		
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	LUXEON V 26.0 + 108.0° / 44.0 + 141.0° 94 % 1 cd/lm 1 White nts: SST-10-B130 18.0 + 104.0° / 25.0 + 144.0° 97 % 1.6 cd/lm 1 Deep Red		
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	LUXEON V 26.0 + 108.0° / 44.0 + 141.0° 94 % 1 cd/lm 1 White nts: SST-10-B130 18.0 + 104.0° / 25.0 + 144.0° 97 % 1.6 cd/lm 1 Deep Red		



MST Your solut	tions	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	RecLED 122x50mm 1900lm 730 2x4 Opt G1 23.0 + 99.5° / 32.5 + 145.0° 97 % 1.2 cd/lm 1 White ents:	
ED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	NCSxx19B 23.0 + 113.0° / 39.0 + 146.0° 94 % 1.4 cd/lm 1 White	30° 13° 6° 13°
ED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	NVSW219D 25.0 + 107.0° / 37.0 + 137.0° 94 % 1.2 cd/lm 1 White	
ED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	NVSW319B 25.0 + 113.0° / 41.0 + 144.0° 94 % 1.1 cd/lm 1 White	



ØNICHI/		
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	NVSW3x9A 24.0 + 119.0° / 38.0 + 144.0° 94 % 1.1 cd/lm 1 White	
ED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	NVSW3x9A 25.0 + 134.0° / 43.0 + 147.0° 93 % 0.4 cd/lm 1 White	
ED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	NVSxE21A 17.0 + 125.0° / 27.0 + 139.0° 94 % 1.7 cd/lm 1	
Light colour Required compone		
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	NVSxx19A 24.0 + 105.0° / 44.0 + 148.0° 94 % 1.2 cd/lm 1 White	

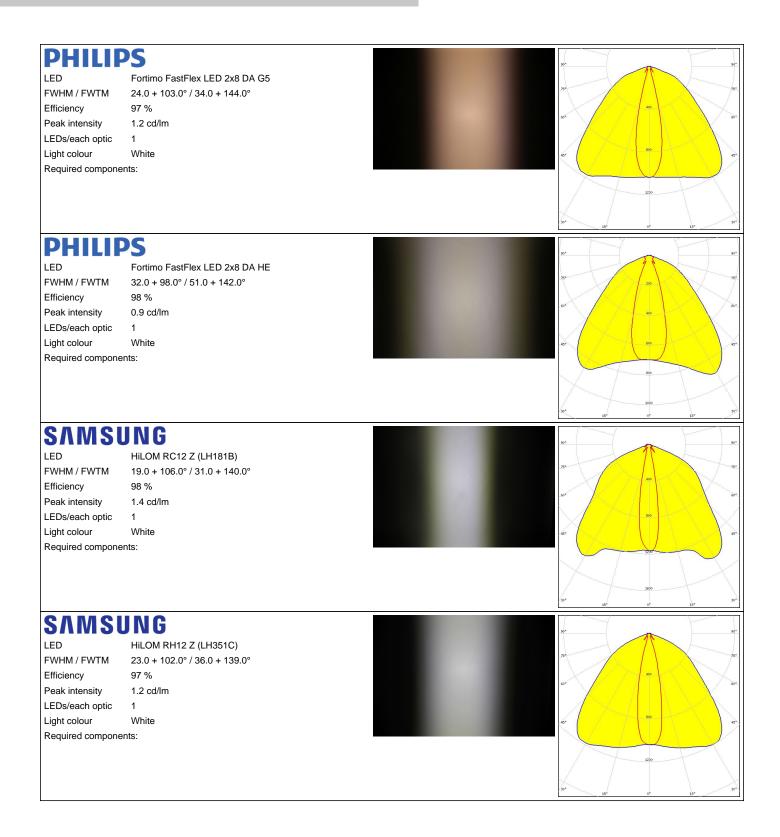


<b>ØNICHI</b> ∕	L .	901
LED	NVSxx19B/NVSxx19C	
FWHM / FWTM	26.0 + 108.0° / 41.0 + 145.0°	
Efficiency	94 %	
Peak intensity	1.2 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required compone	ents:	
		120
		20*
		24 <sup>0</sup> 10 <sup>0</sup> / <sub>2</sub> 23 <sup>1</sup>
<b>ØNICHI</b>		10°
LED	NWSx229A	
FWHM / FWTM	27.0 + 118.0° / 43.0 + 143.0°	
Efficiency	94 %	
Peak intensity	1 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required compone	ents:	
		$\times$ / $\times$
		30* 120 0* 33 <sup>0</sup> 0* 33 <sup>0</sup> 30
OSRAN	4	
LED	PL-BRICK HP 3800 2x8 SSG	10 <sup>1</sup> 90
	FL-DRICK HF 3000 2X0 33G	
	26.0 + 102.0° / 27.0 + 120.0°	78 78
FWHM / FWTM	26.0 + 102.0° / 37.0 + 139.0° 97 %	
Efficiency	97 %	
Efficiency Peak intensity	97 % 1.2 cd/lm	
Efficiency Peak intensity LEDs/each optic	97 % 1.2 cd/lm 1	
Efficiency Peak intensity LEDs/each optic Light colour	97 % 1.2 cd/lm 1 White	
Efficiency Peak intensity LEDs/each optic	97 % 1.2 cd/lm 1 White	
Efficiency Peak intensity LEDs/each optic Light colour	97 % 1.2 cd/lm 1 White	
Efficiency Peak intensity LEDs/each optic Light colour	97 % 1.2 cd/lm 1 White	
Efficiency Peak intensity LEDs/each optic Light colour Required compone	97 % 1.2 cd/lm 1 White ents:	
Efficiency Peak intensity LEDs/each optic Light colour Required compone	97 % 1.2 cd/lm 1 White ents:	
Efficiency Peak intensity LEDs/each optic Light colour Required compone	97 % 1.2 cd/lm 1 White ents: PrevaLED Brick HP 2x8	
Efficiency Peak intensity LEDs/each optic Light colour Required compone <b>OSRAN</b> LED FWHM / FWTM	97 % 1.2 cd/lm 1 White ents: PrevaLED Brick HP 2x8 23.0 + 111.0° / 32.0 + 141.0°	
Efficiency Peak intensity LEDs/each optic Light colour Required compone <b>OSRAN</b> LED FWHM / FWTM Efficiency	97 % 1.2 cd/lm 1 White ents: PrevaLED Brick HP 2x8 23.0 + 111.0° / 32.0 + 141.0° 94 %	
Efficiency Peak intensity LEDs/each optic Light colour Required compone <b>OSRAN</b> LED FWHM / FWTM Efficiency Peak intensity	97 % 1.2 cd/lm 1 White ents: PrevaLED Brick HP 2x8 23.0 + 111.0° / 32.0 + 141.0° 94 % 1.3 cd/lm	
Efficiency Peak intensity LEDs/each optic Light colour Required compone OSRAN LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	97 % 1.2 cd/lm 1 White ents: PrevaLED Brick HP 2x8 23.0 + 111.0° / 32.0 + 141.0° 94 % 1.3 cd/lm 1	
Efficiency Peak intensity LEDs/each optic Light colour Required component OSRAN LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	97 % 1.2 cd/lm 1 White ents: PrevaLED Brick HP 2x8 23.0 + 111.0° / 32.0 + 141.0° 94 % 1.3 cd/lm 1 White	
Efficiency Peak intensity LEDs/each optic Light colour Required componer OSRAN LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	97 % 1.2 cd/lm 1 White ents: PrevaLED Brick HP 2x8 23.0 + 111.0° / 32.0 + 141.0° 94 % 1.3 cd/lm 1 White	
Efficiency Peak intensity LEDs/each optic Light colour Required component OSRAN LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	97 % 1.2 cd/lm 1 White ents: PrevaLED Brick HP 2x8 23.0 + 111.0° / 32.0 + 141.0° 94 % 1.3 cd/lm 1 White	
Efficiency Peak intensity LEDs/each optic Light colour Required component OSRAN LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	97 % 1.2 cd/lm 1 White ents: PrevaLED Brick HP 2x8 23.0 + 111.0° / 32.0 + 141.0° 94 % 1.3 cd/lm 1 White	
Efficiency Peak intensity LEDs/each optic Light colour Required compone OSRAN LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	97 % 1.2 cd/lm 1 White ents: PrevaLED Brick HP 2x8 23.0 + 111.0° / 32.0 + 141.0° 94 % 1.3 cd/lm 1 White	

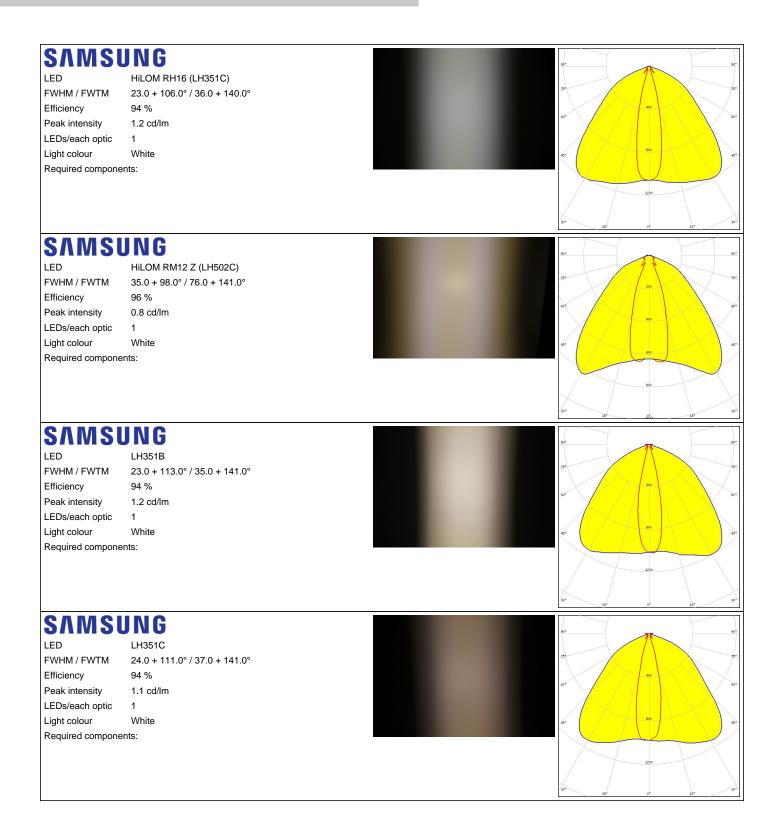


OSRAM Opto Semiconductors		50*
LED	OSLON Square CSSRM2/CSSRM3	
FWHM / FWTM	23.0 + 111.0° / 32.0 + 141.0°	20
Efficiency	94 %	400
Peak intensity	1.3 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required compone		
		1220
		30° 12 <sup>3</sup> 1 <del>4</del> 97 13°
OSRAM Opto Semiconductors		50*
LED	OSLON Square PC	
FWHM / FWTM	25.0 + 124.0° / 42.0 + 145.0°	
Efficiency	91 %	
Peak intensity	1.1 cd/lm	er
LEDs/each optic	1	
Light colour	White	
Required compone	nts:	
		129
PHILIF	PS	80'
LED	Fortimo FastFlex LED 2x8 DA G4	
FWHM / FWTM	21.0 + 108.0° / 31.0 + 147.0°	
Efficiency	94 %	
Peak intensity	1.3 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required compone	nts:	
		$\times$ / $\wedge$ $\times$
		30° 1600
DUUU		15 <sup>5</sup> 0 <sup>5</sup> 15 <sup>5</sup>
PHILIF	PS	90°
LED	Fortimo FastFlex LED 2x8 DA G4+	
FWHM / FWTM	24.0 + 104.0° / 37.0 + 145.0°	
Efficiency	97 %	
Peak intensity	1.1 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required compone	nts:	
		$X \rightarrow X$
		1200











SAMSL		90°
LED	LH351D	
FWHM / FWTM	27.0 + 116.0° / 44.0 + 144.0°	25* 75
Efficiency	94 %	
Peak intensity	1 cd/lm	60° 60
LEDs/each optic	1	
Light colour	White	45"
Required compone	nts:	au
		$\times$ / $\setminus$ $\times$
		30° 1220 30° 30°
<u> </u>		
LED	LH351Z	90°
FWHM / FWTM	26.0 + 117.0° / 42.0 + 141.0°	720 792
Efficiency	94 %	400
Peak intensity	1.1 cd/lm	60* 60
LEDs/each optic	1	
Light colour	White	800
Required compone		
riedanea compone		
		1200
		30° 15° 0° 15° 30°
Elektronik GmbH		90* 90*
LED	LED-Pa-L15c2W11c2-xxx-C050-01	
FWHM / FWTM	22.0 + 105.0° / 36.0 + 142.0°	73.6 77.6
Efficiency	98 %	400
Peak intensity	1.3 cd/lm	60 <sup>4</sup>
LEDs/each optic	1	
Light colour	White	45'
Required compone	nts:	
		1220
Ren		1000 30°
SEOUL SEMICONDUCTOR		
SEOUL SEMICONDUCTOR	Z5M3	
seoul semiconductor LED FWHM / FWTM	23.0 + 113.0° / 39.0 + 146.0°	
SEOUL SEMICONDUCTOR LED FWHM / FWTM Efficiency	23.0 + 113.0° / 39.0 + 146.0° 94 %	
scoul semiconductor LED FWHM / FWTM Efficiency Peak intensity	23.0 + 113.0° / 39.0 + 146.0° 94 % 1.1 cd/lm	
seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	23.0 + 113.0° / 39.0 + 146.0° 94 % 1.1 cd/lm 1	
seou. semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	23.0 + 113.0° / 39.0 + 146.0° 94 % 1.1 cd/lm 1 White	20 <sup>3</sup> 12 <sup>3</sup> 20 <sup>3</sup> 12 <sup>3</sup> 30 20 <sup>3</sup> 20 <sup>3</sup> 12 <sup>3</sup> 30 20 <sup>3</sup> 405 60 60 <sup>3</sup> 60 <sup>3</sup> 60 60 <sup>3</sup> 60 <sup>3</sup> 60 <sup>3</sup> 60 60 <sup>3</sup> 60 <sup>3</sup>
SEOUL SEMICONDUCTOR	23.0 + 113.0° / 39.0 + 146.0° 94 % 1.1 cd/lm 1 White	90 <sup>4</sup> 90 <sup>4</sup> 90 <sup>4</sup> 90 <sup>4</sup> 90 <sup>4</sup> 90 <sup>4</sup> 90 90 <sup>4</sup> 90 90 90 90 90 90 90 90 90 90 90 90 90
seou. semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	23.0 + 113.0° / 39.0 + 146.0° 94 % 1.1 cd/lm 1 White	90 <sup>4</sup> 90 <sup>4</sup> 90 <sup>4</sup> 90 <sup>4</sup> 90 <sup>4</sup> 90 <sup>4</sup> 90 90 <sup>4</sup> 90 90 90 90 90 90 90 90 90 90 90 90 90
seou semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	23.0 + 113.0° / 39.0 + 146.0° 94 % 1.1 cd/lm 1 White	20 <sup>5</sup> 25 <sup>5</sup> 25 <sup>5</sup> 20 20 20 20 20 20 20 20 20 20 20 20 20 2



SEOUL			
	7514		90* 90*
	Z5M4		754 752
FWHM / FWTM	22.0 + 97.0° / 35.0 + 135.0°		400
Efficiency	98 %		60* 60*
Peak intensity	1.3 cd/lm		
LEDs/each optic	1		
Light colour	White		45°
Required compone	nts:		
			1200
			$\times$ / $\setminus$ $\times$
			30° 15 <sup>5</sup> 1690 15° 30°
SEOUL			
SEOUL SEMICONDUCTOR	Z8Y22		90° 90°
			70
FWHM / FWTM	21.0 + 121.0° / 99.0 + 140.0° 94 %		
Efficiency Book intensity			400
Peak intensity	1.2 cd/lm		
LEDs/each optic	1		
Light colour	White		45*
Required component	nts:		
			1230
			30° 13° 0° 15° 30°
SEOUL SEOUL SEMICONDUCTOR			
	Z8Y22P		
FWHM / FWTM	23.0 + 121.0° / 34.0 + 150.0°		25*
Efficiency	94 %		
Peak intensity	1.1 cd/lm		60* 60*
LEDs/each optic	1		
Light colour	White		
Required compone			45°
Required compone			
			1230
			50° 15° 0° 25° 30°
TOSHIBA Leading Innovation >>>			
LED	TL1L4		
FWHM / FWTM	24.0 + 119.0° / 39.0 + 140.0°		
Efficiency	89 %		
Peak intensity	1.1 cd/lm		
LEDs/each optic	1		
Light colour	White	and the second se	
Required compone			



## **TRIDONIC**

LED RI FWHM / FWTM 22 Efficiency 94 Peak intensity 1.4 LEDs/each optic 1 Light colour W Required components:

RLE 2x4 2000lm HP EXC2 OTD 22.0 + 113.0° / 30.0 + 149.0° 94 % 1.3 cd/lm 1 White

LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	RLE 2x8 4000lm HP EXC2 OTD 22.0 + 113.0° / 30.0 + 149.0° 94 % 1.3 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	RLE G1 49x121mm 2000lm xxx EXC OTD 23.0 + 104.0° / 31.0 + 144.0° 94 % 1.3 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	RLE G1 49x133mm 2000lm xxx EXC OTD 23.0 + 104.0° / 31.0 + 144.0° 94 % 1.3 cd/lm 1 White	

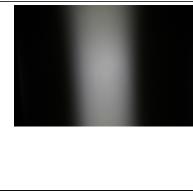


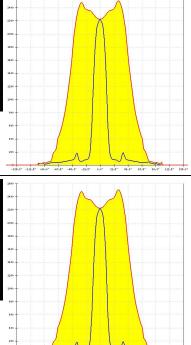
# TRIDONIC

LED

FWHM / FWTM23Efficiency94Peak intensity1LEDs/each optic1Light colourWRequired components:

RLE G1 49x223mm 4000lm xxx EXC OTD 23.0 + 104.0° / 31.0 + 144.0° 94 % 1.3 cd/lm 1 White

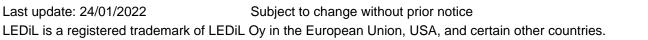




# TRIDONIC

LEDRIFWHM / FWTM23Efficiency94Peak intensity1LEDs/each optic1Light colourWRequired components:

RLE G1 49x245mm 4000lm xxx EXC OTD 23.0 + 104.0° / 31.0 + 144.0° 94 % 1.3 cd/lm 1 White





LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	J Series 5050 Round LES 30.0 + 97.0° / 51.0 + 141.0° 94 % 1 cd/lm 1 White	99° 99° 129 64° 64° 600 66° 66° 66° 66° 66° 66° 66
CREE LED LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	XHP35 HI 101.0 + 27.0° / 145.0 + 44.0° 94 % 1.2 cd/lm 1 White	50° 50° 60° 60° 60° 60° 60° 60° 60° 60° 60° 6
CREE LED LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	XHP50.3 HI 28.0 + 100.0° / 44.0 + 144.0° 95 % 0.9 cd/lm 1 White	3/2     2/0     72       6/4     6/0     6/7       6/4     6/0     6/7       6/4     6/0     6/7       6/4     6/0     6/7       6/4     6/0     6/7       6/4     6/0     6/7       6/4     6/0     6/7       6/4     6/0     6/7       6/4     6/0     6/7       6/4     6/0     6/7       6/4     6/0     6/7       6/4     6/0     6/7       6/4     6/0     6/7       6/4     6/0     6/7       6/4     6/7     6/7       6/4     6/7     6/7       6/4     6/7     6/7       6/7     6/7     6/7       6/7     6/7     6/7       6/7     6/7     6/7       6/7     6/7     6/7       6/7     6/7     6/7       6/7     6/7     6/7       6/7     6/7     6/7 <
CREE LED LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	XP-E2 93.0 + 18.0° / 141.0 + 30.0° 94 % 1.6 cd/lm 1 White	25° 0° 12° 0° 12°



CREE - LED		90°
LED	XP-G2	
FWHM / FWTM	21.0 + 98.0° / 33.0 + 141.0°	73%
Efficiency	91 %	400
Peak intensity	1.2 cd/lm	604 604
LEDs/each optic	1	
Light colour	White	45*
Required components:		
Protective plate	e, glass	
		-30 <sup>4</sup> - 23 <sup>5</sup> 0 <sup>6</sup> 25 <sup>4</sup> 30 <sup>4</sup>
		90° 90°
LED	XP-G2 HE	
FWHM / FWTM	28.0 + 103.0° / 41.0 + 144.0°	73* 75*
Efficiency	94 %	400
Peak intensity	1 cd/lm	60°
LEDs/each optic	1	
Light colour	White	45° 6°
Required components:		200
		$\times$
		30* 1250 30* 30*
		90° 90°
LED	XP-G3	
		754 755
FWHM / FWTM	103.0 + 29.0° / 146.0 + 49.0°	191
FWHM / FWTM Efficiency	103.0 + 29.0° / 146.0 + 49.0° 94 %	77* 72 60* 60*
FWHM / FWTM Efficiency Peak intensity	103.0 + 29.0° / 146.0 + 49.0° 94 % 1.1 cd/m	75° 752 20° 400 60*
FWHM / FWTM Efficiency Peak intensity LEDs/each optic	103.0 + 29.0° / 146.0 + 49.0° 94 % 1.1 cd/lm 1	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	103.0 + 29.0° / 146.0 + 49.0° 94 % 1.1 cd/m	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic	103.0 + 29.0° / 146.0 + 49.0° 94 % 1.1 cd/lm 1	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	103.0 + 29.0° / 146.0 + 49.0° 94 % 1.1 cd/lm 1	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	103.0 + 29.0° / 146.0 + 49.0° 94 % 1.1 cd/lm 1	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	103.0 + 29.0° / 146.0 + 49.0° 94 % 1.1 cd/lm 1	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	103.0 + 29.0° / 146.0 + 49.0° 94 % 1.1 cd/lm 1 White	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	103.0 + 29.0° / 146.0 + 49.0° 94 % 1.1 cd/lm 1 White	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	103.0 + 29.0° / 146.0 + 49.0° 94 % 1.1 cd/lm 1 White XP-L HD 26.0 + 103.0° / 42.0 + 140.0°	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	103.0 + 29.0° / 146.0 + 49.0° 94 % 1.1 cd/lm 1 White XP-L HD 26.0 + 103.0° / 42.0 + 140.0° 88 %	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: CREE¢LED LED FWHM / FWTM Efficiency Peak intensity	103.0 + 29.0° / 146.0 + 49.0° 94 % 1.1 cd/lm 1 White XP-L HD 26.0 + 103.0° / 42.0 + 140.0° 88 % 0.9 cd/lm	6 <sup>4</sup> 6 <sup>5</sup> 10 <sup>6</sup> 10 <sup>6</sup>
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: CREE LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	103.0 + 29.0° / 146.0 + 49.0° 94 % 1.1 cd/lm 1 White XP-L HD 26.0 + 103.0° / 42.0 + 140.0° 88 % 0.9 cd/lm 1	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: CREE¢LED LED FWHM / FWTM Efficiency Peak intensity	103.0 + 29.0° / 146.0 + 49.0° 94 % 1.1 cd/lm 1 White XP-L HD 26.0 + 103.0° / 42.0 + 140.0° 88 % 0.9 cd/lm	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: CREE LED EWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	103.0 + 29.0° / 146.0 + 49.0° 94 % 1.1 cd/lm 1 White XP-L HD 26.0 + 103.0° / 42.0 + 140.0° 88 % 0.9 cd/lm 1 White	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: CREE LED LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	103.0 + 29.0° / 146.0 + 49.0° 94 % 1.1 cd/lm 1 White XP-L HD 26.0 + 103.0° / 42.0 + 140.0° 88 % 0.9 cd/lm 1 White	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: CREE LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	103.0 + 29.0° / 146.0 + 49.0° 94 % 1.1 cd/lm 1 White XP-L HD 26.0 + 103.0° / 42.0 + 140.0° 88 % 0.9 cd/lm 1 White	



-		
		94* 90*
LED	XP-L HI	
FWHM / FWTM	22.0 + 98.0° / 34.0 + 140.0°	
Efficiency	88 %	400
Peak intensity	1.2 cd/lm	
LEDs/each optic	1	
Light colour	White	45* 800 45*
Required components:		
Protective plate	e, glass	1220
		30* 15 <sup>5</sup> 0* 15* 30*
		90°
LED	XP-L2	
FWHM / FWTM	28.0 + 100.0° / 46.0 + 140.0°	730 755
Efficiency	87 %	
Peak intensity	0.9 cd/lm	50° 60°
LEDs/each optic	1	
Light colour	White	45* 600 45*
Required components:		
required components.		
Protective plate	e, glass	
		30° 15° 30° 30°
LED	XQ-E HI	
FWHM / FWTM	96.0 + 14.0° / 144.0 + 25.0°	
Efficiency	%	
LEDs/each optic	1	
Light colour	White	
Required components:		
rioquirou componento.		
		20
LED	XT-E HE	75*
FWHM / FWTM	100.0 + 24.0°	
		60* 60*
Efficiency	94 %	
LEDs/each optic	1	
Light colour	White	45*
Required components:		300
		30* 30*



	DS	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components	LUXEON 5050 Round LES 30.0 + 96.0° / 48.0 + 140.0° 88 % 0.9 cd/lm 1 White	
Protective pl	ate, glass	20
	DS	12 <sup>3</sup> 6 <sup>3</sup> 12 <sup>4</sup>
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components	LUXEON 5050 Square LES 30.0 + 98.0° / 50.0 + 142.0° 95 % 0.9 cd/lm 1 White	20 64 60 67 60
	DS	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components	LUXEON IR Domed 150 16.0 + 98.0° / 28.0 + 149.0° 94 % 1.4 cd/lm 1 White	
	DS	50°
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components	LUXEON IR Domed 90 20.0 + 86.0° / 29.0 + 128.0° 95 % 1.6 cd/lm 1 White	25 66 57 50 50 50 50 50 50 50 50 50 50 50 50 50



MCT		
MST Your solutions		90* 90
LED	RecLED 122x50mm 1900lm 730 2x4 Opt G1	
FWHM / FWTM	24.0 + 97.0° / 34.0 + 141.0°	
Efficiency	86 %	50 <sup>4</sup>
Peak intensity	1.1 cd/lm	
LEDs/each optic	1	
Light colour	White	45*
Required components:		
Protective plate	, glass	×* 30
<b>Ø</b> NICHIΛ		
		90* 90
	NV4WB35AM	754
FWHM / FWTM	28.0 + 100.0° / 42.0 + 144.0°	
Efficiency	95 %	50% 60
Peak intensity	1 cd/lm	
LEDs/each optic		
Light colour	White	45*
Required components:		
		$\times$ $ $ $ $ $\times$
		30* 1200 10* 30'
OSRAM		
Opto Semiconductors		90° 90
LED	OSCONIQ C 2424	75%
FWHM / FWTM	18.0 + 96.0° / 30.0 + 141.0°	400
Efficiency	96 %	50*
Peak intensity		
-	1.5 cd/lm	
LEDs/each optic	1	
LEDs/each optic Light colour		er ( ) , , , , , , , , , , , , , , , , , ,
LEDs/each optic	1	.er
LEDs/each optic Light colour	1	e*
LEDs/each optic Light colour	1	6° (120)
LEDs/each optic Light colour	1	e <sup>3</sup> <u>10</u> <u>0</u> <u>10</u> <u>0</u> <u>10</u> <u>0</u>
LEDs/each optic Light colour Required components:	1	-e <sup>2</sup>
LEDs/each optic Light colour Required components:	1 White	-6°
LEDs/each optic Light colour Required components: OSRAM Opto Semiconductors LED	1 White OSCONIQ P 3030	
LEDs/each optic Light colour Required components: OSRAM Opto Semiconductors LED FWHM / FWTM	1 White OSCONIQ P 3030 14.0 + 92.0° / 28.0 + 142.0°	
LEDs/each optic Light colour Required components: Opto Semiconductors LED FWHM / FWTM Efficiency	1 White OSCONIQ P 3030 14.0 + 92.0° / 28.0 + 142.0° 95 %	
LEDs/each optic Light colour Required components: Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity	1 White OSCONIQ P 3030 14.0 + 92.0° / 28.0 + 142.0° 95 % 1.6 cd/m	
LEDs/each optic Light colour Required components: Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	1 White OSCONIQ P 3030 14.0 + 92.0° / 28.0 + 142.0° 95 % 1.6 cd/m 1	27
LEDs/each optic Light colour Required components: Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	1 White OSCONIQ P 3030 14.0 + 92.0° / 28.0 + 142.0° 95 % 1.6 cd/m	27
LEDs/each optic Light colour Required components: Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	1 White OSCONIQ P 3030 14.0 + 92.0° / 28.0 + 142.0° 95 % 1.6 cd/m 1	e <sup>*</sup> 200 15
LEDs/each optic Light colour Required components: OSRAM Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	1 White OSCONIQ P 3030 14.0 + 92.0° / 28.0 + 142.0° 95 % 1.6 cd/m 1	27
LEDs/each optic Light colour Required components: OSRAM Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	1 White OSCONIQ P 3030 14.0 + 92.0° / 28.0 + 142.0° 95 % 1.6 cd/m 1	27



OSRAM Opto Semiconductors		90° 90°
LED	OSCONIQ P 3737 (2W version)	
FWHM / FWTM	99.0 + 19.0° / 142.0 + 31.0°	73° 73°
Efficiency	94 %	400
Peak intensity	1.3 cd/lm	.50° 60°.
LEDs/each optic	1	
Light colour	White	43° - 500
Required components:	white	145°
required components.		1200
		30* 1500 30* 30*
OSRAM Opto Semiconductors		90* 90*
LED	OSCONIQ P 3737 (3W version)	
FWHM / FWTM	100.0 + 30.0° / 144.0 + 51.0°	73.0 75.0
Efficiency	94 %	
Peak intensity	1 cd/lm	50° 60°
LEDs/each optic	1	
Light colour	White	15° 6°
Required components:		
		30* 1200 30*
OSDAM		20° 120 30° 30°
OSRAM Opto Semiconductors		
OSRAM Opto Semiconductors LED	OSCONIQ P 3737 Flat	
Opto Semiconductors	22.0 + 98.0° / 35.0 + 142.0°	
opto Semiconductors LED FWHM / FWTM Efficiency	22.0 + 98.0° / 35.0 + 142.0° 96 %	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity	22.0 + 98.0° / 35.0 + 142.0°	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	22.0 + 98.0° / 35.0 + 142.0° 96 % 1.2 cd/lm 1	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	22.0 + 98.0° / 35.0 + 142.0° 96 % 1.2 cd/lm	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	22.0 + 98.0° / 35.0 + 142.0° 96 % 1.2 cd/lm 1	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	22.0 + 98.0° / 35.0 + 142.0° 96 % 1.2 cd/lm 1	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	22.0 + 98.0° / 35.0 + 142.0° 96 % 1.2 cd/lm 1	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	22.0 + 98.0° / 35.0 + 142.0° 96 % 1.2 cd/lm 1	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	22.0 + 98.0° / 35.0 + 142.0° 96 % 1.2 cd/lm 1	
Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	22.0 + 98.0° / 35.0 + 142.0° 96 % 1.2 cd/lm 1 White	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: OSRAM Opto Semiconductors LED	22.0 + 98.0° / 35.0 + 142.0° 96 % 1.2 cd/lm 1 White	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: OSRAM Opto Semiconductors LED FWHM / FWTM	22.0 + 98.0° / 35.0 + 142.0° 96 % 1.2 cd/lm 1 White OSCONIQ \$ 5050 32.0 + 98.0° / 53.0 + 140.0°	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: OSRAM Opto Semiconductors LED FWHM / FWTM Efficiency	22.0 + 98.0° / 35.0 + 142.0° 96 % 1.2 cd/lm 1 White OSCONIQ S 5050 32.0 + 98.0° / 53.0 + 140.0° 85 %	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: OSRAM Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity	22.0 + 98.0° / 35.0 + 142.0° 96 % 1.2 cd/lm 1 White OSCONIQ S 5050 32.0 + 98.0° / 53.0 + 140.0° 85 % 0.8 cd/lm	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: OPS Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	22.0 + 98.0° / 35.0 + 142.0° 96 % 1.2 cd/lm 1 White OSCONIQ S 5050 32.0 + 98.0° / 53.0 + 140.0° 85 % 0.8 cd/lm 1	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	22.0 + 98.0° / 35.0 + 142.0° 96 % 1.2 cd/lm 1 White OSCONIQ S 5050 32.0 + 98.0° / 53.0 + 140.0° 85 % 0.8 cd/lm	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	22.0 + 98.0° / 35.0 + 142.0° 96 % 1.2 cd/lm 1 White OSCONIQ S 5050 32.0 + 98.0° / 53.0 + 140.0° 85 % 0.8 cd/lm 1	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	22.0 + 98.0° / 35.0 + 142.0° 96 % 1.2 cd/lm 1 White OSCONIQ S 5050 32.0 + 98.0° / 53.0 + 140.0° 85 % 0.8 cd/lm 1 White	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	22.0 + 98.0° / 35.0 + 142.0° 96 % 1.2 cd/lm 1 White OSCONIQ S 5050 32.0 + 98.0° / 53.0 + 140.0° 85 % 0.8 cd/lm 1 White	



OSRAM Opto Semiconductors		
LED	OSCONIQ S 5050	
FWHM / FWTM	32.0 + 99.0° / 52.0 + 143.0°	75* 752
Efficiency	96 %	
Peak intensity	0.8 cd/lm	60° 60°.
LEDs/each optic	1	400
Light colour	White	
Required components:	Wind .	
Required components.		
		800
		30* 1000 30* 30*
OSRAM		
Opto Semiconductors	OSLON Square CSSRM2/CSSRM3	90* 90*
FWHM / FWTM	23.0 + 101.0° / 33.0 + 140.0°	75%
Efficiency	85 %	
Peak intensity	1.1 cd/lm	- 60 <sup>4</sup> 60 <sup>4</sup>
LEDs/each optic	1	
Light colour	White	47 ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) (
Required components:	Wille	45'
Required components.		
Protective plate	, glass	
		1230
		30° 30° 30°
OSRAM		90° 90°
Opto Semiconductors	OSLON Square Flat	<u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u></u>
Opto Semiconductors	OSLON Square Flat 16.0 + 90.0° / 30.0 + 140.0°	25
Opto Semiconductors LED FWHM / FWTM	16.0 + 90.0° / 30.0 + 140.0°	25- 29- 99- 99- 99-
opto Semiconductors LED FWHM / FWTM Efficiency	16.0 + 90.0° / 30.0 + 140.0° 96 %	93° 73° 73° 60 60° 75° 75° 75°
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity	16.0 + 90.0° / 30.0 + 140.0° 96 % 1.6 cd/lm	50° 7° 60° 60°
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	16.0 + 90.0° / 30.0 + 140.0° 96 % 1.6 cd/lm 1	50° 50° 50° 50°
opto semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	16.0 + 90.0° / 30.0 + 140.0° 96 % 1.6 cd/lm	60 <sup>4</sup>
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	16.0 + 90.0° / 30.0 + 140.0° 96 % 1.6 cd/lm 1	60 60 60
opto semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	16.0 + 90.0° / 30.0 + 140.0° 96 % 1.6 cd/lm 1	60 60 60
opto semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	16.0 + 90.0° / 30.0 + 140.0° 96 % 1.6 cd/lm 1	60 60 60
opto semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	16.0 + 90.0° / 30.0 + 140.0° 96 % 1.6 cd/lm 1	60 60 60
opto semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	16.0 + 90.0° / 30.0 + 140.0° 96 % 1.6 cd/lm 1	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	16.0 + 90.0° / 30.0 + 140.0° 96 % 1.6 cd/lm 1 White	
opto semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	16.0 + 90.0° / 30.0 + 140.0° 96 % 1.6 cd/lm 1 White OSTAR Projection Compact (Kx.CSLNM1.xx)	
opto semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: OSRAM Opto Semiconductors LED FWHM / FWTM	16.0 + 90.0° / 30.0 + 140.0° 96 % 1.6 cd/lm 1 White OSTAR Projection Compact (Kx.CSLNM1.xx) 16.0 + 89.0° / 28.0 + 140.0°	50 50 50 50 50 50 50 50 50 50
opto semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: OSRAM Opto Semiconductors LED FWHM / FWTM Efficiency	16.0 + 90.0° / 30.0 + 140.0° 96 % 1.6 cd/lm 1 White OSTAR Projection Compact (Kx.CSLNM1.xx) 16.0 + 89.0° / 28.0 + 140.0° 96 %	50 50 50 50 50 50 50 50 50 50
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: OSRAM Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity	16.0 + 90.0° / 30.0 + 140.0° 96 % 1.6 cd/lm 1 White OSTAR Projection Compact (Kx.CSLNM1.xx) 16.0 + 89.0° / 28.0 + 140.0° 96 % 1.7 cd/lm	50 50 50 50 50 50 50 50 50 50
opto semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Opto semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	16.0 + 90.0° / 30.0 + 140.0° 96 % 1.6 cd/lm 1 White OSTAR Projection Compact (Kx.CSLNM1.xx) 16.0 + 89.0° / 28.0 + 140.0° 96 % 1.7 cd/lm 1	50 50 50 50 50 50 50 50 50 50
opto semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Opto semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	16.0 + 90.0° / 30.0 + 140.0° 96 % 1.6 cd/lm 1 White OSTAR Projection Compact (Kx.CSLNM1.xx) 16.0 + 89.0° / 28.0 + 140.0° 96 % 1.7 cd/lm	
opto semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Opto semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	16.0 + 90.0° / 30.0 + 140.0° 96 % 1.6 cd/lm 1 White OSTAR Projection Compact (Kx.CSLNM1.xx) 16.0 + 89.0° / 28.0 + 140.0° 96 % 1.7 cd/lm 1	
opto semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Opto semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	16.0 + 90.0° / 30.0 + 140.0° 96 % 1.6 cd/lm 1 White OSTAR Projection Compact (Kx.CSLNM1.xx) 16.0 + 89.0° / 28.0 + 140.0° 96 % 1.7 cd/lm 1	
opto semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Opto semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	16.0 + 90.0° / 30.0 + 140.0° 96 % 1.6 cd/lm 1 White OSTAR Projection Compact (Kx.CSLNM1.xx) 16.0 + 89.0° / 28.0 + 140.0° 96 % 1.7 cd/lm 1	



PHILIPS		90*	90
LED	Fortimo FastFlex LED 2x8 DAX G4		
FWHM / FWTM	103.0 + 29.0° / 146.0 + 49.0°	755	77
Efficiency	94 %	400	
Peak intensity	1.1 cd/lm	-60*	e e e e e e e e e e e e e e e e e e e
LEDs/each optic	1		$( \land X)$
Light colour	White	45* 000	
Required components:			
		20*	
0.0.0.0.0.0	10	30 15 <sup>2</sup> 0 <sup>0</sup>	15*
SAMSUN	N G	90*	90*
LED	HiLOM RM12 Z (LH502C)	38	
FWHM / FWTM	36.0 + 98.0° / 78.0 + 140.0°	73*	255
Efficiency	89 %		
Peak intensity	0.8 cd/lm	60*	60"
LEDs/each optic	1	400	
Light colour	White	45*	6,
Required components:		1 De	
Protective plate	e alass		X
	, 9000	200	
		30° 15° 0°	15* 30*
SEOUL			T T
			1
SEOUL SEMICONDUCTOR	M IT 5050	90*	90*
SEOUL SEMICONDUCTOR	MJT 5050	90°	90*
seoul semiconductor LED FWHM / FWTM	32.0 + 98.0° / 52.0 + 142.0°	90 <sup>3</sup>	30'
seoul semiconductor LED FWHM / FWTM Efficiency	32.0 + 98.0° / 52.0 + 142.0° 94 %	59°	99
seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity	32.0 + 98.0° / 52.0 + 142.0° 94 % 0.8 cd/lm	92* 72* 660 600	
seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	32.0 + 98.0° / 52.0 + 142.0° 94 % 0.8 cd/lm 1	50° 73° 500 600	99
seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	32.0 + 98.0° / 52.0 + 142.0° 94 % 0.8 cd/lm	50* 73* 60* 400 	99
seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	32.0 + 98.0° / 52.0 + 142.0° 94 % 0.8 cd/lm 1		99 <sup>4</sup>
seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	32.0 + 98.0° / 52.0 + 142.0° 94 % 0.8 cd/lm 1		99 <sup>*</sup>
seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	32.0 + 98.0° / 52.0 + 142.0° 94 % 0.8 cd/lm 1		50 <sup>-</sup>
SEOUL SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	32.0 + 98.0° / 52.0 + 142.0° 94 % 0.8 cd/lm 1		10° - 30°
SEOUL SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	32.0 + 98.0° / 52.0 + 142.0° 94 % 0.8 cd/lm 1	60 60	FT
seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	32.0 + 98.0° / 52.0 + 142.0° 94 % 0.8 cd/lm 1 White	000 000 000 000	FT
seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: seoul semiconductor LED	32.0 + 98.0° / 52.0 + 142.0° 94 % 0.8 cd/lm 1 White SEOUL DC 5050 6V	20°	90 75 60 10 10 90 90 90 90 90 90 90 90 90 90 90 90 90
seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: seoul semiconductor LED FWHM / FWTM	32.0 + 98.0° / 52.0 + 142.0° 94 % 0.8 cd/lm 1 White SEOUL DC 5050 6V 33.0 + 98.0° / 58.0 + 143.0°	000 000 000 000	FT
stoul LEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: stoul LEM SEGUIS LEMICONDUCTOR LED FWHM / FWTM Efficiency	32.0 + 98.0° / 52.0 + 142.0° 94 % 0.8 cd/lm 1 White SEOUL DC 5050 6V 33.0 + 98.0° / 58.0 + 143.0° 94 %	20°	FT
stoul JEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: stoul JEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity	32.0 + 98.0° / 52.0 + 142.0° 94 % 0.8 cd/lm 1 White SEOUL DC 5050 6V 33.0 + 98.0° / 58.0 + 143.0° 94 % 0.9 cd/lm	20°	FT.
stout SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: SEOUL SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	32.0 + 98.0° / 52.0 + 142.0° 94 % 0.8 cd/lm 1 White SEOUL DC 5050 6V 33.0 + 98.0° / 58.0 + 143.0° 94 % 0.9 cd/lm 1		2
seoul semiconoucror 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	32.0 + 98.0° / 52.0 + 142.0° 94 % 0.8 cd/lm 1 White SEOUL DC 5050 6V 33.0 + 98.0° / 58.0 + 143.0° 94 % 0.9 cd/lm	20°	2
seoul semiconoucror LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: SEOUL SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	32.0 + 98.0° / 52.0 + 142.0° 94 % 0.8 cd/lm 1 White SEOUL DC 5050 6V 33.0 + 98.0° / 58.0 + 143.0° 94 % 0.9 cd/lm 1		2
SEOUL SEMICONDUCTOR 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	32.0 + 98.0° / 52.0 + 142.0° 94 % 0.8 cd/lm 1 White SEOUL DC 5050 6V 33.0 + 98.0° / 58.0 + 143.0° 94 % 0.9 cd/lm 1		99
SEOUL SEMICONDUCTOR 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	32.0 + 98.0° / 52.0 + 142.0° 94 % 0.8 cd/lm 1 White SEOUL DC 5050 6V 33.0 + 98.0° / 58.0 + 143.0° 94 % 0.9 cd/lm 1		FT



SEOUL SEMICONDUCTOR		90* 90*
LED	Z5M1/Z5M2	
FWHM / FWTM	22.0 + 97.0° / 34.0 + 142.0°	736
Efficiency	94 %	400
Peak intensity	1.2 cd/lm	60 <sup>-</sup>
LEDs/each optic	1	
Light colour	White	45* 43*
Required components:		
		20 × 15 <sup>0</sup> 0 <sup>0</sup> 23 <sup>0</sup>
		90 <sup>5</sup>
SEOUL SEMICONDUCTOR	78Y22T	8°
seoul semiconductor LED	Z8Y22T 21.0 + 96.0° / 33.0 + 141.0°	8°
seoul semiconductor LED FWHM / FWTM	21.0 + 96.0° / 33.0 + 141.0°	91 <sup>*</sup> 91 <sup>*</sup>
seoul semiconductor LED FWHM / FWTM Efficiency		
seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity	21.0 + 96.0° / 33.0 + 141.0° 94 %	
seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	21.0 + 96.0° / 33.0 + 141.0° 94 % 1.2 cd/lm	
seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity	21.0 + 96.0° / 33.0 + 141.0° 94 % 1.2 cd/lm 1	21 63 60 69



#### **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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