

# PRODUCT DATASHEET C14605\_HB-2X2-RW

# HB-2X2-RW

 ${\sim}50^\circ$  wide beam optimized for CREE XP-L and XM-L

#### **SPECIFICATION:**

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



#### **MATERIALS:**

Component	Туре	Material	Colour	Finish
HB-2X2-RW	Multi-lens	PMMA	clear	

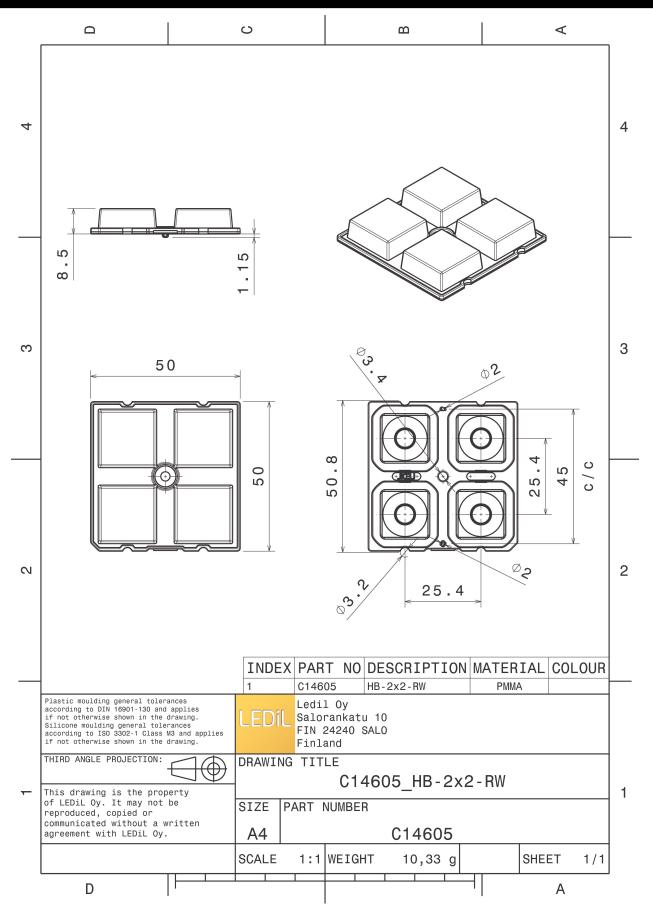
#### **ORDERING INFORMATION:**

#### Component

C14605\_HB-2X2-RW » Box size: 476 x 273 x 292 mm

Qty in box	MOQ	MPQ	Box weight (kg)
800	160	160	9.1

# PRODUCT DATASHEET C14605\_HB-2X2-RW



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



bridgelux. LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	Bridgelux SMD 5050 56.0° / 89.0° 94 % 0.9 cd/lm 1 White nts:	
CREE LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	XD16 44.0° / 71.0° 90 % 1.4 cd/lm 1 White nts:	
CREE LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	XD16 54.0° / 85.0° 92 % 0.9 cd/lm 4 White nts:	
CREE LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	XHP35 HD 53.0° / 82.0° 84 % 1 cd/lm 1 White nts:	



CREE Constructions LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	XM-L3 52.0° / 79.0° 95 % 1.1 cd/lm 1 White nts:	
CREE LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	XP-G2 45.0° / 73.0° 94 % 1.4 cd/lm 1 White nts:	
		91°
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	XP-G3 48.0° / 75.0° 86 % 1.2 cd/lm 1 White nts:	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	XP-L HI 45.0° / 72.0° 92 % 1.3 cd/lm 1 White nts:	



CREE LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	XP-L2 52.0° / 83.0° 92 % 1 cd/lm 1 White nts:	30° 30° 50° 50° 50° 50° 50° 50° 50° 5
ED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	LUXEON 5050 Round LES 55.0° / 87.0° 94 % 1 cd/lm 1 White	94 <sup>3</sup> 97 97 97 97 97 97 98 97 98 97 98 98 97 98 98 98 98 98 98 98 98 98 98 98 98 98
EUMIL LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	LUXEON V 52.0° / 81.0° 93 % 1.1 cd/lm 1 White	9°* 9° 9°* 6° 9°* 6° 9°* 6° 9°* 6° 9°* 6° 9°* 6° 9°
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	SST-10-B130 44.0° / 70.0° 96 % 1.5 cd/lm 1 Deep Red	94 <sup>4</sup> 10 <sup>5</sup> 10 <sup>5</sup> 10 <sup>4</sup> 10 <sup>4</sup>



MST Your solu	tions		90*
LED	RecLED 122x50mm 1900lm 730 2x4 Opt G1		
FWHM / FWTM	46.0° / 72.5°		75
Efficiency	97 %		400
Peak intensity	1.4 cd/lm		60° · · · · · · · · · · · · · · · · · · ·
LEDs/each optic	1		
Light colour	White		45*
Required compone			
			1200
			30°
			15 00 150
ØNICHI∕	<b>N</b>	and the second se	90* 90*
LED	NVSW219F		X* X*
FWHM / FWTM	49.0° / 76.0°		
Efficiency	96 %		60° 400
Peak intensity	1.3 cd/lm		
LEDs/each optic	1		
Light colour	White		45° 65°
Required compone	ents:		
			1200
			30° 30° 30°
ØNICHI/	N		90* 90*
LED	NVSW219F		
FWHM / FWTM	48.0° / 76.0°		75°
Efficiency	94 %		400
Peak intensity	1.2 cd/lm		
LEDs/each optic	1		
Light colour	White		47°
Required compone	ents:		
			1200
			30° 30° 30°
ØNICHI/			30*
LED	NVSW319B		
FWHM / FWTM	50.0° / 79.0°		75
Efficiency	94 %		
Peak intensity	1.2 cd/lm		400
LEDs/each optic	1		$  \times / /   \times   \times  $
Light colour	White		gr et
Required compone			• • • • • • • • • • • • • • • • • • •
			30.
1			( 15° 0° 15°



<b>ØNICHI</b> Λ		50 <sup>4</sup>
LED	NVSW3x9A	
FWHM / FWTM	50.0° / 78.0°	
Efficiency	93 %	
Peak intensity	1.2 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required compone		
Required compone		
		30 <sup>4</sup> 1220 3
OSRAM	1	30 <sup>4</sup>
LED	PrevaLED Brick HP 2x8	
FWHM / FWTM	49.0° / 72.0°	
Efficiency	94 %	
Peak intensity	94 % 1.3 cd/lm	
LEDs/each optic	1	
	ı White	
Light colour		
Required compone	nts:	
		128
		20 m m m m m m m m m m m m m m m m m m m
OSRAM		90*
Opto Semiconductors		
LED	Duris S8	75
FWHM / FWTM	56.0° / 89.0°	
Efficiency	95 %	
Peak intensity	0.9 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required compone	nts:	
		30 <sup>4</sup> 35 <sup>5</sup> 1400 55 <sup>5</sup>
OSRAM		90
Opto Semiconductors		
FWHM / FWTM	OSCONIQ C 3030	
Efficiency	45.0° / 71.0° 94 %	
Peak intensity	1.4 cd/lm	
LEDs/each optic	1 W/bite	
Light colour	White	
Required compone	nts:	
		1200
		15% 0° 35



OCDAM		
OSRAM Opto Semiconductors		90* 90*
LED	OSLON Square CSSRM2/CSSRM3	75
FWHM / FWTM	49.0° / 72.0°	
Efficiency	94 %	60° 60°
Peak intensity	1.3 cd/lm	
LEDs/each optic	1	
Light colour	White	93° - 800
Required compone	nts:	364 15% or 12%
PHILIF	PS	90*
LED	Fortimo FastFlex LED 2x8 DA G4	
FWHM / FWTM	45.0° / 71.0°	
Efficiency	93 %	60°
Peak intensity	1.4 cd/lm	
LEDs/each optic	1	
Light colour	White	ar ar
Required compone	nts:	
		 200
PHILIF	<b>PS</b>	90°
LED	Fortimo FastFlex LED 2x8 DA G4+	
FWHM / FWTM	48.0° / 77.0°	75
Efficiency	96 %	60° 400 60°
Peak intensity	1.2 cd/lm	
LEDs/each optic	1	
Light colour	White	gr
Required compone	nts:	20% 0° 25° %
SAMSI	JNG	90° 90°
LED		
	HiLOM RC12 Z (LH181B)	
	HiLOM RC12 Z (LH181B) 41.0° / 71.0°	75
FWHM / FWTM	HiLOM RC12 Z (LH181B) 41.0° / 71.0° 97 %	37 60
FWHM / FWTM Efficiency	41.0° / 71.0° 97 %	91
FWHM / FWTM Efficiency Peak intensity	41.0° / 71.0°	77° 601 602
FWHM / FWTM Efficiency Peak intensity LEDs/each optic	41.0° / 71.0° 97 % 1.6 cd/lm 1	5°
FWHM / FWTM Efficiency Peak intensity	41.0° / 71.0° 97 % 1.6 cd/lm 1 White	5. 6.0 5. 6.0 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.



SAMSU LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	HiLOM RH12 Z (LH351C) 48.0° / 75.0° 96 % 1.3 cd/lm 1 White	99 <sup>4</sup> 99 <sup>4</sup> 9
SAMSU LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	HiLOM RH16 (LH351C) 48.0° / 75.0° 94 % 1.3 cd/lm 1 White	25° 00 - 007 100 - 00
SAMSU LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	HiLOM RM12 Z (LH502C) 55.0° / 88.0° 95 % 1 cd/lm 1	
Light colour Required compone SAMSU LED FWHM / FWTM Efficiency		200 200 200 200 200 200 200 200
Peak intensity LEDs/each optic Light colour Required compone	1 cd/lm 1 White	22., 0., 22., 0., 22., 0., 22., 0., 0., 0., 0., 0., 0., 0., 0., 0., 0



SAMS LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	HiLOM RM8 Z (LH502C) 56.0° / 88.0° 97 % 1 cd/lm 1 White	
SAMS LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	LH351B 45.0° / 74.0° 86 % 1.3 cd/lm 1 White	
SAMS LED FWHM / FWTM Efficiency LEDs/each optic Light colour Required compone	LH351D 49.0° / 82.0° 94 % 1 White	
SAMS LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	LH508A 56.0° / 87.0° 93 % 1 cd/lm 1 White	



EED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	LED-Pa-L15c2W11c2-xxx-C050-01 47.0° / 76.0° 96 % 1.3 cd/lm 1 White	
stoul standconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	2x2 Y22 module - SMJQ-D48W16AA-XX 54.0° / 94.0° 92 % 0.8 cd/lm 1 White ents:	
stout semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	Z5M3 47.0° / 75.0° 94 % 1.3 cd/lm 1 White ents:	
SEOUL SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	Z5M4 49.0° / 76.0° 96 % 1.3 cd/lm 1 White ents:	



seout semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	Z8Y19 54.0° / 94.0° 92 % 0.8 cd/lm 4 White nts:	
SEOUL		
seoul semiconductore LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	Z8Y19 54.0° / 94.0° 92 % 0.8 cd/lm 4 White nts:	
SEOUL		
scout semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	Z8Y22P 48.0° / 77.0° 92 % 1.2 cd/lm 1 White nts:	
		25 0° 25°
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	RLE 2x4 2000lm HP EXC2 OTD 46.0° / 71.0° 94 % 1.4 cd/lm 1 White	



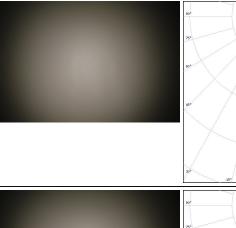
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	RLE 2x8 4000lm HP EXC2 OTD 46.0° / 71.0° 94 % 1.4 cd/lm 1 White	81. 10. 10. 10. 10. 10. 10. 10. 1
Required compone	ents:	1200 30 <sup>4</sup> 12 <sup>4</sup> 0 <sup>4</sup> 12 <sup>4</sup> 30
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	RLE 2x8 6000lm HP HE EXC3 OTD 53.0° / 86.0° 96 % 1 cd/lm 1 White	27 27 27 27 27 27 27 27 27 27
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	RLE G1 49x121mm 2000lm xxx EXC OTD 46.0° / 73.0° 94 % 1.4 cd/lm 1 White	90 90 90 90 90 90 90 90 90 90
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	RLE G1 49x133mm 2000lm xxx EXC OTD 46.0° / 73.0° 94 % 1.4 cd/lm 1 White	



# **TRIDONIC**

LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour

RLE G1 49x223mm 4000lm xxx EXC OTD 46.0° / 73.0° 94 % 1.4 cd/lm 1 White Required components:



# **TRIDONIC**

LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:

RLE G1 49x245mm 4000lm xxx EXC OTD 46.0° / 73.0° 94 % 1.4 cd/lm 1 White





		90° 90°
	VUDOF U	
	XHP35 HI 52.0° / 68.0°	75°
	93 %	
	93 % 1.4 cd/lm	60* 60°
	1	
LEDs/each optic Light colour	White	47° 45°
Required components:	Wine	
Required components.		
		1200
		30° 30° 30° 15°
		90* 90*
	XM-L	
	54.0° / 74.0°	75'
	92 %	
	1.2 cd/lm	60* 60*
	1	
	White	az., az.
Required components:		800
		310 1250 310
		15° 0° 15°
		**************************************
CREE ÷	XP-G3	99 <sup>4</sup> 99 <sup>4</sup>
LED	XP-G3 52.0° / 74.0°	33   39     39   39     39   39
LED FWHM / FWTM		
LED FWHM / FWTM Efficiency	52.0° / 74.0°	25° ¢ 25°
LED FWHM / FWTM Efficiency	52.0° / 74.0° 89 %	04 00 04 05 00 04 05 07 05 00 05
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	52.0° / 74.0° 89 % 1.2 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	52.0° / 74.0° 89 % 1.2 cd/lm 1	55° (° 15° 66° (10°) 55° (° 10°) 50° (10°) 50° (10°
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	52.0° / 74.0° 89 % 1.2 cd/lm 1 White	00 00 00 00 00 00 00 00 00 00
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	52.0° / 74.0° 89 % 1.2 cd/lm 1 White	23.   00   25.     35.   00   25.     35.   100   105.
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	52.0° / 74.0° 89 % 1.2 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate,	52.0° / 74.0° 89 % 1.2 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate,	52.0° / 74.0° 89 % 1.2 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate, LEDs	52.0° / 74.0° 89 % 1.2 cd/lm 1 White , glass	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate, CREE LEDs LED FWHM / FWTM	52.0° / 74.0° 89 % 1.2 cd/lm 1 White , glass XP-L HD 55.0° / 79.0°	<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>
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate, CREE LED FWHM / FWTM Efficiency	52.0° / 74.0° 89 % 1.2 cd/lm 1 White , glass XP-L HD 55.0° / 79.0° 93 %	<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>
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate, CREE LED FWHM / FWTM Efficiency Peak intensity	52.0° / 74.0° 89 % 1.2 cd/lm 1 White , glass XP-L HD 55.0° / 79.0° 93 % 1.1 cd/lm	<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>
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	52.0° / 74.0° 89 % 1.2 cd/lm 1 White , glass XP-L HD 55.0° / 79.0° 93 % 1.1 cd/lm 1	60° 60° 60°
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 Light colour	52.0° / 74.0° 89 % 1.2 cd/lm 1 White , glass XP-L HD 55.0° / 79.0° 93 % 1.1 cd/lm	<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>
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	52.0° / 74.0° 89 % 1.2 cd/lm 1 White , glass XP-L HD 55.0° / 79.0° 93 % 1.1 cd/lm 1	60° 60° 60°
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 Light colour	52.0° / 74.0° 89 % 1.2 cd/lm 1 White , glass XP-L HD 55.0° / 79.0° 93 % 1.1 cd/lm 1	60° 60° 60°
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 Light colour	52.0° / 74.0° 89 % 1.2 cd/lm 1 White , glass XP-L HD 55.0° / 79.0° 93 % 1.1 cd/lm 1	60° 60° 60°



		50°	90
LED	XP-L HD		$\wedge$
FWHM / FWTM	56.0° / 78.0°	75	
Efficiency	90 %		
Peak intensity	1.1 cd/lm	90×	400 60°
LEDs/each optic	1		
Light colour	White	gr /	434
Required components:			
Protective pla			
	, , ,		
		30 <sup>5</sup>	0° 15°
		94 <sup>10</sup>	, ee
LED	XP-L HI		
FWHM / FWTM	48.0° / 72.0°	23	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Efficiency	90 %	and the second se	400
Peak intensity	1.4 cd/lm	$\sim$	
LEDs/each optic	1		
Light colour	White	er	800 a74
Required components:			
Protective pla	ite, glass		1230
		34	0° 25° de
			90'
LED	XP-L2		
FWHM / FWTM	58.0° / 82.0°	73*	200
Efficiency	89 %		
Peak intensity	1 cd/lm		400
LEDs/each optic	1		
Light colour	White	az. /	600
Required components:			
			me h
Protective pla	ite, glass		
		394	1000 30° 30°
		20*	90*
LEDS	XP-P		$\wedge$
FWHM / FWTM	40.0° / 66.0°	75	400
Efficiency	91 %		
Peak intensity	1.8 cd/lm		
LEDs/each optic	1.0 cu/im		800
Light colour	White	94	
Required components:			120
Protective pla			1630
		304	38



PAINLA FUTTM 50.0 / 76.0 ° Efficiency 94 % Pask intensity 1.3 cd/m LEDS/acch optic 1 LEDS/acch optic 1 LEDS/acch optic 1 LEDS/acch optic 4 LEDS/acch optic 1 LEDS/acch optic 1 LEDS/acch optic 1 LEDS/acch optic 4 LEDS/acch optic 4 LEDS/acch optic 4 LEDS/acch optic 4 LEDS/acch optic 4 LEDS/acch optic 5 LEDENELEDS LED ULXEON HL2X-D Pask intensity 12 cd/m LEDS/acch optic 4 LIGN LEDS/acch optic 4 LIGN LIGN HL2X-P PMIM / PVT/TM 54.0 / 90.0° Efficiency 94 % Peak Intensity 12 cd/m LEDS/acch optic 4 LIGN LEDS/acch optic 4	UMILE	DS	90*
Efficiency 94% Pack intends 13 addm Light colour White Required components: PUMMLEDS LED WENCON HL2X-D PMML 7 FVTM 550° / 70° Efficiency 88% Pack intends 1 Light colour White Required components: Protective plate, glass PumML / FVTM 50° / 70° CUMILEDS LED WENCON HL2X-D PMML / FVTM 50° / 70° PUMML / FVTM 50° / 70° CUMILEDS LED WENCON HL2X-D PMML / FVTM 50° / 70° PUMML / FVTM 50° / 70° CUMILEDS LED WHITE LED WENCON HL2X-D PMML / FVTM 50° / 70° CUMILEDS LED WHITE LED WINE LED WINE Required components: LED WINE Pack intends 1 Light colour White Required components: LED WINE LED WINE LED WINE LED WINE LED WINE Required components: LED WINE LED WINE LED WINE LED WINE Required components: LED WINE LED WINE Required components: LED WINE Required components: LED WINE Required components: LED WINE Required components: LED WINE Required components: LED WINE Required components: LED WINE Required components:	LED	LUXEON HL2X	27
Pask Intensity 1.3 colon LEDX/each optic 1 LEDX/each optic 1 LEDX/each optic 1 POLUMILEDS LED LUXEON HL2X-D FWHM / FWTM 56.0° / 76.0° Efficiency 88 % Protective plate, glass Potective plate	FWHM / FWTM		
LEDeleach optic 1 Light colour White Required components: PLUMILEDS LED LUXEON HL2X-D RWM / FVTM 560' /76.0° Efficiency 88% Peak Intensity 1.1 cdfm Light colour White Required components: Protective plate, glass PLUMILEDS LED LUXEON HL2X-D FWHM / FVTM 560' /76.0° Efficiency 96% PPeak Intensity 1.2 cdfm LEDwaceh optic 1 LEDWEDS LED LUXEON HL2X-D FWHM / FVTM 560' /76.0° Efficiency 96% Peak Intensity 1.2 cdfm LEDWeek optic 1 LEDWEEDS LED LUXEON HL2X-P FWHM / FVTM 56.0° /76.0° Efficiency 96% Peak Intensity 1.2 cdfm LEDWeek optic 1 LEDWeek optic 1 LEDWe	Efficiency		90 <sup>0</sup>
Light colour White Required components: ULD LUXEON HL2X-D EVM / FVTTM 55.0° / 76.0° Efficiency 88 % Peak intensity 1.1 col/m LEDWeek optio 1 Light colour White Required components: Protective plate, glass ULVEON HL2X-D EVM / FVTM 55.0° / 76.0° Efficiency 99 % Peak intensity 1.2 col/m LEDWeek optio 1 LEDWeek	Peak intensity		
Required components: CLUMILEDS LED LUXEON HL2X-D Provide / FOR / Co./ Efficiency 89 % Peak Intensity 1.1 col/m LEDS/each optic 1 Light colour While Required components: Protective plate, glass CLUMILEDS LED LUXEON HL2X-D Privide / Provide / To Low Efficiency 99 % Preak Intensity 1.2 col/m LEDS/each optic 1 LEDS/each op			
Image: Constraint of the second of the se			5° - 80 8
LED LUXEON HL2X-D Whith / FVTTM 56.0° / 75.0° Efficiency 88 % Peak intensity 1.1 cd/m LEDs/each optic 1 LEDs/each optic 1 LEDs/each optic 2 <b>CULVILLEDS</b> LED LUXEON HL2X-D FWHM / FVTTM 56.0° / 76.0° Efficiency 99 % Peak intensity 1.2 cd/m LEDs/each optic 1 LEDS/each	Required components	:	
LED LUXEON HL2X-D Whith / FVTTM 56.0° / 75.0° Efficiency 88 % Peak intensity 1.1 cd/m LEDs/each optic 1 LEDs/each optic 1 LEDs/each optic 2 <b>CULVILLEDS</b> LED LUXEON HL2X-D FWHM / FVTTM 56.0° / 76.0° Efficiency 99 % Peak intensity 1.2 cd/m LEDs/each optic 1 LEDS/each			
LED LUXEON HL2X-D Whith / FVTTM 56.0° / 75.0° Efficiency 88 % Peak intensity 1.1 cd/m LEDs/each optic 1 LEDs/each optic 1 LEDs/each optic 2 <b>CULVILLEDS</b> LED LUXEON HL2X-D FWHM / FVTTM 56.0° / 76.0° Efficiency 99 % Peak intensity 1.2 cd/m LEDs/each optic 1 LEDS/each			
LED LUXEON HL2X-D WMM / FVTTM 56.0° / 76.0° Efficiency 88 % Peak intensity 1.1 cd/m LEDs/each optic 1 LEDs/each optic 1 LEDs/each optic 2 <b>CUMILEDS</b> LED LUXEON HL2X-D FWMM / FVTTM 56.0° / 76.0° Efficiency 99 % Peak intensity 1.2 cd/m LEDS/each optic 1 LEDS/each opti			20 <sup>10</sup> 22 <sup>10</sup> 0 <sup>10</sup> 22 <sup>10</sup>
LED LUXEON HL2X-D Whith / FVTTM 56.0° / 75.0° Efficiency 88 % Peak intensity 1.1 cd/m LEDs/each optic 1 LEDs/each optic 1 LEDs/each optic 2 <b>CULVILLEDS</b> LED LUXEON HL2X-D FWHM / FVTTM 56.0° / 76.0° Efficiency 99 % Peak intensity 1.2 cd/m LEDs/each optic 1 LEDS/each		DS	5/*
FWHM / FVTM 56.0° / 76.0°   Efficiency 88 %   Peak intensity 1.1 cd/m   LED seach optic 1   Light colour White   Required components: Image: Components   Potective plate, glass Image: Components   Potective plate, glass Image: Components   EED LUXEON HL2X-D   FWHM / FWTM 50.0° / 76.0°   Efficiency 96 %   Peak intensity 1.2 cd/m   Light colour White   Required components: Image: Components   Image: Components	LED		
Peak intensity 1.1 cd/m LEDS/each optic 1 Light colour White Required components: LED LUXEON HL2X-D FWHM / FWTM 56.0° / 76.0° Efficiency 96 % Peak intensity 1.2 cd/m LEDS/each optic 1 Light colour White Required components: LED LUXEON HL2X-P FWHM / FWTM 54.0° / 80.0° Efficiency 94 % Peak intensity 1.2 cd/m LEDS/each optic 1 Light colour White Required components: LED LUXEON HL2X-P FWHM / FWTM 54.0° / 80.0° Efficiency 94 % Peak intensity 1.2 cd/m LEDS/each optic 1 Light colour White Required components: EFD LUXEON HL2X-P FWHM / FWTM 54.0° / 80.0° Efficiency 94 % Peak intensity 1.2 cd/m LEDS/each optic 1 Light colour White Required components: EFD LUXEON HL2X-P FWHM / FWTM 54.0° / 80.0° Efficiency 94 % Peak intensity 1.2 cd/m LEDS/each optic 1 Light colour White	FWHM / FWTM		
Peak intensity 1.1 cd/m LEDS/each optic 1 Light colour White Required components: LED LUXEON HL2X-D FWHM / FWTM 56.0° / 76.0° EtHiciancy 96 % Peak intensity 1.2 cd/m LEDS/each optic 1 Light colour White Required components: LED LUXEON HL2X-P FWHM / FWTM 54.0° / 80.0° EtHiciancy 94 % Peak intensity 1.2 cd/m LEDS/each optic 1 Light colour White Required components: LED LUXEON HL2X-P FWHM / FWTM 54.0° / 80.0° EtHiciancy 94 % Peak intensity 1.2 cd/m LEDS/each optic 1 Light colour White Required components: EtHiciancy 94 % Peak intensity 1.2 cd/m LEDS/each optic 1 LEDS/each optic 1 LEDS/eac	Efficiency	88 %	
LEDs/each optic 1 Light colour White Required components: Protective plate, glass Protective plate, glass Postective	Peak intensity	1.1 cd/lm	
Required components: Protective plate, glass <b>CUMILEDS</b> LED LUXEON HL2X-D FWHM / FWTM 56.0° / 76.0° Efficiency 96 % Peak intensity 1.2 cd/m LEDs/each optic 1 LEDs/each optic 1 LEDs/each optic 1 LEDs/each optic 1 LEDs/each optic 1 LEDS/EACH NL2X-P FWHM / FWTM 54.0° / 80.0° Efficiency 94 % Peak intensity 1.2 cd/m LEDs/each optic 1 LEDS White Required components: <b>CUMILEDS</b> High colour White Required components:	LEDs/each optic	1	
Protective plate, glass	Light colour	White	<i>y</i> / / / / / / / / / / / / / / / / / / /
Image: Contract of the second seco	Required components	:	
Image: Contract of the second seco	Protective pl	ate alass	
LUXEON HL2X-D   FWHM / FWTM 56.0° / 76.0°   Efficiency 96 %   Peak intensity 1.2 cd/m   LEDs/each optic 1   Light colour White   Required components: Image: Company of the second	Fiblective pl	ale, glass	
LED LUXEON HL2X-D FWHM / FWTM 56.0° / 76.0° Efficiency 96 % Peak intensity 1.2 cd/m LEDs/each optic 1 Light colour White Required components: LED LUXEON HL2X-P FWHM / FWTM 54.0° / 80.0° Efficiency 94 % Peak intensity 1.2 cd/m LEDs/each optic 1 Light colour White Required components:			30 <sup>1</sup> 22 0 <sup>1</sup> 20 30
FWHM / FWTM 56.0° / 76.0°   Efficiency 96 %   Peak intensity 1.2 cd/lm   LEDs/each optic 1   Light colour White   Required components: Image: Component State	UMILE	DS	20 <sup>4</sup>
Efficiency 96 % Peak intensity 1.2 cd/lm LEDs/each optic 1 Light colour White Required components: LED LUXEON HL2X-P FWHM / FWTM 54.0° / 80.0° Efficiency 94 % Peak intensity 1.2 cd/lm LEDs/each optic 1 Light colour White Required components:	LED	LUXEON HL2X-D	75
Peak intensity 1.2 cd/lm LEDs/each optic 1 Light colour White Required components: LED LUXEON HL2X-P FWHM / FWTM 54.0° / 80.0° Efficiency 94 % Peak intensity 1.2 cd/lm LEDs/each optic 1 LEDs/each optic 1 LEDs/each optic 1 LEDs/each optic 1 LEDs/each optic 1 LEDs/each optic 1 Light colour White Required components:	FWHM / FWTM	56.0° / 76.0°	
LEDs/each optic 1 Light colour White Required components: <b>CUMILEDS</b> LED LUXEON HL2X-P FWHM / FWTM 54.0° / 80.0° Efficiency 94 % Peak intensity 1.2 cd/m LEDs/each optic 1 Light colour White Required components:		96 %	get and the second s
Light colour White Required components: White Required components: White LED LUXEON HL2X-P FWHM / FWTM 54.0° / 80.0° Efficiency 94 % Peak intensity 1.2 cd/lm LEDs/each optic 1 Light colour White Required components:	Peak intensity		
Required components:			
Image: Second			
Image: state of the state	Required components	:	
Image: state of the state			
Image: state of the state			
LED LUXEON HL2X-P FWHM / FWTM 54.0° / 80.0° Efficiency 94 % Peak intensity 1.2 cd/lm LEDs/each optic 1 Light colour White Required components:			30° 2200 3 325° 0° 35°
LED LUXEON HL2X-P FWHM / FWTM 54.0° / 80.0° Efficiency 94 % Peak intensity 1.2 cd/lm LEDs/each optic 1 Light colour White Required components:		DS	
FWHM / FWTM 54.0° / 80.0°   Efficiency 94 %   Peak intensity 1.2 cd/lm   LEDs/each optic 1   Light colour White   Required components: ************************************	LED		
Efficiency 94 % Peak intensity 1.2 cd/lm LEDs/each optic 1 Light colour White Required components:	FWHM / FWTM		
LEDs/each optic 1 Light colour White Required components:	Efficiency	94 %	00 <sup>4</sup>
Light colour White Required components:	Peak intensity	1.2 cd/lm	
Required components:	LEDs/each optic		
316	Light colour		
34	Required components	:	
20* IZ			
30*			
15° 0° 15°			



	IS In the second s	50°
LED	LUXEON HL2Z	25
FWHM / FWTM	46.0° / 66.0°	400
Efficiency	94 %	60° 60
Peak intensity	1.7 cd/lm	
LEDs/each optic	1	
Light colour	White	ar is
Required components:		1230
		1600
		30° 30° 30°
	S	90° <b>2</b> 0
LED	LUXEON XR-HL2X (L2H2-xxxxxxMLU010)	
FWHM / FWTM	54.0° / 76.0°	
Efficiency	96 %	ere 400
Peak intensity	1.2 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required components:		
		30* 30*
	5	a0.e a0.e
LED	LUXEON XR-HL2X (L2H2-xxxxxxMLU010)	
FWHM / FWTM	54.0° / 76.0°	75'
Efficiency		
,	88 %	
Peak intensity	88 % 1.1 cd/lm	60° 60°
Peak intensity LEDs/each optic		97 w
LEDs/each optic	1.1 cd/lm	
-	1.1 cd/lm 1	01 40 FR
LEDs/each optic Light colour Required components:	1.1 cd/lm 1 White	60° 400 60°
LEDs/each optic Light colour	1.1 cd/lm 1 White	97 400 97 97 67
LEDs/each optic Light colour Required components:	1.1 cd/lm 1 White	
LEDs/each optic Light colour Required components: Protective plate	1.1 cd/lm 1 White	
LEDs/each optic Light colour Required components: Protective plate	1.1 cd/lm 1 White	
LEDs/each optic Light colour Required components: Protective plate	1.1 cd/lm 1 White e, glass	
LEDs/each optic Light colour Required components: Protective plate	1.1 cd/lm 1 White e, glass NV4WB35AM 56.0° / 74.0°	00 00 00 00 00 00 00 00 00 00 00 00 00
LEDs/each optic Light colour Required components: Protective plate <b>WICHIA</b> LED FWHM / FWTM Efficiency	1.1 cd/lm 1 White e, glass NV4WB35AM 56.0° / 74.0° 95 %	00 00 00 00 00 00 00 00 00 00 00 00 00
LEDs/each optic Light colour Required components: Protective plate <b>WICHIN</b> LED FWHM / FWTM Efficiency Peak intensity	1.1 cd/lm 1 White e, glass NV4WB35AM 56.0° / 74.0°	00 00 00 00 00 00 00 00 00 00 00 00 00
LEDs/each optic Light colour Required components: Protective plate <b>WICHIA</b> LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	1.1 cd/lm 1 White a, glass NV4WB35AM 56.0° / 74.0° 95 % 1.2 cd/lm 1	00 00 00 00 00 00 00 00 00 00 00 00 00
LEDs/each optic Light colour Required components: Protective plate <b>WICHIN</b> LED FWHM / FWTM Efficiency Peak intensity	1.1 cd/lm 1 White a, glass NV4WB35AM 56.0° / 74.0° 95 % 1.2 cd/lm	99 <sup>4</sup> 10 <sup>7</sup> 10
LEDs/each optic Light colour Required components: Protective plate <b>MICHIA</b> LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	1.1 cd/lm 1 White a, glass NV4WB35AM 56.0° / 74.0° 95 % 1.2 cd/lm 1	99* 99* 99* 99* 99* 99* 99* 99* 99* 99*
LEDs/each optic Light colour Required components: Protective plate <b>MICHIA</b> LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	1.1 cd/lm 1 White a, glass NV4WB35AM 56.0° / 74.0° 95 % 1.2 cd/lm 1	99* 25° 99* 25° 99* 25° 260 27° 27° 27° 27° 27° 27° 27° 27° 27° 27°



<b>ØNICHIA</b>		90* 90*
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	NVSW219D 54.0° / 75.0° 95 % 1.2 cd/lm 1 White	25. 25. 000 25. 000 000 000 000 000 000 000 000 000
OSRAM Opto Semiconductors		20° 22°
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Duris S8 57.0° / 83.0° 90 % 1 cd/lm 1 White	77* 720 200 01* 00* 05* 000 00*
Protective plate	e, glass	300 300 300 300 300 300 300
OSRAM Opto Semiconductors		90° 50°
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	OSCONIQ C 2424 45.0° / 62.0° 96 % 1.9 cd/lm 1 White	75 66 75 10 10 10 10 10 10 10 10 10 10
OSRAM Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	OSCONIQ P 3030 42.0° / 64.0° 96 % 2 cd/lm 1 White	20- 20- 20- 20- 20- 20- 20- 20-



OSRAM Opto Semiconductors LED	OSCONIQ P 3737 (2W version)	21 21 21 21
FWHM / FWTM	45.0° / 68.0°	400
Efficiency	96 %	60° 60°
Peak intensity	1.7 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required components:		
		1500
		36 <sup>6</sup> 15 <sup>9</sup> 0 <sup>6</sup> 15 <sup>9</sup> 34 <sup>6</sup>
OSRAM Opto Semiconductors		90°
LED	OSCONIQ P 3737 (3W version)	
FWHM / FWTM	52.0° / 72.0°	75
Efficiency	94 %	400
Peak intensity	1.4 cd/lm	
LEDs/each optic	1	
Light colour	White	95° - 800 - 83°
Required components:		
		1230
		30° 302
OSRAM		
Opto Semiconductors		90°
LED	OSCONIQ P 3737 Flat	75°
FWHM / FWTM	50.0° / 68.0°	400
Efficiency	96 %	60° 60°
Peak intensity	1.4 cd/lm 1	
LEDs/each optic Light colour	ı White	143 <sup>1</sup> 850
Required components:	White	
Required components.		
		1220
		30" 30"
0000444		115 <sup>9</sup> 0 <sup>4</sup> 15 <sup>9</sup>
OSRAM Opto Semiconductors		90° 90°
LED	OSLON Square CSSRM2/CSSRM3	
FWHM / FWTM	50.0° / 72.0°	
Efficiency	87 %	60°
Peak intensity	1.3 cd/lm	
LEDs/each optic	1	
Light colour	White	97 <sup>4</sup> 000 05*
Required components:		
Destaution		
Protective plate	a, glass	1200
		36*
		15' 0" 15'



0000414		
OSRAM Opto Semiconductors		90* 90*
LED	OSLON Square Flat	
FWHM / FWTM	43.0° / 64.0°	23* 25*
Efficiency	96 %	605
Peak intensity	1.8 cd/lm	
LEDs/each optic	1	
Light colour	White	93 <sup>4</sup> 9 <sup>5</sup>
Required components:		
		36*
OSRAM Opto Semiconductors		15° 2000 15°
		80'
	OSTAR Projection Compact (KW.CSLNM1.TG)	75. 75.
FWHM / FWTM	42.0° / 64.0° 96 %	
Efficiency Peak intensity	96 % 1.8 cd/lm	60* 60
LEDs/each optic	1.8 ca/im	
Light colour	White	92*
Required components:	White	1230
Required components.		
		30°
		15° 0° 15°
PHILIPS		90* TE 90*
		90 <sup>4</sup> 90 <sup>4</sup>
LED	Fortimo FastFlex LED 2x8 DAX G4 51.0° / 73.0°	94 <sup>*</sup> 95 <sup>*</sup> 95 <sup>*</sup>
LED FWHM / FWTM	Fortimo FastFlex LED 2x8 DAX G4	
LED FWHM / FWTM Efficiency	Fortimo FastFlex LED 2x8 DAX G4 51.0° / 73.0°	99 <sup>4</sup> 99 <sup>4</sup> 9
LED FWHM / FWTM	Fortimo FastFlex LED 2x8 DAX G4 51.0° / 73.0° 94 %	
LED FWHM / FWTM Efficiency Peak intensity	Fortimo FastFlex LED 2x8 DAX G4 51.0° / 73.0° 94 % 1.3 cd/lm	22   00   00     33   00   00     35   00   00
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Fortimo FastFlex LED 2x8 DAX G4 51.0° / 73.0° 94 % 1.3 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Fortimo FastFlex LED 2x8 DAX G4 51.0° / 73.0° 94 % 1.3 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Fortimo FastFlex LED 2x8 DAX G4 51.0° / 73.0° 94 % 1.3 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Fortimo FastFlex LED 2x8 DAX G4 51.0° / 73.0° 94 % 1.3 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Fortimo FastFlex LED 2x8 DAX G4 51.0° / 73.0° 94 % 1.3 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Fortimo FastFlex LED 2x8 DAX G4 51.0° / 73.0° 94 % 1.3 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Fortimo FastFlex LED 2x8 DAX G4 51.0° / 73.0° 94 % 1.3 cd/lm 1 White IG HiLOM RM16 Z (LH502C)	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: <b>SAMSUN</b> LED FWHM / FWTM	Fortimo FastFlex LED 2x8 DAX G4 51.0° / 73.0° 94 % 1.3 cd/lm 1 White IG HiLOM RM16 Z (LH502C) 56.0° / 90.0°	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: <b>SAMSUN</b> LED FWHM / FWTM Efficiency	Fortimo FastFlex LED 2x8 DAX G4 51.0° / 73.0° 94 % 1.3 cd/lm 1 White I HiLOM RM16 Z (LH502C) 56.0° / 90.0° 89 %	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: <b>SAMSUN</b> LED FWHM / FWTM Efficiency Peak intensity	Fortimo FastFlex LED 2x8 DAX G4 51.0° / 73.0° 94 % 1.3 cd/lm 1 White	
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	Fortimo FastFlex LED 2x8 DAX G4 51.0° / 73.0° 94 % 1.3 cd/lm 1 White	
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	Fortimo FastFlex LED 2x8 DAX G4 51.0° / 73.0° 94 % 1.3 cd/lm 1 White	
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 Light colour Required components:	Fortimo FastFlex LED 2x8 DAX G4 51.0° / 73.0° 94 % 1.3 cd/lm 1 White HILOM RM16 Z (LH502C) 56.0° / 90.0° 89 % 0.9 cd/lm 1 White	
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	Fortimo FastFlex LED 2x8 DAX G4 51.0° / 73.0° 94 % 1.3 cd/lm 1 White HILOM RM16 Z (LH502C) 56.0° / 90.0° 89 % 0.9 cd/lm 1 White	
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 Light colour Required components:	Fortimo FastFlex LED 2x8 DAX G4 51.0° / 73.0° 94 % 1.3 cd/lm 1 White HILOM RM16 Z (LH502C) 56.0° / 90.0° 89 % 0.9 cd/lm 1 White	



SEOUL SEMICONDUCTOR		90* 90*
LED	SEOUL DC 5050 6V	75°
FWHM / FWTM	54.0° / 79.0°	
Efficiency	94 %	60°
Peak intensity	1.1 cd/lm	400
LEDs/each optic	1	
Light colour	White	43*
Required components:		
		30° 15° 38°
		50* <b>5</b>
SEOUL SEMICONDUCTOR	Z8Y22T	94
seoul semiconductor LED	Z8Y22T 51.0° / 69.0°	94
seoul semiconductor LED FWHM / FWTM	51.0° / 69.0°	90 <sup>4</sup> 77 00
seoul semiconductor LED FWHM / FWTM Efficiency		64 26 26 26 26 26
seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity	51.0° / 69.0° 94 %	
seoul semiconductor LED FWHM / FWTM Efficiency	51.0° / 69.0° 94 % 1.4 cd/lm	
seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	51.0° / 69.0° 94 % 1.4 cd/lm 1	
SEOUL SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	51.0° / 69.0° 94 % 1.4 cd/lm 1	
SEOUL SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	51.0° / 69.0° 94 % 1.4 cd/lm 1	g
seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	51.0° / 69.0° 94 % 1.4 cd/lm 1	g