

# PRODUCT DATASHEET C17360\_SPORT-2X2-FT60

# SPORT-2X2-FT60

Narrow forward throw beam for high masts

#### **SPECIFICATION:**

Dimensions	50.0 x 50.0 mm
Height	15.5 mm
Fastening	screw
ROHS compliant	yes 🛈



#### **MATERIALS**:

Component SPORT-2X2-FT60 **Type** Multi-lens

Material	Colour	Finish
PMMA	clear	

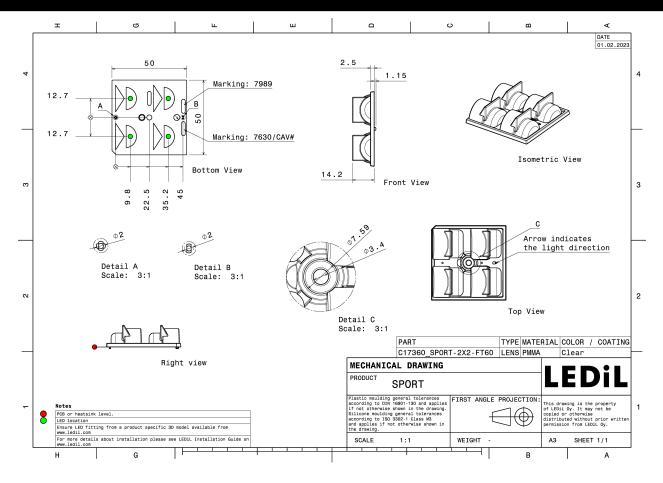
#### **ORDERING INFORMATION:**

Component C17360\_SPORT-2X2-FT60 » Box size: 480 x 280 x 300 mm

Qty in box	MOQ	MPQ	Box weight (kg)
640	128	128	9.5

# 

# PRODUCT DATASHEET C17360\_SPORT-2X2-FT60



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



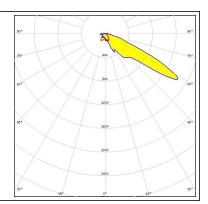
#### **OPTICAL RESULTS (MEASURED):**

|--|

LED

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

PassivePAQ-R-222x50.OS1.9.7K-750-5 V1.0 Asymmetric 94 % 1.5 cd/lm 1 White Required components:





LED	J Series 5050 Round LES	90* 90*
EED FWHM / FWTM		790
Efficiency	Asymmetric 91 %	400
		60° 60°
Peak intensity	1.2 cd/lm	$\times$ / $\longrightarrow$ $\times$
LEDs/each optic	1	
Light colour	White	45* 1220 45*
Required components:		
		2000
		30° 15° 0° 15° 30°
	Series FOFO Dound LES	90* 90*
	J Series 5050 Round LES	750 750
FWHM / FWTM Efficiency	Asymmetric 78 %	400
	7 6 % 1 cd/lm	60* 60*
Peak intensity		200
LEDs/each optic Light colour	1 White	
	White	45* 45*
Required components:		
Protective plate	e, glass	
		1000
		30° 15 <sup>5</sup> 0° 15 <sup>4</sup> 30°
IFD	J Series 5050 Square LES 6V	The second secon
LED FWHM / FWTM	J Series 5050 Square LES 6V Asymmetric	70 70 70
FWHM / FWTM	Asymmetric	353 600 75
FWHM / FWTM Efficiency	Asymmetric 89 %	
FWHM / FWTM Efficiency Peak intensity	Asymmetric 89 % 1.1 cd/lm	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 89 % 1.1 cd/lm 1	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 89 % 1.1 cd/lm	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 89 % 1.1 cd/lm 1	45° 40° 40°
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 89 % 1.1 cd/lm 1	45° 40° 40°
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 89 % 1.1 cd/lm 1	45° 40° 40°
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 89 % 1.1 cd/lm 1	45° 40° 40°
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 89 % 1.1 cd/lm 1	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 89 % 1.1 cd/lm 1 White	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 89 % 1.1 cd/lm 1 White XHP35.2 HD	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 89 % 1.1 cd/lm 1 White XHP35.2 HD Asymmetric	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 89 % 1.1 cd/lm 1 White XHP35.2 HD Asymmetric 89 %	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: CREE LED LED FWHM / FWTM Efficiency Peak intensity	Asymmetric 89 % 1.1 cd/lm 1 White XHP35.2 HD Asymmetric 89 % 1 cd/lm	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: CREE LED LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 89 % 1.1 cd/lm 1 White XHP35.2 HD Asymmetric 89 % 1 cd/lm 1	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: CREE LED LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 89 % 1.1 cd/lm 1 White XHP35.2 HD Asymmetric 89 % 1 cd/lm	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: CREE COMPONENTS LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 89 % 1.1 cd/lm 1 White XHP35.2 HD Asymmetric 89 % 1 cd/lm 1	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: CREE LED LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 89 % 1.1 cd/lm 1 White XHP35.2 HD Asymmetric 89 % 1 cd/lm 1	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: CREE LED LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 89 % 1.1 cd/lm 1 White XHP35.2 HD Asymmetric 89 % 1 cd/lm 1	



LED	XHP35.2 HD	90° 90
FWHM / FWTM	Asymmetric	739 200 7
Efficiency	73 %	400
Peak intensity	0.8 cd/lm	604 6
LEDs/each optic	1	640
Light colour	White	
Required components:	White	1000
Protective plate	e, glass	1220
		1490
		130° <u>425<sup>6</sup> 0<sup>6</sup> 13°</u> 30
		90° 90
LED	XHP35.2 HI	
FWHM / FWTM	Asymmetric	75* 400 75
Efficiency	92 %	
Peak intensity	1.2 cd/lm	50°
LEDs/each optic	1	1200
Light colour	White	45* 45
Required components:		1000
		X    X
		2000
		30* 30
		13 <sup>3</sup>
		90* 90
LED	XHP35.2 HI	2
FWHM / FWTM	Asymmetric	73%
Efficiency	77 %	
Peak intensity	1 cd/lm	
LEDs/each optic	1	
Light colour	White	45°
Required components:		
Protective plate		
FIDIECTIVE Plate	z, ylass	1600
		30 <sup>4</sup> 35 <sup>2</sup> 0 <sup>6</sup> 30
LED	XHP50.3 HI	
FWHM / FWTM	Asymmetric	
Efficiency	92 %	
Peak intensity	92 // 1.2 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required components:		



LED	XHP50.3 HI	
FWHM / FWTM	Asymmetric	75°
Efficiency	77 %	400
Peak intensity	1 cd/lm	50* 60*
-		
LEDs/each optic	1 White	
Light colour Required components:	Wille	er
Required components.		
Protective plate	, glass	
		1000
		30* 15* 0° 15*
		90 <sup>4</sup>
LED	XM-L3	A A A A A A A A A A A A A A A A A A A
FWHM / FWTM	Asymmetric	75° 400 75°
Efficiency	90 %	
Peak intensity	1.3 cd/lm	60 <sup>4</sup> 60 <sup>4</sup>
LEDs/each optic	1	1200
Light colour	White	451 634
Required components:		1600
		2000
		30 <sup>4</sup> 200 30 <sup>4</sup>
		30° 135 0° 15° 30°
		90* 90*
LED	XM-L3	A
FWHM / FWTM		
	Asymmetric	73° 400
Efficiency	Asymmetric 74 %	751
Efficiency Peak intensity		20 <sup>1</sup> 00 00 00 00 00 00 00 00 00 00 00 00 00
	74 %	50 <sup>4</sup> 500 507
Peak intensity	74 % 1.1 cd/lm	
Peak intensity LEDs/each optic	74 % 1.1 cd/lm 1	6 <sup>-</sup> 1200 6 <sup>+</sup>
Peak intensity LEDs/each optic Light colour Required components:	74 % 1.1 cd/lm 1 White	67 172) 68 68 67 172) 67
Peak intensity LEDs/each optic Light colour	74 % 1.1 cd/lm 1 White	23 <sup>1</sup> 40 60 67 1722 67 1722 67 67
Peak intensity LEDs/each optic Light colour Required components:	74 % 1.1 cd/lm 1 White	
Peak intensity LEDs/each optic Light colour Required components: Protective plate	74 % 1.1 cd/lm 1 White	100
Peak intensity LEDs/each optic Light colour Required components: Protective plate	74 % 1.1 cd/lm 1 White	
Peak intensity LEDs/each optic Light colour Required components: Protective plate	74 % 1.1 cd/lm 1 White , glass XP-E2	
Peak intensity LEDs/each optic Light colour Required components: Protective plate	74 % 1.1 cd/lm 1 White , glass XP-E2 Asymmetric	
Peak intensity LEDs/each optic Light colour Required components: Protective plate CREE LED LED FWHM / FWTM Efficiency	74 % 1.1 cd/lm 1 White xP-E2 Asymmetric 88 %	
Peak intensity LEDs/each optic Light colour Required components: Protective plate CREE LED LED FWHM / FWTM Efficiency Peak intensity	74 % 1.1 cd/lm 1 White xP-E2 Asymmetric 88 % 2 cd/lm	
Peak intensity LEDs/each optic Light colour Required components: Protective plate CREE LED LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	74 % 1.1 cd/lm 1 White xP-E2 Asymmetric 88 % 2 cd/lm 1	1000 1000
Peak intensity LEDs/each optic Light colour Required components: Protective plate CREE LED LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	74 % 1.1 cd/lm 1 White xP-E2 Asymmetric 88 % 2 cd/lm	20° 10° 10° 10° 10° 10° 10° 10° 10° 10° 1
Peak intensity LEDs/each optic Light colour Required components: Protective plate CREE LED LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	74 % 1.1 cd/lm 1 White xP-E2 Asymmetric 88 % 2 cd/lm 1	1000 1000
Peak intensity LEDs/each optic Light colour Required components: Protective plate CREE LED LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	74 % 1.1 cd/lm 1 White xP-E2 Asymmetric 88 % 2 cd/lm 1	1000 1000
Peak intensity LEDs/each optic Light colour Required components: Protective plate CREE LED LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	74 % 1.1 cd/lm 1 White xP-E2 Asymmetric 88 % 2 cd/lm 1	1000 1000



		90 <sup>+</sup>
LED	XP-G2	A A A A A A A A A A A A A A A A A A A
FWHM / FWTM	Asymmetric	73% 400 782
Efficiency	90 %	80
Peak intensity	1.8 cd/lm	.50°
LEDs/each optic	1	
Light colour	u White	1500
Required components:	White	45* 2000 45*
Required components.		2490
		2000
		200
		30* 13 <sup>5</sup> 0° 15* 30*
LED	XP-G2	8°* 8°*
FWHM / FWTM	Asymmetric	73° 400 76°
Efficiency	77 %	00
Peak intensity	1.5 cd/lm	60 <sup>4</sup> 60 <sup>4</sup>
LEDs/each optic	1	1200
Light colour	White	45* 1600 45*.
Required components:	White	
rtoquirou componento.		2000
Protective plate	e, glass	2400
		30* 2800 30* 15° 30° 15°
	XP-G2 HE	
LED	XP-G2 HE Asymmetric	201
LED FWHM / FWTM	Asymmetric	90 <sup>4</sup>
LED FWHM / FWTM Efficiency	Asymmetric 73 %	
LED FWHM / FWTM Efficiency Peak intensity	Asymmetric 73 % 1.6 cd/lm	30 <sup>-</sup> 20 <sup>-</sup> 20 <sup>-</sup> 00 20 <sup>-</sup> 20 <sup></sup>
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 73 % 1.6 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 73 % 1.6 cd/lm	20°
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 73 % 1.6 cd/lm 1 White	23- 40 90 40 90 65 1200 67 160 67 160 67 160 67
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 73 % 1.6 cd/lm 1 White	20°
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 73 % 1.6 cd/lm 1 White	2000 2000 2000 2000 2000 2000 2000 200
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 73 % 1.6 cd/lm 1 White	25
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 73 % 1.6 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: C18069_SPORT-2X2	Asymmetric 73 % 1.6 cd/lm 1 White 2-FT-SHD-WHT	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: C18069_SPORT-2X2	Asymmetric 73 % 1.6 cd/lm 1 White 2-FT-SHD-WHT	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: C18069_SPORT-2X2	Asymmetric 73 % 1.6 cd/lm 1 White 2-FT-SHD-WHT XP-G2 HE Asymmetric	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: C18069_SPORT-2X2	Asymmetric 73 % 1.6 cd/lm 1 White 2-FT-SHD-WHT	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: C18069_SPORT-2X2	Asymmetric 73 % 1.6 cd/lm 1 White 2-FT-SHD-WHT XP-G2 HE Asymmetric 88 %	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: C18069_SPORT-2X2	Asymmetric 73 % 1.6 cd/lm 1 White 2-FT-SHD-WHT XP-G2 HE Asymmetric 88 % 1.8 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: C18069_SPORT-2X2	Asymmetric 73 % 1.6 cd/lm 1 White 2-FT-SHD-WHT XP-G2 HE Asymmetric 88 % 1.8 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: C18069_SPORT-2X2	Asymmetric 73 % 1.6 cd/lm 1 White 2-FT-SHD-WHT XP-G2 HE Asymmetric 88 % 1.8 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: C18069_SPORT-2X2	Asymmetric 73 % 1.6 cd/lm 1 White 2-FT-SHD-WHT XP-G2 HE Asymmetric 88 % 1.8 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: C18069_SPORT-2X2	Asymmetric 73 % 1.6 cd/lm 1 White 2-FT-SHD-WHT XP-G2 HE Asymmetric 88 % 1.8 cd/lm 1	



		9+ 9+
LED	XP-G2 HE	
FWHM / FWTM	Asymmetric	.73% 400 75*
Efficiency	61 %	800
Peak intensity	1.6 cd/lm	60° 60°
LEDs/each optic	1	1220
Light colour	White	45* 1600 45*
Required components:		
C17929_SPORT-2X2	2-FT-SHD-BLK	
_		2430
		2000
		(30* 15 <sup>5</sup> 0° 15* 30*
		90* 90*
LED	XP-G3	
FWHM / FWTM	Asymmetric	73° 400 75°
Efficiency	73 %	
Peak intensity	1.2 cd/lm	. 50 <sup>4</sup> 500 50 <sup>4</sup> .
LEDs/each optic	1	
Light colour	White	45°
Required components:		1090
		$\times$ / T / $\times$
Protective plate	e, glass	200
		30 <u>13<sup>5</sup> 26<sup>5</sup>0</u> 15 <sup>5</sup> 30
		92 <sup>1</sup>
	XP-L HD	
	XP-L HD Asymmetric	21 23 23 23 23 23 20 29 20 20 20 20 20 20 20 20 20 20 20 20 20
LED		20 20 20 20 20 20 20 20 20 20 20 20 20 2
LED FWHM / FWTM	Asymmetric	
LED FWHM / FWTM Efficiency	Asymmetric 75 %	
LED FWHM / FWTM Efficiency Peak intensity	Asymmetric 75 % 1.1 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 75 % 1.1 cd/lm 1	90° 90° 90° 60°
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 75 % 1.1 cd/lm 1 White	50° 50° 60°
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 75 % 1.1 cd/lm 1 White	90° 90° 90° 60°
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 75 % 1.1 cd/lm 1 White	50° 10° 10° 10° 10° 10° 10° 10° 1
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate	Asymmetric 75 % 1.1 cd/lm 1 White	99° 90° 90° 90° 90° 90° 90° 90° 90° 90°
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate	Asymmetric 75 % 1.1 cd/lm 1 White	97 99 100 100 100 100 100 100 100
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate	Asymmetric 75 % 1.1 cd/lm 1 White a, glass	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate	Asymmetric 75 % 1.1 cd/lm 1 White , glass XP-L HD Asymmetric	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate CREE LED LED FWHM / FWTM Efficiency	Asymmetric 75 % 1.1 cd/lm 1 White Asymmetric 91 %	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate Protective plate	Asymmetric 75 % 1.1 cd/lm 1 White e, glass XP-L HD Asymmetric 91 % 1.3 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate Protective plate LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 75 % 1.1 cd/lm 1 White e, glass XP-L HD Asymmetric 91 % 1.3 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate Protective plate ED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 75 % 1.1 cd/lm 1 White e, glass XP-L HD Asymmetric 91 % 1.3 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate Protective plate LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 75 % 1.1 cd/lm 1 White e, glass XP-L HD Asymmetric 91 % 1.3 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate Protective plate ED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 75 % 1.1 cd/lm 1 White e, glass XP-L HD Asymmetric 91 % 1.3 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate Protective plate ED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 75 % 1.1 cd/lm 1 White e, glass XP-L HD Asymmetric 91 % 1.3 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate CREE (LED LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 75 % 1.1 cd/lm 1 White e, glass XP-L HD Asymmetric 91 % 1.3 cd/lm 1	



		THY YHT.
LED	XP-L HI	90°
		75° 400 78°
FWHM / FWTM	Asymmetric	
Efficiency	92 %	60
Peak intensity	1.7 cd/lm	1270
LEDs/each optic	1	1600
Light colour	White	45* 45*
Required components:		
		24/20
		200
		30* 3250 13 <sup>5</sup> 0 <sup>6</sup> * 15* 58*
LED	XP-L HI	90° 90°
FWHM / FWTM	Asymmetric	75° 400 75°
Efficiency	76 %	
Peak intensity	1.4 cd/lm	60* 800 60*
LEDs/each optic	1	1230
Light colour	White	$X \times / \square \setminus X \times$
Required components:	white	15 1600 10
required components.		
Protective plate	e, glass	
		2130
		30° 15° 0° 15° 30°
		TTY FTI
LED		90* 90*
		7
	XP-L2	73%
FWHM / FWTM	Asymmetric	73"
FWHM / FWTM Efficiency	Asymmetric 87 %	5°
FWHM / FWTM Efficiency Peak intensity	Asymmetric 87 % 1.2 cd/lm	5° 60 60
FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 87 % 1.2 cd/lm 1	23° 40 77: 61° 809 60°
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 87 % 1.2 cd/lm	2°. 12,6 2. 10, 10,6 2. 20, 10,0 2.
FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 87 % 1.2 cd/lm 1	6. 100 6. 100 6. 00 90 90 90 90 90 90
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 87 % 1.2 cd/lm 1	¢. •
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 87 % 1.2 cd/lm 1	¢. •
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 87 % 1.2 cd/lm 1	¢. •
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 87 % 1.2 cd/lm 1	65 <u>169</u> 209
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 87 % 1.2 cd/lm 1	ey 169 709
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 87 % 1.2 cd/lm 1 White	29- 20- 20- 20- 10- 10- 10- 10- 10- 10- 10- 1
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 87 % 1.2 cd/lm 1 White XP-L2	65 <u>169</u> 209
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 87 % 1.2 cd/lm 1 White XP-L2 Asymmetric	29- 20- 20- 20- 10- 10- 10- 10- 10- 10- 10- 1
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: CREE©LED LED FWHM / FWTM Efficiency Peak intensity	Asymmetric 87 % 1.2 cd/lm 1 White XP-L2 Asymmetric 72 %	29- 20- 20- 20- 10- 10- 10- 10- 10- 10- 10- 1
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 87 % 1.2 cd/lm 1 White XP-L2 Asymmetric 72 % 1 cd/lm	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: CREE¢LED LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 87 % 1.2 cd/lm 1 White XP-L2 Asymmetric 72 % 1 cd/lm 1	60 <sup>4</sup> 10
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: CREE LED EWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 87 % 1.2 cd/lm 1 White XP-L2 Asymmetric 72 % 1 cd/lm 1 White	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: CREE LED LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 87 % 1.2 cd/lm 1 White XP-L2 Asymmetric 72 % 1 cd/lm 1 White	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: CREE LED EWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 87 % 1.2 cd/lm 1 White XP-L2 Asymmetric 72 % 1 cd/lm 1 White	



LED	XP-P	190°
FWHM / FWTM	Asymmetric	794 774
Efficiency	93 %	
Peak intensity	2.2 cd/lm	.60 <sup>4</sup> 1500 694
LEDs/each optic	1	
Light colour	White	
Required components:	WIIG	19. V
Required components.		2200
		$\times$ / $\top$ / $\times$
		30° 15° 30°
		90* 99*
LED	XP-P	
FWHM / FWTM	Asymmetric	75°
Efficiency	77 %	-80
Peak intensity	1.7 cd/lm	.66 <sup>4</sup> <u>1200</u> 66 <sup>4</sup> .
LEDs/each optic	1	1000
Light colour	White	45*
Required components:		200
		2430
Protective plate	e, glass	2000
		30* 3250 30*
	5	90* 90*
LED	LUXEON 5050 HE	30°
LED FWHM / FWTM	LUXEON 5050 HE Asymmetric	75
LED FWHM / FWTM Efficiency	LUXEON 5050 HE Asymmetric 74 %	
LED FWHM / FWTM Efficiency Peak intensity	LUXEON 5050 HE Asymmetric 74 % 0.9 cd/lm	75
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	LUXEON 5050 HE Asymmetric 74 % 0.9 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LUXEON 5050 HE Asymmetric 74 % 0.9 cd/lm	297 - 290 - 207 - 209 - 203 - 209 - 203
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	LUXEON 5050 HE Asymmetric 74 % 0.9 cd/lm 1	2%
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON 5050 HE Asymmetric 74 % 0.9 cd/lm 1 White	23 <sup>4</sup> 200 72 <sup>4</sup> 64 <sup>4</sup> 000 60 <sup>4</sup>
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LUXEON 5050 HE Asymmetric 74 % 0.9 cd/lm 1 White	25
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON 5050 HE Asymmetric 74 % 0.9 cd/lm 1 White	234 200 205 200 205 200 200 200 200 207 200 207 207 207 207
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate	LUXEON 5050 HE Asymmetric 74 % 0.9 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate	LUXEON 5050 HE Asymmetric 74 % 0.9 cd/lm 1 White a, glass	23 - 20 - 25 20 - 20 20 - 25 20 - 25 20 20 20 20 20 20 20 20 20 20
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate	LUXEON 5050 HE Asymmetric 74 % 0.9 cd/lm 1 White a, glass	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate	LUXEON 5050 HE Asymmetric 74 % 0.9 cd/lm 1 White a, glass S LUXEON 5050 HE Asymmetric	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate CONTINUED LED FWHM / FWTM Efficiency	LUXEON 5050 HE Asymmetric 74 % 0.9 cd/lm 1 White a, glass DS LUXEON 5050 HE Asymmetric 89 %	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate Protective plate ED FWHM / FWTM Efficiency Peak intensity	LUXEON 5050 HE Asymmetric 74 % 0.9 cd/lm 1 White e, glass S LUXEON 5050 HE Asymmetric 89 % 1.1 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate Who Protective plate ED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	LUXEON 5050 HE Asymmetric 74 % 0.9 cd/lm 1 White e, glass S LUXEON 5050 HE Asymmetric 89 % 1.1 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate Who Protective plate ED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LUXEON 5050 HE Asymmetric 74 % 0.9 cd/lm 1 White e, glass S LUXEON 5050 HE Asymmetric 89 % 1.1 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate Who Protective plate ED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	LUXEON 5050 HE Asymmetric 74 % 0.9 cd/lm 1 White e, glass S LUXEON 5050 HE Asymmetric 89 % 1.1 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate <b>White Composed State</b> ED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LUXEON 5050 HE Asymmetric 74 % 0.9 cd/lm 1 White e, glass S LUXEON 5050 HE Asymmetric 89 % 1.1 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate <b>White Composed State</b> ED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LUXEON 5050 HE Asymmetric 74 % 0.9 cd/lm 1 White e, glass S LUXEON 5050 HE Asymmetric 89 % 1.1 cd/lm 1	



UMILEI	DS	90° 90'
LED	LUXEON 5050 Round LES	A A
FWHM / FWTM	Asymmetric	750 400 7
Efficiency	78 %	
Peak intensity	1.1 cd/lm	667
LEDs/each optic	1	80
Light colour	White	45*
Required components:		1200
Protective plat	le, glass	1600
		30 <sup>4</sup> 2000 15 <sup>4</sup> 300
	DS	80°
LED	LUXEON 5050 Square LES	
FWHM / FWTM	Asymmetric	739 200 78
Efficiency	58 %	40
Peak intensity	0.9 cd/lm	66* 600 60
LEDs/each optic	1	× > 00
Light colour	White	45* 1000 45
Required components:		
C17929_SPORT-2X	2-FT-SHD-BLK	1200
		1430
		1600
		30* 13 <sup>2</sup> 0° 15 <sup>+</sup> 30*
<i>(</i> )		
UMILEI	DS	90* 90
		»·
	LUXEON 5050 Square LES	2° 20 20 20 20 20 20 20 20 20 20 20 20 20
LED		20°
LED FWHM / FWTM Efficiency	LUXEON 5050 Square LES Asymmetric	
LED FWHM / FWTM	LUXEON 5050 Square LES Asymmetric 89 %	
LED FWHM / FWTM Efficiency Peak intensity	LUXEON 5050 Square LES Asymmetric 89 % 1.1 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	LUXEON 5050 Square LES Asymmetric 89 % 1.1 cd/Im 1	6°, 120 60, 60 73 74 75 75 75 75 75 75 75 75 75 75 75 75 75
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LUXEON 5050 Square LES Asymmetric 89 % 1.1 cd/Im 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LUXEON 5050 Square LES Asymmetric 89 % 1.1 cd/Im 1	50°
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LUXEON 5050 Square LES Asymmetric 89 % 1.1 cd/Im 1	150
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON 5050 Square LES Asymmetric 89 % 1.1 cd/lm 1 White	1200
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LUXEON 5050 Square LES Asymmetric 89 % 1.1 cd/lm 1 White	150
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON 5050 Square LES Asymmetric 89 % 1.1 cd/lm 1 White	150
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON 5050 Square LES Asymmetric 89 % 1.1 cd/lm 1 White	100 100 100 100 100 100 100 100 100 100
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON 5050 Square LES Asymmetric 89 % 1.1 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON 5050 Square LES Asymmetric 99 % 1.1 cd/lm 1 White	1200 1500 1500 1500 1500 1500 1500 1500
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON 5050 Square LES Asymmetric 99 % 1.1 cd/lm 1 White DS LUXEON 5050 Square LES Asymmetric 70 %	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON 5050 Square LES Asymmetric 89 % 1.1 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: <b>WIM / COMPARENT</b> LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	LUXEON 5050 Square LES Asymmetric 89 % 1.1 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON 5050 Square LES Asymmetric 89 % 1.1 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: <b>WIM / EVTM</b> Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON 5050 Square LES Asymmetric 89 % 1.1 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: <b>WM LUMILE</b> FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON 5050 Square LES Asymmetric 89 % 1.1 cd/lm 1 White	



		90° 90°
LED	LUXEON 5050 Square LES	200
FWHM / FWTM	Asymmetric	400
Efficiency	76 %	
Peak intensity	0.9 cd/lm	600 V
LEDs/each optic	1	200
Light colour	White	45* 1000 45*
Required components:		1200
Protective plate	e. glass	1430
		1600
		30* <u>15*</u> 0 <sup>a</sup> <u>15*</u> 30*
	DS	90° 90°
LED	LUXEON HL2X	A A A A A A A A A A A A A A A A A A A
FWHM / FWTM	Asymmetric	75* 400 77*
Efficiency	88 %	80
Peak intensity	1.7 cd/lm	80* 60*
LEDs/each optic	1	
Light colour	White	45* 45*
Required components:		200
		2430
		300 115 <sup>5</sup> 3390 115 <sup>4</sup> 30
	DS	90* 90*
	LUXEON TX	8°
		50° 50° 50° 50° 50° 50° 50° 50° 50° 50°
LED FWHM / FWTM	LUXEON TX	75
LED	LUXEON TX Asymmetric	72*
LED FWHM / FWTM Efficiency	LUXEON TX Asymmetric 88 %	6 <sup>3</sup>
LED FWHM / FWTM Efficiency Peak intensity	LUXEON TX Asymmetric 88 % 1.6 cd/lm	29
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	LUXEON TX Asymmetric 88 % 1.6 cd/lm 1	29 60 120 100
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LUXEON TX Asymmetric 88 % 1.6 cd/lm 1	29 60 120 100
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LUXEON TX Asymmetric 88 % 1.6 cd/lm 1	23 64 67 1220 69 1500 70 1500 97 1500 97 1500 97
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LUXEON TX Asymmetric 88 % 1.6 cd/lm 1	23 64 67 1220 69 1500 70 1500 97 1500 97 1500 97
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON TX Asymmetric 88 % 1.6 cd/lm 1 White	29 60 60 500 500 500 500 500 500 500 500 5
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON TX Asymmetric 88 % 1.6 cd/lm 1 White	73 64 67 67 73 75 75 75 75 75 75 75 75 75 75 75 75 75
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON TX Asymmetric 88 % 1.6 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON TX Asymmetric 88 % 1.6 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON TX Asymmetric 88 % 1.6 cd/lm 1 White S LUXEON XR-HL2X (L2H2-xxxxxMLU010) Asymmetric 76 %	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON TX Asymmetric 88 % 1.6 cd/lm 1 White S LUXEON XR-HL2X (L2H2-xxxxxMLU010) Asymmetric 76 % 1.2 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: <b>WIM / COMPARENT</b> LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	LUXEON TX Asymmetric 88 % 1.6 cd/lm 1 White S LUXEON XR-HL2X (L2H2-xxxxxMLU010) Asymmetric 76 % 1.2 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: <b>WIM / COMPARENT</b> LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LUXEON TX Asymmetric 88 % 1.6 cd/lm 1 White S LUXEON XR-HL2X (L2H2-xxxxxMLU010) Asymmetric 76 % 1.2 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: <b>WIM / COMPARENT</b> LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	LUXEON TX Asymmetric 88 % 1.6 cd/lm 1 White S LUXEON XR-HL2X (L2H2-xxxxxMLU010) Asymmetric 76 % 1.2 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: <b>WMM / EVTM</b> Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON TX Asymmetric 88 % 1.6 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: <b>CONTINUES</b> LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LUXEON TX Asymmetric 88 % 1.6 cd/lm 1 White	



UMILEC	DS	90*
LED	LUXEON XR-HL2X (L2H2-xxxxxxMLU010)	A A
FWHM / FWTM	Asymmetric	750 400
Efficiency	92 %	80
Peak intensity	1.5 cd/lm	50°
LEDs/each optic	1	1200
Light colour	White	45* 1600
Required components:		
		2000
		2450
		30* 2390 15 <sup>5</sup> 0 <sup>6</sup> 15*
	JS	
LED	SFT-40-WCS	The second secon
FWHM / FWTM	90.0 + 15.0° / 142.0 + 61.0°	120
Efficiency	92 %	000
Peak intensity	1.9 cd/lm	60° 1230 °
LEDs/each optic	1	1630
Light colour	White	45* 2000
Required components:		2000
riequieu compensitori		200
		2800
		320
		30° 15 <sup>2</sup> 3680 15° 3
	S	
LED		× × × × × × × × × × × × × × × × × × ×
	SET-70X-WCS	
	SFT-70X-WCS 87.0 + 18.0° / 141.0 + 65.0°	25
FWHM / FWTM	87.0 + 18.0° / 141.0 + 65.0°	70
FWHM / FWTM Efficiency	87.0 + 18.0° / 141.0 + 65.0° 92 %	60°
FWHM / FWTM Efficiency Peak intensity	87.0 + 18.0° / 141.0 + 65.0° 92 % 1.6 cd/lm	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic	87.0 + 18.0° / 141.0 + 65.0° 92 % 1.6 cd/lm 1	604
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	87.0 + 18.0° / 141.0 + 65.0° 92 % 1.6 cd/lm	6 <sup>2</sup> 120 6 <sup>2</sup>
FWHM / FWTM Efficiency Peak intensity LEDs/each optic	87.0 + 18.0° / 141.0 + 65.0° 92 % 1.6 cd/lm 1	£9° 1200
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	87.0 + 18.0° / 141.0 + 65.0° 92 % 1.6 cd/lm 1	6 <sup>2</sup> 120 6 <sup>2</sup>
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	87.0 + 18.0° / 141.0 + 65.0° 92 % 1.6 cd/lm 1	6 <sup>2</sup> 120 6 <sup>2</sup>
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	87.0 + 18.0° / 141.0 + 65.0° 92 % 1.6 cd/lm 1	6 <sup>2</sup> 120 6 <sup>2</sup>
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	87.0 + 18.0° / 141.0 + 65.0° 92 % 1.6 cd/lm 1 White	6° 100 6° 200 30° 200 30° 50°
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	87.0 + 18.0° / 141.0 + 65.0° 92 % 1.6 cd/lm 1 White	6 <sup>1</sup> 102 6 <sup>2</sup> 200 202
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	87.0 + 18.0° / 141.0 + 65.0° 92 % 1.6 cd/lm 1 White	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	87.0 + 18.0° / 141.0 + 65.0° 92 % 1.6 cd/lm 1 White	
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	87.0 + 18.0° / 141.0 + 65.0° 92 % 1.6 cd/lm 1 White SST-70X-WCS Asymmetric 92 %	6° 100 6° 200 30° 200 30° 50°
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	87.0 + 18.0° / 141.0 + 65.0° 92 % 1.6 cd/lm 1 White SST-70X-WCS Asymmetric 92 % 1.1 cd/lm	6° 100 6° 200 30° 200 30° 5° 200 30° 5°
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	87.0 + 18.0° / 141.0 + 65.0° 92 % 1.6 cd/lm 1 White SST-70X-WCS Asymmetric 92 % 1.1 cd/lm 1	6° 100 6° 200 30° 200 30° 5° 200 30° 5°
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	87.0 + 18.0° / 141.0 + 65.0° 92 % 1.6 cd/lm 1 White SST-70X-WCS Asymmetric 92 % 1.1 cd/lm	6° 100 6° 200 30° 200 30° 5° 200 30° 5°
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	87.0 + 18.0° / 141.0 + 65.0° 92 % 1.6 cd/lm 1 White SST-70X-WCS Asymmetric 92 % 1.1 cd/lm 1	6° 100 6° 200 30° 200 30° 50°
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	87.0 + 18.0° / 141.0 + 65.0° 92 % 1.6 cd/lm 1 White SST-70X-WCS Asymmetric 92 % 1.1 cd/lm 1	6° 100 6° 200 30° 200 30° 5° 200 30° 5°
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	87.0 + 18.0° / 141.0 + 65.0° 92 % 1.6 cd/lm 1 White SST-70X-WCS Asymmetric 92 % 1.1 cd/lm 1	6° 100 6° 200 30° 200 30° 50°



	US	50°
LED	SST-70X-WCS	
FWHM / FWTM	Asymmetric	
Efficiency	76 %	40
Peak intensity	0.9 cd/lm	,60° 600
LEDs/each optic	1	800
Light colour	White	er 5000
Required components:		129
Protective pla	e, glass	(1)
		30 <sup>4</sup> 10 <sup>4</sup> (18)0 10 <sup>5</sup>
<b>Μ</b> ΝΙCΗΙΛ		20
LED	NFSx757G	
FWHM / FWTM	Asymmetric	753 400
Efficiency	76 %	
Peak intensity	1.4 cd/lm	
LEDs/each optic	1	120
Light colour	White	57
Required components:		1670
Protective pla	e, glass	2000
		20 <sup>30</sup> 20 <sup>30</sup> 20 <sup>30</sup> 20 <sup>30</sup>
<b>Μ</b> ΝΙCΗΙΛ		
LED	NV4WB35AM	
FWHM / FWTM	Asymmetric	790
Efficiency	61 %	40
Peak intensity	1 cd/lm	60* 600
LEDs/each optic	1	00
Light colour	White	47 1000
Required components:		5229
C18069_SPORT-2X	2-FT-SHD-WHT	500
Protective pla	e class	1699
		94° 25° 1880 23°
MICHIΛ		30"
LED	NV4WB35AM	A.
	Asymmetric	751 400
FWHM / FWTM	75 %	
FWHM / FWTM Efficiency		50°
	1.1 cd/lm	
Efficiency	1.1 cd/lm 1	
Efficiency Peak intensity		5
Efficiency Peak intensity LEDs/each optic	1	5° 1220
Efficiency Peak intensity LEDs/each optic Light colour	1 White	57 <sup>3</sup> 1270 1500



<b>Μ</b> ΝΙCΗΙΛ		36*
LED	NV4WB35AM	
FWHM / FWTM	Asymmetric	75° 200
Efficiency	49 %	40
Peak intensity	0.9 cd/lm	50* 600
LEDs/each optic	1	XXX
Light colour	White	45* 1000
Required components:		
C17929_SPORT-2X2	2-FT-SHD-BLK	1200
		1430
Protective plate	e, glass	30* 15 <sup>2</sup> 0 <sup>4</sup> 13 <sup>2</sup>
<b>Μ</b> ΝΙCΗΙΛ		90*
LED	NV4x144A	
FWHM / FWTM	Asymmetric	73°
Efficiency	86 %	400
Peak intensity	0.9 cd/lm	50°
LEDs/each optic	1	
Light colour	White	45* 1000
Required components:		NX/TX
		1200
		1430
		1600
		30° 13° 13°
<b>ΜΝΙCΗΙΛ</b>		90*
LED	NVSW219F	
FWHM / FWTM	Asymmetric	73* 400
Efficiency	76 %	
Peak intensity	1.3 cd/lm	
LEDs/each optic	1	1200
	1 White	100
LEDs/each optic Light colour Required components:		
Light colour Required components:	White	
Light colour	White	
Light colour Required components:	White	
Light colour Required components: Protective plate	White	
Light colour Required components: Protective plate	White	
Light colour Required components: Protective plate	White , glass NVSW3x9A	er 1000 100 100 100 100 100 100
Light colour Required components: Protective plate MICHIA LED FWHM / FWTM	White a, glass NVSW3x9A Asymmetric	er 1000 100 100 100 100 100 100
Light colour Required components: Protective plate MICHIA LED FWHM / FWTM Efficiency	White a, glass NVSW3x9A Asymmetric 76 %	6°
Light colour Required components: Protective plate MICHIA LED FWHM / FWTM Efficiency Peak intensity	White a, glass NVSW3x9A Asymmetric 76 % 1.2 cd/lm	6°. 100 200 200 10° 10° 10° 10° 10° 10° 10° 1
Light colour Required components: Protective plate VICHIA LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	White e, glass NVSW3x9A Asymmetric 76 % 1.2 cd/lm 1	
Light colour Required components: Protective plate VICHIA LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	White a, glass NVSW3x9A Asymmetric 76 % 1.2 cd/lm	200 200 200 200 200 200 200 200 200 200
Light colour Required components: Protective plate	White e, glass NVSW3x9A Asymmetric 76 % 1.2 cd/lm 1	
Light colour Required components: Protective plate <b>WICHIA</b> LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	White a, glass NVSW3x9A Asymmetric 76 % 1.2 cd/lm 1 White	90 300 300 300 300 300 300 300 3
Light colour Required components: Protective plate VICHIA LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	White a, glass NVSW3x9A Asymmetric 76 % 1.2 cd/lm 1 White	-e- -299 



MICHIΛ		90* 90*
LED	NVSxE21A	
FWHM / FWTM	Asymmetric	75° 400 75°
Efficiency	77 %	
Peak intensity	1.3 cd/lm	.53 <sup>4</sup> 800 60 <sup>4</sup>
LEDs/each optic	1	$\vee$ $\times$ $\wedge$ $\times$ $\vee$
Light colour	White	45* 45*
Required components:		1000
		$\times$
Protective plate	e, glass	2000
		30° 13 <sup>3</sup> 2800 19° 30°.
OSRAM Opto Semiconductors		
LED	Duris S8	
FWHM / FWTM	Asymmetric	750
Efficiency	91 %	460
Peak intensity	1 cd/lm	.53 <sup>4</sup> 600 60*
LEDs/each optic	1	80
Light colour	White	45° 1000 45°
Required components:		1200
		1400
		1000 30 <sup>+</sup> 30 <sup>+</sup>
		150 1800 150
OCDAM		
OSRAM Opto Semiconductors		<u>80</u> .
OSRAM Opto Semiconductors LED	Duris S8	90° (0)
<sup>Opto Semiconductors</sup> LED FWHM / FWTM	Asymmetric	75%
<sup>opto Semiconductors</sup> LED FWHM / FWTM Efficiency	Asymmetric 78 %	200
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity	Asymmetric 78 % 0.9 cd/lm	75°
<sup>opto Semiconductors</sup> LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 78 % 0.9 cd/lm 1	75°
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 78 % 0.9 cd/lm	20 20 92 61 60 62 60 63 60 65
<sup>opto Semiconductors</sup> LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 78 % 0.9 cd/lm 1	20 50 <sup>4</sup> 60 60 60 60 60
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 78 % 0.9 cd/lm 1 White	20 20 92 61 60 62 60 63 60 65
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 78 % 0.9 cd/lm 1 White	20 20 72 60 60 60 60 60 60 60 60 60 60 60 60 60 60 60 60 6
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 78 % 0.9 cd/lm 1 White	20 20 72 60 60 60 60 60 60 60 60 60 60 60 60 60 60 60 60 6
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 78 % 0.9 cd/lm 1 White	20 40 60 60 60 120 120 120 120 100 00 00 00 00 00 00 00 00
opte Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate	Asymmetric 78 % 0.9 cd/lm 1 White	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate OSRAM Opto Semiconductors	Asymmetric 78 % 0.9 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	Asymmetric 78 % 0.9 cd/lm 1 White e, glass Duris S8 Asymmetric 57 %	
opte 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	Asymmetric 78 % 0.9 cd/lm 1 White e, glass Duris S8 Asymmetric	23° 20 20 20 20 20 20 20 20 20 20
opte 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	Asymmetric 78 % 0.9 cd/lm 1 White e, glass Duris S8 Asymmetric 57 % 0.8 cd/lm 1	23° 20 20 20 20 20 20 20 20 20 20
opte Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate Opte Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 78 % 0.9 cd/lm 1 White e, glass Duris S8 Asymmetric 57 % 0.8 cd/lm	23° 20 20 20 20 20 20 20 20 20 20
opte Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate OSRAM Opte Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 78 % 0.9 cd/lm 1 White a, glass Duris S8 Asymmetric 57 % 0.8 cd/lm 1 White	23° 20 20 20 20 20 20 20 20 20 20
opte Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate Opte Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 78 % 0.9 cd/lm 1 White a, glass Duris S8 Asymmetric 57 % 0.8 cd/lm 1 White	23° 20° 40 60 60° 60° 60° 60° 60° 60° 60°
opte Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate OSRAM Opte Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 78 % 0.9 cd/lm 1 White a, glass Duris S8 Asymmetric 57 % 0.8 cd/lm 1 White	23° 20° 40 60 60° 60° 60° 60° 60° 60° 60°
opte Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate OSRAM Opte Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 78 % 0.9 cd/lm 1 White a, glass Duris S8 Asymmetric 57 % 0.8 cd/lm 1 White	23° 20° 40 60 60° 60° 60° 60° 60° 60° 60°



OSRAM Opto Semiconductors		80°
LED	Duris S8	
FWHM / FWTM	Asymmetric	736 200 77°
Efficiency	70 %	400
Peak intensity	0.9 cd/lm	BQ4 BQ4
LEDs/each optic	1	
Light colour	u White	800
Required components:	White	· 65* 2000
C18069_SPORT-2X2		1200
		1400
		30° 15 <sup>3</sup> 0° 15° 30°
OSRAM Opto Semiconductors		THA KHT
Opto Semiconductors	OSCONIQ C 2424	90°
FWHM / FWTM		13° 200 73°
Efficiency	Asymmetric 89 %	400
-	0.8 cd/lm	.60* 600 60*
Peak intensity		
LEDs/each optic	4	800
Light colour Required components:	White	- 45° - 1000 - 55°.
Required components:		1200
		3600
		30° 1600 30° 15° 30°
OSRAM		33° <u>125</u> ° <u>1000</u> 0° <u>15</u> °
Opto Semiconductors		90° 10° 10° 90° 90°
Opto Semiconductors LED	OSCONIQ P 3737 (2W version)	20° 13° 20° 20° 13° 20° 20° 20° 20° 20°
Opto Semiconductors LED FWHM / FWTM	Asymmetric	25 <sup>4</sup> 0 <sup>4</sup> 15 <sup>4</sup>
opto Semiconductors LED FWHM / FWTM Efficiency	Asymmetric 76 %	90° 80°
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity	Asymmetric 76 % 1.5 cd/lm	25° 0° 15° 28° 28° 28°
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 76 % 1.5 cd/lm 1	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 76 % 1.5 cd/lm	25° 0° 15° 25° 0° 25° 25° 0° 25° 25° 0° 25° 25° 0° 25° 25° 0° 25°
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 76 % 1.5 cd/lm 1	25° 0° 10° 99° 75° 0° 10° 90° 100 100 100 100 100 100 100 100 100 1
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 76 % 1.5 cd/lm 1 White	13°         4°         13°           39°         90°         90°           73°         600         70°           60°         60°         60°           61°         10°         60°           61°         10°         60°           61°         10°         60°
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 76 % 1.5 cd/lm 1 White	50° 50° 50° 50° 50° 50° 50° 50°
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 76 % 1.5 cd/lm 1 White	50° 50° 50° 50° 50° 50° 50° 50°
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate	Asymmetric 76 % 1.5 cd/lm 1 White	15°         0°         10°           9°         0°         0°           73°         00         0°           60°         0°         0°           60°         0°         0°           60°         0°         0°           60°         0°         0°           60°         0°         0°           60°         0°         0°           60°         0°         0°           60°         0°         0°           60°         0°         0°           60°         0°         0°           60°         0°         0°           60°         0°         0°           60°         0°         0°           60°         0°         0°           60°         0°         0°           60°         0°         0°           0°         0°         0°           0°         0°         0°           0°         0°         0°           0°         0°         0°           0°         0°         0°
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate	Asymmetric 76 % 1.5 cd/lm 1 White	15°         0°         10°           9°         0°         0°           73°         00         0°           60°         0°         0°           60°         0°         0°           60°         0°         0°           60°         0°         0°           60°         0°         0°           60°         0°         0°           60°         0°         0°           60°         0°         0°           60°         0°         0°           60°         0°         0°           60°         0°         0°           60°         0°         0°           60°         0°         0°           60°         0°         0°           60°         0°         0°           60°         0°         0°           0°         0°         0°           0°         0°         0°           0°         0°         0°           0°         0°         0°           0°         0°         0°
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate	Asymmetric 76 % 1.5 cd/lm 1 White a, glass OSCONIQ P 3737 (3W version)	15°         6°         15°           9°         60         7°           60°         60°         6°           60°         6°         6°           9°         10°         6°           9°         10°         6°           9°         10°         6°           9°         10°         6°           9°         10°         6°           9°         10°         6°           9°         10°         6°           1000         10°         6°           1000         10°         6°
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate OSRAM Opto Semiconductors LED FWHM / FWTM	Asymmetric 76 % 1.5 cd/lm 1 White e, glass OSCONIQ P 3737 (3W version) Asymmetric	13°         0°         13°           9°         13°         9°           9°         13°         9°           9°         13°         9°           9°         13°         9°           9°         13°         9°           9°         13°         9°           9°         13°         9°           9°         13°         6°           13°         13°         6°           13°         13°         6°           13°         13°         6°           13°         13°         6°           13°         13°         6°           13°         13°         6°           13°         13°         6°           13°         13°         6°           13°         13°         6°           13°         13°         13°           13°         13°         13°           13°         13°         13°           13°         13°         13°           13°         13°         13°           13°         13°         13°           13°         13°         13° <td< th=""></td<>
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate OSRAM Opto Semiconductors LED FWHM / FWTM Efficiency	Asymmetric 76 % 1.5 cd/lm 1 White e, glass OSCONIQ P 3737 (3W version) Asymmetric 75 %	13°         0°         13°           9°         13°         9°           9°         13°         9°           9°         13°         9°           9°         13°         9°           9°         13°         9°           9°         13°         9°           9°         13°         9°           9°         13°         6°           13°         13°         6°           13°         13°         6°           13°         13°         6°           13°         13°         6°           13°         13°         6°           13°         13°         6°           13°         13°         6°           13°         13°         6°           13°         13°         6°           13°         13°         13°           13°         13°         13°           13°         13°         13°           13°         13°         13°           13°         13°         13°           13°         13°         13°           13°         13°         13° <td< th=""></td<>
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	Asymmetric 76 % 1.5 cd/lm 1 White e, glass OSCONIQ P 3737 (3W version) Asymmetric 75 % 1.2 cd/lm	13°         0°         13°           9°         13°         9°           9°         13°         9°           9°         13°         9°           9°         13°         9°           9°         13°         9°           9°         13°         9°           9°         13°         9°           9°         13°         6°           13°         13°         6°           13°         13°         6°           13°         13°         6°           13°         13°         6°           13°         13°         6°           13°         13°         6°           13°         13°         6°           13°         13°         6°           13°         13°         6°           13°         13°         13°           13°         13°         13°           13°         13°         13°           13°         13°         13°           13°         13°         13°           13°         13°         13°           13°         13°         13° <td< th=""></td<>
opte 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 76 % 1.5 cd/lm 1 White e, glass OSCONIQ P 3737 (3W version) Asymmetric 75 % 1.2 cd/lm 1	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 76 % 1.5 cd/lm 1 White e, glass OSCONIQ P 3737 (3W version) Asymmetric 75 % 1.2 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	Asymmetric 76 % 1.5 cd/lm 1 White e, glass OSCONIQ P 3737 (3W version) Asymmetric 75 % 1.2 cd/lm 1	
opte Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate Opte Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 76 % 1.5 cd/lm 1 White OSCONIQ P 3737 (3W version) Asymmetric 75 % 1.2 cd/lm 1 White	
opte 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 76 % 1.5 cd/lm 1 White OSCONIQ P 3737 (3W version) Asymmetric 75 % 1.2 cd/lm 1 White	



OSRAM		
Opto Semiconductors	OSCONIQ P 3737 Flat	90° 90°
ED FWHM / FWTM		75° 400 75°
	Asymmetric	
Efficiency	93 %	504 800 604
Peak intensity	1.5 cd/lm	1220
LEDs/each optic	1	$X \times / T \setminus X \times$
Light colour	White	45* 1600 45*
Required components:		
		XIIX
		2400
		30* <u>15</u> <sup>5</sup> 2890 <u>15</u> * 30*
OSRAM		
Opto Semiconductors		90° 90°
	OSCONIQ S 5050	730 730
FWHM / FWTM	Asymmetric 78 %	800
Efficiency		60* 60*
Peak intensity	0.9 cd/lm	640
LEDs/each optic	1	
Light colour	White	- 45°
Required components:		
Protective plate	, dass	1230
		3430
		30* 15 <sup>5</sup> 30*
		1600 10
OSRAM		
Opto Semiconductors		50 50 50 50 50 50 50 50 50 50 50 50 50 5
Opto Semiconductors	OSCONIQ S 5050	
opto Semiconductors LED FWHM / FWTM	Asymmetric	
opto Semiconductors LED FWHM / FWTM Efficiency	Asymmetric 93 %	
<sup>opto Semiconductors</sup> LED FWHM / FWTM Efficiency Peak intensity	Asymmetric 93 % 1 cd/lm	
<sup>opto Semiconductors</sup> LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 93 % 1 cd/lm 1	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 93 % 1 cd/lm	
<sup>opto Semiconductors</sup> LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 93 % 1 cd/lm 1	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 93 % 1 cd/lm 1	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 93 % 1 cd/lm 1	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 93 % 1 cd/lm 1	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 93 % 1 cd/lm 1	200 T
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 93 % 1 cd/lm 1 White	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Peak intensity LEDS/each optic Light colour Required components:	Asymmetric 93 % 1 cd/lm 1 White OSLON Square CSSRM2/CSSRM3	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: ODSRAM Opto Semiconductors LED FWHM / FWTM	Asymmetric 93 % 1 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 93 % 1 cd/lm 1 White OSLON Square CSSRM2/CSSRM3 Asymmetric 62 %	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: OSSRAM Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity	Asymmetric 93 % 1 cd/lm 1 White OSLON Square CSSRM2/CSSRM3 Asymmetric 62 % 1.5 cd/lm	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 93 % 1 cd/lm 1 White OSLON Square CSSRM2/CSSRM3 Asymmetric 62 % 1.5 cd/lm 1	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:  COSRAM Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 93 % 1 cd/lm 1 White OSLON Square CSSRM2/CSSRM3 Asymmetric 62 % 1.5 cd/lm	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 93 % 1 cd/lm 1 White OSLON Square CSSRM2/CSSRM3 Asymmetric 62 % 1.5 cd/lm 1 White	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:  COSRAM Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 93 % 1 cd/lm 1 White OSLON Square CSSRM2/CSSRM3 Asymmetric 62 % 1.5 cd/lm 1 White	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:  COSRAM Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 93 % 1 cd/lm 1 White OSLON Square CSSRM2/CSSRM3 Asymmetric 62 % 1.5 cd/lm 1 White	



OSRAM Opto Semiconductors		90*
LED	OSLON Square CSSRM2/CSSRM3	
FWHM / FWTM	Asymmetric	75° 400 78°
Efficiency	51 %	
Peak intensity	1.3 cd/lm	60* <u>810</u> 60*
LEDs/each optic	1	
	White	1250
Light colour	white	45° 45°
Required components:		X/T/X
C17929_SPORT-2X	2-F I-SHD-BLK	2000
Protective plat	e, glass	30° 200 0° 30°
OSRAM Opto Semiconductors		90° 90°
LED	OSLON Square CSSRM2/CSSRM3	
FWHM / FWTM	Asymmetric	750 400 750
Efficiency	90 %	800
Peak intensity	1.7 cd/lm	. 60° 60°
LEDs/each optic	1	$ X \times     \times  X $
Light colour	White	5° 1000
Required components:	Wille	45* 2000
Required components.		2400
		2000
		30° 3200 30° 30° 30°
OSRAM		
Opto Semiconductors		90°
Opto Semiconductors	OSLON Square CSSRM2/CSSRM3	90°
Opto Semiconductors LED FWHM / FWTM	Asymmetric	
opto Semiconductors LED FWHM / FWTM Efficiency	Asymmetric 73 %	50° 50° 50° 50° 50° 50° 50° 50°
opto semiconductors LED FWHM / FWTM Efficiency Peak intensity	Asymmetric 73 % 1.5 cd/lm	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 73 % 1.5 cd/lm 1	60 <sup>4</sup> 60 <sup>2</sup> 60 <sup>4</sup>
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 73 % 1.5 cd/lm	00 60 <sup>-</sup> 60-
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 73 % 1.5 cd/lm 1 White	80 60 100 100
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 73 % 1.5 cd/lm 1 White	60 60 67 122 67 122 67 67 67
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 73 % 1.5 cd/lm 1 White	80 60 100 100
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 73 % 1.5 cd/lm 1 White	5°
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: C18069_SPORT-2X	Asymmetric 73 % 1.5 cd/lm 1 White	5° 500 6° 6°
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDS/each optic Light colour Required components: C18069_SPORT-2X	Asymmetric 73 % 1.5 cd/lm 1 White 2-FT-SHD-WHT	5° 50 5° 5° 5° 5° 5° 5° 5° 5° 5° 5° 5° 5° 5°
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: C18069_SPORT-2X Opto Semiconductors LED	Asymmetric 73 % 1.5 cd/lm 1 White 2-FT-SHD-WHT OSLON Square CSSRM2/CSSRM3	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: C18069_SPORT-2X OSRAM Opto Semiconductors LED FWHM / FWTM	Asymmetric 73 % 1.5 cd/lm 1 White 2-FT-SHD-WHT OSLON Square CSSRM2/CSSRM3 Asymmetric	00 60 67 100 200 200 200 200 200 200 200 200 200
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: C18069_SPORT-2X ODSRAM Opto Semiconductors LED FWHM / FWTM Efficiency	Asymmetric 73 % 1.5 cd/lm 1 White 2-FT-SHD-WHT OSLON Square CSSRM2/CSSRM3 Asymmetric 76 %	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: C18069_SPORT-2X OSRAM Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity	Asymmetric 73 % 1.5 cd/lm 1 White 2-FT-SHD-WHT OSLON Square CSSRM2/CSSRM3 Asymmetric 76 % 1.5 cd/lm	00 60 60 60 60 60 60 60 60 60
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDS/each optic Light colour Required components: C18069_SPORT-2X Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 73 % 1.5 cd/lm 1 White 2-FT-SHD-WHT OSLON Square CSSRM2/CSSRM3 Asymmetric 76 % 1.5 cd/lm 1	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: C18069_SPORT-2X Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 73 % 1.5 cd/lm 1 White 2-FT-SHD-WHT OSLON Square CSSRM2/CSSRM3 Asymmetric 76 % 1.5 cd/lm	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: C18069_SPORT-2X Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 73 % 1.5 cd/lm 1 White 2-FT-SHD-WHT OSLON Square CSSRM2/CSSRM3 Asymmetric 76 % 1.5 cd/lm 1	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: C18069_SPORT-2X Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 73 % 1.5 cd/lm 1 White 2-FT-SHD-WHT OSLON Square CSSRM2/CSSRM3 Asymmetric 76 % 1.5 cd/lm 1 White	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: C18069_SPORT-2X Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 73 % 1.5 cd/lm 1 White 2-FT-SHD-WHT OSLON Square CSSRM2/CSSRM3 Asymmetric 76 % 1.5 cd/lm 1 White	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: C18069_SPORT-2X OSSRAM Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 73 % 1.5 cd/lm 1 White 2-FT-SHD-WHT OSLON Square CSSRM2/CSSRM3 Asymmetric 76 % 1.5 cd/lm 1 White	



OSRAM Opto Semiconductors		90* 90*
LED	OSLON Square CSSRM2/CSSRM3	
FWHM / FWTM	Asymmetric	756 400 75°
Efficiency	63 %	
Peak intensity	1.3 cd/lm	60* 000 60*
LEDs/each optic	1	
		1220
Light colour	White	45* 65*
Required components:		X / X
C18069_SPORT-2X2	-F1-SHD-WH1	2000
Protective plate	, glass	240 240
OSRAM		12 <sup>5</sup> 0 <sup>5</sup> 12 <sup>5</sup>
Opto Semiconductors		90° 90°
LED	OSLON Square Flat	740 400 740
FWHM / FWTM	Asymmetric	75- 010
Efficiency	92 %	
Peak intensity	1.8 cd/lm	1220
LEDs/each optic	1	1699
Light colour	White	45° 2000 45°
Required components:		2450
		200
		220
		15 <sup>3</sup> 0 <sup>4</sup> 10 <sup>4</sup>
OSRAM Opto Semiconductors		90* 99*
LED	OSTAR Projection Compact (Kx.CSLNM1.xx)	20
FWHM / FWTM	Asymmetric	73° 77°
Efficiency	92 %	940
Peak intensity	1.8 cd/lm	60° 1200 60°
LEDs/each optic	1	1690
Light colour	White	45° 2000 45°
Required components:		$\times$
		2430
		2000
		3200
		30 <sup>4</sup> 13 <sup>5</sup> 0 <sup>6</sup> 15 <sup>8</sup> 30 <sup>4</sup>
SAMSUN	IG	
LED	LH351B	90° 90°
ED FWHM / FWTM		750 400 700
Efficiency	Asymmetric 75 %	
Peak intensity	1.4 cd/lm	50* 900 60*
-		1220
LEDs/each optic	1	$X \times / I \setminus X \vee$
Light colour	White	45* 1600 45*
Required components:		
Protective plate	alass	
	, yidoo	2450
		30* 30*
Protective plate	, glass	2009 2019 2019 2019 2019 2019 2019 2019



	-	
SAMSUN	IG	90* 90°
LED	LH351C	
FWHM / FWTM	Asymmetric	75° 400 77
Efficiency	77 %	
Peak intensity	1.4 cd/im	50 <sup>4</sup> 800 6
LEDs/each optic	1	1200
Light colour	White	
Required components:		1500
····		
Protective plate	, glass	
		2430
		30° 15 <sup>5</sup> 0° 15 <sup>*</sup>
SAMSUN	IG	90° 90
LED	LH351C	400
FWHM / FWTM	Asymmetric	73%
Efficiency	88 %	en / 200
Peak intensity	1.6 cd/lm	1220
LEDs/each optic	1	$X \times I \times X$
Light colour	White	45* 1600 45
Required components:		2000
		2450
		30* 30
	10	
SAMSUN	10	90* 90
LED	LH351D	2
FWHM / FWTM	Asymmetric	75 400 75
Efficiency	74 %	50%
Peak intensity	1.1 cd/im	
LEDs/each optic	1	
Light colour	White	
	witte	45* 1200 45
Required components:	winte	120 O
		4° 129 °
Required components: Protective plate		
Protective plate	ə, glass	107
Protective plate	e, glass	167
Protective plate SAMSUN LED	a, glass I G LH351D	100 100 100 100 100 100 100 100
Protective plate SAMSUN LED FWHM / FWTM	a, glass I <b>G</b> LH351D Asymmetric	100 30 <sup>4</sup> 20 <sup>3</sup> 0 <sup>4</sup> 10 <sup>4</sup> 30
Protective plate <b>SAMSUN</b> LED FWHM / FWTM Efficiency	e, glass I <b>G</b> LH351D Asymmetric 88 %	100 100 100 100 100 100 100 100
Protective plate <b>SAMSUN</b> LED FWHM / FWTM Efficiency Peak intensity	e, glass I <b>G</b> LH351D Asymmetric 88 % 1.3 cd/lm	109 39 <sup>4</sup> 23 <sup>3</sup> 0 <sup>4</sup> 33 <sup>5</sup> 30 39 <sup>4</sup> 40 75
Protective plate SAMSUN LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	e, glass LH351D Asymmetric 88 % 1.3 cd/lm 1	
Protective plate <b>SAMSUN</b> LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	e, glass I <b>G</b> LH351D Asymmetric 88 % 1.3 cd/lm	
Protective plate <b>SAMSUN</b> LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	e, glass LH351D Asymmetric 88 % 1.3 cd/lm 1	
Protective plate <b>SAMSUN</b> LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	e, glass LH351D Asymmetric 88 % 1.3 cd/lm 1	
Protective plate SAMSUN LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	e, glass LH351D Asymmetric 88 % 1.3 cd/lm 1	109 20 <sup>3</sup> 2 <sup>3</sup> 0 <sup>3</sup> 33 <sup>3</sup> 30 30 30 40 40 40 40 40 40 40 40 40 40 40 40 40



0 0 0 0 0 0 0 0	10	
SAMSUN	16	90* 90
LED	LH502C	E C
FWHM / FWTM	Asymmetric	73%
Efficiency	75 %	400
Peak intensity	0.9 cd/lm	50 00 00
LEDs/each optic	1	
Light colour	White	5
Required components:		1000
Protective plate	e, glass	100
		30° 15° 0° 15° 30°
SAMSUN	IG	90*
LED	LH502C	E C
FWHM / FWTM	Asymmetric	73° 400 75'
Efficiency	89 %	
Peak intensity	1 cd/lm	bu <sup>r</sup> bo
LEDs/each optic	1	
Light colour	White	45* 55
Required components:		1200
		$\times$
		1690
		30* 3**
SEOUL		30° 15° 30°
SEOUL SEMICONDUCTOR		
LED	MJT 5050	
FWHM / FWTM	Asymmetric	
Efficiency	76 %	
Peak intensity	0.9 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required components:		
Protective plat	e, glass	
SEOUL		
SEOUL SEMICONDUCTOR		90* 90'
LED	SEOUL DC 5050 6V	
FWHM / FWTM	Asymmetric	73* 400 73
Efficiency	89 %	
Peak intensity	1 cd/lm	
LEDs/each optic	1	$ X /T \setminus X$
Light colour	White	61 6
Required components:		12200
		1600
		30* 30
		15 <sup>5</sup> 0 <sup>6</sup> 15 <sup>6</sup>



SEOUL		THY YEAR
SEOUL SEMICONDUCTOR		90* 90*
LED	SEOUL DC 5050 6V	750 200 750
FWHM / FWTM	Asymmetric	440
Efficiency	76 %	ave to the second
Peak intensity	0.9 cd/lm	
LEDs/each optic	1	200
Light colour	White	45* 45*
Required components:		
Protective plate		120
i iotective plat	c, glass	1430
		30* 15* 30*
SEOUL		
SEOUL SEMICONDUCTOR		90* 90*
LED	Z5M3	
FWHM / FWTM	Asymmetric	75° 400 75°
Efficiency	76 %	
Peak intensity	1.2 cd/lm	.60 <sup>4</sup>
LEDs/each optic	1	
Light colour	White	45* <u>1220</u>
Required components:		1600
		XITX
Protective plate	e, glass	2000
		$\times$ / $\times$
		/30 <sup>4</sup> 30 <sup>4</sup> 30 <sup>4</sup>
SEQUE		
SEOUL SEMICONDUCTOR	75114	
SEOUL SEMICONDUCTOR	Z5M4	20
seoul semiconductor LED FWHM / FWTM	Asymmetric	
seoul semiconductor LED FWHM / FWTM Efficiency	Asymmetric 77 %	
seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity	Asymmetric 77 % 1.4 cd/lm	23 <sup>3</sup> 400 75°.
seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 77 % 1.4 cd/lm 1	275° 440 72°.
seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 77 % 1.4 cd/lm	23 <sup>3</sup> 400 75°.
seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 77 % 1.4 cd/lm 1	20
seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 77 % 1.4 cd/lm 1 White	20
seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 77 % 1.4 cd/lm 1 White	20
seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	Asymmetric 77 % 1.4 cd/lm 1 White	20
SEOUL SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate	Asymmetric 77 % 1.4 cd/lm 1 White	
SEOUL SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate	Asymmetric 77 % 1.4 cd/lm 1 White e, glass	
seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate	Asymmetric 77 % 1.4 cd/lm 1 White e, glass Z8Y22	
seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate	Asymmetric 77 % 1.4 cd/lm 1 White e, glass Z8Y22 Asymmetric	
seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate seoul semiconductor LED FWHM / FWTM Efficiency	Asymmetric 77 % 1.4 cd/lm 1 White e, glass Z8Y22 Asymmetric 90 %	
stoul SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate stoul SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity	Asymmetric 77 % 1.4 cd/lm 1 White e, glass Z8Y22 Asymmetric	
stoul SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate stoul SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 77 % 1.4 cd/lm 1 White e, glass Z8Y22 Asymmetric 90 %	
stoul SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate stoul SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	Asymmetric 77 % 1.4 cd/lm 1 White e, glass Z8Y22 Asymmetric 90 % 1.2 cd/lm	
stoul SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate stoul SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 77 % 1.4 cd/lm 1 White e, glass Z8Y22 Asymmetric 90 % 1.2 cd/lm 1	
stoul SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate stoul SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 77 % 1.4 cd/lm 1 White e, glass Z8Y22 Asymmetric 90 % 1.2 cd/lm 1	
stoul SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate stoul SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	Asymmetric 77 % 1.4 cd/lm 1 White e, glass Z8Y22 Asymmetric 90 % 1.2 cd/lm 1	
SEOUL SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Protective plate	Asymmetric 77 % 1.4 cd/lm 1 White e, glass Z8Y22 Asymmetric 90 % 1.2 cd/lm 1	



SEOUL	
SEOUL SEMICONDUCTOR	
LED	Z8Y50P
FWHM / FWTM	Asymmetric
Efficiency	76 %
Peak intensity	0.7 cd/lm
LEDs/each optic	1
Light colour	White
Required component	is:
Protective p	late. glass
	, , ,



## PRODUCT DATASHEET C17360\_SPORT-2X2-FT60

#### **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:

As part of our continuous research and improvement processes, and to ensure the best possible quality and availability of our products, LEDiL reserves the right to change material grades without notice.

#### PRODUCT DATA USER AGREEMENT AND DISCLAIMER:

The measured data in the provided downloadable LEDiL Product Datasheets and Mechanical 2D-Drawings is rounded and provided as reference for planning. LEDiL Oy's optical specifications have been verified by conducting performance testing of the products in accordance with the company's quality system. The reported data are averaged results of multiple measurements with typical variation. LEDiL Oy reserves the right to without prior notification make changes and improvements to its products.

LEDiL Oy assumes neither warranty, nor guarantee nor any other liability of any kind for the contents and correctness of the provided data. The provided data has been generated with highest diligence but the provided data may in reality not represent the complete possible variation range of all intrinsic parameters. Therefore, in certain cases a deviation from the provided data could occur.

LEDiL Oy reserves the right to undertake technical changes of its products without further notification which could lead to changes in the provided data. LEDiL Oy assumes no liability of any kind for the possible deviation from any provided data or any other damage resulting from the usage of the provided data.

The user agrees to this disclaimer and user agreement with the download or usage of the provided files.

#### LEDiL Oy

Joensuunkatu 13 FI-24240 SALO Finland

#### LEDiL Inc. 228 West Page Street Suite D Sycamore IL 60178 USA

Ledil Optics Technology (Shenzhen) Co., Ltd. # 405 , Block B Casic Motor Building Shenzhen 518057 P.R.CHINA

#### Local sales and technical support www.ledil.com/ where\_to\_buy

Shipping locations Salo, Finland Hong Kong, China

#### Distribution Partners www.ledil.com/ where\_to\_buy