

# PRODUCT DATASHEET C17991\_SPORT-2X2-S1

# SPORT-2X2-S1

~10° spot beam.

#### **SPECIFICATION:**

Dimensions	50.0 x 50.0 mm
Height	16 mm
Fastening	screw
ROHS compliant	yes 🛈



#### MATERIALS:

Component SPORT-2X2-S1

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

Material	Colour	Finish
PMMA	clear	

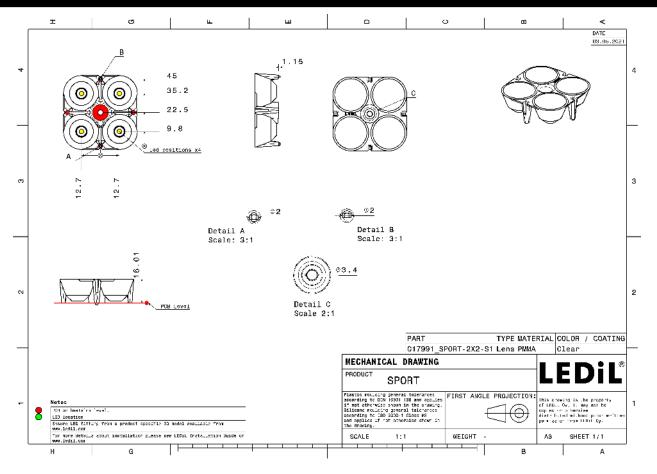
#### **ORDERING INFORMATION:**

Component		
C17991_SPORT-2X2-S1		
» Box size: 480 x 280 x 300 mm		

Qty in box	MOQ	MPQ	Box weight (kg)
512	128	32	10.8

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## PRODUCT DATASHEET C17991\_SPORT-2X2-S1



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



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

	D	1. / / · · · · · · · · · · · · · · · · ·
LED	XP-G4	
FWHM / FWTM	9.0° / 20.0°	
Efficiency	96 %	
Peak intensity	24.2 cd/lm	
LEDs/each optic	1	
Light colour	White	· · · · · · · · · · · · · · · · · · ·
Required compone		
ricquired compone	5110.	
	EDS	
LED	LUXEON HL2X	
FWHM / FWTM	10.0° / 21.0°	
Efficiency	94 %	
Peak intensity	20.9 cd/lm	
LEDs/each optic	1	X/
Light colour	White	
Required compone		
rtoquirou compone	5110.	
Protective	e plate, glass	
LUMIL	EDS	1. A
LED	LUXEON HL2X	
FWHM / FWTM	10.0° / 21.0°	
Efficiency	97 %	
Peak intensity	21.1 cd/lm	
LEDs/each optic	1	
Light colour	White	97 / - <mark>5400</mark>
Required compone	ents:	
		$\times$ $1$ $\times$
		 25 0 W
LUMIL	EDS	1.7. A
LED	LUXEON HL2X	
FWHM / FWTM	10.0° / 21.0°	
Efficiency	97 %	
Peak intensity	21.1 cd/lm	
LEDs/each optic	1	
Light colour	White	1. A 100 - A 100
Required compone		
		/ · · · ·



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

OSRAM Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	OSLON Square CSSRM2/CSSRM3 9.0° / 18.0° 97 % 27.5 cd/lm 1 White ents:	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	PassivePAQ-R-274x51-NI0-21K-857-5 15.0° / 27.0° 96 % 10.6 cd/lm 1 White	



LED	J Series 5050 Round LES	
FWHM / FWTM	16.0° / 32.0°	
Efficiency	87 %	$- \sum (A + A + A + A + A + A + A + A + A + A $
Peak intensity	7.8 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required components:		X/ X
Protective plate	e, glass	XIVIX
		A
LED	J Series 5050 Round LES	
FWHM / FWTM	16.0° / 32.0°	
Efficiency	95 %	
Peak intensity	8.6 cd/lm	
LEDs/each optic	1	$X \neq (1 \land \land \land \land$
Light colour	White	
Required components:		1
LED	L Series EQEOD ()/// Class	
FWHM / FWTM	J Series 5050B 6V K Class 16.0° / 34.0°	
Efficiency	95 %	
Peak intensity	7.6 cd/lm	
LEDs/each optic	1	X / 7 + X
Light colour	' White	
Required components:	White	
Required components.		
		A The And
		6° A
LED	J Series 5050B 6V K Class	A AL
FWHM / FWTM	18.0° / 34.0°	213
Efficiency	87 %	
Peak intensity	6.9 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required components:		A A Martin
Protective plate	e. glass	X   X
		1 Tom A
		35 0 10



		15* 10
LED	J Series 5050C 6V E Class	
FWHM / FWTM	16.0° / 32.0°	
Efficiency	96 %	
-		e- w
Peak intensity	8.8 cd/lm	$N \neq f = f = f = N \times N \neq f$
LEDs/each optic	1	
Light colour	White	$X   X \rangle$
Required components:		174
		*
		• · · · · ·
LED	XD16	
FWHM / FWTM	8.0° / 16.0°	
Efficiency	87 %	
Peak intensity	28.4 cd/lm	
LEDs/each optic	1	$\times$ / $7 - 7 \times 1$
Light colour	White	
Required components:		
		$\times$ $ $ $ $ $\times$ $ $
Protective plate	, glass	
LED	XHP35.2 HD	
FWHM / FWTM	18.0° / 34.0°	31.
Efficiency	86 %	
Peak intensity	6.9 cd/lm	
LEDs/each optic	1	$\times / 7 \longrightarrow \times 1$
Light colour	White	
Required components:		
Protective plate	, glass	XAX
Protective plate	, glass	
	, glass	
	XHP35.2 HD	
LED FWHM / FWTM	XHP35.2 HD 16.0° / 34.0°	
LED FWHM / FWTM Efficiency	XHP35.2 HD 16.0° / 34.0° 95 %	
CREE LED LED FWHM / FWTM Efficiency Peak intensity	XHP35.2 HD 16.0° / 34.0° 95 % 7.5 cd/lm	
CREE LED LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	XHP35.2 HD 16.0° / 34.0° 95 % 7.5 cd/lm 1	
CREE LED LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	XHP35.2 HD 16.0° / 34.0° 95 % 7.5 cd/lm	
CREE LED LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	XHP35.2 HD 16.0° / 34.0° 95 % 7.5 cd/lm 1	87
CREE LED LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	XHP35.2 HD 16.0° / 34.0° 95 % 7.5 cd/lm 1	
CREE LED LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	XHP35.2 HD 16.0° / 34.0° 95 % 7.5 cd/lm 1	



CREE LED LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	XHP35.2 HI 14.0° / 26.0° 95 % 11.9 cd/lm 1 White	
CREE LED LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	XHP35.2 HI 14.0° / 28.0° 87 % 10.6 cd/lm 1 White	
Protective plate	, glass	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate	XHP50.3 HI 14.0° / 28.0° 87 % 9.2 cd/lm 1 White	1.5 25 27 27 27 27 27 27 27 28 28 28 29 29 29 29 29 29 29 29 29 29 29 29 29
CREE LED	XHP50.3 HI 14.0° / 28.0° 95 % 10.2 cd/lm 1 White	



LED	XM-L3	A A A
FWHM / FWTM	12.0° / 26.0°	
Efficiency	95 %	
Peak intensity	12.5 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required components:		
		× J ×
LED	XM-L3	
FWHM / FWTM	12.0° / 28.0°	
Efficiency	87 %	
Peak intensity	11 cd/lm	
LEDs/each optic	1	
Light colour	White	e /
Required components:		
Protective plate	e, glass	
		u
LED	XP-E	
FWHM / FWTM	6.0° / 14.0°	35
Efficiency	95 %	erw
Peak intensity	52.2 cd/lm	
LEDs/each optic	1	$\times$ / $\rightarrow$
Light colour	White	
Required components:		
		k.5
LED	XP-G2	
FWHM / FWTM	10.0° / 20.0°	
Efficiency	90 %	1 / / · · · · · · · · · · · · · · · · ·
Peak intensity	21.3 cd/lm	$r \sim 7/14$ $\Lambda$ $\sim$ 1
LEDs/each optic	1	
Light colour	White	•* / \
Required components:		
Protective plate	e, glass	MAK



LED FWHM / FWTM	XP-G2 HE 8.0° / 18.0°	
Efficiency	95 %	
Peak intensity	28.5 cd/lm	
LEDs/each optic	1	X/T $X$
Light colour	White	
Required components:		
		$\times     \times$
		1.7 W
LED	XP-G2 HE	
FWHM / FWTM	10.0° / 20.0°	
Efficiency	91 %	XINMAXX
Peak intensity	23.7 cd/lm	$^{\circ}$ X / ( $\mathbb{A}$ \ X )
LEDs/each optic	1	
Light colour	White	
Required components:		$\times$ $($ $) \times$
Protective plate	e, glass	
		кл
	XP-G3	
	XP-G3 10.0° / 22.0°	
LED FWHM / FWTM Efficiency	10.0° / 22.0° 86 %	
LED FWHM / FWTM Efficiency Peak intensity	10.0° / 22.0°	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	10.0° / 22.0° 86 % 16.4 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	10.0° / 22.0° 86 % 16.4 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	10.0° / 22.0° 86 % 16.4 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	10.0° / 22.0° 86 % 16.4 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	10.0° / 22.0° 86 % 16.4 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	10.0° / 22.0° 86 % 16.4 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	10.0° / 22.0° 86 % 16.4 cd/lm 1 White	12. 17. 19. 19. 19. 10. 10. 10. 10. 10. 10. 10. 10. 10. 10
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate	10.0° / 22.0° 86 % 16.4 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate	10.0° / 22.0° 86 % 16.4 cd/lm 1 White	12. 17. 19. 19. 19. 10. 10. 10. 10. 10. 10. 10. 10. 10. 10
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate	10.0° / 22.0° 86 % 16.4 cd/lm 1 White , glass	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate Protective plate	10.0° / 22.0° 86 % 16.4 cd/lm 1 White xP-G3 10.0° / 22.0°	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate Protective plate LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	10.0° / 22.0° 86 % 16.4 cd/lm 1 White xP-G3 10.0° / 22.0° 95 % 18.6 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate CREE LED LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	10.0° / 22.0° 86 % 16.4 cd/lm 1 White A, glass XP-G3 10.0° / 22.0° 95 % 18.6 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate Protective plate LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	10.0° / 22.0° 86 % 16.4 cd/lm 1 White xP-G3 10.0° / 22.0° 95 % 18.6 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate CREE LED LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	10.0° / 22.0° 86 % 16.4 cd/lm 1 White xP-G3 10.0° / 22.0° 95 % 18.6 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate CREE LED LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	10.0° / 22.0° 86 % 16.4 cd/lm 1 White xP-G3 10.0° / 22.0° 95 % 18.6 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate CREE  LED LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	10.0° / 22.0° 86 % 16.4 cd/lm 1 White xP-G3 10.0° / 22.0° 95 % 18.6 cd/lm 1	



LED       XP-L HD         Fillerinery       95 %         Pask Intensity       13.7 od/m         Light colour       White         Required components:			
With IVTM       12.07 / 20.0°         Reliensing       95 %         Peak intensity       13.7 colm         LEDvised ropic       1         LED       XPL HD         EVM / VTM       12.07 / 20.0°         Brokenson 90 %       1         Pask intensity       12.2 colm         LEDvised ropic       1         Light colour       While         Required components:       1         CREE > LED       I         LEDvised ropic       1         Light colour       While         Required components:       1         EDVised ropic       1         Light colour       While <td< th=""><th></th><th></th><th></th></td<>			
WMM / PUTM       12.07 / 26.0°         Eliciancy       95.3         Pack intensity       13.7 collim         Light colour       While         Required components:       ••••••••••••••••••••••••••••••••••••	LED	XP-L HD	- HAARA
Pack Information 1 1 2.20 Advant LEDWater optic 1 1 LEDWater optic 1 1 LEDWater optic 1 1 LEDWater optic 2 1 LED XP4_HD FWHM /FWTM 12.0*/ 26.0* Endemnoy 90% Required components: Protective plate, glass CREE 1 1 LEDWater optic 1 1 LEDW	FWHM / FWTM	12.0° / 26.0°	
LEDaleach optic 1 Light colour White Required components: LED XPL, HD EVM / FVTM 12.07 / 28.0° Filiciency 90 % Pack Intensity 12.8 cdfm Light colour White Required components: Protective plate, glass CREE ↓ LED EVEN / FVTM 8.0° / 18.0° Efficiency 96 % Pack Intensity 25.2 cdfm LEDs/each optic 1 LEDs/each optic 1 LEDs/e	Efficiency	95 %	
Jight colour       White         Required components:       Image: Second	Peak intensity	13.7 cd/lm	$N \sim 1$
Required components:  CREC_LO  ED XPL-H D  WMM /FVTM 12.0°/ 28.0° Efficiency 90 % Peak Intensity 12.8 ddfm Eddeward pdfc 1  Light colour While Required components:  Protective plate. glass  CREC_LO  ED XPL-H H  WMM /FVTM 8.0°/ 18.0° Efficiency 10  LED%each pdfc 1  LED%each pdfc	LEDs/each optic	1	
CREE       LD         LD       XP-L HD         WMM / FWTM       12.07 / 28.0°         Efficiency       90 %         Pask Intensity       12.8 dd/m         LDS/seach optic       1         LD / Intensity       28.2 cd/m         LEDS/seach optic       1         Light colour       White         Required components:       E         CREE       LED         LEDS/seach optic       1         Light colour       White         Required components:       E         EDS/seach optic       1         LEDS/seach optic       1	Light colour	White	er V av
LED XP-L HD WMM / FVTM 12.0° / 28.0° Findency 90% Peak intensity 12.8 cd/m LEDS/each optic 1 Light colour White Required components: Protective plate, glass CREE CLED LED XP-L HI WMM / FVTM 8.0° / 18.0° Efficiency 96% Peak intensity 12.2 cd/m LEDS/each optic 1 Light colour White Required components: CREE CLED LED XP-L HI WMM / FVTM 10.0° / 20.0° Efficiency 67% Peak intensity 2.7 cd/m LEDS/each optic 1 Light colour White Required components: Protective plate, glass	Required components:		
LED XP-L HD WMM / FVTM 12.0° / 28.0° Flickincory 90% Peak intensity 12.8 cd/m LED&tech optic 1 LED to Court White Required components: Protective plate, glass CREE CLED LED XP-L HI FWMM / FVTM 8.0° / 18.0° Flickincory 96% Peak intensity 2.62 cd/m LED&court White Required components: CREE CLED LED XP-L HI FWMM / FVTM 10.0° / 20.0° Efficiency 86% Peak intensity 2.7 cd/m LED&court 1 LED&court 1 LED&			
LED XP-L HD WMM / FVTM 12.0° / 28.0° Flickincory 90% Peak intensity 12.8 cd/m LED&tech optic 1 LED to Court White Required components: Protective plate, glass CREE CLED LED XP-L HI FWMM / FVTM 8.0° / 18.0° Flickincory 96% Peak intensity 2.62 cd/m LED&court White Required components: CREE CLED LED XP-L HI FWMM / FVTM 10.0° / 20.0° Efficiency 86% Peak intensity 2.7 cd/m LED&court 1 LED&court 1 LED&			
LED XP-L HD WMM / FVTM 12.0° / 28.0° Flickincory 90% Peak intensity 12.8 cd/m LED&tech optic 1 LED to Court White Required components: Protective plate, glass CREE CLED LED XP-L HI FWMM / FVTM 8.0° / 18.0° Flickincory 96% Peak intensity 2.62 cd/m LED&court White Required components: CREE CLED LED XP-L HI FWMM / FVTM 10.0° / 20.0° Efficiency 86% Peak intensity 2.7 cd/m LED&court 1 LED&court 1 LED&			
LED XP-L HD WMM / FVTM 12.0° / 28.0° Findency 90% Peak intensity 12.8 cd/m LEDS/each optic 1 Light colour White Required components: Protective plate, glass CREE CLED LED XP-L HI WMM / FVTM 8.0° / 18.0° Efficiency 96% Peak intensity 12.2 cd/m LEDS/each optic 1 Light colour White Required components: CREE CLED LED XP-L HI WMM / FVTM 10.0° / 20.0° Efficiency 67% Peak intensity 2.7 cd/m LEDS/each optic 1 Light colour White Required components: Protective plate, glass			
FWHM / FWTM 12.0° / 26.0° Efficiency 90 % Peak intensity 12.8 cd/m LED / White Required components: Protective plate, glass CREE \$ LED LED XP-L HI White 7 18.0° Efficiency 96 % Peak intensity 25.2 cd/m LED kep A point 1 Light colour White Required components: CREE \$ LED LED XP-L HI White 7 18.0° Efficiency 96 % Peak intensity 25.2 cd/m LED kep A point 1 Light colour White Required components: Protective plate, glass		XP-I HD	
Efficiency 90 % Peak intensity 12.8 dof/m LEDS/each optic 1 Light colour Kequired components: LEDs/each optic 1 LEDs/eac			
Peak intensity 12.8 cd/m EDS/each optic 1 LED/each optic 2 Protective plate, glass  CREE CLED LED LED LED LED LED LED LED LED LED			
LEDs/each optic 1 Light colour White Required components: Protective plate, glass CREE\$LED LED XP-L HI WMH / FWTM 8.0° / 18.0° Filcioncy 96 % Peak intensity 26.2 cd/m LEDs/each optic 1 Light colour White Required components: CREE\$LED LED XP-L HI FWHM / FWTM 10.0° / 20.0° Filciency 87 % Peak intensity 22.7 cd/m LEDs/each optic 1 Light colour White Required components: Protective plate, glass			
ight colour White Required components: Protective plate, glass			V Malt V
Required components: Protective plate, glass CREE CEO LED XP-L HI WHM / FVVTM 8.0° / 18.0° Efficiency 96 % Peak intensity 26.2 cd/m LEDs/each optic 1 Light colour White Required components: CREE CEO LED XP-L HI WHM / FVVTM 10.0° / 20.0° Efficiency 87 % Peak intensity 22.7 cd/m LEDs/each optic 1 LED Seach optic 1 LED White Required components: Protective plate, glass			44 / / Art
Protective plate, glass  CREE\$LED  LED XP-L HI  WVHM / FWTM 8.0° / 18.0°  Efficiency 96% Peak intensity 26.2 cu/m LEDs/each optic 1 Light colour White Required components:  CREE\$LED  LED XP-L HI EVVHM / FWTM 10.0° / 20.0°  Efficiency 87% Peak intensity 22.7 cu/m LEDs/each optic 1 Light colour White Required components:  Protective plate, glass			
CREE       LED       XP-L HI         FWHM / FWTM       8.0° / 18.0°         Filiciency       96 %         Peak intensity       26.2 cd/lm         LEDs/each optic       1         Light colour       White         Required components:       Image: Colour of the second se			
CREE \$ LED LED XP-L HI WVHM / FVVTM 8.0° / 18.0° Efficiency 96 % Peak intensity 26.2 cd/lm LEDs/each optic 1 Light colour White Required components: ECREE \$ LED LED XP-L HI WVHM / FVVTM 10.0° / 20.0° Efficiency 87 % Peak intensity 22.7 cd/lm LEDs/each optic 1 Light colour White Required components: Protective plate, glass	Protective plate	e, glass	$\times$ $( \times$
CREE \$ LED LED XP-L HI WVHM / FVVTM 8.0° / 18.0° Efficiency 96 % Peak intensity 26.2 cd/m LEDs/each optic 1 Light colour White Required components: ECREE \$ LED LED XP-L HI WVHM / FVVTM 10.0° / 20.0° Efficiency 87 % Peak intensity 22.7 cd/m LEDs/each optic 1 Light colour White Required components: Protective plate, glass			
LED XP-L HI FWHM / FWTM 8.0° / 18.0° Efficiency 96 % Peak intensity 26.2 cd/m LEDs/each optic 1 Light colour White Required components: CREE LED LED XP-L HI FWHM / FWTM 10.0° / 20.0° Efficiency 87 % Peak intensity 22.7 cd/m LEDs/each optic 1 Light colour White Required components: Protective plate, glass			
FWHM / FWTM       8.0° / 18.0°         Efficiency       96 %         Peak intensity       26.2 cd/m         LEDs/each optic       1         Light colour       White         Required components:			~ · · · · · · · · · · · · · · · · · · ·
FWHM / FWTM       8.0° / 18.0°         Efficiency       96 %         Peak intensity       26.2 cd/lm         LEDs/each optic       1         Light colour       White         Required components:	LED	XP-L HI	
Peak intensity 26.2 cd/lm LEDs/each optic 1 Light colour White Required components: CREECIED LED XP-L HI FWHM / FWTM 10.0° / 20.0° Efficiency 87 % Peak intensity 22.7 cd/lm LEDs/each optic 1 Light colour White Required components: Protective plate, glass	FWHM / FWTM	8.0° / 18.0°	
LEDs/each optic 1 Light colour White Required components: LED XP-L HI EVHM / FWTM 10.0° / 20.0° Efficiency 87 % Peak intensity 22.7 cd/m LEDs/each optic 1 Light colour White Required components: Protective plate, glass	Efficiency	96 %	
Light colour White Required components: White CREECIED LED XP-L HI FWHM / FWTM 10.0° / 20.0° Efficiency 87 % Peak intensity 22.7 cd/m LEDs/each optic 1 Light colour White Required components: Protective plate, glass	Peak intensity	26.2 cd/lm	
Required components:	LEDs/each optic	1	
CREE       LED       XP-L HI         FWHM / FWTM       10.0° / 20.0°         Efficiency       87 %         Peak intensity       22.7 cd/lm         LEDs/each optic       1         Light colour       White         Required components:       The protective plats	Light colour	White	
CREE©LED LED XP-L HI FWHM / FWTM 10.0° / 20.0° Efficiency 87 % Peak intensity 22.7 cd/lm LEDs/each optic 1 Light colour White Required components: Protective plate, glass	Required components:		
CREE©LED LED XP-L HI FWHM / FWTM 10.0° / 20.0° Efficiency 87 % Peak intensity 22.7 cd/lm LEDs/each optic 1 Light colour White Required components: Protective plate, glass			
CREE©LED LED XP-L HI FWHM / FWTM 10.0° / 20.0° Efficiency 87 % Peak intensity 22.7 cd/lm LEDs/each optic 1 Light colour White Required components: Protective plate, glass			
CREE       LED       XP-L HI         FWHM / FWTM       10.0° / 20.0°         Efficiency       87 %         Peak intensity       22.7 cd/lm         LEDs/each optic       1         Light colour       White         Required components:       Protective plate, glass			
LED XP-L HI FWHM / FWTM 10.0° / 20.0° Efficiency 87 % Peak intensity 22.7 cd/lm LEDs/each optic 1 Light colour White Required components: Protective plats			a
FWHM / FWTM 10.0° / 20.0° Efficiency 87 % Peak intensity 22.7 cd/lm LEDs/each optic 1 Light colour White Required components: Protective plate, glass		XP-I HI	
Efficiency 87 % Peak intensity 22.7 cd/lm LEDs/each optic 1 Light colour White Required components:  Protective plate, glass			
Peak intensity 22.7 cd/lm LEDs/each optic 1 Light colour White Required components: Protective plate, glass			
LEDs/each optic 1 Light colour White Required components: Protective plate, glass			
Light colour White Required components: Protective plate, glass			
Required components: Protective plate, glass			
	Required components:		$\mathbb{N}$ / $\mathbb{N}$ $\mathbb{N}$
	Protective plate	e, glass	M-H-KI
			$\times$ / $\vee$ / $\times$



		··· A **
LED	XP-L2	I A A A
FWHM / FWTM	14.0° / 28.0°	
Efficiency	95 %	
Peak intensity	10.8 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required components:	White	$\mathbb{R}$ / / $\mathbb{R}$ $\mathbb{A}$ 2
		1 to and the second to a secon
		кл
LED	XP-L2	
FWHM / FWTM	14.0° / 28.0°	
Efficiency	86 %	
Peak intensity	9.7 cd/lm	
LEDs/each optic	1	$X \neq A \land X $
Light colour	White	
Required components:		
Protective plate	e, glass	
		an e su
LED	XP-P	
FWHM / FWTM	6.0° / 14.0°	
Efficiency	95 %	
Peak intensity	52.2 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required components:		ALA
	XP-P	# /
FWHM / FWTM	8.0° / 14.0°	
Efficiency	86 %	
Peak intensity	39.6 cd/lm	$\times f = f = 1 \wedge \times 1$
LEDs/each optic	1	
I induit and a con-	) A (I= 14 =	424
Light colour	White	**
Light colour Required components:	White	et and the second se
Required components:		*
Required components:		



	5	ал ( ) же
LED	LUXEON 3030 2D (Round LES)	"talk.
FWHM / FWTM	8.0° / 18.0°	
Efficiency	90 %	
Peak intensity	27.1 cd/lm	
LEDs/each optic	1	X / T X
Light colour	White	
Required components:		
Protective plate	e, glass	MA
	DS	e."w"
LED	LUXEON 5050 HE	
FWHM / FWTM	16.0° / 32.0°	
Efficiency	95 %	
Peak intensity	8.3 cd/lm	
LEDs/each optic	1	$\sim$ / / $\sim$ $\sim$
Light colour	White	
Required components:		
		5 6 10
	DS	67
	LUXEON 5050 Round LES	
LED	LUXEON 5050 Round LES	
LED FWHM / FWTM Efficiency Peak intensity	LUXEON 5050 Round LES 18.0° / 34.0°	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	LUXEON 5050 Round LES 18.0° / 34.0° 87 % 6.6 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LUXEON 5050 Round LES 18.0° / 34.0° 87 % 6.6 cd/lm	11
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	LUXEON 5050 Round LES 18.0° / 34.0° 87 % 6.6 cd/lm 1	11
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON 5050 Round LES 18.0° / 34.0° 87 % 6.6 cd/lm 1 White	25 17 17 17 17 17 17 17 17 17 17 17 17 17
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LUXEON 5050 Round LES 18.0° / 34.0° 87 % 6.6 cd/lm 1 White	25 17 17 17 17 17 17 17 17 17 17 17 17 17
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON 5050 Round LES 18.0° / 34.0° 87 % 6.6 cd/lm 1 White	25 17 17 17 17 17 17 17 17 17 17 17 17 17
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON 5050 Round LES 18.0° / 34.0° 87 % 6.6 cd/lm 1 White e, glass	225
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate	LUXEON 5050 Round LES 18.0° / 34.0° 87 % 6.6 cd/lm 1 White e, glass	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate	LUXEON 5050 Round LES 18.0° / 34.0° 87 % 6.6 cd/lm 1 White e, glass	225
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate	LUXEON 5050 Round LES 18.0° / 34.0° 87 % 6.6 cd/lm 1 White e, glass LUXEON 5050 Round LES	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate Vertice plate Protective plate ED FWHM / FWTM Efficiency	LUXEON 5050 Round LES 18.0° / 34.0° 87 % 6.6 cd/lm 1 White e, glass LUXEON 5050 Round LES 18.0° / 34.0°	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate <b>White Composed State</b> LED FWHM / FWTM Efficiency Peak intensity	LUXEON 5050 Round LES 18.0° / 34.0° 87 % 6.6 cd/lm 1 White e, glass LUXEON 5050 Round LES 18.0° / 34.0° 95 %	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate	LUXEON 5050 Round LES 18.0° / 34.0° 87 % 6.6 cd/lm 1 White e, glass LUXEON 5050 Round LES 18.0° / 34.0° 95 % 7.3 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate <b>White Components</b> <b>Protective plate</b> <b>Protective plate</b> <b>Protective plate</b> <b>FWHM / FWTM</b> Efficiency Peak intensity LEDs/each optic	LUXEON 5050 Round LES 18.0° / 34.0° 87 % 6.6 cd/lm 1 White e, glass LUXEON 5050 Round LES 18.0° / 34.0° 95 % 7.3 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate <b>CONTINUES</b> LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LUXEON 5050 Round LES 18.0° / 34.0° 87 % 6.6 cd/lm 1 White e, glass LUXEON 5050 Round LES 18.0° / 34.0° 95 % 7.3 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate <b>CONTINUES</b> LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LUXEON 5050 Round LES 18.0° / 34.0° 87 % 6.6 cd/lm 1 White e, glass LUXEON 5050 Round LES 18.0° / 34.0° 95 % 7.3 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate CONTRACTION PLANE LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LUXEON 5050 Round LES 18.0° / 34.0° 87 % 6.6 cd/lm 1 White e, glass LUXEON 5050 Round LES 18.0° / 34.0° 95 % 7.3 cd/lm 1	



EUMILEI LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON 5050 Square LES 20.0° / 36.0° 90 % 5.8 cd/lm 1 White	12 12 12 14 14 14 14 14 14 14 14 14 14 14 14 14
Protective plat	e, glass	
	DS	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON 5050 Square LES 20.0° / 36.0° 95 % 6.2 cd/lm 1 White	25 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7
	os	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON 7070 22.0° / 48.0° 93 % 3.8 cd/lm 1 White	
	DS	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON HL2X-D 12.0° / 26.0° 96 % 15.2 cd/lm 1 White	



<b>COLUMILEI</b>	DS	· · · · · · · · · · · · · · · · · · ·
LED	LUXEON HL2X-D	+ A A A
FWHM / FWTM	12.0° / 26.0°	
Efficiency	88 %	
Peak intensity	13.3 cd/lm	
LEDs/each optic	1	$X / T \land X$
Light colour	White	
Required components:		U/HAHA
Protective plat	a, glass	X V X
	)S	
LED	LUXEON HL2X-P	
FWHM / FWTM	12.0° / 26.0°	and the second sec
Efficiency	95 %	X X
Peak intensity	15.6 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required components:		
		X   V   X
	25	
LED	LUXEON HL2Z	
FWHM / FWTM	8.0° / 18.0°	
Efficiency	95 %	$< \times / / \wedge \times >$
Peak intensity	27.9 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required components:		
UMILEI	75	15 <sup>1</sup>
COLUMILEI		
LED	LUXEON XR-HL2X (L2H2-xxxxxxMLU010)	
LED FWHM / FWTM	LUXEON XR-HL2X (L2H2-xxxxxxMLU010) 12.0° / 24.0°	
LED FWHM / FWTM Efficiency	LUXEON XR-HL2X (L2H2-xxxxxxMLU010)	
LED FWHM / FWTM Efficiency Peak intensity	LUXEON XR-HL2X (L2H2-xxxxxMLU010) 12.0° / 24.0° 96 %	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	LUXEON XR-HL2X (L2H2-xxxxxMLU010) 12.0° / 24.0° 96 % 16.3 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LUXEON XR-HL2X (L2H2-xxxxxxMLU010) 12.0° / 24.0° 96 % 16.3 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	LUXEON XR-HL2X (L2H2-xxxxxxMLU010) 12.0° / 24.0° 96 % 16.3 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LUXEON XR-HL2X (L2H2-xxxxxxMLU010) 12.0° / 24.0° 96 % 16.3 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LUXEON XR-HL2X (L2H2-xxxxxxMLU010) 12.0° / 24.0° 96 % 16.3 cd/lm 1	



LUMILED	)S	сх ( Д
LED FWHM / FWTM	LUXEON XR-HL2X (L2H2-xxxxxxMLU010) 12.0° / 24.0°	35
Efficiency	88 % 14.1 cd/lm	
Peak intensity LEDs/each optic	14.1 Co/mi	
Light colour	' White	• V / V V
Required components:		
Protective plate	e, glass	
	SFT-40-WCS	
FWHM / FWTM Efficiency	8.0° / 18.0° 95 %	
Peak intensity	95 % 30.1 cd/lm	*< _ </th
LEDs/each optic	1	X/T
Light colour	White	
Required components:		
		<u>о</u>
LED	SFT-70X-WCS	#
FWHM / FWTM	10.0° / 22.0°	
Efficiency Peak intensity	96 % 18.7 cd/lm	57 /
LEDs/each optic	1	$\sim$ $\sim$ $\sim$ $\sim$ $\sim$
Light colour	' White	
Required components:	Wille	T A some A
required compendito.		
		$\times$ / $\setminus$ $\times$
	JS	
LED	SST-70X-WCS	
FWHM / FWTM	16.0° / 30.0°	
Efficiency	87 %	
Peak intensity	8.1 cd/lm	
	1	
	White	
Light colour	White	
Light colour	white	
LEDs/each optic Light colour Required components: Protective plate		A.K.



	JS	ь.». Д
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	SST-70X-WCS 16.0° / 30.0° 96 % 8.9 cd/lm 1 White	
<b>WNICHIA</b>		N 14
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	NFMW48xA 18.0° / 34.0° 95 % 7.3 cd/lm 1 White	
<b>ØNICHIA</b>		
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate	NV4WB35AM 14.0° / 26.0° 87 % 10.6 cd/lm 1 White	
~		
ED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	NV4WB35AM 14.0° / 26.0° 96 % 11.6 cd/lm 1 White	



<b>WNICHIA</b>		6.7
LED	NVSW219F	
FWHM / FWTM	10.0° / 22.0°	n
	90 %	
Efficiency	90 % 17.5 cd/lm	E A A
Peak intensity		
LEDs/each optic	1	
Light colour	White	
Required components:		
Protective plate	e, glass	
<b>ØNICHIA</b>		с». А
LED	NVSW219F	
FWHM / FWTM	10.0° / 22.0°	
Efficiency	95 %	
Peak intensity	19.9 cd/lm	
LEDs/each optic	1	$-\Delta / / \Delta $
Light colour	White	
Required components:		
Protective plate	e, glass	
<b>ØNICHIA</b>		1. T
LED	NVSW219F	
	NVSW219F 10.0° / 22.0°	
FWHM / FWTM		
FWHM / FWTM Efficiency	10.0° / 22.0°	
FWHM / FWTM Efficiency Peak intensity	10.0° / 22.0° 95 %	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	10.0° / 22.0° 95 % 20.7 cd/lm	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic	10.0° / 22.0° 95 % 20.7 cd/lm 1	17
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	10.0° / 22.0° 95 % 20.7 cd/lm 1	47 17 17 18 18 18 18 18 18 18 18 18 18 18 18 18
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	10.0° / 22.0° 95 % 20.7 cd/lm 1	17 17 17 17 17 17 17 17 17 17 17 17 17 1
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	10.0° / 22.0° 95 % 20.7 cd/lm 1	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	10.0° / 22.0° 95 % 20.7 cd/lm 1	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	10.0° / 22.0° 95 % 20.7 cd/lm 1 White	20 20 20 20 20 20 20 20 20 20 20 20 20 2
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	10.0° / 22.0° 95 % 20.7 cd/lm 1 White	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	10.0° / 22.0° 95 % 20.7 cd/lm 1 White NVSW519A 12.0° / 27.0°	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	10.0° / 22.0° 95 % 20.7 cd/lm 1 White NVSW519A 12.0° / 27.0° 94 %	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	10.0° / 22.0° 95 % 20.7 cd/lm 1 White NVSW519A 12.0° / 27.0° 94 % 13.2 cd/lm	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	10.0° / 22.0° 95 % 20.7 cd/lm 1 White NVSW519A 12.0° / 27.0° 94 % 13.2 cd/lm 1	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	10.0° / 22.0° 95 % 20.7 cd/lm 1 White NVSW519A 12.0° / 27.0° 94 % 13.2 cd/lm	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	10.0° / 22.0° 95 % 20.7 cd/lm 1 White NVSW519A 12.0° / 27.0° 94 % 13.2 cd/lm 1	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	10.0° / 22.0° 95 % 20.7 cd/lm 1 White NVSW519A 12.0° / 27.0° 94 % 13.2 cd/lm 1	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	10.0° / 22.0° 95 % 20.7 cd/lm 1 White NVSW519A 12.0° / 27.0° 94 % 13.2 cd/lm 1	



<b>ØNICHIA</b>		
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	NVSxE21A 8.0° / 18.0° 88 % 27.7 cd/lm 1 White	
Protective plate	e, glass	
OSRAM Opto Semiconductors		10 (A)
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	DURIS E 5050 (GW J9LHS1.4M) 14.0° / 32.0° 95 % 9.5 cd/lm 1 RGBW	
OSRAM		
Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Duris S8 20.0° / 38.0° 95 % 5.5 cd/lm 1 White	
Coto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate	Duris S8 22.0° / 40.0° 87 % 4.9 cd/lm 1 White	



OSRAM Opto Semiconductors		
LED	OSCONIQ P 3737 (2W version)	
FWHM / FWTM	8.0° / 18.0°	
Efficiency	90 %	
Peak intensity	26.9 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required components:		
Protective plate	e, glass	
		× 3 + × ×
OSRAM Opto Semiconductors		
LED	OSCONIQ P 3737 (3W version)	1 A AL
FWHM / FWTM	12.0° / 24.0°	
Efficiency	96 %	
Peak intensity	15.7 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required components:		
		X     X
		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
OSRAM Opto Semiconductors		1.7 J
		A
LED	OSCONIQ P 3737 (3W version)	
LED	OSCONIQ P 3737 (3W version) 12.0° / 24.0°	
LED FWHM / FWTM		
LED	12.0° / 24.0°	
LED FWHM / FWTM Efficiency	12.0° / 24.0° 87 %	
LED FWHM / FWTM Efficiency Peak intensity	12.0° / 24.0° 87 % 14.2 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	12.0° / 24.0° 87 % 14.2 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	12.0° / 24.0° 87 % 14.2 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	12.0° / 24.0° 87 % 14.2 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	12.0° / 24.0° 87 % 14.2 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate	12.0° / 24.0° 87 % 14.2 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate	12.0° / 24.0° 87 % 14.2 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate	12.0° / 24.0° 87 % 14.2 cd/lm 1 White e, glass	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate	12.0° / 24.0° 87 % 14.2 cd/lm 1 White e, glass OSLON Optimal 6.0° / 14.0°	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate OSRAM Opto Semiconductors LED FWHM / FWTM Efficiency	12.0° / 24.0° 87 % 14.2 cd/lm 1 White e, glass OSLON Optimal 6.0° / 14.0° 92 %	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity	12.0° / 24.0° 87 % 14.2 cd/lm 1 White e, glass OSLON Optimal 6.0° / 14.0° 92 % 41.9 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	12.0° / 24.0° 87 % 14.2 cd/lm 1 White e, glass OSLON Optimal 6.0° / 14.0° 92 % 41.9 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	12.0° / 24.0° 87 % 14.2 cd/lm 1 White e, glass OSLON Optimal 6.0° / 14.0° 92 % 41.9 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	12.0° / 24.0° 87 % 14.2 cd/lm 1 White e, glass OSLON Optimal 6.0° / 14.0° 92 % 41.9 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	12.0° / 24.0° 87 % 14.2 cd/lm 1 White e, glass OSLON Optimal 6.0° / 14.0° 92 % 41.9 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	12.0° / 24.0° 87 % 14.2 cd/lm 1 White e, glass OSLON Optimal 6.0° / 14.0° 92 % 41.9 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate Protective plate Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	12.0° / 24.0° 87 % 14.2 cd/lm 1 White e, glass OSLON Optimal 6.0° / 14.0° 92 % 41.9 cd/lm 1	



OSRAM Opto Semiconductors		5.7 TIL
LED	OSLON Square CSSRM2/CSSRM3	A A
FWHM / FWTM	10.0° / 20.0°	
Efficiency	86 %	
Peak intensity	19.3 cd/lm	
		$\times$ / / $\wedge$ $\times$
LEDs/each optic	1 White	
Light colour Required components:	White	
Required components.		
Protective plate	e, glass	$\times / \mathbb{N} \times \mathbb{X}$
		1 - Henry V
SAMSUN		an e m
		· · · · · · · · · · · · · · · · · · ·
LED	LH351B	
FWHM / FWTM	10.0° / 22.0°	
Efficiency	87 %	
Peak intensity	19.7 cd/lm	$\sim$ $\sim$ $\sim$
LEDs/each optic	1	
Light colour	White	
Required components:		
Protective plate	e glass	$\times$ $ $ $ $ $\times$ $\times$
	, 9000	
		×
SAMSUN	IG	
	LH351B 10.0° / 20.0°	
LED	LH351B	
LED FWHM / FWTM Efficiency	LH351B 10.0° / 20.0°	
LED FWHM / FWTM	LH351B 10.0° / 20.0° 96 %	
LED FWHM / FWTM Efficiency Peak intensity	LH351B 10.0° / 20.0° 96 % 22.3 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	LH351B 10.0° / 20.0° 96 % 22.3 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LH351B 10.0° / 20.0° 96 % 22.3 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LH351B 10.0° / 20.0° 96 % 22.3 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LH351B 10.0° / 20.0° 96 % 22.3 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LH351B 10.0° / 20.0° 96 % 22.3 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LH351B 10.0° / 20.0° 96 % 22.3 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LH351B 10.0° / 20.0° 96 % 22.3 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LH351B 10.0° / 20.0° 96 % 22.3 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LH351B 10.0° / 20.0° 96 % 22.3 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: SAMSUN LED FWHM / FWTM	LH351B 10.0° / 20.0° 96 % 22.3 cd/lm 1 White I LH351C 10.0° / 22.0°	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: <b>SANNSUN</b> LED FWHM / FWTM Efficiency Peak intensity	LH351B 10.0° / 20.0° 96 % 22.3 cd/lm 1 White LH351C 10.0° / 22.0° 96 %	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: <b>SAMSUN</b> LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	LH351B 10.0° / 20.0° 96 % 22.3 cd/lm 1 White UH351C 10.0° / 22.0° 96 % 18.8 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: <b>SAMSUN</b> LED FWHM / FWTM Efficiency Peak intensity	LH351B 10.0° / 20.0° 96 % 22.3 cd/lm 1 White UG LH351C 10.0° / 22.0° 96 % 18.8 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: <b>SANNSUN</b> LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LH351B 10.0° / 20.0° 96 % 22.3 cd/lm 1 White UG LH351C 10.0° / 22.0° 96 % 18.8 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: <b>SANNSUN</b> LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LH351B 10.0° / 20.0° 96 % 22.3 cd/lm 1 White UG LH351C 10.0° / 22.0° 96 % 18.8 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: <b>SANNSUN</b> LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LH351B 10.0° / 20.0° 96 % 22.3 cd/lm 1 White UG LH351C 10.0° / 22.0° 96 % 18.8 cd/lm 1	



<b></b>		
SAMSUN	IG	6.9 90 <sup>2</sup>
LED	LH351C	
FWHM / FWTM	10.0° / 22.0°	# · · · · · · · · · · · · · · · ·
Efficiency	88 %	
Peak intensity	16.7 cd/lm	
LEDs/each optic	1	
Light colour	White	er / /
Required components:		
Protective plate	e, glass	$L \neq H = M = \Lambda = \Lambda = \Lambda$
SAMSUN	IG	
LED	LH351D	
FWHM / FWTM	14.0° / 28.0°	
Efficiency	95 %	21 North Contraction (1997)
Peak intensity	11.8 cd/lm	$^{\circ}$ X/ $^{\circ}$ X/ $^{\circ}$
LEDs/each optic	1	1/XIalXXI
Light colour	White	
Required components:		
		105
CARACIIA	10	
SAMSUN	IG	· · · · · · · · · · · · · · · · · · ·
	LH351D	
LED FWHM / FWTM	LH351D 14.0° / 28.0°	
LED FWHM / FWTM Efficiency	LH351D 14.0° / 28.0° 90 %	
LED FWHM / FWTM Efficiency Peak intensity	LH351D 14.0° / 28.0° 90 % 10.5 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	LH351D 14.0° / 28.0° 90 % 10.5 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LH351D 14.0° / 28.0° 90 % 10.5 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	LH351D 14.0° / 28.0° 90 % 10.5 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LH351D 14.0° / 28.0° 90 % 10.5 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LH351D 14.0° / 28.0° 90 % 10.5 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LH351D 14.0° / 28.0° 90 % 10.5 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate	LH351D 14.0° / 28.0° 90 % 10.5 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LH351D 14.0° / 28.0° 90 % 10.5 cd/lm 1 White e, glass	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate	LH351D 14.0° / 28.0° 90 % 10.5 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate SAMSUN LED	LH351D 14.0° / 28.0° 90 % 10.5 cd/lm 1 White e, glass	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate SAMSUN LED FWHM / FWTM	LH351D 14.0° / 28.0° 90 % 10.5 cd/lm 1 White e, glass LH502C 18.0° / 36.0°	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate SAMSUN LED FWHM / FWTM Efficiency	LH351D 14.0° / 28.0° 90 % 10.5 cd/lm 1 White e, glass LH502C 18.0° / 36.0° 95 %	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate SAMSUN LED FWHM / FWTM Efficiency Peak intensity	LH351D 14.0° / 28.0° 90 % 10.5 cd/lm 1 White e, glass LH502C 18.0° / 36.0° 95 % 6.6 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate SAMSUN LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	LH351D 14.0° / 28.0° 90 % 10.5 cd/lm 1 White e, glass LH502C 18.0° / 36.0° 95 % 6.6 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate SAMSUN LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LH351D 14.0° / 28.0° 90 % 10.5 cd/lm 1 White e, glass LH502C 18.0° / 36.0° 95 % 6.6 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate SAMSUN LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LH351D 14.0° / 28.0° 90 % 10.5 cd/lm 1 White e, glass LH502C 18.0° / 36.0° 95 % 6.6 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate SANNSUN LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LH351D 14.0° / 28.0° 90 % 10.5 cd/lm 1 White e, glass LH502C 18.0° / 36.0° 95 % 6.6 cd/lm 1	



SAMSU	NG
LED	LH502C
FWHM / FWTM	18.0° / 35.0°
Efficiency	90 %
Peak intensity	6.4 cd/lm
LEDs/each optic	1
Light colour	White
Required components	:
Protective pla	
SEQUE SEMICONDUCTOR	Z5M4
FWHM / FWTM	251014 10.0° / 22.0°
Efficiency	90 %
Peak intensity	90 % 18 cd/lm
LEDs/each optic	1
Light colour	White
Required components	
Protective pla	ate, glass
SEOUL SEMICONDUCTOR	
LED	Z8Y22
FWHM / FWTM	10.0° / 22.0°
Efficiency	86 %
Peak intensity	16.7 cd/lm
LEDs/each optic	1
Light colour	White
Required components	:
_	
Protective pla	ate, glass



#### **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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