

HB-2X2-W

~50° wide beam

SPECIFICATION:

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



PRODUCT DATASHEET C12361_HB-2X2-W

MATERIALS:

Component	Туре	Material	Cole	our	Finish
HB-2X2-W	Multi-lens	PMMA	clear	r	
ORDERING INFORMATION:					
Component		Qty in box	MOQ M	PQ Box w	eight (kg)

800

160

160

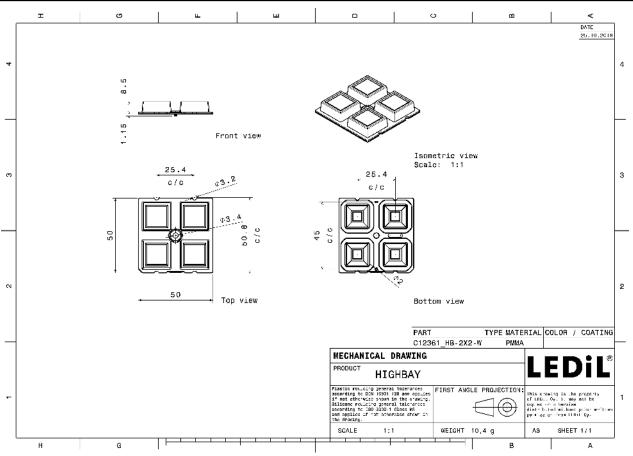
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C12361_HB-2X2-W » Box size: 480 x 280 x 300 mm

Last update: 25/07/2023Subject to change without prior noticeLEDiL is a registered trademark of LEDiL Oy in the European Union, USA, and certain other countries.



PRODUCT DATASHEET C12361_HB-2X2-W



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



LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	Bridgelux SMD 5050 55.0° / 93.0° 94 % 0.9 cd/lm 1 White ents:	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	QUICK FLUX XTP 2x4 xxx LS G5 52.0° / 85.0° 94 % 1 cd/lm 1 White ents:	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	QUICK FLUX XTP 2x6 xxx LS G5 52.0° / 86.0° 94 % 1 cd/lm 1 White ents:	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	J Series 5050C 6V E Class 54.0° / 86.0° 94 % 1 cd/lm 1 White	



LED	XB-D	
FWHM / FWTM	48.0° / 85.0°	
Efficiency	86 %	
Peak intensity	1 cd/lm	
LEDs/each optic	1	
Light colour	White	X XL X X
Required compone		
		 24 25 27 27 27 27 27 27 27 27 27 27 27 27 27
LED	XD16	
FWHM / FWTM	48.0° / 89.0°	
Efficiency	91 %	
Peak intensity	0.9 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required compone	nts:	
		y* W
		10 ⁴ 10 ² 10 ⁴
LED	XD16	
FWHM / FWTM	54.0° / 94.0°	
Efficiency	91 %	
Peak intensity	0.9 cd/lm	
LEDs/each optic	4	
Light colour	White	
Required compone		C / Hand
	_	
CREE÷ LEI		
LED	XHP35 HD	
FWHM / FWTM	57.0° / 92.0°	
Efficiency	85 %	
Peak intensity	0.8 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required compone	nts:	



LED	XM-L	
FWHM / FWTM	57.0° / 90.0°	
Efficiency	89 %	
Peak intensity	0.9 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required compone		
LED	XM-L2	
FWHM / FWTM	56.0° / 85.0°	
Efficiency	87 %	
Peak intensity	0.9 cd/lm	$\Lambda / \Lambda / \Lambda$
LEDs/each optic	1	$ \times / / \times $
Light colour	White	
Required compone	nts:	
LED	XM-L3	- AAAA
FWHM / FWTM	56.0° / 87.0°	X A real X 7
Efficiency	95 %	
Peak intensity	0.9 cd/lm	
LEDs/each optic	1	
Light colour	White	X / Hand M M
Required compone	nts:	
		*
	2	
LED	XP-G	
FWHM / FWTM	52.0°	n to the
Efficiency	52.0 ⁻ 88 %	
Peak intensity	00 % 0.9 cd/lm	** // /**
LEDs/each optic	1	
Light colour	White	17 A A
Required compone		$\nabla / \gamma \rightarrow \gamma \rightarrow \gamma \gamma \gamma$
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		1 - Marine
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		17 (A)
	XP-G2	
	51.0° / 84.0°	
	94 %	
-	1 cd/lm	5° w
	1	
	White	
Required component		
LED	XP-L HD	
FWHM / FWTM	56.0° / 90.0°	25
Efficiency	87 %	
Peak intensity	0.8 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required component	S.	
		e
	XP-L HI	
		n: / / / · · ·
	50.0° / 83.0°	
Efficiency	50.0° / 83.0° 93 %	
Efficiency Peak intensity	50.0° / 83.0° 93 % 1 cd/lm	2
Efficiency Peak intensity LEDs/each optic	50.0° / 83.0° 93 % 1 cd/lm 1	
Efficiency Peak intensity LEDs/each optic Light colour	50.0° / 83.0° 93 % 1 cd/lm 1 White	44°
Efficiency Peak intensity LEDs/each optic	50.0° / 83.0° 93 % 1 cd/lm 1 White	
Efficiency Peak intensity LEDs/each optic Light colour	50.0° / 83.0° 93 % 1 cd/lm 1 White	
Efficiency Peak intensity LEDs/each optic Light colour	50.0° / 83.0° 93 % 1 cd/lm 1 White	
Efficiency Peak intensity LEDs/each optic Light colour	50.0° / 83.0° 93 % 1 cd/lm 1 White	
Efficiency Peak intensity LEDs/each optic Light colour Required component	50.0° / 83.0° 93 % 1 cd/lm 1 White s:	
Efficiency Peak intensity LEDs/each optic Light colour Required component	50.0° / 83.0° 93 % 1 cd/lm 1 White s:	
Efficiency Peak intensity LEDs/each optic Light colour Required component	50.0° / 83.0° 93 % 1 cd/lm 1 White s: XP-L2	
Efficiency Peak intensity LEDs/each optic Light colour Required component CREE LED LED FWHM / FWTM	50.0° / 83.0° 93 % 1 cd/lm 1 White s: XP-L2 56.0° / 96.0°	
Efficiency Peak intensity LEDs/each optic Light colour Required component CREE LED LED FWHM / FWTM Efficiency	50.0° / 83.0° 93 % 1 cd/lm 1 White s: XP-L2 56.0° / 96.0° 92 %	
Efficiency Peak intensity LEDs/each optic Light colour Required component CREE LED LED FWHM / FWTM Efficiency Peak intensity	50.0° / 83.0° 93 % 1 cd/lm 1 White s: XP-L2 56.0° / 96.0° 92 % 0.8 cd/lm	
Efficiency Peak intensity LEDs/each optic Light colour Required component CREE LED LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	50.0° / 83.0° 93 % 1 cd/lm 1 White s: XP-L2 56.0° / 96.0° 92 % 0.8 cd/lm 1	
Efficiency Peak intensity LEDs/each optic Light colour Required component CREE LED LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	50.0° / 83.0° 93 % 1 cd/lm 1 White s: XP-L2 56.0° / 96.0° 92 % 0.8 cd/lm 1 White	20 17 17 19 19
Efficiency Peak intensity LEDs/each optic Light colour Required component CREE LED LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	50.0° / 83.0° 93 % 1 cd/lm 1 White s: XP-L2 56.0° / 96.0° 92 % 0.8 cd/lm 1 White	20 17 17 19 19
Efficiency Peak intensity LEDs/each optic Light colour Required component CREE LED LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	50.0° / 83.0° 93 % 1 cd/lm 1 White s: XP-L2 56.0° / 96.0° 92 % 0.8 cd/lm 1 White	20 17 17 19 19
Efficiency Peak intensity LEDs/each optic Light colour Required component CREE LED LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	50.0° / 83.0° 93 % 1 cd/lm 1 White s: XP-L2 56.0° / 96.0° 92 % 0.8 cd/lm 1 White	20 17 17 19 19



CREE - 444		
LED	XT-E	
FWHM / FWTM	50.0° / 88.0°	
Efficiency	87 %	
Peak intensity	1 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required component		
LUMIL	EDS	
LED	LUXEON 5050 Round LES	
FWHM / FWTM	55.0° / 91.0°	
Efficiency	94 %	
Peak intensity	0.9 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required compone	nts:	
A		
LED	LUXEON 5050 Square LES	
FWHM / FWTM	55.0° / 91.0°	
FWHM / FWTM Efficiency	55.0° / 91.0° 94 %	
FWHM / FWTM Efficiency Peak intensity	55.0° / 91.0° 94 % 0.9 cd/lm	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic	55.0° / 91.0° 94 % 0.9 cd/lm 1	27 - 19 - 19 - 19 - 19 - 19 - 19 - 19 - 1
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	55.0° / 91.0° 94 % 0.9 cd/lm 1 White	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic	55.0° / 91.0° 94 % 0.9 cd/lm 1 White	2 ²²
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	55.0° / 91.0° 94 % 0.9 cd/lm 1 White	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	55.0° / 91.0° 94 % 0.9 cd/lm 1 White	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	55.0° / 91.0° 94 % 0.9 cd/lm 1 White	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required component	55.0° / 91.0° 94 % 0.9 cd/lm 1 White nts:	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required component	55.0° / 91.0° 94 % 0.9 cd/lm 1 White nts:	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required component	55.0° / 91.0° 94 % 0.9 cd/lm 1 White nts:	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required component Composition LUMIL LED FWHM / FWTM	55.0° / 91.0° 94 % 0.9 cd/lm 1 White nts: EDS LUXEON MZ 53.0° / 86.0°	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required component Component Component Eleb FWHM / FWTM Efficiency	55.0° / 91.0° 94 % 0.9 cd/lm 1 White nts: EDS LUXEON MZ 53.0° / 86.0° 92 %	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required component Equired component LED FWHM / FWTM Efficiency Peak intensity	55.0° / 91.0° 94 % 0.9 cd/lm 1 White nts: EDS LUXEON MZ 53.0° / 86.0° 92 % 1 cd/lm	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required component Equired component LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	55.0° / 91.0° 94 % 0.9 cd/lm 1 White nts: EDS LUXEON MZ 53.0° / 86.0° 92 % 1 cd/lm 1	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required component Equired component LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	55.0° / 91.0° 94 % 0.9 cd/lm 1 White nts: EDS LUXEON MZ 53.0° / 86.0° 92 % 1 cd/lm 1 White	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required component Equired component LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	55.0° / 91.0° 94 % 0.9 cd/lm 1 White nts: EDS LUXEON MZ 53.0° / 86.0° 92 % 1 cd/lm 1 White	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required component Equired component LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	55.0° / 91.0° 94 % 0.9 cd/lm 1 White nts: EDS LUXEON MZ 53.0° / 86.0° 92 % 1 cd/lm 1 White	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required component Equired component LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	55.0° / 91.0° 94 % 0.9 cd/lm 1 White nts: EDS LUXEON MZ 53.0° / 86.0° 92 % 1 cd/lm 1 White	



CUMIL	EDS	
LED	LUXEON Q	
FWHM / FWTM	50.0° / 86.0°	
Efficiency	86 %	
Peak intensity	0.9 cd/lm	in zakonza
LEDs/each optic	1	
Light colour	White	
Required compone	nts:	
	FDS	
	LUXEON Rebel ES	
FWHM / FWTM	51.0° / 82.0° 87 %	
Efficiency Peak intensity	87 % 0.9 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required compone		
Required compone		
		2 ⁴
	EDS	
LED	LUXEON T	
FWHM / FWTM	55.0°	a a
Efficiency	87 %	
Peak intensity	0.9 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required compone	nts:	
	EDS	
LED	LUXEON TX	
FWHM / FWTM	50.0° / 80.0°	
Efficiency	88 %	57 W
Peak intensity	1 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required compone	nts:	
		\times / \longrightarrow ×
1		



FWHM / FWTM 55.0° / 91.0° Efficiency 93 % Peak intensity 0.9 od/m LEDs/each optic 1 Light colour White Required components: ED LUXEON V2 FWHM / FWTM 51.0° / 86.0° Efficiency 94 % Peak intensity 1 cd/m LEDs/each optic 1 Light colour White Required components: ED LUXEON V2 FWHM / FWTM 51.0° / 86.0° Efficiency 94 % Peak intensity 1 cd/m LEDs/each optic 1 Light colour White Required components: ED LUXEON Z ES FWHM / FWTM 46.0° / 76.0° Efficiency 87 % Peak intensity 1: cd/m LEDs/each optic 1	-			
PVMH4 / PVTM 5 07 / 91 0° Efficiency 93 % Peak intends optic 1 LEDXeend optic 1 LEDXEENS Efficiency 93 % Peak intensity 1.2 cd1m LEDXeend optic 1 LEDXeend opti		EDS		
Efficiency 93% Pack Intensity 0.9 cd/m Light colour White Required components: PUNILEDS LED LUXEON V2 FWHA/FWTM 5107/86.0° Efficiency 94% Pack Intensity 1 cd/m Light colour White Required components: PUNILEDS LED LUXEON V2 FWHA/FWTM 46.0°/76.0° Efficiency 97% Pack Intensity 1.2 cd/m LEDSeach of pict 1 Light colour White Required components: FUNILEDS LED SST-10-8130 FWHA/FWTM 51.0°/81.0° ELDO SST-10-8130 FWHA/FWTM 51.0°/81.0° ELDO SST-10-8130 FWHA/FWTM 1 cd/m Light colour White Required components:	LED	LUXEON V		
Peak Intensity 0.9 ddm LEDalwach optic 1 Lipit colour White Required components:	FWHM / FWTM	55.0° / 91.0°		
LEDReach optic 1 Light colour White Required components: CUMILEDS LED LED LUXEON V2 FWHM / FVTM 51.07 / 86.0 ² Efficiency 94 % Peak intensity 1 cd/m LEDReach optic 1 Light colour White Required components: CUMILEDS ED LED ED LED ED LED ED LED ED LED ED LED ED LED ED LED ED LED ED ED ED ED ED ED ED ED ED	Efficiency	93 %		
Light colour While Required components: LED LUXEON V2 EVMA /FVTM 51.07 /86.0 Endiancy 45.4, Peak intensity 1 cd/m LED/each optic 1 LED/each optic 1 LED/each optic 1 Light colour While Required components: EED LUXEON Z ES EVMA /FVTM 46.07 /76.0° Endiancy 97.5% Required components: EDS ST-10-9130 FVMA /FVTM 51.07 /96.0° Endiancy 97.5% ELD LUXEON Z ES EVMA /FVTM 51.07 /80.0° Endiancy 97.5% ELD LUXEON Z ES EVMA /FVTM 51.07 /80.0° Endiancy 97.5% ELD SST-10-9130 FVMA /FVTM 51.07 /96.0° Endiancy 99.5% Peak intensity 1 cd/m LED/each optic 1 Light colour Deep Red Required components:	Peak intensity	0.9 cd/lm		N = M = M = M
Required components:	LEDs/each optic	1		
Image: Contract of the state of the sta	Light colour	White		e
CUMILEDS LED LUXEON V2 FWHM/FWTM 51.0° / 56.0° Efficiency 94 % Peak intensity 1 cd/m LEDSeach optic 1 Light colour While Required componentis: Efficiency Peak intensity 1.2 cd/m LED LUXEON Z ES FWHM/FWTM 46.0° / 76.0° Efficiency 87 % Peak intensity 1.2 cd/m LEDSeach optic 1 Light colour While Required components: Efficiency While ST-10-B130 FWHM/FWTM 51.0° / 80.0° Efficiency 99 % Peak intensity 1 cd/m LED ST-10-B130 FWHM/FWTM 51.0° / 80.0° Efficiency 99 % Peak intensity 1 cd/m LED ST-10-B130 FWHM/FWTM 51.0° / 80.0° Efficiency 99 % Peakingeach optic 1 Light colour Deep Red Required componentis:	Required compone	ents:		
CUMILEDS LED LUXEON V2 FWHM/FWTM 51.0° / 56.0° Efficiency 94 % Peak intensity 1 cd/m LEDSeach optic 1 Light colour While Required componentis: Efficiency Peak intensity 1.2 cd/m LED LUXEON Z ES FWHM/FWTM 46.0° / 76.0° Efficiency 87 % Peak intensity 1.2 cd/m LEDSeach optic 1 Light colour While Required components: Efficiency While ST-10-B130 FWHM/FWTM 51.0° / 80.0° Efficiency 99 % Peak intensity 1 cd/m LED ST-10-B130 FWHM/FWTM 51.0° / 80.0° Efficiency 99 % Peak intensity 1 cd/m LED ST-10-B130 FWHM/FWTM 51.0° / 80.0° Efficiency 99 % Peakingeach optic 1 Light colour Deep Red Required componentis:				
CUMILEDS LED LUXEON V2 FWHM/FWTM 51.0° / 56.0° Efficiency 94 % Peak intensity 1 cd/m LEDSeach optic 1 Light colour While Required componentis: Efficiency Peak intensity 1.2 cd/m LED LUXEON Z ES FWHM/FWTM 46.0° / 76.0° Efficiency 87 % Peak intensity 1.2 cd/m LEDSeach optic 1 Light colour While Required components: Efficiency While ST-10-B130 FWHM/FWTM 51.0° / 80.0° Efficiency 99 % Peak intensity 1 cd/m LED ST-10-B130 FWHM/FWTM 51.0° / 80.0° Efficiency 99 % Peak intensity 1 cd/m LED ST-10-B130 FWHM/FWTM 51.0° / 80.0° Efficiency 99 % Peakingeach optic 1 Light colour Deep Red Required componentis:				
CUMILEDS LED LUXEON V2 FWHM/FWTM 51.0° / 56.0° Efficiency 94 % Peak intensity 1 cd/m LEDSeach optic 1 Light colour While Required componentis: Efficiency Peak intensity 1.2 cd/m LED LUXEON Z ES FWHM/FWTM 46.0° / 76.0° Efficiency 87 % Peak intensity 1.2 cd/m LEDSeach optic 1 Light colour While Required components: Efficiency While ST-10-B130 FWHM/FWTM 51.0° / 80.0° Efficiency 99 % Peak intensity 1 cd/m LED ST-10-B130 FWHM/FWTM 51.0° / 80.0° Efficiency 99 % Peak intensity 1 cd/m LED ST-10-B130 FWHM/FWTM 51.0° / 80.0° Efficiency 99 % Peakingeach optic 1 Light colour Deep Red Required componentis:				
LED LUXEON V2 FWHM / FWTM 51.0* / 86.0* Efficiency 94 % Peak intensity 1 od/m LED&leash optic 1 LUXEON Z ES FWHM / FWTM 40.0* / 76.0* Efficiency 87 % Peak intensity 1.2 cd/m LED&leash optic 1 LUXEON Z ES FWHM / 1.2 cd/m Required components:		EDS		
FWHM / FWTM \$1.0° / 86.0° Efficiency 94% Peak intensity 1.cd/m LEDS/each optic 1 Light colour White Required components: EED LUXIEDS EFFUHM / FWTM 45.0° / 75.0° Efficiency 87% Peak intensity 1.2 cd/m LEDS/each optic 1 Light colour White Required components: EED SST-10-B130 FWHM / FWTM 51.0° / 80.0° Efficiency 99% Peak intensity 1.cd/m LEDS each optic 1 Light colour White Required components: EED SST-10-B130 FWHM / FWTM 51.0° / 80.0° Efficiency 99% Peak intensity 1.cd/m LEDS each optic 1 Light colour Deep Red Required components:				
Efficiency 94 % Peak intensity 1 cd/lm LED See A option 1 Light colour White Required components: LED LUXEON 2 ES FWHM / FWTM 46.0° / 76.0° Efficiency 87 % Peak intensity 1 2 cd/lm LED sec 1 u LeD components: ED SST-10-B130 FWHM / FWTM 51.0° / 81.0° Efficiency 99 % Peak intensity 1 cd/lm LED SST-10-B130 FWHM / FWTM 51.0° / 80.0° Efficiency 99 % Peak intensity 1 cd/lm LED Deep Red Required components:				
Peak intensity 1 cd/m LEDS/each optic 1 LQH colour White Required components: ED LUXEON Z ES FV/HM / FWTM 46.0° / 76.0° Efficiency 87 % Peak intensity 1 2 cd/m LEDS/each optic 1 LQH colour White Required components: EC LUNING LED SST-10-B130 FV/HM FVTTM 51.0° / 80.0° Efficiency 99 % Peak intensity 1 cd/m LEDS/each optic 1 LQH colour White Required components: EC LUNING LED SST-10-B130 FV/HM FVTTM 51.0° / 80.0° Efficiency 99 % Peak intensity 1 cd/m LEDS/each optic 1 LQH colour Deep Red Required components:				
LEDs/each optic 1 Light colour White Required components: CUNILEDS LED LUXEON Z ES FWHM /FWTM 460°/76.0° Efficiency 45% Peak intensity 1.2 cd/m LEDs/each optic 1 Light colour White Required components: LED SST-10-B130 FWHM /FWTM 51.0° /80.0° Efficiency 1 cd/m LEDs/each optic 1 LEDs/each optic 1 LEDs SST-10-B130 FWHM /FWTM 51.0° /80.0° Efficiency 1 cd/m LEDs/each optic 1 LEDs/each optic 1				
Light colour White Required components: ED LUXEON Z ES FWHM / FWTM 46.0° / 76.0° Efficiency 87% Peak intensity 1.2 cd/m LEDs/each optic 1 Light colour White Required components: EE UMINUS LED SST-10-B130 FWHM / FWTM 51.0° / 80.0° Efficiency 99% Peak intensity 1 cd/m LEDs/each optic 1 Light colour Deep Red Required components:				
Required components:				10
Image: Components of the second se				
LID LUXEON Z ES FWHM / FWTM 46.0° / 76.0° Efficiency 87 % Peak intensity 1.2 cd/m LEDs/each optic 1 Light colour White Required components: ************************************		5113.		
Image: Contract of the second of the seco				
Image: Contract of the second of the seco				
LED LUXEON Z ES FWHM / FWTM 46.0° / 76.0° Efficiency 87 % Peak intensity 1.2 cd/m LEDs/each optic 1 Light colour White Required components:				
FWHM / FWTM 46.0° / 76.0° Efficiency 87 % Peak intensity 1.2 cd/lm LEDs/each optic 1 Light colour White Required components: Efficiency 99 % Peak intensity 1 cd/lm LEDs/each optic 1 Light colour Deep Red Required components:		EDS	2 2541 H9-20-H (Sumero 2003)	a.v
Efficiency 87 % Peak intensity 1.2 cd/lm LEDs/each optic 1 Light colour White Required components: LED SST-10-B130 FWHM / FWTM 51.0° / 80.0° Efficiency 99 % Peak intensity 1 cd/lm LEDs/each optic 1 LED/ SST-10-B130 FWHM / FWTM 51.0° / 80.0° Efficiency 99 % Peak intensity 1 cd/lm LEDs/each optic 1 LED/ Dep Red Required components:	LED	LUXEON Z ES		
Peak intensity 1.2 cd/lm LEDs/each optic 1 Light colour White Required components: LED SST-10-B130 FWHM / FWTM 51.0° / 80.0° Efficiency 99 % Peak intensity 1 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 Deep Red Required components:	FWHM / FWTM	46.0° / 76.0°		
LEDs/each optic 1 Light colour White Required components:	Efficiency	87 %		
Light colour White Required components:	Peak intensity	1.2 cd/lm		$\Lambda / / / \Lambda \wedge /$
Required components:	LEDs/each optic	1		$X / (X \times X)$
Image: Construction of the second	Light colour	White		• X •
LED SST-10-B130 FWHM / FWTM 51.0° / 80.0° Efficiency 99 % Peak intensity 1 cd/lm LEDs/each optic 1 Light colour Deep Red Required components: Image: Component state	Required compone	ents:		
LED SST-10-B130 FWHM / FWTM 51.0° / 80.0° Efficiency 99 % Peak intensity 1 cd/lm LEDs/each optic 1 Light colour Deep Red Required components:				
LED SST-10-B130 FWHM / FWTM 51.0° / 80.0° Efficiency 99 % Peak intensity 1 cd/lm LEDs/each optic 1 Light colour Deep Red Required components:				
LED SST-10-B130 FWHM / FWTM 51.0° / 80.0° Efficiency 99 % Peak intensity 1 cd/lm LEDs/each optic 1 Light colour Deep Red Required components: ************************************				
LED SST-10-B130 FWHM / FWTM 51.0° / 80.0° Efficiency 99 % Peak intensity 1 cd/lm LEDs/each optic 1 Light colour Deep Red Required components:	E LUM	INUS		
FWHM / FWTM 51.0° / 80.0° Efficiency 99 % Peak intensity 1 cd/lm LEDs/each optic 1 Light colour Deep Red Required components:				
Efficiency 99 % Peak intensity 1 cd/lm LEDs/each optic 1 Light colour Deep Red Required components:				
Peak intensity 1 cd/lm LEDs/each optic 1 Light colour Deep Red Required components:				
LEDs/each optic 1 Light colour Deep Red Required components:				1. W
Light colour Deep Red Required components:				
Required components:				



MST Your solu	tions	£
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	RecLED 122x50mm 1900lm 730 2x4 Opt G1 50.0° / 75.0° 98 % 1.1 cd/lm 1 White ints:	
EED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	NCSxx19A 48.0° / 77.0° 85 % 1.1 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	NCSxx19B 50.0° / 83.0° 85 % 1 cd/lm 1 White	
ED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	NS9x383 54.0° / 93.0° 86 % 0.9 cd/lm 1 White	



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LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	NVSW219D 53.0° / 83.0° 94 % 0.9 cd/lm 1 White		
ED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	NVSW219F 54.0° / 81.0° 97 % 1 cd/lm 1 White		
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	NVSW319B 56.0° / 93.0° 93 % 0.9 cd/Im 1 White		
ED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	NVSW3x9A 53.0° / 88.0° 92 % 0.9 cd/Im 1 White		



ØNICHI		1.5 M
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	NVSxE21A 43.0° / 80.0° 86 % 1.1 cd/lm 1 White	
ED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	NVSxx19B/NVSxx19C 51.0° / 82.0° 85 % 1 cd/lm 1 White	
ED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	NWSx229A 57.0° / 90.0° 86 % 0.9 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	OLP-5065F6L-06A 56.0° / 90.0° 88 % 0.9 cd/lm 1 White	

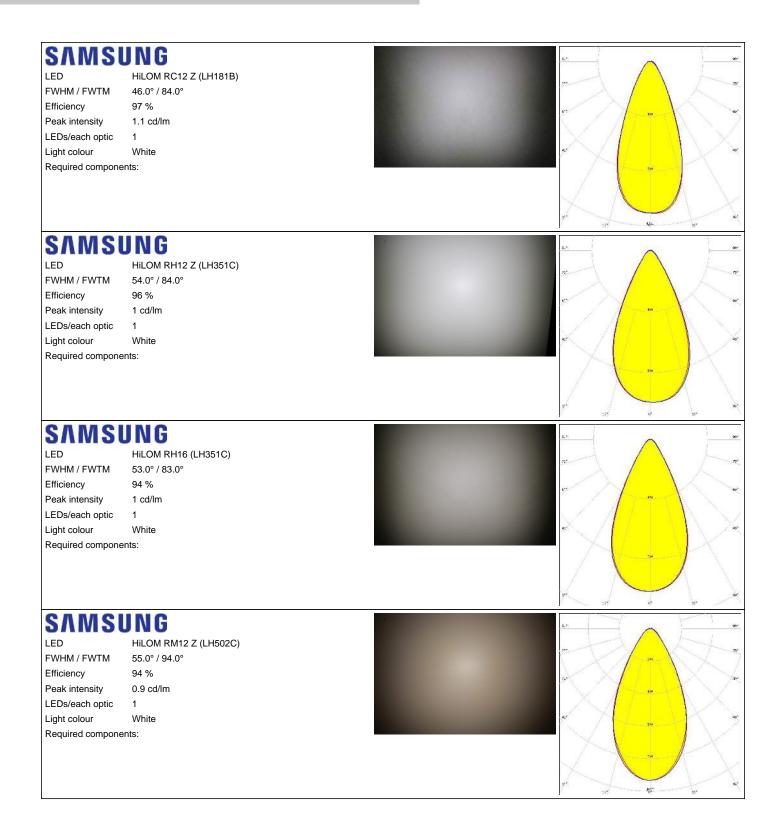


OSRAN	1		
LED	PL-BRICK HP 3800 2x8 SSG		
FWHM / FWTM	52.0° / 75.0°		
Efficiency	98 %	A DESCRIPTION OF A DESC	
Peak intensity	1.1 cd/lm	the second s	17 / - +N
		A REAL PROPERTY OF A REAL PROPERTY OF	
LEDs/each optic	1	and the second	
Light colour	White	and the second se	
Required compone	nts:		
			* *
OSRAM Opto Semiconductors			
LED	Duris S8		
FWHM / FWTM	55.0° / 91.0°		27
Efficiency	93 %		
Peak intensity	1 cd/lm		
LEDs/each optic	1		
	u White		
Light colour			
Required compone	nts.		
			2"
OSRAM Opto Semiconductors			
LED	OSLON Square PC		
FWHM / FWTM	54.0° / 85.0°		# ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~
Efficiency	87 %		
Peak intensity	0.9 cd/lm		
LEDs/each optic	1		
Light colour	White		
Required compone			$\left(1 + 1 \right)$
Required compone			
OSRAM Opto Semiconductors			67
LED	OSLON SSL 80		
FWHM / FWTM	43.0° / 70.0°		
Efficiency	89 %		
Peak intensity	1.3 cd/lm		
LEDs/each optic	1		
Light colour	White		
Required compone			/ / / ································
L			

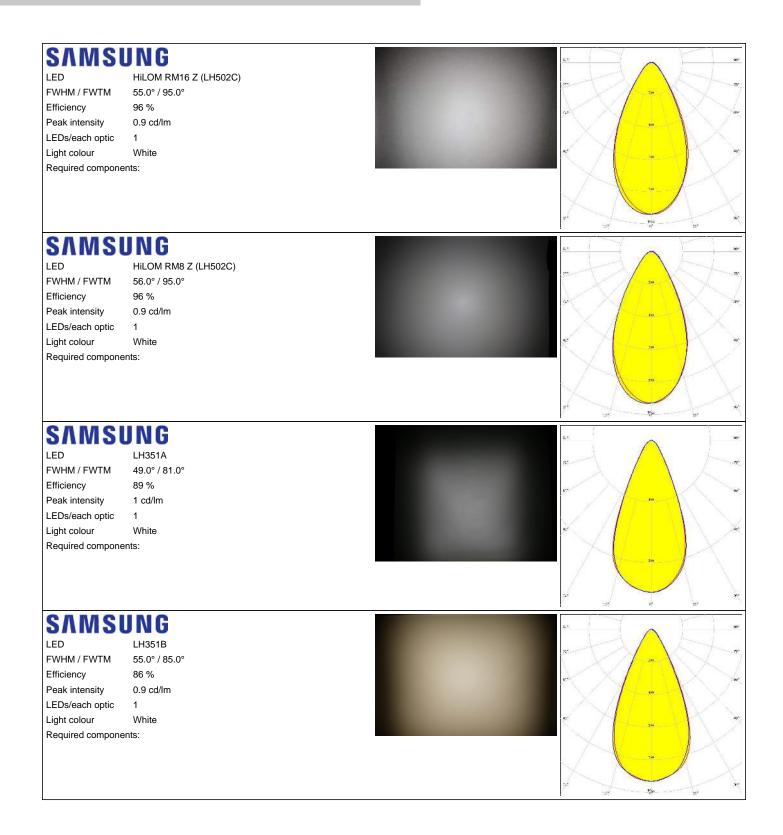


PHILLE EWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	Fortimo FastFlex LED 2x8 DA G4 52.0° / 82.0° 94 % 1 cd/lm 1 White	
	no.	
EFUNDER EFUNDER EFFICIENCY Peak intensity LEDS/each optic Light colour Required compone	Fortimo FastFlex LED 2x8 DA G4+ 55.0° / 88.0° 97 % 0.9 cd/lm 1 White	
ED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	Fortimo FastFlex LED 2x8 DA G5 50.0° / 77.0° 97 % 1.1 cd/lm 1 White	
PHILLE EWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	Fortimo FastFlex LED 2x8 DA HE 54.0° / 87.0° 97 % 1 cd/lm 1 White nts:	











SAMS	ING		30*
LED	LH351C		
FWHM / FWTM	53.0° / 85.0°	2°	
Efficiency	93 %		1
Peak intensity	1 cd/lm		
LEDs/each optic	1		
Light colour	White		49
Required compone	ents:		
		ph and the second secon	*
SAMS	ING		
LED	LH351D		J.
FWHM / FWTM	56.0° / 90.0°	2	1-10
Efficiency	91 %		
Peak intensity	0.9 cd/lm		2
LEDs/each optic	1		
Light colour	White		27
Required compone	ents:		
		30	
			*
SAMS	ING		30'
LED	LH351Z		
FWHM / FWTM	50.0° / 77.0°	35	.67
Efficiency	87 %		
Peak intensity	1 cd/lm		- 00
LEDs/each optic	1		
Light colour	White		27
Required compone	ents:		
			×-
			6
SAMSI	JNG		
			*
	UNG LH508A 56.0° / 92.0°		*
LED	LH508A		
LED FWHM / FWTM	LH508A 56.0° / 92.0°		
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	LH508A 56.0° / 92.0° 93 %		
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LH508A 56.0° / 92.0° 93 % 0.9 cd/lm 1 White		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	LH508A 56.0° / 92.0° 93 % 0.9 cd/lm 1 White		
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LH508A 56.0° / 92.0° 93 % 0.9 cd/lm 1 White		
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LH508A 56.0° / 92.0° 93 % 0.9 cd/lm 1 White		



SEITEC		
LED	LED-Pa-L15c2W11c2-xxx-C050-01	
FWHM / FWTM	50.0° / 78.0°	
Efficiency	96 %	
Peak intensity	1.1 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required compone		
LED	2x2 Y22 module - SMJQ-D48W16AA-XX	
FWHM / FWTM	54.0° / 102.0°	
Efficiency	92 %	
Peak intensity	0.8 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required compone	ents:	
SECUR		1127 - 127 -
SEQUE SEMICONDUCTOR		······································
LED	Z5	
FWHM / FWTM	48.0° / 80.0°	
Efficiency	88 %	er / w
Peak intensity	1 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required compone	ents:	
etox		
SEQUE SEMICONDUCTOR		
LED	Z5M1/Z5M2	
FWHM / FWTM	51.0° / 82.0°	
Efficiency	85 %	
Peak intensity	1 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required compone	ents:	



SECUL SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	Z5M3 53.0° / 93.0° 94 % 0.9 cd/lm 1 White hts:	
stout stanconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	Z5M4 54.0° / 80.0° 97 % 1 cd/lm 1 White hts:	
STOUL SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	Z8Y15 45.0° / 89.0° 79 % 0.9 cd/lm 1 White hts:	
STOUL SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	Z8Y19 46.0° / 89.0° 79 % 0.9 cd/lm 1 White hts:	



stout stemconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	Z8Y19 54.0° / 102.0° 92 % 0.8 cd/lm 4 White nts:		
storu tawaconopuctor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	Z8Y22 48.0° / 94.0° 92 % 0.9 cd/lm 1 White nts:		
stout starconoucron LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	Z8Y22P 51.0° / 93.0° 92 % 0.9 cd/lm 1 White nts:		
TOSHIBA Leading Innovation >>> LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	TL1L4 48.0° / 78.0° 81 % 1 cd/lm 1 White nts:		



TDDO		22 124 DO
TRIDON	IIC	10 ×
LED	RLE 2x4 2000lm HP EXC2 OTD	
FWHM / FWTM	51.0° / 84.0°	
Efficiency	94 %	
Peak intensity	1 cd/lm	e w
LEDs/each optic	1	
Light colour	White	ex / / Xee
Required compone		
TRIDON		
LED	RLE 2x8 4000lm HP EXC2 OTD	
FWHM / FWTM	51.0° / 84.0°	
Efficiency	94 %	
Peak intensity	1 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required compone	nts:	
		X
TRIDOM	IIC	L
LED	RLE G1 49x121mm 2000lm xxx EXC OTD	
FWHM / FWTM	52.0° / 83.0°	2
	32.0 / 03.0	
Efficiency	94 %	
Efficiency Peak intensity		57 - 20 - 20 - 20 - 20 - 20 - 20 - 20 - 2
Peak intensity	94 %	
Peak intensity LEDs/each optic	94 % 1 cd/lm	
Peak intensity	94 % 1 cd/lm 1 White	*
Peak intensity LEDs/each optic Light colour	94 % 1 cd/lm 1 White	5 ²⁰
Peak intensity LEDs/each optic Light colour	94 % 1 cd/lm 1 White	5
Peak intensity LEDs/each optic Light colour	94 % 1 cd/lm 1 White	
Peak intensity LEDs/each optic Light colour Required compone	94 % 1 cd/lm 1 White nts:	
Peak intensity LEDs/each optic Light colour Required compone	94 % 1 cd/lm 1 White nts:	
Peak intensity LEDs/each optic Light colour Required compone	94 % 1 cd/lm 1 White nts:	
Peak intensity LEDs/each optic Light colour Required compone	94 % 1 cd/lm 1 White nts: NICC RLE G1 49x133mm 2000lm xxx EXC OTD	
Peak intensity LEDs/each optic Light colour Required compone	94 % 1 cd/lm 1 White nts:	
Peak intensity LEDs/each optic Light colour Required compone	94 % 1 cd/lm 1 White nts: RLE G1 49x133mm 2000lm xxx EXC OTD 52.0° / 83.0° 94 %	
Peak intensity LEDs/each optic Light colour Required compone TRIDON LED FWHM / FWTM Efficiency Peak intensity	94 % 1 cd/lm 1 White nts: NICC RLE G1 49x133mm 2000lm xxx EXC OTD 52.0° / 83.0°	
Peak intensity LEDs/each optic Light colour Required compone TRIDON LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	94 % 1 cd/lm 1 White nts: RLE G1 49x133mm 2000lm xxx EXC OTD 52.0° / 83.0° 94 % 1 cd/lm 1	
Peak intensity LEDs/each optic Light colour Required compone TRIDON LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	94 % 1 cd/lm 1 White nts: RLE G1 49x133mm 2000lm xxx EXC OTD 52.0° / 83.0° 94 % 1 cd/lm 1 White	
Peak intensity LEDs/each optic Light colour Required compone TRIDON LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	94 % 1 cd/lm 1 White nts: RLE G1 49x133mm 2000lm xxx EXC OTD 52.0° / 83.0° 94 % 1 cd/lm 1 White	
Peak intensity LEDs/each optic Light colour Required compone TRIDON LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	94 % 1 cd/lm 1 White nts: RLE G1 49x133mm 2000lm xxx EXC OTD 52.0° / 83.0° 94 % 1 cd/lm 1 White	
Peak intensity LEDs/each optic Light colour Required compone TRIDON LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	94 % 1 cd/lm 1 White nts: RLE G1 49x133mm 2000lm xxx EXC OTD 52.0° / 83.0° 94 % 1 cd/lm 1 White	



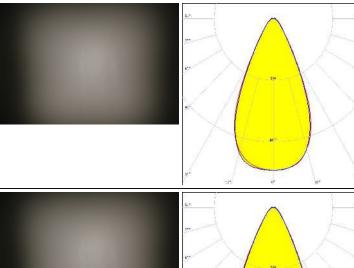
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OPTICAL RESULTS (MEASURED):

TRIDONIC

LED	RI
FWHM / FWTM	52
Efficiency	94
Peak intensity	1
LEDs/each optic	1
Light colour	W
Required componer	nts:

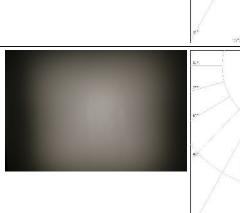
RLE G1 49x223mm 4000lm xxx EXC OTD 52.0° / 83.0° 94 % 1 cd/lm 1 White



TRIDONIC

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

RLE G1 49x245mm 4000lm xxx EXC OTD 52.0° / 83.0° 94 % 1 cd/lm 1 White





	J Series 5050 Round LES	
FWHM / FWTM	57.0° / 84.0°	
Efficiency	94 %	
Peak intensity	1 cd/lm	
LEDs/each optic	1	
Light colour	White	× / ×
Required components:		
LED	MHB-A/B	
FWHM / FWTM	58.0° / 93.0°	
Efficiency	94 %	
Peak intensity	1 cd/lm	
LEDs/each optic	1	
Light colour	White	X X X X X
Required components:		
LED	XHP35 HI	
FWHM / FWTM	52.0° / 73.0°	
Efficiency	93 %	v /
Peak intensity	1.2 cd/lm	
LEDs/each optic	1	
Light colour	White	* ALLAK *
Required components:		
		17
LED	XM-L RGBW (XMLDCL HI)	
FWHM / FWTM	52.0° / 78.0°	
Efficiency	95 %	5 ² 40 ²
Peak intensity	1.2 cd/lm	
LEDs/each optic	1	
Light colour	RGBW	
Required components:		



LED XP-E FWHM / FWTM 50.0° / 68.0° Efficiency 94 %	*
LED XP-E FWHM / FWTM 50.0° / 68.0° Efficiency 94 %	1 a
FWHM / FWTM 50.0° / 68.0° 2000 Efficiency 94 % 2000	e
Efficiency 94 %	
10 - 10 - 1	
Peak intensity 1.2 cd/lm	
LEDs/each optic 1	\mathbb{N}
Light colour White	
Required components:	
	- w
LED XP-E2	1
FWHM / FWTM 48.0° / 70.0°	
Efficiency 96 %	
Peak intensity 1.2 cd/lm	$\mathbb{N} \times \mathbb{N}$
LEDs/each optic 1	$X \times I$
Light colour White Market Light colour	1 1
Required components:	
	- N
	*
LED XP-G2 HE	hand 1
FWHM / FWTM 57.0° / 82.0°	1
Efficiency 95 %	\sim
Peak intensity 0.9 cd/lm	
LEDs/each optic 1	\times
Light colour White	
Required components:	
	X
	w.
LED XP-G3) s .
FWHM / FWTM 54.0° / 79.0°	
Efficiency 94 % Peak intensity 1 cd/lm	() () () () () () () () () ()
Peak intensity 1 cd/lm LEDs/each optic 1	
	and the second s
Light colour White	
Light colour White	X
Light colour White	K



		67 9
LED	XP-G3	
FWHM / FWTM	55.0° / 81.0°	n
Efficiency	88 %	
Peak intensity	1 cd/lm	· · · · · · · · · · · · · · · · · · ·
LEDs/each optic	1	
	u White	
Light colour	white	
Required components:		
Protective plate	e, glass	
		· · · · · · · · · · · · · · · · · · ·
LED	XP-G4	
FWHM / FWTM	52.0° / 69.0 + 68.0°	
Efficiency	96 %	
Peak intensity	1.1 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required components:		A the second of
		24
LED	XP-G4	
FWHM / FWTM	54.0° / 70.0°	
Efficiency	88 %	
Peak intensity	1 cd/lm	· · · · · · · · · · · · · · · · · · ·
LEDs/each optic	1	
Light colour	White	10 ⁻
Required components:	THRE .	
required components.		
Protective plate	e, glass	
LED	XP-L HD	
FWHM / FWTM	58.0° / 80.0°	
Efficiency	87 %	
Peak intensity	0.9 cd/lm	
LEDs/each optic	1	
Light colour	' White	
Required components:	THING .	
Protective plate	e, glass	
		55° 6' 10'



		a
LED	XP-L HI	
FWHM / FWTM	52.0° / 72.0°	
Efficiency	88 %	
Peak intensity	1.1 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required components:		$A \rightarrow A$
Protective plate	e, glass	
LED	XP-L2	
FWHM / FWTM	58.0° / 86.0°	227
Efficiency	89 %	
Peak intensity	0.9 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required components:		
Protective plate	e, glass	
		€*₩*
LED	XQ-E HI	
FWHM / FWTM	42.0° / 68.0°	
Efficiency	93 %	
Peak intensity	1.4 cd/lm	
LEDs/each optic	1	
Light colour	White	45
Required components:		
	DS	e
LED	LUXEON 3030 2D (Round LES)	
FWHM / FWTM	49.0° / 73.0°	
Efficiency	94 %	
Peak intensity	1.2 cd/lm	\times $/$ $/$ \wedge \wedge \wedge
LEDs/each optic	1	$ \times / / \times $
Light colour	White	14" X 40
Required components:		



LUMILE	DS	8.7
LED	LUXEON 3535L	
FWHM / FWTM	49.0° / 73.0°	
Efficiency	94 %	e-
Peak intensity	1.2 cd/lm	
LEDs/each optic	1	
Light colour	White	*
Required components:		
	DS	
LED	LUXEON 5050 HE	
FWHM / FWTM	56.0° / 84.0°	
Efficiency	94 %	
Peak intensity	1 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required components:		
	DS	
LED	LUXEON 5050 HE	
FWHM / FWTM	54.0° / 84.0°	
Efficiency	89 %	
Peak intensity	1 cd/lm	
LEDs/each optic	1	
Light colour	White	•
Light colour Required components:	White	
Required components:	White	9°
	White	*
Required components:	White	
Required components: Protective pla	White te, glass	
Required components: Protective pla	White te, glass	
Required components: Protective pla	White te, glass	
Required components: Protective pla	White te, glass	
Required components: Protective pla Protective pla Description LUMILE LED FWHM / FWTM	White te, glass DS LUXEON 5050 Square LES 54.0° / 84.0°	
Required components: Protective pla Protective pla Protecti	White te, glass DS LUXEON 5050 Square LES 54.0° / 84.0° 89 %	
Required components: Protective pla Protective pla Protecti	White te, glass DS LUXEON 5050 Square LES 54.0° / 84.0° 89 % 1 cd/lm	
Required components: Protective pla Protective pla Protecti	White te, glass DS LUXEON 5050 Square LES 54.0° / 84.0° 89 % 1 cd/lm 1 White	
Required components: Protective pla Protective pla Protecti	White te, glass DS LUXEON 5050 Square LES 54.0° / 84.0° 89 % 1 cd/lm 1 White	
Required components: Protective pla Protective pla Protecti	White te, glass DS LUXEON 5050 Square LES 54.0° / 84.0° 89 % 1 cd/lm 1 White	



	DS		
LED FWHM / FWTM Efficiency LEDs/each optic Light colour Required components:	LUXEON A 52.0° % 1 White		
O LUMILE	DS	 	1.7 Mer.
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON C 50.0° / 75.0° 94 % 1.1 cd/lm 1 White		25
	DS LUXEON H50-2		
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	52.0° / 68.0° 91 % 4.7 cd/lm 1 White		
ED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON HL2X 56.0° / 76.0° 93 % 1 cd/lm 1 White		



OLUMILE	DS	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components	LUXEON HL2X-D 58.0° / 78.0° 96 % 1 cd/lm 1 White	
	DS	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components	LUXEON HL2X-D 58.0° / 80.0° 88 % 0.9 cd/lm 1 White	
Protective pla	ate, glass	
	DS	1. ¹
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components	LUXEON HL2X-P 56.0° / 80.0° 95 % 1 cd/lm 1 White	
	DS	
LED FWHM / FWTM Efficiency LEDs/each optic Light colour Required components	LUXEON Rebel 52.0° % 1 White	



	S	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON XR-HL2X (L2H2-xxxxxxMLU010) 56.0° / 78.0 + 76.0° 96 % 1 cd/lm 1 White	
)5	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON XR-HL2X (L2H2-xxxxxxMLU010) 57.0 + 56.0° / 78.0° 87 % 0.9 cd/lm 1 White	97
Protective plate	e, glass	
ØNICHIA		
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	NFMW48xA 57.0° / 86.0° 94 % 1 cd/lm 1 White	
Kite Components:	NV4WB35AM 54.0° / 78.0° 95 % 1.2 cd/lm 1 White	



ØNICHIA		
LED	NVSxx19A	
FWHM / FWTM	50.0°	
Efficiency	%	
LEDs/each optic	1	
Light colour	White	
Required components:		
OSRAM Opto Semiconductors		
LED	Duris S8	
FWHM / FWTM	57.0° / 88.0°	200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200
Efficiency	90 %	
Peak intensity	1 cd/lm	
LEDs/each optic	1	
Light colour	White	× / × ×
Required components:		
Protective plate	e, glass	
OSRAM Opto Semiconductors		27 ×
LED	OSCONIQ C 2424	$\rightarrow \land \land$
FWHM / FWTM	48.0° / 70.0 + 69.0°	
Efficiency	96 %	
Peak intensity	1.3 cd/lm	
LEDs/each optic	1	$\Delta / / \Delta $
Light colour	White	
Required components:		
OSRAM Opto Semiconductors		
LED	OSCONIQ P 3737 (2W version)	
FWHM / FWTM	48.0° / 70.0°	
Efficiency	93 %	
Peak intensity	1.2 cd/lm	
LEDs/each optic	1	$ \times / / \wedge \times $
Light colour	White	
Required components:		



r		
OSRAM		1.7 Sec. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.
Opto Semiconductors	OSCONIQ P 3737 (3W version)	
FWHM / FWTM	54.0° / 77.0°	
Efficiency	94 %	
Peak intensity		1
LEDs/each optic	1	
Light colour	White	
Required components:	wine	
required components.		
		2 ⁴
OSRAM Opto Semiconductors		*
LED	OSCONIQ P 3737 Flat	
FWHM / FWTM	50.0° / 73.0°	
Efficiency	96 %	∇A
Peak intensity	1.2 cd/lm	
LEDs/each optic	1	$X / X = X \times X$
Light colour	White	
Required components:		
		15 0 10
		1 (44.1) 41 (344)
OSRAM Onto Semiconductors		
OSRAM Opto Semiconductors	OSCONIQ S 5050	
LED	OSCONIQ S 5050 56.0° / 82.0 + 84.0°	
LED FWHM / FWTM	OSCONIQ S 5050 56.0° / 82.0 + 84.0° 95 %	
LED FWHM / FWTM Efficiency	56.0° / 82.0 + 84.0°	
LED FWHM / FWTM Efficiency Peak intensity	56.0° / 82.0 + 84.0° 95 %	
LED FWHM / FWTM Efficiency	56.0° / 82.0 + 84.0° 95 % 1.1 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	56.0° / 82.0 + 84.0° 95 % 1.1 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	56.0° / 82.0 + 84.0° 95 % 1.1 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	56.0° / 82.0 + 84.0° 95 % 1.1 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	56.0° / 82.0 + 84.0° 95 % 1.1 cd/lm 1	12 12 12 13 14 15 15 15 15 15 15 15 15 15 15 15 15 15
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	56.0° / 82.0 + 84.0° 95 % 1.1 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	56.0° / 82.0 + 84.0° 95 % 1.1 cd/lm 1 White	12 12 12 13 14 15 15 15 15 15 15 15 15 15 15 15 15 15
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	56.0° / 82.0 + 84.0° 95 % 1.1 cd/lm 1 White	12 12 12 13 14 15 15 15 15 15 15 15 15 15 15 15 15 15
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: OBSRAM Opto Semiconductors LED FWHM / FWTM	56.0° / 82.0 + 84.0° 95 % 1.1 cd/lm 1 White OSCONIQ S 5050 56.0° / 84.0°	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	56.0° / 82.0 + 84.0° 95 % 1.1 cd/lm 1 White OSCONIQ S 5050 56.0° / 84.0° 87 %	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	56.0° / 82.0 + 84.0° 95 % 1.1 cd/lm 1 White OSCONIQ S 5050 56.0° / 84.0° 87 % 1 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	56.0° / 82.0 + 84.0° 95 % 1.1 cd/lm 1 White OSCONIQ S 5050 56.0° / 84.0° 87 % 1 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	56.0° / 82.0 + 84.0° 95 % 1.1 cd/lm 1 White OSCONIQ S 5050 56.0° / 84.0° 87 % 1 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	56.0° / 82.0 + 84.0° 95 % 1.1 cd/lm 1 White OSCONIQ S 5050 56.0° / 84.0° 87 % 1 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	56.0° / 82.0 + 84.0° 95 % 1.1 cd/lm 1 White OSCONIQ S 5050 56.0° / 84.0° 87 % 1 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	56.0° / 82.0 + 84.0° 95 % 1.1 cd/lm 1 White OSCONIQ S 5050 56.0° / 84.0° 87 % 1 cd/lm 1 White	



OSRAM Opto Semiconductors		1. N
LED	OSLON Square CSSRM2/CSSRM3	
FWHM / FWTM	54.0° / 76.0°	
Efficiency	87 %	
Peak intensity	1 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required components:		
Protective plate	dass	\square
	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
000414		
OSRAM Opto Semiconductors		×
LED	OSLON Square CSSRM2/CSSRM3	
FWHM / FWTM	52.0° / 74.0°	
Efficiency	96 %	r / w
Peak intensity	1.1 cd/lm	
LEDs/each optic	1	$\times // \times \times$
Light colour	White	
Required components:		1 the second the
PHILIPS		
		1.7 Sec
		×
LED	Fortimo FastFlex LED 2x8 DAX G4	
LED FWHM / FWTM	Fortimo FastFlex LED 2x8 DAX G4 54.0° / 79.0°	
LED FWHM / FWTM Efficiency	Fortimo FastFlex LED 2x8 DAX G4 54.0° / 79.0° 94 %	
LED FWHM / FWTM Efficiency Peak intensity	Fortimo FastFlex LED 2x8 DAX G4 54.0° / 79.0° 94 % 1 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Fortimo FastFlex LED 2x8 DAX G4 54.0° / 79.0° 94 % 1 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Fortimo FastFlex LED 2x8 DAX G4 54.0° / 79.0° 94 % 1 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Fortimo FastFlex LED 2x8 DAX G4 54.0° / 79.0° 94 % 1 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Fortimo FastFlex LED 2x8 DAX G4 54.0° / 79.0° 94 % 1 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Fortimo FastFlex LED 2x8 DAX G4 54.0° / 79.0° 94 % 1 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Fortimo FastFlex LED 2x8 DAX G4 54.0° / 79.0° 94 % 1 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Fortimo FastFlex LED 2x8 DAX G4 54.0° / 79.0° 94 % 1 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Fortimo FastFlex LED 2x8 DAX G4 54.0° / 79.0° 94 % 1 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Fortimo FastFlex LED 2x8 DAX G4 54.0° / 79.0° 94 % 1 cd/lm 1 White Acrich MJT 4040	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Fortimo FastFlex LED 2x8 DAX G4 54.0° / 79.0° 94 % 1 cd/lm 1 White Acrich MJT 4040 52.0° / 77.0°	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Fortimo FastFlex LED 2x8 DAX G4 54.0° / 79.0° 94 % 1 cd/lm 1 White Acrich MJT 4040 52.0° / 77.0° 94 %	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: SEOUL SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity	Fortimo FastFlex LED 2x8 DAX G4 54.0° / 79.0° 94 % 1 cd/lm 1 White Acrich MJT 4040 52.0° / 77.0° 94 % 1.1 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: stout stemconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Fortimo FastFlex LED 2x8 DAX G4 54.0° / 79.0° 94 % 1 cd/lm 1 White Acrich MJT 4040 52.0° / 77.0° 94 % 1.1 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Stoul stemconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Fortimo FastFlex LED 2x8 DAX G4 54.0° / 79.0° 94 % 1 cd/lm 1 White Acrich MJT 4040 52.0° / 77.0° 94 % 1.1 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: stout stemconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Fortimo FastFlex LED 2x8 DAX G4 54.0° / 79.0° 94 % 1 cd/lm 1 White Acrich MJT 4040 52.0° / 77.0° 94 % 1.1 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Stoul stemconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Fortimo FastFlex LED 2x8 DAX G4 54.0° / 79.0° 94 % 1 cd/lm 1 White Acrich MJT 4040 52.0° / 77.0° 94 % 1.1 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: stout stanconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Fortimo FastFlex LED 2x8 DAX G4 54.0° / 79.0° 94 % 1 cd/lm 1 White Acrich MJT 4040 52.0° / 77.0° 94 % 1.1 cd/lm 1	



ALCON A		
SEQUE SEMICONDUCTOR		
LED	MJT 5050	
FWHM / FWTM	57.0° / 88.0°	
Efficiency	94 %	
Peak intensity	1 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required components:		
SROW		67
SECUL SEMICONDUCTOR	SEOUL DC 5050 6V	
FWHM / FWTM	54.0° / 84.0°	n
Efficiency	94 %	
Peak intensity	1.1 cd/lm	· · · · · · · · · · · · · · · · · · ·
	1	
LEDs/each optic	ı White	
Light colour	White	
Required components:		× · · · · · · · · · · · · · · · · · · ·
		× ×
SECUR		
SEQUE SEMICONDUCTOR		× ×
LED	Z5M5	*
FWHM / FWTM	54.0° / 78.0°	
Efficiency	95 %	
Peak intensity	1.1 cd/lm	
LEDs/each optic	1	$\times H = (\times)$
Light colour	White	
Required components:		Marine Ma
		11 - <u>11</u>
SEQUE SEMICONDUCTOR		£™₩
LED	Z5M5	
FWHM / FWTM	54.0° / 80.0°	
Efficiency	87 %	
Peak intensity	1 cd/lm	· · · · · · · · · · · · · · · · · · ·
LEDs/each optic	1	
Light colour	White	
Required components:		
Destaution		
Protective plate	e, glass	
		i san an san



		£."
LED	Z8Y22T	22
FWHM / FWTM	50.0° / 76.0°	23
Efficiency	94 %	57 - Wy
Peak intensity	1.2 cd/lm	
LEDs/each optic	1	$(\times /// (\times \times))$
Light colour	White	
Required component	S:	



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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