

PRODUCT DATASHEET CA18103_TINA-Y-SS

TINA-Y-SS

~16° smooth spot beam. Assembly with holder, installation tape and pins.

SPECIFICATION:

Dimensions	Ø 16.1 mm
Height	10 mm
Fastening	tape, pin
ROHS compliant	yes 🛈



MATERIALS:

Component TINA-Y-SS TINA-Y-HLD TINA-Y-TAPE

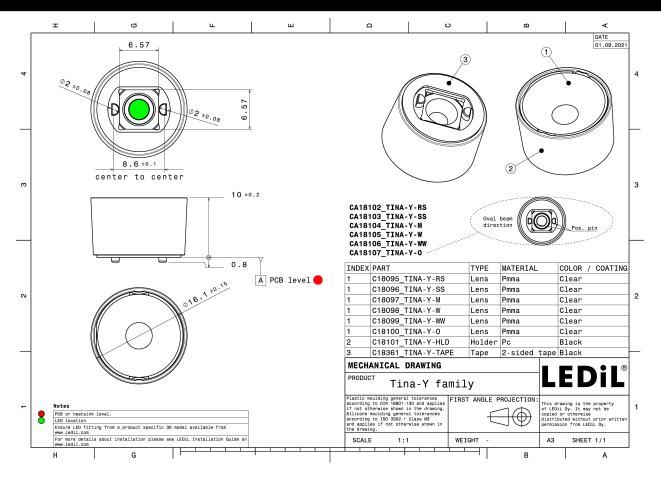
Туре	
Single lens	
Holder	
Таре	

Material	Colour	Finish
PMMA	clear	gloss
PC	black	gloss
Acrylic foam		

ORDERING INFORMATION:

Component	Qty in box	MOQ	MPQ	Box weight (kg)
CA18103_TINA-Y-SS	3900	300	300	5.7
» Box size: 476 x 273 x 197 mm				

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



OPTICAL RESULTS (MEASURED):

LEDS LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	XP-G3 18.0° / 37.0° 81 % 5.4 cd/lm 1 White hts:	
CREE ÷	XP-G4	55 ⁴
FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	17.0° / 33.0° 87 % 7.1 cd/lm 1 White hts:	
Ø NICHI∧		50*
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	NVSW719AC 17.0° / 31.0° 87 % 7.9 cd/lm 1 White	
OSRAM Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required compone	OSCONIQ C 3030 16.0° / 36.0° 83 % 6.3 cd/lm 1 White hts:	



CREE LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	CLR6A-TKW 21.0° / 42.0° 86 % 4.5 cd/lm 1 RGBW	to the second se	200 60 60 700 700 80 80 80 80 80 80 80 80 80 80 80 80 8
CREE LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	XD16 Premium 14.0° / 26.0° 86 % 11.4 cd/lm 1 White		
CREE LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	XE-G 16.0° / 28.0° 87 % 9 cd/lm 1 White		200 200 000 000 000 000 000 000
CREE LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	XHP35.2 HD 28.0° / 52.0° 75 % 2.5 cd/m 1 White		200 200 200 200 200 200 200 200



CREE ≑		90° 90°
LEDS	XHP35.2 HI	
FWHM / FWTM	22.0° / 46.0°	75'
Efficiency	83 %	
Peak intensity	3.8 cd/lm	60*
LEDs/each optic Light colour	1 White	45*
Required components:	White	2430
Required components.		
		30° 4000 30° 30°
		90° 90°
LED	XHP50.3 HI	
FWHM / FWTM	24.0° / 48.0°	25* 25*
Efficiency	82 %	
Peak intensity	3.4 cd/lm	
LEDs/each optic	1	1600
Light colour	White	93*
Required components:		2430
		2200
		30%
		15° 0° 15°
CRFF -		
		90* 90*
	XM-L RGBW (XMLDCL HD)	99*
LED	XM-L RGBW (XMLDCL HD) 30.0° / 50.0°	35°
LED FWHM / FWTM	30.0° / 50.0°	25 25 27 27 27 27
LED FWHM / FWTM Efficiency	30.0° / 50.0° 85 %	000 000 000 000 000 000 000 000
LED FWHM / FWTM Efficiency Peak intensity	30.0° / 50.0°	60 27 29 29 29 29 29 29 29 29 29 29 29 29 29
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	30.0° / 50.0° 85 % 2.7 cd/lm	91 91 92 93 95 90 90 90 90 90 90 90 90 90 90 90 90 90
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	30.0° / 50.0° 85 % 2.7 cd/lm 1	e.
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	30.0° / 50.0° 85 % 2.7 cd/lm 1	e.
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	30.0° / 50.0° 85 % 2.7 cd/lm 1	e.
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	30.0° / 50.0° 85 % 2.7 cd/lm 1	çr. 67.
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	30.0° / 50.0° 85 % 2.7 cd/lm 1	gr (r gr (r gr (r
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	30.0° / 50.0° 85 % 2.7 cd/lm 1	çr. 67.
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	30.0° / 50.0° 85 % 2.7 cd/lm 1 RGBW XM-L RGBW (XMLDCL HI)	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	30.0° / 50.0° 85 % 2.7 cd/lm 1 RGBW	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: CREE LED FWHM / FWTM Efficiency	30.0° / 50.0° 85 % 2.7 cd/lm 1 RGBW XM-L RGBW (XMLDCL HI)	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: CREE ED FWHM / FWTM Efficiency Peak intensity	30.0° / 50.0° 85 % 2.7 cd/lm 1 RGBW XM-L RGBW (XMLDCL HI) 20.0° / 38.0°	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: CREE ED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	30.0° / 50.0° 85 % 2.7 cd/lm 1 RGBW XM-L RGBW (XMLDCL HI) 20.0° / 38.0° 85 %	
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	30.0° / 50.0° 85 % 2.7 cd/lm 1 RGBW XM-L RGBW (XMLDCL HI) 20.0° / 38.0° 85 % 5.3 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: CREE ED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	30.0° / 50.0° 85 % 2.7 cd/lm 1 RGBW XM-L RGBW (XMLDCL HI) 20.0° / 38.0° 85 % 5.3 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	30.0° / 50.0° 85 % 2.7 cd/lm 1 RGBW XM-L RGBW (XMLDCL HI) 20.0° / 38.0° 85 % 5.3 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	30.0° / 50.0° 85 % 2.7 cd/lm 1 RGBW XM-L RGBW (XMLDCL HI) 20.0° / 38.0° 85 % 5.3 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	30.0° / 50.0° 85 % 2.7 cd/lm 1 RGBW XM-L RGBW (XMLDCL HI) 20.0° / 38.0° 85 % 5.3 cd/lm 1	



r		
		90° 90°
LED	XM-L3	
FWHM / FWTM	21.0° / 42.0°	23*
Efficiency	80 %	
Peak intensity	4 cd/lm	60* 60*
LEDs/each optic	1	
Light colour	u White	45*
Required components:	White	(X X)
Required components.		300
		30° 12° 0° 32° 30°
		90° A 90°
LED	XP-E2	
FWHM / FWTM	12.0° / 24.0°	2000
Efficiency	88 %	80°
Peak intensity	13 cd/lm	
LEDs/each optic	1	
Light colour	White	gy
Required components:		950
		36* 34*
		15° 0° 15°
		90* A
	XP-G2	90° 90°
	XP-G2 15.0° / 28.0°	27. 26. 26.
LED		9/* 9/* 33. 9/*
LED FWHM / FWTM	15.0° / 28.0°	94 96 ⁴ 75 ⁴ 700 64 ⁴
LED FWHM / FWTM Efficiency	15.0° / 28.0° 87 %	55° 57' 75' 75' 64' 700 69'
LED FWHM / FWTM Efficiency Peak intensity	15.0° / 28.0° 87 % 9 cd/lm	5° 5° 5° 5° 5° 5° 5°
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	15.0° / 28.0° 87 % 9 cd/lm 1	77 60 200 60
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	15.0° / 28.0° 87 % 9 cd/lm 1	5° 5°
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	15.0° / 28.0° 87 % 9 cd/lm 1	5° 5°
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	15.0° / 28.0° 87 % 9 cd/lm 1	75 6130 61 61 61 61 61 61 61 61 61 61
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	15.0° / 28.0° 87 % 9 cd/lm 1	610 610 121 121 121 121 121
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	15.0° / 28.0° 87 % 9 cd/lm 1 White	75 6130 61 61 61 61 61 61 61 61 61 61
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	15.0° / 28.0° 87 % 9 cd/lm 1 White	75 6130 61 61 61 61 61 61 61 61 61 61
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: CREE LED ED FWHM / FWTM	15.0° / 28.0° 87 % 9 cd/lm 1 White XP-P 12.0° / 22.0°	75 6130 61 61 61 61 61 61 61 61 61 61
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: CREE LED FWHM / FWTM Efficiency	15.0° / 28.0° 87 % 9 cd/lm 1 White XP-P 12.0° / 22.0° 89 %	75 6130 61 61 61 61 61 61 61 61 61 61
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: CREE ED FWHM / FWTM Efficiency Peak intensity	15.0° / 28.0° 87 % 9 cd/lm 1 White XP-P 12.0° / 22.0° 89 % 15.1 cd/lm	75 6130 61 61 61 61 61 61 61 61 61 61
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: CREE LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	15.0° / 28.0° 87 % 9 cd/lm 1 White XP-P 12.0° / 22.0° 89 % 15.1 cd/lm 1	75 6130 61 61 61 61 61 61 61 61 61 61
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	15.0° / 28.0° 87 % 9 cd/lm 1 White XP-P 12.0° / 22.0° 89 % 15.1 cd/lm	75 6130 61 61 61 61 61 61 61 61 61 61
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: CREE LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	15.0° / 28.0° 87 % 9 cd/lm 1 White XP-P 12.0° / 22.0° 89 % 15.1 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	15.0° / 28.0° 87 % 9 cd/lm 1 White XP-P 12.0° / 22.0° 89 % 15.1 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	15.0° / 28.0° 87 % 9 cd/lm 1 White XP-P 12.0° / 22.0° 89 % 15.1 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: CREE LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	15.0° / 28.0° 87 % 9 cd/lm 1 White XP-P 12.0° / 22.0° 89 % 15.1 cd/lm 1	



CREE ≑		90° 90°
LEDS	XQ-E HD	
FWHM / FWTM	12.0° / 24.0°	75* 75*
Efficiency	87 %	
Peak intensity	12.7 cd/lm	60°
LEDs/each optic	1	6400 A
Light colour	White	g* / / / / / / / / / / / / / / / / / / /
Required components:	White	
		860
		X / V X
		1.00
		30° 15° 0° 15°
		90° A 90°
LED	XQ-E HI	
FWHM / FWTM	12.0° / 22.0°	73*
Efficiency	87 %	
Peak intensity	15.2 cd/lm	6420 B0.
LEDs/each optic	1	
Light colour	White	45. 0000 est
Required components:		
		12000
		X / T / X
		30* 30*
		15 ³ 0 ³ 15 ³
	05	90 ⁴ 90 ⁴
	LUXEON 5050 Round LES	90*
		25° & 35°
LED	LUXEON 5050 Round LES	90° 90° 127′ Ø 32′ 137′
LED FWHM / FWTM	LUXEON 5050 Round LES 28.0° / 56.0°	34 34 99 97
LED FWHM / FWTM Efficiency	LUXEON 5050 Round LES 28.0° / 56.0° 80 %	
LED FWHM / FWTM Efficiency Peak intensity	LUXEON 5050 Round LES 28.0° / 56.0° 80 % 2.4 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	LUXEON 5050 Round LES 28.0° / 56.0° 80 % 2.4 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LUXEON 5050 Round LES 28.0° / 56.0° 80 % 2.4 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LUXEON 5050 Round LES 28.0° / 56.0° 80 % 2.4 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LUXEON 5050 Round LES 28.0° / 56.0° 80 % 2.4 cd/lm 1	30, 100 100 100 100 100 100 100 1
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON 5050 Round LES 28.0° / 56.0° 80 % 2.4 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON 5050 Round LES 28.0° / 56.0° 80 % 2.4 cd/lm 1 White	30, 100 100 100 100 100 100 100 1
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON 5050 Round LES 28.0° / 56.0° 80 % 2.4 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON 5050 Round LES 28.0° / 56.0° 80 % 2.4 cd/lm 1 White S LUXEON 5050 Square LES 26.0° / 56.0°	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON 5050 Round LES 28.0° / 56.0° 80 % 2.4 cd/lm 1 White S LUXEON 5050 Square LES 26.0° / 56.0° 78 %	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON 5050 Round LES 28.0° / 56.0° 80 % 2.4 cd/lm 1 White LUXEON 5050 Square LES 26.0° / 56.0° 78 % 2.5 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON 5050 Round LES 28.0° / 56.0° 80 % 2.4 cd/lm 1 White LUXEON 5050 Square LES 26.0° / 56.0° 78 % 2.5 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON 5050 Round LES 28.0° / 56.0° 80 % 2.4 cd/lm 1 White LUXEON 5050 Square LES 26.0° / 56.0° 78 % 2.5 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON 5050 Round LES 28.0° / 56.0° 80 % 2.4 cd/lm 1 White LUXEON 5050 Square LES 26.0° / 56.0° 78 % 2.5 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON 5050 Round LES 28.0° / 56.0° 80 % 2.4 cd/lm 1 White LUXEON 5050 Square LES 26.0° / 56.0° 78 % 2.5 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON 5050 Round LES 28.0° / 56.0° 80 % 2.4 cd/lm 1 White LUXEON 5050 Square LES 26.0° / 56.0° 78 % 2.5 cd/lm 1	



	S S	90° A 90°
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON C 14.0° / 26.0° 79 % 10.8 cd/lm 1 White	22. 6, 72, 9, 20, 6, 72, 9, 20, 6, 21, 6, 6, 72, 9, 20, 6, 6, 72, 9, 20, 6, 72, 72, 72, 72, 72, 72, 72, 72, 72, 72
	S	90° 90°
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON MZ 24.0° / 47.0° 81 % 3.4 cd/lm 1 White	20 20 21 22 22 22 22 22 22 22 22 22 22 22 22
ED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON TX 15.0° / 30.0° 84 % 8 cd/lm 1 White	200 0, 10, 0, 10, 0, 10, 0, 10, 0, 10, 0, 10, 0, 10, 0, 10, 0, 10, 0, 10, 0, 10, 0, 10, 1
ED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	NV4WB35AM 24.0° / 46.0° 85 % 3.7 cd/lm 1 White	200 200 200 200 200 200 200 200 200 200



ΜΝΙCΗΙΛ		90° 90°
LED	NVSW219F	
FWHM / FWTM	18.0° / 33.0°	73.
Efficiency	87 %	1000
Peak intensity	6.6 cd/lm	60* 64*
LEDs/each optic	1	
Light colour	White	g*
Required components:		4000
		6039
		15° 0° 15°
ΜΝΙCΗΙΛ		90° 90°
LED	NVSxE21A	25
FWHM / FWTM	16.0° / 34.0°	25* 72*
Efficiency	79 %	605 605
Peak intensity	7 cd/lm	220
LEDs/each optic	1	
Light colour	White	42. 42.
Required components:		600
		X X
		6430
		30° 30°
		10 0 10
OCDAM		
OSRAM Opto Semiconductors		90 ⁴
OSRAM opto Semiconductors LED	OSLON Square CSSRM2/CSSRM3	50° 50°
Opto Semiconductors	16.0° / 32.0°	30° 30°
opto Semiconductors LED FWHM / FWTM Efficiency	16.0° / 32.0° 86 %	60°
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity	16.0° / 32.0°	9°
^{opto Semiconductors} LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	16.0° / 32.0° 86 % 7.5 cd/lm 1	60°
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	16.0° / 32.0° 86 % 7.5 cd/lm	60°
^{opto Semiconductors} LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	16.0° / 32.0° 86 % 7.5 cd/lm 1	64 5 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	16.0° / 32.0° 86 % 7.5 cd/lm 1	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	16.0° / 32.0° 86 % 7.5 cd/lm 1	g
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	16.0° / 32.0° 86 % 7.5 cd/lm 1	g
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	16.0° / 32.0° 86 % 7.5 cd/lm 1	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	16.0° / 32.0° 86 % 7.5 cd/lm 1 White	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: OSERAM Opto Semiconductors LED	16.0° / 32.0° 86 % 7.5 cd/lm 1 White OSLON SSL 150	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: OSRAM Opto Semiconductors LED FWHM / FWTM	16.0° / 32.0° 86 % 7.5 cd/lm 1 White OSLON SSL 150 13.0° / 25.0°	
orto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Peak Opto Semiconductors LED FWHM / FWTM Efficiency	16.0° / 32.0° 86 % 7.5 cd/lm 1 White OSLON SSL 150 13.0° / 25.0° 88 %	
opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	16.0° / 32.0° 86 % 7.5 cd/lm 1 White OSLON SSL 150 13.0° / 25.0° 88 % 13 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	16.0° / 32.0° 86 % 7.5 cd/lm 1 White OSLON SSL 150 13.0° / 25.0° 88 % 13 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	16.0° / 32.0° 86 % 7.5 cd/lm 1 White OSLON SSL 150 13.0° / 25.0° 88 % 13 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	16.0° / 32.0° 86 % 7.5 cd/lm 1 White OSLON SSL 150 13.0° / 25.0° 88 % 13 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	16.0° / 32.0° 86 % 7.5 cd/lm 1 White OSLON SSL 150 13.0° / 25.0° 88 % 13 cd/lm 1	
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 Light colour	16.0° / 32.0° 86 % 7.5 cd/lm 1 White OSLON SSL 150 13.0° / 25.0° 88 % 13 cd/lm 1	60 90 90 90 90 90 90 90 90 90 9



Depto Semiconductors	SFH 4715AS 16.0° / 33.0° 86 % 1 IR	Polar intensity graph	
OSRAM Opto Semiconductors LED FWHM / FWTM Efficiency LEDs/each optic Light colour Required components:	SFH 4725AS 16.0° / 34.0° 86 % 1 IR	Polar intensity graph	
SAMSUN LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LH351C 19.0° / 36.0° 87 % 5.9 cd/lm 1 White		200 50 60 60 100 100 100 100 100 100