

# PRODUCT DATASHEET C17410\_SPORT-2X2-FT6

## SPORT-2X2-FT6

Narrow forward throw beam with optimized cut-off for high masts

#### **SPECIFICATION:**

Dimensions	50.0 x 50.0 mm
Height	11 mm
Fastening	screw
ROHS compliant	yes 🛈



#### **MATERIALS:**

Component	Туре	Material	Colour	Finish
SPORT-2X2-FT6	Multi-lens	PMMA	clear	

#### **ORDERING INFORMATION:**

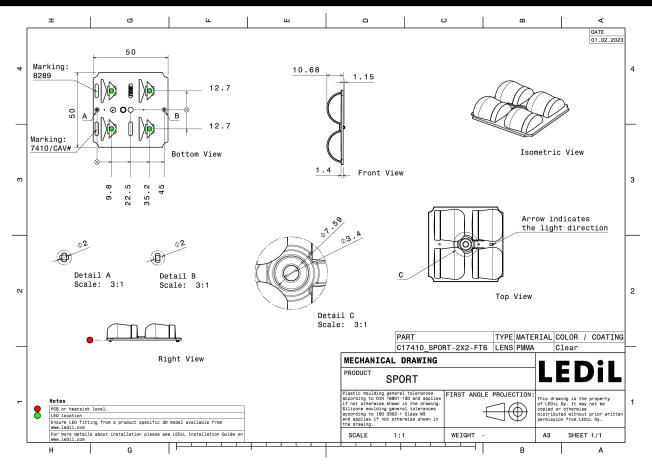
#### Component

C17410\_SPORT-2X2-FT6 » Box size: 480 x 280 x 300 mm

Qty in box	MOQ	MPQ	Box weight (kg)
640	128	128	8.8



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



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

UMIL	.EDS	50° 50°
LED	LUXEON 5050 Square LES	
FWHM / FWTM	Asymmetric	78
Efficiency	95 %	600
Peak intensity	1 cd/lm	60° 66
LEDs/each optic	1	800
Light colour	White	65*
Required compone	ents:	
		1600 30° 30
OSRAM		
Opto Semiconductors		90*
	OSCONIQ C 3030	25* 400 75
FWHM / FWTM	Asymmetric	
Efficiency Roak intensity	95 % 1.4 cd/lm	50* 800 60
Peak intensity LEDs/each optic		
Light colour	1 White	1290
Required compone		
Required compone	5115.	
		200
		30° 2450 30° 30°
	12	
		90*
		5)*
LED	PassivePAQ-R-222x50.OS1.9.7K-750-5 V1.0	3°
LED FWHM / FWTM		9° 99 7° 99 7° 99 70 70 70
	PassivePAQ-R-222x50.OS1.9.7K-750-5 V1.0 Asymmetric	91* 99 73* 400 75 65* 900 69
LED FWHM / FWTM Efficiency Peak intensity	PassivePAQ-R-222x50.OS1.9.7K-750-5 V1.0 Asymmetric 96 %	9° 99 37 99 6° 99 6° 60 120
LED FWHM / FWTM Efficiency	PassivePAQ-R-222x50.OS1.9.7K-750-5 V1.0 Asymmetric 96 % 1.5 cd/lm	ar
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	PassivePAQ-R-222x50.OS1.9.7K-750-5 V1.0 Asymmetric 96 % 1.5 cd/lm 1 White	6,* <u>86</u>
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	PassivePAQ-R-222x50.OS1.9.7K-750-5 V1.0 Asymmetric 96 % 1.5 cd/lm 1 White	ar
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	PassivePAQ-R-222x50.OS1.9.7K-750-5 V1.0 Asymmetric 96 % 1.5 cd/lm 1 White	ar
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	PassivePAQ-R-222x50.OS1.9.7K-750-5 V1.0 Asymmetric 96 % 1.5 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	PassivePAQ-R-222x50.OS1.9.7K-750-5 V1.0 Asymmetric 96 % 1.5 cd/lm 1 White ents:	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	PassivePAQ-R-222x50.OS1.9.7K-750-5 V1.0 Asymmetric 96 % 1.5 cd/lm 1 White ents:	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	PassivePAQ-R-222x50.OS1.9.7K-750-5 V1.0 Asymmetric 96 % 1.5 cd/lm 1 White ents: PassivePAQ-R-274x51-NI0-21K-857-5	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	PassivePAQ-R-222x50.OS1.9.7K-750-5 V1.0 Asymmetric 96 % 1.5 cd/lm 1 White ents: PassivePAQ-R-274x51-NI0-21K-857-5 Asymmetric	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	PassivePAQ-R-222x50.OS1.9.7K-750-5 V1.0 Asymmetric 96 % 1.5 cd/lm 1 White ents: PassivePAQ-R-274x51-NI0-21K-857-5 Asymmetric 95 %	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	PassivePAQ-R-222x50.OS1.9.7K-750-5 V1.0 Asymmetric 96 % 1.5 cd/lm 1 White ents: PassivePAQ-R-274x51-NI0-21K-857-5 Asymmetric 95 % 1.2 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	PassivePAQ-R-222x50.OS1.9.7K-750-5 V1.0 Asymmetric 96 % 1.5 cd/lm 1 White ents: PassivePAQ-R-274x51-NI0-21K-857-5 Asymmetric 95 % 1.2 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone IED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	PassivePAQ-R-222x50.OS1.9.7K-750-5 V1.0 Asymmetric 96 % 1.5 cd/lm 1 White ents: PassivePAQ-R-274x51-NI0-21K-857-5 Asymmetric 95 % 1.2 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	PassivePAQ-R-222x50.OS1.9.7K-750-5 V1.0 Asymmetric 96 % 1.5 cd/lm 1 White ents: PassivePAQ-R-274x51-NI0-21K-857-5 Asymmetric 95 % 1.2 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone IED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	PassivePAQ-R-222x50.OS1.9.7K-750-5 V1.0 Asymmetric 96 % 1.5 cd/lm 1 White ents: PassivePAQ-R-274x51-NI0-21K-857-5 Asymmetric 95 % 1.2 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone TEP FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	PassivePAQ-R-222x50.OS1.9.7K-750-5 V1.0 Asymmetric 96 % 1.5 cd/lm 1 White ents: PassivePAQ-R-274x51-NI0-21K-857-5 Asymmetric 95 % 1.2 cd/lm 1 White	



CREE ≑		
LEDS	J Series 5050 Round LES	90° 90°
LED		730 775
FWHM / FWTM	Asymmetric	400
Efficiency	94 %	504 604
Peak intensity	1.1 cd/lm	
LEDs/each optic	1	$X \times (X \times X)$
Light colour	White	45* 1220 45*
Required components:		X   X
		1600
		30* 2000 30*
		13 <sup>3</sup> 0 <sup>9</sup> 19 <sup>4</sup>
		90* 90*
LED	J Series 5050 Round LES	
FWHM / FWTM	Asymmetric	73* 73*
Efficiency	82 %	400
Peak intensity	1 cd/lm	60* 60*
LEDs/each optic	1	
Light colour	White	45* 43*
Required components:		1200
Required components.		
Protective plate	e, glass	
		1650
		30* 15 <sup>5</sup> 0 <sup>6</sup> 15 <sup>6</sup> 30 <sup>6</sup>
i		
CREE ≑		
		90°
LED	J Series 5050C 6V E Class	20 × 20 × 20 × 20 × 20 × 20 × 20 × 20 ×
LED FWHM / FWTM	Asymmetric	90°
LED FWHM / FWTM Efficiency	Asymmetric 93 %	90° 90° 73° 400 90°
LED FWHM / FWTM Efficiency Peak intensity	Asymmetric 93 % 1.1 cd/lm	50° - 9° 73° - 400 60° - 60°
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 93 % 1.1 cd/lm 1	50* 173* 50* 00 00 60*
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 93 % 1.1 cd/lm	99* 99* 99* 99* 99* 99* 99* 99* 99* 99*
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 93 % 1.1 cd/lm 1	99* 99* 99* 99* 99* 99* 99* 99* 99* 99*
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 93 % 1.1 cd/lm 1	9°* 9° 73° 60° 66° 60° 66° 60° 1200 60°
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 93 % 1.1 cd/lm 1	9°* 73° 6°* 1239 6°* 1239 6°* 1239 6°* 1239 6°* 1239 6°*
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 93 % 1.1 cd/lm 1	20° 20° 20° 20° 20° 20° 20° 20°
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 93 % 1.1 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 93 % 1.1 cd/lm 1	35 <sup>3</sup> 30 <sup>60</sup> 15 <sup>4</sup>
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 93 % 1.1 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 93 % 1.1 cd/lm 1 White XHP35.2 HD	35 <sup>3</sup> 30 <sup>60</sup> 15 <sup>4</sup>
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 93 % 1.1 cd/lm 1 White	35 <sup>3</sup> 30 <sup>60</sup> 15 <sup>4</sup>
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 93 % 1.1 cd/lm 1 White XHP35.2 HD Asymmetric 76 %	20 <sup>1</sup>
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 93 % 1.1 cd/lm 1 White XHP35.2 HD Asymmetric 76 % 0.8 cd/lm	200 <sup>1</sup> 200 <sup>1</sup> 200 <sup>1</sup> 200 <sup>1</sup>
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 93 % 1.1 cd/lm 1 White XHP35.2 HD Asymmetric 76 % 0.8 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: CREECS LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 93 % 1.1 cd/lm 1 White XHP35.2 HD Asymmetric 76 % 0.8 cd/lm	20 <sup>1</sup> 20 <sup>1</sup> 10 <sup>2</sup>
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 93 % 1.1 cd/lm 1 White XHP35.2 HD Asymmetric 76 % 0.8 cd/lm 1	20 13"
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: CREEES LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 93 % 1.1 cd/lm 1 White XHP35.2 HD Asymmetric 76 % 0.8 cd/lm 1 White	20 13"
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: CREECS LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 93 % 1.1 cd/lm 1 White XHP35.2 HD Asymmetric 76 % 0.8 cd/lm 1 White	25 <sup>1</sup> 260 25 <sup>2</sup>
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: CREEES LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 93 % 1.1 cd/lm 1 White XHP35.2 HD Asymmetric 76 % 0.8 cd/lm 1 White	



CREE ≑		
LEDS		90° 90°
LED	XHP35.2 HD	20
FWHM / FWTM	Asymmetric	400
Efficiency	92 %	63* 600 60*.
Peak intensity	1 cd/lm	
LEDs/each optic	1	800
Light colour	White	45" 45"
Required components:		1230
		1490
		1630
		30° 15 <sup>5</sup> 1890 15° 30°
		90+ 90+
LED	XHP35.2 HI	
FWHM / FWTM	Asymmetric	780 400 5°
Efficiency	95 %	
Peak intensity	1.2 cd/lm	.50* 50*
LEDs/each optic	1	
Light colour	White	45* 1200 45*
Required components:		$\times$
		1600
		$\times$
		2000
		30° 15° 30°
1		
CREE ≑		
		8* 81
LED	XHP35.2 HI	80°
LED FWHM / FWTM	Asymmetric	90° 100 100 100 100
LED FWHM / FWTM Efficiency	Asymmetric 80 %	779 20 05
LED FWHM / FWTM Efficiency Peak intensity	Asymmetric 80 % 1 cd/lm	20 20 20 20 20 20 20 20 20 20 20 20 20 2
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 80 % 1 cd/lm 1	2 <sup>3</sup> 49 69 67 67
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 80 % 1 cd/lm	20 21 20 27 27 27 27 27 27 27 27 27 27 27 27 27
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 80 % 1 cd/lm 1	20 60 60 60 60 60 60 60 60 60 60 60 60 60
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 80 % 1 cd/lm 1 White	20 21 21 22 22 22 22 22 22 22 22 22 22 22
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 80 % 1 cd/lm 1 White	20 60 60 60 60 60 60 60 60 60 60 60 60 60
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 80 % 1 cd/lm 1 White	29 64 69 69 69 69 69 69 69 69 69 69 69 69 69
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate	Asymmetric 80 % 1 cd/lm 1 White	20 40 40 40 40 40 40 40 40 40 4
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate	Asymmetric 80 % 1 cd/lm 1 White 2, glass	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate	Asymmetric 80 % 1 cd/lm 1 White e, glass XHP50.3 HI	20 40 40 40 40 40 40 40 40 40 4
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate CREE LED FWHM / FWTM	Asymmetric 80 % 1 cd/lm 1 White a, glass XHP50.3 HI Asymmetric	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate CREECS LED FWHM / FWTM Efficiency	Asymmetric 80 % 1 cd/lm 1 White e, glass XHP50.3 HI Asymmetric 79 %	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate Protective plate ED FWHM / FWTM Efficiency Peak intensity	Asymmetric 80 % 1 cd/lm 1 White a, glass XHP50.3 HI Asymmetric 79 % 1 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate Protective plate EED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 80 % 1 cd/lm 1 White a, glass XHP50.3 HI Asymmetric 79 % 1 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate CREEE LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 80 % 1 cd/lm 1 White a, glass XHP50.3 HI Asymmetric 79 % 1 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate Protective plate EED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 80 % 1 cd/lm 1 White a, glass XHP50.3 HI Asymmetric 79 % 1 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate Protective plate EED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 80 % 1 cd/lm 1 White XHP50.3 HI Asymmetric 79 % 1 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate CREEE LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 80 % 1 cd/lm 1 White XHP50.3 HI Asymmetric 79 % 1 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate Protective plate ELED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 80 % 1 cd/lm 1 White XHP50.3 HI Asymmetric 79 % 1 cd/lm 1 White	



		90* 90*
LED	XHP50.3 HI	790 700
FWHM / FWTM	Asymmetric	400
Efficiency	94 %	×63
Peak intensity	1.1 cd/lm	200
LEDs/each optic	1	
Light colour	White	45+ 1200 45+
Required components:		$\times$
		1600
		2000 300
		25 <sup>5</sup> 0 <sup>6</sup> 15 <sup>5</sup>
		90* 90*
LED	XM-L3	
FWHM / FWTM	Asymmetric	73* 400 75*
Efficiency	93 %	
Peak intensity	1.2 cd/lm	2007 000 000
LEDs/each optic	1	
Light colour	White	45' 1200 45'
Required components:		
		2000
		$\times$ / $\top$ / $\times$
		30* 30*
		30* <u>15*</u> 0* 15* 30*
		54+ <u>132</u> 04 <u>132</u> 30 <sup>4</sup>
	XM-L3	200 - 100 - 201 200 - 100 - 201 200 - 201
LED	XM-L3 Asymmetric	750 20 700
LED FWHM / FWTM	Asymmetric	20 00 00 00 00 00 00 00 00 00 00 00 00 0
LED FWHM / FWTM Efficiency	Asymmetric 77 %	730 200 700
LED FWHM / FWTM Efficiency Peak intensity	Asymmetric 77 % 1 cd/lm	70
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 77 % 1 cd/lm 1	25 00 00 00 00 00 00 00 00 00 0
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 77 % 1 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 77 % 1 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 77 % 1 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 77 % 1 cd/lm 1	27 60 60 60 60 60 60 60 60 60 60
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 77 % 1 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 77 % 1 cd/lm 1	100 100 100 100 100 100 100 100
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 77 % 1 cd/lm 1 White	2
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 77 % 1 cd/lm 1 White XP-E2	100 100 100 100 100 100 100 100
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 77 % 1 cd/lm 1 White XP-E2 Asymmetric	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 77 % 1 cd/lm 1 White XP-E2 Asymmetric 79 %	27 60 60 60 60 60 60 60 60 60 60
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 77 % 1 cd/lm 1 White XP-E2 Asymmetric 79 % 1.4 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: CREEE LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 77 % 1 cd/lm 1 White XP-E2 Asymmetric 79 % 1.4 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: CREE ED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 77 % 1 cd/lm 1 White XP-E2 Asymmetric 79 % 1.4 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: CREEE LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 77 % 1 cd/lm 1 White XP-E2 Asymmetric 79 % 1.4 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: CREECS LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 77 % 1 cd/lm 1 White XP-E2 Asymmetric 79 % 1.4 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: CREEES LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 77 % 1 cd/lm 1 White XP-E2 Asymmetric 79 % 1.4 cd/lm 1 White	



CREE ≑		THA KHT
LED	XP-E2	90*
ED FWHM / FWTM		730 400 730
	Asymmetric	800
Efficiency	94 %	80* 60 <sup>+</sup>
Peak intensity	1.7 cd/lm	1220
LEDs/each optic	1	1690
Light colour	White	45°
Required components:		
		2400
		X mont X
		30* 15 360 15* 30*
		90* 90*
LED	XP-G2 HE	736 400 785
FWHM / FWTM	Asymmetric	
Efficiency	63 %	.50 <sup>+</sup> 000 60 <sup>+</sup>
Peak intensity	1.4 cd/lm	
LEDs/each optic	1	1220
Light colour	White	45* 45*
Required components:		
C17929_SPORT-2X2	-FT-SHD-BLK	2000
		30° 2400
		133 00 138
		90* 90*
LED	XP-G2 HE	
LED FWHM / FWTM	XP-G2 HE Asymmetric	75 60 75
FWHM / FWTM	Asymmetric	75 60 75
FWHM / FWTM Efficiency	Asymmetric 79 %	73° 60 73° 60 80° 60°
FWHM / FWTM Efficiency Peak intensity	Asymmetric 79 % 1.4 cd/lm	25°
FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 79 % 1.4 cd/lm 1	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 79 % 1.4 cd/lm	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 79 % 1.4 cd/lm 1 White	487
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 79 % 1.4 cd/lm 1 White	457
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 79 % 1.4 cd/lm 1 White	457
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 79 % 1.4 cd/lm 1 White	457
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: C18069_SPORT-2X2	Asymmetric 79 % 1.4 cd/lm 1 White	457
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: C18069_SPORT-2X2	Asymmetric 79 % 1.4 cd/lm 1 White -FT-SHD-WHT	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: C18069_SPORT-2X2	Asymmetric 79 % 1.4 cd/lm 1 White -FT-SHD-WHT XP-G2 HE	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: C18069_SPORT-2X2 CREE LED FWHM / FWTM	Asymmetric 79 % 1.4 cd/lm 1 White -FT-SHD-WHT XP-G2 HE Asymmetric	45° 129 45° 2099 2019 20° 15° 20° 15° 20°
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: C18069_SPORT-2X2 CTEE LED FWHM / FWTM Efficiency	Asymmetric 79 % 1.4 cd/lm 1 White -FT-SHD-WHT XP-G2 HE Asymmetric 92 %	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: C18069_SPORT-2X2 CTEE LED FWHM / FWTM Efficiency Peak intensity	Asymmetric 79 % 1.4 cd/lm 1 White -FT-SHD-WHT XP-G2 HE Asymmetric 92 % 1.6 cd/lm	2000 2000 2000 2000 2000 2000 2000 200
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: C18069_SPORT-2X2 CTEE LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 79 % 1.4 cd/lm 1 White -FT-SHD-WHT XP-G2 HE Asymmetric 92 % 1.6 cd/lm 1	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: C18069_SPORT-2X2 CTEE LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 79 % 1.4 cd/lm 1 White -FT-SHD-WHT XP-G2 HE Asymmetric 92 % 1.6 cd/lm	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: C18069_SPORT-2X2 CTEE LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 79 % 1.4 cd/lm 1 White -FT-SHD-WHT XP-G2 HE Asymmetric 92 % 1.6 cd/lm 1	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: C18069_SPORT-2X2 CTEE LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 79 % 1.4 cd/lm 1 White -FT-SHD-WHT XP-G2 HE Asymmetric 92 % 1.6 cd/lm 1	45 309 30 30 30 30 30 30 30 30 30 30
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: C18069_SPORT-2X2 CTEE LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 79 % 1.4 cd/lm 1 White -FT-SHD-WHT XP-G2 HE Asymmetric 92 % 1.6 cd/lm 1	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: C18069_SPORT-2X2 CREE LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 79 % 1.4 cd/lm 1 White -FT-SHD-WHT XP-G2 HE Asymmetric 92 % 1.6 cd/lm 1	



CREE ≑		
LEDs	XP-G3	90* 90*
EED FWHM / FWTM		75° 75°
Efficiency	Asymmetric 77 %	
	77 % 1.1 cd/lm	50* 60*
Peak intensity		
LEDs/each optic Light colour	1 White	
Required components:	Wille	45* 1220 45*
Required components.		
Protective plate	e, glass	3800
		2000
		30° 30° 30°
		90* 90*
LED	XP-L HD	
FWHM / FWTM	Asymmetric	750 700
Efficiency	79 %	
Peak intensity	1 cd/lm	eet eet
LEDs/each optic	1	200
Light colour	White	45' 45'
Required components:		120
		$\times$
Protective plate	e, glass	1500
		15 2000 15
		90* 90*
LED	XP-L HD	
FWHM / FWTM		75% 400 75%
	Asymmetric 94 %	25 40 F.
Efficiency	Asymmetric	2 <sup>3</sup> 200 6 <sup>4</sup>
Efficiency	Asymmetric 94 %	23 <sup>4</sup> 290 674
Efficiency Peak intensity	Asymmetric 94 % 1.2 cd/lm	42° 400 23°
Efficiency Peak intensity LEDs/each optic	Asymmetric 94 % 1.2 cd/lm 1	
Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 94 % 1.2 cd/lm 1	
Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 94 % 1.2 cd/lm 1	
Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 94 % 1.2 cd/lm 1	
Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 94 % 1.2 cd/lm 1	40°
Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 94 % 1.2 cd/lm 1 White	40° (1000) 1000 (1000) 2000
Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 94 % 1.2 cd/lm 1 White	40° (1000) 1000 (1000) 2000
Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 94 % 1.2 cd/lm 1 White XP-L HI Asymmetric	-0°
Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 94 % 1.2 cd/lm 1 White XP-L HI Asymmetric 80 %	40° (1000) 1000 (1000) 2000
Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 94 % 1.2 cd/lm 1 White XP-L HI Asymmetric 80 % 1.1 cd/lm	40° (1000) 1000 (1000) 2000
Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 94 % 1.2 cd/lm 1 White XP-L HI Asymmetric 80 % 1.1 cd/lm 1	-0°
Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 94 % 1.2 cd/lm 1 White XP-L HI Asymmetric 80 % 1.1 cd/lm	-0°
Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 94 % 1.2 cd/lm 1 White XP-L HI Asymmetric 80 % 1.1 cd/lm 1	
Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 94 % 1.2 cd/lm 1 White XP-L HI Asymmetric 80 % 1.1 cd/lm 1 White	
Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 94 % 1.2 cd/lm 1 White XP-L HI Asymmetric 80 % 1.1 cd/lm 1 White	
Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 94 % 1.2 cd/lm 1 White XP-L HI Asymmetric 80 % 1.1 cd/lm 1 White	6° 60 60 60 60 60 60 60 60 60 60 60 60 60



		90+
LED	XP-L HI	
FWHM / FWTM	Asymmetric	75° 400 75°
Efficiency	80 %	
Peak intensity	1.2 cd/lm	50 <sup>4</sup> 800 60 <sup>4</sup>
LEDs/each optic	1	1230
Light colour	White	-45* 43*
Required components:		1600
Protective plate	e, glass	2000
		30° 452 0° 15° 30°
LED	XP-L HI	90* 99*
FWHM / FWTM	Asymmetric	730 400 732
Efficiency	95 %	00
Peak intensity	1.5 cd/lm	60* 60*
LEDs/each optic	1	1200
Light colour	White	45* 1600 45*
Required components:	white	
required components.		2000
		2130
		30° 2800 30° 30° 30°
LED EWHM / EW/TM	XP-L HI	20° 0° 0° 0° 0° 0° 0° 0° 0° 0° 0° 0° 0° 0
FWHM / FWTM	Asymmetric	97° 92° 37° 600 77°
FWHM / FWTM Efficiency	Asymmetric 93 %	30° 9° 33° 60 75. 54° 80 60.
FWHM / FWTM Efficiency Peak intensity	Asymmetric 93 % 1.2 cd/lm	50° 000 00°.
FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 93 % 1.2 cd/lm 1	5° 0° 0° 0° 0° 0° 0° 0° 0° 0° 0° 0° 0° 0°
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 93 % 1.2 cd/lm	67 67
FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 93 % 1.2 cd/lm 1	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 93 % 1.2 cd/lm 1	6° 6'
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 93 % 1.2 cd/lm 1	67 67
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 93 % 1.2 cd/lm 1	6° 6'
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 93 % 1.2 cd/lm 1	5° (° (° (° (° (° (° (° (° (° (° (° (° (°
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 93 % 1.2 cd/lm 1 White	5° (° (° (° (° (° (° (° (° (° (° (° (° (°
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 93 % 1.2 cd/m 1 White XP-L2	5° 6° 500 50° 500 50° 50° 50° 50° 50° 50° 50° 50° 50°
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: CREE LEDs LED FWHM / FWTM	Asymmetric 93 % 1.2 cd/m 1 White XP-L2 Asymmetric	6° 6° 6° 6° 6° 6° 6° 6° 6° 6° 6° 6° 6° 6
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: CREE LEDs LED FWHM / FWTM Efficiency	Asymmetric 93 % 1.2 cd/m 1 White XP-L2 Asymmetric 91 %	6° 6° 6° 6° 6° 6° 6° 6° 6° 6° 6° 6° 6° 6
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: CREE LED FWHM / FWTM Efficiency Peak intensity	Asymmetric 93 % 1.2 cd/lm 1 White XP-L2 Asymmetric 91 % 1.1 cd/lm	6° 6° 6° 6° 6° 6° 6° 6° 6° 6° 6° 6° 6° 6
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: CREE LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 93 % 1.2 cd/lm 1 White XP-L2 Asymmetric 91 % 1.1 cd/lm 1	er 100 200 200 200 200 200 200 200
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: CREE LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 93 % 1.2 cd/lm 1 White XP-L2 Asymmetric 91 % 1.1 cd/lm	6° 6° 6° 6° 6° 6° 6° 6° 6° 6° 6° 6° 6° 6
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: CREE LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 93 % 1.2 cd/lm 1 White XP-L2 Asymmetric 91 % 1.1 cd/lm 1	er 1600 20
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: CREE LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 93 % 1.2 cd/lm 1 White XP-L2 Asymmetric 91 % 1.1 cd/lm 1	5° 6° 160 20 <sup>10</sup> 20
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: CREE LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 93 % 1.2 cd/lm 1 White XP-L2 Asymmetric 91 % 1.1 cd/lm 1	er 1600 20



r		
CREE ≑		
LEDs	XP-L2	90* 90*
FWHM / FWTM		770 200 770
	Asymmetric 76 %	400
Efficiency		50° 50°
Peak intensity	0.9 cd/lm	
LEDs/each optic	1	
Light colour	White	45° 1000 45°
Required components:		1290
Protective plate	e, glass	2830
		1000
		30° 15 <sup>3</sup> 1830 19° 30°.
		90°
LED	XP-P	73° 400 73°
FWHM / FWTM	Asymmetric	
Efficiency	95 %	50*
Peak intensity	1.8 cd/lm	1200
LEDs/each optic	1	1690
Light colour	White	45* 2000 45*
Required components:		200
		30* 3200 30*
1		15° 0° 15°
		13 <sup>5</sup> 0 <sup>6</sup> 15 <sup>6</sup>
		12 <sup>2</sup> 0 <sup>4</sup> 12 <sup>2</sup>
CREE ÷	ХР-Р	10°
	Asymmetric	
LED FWHM / FWTM Efficiency	Asymmetric 81 %	10°
LED FWHM / FWTM Efficiency Peak intensity	Asymmetric	2 <sup>1</sup> 2 <sup>1</sup> 2 <sup>1</sup> 00 00 0 <sup>1</sup> 0 <sup>1</sup> 0 <sup>1</sup>
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 81 % 1.4 cd/lm 1	2 <sup>1</sup> 2 <sup>1</sup> 2 <sup>1</sup> 00 00 0 <sup>1</sup> 0 <sup>1</sup> 0 <sup>1</sup>
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 81 % 1.4 cd/lm	90° 90° 90° 90°
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 81 % 1.4 cd/lm 1	25
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 81 % 1.4 cd/lm 1 White	25
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 81 % 1.4 cd/lm 1 White	5° 100 100 100 100 100 100 100 10
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 81 % 1.4 cd/lm 1 White	201 40 721 40 60 60 60 60 60 60 60 60 60 60 60 60 60
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate	Asymmetric 81 % 1.4 cd/lm 1 White e, glass	5° 100 100 100 100 100 100 100 10
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate	Asymmetric 81 % 1.4 cd/lm 1 White e, glass	50° 50° 60° 60° 60° 60° 60° 60° 60° 60° 60° 6
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate	Asymmetric 81 % 1.4 cd/lm 1 White e, glass LUXEON 3030 2D (Round LES)	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate CONTINUED LED FWHM / FWTM	Asymmetric 81 % 1.4 cd/lm 1 White e, glass LUXEON 3030 2D (Round LES) Asymmetric	5° 100 100 100 100 100 100 100 10
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate CONTINUE LED FWHM / FWTM Efficiency	Asymmetric 81 % 1.4 cd/lm 1 White e, glass LUXEON 3030 2D (Round LES) Asymmetric 81 %	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate CONTINUE LED FWHM / FWTM Efficiency Peak intensity	Asymmetric 81 % 1.4 cd/lm 1 White e, glass LUXEON 3030 2D (Round LES) Asymmetric	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate <b>CONTINUES</b> LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 81 % 1.4 cd/lm 1 White e, glass LUXEON 3030 2D (Round LES) Asymmetric 81 % 1.3 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate CONTINUE LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 81 % 1.4 cd/lm 1 White e, glass LUXEON 3030 2D (Round LES) Asymmetric 81 % 1.3 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate <b>CONTINUES</b> LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 81 % 1.4 cd/lm 1 White e, glass LUXEON 3030 2D (Round LES) Asymmetric 81 % 1.3 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate <b>ED</b> FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 81 % 1.4 cd/lm 1 White e, glass LUXEON 3030 2D (Round LES) Asymmetric 81 % 1.3 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate CONTINUE LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 81 % 1.4 cd/lm 1 White e, glass LUXEON 3030 2D (Round LES) Asymmetric 81 % 1.3 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate <b>ED</b> FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 81 % 1.4 cd/lm 1 White e, glass LUXEON 3030 2D (Round LES) Asymmetric 81 % 1.3 cd/lm 1 White	



MUMILED 🖉	)S	90* 90*
LED	LUXEON 5050 HE	
FWHM / FWTM	Asymmetric	73° 75°
Efficiency	92 %	
Peak intensity	1.1 cd/lm	604 604
LEDs/each optic	1	800
Light colour	White	
Required components:	Wine	1200
		$\times$
		1630
		$\times$ / $\times$
		30* 15 <sup>3</sup> 2880 15* 30*
	95	90* 90*
LED	LUXEON 5050 HE	
FWHM / FWTM	Asymmetric	75° 200 75°
Efficiency	78 %	40
Peak intensity	0.9 cd/lm	50° 60°
LEDs/each optic	1	XXXX
Light colour	White	45"
Required components:		
		1230
Protective plate	e, glass	1430
		1000
		30* 15 <sup>5</sup> 0 <sup>6</sup> 15* 30*
🥙 LUMILED	S S	90* 90*
LED	LUXEON 5050 Round LES	
FWHM / FWTM	Asymmetric	75°
		73. 600
Efficiency	Asymmetric	73°
Efficiency Peak intensity	Asymmetric 80 %	20
Efficiency	Asymmetric 80 % 1 cd/lm	
Efficiency Peak intensity LEDs/each optic	Asymmetric 80 % 1 cd/Im 1	25° 400 60° 60° 60° 60°
Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 80 % 1 cd/lm 1 White	2°
Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 80 % 1 cd/lm 1 White	20°
Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 80 % 1 cd/lm 1 White	
Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate	Asymmetric 80 % 1 cd/lm 1 White a, glass	122
Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate	Asymmetric 80 % 1 cd/lm 1 White , glass	122
Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate	Asymmetric 80 % 1 cd/lm 1 White , glass LUXEON 5050 Square LES	122
Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate	Asymmetric 80 % 1 cd/lm 1 White s, glass S LUXEON 5050 Square LES Asymmetric	122
Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate <b>CONTINUED</b> LED FWHM / FWTM Efficiency	Asymmetric 80 % 1 cd/lm 1 White 9, glass LUXEON 5050 Square LES Asymmetric 59 %	12.29 10.99 10.9 10.9 10.9 10.9 10.9 10.9 10
Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate <b>CONTINUED</b> LED FWHM / FWTM Efficiency Peak intensity	Asymmetric 80 % 1 cd/lm 1 White e, glass S LUXEON 5050 Square LES Asymmetric 59 % 0.9 cd/lm	
Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate Control Control C	Asymmetric 80 % 1 cd/lm 1 White P, glass S LUXEON 5050 Square LES Asymmetric 59 % 0.9 cd/lm 1	
Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate Components Protective plate Components Protective plate Components Protective plate Components	Asymmetric 80 % 1 cd/lm 1 White e, glass S LUXEON 5050 Square LES Asymmetric 59 % 0.9 cd/lm	
Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate Components: LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 80 % 1 cd/lm 1 White s, glass S LUXEON 5050 Square LES Asymmetric 59 % 0.9 cd/lm 1 White	
Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate Components Protective plate Components Protective plate Components Protective plate Components	Asymmetric 80 % 1 cd/lm 1 White s, glass S LUXEON 5050 Square LES Asymmetric 59 % 0.9 cd/lm 1 White	
Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate Components: LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 80 % 1 cd/lm 1 White s, glass S LUXEON 5050 Square LES Asymmetric 59 % 0.9 cd/lm 1 White	



UMILEI	DS	90° 90°
LED	LUXEON 5050 Square LES	
FWHM / FWTM	Asymmetric	72 400 72
Efficiency	76 %	
Peak intensity	1 cd/lm	60" <u>600</u> 61
LEDs/each optic	1	200
Light colour	White	165° 1000 e
Required components:		1230
C18069_SPORT-2X	2-FT-SHD-WHT	1450
		1630
		90* 15 <sup>5</sup> 1890 15* 30
	DS	
LED	LUXEON 5050 Square LES	
FWHM / FWTM	Asymmetric	25
Efficiency	81 %	
Peak intensity	0.9 cd/lm	60*
LEDs/each optic	1	
Light colour	White	45* 000 45
Required components:		1000
Protective plat	e, glass	1200
		30* 1430 320
		13 <sup>5</sup> 0 <sup>6</sup> 15 <sup>5</sup>
		90* 90
LED	LUXEON HL2X	75% 400 75%
FWHM / FWTM	Asymmetric	
-	92 %	
Efficiency Peak intensity	1.4 cd/lm	60* 60
Peak intensity LEDs/each optic	1.4 cd/lm 1	
Peak intensity LEDs/each optic Light colour	1.4 cd/lm	60 <sup>4</sup>
Peak intensity LEDs/each optic	1.4 cd/lm 1	
Peak intensity LEDs/each optic Light colour	1.4 cd/lm 1	
Peak intensity LEDs/each optic Light colour	1.4 cd/lm 1	
Peak intensity LEDs/each optic Light colour	1.4 cd/lm 1	
Peak intensity LEDs/each optic Light colour Required components:	1.4 cd/lm 1 White	
Peak intensity LEDs/each optic Light colour Required components:	1.4 cd/lm 1 White	6° 120 6° 106 000 2006
Peak intensity LEDs/each optic Light colour Required components:	1.4 cd/lm 1 White	
Peak intensity LEDs/each optic Light colour Required components: <b>Control Control</b> <b>Control Control Control</b> <b>Control Control Contr</b>	1.4 cd/lm 1 White	
Peak intensity LEDs/each optic Light colour Required components:	1.4 cd/lm 1 White	
Peak intensity LEDs/each optic Light colour Required components:	1.4 cd/lm 1 White DS LUXEON HL2X-D Asymmetric 80 %	
Peak intensity LEDs/each optic Light colour Required components:	1.4 cd/lm 1 White DS LUXEON HL2X-D Asymmetric 80 % 1.1 cd/lm	
Peak intensity LEDs/each optic Light colour Required components: <b>ED</b> EUMILEE FWHM / FWTM Efficiency Peak intensity	1.4 cd/lm 1 White	
Peak intensity LEDs/each optic Light colour Required components:	1.4 cd/lm 1 White DS LUXEON HL2X-D Asymmetric 80 % 1.1 cd/lm 1 White	
Peak intensity LEDs/each optic Light colour Required components:	1.4 cd/lm 1 White DS LUXEON HL2X-D Asymmetric 80 % 1.1 cd/lm 1 White	



<i></i>		
	)5	90° 90°
LED	LUXEON HL2X-D	
FWHM / FWTM	Asymmetric	75° 400 75°
Efficiency	95 %	
Peak intensity	1.3 cd/lm	60* <u>800</u> 60*
LEDs/each optic	1	1200
Light colour	White	45* 45*
Required components:		1630
- 1		$\times$
		2000
		30° 2450 30° 30° 30°
	DS	90° 90°
LED	LUXEON HL2X-P	
FWHM / FWTM	Asymmetric	75° 400 75°
Efficiency	93 %	
Peak intensity	1.3 cd/lm	60* 60*
LEDs/each optic	1	1220
Light colour	White	6° 6°
Required components:		1600
		2000
		20° 15 <sup>5</sup> 0 <sup>6</sup> 15 <sup>4</sup>
MUMILEC	)S	90° 90°
LED	LUXEON TX	
FWHM / FWTM	Asymmetric	75* 400 73*
	Asymmetric 91 %	30 00 70
Efficiency	91 %	$1 \times 1 \times 7$
Efficiency Peak intensity	-	
Efficiency Peak intensity LEDs/each optic	91 % 1.5 cd/lm	60 <sup>°</sup> 00
Efficiency Peak intensity LEDs/each optic Light colour	91 % 1.5 cd/lm 1	60 <sup>5</sup> 00 60 <sup>4</sup>
Efficiency Peak intensity LEDs/each optic	91 % 1.5 cd/lm 1	60 <sup>5</sup> 00 60 <sup>4</sup>
Efficiency Peak intensity LEDs/each optic Light colour	91 % 1.5 cd/lm 1	60 <sup>5</sup> 00 60 <sup>4</sup>
Efficiency Peak intensity LEDs/each optic Light colour	91 % 1.5 cd/lm 1	6, 109 6, 109 7, 100 7,
Efficiency Peak intensity LEDs/each optic Light colour Required components:	91 % 1.5 cd/lm 1 White	65
Efficiency Peak intensity LEDs/each optic Light colour	91 % 1.5 cd/lm 1 White	
Efficiency Peak intensity LEDs/each optic Light colour Required components:	91 % 1.5 cd/lm 1 White	
Efficiency Peak intensity LEDs/each optic Light colour Required components:	91 % 1.5 cd/lm 1 White	50 50 6% 120 6% 6% 120 6% 200 6% 200 6% 200 5% 200 5% 2
Efficiency Peak intensity LEDs/each optic Light colour Required components:	91 % 1.5 cd/lm 1 White S LUXEON XR-HL2X (L2H2-xxxxxMLU010)	
Efficiency Peak intensity LEDs/each optic Light colour Required components:	91 % 1.5 cd/lm 1 White S LUXEON XR-HL2X (L2H2-xxxxxMLU010) Asymmetric	30.         30.         30.         30.           20.         30.0         60.         60.           90.         30.0         60.         60.
Efficiency Peak intensity LEDs/each optic Light colour Required components:	91 % 1.5 cd/m 1 White S LUXEON XR-HL2X (L2H2-xxxxxMLU010) Asymmetric 95 %	
Efficiency Peak intensity LEDs/each optic Light colour Required components:	91 % 1.5 cd/lm 1 White VS LUXEON XR-HL2X (L2H2-xxxxxMLU010) Asymmetric 95 % 1.3 cd/lm	
Efficiency Peak intensity LEDs/each optic Light colour Required components:	91 % 1.5 cd/lm 1 White UXEON XR-HL2X (L2H2-xxxxxMLU010) Asymmetric 95 % 1.3 cd/lm 1	
Efficiency Peak intensity LEDs/each optic Light colour Required components:	91 % 1.5 cd/lm 1 White UXEON XR-HL2X (L2H2-xxxxxMLU010) Asymmetric 95 % 1.3 cd/lm 1	
Efficiency Peak intensity LEDs/each optic Light colour Required components:	91 % 1.5 cd/lm 1 White UXEON XR-HL2X (L2H2-xxxxxMLU010) Asymmetric 95 % 1.3 cd/lm 1	
Efficiency Peak intensity LEDs/each optic Light colour Required components:	91 % 1.5 cd/lm 1 White UXEON XR-HL2X (L2H2-xxxxxMLU010) Asymmetric 95 % 1.3 cd/lm 1	



	S	
LED	LUXEON XR-HL2X (L2H2-xxxxxxMLU010)	90° 9
EED FWHM / FWTM	Asymmetric	750 7
Efficiency	80 %	400
Peak intensity	1.1 cd/lm	604
LEDs/each optic	1	$\times$ / $\longrightarrow$
Light colour	White	
Required components:		1220
Protective plate	, glass	1690
		30* <u>25<sup>6</sup> 0<sup>6</sup> 15</u> * 30'
	PS	
LED	SFT-40-WCS	
FWHM / FWTM	Asymmetric	739 400 755
Efficiency	95 %	
Peak intensity	1.6 cd/lm	50° 50°
LEDs/each optic	1	
Light colour	White	45* 1690
Required components:		2000
		2400
		20 <sup>0</sup>
		15 <sup>3</sup> 0 <sup>4</sup> 15*
	JS	90* 90
LED	SFT-70X-WCS	
FWHM / FWTM	Asymmetric	736 400 78
FWHM / FWTM Efficiency	Asymmetric 95 %	25
Efficiency		2 <sup>1</sup> 00 00 00
Efficiency Peak intensity	95 %	25
Efficiency	95 % 1.4 cd/lm	40° 100 60°
Efficiency Peak intensity LEDs/each optic	95 % 1.4 cd/lm 1	
Efficiency Peak intensity LEDs/each optic Light colour	95 % 1.4 cd/lm 1	
Efficiency Peak intensity LEDs/each optic Light colour	95 % 1.4 cd/lm 1	
Efficiency Peak intensity LEDs/each optic Light colour	95 % 1.4 cd/lm 1	
Efficiency Peak intensity LEDs/each optic Light colour Required components:	95 % 1.4 cd/lm 1 White	
Efficiency Peak intensity LEDs/each optic Light colour Required components:	95 % 1.4 cd/m 1 White	57 <u>109</u> 67 <u>309</u> 309
Efficiency Peak intensity LEDs/each optic Light colour Required components:	95 % 1.4 cd/m 1 White SST-70X-WCS	
Efficiency Peak intensity LEDs/each optic Light colour Required components:	95 % 1.4 cd/m 1 White	
Efficiency Peak intensity LEDs/each optic Light colour Required components:	95 % 1.4 cd/m 1 White SST-70X-WCS Asymmetric	
Efficiency Peak intensity LEDs/each optic Light colour Required components:	95 % 1.4 cd/m 1 White SST-70X-WCS Asymmetric 94 %	
Efficiency Peak intensity LEDs/each optic Light colour Required components:	95 % 1.4 cd/m 1 White SST-70X-WCS Asymmetric 94 % 1.1 cd/m	
Efficiency Peak intensity LEDs/each optic Light colour Required components:	95 % 1.4 cd/m 1 White SST-70X-WCS Asymmetric 94 % 1.1 cd/m 1	
Efficiency Peak intensity LEDs/each optic Light colour Required components:	95 % 1.4 cd/m 1 White SST-70X-WCS Asymmetric 94 % 1.1 cd/m 1	
Efficiency Peak intensity LEDs/each optic Light colour Required components:	95 % 1.4 cd/m 1 White SST-70X-WCS Asymmetric 94 % 1.1 cd/m 1	
Efficiency Peak intensity LEDs/each optic Light colour Required components:	95 % 1.4 cd/m 1 White SST-70X-WCS Asymmetric 94 % 1.1 cd/m 1	



	IUS		80*	$\square$
LED	SST-70X-WCS		and the second s	
FWHM / FWTM	Asymmetric		73%	
Efficiency	79 %		400	$\rightarrow$
Peak intensity	0.9 cd/lm		50° 600	
LEDs/each optic	1			
Light colour	White		45* 1000	
Required components	:		1200	
Protective pla	ate, glass		1000	
			30° 15° 0° 15	p
MICHIΛ			90*	
LED	NF2x757G		L L L	
FWHM / FWTM	Asymmetric		75° 400	X7
Efficiency	81 %		$X \times M $	$\checkmark$
Peak intensity	1.3 cd/lm		50° - 200	
LEDs/each optic	1		1200	
Light colour	White		45*	
Required components	:		1630	
Protective pla	ate, glass		2000	
		 ]	30° 13 <sup>5</sup> 2430 15	34
MICHIΛ			90*	
LED	NFSx757G			
FWHM / FWTM	Asymmetric		400	
Efficiency	81 %		60%	$\rightarrow$
Peak intensity	1.3 cd/lm			
LEDs/each optic	1		X 1200	
Light colour	White		45°	
Required components	•		1500	
Protective pla	ate alass			
Protective pla	ate, glass		2000	
Protective pla	ate, glass		2000 201 <sup>-</sup> 12 <sup>3</sup> 23,20 10	50
	ate, glass		2000 30 <sup>+</sup> 20 <sup>+</sup> 20 <sup>+</sup> 10	50 
	ate, glass		2000 2007 2007 2007 2007 2007 2007 2007	50
<b>Μ</b> ΝΙCΗΙΛ			200 201 201 201 201 201 201 201 201 201	
<b>NICHIA</b> LED FWHM / FWTM	NV4WB35AM		2000 2010 2010 2010 2010 2010 2010 2010	
ED FWHM / FWTM Efficiency	NV4WB35AM Asymmetric		200 20 <sup>4</sup> 20	2 2
ED FWHM / FWTM Efficiency Peak intensity	NV4WB35AM Asymmetric 58 %		2000 2010 2010 2010 2010 2010 2010 2010	
ED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	NV4WB35AM Asymmetric 58 % 1 cd/lm		200 201 201 201 202 202 202 202 202 202	
ED FWHM / FWTM Efficiency Peak intensity	NV4WB35AM Asymmetric 58 % 1 cd/lm 1 White		92° 73° 63° 63°	
ED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	NV4WB35AM Asymmetric 58 % 1 cd/lm 1 White		92° 73° 63° 63°	~
ED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components	NV4WB35AM Asymmetric 58 % 1 cd/lm 1 White		92° 73° 63° 63°	



[		
<b>Μ</b> ΝΙCΗΙΛ		90° 90°
LED	NV4WB35AM	
FWHM / FWTM	Asymmetric	750 780
Efficiency	79%	400
Peak intensity	1 cd/lm	00 <sup>4</sup> 00 <sup>4</sup>
LEDs/each optic	1	80
Light colour	White	
Required components:	White	1200
required components.		$\times$ / $\times$
Protective plate	e, glass	1600
		$\times$ / $\times$
		30* 15* 30*
<b>Μ</b> ΝΙCΗΙΛ		90*
LED	NV4WB35AM	
FWHM / FWTM	Asymmetric	400 400
Efficiency	92 %	
Peak intensity	1.2 cd/lm	- 60* - 60* - 60*
LEDs/each optic	4	$\times$
Light colour	White	45* 1230 45*
Required components:		X   X
		1600
		2000
		15' 0' 15'
<b>Μ</b> ΝΙCΗΙΛ		90°
	NV4x144A	90° 90°
		30°
LED	NV4x144A Asymmetric 90 %	gy*
LED FWHM / FWTM	Asymmetric	
LED FWHM / FWTM Efficiency	Asymmetric 90 %	601 601
LED FWHM / FWTM Efficiency Peak intensity	Asymmetric 90 % 0.9 cd/lm	00 00 00 00 00 00 00 00 00 00 00 00 00
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 90 % 0.9 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 90 % 0.9 cd/lm 1	00 00 00 00 00 00 00 00 00 00 00 00 00
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 90 % 0.9 cd/lm 1	60 60 60 67 00 67 000
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 90 % 0.9 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 90 % 0.9 cd/lm 1	65 60 65 109 65 112 112 112 112 112 112 112 11
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 90 % 0.9 cd/lm 1	00 00 00 00 00 00 00 00 00 00
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 90 % 0.9 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 90 % 0.9 cd/lm 1 White NV4x144A	00 00 00 00 00 00 00 00 00 00
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 90 % 0.9 cd/lm 1 White NV4x144A Asymmetric	00 00 00 00 00 00 00 00 00 00
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 90 % 0.9 cd/lm 1 White NV4x144A Asymmetric 91 %	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 90 % 0.9 cd/lm 1 White NV4x144A Asymmetric	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: <b>EXAMPLANCE</b> <b>EXAMPLANCE</b> FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 90 % 0.9 cd/lm 1 White NV4x144A Asymmetric 91 % 0.9 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 90 % 0.9 cd/lm 1 White NV4x144A Asymmetric 91 % 0.9 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 90 % 0.9 cd/lm 1 White NV4x144A Asymmetric 91 % 0.9 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 90 % 0.9 cd/lm 1 White NV4x144A Asymmetric 91 % 0.9 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: <b>WICHIN</b> LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 90 % 0.9 cd/lm 1 White NV4x144A Asymmetric 91 % 0.9 cd/lm 1	



<b>ΜΝΙCΗΙΛ</b>		MA KHI
LED	NV4x144A	90*
FWHM / FWTM		750 200
	Asymmetric	
Efficiency	75 %	50° 400
Peak intensity	0.7 cd/lm	610
LEDs/each optic	1 White	$\times \times / \square \times \rangle$
Light colour Required components:	white	45* 800
Required components.		1000
Protective plate	, glass	
		1200
		30* 15 <sup>5</sup> 18 <sup>5</sup> 0 15*
<b>MNICHI</b> Λ		50*
LED	NVSW219D	
FWHM / FWTM	Asymmetric	756 400
Efficiency	80 %	
Peak intensity	1.3 cd/lm	
LEDs/each optic	1	1250
Light colour	White	45'
Required components:		1000
Protective plate	glass	2000
i iotoonio pian	, 9.000	
		30 <sup>4</sup> 2400 13 <sup>6</sup> 0 <sup>6</sup> 15 <sup>4</sup>
<b>ΜΝΙCΗΙΛ</b>		30°
LED	NVSW219F	
FWHM / FWTM	Asymmetric	75* 400
Efficiency	93 %	
Peak intensity	1.4 cd/lm	60°
	1:4 Cd/IIII	
LEDs/each optic	1	1200
LEDs/each optic Light colour		4°
	1	$\times \times / \top \setminus \times $
Light colour	1	$\times \times / \top \setminus \times $
Light colour	1	$\times \times / \top \setminus \times $
Light colour	1	$\times \times / \top \setminus \times $
Light colour Required components:	1	5° 100 200 30° 10° 10°
Light colour Required components:	1 White	$\times \times / \top \setminus \times $
Light colour Required components:	1 White NVSW219F	65° 1500 2000 30° 130° 3000 30° 30° 30° 30°
Light colour Required components:	1 White NVSW219F Asymmetric	6 <sup>3</sup> 100 200 200 200 200 200 200 200 200 200
Light colour Required components:	1 White NVSW219F Asymmetric 92 %	e <sup>3</sup> 100 200 200 200 200 200 200 200 200 200
Light colour Required components:	1 White NVSW219F Asymmetric 92 % 1.4 cd/m	97 909 209 209 209 209 209 209 209 209 209
Light colour Required components:	1 White NVSW219F Asymmetric 92 % 1.4 cd/lm 1	6 <sup>3</sup> 150 200 200 200 200 200 200 200 2
Light colour Required components:	1 White NVSW219F Asymmetric 92 % 1.4 cd/m	6 <sup>5</sup> 100 200 200 200 200 200 200 200
Light colour Required components:	1 White NVSW219F Asymmetric 92 % 1.4 cd/lm 1	
Light colour Required components:	1 White NVSW219F Asymmetric 92 % 1.4 cd/lm 1	
Light colour Required components:	1 White NVSW219F Asymmetric 92 % 1.4 cd/lm 1	e <sup>7</sup> <u>100</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u>300</u> <u></u>



ΜΝΙCΗΙΛ		90+	T
LED	NVSW219F		
FWHM / FWTM	Asymmetric	750 400	L
Efficiency	80 %		_
Peak intensity	1.2 cd/lm	50° 800	
LEDs/each optic	1		
Light colour	White	1200	
Required components:	White		
		1600	
Protective plate	e, glass	2000	
		30° 15° 0° 15°	~
			1
LED	NVSW3x9A		
FWHM / FWTM	Asymmetric	750	T
Efficiency	79 %		
Peak intensity	1.1 cd/lm		
LEDs/each optic	1.1 00/111	X / 780	
Light colour	White		
Required components:	VIIIICO		
Protective plate	e, glass	2000	
		2000	
		30* 2000 15 <sup>5</sup> 0 <sup>6</sup> 13*	
<b>ΜΝΙCΗΙΛ</b>		80*	T
LED	NVSxE21A	4	
FWHM / FWTM	Asymmetric	75° 400	
Efficiency	79 %	604	
Efficiency Peak intensity			
Peak intensity	79 % 1.2 cd/lm 1		
Peak intensity LEDs/each optic	1.2 cd/lm 1	5° 1220	
Peak intensity LEDs/each optic Light colour	1.2 cd/lm	6° 129	
Peak intensity LEDs/each optic Light colour Required components:	1.2 cd/lm 1 White	6° 1729 1099	
Peak intensity LEDs/each optic Light colour	1.2 cd/lm 1 White	6"	
Peak intensity LEDs/each optic Light colour Required components:	1.2 cd/lm 1 White	6"	
Peak intensity LEDs/each optic Light colour Required components: Protective plate	1.2 cd/lm 1 White	6"	\ \ 
Peak intensity LEDs/each optic Light colour Required components: Protective plate	1.2 cd/lm 1 White e, glass	45° 1099 30° 13° 0° 13°	
Peak intensity LEDs/each optic Light colour Required components: Protective plate	1.2 cd/lm 1 White e, glass	6"	
Peak intensity LEDs/each optic Light colour Required components: Protective plate	1.2 cd/lm 1 White e, glass NVSxE21A Asymmetric	45° 1509 2009 2009 13° 13° 13° 13° 13° 13°	
Peak intensity LEDs/each optic Light colour Required components: Protective plate <b>WICHIA</b> LED FWHM / FWTM Efficiency	1.2 cd/lm 1 White e, glass NVSxE21A Asymmetric 93 %	45° 1509 2009 2009 13° 13° 13° 13° 13° 13°	
Peak intensity LEDs/each optic Light colour Required components: Protective plate MICHIA LED FWHM / FWTM Efficiency Peak intensity	1.2 cd/lm 1 White a, glass NVSxE21A Asymmetric 93 % 1.5 cd/lm		
Peak intensity LEDs/each optic Light colour Required components: Protective plate MICHIA LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	1.2 cd/lm 1 White e, glass NVSxE21A Asymmetric 93 % 1.5 cd/lm 1	- 45° - 109 - 209 -	
Peak intensity LEDs/each optic Light colour Required components: Protective plate <b>WICHIA</b> LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	1.2 cd/lm 1 White a, glass NVSxE21A Asymmetric 93 % 1.5 cd/lm		
Peak intensity LEDs/each optic Light colour Required components: Protective plate MICHIA LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	1.2 cd/lm 1 White e, glass NVSxE21A Asymmetric 93 % 1.5 cd/lm 1		
Peak intensity LEDs/each optic Light colour Required components: Protective plate <b>WICHIA</b> LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	1.2 cd/lm 1 White e, glass NVSxE21A Asymmetric 93 % 1.5 cd/lm 1		
Peak intensity LEDs/each optic Light colour Required components: Protective plate <b>WICHIA</b> LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	1.2 cd/lm 1 White e, glass NVSxE21A Asymmetric 93 % 1.5 cd/lm 1		



<b>ΜΝΙCΗΙΛ</b>		30+ 30*
LED	NVSxx19B/NVSxx19C	
FWHM / FWTM	Asymmetric	73° 400 78°
Efficiency	80 %	
Peak intensity	1.2 cd/lm	.50 <sup>4</sup> 804
LEDs/each optic	1	$\times$ $\times$ / $\times$ $\times$
Light colour	White	45° 55°
Required components:		1600
Protective plate		XIIX
Fiblective plate	s, glass	200
		30* <u>45</u> 0* <u>15*</u> 30*
<b>Μ</b> ΝΙCΗΙΛ		90° 90°
LED	NVSxx19B/NVSxx19C	
FWHM / FWTM	Asymmetric	73° 400 78°
Efficiency	93 %	
Peak intensity	1.4 cd/lm	60 <sup>4</sup>
LEDs/each optic	1	1220
Light colour	White	45* 1650 45*
Required components:		
		2000
		30* 30*
OSDAM		
OSRAM Opto Semiconductors		
Opto Semiconductors	Duris S8	
<sup>Opto Semiconductors</sup> LED FWHM / FWTM	Asymmetric	
opto Semiconductors LED FWHM / FWTM Efficiency	Asymmetric 81 %	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity	Asymmetric 81 % 0.9 cd/lm	X  X
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 81 % 0.9 cd/lm 1	40 40 60 G
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 81 % 0.9 cd/lm	40 40 60 G
<sup>opto Semiconductors</sup> LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 81 % 0.9 cd/lm 1	40 00 00 00 00
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 81 % 0.9 cd/lm 1 White	60 60 60 60
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 81 % 0.9 cd/lm 1 White	40 00 00 00 00
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 81 % 0.9 cd/lm 1 White	60 60 67 127 127
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 81 % 0.9 cd/lm 1 White	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate	Asymmetric 81 % 0.9 cd/lm 1 White	400 600 600 1000 1200 1200
opto semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate OSSRAM Opto Semiconductors	Asymmetric 81 % 0.9 cd/lm 1 White e, glass	40 50 50 50 50 50 50 50 50 50 5
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate OSRAM Opto Semiconductors LED	Asymmetric 81 % 0.9 cd/lm 1 White e, glass Duris S8	400 600 600 1000 1200 1200
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate OSRAM Opto Semiconductors LED FWHM / FWTM	Asymmetric 81 % 0.9 cd/lm 1 White e, glass Duris S8 Asymmetric	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate OSSRAM Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 81 % 0.9 cd/lm 1 White e, glass Duris S8 Asymmetric 58 %	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate OSSRAM Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 81 % 0.9 cd/lm 1 White e, glass Duris S8 Asymmetric 58 % 0.8 cd/lm	
opto semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate OSRAM Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 81 % 0.9 cd/lm 1 White a, glass Duris S8 Asymmetric 58 % 0.8 cd/lm 1 White	
opto semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate OSSRAM Opto semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 81 % 0.9 cd/lm 1 White a, glass Duris S8 Asymmetric 58 % 0.8 cd/lm 1 White	
opto semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate OSRAM Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 81 % 0.9 cd/lm 1 White a, glass Duris S8 Asymmetric 58 % 0.8 cd/lm 1 White	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate OSRAM Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 81 % 0.9 cd/lm 1 White a, glass Duris S8 Asymmetric 58 % 0.8 cd/lm 1 White	



OSRAM		
<b>USINA</b>		
Opto Semiconductors		90* 90*
LED	Duris S8	200
FWHM / FWTM	Asymmetric	
Efficiency	92 %	50° 600 50°.
Peak intensity	1 cd/lm	
LEDs/each optic	1	800
Light colour	White	6° 1000 6°
Required components:		1230
		3400
		1630
		30° 15 <sup>5</sup> 1890 15° 30°
OSRAM Opto Semiconductors		90° 90°
LED	Duris S8	
FWHM / FWTM	Asymmetric	75° 200 78°
Efficiency	75 %	400
Peak intensity	0.9 cd/lm	60° 60°
LEDs/each optic	1	
Light colour	' White	800
	Wille	. 65°
Required components:		1290
C18069_SPORT-2X2	-F1-SHD-WH1	
		1830
		30* 15 <sup>5</sup> 0 <sup>6</sup> 15* 30 <sup>4</sup>
OSRAM		
Opto Semiconductors		90* 90*
LED	OSCONIQ C 3030	
FWHM / FWTM	Asymmetric	75%
	Asymmetric 80 %	75 00 75
FWHM / FWTM Efficiency Peak intensity	Asymmetric	25 40 72. 67 80 67.
FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 80 %	,00° (67.
FWHM / FWTM Efficiency Peak intensity	Asymmetric 80 % 1.2 cd/lm	6°
FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 80 % 1.2 cd/lm 1	6 <sup>14</sup> 800 601
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 80 % 1.2 cd/lm 1 White	6 <sup>14</sup> 800 601
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 80 % 1.2 cd/lm 1 White	6 <sup>14</sup> 800 601
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 80 % 1.2 cd/lm 1 White	6 <sup>14</sup> 800 601
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate	Asymmetric 80 % 1.2 cd/lm 1 White	6 <sup>14</sup> 800 601
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 80 % 1.2 cd/lm 1 White	6 <sup>14</sup> 8 <sup>00</sup> 6 <sup>94</sup>
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate	Asymmetric 80 % 1.2 cd/lm 1 White a, glass	6 <sup>14</sup> 8 <sup>00</sup> 6 <sup>94</sup>
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate	Asymmetric 80 % 1.2 cd/lm 1 White 9, glass OSCONIQ P 3737 (2W version)	6 <sup>14</sup> 8 <sup>00</sup> 6 <sup>94</sup>
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate OSRAM Opto Semiconductors LED FWHM / FWTM	Asymmetric 80 % 1.2 cd/lm 1 White 9, glass OSCONIQ P 3737 (2W version) Asymmetric	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate OSRAM Opto Semiconductors LED FWHM / FWTM Efficiency	Asymmetric 80 % 1.2 cd/lm 1 White e, glass OSCONIQ P 3737 (2W version) Asymmetric 81 %	6°* 6° 6° 1255 6° 155 0° 15° 0° 15° 0° 15° 0°
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate Protective plate OSRAM Optis Semiconductors LED FWHM / FWTM Efficiency Peak intensity	Asymmetric 80 % 1.2 cd/lm 1 White e, glass OSCONIQ P 3737 (2W version) Asymmetric 81 % 1.3 cd/lm	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate Protective plate Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 80 % 1.2 cd/lm 1 White p, glass OSCONIQ P 3737 (2W version) Asymmetric 81 % 1.3 cd/lm 1	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate Option Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 80 % 1.2 cd/lm 1 White e, glass OSCONIQ P 3737 (2W version) Asymmetric 81 % 1.3 cd/lm	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate Protective plate Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 80 % 1.2 cd/lm 1 White p, glass OSCONIQ P 3737 (2W version) Asymmetric 81 % 1.3 cd/lm 1	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate Protective plate Protecti	Asymmetric 80 % 1.2 cd/lm 1 White OSCONIQ P 3737 (2W version) Asymmetric 81 % 1.3 cd/lm 1 White	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate Option Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 80 % 1.2 cd/lm 1 White OSCONIQ P 3737 (2W version) Asymmetric 81 % 1.3 cd/lm 1 White	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate Protective plate Protecti	Asymmetric 80 % 1.2 cd/lm 1 White OSCONIQ P 3737 (2W version) Asymmetric 81 % 1.3 cd/lm 1 White	



OSRAM Opto Semiconductors		
LED	OSCONIQ P 3737 (2W version)	30°
EUD FWHM / FWTM	Asymmetric	730 700
Efficiency	53 %	
Peak intensity	1.2 cd/lm	60* 60*
-		
LEDs/each optic	1	
Light colour	White	45° 22%
Required components:		
C17929_SPORT-2X	2-F1-SHD-BLK	$\times$ / $\top$ / $\times$
Protective pla	te, glass	2000
		30 <sup>4</sup> 15 <sup>5</sup> 0° 15°
OSRAM Opto Semiconductors		90*
LED	OSCONIQ P 3737 (3W version)	
FWHM / FWTM	Asymmetric	130 400 701
Efficiency	80 %	
Peak intensity	1.1 cd/lm	50* 60*
LEDs/each optic	1	
Light colour	White	457 1200 45*
Required components:		
		1600
Protective pla	te, glass	$\times$ / $\setminus$ $\times$
		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
		30* 30*
OSRAM		
Opto Semiconductors	OSCONIO P 3737 Elat	89. 12 <sup>2</sup> v. 12.
Opto Semiconductors	OSCONIQ P 3737 Flat	20° 0° 23°
opto Semiconductors LED FWHM / FWTM	Asymmetric	27 C 27
<sup>opto Semiconductors</sup> LED FWHM / FWTM Efficiency	Asymmetric 95 %	
<sup>opto Semiconductors</sup> LED FWHM / FWTM Efficiency Peak intensity	Asymmetric 95 % 1.4 cd/lm	27 V 17 29 30 40 40 50 60 60 60 60 60 60 60 60 60 6
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 95 % 1.4 cd/lm 1	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 95 % 1.4 cd/lm 1 White	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 95 % 1.4 cd/lm 1 White	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 95 % 1.4 cd/lm 1 White	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 95 % 1.4 cd/lm 1 White	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 95 % 1.4 cd/lm 1 White	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 95 % 1.4 cd/lm 1 White	60 00 60 120 50 150 50 50 50 50 50 50 50 50 50 50 50 50 5
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 95 % 1.4 cd/lm 1 White	60 00 60 120 50 100 200 200
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: OSRAM Opto Semiconductors LED	Asymmetric 95 % 1.4 cd/lm 1 White OSCONIQ P 3737 Flat	50 00 69 50 100 00 50 100 000 50 100 00000000000000000000000000000000
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: OSRAM Opto Semiconductors LED FWHM / FWTM	Asymmetric 95 % 1.4 cd/lm 1 White OSCONIQ P 3737 Flat Asymmetric	50° 000 6° 1000 0° 1000 0°
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: OSRAM Opto Semiconductors LED FWHM / FWTM Efficiency	Asymmetric 95 % 1.4 cd/lm 1 White OSCONIQ P 3737 Flat Asymmetric 84 %	50 00 69 50 100 00 50 100 000 50 100 00000000000000000000000000000000
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity	Asymmetric 95 % 1.4 cd/lm 1 White OSCONIQ P 3737 Flat Asymmetric 84 % 1.2 cd/lm	50 00 69 50 100 00 50 100 000 50 100 00000000000000000000000000000000
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	Asymmetric 95 % 1.4 cd/lm 1 White OSCONIQ P 3737 Flat Asymmetric 84 % 1.2 cd/lm 1	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:  OSERAM Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 95 % 1.4 cd/lm 1 White OSCONIQ P 3737 Flat Asymmetric 84 % 1.2 cd/lm 1 White	
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	Asymmetric 95 % 1.4 cd/lm 1 White OSCONIQ P 3737 Flat Asymmetric 84 % 1.2 cd/lm 1 White	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: <b>OOSRAM</b> Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 95 % 1.4 cd/lm 1 White OSCONIQ P 3737 Flat Asymmetric 84 % 1.2 cd/lm 1 White	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:  OSERAM Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 95 % 1.4 cd/lm 1 White OSCONIQ P 3737 Flat Asymmetric 84 % 1.2 cd/lm 1 White	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:  OSRAM Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 95 % 1.4 cd/lm 1 White OSCONIQ P 3737 Flat Asymmetric 84 % 1.2 cd/lm 1 White	50 50 50 50 50 50 50 50 50 50



OSRAM Opto Semiconductors		90* 90*
LED	OSCONIQ S 5050	
FWHM / FWTM	Asymmetric	75° 200 75°
Efficiency	80 %	400
Peak intensity	0.9 cd/lm	604
LEDs/each optic	1	
Light colour	' White	
Required components:	Wille	45*
Required components.		
Protective plate	e, glass	1200
		1400
		30* 15 <sup>5</sup> 18 <sup>5</sup> 0 15* 30*
OSRAM Opto Semiconductors		90* 90*
UED	OSCONIQ S 5050	
FWHM / FWTM	Asymmetric	73° 77°
Efficiency	94 %	400
Peak intensity	1 cd/im	50 <sup>4</sup> 50 <sup>4</sup>
LEDs/each optic	1	80
Light colour	' White	
Required components:	White	45* 45*
Required components.		
		1600
		30* 13 <sup>5</sup> 0° 15° 30 <sup>4</sup>
OSRAM		
Opto Semiconductors	001 0N 0 0000N/0000N/0	»· • • • • • • • • • • • • • • • • • • •
Opto Semiconductors LED	OSLON Square CSSRM2/CSSRM3	97 <sup>*</sup> 97 <sup>*</sup>
Opto Semiconductors LED FWHM / FWTM	Asymmetric	75
<sup>opto Semiconductors</sup> LED FWHM / FWTM Efficiency	Asymmetric 91 %	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity	Asymmetric 91 % 1.5 cd/lm	75
<sup>opto Semiconductors</sup> LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 91 % 1.5 cd/lm 1	27° - 400 - 7°. 60° - 60° - 60°
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 91 % 1.5 cd/lm	25 - 40 - 72 - 05 - 90 - 60 - 60 -
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 91 % 1.5 cd/lm 1	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 91 % 1.5 cd/lm 1	23 · · · · · · · · · · · · · · · · · · ·
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 91 % 1.5 cd/lm 1	23 · · · · · · · · · · · · · · · · · · ·
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 91 % 1.5 cd/lm 1	6° 6° 6°
opto semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 91 % 1.5 cd/lm 1	200 200 200 200 200 200 200 200
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 91 % 1.5 cd/lm 1 White	23 60 77 77 78 78 78 78 78 78 78 78 78 78 78
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: OSRAM Opto Semiconductors LED	Asymmetric 91 % 1.5 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	Asymmetric 91 % 1.5 cd/lm 1 White OSLON Square CSSRM2/CSSRM3 Asymmetric	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: OSRAM Opto Semiconductors LED FWHM / FWTM Efficiency	Asymmetric 91 % 1.5 cd/lm 1 White OSLON Square CSSRM2/CSSRM3 Asymmetric 85 %	90° 10° 10° 10° 10° 10° 10° 10° 1
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: PossRAM Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity	Asymmetric 91 % 1.5 cd/lm 1 White OSLON Square CSSRM2/CSSRM3 Asymmetric 85 % 1.3 cd/lm	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: OSSRAM Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 91 % 1.5 cd/lm 1 White OSLON Square CSSRM2/CSSRM3 Asymmetric 85 % 1.3 cd/lm 1	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 91 % 1.5 cd/lm 1 White OSLON Square CSSRM2/CSSRM3 Asymmetric 85 % 1.3 cd/lm	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 91 % 1.5 cd/lm 1 White OSLON Square CSSRM2/CSSRM3 Asymmetric 85 % 1.3 cd/lm 1	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: POSREM Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 91 % 1.5 cd/lm 1 White OSLON Square CSSRM2/CSSRM3 Asymmetric 85 % 1.3 cd/lm 1 White	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 91 % 1.5 cd/lm 1 White OSLON Square CSSRM2/CSSRM3 Asymmetric 85 % 1.3 cd/lm 1 White	
prosemiconductors JED WHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: ED WHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 91 % 1.5 cd/lm 1 White OSLON Square CSSRM2/CSSRM3 Asymmetric 85 % 1.3 cd/lm 1 White	



OSRAM Opto Semiconductors		90* 90*
LED	OSLON Square Flat	
FWHM / FWTM	Asymmetric	75° 400 75°
Efficiency	84 %	
Peak intensity	1.4 cd/lm	50 <sup>4</sup> 800 604
		$\vee \times / \wedge \times \vee$
LEDs/each optic	1	1200
Light colour	White	65° 65°
Required components:		X/T/X
Protective plate	, glass	2000
		30° 2400 13° 13° 0° 15° 30°
OSRAM		
Opto Semiconductors	OSLON Square Flat	90° 90°
EED FWHM / FWTM	Asymmetric	720 400 770
Efficiency	94 %	800
Peak intensity	1.6 cd/lm	60* 60*
LEDs/each optic	1	1200
	White	1000
Light colour	white	6° 6°
Required components:		2000
		2000
		30° 2800 90° 10° 90°
OSRAM		The PHIL
Opto Semiconductors		90* 90*
LED	OSTAR Projection Compact (KW.CSLNM1.TG)	750 400 750
FWHM / FWTM	Asymmetric	
Efficiency	95 %	aio 60*
Peak intensity	1.6 cd/lm	120
LEDs/each optic	1	1500
Light colour	White	45'
Required components:		2000
		2400
		30° 30°
		15° 0° 15°
СЛИСИИ		
SAMSUN		50° 0° 10°
LED	LH231B	
LED FWHM / FWTM	LH231B Asymmetric	29° 0° 20° 29° 0° 20°
LED FWHM / FWTM Efficiency	LH231B Asymmetric 93 %	
LED FWHM / FWTM Efficiency Peak intensity	LH231B Asymmetric	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	LH231B Asymmetric 93 % 1.4 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LH231B Asymmetric 93 % 1.4 cd/m	2 <sup>3</sup> 60 72
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	LH231B Asymmetric 93 % 1.4 cd/lm 1	23° 40 72°
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LH231B Asymmetric 93 % 1.4 cd/lm 1	23° 40 72° 60° 80° 60° 80° 60° 80°
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LH231B Asymmetric 93 % 1.4 cd/lm 1	23° 40 72° 60° 80° 60° 80° 60° 80°
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LH231B Asymmetric 93 % 1.4 cd/lm 1	65 60 60 1222 60 1220 60 1200 60 100 100 100 100 100 100 100 100 100 1



SAMSU	<b>IG</b>	90*
LED	LH351B	•
FWHM / FWTM	Asymmetric	730 400
Efficiency	81 %	
Peak intensity	1.3 cd/lm	50° 900
LEDs/each optic	1	1220
Light colour	White	45*
Required components:		1000
Protective plat	e, glass	2000
		30° 15 <sup>5</sup> 2390
SAMSUN	<b>NG</b>	90 <sup>4</sup>
LED	LH351C	
FWHM / FWTM	Asymmetric	75* 44
Efficiency	82 %	$\times$
Peak intensity	1.2 cd/lm	60 <sup>+</sup>
LEDs/each optic	1	
Light colour	White	151
Required components:		16
Protective plat	e, glass	X
		2000
		30°
SAMSUN	N G	90*
LED	LH351C	
FWHM / FWTM	Asymmetric	756 400
Efficiency	93 %	
Peak intensity	1.4 cd/lm	60*
LEDs/each optic	1	
Light colour	White	45* 16
Required components:		
		2
		30* 132
SAMSUN	N G	90*
LED	LH351D	4
FWHM / FWTM	Asymmetric	755 400
Efficiency	80 %	
Peak intensity	1 cd/lm	60*
LEDs/each optic	1	$\times$ / $\uparrow$
Light colour	White	45*
Required components:		123
Protective plat	e, glass	1690
		30*



SAMSUN	IG	
LED	LH351D	
FWHM / FWTM	Asymmetric	73 400 75
Efficiency	92 %	
Peak intensity	1.2 cd/lm	.60 <sup>4</sup> 60 <sup>4</sup>
LEDs/each optic	1	
Light colour	White	45* 1220 45*
Required components:		$\times$
		1630
		2000
		30° <u>13</u> ° <u>0</u> ° <u>15</u> ° 30°
SAMSUN	IG	90* 90*
LED	LH502C	
FWHM / FWTM	Asymmetric	75°
Efficiency	92 %	
Peak intensity	1 cd/lm	60°
LEDs/each optic	1	
Light colour	White	451 451
Required components:		
		$\times$
		1630
		30* 30*
0.0.0.0.0.0.0		
SVWSUN		90* 90*
LED	LH502C	97 P
LED FWHM / FWTM	LH502C Asymmetric	лл
LED FWHM / FWTM Efficiency	LH502C Asymmetric 79 %	
LED FWHM / FWTM Efficiency Peak intensity	LH502C Asymmetric 79 % 0.9 cd/lm	лл
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	LH502C Asymmetric 79 % 0.9 cd/lm 1	73°
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LH502C Asymmetric 79 % 0.9 cd/lm	75*
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	LH502C Asymmetric 79 % 0.9 cd/lm 1	20 20 40 50 50 60 50 50 50 50 50 50 50 50 50 5
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LH502C Asymmetric 79 % 0.9 cd/lm 1 White	75°
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LH502C Asymmetric 79 % 0.9 cd/lm 1 White	20 20 40 40 40 40 40 40 40 40 40 4
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LH502C Asymmetric 79 % 0.9 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate	LH502C Asymmetric 79 % 0.9 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate	LH502C Asymmetric 79 % 0.9 cd/lm 1 White a, glass	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate	LH502C Asymmetric 79 % 0.9 cd/lm 1 White e, glass	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate SAMSUN LED FWHM / FWTM	LH502C Asymmetric 79 % 0.9 cd/lm 1 White e, glass	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate SAMSUN LED FWHM / FWTM Efficiency	LH502C Asymmetric 79 % 0.9 cd/lm 1 White a, glass LH508A Plus Asymmetric 93 %	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate SAMSUN LED FWHM / FWTM Efficiency Peak intensity	LH502C Asymmetric 79 % 0.9 cd/lm 1 White e, glass LH508A Plus Asymmetric 93 % 1 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate SAMSSUN LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	LH502C Asymmetric 79 % 0.9 cd/lm 1 White e, glass LH508A Plus Asymmetric 93 % 1 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate SANNSUN LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LH502C Asymmetric 79 % 0.9 cd/lm 1 White e, glass LH508A Plus Asymmetric 93 % 1 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate SAMSSUN LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	LH502C Asymmetric 79 % 0.9 cd/lm 1 White e, glass LH508A Plus Asymmetric 93 % 1 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate SAMSUN LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LH502C Asymmetric 79 % 0.9 cd/lm 1 White e, glass LH508A Plus Asymmetric 93 % 1 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate SAMSUN LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LH502C Asymmetric 79 % 0.9 cd/lm 1 White e, glass LH508A Plus Asymmetric 93 % 1 cd/lm 1	



SAMSUN	IG	
LED	LH508A Plus	
FWHM / FWTM	Asymmetric	75° 20 75'
Efficiency	82 %	400
Peak intensity	0.9 cd/lm	604 600
LEDs/each optic	1	
Light colour	White	
Required components:		1000
Protective plate	e. glass	1229
		10° 15 <sup>5</sup> 0° 15° 3°
SEOUL		
		99* 99*
	MJT 5050	750 780
FWHM / FWTM Efficiency	Asymmetric 79 %	
Peak intensity	79 % 0.9 cd/lm	50* 800 50*
LEDs/each optic	1	
Light colour	u White	
Required components:	White	45" 45"
required components.		1230
Protective plate	e, glass	3850
		30 <sup>4</sup> 36 <sup>50</sup> 39 <sup>4</sup>
		10° 15 <sup>5</sup> 0 <sup>6</sup> 15° 30°
SEOUL SEOUL SEMICONDUCTOR		90° 90°
	SEOUL DC 5050 6V	50°
SEOUL SEMICONDUCTOR	SEOUL DC 5050 6V Asymmetric	90 <sup>1</sup>
SEOUL SEMICONDUCTOR		90 <sup>-</sup> 193 <sup>-</sup> 100
seoul semiconductor LED FWHM / FWTM	Asymmetric	90°
seoul semiconductor LED FWHM / FWTM Efficiency	Asymmetric 92 %	90 <sup>3</sup> 90 <sup>3</sup> 90 <sup>3</sup>
seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity	Asymmetric 92 % 1 cd/lm	5°
seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 92 % 1 cd/lm 1	90°
seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 92 % 1 cd/lm 1	
seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 92 % 1 cd/lm 1	
seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 92 % 1 cd/lm 1	
SEOUL SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 92 % 1 cd/lm 1	
SEOUL SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 92 % 1 cd/lm 1 White	
stoul SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: stoul SEMICONDUCTOR LED	Asymmetric 92 % 1 cd/lm 1 White SEOUL DC 5050 6V	
stoul JEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: stoul JEMICONDUCTOR LED FWHM / FWTM	Asymmetric 92 % 1 cd/lm 1 White SEOUL DC 5050 6V Asymmetric	90 <sup>+</sup> 10 <sup>2</sup> 90 <sup>+</sup>
stoul JEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: stoul JEMICONDUCTOR LED FWHM / FWTM Efficiency	Asymmetric 92 % 1 cd/lm 1 White SEOUL DC 5050 6V Asymmetric 92 %	22
seoul SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: seoul SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity	Asymmetric 92 % 1 cd/lm 1 White SEOUL DC 5050 6V Asymmetric 92 % 1 cd/lm	22
sEOUL SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: SEOUL SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 92 % 1 cd/lm 1 White SEOUL DC 5050 6V Asymmetric 92 % 1 cd/lm 1	
seou semconoucror LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: seou semconoucror LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 92 % 1 cd/lm 1 White SEOUL DC 5050 6V Asymmetric 92 % 1 cd/lm	25° (° 12° ) 15° (° 12° ) 15
sEOUL SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: SEOUL SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 92 % 1 cd/lm 1 White SEOUL DC 5050 6V Asymmetric 92 % 1 cd/lm 1	
seou semconoucror LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: seou semconoucror LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 92 % 1 cd/lm 1 White SEOUL DC 5050 6V Asymmetric 92 % 1 cd/lm 1	
stoul SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Stoul SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 92 % 1 cd/lm 1 White SEOUL DC 5050 6V Asymmetric 92 % 1 cd/lm 1	



SEOUL		
		90* 90*
LED	SEOUL DC 5050 6V	750 20 770
FWHM / FWTM	Asymmetric	
Efficiency	80 %	60° 604
Peak intensity	0.9 cd/lm	
LEDs/each optic	1	800
Light colour	White	45* 65*
Required components:		
Protective plat		1200
Fiblective plat	z, ylass	1000
		30* 15 <sup>3</sup> 1600 30*
SEQUE		
SEOUL SEMICONDUCTOR		90° 90°
LED	SEOUL DC 5050 6V	736 22 776
FWHM / FWTM	Asymmetric	
Efficiency	80 %	60°
Peak intensity	0.9 cd/lm	600
LEDs/each optic	1	
Light colour	White	er
Required components:		1000
Protective plat		1270
FIDIECTIVE plat	e, glass	1430
		30* 15 <sup>5</sup> 1690 15* 30*
SEQUL		
SEOUL SEMICONDUCTOR		90°
seoul semiconductor LED	Z5M3	90°
seoul semiconductor LED FWHM / FWTM	Asymmetric	90° - 90° 23° - 200
seoul semiconductor LED FWHM / FWTM Efficiency	Asymmetric 79 %	90°
seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity	Asymmetric 79 % 1.1 cd/lm	90° 73° 80° 80°
seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 79 % 1.1 cd/lm 1	90° 79° 80° 80° 80° 80° 80° 80° 80° 80°
seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 79 % 1.1 cd/lm	9° 9° 9° 60° 60° 60° 60° 60° 60°
seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 79 % 1.1 cd/lm 1	
seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 79 % 1.1 cd/lm 1 White	
seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 79 % 1.1 cd/lm 1 White	6° 1700 ° .
seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 79 % 1.1 cd/lm 1 White	6° 1200 6°
seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 79 % 1.1 cd/lm 1 White	00 60 1222 00 202 202
SEOUL SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plat	Asymmetric 79 % 1.1 cd/lm 1 White a, glass	00 60 1222 00 202 202
SEOUL SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plat	Asymmetric 79 % 1.1 cd/lm 1 White e, glass Z5M4	
SEOUL SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plat SEOUL SEMICONDUCTOR LED FWHM / FWTM	Asymmetric 79 % 1.1 cd/lm 1 White e, glass Z5M4 Asymmetric	80 80 109 109 109 109 109 109 109 10
seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plat	Asymmetric 79 % 1.1 cd/lm 1 White e, glass Z5M4 Asymmetric 82 %	
seoul seniconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plat seoul seniconductor LED FWHM / FWTM Efficiency Peak intensity	Asymmetric 79 % 1.1 cd/lm 1 White e, glass Z5M4 Asymmetric 82 % 1.3 cd/lm	90 67 1229 07 150 00 150 07 07 07 07 07 07 07 07 07 0
seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plat seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 79 % 1.1 cd/lm 1 White e, glass Z5M4 Asymmetric 82 % 1.3 cd/lm 1	90 67 1229 07 150 00 150 07 07 07 07 07 07 07 07 07 0
SEOUL SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plat SEOUL SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 79 % 1.1 cd/lm 1 White e, glass Z5M4 Asymmetric 82 % 1.3 cd/lm	
seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plat seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 79 % 1.1 cd/lm 1 White e, glass Z5M4 Asymmetric 82 % 1.3 cd/lm 1	
SEOUL SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plat SEOUL SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 79 % 1.1 cd/lm 1 White e, glass Z5M4 Asymmetric 82 % 1.3 cd/lm 1 White	
SEOUL SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plat SEOUL SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 79 % 1.1 cd/lm 1 White e, glass Z5M4 Asymmetric 82 % 1.3 cd/lm 1 White	
SEOUL SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plat SEOUL SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 79 % 1.1 cd/lm 1 White e, glass Z5M4 Asymmetric 82 % 1.3 cd/lm 1 White	



SEOUL		
SEOUL SEMICONDUCTOR		90*
LED	Z5M5	me for
FWHM / FWTM	Asymmetric	400
Efficiency	80 %	
Peak intensity	1.1 cd/lm	
LEDs/each optic	1	
Light colour	White	451 1220
Required components:		X/T/X
Protective plate	e, glass	1600
		30° 33 <sup>2</sup> 26° 13°
SEQUL		IN M
seoul semiconductor LED	Z5M5	
FWHM / FWTM		730 400
Efficiency	Asymmetric 92 %	
Peak intensity	92 % 1.2 cd/lm	.60*
LEDs/each optic		X /T X
LEDS/each optic	1 White	1200
Required components:	White	- 65°
Required components:		1670
		$\times$ / $\times$
		2000
		30* 13 <sup>5</sup> 0° 15*
SEQUL		30° 15° 0° 15°
SECUL SECUL SEMICONDUCTOR		
SEOUL SEMICONDUCTOR	Z8Y22	50° 10° 10°
seoul semiconductor LED	Z8Y22 Asymmetric	
seoul semiconductor LED FWHM / FWTM		
seoul semiconductor LED FWHM / FWTM Efficiency	Asymmetric	
seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity	Asymmetric 91 %	
seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 91 % 1.2 cd/lm	
seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 91 % 1.2 cd/lm 1	
stour stemconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 91 % 1.2 cd/lm 1	
seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 91 % 1.2 cd/lm 1	
seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 91 % 1.2 cd/lm 1	
seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 91 % 1.2 cd/lm 1	
seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 91 % 1.2 cd/lm 1	
SEOUL SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 91 % 1.2 cd/lm 1 White	
seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: seoul semiconductor LED	Asymmetric 91 % 1.2 cd/lm 1 White Z8Y50P	
seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: seoul semiconductor LED FWHM / FWTM	Asymmetric 91 % 1.2 cd/lm 1 White Z8Y50P Asymmetric	
SEQUI SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: SEQUI SEMICONDUCTOR LED FWHM / FWTM Efficiency	Asymmetric 91 % 1.2 cd/lm 1 White Z8Y50P Asymmetric 78 %	
stoul stimonibuctor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: stoul stimonibuctor LED FWHM / FWTM Efficiency Peak intensity	Asymmetric 91 % 1.2 cd/lm 1 White Z8Y50P Asymmetric 78 % 0.7 cd/lm	
SEOUL SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: SEOUL SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 91 % 1.2 cd/lm 1 White Z8Y50P Asymmetric 78 % 0.7 cd/lm 1	
SEOUL SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: SEOUL SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 91 % 1.2 cd/lm 1 White Z8Y50P Asymmetric 78 % 0.7 cd/lm	
seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 91 % 1.2 cd/lm 1 White Z8Y50P Asymmetric 78 % 0.7 cd/lm 1	
seoul semiconbuctor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: SEOUL SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 91 % 1.2 cd/lm 1 White Z8Y50P Asymmetric 78 % 0.7 cd/lm 1 White	
SEOUL SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: SEOUL SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 91 % 1.2 cd/lm 1 White Z8Y50P Asymmetric 78 % 0.7 cd/lm 1 White	
OUL SEMICONDUCTOR ED WHM / FWTM Efficiency Peak intensity EDs/each optic ight colour Required components: COULSEMICONDUCTOR ED WHM / FWTM Efficiency Peak intensity EDs/each optic ight colour Required components:	Asymmetric 91 % 1.2 cd/lm 1 White Z8Y50P Asymmetric 78 % 0.7 cd/lm 1 White	



#### **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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