

PRODUCT DATASHEET FCP13895_SEANNA-A

SEANNA-A

~2.3° spot beam. Assembly with holder.

SPECIFICATION:

Dimensions	Ø 155.2 mm
Height	82 mm
Fastening	pin, screw
ROHS compliant	yes 🕕



MATERIALS:

Component SEANNA-FRES SEANNA-A SEANNA-HLD-B-BOTTOMRING SEANNA-HLD-B-TOPRING SEANNA-HLD-B SEANNA-SCREW

Type Single lens Single lens Holder Holder Holder Accessory

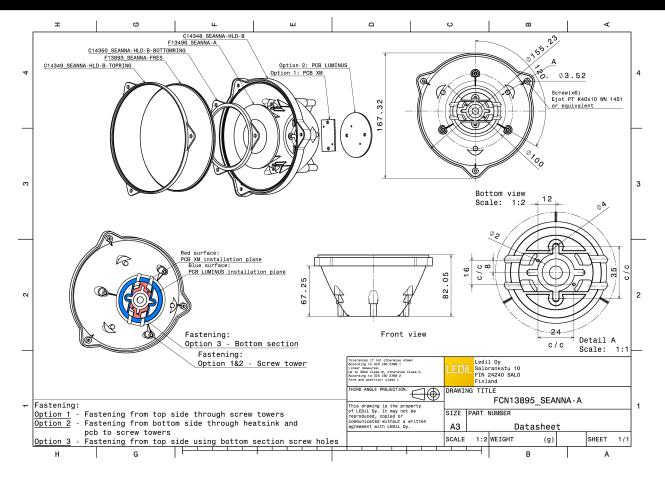
Material	Colour
PMMA	clear
PMMA	clear
PA66GF30	black
PA66GF30	black
PA66GF30	black
Stainless steel	clear

ORDERING INFORMATION:

Component		Qty in box	MOQ	MPQ	Box weight (kg)
FCP13895_SEANNA-A » Box size:	Single lens		20	2	6.5

Finish

PRODUCT DATASHEET FCP13895_SEANNA-A



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



OPTICAL RESULTS (MEASURED):

FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components	XD16 1.0° / 3.0° 91 % 629 cd/lm 1 White 5: XP-E2 1.0° / 3.0°	
Peak intensity LEDs/each optic Light colour Required components	629 cd/lm 1 White s: XP-E2	
LEDs/each optic Light colour Required components	1 White s: XP-E2	90 ⁴ 00 00 00 00
Light colour Required components	White s: XP-E2	
Required components	s: XP-E2	
CREE ÷	XP-E2	20 ⁴ 00 ⁴ 20 ⁴ 20 ⁴ 20 ⁴
		90* 90
1	1.0° / 3.0°	740
FWHM / FWTM		\square \square \square \square
-	%	50° 20°00 600
	718 cd/lm	$ \times / / 1 \wedge \times $
	1	
-	White	
Required components		94
		90° 90'
	XP-L HD	
FWHM / FWTM	2.4° / 5.3°	
-	94 %	60° (60)
	255 cd/lm	
	1	$\vee \times / \setminus \times \vee$
•	White	42° 10000 457
Required components	S:	240
		30° 25000 30 15° 0° 15°
		90, 90
	XP-L HI	
	1.6° / 3.2°	73* 1000
	94 %	60° 600
	492 cd/lm	
	1	X//T
	White	57° 55
Required components	S:	20100 20100



OPTICAL RESULTS (MEASURED):

ØNICHI		90°
LED	NVSW3x9A	75.
FWHM / FWTM	1.9° / 4.1°	
Efficiency	92 %	60° 10000 60°
Peak intensity	310 cd/lm	
LEDs/each optic Light colour	1 White	
Required compone		20 50
Required compone		20 ⁴ 22 ³ 6 ⁴ 32 ⁴ 30
OSRAM Opto Semiconductors		50* 30*
LED	OSLON Black Flat (LUW HWQP)	
FWHM / FWTM	1.2° / 2.3°	
Efficiency	94 %	60° 000 60°
Peak intensity	1196 cd/lm	\wedge
LEDs/each optic	1	$ \times / / \wedge \times$
Light colour	White	a
Required compone	nts:	30° 0° 13° X.
OSRAM Opto Semiconductors		90* 90*
LED	OSLON Square CSSRM2/CSSRM3	
FWHM / FWTM	1.5° / 3.3°	
Efficiency	94 %	600 200 600
Peak intensity	587 cd/lm	$\mathbb{N} \times \mathbb{N} \times \mathbb{N}$
LEDs/each optic	1	$X / A \times X$
Light colour	White	a, a,
Required compone	nts:	50 00 50 00 50 07 157



		50*
LED	MK-R	
FWHM / FWTM	4.0° / 10.4°	25* 25*
	91 %	
Efficiency		60 ⁴
Peak intensity	82 cd/lm	
LEDs/each optic	1	gr
Light colour	White	*****
Required components:		
		36° 15° 36°
		90* 90*
LED	XB-D	
FWHM / FWTM	1.3° / 3.2°	75
Efficiency	87 %	2000
Peak intensity	698 cd/lm	60°
LEDs/each optic	1	
Light colour	White	ay
Required components:	Wille	$\langle \langle \rangle \rangle$
Required components.		\times / \times
		614000
		30°
LED	XHP35 HD	
FWHM / FWTM	2.4° / 4.2°	
Efficiency	89 %	
Peak intensity	257 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required components:		
		90°
LED	XHP35 HI	
FWHM / FWTM	1.6° / 3.6°	75* 100400
Efficiency	83 %	
Peak intensity	496 cd/lm	50° 50°
LEDs/each optic	1	$\times / \square \setminus \times$
Light colour	' White	4. X 4.
Required components:	THE STATE	307200
		40000
		30° 512000 30° 30°



		90* 90*
LED	XHP35.2 HD	
FWHM / FWTM	2.0°/6.0°	75*
Efficiency	89 %	
Peak intensity	161.9 cd/lm	60°
LEDs/each optic	1	\times / / \times ×
Light colour	White	g
Required components:		102800
		155.000
		36° 36° 15° 0° 15°
		90* 90*
LED	XHP35.2 HI	
FWHM / FWTM	2.0° / 4.0°	75'
Efficiency	89 %	
Peak intensity	161 cd/lm	60°
LEDs/each optic	1	\times / / \wedge \times
Light colour	White	ez. ez.
Required components:	white	100.00
		133300
		30, 30,
		15° 0° 15°
		233 [°] 0 [°] 135 [°]
CREE ÷	XHP50	90° 90° 15°
LED	XHP50 3.3° / 6.7°	22
LED FWHM / FWTM	3.3° / 6.7°	2000 - 22° - 25° - 2000 - 22° - 25° - 25° - 25° - 25°
LED FWHM / FWTM Efficiency	3.3° / 6.7° 87 %	91 200 05 32 260 25, 94 26, 26, 10, 26, 26, 10, 26, 26,
LED FWHM / FWTM Efficiency Peak intensity	3.3° / 6.7° 87 % 122 cd/lm	32.00 32.00 00, 33. 26.00 30, 36. 26.00 30,
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	3.3° / 6.7° 87 % 122 cd/lm 1	5°, 0°, 13°, 0°, 13°, 0°, 13°, 0°, 13°, 0°, 13°, 0°, 13°, 13°, 13°, 13°, 13°, 13°, 13°, 13
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	3.3° / 6.7° 87 % 122 cd/lm	100 100 100 100 100 100
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	3.3° / 6.7° 87 % 122 cd/lm 1	101 2000 00 101 2000 00 101 2000 00
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	3.3° / 6.7° 87 % 122 cd/lm 1	10, 20 20 21, 20 25 21, 20 25 22, 20 25 24, 20 25 25, 20 25 26, 20 25 27, 20 25 26, 20 25 27, 20 25 28, 20 25 29, 20 25 20, 20<
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	3.3° / 6.7° 87 % 122 cd/lm 1	27 27 27 27 27 27 27 27 27 27
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	3.3° / 6.7° 87 % 122 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	3.3° / 6.7° 87 % 122 cd/lm 1 White	27 27 27 27 27 27 27 27 27 27
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	3.3° / 6.7° 87 % 122 cd/lm 1 White	30* 30* 30* 30* 30* 30* 30* 30* 30* 30* 30* 30* 30* 30* 30* 30* 30* 30* 30* 30* 30* 30* 30* 30*
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	3.3° / 6.7° 87 % 122 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: CREE LED FWHM / FWTM Efficiency	3.3° / 6.7° 87 % 122 cd/lm 1 White XHP50.2 2.7° / 6.8° 84 %	39* 30* 39* 30* 39* 30*
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: CREE ED FWHM / FWTM Efficiency Peak intensity	3.3° / 6.7° 87 % 122 cd/lm 1 White XHP50.2 2.7° / 6.8°	39* 30* 39* 30* 39* 30*
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: CREE LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	3.3° / 6.7° 87 % 122 cd/lm 1 White XHP50.2 2.7° / 6.8° 84 % 128.7 cd/lm 1	39* 30* 39* 30* 39* 30*
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	3.3° / 6.7° 87 % 122 cd/lm 1 White XHP50.2 2.7° / 6.8° 84 % 128.7 cd/lm	39* 30* 39* 30* 39* 30*
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: CREE LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	3.3° / 6.7° 87 % 122 cd/lm 1 White XHP50.2 2.7° / 6.8° 84 % 128.7 cd/lm 1	30* 30* 30* 30* 30* 30* 30* 30* 30* 30* 30* 30* 30* 30* 30* 30* 30* 30* 30* 30* 30* 30* 30* 30*
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: CREE LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	3.3° / 6.7° 87 % 122 cd/lm 1 White XHP50.2 2.7° / 6.8° 84 % 128.7 cd/lm 1	39* 30* 39* 30* 39* 30*
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: CREE LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	3.3° / 6.7° 87 % 122 cd/lm 1 White XHP50.2 2.7° / 6.8° 84 % 128.7 cd/lm 1	39* 30* 39* 30*
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: CREECS LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	3.3° / 6.7° 87 % 122 cd/lm 1 White XHP50.2 2.7° / 6.8° 84 % 128.7 cd/lm 1	30* 30* 30* 30* 30* 30* 30* 30* 30* 30* 30* 30* 30* 30* 30* 30* 30* 30* 30* 30* 30* 30* 30* 30*



		90° 90°
	VILIDE0	
LED	XHP70	75.
FWHM / FWTM	4.3° / 10.4°	
Efficiency	81 %	60 ¹ 60 ⁴
Peak intensity	69.9 cd/lm	
LEDs/each optic	1	
Light colour	White	45°
Required components:		
		300
		90° 90°
LED	XHP70.2	75.
FWHM / FWTM	4.5° / 10.1°	
Efficiency	83 %	60* 20* 60*
Peak intensity	71.6 cd/lm	\land \land \land \land \land \land \land \land \land
LEDs/each optic	1	
Light colour	White	e. e.
Required components:		9500
		\times / \wedge \times
		30* 30* 30*
		15° 78800 15°
		50 ³
CREE ÷	XM-L	
	XM-L 2.4°	
LED		
LED FWHM / FWTM	2.4°	
LED FWHM / FWTM Efficiency	2.4° %	
LED FWHM / FWTM Efficiency Peak intensity	2.4° % 272 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	2.4° % 272 cd/lm 1	94 ⁴ 95 ⁴ 96 ⁴ 10000 00 ⁴
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	2.4° % 272 cd/lm 1	99° 99° 99° 99° 99° 99° 99° 99° 99° 99°
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	2.4° % 272 cd/lm 1	94 ⁴ 95 ⁴ 96 ⁴ 10000 00 ⁴
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	2.4° % 272 cd/lm 1	99° 99° 99° 99° 99° 99° 99° 99° 99° 99°
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	2.4° % 272 cd/lm 1	94 ⁴ 95 ⁴ 96 ⁴ 10000 00 ⁴
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	2.4° % 272 cd/lm 1	94 ⁴ 95 ⁴ 96 ⁴ 10000 00 ⁴
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	2.4° % 272 cd/lm 1 White	54 ¹ 55 ¹ 5
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	2.4° % 272 cd/lm 1 White	64 - 1900 - 64
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: CREE LED FWHM / FWTM Efficiency	2.4° % 272 cd/lm 1 White XM-L2 2.0° / 3.9° 85 %	54 ¹ 55 ¹ 5
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Required components: LED FWHM / FWTM Efficiency Peak intensity	2.4° % 272 cd/lm 1 White XM-L2 2.0° / 3.9°	54 ¹ 55 ¹ 5
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: CREE LED FWHM / FWTM Efficiency	2.4° % 272 cd/lm 1 White XM-L2 2.0° / 3.9° 85 %	54 ¹ 55 ¹ 5
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: CREE LED FWHM / FWTM Efficiency Peak intensity	2.4° % 272 cd/lm 1 White XM-L2 2.0° / 3.9° 85 % 275 cd/lm	30, 30, 30, 30, 30, 30, 30, 30, 40, 10, 50, 50, 50, 50, 50, 50, 50, 50, 50, 50, 60, 10, 50, 50, 50,
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: CREE LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	2.4° % 272 cd/lm 1 White XM-L2 2.0° / 3.9° 85 % 275 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	2.4° % 272 cd/lm 1 White XM-L2 2.0° / 3.9° 85 % 275 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	2.4° % 272 cd/lm 1 White XM-L2 2.0° / 3.9° 85 % 275 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	2.4° % 272 cd/lm 1 White XM-L2 2.0° / 3.9° 85 % 275 cd/lm 1	



· · · · · · · · · · · · · · · · · · ·		
		90° 90°
	XM-L3	
LED FWHM / FWTM	2.0° / 6.0°	75. 75.
Efficiency	90 %	60° 60°
Peak intensity	196.2 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required components:		15500
		\times
		30° 204300 30° 30°
		90° 90°
LED	XP-E	75°
FWHM / FWTM	1.2° / 2.9°	
Efficiency	92 %	60°
Peak intensity	955 cd/lm	00
LEDs/each optic	1	
Light colour	White	45° 614000 45°
Required components:		
		30. 30.
		15° 1000000 15°
		90° 90°
LED	XP-E2	
FWHM / FWTM	2.0° / 6.0°	75 75
Efficiency	85 %	
Efficiency Peak intensity	85 % 211.5 cd/m	9 ^t
Peak intensity	211.5 cd/lm	60*
Peak intensity LEDs/each optic	211.5 cd/lm 1	a"
Peak intensity LEDs/each optic Light colour	211.5 cd/lm	gr
Peak intensity LEDs/each optic	211.5 cd/lm 1	gr
Peak intensity LEDs/each optic Light colour	211.5 cd/lm 1	200 200 200 200 100
Peak intensity LEDs/each optic Light colour	211.5 cd/lm 1	
Peak intensity LEDs/each optic Light colour	211.5 cd/lm 1	50° 0° 53° 6° 6° 13890 13900 1390 139
Peak intensity LEDs/each optic Light colour Required components:	211.5 cd/lm 1	304
Peak intensity LEDs/each optic Light colour Required components:	211.5 cd/lm 1 Blue	304
Peak intensity LEDs/each optic Light colour Required components:	211.5 cd/lm 1 Blue XP-G	304
Peak intensity LEDs/each optic Light colour Required components: CREE LED FWHM / FWTM	211.5 cd/lm 1 Blue XP-G 1.4° / 3.4°	1399 1399 10 ⁴ 10 ⁴ 10 ⁴ 10 ⁴
Peak intensity LEDs/each optic Light colour Required components: CREE EDs LED FWHM / FWTM Efficiency	211.5 cd/lm 1 Blue XP-G 1.4° / 3.4° 90 %	1399 1399 10 ⁴ 10 ⁴ 10 ⁴ 10 ⁴
Peak intensity LEDs/each optic Light colour Required components:	211.5 cd/lm 1 Blue XP-G 1.4° / 3.4° 90 % 578 cd/lm	1399 1399 10 ⁴ 10 ⁴ 10 ⁴ 10 ⁴
Peak intensity LEDs/each optic Light colour Required components: CREE LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	211.5 cd/lm 1 Blue XP-G 1.4° / 3.4° 90 % 578 cd/lm 1	50 ⁴ 20 20 20 20 20 20 20 20 20 20
Peak intensity LEDs/each optic Light colour Required components:	211.5 cd/lm 1 Blue XP-G 1.4° / 3.4° 90 % 578 cd/lm	1399 1399 10 ⁴ 10 ⁴ 10 ⁴ 10 ⁴
Peak intensity LEDs/each optic Light colour Required components: CREE LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	211.5 cd/lm 1 Blue XP-G 1.4° / 3.4° 90 % 578 cd/lm 1	50 ⁴ 20 20 20 20 20 20 20 20 20 20
Peak intensity LEDs/each optic Light colour Required components: CREE LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	211.5 cd/lm 1 Blue XP-G 1.4° / 3.4° 90 % 578 cd/lm 1	50 ⁴ 20 20 20 20 20 20 20 20 20 20
Peak intensity LEDs/each optic Light colour Required components: CREE LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	211.5 cd/lm 1 Blue XP-G 1.4° / 3.4° 90 % 578 cd/lm 1	50 ⁴ 20 20 20 20 20 20 20 20 20 20
Peak intensity LEDs/each optic Light colour Required components: CREE ED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	211.5 cd/lm 1 Blue XP-G 1.4° / 3.4° 90 % 578 cd/lm 1	50 ⁴ 20 20 20 20 20 20 20 20 20 20



		90° 90°
LED	XP-G2	
FWHM / FWTM	1.4° / 3.2°	75*
Efficiency	91 %	60* 20*00 60*
Peak intensity	628 cd/lm	\times / \wedge \times
LEDs/each optic		452 454
Light colour	White	
Required components:		
		\times / \times
		61400
		30° 30° 30°
		90* 90*
LED	XP-G2 HE	
FWHM / FWTM	2.0° / 4.0°	75.
Efficiency	89 %	
Peak intensity	286.5 cd/lm	60* 10 * 00 60*
LEDs/each optic	1	
Light colour	White	47°
Required components:	wine	
required components.		
		\times / \times
		30° 30°300 30°
		90° 90°
LED	XP-G3	
FWHM / FWTM	2.0° / 4.0°	75*
	88 %	
Efficiency		60°
Peak intensity LEDs/each optic	246.2 cd/lm 1	
Light colour	White	
Required components:	Wille	153 800
Required components.		\times
		20000
		2009
		3900 30 ¹⁰ 35 ¹ 0 ¹ 15 ¹
LEDs	XP-P	15° 0° 15°
LED LEDS	XP-P 2.0° / 6.0°	15° 0° 15°
LED LED FWHM / FWTM	2.0° / 6.0°	15° 0° 15°
LEDs LED FWHM / FWTM Efficiency	2.0° / 6.0° 84 %	15° 0° 15°
LEDs LED FWHM / FWTM Efficiency Peak intensity	2.0° / 6.0° 84 % 246.8 cd/lm	15 ⁵ 0 ⁶ 15 ⁵
LEDs LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	2.0° / 6.0° 84 % 246.8 cd/lm 1	15 ⁵ 0 ⁶ 15 ⁵
LEDs LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	2.0° / 6.0° 84 % 246.8 cd/lm	902 902 902 903 903 904 904 904 904 904 904 904 904
LEDs LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	2.0° / 6.0° 84 % 246.8 cd/lm 1	902 902 902 903 903 904 904 904 904 904 904 904 904
LEDs LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	2.0° / 6.0° 84 % 246.8 cd/lm 1	90 ⁵ 0 ⁴ 13 ² 0 ⁴ 13 ²
LEDs LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	2.0° / 6.0° 84 % 246.8 cd/lm 1	90 ⁵ 0 ⁴ 13 ² 0 ⁴ 13 ²



CREE LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	XQ-E HD 1.1° / 2.5° 92 % 1460 cd/lm 1 White	91 91 92 94 95 95 95 95 95 95 95 95 95 95
Required components:		1221900 33 ⁴ 13 ⁵ 0 ⁴ 13 ⁵
CREE LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	XQ-E HI 1.2° / 2.0° 90 % 1300 cd/lm 1 White	
CREE LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	XT-E 1.4° / 3.5° 88 % 519 cd/lm 1 White	20 20 20 20 20 20 20 20 20 20
LED ENGIN	LZ4 (00xW00) 3.3° / 8.2°	25. 26. 26.



MUMILED	DS	90*
LED	LUXEON CZ	
FWHM / FWTM	1.7° / 3.9°	
Efficiency	93 %	60° 1000 60°
Peak intensity	346 cd/lm	$f \times / / I \wedge \times \gamma$
LEDs/each optic	1	
Light colour	White	97* 2000 97*
Required components:		
		307 200
		30°
)S	90°
LED	LUXEON CZ	
FWHM / FWTM	1.4° / 3.7°	75
Efficiency	94 %	
Peak intensity	424 cd/lm	60°
LEDs/each optic	1	2000
Light colour	Green	gy*
Required components:		307000
		403500
		30" 30 15" 0° 15"
	05	
		90* 90*
LED		90° 90°
	LUXEON CZ 1.2° / 3.3°	27
LED FWHM / FWTM	LUXEON CZ	
LED FWHM / FWTM Efficiency	LUXEON CZ 1.2° / 3.3°	
LED FWHM / FWTM Efficiency Peak intensity	LUXEON CZ 1.2° / 3.3° 94 %	
LED FWHM / FWTM Efficiency	LUXEON CZ 1.2° / 3.3° 94 % 564 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	LUXEON CZ 1.2° / 3.3° 94 % 564 cd/lm 1	75°
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LUXEON CZ 1.2° / 3.3° 94 % 564 cd/lm 1	75°
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LUXEON CZ 1.2° / 3.3° 94 % 564 cd/lm 1	75°
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LUXEON CZ 1.2° / 3.3° 94 % 564 cd/lm 1	25
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON CZ 1.2° / 3.3° 94 % 564 cd/lm 1 Red	75°
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON CZ 1.2° / 3.3° 94 % 564 cd/lm 1 Red	25
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON CZ 1.2° / 3.3° 94 % 564 cd/lm 1 Red S LUXEON CZ	25- 25- 25- 25- 25- 25- 25- 25-
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON CZ 1.2° / 3.3° 94 % 564 cd/lm 1 Red S LUXEON CZ 1.6° / 3.8°	25 25 60 60 60 60 60 60 60 60 60 60
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON CZ 1.2° / 3.3° 94 % 564 cd/lm 1 Red S LUXEON CZ 1.6° / 3.8° 93 %	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON CZ 1.2° / 3.3° 94 % 564 cd/lm 1 Red S LUXEON CZ 1.6° / 3.8° 93 % 371 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON CZ 1.2° / 3.3° 94 % 564 cd/lm 1 Red S LUXEON CZ 1.6° / 3.8° 93 % 371 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON CZ 1.2° / 3.3° 94 % 564 cd/lm 1 Red S LUXEON CZ 1.6° / 3.8° 93 % 371 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON CZ 1.2° / 3.3° 94 % 564 cd/lm 1 Red S LUXEON CZ 1.6° / 3.8° 93 % 371 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON CZ 1.2° / 3.3° 94 % 564 cd/lm 1 Red S LUXEON CZ 1.6° / 3.8° 93 % 371 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: WIM / COMPARENT LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LUXEON CZ 1.2° / 3.3° 94 % 564 cd/lm 1 Red S LUXEON CZ 1.6° / 3.8° 93 % 371 cd/lm 1	



	DS	90° 90°
LED	LUXEON CZ	
FWHM / FWTM	1.3° / 3.4°	35.
Efficiency	94 %	
Peak intensity	564 cd/lm	60° 50°
LEDs/each optic	1	
Light colour	PC Amber	47* 45*
Required components:		\times
		405900
		300 300
		15% 0% 15%
	DS	90°
LED	LUXEON HL2X	
FWHM / FWTM	2.0° / 4.0°	
Efficiency	89 %	60° 10000 60°
Peak intensity	317.8 cd/lm	
LEDs/each optic	1	
Light colour	White	47° 20 0 00 47°
Required components:		
		30° 36°
		10' 0' 10'
	5	
		90*
LED	LUXEON M/MX	35
LED FWHM / FWTM	LUXEON M/MX 3.6° / 9.0°	
LED FWHM / FWTM Efficiency	LUXEON M/MX 3.6° / 9.0° 89 %	
LED FWHM / FWTM Efficiency Peak intensity	LUXEON M/MX 3.6° / 9.0° 89 % 99 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	LUXEON M/MX 3.6° / 9.0° 89 % 99 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LUXEON M/MX 3.6° / 9.0° 89 % 99 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	LUXEON M/MX 3.6° / 9.0° 89 % 99 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LUXEON M/MX 3.6° / 9.0° 89 % 99 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LUXEON M/MX 3.6° / 9.0° 89 % 99 cd/lm 1	75 75 66 70 70 70 70 70 70 70 70 70 70
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LUXEON M/MX 3.6° / 9.0° 89 % 99 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON M/MX 3.6° / 9.0° 89 % 99 cd/lm 1 White	75 75 75 75 75 75 75 75 75 75
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON M/MX 3.6° / 9.0° 89 % 99 cd/lm 1 White	394 303 394 303
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON M/MX 3.6° / 9.0° 89 % 99 cd/lm 1 White	75 75 75 75 75 75 75 75 75 75
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON M/MX 3.6° / 9.0° 89 % 99 cd/lm 1 White S LUXEON MZ	394 303 394 303
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON M/MX 3.6° / 9.0° 89 % 99 cd/lm 1 White S LUXEON MZ 2.2° / 6.0°	394 303 394 303
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON M/MX 3.6° / 9.0° 89 % 99 cd/lm 1 White S LUXEON MZ 2.2° / 6.0° 84 %	394 303 394 303
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON M/MX 3.6° / 9.0° 89 % 99 cd/lm 1 White S LUXEON MZ 2.2° / 6.0° 84 % 151 cd/lm	394 303 394 303
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON M/MX 3.6° / 9.0° 89 % 99 cd/lm 1 White S LUXEON MZ 2.2° / 6.0° 84 % 151 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON M/MX 3.6° / 9.0° 89 % 99 cd/lm 1 White S LUXEON MZ 2.2° / 6.0° 84 % 151 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON M/MX 3.6° / 9.0° 89 % 99 cd/lm 1 White S LUXEON MZ 2.2° / 6.0° 84 % 151 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON M/MX 3.6° / 9.0° 89 % 99 cd/lm 1 White S LUXEON MZ 2.2° / 6.0° 84 % 151 cd/lm 1	



LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON Rebel 1.3° / 3.2° 90 % 704 cd/lm 1 White	25° 13000 15°
	DS	90* 90
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON Rebel ES 1.6° / 3.6° 90 % 530 cd/lm 1 White	27 01 02 02 02 02 02 02 02 02 02 02 02 02 02
	DS	25 ⁷ 0 ¹ 35 ⁴
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON Rubix 2.0° / 4.0° 88 % 290.2 cd/lm 1 White	25 61 1500 61 1500 61 1500 61 1500 15 15 15 15 15 15 15 15 15 15
ED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON Rubix 2.0° / 6.0° 85 % 196.2 cd/lm 1 Red	90°



LUMILEC LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON Rubix 2.0° / 6.0° 83 % 157.7 cd/lm 1 Green	22, 0, 12, 0, 12, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2
	S	90° 90°
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON Rubix 2.0° / 6.0° 83 % 141.9 cd/lm 1 Blue	g. 1000 00,
		30° 35° 35°
CUMILEC LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	S LUXEON S1000 3.8° / 8.0° 88 % 100 cd/lm 1 White	200 200 200 200 200 200 200 200 200 200
	LUXEON V2	90. 122. 0, 122. 0, 122. 0, 122. 0, 122. 122
EED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	2.0° / 4.0° 88 % 250.1 cd/lm 1 White	20 20 20 20 20 20 20 20 20 20



	JS	90° 90*
LED	SBT-90	
FWHM / FWTM	2.0° / 6.0°	73*
Efficiency	76 %	500
Peak intensity	175.9 cd/lm	
LEDs/each optic	1	
Light colour	White	43° 10000 43°
Required components:		
		15300
		30°
		159 0% 159
MICHIΛ		904 904
LED	NV4WB35AM	75*
FWHM / FWTM	2.0° / 4.0°	
Efficiency	90 %	50 ⁴⁰ 50 ⁴⁰
Peak intensity	185.5 cd/lm	$ \times / / (\wedge \wedge \times) $
LEDs/each optic	1	
Light colour	White	\$7°
Required components:		\times / \cdot / \times
		155,000
		30° 34.°
		15% 208300 25%
Ø NICHIA		90° 50°
	NVSW219F	90*
	NVSW219F 2.0° / 4.0°	35°
LED		25°
LED FWHM / FWTM	2.0° / 4.0°	94 ⁴ 75 75 75 75 75 75 75
LED FWHM / FWTM Efficiency	2.0° / 4.0° 89 %	5)*
LED FWHM / FWTM Efficiency Peak intensity	2.0° / 4.0° 89 % 296 cd/lm	27
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	2.0° / 4.0° 89 % 296 cd/lm 1	797 797 100 60 007
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	2.0° / 4.0° 89 % 296 cd/lm 1	797 797 100 60 007
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	2.0° / 4.0° 89 % 296 cd/lm 1	737 737 667 100 60 677
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	2.0° / 4.0° 89 % 296 cd/lm 1	75° 75° 75° 75° 75° 75° 75° 75° 75° 75°
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	2.0° / 4.0° 89 % 296 cd/lm 1	75
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	2.0° / 4.0° 89 % 296 cd/lm 1 White	75° 75° 75° 75° 75° 75° 75° 75° 75° 75°
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	2.0° / 4.0° 89 % 296 cd/lm 1 White	75° 75° 75° 75° 75° 75° 75° 75° 75° 75°
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	2.0° / 4.0° 89 % 296 cd/lm 1 White NVSW519A 2.0° / 4.0°	75° 75° 75° 75° 75° 75° 75° 75° 75° 75°
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	2.0° / 4.0° 89 % 296 cd/lm 1 White NVSW519A 2.0° / 4.0° 89 %	75° 75° 75° 75° 75° 75° 75° 75° 75° 75°
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	2.0° / 4.0° 89 % 296 cd/lm 1 White NVSW519A 2.0° / 4.0° 89 % 251.6 cd/lm	75° 75° 75° 75° 75° 75° 75° 75° 75° 75°
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	2.0° / 4.0° 89 % 296 cd/lm 1 White NVSW519A 2.0° / 4.0° 89 % 251.6 cd/lm 1	75° 75° 75° 75° 75° 75° 75° 75° 75° 75°
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	2.0° / 4.0° 89 % 296 cd/lm 1 White NVSW519A 2.0° / 4.0° 89 % 251.6 cd/lm	75° 75° 75° 75° 75° 75° 75° 75° 75° 75°
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	2.0° / 4.0° 89 % 296 cd/lm 1 White NVSW519A 2.0° / 4.0° 89 % 251.6 cd/lm 1	75° 75° 75° 75° 75° 75° 75° 75° 75° 75°
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	2.0° / 4.0° 89 % 296 cd/lm 1 White NVSW519A 2.0° / 4.0° 89 % 251.6 cd/lm 1	75° 72° 72° 72° 72° 72° 72° 72° 72° 72° 72
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	2.0° / 4.0° 89 % 296 cd/lm 1 White NVSW519A 2.0° / 4.0° 89 % 251.6 cd/lm 1	75° 72° 72° 72° 72° 72° 72° 72° 72° 72° 72
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	2.0° / 4.0° 89 % 296 cd/lm 1 White NVSW519A 2.0° / 4.0° 89 % 251.6 cd/lm 1	75° 72° 72° 72° 72° 72° 72° 72° 72° 72° 72



[
ΜΝΙCΗΙΛ		90* 90*
LED	NVSW719AC	
FWHM / FWTM	2.0° / 6.0°	73'
Efficiency	85 %	580
Peak intensity	207.3 cd/lm	60°
LEDs/each optic	1	10000
Light colour	White	5°
Required components:		
		30° 201300 30,*
		10° 0° 35°
OSRAM Opto Semiconductors		90* 90*
LED	OSCONIQ C 2424	
FWHM / FWTM	2.0° / 4.0°	79
Efficiency	90 %	60*
Peak intensity	241.6 cd/lm	10000
LEDs/each optic	1	
Light colour	White	.55°
Required components:		
		20000
		\times / \times
		30 ⁴ 25000 30 ⁴ 30 ⁴
OSRAM		
OSRAM Opto Semiconductors		90° 90°
LED	OSCONIQ P 3737 (2W version)	<u>1</u> 2. 10, 10,
LED FWHM / FWTM	2.0° / 4.0°	
LED FWHM / FWTM Efficiency	2.0° / 4.0° 89 %	
LED FWHM / FWTM Efficiency Peak intensity	2.0° / 4.0° 89 % 258.2 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	2.0° / 4.0° 89 % 258.2 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	2.0° / 4.0° 89 % 258.2 cd/lm	737 661 16000
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	2.0° / 4.0° 89 % 258.2 cd/lm 1	737 661 16000
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	2.0° / 4.0° 89 % 258.2 cd/lm 1	737 661 166-669 662
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	2.0° / 4.0° 89 % 258.2 cd/lm 1	737 661 16000
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	2.0° / 4.0° 89 % 258.2 cd/lm 1	737 661 16000
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	2.0° / 4.0° 89 % 258.2 cd/lm 1	20 20 20 20 20 20 20 20 20 20
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	2.0° / 4.0° 89 % 258.2 cd/lm 1 White	737 661 16000
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: Optio Semiconductors LED	2.0° / 4.0° 89 % 258.2 cd/lm 1 White OSCONIQ P 3737 (3W version)	20 20 20 20 20 20 20 20 20 20
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: OPLO Semiconductors LED FWHM / FWTM	2.0° / 4.0° 89 % 258.2 cd/lm 1 White OSCONIQ P 3737 (3W version) 2.0° / 4.0°	Ba Ba 30, 32, 6, 12, 25, 30, 10, 6, 10, 25, 25, 60, 10,000 6, 6, 9, 25, 33, 10,000 6, 9, 9, 35, 33, 10,000 6, 9, 9, 35, 33, 10,000 6, 9, 9, 35, 34, 10,000 6, 9, 9, 35, 35,
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: OBSRAM Opto Semiconductors LED FWHM / FWTM Efficiency	2.0° / 4.0° 89 % 258.2 cd/lm 1 White OSCONIQ P 3737 (3W version) 2.0° / 4.0° 90 %	Ba Ba 30, 32, 6, 12, 25, 30, 10, 6, 10, 25, 25, 60, 10,000 6, 6, 9, 25, 33, 10,000 6, 9, 9, 35, 33, 10,000 6, 9, 9, 35, 33, 10,000 6, 9, 9, 35, 34, 10,000 6, 9, 9, 35, 35,
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components: OSRAM Optio Semiconductors LED FWHM / FWTM Efficiency Peak intensity	2.0° / 4.0° 89 % 258.2 cd/lm 1 White OSCONIQ P 3737 (3W version) 2.0° / 4.0° 90 % 232.3 cd/lm	Ba Ba 30, 32, 6, 12, 25, 30, 10, 6, 10, 25, 25, 60, 10,000 6, 6, 9, 25, 33, 10,000 6, 9, 9, 35, 33, 10,000 6, 9, 9, 35, 33, 10,000 6, 9, 9, 35, 34, 10,000 6, 9, 9, 35, 35,
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	2.0° / 4.0° 89 % 258.2 cd/lm 1 White OSCONIQ P 3737 (3W version) 2.0° / 4.0° 90 % 232.3 cd/lm 1	Ba Ba 30, 32, 6, 12, 25, 30, 10, 6, 10, 25, 25, 60, 10,000 6, 6, 9, 25, 33, 10,000 6, 9, 9, 35, 33, 10,000 6, 9, 9, 35, 33, 10,000 6, 9, 9, 35, 34, 10,000 6, 9, 9, 35, 35,
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	2.0° / 4.0° 89 % 258.2 cd/lm 1 White OSCONIQ P 3737 (3W version) 2.0° / 4.0° 90 % 232.3 cd/lm	Ba Ba 30, 32, 6, 12, 25, 30, 10, 6, 10, 25, 25, 60, 10,000 6, 6, 9, 25, 33, 10,000 6, 9, 9, 35, 33, 10,000 6, 9, 9, 35, 33, 10,000 6, 9, 9, 35, 34, 10,000 6, 9, 9, 35, 35,
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	2.0° / 4.0° 89 % 258.2 cd/lm 1 White OSCONIQ P 3737 (3W version) 2.0° / 4.0° 90 % 232.3 cd/lm 1	Ba Ba 30, 32, 6, 12, 25, 30, 10, 6, 10, 25, 25, 60, 10,000 6, 6, 9, 25, 33, 10,000 6, 9, 9, 35, 33, 10,000 6, 9, 9, 35, 33, 10,000 6, 9, 9, 35, 34, 10,000 6, 9, 9, 35, 35,
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	2.0° / 4.0° 89 % 258.2 cd/lm 1 White OSCONIQ P 3737 (3W version) 2.0° / 4.0° 90 % 232.3 cd/lm 1	30, 30,
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	2.0° / 4.0° 89 % 258.2 cd/lm 1 White OSCONIQ P 3737 (3W version) 2.0° / 4.0° 90 % 232.3 cd/lm 1	Ba Ba 30, 32, 6, 12, 25, 30, 10, 6, 10, 25, 25, 60, 10,000 6, 6, 9, 25, 33, 10,000 6, 9, 9, 35, 33, 10,000 6, 9, 9, 35, 33, 10,000 6, 9, 9, 35, 34, 10,000 6, 9, 9, 35, 35,



OSRAM Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	OSCONIQ P 7070 3.5° / 7.1° 91 % 122.2 cd/lm 1 White	34. 36. 37. 38. 39. 39. 39. 39. 39. 39. 39. 39
OSRAM		(15 ⁵ 0 ⁶ 15 ⁵
Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	OSLON Boost HX (KW CULPM1.TG) 2.0° / 6.0° 92 % 176.8 cd/lm 1 White	50 00 000 60 00 000 60 00 60 00 10 00 1
		<u> </u>
OSRAM		
OSRAM Opto Semiconductors LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	OSLON Square PC 1.5° / 3.6° 89 % 550 cd/lm 1 White	20 20 20 20 20 20 20 20 20 20



0 0 0 0 0 0 0 0		
SAMSUN	IG	90*
LED	LH351B	
FWHM / FWTM	2.0° / 4.0°	20
Efficiency	90 %	60.5
Peak intensity	279.4 cd/lm	100800
LEDs/each optic	1	\times / / \wedge \times
Light colour	White	5°*
Required components:		20400
		30° 1179 and a 1179 3
SAMSUN	IG	90 ⁴
LED FWHM / FWTM	LH351C	75
	2.0° / 4.0° 91 %	
Efficiency Peak intensity	279.2 cd/lm	60* 100+00 6
LEDs/each optic	1	
Light colour	White	
Required components:	WING	
required components.		200 800
		30°
		30° 30°200 35°
SAMSUN	IG	90° 9
LED	LH351D	
FWHM / FWTM	EIIIOUTD	
	2 0° / 4 0°	75 1000
	2.0° / 4.0° 91 %	77 5330 2
Efficiency	91 %	
Efficiency Peak intensity		75°
Efficiency Peak intensity LEDs/each optic	91 % 235.3 cd/lm	75° 7500 99° 138°00 97°
Efficiency Peak intensity LEDs/each optic Light colour	91 % 235.3 cd/lm 1	75 93 93 93 94 135 90 6 97 10199 6
Efficiency Peak intensity LEDs/each optic	91 % 235.3 cd/lm 1	25 93 93 93 93 93 95 15 90 95 15 90 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9
Efficiency Peak intensity LEDs/each optic Light colour	91 % 235.3 cd/lm 1	
Efficiency Peak intensity LEDs/each optic Light colour	91 % 235.3 cd/lm 1	
Efficiency Peak intensity LEDs/each optic Light colour Required components:	91 % 235.3 cd/lm 1	95 1870 - 1570 - 2560
Efficiency Peak intensity LEDs/each optic Light colour Required components:	91 % 235.3 cd/lm 1 White	
Efficiency Peak intensity LEDs/each optic Light colour Required components: stout semiconductor LED	91 % 235.3 cd/lm 1 White Z5M3	
Efficiency Peak intensity LEDs/each optic Light colour Required components: seour semiconductor LED FWHM / FWTM	91 % 235.3 cd/lm 1 White Z5M3 1.4° / 3.3°	
Efficiency Peak intensity LEDs/each optic Light colour Required components: seoul semiconductor LED FWHM / FWTM Efficiency	91 % 235.3 cd/lm 1 White Z5M3 1.4° / 3.3° 94 %	
Efficiency Peak intensity LEDs/each optic Light colour Required components: seous semiconductor LED FWHM / FWTM Efficiency Peak intensity	91 % 235.3 cd/lm 1 White Z5M3 1.4° / 3.3° 94 % 151.4 cd/lm	
Efficiency Peak intensity LEDs/each optic Light colour Required components: seous sewconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	91 % 235.3 cd/lm 1 White Z5M3 1.4° / 3.3° 94 % 151.4 cd/lm 1	
Efficiency Peak intensity LEDs/each optic Light colour Required components: stout_senconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	91 % 235.3 cd/lm 1 White Z5M3 1.4° / 3.3° 94 % 151.4 cd/lm	
Efficiency Peak intensity LEDs/each optic Light colour Required components: seous sewconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	91 % 235.3 cd/lm 1 White Z5M3 1.4° / 3.3° 94 % 151.4 cd/lm 1	
Efficiency Peak intensity LEDs/each optic Light colour Required components: store statements store statements EED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	91 % 235.3 cd/lm 1 White Z5M3 1.4° / 3.3° 94 % 151.4 cd/lm 1	
Efficiency Peak intensity LEDs/each optic Light colour Required components: store statements store statements EED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	91 % 235.3 cd/lm 1 White Z5M3 1.4° / 3.3° 94 % 151.4 cd/lm 1	



SEOUL SEMICONDUCTOR		90* 90*
LED	Z5M4	
FWHM / FWTM	1.7° / 3.5°	75°
Efficiency	96 %	
Peak intensity	149.4 cd/lm	
LEDs/each optic	1	
Light colour	White	eg-
Required components:		10200
		\times
		30° 153500 30° 30°
		10 9 10
		50 ⁴
	Z8Y50P	
SEOUL SEMICONDUCTOR	Z8Y50P 3.0° / 7.0°	90° 90° 73° 73°
seoul semiconductor		
seoul semiconductor LED FWHM / FWTM	3.0° / 7.0°	30
seoul semiconductor LED FWHM / FWTM Efficiency	3.0° / 7.0° 79 %	37
SEOUL SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	3.0° / 7.0° 79 % 90.4 cd/lm	30
seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	3.0° / 7.0° 79 % 90.4 cd/lm 1	200 61 20 20 20 20 20 20 20 20 20 20 20 20 20
SEOUL SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	3.0° / 7.0° 79 % 90.4 cd/lm 1	200 61 20 20 20 20 20 20 20 20 20 20 20 20 20
SEOUL SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	3.0° / 7.0° 79 % 90.4 cd/lm 1	200 61 20 20 20 20 20 20 20 20 20 20 20 20 20
seoul semiconductor LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	3.0° / 7.0° 79 % 90.4 cd/lm 1	200 61 20 20 20 20 20 20 20 20 20 20 20 20 20