

# HB-2X2-W

~50° wide beam

### **TECHNICAL SPECIFICATIONS:**

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



PRODUCT DATASHEET

C12361\_HB-2X2-W

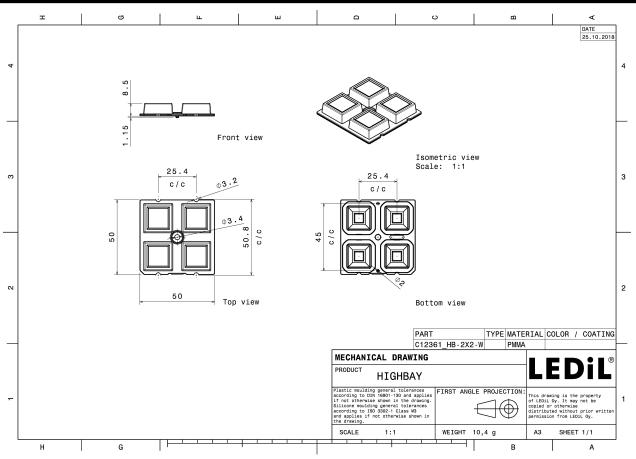
### **MATERIAL SPECIFICATIONS:**

» Box size: 480 x 280 x 300 mm

<b>Component</b> HB-2X2-W	<b>Type</b> Multi-lens	<b>Material</b> PMMA		<b>Colour</b> clear	Finish
ORDERING INFORMATION:					
<b>Component</b> C12361_HB-2X2-W		<b>Qty in box</b> 800	<b>MOQ</b> 160	<b>MPQ</b> 160	Box weight (kg) 9.1



# PRODUCT DATASHEET C12361\_HB-2X2-W



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



bridgelux. LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	Bridgelux SMD 5050 55.0° / 93.0° 94 % 0.9 cd/lm 1 White nts:	20° 20° 20° 20° 20° 20° 20° 20°
ED 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 nts:	20°
ED 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 nts:	3 <sup>4</sup> <b>11 111 1111111111111</b>
CREE (LED) FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	XB-D White 48.0° / 85.0° 86 % 1 cd/lm 1 White	20° 0° 10° 90° 0° 0° 90° 0° 0° 90° 0° 0° 90° 0° 10°



		100
LED	XD16	»»-
FWHM / FWTM	54.0° / 94.0°	· · · · · · · · · · · · · · · · · · ·
Efficiency	91 %	70 m
Peak intensity	0.9 cd/lm	
LEDs/each optic	4	
Light colour	- White	
Required compone		
		<b>20</b>
		200
		10
		5)* 55'
LED	XD16	
FWHM / FWTM	48.0° / 89.0°	75
Efficiency	91 %	
Peak intensity	0.9 cd/lm	
LEDs/each optic	1	
Light colour	White	ar ar
Required compone	nts:	
		20° 100 100 100 100
		30 <sup>4</sup> 30 <sup>4</sup>
LED	XHP35 HD	
FWHM / FWTM	57.0° / 92.0°	72
Efficiency	85 %	200
Peak intensity	0.8 cd/lm	
LEDs/each optic	1	
Light colour	White	gr and a start of the start of
Required compone		
		30
		129 <sup>4</sup> 0 <sup>4</sup> 129
		90 <sup>4</sup> 90 <sup>4</sup>
LED	XM-L	7
FWHM / FWTM	57.0° / 90.0°	20
Efficiency	89 %	
Peak intensity	0.9 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required compone	nts:	
		- B0
		3° 30



r		
	1	51*
LED	- XM-L2	
FWHM / FWTM	56.0° / 85.0°	23
Efficiency	87 %	
Peak intensity	0.9 cd/lm	
LEDs/each optic	1	
Light colour	White	e.
Required compone		
		34
		127 2005 125"
		8°
LED	XM-L3	
FWHM / FWTM	56.0° / 87.0°	
Efficiency	95 %	
Peak intensity	0.9 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required compone	nts:	
		30* 300 30°
	1	
LED	XP-G	75
LED FWHM / FWTM	XP-G 52.0°	
LED FWHM / FWTM Efficiency	XP-G 52.0° 88 %	75
LED FWHM / FWTM Efficiency Peak intensity	XP-G 52.0° 88 % 0.9 cd/lm	75
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	XP-G 52.0° 88 % 0.9 cd/lm 1	75
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	XP-G 52.0° 88 % 0.9 cd/lm 1 White	75
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	XP-G 52.0° 88 % 0.9 cd/lm 1 White	75
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	XP-G 52.0° 88 % 0.9 cd/lm 1 White	75
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	XP-G 52.0° 88 % 0.9 cd/lm 1 White	75
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	XP-G 52.0° 88 % 0.9 cd/lm 1 White	75
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	XP-G 52.0° 88 % 0.9 cd/lm 1 White nts:	75
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	XP-G 52.0° 88 % 0.9 cd/lm 1 White hts:	75
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	XP-G 52.0° 88 % 0.9 cd/lm 1 White hts:	75
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	XP-G 52.0° 88 % 0.9 cd/lm 1 White hts: XP-G2 51.0° / 84.0°	75
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	XP-G 52.0° 88 % 0.9 cd/lm 1 White hts: XP-G2 51.0° / 84.0° 94 %	75
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	XP-G 52.0° 88 % 0.9 cd/lm 1 White hts: XP-G2 51.0° / 84.0°	75
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	XP-G 52.0° 88 % 0.9 cd/lm 1 White hts: XP-G2 51.0° / 84.0° 94 % 1 cd/lm 1	75
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone CREE (LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	XP-G 52.0° 88 % 0.9 cd/lm 1 White hts: XP-G2 51.0° / 84.0° 94 % 1 cd/lm 1 White	75
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	XP-G 52.0° 88 % 0.9 cd/lm 1 White hts: XP-G2 51.0° / 84.0° 94 % 1 cd/lm 1 White	75
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone CREE (LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	XP-G 52.0° 88 % 0.9 cd/lm 1 White hts: XP-G2 51.0° / 84.0° 94 % 1 cd/lm 1 White	75
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone CREE (LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	XP-G 52.0° 88 % 0.9 cd/lm 1 White hts: XP-G2 51.0° / 84.0° 94 % 1 cd/lm 1 White	75



		90° 90°
LED	XP-L HD	
FWHM / FWTM	56.0° / 90.0°	73. 73.
Efficiency	87 %	- 200
Peak intensity	0.8 cd/lm	60*
LEDs/each optic	1	
Light colour	White	95°
Required component		
		30° 30°
		15 <sup>5</sup> 0 <sup>6</sup> 35 <sup>5</sup>
		90°
LED	XP-L HI	75'
FWHM / FWTM	50.0° / 83.0°	$\square \land \land$
Efficiency	93 %	60 <sup>4</sup> 60 <sup>4</sup>
Peak intensity	1 cd/im	
LEDs/each optic	1	
Light colour	White	45°
Required component	nts:	
		36* 36*
		15° 0° 15°
		90 <sup>4</sup> 90 <sup>4</sup> 90 <sup>4</sup>
		30,   30,     30,   30,
CREE CLED	XP-L2 56.0° / 96.0°	
LED	XP-L2	200 24 25 20 26 26 26 26 26 26 27
LED FWHM / FWTM	XP-L2 56.0° / 96.0°	25 <sup>4</sup> 0 <sup>4</sup> 25 <sup>4</sup>
LED FWHM / FWTM Efficiency	XP-L2 56.0° / 96.0° 92 %	20° 0° 20°
LED FWHM / FWTM Efficiency Peak intensity	XP-L2 56.0° / 96.0° 92 % 0.8 cd/lm	20° 0° 20° 9° 9° 9° 9° 9° 9° 9° 9° 9° 9
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	XP-L2 56.0° / 96.0° 92 % 0.8 cd/lm 1 White	27 - 27 200 60 <sup>5</sup> - 60 <sup>4</sup>
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	XP-L2 56.0° / 96.0° 92 % 0.8 cd/lm 1 White	27 - 27 200 60 <sup>5</sup> - 60 <sup>4</sup>
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	XP-L2 56.0° / 96.0° 92 % 0.8 cd/lm 1 White	27 - 27 200 60 <sup>5</sup> - 60 <sup>4</sup>
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	XP-L2 56.0° / 96.0° 92 % 0.8 cd/lm 1 White	27 - 27 200 60 <sup>5</sup> - 60 <sup>4</sup>
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required component	XP-L2 56.0° / 96.0° 92 % 0.8 cd/lm 1 White nts:	27 - 27 200 60 <sup>5</sup> - 60 <sup>4</sup>
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required component	XP-L2 56.0° / 96.0° 92 % 0.8 cd/lm 1 White hts:	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required component	XP-L2 56.0° / 96.0° 92 % 0.8 cd/lm 1 White ints:	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required component CREE LED LED FWHM / FWTM	XP-L2 56.0° / 96.0° 92 % 0.8 cd/lm 1 White hts: XT-E 50.0° / 88.0°	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required component Required component LED FWHM / FWTM Efficiency	XP-L2 56.0° / 96.0° 92 % 0.8 cd/lm 1 White nts: XT-E 50.0° / 88.0° 87 %	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required component Equired component LED FWHM / FWTM Efficiency Peak intensity	XP-L2 56.0° / 96.0° 92 % 0.8 cd/lm 1 White nts: XT-E 50.0° / 88.0° 87 % 1 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required component Required component LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	XP-L2 56.0° / 96.0° 92 % 0.8 cd/lm 1 White nts: XT-E 50.0° / 88.0° 87 % 1 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required component Required component ELED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	XP-L2 56.0° / 96.0° 92 % 0.8 cd/lm 1 White nts: XT-E 50.0° / 88.0° 87 % 1 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required component Required component Efficiency Peak intensity LEDs/each optic	XP-L2 56.0° / 96.0° 92 % 0.8 cd/lm 1 White nts: XT-E 50.0° / 88.0° 87 % 1 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required component Required component ELED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	XP-L2 56.0° / 96.0° 92 % 0.8 cd/lm 1 White nts: XT-E 50.0° / 88.0° 87 % 1 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required component Required component ELED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	XP-L2 56.0° / 96.0° 92 % 0.8 cd/lm 1 White nts: XT-E 50.0° / 88.0° 87 % 1 cd/lm 1 White	



	EDS	50'
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	LUXEON 5050 Round LES 55.0° / 91.0° 94 % 0.9 cd/lm 1 White	
	EDS	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	LUXEON 5050 Square LES 55.0° / 91.0° 94 % 0.9 cd/lm 1 White	
	EDS	ાસદાન ગામેલા નામેના નામેલા નામેલા ગામના ગામના ગામના ગામના નામના ગામના ગામન
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	LUXEON MZ 53.0° / 86.0° 92 % 1 cd/lm 1 White	
ED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	LUXEON Q 50.0° / 86.0° 86 % 0.9 cd/lm 1 White	



	EDS	20 <sup>4</sup> 200
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	LUXEON Rebel ES 51.0° / 82.0° 87 % 0.9 cd/lm 1 White	
ED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	LUXEON T 55.0° 87 % 0.9 cd/lm 1 White	
ED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	LUXEON TX 50.0° / 80.0° 88 % 1 cd/lm 1 White	
ED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	LUXEON V 55.0° / 91.0° 93 % 0.9 cd/lm 1 White	



COMIL	EDS	90 <sup>4</sup> 90 <sup>9</sup>
LED	LUXEON V2	
FWHM / FWTM	51.0° / 86.0°	
Efficiency	94 %	
Peak intensity	1 cd/lm	
LEDs/each optic	1	
Light colour	' White	
Required compone		
Required compone	5113.	
		30" 30 125" 0" 15"
	.EDS	212151_00-2244((Liquedi,(Lift))
LED	LUXEON Z ES	
FWHM / FWTM	46.0° / 76.0°	
Efficiency	87 %	
Peak intensity	1.2 cd/lm	
LEDs/each optic	1	
Light colour	White	e
Required compone	ents:	
		39. 200 - 39
		155 07 159
ELUM	INUS	90 <sup>4</sup>
LED	SST-10-B130	
FWHM / FWTM	51.0° / 80.0°	
Efficiency	99 %	
Peak intensity	1 cd/lm	
LEDs/each optic	1	
	I	
Light colour	Deep Red	ay a
	Deep Red	5°
Light colour	Deep Red	₹ <sup>2</sup> 00
Light colour	Deep Red	gr → → → → → → → → → → → → → → → → → → →
Light colour	Deep Red	
Light colour Required compone	Deep Red ents:	
Light colour Required compone	Deep Red ents:	
Light colour Required compone	Deep Red ents: ////////////////////////////////////	
Light colour Required compone MST LED FWHM / FWTM	Deep Red ents: ////////////////////////////////////	
Light colour Required compone MST LED FWHM / FWTM Efficiency	Deep Red ents: ////////////////////////////////////	
Light colour Required compone MSST LED FWHM / FWTM Efficiency Peak intensity	Deep Red ents: ////////////////////////////////////	
Light colour Required compone MSST Your solu LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Deep Red ents: ////////////////////////////////////	
Light colour Required compone MSST Vour solu LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Deep Red ents: ////////////////////////////////////	
Light colour Required compone MSST Your solu LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Deep Red ents: ////////////////////////////////////	
Light colour Required compone MSST Vour solu LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Deep Red ents: ////////////////////////////////////	9°
Light colour Required compone MSST Vour solu LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Deep Red ents: ////////////////////////////////////	
Light colour Required compone MSST Vour solu LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Deep Red ents: ////////////////////////////////////	



- (		
<b>MNICHIA</b>		50° 50°
LED	NCSxx19A	
FWHM / FWTM	48.0° / 77.0°	
Efficiency	85 %	
Peak intensity	1.1 cd/lm	
LEDs/each optic	1	
Light colour	White	gr at
Required compone	nts:	
		304
<b>ØNICHI</b>		25 <sup>4</sup> 25 <sup>6</sup> 25 <sup>4</sup>
	NCSxx19B	
FWHM / FWTM	50.0° / 83.0°	
Efficiency	85 %	
Peak intensity	1 cd/lm	
LEDs/each optic	1 White	
Light colour		
Required compone	its:	
		30 <sup>6</sup> 35 <sup>7</sup> 0 <sup>4</sup> 35 <sup>7</sup>
<b>ØNICHI</b>		51, 51,
LED	NS9x383	
FWHM / FWTM	54.0° / 93.0°	
Efficiency	86 %	
Peak intensity	0.9 cd/lm	
LEDs/each optic	1	
Light colour		
Light colour	White	er et
Required compone		
Required component	nts:	
Required component	its:	
Required component	nts: NVSW219D	
Required component NICHIA LED FWHM / FWTM	NVSW219D 53.0° / 83.0°	
Required component NICHIA LED FWHM / FWTM Efficiency	NVSW219D 53.0° / 83.0° 94 %	
Required component NICHIA LED FWHM / FWTM Efficiency Peak intensity	NVSW219D 53.0° / 83.0° 94 % 0.9 cd/lm	
Required component Component LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	NVSW219D 53.0° / 83.0° 94 % 0.9 cd/lm 1	
Required component Component LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	NVSW219D 53.0° / 83.0° 94 % 0.9 cd/lm 1 White	
Required component Component LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	NVSW219D 53.0° / 83.0° 94 % 0.9 cd/lm 1 White	
Required component CONTINUED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	NVSW219D 53.0° / 83.0° 94 % 0.9 cd/lm 1 White	
Required component CONTINUED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	NVSW219D 53.0° / 83.0° 94 % 0.9 cd/lm 1 White	



	•	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	NVSW219F 54.0° / 81.0° 97 % 1 cd/lm 1 White	
ED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	NVSW319B 56.0° / 93.0° 93 % 0.9 cd/lm 1 White	
ED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	NVSW3x9A 53.0° / 88.0° 92 % 0.9 cd/lm 1 White	
ED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	NVSxE21A 43.0° / 80.0° 86 % 1.1 cd/lm 1 White	



<b>ØNICHI</b>		30°
LED	NVSxx19B/NVSxx19C	
FWHM / FWTM	51.0° / 82.0°	
Efficiency	85 %	
Peak intensity	1 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required compone		
		30" 2000
		127 07 127
		<u>30*</u>
LED	NWSx229A	75
FWHM / FWTM	57.0° / 90.0°	
Efficiency	86 %	
Peak intensity	0.9 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required compone	ents:	
		30 <sup>4</sup> 15 <sup>5</sup> 0 <sup>5</sup> 15 <sup>5</sup>
орт@сг		90 <sup>4</sup>
		9*
	OLP-5065F6L-06A 56.0° / 90.0°	30 <sup>1</sup>
LED	OLP-5065F6L-06A	99* 73 80
LED FWHM / FWTM	OLP-5065F6L-06A 56.0° / 90.0°	50* 200 60*
LED FWHM / FWTM Efficiency	OLP-5065F6L-06A 56.0° / 90.0° 88 %	9x* 721 624 400
LED FWHM / FWTM Efficiency Peak intensity	OLP-5065F6L-06A 56.0° / 90.0° 88 % 0.9 cd/lm	91* 20 67* 60* 60* 60*
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	OLP-5065F6L-06A 56.0° / 90.0° 88 % 0.9 cd/lm 1 White	91 37 97 90 90
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	OLP-5065F6L-06A 56.0° / 90.0° 88 % 0.9 cd/lm 1 White	99* 73° 94° 84° 86° 86° 86° 86° 86° 86°
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	OLP-5065F6L-06A 56.0° / 90.0° 88 % 0.9 cd/lm 1 White	59* 75* 64* 60* 60* 60* 60* 60* 60* 60* 60* 60* 60
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	OLP-5065F6L-06A 56.0° / 90.0° 88 % 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	5° 5° 5° 5° 5° 5° 5° 5° 5° 5° 5° 5° 5° 5
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 ents:	
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 Ints:	5° 5° 5° 5° 5° 5° 5° 5° 5° 5° 5° 5° 5° 5
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 ents: PL-BRICK HP 3800 2x8 SSG 52.0° / 75.0°	5° 5° 5° 5° 5° 5° 5° 5° 5° 5° 5° 5° 5° 5
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone <b>OSRAN</b> LED FWHM / FWTM Efficiency	OLP-5065F6L-06A 56.0° / 90.0° 88 % 0.9 cd/lm 1 White ents: PL-BRICK HP 3800 2x8 SSG 52.0° / 75.0° 98 %	5° 5° 5° 5° 5° 5° 5° 5° 5° 5° 5° 5° 5° 5
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone NUTE COSRAN LED FWHM / FWTM Efficiency Peak intensity	OLP-5065F6L-06A 56.0° / 90.0° 88 % 0.9 cd/lm 1 White ents: PL-BRICK HP 3800 2x8 SSG 52.0° / 75.0° 98 % 1.1 cd/lm	5° 5° 5° 5° 5° 5° 5° 5° 5° 5° 5° 5° 5° 5
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone Required compone SOSRAN LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	OLP-5065F6L-06A 56.0° / 90.0° 88 % 0.9 cd/lm 1 White onts: PL-BRICK HP 3800 2x8 SSG 52.0° / 75.0° 98 % 1.1 cd/lm 1	5° 5° 5° 5° 5° 5° 5° 5° 5° 5° 5° 5° 5° 5
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone <b>OSRAN</b> LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	OLP-5065F6L-06A 56.0° / 90.0° 88 % 0.9 cd/lm 1 White white PL-BRICK HP 3800 2x8 SSG 52.0° / 75.0° 98 % 1.1 cd/lm 1 White	5° 5° 5° 5° 5° 5° 5° 5° 5° 5° 5° 5° 5° 5
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone Required compone SCOSRAN LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	OLP-5065F6L-06A 56.0° / 90.0° 88 % 0.9 cd/lm 1 White white PL-BRICK HP 3800 2x8 SSG 52.0° / 75.0° 98 % 1.1 cd/lm 1 White	5° 5° 5° 5° 5° 5° 5° 5° 5° 5° 5° 5° 5° 5
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone <b>OSRAN</b> LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	OLP-5065F6L-06A 56.0° / 90.0° 88 % 0.9 cd/lm 1 White white PL-BRICK HP 3800 2x8 SSG 52.0° / 75.0° 98 % 1.1 cd/lm 1 White	5° 5° 5° 5° 5° 5° 5° 5° 5° 5° 5° 5° 5° 5
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone <b>OSRAN</b> LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	OLP-5065F6L-06A 56.0° / 90.0° 88 % 0.9 cd/lm 1 White white PL-BRICK HP 3800 2x8 SSG 52.0° / 75.0° 98 % 1.1 cd/lm 1 White	5° 5° 5° 5° 5° 5° 5° 5° 5° 5° 5° 5° 5° 5



OSRAM Opto Semiconductors			30* 90*
LED	Duris S8		
FWHM / FWTM	55.0° / 91.0°		200 72*
Efficiency	93 %		
Peak intensity	1 cd/lm		400
LEDs/each optic	1		
Light colour	White		e A et
Required compone			
			10° 1000 30° 30° 30°
OSRAM Opto Semiconductors		<u>.</u>	50° 90°
LED	OSLON Square PC		
FWHM / FWTM	54.0° / 85.0°		200 225*
Efficiency	87 %		
Peak intensity	0.9 cd/lm	(	
LEDs/each optic	1		$\times$ // $\sim$
Light colour	White	9	p*
Required compone			
			15° 1860 15°
OSRAM Opto Semiconductors		<u> </u>	90°
LED	OSLON SSL 80		
FWHM / FWTM	43.0° / 70.0°		
Efficiency	89 %		400 60*
Peak intensity	1.3 cd/lm		
LEDs/each optic	1		
Light colour	White		15× 63*
Required compone	nts:		
			$\times$ $\land$ $\land$ $\times$
			1270
		2	36. 36.
			15% 0° 35%
	PS		90°
LED	Fortimo FastFlex LED 2x8 DA G4		5· / / / / / / / / / / / / / / / / / / /
FWHM / FWTM	52.0° / 82.0°		$\rightarrow$ $\square$ $\land$ $\square$
Efficiency	94 %		50°
Peak intensity	1 cd/lm		400
LEDs/each optic	1		
Light colour	White		
Required compone	nts:		
		3	
1			10 V 3D



PHILIF	<b>S</b>	20° 20°
LED	Fortimo FastFlex LED 2x8 DA G4+	75
FWHM / FWTM	55.0° / 88.0°	
Efficiency	97 %	
Peak intensity	0.9 cd/lm	
LEDs/each optic	1 White	
Light colour Required compone		
Required compone	115.	
		30' 10' 100' 10' 30'
PHILIF	20	25° (a) 15°
LED	Fortimo FastFlex LED 2x8 DA G5	
FWHM / FWTM	50.0° / 77.0°	79
Efficiency	97 %	
Peak intensity	1.1 cd/lm	6°
LEDs/each optic	1	
Light colour	White	
Required compone		
		34
PHILIF	<b>DS</b>	20 <sup>2</sup> 20 <sup>2</sup>
LED	Fortimo FastFlex LED 2x8 DA HE	
FWHM / FWTM	54.0° / 87.0°	77
Efficiency	97 %	
Peak intensity	1 cd/lm	
LEDs/each optic	1	
Light colour	White	a, e.
Required compone	nts:	
		30° 15° 0° 15° 36°
SVWSI	JNG	95, 95,
LED	HiLOM RC12 Z (LH181B)	
FWHM / FWTM	46.0° / 84.0°	
Efficiency	97 %	
Peak intensity	1.1 cd/lm	
LEDs/each optic	1	
Light colour	White	gr i i i i i i i i i i i i i i i i i i i
Required compone	nts:	



SAMS LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	HiLOM RH12 Z (LH351C) 54.0° / 84.0° 96 % 1 cd/lm 1 White	
SAMS LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	HiLOM RH16 (LH351C) 53.0° / 83.0° 94 % 1 cd/lm 1 White	
SAMS LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	HiLOM RM12 Z (LH502C) 55.0° / 94.0° 94 % 0.9 cd/lm 1 White	
SAMS LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	HiLOM RM16 Z (LH502C) 55.0° / 95.0° 96 % 0.9 cd/lm 1 White	



SAMS LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	HiLOM RM8 Z (LH502C) 56.0° / 95.0° 96 % 0.9 cd/lm 1 White	
SAMS LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	UNG LH351A 49.0° / 81.0° 89 % 1 cd/lm 1 White	
Required compone	ents:	24 <sup>*</sup> 25 <sup>*</sup> 26 <sup>*</sup> 26 <sup>*</sup>
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	LH351B 55.0° / 85.0° 86 % 0.9 cd/lm 1 White	
<b>SAMS</b> LED FWHM / FWTM Efficiency	UNG LH351C 53.0° / 85.0° 93 %	00 30 <sup>4</sup> 30 <sup>4</sup> 30 30 30 30 30 30 30 30 30 30
Peak intensity LEDs/each optic Light colour Required compone	1 cd/lm 1 White	



SAMS		90 <sup>4</sup> 99 <sup>4</sup>
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	LH351D 56.0° / 90.0° 91 % 0.9 cd/lm 1 White	
SAMS LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	LH351Z 50.0° / 77.0° 87 % 1 cd/lm 1 White	
SAMS LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	LH508A 56.0° / 92.0° 93 % 0.9 cd/lm 1 White	
Elektronik GmbH LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	LED-Pa-L15c2W11c2-xxx-C050-01 50.0° / 78.0° 96 % 1.1 cd/lm 1 White ents:	



SEOUL		201 201
SEOUL SEMICONDUCTOR	2v2 V22 module CMIC D40W46AA XX	
FWHM / FWTM	2x2 Y22 module - SMJQ-D48W16AA-XX 54.0° / 102.0°	72 72
		200
Efficiency	92 %	
Peak intensity	0.8 cd/lm	
LEDs/each optic	1	er er
Light colour	White	
Required compone	ints:	
		80
		and the second s
SEOUL		
SEOUL SEMICONDUCTOR		<u>50'</u>
LED	Z5	
FWHM / FWTM	48.0° / 80.0°	
Efficiency	88 %	
Peak intensity	1 cd/lm	
LEDs/each optic	1	
Light colour	White	gr at
Required compone	nts:	
		15% 00 25%
SEOUL SEOUL SEMICONDUCTOR		50°*
LED	Z5M1/Z5M2	
FWHM / FWTM	51.0° / 82.0°	
Efficiency	85 %	
Peak intensity	1 cd/lm	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
LEDs/each optic	1	
Light colour	White	gr ar
Required compone		
		× × × × × ×
		30° 15° 0° 15°
SEOUL		99 <sup>4</sup> 99 <sup>4</sup>
	7510	
	Z5M3	7
FWHM / FWTM	53.0° / 93.0°	
Efficiency	94 %	
Peak intensity	0.9 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required compone	nts:	
		24 <sup>1</sup>



With Very Mile ZSM4   PWHM / FWTM 54.0° / 80.0°   Efficiency 97 %   Peak intensity 1 duin   LED zeach opic 1   Light colour While   Required components: Image: Color of the second secon	82- 92- 92- 92- 95- 95-
FWHM / FWTM 54.0° / 80.0° Efficiency 97% Peak intensity 0.8 cd/m LED Z8Y15 FWHM / FWTM 45.0° / 89.0° Efficiency 79% Peak intensity 0.9 cd/m LED 20 cmponents: Sustance	82 92 92
Peak intensity 1 cd/m LEDs/each optic 1 Light colour White Required components:	80. 20. 20. 20.
Peak intensity 1 od/m LEDs/each optic 1 Light colour White Required components: Sets second FMHM / FWTM 45.0° / 89.0° Efficiency 79 % Peak intensity 0.9 od/m LEDs/each optic 1 LED X8719 FWMM / FWTM 54.0° / 102.0° Efficiency 92 % Peak intensity 0.8 od/m LEDs/each optic 4 LED X8719 FWMM / FWTM 54.0° / 102.0° Efficiency 92 % Peak intensity 0.8 od/m LEDs/each optic 4 LEDs/each optic 4 LEDs/each optic 4 Light colour White Required components:	72. 25. 26.
LEDs/each optic 1 Light colour White Required components: LED Z8Y15 FWHM / FWTM 45.0° / 83.0° Efficiency 79 % Peak intensity 0.9 cd/m LEDs/each optic 1 Light colour White Required components: WMM / FWTM 54.0° / 102.0° Efficiency 92 % Peak intensity 0.8 cd/m LEDs/each optic 4 Light colour White Required components: WMM / FWTM 54.0° / 102.0° Efficiency 92 % Peak intensity 0.8 cd/m LEDs/each optic 4 Light colour White Required components:	35, 36,
Light colour White Required components: Security Components: Security Components: Security Components: Security 29% Peak intensity 0.9 od/m LEDs/each optic 1 Light colour White Required components: Security Components: Security 29% Peak intensity 0.8 od/m LEDs/each optic 4 LEDs/each optic 4 LEDs/each optic 4 LEDs/each optic 4 Light colour White Required components: Security 0.8 od/m LEDs/each optic 4 LIght colour White Required components: Security 0.8 od/m LIght colour White Required components: Security 0.8 od/m LIght colour White Required components: Security 0.8 od/m	32, 34,
Required components:	32, 30,
STOLERANCE LED Z8Y15 FWHM / FWTM 45.0° / 89.0° Efficiency 79 % Peak intensity 0.9 cd/lm LEDs/each optic 1 Light colour White Required components: STOLERANCE LED Z8Y19 FWHM / FWTM 54.0° / 102.0° Efficiency 92 % Peak intensity 0.8 cd/lm LEDs/each optic 4 Light colour White Required components:	15°
sexesurements LED Z8Y15 FWHM / FWTM 45.0° / 89.0° Efficiency 79 % Peak intensity 0.9 cd/lm LEDs/each optic 1 Light colour White Required components Sexesurements LED Z8Y19 FWHM / FWTM 54.0° / 102.0° Efficiency 92 % Peak intensity 0.8 cd/lm LEDs/each optic 4 Light colour White Required components Sexesurements Sexesure	
FWHM / FWTM 45.0° / 89.0° Efficiency 79 % Peak intensity 0.9 cd/m LEDs/each optic 1 Light colour White Required components: SUBJECTIVE Required components: SUBJECTIVE Required components: SUBJECTIVE SUBJEC	90*
Efficiency 79 % Peak intensity 0.9 cd/lm LEDS/each optic 1 Light colour White Required components: sourcement	
Peak intensity 0.9 cd/lm LEDs/each optic 1 Light colour White Required components: sources LED Z8Y19 FWHM / FWTM 54.0° / 102.0° Efficiency 92 % Peak intensity 0.8 cd/lm LEDs/each optic 4 Light colour White Required components: Sources LED Z8Y19 FWHM / FWTM 54.0° / 102.0° Efficiency 92 % Peak intensity 0.8 cd/lm LEDs/each optic 4 Light colour White Required components: Sources LED Z8Y19 FWHM / FWTM 54.0° / 102.0° Efficiency 92 % Peak intensity 0.8 cd/lm LEDs/each optic 4 Light colour White Required components: Sources LED Z8Y19 FWHM / FWTM 54.0° / 102.0° Efficiency 92 % Peak intensity 0.8 cd/lm LEDs/each optic 4 Light colour White Required components: Sources S	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
LEDs/each optic 1 Light colour White Required components: SKUL SWIGGORDECTOR LED Z8Y19 FWHM /FWTM 54.0° / 102.0° Efficiency 92 % Peak intensity 0.8 cd/m LEDs/each optic 4 Light colour White Required components:	604
Light colour White Required components: sour successful components: Sour successful components: Sour successful components: Sour successful components: Sour successful components: Sour successful components: Source com	
Required components:	
SOUSSECONDUCTOR LED Z8Y19 FWHM / FWTM 54.0° / 102.0° Efficiency 92 % Peak intensity 0.8 cd/lm LEDs/each optic 4 Light colour White Required components:	45*
SEQUISEMENDAUTOR LED Z8Y19 FWHM / FWTM 54.0° / 102.0° Efficiency 92 % Peak intensity 0.8 cd/lm LEDs/each optic 4 Light colour White Required components	
SEQUISEMENDAUTOR LED Z8Y19 FWHM / FWTM 54.0° / 102.0° Efficiency 92 % Peak intensity 0.8 cd/lm LEDs/each optic 4 Light colour White Required components	
SEQUISEMENDAUTOR LED Z8Y19 FWHM / FWTM 54.0° / 102.0° Efficiency 92 % Peak intensity 0.8 cd/lm LEDs/each optic 4 Light colour White Required components	
SEQUISEMENDAUTOR LED Z8Y19 FWHM / FWTM 54.0° / 102.0° Efficiency 92 % Peak intensity 0.8 cd/lm LEDs/each optic 4 Light colour White Required components	35° 30°
LED Z8Y19 FWHM / FWTM 54.0° / 102.0° Efficiency 92 % Peak intensity 0.8 cd/m LEDs/each optic 4 Light colour White Required components	
Efficiency 92 % Peak intensity 0.8 cd/m LEDs/each optic 4 Light colour White Required components:	
Efficiency 92 % Peak intensity 0.8 cd/m LEDs/each optic 4 Light colour White Required components:	
Peak intensity 0.8 cd/m LEDs/each optic 4 Light colour White Required components:	
LEDs/each optic 4 Light colour White Required components:	
Light colour White Required components:	
Required components:	
90°	
	6.4° 9.4° 10.4° 10.4
SEOUL SEMICONDUCTOR LED Z8Y19	94, 104, 104, 204
FWHM / FWTM 46.0° / 89.0°	_
Efficiency 79 %	_
Peak intensity 0.9 cd/lm	_
LEDs/each optic 1	_
Light colour White	_
Required components:	_



scour semiconductor 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:	200 200 200 200 200 200 200 200
SEOUL		50° 50°
seoul semiconductor 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:	20 20 27 27 27 27 27 27 27 27 27 27 27 27 27
TOSHIBA		50° 50°
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:	
TRIDON		50* 50*
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	RLE 2x4 2000lm HP EXC2 OTD 51.0° / 84.0° 94 % 1 cd/lm 1 White	2 72 60 60 60 60 60 60



TRIDO		
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	RLE 2x8 4000lm HP EXC2 OTD 51.0° / 84.0° 94 % 1 cd/lm 1 White	
TRIDO	NIC	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	RLE G1 49x121mm 2000lm xxx EXC OTD 52.0° / 83.0° 94 % 1 cd/lm 1 White	
		المتلكة
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	RLE G1 49x133mm 2000lm xxx EXC OTD 52.0° / 83.0° 94 % 1 cd/lm 1 White ents:	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	RLE G1 49x223mm 4000lm xxx EXC OTD 52.0° / 83.0° 94 % 1 cd/lm 1 White	

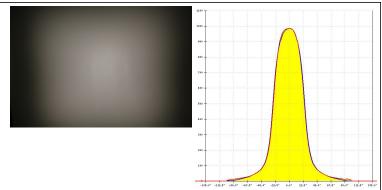


# TRIDONIC

LED

FWHM / FWTM52Efficiency94Peak intensity1LEDs/each optic1Light colourWRequired components:

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





LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	J Series 5050 Round LES 57.0° / 84.0° 94 % 1 cd/lm 1 White	97 97 97 97 90 40 60 60 60 60 60 60 60 60 60 6
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	MHB-A/B 58.0° / 93.0° 94 % 1 cd/lm 1 White	27 27 20 20 20 20 20 20 20 20 20 20
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	XHP35 HI 52.0° / 73.0° 93 % 1.2 cd/lm 1 White	5° 5° 5° 5° 5° 5° 5° 5° 5° 5° 5° 5° 5° 5
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	XP-E 50.0° / 68.0° 94 % 1.2 cd/lm 1 White	21. 23. 60. 60. 60. 60. 60. 60. 60. 60



		90* 90*
LED	XP-E2	
FWHM / FWTM	48.0° / 70.0°	73*
Efficiency	96 %	
Peak intensity	1.2 cd/lm	60°
LEDs/each optic	1	
Light colour	White	gy/
Required components:		800
		30° 2200 30°
		15° 0° 15°
		50* 50*
LED	XP-G2 HE	25*
FWHM / FWTM	57.0° / 82.0°	
Efficiency	95 %	60°
Peak intensity	0.9 cd/lm	400
LEDs/each optic	1	
Light colour	White	5°
Required components:		
		30° 1000 30°
		01 <sup>6</sup> 01 <sup>6</sup>
	¥7. 03	90° 90°
LED	XP-G3	351 35 <sup>1</sup>
LED FWHM / FWTM	54.0° / 79.0°	99 <sup>1</sup> 79 <sup>1</sup>
LED FWHM / FWTM Efficiency	54.0° / 79.0° 94 %	
LED FWHM / FWTM Efficiency Peak intensity	54.0° / 79.0° 94 % 1 cd/lm	99° 99° 99° 99° 99° 99° 99° 99° 99° 99°
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	54.0° / 79.0° 94 % 1 cd/lm 1	97 97 97 97 97 97 97 97 97 97 97 97 97 9
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	54.0° / 79.0° 94 % 1 cd/lm	99 <sup>4</sup> 99 <sup>4</sup>
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	54.0° / 79.0° 94 % 1 cd/lm 1	gr gr gr gr egr egr egr egr egr egr egr
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	54.0° / 79.0° 94 % 1 cd/lm 1	99 <sup>4</sup> 99 <sup>4</sup> 99 97 97 97 97 97 98 99 99 99 99 99 99 99 99 99 99 99 99
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	54.0° / 79.0° 94 % 1 cd/lm 1	99' 79' 60' 60' 60' 60' 60'
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	54.0° / 79.0° 94 % 1 cd/lm 1	20° 0° 20° 0°
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	54.0° / 79.0° 94 % 1 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	54.0° / 79.0° 94 % 1 cd/lm 1	30.   30.   30.     30.   30.   30.     30.   90.   90.     30.   90.   90.     40.   90.   90.     30.   90.   90.     30.   90.   90.     30.   90.   90.     30.   90.   90.     30.   90.   90.
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	54.0° / 79.0° 94 % 1 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	54.0° / 79.0° 94 % 1 cd/lm 1 White XP-G3	30.   30.   30.     30.   30.   30.     30.   90.   90.     30.   90.   90.     40.   90.   90.     30.   90.   90.     30.   90.   90.     30.   90.   90.     30.   90.   90.     30.   90.   90.
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	54.0° / 79.0° 94 % 1 cd/lm 1 White XP-G3 55.0° / 81.0°	30.   30.   30.     30.   30.   30.     30.   90.   90.     30.   90.   90.     40.   90.   90.     30.   90.   90.     30.   90.   90.     30.   90.   90.     30.   90.   90.     30.   90.   90.
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	54.0° / 79.0° 94 % 1 cd/lm 1 White XP-G3 55.0° / 81.0° 88 % 1 cd/lm 1	30.   30.   30.   30.     30.   10.   60   60     60.   60   60   60     33.   10.   60   60     33.   10.   60   60     33.   10.   10.   60     33.   10.   10.   60     33.   10.   10.   10.
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: CREE LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	54.0° / 79.0° 94 % 1 cd/lm 1 White XP-G3 55.0° / 81.0° 88 % 1 cd/lm	30.   40.   40.
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	54.0° / 79.0° 94 % 1 cd/lm 1 White XP-G3 55.0° / 81.0° 88 % 1 cd/lm 1	30.   30.   30.   30.     30.   10.   60   60     60.   60   60   60     33.   10.   60   60     33.   10.   60   60     33.   10.   10.   60     33.   10.   10.   60     33.   10.   10.   10.
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: CREE LED EWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	54.0° / 79.0° 94 % 1 cd/lm 1 White XP-G3 55.0° / 81.0° 88 % 1 cd/lm 1 White	30.   30.
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: CREE LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	54.0° / 79.0° 94 % 1 cd/lm 1 White XP-G3 55.0° / 81.0° 88 % 1 cd/lm 1 White	30.   30.
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: CREE LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	54.0° / 79.0° 94 % 1 cd/lm 1 White XP-G3 55.0° / 81.0° 88 % 1 cd/lm 1 White	30.   30.



[		
		90* 90°
LED	XP-L HD	
FWHM / FWTM	58.0° / 80.0°	75'
Efficiency	87 %	
Peak intensity	0.9 cd/lm	60 <sup>+</sup>
LEDs/each optic	1	400
Light colour	' White	45° 65'
Required components:	wille	
required components.		
Protective plate	e, glass	200
		30°
		90° 90'
LED	XP-L HI	
FWHM / FWTM	52.0° / 72.0°	
Efficiency	88 %	605
Peak intensity	1.1 cd/lm	400
LEDs/each optic	1	
Light colour	White	at at
Required components:		
Protective plate	e, glass	
		30*
		13° 0° 15
		80. 10. 10. 10. 10. 10. 10. 10. 1
LED	XP-L2	35 95 125 0 125 0 15 15
LED FWHM / FWTM	58.0° / 86.0°	99° 73° 73° 000
LED FWHM / FWTM Efficiency	58.0° / 86.0° 89 %	99 <sup>3</sup> 99 <sup>3</sup> 22 <sup>3</sup> 9 <sup>3</sup> 200 200 200 200 200 200 200 200 200 20
LED FWHM / FWTM Efficiency Peak intensity	58.0° / 86.0° 89 % 0.9 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	58.0° / 86.0° 89 % 0.9 cd/lm 1	50 50 50 50 50 50 50 50 50 50 50 50 50 5
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	58.0° / 86.0° 89 % 0.9 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	58.0° / 86.0° 89 % 0.9 cd/lm 1	50 50 50 50 50 50 50 50 50 50 50 50 50 5
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	58.0° / 86.0° 89 % 0.9 cd/lm 1 White	50 50 50 50 50 50 50 50 50 50 50 50 50 5
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	58.0° / 86.0° 89 % 0.9 cd/lm 1 White	50 50 50 50 50 50 50 50 50 50 50 50 50 5
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	58.0° / 86.0° 89 % 0.9 cd/lm 1 White	50 50 50 50 50 50 50 50 50 50 50 50 50 5
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	58.0° / 86.0° 89 % 0.9 cd/lm 1 White	99 <sup>3</sup> 73 <sup>4</sup> 200 400 400
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate	58.0° / 86.0° 89 % 0.9 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate	58.0° / 86.0° 89 % 0.9 cd/lm 1 White	50 50 50 50 50 50 50 50 50 50 50 50 50 5
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate	58.0° / 86.0° 89 % 0.9 cd/lm 1 White a, glass	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate	58.0° / 86.0° 89 % 0.9 cd/lm 1 White e, glass XQ-E HI 42.0° / 68.0°	99 <sup>3</sup> 73 <sup>4</sup> 200 400 400
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate CREE LED LED FWHM / FWTM Efficiency	58.0° / 86.0° 89 % 0.9 cd/lm 1 White 2, glass XQ-E HI 42.0° / 68.0° 93 %	99 <sup>3</sup> 73 <sup>4</sup> 200 400 400
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate Protective plate LED FWHM / FWTM Efficiency Peak intensity	58.0° / 86.0° 89 % 0.9 cd/lm 1 White e, glass XQ-E HI 42.0° / 68.0° 93 % 1.4 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate Protective plate LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	58.0° / 86.0° 89 % 0.9 cd/lm 1 White e, glass XQ-E HI 42.0° / 68.0° 93 % 1.4 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate Protective plate LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	58.0° / 86.0° 89 % 0.9 cd/lm 1 White e, glass XQ-E HI 42.0° / 68.0° 93 % 1.4 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate Protective plate LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	58.0° / 86.0° 89 % 0.9 cd/lm 1 White e, glass XQ-E HI 42.0° / 68.0° 93 % 1.4 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate Protective plate ED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	58.0° / 86.0° 89 % 0.9 cd/lm 1 White e, glass XQ-E HI 42.0° / 68.0° 93 % 1.4 cd/lm 1	



	DS	90° 90
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components	LUXEON 3030 2D (Round LES) 49.0° / 73.0° 94 % 1.2 cd/lm 1 White S:	
	DS	90 <sup>4</sup> 9
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components	LUXEON 3535L 49.0° / 73.0° 94 % 1.2 cd/lm 1 White S:	
	INS	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components Protective pl	LUXEON 5050 Square LES 54.0° / 84.0° 89 % 1 cd/lm 1 White S:	94* 9 35* 2 90* 600 6 95* 600 6
	DS	
LED FWHM / FWTM Efficiency LEDs/each optic Light colour Required components	LUXEON A 52.0° % 1 White S:	



UMILE	DS	90 <sup>4</sup>
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	
	DS	80+ 232, <u>60</u> 232,
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components	LUXEON H50-2 52.0° / 68.0° 91 % 4.7 cd/lm 1 White	
<u></u>		200 <sup>1</sup> dt 200 <sup>2</sup>
CONTRACTOR OF CO	LUXEON HL2X 56.0° / 76.0° 93 % 1 cd/lm 1 White	
CONTRACTOR OF CO	LUXEON HL2X-P 56.0° / 80.0° 95 % 1 cd/lm 1 White	



	S	
LED FWHM / FWTM Efficiency LEDs/each optic Light colour Required components:	LUXEON Rebel 52.0° % 1 White	
ED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	NFMW48xA 57.0° / 86.0° 94 % 1 cd/lm 1 White	
ED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	NV4WB35AM 54.0° / 78.0° 95 % 1.2 cd/lm 1 White	91 <sup>4</sup> 91 <sup>7</sup> 77 61 <sup>4</sup> 62 <sup>4</sup>
ED FWHM / FWTM Efficiency LEDs/each optic Light colour Required components:	NVSxx19A 50.0° % 1 White	μ. σ <sup>α</sup> 15 <sup>2</sup>



OSRAM		50° 50°
Opto Semiconductors	Duris S8	
FWHM / FWTM	57.0° / 88.0°	25* 25*
Efficiency	90 %	
Peak intensity	1 cd/lm	60° 60°
LEDs/each optic	1	
Light colour	' White	
Required components:	White	
required components.		
Protective plate	e, glass	
		30° 1000 30° 1000 30°
OSRAM Opto Semiconductors		90* 90*
LED	OSCONIQ C 2424	
FWHM / FWTM	48.0° / 70.0 + 69.0°	23.
Efficiency	96 %	400
Peak intensity	1.3 cd/lm	
LEDs/each optic	1	
Light colour	White	gr det
Required components:		
		2200
		12° 0° 12°
OSRAM Opto Semiconductors		90*
OSRAM Opto Semiconductors	OSCONIQ P 3737 (2W version)	54
OSRAM Opto Semiconductors LED FWHM / FWTM	OSCONIQ P 3737 (2W version) 48.0° / 70.0°	99°
LED FWHM / FWTM		99 <sup>4</sup> 75 75 76 79 79 79 79 79 79 79
LED FWHM / FWTM Efficiency	48.0° / 70.0°	5 <sup>1</sup> 5 <sup>1</sup> 5 <sup>1</sup> 5 <sup>1</sup> 5 <sup>1</sup> 5 <sup>1</sup> 5 <sup>1</sup> 5 <sup>1</sup>
LED FWHM / FWTM Efficiency Peak intensity	48.0° / 70.0° 93 %	9 <sup>4</sup> 97 97 97 97 97 97 97 97 97 97 97
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	48.0° / 70.0° 93 % 1.2 cd/lm	gy 60
LED FWHM / FWTM Efficiency Peak intensity	48.0° / 70.0° 93 % 1.2 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	48.0° / 70.0° 93 % 1.2 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	48.0° / 70.0° 93 % 1.2 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	48.0° / 70.0° 93 % 1.2 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	48.0° / 70.0° 93 % 1.2 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	48.0° / 70.0° 93 % 1.2 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	48.0° / 70.0° 93 % 1.2 cd/lm 1 White	24 20 20 20 20 20 20 20 20 20 20 20 20 20
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	48.0° / 70.0° 93 % 1.2 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Optio Semiconductors LED	48.0° / 70.0° 93 % 1.2 cd/lm 1 White OSCONIQ P 3737 (3W version)	24 20 20 20 20 20 20 20 20 20 20 20 20 20
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: OPIS Semiconductors LED FWHM / FWTM	48.0° / 70.0° 93 % 1.2 cd/lm 1 White OSCONIQ P 3737 (3W version) 54.0° / 77.0°	24 20 20 20 20 20 20 20 20 20 20 20 20 20
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: OSRAM Opto Semiconductors LED FWHM / FWTM Efficiency	48.0° / 70.0° 93 % 1.2 cd/lm 1 White OSCONIQ P 3737 (3W version) 54.0° / 77.0° 94 %	24 20 20 20 20 20 20 20 20 20 20 20 20 20
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity	48.0° / 70.0° 93 % 1.2 cd/lm 1 White OSCONIQ P 3737 (3W version) 54.0° / 77.0° 94 % 1.1 cd/lm	24 20 20 20 20 20 20 20 20 20 20 20 20 20
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	48.0° / 70.0° 93 % 1.2 cd/lm 1 White OSCONIQ P 3737 (3W version) 54.0° / 77.0° 94 % 1.1 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	48.0° / 70.0° 93 % 1.2 cd/lm 1 White OSCONIQ P 3737 (3W version) 54.0° / 77.0° 94 % 1.1 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	48.0° / 70.0° 93 % 1.2 cd/lm 1 White OSCONIQ P 3737 (3W version) 54.0° / 77.0° 94 % 1.1 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	48.0° / 70.0° 93 % 1.2 cd/lm 1 White OSCONIQ P 3737 (3W version) 54.0° / 77.0° 94 % 1.1 cd/lm 1	



r		
OSRAM Opto Semiconductors		90* 90*
LED	OSCONIQ P 3737 Flat	
FWHM / FWTM	50.0° / 73.0°	73*
Efficiency	96 %	400
Peak intensity	1.2 cd/lm	
LEDs/each optic	1	$  \times / /   \times  $
Light colour	White	gr
Required components:		500
		30* 30*
OSRAM		110 T
Opto Semiconductors		100
LED	OSCONIQ S 5050	
FWHM / FWTM	56.0° / 84.0°	
Efficiency	87 %	799
Peak intensity	1 cd/lm	•••
LEDs/each optic	1	<b>100</b>
Light colour	White	w
Required components:		200
Protective plate		
Protective plate	, glass	100
OSRAM		20°
Opto Semiconductors	OSCONIO S 5050	39° 39° 39° 46.0°
Opto Semiconductors LED	OSCONIQ S 5050 56 0° / 82 0 + 84 0°	
Opto Semiconductors LED FWHM / FWTM	56.0° / 82.0 + 84.0°	364° - 3164° - 464° - 464° - 484° - 642° - 844° - 642° - 642° - 642° - 642° - 642° - 942° - 942° - 942° - 942° 39°
opto Semiconductors LED FWHM / FWTM Efficiency	56.0° / 82.0 + 84.0° 95 %	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity	56.0° / 82.0 + 84.0° 95 % 1.1 cd/lm	364° 3042° 364° 364° 364° 364° 364° 364° 367° 384° 384° 384° 384° 384° 394° 395° 395° 395° 395° 395° 395° 395° 395
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	56.0° / 82.0 + 84.0° 95 % 1.1 cd/lm 1	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	56.0° / 82.0 + 84.0° 95 % 1.1 cd/lm	59° 50°
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	56.0° / 82.0 + 84.0° 95 % 1.1 cd/lm 1	59° 50°
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	56.0° / 82.0 + 84.0° 95 % 1.1 cd/lm 1	59° 50°
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	56.0° / 82.0 + 84.0° 95 % 1.1 cd/lm 1	59° 59° 59° 59° 69° 60° 69° 60° 60° 60°
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	56.0° / 82.0 + 84.0° 95 % 1.1 cd/lm 1	59° 50°
opto Semiconductors 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	59° 59° 59° 59° 69° 60° 69° 60° 60° 60°
opto Semiconductors 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	
opto Semiconductors 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 OSLON Square CSSRM2/CSSRM3	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: OSRAM Opto Semiconductors LED FWHM / FWTM	56.0° / 82.0 + 84.0° 95 % 1.1 cd/lm 1 White OSLON Square CSSRM2/CSSRM3 52.0° / 74.0°	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: OSRAM Opto Semiconductors LED FWHM / FWTM Efficiency	56.0° / 82.0 + 84.0° 95 % 1.1 cd/lm 1 White OSLON Square CSSRM2/CSSRM3 52.0° / 74.0° 96 %	201 201 201 201 201 201 201 201
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: OSRAM Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity	56.0° / 82.0 + 84.0° 95 % 1.1 cd/lm 1 White OSLON Square CSSRM2/CSSRM3 52.0° / 74.0° 96 % 1.1 cd/lm	201 201 201 201 201 201 201 201
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	56.0° / 82.0 + 84.0° 95 % 1.1 cd/lm 1 White OSLON Square CSSRM2/CSSRM3 52.0° / 74.0° 96 % 1.1 cd/lm 1	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	56.0° / 82.0 + 84.0° 95 % 1.1 cd/lm 1 White OSLON Square CSSRM2/CSSRM3 52.0° / 74.0° 96 % 1.1 cd/lm	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	56.0° / 82.0 + 84.0° 95 % 1.1 cd/lm 1 White OSLON Square CSSRM2/CSSRM3 52.0° / 74.0° 96 % 1.1 cd/lm 1	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	56.0° / 82.0 + 84.0° 95 % 1.1 cd/lm 1 White OSLON Square CSSRM2/CSSRM3 52.0° / 74.0° 96 % 1.1 cd/lm 1	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	56.0° / 82.0 + 84.0° 95 % 1.1 cd/lm 1 White OSLON Square CSSRM2/CSSRM3 52.0° / 74.0° 96 % 1.1 cd/lm 1	



	1	
PHILIPS		90* 90
LED	Fortimo FastFlex LED 2x8 DAX G4	75
FWHM / FWTM	54.0° / 79.0°	
Efficiency	94 %	60° 60
Peak intensity	1 cd/lm	400
LEDs/each optic	1	
Light colour	White	43 <sup>4</sup> 435
Required components:		
		30.
SEOUL		157 00 25*
SEOUL SEMICONDUCTOR		90* 90*
LED	Acrich MJT 4040	
FWHM / FWTM	52.0° / 77.0°	75*
Efficiency	94 %	
Peak intensity	1.1 cd/lm	400
LEDs/each optic	1	
Light colour	White	gy <sup>1</sup>
Required components:		
		30 <sup>6</sup> 30 <sup>7</sup> 10 <sup>90</sup> 30 <sup>7</sup>
SEOUL		
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:	White	
required components.		
SEOUL		
SEOUL SEMICONDUCTOR		90* 90*
LED	SEOUL DC 5050 6V	73.
FWHM / FWTM	54.0° / 84.0°	
Efficiency	94 %	60° 60°
Peak intensity	1.1 cd/lm	
LEDs/each optic	1	$  \times / /   \times   \times  $
Light colour	White	er la
Required components:		800
		36.
		15% 19%0 15%



SEOUL SEOUL SEMICONDUCTOR		50° 50°
LED	Z8Y22T	77
FWHM / FWTM	50.0° / 76.0°	
Efficiency	94 %	60* 400 60*
Peak intensity	1.2 cd/lm	
LEDs/each optic	1	
Light colour	White	g. a.
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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