

# PRODUCT DATASHEET C14607\_HB-2X2-M

## HB-2X2-M

 ${\sim}25^\circ$  medium 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:**

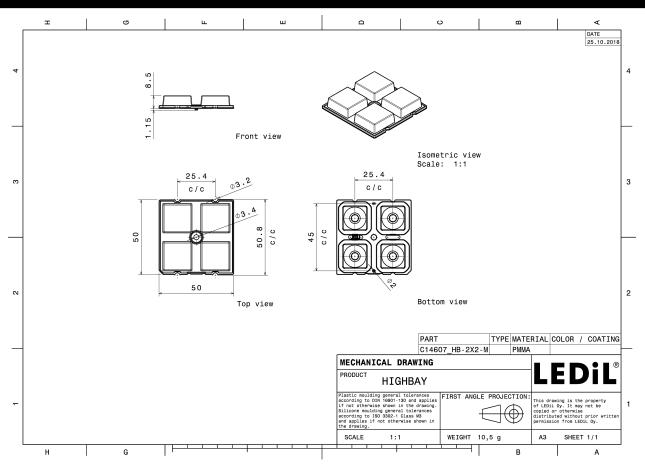
Component	Туре	Material	Colour	Finish
HB-2X2-M	Multi-lens	PMMA	clear	

#### **ORDERING INFORMATION:**

Component	Qty in box	MOQ	MPQ	Box weight (kg)
C14607_HB-2X2-M	800	160	160	9.2
» Box size: 480 x 280 x 300 mm				

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## PRODUCT DATASHEET C14607\_HB-2X2-M



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



bridgetux. LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	Bridgelux SMD 5050 36.0° / 66.0° 94 % 1.8 cd/lm 1 White nts:	
CREE C LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	J Series 5050C 6V E Class 31.0° / 57.0° 93 % 2.3 cd/lm 1 White nts:	
CREE Constructions LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	XD16 19.0° / 39.0° 90 % 4.6 cd/lm 1 White nts:	
CREE CLEDS LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	XD16 33.0° / 59.0° 94 % 2 cd/lm 4 White nts:	



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		90° 90°
	XM-L	75.
FWHM / FWTM	32.0° / 61.0°	
Efficiency	93 %	60 ° 60 °
	2 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required componen	IS:	1500
		30° 15° 0° 15° 30°
		90° 90°
	XM-L2	
FWHM / FWTM	32.0° / 61.0°	75*
Efficiency	92 %	
Peak intensity	92 % 2.1 cd/lm	60° 60°
LEDs/each optic	1	
Light colour	White	47°
Required componen		
Required component	lo.	1600
		30* 30* 30*
1		
CREE <del>\$</del>		
		***
LED	XM-L3	90° 90° 90° 90° 90° 90° 90° 90° 90° 90°
LED FWHM / FWTM	28.0° / 54.0°	
LED FWHM / FWTM Efficiency	28.0° / 54.0° 95 %	
LED FWHM / FWTM Efficiency Peak intensity	28.0° / 54.0° 95 % 2.7 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	28.0° / 54.0° 95 % 2.7 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	28.0° / 54.0° 95 % 2.7 cd/lm 1 White	6°-
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	28.0° / 54.0° 95 % 2.7 cd/lm 1 White	6°-
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	28.0° / 54.0° 95 % 2.7 cd/lm 1 White	6°-
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	28.0° / 54.0° 95 % 2.7 cd/lm 1 White	ç. 
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required componen	28.0° / 54.0° 95 % 2.7 cd/lm 1 White	g. 25%
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required componen	28.0° / 54.0° 95 % 2.7 cd/lm 1 White	g. 300 62
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required componen	28.0° / 54.0° 95 % 2.7 cd/lm 1 White ts:	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required componen	28.0° / 54.0° 95 % 2.7 cd/lm 1 White ts: XP-G2	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required componen	28.0° / 54.0° 95 % 2.7 cd/lm 1 White ts: XP-G2 25.0° / 49.0°	30.         32.         92.         30.           60.         100.         62.         63.
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required componen Required componen	28.0° / 54.0° 95 % 2.7 cd/lm 1 White ts: XP-G2 25.0° / 49.0° 0 %	32 36 30 30 30 30 30 30 30 30 30 30
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required componen Required componen ELED FWHM / FWTM Efficiency Peak intensity	28.0° / 54.0° 95 % 2.7 cd/lm 1 White tts: XP-G2 25.0° / 49.0° 0 % 3.1 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required componen Required componen ELED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	28.0° / 54.0° 95 % 2.7 cd/lm 1 White ts: XP-G2 25.0° / 49.0° 0 % 3.1 cd/lm 1	20 20 20 20 20 20 20 20 20 20
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required componen Required componen CREE LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	28.0° / 54.0° 95 % 2.7 cd/lm 1 White tts: XP-G2 25.0° / 49.0° 0 % 3.1 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required componen CREE LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	28.0° / 54.0° 95 % 2.7 cd/lm 1 White tts: XP-G2 25.0° / 49.0° 0 % 3.1 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required componen CREEE LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	28.0° / 54.0° 95 % 2.7 cd/lm 1 White tts: XP-G2 25.0° / 49.0° 0 % 3.1 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required componen CREE LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	28.0° / 54.0° 95 % 2.7 cd/lm 1 White tts: XP-G2 25.0° / 49.0° 0 % 3.1 cd/lm 1 White	



CREE <del>^</del>		
CREE LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	XP-L HD 31.0° / 60.0° 94 % 2.2 cd/lm 1 White	
CREE LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	XP-L2 31.0° / 61.0° 93 % 2.1 cd/lm 1 White Ints:	90" (0) 90" (0
ED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	LUXEON 5050 Round LES 34.0° / 65.0° 94 % 2 cd/lm 1 White	
ED FWHM / FWTM Efficiency Peak intensity		
Peak intensity LEDs/each optic Light colour Required compone	1 White	



LUMIL	.EDS	90° 90
LED	LUXEON V	
FWHM / FWTM	29.0° / 58.0°	
Efficiency	94 %	
Peak intensity	2.4 cd/lm	
LEDs/each optic	1	
Light colour	White	45-
Required compone		- 100
		36°
	EDS	90°
LED	LUXEON V2	
FWHM / FWTM	23.0° / 47.0°	75
Efficiency	94 %	
Peak intensity	3.5 cd/lm	
LEDs/each optic	1	
Light colour	White	45-
Required compone	ents:	2430
		2200
		 15° 0° 15°
(C LUM	INUS	90*90
LED	SST-10-B130	
FWHM / FWTM	21.0° / 42.0°	
Efficiency	95 %	501 60
Peak intensity	4.4 cd/lm	
LEDs/each optic	1	
Light colour	Deep Red	45* 43
Required compone	ents:	3200
		30°
MST Your solu	itions	157 4680 157
		90° 90
LED	RecLED 122x50mm 1900lm 730 2x4 Opt G1	75*
FWHM / FWTM	24.0° / 46.0°	
Efficiency	95 %	ene X / es
Peak intensity	3.5 cd/lm	
LEDs/each optic	1	
LEDs/each optic Light colour	1 White	g
LEDs/each optic	1 White	
LEDs/each optic Light colour	1 White	g
LEDs/each optic Light colour	1 White	g
LEDs/each optic Light colour	1 White	g



<b>𝖉</b> NICHI∕		90° 90°
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	NVSW219D 29.0° / 55.0° 94 % 2.5 cd/lm 1 White	20° 12° 0° 12° 2° 0° 0° 2° 0° 0° 2° 0° 0°
EED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	NVSW219F 28.0° / 53.0° 95 % 2.8 cd/lm 1 White	50 - 10 - 10 - 10 - 10 - 10 - 10 - 10 -
ED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	NVSW319B 29.0° / 57.0° 94 % 2.6 cd/lm 1 White	50 50 50 50 50 50 50 50 50 50
ED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	NVSW3x9A 28.0° / 53.0° 94 % 2.8 cd/lm 1 White	25° 0° 15° 200 26° 200 200 200 200 200 200 200 20



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LED	NWSx229A	75
FWHM / FWTM	33.0° / 58.0°	
Efficiency	87 %	60 - 00 - 00 - 00 - 00 - 00 - 00 - 00 -
Peak intensity	2.2 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required compone	ints:	
		30' 125' 10'0 12'
OSRAM	1	94
LED	PL-BRICK HP 3800 2x8 SSG	
FWHM / FWTM	26.0° / 50.0°	
Efficiency	94 %	
Peak intensity	3 cd/lm	
LEDs/each optic	1	160
Light colour	White	a,
Required compone	ents:	
		15 <sup>5</sup> \$\$\$
OSRAM	A	50'
LED	PrevaLED Brick HP 2x8	
		75 00
LED	PrevaLED Brick HP 2x8	
LED FWHM / FWTM	PrevaLED Brick HP 2x8 23.0° / 44.0°	
LED FWHM / FWTM Efficiency	PrevaLED Brick HP 2x8 23.0° / 44.0° 91 %	25 00 64 100
LED FWHM / FWTM Efficiency Peak intensity	PrevaLED Brick HP 2x8 23.0° / 44.0° 91 % 3.8 cd/lm	64 57
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	PrevaLED Brick HP 2x8 23.0° / 44.0° 91 % 3.8 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	PrevaLED Brick HP 2x8 23.0° / 44.0° 91 % 3.8 cd/lm 1 White	500 500 500
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	PrevaLED Brick HP 2x8 23.0° / 44.0° 91 % 3.8 cd/lm 1 White	64 57
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	PrevaLED Brick HP 2x8 23.0° / 44.0° 91 % 3.8 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	PrevaLED Brick HP 2x8 23.0° / 44.0° 91 % 3.8 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	PrevaLED Brick HP 2x8 23.0° / 44.0° 91 % 3.8 cd/lm 1 White ints:	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	PrevaLED Brick HP 2x8 23.0° / 44.0° 91 % 3.8 cd/lm 1 White Ints:	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	PrevaLED Brick HP 2x8 23.0° / 44.0° 91 % 3.8 cd/lm 1 White Ints: Duris S8 38.0° / 68.0°	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone OSRAM Opto Semiconductors LED FWHM / FWTM Efficiency	PrevaLED Brick HP 2x8 23.0° / 44.0° 91 % 3.8 cd/lm 1 White Ints: Duris S8 38.0° / 68.0° 94 %	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone OSERAM Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity	PrevaLED Brick HP 2x8 23.0° / 44.0° 91 % 3.8 cd/lm 1 White ints: Duris S8 38.0° / 68.0° 94 % 1.6 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone OSERAM Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	PrevaLED Brick HP 2x8 23.0° / 44.0° 91 % 3.8 cd/lm 1 White ints: Duris S8 38.0° / 68.0° 94 % 1.6 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone OSRAM Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	PrevaLED Brick HP 2x8 23.0° / 44.0° 91 % 3.8 cd/lm 1 White ints: Duris S8 38.0° / 68.0° 94 % 1.6 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone OSERAM Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	PrevaLED Brick HP 2x8 23.0° / 44.0° 91 % 3.8 cd/lm 1 White ints: Duris S8 38.0° / 68.0° 94 % 1.6 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone OSRAM Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	PrevaLED Brick HP 2x8 23.0° / 44.0° 91 % 3.8 cd/lm 1 White ints: Duris S8 38.0° / 68.0° 94 % 1.6 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	PrevaLED Brick HP 2x8 23.0° / 44.0° 91 % 3.8 cd/lm 1 White ints: Duris S8 38.0° / 68.0° 94 % 1.6 cd/lm 1 White	



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OSRAM Opto Semiconductors		50 <sup>+</sup>
LED	OSCONIQ C 3030	
FWHM / FWTM	21.0° / 42.0°	
Efficiency	93 %	
Peak intensity	4.4 cd/lm	
LEDs/each optic	1	
Light colour	White	er et
Required compone	ints:	
		24
		15 <sup>5</sup> 400 15 <sup>5</sup>
OSRAM Opto Semiconductors		90 <sup>4</sup> 0 90 <sup>4</sup>
LED	OSLON Square CSSRM2/CSSRM3	
FWHM / FWTM	23.0° / 44.0°	
Efficiency	91 %	
Peak intensity	3.8 cd/lm	
LEDs/each optic	1	
Light colour	White	er
Required compone	ents:	
		220
		304 344
		400
PHILIP	DS	
		90 <sup>4</sup>
LED	Fortimo FastFlex LED 2x8 DA G4 25.0° / 51.0°	
LED FWHM / FWTM	Fortimo FastFlex LED 2x8 DA G4	
LED FWHM / FWTM Efficiency	Fortimo FastFlex LED 2x8 DA G4 25.0° / 51.0°	77
LED FWHM / FWTM Efficiency Peak intensity	Fortimo FastFlex LED 2x8 DA G4 25.0° / 51.0° 92 % 3 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Fortimo FastFlex LED 2x8 DA G4 25.0° / 51.0° 92 %	70
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Fortimo FastFlex LED 2x8 DA G4 25.0° / 51.0° 92 % 3 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Fortimo FastFlex LED 2x8 DA G4 25.0° / 51.0° 92 % 3 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Fortimo FastFlex LED 2x8 DA G4 25.0° / 51.0° 92 % 3 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Fortimo FastFlex LED 2x8 DA G4 25.0° / 51.0° 92 % 3 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	Fortimo FastFlex LED 2x8 DA G4 25.0° / 51.0° 92 % 3 cd/lm 1 White Ints:	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Fortimo FastFlex LED 2x8 DA G4 25.0° / 51.0° 92 % 3 cd/lm 1 White Ints:	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	Fortimo FastFlex LED 2x8 DA G4 25.0° / 51.0° 92 % 3 cd/lm 1 White Ints:	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	Fortimo FastFlex LED 2x8 DA G4 25.0° / 51.0° 92 % 3 cd/lm 1 White Ints:	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	Fortimo FastFlex LED 2x8 DA G4 25.0° / 51.0° 92 % 3 cd/lm 1 White Ints:	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	Fortimo FastFlex LED 2x8 DA G4 25.0° / 51.0° 92 % 3 cd/lm 1 White Ints: S Fortimo FastFlex LED 2x8 DA G4+ 30.0° / 59.0°	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone PHILLIE LED FWHM / FWTM Efficiency	Fortimo FastFlex LED 2x8 DA G4 25.0° / 51.0° 92 % 3 cd/lm 1 White Ints: S Fortimo FastFlex LED 2x8 DA G4+ 30.0° / 59.0° 96 %	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone PHILLIE LED FWHM / FWTM Efficiency Peak intensity	Fortimo FastFlex LED 2x8 DA G4 25.0° / 51.0° 92 % 3 cd/lm 1 White Ints: S Fortimo FastFlex LED 2x8 DA G4+ 30.0° / 59.0° 96 % 2.3 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone PHILLIE LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Fortimo FastFlex LED 2x8 DA G4 25.0° / 51.0° 92 % 3 cd/lm 1 White mts:	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone PHILLIE LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Fortimo FastFlex LED 2x8 DA G4 25.0° / 51.0° 92 % 3 cd/lm 1 White mts:	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone PHILLIE LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Fortimo FastFlex LED 2x8 DA G4 25.0° / 51.0° 92 % 3 cd/lm 1 White mts:	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone PHILLIE FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Fortimo FastFlex LED 2x8 DA G4 25.0° / 51.0° 92 % 3 cd/lm 1 White mts:	



PHILIP		50° 50°
LED	Fortimo FastFlex LED 2x8 DA G5	
FWHM / FWTM	24.0° / 47.0°	75* 75*
Efficiency	94 %	
Peak intensity	3.4 cd/lm	50°
LEDs/each optic	1	150
Light colour	White	gr
Required compone		2430
		30° 15° 0° 15°
PHILIP	<b>DS</b>	90 <sup>4</sup> 90 <sup>4</sup>
LED	Fortimo FastFlex LED 2x8 DA HE	
FWHM / FWTM	32.0° / 61.0°	23.
Efficiency	96 %	
Peak intensity	2.1 cd/lm	8 / / · · · · · · · · · · · · · · · · ·
LEDs/each optic	1	
Light colour	White	gr at
Required compone	ents:	
		1600
		304 304
0.0.0.0		129 09 129
SAMSI	JNG	90* 90*
LED	HiLOM RC12 Z (LH181B)	
FWHM / FWTM	21.0° / 45.0°	
Efficiency	96 %	60*
Peak intensity	3.9 cd/lm	1600
LEDs/each optic	1	
Light colour	White	87° 2300 67
Required compone	ents:	
		2200
		30° 4000 30°
сласі		15° 0° 35°
SVWSI	JNU	90° 90°
LED	HiLOM RH12 Z (LH351C)	25*
FWHM / FWTM	27.0° / 55.0°	$\land \land \land \land \land$
Efficiency	95 %	60° 600
Peak intensity	2.6 cd/lm	
LEDs/each optic	1	
Light colour	White	432 433
Required compone	ents:	
		000
		360 360
		15° 0° 15°



SAMS LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	HiLOM RH16 (LH351C) 30.0° / 55.0° 94 % 2.7 cd/lm 1 White	
SAMS LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	HiLOM RM12 Z (LH502C) 35.0° / 67.0° 95 % 1.7 cd/lm 1 White	
SAMS LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	HiLOM RM16 Z (LH502C) 36.0° / 68.0° 96 % 1.7 cd/lm 1 White	
SAMS LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	HiLOM RM8 Z (LH502C) 36.0° / 68.0° 96 % 1.7 cd/lm 1 White	



SAMSI	JNG	90*
LED	LH351B	
FWHM / FWTM	28.0° / 52.0°	25
Efficiency	85 %	
Peak intensity	2.7 cd/lm	60°
-		
LEDs/each optic	1	gr. 1000 gr.
Light colour	White	
Required compone	ints:	
		2430
		30° 13° 0° 35°
SAMSI	ING	90* 90°
LED	LH351D	
FWHM / FWTM	35.0° / 64.0°	25*
Efficiency	35.0° / 64.0° 91 %	
=		600 600
Peak intensity	1.9 cd/lm	
LEDs/each optic	1	
Light colour	White	er 1200
Required compone	ents:	
		1000
		30° 30° 30° 30°
Sciffer		
		90° 90°
LED	LED-Pa-L15c2W11c2-xxx-C050-01	25*
FWHM / FWTM	24.0° / 48.0 + 47.0°	
Efficiency	95 %	60°
Peak intensity	3.6 cd/lm	
LEDs/each optic	1	
Light colour	White	65 <sup>4</sup> 65 <sup>4</sup>
Required compone	ents:	
		2200
		300 34.0
		15
		50* 90*
SEOUL SEMICONDUCTOR	2x2 Y22 module - SMJQ-D48W16AA-XX	
FWHM / FWTM	34.0° / 64.0°	23*
	93 %	400
Efficiency		60* 60*
Peak intensity	1.5 cd/lm	
LEDs/each optic	1 White	800
Light colour	White	
Required compone	ans.	
		1220
		$\times$ / $\setminus$ $\times$
		30° 35° 360 55°
1		15°



SEOUL		50 <sup>4</sup> 50 <sup>4</sup>
	75140	
	Z5M3	10
FWHM / FWTM	25.0° / 51.0°	
Efficiency	94 %	61°
Peak intensity	3.1 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required compone	nts:	200
		30° 300 30°
SEOUL		50° 500
	75144	
	Z5M4	77
FWHM / FWTM	26.0° / 52.0°	
Efficiency Book intensity	95 % 3. od/m	64
Peak intensity	3 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required compone	nts:	200
		20' 200 20' 20'
SEOUL		90 <sup>4</sup> 99 <sup>4</sup>
	Z8Y19	
FWHM / FWTM	34.0° / 64.0°	77
Efficiency	93 %	
Peak intensity	1.5 cd/lm	
LEDs/each optic	4	
Light colour	White	
Required compone		
rtoquirou compone		120
		30" 15"
SEOUL		55*
	70)// 0	
	Z8Y19	77
FWHM / FWTM	34.0° / 64.0°	
Efficiency	93 %	9 <sup>4</sup>
Peak intensity	1.5 cd/lm	
LEDs/each optic	4	
Light colour	White	
Required compone	nts:	
		30°



		90* 90*
LED	Z8Y22P	
FWHM / FWTM	25.0° / 48.0°	75'
Efficiency	92 %	69° 60°
Peak intensity	3.1 cd/lm	
LEDs/each optic	1	
Light colour	White	ea.
Required compone	nts:	2000
		30° 200 30° 30°
TRIDON	lic	
LED	RLE 2x4 2000lm HP EXC2 OTD	
FWHM / FWTM	23.0° / 48.0°	
Efficiency	94 %	
Peak intensity	3.4 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required compone	nts:	
TRIDON	lic	90* 90*
LED	RLE 2x8 4000lm HP EXC2 OTD	
FWHM / FWTM	23.0° / 48.0°	23* 23*
Efficiency	94 %	60* 60*
Peak intensity	3.4 cd/lm	
LEDs/each optic	1	
Light colour	White	2
Required compone	nts:	200
TRIDON	liC	90* 90*
LED	RLE G1 49x121mm 2000lm xxx EXC OTD	
FWHM / FWTM	24.0° / 51.0°	22.
Efficiency	94 %	50° 60°
Peak intensity	3 cd/lm	
LEDs/each optic	1	320
Light colour	White	
Required compone	nts:	4000
1		
		30* <u>6400</u> 30* 30*

Last update: 19/09/2023Subject to change without prior noticeLEDiL is a registered trademark of LEDiL Oy in the European Union, USA, and certain other countries.



TRIDON	NIC		90 <sup>4</sup> 90
LED	RLE G1 49x133mm 2000lm xxx EXC OTD		75
FWHM / FWTM	24.0° / 51.0°		
Efficiency	94 %		69.5
Peak intensity	3 cd/lm		
LEDs/each optic	1		
Light colour	White		gr dis
Required compone	ents:		50 <sup>-</sup> 50 <sup>-</sup> 5
TRIDON	1IC		30 <sup>4</sup> 90
LED	RLE G1 49x223mm 4000lm xxx EXC OTD		
FWHM / FWTM	24.0° / 51.0°		
Efficiency	94 %		ex*
Peak intensity	3 cd/lm		
LEDs/each optic	1		320
Light colour	White		457
Required compone	ints:		34 <u>e00</u> 35
TRIDOM	NIC .		90 <sup>4</sup> 90
LED	RLE G1 49x245mm 4000lm xxx EXC OTD	10 March 10	
FWHM / FWTM	24.0° / 51.0°		
Efficiency	94 %		60 <sup>4</sup> 60
Peak intensity	3 cd/lm		
LEDs/each optic	1		
Light colour	White		¢' / / / œ
Required compone	ints:		600 30 <sup>4</sup> 600 3



CREE ≑		90° 90°
LEDS	J Series 5050 Round LES	
FWHM / FWTM	35.0° / 64.0°	75'
Efficiency	92 %	
Peak intensity	92 % 2 cd/lm	60 <sup>1</sup> 60 <sup>2</sup>
LEDs/each optic	1	
Light colour	' White	45
Required components:	Wille	
Required components.		1600
		30° 50° 50° 50°
		90° 90°
LED	XP-G2 HE	
FWHM / FWTM	35.0° / 58.0°	73*
Efficiency	92 %	
Peak intensity	2.1 cd/lm	80 <sup>2</sup> 800
LEDs/each optic	1	
Light colour	White	45°
Required components:		
		1630
		342
		45 0% 35'
		90° 80°
LED	XP-G3	
FWHM / FWTM		75"
	28.0° / 50.0°	$\Gamma \setminus \mathbb{Z} \times [\Lambda \mathbb{Z} \times \mathbb{Z}]$
	28.0° / 50.0° 92 %	
Efficiency		
	92 %	ga
Efficiency Peak intensity	92 % 3 cd/lm	$\Gamma \setminus \mathbb{Z} \times [- \Lambda \mathbb{Z} \times \mathbb{Z}]$
Efficiency Peak intensity LEDs/each optic	92 % 3 cd/lm 1	ga
Efficiency Peak intensity LEDs/each optic Light colour	92 % 3 cd/lm 1	ga
Efficiency Peak intensity LEDs/each optic Light colour	92 % 3 cd/lm 1	64 64 64 64 64 64 64 64 64 64 64 64 64 6
Efficiency Peak intensity LEDs/each optic Light colour	92 % 3 cd/lm 1	80
Efficiency Peak intensity LEDs/each optic Light colour Required components:	92 % 3 cd/lm 1	200 200 00 00 00 00 00 00 00 00
Efficiency Peak intensity LEDs/each optic Light colour Required components:	92 % 3 cd/lm 1 White	30 64 64 65 700 700 700 700 700 700 700 700 700
Efficiency Peak intensity LEDs/each optic Light colour Required components:	92 % 3 cd/lm 1 White XP-G4	200 00 00 00 00 00 00 00 00 00
Efficiency Peak intensity LEDs/each optic Light colour Required components: CREE LED FWHM / FWTM	92 % 3 cd/lm 1 White XP-G4 28.0° / 50.0°	200 200 200 200 200 200 200 200 200 200
Efficiency Peak intensity LEDs/each optic Light colour Required components: CREE LED FWHM / FWTM Efficiency	92 % 3 cd/m 1 White XP-G4 28.0° / 50.0° 85 %	200 00 00 00 00 00 00 00 00 00
Efficiency Peak intensity LEDs/each optic Light colour Required components:	92 % 3 cd/lm 1 White XP-G4 28.0° / 50.0° 85 % 2.6 cd/lm	200 200 200 200 200 200 200 200 200 200
Efficiency Peak intensity LEDs/each optic Light colour Required components:	92 % 3 cd/lm 1 White XP-G4 28.0° / 50.0° 85 % 2.6 cd/lm 1	64. 64. 64. 65. 66. 66. 66. 66. 66. 66. 66
Efficiency Peak intensity LEDs/each optic Light colour Required components: CREE ED EVHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	92 % 3 cd/lm 1 White XP-G4 28.0° / 50.0° 85 % 2.6 cd/lm	20 20 20 20 20 20 20 20 20 20
Efficiency Peak intensity LEDs/each optic Light colour Required components:	92 % 3 cd/lm 1 White XP-G4 28.0° / 50.0° 85 % 2.6 cd/lm 1	64. 64. 50. 50. 50. 50. 50. 50. 50. 50
Efficiency Peak intensity LEDs/each optic Light colour Required components: CREE ED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	92 % 3 cd/m 1 White XP-G4 28.0° / 50.0° 85 % 2.6 cd/m 1 White	
Efficiency Peak intensity LEDs/each optic Light colour Required components: CREE ED EVHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	92 % 3 cd/m 1 White XP-G4 28.0° / 50.0° 85 % 2.6 cd/m 1 White	64. 64. 90. 90. 91. 91. 92. 92. 94. 95. 95. 95. 95. 95. 95. 95. 95
Efficiency Peak intensity LEDs/each optic Light colour Required components:	92 % 3 cd/m 1 White XP-G4 28.0° / 50.0° 85 % 2.6 cd/m 1 White	



		90*
LED	XP-G4	
FWHM / FWTM	28.0° / 50.0 + 49.0°	75
Efficiency	93 %	
Peak intensity	2.9 cd/lm	60°
LEDs/each optic	1	
Light colour	White	45* 45°
Required components:	White	
		2000
		30°
		90° 90°
LED	XP-L2	
FWHM / FWTM	32.0° / 62.0°	73*
Efficiency	82 %	
Peak intensity	1.9 cd/lm	5°
LEDs/each optic	1	
Light colour	White	g* g*
Required components:		
Protective plate	e, glass	
		30-
		15" 300 15"
		99* 99* 99*
LED	LUXEON 3030 2D (Round LES)	
LED FWHM / FWTM	LUXEON 3030 2D (Round LES) 21.0° / 41.0°	
LED FWHM / FWTM Efficiency	LUXEON 3030 2D (Round LES) 21.0° / 41.0° 91 %	
LED FWHM / FWTM Efficiency Peak intensity	LUXEON 3030 2D (Round LES) 21.0° / 41.0° 91 % 4.7 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	LUXEON 3030 2D (Round LES) 21.0° / 41.0° 91 % 4.7 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LUXEON 3030 2D (Round LES) 21.0° / 41.0° 91 % 4.7 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	LUXEON 3030 2D (Round LES) 21.0° / 41.0° 91 % 4.7 cd/lm 1	20 20 20 20 20 20 20 20 20 20
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LUXEON 3030 2D (Round LES) 21.0° / 41.0° 91 % 4.7 cd/lm 1	20 20 20 20 20 20 20 20 20 20
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LUXEON 3030 2D (Round LES) 21.0° / 41.0° 91 % 4.7 cd/lm 1	gr gr gr gr gr gr gr gr gr gr gr gr gr g
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LUXEON 3030 2D (Round LES) 21.0° / 41.0° 91 % 4.7 cd/lm 1	20 20 20 20 20 20 20 20 20 20
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON 3030 2D (Round LES) 21.0° / 41.0° 91 % 4.7 cd/lm 1 White	200 000 200 000
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON 3030 2D (Round LES) 21.0° / 41.0° 91 % 4.7 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON 3030 2D (Round LES) 21.0° / 41.0° 91 % 4.7 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON 3030 2D (Round LES) 21.0° / 41.0° 91 % 4.7 cd/lm 1 White <b>S</b> LUXEON 3535 2D 22.0° / 42.0°	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON 3030 2D (Round LES) 21.0° / 41.0° 91 % 4.7 cd/lm 1 White S LUXEON 3535 2D 22.0° / 42.0° 92 %	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON 3030 2D (Round LES) 21.0° / 41.0° 91 % 4.7 cd/lm 1 White <b>S</b> LUXEON 3535 2D 22.0° / 42.0°	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON 3030 2D (Round LES) 21.0° / 41.0° 91 % 4.7 cd/lm 1 White V LUXEON 3535 2D 22.0° / 42.0° 92 % 4.5 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON 3030 2D (Round LES) 21.0° / 41.0° 91 % 4.7 cd/lm 1 White V LUXEON 3535 2D 22.0° / 42.0° 92 % 4.5 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON 3030 2D (Round LES) 21.0° / 41.0° 91 % 4.7 cd/lm 1 White V LUXEON 3535 2D 22.0° / 42.0° 92 % 4.5 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON 3030 2D (Round LES) 21.0° / 41.0° 91 % 4.7 cd/lm 1 White V LUXEON 3535 2D 22.0° / 42.0° 92 % 4.5 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON 3030 2D (Round LES) 21.0° / 41.0° 91 % 4.7 cd/lm 1 White V LUXEON 3535 2D 22.0° / 42.0° 92 % 4.5 cd/lm 1	



LED FWHM / FWTM	LUXEON 5050 Round LES	
Efficience.	34.0° / 64.0°	- 400
Efficiency	87 %	59°
Peak intensity	1.9 cd/lm	80
LEDs/each optic	1	
Light colour	White	<b>5</b> <sup>2</sup>
Required components:		
Protective pla	te, glass	34 <sup>th</sup> 20 <sup>th</sup> 10
	DS	
LED	LUXEON 5050 Square LES	
FWHM / FWTM	34.0° / 62.0°	25 400
Efficiency	88 %	
Peak intensity	2 cd/lm	
LEDs/each optic	1	
Light colour	White	9%
Required components:		
Protective pla	te, glass	
		30 <sup>4</sup> 25 <sup>5</sup> 9 25 <sup>5</sup> 0 <sup>4</sup> 25 <sup>5</sup>
	DS	99*
LED	LUXEON 5050 Square LES	25*
FWHM / FWTM	34.0° / 62.0°	
Efficiency	93 %	60°
Peak intensity	2.1 cd/lm	
LEDs/each optic	1	
Light colour	White	9°
Required components:		1600
		34 10 0° 12°
	DS	90 <sup>4</sup>
LED	LUXEON HL2X	
FWHM / FWTM	34.0° / 58.0°	
Efficiency	87 %	
Peak intensity	2.1 cd/lm	
LEDs/each optic	1	
Light colour	White	2° /
Required components:		100
Protective pla	te, glass	



	S	90'
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON HL2X-D 34.0° / 58.0° 94 % 2.2 cd/lm 1 White	73* 9* 000 6 7* 2600
		30 <sup>4</sup> 55 <sup>7</sup> 3 <sup>6</sup> 10 <sup>4</sup> 10 <sup>4</sup>
	S	90°
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON HL2X-D 34.0° / 58.0° 85 % 2 cd/lm 1 White	73° 64° 500 6 6° 6
Protective plate	, glass	30- 20- 20- 20- 20- 20- 20- 20- 20- 20- 2
	9S	30 <sup>+</sup>
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON HL2X-P 36.0° / 62.0° 91 % 2 cd/lm 1 White	
UMILEC	S	50 <sup>+</sup>
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON XR-HL2X (L2H2-xxxxxxMLU010) 32.0° / 56.0° 94 % 2.3 cd/lm 1 White	75° - 200 - 6 77° - 200 - 6 30° - 200 - 7 30° - 200 - 3



UMILE	)S	50°
LED	LUXEON XR-HL2X (L2H2-xxxxxxMLU010)	
FWHM / FWTM	32.0° / 58.0°	
Efficiency	85 %	69°
Peak intensity	2.1 cd/lm	
LEDs/each optic	1	
Light colour	White	5.
Required components:		400
Protective plate	a, glass	
MICHIΛ		78 <sup>5</sup> 0 <sup>4</sup> <u>1</u> 9 <sup>7</sup>
LED	NV4WB35AM	
FWHM / FWTM	30.0° / 54.0°	
Efficiency	93 %	
Peak intensity	2.7 cd/lm	69-
LEDs/each optic	1	
Light colour	White	gr <u>1630</u>
Required components:		
		200
		34
<b>Μ</b> ΝΙCΗΙΛ		20°
LED	NVSxx19B/NVSxx19C	
FWHM / FWTM	28.0° / 50.0°	73
Efficiency	92 %	
Peak intensity	2.9 cd/lm	$\sim$ $\sim$ $\sim$ $\sim$ $\sim$ $\sim$
LEDs/each optic	1	100
Light colour	White	er de la companya de
D I I		
Required components:		
Required components:		200
Required components:		200
Required components:		300 306 207 0° 137
OSRAM		200
OSRAM Opto Semiconductors	Duris S8	30 <sup>4</sup> 30 <sup>7</sup> 10 <sup>4</sup>
OSRAM Opto Semiconductors LED	Duris S8 38.0° / 69.0°	200 30° 30° 30° 30° 30° 30° 30° 30° 30° 3
OSRAM Opto Semiconductors LED FWHM / FWTM		30 <sup>4</sup> 30 <sup>5</sup> 0 <sup>5</sup> 10 <sup>5</sup>
OSRAM Opto Semiconductors LED FWHM / FWTM Efficiency	38.0° / 69.0°	30 <sup>4</sup> 30 <sup>5</sup> 0 <sup>5</sup> 10 <sup>5</sup>
OSRAM Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity	38.0° / 69.0° 89 %	30 <sup>4</sup> 30 <sup>4</sup> 30 <sup>4</sup>
OSRAM Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	38.0° / 69.0° 89 % 1.6 cd/lm	30 <sup>4</sup> 30 <sup>4</sup> 30 <sup>4</sup>
OSRAM Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	38.0° / 69.0° 89 % 1.6 cd/lm 1	30 <sup>4</sup> 30 <sup>4</sup> 30 <sup>4</sup>
Required components: OSERAM Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate	38.0° / 69.0° 89 % 1.6 cd/lm 1 White	30 <sup>4</sup> 30 <sup>4</sup> 30 <sup>4</sup>



OSRAM Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	OSCONIQ C 2424 19.0 + 20.0° / 36.0° 93 % 5.8 cd/lm 1 White	50° 50° 50° 50° 50° 50° 50° 50° 50° 50°
OSRAM		
Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	OSCONIQ P 3030 18.0° / 36.0° 94 % 5.8 cd/lm 1 White	97 97 97 97 97 97 97 97 97 97
OSRAM		
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	OSCONIQ P 3737 (2W version) 22.0° / 40.0° 92 % 4.4 cd/lm 1 White	200 00°
OSRAM Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate	OSCONIQ P 3737 (2W version) 22.0° / 40.0° 87 % 4 cd/lm 1 White	5° 5° 5° 5° 5° 5° 5° 5° 5° 5° 5° 5° 5° 5



OSRAM Opto Semiconductors	OSCONIQ P 3737 (3W version)	
FWHM / FWTM	29.0° / 52.0°	75°
Efficiency	93 %	60° 500
Peak intensity	2.8 cd/lm	
LEDs/each optic	1	
Light colour	White	er er
Required components:		205. 30 <sup>4</sup> 15 <sup>4</sup> 5 <sup>4</sup> 5 <sup>4</sup>
OSRAM Opto Semiconductors		80* 90*
LED	OSCONIQ P 3737 Flat	
FWHM / FWTM	24.0° / 44.0°	
Efficiency	93 %	60 <sup>1</sup> 60 <sup>2</sup>
Peak intensity	4 cd/lm	
LEDs/each optic	1	
Light colour	White	45° 45°
Required components:		220
		30- 257 0+ 25- 31-
OSRAM Opto Semiconductors		50°
OSRAM Opto Semiconductors LED	OSLON Square CSSRM2/CSSRM3	
	OSLON Square CSSRM2/CSSRM3 22.0° / 42.0°	2 <sup>4</sup>
LED		
LED FWHM / FWTM	22.0° / 42.0°	
LED FWHM / FWTM Efficiency	22.0° / 42.0° 89 %	27 27 27
LED FWHM / FWTM Efficiency Peak intensity	22.0° / 42.0° 89 % 4.1 cd/lm	27 27 27
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	22.0° / 42.0° 89 % 4.1 cd/lm 1	g. g. 300 57
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	22.0° / 42.0° 89 % 4.1 cd/lm 1 White	27 27 27
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate	22.0° / 42.0° 89 % 4.1 cd/lm 1 White	gr 200
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate	22.0° / 42.0° 89 % 4.1 cd/lm 1 White	gr 200
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate	22.0° / 42.0° 89 % 4.1 cd/lm 1 White 9, glass OSLON Square Flat	gr 200
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate OSRAM Opto Semiconductors LED FWHM / FWTM	22.0° / 42.0° 89 % 4.1 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate OSRAM Opto Semiconductors LED FWHM / FWTM Efficiency	22.0° / 42.0° 89 % 4.1 cd/lm 1 White 0.5 CON Square Flat 20.0° / 35.0°	200 90 90 90 90 90 90 90 90 90
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate Optio Semiconductors LED FWHM / FWTM Efficiency Peak intensity	22.0° / 42.0° 89 % 4.1 cd/lm 1 White e, glass OSLON Square Flat 20.0° / 35.0° 94 %	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate Optio Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	22.0° / 42.0° 89 % 4.1 cd/lm 1 White a, glass OSLON Square Flat 20.0° / 35.0° 94 % 5.5 cd/lm	20 20 20 20 20 20 20 20 20 20
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate OSRAM Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity	22.0° / 42.0° 89 % 4.1 cd/lm 1 White a, glass OSLON Square Flat 20.0° / 35.0° 94 % 5.5 cd/lm 1	



Watermannet       LED       OSTAR Projection Compact (KW.CSLNM1.TG)         FWHM / FVTM       21.0* / 38.0*         Efficiency       94 %         Peak Intensity       5 cd/m         LEDseach optic       1         Lipht colour       White         Required components:			
LED OSTAR Projection Compact (KW.CSLNM1.TG) FWHM / FVTM 21.0* / 38.0* Elidiancy 94 % Peak intensity 5 c0/m LED components: PHILIPS LD Fortimo FastFlox LED 2x8 DAX G4 FWHM / FVTM 28.0* / 50.0* Elidiancy 92 % Peak intensity 3 c0/m LED exact point 1 LDph colour White Required components: SAMSUNC LED K L42318 FWHM / FVTM 24.0* / 46.0* Elidiancy 92 % Peak intensity 3.7 c0/m LEDS/each optic 1 LDP Huite Required components: SAMSUNC LED K L42318 FWHM / FVTM 24.0* / 46.0* Elidiancy 92 % Peak intensity 3.7 c0/m LEDS/each optic 4 LDP Huite Required components: SAMSUNC LED K L42318 FWHM / FVTM 24.0* / 46.0* Elidiancy 92 % Peak intensity 3.7 c0/m LEDS/each optic 4 LDP K L42318 FWHM / FVTM 24.0* / 46.0* Elidiancy 91 % Peak intensity 3.7 c0/m LEDS/each optic 4 LDP K L4318 FWHM / FVTM 24.0* / 46.0* Elidiancy 91 % Peak intensity 2.3 c0/m	OSRAM		90° 95'
FWHM / FWTM       21.0° / 38.0°         Efficiency       94 %         Peak intensity       5.cd/m         LED&/each optic       1         Light colour       White         Required components:		OSTAR Projection Compact (KW/CSI NM1 TG)	
Efficiency 94 % Peak intensity 5 codim LEDS/each optic I Definition Perficiency 92 % Peak intensity 3 codim LEDS/each optic I Definition SAMSUNG LED			75'
Peak intensity 5 cdfm LEDS/each optic 1 LEDS/each optic 1 Required components:			
LEDs/each optic 1 Light colour White Required components: PHILIPS LED Fortimo FastFlex LED 2x8 DAX G4 FWHM / FWTM 28.0° / 50.0° Efficiency 92.6% Pack intensity 3.0°L/M LEDs/each optic 1 Light colour White Required components: SAMS SUNC Efficiency 22.% Pack intensity 3.7 cd/m LEDs/each optic 4 Light colour White Required components: SAMS SUNC Efficiency 4.1 Light colour White Required components: SAMS SUNC Efficiency 91.% Pack intensity 3.7 cd/m LEDs LH351C FWHM / FWTM 32.0° / 56.0° Efficiency 91.% Pack intensity 2.3 cd/m	-		60°
Light colour White Required components: PHILLPS LED Fortimo FastFlex LED 2x8 DAX G4 FWHM / FWTM 28.0° / 50.0° Efficiency 22 % Peak intensity 3 cd/m LED seach optic 1 LED White Required components: SAMS UN C Efficiency 22 % Peak intensity 3.7 cd/m LED 4.0° / 46.0° Efficiency 22 % Peak intensity 3.7 cd/m LED 4.0° / 46.0° Efficiency 22 % Peak intensity 3.7 cd/m LED 4.0° / 46.0° Efficiency 4.0° Required components: SAMS SUN C LED LI3S1C FWHM / FWTM 32.0° / 56.0° Efficiency 1.0° SAMS SUN C LED LI3S1C FWHM / FWTM 32.0° / 56.0° Efficiency 1.0° Peak intensity 2.3 cd/m			
Required components: ED Fortimo FastFlex LED 2x8 DAX G4 FWHM / FWTM 28.0° / 50.0° Efficiency 92 % Pack intensity 3 cd/m LEDs/each optic 1 Light colour White Required components: SAMSUNC LED LH231B FWHM / FWTM 24.0° / 46.0° Efficiency 92 % Pack intensity 3.7 cd/m LED 4.00 / 46.0° Efficiency 92 % Pack intensity 3.7 cd/m LED 4.1231B FWHM / FWTM 24.0° / 46.0° Efficiency 92 % Pack intensity 3.7 cd/m LED White Required components: SAMSUNC Efficiency 91 % Pack intensity 2.3 cd/m			
PHILIPS         LED       Fortime FastFlex LED 2x8 DAX G4         FWHM / FWTM       28.0° / 50.0°         Efficiency       92 %         Peak intensity       3 col/m         LEDSeach optic       1         Light colour       White         Required components		white	
LED       Fortimo FastFlex LED 2x8 DAX G4         FWHM       28.0° / 50.0°         Efficiency       32 %         Peak Intensity       3 col/m         LEDs/each optic       1         Light colour       White         Required components:	Required components.		
LED       Fortimo FastFlex LED 2x8 DAX G4         FWHM       28.0° / 50.0°         Efficiency       32 %         Peak Intensity       3 col/m         LEDs/each optic       1         Light colour       White         Required components:			
LED       Fortimo FastFlex LED 2x8 DAX G4         FWHM       28.0° / 50.0°         Efficiency       32 %         Peak Intensity       3 col/m         LEDs/each optic       1         Light colour       White         Required components:			600
LED       Fortimo FastFlex LED 2x8 DAX G4         FWHM       28.0° / 50.0°         Efficiency       32 %         Peak Intensity       3 col/m         LEDs/each optic       1         Light colour       White         Required components:			30° 30° 15°
LED       Fortimo FastFlex LED 2x8 DAX G4         FWHM       28.0° / 50.0°         Efficiency       32 %         Peak Intensity       3 col/m         LEDs/each optic       1         Light colour       White         Required components:	PHILIPS		90 <sup>4</sup> A 90 <sup>4</sup>
FWHM / FWTM       28.0° / 50.0°         Efficiency       92 %         Peak intensity       3 cd/lm         LEDs/each optic       1         Light colour       White         Required components:       Image: Components         SAMSUNG       LH231B         FWHM / FWTM       24.0° / 46.0°         Efficiency       92 %         Peak intensity       3.7 cd/lm         LED       L4231B         FWHM / FWTM       24.0° / 46.0°         Efficiency       92 %         Peak intensity       3.7 cd/lm         LED        LH231B         FWHM / FWTM       24.0° / 46.0°         Efficiency       92 %         Peak intensity       3.7 cd/lm         LED        LH31B         FWHM / FWTM       24.0° / 56.0°         EED        LH351C         FWH / FWTM       32.0° / 56.0°         Efficiency       91 %         Peak intensity       2.3 cd/lm			
Efficiency 92 % Peak intensity 3 cd/m LEDs/each optic 4 LGD/ explored of 4 LGD/ explored			75
Peak intensity 3 cd/m LEDs/each optic 1 Light colour White Required components: SAMSUNC LED LH231B FWHM / FWTM 24.0° / 46.0° Efficiency 92 % Peak intensity 3.7 cd/m LEDs/each optic 4 Light colour White Required components: SAMSUNC LED White Required components: SAMSUNC LED LH231B FWHM / FWTM 24.0° / 46.0° Efficiency 92 % Peak intensity 2.3 cd/m SAMSUNC LED LH351C FWHM / FWTM 32.0° / 56.0° Efficiency 91 % Peak intensity 2.3 cd/m			
LEDs/each optic 1 Light colour White Required components: SAMSUNG LED LH231B FWHM / FWTM 24.0° / 46.0° Efficiency 92 % Peak intensity 3.7 cd/m LEDs/each optic 4 Light colour White Required components: SAMSUNG LED LH351C FWHM / FWTM 32.0° / 56.0° Efficiency 91 % Peak intensity 3.3 cd/m			60 <sup>4</sup> 60 <sup>4</sup>
Light colour White Required components: White Required components: White SAMSUNC LED LH231B FVVHM 24.0° / 46.0° Efficiency 92 % Peak intensity 3.7 cd/lm LEDs/each optic 4 Light colour White Required components: SAMSUNC SAMSUNC EFF UNITY 32.0° / 56.0° Efficiency 91 % Peak intensity 2.3 cd/lm			
Required components: Equipment is the set of the set o			g7 (c)
SAMSUNG LED LH231B FWHM /FWTM 24.0°/46.0° Efficiency 92 % Peak intensity 3.7 cd/m LEDs/each optic 4 Light colour White Required components: SAMSUNG LED LH351C FWHM / FWTM 32.0°/56.0° Efficiency 91 % Peak intensity 2.3 cd/m			
SAMSUNG         LED       LH231B         FWHM / FWTM       24.0° / 46.0°         Efficiency       92 %         Peak intensity       3.7 cd/lm         LEDs/each optic       4         Light colour       White         Required components:       Image: Component State	riequieu compensitori		2430
SAMSUNG         LED       LH231B         FWHM / FWTM       24.0° / 46.0°         Efficiency       92 %         Peak intensity       3.7 cd/lm         LEDs/each optic       4         Light colour       White         Required components:       Image: Component State			
SAMSUNG         LED       LH231B         FWHM / FWTM       24.0° / 46.0°         Efficiency       92 %         Peak intensity       3.7 cd/lm         LEDs/each optic       4         Light colour       White         Required components:       Image: Component State			
LEDLH231BFWHM / FWTM24.0° / 46.0°Efficiency92 %Peak intensity3.7 cd/lmLEDs/each optic4Light colourWhiteRequired components:ViniteSAMSSUNGLEDLH351CFWHM / FWTM32.0° / 56.0°Efficiency91 %Peak intensity2.3 cd/lm			30° 3300 35°
LEDLH231BFWHM / FWTM24.0° / 46.0°Efficiency92 %Peak intensity3.7 cd/lmLEDs/each optic4Light colourWhiteRequired components:ViniteSAMSSUNGLEDLH351CFWHM / FWTM32.0° / 56.0°Efficiency91 %Peak intensity2.3 cd/lm	SAMSIIN	IG	30* 30'
FWHM / FWTM       24.0° / 46.0°         Efficiency       92 %         Peak intensity       3.7 cd/lm         LEDs/each optic       4         Light colour       White         Required components:			
Efficiency92 %Peak intensity3.7 cd/lmLEDs/each optic4Light colourWhiteRequired components:			
Peak intensity 3.7 cd/m LEDs/each optic 4 Light colour White Required components: SAMSUNG LED LH351C FWHM / FWTM 32.0° / 56.0° Efficiency 91 % Peak intensity 2.3 cd/m			
LEDs/each optic 4 Light colour White Required components: SAMSUNG LED LH351C FWHM / FWTM 32.0° / 56.0° Efficiency 91 % Peak intensity 2.3 cd/m			604 60
Light colour       White         Required components:       Image: Component comp			
Required components: Required components: SAMSUNG LED LH351C FWHM / FWTM 32.0° / 56.0° Efficiency 91 % Peak intensity 2.3 cd/m			43° 45
SAMSUNG LED LH351C FWHM / FWTM 32.0° / 56.0° Efficiency 91 % Peak intensity 2.3 cd/m	-	white	× × × × ×
SAMSUNG LED LH351C FWHM / FWTM 32.0° / 56.0° Efficiency 91 % Peak intensity 2.3 cd/m	Required components.		$\times$ / / $\times$
SAMSUNG LED LH351C FWHM / FWTM 32.0° / 56.0° Efficiency 91 % Peak intensity 2.3 cd/lm			800
SAMSUNG LED LH351C FWHM / FWTM 32.0° / 56.0° Efficiency 91 % Peak intensity 2.3 cd/lm			X / V X
LED LH351C FWHM / FWTM 32.0° / 56.0° Efficiency 91 % Peak intensity 2.3 cd/lm			30° 35°
LED LH351C FWHM / FWTM 32.0° / 56.0° Efficiency 91 % Peak intensity 2.3 cd/lm	SAMSIIA	IG	90° 90'
FWHM / FWTM     32.0° / 56.0°       Efficiency     91 %       Peak intensity     2.3 cd/lm			
Efficiency 91 % Peak intensity 2.3 cd/lm			73.
Peak intensity 2.3 cd/lm			
			60° 600 601
	LEDs/each optic	2.3 cd/im 1	
LEDs/each optic 1 Light colour White			19 <sup>1</sup> 65 <sup>1</sup>
Required components:		AALING.	1600
	required components:		
30° 200 15° 0° 15°			30° 2150 30°



SAMSUN LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate	LH502C 36.0° / 70.0° 89 % 1.6 cd/lm 1 White	94 94 77 66 60 60 60 60 60 60 60 60 60 60 60 60 6
SAMSUN LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LH508A Plus 32.0° / 62.0° 93 % 2.1 cd/lm 1 White	237 0 <sup>2</sup> 15°
stoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	MJT 5050 36.0° / 66.0° 92 % 1.8 cd/lm 1 White	21° 22° 25°
SEQUI SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	SEOUL DC 5050 6V 34.0° / 62.0° 94 % 2.1 cd/lm 1 White	31 <sup>4</sup> 32 <sup>4</sup> 0 <sup>6</sup> 32 <sup>5</sup> 25 <sup>5</sup>



		30*	
LED	Z5M5		$ \land \land$
FWHM / FWTM	28.0° / 50.0°	75	$\rightarrow$
Efficiency	94 %	X	
Peak intensity	3.1 cd/lm	91	$< / \square$
LEDs/each optic	1		$\times$
Light colour	White	<b>5</b>	1630
Required components:	······		
required components.			2430
		<sup>30*</sup>	3230 15° 0°
SEOUL			
SEOUL SEMICONDUCTOR		901	$\land$
	Z5M5	75	$ \rightarrow  $
FWHM / FWTM	28.0° / 50.0°		
Efficiency	85 %	69*	
Peak intensity	2.8 cd/lm		
LEDs/each optic	1		1600
Light colour	White	<b>6</b> 7	/ /
Required components:			
Protective plat	e, glass		2430
· · · · · · · · · · · · · · · · · · ·			
		306	15° 0°
SECUL		59*	
SEOUL SEMICONDUCTOR		90*	$\land$
LED	Z8Y22T	25	$\Box \Delta \square$
FWHM / FWTM	23.0° / 44.0°		× / / ••• K
Efficiency	91 %	010	$\sim \square$
Peak intensity	3.9 cd/lm		1630
LEDs/each optic	1		$\times$
Light colour	White	ø.	2130
Required components:			
		20*	4000 15° 0°
			15° 0°



#### **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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