

COLOSUS System Specifications - Albedo (A) Family

Model #

USLR-A12F-C

USLR-A12L-C

OPTICAL PERFORMANCE SPECIFICATIONS

UNIFORMITY (EACH LAMP OR COMBINED)

Spatial Luminance Uniformity over Exit Port: (f/4) - All Lamps On
Angular Uniform FOV: (Full Angle) - Degrees / F# / NA - All Lamps On

+/-1.0%
+/-2.0% - 36 / 1.4 / 0.31

+/-1.0%
+/-2.0% - 36 / 1.4 / 0.31

QTH ONLY

Expected Maximum Luminance Output: cd/m2
Expected Maximum Illuminance at Port: lux
Peak Radiance: W/m2-sr-um @ 0.95 um
Peak Irradiance @ Port: Photons/s-m2-um @ 0.95um
Minimum Resolution: lux
Approximate Correlated Color Temperature: (QTH)
Typical Lamp Lifetimes: (hrs)
Est. Lamp Degradation Over Lifetime: (% & CCT Shift)
Est. Output Degradation over 50hrs: (% & CCT Shift)

14,000
44,000
350
1.50E+21
4.40E-03
3000K +/-50K
>500hrs
-10% & +/-200K
-1.0% & +/-20K

16,000
50,200
400
1.70E+21
5.02E-03
3000K +/-50K
>500hrs
-10% & +/-200K
-1.0% & +/-20K

PLASMA OR XENON ONLY

Expected Maximum Luminance Output: cd/m2
Expected Maximum Illuminance at Port: lux
Peak Radiance: W/m2-sr-um @ 0.60um PI @ 0.47 Xe
Peak Irradiance @ Port: Photons/s-m2-um @ 0.60um PI or 0.47 Xe
Minimum Resolution: lux
Approximate Correlated Color Temperature:
Plasma Rest Mode/Xenon Flicker: (Peak-Peak/RMS/Hz) - Typical
Plasma Test Mode: (Peak-Peak/RMS/Hz) - 30 minutes (Rest 5min)
Installed Cold Mirror: (330-750nm)
Typical Lamp Lifetimes: (hrs)
Est. Lamp Degradation Over Lifetime: (% & CCT Shift)
Est. Output Degradation over 50hrs: (% & CCT Shift)

52,000
160,000
700
2.30E+21
1.60E-02
5100K +/-100K
6%/1.5%/0.1Hz
0.6%/0.04%/DC
None
>5000
-10% & -200K
-0.2% & +-5K

62,000
190,000
830
2.70E+21
1.90E-02
5100K +/-100K
6%/1.5%/0.1Hz
0.6%/0.04%/DC
None
>5000
-10% & -200K
-0.2% & +-5K

PLASMA/XENON & QTH (Both Full Open VA)

Expected Maximum Luminance Output: cd/m2
Expected Maximum Illuminance at Port: lux
Peak Radiance: W/m2-sr-um @ 0.60um PI @ 0.47 Xe
Peak Irradiance @ Port: Photons/s-m2-um @ 0.60um PI @ 0.47 Xe
Approximate Correlated color Temperature: (Xenon & QTH)

66,000
204,000
900
2.90E+21
4500K +/-300K

78,000
240,200
1050
3.40E+21
4500K +/-300K

ATTENUATORS

Number of Steps in Attenuator Range:
Dynamic Range/Bits/dB - Full Range of System: (both lamps)

2.00E+06
4.64E+07/25/152

2.00E+06
4.78E+07/25/153

INTEGRATING SPHERE

Coating/Material:
Sphere Internal Diameter: Inches (Meters)
Frame Type:
Output Port Size: Inches (Meters)

Spectrafect®
12 (0.3)
COLOSUS Cage
4 (0.1)

Spectralon®
11.5 (0.29)
COLOSUS Cage
4 (0.1)

SYSTEM COMPONENTS

QTH Lamps External: (#, Wattage)
Plasma Lamp & Housing:
Power Supplies: (# - Model)
Variable Attenuator:
Monitor Detector(s):
TE Controller:
Detector Filters: (in Filter Holders)

(1) 150
250W
(2) - LPS-400
(2) VAA-220
SD-L1, EID-T1
(1)
Photopic, (2) 900nm, 1550nm,
1380nm
(2) HFW-1-8
(3)
(1)
CDS-610 (360-1000nm)
HELIOsense

(1) 150
250W
(2) - LPS-400
(2) VAA-220
SD-L1, EID-T1
(1)
Photopic, (2) 900nm, 1550nm,
1380nm
(2) HFW-1-8
(3)
(1)
CDS-610 (360-1000nm)
HELIOsense

Filter Wheels:

Detector Shutter/Pinholes:

Optical Bellows & Mount:

Spectral Radiance Monitor: (Type, Spectral Range)

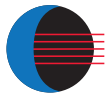
System Software:

DIMENSIONAL INFORMATION

Approximate Dimensions of Sphere System: (DxWxH)
Approximate Weight of Sphere System: (Kg)
Approximate Dimensions of 19" System Rack: (DxWxH)
Approximate Weight of System Rack: (Kg)

14" x 38" x 23"
19
24.5" x 21" x 12.75"
25

14" x 38" x 23"
19
24.5" x 21" x 12.75"
25



COLOSUS System Specifications - Dynamic (D) Family

Model

USLR-D12F-C

USLR-D12L-C

OPTICAL PERFORMANCE SPECIFICATIONS

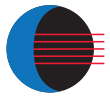
Spatial Luminance Uniformity over Exit Port: (f/4) - All Lamps On	+/-1.0%	+/-1.0%
Angular Uniform FOV: (Full Angle) - Degrees / F# / NA - All Lamps On	+/-2.0% - 36 / 1.4 / 0.31	+/-2.0% - 36 / 1.4 / 0.31
Expected Maximum Luminance Output: cd/m ²	37,500	50,000
Expected Maximum Illuminance at Port: lux	117,750	157,000
Peak Radiance: W/m ² -sr-um @ 0.95 um	1,455	1819
Peak Irradiance @ Port: Photons/s-m ² -um @ 0.95um	7.00E+21	8.75E+21
Minimum Resolution: lux	1.37E-03	1.37E-03
Number of Steps in System Range: (#lamps*VA Steps)	6.60E+06	6.60E+06
Dynamic Range/Bits/dB:	8.63E+07/26/158	1.15E+08/26/160
Approximate Correlated Color Temperature: (QTH)	3000K +/-50K	3000K +/-50K
Typical Lamp Lifetimes: (hrs)	>500	>500
Est. Lamp Degradation Over Lifetime: (% & CCT Shift)	-10% & +/-200K	-10% & +/-200K
Est. Output Degradation over 50hrs: (% & CCT Shift)	-1.0% & +/-20K	-1.0% & +/-20K

INTEGRATING SPHERE

Coating/Material:	Spectrafect	Spectralon
Sphere Internal Diameter: Inches (Meters)	12 (0.3)	11.5 (0.29)
Frame Type:	COLOSUS Cage	COLOSUS Cage
Output Port Size: Inches (Meters)	4 (0.1)	4 (0.1)
SYSTEM COMPONENTS		
QTH Lamps Internal: (# , Wattage)	(1) 35, (1) 75	(1) 35, (1) 75
QTH Lamps External: (#, Wattage)	(1) 150	(1) 150
Power Supplies: (# - Wattages)	(3) LPS-400	(3) LPS-400
Variable Attenuator:	VAA-220A	VAA-220A
Monitor Detector(s):	SD-L1, EID-T1	SD-L1, EID-T1
TE Controller:	(1)	(1)
Detector Filters: (in Filter Holders)	Photopic, (2) 900nm, 1550nm, 1380nm	Photopic, (2) 900nm, 1550nm, 1380nm
Filter Wheels:	(2) HFW-1-8	(2) HFW-1-8
System Software:	HELIOsense	HELIOsense

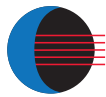
DIMENSIONAL INFORMATION

Approximate Dimensions of Sphere System: (DxWxH)	14" x 20" x 24"	14" x 20" x 24"
Approximate Weight of Sphere System: (Kg)	20	23
Approximate Dimensions of 19" System Rack: (DxWxH)	24.5" x 21" x 12.75"	24.5" x 21" x 12.75"
Approximate Weight of System Rack: (Kg)	25	25



COLOSUS System Specifications - Low Level (L) Family

	Model #	USLR-L12F-C	USLR-L12L-C
OPTICAL PERFORMANCE SPECIFICATIONS			
Spatial Luminance Uniformity over Exit Port: (f/4) - All Lamps On		+/-1%	+/-1%
Angular Uniform FOV: (Full Angle) - Degrees / F# / NA - All Lamps On		+/-2.0% - 36 / 1.4 / 0.31	+/-2.0% - 36 / 1.4 / 0.31
Expected Maximum Luminance Output: cd/m2		5,000	7,100
Expected Maximum Illuminance at Port: lux		15,700	22,300
Peak Radiance: W/m2-sr-um @ 1.10 um		200	287
Peak Irradiance @ Port: Photons/s-m2-um @ 1.10um		1.13E+21	1.50E+21
Minimum Resolution: lux		1.00E-06	1.00E-06
Number of Steps in System Range:		8.00E+06	8.00E+06
Dynamic Range/Bits/dB:		1.00E+10/32/199	1.00E+10/32/199
Approximate Correlated Color Temperature: (QTH)		2856K +/-50K	2856K +/-50K
Typical Derated Lamp Lifetimes @ 2856K: (hrs)		>500	>500
Est. Lamp Degradation Over Lifetime: (% & CCT Shift)		-10% & +/-200K	-10% & +/-200K
Est. Output Degradation over 50hrs: (% & CCT Shift)		-1.0% & +/-20K	-1.0% & +/-20K
INTEGRATING SPHERE			
Coating/Material:		Spectrafect	Spectralon
Sphere Internal Diameter: Inches (Meters)		12 (0.3)	11.5 (0.29)
Frame Type:		COLOSUS Cage	COLOSUS Cage
Output Port Size: Inches (Meters)		4 (0.1)	4 (0.1)
SYSTEM COMPONENTS			
QTH Lamps Internal: (# , Wattage)		(1) 5, (1) 10	(1) 5, (1) 10
Spectralon Satellite Sphere: (ID/OD)		3"/4"	3"/4"
Lamp & Tube: (#, Wattage) / Pinhole		(1) 5 / Yes	(1) 5 / Yes
Internal Satellite Lamp: (#, Wattage)		(1) 50	(1) 50
Power Supplies: (# - Model)		(4) LPS-400	(4) LPS-400
Variable Attenuator:		VAA-220B	VAA-220B
Monitor Detector(s):		SD-L1, SD-S1	SD-L1, SD-S1
Optional Monitor Detector:		EID-T1	EID-T1
TE Controller:		(1)	(1)
Filter Wheels:		(2) HFW-1-8	(2) HFW-1-8
Detector Filters: (in Filter Holders)		Photopic	Photopic
System Software:		HELIOsense	HELIOsense
DIMENSIONAL INFORMATION			
Approximate Dimensions of Sphere System: (DxWxH)		14" x 20" x 24"	14" x 20" x 24"
Approximate Weight of Sphere System: (Kg)		20	22
Approximate Dimensions of 19" System Rack: (DxWxH)		24.5" x 21" x 12.75"	24.5" x 21" x 12.75"
Approximate Weight of System Rack: (Kg)		30	30



COLOSUS System Specifications - Variable (M) Family

Model # ULSR-V12F-C

OPTICAL PERFORMANCE SPECIFICATIONS

Spatial Luminance Uniformity over Exit Port: (f/4) - All Lamps On	+/-1%
Angular Uniform FOV: (Full Angle) - Degrees / F# / NA - All Lamps On	+/-2.0% - 36 / 1.4 / 0.31
Expected Maximum Luminance Output: cd/m ²	14,000
Expected Maximum Illuminance at Port: lux	44,000
Peak Radiance: W/m ² -sr-um @ 0.95 um	350
Peak Irradiance @ Port: Photons/s-m ² -um @ 0.95um	1.50E+21
Minimum Resolution: lux	4.40E-03
Number of Steps in System Range:	2.20E+06
Dynamic Range/Bits/dB:	1.00E+07/23/140
Approximate Correlated Color Temperature: (QTH)	3000K +/-50K
Typical Lamp Lifetimes: (hrs)	>500
Est. Lamp Degradation Over Lifetime: (% & CCT Shift)	-10% & +/-200K
Est. Output Degradation over 50hrs: (% & CCT Shift)	-1.0% & +/-20K

INTEGRATING SPHERE

Coating/Material:	Spectrafect
Sphere Internal Diameter: Inches (Meters)	12 (0.3)
Frame Type:	COLOSUS Cage
Output Port Size: Inches (Meters)	4 (0.1)

SYSTEM COMPONENTS

QTH Lamps External: (#, Wattage)	(1) 150
Integrating Mirror Tube for External Source:	HES Version
Power Supplies: (# - Model)	(1) - LPS-400
Variable Attenuator:	(2) VAA-220
Monitor Detector(s):	SD-L1
Detector Filters: (in Filter Holder)	Photopic
Filter Wheels:	(2) HFW-1-8
System Software:	HELIOsense

DIMENSIONAL INFORMATION

Approximate Dimensions of Sphere System: (DxWxH)	14" x 20" x 24"
Approximate Weight of Sphere System: (Kg)	17
Approximate Dimensions of 19" System Rack: (DxWxH)	24.5" x 21" x 12.75"
Approximate Weight of System Rack: (Kg)	20



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